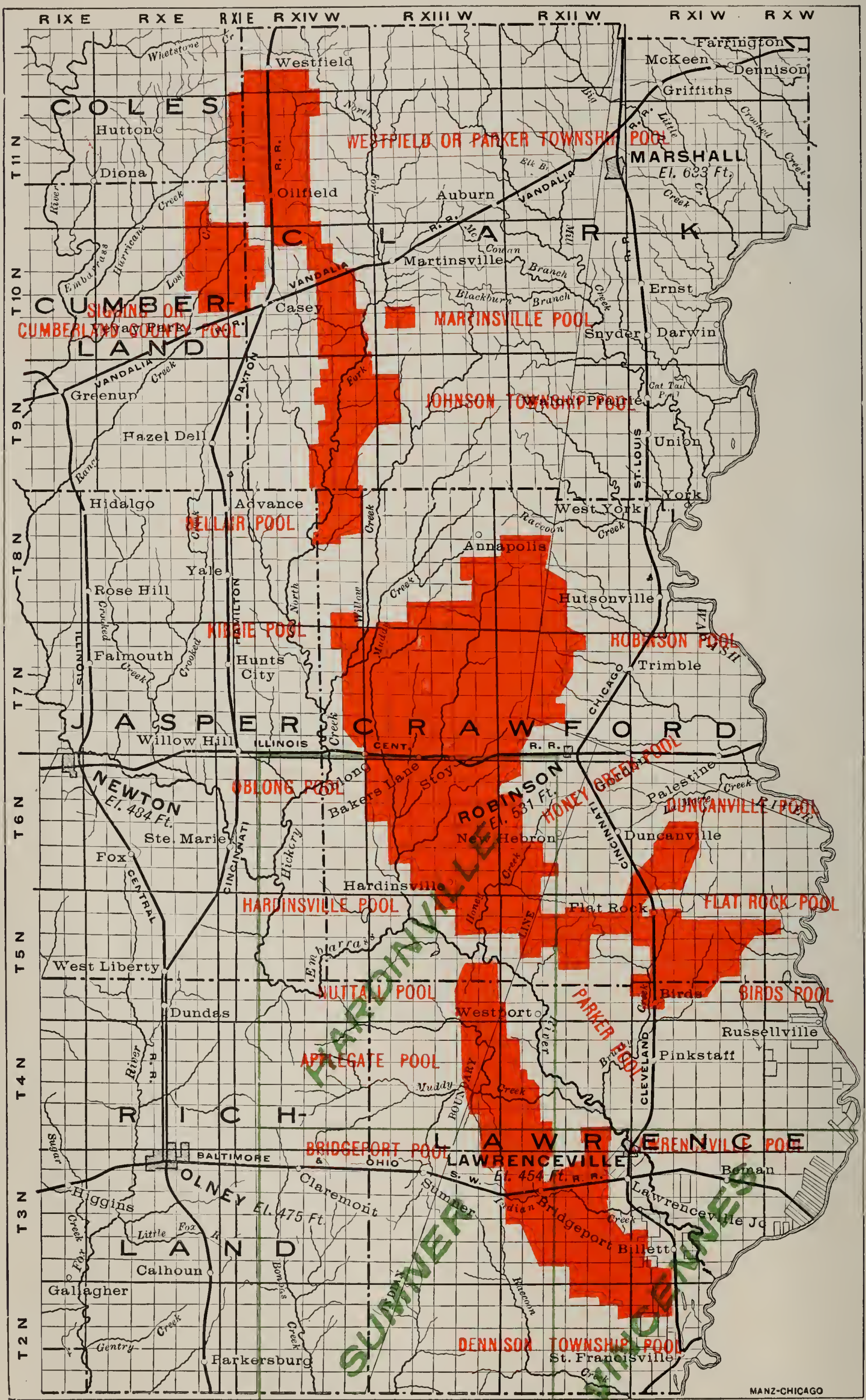

Map showing the oil and gas fields of Southeastern Illinois and the quadrangles covered by this report.

STATE OF ILLINOIS
STATE GEOLOGICAL SURVEY
FRANK W. DeWOLF, Director

BULLETIN No. 22

THE OIL FIELDS

OF

Crawford and Lawrence Counties

BY

RAYMOND S. BLATCHLEY

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University of Illinois
1913

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STATE GEOLOGICAL COMMISSION.

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Governor of Illinois.

THOMAS C. CHAMBERLIN, *Vice-Chairman.*

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STATE GEOLOGICAL SURVEY,
UNIVERSITY OF ILLINOIS, JANUARY 30, 1913.

Governor E. F. Dunne, Chairman, and Members of the Geological Commission:

GENTLEMEN—I submit herewith a report on the oil fields of Crawford and Lawrence counties, Illinois, and recommend that it be published as Bulletin No. 22.

The author, Mr. Raymond S. Blatchley, has been on the staff of the survey since 1908 and has devoted a large part of three years to the studies presented here.

The colored maps which accompany the report present information of great commercial value in locating future wells in the district. The kindness of property owners and oil operators who have contributed information freely to the survey is hereby acknowledged, and confidence is expressed that they will find the report almost invaluable.

Very respectfully,

FRANK W. DEWOLF,
Director.

THE OIL FIELDS OF CRAWFORD AND LAWRENCE COUNTIES, ILLINOIS.

By Raymond S. Blatchley.

CHAPTER I.

Historical, Theoretical, and Geological Aspects of the Illinois Fields

OBJECT OF REPORT.

This report presents the results of a study of the geologic conditions in the southern half of the eastern Illinois oil fields. The specific area of investigation lies in the southern half of Crawford and the northern portion of Lawrence counties, in portions of the Hardinville, Sumner, and Vincennes quadrangles (See Plate IA.) The object is to discuss the control of the accumulation of oil and gas in these fields and to present facts which further confirm the anticlinal or structural theory for the concentration of oil and gas in raised formations. It is also possible that additional proof is added to support the theory of the origin of oil from organic remains buried in limestone and shales. The report also discusses the stratigraphy and describes the commercial features peculiar to this territory, including production, costs, methods of transportation and storage, field operations, leasing, etc. It is desired to preserve in printed form all available records of the territory, particularly for use in future stratigraphic and structural studies and for reference by the operators.

METHODS OF STUDY.

The method of study was to map by means of contour lines, or lines through points of equal altitude, the geologic structure of the producing sands. The contours were made upon the positive altitudes of the sands above a datum plane 1,500 feet below mean sea level. These maps show the oil sand as if everything above it had been removed. The undulations, slopes, basins, etc., are clearly defined. In this way the oil, gas, and water relations to the structure are studied. In addition to the contour maps cross-sections were made along the crest of the anticline and crosswise to it. These graphic sections are intended merely to make clearer the contour maps. The records along the selected lines are plotted on a uniform scale and are placed in their proper positions along the section, with regard both to the elevation of the wells above sea level and to their linear distance from one another. The points at which the cross-section lines cut the contours are measured and marked on the section. All points representing a particular horizon are connected. Thus, a mechanical means of ascertaining structural features was developed and significant facts were revealed.

ACKNOWLEDGMENTS.

The taking of elevations and logs of the wells within the portion of the oil fields covered by this report began in the summer of 1908. The writer was assisted in this work by Douglas Wright in the Crawford county portion of the Hardinville quadrangle and by J. C. Jones in the Lawrence county division. The leveling in the Sumner and Vincennes quadrangles was completed the following summer with the assistance of W. E. Deuchler, levelman, and Douglas Wright and H. H. Johnson, rodmen. A final review of the Lawrence county fields was made in 1911 with the assistance of D. G. Thompson. The report would not have been possible except for the hearty coöperation of all operators who furnished well records, maps, and other information. Much help was given in the stratigraphic studies by Dr. J. A. Udden who made an intimate examination of well samples from eleven wells within the investigated area. Special thanks are due the officials of the Ohio Oil Company, Marshall, Ill., for samples from a number of wells in the region. These were saved at much trouble and expense. Dr. Stuart Weller of the University of Chicago gave helpful consultation relative to the stratigraphy of the Mississippian rocks. To all of these individuals the writer expresses his appreciation and thanks.

HISTORICAL REVIEW OF OIL DEVELOPMENTS IN ILLINOIS.

In the main fields of Illinois, exclusive of producing areas elsewhere, there have been drilled, during the past seven years, over 20,000 wells in a producing territory which covers about 250 square miles. The following notes sketch the history of drilling from the earliest days:

In the earlier part of the "sixties" the first oil excitement spread over the eastern United States and extended westward to Illinois. In 1865 the first wild-catting took place in Clark county about 8 miles north of Casey, in Parker township. Here, several holes were put down in attempts to locate oil and gas but the work was abandoned. The small amount of oil found in the wells perhaps would have been greater had proper casing been used. This would have shut off the salt water, which, as a matter of fact, probably drowned out the oil and prevented an earlier discovery of the present immense field.

About this time, oil and gas were found accidentally in Montgomery county, near Litchfield. Coal prospecting from the floor of one of the mines led to deeper drilling and the discovery of a strong flow of salt water which threatened for a time to flood the mine. Another coal prospect near the mine discovered a small quantity of oil and gas. The oil and water from this drill hole leaked into a sump in the mine, where for many years oil was skimmed from the top of the water and utilized.

During the "eighties," when new prospecting was taking place at various points in Illinois, the previous finding of oil at Litchfield led to renewed drilling which brought in several gas wells in that vicinity. In 1882 a well was drilled about 2 miles south of Litchfield, which was reported to show about 400 pounds gas pressure. This well was apparently first drilled to 580 feet without success. Two years later it was drilled 200 feet deeper, where water-bearing sand was tapped. The gas was secured at 640 feet and had exceptional pressure. The flow of salt water, however, was too strong to be plugged successfully and, consequently, drowned out the gas. In 1886 a number of wells that yielded both gas and oil were drilled in the vicinity of Litchfield, to an average depth of about 650 feet. In all, between the years of 1882 and 1889, about thirty wells were drilled.[1] The majority of them were of short life but five or six produced a small amount of oil up to the year 1903. All are abandoned at the present time.

Gas was discovered in Pike county in 1886 while drilling for water in the N. W. ¼ S. E. ¼ section 1, Derry township. It was found at a depth of 186 feet.[2] This destroyed chances of a good water supply so a second well was drilled on the same farm a short while afterwards. Gas was secured in this well at the lesser depth of 168 feet. Both wells were abandoned because of lack of facilities for taking care of the gas. Drilling was then suspended in this part of the State for 15 years, or until 1905. In that year Mr. William Irick drilled a well for water on his farm and, as in the previous cases, met a strong flow of gas. He, however, piped it to his house for domestic use. There immediately followed a development of this area, which, in a little over a year, brought in over thirty wells. All but six of these produced gas, but no oil was found. The gas horizons are between 75 and 350 feet below the surface. The field at the present time covers an area about 10 miles long and 4 miles wide. The gas accumulation is governed by a small fold in the Niagara limestone.

Similar prospecting took place in 1888 near Sparta in Randolph county. Home capital was enlisted and a well that yielded a good pressure of gas[3] was drilled to a depth of 850 feet. This encouraged further drilling and up to the year 1894, 22 wells were put down. Of these, over twelve yielded gas, and four of them had initial pressures between 150 and 250 pounds to the square inch. The average life of the wells was about seven years.

The next recorded wild-catting took place in 1900, and indirectly resulted in the discovery of the main oil field. A company styled the Crawford County Oil, Gas and Coal Company drilled a well in the S. E. ¼ section 35, Robinson township, Crawford county.[4] The well reached a depth of 820 feet where it was abandoned because of the caving of the strata and the tapping of a strong vein of salt water. The same company shifted operations in the following year, 1901, to the D. C.

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[1] Mineral Resources of the United States for 1889, p. 353.
[2] Savage, T. E., Pike County gas field: Bull. Ill. Geol. Survey No. 2, 1906, p. 83.
[3] Report Illinois Board World's Fair Commissioners, 1893, p. 183.
[4] Blatchley, W. S., Oil Developments in Illinois to 1904: Bull. Ill. Geol. Survey No. 2, 1906, p. 14.

Jones farm, in the southwest quarter of section 22 of the same township. A well drilled here to a depth of 1,040 feet secured a small amount of gas. Thus, the efforts of the company to locate "fuel" were rewarded slightly and with further hope, they drilled to 1,190 feet. At this point they met a strong vein of salt water and abandoned the well. The company attempted other wells on the same farm in the years 1901, 1902 and 1903, but, in each case, lost their tools. The sixth attempt was rewarded, in 1904, by the finding of small amounts of oil and gas between 900 and 1,200 feet. The bore was carried to 1,330 feet but was abandoned. It was but eighteen months after this that the main productive field was opened up within a few miles of this area.

The suggestion of an oil field in the vicinity of Casey prompted by the earlier prospecting of the "sixties," led Col. L. D. Carter of Oakland, Ill., to secure the services of J. J. Hoblitzel & Son, of Pittsburgh, Pa., in re-drilling this area. A large block of lease was gathered up, and early in the spring of 1904 a well was started on the Young farm near Oilfield. This well produced a good pressure of gas and some oil. The gas was cased off and used for field operations but the oil yield was insignificant and was discarded. A second well was completed in the same year on the J. S. Phillips farm in the northeast quarter of section 18, Parker township. It produced 35 barrels of oil. Other wells were started in the same year in this vicinity and in 1905 about 100 square miles of territory was being drilled. Of this about 60 square miles were eventually found productive. These fields are called the "shallow" area because the oil comes from a depth of between 400 and 600 feet. Drilling was active until 1909, when the boundaries of the productive territory for this section of the oil fields were pretty well established. In 1909 there was a decreasing development and at the present time it has practically ceased. A great many of the original wells are yielding so poorly that they are rapidly being plugged and abandoned.

Added vigor was given to the development of the eastern Illinois fields on February 6, 1906, when D. T. Finley, of Pittsburgh, drilled a well on the J. W. Shire farm in the northwest quarter of section 15, Oblong township, Crawford county. The oil was obtained at 890 feet, and the initial production was 250 barrels per day. This well opened up the Robinson pool, which is the largest in the oil area and covers, in all, about 110 square miles of productive territory. The oil is found in sands ranging from 750 to 1,000 feet in depth. There is one general sand made up of three or more generally parallel lenses. There are, however, small areas where only two or even one lens are noted.

The year 1907 brought an extension of development in a small isolated pool about three miles to the southeast of the large Robinson pool. The new pool was known first as the Honey Creek district and originally covered but six or seven square miles. It has later been associated with the Flat Rock district to the east and the two are now joined, so as to comprise about 25 square miles of area. To the north of the Flat Rock area the small Duncanville pool was developed. The area covered is between two and three square miles. The oil is from about the same horizon as that of the Honey creek, Flat Rock, and Robinson sands but has a much lower gravity. It is used almost exclusively for fuel.

The Lawrence county field began to be developed actively in 1907-1908. It has been the most promising, in that seven sands are attracting the attention of operators. The sands occur between depths of 800 and 1,900 feet and are known as follows:

1, 2 and 3. Bridgeport, upper lens, middle lens and lower lens.
4. Buchanan.
5. Kirkwood.
6. Tracey.
7. McClosky.

Within this area, which covers about 40 square miles, there has been developed a larger per cent of big wells than in all other pools in Illinois combined.

After the Clark county fields was brought in miscellaneous drilling was stimulated throughout the State. A second attempt was made to discover oil in the vicinity of Sparta, Ill. by J. J. Hoblitzell & Son, who began drilling in 1906. As a result of this work, two or three wells that produced oil in small quantity were completed in the following year. In 1908 a total of sixteen wells had been drilled, but of these only six or seven yielded oil. The amounts were small, except in the case of two wells, one on the Foster farm that yielded about twenty barrels of oil per day, and one on the McIlroy farm that had an initial production of about 100 barrels. All the wells have since declined and the field is now abandoned.

In 1906 an attempt was made to locate oil at Tolono in Champaign county. The drilling revealed oil, but only in slight quantity. Apparently it was the intention to prospect the LaSalle anticline which gives rise to the production area to the southeast.

Early in the year 1908, oil was reported as seeping through a fault into a coal mine near Centralia, Marion county. The attention of oil operators was excited and several shallow wells were drilled. These yielded small amounts of oil, but were of slight commercial value. Wildcatting was prompted in the winter of 1909 in the vicinity of Sandoval, five miles north of the Centralia shallow wells. Late in March, a deep well, which yielded about thirty barrels per day, was completed upon the Stein farm, one mile north of Sandoval. A second well was finished in July on the Benoist farm, adjoining the Stein land. This well proved to be a valuable producer of both oil and gas. Its success stimulated wholesale leasing and drilling in all directions in Marion county, with the result that a small, but rich, isolated, field of about three-fourths of a square mile was defined. This field is still credited with a good production.

A new gas area was opened in 1909 near Carlinville, Macoupin county, by the Impromptu Exploration Company. Several wells have been drilled south of the town. The gas comes from a sandstone, probably the Pottsville, immediately above the Mississippian limestones. So far, two wells have produced about six barrels of oil per day. The pressures of gas are not large enough to warrant an extended development for commercial purposes.

A small gas area, similar to that of Carlinville, was also opened in the spring of 1910 several miles east of Jacksonville, Ill. The wells were small in quantity. Late in 1911 two other small oil wells were added to the field.

In April of 1911 wild-catting developed an oil field about three miles northwest of Carlyle, Ill., which has since been defined within an area of about 1½ square miles. The governing structure of the field seems to be an elongated dome interrupting the gentle trend of the broad western flank of the Illinois basin. The initial production of the first wells was excellent and caused a rush to the territory. High bonuses were paid for leases many miles from proven territory which later proved barren. The area was suggested as promising by the State Geological Survey previous to exploitation.[1]

Various other attempts have been made to find oil at widely separated points. Small amounts of oil or gas have been observed in such localities as Mascoutah, Marissa, Waverly, Greenville, Decatur, Iola, Eldorado, Old Ripley, Patton, Bartelso, Ridgeway, Campbell's Hill, and Denny. Barren wells have been put down at Herrick, Cobden, the American bottoms east of St. Louis, Trenton, Aviston, Iuka, Olney, Sumner, Albion, Carmi, Duquoin, Pinckneyville, Coulterville, Vandalia, Marshall, Thomasboro, Grafton, Jerseyville, Kane, Richview, Nashville, Omaha, Waterloo, Hansen, Pocahontas, and at a number of other places.

ORIGIN AND ACCUMULATION OF OIL.

Origin of Oil.

The origin of oil and gas has been a puzzling problem for many years, especially since petroleum has come into world-wide use. Chemists and geologists have attacked the problem from their respective points of view and have presented plausible theories, none of which, however, have explained satisfactorily the broad distribution of petroleum in all kinds of sedimentary rocks of various ages.

The chemist has produced many of the component parts of petroleum in the laboratory; he has broken down certain substances into constituents, some of which have properties resembling those of crude petroleum; and he even reproduced certain isometric forms of hydrocarbons peculiar to petroleum—yet the theories arising from these results fail to meet certain geological conditions that prohibit their acceptance.

Geologists have met the problem from a different point of view. Some, on the one hand, have considered the conditions of deposition of sedimentary rocks and have concluded that oil and gas originate from animal and plant life buried in the sediments. Others have conjectured on the internal conditions of the earth during its stages of cooling and settling and have concluded that oil originated from mineral substances. This attitude is closely allied to the chemist's point of view. The geologist's views are not wholly acceptable and hence the origin of petroleum remains uncertain. The whole problem has resolved itself into two general theories styled the *inorganic* and the *organic*.

THE INORGANIC THEORY.

The inorganic theory was promoted by the discovery that the carbides of certain metals may be broken up into hydrocarbons by the action of water and that alkaline metals produce hydrocarbons if brought into con-

[1] Blatchley, R. S., Ill. State Geol. Survey, Bull. No. 16, pp. 87 and 167.

tact with water saturated with carbon dioxide gas. It was claimed that volcanoes, geysers, and hot springs indicate heat within the interior of the earth sufficient to have formed carbides; and that these were broken up by percolating waters into migrating gases. The presence of hydrocarbons in volcanic gases may thus be explained. Such migrating gases on passing from hot formations to higher, cooler, strata would naturally be condensed into petroleum.

It is claimed that granitic rocks are full of joint planes and other minute cracks, and thus it is impossible for the gas and oil to remain in them because of the ease with which they travel and diffuse. When the shales are reached the oil "simplifies" itself or, in other terms, it leaves more or less of its more viscuous constituents behind. It is claimed that the oil of various American fields, with exception of those like the California and Texas fields, has migrated from a distance to the localities in which they now are found. The fact that all oil fields are confined to sedimentary strata and that below the oil-bearing horizons there frequently are unproductive strata of the same nature makes it difficult to understand how the inorganic theory can apply to our larger fields. It is difficult to understand how the oil of such fields as those of Pennsylvania and Illinois can have migrated long distances and not left traces of travel in the intervening rocks. It is apparent that the inorganic theory of the origin of oil and gas is open to many criticisms. The theories derived from chemical reactions are ingenious, and, no doubt, may explain the origin of some petroleum; they do not, however apply to the conditions of our many oil fields as readily as the organic theories.

THE ORGANIC THEORY.

The organic theory advocates that oil and gas originate from the decomposition of vegetable or animal matter, which may have occurred in the bed which now yields oil or gas, or in adjoining beds from which they have migrated.

Chemists have shown that when the body of an animal or a plant is distilled in a closed retort or is allowed to undergo decay in the absence of air, certain gaseous or liquid products are obtained, which resemble petroleum and natural gas. Much the same results are obtained by bacteriological putrefaction of organic matter, without aid of heat. Natural decomposition of animal and vegetable matter in the sedimentary rocks through the periods of geologic time is thought to explain the origin of petroleum.

Shale is held to be the source of petroleum by some supporters of the organic theory. All shale beds are of sedimentary origin and are composed of fine particles of clay. The clay is inorganic and was deposited in water with plants and marine animal life. This decomposition was varied by the deposition of sand, and limey material. The completed stratified rocks comprise a succession of sandstone and limestone, interlain with shale beds. In some fields, as California, diatoms embedded in shale are regarded as the source of the oil. Elsewhere vegetable remains, even of delicate type, like algae, render the enclosing shale highly bituminous and oily. It is thought that all stratified beds contained water in some degree and that the shales, because of their compactness, had less water than the sands. The presence of water in the formations may have aided in the later migration of the oil from the shales to the sands, by providing a ready medium through which the oil could rise under the influence of gravity to the highest possible position in the sand strata. The shale and sand oils are usually classified as "sweet" oils in contradistinction to the natural petroleums of the limestone beds.

The limestone theory of the origin of oil differs from the last by supposing that marine animal life, peculiar to limestone formations was the source of oil in the sedimentary rocks. The limestone oils of Ohio, Indiana, and parts of Illinois are often known as "sour" oils, because their sulphur and nitrogen content is greater than that of oils found in sand formations. They have a ranker odor than other oils and are often much lighter in color; in fact, they are sometimes designated as "green" oils.

The oil of the Mississippian formations or the Tracey and McClosky sands have undoubtedly originated from marine animals, because the producing zones are highly calcareous sands or oolitic limestones and the oil contains much sulphur. Some of the oil from the upper Pennsylvanian beds in Clark county is sour and comes from calcareous sandstones.

Of the two organic theories of the origin of oil, the shale theory is the more applicable to the pools in the Pennsylvanian or "Coal Measures" sands of the Illinois fields, since the sands seem to bear few or no fossils and are consequently barren in animal organic remains. There was, however, undoubtedly a great abundance of plant life in the waters of the basin of southern and central Illinois. The aquatic plants were algae and various types of sea weeds. In addition to these, land plants were washed down by streams and also marsh plants, such as ferns, ground-pine, etc. Plants from both sources were deposited in the muds and silts of the accumulating deposits of centuries. These, with possibly some marine life, were shut off from the oxygen of the air and other destructive agents and were trapped within the shale deposits, where eventually, through the lapse of geologic time a peculiar, slow, distillation took place, wherein the protoplasm, cellulose, and other constituents of the once living matter, were converted into oils and gases. The distillation and migration were probably a matter of ages. Natural gas is the volatilized, lighter portion of the oil which originated according to the process mentioned. The difference of gravity between gas, oil, and water caused the two former substances to seek the highest places in the rock strata. The presence of natural gas in any area is generally accompanied by oil at some point along the structure in which accumulation has taken place.

Circulation and Accumulation of Oil.

GENERAL CONSIDERATION.

A problem of special importance is the circulation of oil from its source and its mode of accumulation in porous rocks. The matter is being investigated by laboratory methods by various scientists. The circulation is accomplished by capillarity, gravity, and gas or rock pressure. The accumulation of oil requires a porous reservoir with an impervious cover or roof. Certain features of geologic structure and conditions of water saturation are important factors in determining the localities at which the accumulation takes place. The circulation must also be affected by the physical properties and relations of the oil and salt water, and the rocks in which they occur. One of the potent forces in directing the circulation is doubtless capillarity, since both the shales and the sands are porous formations.

Capillary action is the physical phenomenon consequent upon the attraction or repulsion of liquids along the sides of very fine passages. If a liquid of low specific gravity is brought into contact with a very fine hair-like tube it will seemingly pull itself along the passages; while a liquid of high specific gravity, such as mercury, will exhibit the reverse tendency. Capillary attraction is accompanied by concave liquid surfaces and capillary repulsion by convex liquid surfaces. Prof. A. W. Duff, of the Worcester Polytechnic Institute of Massachusetts, discusses the effect of capillary repulsion and attraction as follows: "When the effect (of capillary action) is a depression (mercury), the depressed surface is curved downward and the tension in the surface provides a pressure. When the effect is an elevation, the stretch on the upward curved surface tends to draw the liquid in the surface layer away from the liquid below and so produces a state of tension or diminution of pressure below the surface." If a difference of capillarity exists between water and oil in small tubes, the different elevations to which they are raised will be dependent upon the differences in their surface tensions and specific gravities, and the size of the tubes.

Shales and sandstones are porous formations containing infinite numbers of minute spaces capable of holding liquid. The spaces or pores may be likened to capillary tubes and may be assumed under proper conditions to promote capillary action. William Forstner[1] has the following to say of the classification of sand interstices: "The interstices can be divided into three classes: openings larger than those of capillary size, capillary openings, and openings smaller than those of capillary size, sub-capillary openings. Supercapillarity openings are found in bedding and joint planes, in coarse sandstones, and in conglomerates. In these openings the flow of liquids is controlled by the ordinary laws of hydrokinetics, modified by the viscosity of the fluid, and the regularity, size, and length of the openings. Capillary openings include the great majority of the interstices between the grains of sands and sandstones, many of those in conglomerates, and many of the openings caused by fracture. In these openings the velocity of flow depends upon the area and cross-section of the opening, its length, and the viscosity of the fluid. The movement is so slow that the friction of the moving fluid over the sedimentary film is very small, especially in long openings. Sub-capillary openings include part of the interstices in coarser sediments having capillary openings and nearly all the interstices between the grains of clays, shales, and slates. The movement of the fluid in these openings is excessively slow, under the hydrostatic pressures generally occurring

[1] Forstner, William, The Occurence of Oil and Gas in the South Midway Field, Kern County, California. Economic Geol., Vol. VI, 1911, p. 140.

in these strata the movement will be reduced to such an extent, that the fluid may be considered as [existing in] fixed films held by molecular attraction."

Capillarity was perhaps effective upon the included water of shales long before the distillation of oil began in them, and may have caused the expulsion of water into the sands. The action extended to the oil which began to originate and find its way into the pores of the shale. Its production was exceedingly minute, yet it was acted upon by capillarity, and caused to ascend toward the sand. The relation of specific gravity of oil and water caused the oil to rise to the top of the water in the sandstones. It is assumed that this action continued as long as distillation took place, until eventually the oil had left the shales to a large degree and had accumulated in the sandstones. The action may have been further aided by various compressions of the formations and other unknown physical phenomena until the shales had given up most of their oil to adjoining porous sandstones.

It is probable that the gaseous hydrocarbons and petroleums of various specific gravities were not separated until the more porous beds were reached. Under the stress of earth movements and different degrees of heat and pressure, changes in the composition of the petroleums must have occurred. Again the oil may have been affected chemically by water in the sandstones and altered from its original condition.

It is apparent that the distribution of petroleum is greatly influenced by the presence of water and it is a fact that there is abundant water in the Illinois oil sands. Oil is lighter than water. If both are present the oil rests upon the surface of the water and is to that extent controlled by the latter. If oil and water are not associated, the petroleum moves downward along bedding planes and through coarse, porous strata under force of gravity. In such a case it may occur in pores at the bottom of a syncline.

A third theoretical agent of the circulation of oil from its source of distillation to its present position is perhaps that of gas pressure or "rock pressure." This pressure is always noticeable when a new oil or gas area is opened up. The oil generally rises far up into the casing of the new well and often above its mouth. If gas is present and the casing is closed so that the product cannot escape into the air, a pressure is developed inside the pipe. The gas may accumulate instantly and thus indicate a very porous reservoir beneath, or it may take considerable time to gather and thus show a less porous one. The two conditions have often occurred in the same locality and yet the same pressures were eventually secured. It is thought that gas pressure may help to promote movement of oil through the containing rocks.

