

OKLAHOMA GEOLOGICAL SURVEY

Chas. N. Gould, Director

Bulletin No. 40-Q

OIL AND GAS IN OKLAHOMA

DIGEST OF OKLAHOMA OIL AND GAS FIELDS

Compiled

By

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NORMAN

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OIL AND GAS IN OKLAHOMA

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FOREWORD

In 1917 the Oklahoma Geological Survey issued Bulletin 19, Part II, entitled "Petroleum and Natural Gas in Oklahoma." This volume was so popular that the supply was soon exhausted, and for several years copies have not been obtainable.

The present Director has seen the need of a revision of this bulletin. On account of the lack of appropriations he has not been able to employ sufficient help to compile the data, and has called a number of representative geologists throughout the State to aid in the preparation of reports on separate counties, and on certain other phases of the subject. These geologists have contributed freely of their time and information in the preparation of these reports.

Mrs. Bess Mills-Bullard, who has written the present chapter, 40-Q, has been associated with the Survey at various periods since 1919, and has spent a large amount of time collecting the data herewith presented.

Much difficulty has been experienced in securing and arranging these data, chiefly for the following reasons:

First: A great deal of the pertinent information concerning the older fields of the State has already passed out of the memory of man and cannot now be secured, and second: There will probably always be disagreement among geologists regarding the equivalency of certain subsurface formations in the different fields. As new facts are brought to light new interpretations are constantly necessary.

Printer's proofs on this report have been checked by a number of geologists, and it is believed that the facts as herein set forth represent the consensus of opinion of the majority of those best qualified to know, as of June, 1928. The members of the Survey staff will appreciate criticism and suggestions.

June, 1928.

CHAS. N. GOULD,
Director.

ACKNOWLEDGMENTS

The writer is under great obligation to many individuals for the data which are included herein. This publication represents a compilation of material which has been collected since petroleum development began in Oklahoma. The material was scattered and in many forms, but in all cases where calls have been made for information it has been given freely.

The preparation of this material was started under the direction of C. W. Shannon in 1921. Chas. N. Gould has been helpful in making suggestions for writing, and in giving a title to the paper. Luther H. White checked over the various producing horizons and the correlation chart of producing sands of the northeastern part of the State. Charles E. Bowles suggested the form of the publication, following the Index to the Stratigraphy of Oklahoma, by Gould. Isaac Jay of the Gypsy Oil Company added to the data on gravity of the various oil horizons. J. Phillip Boyle submitted the information found for the fields of Wagoner County. The Osage Indian Agency at Pawhuska added to the geological information of the Osage County pools and supplied much other data concerning the fields. Special acknowledgment is due W. M. Crawford for this material. The United States Geological Survey production map of Oklahoma was used as a check on the areas, as was also a map furnished by George F. Kelly of the Kelly Map Company, Tulsa, Oklahoma.

The entire report was submitted in galley form to the following persons for correction:—Dollie Radler and Sidney Powers, Amerada Petroleum Corporation; Everett Carpenter, consulting geologist; W. E. Bernard, Gypsy Oil Co.; Frank Gouin, consulting geologist; R. L. Clifton, Champlin Refining Co.; C. W. Tomlinson, Schermerhorn-Ardmore Co.; Glenn C. Clark, Marland Refining Co.; George E. Burton, Humble Oil and Refining Co.; Robert W. Clark, consulting geologist; Luther H. White, J. A. Hull Co.; and Frank C. Greene, Skelly Oil Co. These geologists and their associates have carefully gone over the material, so that the report, as issued, represents all the material available as of this date.

Since the sources of information range from official publications to newspaper clippings and personal communications it is understood that variations in accuracy and consistency are inevitable. It is hoped that any changes in the facts recorded herein from local interpretations will not be regarded as errors, for all data have been checked by individuals who are qualified to know; and all information has been obtained from the most reliable sources that were available.

It has been judged advisable to print the complete tabulated form of description of each field in the text, even where all data are not known, so that additions may be inserted individually. Information on depths of producing horizons, amount of production, and so on, represents average conditions in the field.*

The surface elevation refers to elevations above sea level as given on the U. S. Geological Survey topographic sheets. The surface formations for each pool are taken from the U. S. Geological Survey, Geologic Map of Oklahoma, and the age of the surface formations are from the Index to the Stratigraphy of Oklahoma by Chas. N. Gould.

REFERENCES

In the matter of citations to the literature which were used no attempt has been made to present complete bibliographies. Attention is called to the reports of the United States Geological Survey, to the files of the United States Bureau of Mines, to the bulletins of the Oklahoma Geological Survey and the bulletins of the American Association of Petroleum Geologists. The oil trade journals were used constantly, as were the files of state newspapers and the well logs of the State Corporation Commission. A number of books were referred to, namely:—Oil and Gas in the Mid-Continent Fields by L. C. Snider; Geology of the Mid-Continent Oil Fields by T. O. Bosworth; Production of Petroleum in 1924, published by the American Institute of Mining and Metallurgical Engineers, and the Geology of the Stonewall Quadrangle, by George D. Morgan.

*In reference to the amount of gas from the various sands, "M" represents millions of cubic feet of gas.

ADA

COUNTY: Pontotoc.

LOCATION: T. 3-4 N., R. 6 E.

SURFACE ELEVATION: 1,150-1,250 feet.

SURFACE FORMATION: Ada formation, Frances formation, and Guertie sand.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Small dome, local folding, and faulting.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|-------------|--------------------|
| Vamoosa | 500 | | | |
| Belle City | 530 | | | |
| Francis | 875 | | gas | |
| Seminole | 930 | | | |
| Holdenville | 1000 | | gas | |
| Thurman | 1300 | | | |
| Boggy | 1500 | | gas | 2.5 M. cu. ft. |
| Wapanucka | 1900 | | | |
| Caney | 2050 | | | |
| Sycamore | 2075 | | | |
| Chattanooga | 2100 | | | |
| Hunton | 2300 | 95 | oil | 20 bbls. |
| Sylvan | 2370 | | | |
| Viola | 2450 | 500 | | |
| Simpson | 2950 | 5 | Show of oil | |

CHARACTER OF OIL: Gravity, 30-32°B. Color, green.

CHARACTER OF GAS: Wet.

DATE OF OPENING: 1909?

REMARKS: The initial well in the Ada gas field was drilled by Mac Thwaite Oil and Gas Company in sec. 31, T. 4 N., R. 6 E. This well produced two million cubic of gas from a 50 foot sand at a depth of 1,000 feet. In most of the first wells drilled there were two gas sands, one at 900 feet and the other at 1,000 feet. Deeper drilling has revealed sands productive of both oil and gas.

ADAIR

COUNTY: Nowata.

LOCATION: T. 26 N., R. 15 E.

SURFACE ELEVATION: 750-850 feet.

SURFACE FORMATION: Coffeyville formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Normal monocline with reverse dips.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|--------------|--------------------|
| Fort Scott | 625 | | | |
| Bartlesville | 1025 | 30-50 | oil show gas | 5-150 bbls. |

CHARACTER OF OIL: Gravity, 38°B.

CHARACTER OF GAS:

DATE OF OPENING: 1911.

REMARKS: This field lies about six miles west of the town of Nowata. While it is in the Nowata District it is more closely related geologically to the Hogshooter field of the Bartlesville District than to the shallow pools east and north of Nowata. Most of the wells have been small producers averaging about 20 barrels a day initial yield, and the development of the field was very rapid.

AGRA
(Wildhorse)

COUNTY: Lincoln.

LOCATION: T. 16-17 N., R. 5 E.

SURFACE ELEVATION: 980-1,069 feet.

SURFACE FORMATION: Cushing limestone.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Terrace with subsurface domes. Faulted on east.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|--------------|---|
| Layton | 1830 | 30 | oil gas show | 1-2 M. cu. ft. |
| Jones | 1920 | 15 | show of gas | |
| Cleveland | 2060 | 20 | gas | 10-21 M. cu. ft. |
| Skinner | 3550 | 3600 | oil | |
| Bartlesville | 3650 | 3700 | oil | |
| Mississippi | 3768 | 10 | | |
| Chattanooga | 3965 | 100 | show of oil | |
| Misener | 3995 | 30 | | |
| Wilcox | 4100 | 45 | oil | 5-10 M. cu. ft. 1200 bbls. 30 bbls. |
| Viola | 4260 | | oil | |

CHARACTER OF OIL: Gravity

CHARACTER OF GAS: Rock pressure 220 to 660 pounds.

DATE OF OPENING: 1919.

REMARKS: The Agra pool was discovered by the Cosden Oil and Gas Company with a well drilled in sec. 31, T. 17 N., R. 5 E., completed April, 1919, to a depth of 2,081 feet for 21 million cubic feet of gas per day. The Wilcox sand was opened by Shaffer and Peerless in 1927.

ALABAMA

COUNTY: Hughes.

LOCATION: T. 9 N., R. 11 E.

SURFACE ELEVATION: 820-900 feet.

SURFACE FORMATION: Calvin sandstone.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Terraces and noses.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Glenn | 1725 | 55 | gas | 3-11 M. cu. ft. |
| Booch | 2170 | 130 | | |
| Deaner | 2910 | 400 | oil | 20-200 bbls. |
| Lyons | 3130 | 130 | oil | 3-50 bbls. |

CHARACTER OF OIL: Gravity, 36.7°B.

CHARACTER OF GAS:

DATE OF OPENING: 1917.

REMARKS: Gillispie and others are reported to have drilled the first well in the sec. 3, T. 9 N., R. 11 E. It was a gas well of 10 million cubic feet per day at 725 feet. Deeper drilling in this area started in 1925; the oil production was doubled and the gravity of the deeper oil is found to be 39°B.

ALLEN

COUNTY: Pontotoc.

LOCATION: T. 5 N., R. 8 E.

SURFACE ELEVATION: 750-850 feet.

SURFACE FORMATION: Wewoka formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Anticlinal folding, subsurface faulting.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|------------------------------|
| Uncorrelated | 350 | 4-10 | gas | 1-4 M. cu. ft. |
| Boggy | 700 | 20 | gas | 1 M. cu. ft. |
| | 720 | 45 | oil | 10-100 bbls. |
| | 825 | 50 | oil gas | 45-200 bbls. |
| | 1180 | 5 | gas | 1 M. cu. ft. |
| Top. Savanna | 1400 | 10 | oil | 1-6 M. cu. ft. |
| Savanna | 2450 | 50 | oil gas | 10-40 bbls. |
| Wapanucka | 2900 | | | 10-400 bbls. 1 M. cu. ft. |

CHARACTER OF OIL: Gravity, 30-32.9° B.

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1913.

REMARKS: The Allen oil and and gas field was discovered during the latter part of 1913, and while production was not large it was encouraging. All production was found at depths ranging between 300 to 800 feet but in the year 1926 deeper drilling started with larger quantities of both oil and gas being found at depths ranging between 2,400 to 2,500 feet, at a distance of one to two miles northwest of the original field.

ALLUWE

COUNTY: Nowata.
 LOCATION: T. 24-25 N., R. 16-17 E.
 SURFACE ELEVATION: 650-750 feet.
 SURFACE FORMATION: Cherokee shale.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Anticline, pitching northward.

| PRODUCING | | INITIAL | | |
|--------------|---------|-----------|------------|--------------|
| HORIZONS | DEPTH | THICKNESS | PRODUCTION | PRODUCTION |
| Bartlesville | 400-450 | | oil | 25-500 bbls. |
| Burgess | 465-800 | | oil gas | |

CHARACTER OF OIL: Gravity, 36.4° B. Color, greenish black.
 Quality, 8% paraffin, 1% asphalt.

CHARACTER OF GAS:

DATE OF OPENING: 1904.

REMARKS: The Alluwe field was discovered among the first of the Oklahoma pools. It is a part of a large field, Coody's Bluff-Alluwe-Chelsea District, which was one of the most active areas in the State in 1905-1906 when a total of 1,490 wells were drilled, all producing oil.

AMABEL

See March, page 95.

ASPHALTUM

COUNTY: Jefferson.
 LOCATION: T. 3 S., R. 4 W.
 SURFACE ELEVATION: 900-1,000 feet.
 SURFACE FORMATION: Wichita-Clear Fork formation.
 AGE OF SURFACE ROCKS: Permian.
 STRUCTURE: Buried structure and fault zone.

| PRODUCING | | INITIAL | | |
|--------------|-------|-----------|------------|----------------|
| HORIZONS | DEPTH | THICKNESS | PRODUCTION | PRODUCTION |
| 750 gas sand | 750 | 10 | gas | 1-3 M. cu. ft. |
| Gas sand | 1550 | | gas | |

CHARACTER OF OIL: Gravity, 20° B. Quality, asphaltic

CHARACTER OF GAS:

DATE OF OPENING: 1913.

REMARKS: The territory between the Healdton field and the asphalt deposits in sec. 32, T. 3 S., R. 4 W., suggested favorable prospects to operators, and development started in the area at the time Healdton was opened. There are two gas wells in the field.

ALMEDA

COUNTY: Osage.
 LOCATION: T. 26 N., R. 11-12 E.

SURFACE ELEVATION: 700-900 feet.
 SURFACE FORMATION: Ochelata-Dewey li. ones.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Folding; Panther Creek anticline.

| PRODUCING | | INITIAL | | |
|--------------|-------|-----------|------------|----------------|
| HORIZONS | DEPTH | THICKNESS | PRODUCTION | PRODUCTION |
| Big Lime | 680 | 30 | | |
| Peru | 860 | 60 | | |
| Oswego | 888 | 20 | | |
| Squirrel | 1030 | 50 | | |
| Bartlesville | 1320 | 10 | oil gas | 10-50 bbls. |
| Burgess | 1665 | 5 | oil | 1-2 M. cu. ft. |
| Mississippi | 1740 | 10 | gas | 10-20 bbls. |
| | | | | 1-2 M. cu. ft. |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1918.

REMARKS: The Panther Creek anticline is an elongated upfold with northward-trending axis which roughly parallels the township line. This uplift was tested for production in 1918 and is now yielding good quantities of both oil and gas. The crowns of the two northern domes of the anticline have been almost completely drilled. The oil production comes from the Bartlesville sand and the gas from the Mississippi limestone.

ATLANTIC

COUNTY: Osage.
 LOCATION: T. 25 N., R. 8 E.
 SURFACE ELEVATION: 900-1,050 feet.
 SURFACE FORMATION: Pawhuska formation.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Anticlinal folding and domes.

| PRODUCING | | INITIAL | | |
|-----------|-------|-----------|------------|---------------|
| HORIZONS | DEPTH | THICKNESS | PRODUCTION | PRODUCTION |
| Layton | 1125 | 10 | oil show | |
| Peru | 1955 | 15 | | |
| Oswego | 2070 | 65 | | |
| Squirrel | 2236 | 20 | gas show | |
| Burgess | 2500 | 25 | oil | 125-300 bbls. |
| Wilcox | 2690 | 20-30 | oil show | |
| Siliceous | 2750 | 10-20 | | 3000 bbls. |

CHARACTER OF OIL: Gravity, 41° B.

CHARACTER OF GAS:

DATE OF OPENING: 1924.

REMARKS: Seven miles west of Pawhuska the Atlantic Oil Producing Company drilled the discovery well of the Atlantic pool, in sec. 27, T.

25, N., R. 8 E., early in 1924; this well caused the drilling of other good producers.

AVANT

COUNTY: Osage.

LOCATION: T. 23 N., R. 11-12 E.

SURFACE ELEVATION: 700-950 feet.

SURFACE FORMATION: Ochelata formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Anticinal folds, and dome.

| PRODUCING | | DEPTH | THICKNESS | PRODUCTION | | INITIAL PRODUCTION |
|--------------|-----------|-------|-----------|------------|-----|-----------------------------|
| HORIZONS | | | | oil | gas | |
| Bartlesville | 1400-1450 | | | | | 75 bbls. 1-12 M. cu. ft. |
| Burgess | 1465-1600 | | | oil | | 25-50 bbls. |

CHARACTER OF OIL: Gravity.

CHARACTER OF GAS:

DATE OF OPENING: 1904-1905.

REMARKS: The Avant pool is practically the southern extension of the Bartlesville field and occupies a long narrow strip of territory along the eastern border of Osage County.

BAIRD

COUNTY: Cotton-Stephens.

LOCATION: T. 1 S., R. 9 W.

SURFACE ELEVATION: 1,068 feet.

SURFACE FORMATION: Wichita-Clear Fork formation.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Buried structure.

| PRODUCING | | DEPTH | THICKNESS | PRODUCTION | | INITIAL PRODUCTION |
|-----------|------|-------|-----------|------------|-----|-------------------------------|
| HORIZONS | | | | gas | oil | |
| Surber | 1700 | | | | | 1-4 M. cu. ft. |
| Smith | 2100 | | 65 | oil | | 25-200 bbls. |
| Blaydes | 2200 | | 42 | oil gas | | 5-150 bbls. 1-5 M. cu. ft. |

CHARACTER OF OIL: Gravity, 32° B.

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1919.

REMARKS: The development of the Baird field followed that of the Walters pool. The surface rocks belong to the Permian red beds but the oil and gas is probably Pennsylvanian possibly from the Glenn formation.

BALD HILL

Mose-Carr
Jolly-Ogg
Pine Pool
Booch

COUNTY: Okmulgee.

LOCATION: T. 14-15 N., R. 13-14-15 E.

SURFACE ELEVATION: 650-750 feet.

SURFACE FORMATION: Boggy shale to Wewoka formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Terraces and local folds. Subsurface anticlines.

| PRODUCING | | DEPTH | THICKNESS | PRODUCTION | | INITIAL PRODUCTION |
|-----------------|------|-------|-----------|------------|-----|--------------------|
| HORIZONS | | | | oil | gas | |
| Salt Sand | 750 | | 150 | oil | | 25-50 bbls. |
| Booch | 1200 | | 40 | oil | | 10-1500 bbls. |
| Red Fork | 1300 | | 25 | oil | | 10-200 bbls. |
| Morris | 1575 | | 25 | oil | | 20-300 bbls. |
| Glenn of Morris | 1700 | | 40 | oil | | 10-150 bbls. |
| Fields | 1850 | | 60 | oil | | 20-50 bbls. |
| Lyons-Quinn | 1950 | | 20 | oil | | |
| Wilecox | 2250 | | 50 | oil | | 100-500 bbls. |
| Turkey Mt'n. | 2400 | | | | | |

CHARACTER OF OIL: Gravity, 42° B. Color, dark green.

CHARACTER OF GAS:

DATE OF OPENING: 1907-1908.

REMARKS: In the spring of 1908, Joe Burns and Low Caton completed a well near the center of the NE. ¼ sec. 6, T. 14 N., R. 14 E. The sand was 1,661 feet deep and the well came in for 400 barrels. This is the first well in the Bald Hill area and started the development there. In the same year Bob Galbraith came down directly from Glenn Pool and drilled a good well in sec. 22, T. 15 N., R. 14 E. He found the sand around 1,700 feet in depth, being about the depth of the pay in the Glenn Pool. He called it the "Glenn" sand. That name stuck but the correlation was not correct as this is a member of the Dutcher group, while the real Glenn sand is the Salt sand.

BARNES

COUNTY: Garfield.

LOCATION: T. 23 N., R. 3 W.

SURFACE ELEVATION: 1,000-1,100 feet.

SURFACE FORMATION: Enid formation (Garber).

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Anticlinal nose.

| PRODUCING | | DEPTH | THICKNESS | PRODUCTION | | INITIAL PRODUCTION |
|-----------|------|-------|-----------|------------|-----|--------------------|
| HORIZONS | | | | oil | gas | |
| Barnes | 2000 | | 50 | oil gas | | 100 bbls. |
| Tonkawa | 3300 | | | | | |
| Layton | 3900 | | | | | |

CHARACTER OF OIL: Gravity, 39.5° B.

CHARACTER OF GAS:

DATE OF OPENING: 1918.

REMARKS: The Oil State Petroleum Company brought in the discovery well of the Barnes pool with an initial production of 100 barrels, from 2,029-2,037 feet, in sec. 15 T. 23 N., R. 3 W., on the Barnes farm.

BARNSDALL

COUNTY: Osage.

LOCATION: T. 24 N., R. 11-12 E.

SURFACE ELEVATION: 700-800 feet.

SURFACE FORMATION: Nelagoney formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Minnehoma dome, Bigheart anticline, terraces and noses, Manhattan dome, 11-12 anticline, Gypsy dome.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-----------|-----------|-------------|---------------------------------|
| Big Lime | 900-1000 | 80 | show of gas | |
| Peru | 1100 | | oil | 8-50 bbls. |
| Oswego | 1150-1300 | 75 | gas | 1 M. cu. ft. |
| Squirrel | thin | | show of gas | |
| Bartlesville | 1550-1725 | 75 | oil gas | 100-300 bbls. 1-3 M. cu. ft. |
| Burgess | 1900 | 30 | gas | 5-10 M. cu. ft. |
| Mississippi | 1950-2100 | | gas | |
| Siliceous | 2300 | | | |

CHARACTER OF OIL: Gravity, 35.5° B.

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1916.

REMARKS: The Barnsdall pool was once called Big Heart, being located near a town by that name. The Barnsdall Oil Company came into the area, built a refinery, and practically bought out the town of Big Heart, giving the place the Company name.

BARTLETT

COUNTY: Okmulgee and McIntosh.

LOCATION: Cor. T. 11-12 N., R. 13-14 E.

SURFACE ELEVATION: 700-800 feet.

SURFACE FORMATION: Stuart shale and Thurman sandstone.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Anticlinal folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Glenn | 1250 | 150 | gas | |
| Booch | 1550 | 60 | oil gas | 12-15 M. cu. ft. |

(Table continued on next page)

DIGEST OKLAHOMA FIELDS

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------------------|
| 1st Dutcher | 1750 | 25 | oil gas | 10-200 bbls. |
| 2nd Dutcher | 1950 | 60 | oil gas | 20-100 bbls. 1-4 M. cu. ft. |
| Lyons-Quinn Wilcox | 2898 | 15 | oil | 15-100 bbls. |

CHARACTER OF OIL: Gravity, 31-42° B.

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1916.

REMARKS: Encouraging results were obtained in this area as early as 1916 when the Gundich Oil Company brought in a 400 barrel well in sec. 6, T. 11 N., R. 14 E.

BARTLESVILLE

See Dewey, page 49.

BAYOU

COUNTY: Carter.

LOCATION: T. 5 S., R. 2 W.

SURFACE ELEVATION: 775-875 feet.

SURFACE FORMATION: Wichita-Clear Fork (Cisco?) formation.

AGE OF SURFACE ROCKS: Permian or late Pennsylvanian.

STRUCTURE: Anticlinal fold.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-----------|-----------|------------|--------------------|
| | 2200-3900 | | oil | 50-600 |

CHARACTER OF OIL: Gravity, 34-35° B. Color, black.

CHARACTER OF GAS:

DATE OF OPENING: 1921.

REMARKS: The Bayou field was opened in 1921 following the discovery of oil in the Hewitt area and the general extension of southern oil fields.

BEARDEN

COUNTY: Okfuskee.

LOCATION: T. 10 N., R. 9 E.

SURFACE ELEVATION: 750-900 feet.

SURFACE FORMATION: Francis formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Surface anticlinal folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Glenn | 1875 | | | |
| Booch | 2850 | | gas | 5-35 M. cu. ft. |
| Gilcrease | 3025 | | gas | 2-15 M. cu. ft. |
| Papoose | 3230 | 70 | gas | 15-70 M. cu. ft. |

CHARACTER OF OIL: Gravity
 CHARACTER OF GAS: Dry; rock pressure 1,250 lbs.
 DATE OF OPENING: 1924.
 REMARKS: The Bearden pool is essentially a gas field, although recent deep drilling has made some shows of oil.

BEEBE

COUNTY: Pontotoc.
 LOCATION: T. 5 N., R. 5 E.
 SURFACE ELEVATION: 950-1,050 feet.
 SURFACE FORMATION: Pontotoc group.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Beebe anticline.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Boggy | 1600 | 150 | oil | 10-25 bbls. |
| Caney | 1800 | | | |
| Hunton | 2300 | 107 | oil | 100-125 bbls. |
| Viola | | | oil | |

CHARACTER OF OIL: Gravity 32°-40° B.

CHARACTER OF GAS:

DATE OF OPENING: 1923.

REMARKS: North of Beebe is an anticline which opens toward the northwest; the maximum structural relief amounts to 25 feet and in no place does the structure close toward the north. It is on the north-eastern flank of the much larger Center anticline.

Wells drilled near the crest of the fold in the area north of Beebe encountered oil horizons in what is thought to be the Boggy shale. The Hunton limestone found in this area at 2,300 feet was identified by fossils secured when the well was shot.

BEGGS
 Riverland
 South Beggs

COUNTY: Okmulgee.
 LOCATION: T. 14-15 N., R. 11-12 E.
 SURFACE ELEVATION: 650-950 feet.
 SURFACE FORMATION: Coffeyville formation, Holdenville shale, We-woka formation.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Terraces and noses with much crossbedding. Subsurface domes.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Salt sand | 1170 | 10 | gas | 1-6 M. cu. ft. |
| Glenn | 1550 | 100-120 | | |
| Taneha | 1700 | 50 | oil gas | 150-2000 bbls. |
| Dutcher | 2090 | 90 | oil gas | 10-30 M. cu. ft. |
| Mississippi | 2150 | | | 100-300 bbls. |
| Wilcox | 2550 | 250 | | 1-3 M. cu. ft. |
| | | | | 100-1000 bbls. |

CHARACTER OF OIL: Gravity, 35-36.9° B. Wilcox oil, 42° B.

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1910-1911, for shallow sand; 1919-1920 for Wilcox sand.

REMARKS: Active development commenced in the Beggs area after the discovery of the Preston pool in 1909. In 1910 and 1911 about 44 wells were drilled, some producing 1,000 barrels a day. The field rapidly declined until 1919 when Youngstown came in and revived the development of the region.

The Wilcox sand was first extensively developed in the Beggs pool proper.

BELAND

COUNTY: Muskogee.

LOCATION: T. 14 N., R. 17 E.

SURFACE ELEVATION: 500-800 feet.

SURFACE FORMATION: Winslow formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Subsurface folds and terraces.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Booch | 750 | 20 | gas | 1-5 M. cu. ft. |
| Muskogee | 1270 | 25 | oil | 8-10 bbls. |
| 1st Dutcher | 1650 | 50 | oil | 25 bbls. |
| 2nd Dutcher | 1700 | 75 | oil | 25-50 bbls. |
| Mississippi | 2100 | | | |
| Wilcox | 2250 | 20 | gas | 1-3 M. cu. ft. |
| Siliceous | 2700 | | | |

CHARACTER OF OIL: Gravity, 35-36.9° B.

CHARACTER OF GAS:

DATE OF OPENING: 1906.

REMARKS: As early as 1894 development was begun in the Muskogee townsite by the Cudahy Oil Company. About 1906 extensions southwestward were started and drilling was continuous despite the spottedness of production. Practically one-third of all the wells were gas producers.

BILBO

COUNTY: Marshall.
 LOCATION: T. 5 S. R., 5 E.
 SURFACE ELEVATION: 650-700 feet.
 SURFACE FORMATION: Washita group.
 AGE OF SURFACE ROCKS: Cretaceous.
 STRUCTURE: Madill anticline.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|---------|-----------|------------|--------------------|
| Trinity sand | 420-650 | 10-100 | oil | 30-200 bbls. |

CHARACTER OF OIL: Gravity, 47.5° B. Gasoline content 25-30%.

CHARACTER OF GAS:

DATE OF OPENING: 1925.

REMARKS: George W. Bilbo and associates, after five years search, opened the Bilbo field as a shallow pool in November 1925, with a well averaging 298 barrels daily from sand at 571 feet in depth.

BILLINGS
 North Billings
 East Billings

COUNTY: Noble.

LOCATION: T. 23-24 N., R. 1-2 W.
 SURFACE ELEVATION: 950-1,000 feet.
 SURFACE FORMATION: Enid formation (Garber).
 AGE OF SURFACE ROCKS: Permian.
 STRUCTURE: Billings anticline. Large well defined subsurface dome.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-----------|-----------|------------|----------------------------|
| 550 foot sand | 550-570 | 20 | gas | 2 M. cu. ft. |
| 700 foot sand | 700-780 | 80 | gas | 2 M. cu. ft. |
| 900 foot sand | 900-920 | 20 | gas | 5 M. cu. ft. |
| 1000 ft. sand | 1100-1200 | | gas | 10 M. cu. ft. |
| 1300 ft. sand | 1300-1340 | | gas | 1-6 M. cu. ft. |
| Hoover | 2000-2225 | | oil gas | 500 bbls. 21 M. cu. ft. |
| Tonkawa | 2620-2800 | | oil | 50-100 bbls. |
| Layton | 3350-3450 | | | |
| Oswego | 3700-3800 | | | |
| Burgess | 4048-4100 | | | |

CHARACTER OF OIL: Gravity, 39.5-43° B.

CHARACTER OF GAS: Wet.

DATE OF OPENING: 1917.

REMARKS: In February, 1917, the Mid-Co Petroleum Company completed the discovery well of the Billings pool in sec. 22, T. 23 N., R. 2 W. This well was located on a wildcat structure which geologists of the Company had mapped, and was 15 miles from the nearest pro-

duction. The production was 250 barrels of oil per day from sand at a depth of 2,121 to 2,136 feet. In June 1919, the initial well was deepened to 2,334-2,351 feet, at which depth it produced 150 barrels of oil per day but a little water appeared at the bottom of the sand.

The Billings pool proper covers a small area, about one section square, the adjoining extensions of North and East Billings increase the length of the pool about four miles.

BILLINGSLEA

COUNTY: Creek.
 LOCATION: T. 14 N., R. 8 E.
 SURFACE ELEVATION: 765 feet.
 SURFACE FORMATION: Ochelata formation.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Terrace.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Wheeler | 2250 | | | |
| Prue | 2390 | 50 | oil | 250 bbls. |
| Bartlesville | 3310 | 100 | oil | 25-110 bbls. |
| Dutcher | 3500 | | | |
| Wilcox | 3785 | 155 | oil | 100-200 bbls. |

CHARACTER OF OIL: Gravity, 32° B.

CHARACTER OF GAS:

DATE OF OPENING: 1925.

REMARKS:

BIRD CREEK—FLAT ROCK

COUNTY: Tulsa-Osage.
 LOCATION: T. 20-21 N., R. 12-13 E.
 SURFACE ELEVATION: 850-950 feet.
 SURFACE FORMATION: Coffeyville formation.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Anticlinal noses and terraces.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------------------|
| Oswego | 790 | 55 | oil gas | |
| Bartlesville | 1110 | 95 | oil gas | 20-400 bbls. 5 M. cu. ft. |
| Burgess | 1345 | 20 | oil gas | 10-100 bbls. 1-3 M. cu. ft. |
| Wilcox | 1667 | 100 | | |

CHARACTER OF OIL: Gravity, 30-32.9° B.

CHARACTER OF GAS:

DATE OF OPENING: 1906.

REMARKS: The Bird Creek-Flat Rock pool was one of the early developments in the State. Considerably over 1,000 wells were drilled and many of them came in at several hundred barrels a day. There is a narrow gas belt bordering the northeastern edge of the oil producing area of the pool from which good gas wells were obtainable.

BIXBY

COUNTY: Tulsa.
 LOCATION: T. 16-17 N., R. 13 E.
 SURFACE ELEVATION: 700-900 feet.
 SURFACE FORMATION: Wewoka formation.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Folding with local variations.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Glenn | 995 | 50 | oil | |
| Taneha | 1192 | 25 | oil | 200-400 bbls. |
| Dutcher | 1700 | 70 | oil | 100-150 bbls. |
| Mississippi | 1850 | 25 | gas | 1-5 M. cu. ft. |
| Wilcox | 2110 | 40 | oil | 50-150 bbls. |
| Turkey Mt. | 2260 | | | |

CHARACTER OF OIL: Gravity, 35-36.9° B.
 CHARACTER OF GAS:
 DATE OF OPENING: 1916.

REMARKS: A small but highly productive field is situated about 4 miles southwest of Bixby; many of the wells have come in at 400-800 barrels a day.

BLACKWELL

COUNTY: Kay.
 LOCATION: T. 27-28 N., R. 1 W. and 1 E.
 SURFACE ELEVATION: 1,005 feet.
 SURFACE FORMATION: Pennsylvanian and Permian formations.
 AGE OF SURFACE ROCKS: Pennsylvanian and Permian.
 STRUCTURE: Blackwell anticline.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-----------|-----------|------------|--------------------|
| 1st gas sand | 225 | 20 | gas | 2-5 M. cu. ft. |
| Blackwell | 750 | 20 | gas | 5-10 M. cu. ft. |
| Newkirk | 1450 | 30 | gas | 1-5 M. cu. ft. |
| Ponca | 1600 | 10 | oil | 100-400 bbls. |
| Lower Hoover | 1750 | 15 | oil | 100-1350 bbls. |
| Endicott (?) | 1900 | 20 | oil | 20-1200 bbls. |
| Revard (?) | 1950 | 13 | | |
| Tonkawa | 2200-2300 | 32-23 | gas | 5-20 M. cu. ft. |
| Layton | 2600 | 75 | gas | 5-20 M. cu. ft. |

(Table continued on next page)

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|------------------------------------|
| Big Lime | 3100 | | gas | 100-200 M. cu. ft. |
| Wilcox | 3300 | 100 | oil gas | 3-45 M. cu. ft. |
| Siliceous | 3400 | | oil | 50-500 bbls. oil 100-1000 bbls. |

CHARACTER OF OIL: Gravity, 39°-40.9°-42.7° B.

CHARACTER OF GAS:

DATE OF OPENING: 1914.

REMARKS: The first wells of the Blackwell field were drilled by local parties. In 1912 the north end of the area was developed by E. W. Marland, with 21 gas wells, but real activity started in 1914 when an oil well and a number of good gas wells were drilled.

The first oil well was drilled by B. B. Jones in sec. 32, T. 29 N., R. 1 E. It made 600 barrels of oil from sand at 3,365 to 3,367 feet. This well is making about 2½ barrels today.

BOOCH

See Bald Hill, page 13.

BOOCH SAND FIELD

COUNTY: Muskogee.
 LOCATION: Sec. 31, T. 15 N., R. 15 E.
 SURFACE ELEVATION: 675 feet.
 SURFACE FORMATION: Stuart shale.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Local folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Booch | 1075 | | oil | |

CHARACTER OF OIL: Gravity,-----

CHARACTER OF GAS:

DATE OF OPENING:

REMARKS: Present (1928) production 6 barrels per day.

BOSTON

COUNTY: Osage.
 LOCATION: T. 21-22 N., R. 7-8 E.
 SURFACE ELEVATION: 700-900 feet.
 SURFACE FORMATION: Buck Creek formation.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Surface anticline and subsurface folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|------------------------------|
| Elgin | 1450 | | gas | 1 M. cu. ft. |
| Layton | 1500 | | oil | |
| Cleveland | 1790 | | oil gas | 50-250 bbls. 1 M. cu. ft. |
| Oswego | 1990 | | | |

(Table continued on next page)

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Prue | 2165 | | gas | 1-10 M. cu. ft. |
| Skinner | 2250 | | gas | 1-3 M. cu. ft. |
| Bartlesville | 2325 | 30 | oil | 20-3000 bbls. |
| Burgess | 2400 | | | |
| Mississippi | 2580 | 10 | gas | |
| Wilcox | | | | |
| Tyner (Hominy) | | | | |
| Siliceous | 2620 | 60 | oil | 100-6000 bbls. |

CHARACTER OF OIL: Gravity, 31.5° B.

CHARACTER OF GAS:

DATE OF OPENING: 1904.

REMARKS: The Boston Pool is a small but very productive area situated on the Arkansas River in Osage County and is really a north-west extension of the Cleveland pool. The productive area was leased and developed mainly by the Gypsy Oil Company.

The Siliceous lime is the main producing horizon of this field.

BOWLEGS

COUNTY: Seminole.

LOCATION: T. 8 N., R. 6 E.

SURFACE ELEVATION: 950-960 feet.

SURFACE FORMATION: Pontotoc group.

AGE OF SURFACE ROCKS: Permian and Pennsylvanian.

STRUCTURE: Subsurface highs.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|----------|-----------|------------|--------------------|
| Hunton | 3835 | 10 | oil | 100-2500 bbls. |
| Sylvan | 3845 | 40 | | |
| Viola | 3925 | 75 | | |
| Wilcox | 4046 | 30 | oil | 500-7000 bbls. |
| Siliceous | 4200 (?) | | | |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS:

DATE OF OPENING: 1927.

REMARKS: The Indian Territory Illuminating Oil Company brought in the discovery well of the Bowlegs pool, January, 1927, on the Livingston lease in sec. 15, T. 8 N; R. 6 E. This was a Wilcox sand producer and started at 504 barrels a day at a depth of 4,070 feet.

The Lizzie Bowlegs lease in T. 8 N., R. 6 E., was developed, immediately after the discovery of the pool by a number of companies, and from it came the name of the pool.

BOWRING

COUNTY: Osage.

LOCATION: T. 28 N., R. 11 E.

SURFACE ELEVATION: 850-1,000 feet.

SURFACE FORMATION: Nelagoney formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Anticlinal folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Layton | 665 | 60 | gas | |
| Peru | 1150 | 30 | | |
| Oswego | 1425 | 35 | | |
| Mississippi | 1866 | 30 | gas | 1-4 M. cu. ft. |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS: Dry. Rock pressure 720 pounds.

DATE OF OPENING: 1921.

REMARKS: The Owen Osage Oil and Gas Company is the chief developer of the Bowring pool.

BOYLE

COUNTY: Muskogee.

LOCATION: Sec. 8, T. 15 N., R. 15 E.

SURFACE ELEVATION: 650 feet.

SURFACE FORMATION: Stuart shale.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE:

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Dutcher | 1617 | | oil | 165 bbls. |

CHARACTER OF OIL: Gravity,-----.

CHARACTER OF GAS:

DATE OF OPENING: October, 1927.

REMARKS:

BOYNTON

COUNTY: Muskogee.

LOCATION: T. 14 N., R. 15-16 E.

SURFACE ELEVATION: 550-700 feet.

SURFACE FORMATION: Boggy shale.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Boynton dome, anticlinal folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Salt sand | 625 | | oil gas | 15-75 bbls. |
| Booch | 1000 | | oil | 1-5 M. cu. ft. |
| Mounds | 1100 | | gas | 10-150 bbls. |
| Leidecker | 1400 | | oil | 1-5 M. cu. ft. |
| | | | | 1-10 bbls. |

(Table continued on next page)

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------------------|
| Boynton | 1500 | | oil gas | 50-200 bbls. 1-7 M. cu. ft. |
| Mississippi | 1800 | | oil gas | 10 bbls. 1-10 M. cu. ft. |
| Wilcox | | | | |

CHARACTER OF OIL: Gravity, 37-38.9° B. Color, green.

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1914.

REMARKS: The Boynton pool created a great deal of excitement early in 1914, although the first producers were small averaging only 12 to 150 barrels per day. H. H. Galbreath completed the first well for 5 to 10 million cubic feet of gas at 1,800 feet.

BRADLEY

See Jolly-Patton, page 81.

BRAMAN North Braman South Braman

COUNTY: Kay.

LOCATION: T. 28-29 N., R. 1 W.

SURFACE ELEVATION: 1,050-1,150 feet.

SURFACE FORMATION: Wellington shale.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Core drilled anticlines.

North Braman, flat-topped hill with west dips.

South Braman, sharp fold, probably faulted to west.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Hoover | 1900 | 95 | oil | 100-1800 bbls. |
| U. Endicott (?) | 2100 | | oil | 175-500 bbls. |
| Tonkawa | 2387 | 15 | oil | |
| Layton | 2800 | 45 | oil | 100-5000 bbls. |
| Wilcox | 3300 | 100 | oil | 200-2500 bbls. |
| Siliceous | | | | |

CHARACTER OF OIL: Gravity, 40.9° B.

CHARACTER OF GAS:

DATE OF OPENING: 1924.

REMARKS: In June, 1924 the Comar Oil Company completed a well of considerable promise in sec. 21, T. 28 N., R. 1 W., which had an initial production of 1,770 barrels of oil per day in sand at a depth of 2,071 feet.

The initial production of the wells of the Braman pool is from 1,000 to 2,000 barrels per day which decline to the average production of 175 to 500 barrels. There is some Wilcox production in both the North and South Braman pools.

BRINTON Brookins

COUNTY: Okmulgee.

LOCATION: Secs. 9 and 16, T. 13 N., R. 12 E.

SURFACE ELEVATION: 700-850 feet.

SURFACE FORMATION: Wewoka formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Local folds, subsurface dome.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|---------------------------------|
| Booeh | 1700 | 20 | oil gas | 30 M. cu. ft. 35-60 bbls. |
| Glenn | 2100 | 65 | oil gas | 20-300 bbls. 1-18 M. cu. ft. |
| Upper Dutcher | 1960 | | water | |
| Lower Dutcher | 2025 | | oil | 50 bbls. |
| Lyons-Qinn | 2150 | | oil | 20-100 bbls. |
| Wilcox | 2700 | 20 | oil | 25-300 bbls. |

CHARACTER OF OIL: Gravity, 31-42° B.

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1915.

REMARKS: Development started in this area about 1910, but no production was discovered until after the Tiger Flats area developed in 1913 and 1914. The Wilcox sand was discovered in 1918.

BRISTOW

COUNTY: Creek.

LOCATION: T. 16 N., R. 9 E.

SURFACE ELEVATION: 800-900 feet, B. M. at Bristow 817.

