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ILLINOIS STATE GEOLOGICAL SURVEY.

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THE ILLINOIS OIL FIELDS IN 1910.

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THE YEAR'S PRODUCTION.

Illinois resumed her continuous growth in oil production in 1910, after the relapse of 1909. The estimated production for the year is 35,000,000 bbls., as against 30,898,339 in 1909, and 33,685,106 in 1908. The increase was due indirectly to general market conditions and the ability of various pipe lines to cope with the supply. The introduction of new pipe lines into the field late in 1909 materially aided in the increased activity. The basis of estimating the production, since only eleven months' returns are available, is to assume the December runs of the Ohio Oil Company equivalent to those of November; the tank-car shipments to be about 2,000,000 bbls., and miscellaneous pipe-line runs to be 4,680,000 bbls. The latter runs are based upon a daily average of 12,000 bbls., for the first six months, 16,000 bbls., for the next three months, and 12,000 bbls., for the last three months of the year. The following table gives the pipe-line runs, and the stocks of the Ohio Oil Company, and of other pipe-lines, by months, according to the *Oil City Derrick*:

Production for 1910.

	Runs.	Stocks Ohio Oil Company.	Stocks of Other Pipe Lines
January.....	2,226,108	28,455,129	3,340,116
February.....	1,980,408	28,385,375	3,138,018
March.....	2,382,806	28,373,855	3,637,610
April.....	2,314,789	28,716,938	3,210,907
May.....	2,389,994	29,125,029	3,148,509
*June.....	2,399,606	29,213,290	3,724,919
July.....	2,638,253	29,271,719	4,187,362
August.....	2,572,859	29,289,164	4,141,713
September.....	2,447,106	*28,965,962	4,066,122
October.....	2,373,325	28,615,289	3,455,197
November.....	2,245,676	28,082,606	2,996,608

\*Includes oil in iron tankage purchased.

The pipe line runs are those of the Ohio Oil Company, the Tidewater Pipe Line Company, and the Indian Refining Company. The tank-car shipments are those of the Sun Oil Company, Cornplanter Refining Company, The Indian Refining Company, The Missouri-Illinois Oil Company, Central Refining Company, W. F. Watson, Bridgeport, Illinois and railroad shipments from Sparta, Illinois.

The prices of the two general grades of oil remained steady during the year. Oil of gravity over 30° B. commanded 60 cents per bbl., and under 30° B., 52 cents per bbl. But little oil under 30° B. is marketed in Illinois.

THE SOUTHEASTERN ILLINOIS FIELDS.

*Clark County*:—The Clark County and adjoining shallow oil-areas were almost inactive, and little drilling was done during the year. One profitable deep test was drilled to a depth of 2969 feet by the Ohio Oil Company on the K. and N. E. Young farm, near Casey. Oil and gas of considerable sulphur content were found at 2750 feet, seemingly in the Trenton limestone. The combined daily output of the Clark, Cumberland and Edgar County wells was about 9000 bbls.

*Crawford County*:—Considerable drilling in Crawford County failed to prevent the decline of new production over 1909. The drilling was chiefly scattered over the entire pool during the greater part of the year. In the later months a concentration of development took place in the Bellair, (Licking Township) area, where new productive sands between 1000 and 1100 feet were found. Many good wells were completed. The average well in the county is far below the previous initial yield, indicating the inevitable decline, unless new sands are discovered. The yield reached about 30,000 bbls., daily in 1910 as against 100,000 in 1907.

*Lawrence County*:—Highly profitable but expensive drilling took place in Lawrence County where seven distinct sands produce oil in varying quantity and grade. They lie between 750 and 1900 feet in depth, and in order are: The Bridgeport No. 1 and No. 2 sands, from 750 to 900 feet deep; the Buchanan sand, 1275 to 1400 feet; the Kirkwood sand, 1550 to 1650 feet; the Tracy sand, 1700 to 1750 feet; the McClosky sand, 1825 to 1860 feet and the Green, Henry and Pepple sands from 1850 to 1900 feet deep, possessing a few wells each and very narrow limits. The McClosky and Tracy sands are the richest developed in Illinois. The former is in the "King-Applegate pool." The chief activities of the year were in the two above-mentioned sands. Most all of the wells

from these sands produced, initially, between 500 and 2,000 bbls. A short-lived impetus was given to the Lawrence County area early in the year, when a new pool was tapped on the outskirts of Lawrenceville, some two miles or more from the active fields. Two wells of 100-bbls. yield, were drilled but several surrounding dry wells discredited the area. The average daily yield of the Lawrence County area was between 45,000 and 55,000 bbls. Both "sour" and "sweet" oils were produced, but each was handled separately.