New lines of investigation have been carried on recently by Dr. D. T. Day, J. Elliot Gilpin, and Oscar E. Bramsky of the United States Geological Survey in an effort to find the cause of the differences between such oils as those of Pennsylvania and Illinois and those of Ohio and Indiana, or rather the Trenton limestone oils.[1] The question reverts to the cause of the difference between "sweet" and "sour" oils, assuming that all petroleum, no matter what its source is, is a definite substance;

[1] Gilpin, J. Elliott, and Bramsky, Oscar E., The Diffusion of Crude Petroleum through Fuller's Earth, Bull. U. S. Geol. Survey No. 475, 1911.

the product of one field differing from another only in the proportion of its series and members of hydrocarbons. The Pennsylvanian and Illinois "sweet" oils are found to contain a larger proportion of paraffin hydrocarbons and less benzine, unsaturated hydrocarbons, sulphur and nitrogen than the Ohio and some California oils. It is concluded that the first mentioned oils were migratory, because the sands in which they are found bear little evidence of containing a source for the petroleum, while the oils of Ohio and perhaps the McClosky oil of the Illinois fields are thought to have originated in the limestone beds in which they are found. If such is the case and petroleum is everywhere the same substance except for the lack of certain hydrocarbons, the difference in the two grades of oil must be the result of migration through filtrating materials, or, in other words, of a "selective activity" of shale or clay. It may be true that some of the Pennsylvania and Illinois oils now reposing in sands were originally of animal origin and they have lost some of their original ingredients by migration. These conclusions led to experiments upon the diffusion of petroleum through Fuller's earth, which is a good type of shale for purposes of investigation. It was found by Day that oil such as the Illinois oil could be produced by this method from crude Trenton limestone oil. Glass tubes packed with dry Fuller's earth were placed in vessels containing crude Illinois oil. The oil, in the course of some time, began to move upward in the tubes by force of capillarity. Examination of the tubes at the conclusion of the migration showed that light oils were found at the top, and low grade, heavy oils, sulphur, and other heavy constituents at the bottom of the tube. Continued filtrations of the oil removed the sulphur compounds entirely.

It was concluded from these experiments, "that the Illinois oil at some time in its history diffused through porous media, which exercised a selective action upon it, removing a large part of the unsaturated and sulphur compounds and probably the benzine and nitrogen compounds."

THE POROUS STRATUM.

Petroleum was valueless as a commercial product when it was originally formed, because its diffusion was so complete that a bore into the containing rock could scarcely have obtained a showing of oil. Its accumulation in pools of commercial value first demands more porous beds than the shales in which it is supposed to have originated. The strata of sand interlain with the shales are suitable reservoirs because in most cases they are much more porous than the compact shales. Exceptionally, the sands themselves contain portions which are extremely compact and impervious. These non-porous areas may act as retaining covers and effect the concentration of underlying oil where structure is favorable. They may be extensive enough to separate adjoining pools, or they may be small enough in extent to cause mere local "dry spots" in the midst of very productive territory, in which the sands are otherwise highly porous. The presence of small streaks of shale within the sandstones is frequent in Illinois formations. Often two or three averaging 5 to 15 feet in thickness may occur in a thickness of 50 to 80 feet of sand. The driller terms these "breaks." The sand and the "break" merge into one another in most cases and oil is not often found where sand and shale are thus mixed.

IMPERVIOUS COVER.

An important requirement for the accumulation of oil and gas is an impervious cover, or retaining roof, which will hold the oil and gas captive in the porous stratum. In Illinois there is almost invariably a cover of hard, compact, shale over the oil sands. This is particularly true of the sands in the Pennsylvanian formations. The producing sands in the Mississippian formations are overlain in some instances by limestone. The impervious covers have doubtless caused the retention of the oil in the sands during the periods of earth movements which caused structural folds in the rock. If an oil pool did not have an impervious cover between it and the surface, the lighter portions of the oil would long-since have volatilized and passed off as natural gas, while only the heavy oil or asphalt-like residue would remain. Where a thin cover lies over a productive oil sand some of the lighter portions of the petroleum have escaped and heavy, lubricating oil is generally found. This is of low gravity and consequently of low grade, and generally serves as fuel oil. The abundance of shales within the "Coal Measures" and the upper Mississippian rocks of Illinois have prevented an extensive volatilization and consequently the oils are of good grade, averaging about 33° in gravity.

GEOLOGICAL STRUCTURES.

Another very important necessity for the accumulation of oil and gas in pools is the presence of certain types of structural features in the rocks. The sedimentary strata were deposited under water horizontally, or practically so, and the natural distillation of oil probably took place primarily while the beds were in that position. Subsequent disturbances took place causing the strata to be folded, forming as it were, arches, or domes, in some places, and corresponding troughs or basins in others. The arches are known as anticlines while the troughs are called synclines. When these undulations took place, the water, petroleum, and gas within the sand formations were forced to move and distribute themselves according to the laws of gravitation and hence according to their specific gravities. The water was the heaviest of the three fluids, and, therefore, sought the synclines as far as possible, depending, of course, upon the porosity of the sands. Its tendency was to displace the oil and gas, forcing the oil to float on the water and the gas to rise still higher. The oil was enabled to rise as far as the water extended up the slopes of the syncline, while the gas was able to free itself from the fluids and rise to the highest place in the porous bed, usually the crests of the anticlines.

The earth disturbances effecting the changes in the positions of the strata may be responsible also for minor irregularities which occur on the anticlines and synclines themselves. The surface of an oil sand on the anticline may be pitted or undulating. This condition may affect an extensive area or only a few acres of ground. The general accumulation of oil and gas is governed by the anticline proper, covering many miles, and the segregation of pools may possibly be caused by smaller folds on the large one. Coupled with this intricate system of synclines and arches on the parent fold, there is variation in the porosity of the sands; the two conditions greatly affect the distribution of oil and gas. It is readily recognized that either factor may, locally, explain the presence of dry holes within productive territory. Some question has arisen as to whether these minor arches are true anticlinals of deformational character or whether they represent merely original thickening and thinning of particular beds or, again, whether they result from unequal settling during the consolidation of the sediments. Locally, any or all of these factors may account for the conditions.

Another important type of geologic structure in which an accumulation often occurs, is the "terrace" or flattened area upon the flanks of a syncline or anticline. The terrace, strictly speaking, is an interruption in the uniform dip of the sides of a basin, where the rocks are approximately horizontal. Such terraces are to be found upon the sides of the great structural basin in southern and central Illinois. A segregation of oil takes place upon a favorable terrace much in the same manner as in the anticlines and the synclines. The water of the basin enables the oil to rise to the terrace, where it may be trapped by friction. But the oil, originally in the sloping sand above the terrace, may migrate farther up the general incline so as to float on the water surface. The gas follows its usual course in freeing itself from the oil and accumulates in the terrace head or continues up the general dip to the adjacent anticline or to some impervious barrier.

Frederick G. Clapp has classified oil pools according to their geological structure, because all known fields have shown their accumulations to be due primarily to definite structures. His classification is as follows:[1]

1. When anticlinal and synclinal structure exists.
    - Strong anticlines standing alone.
    - Well defined alternating anticlines and synclines.
    - Monoclines with change in rate of dip.
    - Structural terraces.
    - Broad geanticlinal folds.
2. Quaquaversal structures.
    - Anticlinal-bulge type.
    - Saline dome type.
    - Volcanic neck type.
3. Along sealed faults.
4. Oil and gas sealed in by asphaltic deposits.
5. Contact of sedimentary and crystalline rocks.
6. In joint cracks of sedimentary rocks.
7. In crystalline rocks.

Investigations of the main fields in Lawrence county, Illinois, reveals an additional member to Clapp's arrangement. This is a double plunging anticline or a combination of a strong anticline standing alone and a dome or quaquaversal structure. This may fall under Class I or it may necessitate subdivision of Class 2 as follows:

2. Quaquaversal structures.
    - (a) Anticlinal-bulge type.
    - (b) Saline dome type.
    - (c) Double-plunging anticline type.
    - (d) Volcanic neck type.

[1] Clapp, Frederick G., The Occurence of Oil and Gas Deposits Associated with Quaquaversal Structure. Economic Geology, Vol. VII, No. 4, 1911, p. 364-381.

WATER SATURATION.

One of the most important factors, if not the greatest, in the concentration of oil in raised structures, is the presence or absence of water in the oil-bearing stratum. Mr. W. T. Griswold offers some very interesting observations upon this subject with reference to the Appalachian region.[1] The theories are more or less applicable to the Illinois rocks, inasmuch as they are of similar age and character. His conclusions are as follows:

"In *dry* rocks the principal points of accumulation of oil will be at or near the bottom of the syncline or at the lowest point of the porous medium, or at any point where the slope of the rock is not sufficient to overcome the friction, such as structural terraces or benches. In porous rocks, *completely saturated,* the accumulation of both oil and gas will be in the anticlines or along level portions of the structure. Where the area of porous rocks is limited, the accumulation will occur at the highest point of the porous stratum; and where areas of impervious rocks exist in a generally porous stratum the accumulation will take place below such impervious stop, which is really the top limit of the porous rock. In porous rocks that are only *partly filled* with water the oil accumulates at the upper limit of the saturated area. This limit of saturation traces a level line around the sides of each structural basin, but the height of this line may vary greatly in adjacent basins and in different sands of the same basin.

"Partial saturation is the condition most generally found, in which case accumulations of oil may occur anywhere with reference to the geologic structure. It is most likely, however, to occur upon terraces or levels, as these places are favorable to accumulation in both dry and saturated rocks.

"Under all conditions the most probable locations for the accumulation of gas are on the crests of anticlines. Small folds along the side of a syncline may hold a supply of gas, or the rocks may be so dense that gas may not travel to the anticline, but will remain in volume close to the oil."

The above observations were found applicable in the Illinois oil fields, as described under the relations of structure to salt water, oil and gas. The Illinois wild-cat areas have not offered sufficient data as to water saturation to warrant conclusions with reference to it. It is hoped that in the future the operators in Illinois will note with as much exactness as possible the wet condition of the sands they encounter. It will then be possible for the geologist or engineer to offer better suggestions as to the probable conditions in prospective oil areas.

GENERAL GEOLOGY OF ILLINOIS RELATING TO OIL AND GAS.

INTRODUCTION.

In order that the reader may have a general view of the oil and gas conditions of the State, a brief elementary review of its geology is presented.

[1] Griswold, W. T. and Munn, M. J., Geology of Oil and Gas Fields in Steubenville, Burgettstown and Claysville Quadrangles, Ohio, West Virginia and Pennsylvania. Bull. U. S. Geol. Survey No. 318, 1907, p. 15.

Those who have observed the ledges exposed at quarries or in the banks of streams appreciate that the rocks occur in rather definite layers of varying thickness. Well drillers, especially, realize that sandstone, shale, limestone and combinations of these rocks underlie the State as alternating strata of considerable regularity. The study of these relations constitutes stratigraphic geology or *stratigraphy.*

A rock stratum may underlie a large or a small area. Thus, a coal bed or an oil sandstone, or *"sand,"* may be present in one locality but absent in the adjoining region. The *areal* extent of oil sands therefore is a matter of importance to operators.

The rock layers exposed to view appear to be flat-lying or horizontal. Detailed study may show gentle pitching or *dipping* of the strata. Thus, a sandstone may lie 300 feet below sea level in a particular area, but dip so as to be 500 feet below sea level in an adjoining county. Exceptionally, the rocks lie in gentle folds. The attitude or "lie" of the strata constitutes, broadly, their *"structure;"* and the determination of this is of utmost importance in the discovery and development of an oil field.

The geology of the State is described elsewhere[1] in a more detailed manner; it will be sufficient in this report to discuss its significant features, briefly, under the headings just mentioned.

Stratigraphy.

The accompanying sections indicating the order and character of the strata were first published by Bain[2] in 1907. They are modified by the writer to agree with later data and conclusions.

Overlying the consolidated rocks of the State except in the extreme southern and the northwestern counties, there is a varying thickness of glacial deposits or *"drift."* These clays, sands, gravels, etc., are commonly encountered in drilling before hard rock is reached. Locally, they contain gas and Bain says:

"Natural gas is found in these deposits in small quantity at a number of points throughout the State. Such wells are, or have been, known near Champaign, Princeton, Colchester, Wapella, Heyworth, and elsewhere. The pressure is usually slight and the life of the individual wells is usually short. While it is not possible in every case to absolutely exclude the possibility of these wells representing leakage from lower reservoirs, a sufficient explanation of them is believed to be found in the decay of woody material buried in the drift itself. These wells are characteristically difficult to maintain owing to sand clogging the pipes."

The section for southern Illinois is most important in the present study. The formations yielding oil and gas production are indicated by italic and occur chiefly in the Carboniferous system. Possible oil "sands" are suggested also in the Ordovician and Silurian systems, especially in central and northern Illinois.

[1] Weller, Stuart, The Geological Map of Illinois: Bull. Ill. State Geol. Survey No. 6, 1907.
[2] Bain, H. Foster, Petroleum Fields in Illinois in 1907: Bull. Ill. State Geol. Survey No. 8, pp. 273-312.

Northern Illinois section.

This section is intended to be representative for that portion of the State lying north of Rock Island, LaSalle, and Kankakee.

Pennsylvanian.	McLeansboro. Limestones and nodular calcareous shales in upper part and sandstone at the base. Thickness 300 feet. Carbondale. Coal, shale, sandstone and limestone. Thickness 200 feet. Pottsville. Shale. Thickness 2 to 20 feet. Unconformity.
Devonian......	Limestone. Thickness 125 feet. Unconformity.
Silurian........	Niagara. Dolomite. Thickness 20 to 400 feet. *Contains frequent seepages of bitumen in the vicinity of Chicago.* Unconformity.
Ordovician.....	Cincinnatian (Maquoketa). Shales and limestone. Thickness 50 to 225 feet. Unconformity. Galena-Trenton. Mainly dolomite; a little limestone and shale at the base. Thickness 230 to 450 feet. *A very persistent "oil "rock or petroliferous shale in the lower portion.* St. Peter. Sandstone, friable. Thickness 100 to 220 feet. Heavily water-bearing. Lower Magnesian. Dolomitic limestone. Penetrated to 845 feet. All but upper part known from well records; rests on Potsdam sandstone, known only from well records.

Central Illinois section.

For the region south of Rock Island, LaSalle, and Kankakee, and north of the Missouri river and Marshall, Clark county.

Pennsylvanian.	McLeansboro. Shales, sandstones, thin limestones and coals. Rocks between top of Herrin (No. 6) coal and bed rock. Thickness 125 to 700 feet. Carbondale. Coals, shales and sandstones. Rocks between the base of the Murphysboro (No. 2) coal and the top of the Herrin Coal. Thickness 100 to 300 feet. Pottsville. Sandstones, thin shales and coals. Thickness 150 to 200 feet. *Carlinville oil-sand, Macoupin county; small amounts of oil and gas reported but position not certain.* Unconformity.
Mississippian...	Birdsville and Tribune (Chester). Irregular thickness of sandstone, shale and limestone, recognized in a few borings; generally absent in this territory. Thickness 0 to 50 feet. Ste. Genevieve, St. Louis, and Salem. Limestone, non-magnesian, partly cherty and partly oolitic. Thickness 225 to 400 feet. Osage (Burlington, Keokuk and Warsaw). Shales and limestone, the latter often cherty. Thickness 100 to 400 feet. *Crude petroleum in geodes near top of the Keokuk.* Kinderhook. Shales, limestones, and sandstones. Thickness 40 to 120 feet. Unconformity.
Devonian......	Upper Devonian. Shale. Thickness 0 to 130 feet. Hamilton. Limestones. Thickness 0 to 100 feet. Unconformity.
Silurian........	Niagara. Dolomite. Thickness 50 to 150 feet. *Gas at Pittsfield, Pike county and oil seepage in Calhoun county.*
Ordovician.....	Cincinnatian (Maquoketa). Shales. Thickness 40 to 200 feet. Unconformity. Galena-Trenton. Dolomite. Thickness 200 to 400 feet. *Oil seepage in Calhoun county.* St. Peter. Sandstone. Thickness 120 to 170 feet. Lower Magnesian. Dolomitic limestone. Penetrated to 700 feet.

Southern Illinois section.

For the area lying south of a line drawn eastward from the mouth of the Missouri river to Marshall, Illinois, and the State line.

Quaternary....	Glacial till, sand, and gravel; loess and alluvium. Present as surface rocks everywhere except in northwest and extreme south. Thickness, 30 to 225+ feet.
Tertiary.......	Lafayette, LaGrange and Porters Creek. Clays, sands, gravel, and ferruginous conglomerate. Occurs only in extreme south. Thickness 250 feet.
Cretaceous.....	Ripley. Clay and sand. Occurs only in extreme south. Thickness 20 to 40 feet.

Southern Illinois Section—Concluded.

Pennsylvanian.	McLeansboro formation. Shales, sandstones, thin limestones and coals. Rocks between top of Herrin (No. 6) coal, and bed rock. Thickness 500 to 1,000 feet. *Contains the oil and gas sands of the Westfield, Siggins and Casey pools.* Carbondale formation. Coals, shales and sandstones. Rocks between the base of Murphysboro (No. 2) coal and the top of the Herrin coal. Thickness about 375 feet. *Lower "pay," Johnson township pool, Clark county.* Pottsville formation. Sandstone, some thin shales and coals. Thickness 300 to 700 feet. *Includes the Buchanan sand (base), and Bridgeport sand (top), Lawrence county; Robinson sand (top), Crawford county; oil sand of Litchfield, Montgomery county; probably the Princeton, Ind., oil sand.* Unconformity.
Mississippian ..	Birdsville and Tribune (Chester). Sandstones, shale, and limestones; usually six limestones with three well defined beds (non-cherty) and generally with red shale at the base. Thickness 770 feet. *"Gas" and Kirkwood sands, Lawrence county; gas sand, Vincennes, Ind.; Sparta sand, Randolph county; Stein and Benoist sands, Marion county (the latter is the equivalent of the Kirkwood sand); Lindley gas sand, Bond county; Carlyle sand, Clinton county and the Oakland City sand, Pike county, Ind. Tracey sand, Lawrence county and probably Denny sand, Perry county (show of oil.* Cypress. Sandstone, massive, coarse-grained; fairly regular in a thickness of 80 to 150 feet in southwestern Illinois; very irregular and usually thin in southeastern Illinois. The Cypress sandstone is absent in the oil fields of Lawrence county. Unconformity. Ste. Genevieve. Limestone, mostly oolitic and very cross-bedded. Thickness, 80 to 100 feet. *McClosky sand, Lawrence county.* St. Louis and Salem (Spergen). Limestone, dense becoming oolitic in lower division. Thickness 320 feet. *Show of oil reported at base in the Lawrence county pool near Bridgeport.* Osage (Burlington, Keokuk and Warsaw). Shale above and coarse-grained limestone with chert below. Thickness 440 feet. Kinderhook. Shale and shaly limestone, red. Thickness 60 feet.
Devonian......	Upper Devonian (Sweetland Creek). Shale. Thickness 50 to 60 feet. Hamilton. Limestone. Thickness about 100 feet. Onondaga (Grand Tower). Limestone. Thickness 155 feet. Oriskany (Clear Creek). Chert and limestone. Thickness 200 to 240 feet. Helderberg (New Scotland). Limestone. Thickness 165 feet.
Silurian........	Alexandrian (Sexton Creek, Edgewood and Girardeau). Limestone, some shale. Thickness 116 feet.
Ordovician	Richmond (Cincinnatian). Orchard Creek, shale, Thebes sandstone, Fernvale limestone. Thickness about 100 feet. Galena-Kimmswick. Non-dolomitic limestone. Thickness 510 feet recorded. St. Peter. Sandstone. 120 feet recorded. Lower Magnesian. Mostly dolomitic limestone with occasional thin layers of sand and shale. 545 feet recorded.

AREAL EXTENT OF THE FORMATIONS AND OIL SANDS.

The extent of the main geologic systems in Illinois is suggested by the map already published.[1] Of particular interest here is the extent of the formations which are, or may be, productive of oil and gas. Passing from the youngest to the oldest or lowest rocks, by far the most important are the Pennsylvanian and Mississippian formations; although the Silurian and Ordovician rocks deserve brief mention. The Carboniferous include the Pennsylvanian ("Coal Measures") series and the underlying Mississippian.

The Pennsylvanian rocks occupy 42,000 square miles in the heart of Illinois. They are absent from that part of the State lying north of an irregular line drawn eastward from Rock Island. The boundary swings southward from near the mouth of Kankakee river to a point west of Paxton, thence northeast to the State line near Watseka. South of this line the Pennsylvanian rocks continue from Illinois into Indiana and Kentucky. The southern and western margins of the area follow the trend of the Ohio and the Mississippi at a distance of 10 to 25 miles. The Pennsylvanian rocks of the southern area are thickest and most

[1] Loc. cit.

complete. They are thinner in the central section, chiefly because of the thinning away of the Pottsville formations with their included oil sands. North and northwest of Springfield these rocks are essentially absent but they are present eastward from Decatur. A thin layer occurs also in the vicinity of Rock Island. The lowest beds of the Pennsylvanian are lacking along the western boundary of the State from Randolph county northward to Rock Island. It thus appears that the oil sands of the Pottsville are most promising in the central and southeastern parts of the State. Even there, the Pottsville may be limited to areas from which the upper Chester formations have been eroded. The higher sands may be found present practically anywhere except at the thin edge of the Pennsylvanian area. The horizontal extent of the various sands is not known accurately, even within the drilled areas, because of lack of good well records and consequent difficulty of identifying the sands.

The Pennsylvanian rocks above the Pottsville are subdivided into upper and middle parts, the Pottsville constituting the basal portion. The upper part is specifically known as the McLeansboro and the middle part, the Carbondale.

The McLeansboro formation includes all the rocks between the top of the Herrin or No. 6 coal and the top of the Pennsylvanian series. A thin layer of shale usually overlies the Herrin coal followed by a very persistent limestone. The limestone contains a small fossil known as the *Fusulina*, which is about the size of a large grain of wheat. It tapers at both ends and a cross-section has the appearance of concentric circles. Dr. Udden has been able to distinguish fragments of the fossil in a quantity of chopped, or ground, well samples taken from a churn drill hole. A red shale is often found from 40 to 200 feet above the Herrin coal. This red bed has been noted in Peoria county by Dr. Udden; in Fulton, Sangamon, and Clark counties by T. E. Savage; in LaSalle county by Gilbert Cady, and in White, Gallatin, and Saline counties by F. W. DeWolf. It occurs high up in many well records in Crawford and Lawrence counties but low in other sections of the State. The *Fusulina* limestone, red shale, and top of the No. 6 coal are the most important beds in the McLeansboro and the absence of any two of them still leaves a possible means of determination for the base of this division. There are usually 300 feet of shale, clay, some sand, local coal beds, etc., between the *Fusulina* limestone and the Shoal Creek limestone. The maximum thickness of the formation in southeastern Illinois is about 1,000 feet.

The Carbondale includes the rocks from the Murphysboro (No. 2) coal to the top of the Herrin (No. 6) coal. Shale constitutes the major part of the division with much micaceous sandstone in the basal portion. There are several beds of limestone underlying the Herrin coal. The shales are soft and cavy and often very sandy, so closely are they associated with the massive Pottsville sandstones beneath. The sandstones are sometimes coarse above the Murphysboro coal. This coal is often absent and a thin limestone and more often shale, separates the Carbondale and Pottsville. There is a good bed of sand usually under the Herrin coal. The productive oil-sand north of Centralia is thought to correspond to this and therefore lies in the Carbondale. The most important beds of this division are the Herrin coal at the top, the Murphysboro coal at the base and the Harrisburg (No. 5) coal between. These coals are widely distributed and give good opportunity of interpreting this division. The formation is about 225 feet thick in the northern part of the coal area of Illinois, and 300 to 450 feet in southern counties.

The Casey sands, or the shallow sands of Clark, Coles, Cumberland, and Edgar counties and the 400-foot sands of the Robinson pool in Crawford county, occur well up in the Pennsylvanian. They are interbedded with coals, thin limestones, and prevailing shales. They have been widely drilled along the LaSalle anticline and have been found productive of oil and some gas. Their shallowness and the ease of drilling through the overlying formations has caused their thorough exploitation. These sands are fairly widespread over the southern and central portions of Illinois but have been found commercially productive in but one other locality beyond the LaSalle fold. The original oil seep in the mine north of Centralia, which gave impetus to the development of the Marion county oil field, is from a sand immediately underlying the Herrin coal. This sand was found productive in several wells north of Centralia. As soon as the position of the Herrin coal is definitely learned in the main oil territory, it will perhaps be possible to identify and correlate this sand.

The Pottsville sands at the base of the Pennsylvanian have been studied in Illinois along their outcrop by David White. From the fossils they are believed to correspond in age to the Pottsville rocks of the Appalachian region. The oil and gas sand of Litchfield apparently belongs in the Pottsville. This is perhaps the only instance in which these formations are productive of oil outside the Buchanan sand of the southeastern Illinois fields. The Pottsville sandstones of the central and southern portions of the State, especially in the deeper part of the Illinois basin and over the LaSalle anticline, are conspicuous for their massiveness. Since they are interbedded with shales, however, the top of the formation is difficult to identify, owing to the merging of the sands with overlying shaley rocks. The correlations in this report were based, for the most part, upon the top of the thick sand immediately underlying the conspicuously shaley rocks. These sands are fairly well saturated with salt water wherever they have been encountered. They commonly lack conspicuous limestone strata, thus differing distinctly from the underlying Mississippian rocks. In the southern part of the State the Pottsville rocks are as much as 700 feet thick.

The Mississippian series lying in the Carboniferous, next below the Pennsylvanian ("Coal Measures") contains important oil sands whose exact extent is not accurately known. The outcrops of the Mississippian rocks occur around the southern and western borders of the State, and exposures show that the full thickness is not everywhere present. The thickest development occurs in the southern area. It wedges out to the north so its edge is overlapped and concealed by the Pennsylvanian rocks. The Mississippian oil sands, as shown by the table, occur in the upper or Chester members. They are the most productive sands and have produced most of the oil from the eastern Illinois fields.

The top of the Chester is not positively recognized in drill records. The correlations in this report were based upon the limestone immediately underlying the massive Pottsville sandstone. It is succeeded by other limestones interlain with strata of sandstones and red shales. Weller says:[1]

From most of the literature on the subject one gains the impression that the Chester is dominantly a limestone formation, but in working over the area occupied by the beds in the field, one is impressed with the fact that it is in a large part sandstone. Nowhere in that part of Illinois occupied by these beds, is the limestone element in the formation the most conspicuous feature, except along the Mississippi river bluffs above Chester, from that city to the point where the Cypress sandstone outcrop begins. It is probable that where the limestone has its greatest development, not more than one-third of the total thickness is calcareous, and over a large part of the area the thickness of the limestones probably does not exceed one-fifth of the entire thickness.

The best region in which to study the succession of beds in the Chester, is in the Mississippi river bluffs above and below the city of Chester. This section shows an alternation of chiefly calcareous and arenaceous formations, there being three conspicuous limestones and three sandstones. The limestones are frequently interbedded with calcareous shales, and the sandstones frequently become arenaceous shales or at times clay shales.

The lowest member of the "group," above the Cypress sandstone, is a limestone and shale formation attaining a maximum thickness of approximately 250 feet at and above Chester. In its lower portion it includes considerable beds of calcareous and clay shales, a bed of variegated red and blue shale being commonly present near the base. In the upper part of this member is a great limestone ledge about 100 feet in thickness, with occasional thin shaly partings, which furnishes the quarry rock at the Southern Illinois penitentiary, at Menard. The great mass of the fauna of the "Chester group" in Illinois has been described from this lower, calcareous member of the formation as a whole.

The second member of the "group" is a sandstone or shale, the shale being most conspicuous in the more northern part of the area, while to the south it is almost wholly a sandstone similar to the Cypress in character, but usually thinner bedded and not infrequently more or less of an arenaceous shale. This division attains a thickness of about 80 feet. The third is again a limestone which is apparently more impure than most of the beds of the lower division. It is much less fossiliferous than the lower division and the fossils are such as to give it definite faunal characters which can be recognized over wide areas. Its thickness near Chester is about 60 feet. The fourth member is again a sandstone similar to the earlier sandstone beds, and attains a thickness of 65 feet. The fifth member is a limestone similar to limestone No. 2, in lithologic characters, and is usually almost or quite unfossiliferous. Its thickness is about 35 feet.

It seems to be altogether probable that these three limestone beds of the Chester "group" can be differentiated and mapped throughout the faulted area in the southern part of the State, and that by means of them the structure can be worked out in much detail. In the final work upon these beds it will probably be found to be expedient to distinguish each of these six members of the Chester by distinct formation names, just as the Cypress sandstone is now distinguished.

Dr. Weller has kindly furnished the following general section of the Chester rocks from the exposures along the Mississippi bluffs in Randolph and Monroe counties, Illinois:

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[1] Weller, Stuart, The Geological Map of Illinois. Bull. Ill. State Geol. Survey No. 6, 1907.

General section of the Chester (above the Cypress sandstone).

Formations.	Thickness in feet.
Birdsville:	
Rockwood sandstone	100
Limestone (No. 3)	20
Arenaceous shale or shaly sandstone	47
Sandstone	10
Arenaceous shale or shaly sandstone	33
Limestone (No. 2)	54
Shale	42
Limestone (persistent bed)	8
Shale (in some places a bed of sandstone occurs in this shale of variable thickness from 0-20 feet)	36
Limestone	4
Shale	4
Tribune:	
Limestone (No. 1), heavy bedded	80
Interval of uncertain character, lower part probably shale and upper part limestone	30
Limestone (fossils)	49
Probably shale—not exposed	38
Variegated red and green shales	15
Not exposed	5
Limestone (fossils)	20
Shale, thin streak	....
Limestone	15
Shale, thin strata	....
Unknown	25
Cypress sandstone	134
Total depth to bottom of Cypress	769

The thinning away of the Chester beds to the north causes the absence of important oil and gas sands in that part of the State. No Chester has been found present west of a line from Decatur to O'Fallon. Probably there is little Chester north of a line between Decatur and Springfield.

Pre-Chester sands of the Carboniferous or those below the rocks just described are not present in the main fields. These rocks have been very little prospected elsewhere and are not known to be productive in other sections of the State. Regardless of its close association with the Chester proper, its wide extent and porous character, the Cypress sandstone is not looked upon as holding much promise.

The Chester group is limited to the Tribune formation because of upper and lower erosion periods in which the Birdsville or upper division and the Cypress or lower sandstone member have entirely disappeared.

The Ste. Genevieve limestone underlies the Cypress and is found to be highly productive of oil in Lawrence county. This bed is mostly limestone but conspicuously oolitic and soft, which appears to be a recurrence of the same phase of the lower Salem limestone. Its maximum thickness in the oil fields is 85 feet while Weller gives 100 feet for Monroe county. The McClosky sand corresponds to the Ste. Genevieve. Below that, in the Carboniferous, are no known beds that are either encouraging or discouraging as possible sources of oil. A very recent report, however, describes the finding of oil 300 feet below the top of the St. Louis limestone on the Hardacre farm, N. E. ¼ Sec. 10, T. 3 N., R. 12 W., Lawrence township, Lawrence county. This may indicate an oil horizon at this position in the series. Petroleum has also been found in the geode bed of the Keokuk. This is not believed, however, to be especially significant.