SURFACE FORMATION: Ochelata formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURES: Surface faults (normal *en echelon*). Pay zone dips westward.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|---------------------------------|
| Layton (?) | 1200 | | | |
| Ft. Scott (?) | 1275 | 20 | gas | 1-4 M. cu. ft. |
| Oswego | 1500 | 40 | | |
| Red Fork (?) | 2000 | | | |
| Bartlesville | 2500 | 35 | gas | 3-18 M. cu. ft. |
| Dutcher | 2700 | 55 | oil gas | 50-200 bbls. 6 M. cu. ft. |
| Mississippi | 2800 | 20 | oil gas | 20-150 bbls. 1-10 M. cu. ft. |
| Wilcox | 3200 | | oil | 100-1000 bbls. |

CHARACTER OF OIL: Gravity, 34-35.9—40-41° B.

CHARACTER OF GAS:

DATE OF OPENING: 1916.

REMARKS: J. J. Curl, of Bartlesville, drilled the first hole of the Bristow District in 1905, sec. 29, T. 16 N., R. 9 E., the present site of the refinery. The hole was plugged and abandoned at 1,000 feet. The first well to discover gas was drilled in 1906 by Mattson, Barnes and Freeland to a depth of 1,395 feet. This gas was turned into the Bristow town supply and was used during cotton-ginning season.

In the summer of 1907, Frank Barnes and Claude Freeland started a well in sec. 2, T. 15 N., R. 9 E., and in December of that year a flow of one million cubic feet of gas at 1,000 pounds rock pressure was encountered in a 15-foot sand at a depth of 2,485 feet. This gas was used by the town of Bristow and was the first successful well of the Bristow Quadrangle.

BROCK
Crinerville

COUNTY: Carter.

LOCATION: T. 5 S., R. 1 E.

SURFACE ELEVATION: 750-900 feet.

SURFACE FORMATION: Glenn formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Three terraces on a monocline.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-----------|-----------|------------|---------------------------------|
| Glenn fm. | 800-2100 | | | |
| Ordovician | 1100-2200 | | oil-gas | 30-600 bbls. 3-30 M. cu. ft. |

CHARACTER OF OIL: Green; gravity, 27-39° B.

CHARACTER OF GAS: 1½-2½ gal. casinghead gasoline per 1,000 cu. ft.; rock pressure averages 500 lbs. per sq. in.

DATE OF OPENING: 1922.

REMARKS: The Brock pool was discovered by the Amerada Petroleum Corporation, Jan., 1922. The field, 5½ years after discovery, had 139 oil wells (7 abandoned), 3 gas wells (2 abandoned), and 46 dry holes. The depth of production ranges from 845 to 2,200 feet. The wells had an average initial production of about 50 barrels and an average settled production of 15 barrels. The oil originated in the Pennsylvanian shales and migrated laterally.

BROKEN ARROW

COUNTY: Tulsa.

LOCATION: T. 18 N., R. 14 E.

SURFACE ELEVATION: 700-800 feet.

SURFACE FORMATION: Labette shale.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Local anticlinal folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------------------|
| Bartlesville | 1350 | 20 | oil gas | 50-200 bbls. 2-4 M. cu. ft. |
| Tucker | 1430 | 5 | gas | 1-7 M. cu. ft. |
| Dutcher | 1500 | 15 | oil gas | 10-60 bbls. 1 M. cu. ft. |
| Burgess | 2080 | 5 | | |
| Chattanooga | 2545 | 67 | gas | 1-4 M. cu. ft. |
| Misener | 2623 | 28 | | |
| Turkey Mt. | 2755 | 40 | | |

CHARACTER OF OIL: Gravity, 33-34.9° B.

CHARACTER OF GAS:

DATE OF OPENING: 1901.

REMARKS: This pool is a long narrow strip east and south of Broken Arrow. Development followed the discovery of the Red Fork area.

BROOKINS

See Brinton, page 25.

BRUNER-VERN

COUNTY: Tulsa.

LOCATION: T. 19 N., R. 12 E.

SURFACE ELEVATION: 750-850 feet.

SURFACE FORMATION: Nellie Bly formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Anticlinal folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Oswego | 770 | | | |
| Bartlesville | 1175 | | | |
| Burgess | 1580 | 16 | gas | 5-10 M. cu. ft. |
| Tyner | 1920 | 22 | oil | 200-500 bbls. |
| Turkey Mt. | 2020 | | oil | 100-400 bbls. |

CHARACTER OF OIL: Gravity, 39-40° B.

CHARACTER OF GAS:

DATE OF OPENING: 1920.

REMARKS: Bruner-Vern, two pools close together but both on separate structures, are known as "Tulsa's back yard pools." The discovery well in the Bruner Pool, which opened the area, was completed in December of 1923 by the Shaffer Oil and Refining Company and Fitzpatrick. It was good for 460 barrels from sand at 2,026 to 2,058 feet, which was the second pay sand. In June, 1923, Chas. Page had completed this same well as a gasser for 15,000,000 cubic feet in the Burgess sand at a depth of 1,580-1,586 feet. The Shaffer Company really started the development of the fields and though

they are not record breakers they are excellent Wilcox sand pools of high gravity production.

BRUSHY MOUNTAIN

COUNTY: Muskogee.
LOCATION: Secs. 32 and 33, T. 14 N., R. 19 E.
SURFACE ELEVATION: 600-650 feet.
SURFACE FORMATION: Winslow formation.
AGE OF SURFACE ROCKS: Pennsylvanian.
STRUCTURE: Subsurface folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Sand | 1432 | 15 | gas | 7 M. cu. ft |

CHARACTER OF OIL: Gravity,-----
CHARACTER OF GAS:
DATE OF OPENING: February, 1916.
REMARKS:

BURBANK

COUNTY: Osage-Kay.
LOCATION: T. 26-27 N., R. 5-6 E.
SURFACE ELEVATION: 950-1,075 feet.
SURFACE FORMATION: Eskridge, Neva, Elmdale formations.
AGE OF SURFACE ROCKS: Permian-Pennsylvanian.
STRUCTURE: Monocline, lenticular sand accumulation.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-----------|-----------|------------|--------------------|
| Hoover | 990 | 20 | | |
| Suitcase | 1725 | 20 | gas | (?) |
| Layton | 2115-90 | 4-10 | | |
| Oswego | 2425-2500 | | | |
| Burbank | 2700-90 | 40-80 | oil | 50-5000 bbls. |
| Wilcox | 3300 | | dry | |

CHARACTER OF OIL: Gravity, 37-39.9° B.
CHARACTER OF GAS: Wet.
DATE OF OPENING: 1920.
PEAK PRODUCTION DATE: July, 1923.
PEAK PRODUCTION: 121,760 barrels per day.
NUMBER OF WELLS: 1,935.

REMARKS: The Marland Oil Company drilled the first well in the Burbank field, May, 1920, in sec. 36, T. 27 N., R. 5 E., on a small anticline. The Carter Oil Company drilled the second well, September, 1920, on another small anticline.

The possibilities of the field were recognized by the oil fraternity as is demonstrated by the prices paid for leases during the govern-

ment sales. So far, the highest price paid to the Osage Agency was \$1,990,000.00 for 160 acres; but some leases have produced 20,000 barrels per acre. Burbank is the most evenly drilled area in the Mid-Continent field.

BUTLER

COUNTY: Muskogee.
LOCATION: Sec. 30, T. 15 N., R. 16 E.
SURFACE ELEVATION: 625 feet.
SURFACE FORMATION: Boggy shale.
AGE OF SURFACE ROCKS: Pennsylvanian.
STRUCTURE: Subsurface folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-----------|-----------|------------|--------------------|
| Sand | 860 | 100 | gas | ½ M. cu. ft. |
| Sand | 1213-1268 | 47 | oil | 20-100 bbls. |

CHARACTER OF OIL: Gravity,-----
CHARACTER OF GAS:
DATE OF OPENING: August, 1918.
REMARKS:

BU-VI-BAR

COUNTY: Noble.
LOCATION: T. 21 N., R. 2 W.
SURFACE ELEVATION: 1,078 feet.
SURFACE FORMATION: Permian formations.
AGE OF SURFACE ROCKS: Permian.
STRUCTURE: Monocline on surface.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-----------|-----------|------------|--------------------|
| Uncorrelated | 1894-1900 | 6-10 | oil | 10-100 bbls. |
| B. Foraker | 2370-2390 | 5-10 | gas | 1-20 M. cu. ft. |
| Mississippi | 4700 | | | |
| Viola | 4950 | | | |
| Wilcox | 5000 | | | |
| Siliceous | 5300 | | | |

CHARACTER OF OIL: Gravity, 39.7° B.
CHARACTER OF GAS:
DATE OF OPENING: 1926.

REMARKS: The Bu-Vi-Bar Company completed the discovery well of the pool in sec. 15, T. 21 N., R. 2 W., at 1,902 feet for 130 barrels of oil at 39.7° B., in March, 1925. The pool is derived from the names of three men who composed the company: J. Garfield Buel—(Bu-); Mr. Vincent—(Vi-); and Bob Bartlett—(Bar).

CALIFORNIA CREEK

COUNTY: Nowata.
 LOCATION: T. 28 N., R. 15 E.
 SURFACE ELEVATION: 750-900 feet.
 SURFACE FORMATION: Coffeyville formation.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Terraces.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Wayside | 220 | | | |
| Oswego | 515 | | | |
| Tucker | 1020 | | gas | 2-4 M. cu. ft. |
| 1st Break | | | | |
| Mississippian | 1145 | | gas | 3-5 M. cu. ft. |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1911.

REMARKS: California Creek is an extension of the production from Kansas. The field is located along both banks of California Creek in Oklahoma but most of the production was used in southern Kansas; it was piped out by the Kansas Natural Gas Company.

CAMERON

COUNTY: LeFlore.
 LOCATION: T. 7-8 N., R. 26 E.
 SURFACE ELEVATION: 500-750 feet.
 SURFACE FORMATIONS: McAlester shale.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Cavanna fault and anticlinal folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Uncorrelated | 1575 | 15-25 | gas | 1-20 M. cu. ft. |
| | 1900 | 20-60 | gas | 1-12 M. cu. ft. |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS: Dry. Rock pressure: 250-412 pounds.

DATE OF OPENING: 1914.

REMARKS: Comparatively few of the Mid-Continent fields contain gas without oil, however, where the formations have undergone pronounced folding, gas alone is found. In a strip of sharply folded territory north of the Ouachita Mountains there are several gas fields from which gas is produced in large quantities; the Cameron field is one of the larger of these areas.

CANARY

COUNTY: Washington.
 LOCATION: T. 29 N., R. 13 E.
 SURFACE ELEVATION: 700-800 feet.
 SURFACE FORMATION: Ochelata formation.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Local folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Big Lime | 670 | 65 | (?) | |
| Oswego | 970 | 90 | (?) | |
| Bartlesville | 1190 | 55 | oil | 5-150 bbls. |
| Tucker | 1480 | 30 | oil gas | 10-25 bbls. |
| | | | | 1-3 M. cu. ft. |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1907.

REMARKS: The northwestern part of Canary pool is producing principally oil, while the southwestern end produces principally gas.

CANEY

COUNTY: Washington.
 LOCATION: T. 29 N., R. 12 E.
 SURFACE ELEVATION: 750-950 feet.
 SURFACE FORMATION: Ochelata formation.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Local folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Big Lime | 615 | 20 | oil | |
| Oswego | 815 | 50 | oil | |
| Bartlesville | 1185 | 50 | oil | 10-100 bbls. |
| Tucker | 1400 | 30 | oil gas | 10-20 bbls. |
| | | | | 1-2 M. cu. ft. |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1909.

REMARKS: The Caney field lies a little southwest of the Caney gas field in Kansas from which it derived its name.

CATOOSA

COUNTY: Rogers.
 LOCATION: T. 20 N., R. 15 E.

SURFACE ELEVATION: 600-800 feet.
 SURFACE FORMATION: Cherokee formation.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Local folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Booch | 850 | | gas | 2-15 M. cu. ft. |
| Mississippi | 900 | | gas | 10-20 M. cu. ft. |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS:

DATE OF OPENING: 1913.

REMARKS: The Kansas Natural Gas Company drilled the initial volume of gas in the Catoosa field. The largest initial production from the wells was 10 to 15 million cubic feet of gas per day.

CEMENT

COUNTY: Caddo.
 LOCATION: T. 5-6 N., R. 9-10 W.
 SURFACE ELEVATION: 1,454 feet.
 SURFACE FORMATION: Cloud Chief and Whitehorse formations.
 AGE OF SURFACE ROCKS: Permian.
 STRUCTURE: Cement anticline.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|-------------------------------|
| Permian | 1850 | 14 | oil | 250 bbls. |
| | 1900 | 15 | oil | 25 bbls. |
| | 2200 | 50 | gas | 40 M. cu. ft. |
| | 2400 | 15 | oil gas | 50-100 bbls. |
| | 2800 | | oil | 1-5 M. cu. ft. 20-50 bbls. |

CHARACTER OF OIL: Gravity, 34.7-37° B.

CHARACTER OF GAS:

DATE OF OPENING: 1914.

REMARKS: The Cement anticline was first mapped in 1916 by D. W. Ohern and Frank Buttram. Operation for development of oil and gas in this region began in 1916 with the drilling of a shallow well 3 miles east of Cement which was drilled to a depth of 1,415 feet encountering half a million cubic feet of gas. Active drilling started in 1917 by the completion of the Kunsemuller well, sec. 32, T. 6 N., R. 9 W., which encountered oil at 1,700 feet sufficient to encourage future drilling. The Fortuna Oil Company drilled the third well in 1917 for 35 million cubic feet of gas at 2,340 feet which established the field. Deep test now drilling in sec. 4, T. 5 N., R. 9 W., are in gravels and cherts around 2,700-2,800 feet which is probably basal Pontotoc.

CHANDLER

COUNTY: Lincoln.
 LOCATION: T. 14 N., R. 4 E.
 SURFACE ELEVATION: 967 feet.
 SURFACE FORMATION: Pennsylvanian-Permian formations.
 AGE OF SURFACE ROCKS: Pennsylvanian-Permian.
 STRUCTURE: Subsurface Dome.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-----------|-----------|------------|--------------------------------|
| Cleveland | 3250-3310 | 30 | oil gas | 2-5 M. cu. ft. 50-100 bbls. |
| Prue | 3950-4010 | 30-50 | oil gas | 1-2 M. cu. ft. 50-75 bbls. |
| Bartlesville | 4470-4515 | 15 | | |
| Burgess | 4560-4580 | 20 | oil | 20 bbls. |
| Viola Lime | 4490-5020 | 20 | oil | 75-100 bbls. |

CHARACTER OF OIL: Gravity 37.7° to 41.0°.

CHARACTER OF GAS:-----1000 lbs. Rock Pressure.

DATE OF OPENING: 1924.

REMARKS: Green and Hines completed the discovery well of the Chandler Pool February 25, 1924, in sec. 7, T. 14 N., R. 4 E., for an initial production 6 million cubic feet of gas at 3,307 feet.

The first Wilcox test was drilled by the Magnolia in May, 1928. Their No. 2 Gilliam NE. ¼ SE. ¼ SW. ¼ sec. 8, T. 14 N., R. 4 E., reached the Wilcox sand at a depth of 5,052 feet, getting water.

CHELSEA

COUNTY: Rogers.
 LOCATION: T. 24 N., R. 17 E.
 SURFACE ELEVATION: 700-850 feet.
 SURFACE FORMATION: Cherokee formation.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Anticlinal folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Stray | 400 | 20 | oil | 15-30 bbls. |
| Bartlesville | 463 | 80 | oil | 20-100 bbls. |
| Burgess | 600 | 40 | oil | 40-60 bbls. |

CHARACTER OF OIL: Gravity, 30-31.9° B.

CHARACTER OF GAS:

REMARKS: The Cherokee Oil and Gas Company drilled three small wells on their leases near Chelsea in 1889. The average depth of these wells was 36-120 feet and the initial production 5 to 10 barrels of oil per day. In 1900 other wells were developed and the oil piped to Chelsea. This is the first record of drilling for oil production in Oklahoma.

CHICKASHA

COUNTY: Grady.

LOCATION: T. 5 N., R. 8 W.

SURFACE ELEVATION: 1,200-1,440 feet.

SURFACE FORMATION: Whitehorse, Dog Creek and Blaine formations.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Chickasha anticline.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-----------|-----------|------------|--------------------|
| Nichlos | 1350 | | gas | 10-50 M. cu. ft. |
| Ramsey | 2000-2500 | | gas | 50-60 M. cu. ft. |
| (?) | 2450-2475 | 10-20 | oil | |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1922.

REMARKS: The Chickasha gas field was discovered July, 1922 by John B. Nichols. The discovery well in sec. 26, T. 5 N., R. 8 W., gauged approximately 48 million cubic feet of gas from a shallow Permian sand at a depth of 1,350 feet. This is known as the Nichlos sand.

CHICKEN FARM

COUNTY: Muskogee.

LOCATION: T. 14 N., R. 18 E.

SURFACE ELEVATION: 550-650 feet.

SURFACE FORMATION: Winslow formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Lenticular sands.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Oswego | 400 | 10 | oil | 10-25 bbls. |
| Tucker | 700 | 30 | oil | 20 bbls. |
| Boynton | 1200 | 10 | oil | 20-60 bbls. |
| Tanaha | 1350 | 20 | oil | 15-150 bbls. |

CHARACTER OF OIL: Gravity, 32° B.

CHARACTER OF GAS:

DATE OF OPENING: 1904.

REMARKS: The Chicken Farm pool is an extension of the Muskogee pool, being located 6 miles southwest of the city of Muskogee.

CHILDERS

See Delaware, page 48.

CLAGGETT

See Nowata-Claggett, page 106.

CLAREMORE

East and North Claremore

COUNTY: Rogers.

LOCATION: T. 21 N; R. 15-16-17 E.

SURFACE ELEVATION: 600-750 feet.

SURFACE FORMATION: Cherokee formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Local structure.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|---------|-----------|------------|--------------------|
| Bartlesville | 550 | | oil | 20-60 bbls. |
| Tucker | 700 | | gas | 1-7 M. cu. ft. |
| Burgess | 810-825 | | oil | 10-50 bbls. |
| Chattanooga | 1050 | | | |
| Tyner | 1175 | | none | |
| Siliceous | 1200 | | | |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS:

DATE OF OPENING: 1904.

REMARKS: The Claremore radium water is from the Siliceous limestone horizon. The Tucker and Burgess sands are found at 400-500 feet in T. 21 N., R. 17 E.

CLEVELAND

COUNTY: Pawnee.

LOCATION: T. 21 N., R. 8 E.

SURFACE ELEVATION: 700-900 feet.

SURFACE FORMATION: Pawhuska formation.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Local structure.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Kelso | 500 | 30 | oil | |
| Layton | 1300 | 50 | oil | 20-125 bbls. |
| Cleveland | 1700 | 20 | oil | 20-300 bbls. |
| Oswego | 2090 | 20 | oil gas | 75 bbls. |
| | | | | 1-5 M. cu. ft. |
| Skinner | 2180 | | oil | 60 bbls. |
| Bartlesville | 2400 | 110 | oil | 35-1000 bbls. |
| Wilcox | 2720 | | | |
| Siliceous | 2900 | | | |

CHARACTER OF OIL: Gravity, 36-37.9° B. Content: 5.42 paraffin.

CHARACTER OF GAS:

DATE OF OPENING: 1904.

REMARKS: This large oil field occupies some 50 square miles of the east end of Pawnee County. The first good well of the Cleve-

land pool was completed September, 1904, great activity resulted; many wells were drilled close together on town lots and the initial production was 25-300 barrels per day.

COAL

COUNTY: Coal.
 LOCATION: T. 3 N., R. 11 E.
 SURFACE ELEVATION: 750-850 feet.
 SURFACE FORMATION: McAlester shale.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Savanna anticline.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Hartshorne | 1400 | 40-50 | gas | 1-6 M. cu. ft. |

CHARACTER OF OIL: Gravity -----
 CHARACTER OF GAS: Dry.
 DATE OF OPENING: 1912.

REMARKS: In Coal County a considerable amount of gas is found on the Savanna and Coalgate anticlines but no definite pool has been discovered. Considerable gas was developed in sand beds in the McAlester shale from 350 to 1,000 feet deep. The sand beds are 10 to 40 feet thick.

COALTON

COUNTY: Okmulgee.
 LOCATION: T. 12 N., R. 13 E.
 SURFACE ELEVATION: 750-850 feet.
 SURFACE FORMATION: Stuart shale.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Terraces, anticline and fault.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Booch Sand | 1300 | 100-300 | black oil | 15-600 bbls. |
| 1st Dutcher | 1850 | | | |
| 2nd Dutcher | 1930 | | green oil | |
| Wilcox | 2835 | | oil | 100 bbls. |

CHARACTER OF OIL: Gravity -----
 DATE OF OPENING: 1907.

REMARKS: The discovery well in the Coalton Pool is known as the "picnic well" because of a picnic held at the well the day it was completed. It came in for an initial production of 60 barrels of oil per day at a depth of 1,800 feet, in sec. 22, T. 12 N., R. 13 E., and was drilled by Smith and Swan.

COLE

COUNTY: Muskogee.
 LOCATION: Secs. 10 and 11, T. 14 N., R. 15 E.
 SURFACE ELEVATION: 600-650 feet.
 SURFACE FORMATION: Boggy shale.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Subsurface folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Sand | 1475 | 10 | gas | 20 M. cu. ft. |
| Sand | 1610 | 20 | oil | 300-700 bbls. |

CHARACTER OF OIL: Gravity, 35.4° B.
 CHARACTER OF GAS:
 DATE OF OPENING: August, 1914.
 REMARKS: Present production of the pool is about 70 barrels.

COLLINSVILLE

COUNTY: Tulsa.
 LOCATION: T. 22 N., R. 14 E.
 SURFACE ELEVATION: 600-750 feet.
 SURFACE FORMATION: Coffeyville formation.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Terraces.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Oswego | 700 | 30 | oil | 10-25 bbls. |
| Red Fork | 850 | 25 | gas | 1-20 M. cu. ft. |
| Bartlesville | 1390 | 175 | oil gas | 20-60 bbls. |
| Burgess | 1600 | 30 | oil | 1-18 M. cu. ft. |
| Mississippi | 1680 | | | 20-30 bbls. |
| Wilcox | 1800 | | none | |
| Siliceous | 1950 | | none | |

CHARACTER OF OIL: Gravity -----
 CHARACTER OF GAS:
 DATE OF OPENING: 1916.
 REMARKS: This pool is part of a large field which covers some twenty-five square miles. The Collinsville area is noted more for its gas than for oil, for many large gas wells were brought in and the gas used in the zinc smelters of Collinsville.

COMANCHE

COUNTY: Stephens.
 LOCATION: T. 2 S., R. 7-8 W.
 SURFACE ELEVATION: 950-1,100 feet.

SURFACE FORMATION: Clear Fork-Wichita formations.
 AGE OF SURFACE ROCKS: Permian.
 STRUCTURE: Elongated dome.

| PRODUCING | | DEPTH | THICKNESS | PRODUCTION | INITIAL |
|-----------------|------------|-------|-----------|------------|-----------------|
| HORIZONS | PRODUCTION | | | | PRODUCTION |
| 800 ft. gas sd. | 800-900 | | | gas | 1-20 M. cu. ft. |
| Wilson | 1400 | | | oil | 10-150 bbls. |
| 1800 ft. sand | 1800 | | | oil | 100-400 bbls. |

CHARACTER OF OIL: Gravity, 32-33.9° B.

CHARACTER OF GAS:

DATE OF OPENING: 1918.

REMARKS: The Comanche pool was discovered when the Comanche Petroleum Company completed a well in sec. 20, T. 2 S., R. 7 W., for 20 million cubic feet of gas in sand from 1,286 to 1,324 feet, August, 1918. The well was located just north of the top of the surface dome upon the strength of which the well was drilled. The first oil well in this pool was the third test of the Comanche Petroleum Company drilled in sec. 19, T. 2 S., R. 7 W., with an initial production of 30 barrels in sand at 1,390 feet. This well was completed December, 1918, and started several other tests in the vicinity.

CONTINENTAL

COUNTY: Creek.

LOCATION: T. 16 N., R. 9 E.

SURFACE ELEVATION: 800-900 feet.

SURFACE FORMATION: Nelagoney formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Terraces.

| PRODUCING | | DEPTH | THICKNESS | PRODUCTION | INITIAL |
|-------------|------------|-------|-----------|------------|------------------|
| HORIZONS | PRODUCTION | | | | PRODUCTION |
| Layton | 1240 | 10 | | Show gas | |
| Big Lime | 1850 | 10 | | | |
| Oswego | 2100 | 10 | | | |
| Glenn | 2475 | 175 | | oil gas | 50-100 bbls. |
| | | | | | 1-3 M. cu. ft. |
| Dutcher | 2900 | 90 | | oil gas | 50-100 bbls. |
| | | | | | 10-30 M. cu. ft. |
| Mississippi | 3140 | 200 | | | |
| Wilcox | 3300 | 46 | | | |

CHARACTER OF OIL: Gravity, 37.7° B.

CHARACTER OF GAS:

DATE OF OPENING: 1918.

REMARKS: In June, 1918 the discovery well of the Continental pool was drilled in sec. 8, T. 16 N., R. 9 E. The oil was from the Bartlesville (Glenn) sand zone and the initial production 65 barrels

per day. In June, 1920 a well was drilled to the Dutcher sand with a large initial production; this started development in the area north of Bristow.

COODY

COUNTY: Muskogee.

LOCATION: Sec. 19, T. 15 N., R. 15 E.

SURFACE ELEVATION: 825-875 feet.

SURFACE FORMATION: Stuart shale.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Subsurface folding—possibly faulting.

| PRODUCING | | | | INITIAL |
|-----------|-------|-----------|------------|------------|
| HORIZONS | DEPTH | THICKNESS | PRODUCTION | PRODUCTION |

CHARACTER OF OIL: Gravity,-----

CHARACTER OF GAS:

DATE OF OPENING: 1909.

REMARKS: Present production about 10 barrels.

COODY'S BLUFF

COUNTY: Nowata.

LOCATION: T. 25-26 N., R. 16-17 E.

SURFACE ELEVATION: 600-800 feet.

SURFACE FORMATION: Labette shale.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Anticline.

| PRODUCING | | | | INITIAL |
|--------------|-------|-----------|------------|-----------------|
| HORIZONS | DEPTH | THICKNESS | PRODUCTION | PRODUCTION |
| Bartlesville | 850 | 40 | oil | 25-125 bbls. |
| Burgess | 1000 | 15 | gas | 1-16 M. cu. ft. |
| Mississippi | 1180 | | | |
| Chattanooga | 1200 | | | |
| Siliceous | 1300 | | | |

CHARACTER OF OIL: Gravity, 36.40° B.

CHARACTER OF GAS:

DATE OF OPENING: 1904.

REMARKS: Coody's Bluff is the northern part of a large oil field which occupies part of the southeast quarter of Nowata County and extends several miles into Rogers County. The field is on an anticline which pitches down toward the north.

COPAN

COUNTY: Washington.

LOCATION: T. 28 N., R. 13 E.

SURFACE ELEVATION: 700-900 feet.

SURFACE FORMATION: Ochelata formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Slight folds.

| PRODUCING | | INITIAL | | |
|-----------|-------|-----------|------------|------------------|
| HORIZONS | DEPTH | THICKNESS | PRODUCTION | PRODUCTION |
| Wayside | 700 | 35 | gas | 1-10 M. cu. ft. |
| Big Lime | 800 | 50 | oil show | |
| Oswego | 1000 | 20 | oil | 20-100 bbls. |
| Tucker | 1550 | 25 | gas | 10-30 M. cu. ft. |
| Burgess | | | | |
| Siliceous | 1800 | 30 | oil | 70-150 bbls. |

CHARACTER OF OIL: Gravity, 32-33° B.

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1907.

REMARKS: The Copan pool occupies an area of 8 square miles; it is almost continuous with the Canary pool to the north. The gas pressure in the Copan pool fell from 440 pounds to 18 pounds and the average capacity of the wells from 32½ million cubic feet to one million cubic feet of gas. From 1907 to 1915, 2,182 wells were completed in this area.

COUNCIL HILL

COUNTY: Muskogee.

LOCATION: T. 13 N., R. 16 E.

SURFACE ELEVATION: 600-650 feet.

SURFACE FORMATION: Boggy shale.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Terraces.

| PRODUCING | | INITIAL | | |
|-------------|-----------|-----------|------------|------------|
| HORIZONS | DEPTH | THICKNESS | PRODUCTION | PRODUCTION |
| Salt | 600 | | oil | |
| Booch | 1000 | | oil | |
| Dutcher | 1650-2100 | | oil | |
| Lyons-Quinn | 2400 | | oil | |

CHARACTER OF OIL: Gravity, 38° B.

CHARACTER OF GAS:

DATE OF OPENING: 1919.

REMARKS: The Council Hill pool is located about three miles northeast of the town of that name. The Prairie Oil and Gas Company drilled the first well in this area April, 1911. Three sands were encountered as follows:

2,180-2,202 feet, show of oil.

2,318-2,320 feet, sand.

2,318-2,320 feet, water.

The well was abandoned.

COUNTRY CLUB

COUNTY: Tulsa.

LOCATION: T. 20 N., R. 12 E.

SURFACE ELEVATION: 650-750 feet.

SURFACE FORMATION: Coffeyville formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Local folds.

| PRODUCING | | INITIAL | | |
|--------------|-------|-----------|------------|------------------|
| HORIZONS | DEPTH | THICKNESS | PRODUCTION | PRODUCTION |
| Oswego | 820 | 30 | gas | ½-1 M. cu. ft. |
| Bartlesville | 1210 | 45 | gas | 1-3 M. cu. ft. |
| Tucker | 1495 | 10 | oil gas | 2-4 M. cu. ft. |
| Burgess | 1600 | 25 | gas | 10-45 M. cu. ft. |
| Wilcox | 2050 | 120 | oil | 200-2400 bb.s. |
| Turkey Mt. | 2230 | 30 | oil | 50-200 bbls. |

CHARACTER OF OIL: Gravity, 36-37° B.

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1922.

REMARKS: This pool is two miles west of the Tulsa Country Club and was discovered by Munn Brothers in May, 1922. The first five wells came in as follows:

1. 7 M. cu. ft. of gas, 1,977-2,003 feet, 200 bbls., 2,092-2,096 feet, May, 1922.
2. 60 M. cu. ft. of gas, 1,590-1,593 feet; 225 bbls., 2,032-2,048 feet, August, 1922.
3. 600 bbls., 2,015-2,030 feet, October, 1923.
4. 850 bbls., 2,034-2,040 feet, January, 1924.
5. 2,400 bbls., 2,045-2,062 feet, January, 1924, the best initial producer.

In March of 1924 the Mutual Oil Company purchased the entire pool for a consideration of \$2,200,000. Like all lime production the field has declined greatly but it has to date an average daily output of 1,000 barrels of oil.

COWETA

COUNTY: Wagoner.

LOCATION: T. 17 N., R. 16 E.

SURFACE ELEVATION: 650-800 feet.

SURFACE FORMATION: Blue Jacket sandstone.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Seneca fault, subsurface folds.

| PRODUCING | | INITIAL | | |
|-------------|-------|-----------|------------|----------------|
| HORIZONS | DEPTH | THICKNESS | PRODUCTION | PRODUCTION |
| Dutcher | 700 | 300 | oil gas | 5-500 bbls. |
| Mississippi | 1200 | 200 | gas | 1-6 M. cu. ft. |
| | | | | 1-4 M. cu. ft. |

(Table continued on next page)

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Chattanooga | 1260 | 40 | | |
| Burgen | 1280 | 400 | oil | 5-30 bbls. |
| Turkey Mt. | 1600 | 550 | | |

CHARACTER OF OIL: Gravity, 36-41° B.

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1914.

REMARKS: The first well drilled in the Coweta pool; sec. 11, T. 17 N., R. 16 E., had an initial production of 720 barrels of oil per day. About \$60,000.00 worth of oil was wasted before this well could be placed under control.

The Burgen sandstone of Ordovician age is found over the entire county, and became important as a producing horizon in 1925 when R. W. Sawyer and the Newman Corporation discovered gas in this field. Structures in this sand conform to those in the Tyner series.

COX

COUNTY: Carter.

LOCATION: T. 2 S., R. 2 W.

SURFACE ELEVATION: 900-975 feet.

SURFACE FORMATION: Clear Fork-Wichita formation.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Monocline or terrace covered by unconformable beds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|------------------------|-------|-----------|------------|--------------------|
| Base of Permian | 550 | | | |
| Pennsylvanian Glenn | 1250 | 10-50 | oil | 5-100 bbls. |
| | 1300 | | | |
| | 1415 | | | |
| | 1550 | | | |
| | 1623 | | | |
| | 2910 | | | |

CHARACTER OF OIL: Gravity, 20-27° B.

CHARACTER OF GAS:

DATE OF OPENING: 1925.

REMARKS: The Cox pool was discovered by the Magnolia Petroleum Company in the latter part of 1925. The Cox farm was one of the first areas developed and this is sometimes called the Ed Cox pool.

CRESCENT or LOVELL

COUNTY: Logan.

LOCATION: T. 18 N., R. 4 W.

SURFACE ELEVATION: 1,009-1,115 feet.

SURFACE FORMATION: Enid formation.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Anticline, (subsurface).

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-----------|-----------|------------|--------------------|
| Foraker | 2200-2350 | | | |
| Pawhuska | 2950 | | | |
| Hoover Series | 3300-3500 | | | |
| Oread | 3600 | 40 | | |
| Endicott | 3650 | 60 | | |
| Tonkawa | 4000 | 30-100 | oil | 50 bbls. |
| Layton | 4650 | 50-150 | | |
| Oswego | 5350 | 70 | | |
| Miss. Lime | 5670 | 30-127 | | |
| Viola | 5930-5970 | | | |
| Simpson | 5960-6040 | | | |
| Wilcox | 6200 | | | |

CHARACTER OF OIL: Gravity 40° to 42° B.

CHARACTER OF GAS: Wet.

DATE OF OPENING: 1926.

REMARKS: This wildcat area was discovered by the Texas-Pacific Coal and Oil Company with a well in sec. 28, T. 18 N., R. 4 W., in May, 1926. This well was completed in the Tonkawa at a depth of 4059-4080 feet.

The same company also drilled the first Wilcox test in sec. 27, T. 18 N., R. 4 W., in January, 1928, at a depth of 6,295-6,389 feet. This was not a producer.

CRINERVILLE

See Brock, page 26.

CROMWELL

COUNTY: Seminole.

LOCATION: T. 10-11 N., R. 8 E.

SURFACE ELEVATION: 750-850 feet.

SURFACE FORMATION: Francis formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Faulted nose, subsurface folded dome.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|------------------------|-------|-----------|------------|--------------------|
| Stray | 1850 | 15 | oil gas | 50 bbls. |
| Booch | 3050 | 30 | gas | 1-5 M. cu. ft. |
| Deaner | 3160 | 40 | oil | 1-10 M. cu. ft. |
| Cromwell | 3470 | 90 | oil | 20-200 bbls. |
| | | | | 30-2000 bbls. |
| | | | | 10-80 M. cu. ft. |
| Fayetteville- Mayer | 4000 | 100 | | |
| Chattanooga | 4265 | 25 | | |

(Table continued on next page)

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Hunton | 4300 | 100 | | |
| Sylvan | 4400 | 85 | | |
| Viola | 4485 | 15 | | |
| Wilcox | 4550 | 20 | oil | 30 bbls. |

CHARACTER OF OIL: Gravity, 38-39.9° B.

CHARACTER OF GAS: Wet. Rock pressure 1,100 to 1,400 pounds.

DATE OF OPENING: 1923.

PEAK PRODUCTION DATE: August 3, 1924.

PEAK PRODUCTION: 64,000 barrels of oil.

NUMBER OF WELLS: 402.

REMARKS: Although the Cromwell pool is the largest contributor of the year 1923 it was practically an unknown quantity at the beginning of the year. The Cosden Oil and Gas Company's discovery well was completed December, 1923. T. B. Hoffer and Harry C. Poudier completed the first big well in the area, March, 1924, in sec. 16, T. 10 N., R. 8 E., for 4,600 barrels of high-gravity oil.

CRUCE

COUNTY: Stephens.

LOCATION: T. 1 N., R. 5-6 W.

SURFACE ELEVATION: 1,000-1,200 feet.

SURFACE FORMATION: Clear Fork-Wichita and Duncan formations.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Cruce anticline.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Gas | 400 | 7-20 | gas | 2-5 M. cu. ft. |
| Stray | 800 | 10-20 | oil | 5-60 bbls. |
| Gas sand | 850 | 10-15 | gas | 3-17 M. cu. ft. |
| Gas sand | 1700 | 15 | gas | 2-15 M. cu. ft. |
| Sand | 1720 | 10 | oil | 5-40 bbls. |
| Sand | 1900 | | oil | 10-25 bbls. |

CHARACTER OF OIL: Gravity, 17°-28° B.

CHARACTER OF GAS: Wet.

DATE OF OPENING: 1907.

REMARKS: Although drilling in the Cruce pool was started in 1907 the first wells were not completed until 1912 when the Wichita Gas and Fuel Company brought in a 3 million cubic foot gas well in section 12, T. 1 N., R. 6 W., at a depth of 850 feet. The first wells supplied the towns of Duncan and Marlow for a number of years but are now almost completely exhausted.

CUSHING

The discovery well was drilled by C. B. Shaffer on the Wheeler lease, sec. 31, T. 18 N., R. 7 E., and was completed in March, 1912,

with an initial production of 400 barrels of oil per day at a depth of 2,319 to 2,347 feet.

To the end of 1919, the Cushing oil field, with an area of 32 square miles, had produced about 236 million barrels of oil which was about 3% of all the oil produced in the world, for all the sands in the field contained some gas and many of the wells had a great capacity of both oil and gas.

For descriptions of the original Cushing pool areas see Drumright, Shamrock, Pemeta, Oilton and Olive.

PEAK PRODUCTION DATE: May, 1915.

PEAK PRODUCTION: 305,000 barrels of oil.

NUMBER OF WELLS: 3,090.

DARBY

COUNTY: Pottawatomie.

LOCATION: T. 7 N., R. 4 E.

SURFACE ELEVATION: 750-900 feet.

SURFACE FORMATION: Pontotoc group.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Monocline.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Hunton | 3718 | 40 | oil | 200-600 bbls. |
| Wilcox | | | | |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS:

DATE OF OPENING: 1927.

REMARKS: The Darby Petroleum Company discovered the Darby pool early in 1927 with a well drilled in sec. 11, T. 7 N., R. 4 E. The Magnolia Petroleum Company drilled the second well of the pool in sec. 15, for 530 barrels of oil per day from the Hunton limestone and the third well in the same section for 265 barrels of oil. These two companies own practically all the acreage containing the producing wells.

DAVENPORT

COUNTY: Lincoln.

LOCATION: T. 14-15 N., R. 5 E.

SURFACE ELEVATION: 800-900 feet.

SURFACE FORMATION: Cushing limestone.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Surface and subsurface anticline.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------------------|
| Layton | 2340 | | | |
| Cleveland | 2600 | 50 | oil | 60-100 bbls. |
| Oswego, Meaner | 2830 | 60 | | |
| Prue | 3422 | 4 | oil gas | 100-1100 bbls. 1 M. cu. ft. |
| Bartlesville | 3580 | | | |

CHARACTER OF OIL: Gravity, 43-53° B.

CHARACTER OF GAS:

DATE OF OPENING: 1924.

REMARKS: The Davenport pool was opened by Flynn and Morgan, September, 1924, in sec. 34, T. 15 N., R. 5 E. The well had an initial production of 467 barrels of oil per day from sand at a depth of 3,460 to 3,467 feet.

The oil from the 2,600 foot sand is over 53° B., or only about 6° heavier than the average motor fuel oil.

DAWSON

COUNTY: Tulsa.

LOCATION: T. 20 N., R. 14 E.

SURFACE ELEVATION: 650-750 feet.

SURFACE FORMATION: Oologah limestone.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Local folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Bartlesville | 850 | 20 | oil | 25-50 bbls. |
| Tucker | 1050 | 15 | | |
| Burgess | 1390 | 120 | gas | 1-5 M. cu. ft. |
| Mississippi | 1600 | 20 | gas | 11-20 M. cu. ft. |

CHARACTER OF OIL: Gravity. -----

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1906.

REMARKS: The Dawson pool, three miles north of Tulsa is a part of a large oil and gas area. The field is more noted for its gas than for oil.

DEANER-CLEARVIEW

COUNTY: Okfuskee.

LOCATION: T. 11 N., R. 11 E.

SURFACE ELEVATION: 750-900 feet.

SURFACE FORMATION: Wewoka formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Anticlinal dome, lenticular sands.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Deaner | 2800 | 40 | oil gas | 50-250 bb's. |
| Lyons | 3150 | 70 | oil gas | 5 M. cu. ft. |
| Wilcox | 3650 | | oil | 100-3,000 bb's. |

CHARACTER OF OIL: Gravity, 27°-33° B. Wilcox 40.9°-43° B.

CHARACTER OF GAS: Dry. Casing head gas.

DATE OF OPENING: 1920. Wilcox sand production in 1927.

REMARKS: Dr. J. J. Deaner of Okmulgee, who opened the area, established a dental clinic with the proceeds. Of the first 50 wells drilled in this pool 36 produced oil and 14 gas in paying quantities. Clearview, a southern extension, was opened by the Riverland Oil and Gas Co., as a Wilcox sand pool.

DEER CREEK

COUNTY: Grant.

LOCATION: T. 27 N., R. 3 W.

SURFACE ELEVATION: 1,075 feet.