*Surrounding areas:*—Considerable wild-cattling was done several miles west and south of the present fields in Richland, Clay, Wayne, Gallatin, and Wabash Counties, but without any showing of oil except in Gallatin County, where the amounts were small and insignificant. The area in Richland, Wayne and Clay Counties lie on or near the synclinal axis of the Illinois Coal Basin.

#### SOUTHERN-CENTRAL AND WESTERN ILLINOIS.

*Marion County:*—The best results from recent wild-cattling were obtained in Marion County during 1909–1910. The new Sandoval field of 4 wells in 1909, now, on December 1, 1910, has 35 producing wells, yielding over 3000 bbls., daily; 16 dry holes; and 22 drilling wells. The oil comes from the Benoist sand in the Chester formations of the Mississippian series of rocks, and is equivalent to the Kirkwood sand of Lawrence County. Its average depth is about 1550 feet. A second pool was opened up during the year near Centralia several miles south of the Sandoval area. Four light wells and several dry holes have been drilled. The productive sand is the same as that found near Sandoval. The two fields seem to lie along an irregular terrace upon the broad and gentle western flank of the Illinois basin. The general trend is to Duquoin, on the south, and to Brownstown and Pana, to the north. Much drilling is contemplated along this area.

*Bond County:*—A new gas area was tapped early in the year near Greenville. The sand was found between 950 and 1,000 feet and was correlated with the Benoist sand of Sandoval, and the Kirkwood sand of Lawrence County. The wells yielded from 1,250,000 to 2,000,000 cubic feet of gas daily. A recent test was put down on the Brown farm near Pocahontas, and secured an initial production of about 25 bbls., at a depth of 1975 feet. The pay seems to lie in the Niagara limestone. Much drilling is being done at the present time in an effort to develop both the gas and the lower oil pay.

#### WILD-CAT WORK IN WESTERN ILLINOIS.

Several light-pressure gas wells were drilled near Jacksonville, Morgan County, during the year. The yield came from a depth of about 300 feet, and was odorless, and colorless, but burned with a very hot, blue flame. Several barren wells were drilled in Jefferson, Washington, Perry, Monroe and Clinton counties. Much new drilling was started late in the year along the Sandoval-Duquoin terrace, especially in Washington and Perry Counties.

#### SUMMARY TABLES.

The following tables compiled from the *Oil City Derrick* show the development in Illinois during 1910:

*Wells Drilled in Illinois during 1910.*

Month.	Wells Completed.	New Production. bbls.	Dry Holes.	Average Initial Production, bbls.	Abandoned Wells.
January.....	111	5,331	17	57	0
February.....	158	6,840	43	59	5
March*.....	128	5,593	29	56	3
April.....	157	7,260	41	63	10
May.....	192	8,091	43	54	6
June.....	211	9,267	50	58	14
July.....	172	6,386	43	50	17
August.....	235	10,042	47	53	2
September.....	234	8,419	48	45	7
October.....	198	10,133	30	60	7
November.....	177	8,832	39	64	8
	1,973	86,194	430	...	79

*Wells Drilled by Counties During 1910 in Illinois.*

County.	Wells Completed.	New Production. bbls.	Dry Holes.
Lawrence.....	606	55,435	88
Crawford.....	1,133	25,222	238
Clark.....	107	1,700	30
Cumberland.....	15	162	2
Edgar and Coles.....	6	65	2
Marion.....	53	3,540	23
Miscellaneous.....	53	70	47
TOTALS.....	1,973	86,194	430

On January 1, 1910 it was estimated that 16,497 wells had been drilled in Illinois. Of these 2,379 or 14.4 per cent were barren. In the first eleven months of 1910, 1973 wells were drilled, with 430, or 21.8 per cent barren. The total, up to date, is 18,470 drilled and 2809 or 15.6 per cent barren.

*Five-Year Comparison.*

Year.	Wells Completed.	Producing Wells.	Initial Output bbls.	Dry Wells.	Average Yield per Well bbls.
1906.....	3,283	2,793	113,012	490	40.4
1907.....	4,988	4,260	139,163	728	32.6
1908.....	3,574	3,019	78,960	555	26.1
1909.....	3,151	2,593	89,756	**558	34.6
*1910.....	1,973	1,543	86,194	430	55.8

\*Eleven months.  
 \*\*70 gas wells included.

The Ohio Oil Company controls most of the Illinois production. It has recently bought many large interests such as the Jennings Oil Co., Parker and Edwards, Riddle Oil Co., Brown and Hogue, The Lee Oil Co., and others.