The Silurian includes the Niagara limestone formation, which in northern Illinois is dolomitic, and locally contains bituminous deposits. It offers some slight chance of oil production.

The Ordovician system includes the Galena-Kimmswick limestone, along with others of little importance in this connection. Over it lie the Richmond-Maquoketa shales which, in the northwest counties, are rich in disseminated oil. The Galena-Kimmswick is known to be 300-400 feet thick in the north; 250 feet thick in Calhoun and Jersey counties; at least 100 feet in southern Illinois. It doubtless underlies the younger rocks of the Illinois basin.

Structure.

Throughout the central portion of Illinois there is a spoon-shaped basin with its long axis extending from the north line of Stephenson county past LaSalle, Lovington, and continuing to the southwest county of Indiana. The deepest part of the basin lies in the vicinity of Wayne, Hamilton, Edwards, and White counties, where the rocks are comparatively flat. Towards this basin, with local exceptions, all the rocks of Illinois and of western Indiana dip gently. The sides of the "spoon" show some minor longitudinal folds. The most important is the LaSalle anticline (See Plate IB) which runs from Freeport to a point just east of LaSalle, and continues in a southeasterly direction through the oil field and into Indiana. From western Illinois the rocks dip gently eastward until the Duquoin anticline is reached but then dip much more rapidly to the axis. They rise from this line to the LaSalle anticline, decline gently, and then rise again into Indiana. The dips of the southern rocks into the basin are locally 100 feet or more to the mile. The anticlines and other minor irregularities influence the accumulation of oil and gas as explained in a previous discussion, and, therefore, are of special importance. They become less conspicuous towards northern Illinois; consequently that part of the State does not offer as promising structural features, for the accumulation of oil as the southern part and it moreover, entirely lacks the Pennsylvanian and Mississippian oil sands. Oil if present must be found in the older formations.

STRATIGRAPHY OF CRAWFORD AND LAWRENCE COUNTIES.

General Statement.

The stratigraphy of Crawford and Lawrence counties is revealed by the study of two sets of columnar sections comprising the most representative borings in the two counties. Three of the records, 2, 5, and 10 of the Lawrence county and all of the logs of the Crawford county sections are precise studies of well samples collected by the writer and examined by Dr. J. A. Udden.

Crawford County.

All the penetrated rocks in the producing areas of Crawford county belong to the Pennsylvanian series. These rocks are overlain by a varying thickness of drift. The Pennsylvanian series are represented by about 480 feet of the McLeansboro, 300 feet of the Carbondale, and about 100 feet of the Pottsville formations. The rocks are all of sedimentary origin being principally shales with variable intergradations of sandstones, limestones and coal. The columnar section of Crawford county is made up of logs from several localities, several of which are outside the area covered by this report. They are plotted in order from

Medium gray stiff shale, fine texture with many fragments of coal	405	410
Gray shale of fine texture, fossil fragments, bits...............	410	415
Shale, sandy, micaceous greenish gray, with leaf imprints......	415	420
Shale, sandy, micaceous and greenish gray with small black fragments of vegetation	420	425

The Ordovician system includes the Galena-Kimmswick limestone, along with others of little importance in this connection. Over it lie the Richmond-Maquoketa shales which, in the northwest counties, are rich in disseminated oil. The Galena-Kimmswick is known to be 300-400 feet thick in the north; 250 feet thick in
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mentary origin being principally shales with variable intergradations of sandstones, limestones and coal. The columnar section of Crawford county is made up of logs from several localities, several of which are outside the area covered by this report. They are plotted in order from south to north in Plate II. The top of the limestone over the Herrin coal, which may be called the *"Fusulina"* limestone for the lack of a geographical name, is used as a key line for the columnar section. All the records are plotted with respect to this line and are presented herewith, corresponding by number to those printed on Plate II. All of the following logs were compiled by Dr. J. A. Udden from a detailed examination of well samples saved by the Ohio Oil Company.

LOGS.

No. 1.—*M. Shiltz, No. 7.*

Location—SE. ¼ sec. 7, T. 7 N., R. 14 W., Oblong Township.
Elevation—485 feet.

	Depth in feet. From	To
Unknown	0	185
Light gray micaceous sandstone or sandy shale. The laminae are from one-twentieth to one-eighth of an inch in thickness	185	190
Gray micaceous shaly sandstone, with carbonaceous foliations showing leaf fragments and needle-like impressions. Biotite scales noted	190	200
Gray micaceous shaly sandstone and black carbonaceous shale	200	205
Gray micaceous shaly sandstone, with carbonaceous foliations	205	210
Gray calcareous limestone, partly organic fragmental, apparently concretionary. A fragment of a black silicified piece of a fern stem noted	210	215
Light gray sandy shale, micaceous	215	220
Gray sandstone, fine in texture, and with a calcareous matrix	220	230
Light gray, sandy shale	230	250
Light gray sandy and micaceous shale and some calcareous concretionary material	250	255
Dark micaceous shale and micaceous gray sandstone	255	260
Gray, stony shale	260	265
Black fissile shale, "miners slate," and greenish fire clay	265	270
Gray sandy shale and black shale	270	275
Greenish gray shale of fine texture	275	280
Light gray shaly sandstone and shale, biotitic	280	285
Light gray sandy and micaceous shale, with some dark and soft marly material	285	290
Gray sandy shale	290	295
Dark gray sandy shale	295	300
Dark gray sandy and micaceous, stony shale	300	320
Dark gray stony shale and green fire clay	320	325
Dark gray shale of fine texture	325	335
Dark shale, with impressions of narrow leaf-like forms of vegetation and of fragments of thin shells	335	340
"Miners' slate," black, and some coaly shale	340	345
Gray sandstone, moderately coarse	345	350
Light gray sandy shale, with layers of shaly sandstone, which contains spherules of brown carbonate of iron	350	355
Gray calcareous limestone	355	360
Gray limestone and some black shale. Chetetes milleporaceus noted	360	365
Micaceous gray sandy shale or sandstone with some concretionary limestone	365	370
Gray micaceous sandstone and sandy shale	370	380
Gray soft shaly sandstone. Some fragments have a brownish tint	380	390
Gray shale of fine texture	390	395
Gray sandy shale, light	395	400
Micaceous and sandy stiff shale, light gray, with narrow impressions, carbonaceous, of small leaves and bits of brown tests of crustaceons. Many fragments of coal	400	405
Medium gray stiff shale, fine texture with many fragments of coal	405	410
Gray shale of fine texture, fossil fragments, bits	410	415
Shale, sandy, micaceous greenish gray, with leaf imprints	415	420
Shale, sandy, micaceous and greenish gray with small black fragments of vegetation	420	425

Logs—Continued.

	Depth in feet. From	To
Sandstone, fine in texture, micaceous, shaly light gray.........	425	440
Gray shale of fine texture, greenish, only very slightly micaceous	440	445
Sandy shale, gray, micaceous, with bits of vegetation...........	445	450
Light gray shale, stony	450	455
Shale, greenish gray, micaceous	455	470
Dark greenish gray shale, of fine, even texture................	470	475
Coal and fine gray shale or fire clay	475	480
Limestone, some dark and compact with very slow effervescense, some light, calcareous, crystalline cleavage like that in crinoid stems. Also some limestone and shale, with small spherules of clay iron stone, magnetic after fusion, ⅛-½ mm. in diameter. Wood in coaly pyrite..................................	480	485
Shaly sandstone of light gray color	485	495
Dark gray stony micaceous shale	495	500
Gray sandstone and shale	500	505
Gray shale, stiff, of fine texture	505	510
Dark gray micaceous shale	510	515
Gray dark shale, stiff, micaceous	515	520
Gray limestone and coal, limestone is organic fragmental. Crinoid joints noted	520	525
Coal and some gray fire clay	525	530
Gray sandstone with a little micaceous shale	530	540
Gray sandstone with sandy shale	540	545
Gray sandstone, fine	545	550
Gray micaceous stony, (sandy) shale	550	570
Gray shaly fire clay or shale	570	575
Dark shale and a little coal. Shale, fine and carbonaceous......	575	580
Dark shale, coal and fire clay	580	585
Black limestone (almost), effervescing slowly, with imbedded organic fragments and pyrites, yellow. Green grains or fillings in limestone, crinoid stems, fragments of shells, and spines, *fusulina* fossils	585	590
Dark gray stiff micaceous shale	590	595
Gray micaceous shaly sandstone and shale	595	600
Shaly sandstone, gray, micaceous	600	605
Dark calcareous limestone, with Athyris, crinoid stems, spines, in copious small fragments, and coal in coarse and fine fragments	605	610
Black shale, gray shale, fire clay and coal	610	615
Gray sandstone and black shale	615	620
Gray sandy shale	620	625
Sandstone, light gray, of fine texture thinly laminated, some yellow concretionary material	625	630
Gray shaly sandstone, micaceous	635	640
Gray sandy shale and fire clay	640	645
Gray sandy shale	645	650
Gray shale of fine texture	650	660
Gray sandy shale with straight laminations	660	665
Black shale, with gray blotches, laminated, "Miners' slate"......	665	670
Black shale and dark gray shale	670	675
Light greenish gray shale of fine texture	675	685
Black shale, almost slaty	685	690
Black stiff shale of fine texture	690	695
Dark gray shale	695	700
Gray sandy shale	700	705
Gray stiff shale, and some earthy shale	705	710
Dark gray earthy shale and light gray sandstone	710	715
Dark gray laminated shale	715	725
Dark gray, laminated, micaceous shale, with imprints of leaves and bits of vegetation	725	730
Gray shale, sandy and micaceous, with imprints of fragments of leaves	730	735
Dark, very dark shale, micaceous	735	740
Black shale, short "miner's slate"	740	745
Black shale, short "miner's slate, with pyrites	745	750
Gray sandstone with some coal	750	755
Sandstone, shale, laminated, dark gray	755	760
Dark gray shale	760	765
Shale, dark gray, some dark fire clay, coal	765	770
Coal, hardly anything else, large sample	770	775
Light gray sandy fire clay and coal	775	780
Light gray micaceous pyritiferous sandstone and some dark shale	780	785
Light gray micaceous sandstone	785	790
Micaceous light gray sandstone (and shale)......................	790	795
Sandy gray shale and fire clay, dark, and showing slickensides..	795	800
Dark gray shale, fine in texture, with some slickensided pieces...	800	805
Black "miners' slate"	805	810
Black coaly shale, with a light gray rock composed of clay and containing small spherules of clay iron stone ¼-½ mm. in diameter	810	815

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Logs—Continued.

	Depth in feet. From	To
Dark gray shale with some fine small flakes of mica............	815	820
Coal and some dark shale, with fragments of brown clay iron stone	820	825
Fire clay, shale, dark and light gray sandstone................	825	830
Dark gray shale and shaly light gray sandstone	830	835
Black shale, coal and fire clay	835	840
Gray sandy shale and black shale, some coal	840	845
Gray sandy shale, black shale, some coal	845	850
Black and gray shale, laminated (?)	850	855
Dark gray shale, micaceous, and sandy light gray shale.........	855	860
Black shale and gray shale, micaceous, imprints of leaves......	860	865
Gray and black shale, some of the black shale with thin laminae of coal	865	870
Gray micaceous and sandy shale and shaly sandstone..........	870	875
Black coal shale ("miners' slate") some impure coal and some fire clay	875	880
Dark gray shale, stiff.	880	885
Some gray shale, some shaly sandstone, scme cloddy limestone with crinoid stems and other fossils in fragments. Much of the sample is a stony, sandy fireclay, in which are imbedded spherules of clay iron stone ⅛-½mm. in diameter. On grinding and polishing some fragments containing these spherules a center of pyrite was seen in some of the spherules. The imbedded spherules lie quite close together, giving the appearance of oolitic rock...	885	890
Gray micaceous sandy shale and fire clay......................	890	895
Gray shaly micaceous sandstone or sandy shale.................	895	905
Gray shale micaceous sandstone..............................	905	910
Gray sandstone, foliated, with carbonaceous black foliations......	910	920
Yellowish sandstone, ground up, floats on water.................	920	925
Gray sand, less oily. ⅛-¼ mm.		

No. 2.—*O. F. Edwards, No. 15.*

Location—SE. ¼ sec. 7, Oblong Township.
Elevation—485 feet.

	Depth in feet. From	To
Loess or silt, with some sand................................	0	5
Boulder clay, thoroughly leached.............................	5	15
Yellow boulder clay, calcareous..............................	15	20
Yellowish gray calcareous boulder clay with limestone pebbles...	20	25
Sand and gravel washed from boulder clay.....................	25	40
Gray boulder clay...	40	45
Sand and gravel, washed from boulder clay....................	45	50
Mostly sandstone, fairly coarse, with some limestone with fragments of fossils, probably Productus semirecticulatus, Retzia, Rhomhopora lepidodendroides, Fislulipora, Tubipora, and joints of crinoid stems..	50	55
Sandstone, gray, micaceous, friable..........................	55	65
Gray shale, slightly micaceous, of comparatively loose consistency	65	85
"Dirt bed" material, dark crumbling silt clay, with some coal....	85	90
Impure fire clay and shale, much coal, and concretions of lime and of carbonate of iron....................................	90	95
Dark shale...	95	100
Gray shale, micaceous......................................	100	105
Gray shale and marly material. The latter contained the pygidium of a small trilohite, fragments of bryozoa, and joints of crinoid stems	105	110
Almost black shale, containing small ostracods, one-thirtieth of an inch in length and an impression of some smooth flat objects, having the shape of an equilateral triangle with perfectly straight sides measuring a sixth of an inch..................	110	115
Black shale with impressions of fucoidal bands a tenth of an inch in width. Part of sample a dark limestone with crinoid stems, a small pentagonal crinoid plate, and a small brachiopod (Ambocoeia umbonata?).....................................	115	120
Dark limestone, of characteristic appearance of a "clod" limestone (i. e., small limestone overlying a coal), clay, fissile, shale and coal. The limestone has the same fossils as in the previous number	120	125
Dark limestone as above, with irregularly bending Ammodiscus tubes about one-fifth inch in diameter, also coal and some fire clay. The coal probably lies at a depth of about 125 feet and is underlaid by the fire clay................................	125	130
Gray micaceous sandstone....................................	130	140
Micaceous shaly sandstone and sandy shale.....................	140	145

Logs—Continued.

	Depth in feet. From	To
Micaceous shaly sandstone	145	150
Micaceous shaly sandstone and sandy shale	150	155
Coal, some "clod" and some shale	155	160
Gray micaceous sandstone	160	165
Gray micaceous sandstone with one large piece of coal and one large piece of black shale, containing fragments of some thin shells, probably a Lingula	165	170
Gray sandstone, with some calcareous rock	170	175
Shaly micaceous gray sandstone	175	180
Shaly micaceous gray sandstone, with some small fragments of a calcareous rock	180	185
Dark gray sandy shale with large flakes of mica	185	190
Dark gray micaceous shale	190	195
Gray micaceous shale, with shreds of vegetation	195	200
Limestone, compact, yellowish white and dark gray, containing crinoid stems and fragments of other unidentified fossils. Splits into thin fragments, and has a sort of waxy lustre	200	210
Gray shale, somewhat micaceous	210	215
Fire clay, shale, and sandstone	215	220
Mostly sandstone having a calcareous matrix and a few imbedded organic calcareous fragments	220	225
Sandy shale or shaly sandstone, with some black mica	225	230
Gray sandstone	230	235
Gray sandstone, laminated, with thin layers of carbonaceous material	235	240
Dark gray sandstone, laminated, micaceous, with thin carbonaceous foliations, and with a calcareous cement	240	245
Sandstone, dark gray, shaly, biotitic. Some fragments show yellow specks of presumably concretionary iron carbonate, other fragments are closely studded with minute grains of pyrite	245	250
Some sandstone like the previous, dark shale and fire clay	250	255
Dark shale and sandstone, both biotitic	255	260
Black shale and some fragments of a coarse shell breccia, containing crinoid stems	260	270
Gray sandstone	270	275
Gray sandstone, with a brown, slowly effervescing sandstone	275	280
Gray sandstone, with a brown, slowly effervescing sandstone, with more of the brown rock, which seems to have a concretionary (oolitic) structure and consists of mainly carbonate of iron with some calcareous grains	280	285
Gray sandstone, micaceous	285	295
Gray sandstone, micaceous, with some shaly sandstone	295	300
Gray sandstone, micaceous	300	310
Gray shale	310	315
Gray shale with small ostracods, and a spiral Ammodiscus	315	320
Gray shale, with narrow, ribbon-shaped impressions of vegetation, ostracods and a spiral Ammodiscus	320	325
Gray sandy shale and micaceous sandstone	325	330
Micaceous sandstone and coarse gray shale	330	335
Coarse sandstone	335	340
Sandstone, with yellow grains (concretionary) of carbonate of iron, larger than the sand grains	340	345
Gray shale with some very compact fragments of carbonate of lime concretions	345	350
Faintly yellowish gray limestone, splitting into thin chips, with many unrecognizable fragments of organic origin	350	360
Limestone, like the preceding, with a brachiopod shell fragment, a Zaphrentis, and joints of crinoid stems. Also some dark gray shale	360	365
Greenish gray shale	365	370
Gray micaceous sandstone and shale	370	385
Gray shale of fine texture	385	395
Bluish gray sandstone	395	400
Shale, mostly dark gray, and of fine texture	400	405
Sandstone and sandy shale	405	410
Micaceous sandstone and shale	410	415
Gray silty shale	415	420
Dark gray shale	420	425
Gray sandstone and shale	425	430
Gray shale and some impure coal	430	435
Micaceous gray shale, with fragments of concretions of carbonate of iron	435	440
Gray shale	440	445
Gray shale or fire clay	445	450
Gray shale, stony and dark, micaceous	450	455
Some gray shale like the above. But mostly a dark, dirty yellow clay, too oily to mix with water, giving off gas and oil when heated and loosing much of its weight, probably 30 or 40 per cent	455	460

Logs—Continued.

	Depth in feet. From	To
Like the previous, with much coal	460	465
Sandstone, gray, micaceous, and some pieces of a black limestone, containing fragments of fossils	465	470
Oily clay, with coal and gray stony shale, some pyrite	470	475
Like the previous, with much coal and some fossiliferous limestone	475	480
Sandstone, with some yellow limestone containing organic fragments	480	485
Gray shale and some sandstone	485	490
Dark gray shale	490	500
Dark gray shale with a small Ammodiscus and some narrow fucoid markings	500	505
Gray limestone with imbedded yellow fragments of fossils with some black shale and coal	505	510
Mostly fire clay and coal	510	515
Sandstone, some coarse, some thinly laminated	515	520
Sandstone, comparatively coarse	520	525
Sandstone of average texture	525	535
Dark arenaceous shale	535	540
Shaly sandstone, black shale and coal	540	545
Some coal, fire clay, and dark sandy shale	545	550
Mostly coal, some black shale and fire clay	550	555
Gray sandstone, with a compact yellowish gray limestone breaking frequently into rectangular fragments, and probably of concretionary origin	555	560
Dark shale and sandy gray shale with fragments of concretions of carbonate of iron	560	565
Gray shaly sandstone	565	570
Dark "cloddy" shale and coal with some sandstone	570	575
Coal, stony fire clay and sandy shale	575	580
Gray sandy shale	580	585
Shaly sandstone	585	590
Shaly sandstone, greenish sandy shale, coal and concretionary carbonate of iron	590	600
Gray shale	600	605
Dark gray shale, hard	605	630
Dark gray shale with a fine textured and compact limestone, in part gray, in part yellow, apparently concretionary	630	635
Gray shale, with concretionary limestone like that in the above	635	640
Gray sandstone and some black shale	640	645
Gray fine-grained sandstone, with some black coaly shale	645	650
Like the preceding, but less shale	650	655
Gray shale and black shale	655	660
Gray shale	660	665
Black micaceous shale and gray shale with concretionary material	665	670
Black micaceous shale with concretionary material	670	675
Gray and black shale and coal	675	680
Coal and gray shale	680	685
Gray shaly and micaceous sandstone with much carbonaceous material, and with imprints of vegetation abundant in some fragments	685	690
Dark gray sandstone of fine texture with thin layers of carbonaceous material	690	695
Dark gray micaceous shale with imprints of fern leaves	695	700
Dark gray shale, micaceous	700	705
Dark gray shale, micaceous, stony	705	725
Black shale, hard	725	730
Black shale	730	735
Black shale, with "clod" limestone containing a crinoid stem and some coal	735	740
Gray micaceous sandstone, comparatively coarse in texture	740	745
Gray sandstone	745	750
Shale, almost black	750	755
Black shale and coal	755	760
Black shale and fragments of "clod" limestone, coal and fire clay	760	770
Gray micaceous sandstone, with brown concretionary material	770	775
Gray sandstone and black shale	775	780
Gray shale and some sandstone	780	785
Gray sandstone and shale, with much brown concretionary material	785	790
Like the preceding, with some calcareous material	790	795
Gray shale, and some fire clay with thin carbonaceous flakes imbedded	795	800
Dark gray shale, micaceous	800	810
Shale, almost black	810	820
Black and gray shale, some "clod" limestone, some fire clay and some concretionary carbonate of lime	820	825
Black clayey shale, some coaly shale, some brown and soft concretionary material	825	830
Dark bluish shale and some sandstone	830	835

Logs—Continued.

	Depth in feet. From	To
"Clod" limestone, dark and black shale, coal, and greenish shaly fire clay	835	840
Bluish gray shaly fire clay and black shale	840	845
Gray fire clay and some coal	845	850
Black shale, gray shale and sandstone	850	855
Gray shale and shaly sandstone	855	860
Black shale and coal, with some concretionary carbonate of iron	860	875
Black shale and gray shale with much concretionary carbonate of iron and some coal	875	880
Dark gray shale with concretionary carbonate of iron	880	885
Dark gray shale, with much concretionary carbonate of iron	885	890
Black micaceous shale	890	895
Black shale slightly micaceous	895	900
Mostly black shale, with some concretionary material	900	905
Thinly laminated shale with alternate layers light and dark	905	910
Dark gray, stiff shale	910	915
Dark gray shale, laminated, with alternate layers of light, sandy, dark and finer texture	915	920
Laminated shale, sandy laminae, about four, in a thickness of a sixteenth of an inch	920	925
Like the previous, but with sandy laminae, thicker	925	940
Coaly black shale and gray shaly sandstone, both micaceous	940	945
Black shale, greenish gray shale, and sandstone	945	950
Incoherent gray sand, some 70 per cent of the grains measuring from one-eighth to one-fourth of an millimeter in diameter, some 20 per cent measuring less than one-eighth mm. and only a few per cent measuring more than one-fourth of a mm. The sand floats on water	950	955
Black shale	955	960
Black shale, brownish concretionary carbonate of iron and some sand	960	965
Gray, faintly brownish sand which floats on water, with some coherent lumps which emit oil when heated	965	970
Thinly laminated shaly sandstone, alternate laminae of dark and light material. Laminae mostly about one-half millimeter in diameter. Slightly effervescent with acid	970	975
Like the preceding, but more shaly and lamination less frequently to be seen	975	980
Dark stony shale, with thin layers of alternating light and dark material, with some concretionary brownish carbonate of iron	980	985
Sandy laminated shale or shaly sandstone, layers bending and curving	985	990

NOTE—Dr. Udden adds the following statement to the above log: "The limestone at 360 feet is probably correlative with a limestone horizon which occurs at about 160 feet above Coal No. 6, in the Belleville region. The limestone at 200 feet is most likely an equivalent to the Carlinville limestone about 150 feet higher in the section. Coal No. 6 is believed to be the coal at 510 feet. The several coal seams penetrated are no less than 14 or 15 in number, and fall into three groups. The lower groups, consisting of five coals probably of small size, includes the coals from 670 to 850 feet below the surface. It probably includes coals 1 and 2 of northern Illinois. The middle group comprises the coals from 430 to 580 feet below the surface and no doubt includes Coal No. 6. The uppermost group of coal beds, comprising some small coals of the "Upper Coal Measures" of Worthen, are the coals in the upper 200 feet of the section. The sandy shale in the lower part of the section, which contains the oil sand, exhibit a quite persistent lamination of thin dark and light layers. It is believed that this feature may be useful in their identification in the nearest outcrops."

No. 3.—*L. R. Newlin, No. 21.*

Location—SW. ¼ SE. ¼ sec. 27, T. 6 N., R. 14 W., Martin Township.
Elevation—498 feet.

	Depth in feet. From	To
Drift	1	25
Dark limestone, brown limestone, fragments of coal and yellow sand	25	30

Logs—Continued.

	Depth in feet. From	To
Dark limestone with sand	30	40
Gray sandstone with infiltrated lime	40	45
Gray sandstone, some yellow limestone, and siderite	45	50
Gray sandstone with some yellow limestone. Pyrite noted	50	60
Coarse gray micaceous sand with fragments of coal	60	65
Coarse gray micaceous sand	65	70
Coarse micaceous sandstone	70	75
Coal and some fire clay	75	80
Gray micaceous sand. A little lime in sand	80	110
Dark micaceous shale and sand	110	115
Gray micaceous shale and sand. A few fossil fragments	115	120
Limestone, fragmental, organic, crinoid fragments and bryozoa noted	120	125
Light gray shale of fine texture	125	130
Limestone, in part fragmental, and some shale	130	135
Gray sandy shale with some crinoidal limestone	135	140
Gray micaceous sandy shale, with some limestone	140	145
Gray micaceous shale	145	150
Gray micaceous sandstone and much darker clay iron stone	150	155
Gray micaceous shaly sandstone, with imbedded shreds of vegetation	155	160
Gray micaceous shaly sandstone	160	170
Fine grained, gray micaceous sandstone with intersticial lime	170	175
Some black fissile shale. Mostly a dark blotched organic breccia limestone, containing many crinoid stems, some small Athyris and some crinoid spines	175	180
Like the preceding, with some sandstone and coal	180	185
Sandstone, limestone and shale	185	190
Micaceous sandstone, with some laminated sandy shale	190	195
Gray sandstone, quite coarse	195	210
Micaceous silty gray shale	210	240
Gray shale, and some dark shale	240	245
Black shale, clay iron stone, crinoid stems, Bellerophon, Athyris, a cyathophylid, two gastropods	245	250
Black shale and coal	250	255
Yellowish and gray concretionary siderite and limestone, with some fire clay and coal	255	260
Gray shale	260	265
Gray sandstone and some dark shale	265	270
Gray micaceous sandstone	270	275
Laminated gray sandstone of fine texture	275	280
Gray shale and fire clay	280	285
Gray sandstone	285	290
White sandstone with siderite concretions	290	295
Laminated sandstone	295	300
Micaceous sandstone and dark shale	300	305
White micaceous sandstone	305	330
Gray sandy shale, micaceous	330	345
Gray micaceous sandy shale and some dark gray shale	345	350
Like the preceding with some clay iron stone	350	355
Mostly coal, some shale and some fragments of concretionary limestone	355	360
Gray sandstone with siderite	360	365
Gray sandy shale, micaceous	365	375
Gray sandstone, with some limestone, white	375	380
Gray sandstone, with interstical calcareous material and some pure white limestone	380	385
Greenish gray sandstone	385	390
Gray sandstone, with many concretionary spherules about ½ millimeter in diameter	390	395
Gray sandstone	395	400
Dark gray sandy shale, stiff	400	405
Dark gray micaceous shale	405	410
Dark gray shale	410	415
Dark shale and limestone, with pyrite calcite with many crinoid stems, and an Estheria (?)	415	420
Coal with some limestone fragments and shale	420	425
Coal and fire clay	425	430
Gray sandstone, with some yellow fragments or concretionary material	430	435
Gray sandstone	435	440
White sandstone	440	445
Yellowish white sandstone	445	450
Dark shale	450	455
Black shale and coal	455	460
Gray sandstone, micaceous	460	465
Gray limestone and some large quartz grains	465	470
Gray sandy shale, micaceous	470	475

Logs—Continued.

	Depth in feet. From	To
Sandstone and some limestone	475	480
Shaly sandstone, with some siderite concretions	480	485
Black and dark micaceous shale	485	490
Black dolomitic limestone, with calcite, Rhombopora, lepidedendroides, crinoid stems	490	495
Black limestone, with crinoid stems and coal	495	500
Gray micaceous sandstone, with some interstical calcareous material	500	510
Gray sandstone and a dirty yellow dolomitic limestone, concretionary (?)	510	515
Limestone	515	520
Gray silty shale with carbonaceous shreds imbedded	520	525
Gray silty shale with thin layers of shiny coal of silky lustre. Coal layer in one fragment adhering to the shale	525	530
Gray shale of fine texture	530	535
Dark shale of fine texture	535	555
Black shale and coal, mostly impure	555	560
White sandstone of fine texture	560	565
Light gray shale, with small spherical siderite concretions	565	570
Gray shale, with much siderite, in fragments and in minute spherical concretions. Some bright red fragments noted, "rusty"	570	575
Shaly sandstone and sandy shale, gray, with siderite as in preceding sample	575	580
Sandy shale, gray, with siderite fragments	580	585
Gray sandstone, some shale and siderite	585	590
Shaley sandstone or sandy shale, gray	590	595
Sandstone, black shale and "clod," with some coal and siderite concretions	595	605
Shale and shaly sandstone, with fragments of siderite concretions and coal	605	610
Greenish fire clay and shale	610	615
Shaly sandstone, gray	615	620
Black miner's slate, with siderite concretions	620	625
Black miner's slate, with sandstone and gray shale	625	630
Gray sandy shale	630	635
Dark gray sandy shale, micaceous	635	645
Gray laminated shaly sandstone	645	650
Dark gray sandy shale	650	655
Black stiff shale, almost miner's slate	655	665
Black stiff shale and impure coal	665	670
Black shale and black concretionary limestone, with fossils	670	675
Gray sand and gray sandy shale with some coal	675	680
Coal with very bright (black) lustre and fire clay	680	685
Coal of bright lustre and brownish earthy streak and some fire clay	685	690
Gray gritty fire clay and dark shale	690	695
Shale, gray	695	705
Shale, gray, and some siderite	705	710
Dark limestone, some dark shale and pyrite	710	720
Dark shale, some dark limestone and spherulitic siderite	720	725
Shale, dark, some coal; a little dark limestone	725	730
Dark shale, some coal, and spherulitic siderite	730	735
Gray micaceous shale, and bits of yellow limestone	735	740
Gray micaceous shale, and fragments of siderite	740	745
Dark micaceous shale, some siderite, bits of coal and lime	745	750
Gray micaceous shale and siderite	750	755
Gray micaceous shale, some fire clay, coal and pyrite	755	760
Coarse gray micaceous shale, pyrite, little shale	760	770
Black shale and some coarse sandstone	770	775
Coal and fire clay, and some gray shale	775	780
Coal and fire clay, and some gray fire clay with pyrite	780	785
Black shale, bits of yellow limestone, and spines of brachiopods, and spherulitic siderite	785	790
White sandstone and shale, black, some yellow limestone and coal, and spherulitic siderite	790	795
Dark shale, some little sandstone, siderite and limestone	795	800
Black shale and some siderite	800	810
Black shale	810	820
Gray micaceous shale and some sandstone	820	825
Limestone, dark and white; some sandstone with infiltered lime; gray micaceous shale, pyrite and some crinoid joints	825	830
Dark and white limestone with crinoid stems and pieces of shells, and pyrite	830	835
Gray micaceous sandstone, and some dark and white limestone	835	840
Black micaceous shale, some sandstone, and white limestone	840	845
Black micaceous shale	845	850
Black micaceous shale, some white sand and siderite	850	860
Gray sandstone and dark shale	860	865
Gray sandstone, some dark shale and siderite	865	870

Logs—Continued.