SURFACE FORMATION: Lower Enid formation.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Deer Creek anticline, faulted.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-----------|-----------|------------|---------------------------------|
| Hotson | 1300 | 15 | gas | 1-10 M. cu. ft. |
| Hoover | 2300 | 20 | | |
| Stray | 2410 | 15 | gas | 8-25 M. cu. ft. |
| Swaggart | 2900 | 25 | oil | 10-300 bbls. |
| Layton | 3375 | 80 | oil gas | 100-200 bbls. 1-6 M. cu. ft. |
| Oswego | 3770-4000 | 100 | | |
| Miss. Lime | 3975-4150 | 10-50 | | |
| Wilcox | 4040-4175 | 10-50 | oil | 100-500 bbls. |

CHARACTER OF OIL: Gravity, 38.9° B. Color, black.

CHARACTER OF GAS: Wet.

DATE OF OPENING: 1920.

REMARKS: The Western States Land & Development Company completed the discovery well of the Deer Creek pool, July, 1920 in sec. 22, T. 27 N., R. 3 W., for 18 million cubic feet of gas per day from sand at 2,430 to 2,440 feet in depth. This well was deepened to 3,303 to 3,353 feet and produced 10 barrels of oil. The first oil well was drilled by the same Company in sec. 15, T. 27 N., R. 3 W., with an initial production of 450 barrels of oil at 2,943 to 2,948 feet. No. 1, M. Howel, produced 1,000 barrels from the "Wilcox" sand in a well completed Oct., 1927.

DEEP ROCK
Mehan

COUNTY: Payne.
LOCATION: T. 18 N., R. 3 E.
SURFACE ELEVATION: 935.
SURFACE FORMATION: Pennsylvanian-Permian formation.
AGE OF SURFACE ROCKS: Pennsylvanian-Permian.
STRUCTURE: Local folds, dome.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Layton | 1720 | 20 | gas | 1-6 M. cu. ft. |
| Cleveland | 2072 | 40 | oil | |
| Oswego | 2500 | 30 | oil | |
| Skinner | 2900 | 50 | oil | |
| Bartlesville | 3100 | 50 | oil | |
| Mississippi | 3792 | 200 | oil | |
| Hunton | 4150 | 20 | gas | 3-10 M. cu. ft. |
| Wilcox | 4300 | 60 | oil | 100-600 bbls. |

CHARACTER OF OIL: Gravity -----
CHARACTER OF GAS:
DATE OF OPENING: 1925.
REMARKS:

DELAWARE-CHILDERS

COUNTY: Nowata.
LOCATION: T. 26 N., R. 15-16 E.
SURFACE ELEVATION: 700-800 feet.
SURFACE FORMATION: Coffeyville formation.
AGE OF SURFACE ROCKS: Pennsylvanian.
STRUCTURE: Local folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|---------|-----------|------------|--------------------|
| Big Lime | 190 | 20 | oil | 10-50 bbls. |
| Oswego | 370 | 30 | oil gas | 1-10 M. cu. ft. |
| Bartlesville | 700-850 | 40 | oil | 15-150 bbls. |
| Burgess | 1000 | 15 | gas | 2-5 M. cu. ft. |

CHARACTER OF OIL: Gravity, 32° B.
CHARACTER OF GAS: Dry.
DATE OF OPENING: 1908.
REMARKS: The Delaware-Childers pool is limited to a narrow strip along the Coody's Bluff-Alluwe pool and extends 14 miles north-westward. The first activity was in the latter part of 1908 and because the initial production was high development was rapid. In 1911 over 475 oil wells were completed, having an initial daily production of 120 barrels per day. By 1916 the field was almost exhausted the remaining wells being small producers.

DEPEW

COUNTY: Creek.
LOCATION: T. 15 N., R. 8 E.
SURFACE ELEVATION: 750-1,000 feet.
SURFACE FORMATION: Elgin and Nelagoney formations.
AGE OF SURFACE ROCKS: Pennsylvanian.
STRUCTURE: Fault zone, "closed" fold.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Jones | 1530 | | gas | 1-5 M. cu. ft. |
| Wheeler | 1900 | | | |
| Glenn | 2700 | 110 | oil | 100-200 bbls. |
| Dutcher | 3125 | 60 | oil | 100-2000 bbls. |
| Wilcox | 3397 | 20 | oil | 50-250 bbls. |

CHARACTER OF OIL: Gravity, 30-32.9° B.
CHARACTER OF GAS:
DATE OF OPENING: 1915.

REMARKS: Sheets Brothers are reported to have drilled the discovery well of the Depew pool in sec. 15, T. 15 N., R. 8 E., for 100 barrels of oil per day at a depth of 3,160 feet.

DEVONIAN

COUNTY: Okmulgee.
LOCATION: T. 15 N., R. 13 E.
SURFACE ELEVATION: 650-850 feet.
SURFACE FORMATION: Wewoka formation.
AGE OF SURFACE ROCKS: Pennsylvanian.
STRUCTURE: Local folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|---------------------------------|
| Perryman | 1160 | 20 | | |
| Red Fork | 1350 | 60 | gas | 1-2 M. cu. ft. |
| Glenn | 1540 | 60 | oil gas | 20 bbls. |
| Dutcher | 2158 | 100 | gas | 1-5 M. cu. ft. |
| Wilcox | 2675 | 25 | oil | 3-15 M. cu. ft. 20-200 bbls. |

CHARACTER OF OIL: Gravity, 43° B.
CHARACTER OF GAS: Wet.
DATE OF OPENING: 1925.
REMARKS:

DEWEY-BARTLESVILLE

COUNTY: Washington.
LOCATION: T. 26-27 N., R. 12-13 E.
SURFACE ELEVATION: 650-800 feet.

SURFACE FORMATION: Ochelata-Dewey formations.
AGE OF SURFACE ROCKS: Pennsylvanian.
STRUCTURE: Anticlinal folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| McEwin | 515 | 30 | | |
| Big Lime | 650 | 70 | oil | 10-30 bbls. |
| Peru | 700 | 30 | oil | 30-60 bbls. |
| Oswego | 900 | 80 | oil | 50-60 bbls. |
| Skinner | 1050 | 25 | gas | 1-10 M. cu. ft. |
| Bartlesville | 1265 | 35 | oil | 100-500 bbls. |
| Burgess | 1500 | 35 | gas | 3-10 M. cu. ft. |

CHARACTER OF OIL: Gravity, 32-33.9° B.

CHARACTER OF GAS:

DATE OF OPENING: 1904.

REMARKS: The proximity of producing fields in Kansas was the main factor in promoting oil and gas development in Washington County, Oklahoma. In 1894 the Cudahy Oil Company leased 200,000 acres in the vicinity of Bartlesville but development was retarded until 1904 on account of the necessary approval of the Department of the Interior on allotments. At the close of 1904 more than 100 wells had been drilled at Bartlesville. In 1905 a new pool was discovered northwest of Dewey and in 1906 this production was extended southward until the two areas merged. Rapid development followed for some of the wells had an initial production of 1,000 barrels of oil.

At present this field is practically exhausted, however, one of the first wells, drilled in 1899, located in the city park at Bartlesville, is still producing, others are being pumped and still other wells are being deepened.

DILWORTH (See Blackwell)

COUNTY: Kay.

LOCATION: T. 28-29 N., R. 1 E. and 1 W.

SURFACE ELEVATION: 1,010-1,200 feet.

SURFACE FORMATION: Permian formations.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Dilworth anticline and fault.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Blackwell | 750 | 10 | gas | 1-12 M. cu. ft. |
| Uncorrelated } | 960 | 25 | gas | 10-18 M. cu. ft. |
| | 1060 | 15 | gas | 5-12 M. cu. ft. |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS: Wet.

DATE OF OPENING: 1911.

REMARKS: The Dilworth pool was opened in 1911 with the completion of several gas wells. In 1912 the north end of the field was developed by the Marland Refining Company and others, with the result of 21 gas wells out of 37 completions. The Blackwell pool merges into this field.

DIX

See Oklahoma-Central, page 111.

DOMES

COUNTY: Osage.

LOCATION: T. 27 N., R. 10-11 E.

SURFACE ELEVATION: 750-900 feet.

SURFACE FORMATION: Nelagoney-Ochelata formations.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Anticlines and domes.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|-------------------------------|
| Stray | 1057 | 67 | oil | 10-25 bbls. |
| Big Lime | 1270 | 30 | gas | 1-5 M. cu. ft. |
| Oswego | 1330 | 125 | | |
| Bartlesville | 1680 | 100 | oil | 10-110 bbls. |
| Mississippi | 1880 | 45 | oil gas | 25-75 bbls. 1-3 M. cu. ft. |

CHARACTER OF OIL: Gravity, 32° B.

CHARACTER OF GAS:

DATE OF OPENING: 1917.

REMARKS: The Domes pool is situated on a series of domes and anticlines and the production of the area follows closely the various structural features.

DONAHUE or MASHAM

COUNTY: Pawnee.

LOCATION: T. 23 N., R. 4 E.

SURFACE ELEVATION: 980 feet.

SURFACE FORMATION: Eskridge formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Anticlinal structure.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Cleveland | 2340 | 20 | gas | 1-2 M. cu. ft. |
| Oswego | 2900 | 50 | gas | 1-5 M. cu. ft. |
| Bartlesville | 3180 | 40 | | |
| Burgess | 3320 | 15 | | |
| Mississippi | 3350 | 325 | | |
| Wilcox | 3700 | 75 | oil | 100-1000 bbls. |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS: Dry. Rock pressure 245 to 790 pounds.

DATE OF OPENING: 1925.

REMARKS: In December of 1924, J. L. Donahue, et al, opened a new pool in sec. 22, T. 23 N., R. 4 E., with a well making 300 barrels of oil per day in Wilcox sand at 3,714 feet. The well was located on a prominent structure with about 40 feet of closure.

DONNELLY

COUNTY: Creek.

LOCATION: T. 14 N., R. 10 E.

SURFACE ELEVATION: 810 feet.

SURFACE FORMATION: Nellie Bly formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Subsurface folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Glenn | 2265 | 175 | gas | 1-5 M. cu. ft. |
| Dutcher | 2800 | 20 | oil gas | 15-100 bbls. |
| Misener | 3200 | 10 | oil | 40-60 bbls. |
| Wilcox | 3340 | 50 | oil | 20-100 bbls. |

CHARACTER OF OIL: Gravity, 36-39° B.

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1924.

REMARKS: In August, 1924, Donnelly and Hall brought in a 300 barrel oil well at a depth of 3,391 feet, sec. 17, T. 14 N., R. 10 E. Several similar producers have been completed in the Donnelly pool.

DOYLE

COUNTY: Stephens.

LOCATION: T. 1 N., R. 5 W.

SURFACE ELEVATION: 1,050-1,200 feet.

SURFACE FORMATION: Duncan and Clear Fork-Wichita formations.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Dome.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|---------|-----------|------------|--------------------|
| Uncorrelated | 850-959 | 15 | gas | 1-10 M. cu. ft. |
| | 1110 | | oil | 10-20 bbls. |
| | 1250 | 5 | oil | 10-50 bbls. |
| | 3720 | 5 | gas | 6 M. cu. ft. |

CHARACTER OF OIL: Gravity 28-34° B.

CHARACTER OF GAS:

DATE OF OPENING: 1922.

REMARKS: The discovery well was completed in September, 1922, in sec. 11, T. 1 N., R. 5 W., by Clark and Cowden with an initial production of 75 barrels of oil per day at a depth of 1,090 feet. Most of the development of the Doyle pool was completed during the following year.

DRUMRIGHT

COUNTY: Creek.

LOCATION: T. 17 N., R. 7 E.

SURFACE ELEVATION: 1,125 feet.

SURFACE FORMATION: Pawhuska formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Drumright dome.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Layton | 1450 | 20 | gas | 10-20 M. cu. ft. |
| Wheeler | 2175 | 5-20 | oil | 50-300 bbls. |
| Bartlesville | 2675 | 50 | oil | 250-2000 bbls. |
| Wilcox | 2800 | 20 | oil | 100-1000 bbls. |
| Siliceous | | | | |

CHARACTER OF OIL: Gravity, 37-40.9° B.

CHARACTER OF GAS:

DATE OF OPENING: 1912.

REMARKS: The Drumright pool is in the central portion of the original Cushing field which has been one of the chief producing fields of the world. It is located on the Drumright dome. The discovery well in the Cushing field was completed in March, 1912 and the principal development of the area was within the vicinity of Drumright during the first twelve months following. In 1913 the Bartlesville sand was found in the Prairie Oil and Gas Company's test in sec. 3, T. 17 N., R. 7 E. From that date attention was confined chiefly to the Bartlesville sand until 1915 when deeper producing horizons were discovered.

DUNCAN

North Duncan and West Duncan

COUNTY: Stephens.

LOCATION: T. 1 S., R. 8-9 W.; T. 1 N., R. 8-9 W.

SURFACE ELEVATION: 950-1,100 feet.

SURFACE FORMATION: Clear Fork-Wichita formations.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Domes and anticlines.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Miller | 1600 | | gas | |
| Surber | 1700 | | oil | 10-1000 bbls. |
| Brown | 2100 | | oil gas | 50-1000 bbls. |
| | | | | 10-70 M. cu. ft. |
| Blaydes | 2200 | | oil | 15-1000 bbls. |
| Kagay | 2300 | | gas oil | 10-25 M. cu. ft. |
| | | | | 40 bbls. |

CHARACTER OF OIL: Gravity, 33.7-38° B.

CHARACTER OF GAS:

DATE OF OPENING: 1919.

REMARKS: The West Duncan pool was discovered in 1919 by the Ft. Ring Oil and Gas Company in sec. 30, T. 1 S., R. 8 W.

The North Duncan pool was discovered in November, 1920 by the Parsons-Gant Oil Company, with a 20 million cubic foot gas well in sec. 32, T. 1 N., R. 8 W. The 2400-foot sand produces in North Duncan and lenticular sands at 2,400 and 2,600 feet in spots in the West Duncan pool.

DUQUESNE

COUNTY: Pawnee.

LOCATION: T. 21 N., R. 6 E.

SURFACE ELEVATION: 923 feet.

SURFACE FORMATION: Buck Creek formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Terraces, local folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Layton | 2060 | 20 | oil | |
| Cleveland | 2100 | 60 | oil | |
| Prue | 2680 | 50 | oil | 10-50 bbls. |
| Burgess | 3000 | 35 | oil | |
| Wilcox | 3125 | 50 | oil | |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS:

DATE OF OPENING: 1925.

REMARKS: Not producing (Dec., 1927).

DUSTIN (South Weleetka)

COUNTY: Hughes.

LOCATION: T. 9 N., R. 11 E.

SURFACE ELEVATION: 700-1,000 feet.

SURFACE FORMATION: Stuart formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Local folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|-------------|--------------------|
| Uncorrelated | 450 | | Show of gas | |
| | 750 | 10 | gas | 1-10 M. cu. ft. |
| | 2000 | 67 | gas | 1-8 M. cu. ft. |
| Lyons-Quinn | 2900 | 70 | oil | 10-50 bbls. |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS:

DATE OF OPENING: 1918.

REMARKS: The Dustin pool was one of the early developments in Hughes County which until about 1920 had only a few scattered gas producing areas.

EARLSBORO

COUNTY: Seminole.

LOCATION: T. 9 N., R. 5 E.

SURFACE ELEVATION: 950-1,000 feet.

SURFACE FORMATION: Pontotoc formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Folds and faults.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Earlsboro | 3500 | 16 | oil | 75-400 bbls. |
| Viola | 4220 | 60 | | |
| Wilcox | 4300 | 10 | oil | 50-10,175 bbls. |

CHARACTER OF OIL: Gravity, 39-40° B.

CHARACTER OF GAS:

DATE OF OPENING: 1926.

REMARKS: The Earlsboro pool was discovered by a well drilled by Morgan and Flynn in the center of section 10. The production was from the Earlsboro sand.

EAST BILLINGS

See Billings, page 18.

EAST CLAREMORE

See Claremore, page 35.

ELLIOTT

COUNTY: Nowata.

LOCATION: T. 28 N., R. 15 E.

SURFACE ELEVATION: 750-850 feet.

SURFACE FORMATION: Coffeyville formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Subsurface anticlinal folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Oswego | 740 | 30 | gas | 1-2 M. cu. ft. |
| Bartlesville | 1040 | 25 | oil | 10-250 bbls. |
| Mississippi | 1150 | 5 | gas | 1-3 M. cu. ft. |
| Chattanooga | 1250 | 25 | | |
| Wilcox | 1490 | | | |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS:

DATE OF OPENING: 1909.

REMARKS: The discovery of the Elliott pool was in October, 1909, however, the principal development took place in the fall of 1910 and the spring of 1911 when wells were completed with initial production of 25 to 700 barrels of oil per day at depths ranging from 800 to 1,000 feet.

It is estimated that approximately 91% of the oil of the Elliott pool was left in the formations, therefore, in July, 1924, the wells of this pool were put on air pumps with the result that the production which was practically negligible was increased 24%. Fourteen new wells have been drilled of which nine are producers of oil. This method of artificially restoring rock pressure by air is extensively used in eastern fields and is rapidly coming into use in the Mid-Continent fields.

EMPIRE

COUNTY: Stephens.

LOCATION: T. 1 S., R. 8-9 W.

SURFACE ELEVATION: 1,000-1,100 feet.

SURFACE FORMATION: Clear Fork-Wichita formations.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Subsurface dome.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Gas sand | 1000 | | gas | |
| Miller | 1500 | | gas | 1-12 M. cu. ft. |
| Nigh | 1600 | | oil | 10-25 bbls. |
| Surber | 1700 | | oil | 50-1000 bbls. |
| Cantrell | 1800 | | oil | |
| Shelton | 1900 | | oil | |
| Smith | 2000 | | oil | |
| Brown | 2100 | | oil | |
| Blaydes | 2200 | | oil | 15-1000 bbls. |
| Karny | 2300 | | oil gas | |
| Maloney | 2600 | | gas | |

CHARACTER OF OIL: Gravity, 38-40° B.

CHARACTER OF GAS:

DATE OF OPENING: 1920.

REMARKS: The Empire pool is the banner high gravity oil pool of southern Oklahoma. It was discovered by the Empire Gas and Fuel Company in April, 1920 by a well located in sec. 33, T. 1 S., R. 8 W., which was completed with an initial production of 834 barrels of oil per day from sand 1,700 feet in depth.

ENOS

COUNTY: Marshall.

LOCATION: T. 7 S., R. 5 E.

SURFACE ELEVATION: 700-800 feet.

SURFACE FORMATION: Trinity sand.

AGE OF SURFACE ROCKS: Cretaceous.

STRUCTURE: Preston anticline.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|---------|-----------|------------|--------------------|
| Lower Trinity | 450 | 25 | oil | 1-4 bbls. |
| | 550-600 | | gas | 1-4 M. cu. ft. |

CHARACTER OF OIL: Gravity, high grade oil.

CHARACTER OF GAS:

DATE OF OPENING: 1916.

REMARKS: The largest gas wells of the Enos pool have been drilled in sections 23, 35 and 36, T. 7 S., R. 5 E. The best oil showings have been found in sec. 23, T. 7 S., R. 5 E., in the Trinity sand. At the present time no commercial production of either oil or gas has been obtained from this pool.

ERAM

COUNTY: Okmulgee.

LOCATION: T. 13 N., R. 15 E.

SURFACE ELEVATION: 650-750 feet.

SURFACE FORMATION: Boggy shale.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Subsurface dome.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Salt | 770 | | gas | 1 M. cu. ft. |
| Booch | 1260 | 100 | | |
| Dwicher | 1900 | 15 | oil | 50-175 bbls. |
| Mississippi | 2200 | 15 | gas | ½-2 M. cu. ft. |
| Wilcox | 2700 | 10 | oil gas | 100-2000 bbls. |

CHARACTER OF OIL: Gravity, 36-37.9° B. Color, light amber. Wilcox oil, 45° B.

CHARACTER OF GAS: Wet.

DATE OF OPENING: 1921.

REMARKS: The Eram pool is a type area of Wilcox sand production. Dips in the Wilcox sand are generally quite steep especially on one side of a producing structure and in this pool the north dip amounts to 150 feet in a quarter of a mile. The Wilcox sand produces oil in paying quantities only from structures of the dome type.

EUFULA

COUNTY: McIntosh.
 LOCATION: T. 10 N., R. 16 E.
 SURFACE ELEVATION: 600-700 feet.
 SURFACE FORMATION: Boggy shale.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Subsurface folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-----------|-----------|------------|--------------------|
| Salt | 600 | 40 | gas | 1-3 M. cu. ft. |
| Booch | 1300-1500 | | gas | 10-35 M. cu. ft. |
| Dutcher | 2100 | | gas | |
| Wilcox | 3000 | | gas | |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS:

DATE OF OPENING: 1889.

REMARKS: In 1885 Dr. H. W. Faucett of New York drilled a test 14 miles west of Atoka, Oklahoma and another 20 miles north of Tahlequah. The latter well was soon abandoned but the Atoka well was drilled to a depth of 1,414 feet with showings of both oil and gas. This well was also abandoned at the death of Dr. Faucett in 1888. During this period a third test was drilled near Eufaula, to a depth of 2,575 feet. Three horizons with showings of oil or gas were encountered.

FAIRFAX

COUNTY: Osage.
 LOCATION: T. 25 N., R. 6 E.
 SURFACE ELEVATION: 950-1,000 feet.
 SURFACE FORMATION: Buck Creek formation.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Local folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------------------|
| Oswego | 2684 | 10 | oil gas | 5-45 bbls. 1-5 M. cu. ft. |
| Burbank | 2700 | 42 | oil gas | 15-500 bbls. 1-6 M. cu. ft. |
| Wilcox | 2900 | | | |

CHARACTER OF OIL: Gravity, 37-38° B.

CHARACTER OF GAS:

DATE OF OPENING: 1925.

REMARKS: The Prairie Oil and Gas Company completed the discovery well of the Fairfax pool, January, 1925, in sec. 21, T. 25 N., R. 6 E., for 560 barrels of oil per day at a depth of 2,722 feet. This well started immediate drilling in this area which is about 6 miles south of Burbank.

FISHER

COUNTY: Tulsa.
 LOCATION: T. 19 N., R. 11 E.
 SURFACE ELEVATION: 650-940 feet.
 SURFACE FORMATION: Nellie Bly formation.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Anticline.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Oswego | 1140 | 60 | | |
| Bartlesville | 1675 | 25 | gas | |
| Taneha | 1725 | 75 | gas | 1-3 M. cu. ft. |
| Burgess | 1980 | 20 | gas | 1-6 M. cu. ft. |
| Tyner | 2265 | 10 | oil | 10-40 bbls. |
| Turkey Mt. | 2400 | 100 | oil | 250-500 bbls. |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS:

DATE OF OPENING: 1918.

REMARKS:

FLAT ROCK

See Bird Creek, page 19.

FORAKER

COUNTY: Osage.
 LOCATION: T. 28 N., R. 7 E.
 SURFACE ELEVATION: 1,100-1,200 feet.
 SURFACE FORMATION: Sand Creek formation.
 AGE OF SURFACE ROCKS: Permian.
 STRUCTURE: Dome.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Cleveland | 1100 | 20 | gas | |
| Oswego | 1250 | 25 | gas | 1 M. cu. ft. |
| Burbank | 1800 | 25 | gas | 1-3 M. cu. ft. |
| Mississippi | 2750 | 50 | oil | 10-100 bbls. |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS:
DATE OF OPENING: 1922.
REMARKS:

FOX

COUNTY: Carter.
LOCATION: T. 2 S., R. 3 W.
SURFACE ELEVATION: 900-1,100 feet.
SURFACE FORMATION: Clear Fork-Wichita formation.
AGE OF SURFACE ROCKS: Permian.
STRUCTURE: Anticlinal folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-----------|-----------|------------|--------------------|
| Shallow | 900 | 50 | gas | 2-20 M. cu. ft. |
| Glenn | 1600 | 75 | gas | 1-5 M. cu. ft. |
| | 1900 | 80-120 | oil | 50-600 bbls. |
| | 2100 | 60-130 | oil | 250-550 bbls. |
| | 2300 | 50-200 | gas | 5-25 M. cu. ft. |
| | 2725 | 40-150 | gas | 10-25 M. cu. ft. |
| | 3012 | 50 | gas | 5-15 M. cu. ft. |
| | 3500-3650 | 30 | gas | 8-37 M. cu. ft. |

CHARACTER OF OIL: Gravity, 32-33.9° B.
DATE OF OPENING: 1917.

REMARKS: In 1912 the Gypsy Oil Company leased a number of acres in what is now the Fox pool and drilled a dry hole. In 1916 the same Company completed a gas well in sec. 28, T. 2 S., R. 3 W., for 22 million cubic feet of gas per day at a depth of 2,013 feet. The first oil well in the Fox pool was completed by the same company in sec. 29, T. 2 S., R. 3 W., with an initial production of 604 barrels of oil per day at a depth of 2,033 feet.

FRANCIS

COUNTY: Pontotoc.
LOCATION: T. 5 N., R. 7 E.
SURFACE ELEVATION: 750-900 feet.
SURFACE FORMATION: Holdenville formation and Seminole cgl.
AGE OF SURFACE ROCKS: Pennsylvanian.
STRUCTURE: Local folds—terraces, and faults.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|-------------|--------------------|
| Uncorrelated | 500 | | show of gas | 1 M. cu. ft. |
| | 600 | | gas | 1-15 M. cu. ft. |
| | 1200 | | oil | 4-100 bbls. |
| | 2000 | | oil | 10-20 bbls. |

CHARACTER OF OIL: Gravity -----
CHARACTER OF GAS:
DATE OF OPENING: 1916.
REMARKS: The Francis pool came in as a result of the activity during 1914 and 1915 in the Ada and Allen pools.

FRANKFORT

COUNTY: Osage.
LOCATION: T. 29 N., R. 6 E.
SURFACE ELEVATION: 1,195 feet.
SURFACE FORMATION: Eskridge shale.
AGE OF SURFACE ROCKS: Pennsylvanian.
STRUCTURE: Structural dome.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Big Lime | 1535 | | | |
| Peru | 2040 | 50 | oil | 10 bbls. |
| Oswego | 2360 | 40 | gas show | |
| Mississippi | 2905 | 40 | oil gas | 1-3 M. cu. ft. |

CHARACTER OF OIL: Gravity -----
CHARACTER OF GAS:
DATE OF OPENING: 1920.
REMARKS: The Tidal Oil Company has been the chief company in developing the Frankfort pool.

FRENCH

COUNTY: Okmulgee.
LOCATION: T. 11 N., R. 12 E.
SURFACE ELEVATION: 750-900 feet.
SURFACE FORMATION: Wetumka shale.
AGE OF SURFACE ROCKS: Pennsylvanian.
STRUCTURE: Minor folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Salt | 1100 | 75 | oil | 50-75 bbls. |
| | | | gas | 2-3 M. cu. ft. |
| Booeh | 1500 | | oil | 50-250 bbls. |
| Deaner | 2000 | 20 | gas | 5-10 M. cu. ft. |
| Kingwood | 2570 | 30 | gas | 10-20 M. cu. ft. |
| Lyons-Quinn | | | | |
| Wilcox | 3600 | 20 | | |

CHARACTER OF OIL: Gravity, 35-38° B.
CHARACTER OF GAS:
DATE OF OPENING: 1912.
REMARKS: After two or three failures to find oil in the area west of Henryetta, M. C. French drilled the first successful well in

sec. 8, T. 11 N., R. 12 E., to a sand at 1,100 feet in depth. Several other wells were drilled to this sand and deeper horizons, all obtaining production.

FUHRMAN

COUNTY: Hughes.
LOCATION: T. 9 N., R. 9 E.
SURFACE ELEVATION: 750-900 feet.
SURFACE FORMATION: Wetumka shale.
AGE OF SURFACE ROCKS: Pennsylvanian.
STRUCTURE: Fault and folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Booch | 3100 | 15 | | |
| Deaner | 3350 | 60 | oil gas | 25-1250 bbls. |
| Lyons | 3580 | 20 | | |

CHARACTER OF OIL: Gravity, 37.9° B.

CHARACTER OF GAS:

DATE OF OPENING: 1925.

REMARKS: The Fuhrman pool was one of the major spots of interest in the latter part of 1925 as a result of the discovery well drilled by the Fuhrman Petroleum Company and the Transcontinental Oil Company in sec. 26, T. 9 N., R. 9 E., for 1,200 barrels of oil per day at a depth of 3,360 to 3,370 feet.

GARBER

COUNTY: Garfield.
LOCATION: T. 22 N., R. 3-4 W.
SURFACE ELEVATION: 1,050-1,150 feet.
SURFACE FORMATION: Lower Enid formation.
AGE OF SURFACE ROCKS: Permian.
STRUCTURE: Garber anticline, subsurface domes.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Kisner | 700 | 10 | gas | |
| Whitney | 800 | 10 | gas | |
| Hoy | 1100 | 20 | oil | 20-150 bbls. |
| Hotson | 1430 | 20 | oil | 20-150 bbls. |
| Walker | 1500 | 20 | oil | 10-100 bbls. |
| Belveal | 1600 | | | |
| Campbell | 1700 | | | |
| Crews | 1800 | | | |
| Garber | 2000 | | oil | 15-100 bbls. |
| Covington | 2100 | | | |
| Hoover | 2400 | 40 | oil | 25-200 bbls. |
| Tonkawa | 3100 | 60 | oil | |

(Table continued on next page)

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-----------|-----------|------------|--------------------|
| Layton | 3617 | 10 | oil | |
| Oswego | 4040-4400 | 30 | oil | |
| Siliceous | 4215-4400 | 30 | oil | 5-27,000 bbls. |
| Granite | 5462 | | | |

Wilcox is present only on the flanks of the folds.

CHARACTER OF OIL: Gravity, 43° B. Deep sands 41-42.9° B.

CHARACTER OF GAS:

DATE OF OPENING: 1917.

PEAK PRODUCTION DATE: November, 1925.

PEAK PRODUCTION: 71,875 barrels.

NUMBER OF WELLS: 760.

REMARKS: The area around the Garber well had been leased rather closely before the Sinclair Oil and Gas Company interests completed the discovery well in sec. 25, T. 22 N., R. 4 W., September, 1917. This well was located on the Hoy farm and the producing sand found at 1,130 to 1,156 feet is named the "Hoy" sand. This well had an initial production of 200 barrels of oil per day and is at present pumping about 5 barrels per day.

The largest initial production of any well in Oklahoma to date was completed by the Sinclair Oil and Gas Company in sec. 18, T. 22 N., R. 3 W., for 27,000 barrels of oil per day in Siliceous limestone at a depth of 4,085-4,110 feet.

GARRISON

COUNTY: Okfuskee.
LOCATION: T. 10 N., R. 9 E.
SURFACE ELEVATION: 750-900 feet.
SURFACE FORMATION: Holdenville formation.
AGE OF SURFACE ROCKS: Pennsylvanian.
STRUCTURE: Subsurface folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Doggett | | | | |
| Deaner | | | | |
| Papoose | | | | |
| Wilcox | 3100 | 50 | gas | |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS:

DATE OF OPENING: 1922.

REMARKS:

GILLILAND

COUNTY: Osage.
LOCATION: T. 23 N., R. 7 E.

SURFACE ELEVATION: 900-1,000 feet.
 SURFACE FORMATION: Buck Creek formation.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Anticlinal folds and domes.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|-----------------------|--------------|-----------|------------|---|
| Layton | 1500 | 20 | gas | |
| Cleveland | 1850 | 30 | | |
| Oswego | 2050 | 60 | gas | 1 M. cu. ft. |
| Prue | 2240 | 10 | | 2-2000 bbls. |
| Bartlesville | 2400 | 15 | oil gas | 50 bbls. |
| Mississippi Siliceous | 2500 2775 | 100 | oil | 1-3 M. cu. ft. 20-50 bbls. 300-3500 bbls. |

CHARACTER OF OIL: Gravity -----
 CHARACTER OF GAS: Wet. Rock pressure 260 pounds.
 DATE OF OPENING: 1919.
 REMARKS: The Gilliland pool was discovered by the completion of a well in sec. 36, T. 23 N., R. 7 E., by the Cosden Oil and Gas Company in November, 1919.

GILLETTE

COUNTY: Wagoner.
 LOCATION: T. 17 N., R. 16-17 E.
 SURFACE ELEVATION: 600-700 feet.
 SURFACE FORMATION: Bluejacket formation.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Small domes and subsurface folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Dutcher | 850 | | gas | 1-5 M. cu. ft. |
| Mississippi | 1080 | | | |
| Chattanooga | 1280 | | | |
| Tyner | 1320 | 200 | oil | 25-75 bbls. |
| Burgen | 1400 | 50 | | |

CHARACTER OF OIL: Gravity -----
 CHARACTER OF GAS: Dry. Rock pressure 185 to 650 pounds.
 DATE OF OPENING: 1924.
 REMARKS: In May, 1924 the Sewell Petroleum Company discovered production in a well drilled in sec. 30, T. 17 N., R. 17 E., since named the Gillette pool after Carl W. Gillette, an oil operator of Tulsa, Oklahoma. The initial production was 50 barrels of oil per day from the Tyner sand at a depth of 1,354 feet.

GLENN POOL

COUNTY: Creek.
 LOCATION: T. 17 N., R. 12-13 E.

SURFACE ELEVATION: 675-875 feet.
 SURFACE FORMATION: Coffeyville-Wewoka formations.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Anticlinal folding. Minor folds with local variations in dip.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|---------------------------------|
| Big Lime | 695 | 4 | gas | |
| Oswego | 815 | 30 | oil gas | 10-20 bbls. |
| Perryman | 1003 | 35 | oil | |
| Red Fork | 1225 | 15 | oil | |
| Glenn | 1350 | 20 | oil gas | 40-600 bbls. |
| Taneha | 1550 | 100 | oil | 2-10 M. cu. ft. 10-100 bbls. |
| Burgess | 1710 | 25 | oil gas | 1-4 M. cu. ft. |
| Mississippi | 1875 | 150 | gas | 1-6 M. cu. ft. |
| Sylvan | 2100 | 11 | | |
| Wilcox | | 10 | oil gas | 70-300 bbls. |
| Hominy | 2160 | 30 | oil | 25-100 bbls. |
| Turkey Mt. | 2250 | 20 | oil | 30-2000 bbls. |

CHARACTER OF OIL: Gravity, 32-38° B. Color: black.
 CHARACTER OF GAS: Wet and dry.
 DATE OF OPENING: 1905-1906.
 PEAK PRODUCTION DATE: June, 1907.
 PEAK PRODUCTION: 117,000 barrels.
 NUMBER OF WELLS: 2,700.

REMARKS: In the summer of 1905 Robert Galbraith and Frank Chelsey started a test on the Ida Glenn farm 12 miles south of Tulsa. The discovery well completed November, 1905 made 85 barrels of oil per day at a depth of 1,481 feet. The second well on this lease produced 700 barrels of oil, the third 2,000 barrels per day and other large producers followed.

GLENOAK

COUNTY: Nowata.
 LOCATION: T. 26 N., R. 14 E.
 SURFACE ELEVATION: 700-850 feet.
 SURFACE FORMATION: Coffeyville formation.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Local folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Big Lime | 500 | | | |
| Peru | 680 | | oil | 2-10 bbls. |
| Oswego | 880 | | gas | 1-5 M. cu. ft. |
| Bartlesville | 1080 | | oil | 10-50 bbls. |
| Burgess | 1160 | | oil | 5-30 bbls. |
| Mississippi | 1300 | | gas | 1-3 M. cu. ft. |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1911.

REMARKS: The Glenoak pool is a small gas area about 2 miles south of the town of Glenoak. It merges into the Hogshooter pool.

GOTEBO

COUNTY: Kiowa.

LOCATION: T. 7 N., R. 16 W.

SURFACE ELEVATION: 1,408 feet.

SURFACE FORMATION: Clear Fork-Wichita formations.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Slight folding, local variations in dip.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Uncorrelated | 460 | 2 | oil | 20 bbls. |
| | 545 | 10 | gas | 1-5 M. cu. ft. |
| | 855 | 5 | gas | 1-2 M. cu. ft. |
| | 1337 | 10 | gas | |
| | 1880 | 10 | gas | |
| | 2825 | 15 | oil | 10-25 bbls. |

CHARACTER OF OIL: Gravity, 20° B.

CHARACTER OF GAS:

DATE OF OPENING: 1908.

REMARKS: The greater part of development in Kiowa County has been confined to the Gotebo pool. At the close of 1925 about 155 wells had been drilled in this area: 72 produced gas, 30 produced oil and the remainder were abandoned or dry holes. The pool is located some 10 miles north of the Wichita uplift.

GRAHAM

COUNTY: Carter.

LOCATION: T. 2-3 S., R. 2-3 W.

SURFACE ELEVATION: 900-1,000 feet.

SURFACE FORMATION: Clear Fork-Wichita formation.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Anticlinal fold.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION | |
|--------------------|-----------|-----------|------------|--------------------|--------------|
| Shallow | 750 | | | | |
| Patsy | 985 | | | | |
| | 1300-2400 | 50+ | gas | 10-14 M. cu. ft. | |
| | 1750-2900 | 5-100 | oil gas | 10-950 bbls. | |
| Glenn | 2100-3350 | 10-125 | oil | 3-43 M. cu. ft. | |
| | 2700-3700 | 5-40 | oil | 15-1200 bbls. | |
| | 3370+ | | | oil | 15-100 bbls. |
| | | | 10-30 | oil | 20-25 bbls. |

CHARACTER OF OIL: Gravity, 27-38° B.

CHARACTER OF GAS:

DATE OF OPENING: 1917.

REMARKS: Leases on restricted Indian land had been secured as early as 1913. It was not until April, 1917 that the first well was drilled by Dr. J. E. Bristow in the Graham pool. This well was located in sec. 32, T. 2 S., R. 2 W. It passed through 20 feet of oil sand at a depth of 1,270 feet and produced 3 or 4 barrels of heavy black oil per day. Four similar shallow wells were drilled in the vicinity, then the original well was deepened to 1,490 feet which opened a gas well of 14 million cubic feet of gas per day at 650 pounds rock pressure.

The first commercial oil well was drilled by Roy W. Johnson, after whom the Johnson sand was named, the Healdton Petroleum Company and C. R. Smith, in sec. 31, T. 2 S., R. 2 W. It came in first for 15 million cubic feet of gas at a depth of 1,478 feet and was deepened to 2,539 feet where it had an initial production of 90 barrels of oil per day. This is considered the first well drilled into the sand from which most of the production of the Graham field is secured.

GRANITE

COUNTY: Greer.

LOCATION: T. 6-7 N., R. 20-21 W.

SURFACE ELEVATION: 1,582 feet.

SURFACE FORMATION: Clear Fork-Wichita formations.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Steep dips.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|-------------|--------------------|
| Uncorrelated | 196 | 2 | Show of oil | |
| | 330 | 1 | oil | 2-3 bbls. |
| | 700 | 2 | gas | ½ M. cu. ft. |
| | 875 | 5 | oil | |
| | 970 | 3 | oil | 3-5 bbls. |
| | 1085 | 10 | gas | 1-2 M. cu. ft. |
| | 1550 | 40 | gas | |

CHARACTER OF OIL: Gravity, 19.4° B. Color, black.

CHARACTER OF GAS:

DATE OF OPENING: 1901.

REMARKS: The first wells of the Granite pool were drilled in 1901 and activity has continued intermittently since that date but results have been disappointing for a very small yield of oil and only a few million feet of gas have been obtained. The area is near the west end of the Wichita uplift.

GYPSY HILL
See Salt Creek, page 140.

HALLETT

COUNTY: Pawnee.
LOCATION: T. 20 N., R. 7 E.
SURFACE ELEVATION: 850-950 feet.
SURFACE FORMATION: Buck Creek limestone.
AGE OF SURFACE ROCKS: Pennsylvanian.
STRUCTURE: Local folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Layton | 1715 | 30 | | |
| Cleveland | 2140 | 25 | | |
| Hallett | 2210 | 40 | | |
| Peru | 2355 | 45 | gas | 2-4 M. cu. ft. |
| Skinner | 2565 | 35 | oil | 40-100 bbls. |
| Bartlesville | 2688 | 12 | | |
| Wilcox | 2880 | 10 | | |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS:

DATE OF OPENING: 1922.

REMARKS: Turner Investment Company drilled the discovery well on the McMillan farm NE. cor. SW. $\frac{1}{4}$ sec. 3, T. 20 N., R. 7 E. It had an initial production of 60 to 75 bbls. from the Cleveland sand, 2,140 to 2,150 feet in depth.

There are two areas of the Hallett pool, the one in sections 21 and 22 is a small oil pool and the other in sections 23 and 26 is a small gas area.

HAMBRO

See Oscar, page 116.

HAMILTON SWITCH

COUNTY: Okmulgee.
LOCATION: T. 14 N., R. 12-13 E.
SURFACE ELEVATION: 750-900 feet.
SURFACE FORMATION: Wewoka formation.
AGE OF SURFACE ROCKS: Pennsylvanian.
STRUCTURE: Subsurface domes.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|-------------|--------------------|
| Glenn | 1385 | 150 | oil | 10-100 bbls. |
| Booch | 1743 | 10 | Show of oil | |
| Dutcher | 2020 | 20 | oil | 10-200 bbls. |
| Wilcox | 2700 | 30 | | |

CHARACTER OF OIL: Gravity, 38.9° B.

CHARACTER OF GAS:

DATE OF OPENING: 1909.

REMARKS: In August, 1909, Alex Preston completed the discovery well of the Hamilton Switch pool. It was an edge well in sec. 11, T. 14 N., R. 12 E., and it started development in the area where wells of very large initial production have been obtained.

HANBURY

COUNTY: Comanche.
LOCATION: T. 2 N., R. 9-10 W.
SURFACE ELEVATION: 1,350 feet.
SURFACE FORMATION: Clear Fork-Wichita formations.
AGE OF SURFACE ROCKS: Permian.
STRUCTURE: Flat dome.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|--------------|--------------------|
| Uncorrelated | 1530 | | show oil gas | |
| | 1640 | | oil gas | 10-100 bbls. |
| | 1860 | | oil gas | |
| Pontotoc group | 2000 | 10 | oil | 20-400 bbls. |
| | 2100 | | oil gas | |

CHARACTER OF OIL: Gravity, 29-40-42° B.

CHARACTER OF GAS:

DATE OF OPENING: 1920.

REMARKS: In the summer of 1920 the Gladys-Belle Oil Company completed the discovery well of this area in sec. 32, T. 2 N., R. 9 W., for 100 (?) barrels of oil in a sand 1,640 feet deep.

In August, 1925, Mr. Hanbury completed a well in sec. 30, T. 2 N., R. 9 W., which had an initial production of 400 barrels of oil per day from a sand 2,010 feet deep. This well started the development which is in progress at present.

HANNA

COUNTY: McIntosh.
LOCATION: T. 9 N., R. 13 E.
SURFACE ELEVATION: 700-800 feet.
SURFACE FORMATION: Stuart shale.
AGE OF SURFACE ROCKS: Pennsylvanian.
STRUCTURE: Local folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Uncorrelated | 990 | 10 | gas | |
| | 1350 | 5 | gas | |
| | 3370 | 10 | gas | 3-4 M. cu. ft. |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS:

DATE OF OPENING: 1914.

REMARKS:

HARNESS

COUNTY: Grady.

LOCATION: T. 5 N., R. 7 W.

SURFACE ELEVATION: 1,185 feet.

SURFACE FORMATION: Dog Creek shale and Blaine gypsum.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Grady anticline.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-----------|-----------|------------|--------------------|
| Fontotoc (?) | 1950-1970 | 25 | gas | 4-10 M. cu. ft. |
| | 1975 | | oil | 30 bbls. |

CHARACTER OF OIL: Gravity, 36° B.

CHARACTER OF GAS:

DATE OF OPENING: 1925.

REMARKS: The development in this field is being carried on by Robert Sutton, et al, of Walters, Oklahoma.

HASKELL

COUNTY: Muskogee.

LOCATION: T. 15-16 N., R. 15 E.

SURFACE ELEVATION: 600-750 feet.

SURFACE FORMATION: Stuart shale.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Local folds, fault zone.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Tucker (?) | 1760 | 20 | oil | 10-100 bbls. |
| | 1850 | 20 | gas | 1-20 M. cu. ft. |
| | 1900 | 15 | oil | 100-350 bbls. |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS:

DATE OF OPENING: 1909.

REMARKS: The Haskell pool is about 5 miles southwest of the town of Haskell. This pool might be regarded as an extension of the Bald Hill pool of Okmulgee County.

HEALDTON

COUNTY: Carter.

LOCATION: T. 3-4 S., R. 2-3-4 W.

SURFACE ELEVATION: 850-1,050 feet.

SURFACE FORMATION: Clear Fork-Wichita formation.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Anticlinal folds, two faults.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Upper Penn. | 685 | 5 | gas | 1-2 M. cu. ft. |
| | 717 | 10 | gas | 1-2 M. cu. ft. |
| | 920 | 30 | oil | 5-20 bbls. |
| Glenn | 1025 | | oil | 20-100 bbls. |
| | 1130 | | oil | 10-3000 bbls. |
| Healdton zone | 1320 | | oil | 10-40 M. cu. ft. |
| | 1730 | | oil | 20-250 bbls. |
| | 2000 | | oil | 10-20 M. cu. ft. |
| Ordovician | 2220 | 175 | oil show | 10-560 bbls. |
| | 2375 | 10 | oil | 10-250 bbls. |
| | 3076 | 50 | oil | |
| | 3500 | 400 | oil | |

CHARACTER OF OIL: Gravity, 30-31.9° B. Gasoline content, 15%.

CHARACTER OF GAS:

DATE OF OPENING: 1913.

REMARKS: The discovery well of the Healdton field was completed August, 1913, at a depth of 919 feet for 100 barrels of oil per day. This well was drilled on the Wirt Franklin, et al lease by J. M. Critchlow of the Red River Oil Company, who had been induced to undertake the test by Roy M. Johnson, Edward Galt, and Wirt Franklin.

Healdton has been referred to as a "buried hill." The topographic contours on "Healdton Hill" determined from elevations on the Arbuckle and Viola limestones coincide closely with the structural contours on the producing horizons.

HECTOR

COUNTY: Okmulgee.

LOCATION: T. 16 N., R. 13 E.

SURFACE ELEVATION: 650-750 feet.

SURFACE FORMATION: Wewoka formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Local folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Salt | 800 | 100 | oil show | 8 bbls. |
| Glenn | 1200 | 60 | oil gas | |
| Booch | 1650 | 50 | oil | |
| Dutcher | 1717 | 3 | oil | 10-150 bbls. |

(Table continued on next page)

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------------------|
| Mississippi | 1862 | 70 | oil | 10-75 bbls. |
| Wileox | 1240 | 30 | oil | 50-250 bbls. 1-8 M. cu. ft. |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS:

DATE OF OPENING: 1918.

REMARKS: The first production in commercial quantity was reported in June, 1914 by the Buck Petroleum Company.

HENRYETTA

COUNTY: Okmulgee.

LOCATION: T. 11 N., R. 12 E.

SURFACE ELEVATION: 600-850 feet.

SURFACE FORMATION: Stuart-Boggy shale.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Local folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------------------|
| Sand | 1200 | 50 | gas | ½-2 M. cu. ft. |
| Glenn-Salt | 1500 | | | |
| Booch | 2070 | 30 | gas | 1-3 M. cu. ft. |
| Dutcher | 2460 | 60 | gas | |
| Lyons-Quinn | 2630 | 20 | oil gas | 10-700 bbls. 1-5 M. cu. ft. |
| Hunton | 2700 | 10 | | |
| Wileox | 2410 | 15 | | 1-4 M. cu. ft. |
| Siliceous | 2545 | 5 | | 1-6 M. cu. ft. |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS: Rock pressure 750 pounds.

DATE OF OPENING: 1910.

REMARKS: The discovery well of the Henryetta pool was drilled in 1910 and produced 600 barrels per day. It was followed by a gas well with a capacity of 80 million cubic feet per day.

Development continued to 1913 when a total of 471 wells were completed. A decline came in 1914 but with the discovery of deeper production new development was started in 1920.

HEWITT

COUNTY: Carter.

LOCATION: T. 4 S., R. 2 W.

SURFACE ELEVATION: 850-950 feet.

SURFACE FORMATION: Clear Fork-Wichita formation.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Two anticlinal domes connected by a saddle.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-----------|-----------|------------|--------------------|
| Shallow | 400 | 20 | gas | 1-3 M. cu. ft. |
| 600 Foot | 600 | 30 | gas | 2-10 M. cu. ft. |
| 2 Strays | 920-1130 | 20-60 | oil | 25-200 bbls. |
| 1st Hewitt | 1200-2000 | | oil | 10-150 bbls. |
| 2nd | 2090 | 15 | | 20-50 bbls. |
| 3rd | 2170 | 20 | oil | 30-200 bbls. |
| 4th | 2200 | 15 | oil | 10-50 bbls. |
| 5th | 2250 | 30 | oil | 200 bbls. |
| 6th | 2300 | 50 | oil | 90-400 bbls. |
| 7th | 2700 | 40 | | 100-400 bbls. |

CHARACTER OF OIL: Gravity, 32-33.9° B.

CHARACTER OF GAS:

DATE OF OPENING: June, 1919.

REMARKS: The Hewitt pool, the second largest field in southern Oklahoma, was opened early in 1919. In 1923 the Ordovician horizon was found productive in the Hewitt pool, and in May, 1924 one of the largest wells actually gauged in Oklahoma was completed in sec. 21, T. 4 S., R. 2 W., for 12,800 barrels of oil per day at a depth of 2,940 feet.

HICKORY CREEK

COUNTY: Osage.

LOCATION: T. 29 N., R. 11 E.

SURFACE ELEVATION: 700-900 feet.

SURFACE FORMATION: Nelagoney formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Anticlinal folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|-------------------------------|
| Big Lime | 550 | | gas | 1 M. cu. ft. |
| Peru | 750 | | oil show | |
| Oswego | 900 | 30 | oil gas | 1 M. cu. ft. |
| Bartlesville | 1000 | 45 | oil | 75-125 bbls. |
| Mississippi | 1300 | | oil gas | 8-200 bbls. 1-3 M. cu. ft. |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS:

DATE OF OPENING: 1914.

REMARKS: The Hickory Creek pool is located in an area of anticlinal structures having in general a north-south trend.

HOFFMAN

COUNTY: Okmulgee.

LOCATION: T. 12 N., R. 14 E.

SURFACE ELEVATION: 600-800 feet.

SURFACE FORMATION: Stuart shale and Senora formation.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Subsurface dome.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|----------|-----------|------------|-------------------------------|
| Salt-Glenn | 900-1000 | 60 | gas | 1-6 M. cu. ft. |
| Booch | 1120 | 40 | gas | 1-3 M. cu. ft. |
| Dutcher | 1780 | 10 | oil gas | 20-60 bbls. |
| Lyons-Quinn | 2250 | | gas | 1-18 M. cu. ft. |
| Wilcox | 2900 | 50 | oil | 10-30 M. cu. ft. 200 bbls. |

CHARACTER OF OIL: Gravity -----
 CHARACTER OF GAS: Dry. Rock pressure 540 to 600 pounds.
 DATE OF OPENING: 1917.

REMARKS: The Hoffman pool is an extension of the Coalton and Henryetta pools. Wilcox sand production was discovered by deepening the Sterling Oil and Gas Company's well in sec. 30, T. 12 N., R. 14 E., May, 1925. This well produced 30 to 90 barrels of oil per day at a depth of 2,844 to 2,850 feet.

HOGSHOOTER

COUNTY: Washington.
 LOCATION: T. 25-26 N., R. 13-14 E.
 SURFACE ELEVATION: 700-850 feet.
 SURFACE FORMATION: Coffeyville-Hogshooter limestone.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Anticlinal folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Layton | 500 | | | |
| Big Lime | 460 | | | |
| Oswego | 680 | | gas | 5-10 M. cu. ft. |
| Bixler | 710 | | | |
| | 880 | | gas | 5-7 M. cu. ft. |
| Bartlesville | 1080 | | oil | 10-500 bbls. |
| Burgess | 1160 | | gas | 5-15 M. cu. ft. |

CHARACTER OF OIL: Gravity -----
 CHARACTER OF GAS:
 DATE OF OPENING: 1907.

REMARKS: The Hogshooter pool is situated on both sides of Hogshooter Creek in southeastern Washington County. The developed area is about 12 miles in length and is now continuous with the Dewey-Bartlesville pool to the north. Only the northern part of the pool produces oil, the southern and larger portion of the field constituting one of the largest gas fields in the State.

The gas has been piped to Bartlesville, Dewey and Miami for use in smelters; to Joplin, St. Joseph and Kansas City, Missouri; also to southeastern Kansas.

HOLDENVILLE

COUNTY: Hughes.
 LOCATION: T. 7 N., R. 8-9 E.
 SURFACE ELEVATION: 750-950 feet.
 SURFACE FORMATION: Wewoka formation.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Monocline with varying dips and faults.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Glenn (?) | 2660 | | oil | 10 bbls. |
| Booch | 3030 | | gas | 1-3 M. cu. ft. |
| Gilcrease | 3175 | | oil show | |
| Smith | 3940 | 8 | oil | |
| Hunton | 4000 | 50 | oil gas | 10-300 bbls. |
| Sylvan | 4050 | | | |
| Viola | 4100 | | | |
| Wilcox | 4180 | 20 | oil | 10-4000 bbls. |

CHARACTER OF OIL: Gravity, 38-38.9° B.
 CHARACTER OF GAS: Wet.
 DATE OF OPENING: 1916.
 REMARKS: One of the first wells in the Holdenville pool was drilled by the Penn-West Oil Company in sec. 4, T. 7 N., R. 8 E., with a production of 16 million cubic feet of gas per day and 5 barrels of oil.

The Holdenville area contains many small structures with possibilities of much production in the sands as yet not penetrated, and in the deeper sands exploited since 1924.

HOLM-JARVIS
 See Rood, page 138.

HOMER

COUNTY: Carter.
 LOCATION: T. 1 S., R. 2 W.
 SURFACE ELEVATION: 900-1,000 feet.
 SURFACE FORMATION: Pontotoc series.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Plunging anticline.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Pontotoc | 480 | 20 | oil | 1-5 bbls. |

CHARACTER OF OIL: Gravity, 22° B.

CHARACTER OF GAS:

DATE OF OPENING: 1916.

REMARKS: The Homer pool is a small area. At present there are only two wells and these are pumped infrequently, producing 2 to 4 barrels of oil at each pumping. The oil has a very high lubricating content. It is hauled to Davis by truck and shipped from there.

HOMINY

COUNTY: Osage.

LOCATION: T. 22 N., R. 8-9 E.

SURFACE ELEVATION: 800-1,000 feet.

SURFACE FORMATION: Pawhuska limestone, Elgin sandstone.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Anticlinal folds, domes, and faults.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Cleveland | 1450 | 110 | gas show | |
| Peru | 1720 | 25 | oil | 10-40 bbls. |
| Oswego | 1870 | 75 | gas | 1-6 M. cu ft. |
| Bartlesville | 2040 | 10 | oil | 1-25 bbls. |
| Mississippi | 2265 | 300 | oil | 10-2500 bbls. |
| Chattanooga | 2300 | 20 | | |
| Hominy | 2540 | 60 | oil | 20-300 bbls. |
| Siliceous | 2609 | 70 | oil | 50 bbls. |

CHARACTER OF OIL: Gravity, 35.5° B.

CHARACTER OF GAS: Wet.

DATE OF OPENING: 1916.

REMARKS: The Hominy pool was opened in 1916 with the principal production from the Mississippi limestone which produced wells of several hundreds of barrels of oil per day.

HOMINY FALLS

COUNTY: Osage.

LOCATION: T. 21-22 N., R. 11-12 E.

SURFACE ELEVATION: 700-900 feet.

SURFACE FORMATION: Ochelata formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Anticlinal folds and domes.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------------------|
| Cleveland | 1974 | 20 | oil show | |
| Oswego | 1215 | 60 | | |
| Bartlesville | 1390 | 20 | oil | |
| Taneha | 1590 | 55 | oil gas | 10-125 bbls. 1-8 M. cu. ft. |

(Table continued on next page)

| HORIZONS PRODUCING | DEPTH | THICKNESS | PRODUCTION | PRODUCTION INITIAL |
|--------------------|-------|-----------|------------|--------------------|
| Burgess | 1750 | 10 | oil | 10-50 bbls. |
| Mississippi | 2045 | 20 | oil | |
| Siliceous | 2472 | | | |

CHARACTER OF OIL: Gravity, -----.

CHARACTER OF GAS:

DATE OF OPENING: 1919.

REMARKS:

HUBBARD or RETTA

COUNTY: Kay.

LOCATION: T. 26 N., R. 2 W.

SURFACE ELEVATION: 1,030 feet.

SURFACE FORMATION: Lower Enid formation.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Anticline and fault.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Tonkawa | 2640 | 60 | oil | 100-800 bbls. |
| Layton | 2990 | 90 | oil | 100-200 bbls. |
| Wilcox | 3550 | 50 | oil | 300-1300 bbls. |
| Siliceous | 3700 | | oil | 50-600 bbls. |

CHARACTER OF OIL: Gravity, 36-37.9° B.

CHARACTER OF GAS:

DATE OF OPENING: 1925.

REMARKS: The discovery well of this pool is the Hubbard No. 1, in sec. 12, T. 16 N., R. 2 W., one and a half miles from the town of Retta. The first Wilcox sand well was completed September, 1926 with an initial production of 600 barrels of oil per day. At present the pool has not been defined.

HUMBLE or SEAY

COUNTY: Jefferson.

LOCATION: T. 7 S., R. 5-6 W.

SURFACE ELEVATION: 750-850 feet.

SURFACE FORMATION: Clear Fork-Wichita (Cisco) formations.

AGE OF SURFACE ROCKS: Permian or late Pennsylvanian.

STRUCTURE: Anticlinal axis and folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|------------------------------|
| Uncorrelated | 600 | 3 | gas | 10-45 M. cu. ft. |
| | 790 | 10 | gas | 10-15 M. cu. ft. |
| | 820 | | gas | 20-70 M. cu. ft. |
| | 1100 | 5 | oil gas | 10 bbls. 10-70 M. cu. ft. |

(Table continued on next page)

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------------------------|--------------------|
| Uncorrelated | 1425 | 3 | | 1-3 M. cu. ft. |
| | 1850 | | oil show | |
| | 1980 | | oil show gas pink granite | |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS: Dry. Rock pressure 350 to 450 pounds.

DATE OF OPENING: 1924.

REMARKS: The Marion Oil, Gas and Mining Company drilled the first well in the Seay pool. Much salt water was encountered and a showing of gas at 1,535 feet. This well was completed in March, 1917 at a depth of 2,000 feet as a dry hole.

The Seay pool was discovered in September, 1924 on the Seay farm. The Humble Oil and Refining Company have developed the greater portion of the area to the present date.

INDEPENDENT Sheridan

COUNTY: Okmulgee.

LOCATION: T. 16 N., R. 12 E.

SURFACE ELEVATION: 700-760 feet.

SURFACE FORMATION: Coffeyville formation, Checkerboard limestone.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Subsurface dome.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------------------|
| Glenn | 1480 | 170 | | |
| Taneha | 1830 | 45 | | |
| Dutcher | 2100 | 55 | oil gas | 50-100 bbls. 1.5 M. cu. ft. |
| Wilcox | 2550 | | oil | 40-70 bbls. |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS:

DATE OF OPENING: 1908.

REMARKS: The Independent pool is an extension of the production from the Mounds pool in Creek County. The Sheridan pool is located on the same structure as the Independent pool and produces from the Wilcox sand at about the same depth.

INGALLS

COUNTY: Payne.

LOCATION: T. 19 N., R. 4 E.

SURFACE ELEVATION: 800-1,140 feet.

SURFACE FORMATION: Eskridge shale.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Ingalls dome.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Oswego | 3115 | | oil | |
| Skinner | 3350 | | oil | |
| Bartlesville | 3400 | | oil | 50-100 bbls. |
| Misener sand | 3680 | | | |
| Wilcox sand | 3760 | | oil | 100-300 bbls. |

CHARACTER OF OIL: Gravity, 36-37.9° B.

CHARACTER OF GAS:

DATE OF OPENING: 1914.

REMARKS: The Roxana Petroleum Company drilled the discovery well of the Ingalls pool in sec. 34, T. 19 N., R. 4 E., near the apex of the dome. The well was drilled to a depth of 1,825 feet and the gas production amounted to 15 million cubic feet of gas per day. Wilcox sand production was discovered in 1925 at depths between 3,690 and 3,800 feet.

INOLA

COUNTY: Rogers.

LOCATION: T. 19 N., R. 16 E.

SURFACE ELEVATION: 700-800 feet.

SURFACE FORMATION: Cherokee shale.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Local variations in normal dip.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|------------------------------|
| Bartlesville | 540 | 60 | oil gas | 2-20 bbls. 1-2 M. cu. ft. |
| Burgess | 670 | 20 | oil | 1-30 bbls. |
| Mississippi | 750 | 30 | gas | 2-4 M. cu. ft. |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS: Wet. Rock Pressure: 95 to 150 pounds.

DATE OF OPENING: 1913.

REMARKS: Southeast of the town of Inola is a small area of oil production and southwest of the town is a small area of oil and gas production. The southwest area bordering the east side of the Verdigris River is the main Inola pool.

IRON POST

COUNTY: Creek.

LOCATION: T. 14 N., R. 8 E.

SURFACE ELEVATION: 750-950 feet.

SURFACE FORMATION: Pawhuska and Ochelata formations.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Subsurface folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Layton | 1478 | 25 | | |
| Cleveland | 2320 | 100 | oil | |
| Wheeler | 2420 | 25 | oil | 40-100 bbls. |
| Prue | 2475 | 50 | oil | 5-25 bbls. |

CHARACTER OF OIL: Gravity, 36.7° B.

CHARACTER OF GAS:

DATE OF OPENING: 1917.

REMARKS: The Iron Post pool is located in sections 24, 25, 35 and 36, T. 14 N., R. 8 E., and is now merging into the Billingslea pool. An iron location post in section 36 contributes the name of the pool.

JENKS

COUNTY: Tulsa.

LOCATION: T. 18 N., R. 13 E.

SURFACE ELEVATION: 600-800 feet.

SURFACE FORMATION: Broken Arrow formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Local folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------------------|
| Skinner | 1000 | | | |
| Red Fork | 1400 | 20 | oil | 20-40 bbls. |
| Bartlesville | 1600 | 40 | oil | 40-100 bbls. |
| Dutcher | 1750 | 60 | oil gas | 10-200 bbls. 1-6 M. cu. ft. |
| Mississippi | 1800 | 40 | oil gas | 5-40 bbls. 1-2 M. cu. ft. |
| Tyner | 2100 | | | |
| Siliceous | 2350 | | | |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS: Wet. Rock pressure 340 to 720 pounds.

DATE OF OPENING: 1901.

REMARKS: The Jenks pool is always closely associated with the Red Fork pool of Tulsa which was one of the first pools to be developed in the State.

JENNINGS

COUNTY: Pawnee-Creek.

LOCATION: T. 19-20 N., R. 7 E.

SURFACE ELEVATION: 750-1,000 feet.

SURFACE FORMATION: Buck Creek limestone.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Local folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|---------------------------------|
| Oswego | 2300 | 100 | | |
| Skinner | 2500 | 55 | oil | 20-200 bbls. |
| Bartlesville | 2685 | 15 | oil gas | 100-400 bbls. 1-3 M. cu. ft. |
| Taneha | 2800 | 50 | oil | |
| Burgess | 3000 | 15 | | |
| Mississippi | 3100 | | | |
| Wilcox | 3260 | | | |

CHARACTER OF OIL: Gravity, 36-37.9° B.

CHARACTER OF GAS:

DATE OF OPENING: 1916.

REMARKS: The Jennings pool was established by the Republic Oil & Pipe Line Company in sec. 21, T. 20 N., R. 7 E., with a well having an initial production of 200 barrels of oil per day. Several small oil wells and two gas wells had been drilled in the area in the year 1916 prior to the large producer.

JOLLY-OGG

See Bald Hill, page 13.

JOLLY-PATTON Bradley

COUNTY: Muskogee.

LOCATION: Secs. 5, 6, 7, and 8, T. 14 N., R. 19 E.

SURFACE ELEVATION: 550 feet.

SURFACE FORMATION: Winslow formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Subsurface folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Sand | 512 | 20 | oil | 150 bbls. |
| Muskogee | 675 | 12 | oil | 150 bbls. |
| Timber Ridge | 707 | 10 | oil | 150 bbls. |

CHARACTER OF OIL: Gravity 43° B.

CHARACTER OF GAS:

DATE OF OPENING: August, 1920.

REMARKS: In Sept. 1927, 16 wells had been drilled. The maximum production, obtained Aug., 1927, amounted to 280 barrels. The field was extended in Feb., 1928 with the discovery of the 500-foot sand in section 6.

JOSEY

COUNTY: Okfuskee.
 LOCATION: T. 12 N., R. 11 E.
 SURFACE ELEVATION: 700-800 feet.
 SURFACE FORMATION: Wewoka formation.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Local anticlinal structures.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-----------|-----------|------------|--------------------|
| Deaner | 2735 | 80 | gas | 1-20 M. cu. ft. |
| Lyons | 2980 | 50 | oil | 25-190 bbls. |
| Sylvan | 3425 | 40 | | |
| Wilcox | 3500-3600 | | | |

CHARACTER OF OIL: Gravity 40.9° B.
 CHARACTER OF GAS: Wet.
 DATE OF OPENING: 1923 (?)
 REMARKS: This pool was opened by the Josey Oil Co., in 1923 or 1924 under the direction of D. H. Radcliff.

KEEFETON

COUNTY: Muskogee.
 LOCATION: Sec. 14, T. 13 N., R. 18 E.
 SURFACE ELEVATION: 550-600 feet.
 SURFACE FORMATION: Winslow formation.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Subsurface folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Sand | 748 | 11 | gas | 12 M. cu. ft. |

CHARACTER OF OIL: Gravity,-----
 CHARACTER OF GAS:
 DATE OF OPENING: December, 1925.

REMARKS: Three or four wells now producing.

KELLYVILLE

COUNTY: Creek.
 LOCATION: T. 17 N., R. 10 E.
 SURFACE ELEVATION: 700-850 feet.
 SURFACE FORMATION: Oolagah limestone.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Anticlinal folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------------------|
| Oswego | 1560 | 30 | oil gas | 20-30 bbls. |
| Red Fork | 2010 | 30 | oil | 1-8 M. cu. ft. 10-100 bbls. |

(Table continued on next page)

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-----------|-----------|------------|-----------------------------|
| Glenn | 2140 | 40 | oil | 10-50 bbls. |
| Dutcher | 2450 | 30 | oil | 50-200 bbls. |
| Mississippi | 2800 | 40 | oil gas | 10-40 bbls. 1 M. cu. ft. |
| Chattanooga | 2880 | | | |
| Wilcox | 2933-3100 | | | |

CHARACTER OF OIL: Gravity, 30-32.9° B.
 CHARACTER OF GAS: Dry. Rock pressure 450 to 720 pounds.
 DATE OF OPENING: 1915.

REMARKS: In the northeastern part of Creek county are two small oil areas which comprise the Kellyville pool. The discovery well was completed by the Aiko Oil and Gas Company, April, 1925, in sec. 11, T. 17 N., R. 10 E., at a depth of 1,605 feet, where a small amount of gas was encountered.

KENDRICK or SKELLY-FORD

COUNTY: Lincoln.
 LOCATION: T. 15 N., R. 6 E.
 SURFACE ELEVATION: 800-900 feet.
 SURFACE FORMATION: Salt Creek formation.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Local variations from normal monoclinical structure.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Prue | 2500 | 40 | oil gas | 1 M. cu. ft. |
| Bartlesville | 3150 | 60 | oil | |
| Taneha | 3300 | 60 | oil | |
| Dutcher | 3775 | 10 | oil | |
| Mississippi | 3850 | 50 | gas | |
| Chattanooga | 4050 | 6 | oil show | |
| Hunton | 4090 | | oil | 100-900 bbls. |
| Wilcox | 4120 | 20 | oil | 100-600 bbls. |
| Siliceous | 4360 | 20 | oil | 20 bbls. |

CHARACTER OF OIL: Gravity, 43° B.

CHARACTER OF GAS:
 DATE OF OPENING: 1925.

REMARKS: The Kendrick pool was opened by the Skelly Oil Company on the Rhoda Ford farm, 5 miles east of the town of Kendrick, August, 1925.

KEYSTONE

COUNTY: Pawnee.
 LOCATION: T. 20 N., R. 9-10 E.
 SURFACE ELEVATION: 700-850 feet.
 SURFACE FORMATION: Coffeyville and Nelagoney formations.

AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Minor folds.
 AGE OF SURFACE ROCKS: Pennsylvanian.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|-------------------------------|
| Layton | 1080 | | | |
| Cleveland | 1100 | 45 | oil gas | 4-100 bbls. 1-6 M. cu. ft. |
| Oswego | 1250 | 60 | oil | 10-85 bbls. |
| Red Fork | 1710 | 55 | gas | |
| Skinner | 1800 | 20 | oil gas | 1-2 M. cu. ft. |
| Mississippi | 1970 | 55 | oil gas | 30-60 bbls. 1-2 M. cu. ft. |
| Wilcox | 2525 | 10 | oil show | |
| Turkey Mt. | 2640 | 10 | | |

CHARACTER OF OIL: Gravity, 36-37.9° B.
 CHARACTER OF GAS: Dry. Rock Pressure 125 to 750 pounds.
 DATE OF OPENING: 1919.

REMARKS: The records show that Pomeroy & Hamilton completed the first well in the Keystone pool November, 1919 in sec. 25, T. 20 N., R. 9 E., for 50 barrels of oil per day in sand at 1,160 to 1,166 feet in depth. This company drilled a number of wells on the Appalachia townsite north of Keystone which were all productive of either oil or gas.

KIEFER

COUNTY: Creek.
 LOCATION: T. 17 N., R. 11-12 E.
 SURFACE ELEVATION: 700-850 feet.
 SURFACE FORMATION: Coffeyville formation.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Anticlinal folds and terraces.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|---------------------------------|
| Dawson | 575 | 10 | | |
| Big Lime | 1271 | 20 | | |
| Oswego | 1485 | 30 | gas | 1 M. cu. ft. |
| Perryman | 1520 | 20 | | |
| Red Fork | 1850 | 20 | oil | 10-60 bbls. |
| Glenn | 1890 | 100 | gas | 1-7 M. cu. ft. |
| Taneha | 1990 | 20 | oil gas | 15-100 bbls. 1-30 M. cu. ft. |
| Dutcher | 2100 | 50 | oil gas | 50-90 bbls. 1 M. cu. ft. |
| Mississippi | 2290 | 10 | | |
| Hunton | 2500 | 70 | | |
| Wilcox | 2600 | 10 | oil gas | 10-50 bbls. 1-3 M. cu. ft. |
| Siliceous | 2960 | 20 | | |

CHARACTER OF OIL: Gravity, 32-33.9° B.
 CHARACTER OF GAS:
 DATE OF OPENING: 1910.
 REMARKS: The Kiefer pool is rather a spotted area belonging to the Sapulpa District. The development in this area was a result of the Glenn pool success.

KILGORE

COUNTY: Grady-Stephens.
 LOCATION: T. 3 N., R. 5 W.
 SURFACE ELEVATION: 1,150-1,250 feet.
 SURFACE FORMATION: Chickasha-Duncan formations.
 AGE OF SURFACE ROCKS: Permian.
 STRUCTURE: Faulted anticline.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------------------|
| Permian | 1000 | | | |
| Unconformity | 1550 | | gas | 2-10 M. cu. ft. |
| Pontotoc (?) | 1725 | 25 | oil gas | 30-200 bbls. 1-5 M. cu. ft. |
| | 1850 | 30 | oil | 20-200 bbls. |
| | 1990 | 10 | oil gas | 11-42 M. cu. ft. |
| | 2200 | 10 | oil | 50-500 bbls. |

CHARACTER OF OIL: Gravity, 30-31.9° B.
 CHARACTER OF GAS:
 DATE OF OPENING: 1919.

REMARKS: In 1916 the southern end of the Grady anticline was mapped for the A. T. & S. F. Railway Company. They drilled several wells along the Grady-Stephens County line north of Kilgore with showings in three of them. Activity was intermittent until 1924 when Walter Critchlow of Ardmore completed a 42 million cubic foot gas well in sec. 27, T. 3 N., R. 5 W., on a structure mapped by Clyde Becker in 1921.

KNOX

COUNTY: Stephens.
 LOCATION: T. 2 N., R. 5 W.
 SURFACE ELEVATION: 1,150-1,250 feet.
 SURFACE FORMATION: Chickasha-Duncan formations.
 AGE OF SURFACE ROCKS: Permian.
 STRUCTURE: Anticline.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Pontotoc (?) | 1330 | 5 | gas | 1-3 M. cu. ft. |
| | 1706 | 50 | oil | 50-200 bbls. |
| | 2093 | 10 | oil | 50-100 bbls. |

CHARACTER OF OIL: Gravity 33-38° B.

CHARACTER OF GAS: Wet.

DATE OF OPENING: 1916.

REMARKS: In 1924, Walter H. Gant and associates began the development of the Knox pool with a well in sec. 2, T. 2 N., R. 5 W., just across the Stephens County line. This well was completed in sand at a depth of 1,210 to 1,213 feet for 7 million cubic feet of gas per day and it soon began showing oil. This favorable showing resulted in the Carter Oil Company buying half interest in the property and the establishment of the Carter-Knox Petroleum Company. The developments of this company brought the field into prominence.

KUSA

COUNTY: McIntosh.

LOCATION: T. 11 N., R. 14 E.

SURFACE ELEVATION: 550-850 feet.

SURFACE FORMATION: Stuart and Boggy shales and Thurman sandstone.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Local variations in normal dip.

| PRODUCING | | | INITIAL |
|---------------|-------|-----------|------------------------|
| HORIZONS | DEPTH | THICKNESS | PRODUCTION |
| Salt or Glenn | 700 | 150 | gas 1.5 M. cu. ft. |
| Booch | 1400 | 40 | gas 1.20 M. cu. ft. |
| Dutcher | 1800 | 25 | oil 50 bbls. |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS:

DATE OF OPENING: 1914.

REMARKS: The Gundich Oil Company has the credit of discovering the first oil in the Kusa pool with a well in sec. 6, T. 11 N., R. 14 E., which was completed for 400 barrels of oil per day. Considerable gas has been found in this area.

LANDON

COUNTY: Osage.

LOCATION: T. 28 N., R. 9 E.

SURFACE ELEVATION: 850-1,000 feet.

SURFACE FORMATION: Pawhuska formation, Elgin sandstone.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Minor folds and possible faults.

| PRODUCING | | | INITIAL |
|-----------|-------|-----------|--|
| HORIZONS | DEPTH | THICKNESS | PRODUCTION |
| | 1660 | 50 | oil 10-50 bbls. |
| Peru | 1770 | 20 | oil gas 1 M. cu. ft. |
| Oswego | 1950 | 15 | oil gas 15-25 bbls. 5 M. cu. ft. |

(Table continued on next page)

| PRODUCING | DEPTH | THICKNESS | PRODUCTION | INITIAL |
|--------------------------|-------|-----------|------------|-------------------------------|
| HORIZONS Bartlesville | 2890 | 10 | oil gas | 15-40 bbls. 1-3 M. cu. ft. |
| Mississippi Wileox | 3390 | 285 | oil show | |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS:

DATE OF OPENING: 1914.

REMARKS: The Landon pool is named from the principal operator of the area, A. M. Landon. Most of the production has been drilled by the Wiser Oil Company.

LAUDERDALE

COUNTY: Pawnee.

LOCATION: T. 20-21 N., R. 7-8 E.

SURFACE ELEVATION: 750 feet.

SURFACE FORMATION: Elgin sandstone.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Local variations in normal dip (dome).

| PRODUCING | | | INITIAL |
|--------------|-------|-----------|---|
| HORIZONS | DEPTH | THICKNESS | PRODUCTION |
| Layton | 1185 | 15 | oil gas 25 bbls. |
| Cleveland | 1611 | 50 | oil 50 bbls. |
| Oswego | 1920 | 20 | |
| Skinner | 2275 | 25 | oil 10-25 bbls. |
| Bart'seville | 2350 | 25 | oil gas 70-100 bbls. 2 M. cu. ft. |
| Wileox | 2450 | 30 | oil 25-600 bbls. |
| Siliceous | 3000 | 25 | oil 10 bbls. |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS:

DATE OF OPENING: 1915.

REMARKS: Charles Page completed the discovery well of the Lauderdale pool in sec. 34, T. 20 N., R. 8 E., at a depth of 1,400 feet for 2 million cubic feet of gas.

LAWTON

COUNTY: Comanche.

LOCATION: T. 2-3 N., R. 10-11 W.

SURFACE ELEVATION: 763 feet.

SURFACE FORMATION: Clear Fork-Wichita formations.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Flat dome.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|----------|-----------|------------|--------------------|
| Uncorrelated | 161-180 | 10 | oil | 1-3 bbls. |
| | 244-255 | 13 | oil | 2-6 bbls. |
| | 380-400 | 20 | oil gas | 1-5 bbls. |
| | 800-1000 | 50 | oil | 1-2 M. cu. ft. |
| | 1250 | 30 | oil show | 5-10 bbls. |

CHARACTER OF OIL: Gravity, 28-30° B.

CHARACTER OF GAS:

DATE OF OPENING: 1904.

REMARKS: The first well of the Lawton pool was drilled by the Lawton Natural Gas Company, August, 1904 in sec. 6, T. 1 N., R. 10 W., just 5 miles east of the town. It had a production of ½ million cubic feet of gas per day, with rock pressure of 125 pounds at a depth of 400 feet. Later in the year the second well was completed southeast of the first well but gas was not found, although a small amount of heavy black oil was obtained. Nothing more was done in the pool until 1916.

LENAPAH

COUNTY: Nowata.

LOCATION: T. 27 N., R. 15 E.

SURFACE ELEVATION: 700-900 feet.

SURFACE FORMATION: Coffeyville formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Minor folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Oswego | 355 | 30 | gas | 1 M. cu. ft. |
| Squirrel | 670 | 20 | gas | 1-3 M. cu. ft. |
| Bartlesville | 940 | 35 | oil gas | 1-60 bbls. |

CHARACTER OF OIL: Gravity, 32° B.

CHARACTER OF GAS:

DATE OF OPENING: 1904.

REMARKS: The Lenapah pool was among the early developments of northeastern Oklahoma. The first large well of the area was drilled by the Bearea Oil and Gas Company in sec 2, T. 27 N., R. 15 E., for 500 barrels of oil per day at a depth of 982 feet, November, 1910.

LEONARD

COUNTY: Tulsa.

LOCATION: T. 17 N., R. 14 E.

SURFACE ELEVATION: 950-1,000 feet.

SURFACE FORMATION: Stuart shale.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Local folds, lenticular sands.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Layton | 1220 | 10 | oil | 60-100 bbls. |
| Oswego | 1365 | 5 | gas | 1-15 M. cu. ft. |
| Red Fork | 1430 | 20 | oil | 3-120 bbls. |
| Bartlesville | 1500 | 22 | oil gas | 10-150 bbls. |
| Mississippi | 1890 | 10 | | 1-17 M. cu. ft. |
| Wilcox | 2100 | | | |
| Siliceous lime | 2300 | | | |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS:

DATE OF OPENING: 1916.

REMARKS: The Leonard pool is a small spotted area one mile south of the town of that name. One of the early wells of the pool was reported for 1,200 barrels of oil per day. The most active development was in 1916 and 1917.

LIMA

COUNTY: Seminole.

LOCATION: T. 8 N., R. 7 E.

SURFACE ELEVATION: 850-1,000 feet.

SURFACE FORMATION: Pontotoc group.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Subsurface folding and faulting.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Gilcrease | 3170 | 20 | oil | 50-80 bbls |
| Zone | 3240 | 15 | oil | 15-300 bbls |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS:

DATE OF OPENING: 1927.

REMARKS: The Lima pool was discovered by the Magnolia Petroleum Company April, 1925, by the completion of a 75 barrel oil well in sec. 15, T. 8 N., R. 7 E., in the Hunton limestone at a depth of 3,188 feet. This well is two miles east of Lima and the nearest production is the Wewoka pool.

LINK

COUNTY: Muskogee.

LOCATION: Secs. 32 and 33, T. 15 N., R. 15 E.

SURFACE ELEVATION: 600-650 feet.

SURFACE FORMATION: Stuart shale.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Probable subsurface faulting.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Sand | 2044 | 8 | oil | 90-100 bb's. |

CHARACTER OF OIL: Gravity,-----

CHARACTER OF GAS:

DATE OF OPENING:

REMARKS: Present production about 25 barrels.

LITTLE RIVER

COUNTY: Seminole.

LOCATION: T. 7-8 N., R. 6 E.

SURFACE ELEVATION: 850-1,000 feet.

SURFACE FORMATION: Pawhuska and Ochelata formations.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Probable subsurface structures.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Chattanooga | 2750 | 20 | oil | 50-120 bbls. |
| Sylvan | 4320 | 45 | | |
| Viola | 4365 | 65 | | |
| Wilcox | 4457 | 3 | oil | 100-6000 bb's. |

CHARACTER OF OIL: Gravity, 6.5-38°.

CHARACTER OF GAS:

DATE OF OPENING: 1927.

REMARKS: The Indian Territory Illuminating Oil Company discovered the Little River pool in March, 1927 by the completion of a well which produced 6,000 barrels of oil per day in the Wilcox sand at a depth of 4,017 to 4,027 feet. This well was located in sec. 1, T. 7 N., R. 6 E., and was one of the largest initial producers in the State.

LOCO

COUNTY: Stephens.

LOCATION: T. 3 S., R. 5 W.

SURFACE ELEVATION: 875-975 feet.

SURFACE FORMATION: Clear Fork-Wichita formation.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Loco anticline; faulting.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Permian | 600 | | | |
| | 700 | 25 | gas | 1-5 M. cu. ft. |
| Glenn | 850 | 10 | oil | |
| | 980 | 5 | oil | 1-15 bbls. |
| | 1550 | 15 | oil | 1-5 bbls. |
| Ordovician (?) | 1550 | 15 | | |

CHARACTER OF OIL: Gravity, 28-32° B. Color, black.

CHARACTER OF GAS:

DATE OF OPENING: 1913.

REMARKS: In 1903 a refinery was built to develop the asphalt deposits in T. 3 S., R. 4 W., this being the first move to promote the petroleum possibilities of this region.

In 1913 the Oklahoma Diamond Oil and Gas Company completed several gas wells in sections 13 and 14, T. 3 S., R. 5 W. Oil was discovered by the Owl Oil Company in 1915 in sec. 9, T. 3 S., R. 5 W. Development in the Loco pool has been slow due to the small initial production of the wells and the extremely low gravity of the oil.

LOVELL

See Crescent, page 42.

LUCKY POOL

See Okmulgee, page 112.

LYONS-QUINN

COUNTY: Okmulgee-Okfuskee.

LOCATION: T. 11 N., R. 11-12 E.

SURFACE ELEVATION: 750-850 feet.