	Depth in feet. From	To
Coarse gray sandstone and a little shale	870	875
Gray micaceous sand	875	885
Gray sand and some dark shale	885	890
Gray sand, white limestone, a little shale and pyrite	890	895
Gray sandstone, bits of limestone, shale and siderite	895	905
Gray micaceous sand	905	940
Gray micaceous sand, and some dark shale	940	950
Dark sandy micaceous shale	950	955

No. 4.—*C. E. Siler, No. 4.*

Location—NE. corner sec. 5, Honey Creek Township.
Elevation—495 feet (estimated).

	Depth in feet. From	To
Pleistocene:		
Loess or yellow loam	1	5
Gravel and sand	5	10
Sand and gravel	10	15
Sand and gravel washed from boulder clay	15	20
Boulder clay	20	40
"Coal Measures":		
Limestone, with imbedded crinoid stem, a small Spirifer cameratus, a small gasteropod, and a piece of a plant stem. Some roof shale	40	45
Shale, greenish gray, micaceous	45	50
Gray shale	50	55
Fine-grained micaceous sandstone with a calcerous matrix	55	62
Arenaceous, gray shale	62	68
Micaceous, gray shale	68	74
Micaceous, dark gray shale	74	80
Micaceous sandstone, with fragments of concretions of carbonate of iron	80	86
Sandstone, gray micaceous, calcareous and shaly, with many fragments of shells of yellowish color	86	92
Gray shale and micaceous shaly sandstone, with a small Myalina, and many fragments of shells. Some coal noted	92	98
Some limestone, but mostly shale. The shale is dark gray, micaceous, and marly. It has many minute, apparently concretionary grains, yellow, of carbonate of iron. These appear like coarser grains in a fine textured matrix. The limestone is dark with imbedded flat fragments of Myalina, shells, and one piece was seen with imbedded trenchantly marked tubules, believed to be irregularly curving forms of Ammodiscus, measuring from .1 to .15 mm. in diameter	98	103
Micaceous sandstone or sandy shale, with some brownish limestone	103	109
Micaceous gray sandstone of fine texture, almost a shale	109	114
Micaceous sandstone and some green grains, with some brown calcareous coaly fragments	114	119
Fine-grained sand, micaceous, and with brown and green grains, as above	119	139
Like the previous, but with occasional carbonaceous fragments	139	145
Gray, micaceous sandstone, with some dark and some green grains, and some shreds of carbonaceous material	145	150
Black fissil "miner's slate" with pryitized fossil shells, one probably being an Aviculopeaten, another like a minute Myalina	150	155
Some shaly fire clay and a little coal, but chiefly gray micaceous shale with minute concretions of carbonate of iron of the size of small sand grains	155	160
Gray micaceous shaly sand. One large fragment showing lines believed to be wave marks	160	165
Gray slightly micaceous shale, with very thin calcareous laminae	165	170
Gray shale, slightly micaceous shale with a brownish minute disc-shaped fossil of spiral structure, probably an Ammodiscus	170	175
Gray shale, faintly micaceous	175	180
Black fissile shale, with a very fine rectangular reticulation seen on a cleavage plane. Some fragments of coal	180	185
Greenish gray fire clay and shale, with fragments of dark concretionary limestone	185	190
Fine-grained micaceous sandstone or shale, with yellow specks of concretionary siderite	190	200

Logs—Continued.

	Depth in feet. From	To
Coal Measures—Continued.		
Gray, dark, and compact concretionary carbonate of iron in large fragments	200	205
Dark gray shale, with Ammodiscus (?)	205	210
Mostly dark concretionary carbonate of iron in large fragments, with some dark stony shale	210	215
Dark shale of fine texture	215	220
Dark shale slightly micaceous, with Ammodiscus (?) and minute shreds of other fossils	220	225
Dark micaceous shale, slightly calcareous	225	230
Like the previous, with minute shreds of vegetation	230	240
Dark micaceous shale, like that in the previous sample, with Ammodiscus (?) and a small ostracod	240	245
Dark micaceous shale, with impressions of fern leaves, and with a spiral Ammodiscus (?) and one tube of an Ammodiscus (?) only slightly curving. Some kealed impressions were noted on one fragment and stem joints and spines of crinoids were also noted	245	250
Dark gray shale	250	255
Gray sandy shale	255	260
Gray sandy shale, or shaly sandstone, showing some dark grains under the lens	260	265
Shale, greenish gray, sandy and micaceous	265	270
Greenish gray micaceous sandstone and red clay marl	270	275
Greenish gray sandy shale	275	280
Comparatively coarse sandstone, with some green and some pink grains. Also some lumps of fire clay, which contain small spherical nodules of black oxide of manganese from one-fourth to one-third mm. in diameter. Some of these concretions are grown together in groups of two and three	280	286
Comparatively coarse sandstone, with some interlaminated shale	286	290
Mostly sandstone, gray and of fine texture, with some shale. Color various	290	295
Sandy gray shale or shaly sandstone	295	302
Micaceous gray shale	302	308
Dark gray shale, not micaceous	308	320
Very dark shale, carbonaceous and sandy. Most of it is finely laminated and shows shreds of vegetation	320	338
Shaly sandstone or shale, thinly laminated, containing brownish yellow grains (concretionary?) larger than the grains of the rock and also some still larger black grains	338	350
Like the previous, with the brown grain least abundant in the layers of the finest texture, which are carbonaceous	350	356
Sandstone, with interlaminated carbonaceous streaks showing vegetable tissue	356	362
Coal, shale, and sandstone	362	368
Mostly fire clay	368	374
Mostly concretionary material, carbonate of lime and iron, and some shale	374	380
Concretionary limestone and carbonate of iron, in shale	380	387
Light gray micaceous and sandy shale	387	394
Micaceous and sandy gray shale	394	401
Micaceous sandstone and gray shale	401	407
Dark gray shale	407	413
Dark gray limestone, consisting of organic fragments, some black shale and coal. The limestone contains Chonetes mesolobus (?), crinoid stems and a gasteropod (Bellerophon carbonaria?)	413	419
Fire clay, gray and black shale, and coal	419	426
Gray shale	426	432
Gray sandstone of fine texture	432	438
Gray shale, arenaceous and micaceous	438	450
Shaly sandstone, micaceous and with rusty specks	450	456
Gray shale, micaceous and sandy	456	462
Dark gray shale, micaceous and sandy	462	468
Like the above, but darker	468	480
Almost black dolomitic limestone, uniform in texture, emits sulphurous odors when heated and becomes slightly magnetic before the blowpipe, and contains joints of crinoid stems, Chonetes mesolobus (?) Rhombopora lepidodendroides (?), fragments of brachiopod shells, and *Fusulina* of the kind occurring in the limestone above Coal number 6	480	486
Black fissile shale and some coal, with limestone	486	492
Gray sandy shale and some dark shale	492	498
Gray slightly sandy shale	498	504
Soft gray micaceous shale	504	510
Gray shale, soft and micaceous, with some dark shale showing shreds of vegetation	510	516

Logs—Continued.

	Depth in feet. From	To
Coal Measures—Continued.		
Gray slightly micaceous sandstone, with some large and thin fragments of black dolomitic limestone	516	522
Gray sandstone, with some limestone like that in the previous sample	522	528
Dark gray highly micaceous shale, with scales of biotite and on fresh fractures having an appearance like that of Archaen schists	528	534
Gray sandstone and sandy micaceous shale, with some dark shale and fragments of coal	534	540
Dark gray sandy shale, micaceous, with some fire clay	540	546
Dark shale of fine clayey texture	546	552
Dark gray shale, micaceous and stony	552	564
Dark gray shale, of clayey texture	564	570
Dark gray shale, with narrow fucoid bands in some cleavage planes	570	576
Black fissile shale	576	588
Mostly light gray sandstone, some gray shale, with fragments of coal and limestone	588	594
Mostly light gray sandstone with some dark shale	594	600
Dark micaceous, shaly sandstone	600	606
Dark micaceous, sandy shale	606	612
Dark, almost black, shale	612	618
Dark, almost black, shale, with fragments from concretion of carbonate of iron	618	624
Gray shale, of clayey texture	624	636
Gray shale, with some little mica	636	642
Like the previous sample, but slightly coarser and with a little more mica	642	648
Black shale, of fine texture, but with some mica, and with earthly lustre	648	654
Black shale, much pyrites of iron, and some coal. The shale has imbedded calcareous fossils among which a piece of lamellibranch valve and a Bellerophon were noted, and also impressions of an insect wing (?). In the fragments of pyrites was noted a Nucula, a Bellerophon carbonaria (?) in part filled by zinc blende, and a fragment of a brachiopod. In the coal some woody tissue was noted	664	660
Light gray sandy fire clay filled with small crystals of pyrites	660	666
Dark gray micaceous and sandy shale	666	672
Dark gray shale of fine texture, with pyrites and coal	672	678
Black fissile shale and finely laminated coal with brown streak. Woody fibre seen in some pyrite	678	684
Shaly fire clay, light gray and stony	684	690
Gray shale and sandstone	690	696
Sandstone, somewhat coarse, laminated, in alternate layers of white and carbonaceous black material, some layers micaceous	696	708
Dark gray shale, stony, sandy and micaceous	708	714
Gray shale, stony, sandy and micaceous	714	720
Dark shale, with some laminated coal and some fire clay	720	726
Gray sandstone, shaly and micaceous	726	732
Soft gray shale	732	738
Some gray shale, and some dark micaceous shale with concretionary carbonate of iron	738	744
Almost black fissile shale, with concretionary carbonate of iron	744	750
Gray sandstone of fine texture	750	756
Dark gray shale, arenaceous and micaceous	756	762
Laminated, gray sandstone, micaceous, alternate layers in black and carbonaceous, the black layers very thin, the light layers in several cases measuring one-tenth of an inch in thickness	762	768
Coarse micaceous sandstone, laminated with alternate layers of dark carbonaceous shale	768	786
Like the previous, sandstone coarser and softer	786	798
Dark gray shale and some lighter shale	798	804
Almost black shale, fine in texture	804	817
Light gray sandy shale, slightly micaceous	817	830
Dark gray and light gray shale of fine texture	830	836
Gray sandstone, of very fine texture	836	848
Dark bluish gray shale of very fine texture with concretionary carbonate of iron	848	854
Almost black shale, very fine in texture	854	860
Coarse sandstone	860	866
Almost black shale, fine in texture	866	878
Almost black shale, with biotite	878	884
Black shale, fine in texture	884	902
Gray sandstone, fine grained	902	908

Logs—Continued.

	Depth in feet. From	To
Coal Measures—Concluded.		
Gray sandstone	908	914
Black shale of fine texture, with concretions of carbonate of iron	914	938
Gray shale and sandstone, with some large and thin chips of coal	938	944
Gray soft sandstone and shale. The rock in this and the previous sample appears to be a mixture of alternating layers of shale and sandstone	944	950
Gray soft sand, only a single fragment of loosely coherent rock, remaining in the sample. Size of grains is about one-fourth mm. in diam. Apparently oil sand; the grains float on water	950	955
Gray sand, with grains mostly from one-eighth to one-half mm. in diameter. The largest grains all have crystalline facets resulting from secondary growth. Sand floats on water	955	959
Sand like the previous, but faintly brownish yellow	959	963
Sand like that in the three previous samples, except that it is more nearly white in color	963	967

NOTE—Dr. Udden states that two specimens of a *Fusulina* were found in a limestone occurring at the depth of 480 to 486 feet from the surface, and this no doubt is the limestone which forms the cap-rock over Coal No. 6. The rock itself has been altered to a dark dolomite, effervescing very tardily in acid. It has a dark gray color which is evidently due to the presence of iron pyrites in microscopic particles. On heating in a closed tube it gives off sulphurous odors and becomes slightly magnetic. The entire section represented by the two samples studied consists of variations of shales, sandstones, limestones, coals and fire clays, with calcareous concretionary matter, and more frequently concretions of carbonate of iron. They all have the general appearance characteristic of the Pennsylvanian series in this region. About a dozen coal beds were penetrated, which occur in three groups, not counting an evidently thin bed of somewhat shaly coal, which lay at a depth of 904 feet below the surface and only a few feet above the oil sand. The lowest of these groups which presumably includes equivalents of Coals Nos. 1 and 2 in northern Illinois, is represented by three seams at 720, 678 and 660 feet below the surface. The middle group, which includes Coal No. 6 is represented by one coal at 540 feet, by Coal No. 6 at the depth of 485 feet, another coal, overlain by limestone, at 420 feet and a coal overlain by sandstone at 365 feet. The coal beds of the "Upper Coal Measures" of Worthen are represented by an apparently small seam of coal at a depth of 185 feet, one small coal associated with a capping calcareous bed at the depth of 95 feet, and a black shale under a limestone at the very surface of the bed rock under the drift, fifty feet below the surface. The spiral shell of an Ammodiscus was observed in cleavage surfaces of some shales in the "Upper Coal Measures" and presumably the same fossil, in the form of irregularly bending tubes occurred in some limestone at the depth of 100 feet.

No. 5.—*C. F. Curtis, No. 8.*

Location—NE. corner sec. 11, Oblong Township.
Elevation—475 feet (estimated).

	Depth in feet. From	To
Yellow boulder clay	1	10
Boulder clay and drift gravel	10	15
Drift gravel and sand	15	20
Drift gravel and sand, with some boulder clay	20	25

Logs—Continued.

	Depth in feet. From	To
Drift sand and gravel	25	30
Drift	30	35
Drift sand and gravel	35	60
Drift gravel and some sand	60	70
Drift sand and gravel. A few bits of coal	70	75
Drift sand and gravel	75	90
Drift sand and gravel, with some shale	90	110
Sandy micaceous shale	110	115
Dark micaceous shale	115	120
Sandy dark gray shale	120	135
Sandstone, sandy shale and coal. Some fragments of limestone noted and some pyrites with woody fibre	135	140
Black shale, fire clay and coal	140	145
Gray and yellow limestone. Gray sandstone and coal with some shale	145	150
Gray sandstone, micaceous and of fine texture	150	155
Like the preceding, with some siderite	155	165
Moderately coarse gray and yellow micaceous sand	165	170
Gray shale, micaceous sand	170	180
Moderately coarse micaceous sandstone	180	190
Gray, fine sandstone, and yellow concretionary limestone, in which is considerable pyrite	190	195
Gray micaceous sandy shale and concretionary siderite	195	205
Gray micaceous sandy shale and a few pieces of yellow limestone	205	210
Gray micaceous sandy shale	210	215
Gray micaceous shale	215	220
Gray micaceous shale, a few pieces of gray sandstone, some white limestone and coal	220	225
Gray micaceous shale, with imprint of vegetation, some fire clay and pieces of white limestone	225	230
Dark gray micaceous shale	230	235
Dark gray and gray micaceous shale	235	240
Dark micaceous shale	240	245
Black shale, a few pieces of sandstone, siderite, yellow limestone and pyrite	245	250
Black shale and coal, some pure calcite and white limestone	250	255
Black shale and coal, some dark limestone and gray sandstone	255	260
Darkish gray limestone (nodular in structure), some coal gray sandstone and bits of pyrite	260	265
Gray shale, concretionary yellow limestone, some white limestone, some gray sandstone, and some black coaly shale	265	270
Yellowish limestone, some gray limestone, gray sandstone, some concretionary sandstone, a little coal and pyrite	270	275
Greenish gray stony shale, with a few very thin laminae of coal	275	280
Gray micaceous stony shale	280	290
Dark gray stony shale	290	295
Dark greenish gray shale of fine texture	295	305
Dark shale of fine texture	305	310
Gray sandstone, brown concretionary siderite, gray shale, black shale, gray limestone, crinoid stems and a few fragments of coal	310	315
Gray shale and grayish brown fossiliferous limestone, with crinoid stems, brachiopod spines, pieces of shells, etc. A piece of concretionary siderite showed a fissure filled with clear calcite	315	320
Gray shale, concretionary brown siderite, sandstone and coal. The limestone contains organic fragments. The coal is impure and shows very thin lamination	320	325
Gray sandstone containing shreds of carbonaceous material and pyrite, with some shale	325	335
Light gray thin-bedded micaceous sandstone, some pieces with infiltrated lime	335	345
Mostly a grayish limestone containing some fine siliceous material, with some yellow and some white limestone and some black shale	345	350
Gray limestone and some gray sandy lime, showing occasional obscure fragments of fossils	350	355
Gray limestone and white limestone of waxy lustre	355	360
Greenish gray micaceous and sandy shale and some lime	360	380
Greenish gray shale of somewhat fine texture	380	385
Dark gray shale of somewhat fine texture	385	395
Gray shale	395	400
Dark almost black micaceous shale, showing narrow traversions impregnated with thin green films of pyrite	400	405
Black shale with shreds of carbonaceous vegetation. Some gray shale and some siderite	405	410
Gray shale with carbonaceous shreds, some black coaly shale. A few pieces of siderite noted	410	415
Gray and black, coaly shale and gray sandstone	415	425
Gray sandstone, some gray shale and pieces of siderite	425	435

Logs—Continued.

	Depth in feet. From	To
Gray micaceous sandy shale, some gray shale and concretionary siderite	435	440
Dark gray shale	440	445
Dark gray shale and concretionary siderite	445	455
Dark gray shale, with imprints of vegetation, and some siderite	455	460
Gray shale with imprints of vegetation. Some siderite and some carbonaceous shale	460	465
Gray sandstone and white limestone, some fragments of coal and of concretionary siderite	465	475
Gray micaceous shale, some yellow concretionary siderite, a little limestone and gray shale	475	480
Gray micaceous sandy shale, some yellow limestone and siderite	480	485
Dark gray sandy micaceous shale, some gray shale, concretionary siderite and some gray sandstone	485	490
Dark micaceous shale	490	495
Dark gray micaceous shale and some siderite	495	500
Black limestone and some black shale, and some siderite. Crinoid stems noted	500	505
Black limestone, some black shale, some coal and siderite. Crinoid stems noted	505	510
Black limestone, some black shale, coal and siderite. A *Fusulina* lamellibranch (?) shell, Aviculopecten carboniferous, a minute gasteropod, and some crinoid spines and stems noted. The limestone yields bituminous and sulphurous odors when heated	510	515
Dark limestone, some pieces impregnated with small particles of pyrite, some coal and black shale, some siderite and fragments of white limestone and calcite	515	520
Black limestone, a few pieces of coal, pyrite, siderite, white limestone and crinoid stems	520	525
Gray micaceous sandstone, some black limestone, coal and gray shale with pyrite siderite and white limestone	525	530
Gray micaceous sandstone	530	550
White micaceous sandstone with some concretionary limestone and bits of coal	550	555
White micaceous sandstone and coal, with some fire clay, siderite, white limestone, much pyrite, and some calcite. Productus, Edmondia nebrascensis (?), Hemipronitus crassus, Chonetes punctatus (?), some small gasteropods, several crinoid spines and stems and a bryozoan like Rhombopora noted	555	560
Gray sandstone and coal, with some white limestone, pyrites, calcite, shale and a few crinoid stems	560	565
Dark gray shale, some coal, sandstone, pyrite and fire clay	565	570
Gray micaceous sandstone, with a little fire clay and shale	570	575
Gray micaceous sandstone, some of which is studded with spherules of pyrite measuring from 1 to 3 mm. in diameter, and showing faces of small cubic crystals on the surface	575	585
Gray micaceous shale	585	610
Gray micaceous shale and some siderite	610	615
Dark gray shale	615	620
Gray shale and some yellow limestone, concretionary siderite in large fragments and in minute spherules, coal and some sandstone	620	625
Gray micaceous shale, a little yellow limestone, siderite, pyrite and coal	625	630
Gray micaceous sandstone and shale with siderite, fire clay and coal	630	635
Gray micaceous sandstone and some shale	635	640
Gray micaceous sandstone	640	645
Gray micaceous sandstone, with some siderite	645	650
Gray micaceous shale and some yellow limestone, and fire clay	650	655
Dark gray shale, some fire clay and concretionary siderite	655	660
Dark gray micaceous shale and a little yellow limestone and siderite	660	675
Dark gray micaceous shale	675	680
Dark gray and some micaceous black shale, with a little siderite	680	685
Dark shale, with imprints of vegetation, and some fire clay	685	690
Dark shale and concretionary siderite	690	695
Dark micaceous shale and some siderite	695	700
Dark gray micaceous shale	700	715
Gray micaceous shale and some sandstone	715	725
Gray laminated sandstone and black shale	725	730
Dark shale, concretionary siderite and a little sandstone	730	735
Hard black shale	735	740
Black shale, some coal and sandstone and a little siderite	740	745
Gray micaceous shale, some yellow limestone, some black shale and a few bits of coal	745	750
Black shale and a few fragments of yellow limestone and coal	750	755
Black micaceous shale	755	760
Coal and a few pieces of black shale	760	765

Logs—Continued.

	Depth in feet. From	To
Coal and black shale, some white limestone, a little sandstone siderite and bits of pyrite	765	770
Gray sandstone, some dark shale, bits of coal and limestone	770	775
Gray micaceous sandstone and a little yellow limestone	775	790
Dark micaceous shale and a little siderite	790	795
Black shale and a little coal. A little gray limestone noted	795	800
Black shale, a little coal and a little sandstone	800	805
Dark pyritiferous shale and some gray sandstone	805	815
Gray micaceous shale	815	820
Gray micaceous shale and a few bits of coal	820	825

No. 6.—*J. M. Drake, No. 23.*

Location—NE. ¼ sec. 9, Oblong Township.
Elevation—490 feet (estimated).

	Depth in feet. From	To
Gray limestone, some yellow limestone and bits of shale	200	205
White and yellow limestone, concretionary siderite, some gray sandstone and a piece of quartz	205	210
Yellow and white limestone, gray sandstone, concretionary siderite and some dark shale	210	215
Gray sandstone, some yellow sandstone, siderite, quartz fragments, yellow limestone and a few pieces of bright green sandstone	215	220
Yellow limestone, some siderite, shale and sandstone and red quartz (from drift?)	220	225
White and yellow limestone and a few pieces of dark shale	225	230
White limestone	230	250
Very fine micaceous white sand and limestone	250	270
Dark gray micaceous sandy shale	270	275
Dark micaceous shale	275	285
Black shale and gray sandstone, with a little limestone	285	290
Dark limestone, some yellow limestone and bits of coal	290	295
Black shale, a little yellow limestone and a few fragments of coal	295	300
Gray shale, some yellow limestone and coal	300	305
Gray shale and some yellow limestone	305	310
Gray shale	310	315
Gray shale and some yellow limestone	315	320
Gray shale	320	330
Gray shale and a little yellow limestone	330	335
Gray micaceous shale and some micaceous sandy shale	335	340
Gray shale	340	350
Concretionary siderite with a little yellow limestone and shale. A Cyathophylid coral noted	350	355
Gray shale and a little yellow limestone	355	360
Gray shale, yellow limestone and some sandstone. The shale contains shreds of vegetation	360	365
Gray shale and concretionary siderite	365	370
Gray limestone and some gray shale	370	375
White limestone. A crinoid stem noted	375	380
White limestone, some greenish sandstone and a few bits of coal	380	385
Gray micaceous sandstone and white limestone	385	390
Gray shale and a little limestone	390	395
White limestone and some gray shale	395	400
Gray shale and some limestone	400	405
Concretionary siderite, some dark shale, bits of coal and pyrite	405	410
Gray sandy shale and siderite. Some yellow limestone	410	415
Dark gray shale, some siderite and yellow limestone	415	420
Gray sandy shale and some siderite	420	425
Gray sandy shale, black shale and some siderite	425	435
Gray micaceous sandstone and a few bits of yellow limestone	435	440
Gray micaceous sandstone	440	445
Gray micaceous sandstone with shreds of vegetation. A few small pieces of siderite	445	460
Gray micaceous sandstone and a few small pieces of white limestone	460	465
Gray micaceous sandstone with shreds of vegetation	465	470
Gray micaceous sandstone, some dark shale, a few bits of coal, and pyrite showing woody tissue	470	475
Gray micaceous sandstone and white limestone. A little dark shale noted	475	480
Gray sandy shale and yellow limestone	480	485
Gray sandy shale and white limestone. Some yellow limestone	485	490
Sandstone with infiltrated lime, white limestone, and a few small spherical siderite concretions	490	495

Logs—Continued.

	Depth in feet. From	To
Gray micaceous sandy shale, some yellowish limestone, white sandstone and a little dark shale	495	505
White sandstone, some dark shale and yellow limestone	505	515
Dark gray shale	515	520
Dark shale, fire clay, and some white limestone	520	525
Dark gray shale	525	530
Dark limestone, some dark shale, crinoid stems and some other organic material noted. Tuberculated-crinoid spine noted like that in S. G. McCleave well, 505-510, *Fusulina* noted	530	540
Dark limestone, coal, some yellow limestone and several crinoid stems noted	540	545
Gray micaceous sandstone and a few pieces of coal	545	550
Gray micaceous sandstone, a few bits of coal and siderite	550	555
Gray micaceous shaly sandstone, some siderite and a little limestone	555	560
Gray shale	560	565
Dark gray shale	565	570
Gray shale, some siderite and bits of pyrite	570	575
Gray shale and a little coal	575	580
Black shale and gray micaceous shale	580	585
Black micaceous shale and gray sandstone	585	590
Gray micaceous sandy and some black shale	590	595
Gray micaceous shale and black shale	595	600
Gray micaceous sandy shale and a little black shale	600	605
Gray micaceous sandstone and some siderite	605	610
Gray micaceous shale, some sandstone and siderite	610	615
Dark micaceous shale	615	620
Gray micaceous shale with shreds of vegetation	620	625
Gray sandy shale	625	635
Gray shale	635	640
Dark gray shale and some siderite	640	645
Dark gray shale, some siderite and yellow limestone	645	650
Dark shale, and siderite concretions	650	655
Dark shale, some siderite and a little white limestone	655	660
Gray shale	660	670
Gray sandstone, a few bits of pyrite and siderite	670	680
Gray sandstone	680	685
Gray sandy shale	685	690
Dark shale and gray sandy shale	690	695
Dark gray shale and some siderite	695	710
Dark gray shale	710	715
Dark shale and some siderite	715	725
Dark shale, and a little siderite	725	735
Dark shale, a little white sandstone and siderite	735	745
Dark shale and concretionary siderite	745	755
Dark shale	755	760
Black shale	760	765
Black shale and some sandstone	765	770
Gray micaceous sandstone and a little black shale	770	775
Gray shale and micaceous sandstone	775	780
Gray micaceous shale and little sand	780	785
Coal and gray shale	785	790
Gray shale, some fire clay, a little coal and bits of pyrite	790	795
Gray shale and some gray micaceous sandstone	795	800
Gray micaceous sandy shale and some gray shale	800	810
Gray micaceous shale	810	820
Gray sandy micaceous shale	820	825
Gray shale and concretionary siderite	825	830
Coal	830	835
Black carbonaceous shale and some gray shale	835	840
Black shale, gray sandstone and a little coal	840	845
White sandstone and a little white limestone	845	850
Dark shale and some white sandstone with infiltrated lime	850	860
Dark shale and some white sandstone with infiltrated lime	850	860
Dark shale, white sandstone, with infiltrated lime, some small		
Dark shale, white micaceous sandstone, and bits of coal	865	870
White micaceous sandstone	870	875
Dark shale and micaceous sandstone	875	880
Black micaceous shale, a little white limestone and a few bits tions	880	885
Gray micaceous shale	885	890
Hard black shale and a few pieces of white limestone	890	895
Gray sandstone and black shale. Small spherical siderite concretions and bits of pyrite	895	900
Black shale	900	905
Black shale and a very few pieces of white limestone	905	910
Black micaceous shale, white sandstone and some siderite concre- of coal	910	915
Black micaceous shale and a little limestone	915	920
White sandstone and dark shale	920	930

Logs—Continued.