SURFACE FORMATION: Seminole formation, Holdenville shale.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Lyons dome, Quinn dome.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Deaner | 1820 | | oil | |
| Lyons | 2600 | 25 | oil | 50-700 bbls. |
| Jefferson | 2700 | 25 | gas | 2-7 M. cu. ft. |
| Ingram | 2850 | | gas | 5-45 M. cu. ft. |
| Viola limestone | 3350 | | | |
| Wilcox sand | 3400 | | gas | |

CHARACTER OF OIL: Gravity, 38-39.9° B.

CHARACTER OF GAS: Dry. Rock pressure: 1,000 to 1,300 pounds.

DATE OF OPENING: 1921.

REMARKS: The discovery well of the Lyons-Quinn pool was completed by the Independent Oil and Gas Company, November, 1921.

The initial production was 700 barrels of oil per day in the Lyons sand, located in sec. 13, T. 11 N., R. 11 E. Practically all the oil wells in the pool were drilled before the discovery of the "deep gas" well in sec. 13, T. 11 N., R. 11 E., completed May, 1922, by the Waite Phillips Petroleum Company. The open flow volume of this well was 7 million cubic feet of gas per day with a rock pressure of 1,100 pounds.

MADALENE

COUNTY: Osage.
 LOCATION: T. 21 N., R. 10 E.
 SURFACE ELEVATION: 750-850 feet.
 SURFACE FORMATION: Oologah formation.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Anticlinal folds, and faults.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Oswego | 1475 | 150 | gas | 1-10 M. cu ft. |
| Prue | 1535 | 65 | gas | |
| Bartlesville | 1900 | 35 | oil | 10-30 bbls. |
| Tyner | 2450 | 75 | | |
| Turkey Mt. | 2580 | 20 | | |

CHARACTER OF OIL: Gravity -----
 CHARACTER OF GAS:
 DATE OF OPENING: 1920.
 REMARKS:

MADILL

COUNTY: Marshall.
 LOCATION: T. 5 S., R. 5 E.
 SURFACE ELEVATION: 700-750 feet.
 SURFACE FORMATION: Goodland limestone.
 AGE OF SURFACE ROCKS: Cretaceous.
 STRUCTURE: Madill anticline.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|----------|-----------|-------------|--------------------|
| Goodland | 120 | | show of gas | |
| Trinity (base) | 402 | | oil | 5-20 bbls. |
| Caney | 500-1450 | | gas | ½-1 M. cu. ft. |

CHARACTER OF OIL: Gravity, 42-65° B. High gasoline content.
 CHARACTER OF GAS:
 DATE OF OPENING: 1906.
 REMARKS: Prior to the discovery of the Cushing pool the Madill pool was producing the highest grade of oil in the State, but in quantities too small to receive much consideration. The porous con-

glomerate and the sand at the base of the Trinity form the receptacle which holds the oil that is being exploited at Madill.

MAGNOLIA

COUNTY: Stephens.
 LOCATION: T. 1 S., R. 9 W.
 SURFACE ELEVATION: 1,050-1,150 feet.
 SURFACE FORMATION: Clear Fork-Wichita formations.
 AGE OF SURFACE ROCKS: Permian.
 STRUCTURE: Buried structure.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Smith | 2000 | 44 | oil | |
| Brown | 2100 | 30 | oil | |
| Blaydes | 2200 | 27 | oil | 10-400 bbls. |
| Kagay | 2300 | 85 | oil | 25-100 bbls. |

CHARACTER OF OIL: Gravity -----
 CHARACTER OF GAS:
 DATE OF OPENING: 1918.

REMARKS: The Magnolia Petroleum Company completed the discovery well of the Magnolia pool July, 1918, in sec. 22, T. 1 S., R. 9 W., with an initial production of 400 barrels of oil per day from the Blaydes sand. There are at present (October 1926) some 12 producing wells in the pool making a total daily production of 150 barrels of oil.

MAJOR

COUNTY: Okmulgee.
 LOCATION: T. 16 N., R. 14 E.
 SURFACE ELEVATION: 650-800 feet.
 SURFACE FORMATION: Wewoka formation.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Local folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Uncorrelated | 115 | | coal | |
| | 1255 | 30 | oil | 29-40 bbls. |
| | 1640 | 20 | oil gas | 10-400 bbls. |
| Wilcox | 1750 | 10 | oil | 2-5 M. cu. ft. |
| | 2830 | | | 20-100 bbls. |

CHARACTER OF OIL: Gravity -----
 CHARACTER OF GAS:
 DATE OF OPENING: 1916.
 REMARKS:

MANION

COUNTY: Osage.

LOCATION: T. 23 N., R. 9 E.

SURFACE ELEVATION: 700-1,000 feet.

SURFACE FORMATION: Nelagoney formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Dome.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|-------------|-------------------------------|
| Layton | 1060 | 20 | show of gas | |
| Cleveland | 1460 | 20 | | |
| Oswego | 1808 | 17 | oil gas | 12-200 bbls. 2.5 M. cu. ft |
| Bartlesville | 2190 | 30 | oil | |
| Burgess | 2300 | | oil | 50-400 bbls. |
| Siliceous | 2410 | 10 | | |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS:

DATE OF OPENING: 1927.

REMARKS:

MANNFORD

COUNTY: Creek.

LOCATION: T. 19 N., R. 9 E.

SURFACE ELEVATION: 600-700 feet.

SURFACE FORMATION: Nelagoney formation.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Terraces and noses.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|-------------------------------|
| Layton | 1550 | 20 | oil | |
| Oswego | 1750 | 40 | oil | |
| Skinner | 2230 | 70 | oil gas | 1.6 M. cu. ft |
| Bartlesville | 2380 | 10 | oil gas | |
| Mississippi | 2500 | | | |
| Wilcox | 2980 | 10 | oil gas | 80-600 bbls 1.3 M. cu. ft. |

CHARACTER OF OIL: Gravity, 33-34.9° and 42° B.

CHARACTER OF GAS:

DATE OF OPENING: 1922.

REMARKS: In April, 1922 the Mannford dome was drilled to a depth of 2,966 feet. The well had an initial production of 1,000 barrels of oil per day.

MARAMEC

COUNTY: Pawnee.

LOCATION: T. 30 N., R. 6 E.

SURFACE ELEVATION: 949 feet.

SURFACE FORMATION: Buck Creek formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Subsurface folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|---------------------------|
| Layton | 2070 | 50 | oil | |
| Cleveland | 2400 | 60 | oil | 15-100 bbls. |
| Oswego | 2650 | 70 | oil | |
| Prue | 2750 | 60 | oil | |
| Skinner | 2900 | 40 | oil gas | 45 bbls. 10 M. cu. ft. |
| Bartlesville | 3080 | 50 | oil | 50-300 bbls. |
| Burgess | 3200 | 40 | oil | 20-60 bbls. |
| Wilcox | | | | |

CHARACTER OF OIL: Gravity, 38° B.

CHARACTER OF GAS:

DATE OF OPENING: 1920.

REMARKS:

MARCH or AMABEL

COUNTY: Payne.

LOCATION: T. 18 N., R. 5 E.

SURFACE ELEVATION: 1,050 feet.

SURFACE FORMATION: Cushing limestone.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Local anticlinal folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Layton | 1975 | 20 | oil | |
| Cleveland | 2470 | 30 | oil | |
| Oswego | 2650 | 40 | oil | |
| Prue | 2760 | 95 | oil | 10-60 bbls. |
| Skinner | 2980 | 30 | gas | 3-11 M. cu. ft. |
| Bartlesville | 3130 | 50 | oil | 50-150 bbls. |
| Wilcox | 3440 | 50 | oil | |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS:

DATE OF OPENING: 1922.

REMARKS: The March pool was discovered by the March Oil Company in March, 1922, one mile southeast of Amabel on an anticlinal fold known to some geologists as the Amabel anticline. There is a subsurface dome which apparently coincides with surface structure.

MASHAM

See Donahue, page 51.

MAUD

COUNTY: Pottawatomie-Seminole.
 LOCATION: T. 7 N., R. 5 E.
 SURFACE ELEVATION: 800-1,000 feet.
 SURFACE FORMATION: Pontotoc group.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Folding and faulting.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Uncorrelated | 2950 | | oil | 1-3 M. cu. ft. |
| | 3167 | 85 | | |
| | 3410 | 60 | gas | |
| Hunton | 3830 | 45 | oil | |
| Wilcox | 4242 | 20 | oil | |

CHARACTER OF OIL: Gravity, 32° B.

DATE OF OPENING: 1920.

REMARKS: The Maud pool has been under development for a number of years. The first well drilled in the Maud region was started by the Prairie Oil and Gas Company in 1916. A small amount of gas was discovered. The best well drilled in the area was the Mid-Kansas Oil and Gas Company's wildcat, in sec. 34 with an initial production of 250 barrels of oil per day at a depth of 4,285 feet.

MERVINE

COUNTY: Kay.
 LOCATION: T. 27 N., R. 3 E.
 SURFACE ELEVATION: 1,148 feet.
 SURFACE FORMATION: Pennsylvanian-Permian formations.
 AGE OF SURFACE ROCKS: Pennsylvanian and Permian.
 STRUCTURE: Dome.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Mervine | 1000 | 25 | oil | 20-400 bbls. |
| Hoover | 1250 | 15 | oil | 10-400 bbls. |
| Endicott | 1500 | 13 | oil | 50-250 bbls. |
| Stalnaker | 1800 | 22 | oil | 5-40 bbls. |
| Burbank | 3100 | 50 | oil | 50-400 bbls. |
| Wilcox | | | | |

CHARACTER OF OIL: Gravity, 38-39.9° B.

CHARACTER OF GAS:

DATE OF OPENING: 1913.

REMARKS: The discovery well of the Mervine pool was the first well to be drilled on a structure mapped by the Oklahoma Geological Survey. The well was drilled in 1913 in sec. 2, T. 27 N., R. 3 E., and had an initial production of 100 barrels of oil per day. The discovery well was followed by a number of good wells which made from 500 to 1,000 barrels of oil from the "1,000 foot" sand zone.

MICAWBER

COUNTY: Okfuskee.
 LOCATION: T. 13 N., R. 8 E.
 SURFACE ELEVATION: 770 feet.
 SURFACE FORMATION: Pawhuska-Ochelata formations.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Local folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Wheeler | 2430 | 10 | oil | |
| Dutcher | 3470 | 50 | oil | |
| Wilcox | 4130 | 30 | | |
| Turkey Mt. | 4300 | 40 | | |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS:

DATE OF OPENING: 1926.

REMARKS:

MIDWEST

COUNTY: Okfuskee.
 LOCATION: T. 11 N., R. 10 E.
 SURFACE ELEVATION: 850 feet.
 SURFACE FORMATION: Holdenville formation.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Local folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|-------------|---------------------------------|
| Glenn (?) | 2000 | | | |
| Booch | 2620 | 50 | | |
| Deaner | 2960 | 70 | oil gas | 20 bbls. |
| Lyons | 3230 | 70 | oil gas | 1-12 M. cu. ft. 20-200 bbls. |
| Mississippi | 3585 | | | 10-32 M. cu. ft. |
| Chattanooga | 3790 | | | |
| Hunton | 3926 | | show of oil | |
| Sylvan | 4225 | | | |
| Viola | 4235 | | | |
| Wilcox | 4305 | | | |

CHARACTER OF OIL: Gravity -----
 CHARACTER OF GAS: Dry. Rock pressure 400-1,450 pounds.
 DATE OF OPENING: 1921.
 REMARKS:

MILROY

COUNTY: Stephens.
 LOCATION: T. 2 S., R. 4 W.
 SURFACE ELEVATION: 1,000-1,100 feet.
 SURFACE FORMATION: Clear Fork-Wichita formation.
 AGE OF SURFACE ROCKS: Permian.
 STRUCTURE: Elongated dome.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|---------|-----------|------------|--------------------|
| Permian | 340-370 | 10 | oil | 1.4 M. cu. ft. |
| Unconformity | 580 | 5 | oil | 20-40 bbls. |
| Pennsylvanian | 985 | 15 | gas | 4-25 bbls. |
| Glenn | 1060 | 25 | oil | 10-35 bbls. |

CHARACTER OF OIL: Gravity, 28-29.9° B.
 CHARACTER OF GAS:
 DATE OF OPENING: 1916.
 REMARKS: At present (October, 1926) there are about 70 producing oil wells in the Milroy pool, producing an average of about 15 barrels of oil per day. The greatest development in the pool took place from 1916 to 1920.

MISSION

COUNTY: Wagoner.
 LOCATION: T. 17 N., R. 15 E.
 SURFACE ELEVATION: 700-750 feet.
 SURFACE FORMATION: Stuart shale.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Fault and minor folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------------------|
| Bartlesville | 995 | 20 | | |
| Dutcher | 1290 | 30 | | |
| Mississippi | 1385 | 15 | | |
| Tyner | 1495 | 10 | oil gas | 30-300 bbls. 1.5 M. cu. ft. |
| Burgen | 1840 | 20 | oil | 15-150 bbls. |

CHARACTER OF OIL: Gravity, 39° B.
 CHARACTER OF GAS: Dry.
 DATE OF OPENING: 1914.

REMARKS: The first well in the Mission pool was drilled in sec. 12, T. 17 N., R. 15 E. The well flowed \$72,000.00 worth of oil before it was placed under control. The Mission Oil Company developed the area.

MORRIS

COUNTY: Okmulgee.
 LOCATION: T. 13 N., R. 14 E.
 SURFACE ELEVATION: 700-900 feet.
 SURFACE FORMATION: Stuart shale.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Anticlinal folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Stray | 450 | 25 | oil | 10 bbls. |
| Salt or Glenn | 700 | 150 | oil gas | |
| 1st Booch | 1200 | 20 | oil | 10-3000 bbls. |
| 2nd Booch | 1300 | 25 | oil | 10-200 bbls. |
| Morris | 1600 | 20 | oil | 20-300 bbls. |
| Glenn of Morris | 1725 | 25 | oil | 15-75 bbls. |
| Fields | 1800 | 10 | oil | 10-150 bbls. |
| Lyons-Quinn | 2000 | 25 | oil | 25-200 bbls. |
| Wilcox | 2450 | 45 | oil | 60-300 bbls. |
| Wilcox at Morris | 2580 | | gas | 20 M. cu. ft. |

CHARACTER OF OIL: Gravity, 35-36.9° B.
 CHARACTER OF GAS:
 DATE OF OPENING: 1906.

REMARKS: In 1906, a well was drilled on the Booch farm, sec. 20, T. 13 N., R. 14 E., to a sand which afterwards became famous for large producing wells. This well, however, had an initial production of only 10 barrels of oil per day and was never used commercially. Early in 1907, the Tulsa Fuel and Manufacturing Company drilled a well in sec. 20, T. 13 N., R. 14 E., to the "Morris" sand at a depth of 1,486 feet which had an initial production of 5,000 barrels of oil per day. It was this well which started intense activity in the Morris pool.

MORRISON or WATCHORN

COUNTY: Pawnee.
 LOCATION: T. 22-23 N., R. 3 E.
 SURFACE ELEVATION: 850 feet
 SURFACE FORMATION: Pennsylvanian and Permian formations.
 AGE OF SURFACE ROCKS: Pennsylvanian-Permian.
 STRUCTURE: Surface folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Tonkawa | 1960 | 40 | gas | 1-35 M. cu. ft. |
| Layton | 2690 | 30 | oil gas | 15-500 bbls. |
| Oswego | 3400 | 60 | oil show | |
| Mississippi | 3750 | 140 | oil | 10-150 bbls. |
| Wilcox | 4015 | 120 | oil | 50-850 bbls. |

CHARACTER OF OIL: Gravity, 36.5° B.

CHARACTER OF GAS: Dry. Rock pressure 320 to 850 pounds.

DATE OF OPENING: 1917.

REMARKS: This pool had been referred to as the "Morrison Gas field" until June, 1922, when Robert Watchorn drilled the first oil well in the area. The discovery well of the area was drilled in sec. 33, T. 23 N., R. 3 E., and completed December, 1915 for 11 million cubic feet of gas per day with a rock pressure of 840 pounds.

MOSE-CARR

See Bald Hill, page 13.

MOUNDS

COUNTY: Creek.

LOCATION: T. 16 N., R. 12 E.

SURFACE ELEVATION: 650-900 feet.

SURFACE FORMATION: Coffeyville formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Subsurface structural folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|----------------------------------|
| Oswego | 900 | 25 | gas | 1-2 M. cu. ft. |
| Red Fork | 1100 | 20 | oil | |
| Glenn | 1480 | 170 | oil gas | 20-300 bbls. 1-4 M. cu. ft. |
| Tucker | 1650 | 20 | oil | |
| Taneha | 1850 | 45 | oil | |
| Dutcher | 2050 | 55 | oil gas | 100-2000 bbls. 1-3 M. cu. ft. |
| Wilcox | 2400 | 30 | oil | 35-1000 bbls. |

CHARACTER OF OIL: Gravity, 33-34.9° B. Color: bright green.
Quality: paraffin.

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1915.

REMARKS: The well that started activity in the Mounds pool was drilled by Smith and Swan in sec. 20, T. 16 N., R. 12 E., with gas production at a depth of 2,100 feet. This well was in Okmulgee County but it supplied the town of Mounds in Creek County with gas for ten years.

MULDROW

See Sequoyah, page 146.

MUSKOGEE

See Jolly Patton, page 81

COUNTY: Muskogee.

LOCATION: T. 14 N., R. 18 E.

SURFACE ELEVATION: 550-800 feet.

SURFACE FORMATION: Winslow formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Folding and faulting.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Uncorrelated | 826 | 10 | gas | 3 M. cu. ft. |
| | 1052 | 20 | oil | 5-50 bbls. |
| | 1137 | 10 | oil | 10 bbls. |
| | 1260 | 30 | oil gas | 100-500 bbls. |
| Muskogee | 1400 | 20 | oil | 40-80 bbls. |
| Uncorrelated | 1600 | 15 | oil | 25-120 bbls. |
| | 1790 | 15 | oil | 1-20 bbls. |
| Wilcox | 2040 | 16 | | |

CHARACTER OF OIL: Gravity, 38.9-39° B. Color, light.

CHARACTER OF GAS:

DATE OF OPENING: 1904. Jolly Patton, 1920.

REMARKS: The first development of the Muskogee pool was begun as early as 1894 in the townsite of Muskogee by the Cudahy Oil Company. A small production of light oil resulted, but the opening of the pool was not until 1904, due to the difficulty of securing lawful land titles.

MYERS DOME

COUNTY: Osage.

LOCATION: T. 26 N., R. 8 E.

SURFACE ELEVATION: 900-1,000 feet.

SURFACE FORMATION: Pawhuska formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Myers dome, Bench Mark anticline.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Tonkawa | 920 | | | |
| Swaggart | 985 | 15 | gas | 1-5 M. cu. ft. |
| Layton | 1400 | 10 | gas | 3-10 M. cu. ft. |
| Oswego | 2100 | 100 | | |
| Burgess | 2400 | 40 | oil | 4-150 bbls. |
| Wilcox | 2700 | | | |

CHARACTER OF OIL: Gravity, 34° B.

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1916.

REMARKS: The first gas well of the Myers Dome pool was drilled by the American Pipe Line Company, October, 1916 to a depth of 548 feet. The well had an initial open flow of over 3 million cubic feet of gas per day. The first oil well of the pool was drilled by the Minnehoma Oil and Gas Company, sec. 14, T. 26 N., R. 8 E., to a depth of 2,298 feet with an initial production of 50 barrels of oil per day.

This pool at present has only 9 producing oil wells and 2 gas wells. Leases sold in this area amounted to as much as \$140,000.00 per quarter section.

NATURA

COUNTY: Okmulgee.

LOCATION: T. 15 N., R. 13 E.

SURFACE ELEVATION: 600-750 feet.

SURFACE FORMATION: Wewoka formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Anticlinal folds.

| PRODUCING | | INITIAL | | |
|-------------|---------|-----------|------------|-----------------|
| HORIZONS | DEPTH | THICKNESS | PRODUCTION | PRODUCTION |
| Salt | 1300(?) | 40 | gas | 1-4 M. cu. ft. |
| Booeh | 1550 | 22 | gas | 1-60 M. cu. ft. |
| Glenn of | | | | |
| Morris | 1730 | 10 | oil | 10-60 bbls. |
| Dutcher | 2050 | 20 | | 1-8 M. cu. ft. |
| Mississippi | 2170 | 20 | gas | 1-2 M. cu. ft. |
| Chattanooga | 2465 | 20 | | |
| Viola | 2661 | 30 | | |
| Wileox | 2755 | 10 | oil | 60-150 bbls. |

CHARACTER OF OIL: Gravity, 37.9° B. Color, green.

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1914.

REMARKS: The Natura pool was known first as a gas producing area as all the upper horizons carried gas. The Kingwood Oil Company drilled the first gas well of commercial production in sec. 22, T. 15 N., R. 13 E.

NELAGONEY

COUNTY: Osage.

LOCATION: T. 25 N., R. 10 E.

SURFACE ELEVATION: 750-1,000 feet.

SURFACE FORMATION: Nelagoney formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Nelagoney anticline, small faults.

| PRODUCING | | INITIAL | | |
|--------------|-------|-----------|------------|----------------|
| HORIZONS | DEPTH | THICKNESS | PRODUCTION | PRODUCTION |
| Skinner | 1200 | 20 | gas | 1-5 M. cu. ft. |
| Bartlesville | 1400 | 60 | oil | 15-300 bbls. |
| Siliceous | 2350 | | gas | 50 M. cu. ft. |

CHARACTER OF OIL: Gravity, 33° B.

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1917.

REMARKS: The Nelagoney pool has been a disappointment to the oil fraternity for little oil has been encountered. Recent deep drilling has opened some fine gas wells. The Phillips Petroleum Company produced 50 million cubic feet of gas in one well, from the Siliceous lime found at a depth of 2,350 feet in sec. 10, T. 25 N., R. 10 E.

NELLIE

COUNTY: Stephens.

LOCATION: T. 2 N., R. 9 W.

SURFACE ELEVATION: 1,050-1,200 feet.

SURFACE FORMATION: Clear Fork-Wichita formations.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Minor folds.

| PRODUCING | | INITIAL | | |
|----------------|-------|-----------|------------|-----------------|
| HORIZONS | DEPTH | THICKNESS | PRODUCTION | PRODUCTION |
| Post-Glenn | 1840 | | gas | 5-15 M. cu. ft. |
| Arkosic gravel | 4550 | | | |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS:

DATE OF OPENING: 1925.

REMARKS: Late in 1925, the Nellie gas pool was discovered by the completion of a well in sec. 26, T. 2 N., R. 9 W., with an initial production of 5 million cubic feet of gas per day and another well in sec. 36, for 15 million cubic feet of gas per day. The depth of each well was 1,840 feet, which is thought to be the post-Glenn of the Pontotoc group.

NEW CUSHING

COUNTY: Payne.

LOCATION: T. 18 N., R. 5 E.

SURFACE ELEVATION: 600-1,100 feet.

SURFACE FORMATION: Cushing limestone.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Subsurface folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Layton | 2000 | 20 | oil | |
| Cleveland | 2400 | 30 | oil | |
| Oswego | 3000 | 10 | oil gas | 1-10 M. cu. ft. |
| Skinner | 3300 | 20 | oil | |
| Bartlesville | 3400 | 20 | oil | |
| Tucker | 3500 | 15 | oil | 100-600 bbls. |
| Wilcox | 3900 | 15 | oil | |

CHARACTER OF OIL: Gravity, 37.9-45° B.

CHARACTER OF GAS:

DATE OF OPENING: 1922.

REMARKS: The New Cushing pool is located in the Cushing township, sec. 33, T. 18 N., R. 5 E. It was established as a pool in January, 1922.

NEWKIRK

COUNTY: Kay.

LOCATION: T. 28 N., R. 3 E.

SURFACE ELEVATION: 1,195 feet.

SURFACE FORMATION: Pennsylvanian-Permian formations.

AGE OF SURFACE ROCKS: Pennsylvanian-Permian.

STRUCTURE: Newkirk anticline.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Neva | 500 | 10 | gas | 1.5 M. cu. ft. |
| Oswego | 3000 | | | |
| Burbank | 3250 | 20-40 | gas | 28 M. cu. ft. |
| Miss. Lime | 3350 | 30-40 | oil | 50-200 bbls. |
| Granite | 4800 | | | |

CHARACTER OF OIL: Gravity, 40.3° B.

CHARACTER OF GAS:

DATE OF OPENING: 1916.

REMARKS: Late in 1916 the Marland Refining Company opened the Newkirk field in sec. 17, T. 28 N., R. 3 E., with a well for 2 million cubic feet of gas per day. The gas from this well was used to supply the towns of Newkirk, Kildare, Tonkawa and Ponca City for about three years. In July, 1919, Marland completed a well in the Mississippi limestone for 200 barrels of oil per day. This led to the development of the field.

NEWMAN

COUNTY: Hughes.

LOCATION: T. 8 N., R. 12 E.

SURFACE ELEVATION: 810 feet.

SURFACE FORMATION: Stuart shale and Senora formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Folds and faults.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Deaner | 3369 | 9 | gas | ½-1 M. cu. ft. |
| Lyons | 3710 | | oil | 10-50 bbls. |

CHARACTER OF OIL: Gravity, 38° B. Quality: paraffin.

CHARACTER OF GAS:

DATE OF OPENING: 1923.

REMARKS: The famous "vaseline well" of W. C. Newman and associates in sec. 31, T. 8 N., R. 12 E., produced a minimum of 10 to 12 barrels of oil per day until cleaning when the production rose rapidly to 50 to 60 barrels of oil daily. There has been a market for this oil which has been produced for several years.

NEW YORK

COUNTY: Creek.

LOCATION: T. 16 N., R. 11 E.

SURFACE ELEVATION: 700-850 feet.

SURFACE FORMATION: Nellie Bly formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Local anticlinal folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Glenn | 1850 | 150 | oil | 10-100 bbls. |
| Dutcher | 2200 | 300 | oil | 20-200 bbls. |
| Wilcox | 2850 | 50 | oil | |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS:

DATE OF OPENING: 1915.

REMARKS: The New York pool, located in sec. 5, T. 16 N., R. 11 E., was discovered by the New York Oil Company early in 1915.

NORTH BALTIMORE

COUNTY: Okfuskee.

LOCATION: T. 12 N., R. 11 E.

SURFACE ELEVATION: 750-950 feet.

SURFACE FORMATION: Wewoka formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Subsurface folds and faults.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Booch | 2402 | 20 | gas | 1-6 M. cu. ft. |
| Deaner | 2470 | 40 | oil gas | 50-300 bbls. |
| | | | | 4-11 M. cu. ft. |

(Table continued on next page)

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Lyons | 2610 | 20 | oil | 10-300 bbls. |
| Hunton | 3395 | 30 | oil | 50-600 bbls. |
| Sylvan | 3425 | 10 | | |
| Viola | 3435 | | | |
| Wileox | 3480 | | | |

CHARACTER OF OIL: Gravity, 37-38.9° B.

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1920.

REMARKS: The North Baltimore pool was discovered December, 1920 by the North Baltimore Oil and Gas Association. The well in sec. 13, T. 12 N., R. 11 E., was drilled through several good gas shows and at a depth of 2,740 feet there was a show of oil but water filled the hole. In May, 1922 the Anglo-Texas Oil Company and the North Baltimore Oil and Gas Association drilled another well in sec. 13 to a depth of 2,692 feet with an initial production of 200 barrels of oil per day. This well started the development in the eastern part of Okfuskee county.

NORTH CLAREMORE

See Claremore, page 35.

NORTH BILLINGS

See Billings, page 18.

NORTH BRAMAN

See Braman, page 24.

NORTH DUNCAN

See Duncan, page 53.

NORTH PONCA CITY

See Ponca City, page 125.

NOWATA-CLAGGETT

COUNTY: Nowata.

LOCATION: T. 25-26 N., R. 16 E.

SURFACE ELEVATION: 700-900 feet.

SURFACE FORMATION: Lenapah limestone.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Subsurface folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|--------|-----------|------------|--------------------|
| Big Lime | 300(?) | 20 | oil | 1-10 bbls. |
| Oswego | 600(?) | 30 | oil | 20-180 bbls. |
| Bartlesville | 950 | 30 | oil | 20-180 bbls. |
| Burgess | 1350 | 20 | oil | 10-50 bbls. |

CHARACTER OF OIL: Gravity, 30-31.9° B.

CHARACTER OF GAS:

DATE OF OPENING: 1908.

REMARKS: Dry holes completely define the limits of production in the Nowata-Claggett pool and commercial production is being revived in the area by use of the air pump on old wells.

OAK GROVE

COUNTY: Wagoner.

LOCATION: T. 19 N., R. 15 E.

SURFACE ELEVATION: 700-800 feet.

SURFACE FORMATION: Cherokee formations.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Monocline, small dome, and lensing sands.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Pitkin | 785 | 30 | oil | 20-200 bbls. |
| Chattanooga | 900 | 15 | gas | 1 M. cu. ft. |
| Tyner | 1000 | 20 | gas | 1-6 M. cu. ft. |
| Burgen | 1190 | 4 | oil | |

CHARACTER OF OIL: Gravity, 36-39.5° B.

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1920.

REMARKS: The future production of oil and gas in Wagoner county will depend largely upon the exploration of sands in the Tyner and Burgen horizons. The Oak Grove pool is a typical area of Tyner sand production. The structure does not appear on the surface but there is complete closure on the Burgen sand forming the dome.

OAKHURST

See Sunray, page 154.

OCHELATA

COUNTY: Washington.

LOCATION: T. 25 N., R. 13 E.

SURFACE ELEVATION: 700-850 feet.

SURFACE FORMATION: Oologah formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Local folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Big Lime | 542 | | | |
| Prue | 690 | 20 | oil | 20-40 bbls. |
| Oswego | 730 | 30 | gas | 1 M. cu. ft. |
| Squirrel | 1090 | 10 | gas | |

(Table continued on next page)

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Bartlesville | 1185 | 20 | oil | 15-60 bbls. |
| Mississippi | 1380 | 10 | gas | 1.3 M. cu. ft. |
| Siliceous | 1750 | 6 | | |

CHARACTER OF OIL: Gravity, 32° B.

CHARACTER OF GAS:

DATE OF OPENING: 1910.

REMARKS: The Ochelata pool is one of the extensions of the Dewey-Bartlesville pool and extends several miles into Osage county. However, there are distinct breaks which separate it from the Bartlesville development.

OGLESBY

COUNTY: Washington.

LOCATION: T. 24-25 N., R. 14 E.

SURFACE ELEVATION: 700-800 feet.

SURFACE FORMATION: Coffeyville formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Minor folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|-------------------------------|
| Big Lime | 395 | 25 | | |
| Oswego | 640 | 80 | | |
| Bartlesville | 985 | 15 | oil gas | 25-50 bbls. 1.2 M. cu. ft. |
| Burgess | 1125 | 10 | gas | 1.6 M. cu. ft. |

CHARACTER OF OIL: 32-33° B.

CHARACTER OF GAS:

DATE OF OPENING: 1919.

REMARKS: The Oglesby pool is an extension to the Hogshooter gas pool.

OILTON

COUNTY: Creek.

LOCATION: T. 19 N., R. 7 E.

SURFACE ELEVATION: 950-1,050 feet.

SURFACE FORMATION: Pawhuska formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Dropped dome, Wheeler saddle.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Musselman | 700 | 25 | | |
| Layton | 1480 | 20 | oil | 10-25 bbls. |
| Jones | 1730 | 25 | gas | 1.2 M. cu. ft. |
| Cleveland | 1920 | 40 | gas | 1 M. cu. ft. |

(Table continued on next page)

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|-------------------------------|
| Wheeler | 2250 | 70 | oil gas | 10-50 bbls. 1 M. cu. ft. |
| Squirrel | 2375 | 30 | gas | |
| Skinner | 2620 | 20 | gas | |
| Bartlesville | 2700 | 90 | oil gas | 50-5000 bbls. 1 M. cu. ft. |
| Tyner | 2830 | 15 | oil | 10-75 bbls. |
| Wilcox | 2960 | 30 | | |
| Siliceous | | | | |

CHARACTER OF OIL: Gravity, 37° B.

CHARACTER OF GAS:

DATE OF OPENING: 1914.

REMARKS: During the time of development in the Cushing District only two wells were drilled in the Oilton pool both in sec. 32, T. 19 N., R. 7 E., and only one had production. It was drilled by the McMan Oil Company to the Bartlesville sand 2,599 feet in depth, with an initial production of 150 barrels of oil per day.

OKAY

COUNTY: Wagoner.

LOCATION: T. 16 N., R. 19 E.

SURFACE ELEVATION: 500-750 feet.

SURFACE FORMATION: Winslow formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Surface, two domes.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Dutcher | 550 | 60 | oil | 1-10 bbls. |
| Tyner | 820 | 170 | | |
| Burgen | 1070 | 10 | | |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS:

DATE OF OPENING: 1919.

REMARKS: The Okay pool was developed on the Maney Brothers Ranch. Three wells producing a small amount of high grade lubricating oil established the pool.

OKEMAH

COUNTY: Okfuskee.

LOCATION: T. 11 N., R. 10-11 E.

SURFACE ELEVATION: 750-900 feet.

SURFACE FORMATION: Holdenville formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Subsurface anticline.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|-------------|--------------------|
| Glenn | 2380 | 40 | | |
| Boech | 2620 | 50 | gas | 3-6 M. cu. ft. |
| Deaner | 2970 | 70 | oil | 100-400 bbls. |
| Lyons | 3230 | 70 | | |
| Wilcox | 3600 | 25 | Show of gas | |

CHARACTER OF OIL: Gravity, 38-39.9° B.

CHARACTER OF GAS:

DATE OF OPENING: 1921.

REMARKS:

OKESA

COUNTY: Osage.

LOCATION: T. 26 N., R. 11 E.

SURFACE ELEVATION: 700-950 feet.

SURFACE FORMATION: Oologah formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Okesa dome, anticlines and faults.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Big Lime | 910 | 30 | | |
| Peru | 1095 | 75 | oil | |
| Oswego | 1270 | 80 | | |
| Bartlesville | 1527 | 17 | oil | 20-600 bbls. |
| Mississippi | 1646 | 20 | gas | 2-4 M. cu. ft. |
| Siliceous | 1900 | | | |

CHARACTER OF OIL: Gravity, 33° B. Casing-head gas with oil.

CHARACTER OF GAS: Dry and wet.

DATE OF OPENING: 1904.

REMARKS: The first well of the Okesa pool was completed by the Workman Oil and Gas Company June, 1904 in sec. 16, T. 26 N., R. 11 E. The initial production was 25 barrels of oil per day. This well is still producing one-half barrel of oil per day.

The pool was drilled extensively in 1920. Approximately 50 wells were completed with an initial production ranging from 10 to 600 barrels of oil per day. About 30 of these wells are still producing.

Most of this area was developed before the inauguration of the lease sales, but recent leases have sold as high as \$13,200.00 per quarter section.

OKFUSKEE

COUNTY: Okfuskee.

LOCATION: T. 13 N., R. 10 E.

SURFACE ELEVATION: 700-900 feet.

SURFACE FORMATION: Coffeyville formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Noses.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Glenn | 2000 | 175 | gas | 1-3 M. cu. ft. |
| Dutcher | 2660 | 50 | oil | 50-300 bbls. |
| Wilcox | 3360 | | | |

CHARACTER OF OIL: Gravity, 34-39.4° B.

CHARACTER OF GAS:

DATE OF OPENING: 1917.

REMARKS: Development in the Okfuskee area followed the discovery of production in the Youngstown and other adjacent Okmulgee County pools.

OKLAHOMA-CENTRAL Dix

COUNTY: Okmulgee.

LOCATION: T. 15 N., R. 11 E.

SURFACE ELEVATION: 800-900 feet.

SURFACE FORMATION: Coffeyville formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Subsurface dome and fault.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Oswego | 1255 | 10 | | |
| Glenn | 1800 | 12 | oil | 30-250 bbls. |
| Taneha | 2091 | 15 | oil gas | 10-100 bbls. |
| | | | | 5-20 M. cu. ft. |
| Dutcher | 2500 | 35 | oil | 300-1000 bbls. |
| Mississippi | 2700 | 180 | | |
| Wilcox | 3010 | 12 | oil | 115-650 bbls. |

CHARACTER OF OIL: Gravity, 37.9° B.

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1920.

REMARKS: The Wilcox sand production of the Oklahoma-Central pool was discovered in a well drilled in sec. 22, T. 15 N., R. 11 E., during 1921.

OKLAHOMA CITY

COUNTY: Oklahoma.

LOCATION: T. 12 N., R. 3 W.

SURFACE ELEVATION: 1,150-1,200 feet.

SURFACE FORMATION: Lower Enid formation.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Monocline.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Hoover | 4384 | 20 | oil | 40 bbls. † |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS:

DATE OF OPENING: August, 1926.

REMARKS: The Oklahoma City well was drilled by Joe I. Cromwell and others, almost outside the north door of the State Capitol, in section 13, T. 12 N., R. 3 W. A limited amount of oil rose in the hole which seemed to indicate about a 40 barrel well. At least the presence of an oil-bearing sand has been established for this part of Oklahoma.

OKMULGEE
Lucky Pool
1,000 Acre Lake

COUNTY: Okmulgee.

LOCATION: T. 13 N., R. 12-13 E.

SURFACE ELEVATION: 600-900 feet.

SURFACE FORMATION: Wewoka formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Terrace-noses.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-----------|-----------|------------|--------------------|
| Elgin | 1000 | 50 | | |
| Bartlesville | 1240 | 75 | oil gas | 25 bbls. |
| Glenn | 1500-1600 | | | |
| Tucker | 1870 | 10 | | |
| Booch | 2000 | 10 | oil gas | 25 bbls. |
| | | | | 2-9 M. cu. ft. |
| Dutcher | 2400 | 35 | oil gas | 15-300 bbls. |
| | | | | 1-5 M. cu. ft. |
| Mississippi | 2550 | | | |
| Wilcox | 2750 | 100 | gas | 1-3 M. cu. ft. |

CHARACTER OF OIL: Gravity, 38-39.9° B. Color, dark green.

CHARACTER OF GAS:

DATE OF OPENING: 1906.

REMARKS: On April 21, 1904, Congress passed an act in which "All restrictions upon alienation of the lands of all allottees of either of the Five Civilized Tribes, who are not of Indian blood, except minors, are, except as to homesteads, hereby removed." This opened the way for extensive leasing of Indian lands in Okmulgee county and development began to increase rapidly.

OLEAN

COUNTY: Okmulgee.

LOCATION: T. 15 N., R. 12 E.

SURFACE ELEVATION: 850-950 feet.

SURFACE FORMATION: Wewoka formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Subsurface dome.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Glenn | 1545 | 60 | | |
| Taneha | 1860 | 50 | gas | 5-11 M. cu. ft. |
| Dutcher | 2075 | 25 | oil gas | 20-100 bbls. |
| | | | | 1-5 M. cu. ft. |
| Wilcox | 2660 | 70 | oil | 15-150 bbls. |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS: Dry. Rock pressure 415 pounds.

DATE OF OPENING: 1920.

REMARKS: In January, 1920 the Oklahoma Natural Gas Company completed a well in sec. 11, T. 15 N., R. 12 E., for 1,300,000 cubic feet of gas. This was one of the first wells drilled in the Olean pool. In 1925 the Olean Petroleum Company started a deep-drilling program in this area and a number of excellent producers have been completed as a result.

OLIVE

COUNTY: Creek.

LOCATION: T. 18 N., R. 7 E.

SURFACE ELEVATION: 900-1,000 feet.

SURFACE FORMATION: Pawhuska formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Anticline and fault.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Layton | 1300 | 15 | oil | 10-50 bbls. |
| Cleveland | 1795 | 75 | | |
| Wheeler | 2140 | 50 | gas | 1-5 M. cu. ft. |
| Peru | 2175 | 13 | | |
| Skinner | 2330 | 30 | oil gas | 3-100 bbls. |
| | | | | 2-10 M. cu. ft. |
| Bartlesville | 2560 | 70 | oil | 50-6000 bbls. |
| Tucker | 2730 | 110 | oil | 10-75 bbls. |
| Dutcher | 3120 | 10 | oil | 50-300 bbls. |
| Burgess | 3200 | 10 | oil | 25-100 bbls. |
| Wilcox | 3480 | | | |

CHARACTER OF OIL: Gravity, 34-37.9° B.

CHARACTER OF GAS:

DATE OF OPENING: 1914.

REMARKS: During the development of the Cushing district the Olive pool was a small producer and not until ten years later did it have a large initial production per well.

ONAPA

COUNTY: McIntosh.
 LOCATION: T. 11 N., R. 17 E.
 SURFACE ELEVATION: 600-750 feet.
 SURFACE FORMATION: Boggy shale.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Minor folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Uncorrelated | 802 | 20 | gas | 1-5 M. cu. ft. |
| | 1830 | 10 | gas | 3-5 M. cu. ft. |
| Mississippi | 2950 | 40 | | |
| Wilcox | 3075 | 25 | | |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS:

DATE OF OPENING: 1912.

REMARKS: A considerable amount of gas has been found in McIntosh County but few pools have been developed. The Onapa pool was opened by the Gladys-Belle Oil Company in the southwest corner of T. 11 N., R. 17 E., where several wells were drilled with the hope of obtaining oil.

ONETA

COUNTY: Wagoner.
 LOCATION: T. 18 N., R. 15 E.
 SURFACE ELEVATION: 650-800 feet.
 SURFACE FORMATION: Cherokee formation.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Four small domes on a large anticline.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-----------|-----------|------------|--------------------|
| Dutcher | 1000-1200 | | oil | 10-1300 bbls. |
| Mississippi | 1200-1300 | | | |
| Tyner | 1700 | | | |

CHARACTER OF OIL: 32-38° B.

CHARACTER OF GAS:

DATE OF OPENING: 1916.