	Depth in feet. From	To
White micaceous sandstone containing carbonaceous shreds and a little black shale	930	935
Dark shale and some white micaceous sandstone	935	955
Like the preceding with a few bits of coal	955	960
Dark micaceous shale	960	965
White micaceous sandstone, some shale and a few bits of limestone	965	975
Gray micaceous shale, black shale and some sandstone	975	980
Gray shale and some sandstone	980	985
White micaceous sandstone and some dark shale	985	995
Gray micaceous sandy shale and a few pieces of white limestone	995	1,005
Gray shale and some sandstone	1,005	1,010
Gray shale	1,010	1,020
Black shale and a little gray sandstone with infiltrated lime	1,020	1,030
Gray micaceous shale, some grayish green pieces of shale and a few bits of limestone	1,030	1,045
Dark shale and a little sandstone	1,045	1,050
Dark shale	1,050	1,055
Yellow micaceous sand	1,055	1,060
Yellow micaceous sand and some dark shale	1,060	1,065

No. 7—*J. E. Wilson, No. 21.*

Location—W. ½ NW. ¼ sec. 17, T. 7 N., R. 12 W., Robinson Township.
Elevation—490 feet (estimated).

	Depth in feet. From	To
Dark gray shale, fine	200	205
Gray shale, fragments of concretions and coal	205	210
Shale, sandy, micaceous, light gray	210	215
Micaceous sandstone, light gray and of fine texture	215	220
Gray micaceous sandy shale	220	225
Laminated, dark and light gray micaceous shale	225	230
Gray, stony shale	230	245
Black shale and some gray shale	245	250
Gray shaly sandstone with infiltrated lime	250	255
Gray sandstone and shale	255	260
Gray sandstone, some limestone	260	265
Gray sandy shale, some limestone	265	270
Gray sandy shale and concretionary siderite, some limestone	270	275
Dark gray shale	275	280
Gray sandstone and yellowish sandstone with infiltrated lime	280	285
Coarse white sandstone, yellow micaceous sandstone and some gray shale	285	290
Coarse white sandstone and gray shale	290	295
White sandstone, some micaceous sandstone, little dark shale and limestone	295	300
Gray micaceous sandy shale, some gray shale	300	305
Gray micaceous sandy shale	305	310
Gray micaceous shale	310	320
Gray micaceous shale, some fragments of limestone	320	325
Dark gray shale, few bits of limestone	325	330
Dark gray shale and a few fragments of limestone and siderite	330	335
Gray shale, siderite concretion, some bits of limestone and pyrite	335	340
Dark gray and black shale	340	345
Gray shale, limestone and siderite concretions, some quartz grains	345	350
Gray micaceous sandy shale and black micaceous shale, a few bits of limestone	350	355
Gray micaceous sandy shale	355	360
Dark gray shale	360	370
White organic limestone, brecciated, crinoid stems. Rhombopora, lepidodendroides, ethyris, (?), and fragments of other brachiopods noted. One fragment with peculiar finely reticulate structure noted	370	375
Yellowish gray limestone, organic breccia	375	380
Red shale and gray shale, with some black shale	380	385
Fire clay, some fragments, of coal and green shale	385	390
Greenish gray shaly sandstone	390	395
Like the preceding, with some limestone	395	400
Light gray micaceous shale	400	405
Light gray sandy shale	405	410
Dark gray stony shale	410	425
Micaceous gray sandy shale, with a few fragments of coal	425	430
Micaceous sandy shale and shaly sand, laminated, showing shreds of vegetation	430	435

Logs—Continued.

	Depth in feet. From	To
Laminated sandstone, shaly, carbonaceous	435	440
Micaceous sandy gray shale, with bits of carbonaceous shreds	440	445
Gray shaly sandstone with carbonaceous laminae	445	450
Dark and light sandy shale, laminated	450	460
Gray shaly sandstone, coal and some calcite from a joint in the coal	460	465
Greenish gray shaly limestone of compact texture	465	470
Sandy shale, gray and yellow limestone	470	475
Gray micaceous sandstone, with some limestone	475	480
Sandstone with concretionary impregnations of yellow limestone	480	485
Dark, almost black, stiff shale	485	490
Black limestone, organic	490	495
Coal	495	500
Black shale, with imprints of leaves	500	505
Coal, some shale	505	510
Limestone and some micaceous shaly sandstone	510	515
Coarse white sandstone, and pyrite and some white brecciated limestone	515	520
Micaceous coarse sand	520	525
Micaceous, coarse sand, with some gray shale and limestone	525	530
White micaceous sandstone	530	535
White micaceous sand, and some coal and limestone	535	540
Dark blotchy brown limestone, with chonetes, productus, *Fusulina*, Rhombopora, Fistulipora, crinoid stems, some coal and some black carbonaceous shale	540	545
Micaceous and carbonaceous gray shale	545	550
Dark blotchy limestone with crinoid joints	550	555
Coal	555	560
White sandstone, specked with minute crystals of pyrite and some dark shale	560	565
White, micaceous and pyritiferous sandstone. Some black "clod" with Athyris valve	565	570
No sample	570	575
Gray sandstone with concretions of siderite and limestone	575	580
Gray shale, with concretionary material as in preceding sample	580	585
Dark gray shale	585	590
Dark gray shale, some sand	590	595
Black shale	595	605
Dark shale of fine texture	605	610
Black calcareous stony shale	610	615
Black shale of finest texture	615	620
Greenish gray shaly sandstone, with pyrite crystals	620	625
Greenish gray shale, sandy	625	630
Gray sandy shale and fire clay, with bituminous films in thin joints	630	635
Greenish shale, pyritiferous	635	640
Light greenish gray shale, soapstone	640	645
Gray shale and micaceous sandstone	645	650
Sandstone, gray, soft	650	655
Shaly, micaceous and laminated sandstone, and black shale	655	660
Dark gray sandy shale	660	670
Dark shale	670	675
Black shale	675	680
Laminated sandy shale	680	685
Greenish gray, stony shale	685	690
Black shale, with coal, considerable pyrite and frequent fragments of pyritized woody tissue	690	695
Black and gray shale, stony and sandy	695	700
Gray sandy shale	700	705
Dark shale of fine texture	705	715
Gray sandy rock, with some coal, some pyrite and minute spherical concretions of siderite	715	720
Black carbonaceous shale and coal, some dark limestone. Some pieces of coal show woody structure	720	725
Dark limestone and black shale, crinoid stems and pieces of pyrite	725	730
Black shale	730	735
Dark sandy shale, little fire clay and limestone (yellow)	735	740
Black sandy micaceous shale	740	745
Coal, some black sandy shale, pyrite showing woody structure	745	750
White micaceous sand, coal and some fire clay	750	755
No sample	755	760
White sand, bits of yellow limestone	760	765
Gray sandstone, some yellow limestone and black shale	765	770
Dark gray shale and limestone, some sandstone and bits of pyrite	770	775
Black shale, some dark limestone and pyrite fragments	775	780
Black shale, some pyrite	780	785
Dark gray shale	785	790
Gray sandy shale, few pieces of siderite concretions	790	795
Gray sandstone and bits of siderite	795	800
Gray sandy micaceous shale	800	805

Logs—Continued.

	Depth in feet. From	To
White micaceous sandstone, gray micaceous sandy shale, little limestone and oxidized red fragments	805	810
White micaceous sandstone, some gray sandy shale, and oxidized fragments	810	815
White sandstone, some dark shale	815	825
White sandstone, some dark shale, and oxidized red material	825	830
White micaceous sandstone, some dark shale	830	835
White sandstone	835	840
White micaceous sandstone, with a little gray shale and oxidized red material	840	845
Dark sandy shale	845	850
Black micaceous shale, with some yellow coarse grained sandstone	850	855
Yellow sandstone, coarse grained and some black shale	855	860
Gray sand, little black micaceous shale	860	870
Black micaceous shale and some gray sand	870	885

No. 8.—*C. T. Cochran, No. 9.*

Location—NE. corner SW. ¼ sec. 21, Montgomery Township.
Elevation—Unknown.

	Depth in feet. From	To
Yellow sandstone, disintegrated	1	6
Yellow sandstone	6	12
Yellow sandstone with infiltrated lime and oxidized siderite concretions	12	19
Yellow sandstone, and sandstone concretions	19	24
Yellow sandstone, siderite concretions, and some black crinoidal limestone	24	38
Yellow sand, dark calcareous limestone and siderite concretions	38	45
Brown coarse sandstone, dark limestone, siderite concretions, spherical, one-half inch in diameter	45	51
Gray sandstone with infiltrated lime and siderite concretions	51	58
Gray sandstone with infiltrated lime, and siderite concretions	58	64
Dark gray shale	64	78
Black shale	78	85
Gray micaceous sandy shale	85	91
Gray micaceous shaly sandstone	91	98
Gray shale	98	104
Gray shale, siderite, a few fragments of coal	104	111
Gray shale and siderite	111	117
Black shale	117	124
Gray sandy shale, fragments of coal	124	130
Gray micaceous shale	130	137
Fine gray laminated sandstone, black shale	137	143
Gray sandstone, black shale and brown limestone	143	150
Gray sandstone, brown limestone and black shale	150	156
Brown limestone, gray shale and gray sandstone	156	163
Gray shale, gray sandstone, and fragments of siderite concretions	163	170
Gray laminated micaceous sandstone, and siderite concretions	170	176
Coarse gray micaceous sandstone	176	223
Coarse gray micaceous sandstone, a few pieces of coal, pyrite and siderite	223	231
Coarse gray micaceous sandstone, with infiltrated lime	231	237
Coarse gray micaceous sandstone with infiltrated lime and fragments of black shale	237	244
Coarse gray micaceous sandstone with infiltrated lime, and fragments of impure coal	244	250
Gray shaly sandstone, and concretions of brown limestone	250	257
Gray sandy shale	257	270
Greenish gray shale with infiltrated lime	270	276
Gray micaceous sandstone	276	296
Coarse gray sand	296	309
Coarse gray sand with carbonaceous folia	309	315
Coarse gray sand	315	328
Coal and fire clay, a few fragments of mottled limestone	328	335
Gray sandstone	335	341
Gray sandstone and limestone	341	348
Gray calcareous limestone	348	361
Greenish gray sandstone and gray calcareous limestone	361	367
Gray shale and calcareous limestone	367	374
Gray micaceous shale, with some gray calcareous limestone	374	380
Gray micaceous sandstone and gray shale	380	387
Gray shale	387	413
Gray sandy shale	413	419
Gray sandy micaceous shale	419	432

Logs—Concluded.

	Depth in feet. From	To
Coarse gray sandstone with carbonaceous folia	432	439
Gray shale	439	445
Gray shale, micaceous	445	452
Coal, siderite concretions, pyrite crystals and a few white gypsum crystals	452	465
Gray micaceous shaly sandstone	465	471
Gray micaceous sandstone with infiltrated lime	471	478
Gray shale, gray sandstone	478	497
Coal. gray shale, dark limestone, pyrite and a few crinoid stems noted	497	504
Coal, pyrite, and a few crinoid stems noted	504	510
Coarse gray micaceous sandstone with infiltrated lime	510	523
Coarse gray micaceus sand	523	530
Gray micaceous sandy shale	530	536
Gray shale, fragments of coal and pyrite	536	543
Black shale, some limestone, and numerous crinoid stems noted	543	549
Gray micaceous sandstone	549	556
Dark limestone with Chonetes punctatus. Rhombopora lepidodendroides and showing some intensely green specks. Presence of *Fusulina* uncertain	556	562
Coal, some limestone	562	569
Gray sandy shale, some pyrite	569	575
Gray sandy micaceous shale	575	582
Coarse gray sand with fragments of black shale	582	588
Gray sandstone with some limestone	588	595
Gray shaly sandstone	595	608
Gray shale and sandstone	608	621
Gray shale	621	666
Black and gray shale	666	673
Black shale	673	679
Brown limestone, greenish and reddish, dolomitic, shaly limestone, and black gray shale	679	686
Gray limestone, some gray shale and fragments of brown limestone, two small gasteropods	686	692
Coal, some gray and and brown limestone	692	699
Gray sandy micaceous shale	699	705
Gray shale	705	712
Gray sandy micaceous shale	712	725
Gray shale	725	731
Black shale	731	737
Black and gray shale	737	743
Black stiff shale	743	750
Coal, some gray shale	750	756
Coarse gray sandstone with infiltrated lime, fragments of coal, and gray shale	756	763
Gray sandy micaceous shale	763	769
Black shale, coarse gray sandstone, fragments of coal	769	775
Gray sandy shale, black shale	775	781
Gray micaceous shale, gray sandstone with infiltrated lime	781	787
Gray shale and gray micaceous shale	787	793
Gray shale	793	806
Black stiff shale	806	813
Coal, and fire clay	813	820
Gray shale	820	834
Gray micaceous sand and shale	834	840
Yellow micaceous sand	840	846
Gray shale	846	862
Gray shale with fragments of gray sandstone	862	873
Gray and black shale	873	884
Black shale	884	895
Gray shale	895	906
Grav sandstone with shreds of vegetation and a few fragments of coal	906	912
Gray sandstone with shreds of vegetation	912	923
Gray micaceous sandstone	923	928
White micaceous sand with fragments of shale	928	934
Gray laminated sandstone	934	940
Gray laminated sandstone, brown sandstone	940	952
Brown sandstone (note on sack "Oil 952 to 973"), gray sandstone	952	958
Brown sandstone, some gray sandstone	958	964
Brown sandstone, some gray sandstone, pyrite	964	970
Brown sandstone, some gray sand	970	975

Stratigraphy.

Pleistocene.

The records in Plate II give an idea of the difference in thickness of the drift overlying the hard rocks. Some records show it to be thin, due to conditions of erosion and deposition. The drift, measures from 25 to 110 feet in the examined logs; while a number of logs over the field show an average of 75 feet to the bed rock, on which the drive-pipe is set.

Pennsylvanian.

The Pennsylvanian or "Coal Measures" rocks are separable into three divisions; an upper part, the McLeansboro formation, middle part, the Carbondale formation, and a basal part, the Pottsville formation.

McLeansboro Formation—The rocks of the McLeansboro formation lie between the top of Herrin (No. 6) coal and bed rock near the surface. From measurements and estimates of logs in the section the average thickness of the formation is found to be about 485 feet. Shales and sandstones dominate in this division and are accompanied by several streaks of limestone and many coals. One well reports seven beds of coal. The most conspicuous bed of these rocks is the limestone used as a key line in the section. Dr. Udden describes it as a dark limestone containing *Fusulina* fossils. All of the records show notations of *Fusulina* except Nos. 2 and 3. The position of the bed is estimated in No. 2 by comparison with No. 1 and is thought to lie at a depth of about 560 feet. The black limestone at 490 feet in No. 3, although no *Fusulina* are reported, seems to correlate with other logs of the section and is designated as that horizon. An effort is being made by geologists to determine this bed over Illinois by its fossils and thus procure a definite marker for the Herrin (No. 6) coal immediately underneath.

The two limestones noted at 200 and 300 feet by Dr. Udden, in well No. 2, page 35; and alluded to as possibly equivalent to the limestone 160 feet above No. 6 coal at Belleville and the Carlinville limestone, suggest their possible correlations through the columnar section. The interval between the two limestones is about 130 feet. The interval between the upper or Carlinville (?) limestone and the "*Fusulina*" limestone is about 365 feet and the interval between the lower limestone and the key bed is about 220 feet. In other sections of the State, the Carlinville limestone is about 250 feet above the overlying limestone of the Herrin coal. The red shale spoken of elsewhere as lying in the McLeansboro is reported only in logs No. 4 and 7 at depths of 270 and 380 feet respectively. The intervals between the red bed and the "*Fusulina*" limestone are respectively 210 and 160 feet.

Carbondale Formation—The rocks of the Carbondale formation lie between the tops of Herrin (No. 6) and Murphysboro (No. 2) coals. The Herrin coal is the first beneath the "*Fusulina*" limestone. The Murphysboro coal lies above the Pottsville sandstones and is usually separated from these by shales or a thin limestone. The Carbondale formation is mostly shale, with sandy shales at the bottom. There are either three or four coals noted in each record. The columnar section shows much irregularity between the Herrin and the lowest coal. The thickness of the division varies from 200 to 450 feet. Logs 1, 2, 3, 7 and 8 show an average interval of 310 feet between the Herrin coal and the Pottsville. In type localities of other sections of Illinois, the interval is between 300 and 350 feet.

Pottsville Formation—The Pottsville rocks are the lowest members of the Pennsylvanian and are essentially coarse sandstones merging into sandy shales at the top and occasionally split with lenses of shale. The lower portions of the records used in the columnar section are predominantly sandstones and in position correspond with Pottsville beds. These rocks lie below the Murphysboro (No. 2) coal. The sandstone at the base of the sections is known as the Robinson sand. There are as many as four distinct lenses of this sand interbedded with shale. The upper portion of the sand rocks are oil-bearing but lower down they yield much salt water.

LAWRENCE COUNTY.

The explored rocks of Lawrence County lie in the Pennsylvanian and Mississippian series. These major divisions are overlain with unequal thicknesses of drift. The Pennsylvanian rocks are from 800 to 1,300 feet thick. This great variation in thickness is due to the unconformity at the top of the Mississippian, accentuated by preexisting structure and preglacial erosion. The Mississippian rocks are not completely penetrated but they have been well explored to a depth of 475 feet below their top.

The columnar section, Plate IIIA, is made up of logs from all sections of Lawrence county. They are plotted in order from south to north. The top of the wide-spread Ste. Genevieve limestone, known locally as the McClosky sand, is used as a key bed through the columnar section. All records are plotted with respect to this line. The section is made up of the following records, which correspond by number to those printed on Plate 3.

LOGS.

No. 1.

Operators—Snowden Bros.
Farm and well—Laughlin, No. 1.
Location—SE. ¼ sec. 32, Lukin Township.
Elevation—469 feet.

	Thickness Feet	Depth Feet
Sand and clay, yellow, soft	20	20
Slate, white	15	35
Limestone shell	3	38
Slate, white	7	45
Limestone shell	3	48
Slate, white	12	60
Sand, loose, (water)	9	69
Slate, white	66	135
Limestone shells	5	140
Shale, black	40	180
Limestone shell	2	182
Slate, black, loose	18	200
Limestone shell, white	4	204
Slate	56	260
Sand, white loose (hole full of water, 290 feet)	30	290
Limestone	21	311
Slate, black and white	89	400
Limestone shell, white	4	404
Sandy limestone, white, (water, 410 feet)	6	410
Limestone shell, white	12	422
Slate, black	5	427
Limestone shell, gray	11	438
Red rock	7	445
Slate, white	55	500
Shale and slate, black	105	605

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26
32
90
93
10
30
80
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Logs—Continued.

	Thickness Feet	Depth Feet
Sandy slate, white	21	626
Limestone shell	6	632
Shale, brown	58	690
Limestone shell	3	693
Slate, white	17	710
Shale, brown, hard	20	730
Slate, white, soft	50	780
Limestone shell, white	2	782
Slate, white	48	830
Sand, white, (salt water, 830 feet)	42	872
Broken lime, black, loose	5	877
Shale, black	3	880
Limestone shell, white	5	885
Slate, black, soft	55	940
Sand, brown, bridged	5	945
Slate, white	35	980
Slate and shale, black	96	1,076
Limestone and sand, (water, 1,086 feet)	10	1,086
Shale, black	10	1,096
Limestone, white	29	1,125
Slate, black	31	1,156
Sand and broken limestone, white, soft	24	1,180
Sandy slate, white	35	1,215
Slate, white, soft	20	1,235
Sandy shale	65	1,300
Limestone, white, hard	4	1,304
Sand, white, soft	11	1,315
Sandy clay, brown	23	1,338
Limestone, white	7	1,345
Slate, black	95	1,440
Limestone, white	10	1,450
Slate, white, soft	56	1,506
Sand, brown, (show of oil, 1,506 to 1,514 feet)	8	1,514
Limestone, white	100	1,614
Sand, (water) (show of oil, 1,705 to 1,732 feet)	118	1,732
Limestone	13	1,745
Slate	5	1,750
Sand, (hole full of water, 1,775 feet)	25	1,775
Slate	57	1,832
Limestone	18	1,850
Slate	15	1,865
Red rock	5	1,870
Limestone shell	5	1,875
Slate	20	1,895
Limestone	5	1,900
Slate	20	1,920
Red rock	10	1,930
Slate	55	1,985
Sand, (oil show, 1,985 to 2,000 feet)	15	2,000
Shale, hard, black	12	2,012
Slate	18	2,030
Limestone	70	2,100
Slate	30	2,130
Limestone	22	2,152
Sand, (show of oil)	4	2,156
Slate	4	2,160
Limestone	5	2,165
Total depth	......	2,165

No. 2.

Operators—Ohio Oil Company.
Farm and well—W. H. Snyder, No. 7.
Location—SW. ¼ NW. ¼ sec. 25, Dennison Township.
Elevation—495 feet.
(This record was compiled by Dr. J. A. Udden from an examination of well samples.)

	Depth in feet. From	To
Loess	1	5
Loess, silty	5	20
Gray sandy limestone and micaceous and calcareous sand. Spherules of pyrite noted, measuring from ¼ to 1 mm. in diameter..	20	25
Micaceous gray sandstone with occasional shreds of carbonaceous material	25	35
Sandy shale	35	40

Logs—Continued.

	Depth in feet. From	To
Gray shale	40	45
Gray sandstone, coal, black shale and pieces of gray limestone. There were crinoid stems, one crinoid plate from a calyx and an umbo of a small brachiopod	45	50
Light gray shale of fine texture. No effervescence	50	55
Gray calcareous and sandy rock, with much concretionary calcareous material. One large fragment was black concretionary limestone with imbedded minute white shells and tubes, apparently small gasteropods or formanifera	55	60
Shaly sandstone, some shale, white and yellow limestone of concretionary appearance, and some coal	60	65
Sandy shale of very light gray color	65	70
Dark gray micaceous shale	70	90
Dark shale and black shale, fragments of concretionary limestone, Nucula beyrichi (?) crinoid stems, tubes of Ammodiscus, and fragments of concretionary limestone	90	100
Black shale	100	105
Black shale, black calcareous "clod," occasional pieces of coal, crinoid stems, "mineral charcoal" showing woody structure, pyrite and calcite	105	110
Gray sandy micaceous shale	110	120
Gray micaceous sandstone	120	140
Gray sandy shale, black shale and coal, with some calcareous material	140	145
Gray sandy and micaceous shale	145	155
Fine gray sand	155	165
Fine gray shaly sand	165	170
Fine gray shaly sand with dark shaly laminae	170	175
Laminated shaly sandstone	175	180
Laminated gray sandy shale	180	185
Dark micaceous and sandy shale	185	195
Dark shale, micaceous	195	200
Sandy shale and sandstone	200	205
Coarse, micaceous gray sand	205	215
Micaceous gray shale	215	225
Dark shale of fine texture	225	230
Dark shale, black shale, some sandstone, impure coal, and fragments of limestone, yellow. Crinoid stems and a small gasteropod noted	230	235
Fire clay, sandy shale, and concretionary yellow limestone, which is fossil-bearing. A few fragments of coal noted	235	240
Gray shale	240	245
Gray stony shale	245	250
Dark micaceous shale	250	255
Gray micaceous shale	255	260
Dark micaceous shale	260	265
Gray shaly sandstone and sandy shale	265	270
Gray micaceous sand of fine texture	270	310
Gray sand and some lumps of light fire clay or shale containing imprints of leaves	310	315
Clean and white micaceous sand	315	320
Gray micaceous sandstone	320	335
Light gray fire clay, coal, some sandstone, and a little limestone. Minute spherules of siderite present in the fire clay	335	340
Cream-white limestone of fine granular homogeneous texture, with occasional minute green specks, and occasional indistinct organic fragments	340	345
White limestone of fine uniform texture. Some fragments show a fine reticutale, clastic (?) structure. Some greenish shale and pyrite	345	350
Brownish red marly clay and limestone	350	355
Red marl, greenish marl, and white limestone	355	360
White limestone of fine uniform texture, with a few fragments of gray shaly limestone	360	365
Gray sandstone, biotitic and impregnated with irregular kernels and layers of yellow limestone	365	370
Some sandstone, some white limestone, yellow lime and some fragments of a slowly effervescing material	370	375
Dirty dark marl and limestone, with some fragments of bright red marl, and some black fragments	375	380
Gray sandstone	380	385
Very dark shaly sandstone, bituminous and green shale	385	390
Dark, almost black, sandy micaceous shale	390	400
Dark gray shale of fine texture	400	405
Gray micaceous shaly sandstone and some white limestone	405	410
Dark gray shale of fine texture, coal	410	415
Dark gray shale of fine texture and some white limestone	415	425
Gray micaceous laminated sandstone	425	430

Logs—Continued.

	Depth in feet. From	To
Dark gray shale and some brown clay	430	435
Dark gray sandstone with layers of carbonate of iron	435	440
Dark gray micaceous shale, and dark gray sandstone with layers of carbonate of iron	440	445
Dark gray micaceous shale; dark gray sandstone with layers of carbonate of lime, and a few fragments of limestone	445	450
Dark gray shale, siderite and pyrite	450	455
Dark gray shale of fine texture and some siderite	455	460
Dark gray micaceous shale, and gray sandstone with layers of carbonate of iron	460	470
Dark gray shale, sandstone, and sandstone with carbonate of iron	470	475
Dark gray shale of fine texture and some siderite	475	480
Dark gray micaceous shale, and some siderite	480	485
Dark gray shale, dark micaceous shale, and siderite	485	495
Dark gray shale, white and dark limestone	495	500
Siderite concretions showing cracks filled with calcite, gray limestone and shale	500	505
Gray shaly sandstone, siderite concretions and some gray limestone	505	510
Gray shaly sandstone, fragments of white and gray limestone	510	515
Gray sandy shale, siderite and fragments of gray limestone	515	520
Dark gray shale, some greenish shale, siderite, and fragments of gray limestone	520	525
Dark gray micaceous shale, and some siderite	525	530
Dark gray shale, some greenish shale and some siderite	530	535
Dark shale, siderite and some brown limestone	535	540
Dark shale, siderite, fragments of limestone, and a part of a crinoid stem noted	540	545
Dark shale and fragments of limestone	545	560
Black shale with organic calcareous fragments. Crinoid stems and Rhombopora lepidodendroides noted. Spherules of siderite present. Spines of Productus (?)	560	565
Black shale with organic calcareous material, limestone, fragments of gray micaceous sandstone, numerous crinoid stems noted, also siderite. Hustedis, Chonetes punctatus, Rhombopora lepidodendroides, gasteropods and crinoid stems noted, as also spines of Productus (?)	565	570
Black shale with calcareous material, fragments of limestone and sandstone, small gasteropods, numerous crinoid stems, and spines of producti noted	570	575
Coal, gray shale, limestone, numerous crinoid stems and pyrite noted	575	580
Brownish dark limestone, gray shale, and fragments of coal. Considerable pyrite, fossil wood in fragments	580	585
Brownish dark limestone, gray shale, some crinoid stems and Chonetes noted	585	590
Gray micaceous shale, gray shale, gray limestone and brown limestone	590	595
Gray sandy shale, fragments of brown and gray limestone	595	600
Dark gray shale of a fine texture and some pyrite	600	605
Dark gray shale of a fine texture, some gray micaceous shale, pyrite and fragments of coal	605	610
Dark gray shale of a fine texture	610	620
Dark gray micaceous shale	620	625
Dark gray shale and fragments of limestone	625	630
Dark gray micaceous shale and some pyrite	630	635
Dark gray shale, fragments of coal and limestone	635	640
Dark gray shale, fragments of limestone and some pyrite	640	645
Light gray sandstone of fine texture, and fragments of black shale	645	650
Light gray sandstone, and some fragments of black shale	650	660
Dark gray shale and light gray sandstone	660	665
Light gray micaceous fine sand	665	680
Fine white micaceous sand with infiltrated lime	680	685
Fine white micaceous sand and some dark gray shale	685	695
Fine gray micaceous sand with infiltrated lime	695	700
Dark gray shale and gray sandstone	700	705
Gray micaceous laminated sandstone	705	710
Coal, some gray shale, and a few fragments of limestone	710	715
Gray micaceous laminated sandstone and some coal	715	720
Micaceous sandstone	720	725
Dark gray shale	725	730
Black shale of fine texture	730	735
Very dark stony shale of fine texture	735	740
Gray micaceous sandstone, some black shale and fragments of white limestone	740	745
Gray micaceous sandstone, soft and containing calcareous material	745	750

Logs—Continued.

	Depth in feet. From	To
Micaceous sandstone	750	755
Dark shale, sandstone, coal, with some limestone fragments	755	760
Fire clay, black shale, coal, sandstone, a few fragments of limestone, yellow siderite, spherical concretions, measuring from ⅛ to 2 mm. in diameter	760	770
Dark shaly clay and micaceous clay, with coal, sandstone, and small spherical concretions of siderite	770	775
Dark clayey shale and some micaceous and sandy shale	775	780
Gray clayey shale of fine texture with some stony and micaceous shale	780	790
Dark gray shale, in part sandy, in part of fine texture. Much pyrite, some pyritized wood coal and "mineral charcoal"	790	795
Light gray shale or fire clay	795	800
Light gray fire clay, white sandstone, coal and some fragments of white and yellow limestone	800	805
Gray clay shale or fire clay, coal, and white sandstone	805	810
Fire clay, sandy gray shale, black shale, coal and brown siderite	810	815
Soft gray micaceous sandstone, with thin carbonaceous laminae black shale, brown siderite, pyrite and some fragments of fissured white limestone	815	820
Black shale containing calcareous organic fragments, and gray sandstone containing thin layers of shaly material, pyrite and spherules of gray lime measuring about ½ mm. in diameter	820	825
Dark shale and greenish gray sandy fire clay	825	830
Gray micaceous sandstone, fire clay and black shale with white limestone. Crinoid stems noted	830	840
Black shale and gray micaceous sandstone, brown siderite and white limestone and partly pyritized mineral charcoal	840	845
Gray micaceous sandstone, laminated, gray marly shale	845	850
Laminated dark shale and sandstone, with a few fragments of coal, apparently from thin seam in rock	850	855
Gray sandstone and sandy shale, with black shale, impure coal and siderite	855	860
Like the preceding but with some pure coal	860	865
Gray shale, fire clay, gray sandstone, and coaly black shale	865	870
Fire clay, gray shale, coal, brown siderite, white limestone, fragments of shells and crinoid stems, pyrite giving an oily film on the water when washed	870	875
Gray clayey shale, and coal, with some calcareous material	875	880
Like the preceding. Crinoid joints noted	880	885
Gray clayey shale, containing fragments of coal and of limestone, and also some mica	885	900
Mostly fire clay, greenish gray, some gray sandstone, black shale, a little coal, and much pyrite. Fragments of shells and of limestone noted. In the fire clay a joint was filled with a thin film of black bituminous or carbonaceous material	900	905
Gray laminated micaceous sandstone	905	915
Dark gray, sandy and micaceous shale	915	920
Gray micaceous sandstone and dark shale	920	925
Gray sandstone, greenish fire clay and coaly black laminated shale	925	930
Gray laminated sandstone, black shale, some pieces of acreous shale, brown siderite, fragments of white limestone	930	935
Sandstone, from dark to light gray, and showing streaks of carbonaceous material, together with black coaly shale	935	940
Greenish gray fire clay, containing spherules of fire clay from ¼ to ½ mm. in diameter, and having thin joints filled with bituminous or carbonaceous material. Some sandstone and shale noted	940	945
Greenish gray fire clay, with fractures	945	950
Dark shale of fine texture	950	955
Gray coarse sand with a faint odor of petroleum. It floats on water	955	960
Black and dark shale, with some carbonaceous layers	960	965
Dark and black shale and concretionary siderite and white limestone	965	970
Minutely black and light gray limestone	970	975
Minutely blotched dark gray limestone and some dark shale	975	980
Dark clayey shale	980	990
Black shale and gray sandstone	990	995
Black coaly shale with brownish streak and containing streaks of brown flaky siderite, greenish gray fire clay, gray limestone and stony fire clay filled with minute spherules of siderite	995	1,000
Black and gray shale and a fragment of coal	1,000	1,005
Coarse quartz sandstone with fragments of siderite	1,005	1,010
Gray sandstone with siderite grains	1,010	1,015
Gray sandstone with many grains of brown siderite	1,015	1,020
Fairly coarse gray sand	1,020	1,030
Fine gray sand having the odor of petroleum	1,030	1,035

Logs—Continued.