REMARKS: The first record of a well completed in the Oneta pool was one drilled by the M. B. S. Oil Company in November, 1916. The well was located in sec. 32, T. 18 N., R. 15 E., and had an initial production of 300 barrels of oil per day.

1,000 ACRE LAKE

See Okmulgee, page 112.

OOLOGAH

COUNTY: Rogers.
 LOCATION: T. 22 N., R. 15 E.
 SURFACE ELEVATION: 600-750 feet.
 SURFACE FORMATION: Nowata shale.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Monocline with reverse dips eastward.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Oswego | 700 | 20 | gas | 1-2 M. cu. ft. |
| Bartlesville | 910 | 70 | | |
| Burgess | 1250 | 5 | | |
| Mississippi | 1355 | 45 | gas | 1-3 M. cu. ft. |
| Siliceous | 1600 | 20 | | |

CHARACTER OF OIL: Gravity, 32° B.

CHARACTER OF GAS:

DATE OF OPENING: 1906.

REMARKS: The Oologah pool is named from a formation which outcrops in the northwestern corner of Rogers County.

OSAGE CITY

COUNTY: Osage.
 LOCATION: T. 21 N., R. 8-9 E.
 SURFACE ELEVATION: 725 feet.
 SURFACE FORMATION: Nelagoney formation.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Anticlinal folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|-------------|-------------------------------|
| Layton | 1280 | 20 | | |
| Cleveland | 1620 | 25 | oil | 10-100 bbls. |
| Oswego | 1875 | 35 | | |
| Prue | 1925 | 20 | | |
| Skinner | 2030 | 20 | | |
| Bartlesville | 2250 | 30 | oil gas | 20-75 bbls. 1-3 M. cu. ft. |
| Mississippi | 2431 | 30 | show of oil | |

CHARACTER OF OIL: Gravity, 34° B.

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1911.

REMARKS: The first oil well was drilled in the Osage City pool by the Barnsdall Oil Company, November, 1904, in sec. 20, T. 21 N., R. 9 E. The well was drilled to a depth of 1,075 feet with an initial production of only 5 barrels of oil per day. The second well of the pool was drilled by the same company in November, 1905 for an initial production of 20 barrels of oil per day.

The greatest development of the pool started in December, 1910 when the Finance Oil Company and Foster and Davis completed a well in sec. 19, T. 21 N., R. 9 E., to a depth of 2,314 feet with an initial production of 4,000 barrels of oil per day. Approximately 450 wells have been drilled in the Osage City pool since 1910 and most of them are still producing.

Although most of this area was developed under the blanket lease, recent leases have sold for as high as \$65,000.00 per quarter section.

OSCAR or HAMBRO

COUNTY: Jefferson.

LOCATION: T. 6 S., R. 5 W.

SURFACE ELEVATION: 750-850 feet.

SURFACE FORMATION: Wichita-Clear Fork (Cisco?) formations.

AGE OF SURFACE ROCKS: Permian or late Pennsylvanian.

STRUCTURE: Anticlinal axis.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Glenn | 1180 | 18 | oil | 10-200 bbls. |
| | 1270 | 20 | oil | 25-220 bbls. |
| | 1320 | 35 | oil | 150-600 bbls. |
| | 1430 | 30 | oil | 200-2000 bbls. |
| | 1500 | 30 | oil | 30-500 bbls. |
| | 1610 | 15 | oil | 10-60 bbls. |

CHARACTER OF OIL: Gravity, 34-35.9° B.

CHARACTER OF GAS:

DATE OF OPENING: 1925.

REMARKS: This pool, one mile north and half a mile east of Oscar, was opened by the owners of the Hamilton-Brown Shoe Company, hence the name Ham-Bro., from the owners, or Oscar from the town.

OTSTOT

COUNTY: Kay.

LOCATION: T. 27 N., R. 1 W.

SURFACE ELEVATION: 1,000-1,075 feet.

AGE OF SURFACE ROCKS: Quaternary.

STRUCTURE: Anticlinal folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|----------------------------------|
| Hotson | 880 | 20 | gas | 1-4 M. cu. ft. |
| Newkirk | 1450 | 10 | gas | 1-5 M. cu. ft. |
| Stajmaker | 2350 | 40 | oil gas | 10-100 bbls. 10-40 M. cu. ft. |
| Wilcox | 3425 | 40 | oil gas | 50-800 bbls. 10-45 M. cu. ft. |
| Siliceous | 3640 | 5 | oil | |

CHARACTER OF OIL: Gravity, 37-40° B.

CHARACTER OF GAS:

DATE OF OPENING: 1920.

REMARKS: The defined producing area of the Otstot pool is about 4 miles in extent, (March 1927). The wells on the highest part of the structure produce large quantities of gas; the oil wells produce from the same horizons but principally on the northern part of the structure. There were 66 producing wells in the pool June, 1927.

OWASSO

COUNTY: Tulsa.

LOCATION: T. 21 N., R. 13-14 E.

SURFACE ELEVATION: 650-800 feet.

SURFACE FORMATION: Coffeyville formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Local folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|------------------------------|
| Oswego | 590 | 10 | gas | |
| Red Fork | 950 | 50 | | 5-10 M. cu. ft. |
| Bartlesville | 1170 | 30 | oil gas | 10-175 bbls. 3 M. cu. ft. |
| Taneha | 1285 | 15 | | |
| Burgess | 1360 | 40 | oil | 10-30 bbls. |
| Tyner | 1720 | 20 | gas | 2-6 M. cu. ft. |
| Siliceous | | | | |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS:

DATE OF OPENING: 1913.

REMARKS: The Owasso pool is a part of the Collinsville area. It is chiefly a gas pool and the gas is utilized by the smelters at Collinsville.

PADEN

COUNTY: Okfuskee.

LOCATION: T. 12 N., R. 7 E.

SURFACE ELEVATION: 750-900 feet.

SURFACE FORMATION: Vamoosa formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Terraces and faults.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Prue | 2790 | 10 | oil | 10-60 bbls. |
| Bartlesville | 2890 | 200 | oil | 90-150 bbls. |
| Dutcher | 3796 | 10 | oil | 10-25 bbls. |
| Mississippi | 4010 | 20 | | |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS:

DATE OF OPENING: 1914.

REMARKS: The first important well of the Paden pool was drilled by the Prairie Oil and Gas Company in sec. 8, T. 12 N., R. 7 E. This well was drilled to a depth of 2,900 feet with an initial production of 25 barrels per day and 7 million cubic feet of gas. Recent drilling in this pool has resulted in more production at greater depths.

PAPOOSE

COUNTY: Okfuskee—Hughes.

LOCATION: T. 9-10 N., R. 9 E.

SURFACE ELEVATION: 750-850 feet.

SURFACE FORMATION: Seminole-Holdenville formations.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Terraces, subsurface domes and anticlines.

| PRODUCING | | | | INITIAL |
|-----------|-------|-----------|-------------|------------------------------------|
| HORIZONS | DEPTH | THICKNESS | PRODUCTION | PRODUCTION |
| Gilcrease | 3070 | 20 | oil gas | 30-100 bbls. 35 M. cu. ft. |
| Papoose | 3350 | 55 | oil gas | 25-3600 bbls. 10-100 M. cu. ft. |
| Hunton | 3865 | 10 | show of gas | |
| Viola | 4030 | 20 | | |
| Wileox | 4130 | 20 | | |

CHARACTER OF OIL: Gravity, 38-39.9° B.

CHARACTER OF GAS:

DATE OF OPENING: 1923.

REMARKS: The Papoose Oil Company discovered the Papoose pool in the latter part of 1923. The first wells were drilled in sections 4 and 9, T. 9 N., R. 9 E., and by the end of 1923 there were approximately 100 producing wells in the field with a daily production of 29,000 barrels of oil.

PAWHUSKA

COUNTY: Osage.

LOCATION: T. 25-26 N., R. 9-10 E.

SURFACE ELEVATION: 850-1,000 feet.

SURFACE FORMATION: Elgin sandstone and Nelagoney formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Anticlinal folds and faults.

| PRODUCING | | | | INITIAL |
|--------------|-------|-----------|------------|----------------------------------|
| HORIZONS | DEPTH | THICKNESS | PRODUCTION | PRODUCTION |
| Layton | 1245 | 10 | | |
| Oswego | 1670 | 30 | | |
| Bartlesville | 2085 | 60 | oil gas | 60-100 bbls. 10-50 M. cu. ft. |

(Table continued on next page)

| PRODUCING | | | | INITIAL |
|------------------|-------|-----------|------------|---------------------------------|
| HORIZONS | DEPTH | THICKNESS | PRODUCTION | PRODUCTION |
| Burgess | 2125 | 25 | oil gas | 10-50 bbls. 25 M. cu. ft. |
| Burgen-Siliceous | 2880 | 26 | oil gas | 100-600 bbls. 1-8 M. cu. ft. |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS:

DATE OF OPENING: 1919.

REMARKS: The first well of the Pawhuska pool was drilled by the New England Oil and Pipe Line Company, October, 1919, to a depth of 2,292 feet for an initial production of 150 barrels of oil per day.

Recent drilling in the area tends to connect the Pawhuska pool with the Pershing pool. Several extensions have discovered small domes and producing sands so that the pool is a mass of small producing areas.

Leases have sold in the region as high as \$33,000.00 and the Marland Oil and Refining Company paid \$620,000.00 for a lease in the northwest of sec. 34, T. 25 N., R. 9 E., which was the highest price ever paid for an 160 acre lease at that time.

PEARSONIA

COUNTY: Osage.

LOCATION: T. 27 N., R. 8 E.

SURFACE ELEVATION: 900-1,050 feet.

SURFACE FORMATION: Buck Creek formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Dome and anticlinal folds.

| PRODUCING | | | | INITIAL |
|-----------|-------|-----------|------------|---------------|
| HORIZONS | DEPTH | THICKNESS | PRODUCTION | PRODUCTION |
| Stray | 800 | 20 | gas | 2 M. cu. ft. |
| Stray | 1000 | 15 | gas | 1 M. cu. ft. |
| Layton | 1400 | 10 | gas | 12 M. cu. ft. |
| Oswego | 2100 | 100 | oil gas | 10 M. cu. ft. |
| Miss Lime | 2410 | 40 | oil | 20-2200 bbls. |

CHARACTER OF OIL: Gravity, 33° B.

CHARACTER OF GAS:

DATE OF OPENING: 1919.

REMARKS: A small oil and gas pool is located northwest of Pearsonia. The first well drilled in the Pearsonia pool was completed in December, 1916 by the American Pipe Line Company for 5¼ million cubic feet of gas at a depth of 873 feet. The first oil well was drilled by the same company, August, 1919. This well was drilled to the Burgess sand at a depth of 2,459 feet with an initial production of 400 barrels of oil per day.

There were about 15 oil wells drilled in the pool. Prices for leases in the area range from \$18,000 to \$45,000 per quarter section.

PEARSON SWITCH

COUNTY: Pottawatomie.
LOCATION: T. 7 N., R. 4 E.
SURFACE ELEVATION: 1,000-1,060 feet.
SURFACE FORMATION: Pontotoc group.
AGE OF SURFACE ROCKS: Pennsylvanian.
STRUCTURE: Probable fault.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Boggy | 3640 | | | |
| Hunton | 3757 | 30 | oil | 200-1000 bbls. |

CHARACTER OF OIL: Gravity, 36° B.

CHARACTER OF GAS:

DATE OF OPENING: 1927.

REMARKS: One of the most important wildcat wells of 1927 was drilled by the Wrightsman Petroleum Company near Pearson Switch in February. The well, located in sec. 19, T. 7 N., R. 4 E., is estimated at 100 barrels of oil per day. In April, 1927 the same company drilled the second well in sec. 30, T. 7 N., R. 4 E., which is estimated at 3,000 barrels of oil per day. There is now pipe line capacity of about 50,000 barrels of oil daily for this field.

PEMETA

COUNTY: Creek.
LOCATION: T. 18 N., R. 7 E.
SURFACE ELEVATION: 900-1,050 feet.
SURFACE FORMATION: Pawhuska formation.
AGE OF SURFACE ROCKS: Pennsylvanian.
STRUCTURE: Dropright dome.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Lavton | 1300 | 15 | | |
| Cleveland | 1795 | 75 | | |
| Wheeler | 2140 | 50 | gas | 1-15 M. cu. ft. |
| Peru | 2175 | 13 | | |
| Skinner | 2330 | 30 | oil gas | 3-100 bbls. |
| Bartlesville | 2560 | 70 | oil | 50-8000 bbls. |
| Tucker | 2730 | 110 | oil | 10-200 bbls. |
| Dutcher | 3120 | 10 | oil | 50-300 bbls. |
| Burgess | 3200 | 15 | oil | 25-200 bbls. |
| Wilcox | 3480 | | | |

CHARACTER OF OIL: Gravity, 40-41° B.

CHARACTER OF GAS:

DATE OF OPENING: 1914.

REMARKS: The Dropright dome of the Pemeta pool was an area of remarkable activity. It is an elongated dome about 5 miles in length extending from the Cimarron River on the north, southwestward to sec. 17, T. 18 N., R. 7 E.

PERRY

COUNTY: Noble.
LOCATION: T. 21 N., R. 1 W.
SURFACE ELEVATION: 1,150 feet.
SURFACE FORMATION: Pennsylvanian-Permian formations.
AGE OF SURFACE ROCKS: Pennsylvanian and Permian.
STRUCTURE: Nose.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Vann | 1587 | 8 | gas | 1-2 M. cu. ft. |
| Ragan | 1805 | 100 | oil | 5-15 bbls. |
| Tonkawa | 2714 | 2 | gas | 1-4 M. cu. ft. |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS:

DATE OF OPENING: 1922.

REMARKS: In the latter part of 1922 a wildcat well was drilled on the Munn Brothers structure southwest of Perry. The Twin State Oil Company completed the discovery well, sec. 29, T. 21 N., R. 1 W., which had an initial production of 6 million cubic feet of gas at a depth of 1,500 feet. Later the Perry Service Company drilled a second well, sec. 28, T. 21 N., R. 1 W., for 2 million cubic feet of gas in the 1,500 foot pay sand. These wells furnish the gas supply for the town of Perry.

PERSHING

COUNTY: Osage.
LOCATION: T. 24 N., R. 10 E.
SURFACE ELEVATION: 750-950 feet.
SURFACE FORMATION: Pawhuska formation.
AGE OF SURFACE ROCKS: Pennsylvanian.
STRUCTURE: Dome

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Cleveland | 1385 | 15 | oil gas | 30 bbls. |
| Oswego | 1690 | 60 | gas | 1-2 M. cu. ft. |
| Bartlesville | 2033 | 30 | oil | 100-500 bbls. |
| Mississippi | 2150 | 40 | | |

CHARACTER OF OIL: Gravity, 33-34° B.

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1917.

REMARKS: The first well was drilled in the Pershing pool by the Indian Territory Illuminating Oil Company in March, 1917. The well was located in sec. 6, T. 24 N., R. 10 E., and was drilled to a depth of 813 feet with an initial production of 5½ million cubic feet of gas per day. The first oil well was drilled by the Wm. M. Graham Oil and Gas Company, July, 1918, in sec. 6, T. 24 N., R. 10 E., with an initial production of 300 barrels of oil per day. The largest well in the pool was drilled by the Carter Oil Company, January, 1919 in sec. 6, T. 24 N., R. 10 E., for an initial production of 5,500 barrels of oil per day.

The Pershing pool is an old field developed under the blanket lease but recent leases have sold for prices ranging from \$5,000.00 to \$40,000.00 per quarter section.

PETERSON

COUNTY: Muskogee.

LOCATION: Secs. 16, 17, 18, and 19, T. 15 N., R. 16 E.

SURFACE ELEVATION: 550-650 feet.

SURFACE FORMATION: Bluejacket sandstone.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Subsurface folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-----------|-----------|------------|--------------------|
| Sand | 680 | 12 | gas | 11-30 M. cu. ft. |
| Sand | 1208-1315 | 10 | oil | 25-950 bbls. |

CHARACTER OF OIL: Gravity,-----.

CHARACTER OF GAS:

DATE OF OPENING: July, 1916.

REMARKS: Present production about 50 barrels.

PETTIT

COUNTY: Osage.

LOCATION: T. 23 N., R. 8 E.

SURFACE ELEVATION: 950-1,000 feet.

SURFACE FORMATION: Nelagoney formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Domes, folds, and faults.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Stray | 800 | 10 | oil | 15 bbls. |
| Cleveland | 1390 | 20 | oil | 10-20 bbls. |
| Big Lime | 1800 | 20 | oil | 20-90 bbls. |
| Oswego | 1950 | 60 | oil | 5-60 bbls. |
| Bartlesville | 2300 | 30 | oil gas | 20 bbls. |

(Table continued on next page)

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Mississippi | 2400 | | | 2 M. cu. ft. |
| Hominy | 2600 | 50 | oil | 50 bbls. |
| Siliceous | 2650 | | oil | 75-6000 bbls. |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1919.

REMARKS: In June, 1919, the Marland Oil and Refining Company bought the southeast quarter of sec. 20, T. 23 N., R. 8 E., for \$85,000.00. The first well on this lease was drilled to a depth of 725 feet with an initial production of 16 million cubic feet of gas per day. In October, 1923, the first well drilled to the Siliceous lime was completed with an initial production of 175 barrels of oil per day.

The Pettit pool produces both oil and gas from several different horizons, and is one of the most prolific Siliceous lime pools found in Osage County. To date the first well drilled to this horizon has produced 2½ million barrels of oil. There are 43 producing wells in the area. Leases have sold since 1917 for prices ranging from \$100,000 to \$150,000 per quarter section.

PHILLIPSVILLE

COUNTY: Okmulgee.

LOCATION: T. 14 N., R. 11 E.

SURFACE ELEVATION: 600-800 feet.

SURFACE FORMATION: Holdenville shale.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Subsurface structure; domes.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Glenn | 1645 | 100 | | |
| Booch | 1900 | 80 | | |
| Dutcher | 2250 | 30 | oil | 10-200 bbls. |
| Mississippi | 2500 | 150 | | |
| Wilcox | 2750 | 40 | oil | 50-2000 bbls. |

CHARACTER OF OIL: Gravity, 38.9° B.

CHARACTER OF GAS:

DATE OF OPENING: 1920.

REMARKS: The Phillippsville pool is a result of the Youngstown pool development. The Wilcox sand was discovered in this pool in sec. 22, T. 14 N., R. 11 E., in 1920.

PINE POOL

See Bald Hill, page 13.

POLLYANNA

COUNTY: Okmulgee.
 LOCATION: T. 15-16 N., R. 11 E.
 SURFACE ELEVATION: 700-900 feet.
 SURFACE FORMATION: Coffeyville formation.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Subsurface structure.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|---------------------------------|
| Oswego | 1365 | 30 | | |
| Glenn | 1840 | 40 | oil gas | 20-300 bbls. 6-10 M. cu. ft. |
| Taneha | 2285 | 20 | oil gas | 20-75 bbls. 15-35 M. cu. ft. |
| Dutcher | 2340 | 10 | gas | 10-15 M. cu. ft. |
| Wilcox | 2830 | 10 | oil | |
| Turkey Mt | 3233 | 17 | | |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS:

DATE OF OPENING: 1921.

REMARKS: The Pollyanna pool is one of the many of the northern Okmulgee County area. It was a "township-line" pool but recent developments are extending it both north and south of the line between Tps. 15-16 N.

POLO

COUNTY: Noble.
 LOCATION: T. 22 N., R. 2 W.
 SURFACE ELEVATION: 1,082 feet.
 SURFACE FORMATION: Pennsylvanian-Permian formations.
 AGE OF SURFACE ROCKS: Pennsylvanian-Permian.
 STRUCTURE: Noses.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Garber | 2075 | 30 | oil | 15 bbls. |
| Covington | 2260 | 5 | oil | 20 bbls. |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS:

DATE OF OPENING: 1920.

REMARKS: The first well completed as a producer in the Polo pool was drilled by the Prairie Oil and Gas Company, sec. 17, T. 22 N., R. 2 W., with an initial production of 25 barrels of oil per day from sand at a depth of 2,074 to 2,077 feet.

PONCA CITY
North Ponca City
South Ponca City

COUNTY: Kay.
 LOCATION: T. 25-26 N., R. 2 E.
 SURFACE ELEVATION: 968-1,000-1,003 feet.
 SURFACE FORMATION: Pennsylvanian-Permian formations.
 AGE OF SURFACE ROCKS: Pennsylvanian-Permian.
 STRUCTURE: Anticlinal fold.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Base Permian | 500 | 20 | gas | |
| Stray | 925 | 30 | gas | |
| Stray | 1200 | 15 | gas | |
| Newkirk | 1390 | 30 | gas | 5-10 M. cu. ft. |
| Hoover | 1500 | 30 | oil | 40-150 bbls. |
| Tonkawa | 2100 | 30 | oil | 20-200 bbls. |
| Layton | 2630 | 100 | | |
| Big Lime | 3000 | | | |
| Oswego | 3100 | 100 | oil | |
| Miss. Lime | 3600 | 50 | oil | 75-150 bbls. |
| Wilcox | 3900 | 100 | oil | 100-2000 bbls. |

CHARACTER OF OIL: Gravity, 38-39.9° B.

CHARACTER OF GAS:

DATE OF OPENING: 1917.

REMARKS: The Ponca City pool was the first field to be discovered in north-central Oklahoma.

In December, 1908, E. W. Marland, a Pennsylvania oil operator, made a visit to Kay County. The Ponca area attracted his attention and he secured a lease from Miller Brothers of the 101 Ranch and started a well, February, 1909. This was the first well to be drilled for oil west of the Osage Reservation and it was abandoned; the second, completed in the spring of 1910, was a gas well.

Marland and his associates continued operations until 1917, when their ninth well marked the discovery of the Ponca City pool. It was the Willie-Cry No. 1, sec. 8, T. 25 N., R. 2 E., with an initial production of 120 barrels of oil at a depth of 1,500 feet.

POOR FARM

COUNTY: Creek.
 LOCATION: T. 15-16 N., R. 8 E.
 SURFACE ELEVATION: 700-900 feet.
 SURFACE FORMATION: Nelagoney formation.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Monocline, lenticular sands.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Layton | 1425 | 40 | gas | 1.5 M. cu. ft. |
| Prue | 2100 | 75 | oil | 75-100 bbls. |
| Bartlesville | 2800 | 60 | | 10-50 bbls. |
| Dutcher | 2067 | 10 | oil | 50-2000 bbls. |
| Wilcox | 3700 | 60 | | |

CHARACTER OF OIL: Gravity, 31.5° B.

CHARACTER OF GAS:

DATE OF OPENING: 1920.

REMARKS: The Poor Farm pool is located on the Creek County Poor Farm.

POND CREEK

COUNTY: Osage.

LOCATION: T. 28-29 N., R. 10 E.

SURFACE ELEVATION: 750-1,000 feet.

SURFACE FORMATION: Nelagoney formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Anticlinal folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Peru | 1235 | 35 | oil | 10-50 bbls |
| Oswego | 1380 | 60 | gas | 1.5 M. cu. ft. |
| Burgess | 1680 | 20 | oil | 10-100 bbls |
| Mississippi | 1750 | 65 | gas | |

CHARACTER OF OIL: Gravity, 31-32° B.

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1913.

REMARKS: The first well of the Pond Creek pool was drilled by the Roxana Petroleum Corporation, July, 1913. The production of 100 barrels of oil per day came from the Peru sand at a depth of 1,065 feet.

Since 1925, the extensions of this pool to the north are connecting it to the South Elgin pool. Leases have sold as wildcat areas for prices ranging from \$500 to \$800 per quarter section.

PORTER

COUNTY: Wagoner.

LOCATION: T. 16 N., R. 16-17 E.

SURFACE ELEVATION: 500-700 feet.

SURFACE FORMATION: Blue Jacket sandstone.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Folding and faulting.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|--------------|--------------------------------|
| Dutcher | 700 | 110 | show oil gas | 1.5 M. cu. ft. |
| Mississippi | 1160 | 10 | | |
| Burgen | 1422 | 10 | oil gas | 10-100 bbls. 1.7 M. cu. ft. |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS: Dry. Rock pressure 530 to 650 pounds.

DATE OF OPENING: 1915.

REMARKS: In 1915, development started in the Porter pool from the Dutcher sand but only a few showings of gas were obtained. In 1925 gas production was developed in the Ordovician sands.

POTEAU

COUNTY: LeFlore.

LOCATION: T. 6-7 N., R. 26 E.

SURFACE ELEVATION: 400-600 feet.

SURFACE FORMATION: McAlester shale.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Poteau anticline.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Uncorrelated | 1300 | 15 | gas | 1.2 M. cu. ft. |
| | 1500 | 115 | gas | 1.3 M. cu. ft. |
| | 1830 | 20 | gas | 1-18 M. cu. ft. |
| | 2000 | 25 | gas | 2-7 M. cu. ft. |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS: Dry. Rock pressure 250 to 412 pounds.

DATE OF OPENING: 1910.

REMARKS: All of the wells in the Poteau field are located on or near the axis of the Poteau anticline. The first well in the area was drilled in July, 1910, by the LeFlore County Gas and Electric Company. The gas is pumped to Poteau for domestic consumption.

PRAIRIE

COUNTY: Creek.

LOCATION: T. 16 N., R. 11 E.

SURFACE ELEVATION: 750-850 feet.

SURFACE FORMATION: Coffeyville formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Anticlinal folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Glenn | 1850 | 150 | oil | |
| Dutcher | 2200 | 300 | oil | |
| Wilecox | 2850 | | oil | |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS:

DATE OF OPENING: 1914.

REMARKS:

PRESTON

COUNTY: Okmulgee.

LOCATION: T. 14 N., R. 12 E.

SURFACE ELEVATION: 650-900 feet.

SURFACE FORMATION: Wewoka formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Local folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Glenn or Salt | 1400 | 150 | oil | 10-50 bbls. |
| Booch | 1700 | 40 | oil | 15-25 bbls. |
| Dutcher | 2020 | 30 | oil | 25-1000 bbls. |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS: Rock pressure 450 pounds.

DATE OF OPENING: 1909.

REMARKS: The Preston pool is named for Alex Preston who started the first development in T. 14 N., R. 12 E.

PRUE

COUNTY: Osage.

LOCATION: T. 21 N., R. 10 E.

SURFACE ELEVATION: 600-850 feet.

SURFACE FORMATION: Oologah limestone.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Anticlinal folds and domes.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Oswego | 1495 | 20 | | |
| Prue | 1648 | 20 | gas | 1-12 M. cu. ft. |
| Bartlesville | 1990 | 50 | oil | 30-50 bbls |
| Turkey Mt. | 2450 | 75 | | |

CHARACTER OF OIL: Gravity, 34-36° B.

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1920.

REMARKS: The Prue pool has some of the best gas wells in Osage County, the initial open flow ranging from 20 to 65 million cubic feet of gas per day. Some oil was discovered February, 1926, by the Devonian Oil Company in sec. 27, T. 21 N., R. 10 E., at a depth of 1,900 feet. The initial production of the discovery well was 25 barrels of oil per day.

PUMPKIN CENTER

See Sapulpa, page 141.

PURE

COUNTY: Creek.

LOCATION: T. 15 N., R. 8. E.

SURFACE ELEVATION: 750-1,000 feet.

SURFACE FORMATION: Pawhuska and Nelagoney formations.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Minor folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Hotson | 1400 | 20 | gas | |
| Layton | 1600 | 20 | gas | |
| Wheeler | 2385 | 30 | oil | |
| Prue | 2500 | 15 | oil | |
| Skinner | 2800 | 50 | oil | |
| Bartlesville | 3000 | 100 | oil | |
| Dutcher | 3360 | 10 | oil | |
| Wilecox | 3715 | 40 | oil | |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS:

DATE OF OPENING: 1923.

REMARKS:

QUAPAW

COUNTY: Osage.

LOCATION: T. 25 N., R. 11 E.

SURFACE ELEVATION: 750-1,000 feet.

SURFACE FORMATION: Ochelata formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Anticlinal nosing, Dunn terrace and folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|-------------|--------------------|
| Big Lime | 1075 | 50 | | |
| Peru | 1155 | 50 | | |
| Oswego | 1305 | 90 | gas | 1-6 M. cu. ft. |
| Skinner | 1685 | 10 | show of gas | |
| Bartlesville | 1720 | 60 | oil | 25-75 bbls. |
| Burgess | 1830 | 20 | show of gas | |

CHARACTER OF OIL: Gravity, 30-31° B.

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1914.

REMARKS: The Quapaw pool is a northwest extension of the Barnsdall pool. Most of the area drilled came under the old Foster blanket lease which did not carry a bonus. Later leases have sold for prices ranging from \$1,000 to \$100,000 per quarter section.

QUAY

COUNTY: Pawnee-Payne.

LOCATION: T. 20 N., R. 5-6 E.

SURFACE ELEVATION: 904 feet.

SURFACE FORMATION: Sand Creek formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Folding, and faulting.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Layton | 1950 | 60 | | |
| Oswego | 2490 | 60 | oil | |
| Prue | 2670 | 40 | oil | 10-50 bbls. |
| Skinner | 2800 | 10 | | |
| Bartlesville | 3095 | | | |
| Mississippi | 3125 | | | |
| Wilcox | 3513 | | | |

CHARACTER OF OIL: Gravity, 36-37.9° B.

CHARACTER OF GAS:

DATE OF OPENING: 1914.

REMARKS: The first well of the Quay pool was drilled in sec. 4, T. 20 N., R. 7 E., on a fault. The field is on a well marked anticline. It merges into the Yale pool.

QUINTON

COUNTY: Pittsburg.

LOCATION: T. 7 N., R. 18-19 E.

SURFACE ELEVATION: 600-950 feet.

SURFACE FORMATION: Boggy shale.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Kinta anticline.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Uncorrelated | 1470 | 12 | gas | 1-6 M. cu. ft. |
| | 1585 | 45 | gas | 3-10 M. cu. ft. |
| | 1800 | 55 | gas | 10-40 M. cu. ft. |
| | 2670 | 3 | gas | 1-7 M. cu. ft. |
| | 2729 | 3 | gas | 1-7 M. cu. ft. |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1913.

REMARKS: The Quinton Oil and Gas Company drilled and commercialized the gas of the Quinton pool. A large part of the gas was piped to McAlester, and the zinc smelter located at Quinton used about one-fourth of the supply. No oil has been found in this pool.

RAINOLA

COUNTY: Stephens.

LOCATION: T. 1 S., R. 8 W.

SURFACE ELEVATION: 1,300 feet.

SURFACE FORMATION: Clear Fork-Wichita formation.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Local folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|----------------------------|
| Smith | 2000 | 25 | oil gas | 10-100 bbls. |
| Brown | 2100 | 55 | oil gas | 1-4 M. cu. ft. 20 bbls. |

CHARACTER OF OIL: Gravity, 38° B.

CHARACTER OF GAS:

DATE OF OPENING: 1921.

REMARKS: The Rainola pool was discovered late in 1921 by the Rainola Oil Company in sec. 22, T. 1 S., R. 8 W., where they completed a well with an initial production of 20 barrels of oil per day at a depth of 2,010 feet. There are now (October, 1926) some 10 wells producing in this pool.

RALSTON

COUNTY: Pawnee.

LOCATION: T. 23 N., R. 5 E.

SURFACE ELEVATION: 801 feet.

SURFACE FORMATION: Sand Creek formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Ralston anticline.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Oswego | 2780 | 20 | oil | |
| Skinner | 3000 | 45 | oil | 10-50 bbls. |
| Bartlesville | 3200 | 20 | oil | 20-100 bbls. |
| Burgess | 3350 | 60 | oil | 30-190 bbls. |
| Wilcox | 3634 | 66 | | |

CHARACTER OF OIL: Gravity, 36-37.9° B.

CHARACTER OF GAS:

DATE OF OPENING: 1909.

REMARKS: The Ralston anticline is in the northwest-central part of T. 23 N., R. 5 E., The first attempt to develop the area was made by J. M. Critchlow and associates with a wildcat test in sec. 3, T. 23 N., R. 5 E.

RAMONA

COUNTY: Washington.

LOCATION: T. 24 N., R. 14 E.

SURFACE ELEVATION: 700-900 feet.

SURFACE FORMATION: Coffeyville formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Terraces-faults.

| PRODUCING | | | | INITIAL |
|--------------|-------|-----------|------------|-------------------------------|
| HORIZONS | DEPTH | THICKNESS | PRODUCTION | PRODUCTION |
| Big Lime | 934 | 100 | oil | 10-60 bbls. |
| Prue | 1040 | 60 | | |
| Oswego | 1115 | 85 | | |
| Squirrel | 1354 | 42 | | |
| Bartlesville | 1687 | 20 | oil | 45-500 bbls. |
| Burgess | 1753 | 20 | oil gas | 10-50 bbls. 1-5 M. cu. ft. |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS:

DATE OF OPENING: 1911.

REMARKS: The Ramona pool lies between the Avant and the Ochelata pools. The conditions in the pool are similar to those in the Bartlesville District although the sands lie deeper.

RAMSEY

COUNTY: Cimarron.

LOCATION: T. 5 N., R. 5 E., C. M.

SURFACE ELEVATION: 3,700 feet, approximately.

SURFACE FORMATION: Washita group.

AGE OF SURFACE ROCKS: Cretaceous.

STRUCTURE: Anticlinal dome.

| PRODUCING | | | | INITIAL |
|--------------|-------|-----------|------------|------------|
| HORIZONS | DEPTH | THICKNESS | PRODUCTION | PRODUCTION |
| Granite wash | 4101 | 6 | oil | 75 bbls. |

CHARACTER OF OIL: Gravity, 32° B. Color, dark.

CHARACTER OF GAS:

DATE OF OPENING: 1927.

REMARKS: In February, 1927 the Ramsey Oil Company completed their wildcat test in sec. 27, T. 5 N., R. 5 E., Cimarron Meridian.

REDBIRD

COUNTY: Wagoner.

LOCATION: T. 16 N., R. 16 E.

SURFACE ELEVATION: 500-550 feet.

SURFACE FORMATION: Bluejacket sandstone.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Small dome.

| PRODUCING | | | | INITIAL |
|-------------|-------|-----------|------------|-----------------|
| HORIZONS | DEPTH | THICKNESS | PRODUCTION | PRODUCTION |
| Dutcher | 806 | 200 | gas | 1-7 M. cu. ft. |
| Mississippi | 1100 | 85 | | |
| Chattanooga | 1185 | 20 | | |
| Tyner | 1480 | 25 | | |
| Burgen | 1543 | 40 | gas | 1-10 M. cu. ft. |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS: Dry. Rock pressure 220 to 700 pounds.

DATE OF OPENING: 1915.

REMARKS: In 1915, Wilson-Rhode and Gillispie drilled a well in sec. 8, T. 16 N., R. 16 E., which had a showing of oil at a depth of 1,586 feet. The production is chiefly gas.

RED BANK

COUNTY: Creek.

LOCATION: T. 16-17 N., R. 8 E.

SURFACE ELEVATION: 900-1,000 feet.

SURFACE FORMATION: Pawhuska formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: North and South Catfish anticlines, extensive faulting.

| PRODUCING | | | | INITIAL |
|--------------|-------|-----------|------------|----------------------------------|
| HORIZONS | DEPTH | THICKNESS | PRODUCTION | PRODUCTION |
| Layton | 1235 | 20 | | |
| Jones | 1425 | 20 | | |
| Cleveland | 1550 | 30 | | |
| Wheeler | 2290 | 40 | | |
| Bartlesville | | | gas | 1-4 M. cu. ft. |
| Tucker | 2820 | 100 | gas | 1-10 M. cu. ft. |
| Dutcher | 2150 | 10 | oil gas | 25-1500 bbls. 2-22 M. cu. ft. |
| Mississippi | 3360 | 10 | | |
| Wilcox | 3660 | 5 | oil | 60 bbls. |

CHARACTER OF OIL: Gravity, 36.7° B.

CHARACTER OF GAS:

DATE OF OPENING: 1918.

REMARKS: The discovery well of the Red Bank pool by the Red Bank Oil Company, November, 1918, in sec. 9, T. 16 N., R. 8 E., where an open flow of 22 million cubic feet of gas at 2,750 to 2,816

feet in depth, was encountered. This well marks the beginning of what has since developed into a good oil and gas field.

Development was limited to the South Catfish anticline until late in 1920 when the first test was drilled in on the north fold and both oil and gas were found.

RED FORK

COUNTY: Tulsa.

LOCATION: T. 19 N., R. 12 E.

SURFACE ELEVATION: 600-850 feet.

SURFACE FORMATION: Coffeyville formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Anticlinal folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|-------------------------------|
| Oswego | 599 | 30 | oil | 5-10 bbls. |
| Red Fork | 1275 | 25 | oil gas | 3-20 bbls. 1 M. cu. ft. |
| Bartlesville | 1320 | 10 | | |
| Dutcher | 1484 | 16 | | |
| Burgess | 1502 | 8 | | |
| Turkey Mt. | 2160 | 15 | oil gas | 15-50 bbls. 1-2 M. cu. ft. |

CHARACTER OF OIL: Gravity, 32.9-38.2° B. Color, dark green to black.

CHARACTER OF GAS:

DATE OF OPENING: 1901.

REMARKS: Oil was first discovered in Tulsa County in the Red Fork pool and it is claimed that this pool had the first commercial production in the State.

The wells of the Red Fork pool have been small though long-lived producers, one well having an initial production of 55 barrels of oil has produced for more than twenty years.

RED OAK

COUNTY: Latimer.

LOCATION: T. 6 N., R. 21 E.

SURFACE ELEVATION: 600-1,250 feet.

SURFACE FORMATION: McAlester shale.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Brazil anticline.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Uncorrelated | 2500 | | gas | 1-3 M. cu. ft. |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS:

DATE OF OPENING: 1910.

REMARKS:

RED RIVER

COUNTY: Tillman.

LOCATION: T. 5 S., R. 14 W.

SURFACE ELEVATION: 1,015 feet.

SURFACE FORMATION: Clear Fork-Wichita formations.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Nose and folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Cisco (?) | 1540 | 6 | oil | 10-25 bbls. |
| | 1650 | 40 | oil | 50-100 bbls. |
| | 1700 | 12 | oil | 1-5 bbls. |

CHARACTER OF OIL: Gravity, 40.9° B.

CHARACTER OF GAS:

DATE OF OPENING: 1920.

REMARKS: The Red River pool is an extension of the Burkburnett production in Texas. This pool is located along the north banks and in the Red River.

RETTA

See Hubbard, page 77.

RIPLEY

COUNTY: Payne.

LOCATION: T. 17-18 N., R. 4 E.

SURFACE ELEVATION: 800-1,140 feet.

SURFACE FORMATION: Pennsylvanian-Permian formations.

AGE OF SURFACE ROCKS: Pennsylvanian-Permian.

STRUCTURE: Ripley anticline.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------------------|
| Layton | 2072 | | | |
| Bartlesville | 3400 | | oil gas | 40 bbls. 3-5 M. cu. ft. |
| Mississippi | 3600 | | | |
| Chattanooga | 3804 | 10 | | |
| Misener | 3914 | 40 | | |
| Sylvan | 3983 | 17 | | |
| Viola | 4030 | 40 | oil gas | 100-3000 bbls. 5 M. cu. ft. |
| Wilcox | 4128 | 10 | oil | 50-200 bbls. |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS:

DATE OF OPENING: 1914.

REMARKS: The Ripley anticline is located 3 miles east of the town of Ripley with its apex in sec. 23, T. 18 N., R. 4 E. The discovery well of the Ripley pool was drilled by the Charleston Oil Company on the apex with an initial production of 75 barrels of oil per day at a depth of 1,861 feet. In trying to reach the Bartlesville sand the oil sand was lost and the well was shut in for 5 million cubic feet of gas per day.

RIVERLAND

COUNTY: Tulsa.

LOCATION: T. 18 N., R. 12 E.

SURFACE ELEVATION: 700-850 feet.

SURFACE FORMATION: Coffeyville formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Anticlinal folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Red Fork | 1200 | 25 | | |
| Glenn | 1320 | 30 | | |
| Taneha | 1545 | 30 | oil | 10-60 bbls. |
| Burgess | 1698 | 10 | oil | 15 bbls. |
| Mississippi | 1730 | 45 | gas | 1-6 M. cu. ft. |
| Wilcox | 2000 | 12 | oil | 70-175 bbls. |
| Siliceous | 2120 | 36 | oil | 80-3000 bbls. |
| Turkey Mt. | 2255 | 20 | oil | 30-2000 bbls. |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS:

DATE OF OPENING: 1920.

REMARKS:

ROBBERSON

COUNTY: Garvin.

LOCATION: T. 1 N., R. 3 W.

SURFACE ELEVATION: 925-1,125 feet.

SURFACE FORMATION: Clear Fork-Wichita formations.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Anticlinal folds, faulting.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|--------|-----------|------------|--------------------|
| Pontotoc | { 1200 | 10 | oil | 5-200 bbls. |
| | { 1400 | 200 | gas | 1-10 M. cu. ft. |
| Simpson | 1877 | 400 | oil gas | 10-600 bbls. |
| | | | oil | 1-20 M. cu. ft. |

CHARACTER OF OIL: Gravity, 25-28° B.

CHARACTER OF GAS:

DATE OF OPENING: 1920.

REMARKS: The discovery of the Robberson pool is probably due to Pierce Larkin, who, in 1915 found oil and gas in shallow water wells in sec. 16, T. 1 N., R. 3 W. He also found some local dips which were indicative of favorable structures.

In June, 1920, the Magnolia Petroleum Company completed a well for 40 million cubic feet of gas per day at a depth of 1,386 feet. Oil was discovered more than a year afterwards, July 16, 1921, in sec. 14, T. 1 N., R. 3 W. The well was estimated at 200 barrels of oil per day. This stimulated a drilling campaign which resulted in some large oil wells; the first one completed by the Texas-Pacific Coal and Oil Company for an initial production of 1,000 barrels of oil in sec. 13, T. 1 N., R. 3 W. Several gushers were completed from the upper part of the Ordovician buried hill which underlies this field.