	Depth in feet. From	To
Fine gray and with some black and gray shale, white limestone, some yellow and brown siderite	1,035	1,040
Gray sandstone, some coarse with black and brown grains, some laminated, alternating with black micaceous shale	1,040	1,045
Black shale, some sandstone, and some white limestone	1,045	1,050
Black stiff shale, some clayey shale and white limestone	1,050	1,060
Black shale and fire clay with a few fragments of coal	1,060	1,065
Black shale, and some white limestone	1,065	1,075
Black shale, some pyrite and white limestone	1,075	1,080
Black shale and some pyrite	1,080	1,085
Gray sandstone with imbedded siderite spherules and shreds of carbonaceous material	1,085	1,090
Gray sandstone of fine texture	1,090	1,100
Gray sandstone of fine texture with some dark gray shale	1,100	1,105
Gray sandstone of fine texture	1,105	1,110
Gray sandstone with some fragments of white limestone	1,110	1,115
Laminated shaly sandstone, consisting of layers of dark sandy shale and light gray sandstone	1,115	1,120
Laminated sandstone and shale	1,120	1,130
Green and black fire clay of fine texture and cut by joints	1,130	1,140
Greenish blotchy very dark fire clay, with siderite concretions in large fragments, and some very red clay lumps with green core	1,140	1,145
Very dark, almost black, fire clay	1,145	1,150
Very dark, almost black, fire clay, or a greenish tinge, some bright red clay showing green streaks, some white limestone and some coal or bituminous substance	1,150	1,155
Very dark fire clay	1,155	1,160
Dark fire-clay-like shale	1,160	1,165
Black stiff shale and fragments of siderite concretions	1,165	1,170
Black shale and dark green shale	1,170	1,185
Black shale and gray shale, with some white sandstone and fragments of siderite concretions	1,185	1,190
Black shale	1,190	1,195
Black shale with some fragments of siderite	1,195	1,200
Dark gray shale of fine clay-like texture	1,200	1,205
Laminated white and black sandstone. The laminae are thin	1,205	1,215
Dark shale	1,215	1,220
Dark shale with some sandstone	1,220	1,225
Dark shale	1,225	1,235
Dark sandy shale and laminated sandstone	1,235	1,240
Dark shale	1,240	1,245
Dark sandy shale and white, fine-grained sandstone, apparently in laminae. Also some fragments of white limestone	1,245	1,255
Gray shale, greenish fire clay, some coal and a little nodular limestone	1,255	1,260
Gray shale and dark shale, some yellow siderite, some white limestone and a few fragments of coal. Bituminous joints	1,260	1,270
Gray shale, black shale, white sandstone of fine texture and white limestone	1,270	1,280
Gray shale, considerable white limestone, and white sandstone of fine compact texture	1,280	1,285
Black shale and white fine-grained sandstone with some limestone	1,285	1,290
Fine-grained, hard white sandstone, gray, sandy shale and white limestone	1,290	1,295
Micaceous gray sandstone, black shale, and some pieces of white limestone	1,295	1,300
Dark gray shale, white fine-grained sandstone, and some fragments of white limestone	1,300	1,305
Light gray micaceous sandstone, gray shale and some fragments of white limestone	1,305	1,310
Dark gray shale, laminated sandstone and some limestone	1,310	1,315
White, fine-grained sandstone, gray shale, white limestone and some pyrite	1,315	1,320
Sand, fairly coarse	1,320	1,325
Yellow rusty sand	1,325	1,340
Yellow rusty sand with some shale	1,340	1,345
Laminated gray sandstone of fine texture	1,345	1,355
Fine sand, with some shale and calcareous material	1,355	1,360
Fine sand and shale, with some carbonate of lime	1,360	1,365
Fine sand and shale	1,365	1,370
Dark gray shale and sand	1,370	1,380
Sand, gray shale and black shale	1,380	1,405
Greenish gray fire clay, some dark shale, considerable pyrite, and sand (from above)	1,405	1,410
Greenish gray fire clay, much pyrite, a few fragments of rock containing organic calcareous fragments and some sand	1,410	1,415
Dark greenish gray shale, some fragments of black shale and pyrite	1,415	1,420

Logs—Continued.

	Depth in feet. From	To
Sand of fine texture and dark greenish gray shale or fire clay with much pyrite	1,420	1,425
Dark green fire clay or shale, very much pyrite and fragments of coal, evidently from a thin seam	1,425	1,430
Dark greenish gray fire clay, pyrite and fragments of impure coal	1,430	1,435
Dark green fire clay and dark shale with some coal	1,435	1,440
Very dark shale, thin splitting and dark green fire clay	1,440	1,445
Very dark shale, dark green fire clay, a little coal and pyrite	1,445	1,470
Dark green fire clay and dark shale, pyritiferous	1,470	1,480
Dark green fire clay-like shale	1,480	1,495
Dark green fire clay-like shale, with much pyrite, and some coal in thin seams	1,495	1,500
Dark green fire clay-like shale	1,500	1,510
Dark green fire clay-like shale, some black bituminous shale with thin laminae of coal, and with pyrite	1,510	1,515
Dark green fire clay-like shale, dark gray shale, "Coal Measure"-like, with pyrites	1,515	1,520
Dark green fire clay-like shale, and dark gray shale with pyrite	1,520	1,535
Brownish red marl, some fire clay-like greenish shale, some pyrite and some fragments of white limestone. The red marl and the limestone have the aspect of the Chester	1,535	1,540
Brownish red shale, pyrite and fragments of white limestone	1,540	1,545
Red marly shale, gray marly shale and white limestone	1,545	1,565
Dark gray shale and marl	1,565	1,570
Dark gray stony marl and fragments of white limestone, with crinoid stems	1,570	1,590
Gray marl and red marly shale with fragments of white limestone	1,590	1,595
Gray, green and red shale, white limestone, sandy limestone, pyrite and crinoid stems	1,595	1,615
Greenish gray calcareous shale	1,615	1,635
Dark green, stony calcareous shale	1,635	1,640
Dark gray shale, organic, fragmental limestone, dirty specked gray	1,640	1,645
Shale and limestone	1,645	1,650
Gray marly shale and organic fragmental limestone Oily	1,650	1,655
Organic fragmental limestone and some shale. Oily	1,655	1,660
Dark gray shale, green shale, red shale and organic fragmental limestone. Oily	1,660	1,665
Like the preceding with less limestone	1,665	1,680
Red marly shale and green laminated shale	1,680	1,685
Red marly shale and dark green shale	1,685	1,695
Gray marly shale, gray sandstone of fine texture and some organic fragmental limestone	1,695	1,700
Gray marly shale	1,700	1,730
Fine gray quartz sand showing a few mica scales (and effervescing)	1,730	1,775
Fine-textured gray sand with some shale	1,755	1,760
Fine-textured gray sand with some gray shale	1,760	1,765
Gray marly shale and sand	1,765	1,775
Fine-textured gray sand, dark gray shale, with some fragments of limestone showing joints filled with black bituminous films	1,775	1,780
Gray marly shale and fine sand	1,780	1,785
Earthy black marly shale filled with bitumen	1,785	1,795
Partly like the preceding, partly gray stony marl	1,795	1,800
Gray marly shale and fine sand	1,800	1,805
Like the preceding with some very thin-splitting black shale	1,805	1,810
Black shale and fine gray sand	1,810	1,820
Gray marly shale, and some black bituminous material shining on conchoidally fractured surfaces Fractures and fuses in flame	1,820	1,825
Gray marly shale	1,825	1,830
Gray marly shale, with a black bitumen showing conchoidal, shiny cleavage	1,830	1,835
Gray marly shale with a few small fragments of bitumen	1,835	1,840
Gray marly shale	1,840	1,850
Gray marly shale, with some fine micaceous sand, and showing black streaks	1,850	1,860
Gray marly shale	1,860	1,865
Almost black and dark, greenish gray, marly, sandy shale, showing red streaks, and a dark greenish sand of fine texture. Mica noted. Oily	1,865	1,880
Dark, greenish gray fire clay-like shale. Oily	1,880	1,885
Dark greenish-gray shale and sandy rock, and some red shale appearing earthy, from bitumen	1,885	1,890
Green and red shale, with some fragments of sandstone and some organic limestone. Oily	1,890	1,910
Oolitic limestone, and green shale	1,910	1,915
Oolitic limestone, other limestone, green shale and some red shale. A small Dielasma noted. The dark green shale splits into very thin fragments	1,915	1,920

Logs—Continued.

	Depth in feet. From	To
Green shale, dark shale, red shale, and oolitic limestone	1,920	1,930
Green shale, red shale, and some dirty looking limestone and oolite. Crinoid stem noted	1,930	1,945
Mostly iron rust from bit or casing	1,945	1,950
Limestone with a great deal of rust	1,950	1,955
Granular limestone with some well-rounded quartz sand, and some oolitic grains	1,955	1,960
Granular limestone, gray	1,960	1,965
Coarse oolitic limestone, with some quartz grains	1,965	1,970
An organic breccia, with imbedded oolitic grains, and some quartz grains	1,970	1,980
Organic fragmental limestone, with oolitic spherules, and with a few fragments of chert	1,980	1,995
Limestone, fragmental, oolitic	1,995	2,000

No. 3

Operators—Snowden Bros.
Farm and well—H. K. Seed, No. 3.
Location—NW. ¼ sec. 29, Bridgeport Township.
Elevation—513 feet.

	Thickness Feet	Depth Feet
Soil, yellow	23	23
Slate, dark	17	40
Sand, white (12 bailers of water, 75 feet)	35	75
Slate, dark	65	140
Limestone, white	6	146
Slate, dark	90	236
Sand, white	49	277
Slate, dark	6	283
Limestone shell	5	288
Coal	6	294
Slate, dark	36	330
Limestone, light	15	345
Slate, light	63	408
Sand, light	31	439
Limestone, light	10	449
Red slate, light	6	455
Slate, light	155	610
Sand, light, hard	13	623
Slate, dark	17	640
Sand, light	15	655
Slate, dark	20	675
Limestone, dark	12	687
Slate, light	33	725
Slate, dark	57	782
Sand, light, hard	13	795
Slate, light	13	808
Coal	4	812
Slate, light	38	850
Slight, dark	12	862
Limestone, dark	4	866
Slate, dark	24	890
Sand, light (hole full of water, 905 feet)	35	925
Limestone and sand, light, hard	15	940
Slate, black, soft	20	960
Slate, light	45	1,005
Limestone, light	5	1,010
Slate	30	1,040
Sand	50	1,090
Slate	40	1,130
Sand, (hole full of water, 1,140 feet)	252	1.382
Slate, dark	2	1,384
Sandy limestone, light	41	1,425
Slate, black	2	1,427
Limestone, light	23	1,450
Sand and coal	17	1,467
Slate, dark	2	1,469
Sand and shells	1	1,470
Slate, dark	48	1,518
Sand, light, hard (water)	73	1,591
Slate, dark, soft	17	1,608
Sandy limestone, light	32	1,640
Sand, light, hard (hole full of water, 1,640 feet)	47	1,687

Logs—Continued.

	Thickness Feet	Depth Feet
Slate, dark	16	1,703
Sand, dark	22	1,725
Limestone, light	4	1,729
Red rock	5	1,734
Slate	31	1,765
Limestone	21	1,786
Slate	7	1,793
Limestone	10	1,803
Red slate	7	1,810
Sand (water, 1,823 feet)	13	1,823
Slate	10	1,833
Limestone	20	1,853
Slate	12	1,865
Sand (water, 1,872 feet)	7	1,872
Red slate	6	1,878
Slate	12	1,890
Red slate	4	1,894
Sand (water, 1,916 feet)	22	1,916
Slate	6	1,922
Sand (hole full of water, 1,947 feet)	25	1,947
Slate	33	1,980
Limestone	2	1,982
Sand (oil pay, 1,982 to 1,995 feet)	19	2,001
Total depth	......	2,001

No. 4.

Operators—Snowden Bros.
Farm and well—O'Donnell, No. 28.
Location—SE. ¼ sec. 17, Bridgeport Township.
Elevation—498 feet.

	Thickness Feet	Depth Feet
Sand and mud	129	129
Slate, light	31	160
Sand, white (10 bailers water, 225 feet)	165	325
Slate, dark	10	335
Limestone shell, hard	11	346
Red rock	9	355
Slate, light	120	475
Slate, dark	85	560
Slate, white	60	620
Slate, dark	100	720
Slate, black	15	735
Sand, white (4 bailers of water, 750 feet)	45	780
Slate, light	25	805
Sand, light	10	815
Slate, dark	40	855
Limestone shell	6	861
Slate, dark	60	921
Limestone shell, hard, gray	4	925
Slate, dark	37	962
Sand, white, hard (oil, 970 feet; water, 990 feet)	86	1,048
Slate, light	2	1,050
Sand, white, soft	20	1,070
Slate, light	25	1,095
Sand, white	40	1,135
Slate, dark	15	1,150
Sand, white	25	1,175
Slate, white	16	1,191
Limestone, light	12	1,203
Slate, dark	25	1,228
Slate, light	8	1,236
Slate, dark	44	1,280
Sand, dark (oil, 1,298 feet)	38	1,318
Sand, light (water, 1,360 feet)	77	1,395
Limestone, dark	15	1,410
Slate, dark	15	1,425
Sand, white	13	1,438
Slate, dark	9	1,447
Limestone, white	53	1,500
Slate, white	4	1,504
Limestone shell	2	1,506
Slate, dark	11	1,517
Slate, light	8	1,525

Logs—Continued.

	Thickness Feet	Depth Feet
Limestone, white	35	1,560
Slate, dark	25	1,585
Slate, light	8	1,593
Sand, light (show of oil, 1,600 to 1,606 feet)	32	1,625
Slate, dark	13	1,638
Sand, light	12	1,650
Slate, dark	26	1,676
Sand, light	54	1,730
Slate, dark	12	1,742
Limestone, light	15	1,757
Sand and limestone	8	1,765
Red slate	3	1,768
Limestone, light	10	1,778
Slate, dark	12	1,790
Red rock	8	1,798
Slate, light	15	1,813
Limestone (?), cavy	22	1,835
Limestone	20	1,855
Limestone, gray, hard, (show of oil, 1,860 feet)	20	1,875
Limestone, gray, soft	15	1,890
Limestone, dark, hard	333	2,223
Total depth	......	2,223

No. 5.

Operators—Ohio Oil Company.
Farm and well—W. B. Gray, No. 2.
Location—SW. ¼ sec. 7, Bridgeport Township.
Elevation—486 feet.
(This record was compiled by Dr. J. A. Udden from the study of well samples.)

	Depth in feet. From	To
Yellow micaceous sandstone, with some quartz pebbles	1	10
White micaceous sandstone, with shreds of carbonaceous matter	10	30
White micaceous sandstone, with some fragments of siderite and pyrite	30	35
Gray sandstone, with shreds of vegetation	35	40
Gray sandy shale	40	45
Black shale and some gray micaceous sandstone	45	50
Black micaceous shale	50	55
"Clod," with numerous crinoid stems	55	60
Black shale and "clod"	60	65
Coal and "clod"	65	70
Coal, fragments of siderite concretions, limestone and some gray sandstone	70	75
Gray sandy shale	75	80
Black shale, "clod," some coal and some pure calcite	80	90
Dark micaceous shale and coal with calcite	90	95
Dark gray micaceous shale	95	100
Black shale, with a few crinoid joints	100	105
Black shale	105	110
Black shale with some limestone	110	115
Black shale	115	120
Hard black shale	120	130
Black shale	130	135
Black micaceous shale	135	140
Gray micaceous sand, with some black shale	140	145
Gray micaceous sandstone, with infiltrated lime, and shreds of carbonaceous matter	145	155
Gray micaceous sand	155	205
Gray sandstone, some black shale, and a little limestone	205	210
Black shale and gray sandstone, with a little limestone	210	215
Dull bluish green shale, with some yellowish limestone from concretions	215	220
Like the preceding, with fossils in the concretionary limestone	220	225
Shale, light, green gray unctions, shale	225	240
Greenish gray micaceous shale	240	245
Light greenish gray shale, unctuous	245	250
Light greenish gray micaceous shale	250	265
Gray micaceous sandy shale	265	270
Gray, rather coarse sandstone with occasional red, pink, green and black grains	270	275
Like the preceding, all crushed	275	280
Fire clay, fragments of concretions, sandstone	280	285

Logs—Continued.

	Depth in feet. From	To
Fine clay and some shreds of carbonaceous material	285	290
Greenish blue shale, with concretionary yellow limestone	290	295
Black shale, with some bits of coal	295	300
Gray micaceous sandstone, with infiltrated lime, with some black shale and coal	300	305
Gray sandstone, in part laminated, with small siderite concretions	305	310
Gray micaceous sandstone with small siderite concretions	310	315
Gray sandstone with some black shale	315	320
Dirty white limestone, and some sand. Pyrite, crinoid joints, and spine of a Productus noted	320	325
Limestone and some shale	325	330
Limestone of light color, some gray shale and pyrite. Limestone seems to be concretionary	330	335
Gray shale and black shale with yellow concretionary limestone	335	350
Dark gray shale and some yellow concretionary limestone	350	355
Dark gray shale with some pyrite	355	360
Dark gray shale, some white limestone and pyrite	360	365
Dark gray shale	365	380
Dark shale with some fragments of siderite concretions	380	390
Sandstone, shale and coal	390	395
Shale, with some sandstone and coal	395	400
Greenish gray shale	400	405
Olive colored shale	405	410
Laminated sandy shale	410	415
Sandy gray shale	415	420
Shale, stony, olive colored	420	425
Gray shale	425	430
Dark shale, almost black	430	435
Gray shale	435	460
Gray shale, coal and concretion fragments	460	465
Gray fire clay, coal and shale	465	470
Gray shale, and gray concretionary limestone, impure, with iron carbonate and with pyrite	470	475
Limestone, concretionary and shale	475	480
Gray shaly fire clay and concretionary limestone, effervescing slowly	480	485
Gray concretionary siderite	485	490
Gray shale, with much concretionary impure limestone or siderite	490	515
Gray sandy shale, and siderite	515	520
Gray micaceous shale, some coal and siderite	520	535
Gray sandstone, laminated and with minute spherules of siderite	535	540
Gray shale, with some sandy shale and some black shale	540	545
Dark stony shale	545	550
Dark micaceous shale with some limestone with crinoid stem	550	555
Dark gray shale	555	560
Dark micaceous shale and clod with a Productus	560	565
Gray shale	565	570
Very dark shale and "clod"	570	575
Black clay shale with "clod"	575	580
Greenish gray micaceous sandy shale	580	590
Gray micaceous shale	590	605
Greenish gray clayey shale	605	615
Black stony shale and some red clay shale	615	620
Very dark stony shale	620	625
Dark checky shale or fire clay	625	630
Dark gray micaceous shale	630	635
Dark shale or fire clay, with imprint of leaf	635	640
Dark hard shale, slightly micaceous	640	645
Gray shale, with some siderite	645	650
Gray shale	650	655
Gray shale and some gray sandstone	655	660
Hard gray shale, with a few pieces of sandstone	660	665
Hard gray shale, with a few pieces of siderite	665	670
Dark and hard shale	670	675
Dark hard shale	675	685
Coal and dark shale, with some siderite and pyrite	685	690
Coal, with some shale and some siderite	690	695
Dark shale and some siderite, coal, and pyrite, bit of shell noted	695	700
Gray shale and coal, with concretions of siderite, and black shale, with leaf imprints, calcareous	700	705
Gray shale, fire clay and coal, calcareous	705	710
Gray shale and fire clay calcareous	710	715
Like the preceding, with wood in pyrite	715	720
Gray clay shale, fine in texture	720	725
Black shale, sandstone, and coal	725	730
Gray sandstone and dark gray sandy shale	730	740
Gray sandstone, and shale	740	755
Black miner's slate	755	760
Dark shale, carrying much fine pyrite	760	765

Logs—Continued.

	Depth in feet. From	To
Gray shale, impregnated with small pyrite crystals	765	770
Gray shaly sandstone and black shale	770	775
Coal, sandstone and some yellow limestone (apparently from a ledge)	775	780
Gray micaceous and sandy shale, some red clay shale	780	785
Gray shale, coaly shale and shaly coal, with gray limestone and fragments of concretionary siderite	785	790
Gray clay shale, with some concretionary fragments	790	795
Gray shale, some black shale and siderite concretions	795	800
Gray shale, some black carbonaceous shale and some fire clay	800	805
Gray shale, some black coaly shale, a few bits of white limestone and minute concretionary spherules	805	810
Gray shale containing many minute spherules of siderite and some white limestone	810	815
Dark shale and fire clay	815	830
Dark shale, with some imprints of vegetation	830	835
Dark shale and some sandstone, with some minute spherules of siderite	835	840
Black shale and gray shale, with some sandstone, some minute spherules of siderite and a few bits of limestone	840	845
Black shale, some sandstone and some pieces of siderite	845	850
Gray micaceous shale	850	855
Black hard shale, with pyrite, shell of Retzia (?), some spicules and a few bits of white limestone	855	860
Black stony shale, with pyrite	860	865
Black shale, with pyrite and pieces of siderite	865	875
Black shale, and white fine grained sandstone, laminated with a few small pieces of very white limestone	875	880
Gray laminated sandstone and black shale	880	890
Black shale and laminated sandstone, with some grayish soft material and a few bits of white limestone	890	895
Coal, with some gray limestone	895	900
Gray sandy shale and fragments of concretionary siderite, with some coal	900	905
Black shale and gray shale, with some fragments of yellow limestone and concretionary material	905	910
Dark gray shale, with a little limestone, and some green serpentine-like shale	910	915
Dark gray shale and greenish shale with red blotches, with a few fragments of limestone	915	920
Dark gray shale and gray sandy shale	920	925
Gray sandy shale with minute crystals of pyrite	925	930
Dark gray shale and gray sandstone, with shreds of vegetation	930	935
Dark gray shale and some sandstone	935	940
Gray shaly sandstone and sandy shale	940	945
Dark gray sandy shale, pyritiferous	945	950
Dark gray sandy shale	950	955
Gray clay shale	955	960
Gray shale and limestone. The limestone is white, and consists of rounded fragments which are invested with an oolitic incrustation	960	965
Dark and stony thin splitting shale and light sandstone	965	970
White and gray sandstone and dark gray shale. Sandstone occasionally with interstitial pyrite	970	975
Dark gray shale and white sandstone	975	985
Dark greenish gray shale	985	1,000
Black shale of fine texture	1,000	1,005
Dark gray shale, with siderite partly in fragments, partly as spherules	1,005	1,010
Dark gray sandstone and dark shale	1,010	1,015
Dark shaly sandstone and black shale	1,015	1,020
Black shale, with many fragments of siderite	1,020	1,025
Black shale	1,025	1,030
Black shale, and gray limestone which contains a tangle of tubes of Ammodiscus	1,030	1,035
Dark gray and black shale with limestone as above	1,035	1,040
White and gray sandstone and gray shale	1,040	1,045
White, slightly micaceous sandstone and gray shale	1,045	1,050
Gray laminated shaly sandstone	1,050	1,060
Gray sandstone	1,060	1,080
Laminated gray sandstone and white sandstone	1,080	1,100
Yellow sandstone	1,100	1,105
Coarse white sand	1,105	1,115
Yellow sand	1,115	1,125
Red sand	1,125	1,135
White sand, finer	1,135	1,165
Reddish sand	1,165	1,175
Gray sand	1,175	1,185

Logs—Continued.

	Depth in feet. From	To
White sand	1,185	1,195
Black shale, with some few small fragments of red shale (?)	1,195	1,200
Black shale and sand with pyrite	1,200	1,205
Gray fire clay with shreds of vegetation	1,205	1,210
Black clay shale, gray sand	1,210	1,215
Black shale, gray fire clay-like shale with shreds of vegetation and sandstone	1,215	1,220
Dark fire clay, shale, with shreds of vegetation with some gray sand	1,220	1,230
Fire clay, dark shale and sandstone	1,230	1,240
Gray shale and sand	1,240	1,245
Gray fire clay, and gray sandstone with spherules of siderite	1,245	1,250
Black stony shale with large fragments of pyrite and some gray compact siliceous rock	1,250	1,260
Black shale showing shreds of vegetation and some gray rock	1,260	1,280
Laminated dark and gray sandy and stony shale showing mica and shreds of vegetation, very much comminuted	1,280	1,345
Black shale with pyrites and some sandstone	1,345	1,350
Coarse sand showing secondary enlargement of grains, with some black shale	1,350	1,370

Diameter of grains in mm.	Percentage of total sample.
2-1	0
1-½	5
½-¼	10
¼-⅛	80
Less than ⅛	5.00

	From	To
Gray sand of somewhat finer texture than the preceding	1,370	1,375
Gray coarse sandstone and some black shale	1,375	1,385
Like the preceding, but with finer sand	1,385	1,390
Coarse sand and some gray shale	1,390	1,395
Sand, white	1,395	1,435

Diameter of grains in mm.	Percentage of total sample.
2-1	0
1-½	3
½-¼	6
¼-⅛	85
Less than ⅛	6

	From	To
White sand	1,435	1,455
Fine reddish sand	1,455	1,460
Fine gray sand	1,460	1,465
Fine yellow sand	1,465	1,480
White limestone, with some sand	1,480	1,485
Like the preceding, with two minute echinoid stems	1,485	1,490
Yellowish organic limestone	1,490	1,495
White limestone containing fragments of fossils and with a few fragments of chalcedonic chert and with much dark shale	1,495	1,500
Organic calcareous fragments with dark shale and coarse white sand	1,500	1,515
Dolomitic (?) limestone, with an occasional purple tint, mixed with much shale and sand	1,515	1,520
Yellowish sandstone, with some shale and dolomitic (?) calcareous fragments	1,520	1,530
Limestone, organic, fragmental gray, calcareous, with some shale and sand. Some shale is green	1,530	1,545
Dark gray organic fragmental limestone, with some green shale	1,545	1,550
Like the preceding, with more shale	1,550	1,555
Gray and greenish shale and gray calcareous limestone, with a fragment of a fossil shell	1,555	1,560
Gray calcareous organic limestone and greenish shale	1,560	1,565
Fine gray sand and shale with pyrite	1,565	1,570
Gray sandstone and shale	1,570	1,575
Dark gray shale, gray sandstone and limestone	1,575	1,580
Black shale, showing a few brown blotches	1,580	1,585
Black shale, with green and red shale, some limestone and pyrite	1,585	1,590
Dark gray shale, with green and some red shale and limestone	1,590	1,600
Like the preceding, with two thin flakes of coal and a few bits of red limestone	1,600	1,605
Dark gray and greenish gray shale, some white sandstone and some red shale, with some fragments of limestone	1,605	1,610
Like the preceding but more sandy. Pyrite	1,610	1,615
Gray fine sand, gray and black shale and limestone and pyrite	1,615	1,620
Gray fine sand and dark gray shale	1,620	1,625
Black and greenish shale with sandstone and pyrite	1,625	1,630
Black shale, and gray sand	1,630	1,635

Logs—Continued.

	Depth in feet. From	To
Black shale and gray sandy shale, with bits of red shale	1,635	1,640
Gray shale	1,640	1,645
Black shale, greenish shale and sandstone	1,645	1,650
Greenish gray shale and some white sand	1,650	1,655
Gray and green shale with sand. One fragment of bitumen noted, which burned when ignited	1,655	1,660
Black and gray shale and sand in about equal quantities	1,660	1,665
Slickensided greenish gray shale and fine sand	1,665	1,670
Sandstone and dark shale	1,670	1,675
Sandstone, dark shale and some calcareous lime	1,675	1,685
Gray fine sand	1,685	1,695
Sand and dark shale	1,695	1,700
White limestone, dark gray shale and sand effervescing slowly	1,700	1,710
Fine yellow sand	1,710	1,715
Fine gray sand	1,715	1,740
Black and dark gray shale	1,740	1,750
Dark gray shale and some gray limestone, oolitic grains (?)	1,750	1,760
Grayish white fine sand	1,760	1,765
Grayish white sand and some shale, effervescing slowly	1,765	1,775
Dark gray and black shale with some sand	1,775	1,780
Calcareous limestone with slow effervescence and dark gray and red shale oolitic grains ½-¼ mm. in diameter	1,780	1,785
Gray calcareous limestone with bits of brachiopod shells, spines, occasional oolitic grains, and dark gray and dull red shale. Oolites frequently oval	1,785	1,795
Like the preceding, with more sand and more oolitic grains	1,795	1,800
Dark shale, some oolitic limestone	1,800	1,805
Dark shale, oolitic limestone and some red shale	1,805	1,810
Dark shale, red shale, oolitic limestone and lobster colored limestone	1,810	1,815
Like the preceding but with less limestone	1,815	1,825
Dark greenish gray shale, and dark red shale with limestone, organic	1,825	1,830
Like the preceding, with a few limestone fragments of "lobster" red color	1,830	1,835
Dark gray, gray and red shale with organic limestone, with slow effervescence	1,835	1,855
Oolitic limestone effervescing slowly and black and red shale	1,855	1,865
Ooolitic white calcareous limestone	1,865	1,890
Gray limestone effervescing slowly	1,890	1,895
Fine gray sand, pure, grain, measuring about 1-6 mm. in diameter	1,895	1,900
Gray limestone, effervescing slowly with acid	1,900	1,905
Gray limestone, calcareous	1,905	1,940
Gray calcareous limestone with a few bits of chalcedonic chert	1,940	1,945
Gray limestone, with slow effervescence, with some fragments of chert	1,945	1,950
Gray oolitic calcareous limestone	1,950	1,965
Gray oolitic limestone effervescing slowly, fragments of ribbed lamellibranch noted	1,965	1,970
Gray oolitic limestone, effervescing slowly	1,970	1,975
Gray marl	1,975	1,980
Gray marl and some limestone	1,980	1,985
Gray very finely granular dolomitic and oolitic limestone, with chalcedonic chert	1,985	2,000

No. 6.

Operators—Bridgeport Oil Company.
Farm and well—McPherson, No. 3.
Location—SE. ¼ sec. 11, Lawrence Township.
Elevation—429 feet.

	Thickness Feet	Depth Feet
Limestone	9	90
Slate	65	155
Sandy limestone	45	200
Slate	15	215
Coal	5	220
Slate	15	235
Limestone	15	250
Slate	150	400
Limestone	40	440
Slate	100	540
Limestone	8	548
Slate	52	600

Logs—Continued.

	Thickness Feet	Depth Feet
Limestone	5	605
Sand, (hole full of water, 625 feet)	95	700
Slate	45	745
Sand	30	775
Slate	115	890
Limestone	6	896
Slate	44	940
Sand	50	990
Slate	5	995
Sandy limestone	35	1,030
Sand (water)	30	1,060
Slate	165	1,225
Limestone	55	1,280
Sand	52	1,332
Limestone	10	1,342
Red rock	23	1,365
Slate	7	1,372
Limestone	3	1,375
Slate	35	1,410
Limestone	20	1,430
Red rock	10	1,440
Slate	20	1,460
Limestone	20	1,480
Slate	10	1,490
Red rock	15	1,505
Slate	13	1,518
Sand (first oil, 1,520 feet; best oil, 1,543 feet)	49	1,567
Limestone	23	1,590
Slate	55	1,645
Sand	15	1,660
Limestone	10	1,670
Slate	15	1,685
Limestone	77	1,762
Sand (water, 1,766 feet)	6	1,768
Total depth	......	1,768

No. 7.

Operators—Bridgeport Oil Company.
Farm and well—McPherson, No. 4.
Location—SW. ¼ sec. 12, Lawrence Township.
Elevation—425 feet.

	Thickness Feet	Depth Feet
Gravel and quicksand	85	85
Sand	25	110
Slate	28	138
Limestone	7	145
Slate	55	200
Sand	30	230
Limestone	5	235
Red rock	5	240
Limestone	10	250
Slate	140	390
Limestone	5	395
Coal	5	400
Limestone	40	440
Slate	90	530
Limestone	10	540
Slate	45	585
Sand (water)	90	675
Slate	15	690
Sand	35	725
Slate	65	790
Sand	15	805
Slate	65	870
Sand	10	880
Slate	20	900
Limestone	5	905
Slate	50	955
Sand (water)	45	1,000
Slate	2	1,002
Sand	63	1,065
Limestone	10	1,075

Logs—Continued.

	Thickness Feet	Depth Feet
Slate	105	1,180
Sand	8	1,188
Limestone	2	1,190
Slate	140	1,330
Sand	20	1,350
Limestone	5	1,355
Slate	15	1,370
Limestone	89	1,459
Red rock	8	1,467
Limestone	8	1,475
Slate	34	1,509
Limestone	13	1,522
Slate	5	1,527
Sand (show of oil)	19	1,546
Slate	12	1,558
Sand (oil pay, 1,558½ feet; water, 1,563 feet)	17	1,575
Slate	25	1,600
Limestone	50	1,650
Slate	15	1,665
Limestone	5	1,670
Slate	15	1,685
Red rock	10	1,695
Slate	5	1,700
Limestone	71	1,771
Sand	4	1,775
Limestone	83	1,858
Sandy limestone	6	1,864
Limestone	122	1,986
Total depth	......	1,986

No. 8.

Operators—Bridgeport Oil Company.
Farm and well—R. M. Kirkwood, No. 7.
Location—NE. ¼ sec. 14, Lawrence Township.
Elevation—435 feet.

	Thickness Feet	Depth Feet
Sand and gravel	83	83
Limestone	10	93
Slate	32	125
Limestone	15	140
Slate	70	210
Sand (water)	25	235
Slate	10	245
Limestone	5	250
Slate	45	295
Limestone	5	300
Slate	25	325
Limestone	20	345
Slate	95	440
Sand	10	450
Slate	180	630
Sand (water)	87	717
Slate	38	755
Limestone	8	763
Slate	10	773
Sand	27	800
Limestone	20	820
Slate	40	860
Sand	20	880
Slate	20	900
Sand	20	920
Slate	40	960
Sand (water)	90	1,050
Slate	120	1,170
Sand	10	1,180
Slate	50	1,230
Limestone	6	1,236
Slate	8	1,244
Limestone	21	1,265
Slate	11	1,276
Limestone	9	1,285
Sand	85	1,370

Logs—Continued.

	Thickness Feet	Depth Feet
Slate	30	1,400
Limestone	20	1,420
Slate	15	1,435
Limestone	30	1,465
Slate	30	1,495
Limestone	25	1,520
Red rock	15	1,535
Slate	5	1,540
Sand (oil, 1,551 feet)	40	1,580
Slate	5	1,585
Sand (water)	5	1,590
Slate	5	1,595
Sand	10	1,605
Slate	5	1,610
Limestone	20	1,630
Slate	20	1,650
Sandy limestone	25	1,675
Slate	20	1,695
Limestone	10	1,705
Red Rock	5	1,710
Limestone	57	1,767
Sand	8	1,775
Total depth	......	1,775

No. 9.

Operators—Snowden Bros.
Farm and well—Cummings, No. 12.
Location—NE. ¼ sec. 6, Bridgeport Township.
Elevation—516 feet.

	Thickness Feet	Depth Feet
Soil	25	25
Slate	102	127
Limestone, gray, soft	8	135
Sand, white	45	180
Slate, dark	12	192
Sand, light	80	272
Slate, dark	20	292
Limestone, light, hard	13	305
Slate, light, soft	18	323
Slate, dark	257	580
Limestone, light	9	589
Slate, dark	311	800
Limestone, light, hard	4	804
Slate and limestone shells, dark, soft	126	930
Sand, light (little oil, 940 feet)	40	970
Slate and limestone shells	15	985
Sand, light	15	1,000
Slate, light (water, 1,006 feet)	20	1,020
Slate and limestone shells	45	1,065
Slate, white	70	1,135
Sand, light, soft	15	1,150
Slate, black	15	1,165
Sand, white (water, 1,175 feet)	50	1,215
Slate, white	5	1,220
Limestone, white, soft	20	1,240
Slate, white, hard	30	1,270
Sand	5	1,275
Slate, light, soft	5	1,280
Limestone, white	14	1,294
Slate, dark	21	1,315
Limestone, gray	16	1,331
Slate, dark	14	1,345
Sand, gray (gas, 1,347 feet)	18	1,363
Slate, light	3	1,366
Limestone, white	19	1,385
Slate, dark	4	1,389
Sand, gray	7	1,396
Slate, light	19	1,415
Red slate	10	1,425
Sand, light (oil, 1,428 feet)	15	1,440
Slate, light	15	1,455

Logs—Continued.

	Thickness Feet	Depth Feet
Sand, light	15	1,470
Red slate	7	1,477
Slate and limestone shells, dark	33	1,510
Limestone, light	15	1,525
Slate, white	35	1,560
Sand and limestone shells, white	5	1,565
Slate, white	7	1,572
Limestone, white	28	1,600
Slate, white	25	1,625
Limestone, light	31	1,656
Sand (show of oil and gas, 1,656 feet)	3	1,659
Limestone	13	1,672
Sand	3	1,675
Limestone	58	1,733
Total depth	......	1,733

No. 10.

Operators—Ohio Oil Company.
Farm and well—S. G. McCleave, No. 4.
Location—Center of section 31, Bridgeport Township.
Elevation—520 feet.

	Thickness Feet	Depth Feet
Loess	1	15
Yellow limestone and coal, some pieces of pure calcite, and numerous crinoid stems	15	20
Coal, yellow sandstone, some crinoidal limestone and a few pieces of calcite and red marl. Numerous crinoid stems	20	25
Coal, yellow sandstone, some crinoidal limestone and a few pieces of calcite and red marl. Numerous crinoid stems	25	30
Gray micaceous sandstone with infiltrated lime, some yellow sandstone, bits of coal and calcite	30	35
Coal, some yellow and white sandstone, some pieces of crinoidal limestone	35	40
Gray micaceous sandstone, some dark shale and fire clay	40	45
Coal. Some crinoidal limestone, a little red oxidized material. A small Athyris shell noted, also a piece of crinoid calyx (?)	45	50
White micaceous sandstone, a few pieces of fire clay and coal	50	65
Gray micaceous laminated sandstone, some fragments of yellow limestone, some coal	65	70
Gray micaceous sandstone, a few fragments of yellow limestone and coal	70	75
Yellow sandstone, crinoidal limestone, some black shale and pieces of gypsum. Two Ambocoelia planoconvexa and a crinoid stem noted	75	80
Black shale, some dark limestone, and a few pieces of sandstone. A crinoid stem noted	80	85
Gray limestone and coal, with some sandstone and shale	85	90
Gray micaceous shale	90	95
Yellow limestone, some gray sandstone, and bits of siderite	95	100
Yellow limestone and gray sandstone, some siderite concretions and shale	100	105
Gray shale and fire clay	105	110
Dark shale, some siderite concretions, and bits of white limestone	110	115
Coal, some black shale, gray sandstone, a few bits of calcite and pyrite	115	120
Gray micaceous sandy shale, some dark shale and coal, some pieces of yellow limestone and fire clay	120	125
Dark shale, some coal, a few pieces of limestone	125	130
Dark shale, some red oxidized material, and siderite concretions	130	135
Coal, some gray micaceous shale, and gray sandstone	135	140
Gray micaceous shale, some coal and fire clay	140	145
Gray micaceous shale and sandstone, some siderite concretions, a few bits of white limestone	145	150
Gray micaceous shale and a few bits of siderite concretions	150	155
Siderite, concretionary, some gray micaceous shale	155	160
Coal and gray sandstone, some concretionary siderite, some bits of limestone and pyrite. A crinoid stem noted	160	165
White sandstone with infiltrated lime	165	180
Fine gray sand with infiltrated lime	180	185
Fine gray micaceous sand with infiltrated lime, some gray shale	185	190
Fine gray sand with infiltrated lime	190	210

Logs—Continued.

	Thickness Feet	Depth Feet
White micaceous sand	210	225
Sand, with infiltrated lime, and some coal	225	230
Coal, some white limestone and black shale, some siderite	230	235
Gray micaceous shaly sandstone, some bits of coal, pyrite, and siderite	235	240
Yellow sand with infiltrated lime; the smaller grains float on water	240	245
Gray micaceous sandstone, some small spherules of siderite concretions, a few pieces of pyrite and white limestone	245	250
Gray sandstone, some siderite concretions (spherules), some dark shale, and bits of white limestone	250	255
Dark sandy micaceous shale, some gray sandstone, and siderite	255	265
White sandstone	265	280
Gray micaceous sandstone, some pieces of laminated sandstone	280	310
White micaceous sand	310	320
White limestone, indistinctly fragmental, a little sand and some gray shale	320	325
White limestone like the above, a little dark shale. A crinoid stem noted	325	330
White, indistinctly fragmental limestone. Some bits of pyrite, and a crinoid stem noted	330	335
Greenish compact limestone, and micaceous sandstone, with some shale	335	340
Gray shale, some sandstone	340	345
Gray micaceous sandy shale	345	350
Gray micaceous shale, some yellow limestone, and one piece containing woody fibre (?)	350	355
Gray sandy shale, some yellow limestone, and a few siderite concretions	355	360
Gray shale, micaceous sandy shale, and some yellow limestone	360	365
Gray sandstone, some laminated yellow sandstone, some yellow limestone, fragments of siderite	365	370
Gray shale and sandstone, some siderite concretions	370	375
Gray sandy shale, some siderite concretions. Carbonaceous shreds noted in shale	375	380
Siderite concretions, some sandy shale	380	385
Gray sandy shale, some concretionary siderite and bits of gray sandstone	385	390
Gray sandstone and sandy shale. A few pieces of black carbonaceous shale, coal, some sandstone with infiltrated lime, and some crinoid stems. Retzia punctulifera noted	390	395
Gray sandstone, dark shale, some white limestone, concretionary siderite. A crinoid stem and Athyris noted. A little coal noted	395	400
Gray shale and some sandstone, concretionary siderite, bits of pyrite, and a few pieces of sandstone with infiltrated lime	400	405
Gray sandy shale, and some concretionary siderite	405	410
White brexiated limestone, with cracks filled with yellow calcite, some yellow limestone, some siderite, a little gray shale, and sandstone with bits of pyrite	410	415
White limestone, cracks filled with yellow calcite, some concretionary siderite	415	420
White limestone, having cracks filled with yellow calcite, some yellow limestone, some gray soft shale, and a few bits of coal	420	430
White and yellow limestone, cracks filled with calcite, some gray sandstone and a few pieces of black shale	430	435
Gray shale and concretionary siderite	435	450
Dark gray shale and siderite concretions	450	475
Gray sandy shale, some gray sandstone, siderite, and a few fragments of yellow limestone	475	480
Gray sandy shale, some pieces of which have layers of siderite, yellow limestone and bits of pyrite	480	485
Gray micaceous shale, some gray sandstone, few small fragments of yellow limestone	485	490
Gray micaceous shale	490	495
Dark shale, some siderite concretions, a few pieces of white limestone and pyrite	495	500
Dark shale, some coal and concretionary siderite, and a few pieces of dark limestone. A crinoid stem noted, also some oolitic black concretionary material	500	505
Dark shale and some siderite, a few bits of white limestone, coal, and pyrite. Crinoid stem and closely tuberculated crinoid spine noted, also a spiral Ammodiscus. Rhombopora, lepidodendroides, and black shale with fucoidal traversions	505	510
Dark shale, some siderite, white limestone, fragments and bits of coal and pyrite. Crinoid stems and a small Syntrielasma hemiplicate noted	510	515
Gray micaceous shale, some gray sandstone and yellow limestone	515	520

Logs—Continued.

	Thickness Feet	Depth Feet
Gray micaceous shale, some sandstone, some pieces of yellow limestone	520	525
Gray micaceous shale	525	530
Gray micaceous shale, and some sandstone	530	535
Gray micaceous shale and some siderite	535	540
Gray micaceous shale, some siderite, and a few bits of yellow limestone	540	545
Gray sandy shale, some yellow sandstone, bits of yellow limestone and pyrite	545	550
Black shale with streaks of pyrite, some siderite concretions, and bits of white limestone	550	555
Black shale, some siderite concretions, and white limestone. Crinoid stem noted	555	560
Black shale and a few siderite concretions	560	565
Yellow concretionary limestone and black shale. Some siderite. More shale than limestone	565	570
White and yellow concretionary limestone, some dark shale and gray sandstone, bits of pure calcite, and pyrite. More shale than limestone	570	575
Black carbonaceous shale and coal, some white limestone and siderite, and some bits of pyrite	575	580
Dark shale, some pieces of yellow limestone	580	595
Dark shale, few pieces of yellow limestone and white sandstone, a few pieces of calcite	595	600
Dark micaceous shale, some yellow limestone, with layers of calcite, and some sandy shale	600	605
Gray sandy shale, some yellow limestone, bits of white sandstone and pyrite	605	610
Gray sandy shale, some pieces of dark limestone, and bits of pyrite	610	615
Dark sandy shale, some pieces of pyrite	615	620
Dark gray micaceous shale, some pieces of yellow limestone, and siderite concretions	620	625
Dark gray shale, some pieces of yellow limestone and siderite. A crinoid stem noted	625	630
Gray shale	630	635
Gray shale, a few siderite concretions, and crinoid stems	635	640
Gray sandy shale, some yellow limestone, and concretionary carbonate of iron	640	645
Gray shale, some coal and siderite	645	650
Soft gray shale, some yellow limestone, and siderite	650	655
White limestone, some "clod" and sandstone	655	660
Black "clod," some yellow limestone, and soft gray shale	660	665
"Clod," with little white limestone and crinoid stems	665	670
"Clod," crinoid stems, and Edmondia (?), with some white limestone	675	680
Gray shale, yellow limestone and some "clod"	680	685
Yellow limestone and gray sandstone, some concretionary siderite and gray shale	685	590
Soft gray shale, yellow limestone, and some sandstone	690	695
Gray micaceous sandy shale, yellow and white limestone, some "clod," and some pyrites	695	700
Gray micaceous shale, some siderite, some white limestone, and pieces of calcite, with some sandstone	700	705
Gray, sandy shale, some black shale, and siderite with a few pieces of coal	705	710
Gray sandy shale, some coal, and siderite	710	715
Gray sandstone and some black carbonaceous shale	715	720
Coal and some fire clay	720	725
Black shale	725	735
Hard black shale	735	740
Black shale, a little white sandstone	740	745
Gray sandstone, some black pyritiferous shale, and yellow limestone	745	750
Gray sandstone, bits of yellow limestone	750	755
Gray micaceous sandstone, some pieces laminated, and bits of yellow limestone	755	760
Gray shale and sandstone, some imprints of leaves in shale	760	765
Dark shale, some sandstone, laminated and micaceous, bits of yellow limestone	765	770
Gray micaceous sandstone and dark shale, some yellow limestone	770	780
Gray micaceous sandstone, some dark shale, a few bits of limestone	780	785
Gray micaceous sandstone and some dark shale	785	790
Dark gray micaceous shale, bits of yellow limestone, and siderite	790	795
Black micaceous shale	795	800
Gray shale and some black micaceous shale	800	805
Gray shale, with some imprints of vegetation	805	810
Dark micaceous shale and some pieces of yellow limestone	810	815
Dark shale, some fragments of yellow limestone	815	820

Logs—Continued.

	Thickness Feet	Depth Feet
Gray micaceous sandstone, some shale, bits of yellow limestone (small)	820	825
Gray micaceous sandstone, a little shale and limestone	825	835
Gray sandstone, with concretionary yellow limestone	835	840
Gray sandstone, some yellow limestone, and white limestone, with some pieces of dark limestone	840	845
Gray micaceous sandstone, some gray shale, and a few pieces of yellow limestone	845	850
Dark gray shale, some gray sandstone, few pieces of yellow limestone, and yellow calcite. Crinoid stems and a piece of shell noted	850	855
Black shale and a little white limestone. Crinoid stems and a piece of brachiopod shell noted	855	860
Black shale and a little yellow limestone. Piece of shell and crinoid stem noted	860	865
Black shale, few pieces of yellow and white limestone	865	870
Black shale, some concretionary siderite, and bits of yellow limestone	870	875
Black shale and some gray shale	875	880
Black shale, some siderite and gray sandstone	880	885
Gray micaceous sandstone and few pieces of shale	885	890
Gray sandstone, few pieces of yellow limestone, and dark shale	890	895
Gray micaceous shale, some sandstone	895	900
Gray micaceous shale	900	905
Gray micaceous shale and some dark shale	905	910
Dark and gray micaceous shale	910	915
Dark gray shale and a few pieces of white limestone	915	920
Dark gray shale, bits of limestone, and pyrite	920	925
Black shale	925	930
Black shale and some fire clay, bits of sandstone	930	935
Gray sandstone and some dark sandy shale	935	940
Dark sandy shale and sandstone, bits of yellow limestone	940	945
Dark sandy shale and sandstone	945	950
Dark shale, some sandy shale	950	955
Gray micaceous shaly sandstone	955	960
Gray micaceous sandy shale and sandstone	960	970
Gray micaceous shaly sandstone, some black shale	970	975
Gray micaceous sandy shale, bits of yellow limestone	975	980
White micaceous sand, a little dark shale	980	985
White micaceous sand, some dark laminated shale	985	990
Gray sandstone and some dark micaceous shade. Sandstone with infiltered lime, some pieces of laminated sandstone	900	995
White micaceous sand, some dark shale	995	1,000
White micaceous sand, little dark shale	1,000	1,005
Gray micaceous sand	1,005	1,010
Gray micaceous sandstone, some dark shale	1,010	1,015
Gray micaceous sandstone	1,015	1,025
Gray shale	1,025	1,035
Dark gray shale	1,035	1,040
White micaceous sand, grains mostly from ⅛ to ¼mm. in diameter	1,040	1,045
White micaceous sand	1,045	1,065
White micaceous sand with a little infiltered lime	1,065	1,070
White micaceous sand with some infiltered lime, a little dark shale	1,070	1,080
Gray micaceous sandstone and shale	1,080	1,085
White micaceous sand with some infiltered lime	1,085	1,090
Yellow micaceous sand	1,090	1,125
Yellow sand	1,125	1,130
Yellow sand, showing secondary enlargement of grains	1,130	1,135
Yellow sand	1,135	1,140
Yellow sand and some dark shale	1,140	1,145
Gray sand with some secondary enlargement of crystals	1,145	1,150
White sand, very fine	1,150	1,155
White sand	1,155	1,160
Fine white sand	1,160	1,165
White sand and some gray shale	1,165	1,170
Fine white sand	1,170	1,175
Fine white sand with some infiltrated lime	1,175	1,180
Yellow sand	1,180	1,190
Yellow sand with infiltrated lime	1,190	1,210
White sand, grains mostly from ⅛ to ¼ mm. in diameter	1,210	1,215
Fine white sand	1,215	1,230
White sand, some grains show secondary enlargement	1,230	1,235
White sand	1,235	1,280
Yellowish sand	1,280	1,290
Yellow sand and some white limestone	1,290	1,300
White limestone and sand	1,300	1,305
Like the preceding, but with more lime	1,305	1,310
Greenish shale with some flakes of mica, some white and dark limestone. Some imprints of leaves	1,310	1,315

Logs—Continued.

	Thickness Feet	Depth Feet
Greenish shale, or a fire clay, some limestone, and bits of pyrite. Imprints of vegetation	1,315	1,320
Gray sandstone, some pieces of pyrite, and greenish shale like in the preceding	1,320	1,325
Gray sandstone with some flakes of mica	1,325	1,330
A tangled organic oolitic limestone, breccia and some sandstone	1,330	1,335
A tangle of organic oolitic limestone, effervescence, brisk. Some greenish shale and sand, bits of pyrite	1,335	1,345
A tangle organic oolitic limestone, breccia, some pieces of green and red shale	1,345	1,350
Oolitic limestone, some dark shale, bits of green and red shale and two pieces of chert	1,350	1,355
A tangled organic oolitic limestone, breccia, some black, greenish and brown shale	1,355	1,370
Black shale and limestone, like that of the preceding sample	1,370	1,375
Black shale and some oolitic limestone, effervescence brisk	1,375	1,380
Black and green shale, white limestone	1,380	1,390
Black shale and some sandstone	1,390	1,395
Black shale and a little sandstone	1,395	1,400
Greenish and red shale, some limestone, effervescence brisk. Bits of chert and pyrite	1,400	1,405
Dark shale and some reddish colored limestone, effervescence brisk	1,405	1,410
Dark and reddish brown shale, some gray limestone	1,410	1,415
Dark shale and some gray limestone, a little red shale	1,415	1,420
Black shale and a little limestone	1,420	1,425
Black marly shale and some white limestone. Bits of pyrite and red shale	1,425	1,435
White limestone, some black marly shale and red shale, numerous crinoid stems	1,435	1,440
Black shale, some marly shale and white limestone, crinoid stems and pieces of shells	1,440	1,445
White limestone and dark shale	1,445	1,450
White limestone and dark shale, some yellow sandstone	1,450	1,455
Grayish yellow sandstone with infiltered lime, some dark shale and white limestone	1,455	1,470
Gray sandstone, some black shale	1,470	1,475
Red shale, some greenish sandstone with infiltered lime and little gray sandstone	1,475	1,480
Dark sandy calcareous shale, some white limestone and red shale	1,480	1,485
Coarse gray sand and some black shale	1,485	1,490
Coarse gray sand	1,490	1,500
White sandstone with infiltered lime and some dark shale	1,500	1,515
Gray sandstone and a little dark shale	1,515	1,535
Black shale	1,535	1,550
Black shale, some yellowish sandstone with infiltered lime	1,550	1,560
Black shale and white limestone. A few fragments of shells	1,560	1,565
Black shale and white sandstone, little limestone	1,565	1,585
Black shale, white limestone, effervescence brisk, and some sand	1,585	1,590
Black shale and some white fragmental limestone, crinoid stem noted	1,590	1,595
Black shale	1,595	1,600
Black shale and a little limestone	1,600	1,605
Black shale and some sandstone, and white limestone	1,605	1,610
Gray sand, white limestone, (effervescence brisk), and a little dark shale	1,610	1,620
White limestone and dark shale	1,620	1,625
Black shale and a little limestone	1,625	1,645
Black shale and some limestone. A crinoid stem noted	1,645	1,650
Black shale and some limestone	1,650	1,660
Black shale	1,660	1,665
Black and red shale, some white limestone	1,665	1,670
Black shale, some red shale and oolitic limestone, (effervescence brisk)	1,670	1,680
Greenish and reddish shale, some oolitic limestone	1,680	1,685
Greenish shale, some red shale, and some oolitic limestone	1,685	1,690
Oolitic limestone, a little sand and greenish shale	1,690	1,710
Oolitic limestone	1,710	1,740
Oolitic limestone, little greenish shale and bits of pyrite	1,740	1,745

No. 11.

Operators—Snowden Bros.
Farm and well—Perkins, No. 19.
Location—SW. ¼ sec. 32, Bridgeport Township.
Elevation—529 feet.

	Thickness Feet	Depth Feet
Soil and slate	140	140
Sand	45	185

Logs—Continued.

	Thickness Feet	Depth Feet
Slate	15	200
Sand	75	275
Slate	30	305
Limestone	10	315
Slate	20	335
Slate and shale	106	441
Sandy shale	10	451
Slate	95	536
Limestone	8	544
Slate	96	640
Limestone	5	645
Slate	70	715
Limestone	6	721
Slate	79	800
Limestone	5	805
Slate	43	848
Sandy limestone	6	854
Slate, white	10	864
Slate, brown	46	910
Sand (show of oil, 930 to 950 feet)	46	956
Slate, brown	10	966
Slate, gray	84	1,050
Sand (water, 1,075 feet)	115	1,165
Slate	40	1,205
Sandy limestone	10	1,215
Slate	15	1,230
Limestone	7	1,237
Slate	23	1,260
Red rock	10	1,270
Slate	24	1,294
Limestone	22	1,316
Slate	17	1,333
Sand	12	1,345
Limestone	22	1,367
Shale	29	1,396
Red rock	11	1,407
Sand	30	1,437
Red rock	12	1,449
Slate	43	1,491
Limestone	3	1,494
Slate	21	1,515
Sand (oil, 1,520 feet)	18	1,533
Slate	21	1,554
Limestone	13	1,567
Shale	7	1,574
Limestone	8	1,582
Slate	16	1,598
Limestone	7	1,605
Slate	11	1,616
Limestone (gas, 1,654 feet)	70	1,686
Sand (oil, 1,686 to 1,696 feet)	10	1,696
Limestone	106	1,802
Total depth	......	1,802

No. 12.

Operators—Bridgeport Oil Company.
Farm and well—Willey, No. 4.
Location—SE. ¼ sec. 30, Petty Township.
Elevation—517 feet.

	Thickness Feet	Depth Feet
Mud and slate	22	22
Sand	10	32
Slate	128	160
Sand	20	180
Slate	65	245
Limestone	5	250
Slate	25	275
Limestone	10	285
Red rock	5	290
Slate	110	400
Limestone	5	405
Shale	25	430

Logs—Continued.

	Thickness Feet	Depth Feet
Coal	3	433
Shale	7	440
Limestone	5	445
Slate	155	600
Limestone	65	665
Slate, black	20	685
Sand	30	715
Slate	35	750
Salt sand	25	775
Slate	40	815
Limestone	15	830
Slate	67	897
Sand (oil, 907 feet)	35	932
Slate	18	950
Sand	6	956
Slate	8	964
Sand (oil, 972 to 983 feet)	21	985
Slate	23	1,008
Limestone and shale	34	1,042
Limestone	20	1,062
Sand (water, 1,077 feet)	33	1,095
Limestone	5	1,100
Sand (water, 1,145 to 1,195 feet)	95	1,195
Limestone	10	1,205
Slate	40	1,245
Red rock	10	1,255
Slate	7	1,262
Limestone	43	1,305
Slate	25	1,330
Sand (gas, 1,335 feet)	10	1,340
Limestone	15	1,355
Slate	33	1,388
Red rock	7	1,395
Sand (first pay, 1,411 feet; best pay, 1,416 to 1,430 feet	50	1,445
Slate	13	1,458
Limestone	42	1,500
Sand	10	1,510
Slate	30	1,540
Limestone (gas, 1,548 feet; best gas, 1,630 to 1,635 feet)	95	1,635
Total depth	......	1,635

No. 13.