ROBINSON

COUNTY: Muskogee.

LOCATION: Secs. 18 and 19, T. 15 N., R. 17 E.

SURFACE ELEVATION: 500-550 feet.

SURFACE FORMATION: Bluejacket sandstone.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Subsurface folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Sand | 1080 | 28 | gas | 2 M. cu. ft. |
| Muskogee | 1325 | 18 | oil | 150-800 bbls. |

CHARACTER OF OIL: Gravity, 41-42° B.

CHARACTER OF GAS:

DATE OF OPENING: Production is now only 5 barrels a day due to the encroachment of water.

ROFF

COUNTY: Pontotoc.

LOCATION: T. 2 N., R. 4 E.

SURFACE ELEVATION: 1,115-1,800 feet.

SURFACE FORMATION: Pontotoc group.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Probable folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|--------------|--------------------|
| Uncorrelated | { 175 | 10 | show of gas | |
| | { 390 | 3 | show of gas | |
| | { 470 | 50 | oil show gas | 1-2 M. cu. ft. |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS:

DATE OF OPENING: 1920.

REMARKS: A small amount of production was discovered in the Roff pool early in 1920. The producing sand was probably the Simpson, from which the asphalt of that area is obtained.

ROOD-BETHEL
Holm-Jarris

COUNTY: Seminole.

LOCATION: T. 9 N., R. 8 E.

SURFACE ELEVATION: 850-1,000 feet.

SURFACE FORMATION: Francis-Belle City limestone.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Closed fold on the Booch sand.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Booch | 3230 | 30 | oil | 20-200 bbls. |
| Gilcrease | 3342 | 15 | oil | 40-125 bbls. |
| Cromwell | 3500 | 60 | | |
| Hunton | 4120 | 95 | | |
| Wilcox | 4565 | 30 | | |

CHARACTER OF OIL: Gravity, 38°-40° B.

CHARACTER OF GAS:

DATE OF OPENING: December, 1924.

REMARKS: The discovery well was drilled by the Independent Oil and Gas Co. The Cromwell and Wilcox sands have proved unproductive. The Booch sand, generally water-bearing, is the producing horizon and the wells have a slow decline.

ROUND-UP

COUNTY: Carter.

LOCATION: T. 2 S., R. 2 W.

SURFACE ELEVATION: 918-982 feet.

SURFACE FORMATION: Clear Fork-Wichita formation.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Monocline under unconformity.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|----------|-----------|------------|--------------------|
| | 1025-128 | 5-40 | oil | 30 bbls. |

CHARACTER OF OIL: Gravity, 24-28° B.

CHARACTER OF GAS: Rock pressure, 300 pounds.

DATE OF OPENING: Jan. 16, 1926.

REMARKS: Field opened by F. W. Merrick. There are, 1928, three producing wells giving a production of about 25 bbls. for the field.

ROXANA

COUNTY: Logan.

LOCATION: T. 19 N., R. 4 W.

SURFACE ELEVATION: 999-1,060 feet.

SURFACE FORMATION: Enid formation.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Subsurface faulted anticlinal domes.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-----------|-----------|------------|-----------------------------|
| Foraker | 2100-2250 | | | |
| Pawhuska | 2900 | | | |
| Hoover | 3000-3250 | | | |
| Oread lime | 3500 | 100 | | |
| Endicott | 3780 | | | |
| Tonkawa | 3950 | | | |
| Layton | 4580 | 150 | gas | 42 M. cu. ft. |
| Oswego | 5210 | 100 | | |
| Miss. lime | 5480 | 93-130 | | |
| Viola lime | 5775 | | | |
| Simpson | 5800-5960 | | oil | 250 bbls. |
| Wilcox | 5983-6086 | | oil gas | 2½ M. cu. ft. 2450 bbls. |

CHARACTER OF OIL: Gravity 41 to 42° B. High gasoline content.

CHARACTER OF GAS: Wet.

DATE OF OPENING: 1927.

REMARKS: The Roxana Petroleum Company drilled in the discovery well on the McCully farm in sec. 30, T. 19 N. R. 4 W., June 28th, 1927, at a depth of 5,984 feet, the lowest commercial depth in State to date, and had an initial production of 2,450 bbls. Its maximum production being 2,885 barrels. The cost of drilling this well was \$150,000.00

SAGEEYAH

COUNTY: Rogers.

LOCATION: T. 22 N., R. 16 E.

SURFACE ELEVATION: 650-750 feet.

SURFACE FORMATION: Fort Scott limestone.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Local folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|-------------|--------------------|
| | 330 | | show of gas | |
| Bartlesville | 525 | 10 | oil | 1-25 bbls. |
| Burgess | 967 | 20 | gas | 1-3 M. cu. ft. |
| Mississippi | 987 | | | |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS: Dry. Rock pressure 250 pounds.

DATE OF OPENING: 1918.

REMARKS: In October, 1918 the Colonial Oil and Refining Company completed a well in sec. 20, T. 22 N., R. 16 E., with an initial production of 1¼ million cubic feet of gas per day in the Burgess sand at a depth of 947 feet. The same company completed another small gas well which provided the county poor farm with gas for domestic use.

SALT CREEK
Gypsy Hill

COUNTY: Okmulgee.

LOCATION: T. 13 N., R. 11-12 E.

SURFACE ELEVATION: 700-850 feet.

SURFACE FORMATION: Wewoka formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Local folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Stray | 1074 | 30 | gas | 1-4 M. cu. ft. |
| Salt sand | 1781 | 100 | | |
| Glenn | 1960 | 40 | | |
| Booch | 2240 | 200 | gas | 1-4 M. cu. ft. |
| Dutcher | 2430 | 10 | oil | 35-400 bbls. |
| Youngstown | 2575 | 25 | oil gas | 60-120 bbls. |
| | | | | 3-33 M. cu. ft. |
| Wilcox | 3290 | 5 | oil | 60-300 bbls. |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS:

DATE OF OPENING: 1910.

REMARKS: The Salt Creek pool was discovered by a completion on the Tobler allotment sec. 25, T. 13 N., R. 11 E., in October, 1910. The Prairie Oil and Gas Company, after paying \$20,000 for leases on the area, drilled the well to a depth of 2,367 feet, obtaining an initial production of 200 barrels of oil per day. This was the first production in the western part of Okmulgee County.

SAND SPRINGS or CHARLES PAGE

COUNTY: Tulsa-Osage.

LOCATION: T. 19-20 N., R. 11 E.

SURFACE ELEVATION: 750-950 feet.

SURFACE FORMATION: Nellie Bly formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Anticlinal nose.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Oswego | 1100 | 35 | oil | 10-30 bbls. |
| Red Fork | 1435 | 10 | gas | 2-4 M. cu. ft. |

(Table continued on next page)

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Bartlesville | 1520 | 80 | | |
| Tucker | 1750 | 15 | oil | 10-40 bbls. |
| Burgess | 1861 | 10 | gas | 3-8 M. cu. ft. |
| Wilcox | 1942 | 60 | gas | 10-16 M. cu. ft. |
| Tyner | 2025 | 20 | gas | 1-4 M. cu. ft. |
| Siliceous | 2177 | 10 | oil | 35-1500 bbls. |

CHARACTER OF OIL: Gravity, 38.9-39.9° B.

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1916.

REMARKS: The Sand Springs pool is owned by the Sand Springs Home which has vast oil and gas properties in southern Osage and northern Tulsa counties. This home is a well appointed modern asylum and school for orphan children established by the oil financier and philanthropist, Charles Page. Mr. Page made his first big strike in oil in the Tanaha pool in 1907, and from that time his interests spread into many areas of the State's oil development.

SAPULPA
Pumpkin Center

LOCATION: T. 18 N., R. 11-12 E.

COUNTY: Creek.

SURFACE ELEVATION: 650-900 feet.

SURFACE FORMATION: Nellie Bly formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Anticlinal folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Peru | 875 | 25 | gas | 1 M. cu. ft. |
| Oswego | 950 | 10 | | |
| Perryman | 1000 | 30 | oil | 10-30 bbls. |
| Red Fork | 1275 | 10 | | |
| Glenn | 1365 | 40 | oil gas | 2-100 bbls. |
| | | | | 2 M. cu. ft. |
| Tanaha | 1635 | 10 | oil | 15-40 bbls. |
| Dutcher | 1835 | 10 | oil gas | 25-250 bbls. |
| | | | | 1-3 M. cu. ft. |
| Mississippi | 2060 | | gas | 5-10 M. cu. ft. |
| Wilcox | 2290 | 5 | oil gas | 25-40 bbls. |
| | | | | 5-9 M. cu. ft. |
| Turkey Mt. | 2575 | | | |

CHARACTER OF OIL: Gravity, 24-35.8° B.

CHARACTER OF GAS:

DATE OF OPENING: 1909.

REMARKS: The Sapulpa pool is a northwest extension of Glenn pool, and development in the area followed that of Glenn pool. The structural conditions and sands are very similar. The Pumpkin Center pool was the first development in the Sapulpa area.

SARAH WHIPPLE

COUNTY: Garfield.
 LOCATION: Sec. 19, T. 23 N., R. 3 W.
 SURFACE ELEVATION: 1,100-1,160 feet.
 SURFACE FORMATION: Garber member of the Enid formation.
 AGE OF SURFACE ROCKS: Permian.
 STRUCTURE: Anticline, controlled by faulting.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-----------|-----------|------------|--------------------|
| Layton | 4030-4245 | | | |
| Oswego | 4370-4500 | 460 (?) | | |
| Mississippi | 4790-5040 | 220 | | |
| Chattanooga | 4962-5260 | 45 | | |
| Viola | 5010 | 55 | | |
| Simpson | 5072-5360 | 190 | | |
| Wilcox | 5280-5485 | 65 | oil | 1,000 bbls. |

CHARACTER OF OIL: Gravity 41-48° B.
 CHARACTER OF GAS: Dry and one horizon wet.
 DATE OF OPENING: Layton gas sand, Nov., 1925; Simpson oil sand, Aug., 1926.
 PEAK PRODUCTION: 2,000 bbls.
 NUMBER OF WELLS: 4.

REMARKS: The area was core-drilled by the Marland Ref. Co., who drilled the discovery well known as the Marland Garber No. 1. Later an offset to this well was drilled to the Simpson sand and completed with an initial production of 1,400 barrels. The initial production of the discovery well was 500 barrels, though this well is higher structurally than its west offset, the Marland Whipple No. 1. Wells to the north of these two wells ran very much lower due to a pronounced mid-Pennsylvanian fault.

North of the discovery well the Amerada-Champlin No. 1 Wilcox encountered a heavy gas flow in the top of the Mississippi lime a 5,050 feet. This well, located on the downthrow side of the fault, is approximately 300 feet lower than the discovery well.

This so called gas from the top of the Mississippi is gas from the Simpson formation coming through the fault zone, or brecciated Mississippi lime zone. The Mississippi lime in this well is faulted down so that it is opposite the Simpson formation.

SAYRE

COUNTY: Beckham.
 LOCATION: T. 9 N., R. 23 W.
 SURFACE ELEVATION: 1,885 feet.
 SURFACE FORMATION: Dune sand.
 AGE OF SURFACE ROCKS: Quaternary
 STRUCTURE: Subsurface, Sayre dome, and Windle dome.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|----------------------|-------|-----------|------------|---|
| Permian Pontotoc (?) | 2630 | 60 | gas | 30-45 M. cu. ft. |
| | 2775 | 50 | oil gas | 200 bbls. |
| | 2995 | 10 | oil gas | 1-12 M. cu. ft. 50-200 bbls. 10-70 M. cu. ft. |

CHARACTER OF OIL: Gravity, 32-33.9° B.

CHARACTER OF GAS:

DATE OF OPENING: 1922.

REMARKS: The Twin Hills Oil Company completed the discovery well of the Sayre pool, July, 1922 in sec. 15, T. 9 N., R. 23 W., with an initial production of 50 million cubic feet of gas per day at a depth of 2,755 feet. Later this well made some oil.

In April, 1923, Martin, et al completed an oil well with an initial production of 200 barrels of oil per day from a depth of 2,995 feet in sec. 31, T. 9 N., R. 23 W. This well created much interest in the County and the greater part of the development in the area was done in that same year.

In April, 1927, the Magnolia Petroleum Company completed one of the largest gas wells of the Sayre pool in sec. 29, T. 9 N., R. 23 W., for 75 million cubic feet of gas per day.

SCHULTER

COUNTY: Okmulgee.
 LOCATION: T. 12 N., R. 13 E.
 SURFACE ELEVATION: 600-800 feet.
 SURFACE FORMATION: Calvin sandstone.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Local structure.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Red Fork | 1530 | 30 | gas | 5-18 M. cu. ft. |
| Glenn | 1962 | 40 | oil gas | 40-400 bbls. |
| Booch | 2015 | 10 | gas | 6-10 M. cu. ft. |
| Deaner | 2290 | 20 | oil gas | 1-2 M. cu. ft. |
| Lyons-Quinn | 2390 | 5 | gas | 5-15 M. cu. ft. |
| Wilcox | 2945 | 5 | | |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS:

DATE OF OPENING: 1907.

REMARKS: The pool known as the Schullter "shoe string" was opened by Smith and Swan in 1907.

SCOTT

COUNTY: Creek.
 LOCATION: T. 16 N., R. 10 E.
 SURFACE ELEVATION: 700-800 feet.
 SURFACE FORMATION: Nelagoney formations.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Local folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Red Fork | 1990 | 10 | | |
| Glenn | 2090 | 30 | gas | 2-5 M. cu. ft. |
| Taneha | 2340 | 10 | oil | 10-30 bbls. |
| Dutcher | 2510 | 20 | oil gas | 50-1200 bbls. |
| | | | | 10 M. cu. ft. |
| Mississippi | 2675 | | | |
| Wilcox | 2925 | | | |

CHARACTER OF OIL: Gravity -----
 CHARACTER OF GAS:
 DATE OF OPENING: 1919.
 REMARKS:

SEARIGHT

COUNTY: Seminole.
 LOCATION: T. 9-10 N., R. 6 E.
 SURFACE ELEVATION: 900-1,025 feet.
 SURFACE FORMATION: Pontotoc group.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Folds and faults. Subsurface folds and domes.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|-------------|--------------------|
| Chattanooga | 3910 | | show of gas | |
| Hunton | 4120 | 30 | oil gas | 300-2000 bbls. |
| Sylvan | 4150 | 30 | | 3-6 M. cu. ft. |
| Viola | 4280 | 200 | | |
| Wilcox | 4325 | 200 | oil | 120-5000 bbls. |

CHARACTER OF OIL: Gravity, 37.5-40° B.
 CHARACTER OF GAS: Wet.
 DATE OF OPENING: 1926.
 REMARKS: The Searight pool was discovered in July, 1926 by F. J. Searight in sec. 34, T. 10 N., R. 6 E. In the beginning of development in Seminole county it was apparent that the several groups of wells would be the nucleus of a new pool, although at first it was termed one pool and named Seminole.

SEAY

See Humble, page 77.

SELTZER

COUNTY: Wagoner.
 LOCATION: T. 18 N., R. 16 E.
 SURFACE ELEVATION: 700-800 feet.
 SURFACE FORMATION: Cherokee shale.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Faulting, and lenticular sands.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Dutcher | 800 | 20 | oil gas | 6-300 bbls. |
| | | | | 1-5 M. cu. ft. |

CHARACTER OF OIL: Gravity, 36.5° B.
 CHARACTER OF GAS: Dry.
 DATE OF OPENING: 1923.

REMARKS: The Seltzer pool was developed by Phillip Boyle in 1924. The developed area includes sections 28, 29 and 32. The first well was drilled in sec. 32 T. 18 N., R. 16 E., on the Seltzer farm.

SEMINOLE CITY

COUNTY: Seminole.
 LOCATION: T. 9 N., R. 6 E.
 SURFACE ELEVATION: 850-900 feet.
 SURFACE FORMATION: Pawhuska limestone.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Irregular folds and faults.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-----------|-----------|------------|--------------------|
| Hunton | 3910 | 16 | oil gas | 50-2200 bbls. |
| Sylvan | 4030 | 60 | | |
| Viola | 4090 | 50 | | |
| Wilcox | 4175-4230 | 125 | oil gas | 90-6000 bbls. |

CHARACTER OF OIL: Gravity, 38.9-41° B.
 CHARACTER OF GAS:
 DATE OF OPENING: 1926.

REMARKS: The discovery well of the Seminole City pool was completed March, 1926 by the Indian Territory Illuminating Oil Company in sec. 24, T. 9 N., R. 6 E. The well flowed 240 barrels of oil per day naturally from a total depth of 4,012 feet in Hunton lime.

The first Wilcox sand well was completed July 16, 1926 by the Independent Oil & Gas Company and Robert F. Garland in sec. 26, T. 9 N., R. 6 E. Production in the Seminole City pool was increased almost 1,300% in the next six months.

SEQUOYAH
Webbers Falls
Muldraw
Vian

COUNTY: Sequoyah.

LOCATION: T. 11 N., R. 25 E.; T. 12 N., R. 21 E.; T. 12 N.,
R. 20 E.

SURFACE ELEVATION: 700-1,000 feet.

SURFACE FORMATION: McAlester shale.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Vian anticline.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|-----------------------|-------|-----------|------------|-----------------------|
| Uncorrelated | 1000 | 15 | gas | ½ M. cu. ft. |
| | 1200 | 50 | gas | 1-2 M. cu. ft. |
| | 2926 | 17 | gas | |
| | 2951 | 2 | gas | |
| | 3000 | 20 | gas | |
| | 3130 | 7 | gas | ¾ M. cu. ft. |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS: Dry. Rock pressure 420 to 590 pounds.

DATE OF OPENING: 1910.

REMARKS: All the production to date in Sequoyah has been gas. The development near Muldraw resulting in a small gas pool, made it one of the principal areas in the country. However, gas has been found west of Vian and south of Webbers Falls across the county line.

There are several known anticlines in Sequoyah County but the zones of faulting and the thin Pennsylvanian section has caused some hesitancy in drilling.

SHAMROCK

COUNTY: Creek.

LOCATION: T. 16-17 N., R. 7 E.

SURFACE ELEVATION: 1,100 feet.

SURFACE FORMATION: Pawhuska formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Shamrock dome, and Mount Pleasant dome.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|-----------------------|-------|-----------|------------|-----------------------|
| Layton | 1475 | 10 | gas | 10-50 M. cu. ft. |
| Wheeler | 2200 | 25 | oil | 50-300 bbls. |
| Bartlesville | 2700 | 50 | oil | 250-2000 bbls. |
| Tucker | 2800 | 20 | oil | 100-1000 bbls. |

CHARACTER OF OIL: Gravity, 39.9°-41° B.

DATE OF OPENING: 1914.

REMARKS: The Shamrock dome was named from the Post Office situated some two miles southwest of the apex of the dome. The

Numa Oil Company was one of the early developers of the area; their first well was reported for 8,000 barrels of oil per day from the Bartlesville sand.

The Mount Pleasant dome was named from the church situated on the north slope of the dome.

SHEPPARD

COUNTY: Muskogee.

LOCATION: Secs. 11, 12, and 15, T. 13 N., R. 15 E.

SURFACE ELEVATION: 750 feet.

SURFACE FORMATION: Boggy shale.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Subsurface folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|-----------------------|-----------|-----------|------------|-----------------------|
| Sand | 1940-1968 | 20 | oil | 50-600 bbls. |

CHARACTER OF OIL: Gravity, 34.9° B.

CHARACTER OF GAS:

DATE OF OPENING: June, 1917.

REMARKS:

SHERIDAN

See Independent, page 78.

SHOLEM ALECHEM

COUNTY: Carter-Stephens.

LOCATION: T. 1-2 S., R. 3-4 W.

SURFACE ELEVATION: 930-1,150 feet.

SURFACE FORMATION: Clear Fork-Wichita formations.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: A major anticline with smaller companion folds.

| PRODUCING HORIZONS | DEPTH | REMARKS |
|----------------------------|-----------|--|
| 1st sand | 1890-2900 | Main pay at County Line. Yields largest wells in field with initial production on up to 2980 bbls. per day, but very erratic in thickness and yield. |
| 2nd sand | 1950-3000 | Productive in only a few scattered wells. |
| 3rd sand | 1850-3300 | 300 to 350 ft. below first sand. Productive in only a few scattered wells, but yielded large initial production in a few wells in sec. 34-1S-3W. |
| 4th-7th sands inclusive | 2000-3300 | Small production in scattered wells. |
| 8th sand | 2150-3450 | 300 to 350 ft. below third sand. Main pay in the southeastern half of the field. Maximum initial production 800 bbls. per day. |
| 9th-13th sands | 2600-3750 | Sporadic small production in southeast half of field. |
| 14th sand | 3050-4000 | 550 to 600 ft. below eighth sand. Small production in southeastern half of field. Maximum initial production about 200 bbls. per day. |
| 15th-19th sands | 2850-4200 | Insignificant production. Reached only in a few wells in southeast half of field. |

CHARACTER OF OIL: Gravity, 24-34° B.

CHARACTER OF GAS:

DATE OF OPENING: 1923.

REMARKS: The Sholem Alechem pool, meaning in the Hebrew, "Peace be with you," was discovered by the Humble Oil and Refining Co., in Dec., 1923, when their Jennings No. 1, SW. ¼ SW. ¼ SE. ¼ sec. 28, T. 1 S., R. 3 W., was brought in. None of the sands of the Sholem Alechem field is uniformly productive over any large area. Even in the four sands of real importance (Nos. 1, 3, 8 and 14), the best producers may be offset by wells yielding less than 15 bbls. per day from the same horizon. The sands vary sharply, both in thickness and in content of shale and lime. The wide range in depth at which each sand is reached within the field is due to the great height of this steeply-folded anticline, which rises at least 1,200 ft. above the level of edge water in the important sands.

SKELLY-FORD

See Kendrick, page 83.

SKIATOOK

COUNTY: Osage.

LOCATION: T. 22 N., R. 12-13 E.

SURFACE ELEVATION: 650-900 feet.

SURFACE FORMATION: Coffeyville formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Fox dome, two domes.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Oswego | 766 | 24 | | |
| Cleveland | 1110 | 15 | | 5-15 bbls. |
| Bartlesville | 1370 | 20 | oil | 20-100 bbls. |
| Burgess | 1460 | 10 | oil | 10-30 bbls. |
| Mississippi | 1500 | 150 | oil | 1-3 M. cu. ft. |
| Turkey Mt. | 1778 | | gas | |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS:

DATE OF OPENING: 1906.

REMARKS: The Skiatook pool extends eastward into Washington County. The first well was drilled by the Barnsdall Oil Company, February, 1911, in sec. 24, T. 22 N., R. 12 E., to a depth of 1,514 feet with an initial production of 50 barrels of oil per day. The pool was developed before the inauguration of lease sales.

SLICK

COUNTY: Creek.

LOCATION: T. 15-16 N., R. 10 E.

SURFACE ELEVATION: 800-900 feet.

SURFACE FORMATION: Nellie Bly formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Anticlinal folding, subsurface domes and folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|---------------------------------|
| Oswego | 1600 | 200 | | |
| Glenn | 2340 | 260 | oil | 50-500 bbls. |
| Taneha | 2425 | 40 | | |
| Dutcher | 2620 | 45 | oil gas | 200-1050 bbls. 10 M. cu. ft. |
| Misener | 3088 | 120 | oil gas | 100-250 bbls. 3-5 M. cu. ft. |
| Wilcox | 3140 | 10 | oil gas | 3-10 M. cu. ft. |

CHARACTER OF OIL: Gravity, 32-35.9° B.

CHARACTER OF GAS:

DATE OF OPENING: 1913.

REMARKS: Oil was discovered in the Slick pool in 1913, sec. 15, T. 15 N., R. 10 E., by Russel Brothers. The well was drilled to a depth of 2,128 feet and had an initial production of only 7 barrels of oil. The first well drilled to the Dutcher sand competed in the fall of 1918 by the Oklahoma Syndicate, Ltd., in sec. 3, T. 15 N., R. 10 E., at a depth of 2,579 feet. The initial production was 200 barrels of oil per day.

SOMMERVILLE

COUNTY: Muskogee.

LOCATION: Sec. 17, T. 15 N., R. 17 E.

SURFACE ELEVATION: 600-650 feet.

SURFACE FORMATION: Bluejacket sandstone.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Subsurface folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-----------|-----------|------------|--------------------|
| Sand | 1260-1382 | 17 | gas | 50 M. cu. ft. |
| Sand | 1439 | 11 | oil | 375 bbls. |

CHARACTER OF OIL: Gravity,-----

CHARACTER OF GAS:

DATE OF OPENING:

REMARKS: Maximum production 100 M. cu. ft. of gas.

SOUTH BEGGS

See Beggs, page 16.

SOUTH BRAMAN

See Braman, page 24.

SOUTH COFFEYVILLE

COUNTY: Nowata.
 LOCATION: T. 29 N., R. 15 E.
 SURFACE ELEVATION: 700-950 feet.
 SURFACE FORMATION: Coffeyville formation.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Reverse dips.

| PRODUCING | | | INITIAL | |
|--------------|---------|-----------|------------|----------------|
| HORIZONS | DEPTH | THICKNESS | PRODUCTION | PRODUCTION |
| | 120-140 | 1-10 | oil gas | 2-6 bbls. |
| Oswego | 493 | 27 | gas | 1-2 M. cu. ft. |
| Squirrel | 820 | 30 | oil | 1-2 bbls. |
| Bartlesville | 920 | 15 | oil | 2-25 bbls. |
| Mississippi | 1025 | 40 | gas | ½-1 M. cu. ft. |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS:

DATE OF OPENING: 1915.

REMARKS: The South Coffeyville pool is an extension from the Coffeyville pool of southern Kansas.

SOUTH ELGIN

COUNTY: Osage.
 LOCATION: T. 29 N., R. 9 E.
 SURFACE ELEVATION: 750-850 feet.
 SURFACE FORMATION: Elgin sandstone.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Folding; faults.

| PRODUCING | | | INITIAL | |
|-------------|-------|-----------|------------|--------------|
| HORIZONS | DEPTH | THICKNESS | PRODUCTION | PRODUCTION |
| Ramsey | 855 | 5 | oil | 40-75 bbls. |
| Peru | 900 | 160 | oil | 25-200 bbls. |
| Oswego | 1150 | 10 | oil | 2-5 bbls. |
| Mississippi | 1695 | 5 | | |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS:

DATE OF OPENING: 1915.

REMARKS: The South Elgin pool is an extension of the Elgin pool of southern Kansas.

SOUTH PONCA CITY

See Ponca City, page 125.

SOUTH WELEETKA

See Dustin, page 54.

SPENCER

COUNTY: Okmulgee.
 LOCATION: T. 15-16 N., R. 14 E.
 SURFACE ELEVATION: 500-650 feet.
 SURFACE FORMATION: Stuart shale.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Subsurface folds.

| PRODUCING | | | INITIAL | |
|------------|-------|-----------|------------|----------------|
| HORIZONS | DEPTH | THICKNESS | PRODUCTION | PRODUCTION |
| Red Fork | 1255 | 20 | oil | 6-15 bbls. |
| Dutcher | 1312 | 100 | oil gas | 10-200 bbls |
| Misener | 1580 | | | 1-2 M. cu. ft. |
| Wilcox | 1660 | | | |
| Tyner | 1720 | | | |
| Burgen | 1900 | | | |
| Furkey Mt. | 2010 | | | |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS: Wet. Rock pressure 200 to 250 pounds.

DATE OF OPENING: 1917.

REMARKS: The Spencer pool is an extension of the Stone Bluff pool of Wagoner county. It derived its name from the J. Spencer farm on which the first well in the area was drilled.

SPERRY

COUNTY: Tulsa.
 LOCATION: T. 20-21 N., 12 E.
 SURFACE ELEVATION: 600-750 feet.
 SURFACE FORMATION: Coffeyville formation.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Local folds.

| PRODUCING | | | INITIAL | |
|--------------|-------|-----------|------------|-----------------|
| HORIZONS | DEPTH | THICKNESS | PRODUCTION | PRODUCTION |
| Big Lime | 590 | 10 | | |
| Bartlesville | 1150 | 65 | oil gas | 5-75 bbls. |
| Taneha | 1290 | 10 | oil | 3-25 M. cu. ft. |
| Burgess | 1335 | 10 | oil gas | 10-100 bbls. |
| Mississippi | 1440 | 20 | oil | 5-25 bbls. |
| Tyner | 1760 | 40 | oil gas | 1 M. cu. ft. |
| Turkey Mt. | 1860 | 20 | | 15 bbls. |
| | | | | 10-400 bbls |
| | | | | 1-6 M. cu. ft. |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS:

DATE OF OPENING: 1909-1919.

REMARKS:

SPIRO

COUNTY: LeFlore.
 LOCATION: T. 9 N., R. 25 E.
 SURFACE ELEVATION: 500-600 feet.
 SURFACE FORMATION: McAlester shale.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Anticlinal folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-----------|-----------|------------|--------------------|
| Uncorrelated | 1560-1620 | | gas | 1.5 M. cu. ft. |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS:

DATE OF OPENING: 1914.

REMARKS: The Spiro pool, located about 5 miles northwest of Spiro on the Milton anticline, has a number of wells all producing gas. No oil has been found in this region.

STIDHAM

COUNTY: McIntosh.
 LOCATION: T. 11 N., R. 15 E.
 SURFACE ELEVATION: 700-850 feet.
 SURFACE FORMATION: Boggy shale.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Anticlinal folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|-------------|--------------------|
| Uncorrelated | 1170 | 20 | oil gas | 5-20 bbls. |
| | 2440 | 5 | gas | 1.3 M. cu. ft. |
| | 2550 | 14 | show of gas | 2 M. cu. ft. |
| Chattanooga | 2740 | 85 | | |
| Hunton | 2945 | 13 | show of gas | |
| Sylvan | 3060 | 30 | | |
| Viola | 3090 | 13 | | |
| Wilcox | 3207 | 7 | dry | |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS:

DATE OF OPENING: 1914.

REMARKS: Sinclair and White drilled the first well of the area in sec. 14, T. 11 N., R. 15 E. It was completed at a depth of 2,000 feet with a reported gas production. Deep drilling was started by the Simpson Fell Oil Company, in sec. 27, T. 11 N., R. 15 E., 1926. The Wilcox sand was reached at a depth of 3,200 feet but without production.

STONE BLUFF

COUNTY: Wagoner.
 LOCATION: T. 16 N., R. 14 E.
 SURFACE ELEVATION: 500-900 feet.
 SURFACE FORMATION: Stuart shale.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Local folds and faults.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-----------|-----------|------------|--------------------|
| Salt sand | 1000-1050 | | | |
| Red Fork | 1100-1130 | | gas | 1-10 M. cu. ft. |
| Glenn | 1200 | | | |
| Dutcher | 1420-1600 | | oil gas | 50-400 bbls. |
| Misener | 1800-2000 | | | |
| Wilcox | 1840-2040 | | | |
| Tyner | 1920-2120 | | | |
| Burgen | 1985-2100 | | oil | 35-60 bbls. |
| Turkey Mt. | 2275 | | | |

CHARACTER OF OIL: Gravity, 36° B.

CHARACTER OF GAS: Wet and dry.

DATE OF OPENING: 1915.

REMARKS: The production of both oil and gas in the Stone Bluff pool is from the Dutcher sand. The first development was begun by B. C. Goble in sec. 5, T. 16 N., R. 15 E. The first well had an initial production of 600 barrels of oil per day.

STRIKER

COUNTY: Wagoner.
 LOCATION: T. 18 N., R. 16 E.
 SURFACE ELEVATION: 700-800 feet.
 SURFACE FORMATION: Cherokee shale.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Faulting, and lenticular sands.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| | 450 | 5 | oil | 10-15 bbls. |
| Dutcher series | 610 | 100 | gas | 1.5 M. cu. ft. |
| | 800 | 20 | oil | 6-30 bbls. |
| Morrow-Pitkin | 915 | 10 | oil | 10-150 bbls. |

CHARACTER OF OIL: Gravity, 33-37° B.

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1917.

REMARKS: The Striker pool has produced to date, approximately \$1,500,000 worth of oil. There are 14 wells in the area producing from a sand about seven feet thick and which is very tight. The initial production ranges from 10 to 150 barrels of oil per day.

STROUD

COUNTY: Creek-Lincoln.

LOCATION: T. 14 N., R. 6-7 E.

SURFACE ELEVATION: 900 feet.

SURFACE FORMATION: Buck Creek-Pawhuska formation, Oologah limestone.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Anticlinal folding, subsurface dome.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Layton | 1435 | 10 | gas | 10-15 M. cu. ft. |
| Prue | 2490 | 6 | oil | 5-25 bbls. |
| Skinner | 2555 | 30 | oil | 15-25 bbls. |
| Bartlesville | 3230 | 50 | oil | 35-100 bbls. |
| Dutcher | 4138 | 10 | oil | |
| Wilcox | 4220 | | oil | 10-100 bbls. |
| Siliceous | 4575 | 10 | oil | 10 bbls |

CHARACTER OF OIL: Gravity, 40-40.9° B. 53° B., from deep sand.

CHARACTER OF GAS:

DATE OF OPENING: 1923.

PEAK PRODUCTION DATE: June, 1924.

PEAK PRODUCTION: 25,000 barrels.

NUMBER OF WELLS: 18.

REMARKS: The Stroud pool was discovered by the Union Petroleum Company in sec. 2, T. 14 N., R. 6 E. The well was a phenomenal high-gravity producer in the Wilcox sand.

SUMMERS

COUNTY: Muskogee.

LOCATION: Secs. 35 and 36, T. 15 N., R. 15 E.

SURFACE ELEVATION: 600-650 feet.

SURFACE FORMATION: Boggy Shale.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Subsurface folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Sand | 1443 | 12 | oil | 50-800 bbls. |

CHARACTER OF OIL: Gravity,-----

CHARACTER OF GAS:

DATE OF OPENING: 1914.

REMARKS: This pool now produces about 75 barrels.

**SUNRAY
Oakhurst**

COUNTY: Tulsa.

LOCATION: T. 18 N., R. 12 E.

SURFACE ELEVATION: 600-850 feet.

SURFACE FORMATION: Coffeyville formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Local folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------------------|
| Oswego | 590 | 10 | | |
| Perryman | 1000 | 35 | oil gas | 5-10 bbls. 1 M. cu. ft. |
| Red Fork | 1320 | 10 | oil | 5-25 bbls. |
| Taneha | 1466 | 34 | oil gas | 40 bbls. 1-2 M. cu. ft. |
| Burgess | 1570 | 30 | oil gas | 10 bbls. 1 M. cu. ft. |
| Mississippi | 1610 | 80 | | |
| Wileox | 1975 | 25 | oil gas | 10-290 bbls. 1-4 M. cu. ft. |
| Turkey Mt. | 2170 | 20 | oil | 10-400 bbls. |

CHARACTER OF OIL: Gravity, 36.9-38° B.

CHARACTER OF GAS:

DATE OF OPENING: 1925.

REMARKS: The Sunray pool was discovered by Munn Brothers, Inc., and the Sunray Oil Corporation late in 1925. They completed a number of excellent producing wells in the Wilcox sand in sec. 6, T. 18 N., R. 12 E.

TALALA

COUNTY: Rogers.

LOCATION: T. 24 N., R. 16 E.

SURFACE ELEVATION: 600-800 feet.

SURFACE FORMATION: Nowata shale.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Terraces.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Oswego | 335 | 10 | | |
| Bartlesville | 715 | 20 | gas | 1-2 M. cu. ft. |
| Mississippi | 1035 | 50 | gas | 1 M. cu. ft. |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS:

DATE OF OPENING: 1913.

REMARKS:

TANEHA

COUNTY: Rogers-Tulsa.

LOCATION: T. 19 N., R. 14 E.

SURFACE ELEVATION: 600-800 feet.

SURFACE FORMATION: Broken Arrow formation.
AGE OF SURFACE ROCKS: Pennsylvanian.
STRUCTURE: Local folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|---------------------------|
| Oswego | 580 | 100 | | |
| | 1140 | 20 | gas | 1-4 M. cu. ft. |
| | 1322 | 20 | oil gas | 3 bbls. 1-7 M. cu. ft. |

CHARACTER OF OIL: Gravity -----
CHARACTER OF GAS: Dry. Rock pressure 220 to 300 pounds.
DATE OF OPENING: 1917.
REMARKS:

TATUMS

COUNTY: Carter.
LOCATION: T. 1 S., R. 3 W.
SURFACE ELEVATION: 947-1,040 feet.
SURFACE FORMATION: Clear Fork-Wichita formation.
AGE OF SURFACE ROCKS: Permian.
STRUCTURE: Local folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| | 2320 | 3 | oil | 90 bbls. |
| | 2350 | 20 | oil | 300 bbls. |
| | 2380 | 15 | oil | 95 bbls. |

CHARACTER OF OIL: Gravity, 27° B.
CHARACTER OF GAS:
DATE OF OPENING: 1927.

REMARKS: The Tatums pool discovered early in 1927 is believed to be located on buried structure. The Magnolia Petroleum Company completed the discovery well in sec. 14, T. 1 S., R. 3 W., January 1927 at a depth of 2,352 feet with an initial production of 25 barrels of oil per day. The pool is connected with this Company's pipe lines and two others.

TERRA-OKLA.

COUNTY: Muskogee.
LOCATION: Secs. 28 and 29, T. 15 N., R. 15 E.
SURFACE ELEVATION: 600-650 feet.
SURFACE FORMATION: Boggy shale and Stuart shale.
AGE OF SURFACE ROCKS: Pennsylvanian.
STRUCTURE: Subsurface folds and faults.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-----------|-----------|------------|--------------------|
| Sand | 1744-1789 | 9-22 | oil | 75-1400 bbls. |

CHARACTER OF OIL: Gravity, 39° A. P. I.
CHARACTER OF GAS:
DATE OF OPENING: June, 1919.
REMARKS: Present production about 80 barrels.

TERLTON

COUNTY: Pawnee.
LOCATION: T. 20 N., R. 8 E.
SURFACE ELEVATION: 750-950 feet.
SURFACE FORMATION: Nelagoney formation.
AGE OF SURFACE ROCKS: Pennsylvanian.
STRUCTURE: Terraces and noses.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|----------------------------|
| Layton | 1460 | 45 | oil | 10-15 bbls. |
| Cleveland | 1960 | 35 | oil gas | 5-10 bbls. 1 M. cu. ft. |
| Peru | 2100 | 70 | | |
| Wheeler | 2355 | 30 | oil | 20-125 bbls. |
| Skinner | 2580 | 24 | oil | 10-100 bbls. |
| Bartlesville | 2680 | 70 | oil | 10-1500 bbls. |
| Tucker | 2811 | 14 | oil | 15-75 bbls. |
| Wilcox | 3105 | 20 | oil | 15-175 bbls. |

CHARACTER OF OIL: Gravity -----
CHARACTER OF GAS:
DATE OF OPENING: 1912.
REMARKS:

TEXHOMA

COUNTY: Texas.
LOCATION: T. 1 N., R. 12 E., C. M.
SURFACE ELEVATION: 3,500 feet approximately.
SURFACE FORMATION: Tertiary formation.
AGE OF SURFACE ROCKS: Late Tertiary.
STRUCTURE: Monocline.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|---|-------|-----------|------------|----------------------|
| "Big Lime" of Texas Pan. (Wichita --Albany) | 2710 | 15 | gas | 15-20 (?) M. cu. ft. |

CHARACTER OF OIL: Gravity -----
CHARACTER OF GAS:
DATE OF OPENING: 1926.
REMARKS: The Texhoma gas well was completed in December, 1923 by the Home Development Company, sec. 4, T. 7 N., R. 12 E., Cimarron Meridian. It was drilled to a depth of 3,040 feet with an initial

production variously estimated at 15 to 20 million cubic feet of gas per day.

THOMAS

COUNTY: Kay.

LOCATION: T. 25 N., R. 2 W.

SURFACE ELEVATION: 1,030 feet.

SURFACE FORMATION: Lower Enid formation.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Faulted anticlinal fold.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Permian | 1200 | | gas | 10-30 M. cu. ft. |
| | 1900 | | oil | |
| Thomas | 2035 | | oil | 250 bbls. |
| Turk | 2600 | | oil | |
| Wilcox | 3955 | 91 | oil | 3600 bbls. |

CHARACTER OF OIL: Gravity, 42-44° B. Color, green.

CHARACTER OF GAS:

DATE OF OPENING: 1924.

REMARKS: The discovery well of the Thomas pool was completed by the Marland Oil Company, May, 1924 as a 250 barrel oil well. It was drilled to a depth of 2,055 feet where it encountered a productive sand, since called the Thomas sand; however, the major portion of the oil in the pool has come from the Wilcox sand.

TIBBENS

COUNTY: Creek.

LOCATION: T. 15 N., R. 9 E.

SURFACE ELEVATION: 750-900 feet.

SURFACE FORMATION: Ochelata formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Layton | 900 | 40 | gas | 3-5 M. cu. ft. |
| Peru | 1290 | 10 | oil | 10-40 bbls. |
| Wheeler | 2210 | 30 | | |
| Bartlesville | 2300 | 25 | oil | 20-40 bbls. |
| Dutcher | 2665 | 40 | | |
| Wilcox | 3050 | 10 | gas | 1-10 M. cu. ft. |
| | 3680 | 5 | | |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS:

DATE OF OPENING: 1924.

REMARKS: C. G. Tibbens, an oil operator in Oklahoma, has done much to develop the southern Creek County area. The Tibbens pool is located in sec. 31, T. 15 N., R. 9 E.

TIGER FLATS Turkey Pen Hollow

COUNTY: Okmulgee.

LOCATION: T. 12 N., R. 11-12 E.

SURFACE ELEVATION: 700-900 feet.

SURFACE FORMATION: Stuart shale.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|-------------|--------------------|
| Glenn | 1515 | 35 | oil | 20-30 bbls. |
| Booch | 1900 | 25 | oil gas | 30-570 bbls. |
| Deaner | 2300 | 100 | oil | 1 M. cu. ft. |
| Lyons | 2590 | 110 | oil gas | 30-400 bbls. |
| Wilcox | 3680 | | Show of oil | 100-300 bbls. |
| | | | | 10 M. cu. ft. |

CHARACTER OF OIL: Gravity, 32-42° B.

CHARACTER OF GAS:

DATE OF OPENING: 1908.

REMARKS: In the spring of 1908 the Tiger Oil and Gas Company completed a well in sec. 10, T. 12 N., R. 12 E., to a depth a little over 2,300 feet. The well produced 270 barrels of oil for a few days, until all the tankage was full; it was shut in and not opened for two years, when it was opened and found dry. This was the first well of the Tiger Flats pool.

TIMBER RIDGE

COUNTY: Muskogee.

LOCATION: Secs. 11, 12, and 13, T. 14 N., R. 17 E.

SURFACE ELEVATION: 650-700 feet.

SURFACE FORMATION: Winslow formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Subsurface folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-----------|-----------|------------|--------------------|
| Sand | 1050-1100 | | } | 50-250 bbls. |
| End Hole | 1385-1407 | | | |
| Muskogee | 1480-1510 | | | |
| Timber Ridge | 1540-1560 | | | |

CHARACTER OF OIL: Gravity,-----.

CHARACTER OF GAS:

DATE OF OPENING: January, 1910.

REMARKS: The peak production of this pool reached as high as 800 barrels, but has since declined to about 20 barrels.

TONKAWA

COUNTY: Kay-Noble.

LOCATION: T. 24-25 N., R. 1 W.

SURFACE ELEVATION: 990-1,055 feet.

SURFACE FORMATION: Pennsylvanian-Permian formations.

AGE OF SURFACE ROCKS: Pennsylvanian-Permian.

STRUCTURE: Faulted anticline, and subsurface folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|---------------------------------|
| Hoy | 1150 | 20 | gas | 1.40 M. cu. ft. |
| Hotson | 1350 | 30 | | |
| Newkirk | 1450 | 40 | oil gas | 20-75 bbls. 1-15 M. cu. ft. |
| Upper Hoover | 1800 | 20 | gas | 3-16 M. cu. ft. |
| Middle Hoover | 1850 | 15 | oil | 25-375 bbls. |
| Lower Hoover | 2000 | 50 | oil gas | 35-300 bbls. 1-10 M. cu. ft. |
| Carmichael | 2050 | 50 | oil | 15-1225 bbls. |
| Endicott | 2100 | 6 | oil | 50 bbls. |
| Tonkawa | 2500 | 30 | oil gas | 50-3000 bbls. 1-6 M. cu. ft. |
| Layton | 3020 | 75 | | |
| Oswego | 3380 | 100 | | |
| Mississippi | 3975 | 25 | | |
| Chattanooga | 4150 | 150 | | |
| Wilcox | 4330 | 60 | oil | 40-10,000 bbls. |

CHARACTER OF OIL: Gravit, 41-43.9° B.

CHARACTER OF GAS: Wet. Rock pressure 60-750 pounds.

DATE OF OPENING: 1921.

PEAK PRODUCTION DATE: September, 1924.

PEAK PRODUCTION: 108,500 barrels.

NUMBER OF WELLS: 814.

REMARKS: In the spring of 1921 the Marland Refining Co. completed a well in sec. 16, T. 24 N., R. 1 W., (June 29, 1921). The discovery well was drilled to a depth of 2,658 to 2,660 feet, and had an initial production of 1,000 barrels of oil per day which tested 43° B. On April 10, 1924, T. B. Slick, discovered the Wilcox production of the pool in a well in sec. 35, T. 25 N., R. 1 W. The Wilcox sand was found at a depth of 4,065 to 4,085 feet with an initial production of 2,950 barrels of high gravity oil.

TRANSCONTINENTAL

COUNTY: Muskogee.

LOCATION: Sec. 7, T. 13 N., R. 16 E.

SURFACE ELEVATION: 625-650 feet.

SURFACE FORMATION: Boggy Shale.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Subsurface folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Sand | 1863 | 15 | oil | 50-100 bbls. |

CHARACTER OF OIL: Gravity,-----.

CHARACTER OF GAS:

DATE OF OPENING: October, 1918.

REMARKS:

TULSA

COUNTY: Tulsa.

LOCATION: T. 19 N., R. 13 E.

SURFACE ELEVATION: 650-800 feet.

SURFACE FORMATION: Coffeyville formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Local folds, lenticular sands.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------------------|
| Big Lime | 450 | 10 | | |
| Oswego | 580 | 15 | | |
| Perryman | 1086 | 10 | oil | 10-15 bbls. |
| Red Fork | 1300 | 30 | oil | |
| Bartlesville | 1446 | 50 | oil | 10-50 bbls. |
| Mississippi | 1522 | 10 | | |
| Dutcher | 1700 | 50 | gas | 2-3 M. cu. ft. |
| Wilcox | 1990 | 20 | oil gas | 10-100 bbls. 1-2 M. cu. ft. |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS:

DATE OF OPENING: 1901.

REMARKS: The Tulsa pool is an area of spotted oil and gas production located directly southeast of Tulsa. Development began in the vicinity soon after the Red Fork pool was established. The wells have not been phenomenally large ones but production has been long-lived.

TURKEY MOUNTAIN

COUNTY: Tulsa.

LOCATION: T. 18 N., R. 12 E.

SURFACE ELEVATION: 600-950 feet.

SURFACE FORMATION: Nellie Bly formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Dome folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------------------|
| Big Lime | 490 | 200 | oil | 2-10 bbls. |
| Oswego | 750 | 20 | oil | 2-10 bbls. |
| Red Fork | 1390 | 10 | oil | 5 bbls. |
| Glenn | 1452 | 70 | oil gas | 1-40 bbls. 1 M. cu. ft. |
| Taneha | 1595 | 30 | gas | 1-2 M. cu. ft. |
| Dutcher | 1950 | 30 | oil gas | 1-4 M. cu. ft. |
| Wilcox | 2090 | 30 | oil | 10-200 bbls. |
| Turkey Mt. | 2145 | 30 | oil gas | 5-1000 bbls. 1-5 M. cu. ft. |

CHARACTER OF OIL: Gravity, 38-41° B.

CHARACTER OF GAS:

DATE OF OPENING: 1922.

REMARKS:

TURKEY PEN HOLLOW
See Tiger Flats, page 159.

TURLEY

COUNTY: Tulsa.

LOCATION: T. 20 N., R. 12-13 E.

SURFACE ELEVATION: 650-1,000 feet.

SURFACE FORMATION: Coffeyville formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------------------|
| Oswego | 820 | 30 | | |
| Bartlesville | 1260 | 45 | oil gas | 10-40 bbls. 2-12 M. cu. ft. |
| Taneha | 1495 | 10 | | |
| Burgess | 1605 | 25 | gas | 1-10 M. cu. ft. |
| Siliceous | 1945 | 20 | oil gas | 60-500 bbls. 1-5 M. cu. ft. |

CHARACTER OF OIL: Gravity, 32° B.

CHARACTER OF GAS:

DATE OF OPENING: 1914.

REMARKS: The Turley pool was an extension of development from the Glenn pool area to northern Tulsa County.

TUSKEGEE

COUNTY: Creek.

LOCATION: T. 14 N., R. 10 E.

SURFACE ELEVATION: 700-850 feet.

SURFACE FORMATION: Coffeyville formation.

AGE OF SURFACE ROCKS: Pennsylvanian.
STRUCTURE: Faulting and possible folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|----------------------------|
| Glenn | 2300 | 50 | gas | 1-2 M. cu. ft. |
| Booch | 2535 | 50 | | |
| Taneha | 2660 | 40 | oil | 10-80 bbls. |
| Dutcher | 2810 | 50 | oil gas | 5-75 bbls. 60-455 bbls. |
| Wilcox | 3472 | 10 | oil | 1-10 M. cu. ft. |

CHARACTER OF OIL: Gravity,

CHARACTER OF GAS:

DATE OF OPENING: 1924.

REMARKS: The discovery well of the Tuskegee pool was completed February, 1924, by the Independent Oil and Gas Company, in sec. 31, T. 14 N., R. 10 E., with an initial production of 280 barrels of oil per day.

VELMA

COUNTY: Stephens.

LOCATION: T. 1-2 S., R. 4-5 W.

SURFACE ELEVATION: 1,300 feet.

SURFACE FORMATION: Clear Fork-Wichita formations.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Anticline and faults.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-----------|-----------|------------|------------------------------|
| Permian | 350-900 | | oil gas | 5-50 bbls. 1-5 M. cu. ft. |
| Glenn | 1700-2300 | | oil | 25-50 bbls. |

CHARACTER OF OIL: Gravity, 35° B.

CHARACTER OF GAS:

DATE OF OPENING: 1917.

REMARKS: The Texas Company completed the discovery well of the Velma field July, 1917 in sec. 36, T. 1 S., R. 5 W., with an initial production of 20 barrels of oil per day. Lack of pipeline transportation in the region retarded further development until 1920 when the first line was built into the field and rapid development followed.

VERA

COUNTY: Washington.

LOCATION: T. 23 N., R. 13-14 E.

SURFACE ELEVATION: 650-850 feet.

SURFACE FORMATION: Coffeyville formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Local folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Oswego | 1000 | 25 | | |
| Bartlesville | 1350 | 40-60 | oil | 100-300 bbls. |
| Burgess | 1500 | 10-30 | gas | 1-10 M. cu. ft. |

CHARACTER OF OIL: Gravity, 31° B.

CHARACTER OF GAS:

DATE OF OPENING: 1915.

REMARKS: The Vera pool is located in the extreme southeastern corner of Washington County and was one of the late pools of that county. After the first wells were completed early in 1915, much activity followed until in October of 1915. About 40 wells were drilled, 25 of which produced oil and 9 produced gas.

VERNON

COUNTY: Kay.

LOCATION: T. 29 N., R. 1 E.

SURFACE ELEVATION: 1,100 feet.

SURFACE FORMATION: Wellington formation.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Dome.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|---------------------------------|
| Newkirk | 1400 | 35 | gas | 2-25 M. cu. ft. |
| Endicott | 2000 | 150 | gas | 30 M. cu. ft. |
| Tonkawa | 2300 | 30 | oil gas | 100-200 bbls. |
| Mississippi | 3350 | 100 | oil | 5-10 M. cu. ft. 50-250 bbls. |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS:

DATE OF OPENING: 1925.

REMARKS: The discovery well of the Vernon pool was drilled by the Marland Oil and Refining Company in sec. 16, T. 29 N., R. 1 E., The well was completed September 20, 1925, at a depth of 3,393 to 3,404 feet with an initial production of 125 barrels of oil per day. This well was predicted to be the forerunner of a new pool.

VIAN

See Sequoyah, page 146.

VINITA

COUNTY: Rogers-Craig.

LOCATION: T. 24 N., R. 18-19 E.

SURFACE ELEVATION: 770-960 feet.

SURFACE FORMATION: Cherokee shale.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Local dips and anticlinal folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|------------------------------|
| Bartlesville | 150 | 50 | | |
| Burgess | 400 | 50 | oil gas | 3-10 bbls. 1-2 M. cu. ft. |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS: Rock pressure 135 pounds.

DATE OF OPENING: 1910.

REMARKS: The Vinita pool is a small area of small oil and gas production. It lies between Vinita and Chelsea along the Rogers-Craig County line.

VINES or SCOTT

COUNTY: Murray.

LOCATION: T. 1 S., R. 2 E.

SURFACE ELEVATION: 900-950 feet.

SURFACE FORMATION: Viola limestone.

AGE OF SURFACE ROCKS: Ordovician.

STRUCTURE: Dome.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Simpson | | | oil | 1-2 bbls. |

CHARACTER OF OIL: Gravity, ----- Heavy, black asphaltic oil.

CHARACTER OF GAS:

DATE OF OPENING: 1915.

REMARKS:

WAGONER

COUNTY: Wagoner.

LOCATION: T. 17-18 N., R. 17-18 E.

SURFACE ELEVATION: 600-700 feet.

SURFACE FORMATION: Winslow formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Subsurface folds and faults.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|---------|-----------|------------|--------------------------------|
| Dutcher | 200-360 | | oil gas | 10-145 bbls. 1-3 M. cu. ft. |
| Chattanooga | 525 | 10 | gas | 1-4 M. cu. ft. |
| Wilcox | 750 | 10 | gas | 1-2 M. cu. ft. |
| Tyner | 650-800 | | oil | 10-20 bbls. |
| Burgen | 1094 | 30 | gas | 1-15 M. cu. ft. |

CHARACTER OF OIL: Gravity, 36-42.5° B. Color, light green.

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1914.

REMARKS: The Wagoner pool is located northwest of the town of Wagoner. The production in this area is being obtained from the Peru and Ordovician series.

WAINRIGHT

COUNTY: Muskogee.

LOCATION: Sec. 16, T. 13 N., R. 16 E.

SURFACE ELEVATION: 650-675 feet.

SURFACE FORMATION: Boggy Shale.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Subsurface folds.

| PRODUCING | | | | INITIAL |
|-----------|-------|-----------|------------|--------------|
| HORIZONS | DEPTH | THICKNESS | PRODUCTION | PRODUCTION |
| Sand | 1910 | 20 | oil | 100-600 bbls |

CHARACTER OF OIL: Gravity,-----

CHARACTER OF GAS:

DATE OF OPENING: 1910.

REMARKS:

WALTERS Keys Pool

COUNTY: Cotton.

LOCATION: T. 1-2-3 S., R. 10-11 W.

SURFACE ELEVATION: 980-1,000 feet.

SURFACE FORMATION: Clear Fork-Wichita formations.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Anticline and dome.

| PRODUCING | | | | INITIAL |
|-----------|-------|-----------|------------|-----------------|
| HORIZONS | DEPTH | THICKNESS | PRODUCTION | PRODUCTION |
| Stray | 1700 | 10 | gas | |
| Priddy | 2100 | 10 | oil gas | 20-200 bbls. |
| Keys | 2200 | 50 | oil | 1-3 M. cu. ft. |
| Zypsic | 2320 | 40 | gas | 10-100 bbls. |
| | 2400 | 15 | oil | 1-45 M. cu. ft. |

CHARACTER OF OIL: Gravity, 32-33.9° B.

CHARACTER OF GAS: Dry. Rock pressure 800 to 900 pounds.

DATE OF OPENING: 1917.

REMARKS: The discovery well of the Walters pool was completed February, 1917 and since that date a number of wells have been drilled having an initial production of 100 to 250 barrels of oil daily, but the rate of decline has been rapid.

The Keys pool, located in secs. 22, 23, 24, 25, 26 and 27, T. 1 S., R. 10 W., is the gas producing area, for the main part of the Walters

field produces oil. The sands on the top of the various structures have considerable gas which decreases in quantity as the rock pressure is lessened.

WANN

COUNTY: Nowata.

LOCATION: T. 28 N., R. 14 E.

SURFACE ELEVATION: 850-1,000 feet.

SURFACE FORMATION: Ochelata formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Monocline.

PRODUCING

| HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------|-------|-----------|------------|-----------------------|
| Bartlesville | 1000 | 50 | oil | 10-40 bbls. |
| Burgess | 1200 | 40 | gas | 1-5 M. cu. ft. |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS:

DATE OF OPENING: 1907.

REMARKS: The development in the Wann pool is similar to that in the Copan pool and started at about the same time. The Bartlesville sand is the chief productive horizon in the area and is about 300 feet shallower than the Bartlesville sand in the Copan field.

WATCHORN

See Morrison, page 99.

WEBB

COUNTY: Grant.

LOCATION: T. 27 N., R. 3 W.

SURFACE ELEVATION: 1,060 feet.

SURFACE FORMATION: Pennsylvanian-Permian formations.

AGE OF SURFACE ROCKS: Pennsylvanian-Permian.

STRUCTURE: Local folding, probable fault.

PRODUCING

| HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|------------|-------|-----------|------------|-----------------------|
| Tonkawa | 2940 | 10 | oil | 100-400 bbls. |
| Layton | 3390 | 110 | gas | 1 M. cu. ft. |
| Oswego | 3760 | 130 | gas | |
| Burgess | 4050 | 200 | gas | 1 M. cu. ft. |
| Miss. lime | 4090 | 200 | gas | 15 M. cu. ft. |
| Wilcox | 4350 | 10 | oil | 50-500 bbls. |

CHARACTER OF OIL: Gravity, 40° B.

CHARACTER OF GAS:

DATE OF OPENING: 1921.

REMARKS: The Webb pool was discovered by the Marland Oil and Refining Company in sec. 2, T. 27, N., R. 3 W., by a completion on

the A. Webb farm for 500 barrels of oil per day in sand at a depth of 4,349 feet.

WEBBERS FALLS
See Sequoyah, page 146.

WEBSTER

COUNTY: Wagoner.
LOCATION: T. 17 N., R. 15 E.
SURFACE ELEVATION: 600-750 feet.
SURFACE FORMATION: Stuart formation.
AGE OF SURFACE ROCKS: Pennsylvanian.
STRUCTURE: Local folds.

| PRODUCING | | | | INITIAL |
|-------------|-------|-----------|------------|----------------|
| HORIZONS | DEPTH | THICKNESS | PRODUCTION | PRODUCTION |
| Mississippi | 1100 | 30 | gas | 1-3 M. cu. ft. |
| Burgen | 1160 | 30 | oil | 30-300 bbls. |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS:

DATE OF OPENING: 1917.

REMARKS:

WELEETKA

COUNTY: Okfuskee.
LOCATION: T. 10 N., R. 11 E.
SURFACE ELEVATION: 750-900 feet.
SURFACE FORMATION: Calvin sandstone.
AGE OF SURFACE ROCKS: Pennsylvanian.
STRUCTURE: Various folds, probable faults.

| PRODUCING | | | | INITIAL |
|-----------|-----------|-----------|------------|-----------------|
| HORIZONS | DEPTH | THICKNESS | PRODUCTION | PRODUCTION |
| Glenn | 1940 | 100 | gas | 1-4 M. cu. ft. |
| Gilcrease | 2530-2660 | 30 | oil gas | 10-200 bbls. |
| Lyons | 3030 | 10 | gas | 1-15 M. cu. ft. |
| | | | | 1-10 M. cu. ft. |

CHARACTER OF OIL: Gravity, 38-39.9° B.

CHARACTER OF GAS:

DATE OF OPENING: 1913.

REMARKS: The Weleetka pool is an old productive area. In 1926 and 1927 deeper sands were being sought for greater production.

WEST DUNCAN
See Duncan, page 53.

WETUMKA

COUNTY: Hughes.
LOCATION: T. 9 N., R. 10 E.
SURFACE ELEVATION: 750-950 feet.
SURFACE FORMATION: Wewoka formation.
AGE OF SURFACE ROCKS: Pennsylvanian.
STRUCTURE: Faulting.

| PRODUCING | | | | INITIAL |
|-----------|-------|-----------|------------|----------------|
| HORIZONS | DEPTH | THICKNESS | PRODUCTION | PRODUCTION |
| Stray | 1185 | 20 | gas | 1-5 M. cu. ft. |
| Deaner | 2900 | 30-50 | oil | 50-600 bbls. |
| Lyons | 3400 | | | |
| Hunton | 3755 | | oil | 50-800 bbls. |
| Wilcox | 4000 | 250 | | |

CHARACTER OF OIL: Gravity, 38-39.9° B.

CHARACTER OF GAS: Dry. Rock pressure 500 pounds.

DATE OF OPENING: 1919.

REMARKS: In September, 1919, local parties of the Wetumka area completed a well in sec. 4, T. 9 N., R. 10 E., with an initial production of 6 million cubic feet of gas per day at a depth of 1,204 feet. Other tests had been drilled in the area but produced only small shows of oil or were abandoned because of lack of funds.

WEWOKA

COUNTY: Seminole.
LOCATION: T. 7-8 N., R. 8 E.
SURFACE ELEVATION: 750-950 feet.
SURFACE FORMATION: Francis formation.
AGE OF SURFACE ROCKS: Pennsylvanian.
STRUCTURE: Subsurface anticlinal folds and domes.

| PRODUCING | | | | INITIAL |
|-----------|-------|-----------|------------|-----------------|
| HORIZONS | DEPTH | THICKNESS | PRODUCTION | PRODUCTION |
| | 1843 | 20 | oil | 60-100 bbls. |
| | 2470 | 5 | gas | 1-10 M. cu. ft. |
| Dixie | 2800 | | | |
| Smith | 3132 | 10 | oil gas | 70-200 bbls. |
| | | | | 1-3 M. cu. ft. |
| Sykes | 3200 | 60 | oil gas | 100-3000 bbls. |
| | | | | 3-50 M. cu. ft. |
| Mayes (?) | 3422 | 12 | gas | 1-3 M. cu. ft. |
| Hunton | 3873 | 78 | oil | 250-2500 bbls. |
| Sylvan | 4005 | 40 | | |
| Viola | 4096 | 4 | | |
| Wilcox | 4148 | 20 | oil | 50-3500 bbls. |

CHARACTER OF OIL: Gravity, 38-39.9° B.

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1912.

REMARKS: The Wewoka pool is an old producing area. On St. Patrick's day, 1923, R. H. Smith completed a well for 2,800 barrels of oil in a sand named in his honor. In July, 1924 Sykes and Boggs completed a well for 1,000 barrels of oil in a sand 3,183 to 3,200 feet in depth which is called the Sykes sand. In the latter part of 1925, the Dixie Oil Company completed the first well in the Hunton lime, sec. 32, T. 8 N., R. 8 E., or 72 barrels of oil per day.

WHEELER

COUNTY: Carter.

LOCATION: T. 3 S., R. 2 W.

SURFACE ELEVATION: 900-1,000 feet.

SURFACE FORMATION: Clear Fork-Wichita formation.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Wheeler dome.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Uncorrelated | 300 | 50 | gas | 1-5 M. cu. ft. |
| | 660 | 30 | gas | 1-12 M. cu. ft. |
| | 960 | 40 | oil | 5-70 bbls. |
| | 1024 | 20 | oil | 10-225 bbls. |

CHARACTER OF OIL: Gravity, 18-20° B. Color, black. Content, asphalt.

CHARACTER OF GAS:

DATE OF OPENING: 1904.

REMARKS: The Wheeler pool and dome derived its name from the Wheeler townsite although Oil City is the name of the town in the field. The discovery well was drilled by the Santa Fe Railway Company, May, 1904 in sec. 21, T. 3 S., R. 2 W. In October 1905, the company had its first success in the fourth well drilled. In 1906, the sixth well was drilled with the discovery of two sands, one gas producing, the other oil producing. Since that discovery many wells in the pool have been completed as combination oil and gas wells.

WILDHORSE

See Agra, page 8.

WICEY

COUNTY: Tulsa.

LOCATION: T. 16 N., R. 12 E.

SURFACE ELEVATION: 600-800 feet.

SURFACE FORMATION: Wewoka formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Local folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Red Fork | 1000 | | gas | 1 M. cu. ft. |
| Glenn | 1480 | 60 | oil | 2-100 bbls. |
| Taneha | 1650 | 50 | oil gas | 25-100 bbls. |
| Dutcher | 1950 | 52 | oil | 1-3 M. cu. ft. |
| Mississippi | 2149 | | | 10-300 bbls. |
| Wilcox | 2400 | | | |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS:

DATE OF OPENING: 1915.

REMARKS: The Wicey pool was discovered by the Gypsy Oil Company, October, 1915. The discovery well was located in sec. 4, T. 16 N., R. 12 E. It was drilled to a depth of 2,000 feet with an initial production of 30 barrels of oil per day.

WIMER

COUNTY: Craig.

LOCATION: T. 28-29 N., R. 18 E.

SURFACE ELEVATION: 750-900 feet.

SURFACE FORMATION: Pawnee formation and Labette shale.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Monocline, local folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Oswego | 325 | 10 | gas | ½ M. cu. ft. |
| Bartlesville | 380 | 20 | | |
| Burgess | 700 | 40 | oil gas | 20 bbls. |
| Mississippi | 890 | 20 | | 1-3 M. cu. ft. |
| Chattanooga | 920 | 40 | | |
| Sylvan | 975 | 5 | | |
| Wilcox | 1040 | 20 | oil show | |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS:

DATE OF OPENING: 1914.

REMARKS: The Wimer pool is the only productive area wholly in Craig County. It was discovered by the Kansas-Oklahoma Oil and Gas Company in April, 1914. Small quantities of oil and gas have been found in the county since that date. In 1925 deep drilling was started but with slight success to date.

WILCOX

COUNTY: Okmulgee.

LOCATION: T. 15 N., R. 11 E.

SURFACE ELEVATION: 700-900 feet.

SURFACE FORMATION: Wewoka formation.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Subsurface domes.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Red Fork | 1660 | 20 | gas | 1-12 M. cu. ft. |
| Glenn | 1748 | 30 | | |
| Taneha | 1880 | 20 | | |
| Dutcher | 2165 | 45 | gas | 1-4 M. cu. ft. |
| Wilcox | 2672 | 15 | oil | 100-1400 bbls. |

CHARACTER OF OIL: Gravity, 35-36.9° B.

CHARACTER OF GAS:

DATE OF OPENING: 1919.

REMARKS: The Wilcox pool is named from the Wilcox sand. The "deep sand" as the Wilcox sand was first called was found about 450 below the Dutcher sand. It received its name from H. F. Wilcox, who drilled the first well to it in a pool about 6 miles west of Beggs.

WILDCAT JIM

COUNTY: Carter.

LOCATION: T. 2 S., R. 2 W.

SURFACE ELEVATION: 934-1,070 feet.

SURFACE FORMATION: Clear Fork-Wichita formations.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Buried anticlinal fold.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| | 1552 | 8 | oil | 10 bbls. |
| | 1646 | 26 | oil | 70 bbls. |
| | 1673 | 15 | oil | 60 bb's. |
| | 1690 | 32 | oil | 110 bbls. |
| | 1735 | 10 | oil | 70 bbls. |
| | 1836 | 30 | oil | 142 bbls. |
| | 1990 | 32 | oil | 40 bb's. |
| | 2285 | 16 | oil | 13 bbls. |
| | 2378 | 8 | oil | 82 bbls. |
| | 2447 | 51 | oil | 100 bbls. |
| | 2505 | 15 | oil | 15 bbls. |
| | 2672 | 63 | oil | 35 bbls. |
| | 2890 | 15 | oil | 40 bbls. |

CHARACTER OF OIL: Gravity, 23 to 28° B. Color, black.

CHARACTER OF GAS:

DATE OF OPENING: 1914.

REMARKS: The first well in the Wild Cat Jim pool was drilled in 1914 by the Wildcat Jim Oil Company, sec. 18, T. 2 S., R. 2 W. It was completed at a depth of 1,646 to 1,652 feet and was estimated at 12 barrels of oil per day. In 1915, the Oklahoma-Louisiana Oil Company drilled a well in sec. 7, T. 2 S., R. 2 W., which they abandoned.

This well was completed by the Oklahoma-Fox Oil Company in August, 1916 for 75 barrels of oil per day. This well is still producing.

WILDHORSE

COUNTY: Osage.

LOCATION: T. 21-22 N., R. 10-11 E.

SURFACE ELEVATION: 700-850 feet.

SURFACE FORMATION: Nelagoney formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Anticlinal folds and domes.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Cleveland | 1150 | 100 | oil | 6-20 bbls. |
| Oswego | 1250 | 55 | oil | 20 bbls. |
| Skinner | 1590 | 50 | oil | 10-50 bbls. |
| Bartlesville | 1826 | 110 | oil gas | 100-7000 bbls. |
| | | | | 1-5 M. cu. ft. |
| Burgess | 1990 | 10 | oil | 50-500 bbls. |
| Tyner | 2270 | 25 | oil gas | 10-100 bbls. |

CHARACTER OF OIL: Gravity, 34° B.

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1912.

REMARKS: The Wildhorse pool was developed by the M. B. & K. Oil Company and the Barnsdall Oil Company in August, 1912. This was before the relinquishment of surplus acreage held by companies in excess of 4,800 acres which it was decided they could hold legally.

Greater development started in 1917 and the wells showed a variety of depths; some leases produced from 6 different horizons with an initial production ranging from 10 to 7,000 barrels of oil per day.

The Sand Springs Home Oil Company started the southern extension of the Wildhorse pool in March, 1917. More wells have been drilled in sections 33 and 34, T. 22 N., R. 10 E., than in any other sections in Osage County. Since 1919 leases have been purchased for prices ranging from \$170,000 to \$430,000 per quarter section.

WISER

COUNTY: Osage.

LOCATION: T. 27 N., R. 12 E.

SURFACE ELEVATION: 750-814 feet.

SURFACE FORMATION: Ochelata formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Folds and anticlines.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Wayside | 750 | 20-25 | oil | 10-60 bbls. |
| Bartlesville | 1475 | 10-20 | gas | 1½ M. cu. ft. |
| Burgess | 1700 | 10-12 | oil | 10 bbls. |

CHARACTER OF OIL: Gravity, 36° B.

CHARACTER OF GAS: Dry.

DATE OF OPENING: 1904.

REMARKS: Development started in the Wiser pool in 1904. The area comprises about 8 quarter sections in the southeast part of 27 N., R. 12 E. Approximately 100 wells have been drilled in the pool with an initial production ranging from 10 to 60 barrels of oil per day.

At present, air pressure is being applied to the wells in the area and a noticeable increase in production has been recorded as a result.

WOOLSEY

COUNTY: Stephens.

LOCATION: T. 2 S., R. 6 W.

SURFACE ELEVATION: 900-1,000 feet.

SURFACE FORMATION: Clear Fork-Wichita formations.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Anticline and fault.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Permian | 1300 | | | |
| Glenn | 1750 | 100 | oil | 25-130 bbls. |

CHARACTER OF OIL: Gravity, 43° B.

CHARACTER OF GAS:

DATE OF OPENING: 1922.

REMARKS: The Woolsey pool was discovered by the Magnolia Petroleum Company in 1922. The discovery well, located in sec. 23, T. 2 S., R. 6 W., had an initial production of 75 barrels of oil natural from a sand at 1,750 feet.

WYNONA

COUNTY: Osage.

LOCATION: T. 24 N., R. 8-9-19 E.

SURFACE ELEVATION: 800-1,000 feet.

SURFACE FORMATION: Nelagoney formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Domes.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|---------------------------------|
| Peru | 1600 | 25 | oil gas | 20-50 bbls. 1-9 M. cu. ft. |
| Oswego | 1745 | 60 | oil | 10-30 bbls. |
| Bartlesville | 2088 | 20 | oil gas | 25-500 bbls. 1-17 M. cu. ft. |
| Mississippi | 2281 | 20 | oil | 35-275 bbls. |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS: Dry.

REMARKS: Development in the Wynona pool has been slow but continuous since 1917. Numerous domes have been developed that are very productive from the Burgen horizon. The first Burgen sand dome was developed by C. J. Wrightsman in November, 1926, with a well drilled in sec. 6, T. 24 N., R. 8-9-10 E. The pool is a continuation of the Pershing field.

X-686

COUNTY: Osage.

LOCATION: T. 20 N., R. 10 E.

SURFACE ELEVATION: 800-1,000 feet.

SURFACE FORMATION: Ochelata formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Anticlinal folding and terraces.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Cleveland | 1110 | 30 | oil | 4-80 bbls. |
| Oswego | 1520 | 15 | | |
| Prue | 1700 | 2 | | |
| Bartlesville | 1870 | 15 | gas | 2-23 M. cu. ft. |
| Burgess | 2180 | 10 | gas | 1-20 M. cu. ft. |
| Mississippi | 2440 | 40 | gas | 1-5 M. cu. ft. |
| Turkey Mt. | 2610 | 20 | | |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS: Dry. Rock pressure 600 to 700 pounds.

DATE OF OPENING: 1919.

REMARKS: There are no closed anticlinal folds in this area, such as have been found favorable for the accumulation of oil and gas in Osage County. There are, however, pronounced anticlinal noses and some flat terrace-like structures which have proved successful in producing gas from the Mississippi limestone.

Y-686

COUNTY: Osage.

LOCATION: T. 28 N., R. 10 E.

SURFACE ELEVATION: 900-1,000 feet.

SURFACE FORMATION: Nelagoney formation.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Dome and anticlinal folding. West Mission Creek dome.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Peru | 1385 | 10 | oil show | |
| Oswego | 1556 | 10 | gas | 1-6 M. cu. ft. |
| Burgess | 1630 | 20 | gas | 1-3 M. cu. ft. |
| Mississippi | 1880 | 20 | gas | 1-6 M. cu. ft. |

CHARACTER OF GAS: Dry. Rock pressure 590 to 735 pounds.

DATE OF OPENING: 1919.

REMARKS: The West Mission Creek dome is oval in outline and its major axis extends about 2 miles in a northeast-southwest direction. This dome has been developed chiefly by the Osage Natural Gas Company whose wells are mainly on the crest of the north slope of the fold. No oil has been obtained and the gas is principally from the Mississippi limestone.

YALE

COUNTY: Payne.

LOCATION: T. 19 N., R. 5-6 E.

SURFACE ELEVATION: 900 feet, approximately.

SURFACE FORMATION: Clear Fork-Wichita formations.

AGE OF SURFACE ROCKS: Permian.

STRUCTURE: Anticlinal folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|---------------------------------|
| Layton | 2235 | 10 | | |
| Oswego | 2865 | 20 | oil | 25-50 bbls. |
| Prue | 2940 | 40 | oil gas | 45-100 bbls. 10-20 M cu. ft. |
| Skinner | 3125 | 5 | | |
| Bartlesville | 3150 | 10 | oil | 10-600 bbls. |
| Burgess | 3475 | 25 | | |
| Wilcox | 3580 | | oil | 100-600 bbls. |

CHARACTER OF OIL: Gravity, 36-37.9° B.

CHARACTER OF GAS:

DATE OF OPENING: 1914.

REMARKS: In 1914 a test was drilled by the Alice-Katherine Oil Company in sec. 7, T. 19 N., R. 6 E., which had an initial production of 80 barrels of oil per day from the Bartlesville sand at a depth of 3,145 feet. A light shot increased this natural flow to 250 barrels. This well established the pool which developed toward the north and northwest.

YEAGER

COUNTY: Hughes.

LOCATION: T. 8 N., R. 10 E.

SURFACE ELEVATION: 750-850 feet.

SURFACE FORMATION: Wewoka formation-Wetumka shale.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Faulting and local folds.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Stray | 1900 | 20 | gas | 1-11 M. cu. ft. |
| Booch | 2790 | 50 | oil | 25-300 bbls. |
| Gilcrease | 3040 | 40 | oil | 100-500 bbls. |
| Lyons | 3520 | 40 | gas | 7-30 M. cu. ft. |
| Wilcox | 3920 | 80 | oil | 10-150 bbls. |

CHARACTER OF OIL: Gravity, 38-39.9° B.

CHARACTER OF GAS:

DATE OF OPENING: 1917.

REMARKS: The Yeager pool has been producing small amounts of both oil and gas for a number of years. In 1925, the Dixie Oil Company drilled a well which had an initial production of 325 barrels of oil per day. The same company drilled an offset to the original well which had an initial production of 600 barrels of oil daily; and the third well, in sec. 18, T. 8 N., R. 10 E., completed June, 1925, for 750 barrels of oil and 40 million cubic feet of gas, was thought to be the first well in the Yeager pool to find the Gilcrease sand. It is found at a depth of 3,150 to 3,153 feet.

YAHOLA

COUNTY: Muskogee.

LOCATION: T. 15 N., R. 16 E.

SURFACE ELEVATION: 500-600 feet.

SURFACE FORMATION: Boggy shale.

AGE OF SURFACE ROCKS: Pennsylvanian.

STRUCTURE: Anticlinal folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--|
| Salt sand | 670 | 10 | gas | 10-38 M. cu. ft. |
| Booch | 1220 | 50 | oil gas | 40-500 bbls. |
| Boynton | 1320 | 20 | oil gas | 1-3 M. cu. ft. 25-180 bbls. 1 M. cu. ft. |

CHARACTER OF OIL: Gravity -----

CHARACTER OF GAS:

DATE OF OPENING: 1914.

REMARKS: The Gladys-Belle Oil Company was one of the chief operators in the development of the Yahola pool. The first development occurred in sections 21, 28 and 33, T. 15 N., R. 16 E. A considerable amount of gas was found, but the oil wells were of small capacity.

YOUNGSTOWN

COUNTY: Okmulgee.

LOCATIONS T. 13-14 N., R. 11-12 E.

SURFACE ELEVATION: 650-850 feet.
 SURFACE FORMATION: Wewoka formation.
 AGE OF SURFACE ROCKS: Pennsylvanian.
 STRUCTURE: Subsurface anticlinal folding.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|----------------------------------|
| Glenn | 1860 | 60 | oil gas | 15-100 bbls. 10-40 M. cu. ft. |
| Booch | 1994 | 20 | gas | 1-7 M. cu. ft. |
| Youngstown | 2250 | 50 | oil | 100-300 bbls. |
| Dutcher | 2400 | 60 | oil | 75-1000 bbls. |
| Wilcox | 3000 | | | |

CHARACTER OF OIL: Gravity, 37-38.9° B.

CHARACTER OF GAS:

DATE OF OPENING: 1915.

REMARKS: The Youngstown pool is completely surrounded with oil development. The surface structure of the field is but slightly suggestive of favorable structure for oil and gas accumulation and oil companies passed up the area for structures with "closure" until late in 1915, when the first well was drilled to the Youngstown sand.

ZEA

COUNTY: Texas.

LOCATION: T. 4 N., R. 14 E., C. M.

SURFACE ELEVATION: 3,167 feet.

SURFACE FORMATION: Late Tertiary sandstone.

AGE OF SURFACE ROCKS: Tertiary.

STRUCTURE: Local variation in dips.

| PRODUCING HORIZONS | DEPTH | THICKNESS | PRODUCTION | INITIAL PRODUCTION |
|--------------------|-------|-----------|------------|--------------------|
| Cottonwood (?) | 2610 | 50 | gas | 3 M. cu. ft. |
| | 2680 | 20 | gas | 1-2 M. cu. ft. |
| | 4410 | | dry | |

CHARACTER OF OIL: Gravity -----.

CHARACTER OF GAS:

DATE OF OPENING: 1926.

REMARKS: The discovery well of the Zea pool was completed by the H. F. Wilcox Oil and Gas Company, November, 1926, in sec. 21, T. 4 N., R. 14 E., Cimarron Meridian. This well was drilled to a depth of 4,410 feet and then was plugged back to 2,751 feet where it had an initial production of 3 million cubic feet of gas per day. The same company drilled two wells on the E. W. Zea farm, in 1925 and 1926 respectively, and encountered shows of gas in each at depths ranging between 2,200 and 2,630 feet. These wells were reported dry.

Producing Horizons, South-central Oklahoma

| AGE | PRODUCING HORIZON | AREA | |
|---------------|---|--------------|-----------|
| PERMIAN | Garvin Maudlin | Robberson | |
| | Nichols | Chickasha | |
| | Patsy Kirk Miller | Graham | |
| | Nigh | Stephens Co. | |
| PENNSYLVANIAN | Magnolia zone | Chickasha | |
| | Johnson sand Graham | Graham | |
| | Smith Surber Cantrell Shelton Brown-Thomas | Stephens Co. | |
| | Newberry | Robberson | |
| | Nellis gas sand | Nellie pool | |
| | Ramsey zone | Chickasha | |
| | Blaydes Kagay Maloney Priddy Keys Zipsie | Stephens Co. | |
| | Wilson fm. Healdton zone | Healdton | |
| | Hewitt zone | Hewitt | |
| | Wildcat Jim | Wildcat Jim | |
| | Southerland | Graham | |
| | Ordovician | Simpson sand | Robberson |

Producing Horizons, Northern Oklahoma

| AGE | FORMATION | CORRELATION |
|---------------|-----------------------|----------------------------|
| PERMIAN | Hoy | |
| | Kisner | |
| | Hotson | |
| PENNSYLVANIAN | Blackwell | |
| | Newkirk | |
| | Grayhorse | |
| | Upper Hoover | Hoover series |
| | Middle Hoover | |
| | Lower Hoover | |
| | Elgin | |
| | Musselman | |
| | Carmichael | |
| | Endicott | |
| | Tonkawa | { Ponca, Stalnaker |
| | Layton | { Swaggert, Jones |
| | Cleveland | |
| | Big Lime | |
| | Peru | |
| | Oswego | Wheeler, Ft. Scott |
| | Prue | Bixler, Squirrel, Perryman |
| | Red Fork | Skinner |
| | Bartlesville | Burkank*, Salt sand, Glenn |
| | Tucker | Booch, Taneha, Boynton |
| | Doggett | |
| | Smith | |
| | Sykes (Dutcher group) | Gilcrease, Youngstown |
| MISSISSIPPIAN | Deaner | |
| | Lyons | Lyons lime, Pitkin lime |
| | Burgess | Quinn, Cromwell, Papoose |
| | Mississippi lime | |
| | Chattanooga | |
| Misener sand | Sylamore sand | |
| SILURO-DEV. | Hunton lime | |
| | Sylvan shale | |
| ORDOVICIAN | Viola lime | |
| | Wilcox | Simpson formation |
| | Tyner | |
| | Burgen | |
| CAMBRO-ORD. | Siliceous lime | Arbuckle, Turkey Mt. sand |

*Burbank is not Bartlesville, but is found at that horizon.

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