Operators—Snowden Bros.
Farm and well—A. Pepple, No. 7.
Location—NW. ¼ sec. 30, Petty Township.
Elevation—430 feet.

	Thickness Feet	Depth Feet
Soil and slate	15	15
Sand, white	90	105
Slate and shells	90	195
Sand, white	25	220
Slate and shells	80	300
Limestone, gritty, hard	10	310
Slate, white	40	350
Slate and limestone shells	80	430
Sand	12	442
Slate	108	550
Sand	20	570
Shale, black	20	590
Slate	30	620
Sand, white (hole full of water, 660 feet)	85	705
Slate, white	79	784
Limestone, white	2	786
Slate, black	29	815
Sand, white (hole full of water, 895 feet)	115	930
Slate, black	45	975
Sand, dark, hard	50	1,025
Slate, black, soft	25	1,050
Sand, white, hard	32	1,082
Sandy limestone, dark, hard	33	1,115
Slate, dark	5	1,120
Sand, white (water)	53	1,173

Logs—Continued.

	Thickness Feet	Depth Feet
Slate, black	27	1,200
Sand, white	10	1,210
Slate, black	8	1,218
Red rock	7	1,225
Slate, black	13	1,238
Limestone shells, white	10	1,248
Slate, black	12	1,260
Limestone, white	8	1,268
Slate, black	10	1,278
Red rock	6	1,284
Slate and shale	14	1,298
Limestone, white	7	1,305
Sand, white	13	1,318
Slate, black	20	1,338
Red rock	22	1,360
Sand, white (oil, 1,365 to 1,380 feet)	40	1,400
Limestone, gritty, black	5	1,405
Slate, black	25	1,430
Sand, white	10	1,440
Limestone, gray	10	1,450
Slate, white	20	1,470
Limestone, white	16	1,486
Slate, black	17	1,503
Sandy limestone, white (gas, 1,513 to 1,515 feet)	15	1,518
Sand, white	32	1,550
Sandy limestone	7	1,557
Limestone, white	5	1,562
Limestone, brown	18	1,580
Sandy limestone, white (green oil, 1,603 feet)	26	1,606
Limestone, white	13	1,619
Total depth	......	1,619

No. 14.

Operators—Snowden Bros.
Farm and well—Vanatta, No. 2.
Location—NE. ¼ sec. 23, Petty Township.
Elevation—430 feet.

	Thickness Feet	Depth Feet
Clay and quicksand	75	75
Slate	75	150
Sand (16 bailers of water, 160 feet)	50	200
Slate	100	300
Limestone	30	330
Slate	470	800
Sand, hard (water, 850 feet)	50	850
Slate, soft	160	1,010
Sand, hard	100	1,110
Slate, soft	55	1,165
Sand, hard	225	1,390
Limestone	50	1,440
Red rock	15	1,455
Slate, soft	75	1,530
Sand, hard	35	1,565
Slate	35	1,600
Sand, hard (show of oil, 1,618 feet)	18	1,618
Slate	50	1,668
Limestone	32	1,700
Slate	40	1,740
Sand, hard (green oil)	25	1,765
Slate	68	1,830
Limestone (show of oil, 1,945 feet; hole full of water, 2,325 feet)	760	2,590
Total depth, dry well	......	2,590

No. 15.

Operators—Snowden Bros.
Farm and well—Childress, No. 3.
Location—SW. ¼ sec. 24, Petty Township.
Elevation—440 feet.

Logs—Continued.

	Thickness Feet	Depth Feet
Quicksand	50	50
Sand, limestone, and slate	220	270
Limestone shells	15	285
Slate and limestone shells	135	420
Coal and slate	13	433
Slate and limestone shells	52	485
Slate, brown	10	495
Sandstone, white (25 bailers of water, 500 to 525 feet)	35	530
Slate, black	10	540
Slate and limestone shells, white	95	635
Coal	7	642
Slate and limestone shells	133	775
Limestone	25	800
Red rock	10	810
Slate and limestone shells	30	840
Limestone, white	10	850
Slate and limestone shells, black	130	980
Sandy limestone, white	40	1,020
Sand, white and brown (hole full of water, 1,020 to 1,065 feet)	275	1,295
Sandy limestone, brown	20	1,315
Slate, brown	20	1,335
Slate, sand, and shells, white	55	1,380
Limestone, white	25	1,405
Slate	15	1,420
Red rock	7	1,427
Slate and limestone shells, black	13	1,440
Sand	44	1,484
Slate	16	1,500
Red shale	8	1,508
Slate	8	1,516
Sand (small show of oil, 1,520 to 1,560 feet)	54	1,570
Slate, black	50	1,620
Limestone shells, white	5	1,625
Sandy slate, white	25	1,650
Red rock	8	1,658
Limestone, white	8	1,666
Sand, white, hard (oil)	29	1,695
Slate and limestone shells, black	37	1,732
Limestone	44	1,776
Sand (water, 1,781 feet)	7	1,783
Total depth	......	1,783

No. 16.

Operators—Bridgeport Oil Company.
Farm and well—Wood, No. 13.
Location—NW. ¼ sec. 20, Petty Township.
Elevation—430 feet.

	Thickness Feet	Depth Feet
Gravel and quicksand	90	90
Limestone	10	100
Sand	20	120
Slate	115	235
Limestone shells	5	240
Red rock	10	250
Slate	20	270
Sand	30	300
Slate and limestone	390	690
Salt sand	35	725
Slate and limestone	150	875
Sand, broken	30	905
Limestone and slate	95	1,000
Sand	75	1,075
Slate and limestone shells	55	1,130
Sand	100	1,230
Limestone, hard	15	1,245
Slate	25	1,270
Limestone	5	1,275
Sand	19	1,294
Limestone	4	1,298
Red rock	10	1,308
Slate	12	1,320
Limestone	5	1,325
Slate	15	1,340
Limestone	25	1,365

Logs—Continued.

	Thickness Feet	Depth Feet
Slate	15	1,380
Sand	10	1,390
Limestone	10	1,400
Slate and broken sand	80	1,480
Limestone	10	1,490
Slate	20	1,510
Limestone	12	1,522
Slate and limestone shells	58	1,580
Red rock	2	1,582
Limestone	8	1,590
Sand (green oil)	15	1,605
Limestone	15	1,620
Slate	10	1,630
Limestone	40	1,670
Sand	12	1,682
Limestone, hard	6	1,688
Limestone, soft	10	1,698
Sand (salt water)	7	1,705
Total depth	......	1,705

No. 17.

Operators—Snowden Bros.
Farm and well—Vanatta, No. 1.
Location—NE. ¼ sec. 15, Petty Township.
Elevation—475 feet.

	Thickness Feet	Depth Feet
Sand, dark	10	23
Slate	400	423
Slate and limestone shells	50	473
Limestone shell, white	8	481
Red slate	12	493
Slate	125	618
Sand (little water, 633 feet)	15	633
Shell and slate	100	733
Slate	150	883
Sand, white	20	903
Shale, dark	100	1,003
Sand, white (water, 1,023 feet)	20	1,023
Slate and limestone shells, dark	72	1,095
Sand, white (water, 1,115 feet)	20	1,115
Slate, dark	77	1,192
Sand, light	18	1,210
Limestone, gray	20	1,230
Slate, white	85	1,315
Sand, white	55	1,370
Slate	60	1,430
Limestone, light	20	1,450
Slate, dark	60	1,510
Limestone, light	5	1,515
Slate, dark	5	1,520
Sand, light	76	1,596
Slate, dark	7	1,603
Limestone, light	10	1,613
Slate, dark	22	1,635
Sand, gray	13	1,648
Red slate	12	1,660
Slate, white	18	1,678
Limestone shell	7	1,685
Slate, white	3	1,688
Limestone, light	22	1,710
Slate, light	33	1,743
Limestone, light	20	1,763
Sand, white	99	1,862
Slate, dark	6	1,868
Limestone, light	5	1,873
Slate, dark	23	1,896
Limestone, light	41	1,937
Sand, white	8	1,945
Slate	13	1,958
Limestone, gray	12	1,970
Sandy limestone (water, 1,970 feet)	15	1,985
Limestone, gray	10	1,995
Slate, dark	8	2,003

Logs—Continued.

	Thickness Feet	Depth Feet
Sandy limestone, hard	17	2,020
Limestone, light, hard (water, 2,025 feet)	28	2,048
Sandy limestone, hard	20	2,068
Limestone, gray, hard	12	2,080
Sandy limestone, hard (water, 2,110 feet)	95	2,175
Limestone, gray, hard	60	2,235
Limestone, light, hard (hole full of water, 2,593 feet)	358	2,593
Limestone, dark, hard (4 bailers of water, 2,235 to 2,607 feet)	82	2,675
Sandy limestone, gray	40	2,715
Limestone, dark, hard	25	2,740
Limestone, gray, hard	15	2,755
Limestone, white, hard	15	2,770
Limestone, gray, medium hardness. Limestone, gray hard	166	2,936
Total depth	......	2,936

No. 18.

Operators—Snowden Bros.
Farm and well—Piper, No. 10.
Location—SE. ¼ sec. 2, Petty Township.
Elevation—439 feet.

	Thickness Feet	Depth Feet
Soil, dark	25	25
Gravel, light	10	35
Mud, dark	35	70
Limestone, light	8	78
Slate, light	172	250
Sand, light (water, 295 feet)	75	325
Limestone, light	7	332
Red rock	13	345
Sand, white	30	375
Slate, dark	98	453
Limestone shell, light	2	455
Slate, dark	25	480
Coal	3	483
Slate, black	57	540
Limestone, light	80	620
Sand, light (5 bailers of water, 625 feet)	20	640
Slate and limestone shells	25	665
Sand	20	685
Slate	65	750
Sand, light	25	775
Limestone, light	20	795
Red shale	5	800
Shells and slate	30	830
Slate, light	28	858
Sand, light	17	875
Slate, dark	35	910
Sand, white (water, 931 feet)	21	931
Limestone, dark	9	940
Slate, light	20	960
Sand, white	120	1,080
Slate, black	70	1,150
Sand, light	40	1,190
Slate and limestone shells	70	1,260
Sand, light	10	1,270
Slate and limestone shells	30	1,300
Slate, light	60	1,360
Limestone, light	15	1,375
Slate and shells, light	50	1,425
Limestone	20	1,445
Slate	5	1,450
Sand	25	1,475
Red rock	6	1,481
Sand, light (show of oil, 1,481 feet)	20	1,501
Slate, dark	10	1.511
Sand, dark	19	1,530
Slate, dark	20	1,550
Limestone, light	5	1,555
Slate, light	5	1,560
Limestone, light	4	1,564

Logs—Concluded.

	Thickness Feet	Depth Feet
Slate, dark	27	1,591
Sand, light	29	1,620
Slate, light	10	1,630
Limestone shells and sand	25	1,655
Limestone shells and slate	40	1,695
Limestone	13	1,708
Total depth	......	1,708

STRATIGRAPHY.

Pleistocene.

There is a varying thickness of glacial deposits over the Lawrence county oil fields. The drift is from 100 to 115 feet thick in the northern part of Petty township. It thins very rapidly toward the south boundary of Petty and the northern limit of Bridgeport townships, which is the area of a conspicuous uplift of the LaSalle anticline. The drift over this structure is only 20 to 40 feet thick. South of the uplift, in the lower part of Bridgeport and over the Dennison and Lawrence fields, the drift is 50 to 80 feet thick. It thickens perceptibly westward toward the Illinois basin.

Pennsylvanian.

The Pennsylvanian rocks of Lawrence county include the shallow producing sand of lower Dennison township, probably of McLeansboro age; the Bridgeport sands in the upper part of the Pottsville; and the Buchanan sand in the basal portion of the Pottsville rocks.

McLeansboro and Carbondale Formations.

It is impossible to find the top of the Herrin coal or the dividing line between the McLeansboro and Carbondale formations in this county. No *Fusulina* fossils were found by Dr. Udden in the samples of wells 2, 5 and 10. The rocks of the McLeansboro and Carbondale formations are similar to those of Crawford county. They are represented mostly by shales, numerous sandstones, and a few widely separated beds of limestone and coal. Owing to the impossibility of tracing individual horizons through the section, no correlations were attempted. A casual study of the Bridgeport sands immediately beneath the Carbondale reveals a mild uplift and shows them to be influenced by the LaSalle anticline, though much less in extent than the lower producing formations. Owing to the impossibility of wide correlation, through confusion with lower Pottsville sand beds, only local studies could be made. The sharply defined structure of the Mississippian rocks, the unconformity between the Pennsylvanian and Mississippian, and the milder folding of the Pennsylvanian beds, suggests a secondary disturbance in this region. The Pennsylvanian rocks are thinner over the major uplift of the anticline which is probably due to a preexisting fold in the Mississippian and to erosion before becoming drift covered.

Pottsville Formation—The Pottsville rocks are mostly the massive sandstones of the basal part of the Pennsylvanian. The sandstone beds are often separated by lenses of shale and contain no limestone. Through the section they are from 290 to 600 feet thick with an average of 395 feet. They are very much thinner over the uplift of the LaSalle anticline than along less disturbed areas. The Pottsville rocks rest uncomfortably upon the Mississippian and therefore show much irregularity in thickness. Additional irregularity of the uppermost sands suggest a slight uncomformity between the Pottsville and Carbondale. The Pottsville is a prominent salt water horizon over most of Illinois and the main oil fields.

Records 8, 3 and 7 of Plate II and 2, 5 and 18 of Plate IIIA, in addition to that of well Pet. Sec. 36, S. W. No. 8 presented in the A-A cross-section of Lawrence county, page 116, were assembled and plotted in Plate IIIB to show the relations of the Robinson and Bridgeport sands to each other. The logs are arranged in order from south to north and are plotted with respect to the top of the Pottsville which is the key line. The coal-bearing rocks of the McLeansboro and Carbondale lie above the line. The upper Bridgeport sands lie immediately below the line in the first four and the upper Robinson sands in the last three logs. Both the Robinson and Bridgeport lenses are portions of conspicuous sandy zones, belonging to the Pottsville.

Mississippian.

The Mississippian rocks underlie the Pennsylvanian and contain the most important oil sands. The upper portion, known as the Chester group,[1] is limited by erosion to the Tribune formation. Below the Chester in succession are the Ste. Genevieve and St. Louis formations. The Chester beds include the "Gas," Kirkwood, and Tracey sands, and the Ste. Genevieve contains the rich McClosky sand.

Tribune formation (upper portion of the Chester group)—The Tribune formation is characterized by a succession of limestones interlain with numerous strata of sand, and red shales. The top of the Chester is considered to be the first limestone underlying the Pottsville sandstones or separated from them by a stratum of shale. The top limestone varies in its depth from the surface through the region, which is attributed to pre-Pennsylvanian erosion. The uplift in southern Petty and northern Bridgeport townships exposed much of the upper portions of the Chester to effective erosion. The average thickness of the Tribune formation in this region is 365 feet with a range of 295 to 440 feet. The Chester rocks in southwestern Illinois, in comparison, are about 700 feet thick. There are two extreme thicknesses of about 440 feet in logs 14 and 15. The wells yielding these logs are some distance down the western limb of the anticline where the formations thicken as they descend into the Illinois basin.

There are usually three strata of limestone interlain with shales which are penetrated before the first distinct sand is encountered in the Chester of Lawrence county. This sand is known as the "Gas" sand and is present over the northern half of the county. The average interval between the top limestone of the Chester and the "Gas" sand in logs 11, 12, 13, 15, and 19 is 125 feet. The next sand below the "Gas" sand is

[1] By some geologists the Ste. Genevieve is also included in the Chester group.

the Kirkwood, 192 feet beneath the top of the Chester. The Kirkwood sand is the most widespread of all producing horizons in Illinois. It usually lies about the middle of the Chester beds of the main fields. This sand is often divided into two or even three lenses.

The red shales are prominent horizon markers over most of central and southern Illinois and the oil fields. These shales are usually very soft and tend to discolor the water in drilling and thus indicate their presence. Most of the complete records in Lawrence county show at least three red shales in the Chester. Two of these usually occur over the Kirkwood and one beneath. The second red bed is often found immediately over the Kirkwood sand. The highest red shale of the Chester is about 50 feet below the top limestone in the northern portion of the field but is very irregular in the southern division.

The Tracey sand is about 317 feet and the McClosky of the Ste. Genevieve is 446 feet lower than the top of the Chester rocks. The lowest wells on the western flank of the anticline (Nos. 14 and 17) show larger intervals between the top limestone of the Chester and the lower beds than other wells over the crest of the fold.

The Tracey sand probably corresponds to one of the lower sand members of the Tribune in southwestern Illinois. The formation is quite uniform in character, a moderately fine-grained, yellowish-brown sandstone, rather heavily bedded in its lower portion, becoming more thinly bedded above. Its thickness varies from 80 feet or less to 150 feet or more.

Ste. Genevieve—The Ste. Genevieve limestone underlies the Chester rocks. Stuart Weller says of the Ste. Genevieve:[1] "The Ste. Genevieve limestone has usually not been distinguished from the St. Louis, and in its lithologic characters, especially in its variability, it closely resembles the St. Louis. In it, however, oolitic beds, which are absent in the St. Louis, appear, and it is, perhaps, less cherty than the St. Louis. The main distinction is a faunal one, there being a recurrence of the types of life which were abundant in the Salem, but absent from the St. Louis .... Three members of the Ste. Genevieve limestone have been recognized by Ulrich,[2] the Fredonia member below, the Rosiclare sandstone member in the middle, and the O'Hara member, consisting of limestone and shale, at the top. It is nowhere possible to draw a sharp line between the St. Louis limestone and the base of the Fredonia............. but the line between the Ste. Genevieve and the superjacent Cypress sandstone is a distinct stratigraphic break marked by an erosion unconformity.

Dr. Weller has further observed that the Ste. Genevieve of western Illinois is more oolitic than the average in its lower member and is conspicuously cross-bedded. Its maximum thickness in Monroe county is 100 feet with an average of about 80 feet. He thinks it is possible that the Illinois Ste. Genevieve may represent only the Fredonia limestone of Ulrich's interpretation.

The top of the Ste. Genevieve is used as a key line for the columnar section of Lawrence county, because of its persistance over the oil field. The records of wells and observations of oil men show this limestone

[1] Ibid, p. 26.
[2] Ulrich, E. O., and Smith, W. S. T. The lead, zinc and flourspar deposits of Western Kentucky. Prof. Paper U. S. Ge l. Survey, No. 36, 1905, p. 38.

to be particularly soft in comparison with the underlying St. Louis limestone. It merges into the St. Louis and the only possible distinction between them in this district is one of hardness. The Ste. Genevieve has an average thickness of 85 feet over the field ... to 120

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[1] Ibid, p
[2] Ulrich,
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to be particularly soft in comparison with the underlying St. Louis limestone. It merges into the St. Louis and the only possible distinction between them in this district is one of hardness. The Ste. Genevieve has an average thickness of 85 feet over the field, with a range of 56 to 120 feet.

Dr. Udden studied samples from wells 2, 5, and 10 of the columnar section and makes note of oolites at the top of the Ste. Genevieve. This strongly corroborates Mr. Weller's idea that the Ste. Genevieve of Illinois and particularly this portion of the State represents the basal Fredonia.

The Ste. Genevieve contains the McClosky sand, which has proven the most prolific oil horizon in Illinois. The wells have not only produced an exceptionally large initial flow but they have maintained a steady yield. They have been instrumental in upholding the Illinois production when other sections of the field were declining. The range of depth for the productive McClosky sand is 1,550 to 1,850 feet. The oil is found 20 to 50 feet in the limestone.

St. Louis Formation—The St. Louis limestone underlies the Ste. Genevieve and is characterized by extreme hardness, and a blue-gray color. It is often very cherty. This bed, with subjacent limestone members of the Mississippian are over 900 feet thick in this locality. The St. Louis was penetrated in wells 4, 7, 9, 11, 14, and 17. There were 680 feet of St. Louis and lower members recorded in No. 14 and 890 feet in No. 17. Well No. 17 of the columnar section is the deepest bore in Lawrence county. It is 2,936 feet deep. The next deepest is No. 14, 2,590 feet.

CHAPTER II.

General Description of Features of the Main Fields.

INTRODUCTION.

It is not the object of this report to outline new prospective oil areas but to present the geological facts observed in the developed fields, that will corroborate certain laws governing the genesis and accumulation of oil and gas. Certain facts are presented showing the relation of the quantities of oil, salt water, porosity of the sand, etc., to the structural features of the sand. The structure of individual sands is plotted in detail by use of contours and cross-sections; these show the vertical amplitude of the arches.

FIELD WORK.

Topographic Surveys of the Area.

The United States Geological Survey and the State Geological Survey in coöperation, have been making topographic surveys in and near the oil fields. The Hardinville quadrangle survey was completed in 1908. It covers an area 17 miles long by 13½ miles wide, south of the Illinois Central Railroad. The southern half of the Crawford county oil fields and the northern portion of the Lawrence county fields, namely that portion in Petty township, lie within the Hardinville area. The Sumner quadrangle adjoins the Hardinville area on the south and includes a small portion of this field in its northeast corner. The survey and topographic work was completed during the field season of 1911. The Vincennes quadrangle adjoins the Sumner area on the east and extends into Indiana. It includes a large portion of the Lawrence county fields in its northwest corner. The primary control has been made for the quadrangle but the secondary leveling and topographic work of the Illinois portion of the area are planned for the season of 1912. The levels established in the Hardinville and Sumner quadrangles serve as a basis of the work incidental to this report.

The coöperative work of both surveys has been further extended north of the Hardinville sheet, in the survey and study of over-flowed lands along North Fork of Embarrass river. This covers a narrow strip along the west side of the proposed *Moonshine* quadrangle, adjoining the Hardinville area in the north. The survey parallels the west side of the oil fields of Crawford county and will probably serve as a basis for future work in that area. The proposed Oilfield quadrangle is the second north of the Hardinville, and the first north of the *Moonshine* quadrangles. It is planned to survey this area soon. This will then serve as a basis for geological study of the shallow fields of Clark county.

The work of computing the altitudes of wells and tops of the various producing sands would not have been possible had not bench marks been scattered advantageously over the fields, particularly along highways. There were usually one-half dozen or more elevations painted on telegraph poles and fences along each section, which enabled the field men to run levels to the wells with a reasonable degree of accuracy and at the same time to check with other levels on adjoining roads or in other sections.

LEVELS IN THE OIL FIELDS.

The primary levels of the U. S. Geological Survey are the most important in the oil fields, as alsewhere, since they are based upon precise levels from a mean sea level and hence are of th highest order. They are usually carried in circuits and thus check upon themselves. The benches of these levels are usually the permanent iron posts planted, two in each township, and not more than six miles apart. The secondary or "flying" levels are carried from the permanent bench posts and are spread generally over local areas. The level figures are painted on fences, culverts, bridges, telephone posts, etc., in order to aid the topographer and geologist in contouring and detailed leveling.

The limit of error in primary leveling is about six inches in 100 miles circuit. There is no prescribed limit of error in secondary leveling although it usually is one foot, which can be easily adjusted between permanent bench marks.

The results of precise and primary leveling in the Hardinville and Sumner quadrangles are given as follows:[1]

Hardinville quadrangle.

The elevations in the following list are based upon bench mark B^3 of the Coast and Geodetic Survey at Olney, Ill., a square cut at the base of one of the columns of the north face of the court house. The elevation now accepted is 486.117 feet above mean sea level as determined by the 1907 adjustment.

The leveling was done in 1907 by Mr. Henry Bucher, levelman.

The work was done in coöperation with the State and the bench marks are stamped with the State name.

HICKORY POINT SCHOOL ALONG HIGHWAYS NORTH, TO T. 6 N., R. 14 W., NORTHEAST CORNER SECTION 10, THENCE EAST, TO T. 6 N., R. 12 W., NORTHEAST CORNER SECTION 7, THENCE NORTH, TO INDIANAPOLIS SOUTHERN RAILROAD AND EAST ALONG LATTER 2 MILES, TO ROBINSON.

	Feet.
T. 4 N., R. 14 W., 0.25 mile south of northwest corner of section 27, southeast corner of T road, on east side of road, 1.3 feet west of fence, 15 feet south of fence corner; iron post stamped "510 ADJ"	510.502

[1] Herron, W. H. Report of the Cooperative Topographic Survey of Illinois, Bull. Ill. State Geol. Survey, No. 14, 1909, pp. 31-182.

	Feet
T. 4 N., R. 14 W., southwest corner of section 3, northeast corner of crossroads, east side of road, 1.1 feet west of fence, 11 feet north of fence corner; iron post stamped "508 ADJ"	509.121
T. 5 N., R. 14 W., northeast corner of section 34, at southwest corner of crossroads, on west side of road, 1.1 feet east of fence, 7 feet south of fence corner; iron post stamped "496 ADJ"	496.574
T. 5 N., R. 14 W., southwest corner of section 15, northeast corner of crossroads, on north side of road near old rail fence, about 14 feet east of north and south fence line, on east side of north and south road (New Light Christian Church (?) is at southeast corner of crossroads; iron post stamped "457 ADJ"............	457.555
T. 5 N., R. 14 W., southeast corner of section 3, northwest corner of crossroads, west side of road, 6 feet east of fence and 4 feet north of fence corner; iron post stamped "462 ADJ"	463.263
T. 6 N., R. 14 W., northeast corner of section 27, southwest corner of crossroads, west side of road, 1.2 feet east of fence, 5.6 feet south of fence corner; iron post stamped "483 ADJ"	483.969
T. 6 N., R. 14 W., 0.25 mile east of southwest corner of section 2, T road (the branch to west is very dim), outside of road at T, 1.3 feet south of fence, 15 feet east of north and south fence at fence corner (north of center of T); iron post stamped "478 ADJ"	478.367
T. 6 N., R. 13 W., northeast corner of section 7, at southwest corner of T road, on west side of road, 1.2 feet east of fence, 7.5 feet south of fence corner; iron post stamped "483 ADJ"	483.298
T. 6 N., R. 13 W., southwest corner of section 2, (crossroads) 0.75 mile south of Stoy, on small bank by pipe line, 1 foot east of fence, 76 feet north of east and west fence line on north side of east and west road; iron post stamped "475 ADJ"	476.261
T. 6 N., R. 12 W., northeast corner of section 7, T road, on south side of road opposite the Wilson Schoolhouse, 0.7 foot north of fence, 12 feet east of fence corner, on edge of lane to south; iron post stamped "581 ADJ"	531.481

FROM POINT 0.75 MILE SOUTH OF STOY SOUTH ALONG HIGHWAYS TO T. 4 N., R. 13 W. NEAR SOUTHEAST CORNER OF SECTION 29.

	Feet
T. 6 N., R. 13 W., northwest corner of section 23, T road, on bank on south side of road at T, 1.5 feet north of fence, 34.5 feet east of north and south section line fence; iron post stamped "484 ADJ"	485.269
Hardinville, section 34, T. 6 N., R. 13 W., on east side of main north and south road just north of Christian Church, 500 feet south of crossroads, 4.2 feet north of fence line between McCarty (south side) and Newman (north side), 6.8 feet west of an old fence line north in correct position; iron post stamped "510 ADJ"	510.903
T. 5 N., R. 13 W., 0.25 mile north of southwest corner of section 4, southeast corner of T road, at T, on south side of road, 0.9 feet north of fence, 39 feet east of north and south fence line, on east side of north and south road; iron post stamped "463 ADJ".......	463.826
Chauncey, southwest corner of section 28, T. 5 N., R. 13 W., at northeast corner of crossroads, on east side of road, 1.2 feet west of fence, 6.6 feet north of fence corner; iron post stamped "488 ADJ"	488.708
T. 4 N., R. 13 W., 0.25 mile north of southeast corner of section 8, northwest corner of T road, north side of road between 2 walnut trees, 1.2 feet south of fence, 28 feet west of north and south fence line on west side of north and south road; iron post stamped "492 ADJ"	492.990

FROM T. 6 N., R. 12 W., NORTHEAST CORNER OF SECTION 29, ALONG HIGHWAYS SOUTH, TO FAIRVIEW CHURCH.

	Feet.
T. 6 N., R. 12 W., quarter corner east side of section 29, T road at southwest corner, on south side of road, 1.1 feet north of fence 7 feet west of 2-foot oak tree at fence corner; iron post stamped "512 ADJ"	512.750
T. 5 N., R. 12 W., northwest corner of section 9, at southeast corner of crossroads, on east side of road, 0.8 foot west of fence, 5 feet south of fence corner; iron post stamped "523 ADJ"	523.318
T. 5 N., R. 12 W., 0.25 mile east of northwest corner of section 28, southeast corner of crossroads, 0.8 foot west of fence, 6 feet south of fence corner; iron post stamped "442 ADJ"	442.767
Westport, section 32, T. 5 N., R. 12 W., iron truss bridge over Embarrass river at southwest corner, in highest part of masonry support, 1. 1 feet from east edge, 0.3 feet from south edge; aluminum tablet stamped "437 ADJ"	437.339
T. 4 N., R. 12 W., northeast corner of section 18, southwest corner of crossroads, south side of road, 1.3 feet north of fence, 22 feet west of north and south fence line on west side of north and south road; iron post stamped "436 ADJ"	436.534
T. 4 N., R. 12 W., northwest corner of section 29, at crossroads, on south side of road at T, 2.1 feet north of fence line, 23 feet east of north and south fence line at fence corner; iron post stamped "455 ADJ"	455.678

Sumner quadrangle.

The leveling was done mostly by H. G. Lowe and in part by H. Bucher in 1907.

FROM POINT 4 MILES EAST OF OLNEY EAST ALONG BALTIMORE AND OHIO SOUTHWESTERN RAILROAD, TO CLAREMONT, THENCE ALONG HIGHWAYS NORTH, TO HICKORY POINT SCHOOL.

(Mean of Direct and Reverse Leveling.)

	Feet.
Claremont station, 0.36 mile west of, south end of small artificial lake, in top of east wing of masonry dam, 0.9 foot from west edge and 1.8 feet from north edge, in northwest corner; aluminum tablet stamped "498 ADJ"	498.826
Claremont, at station crossing; top of south rail	509.8

FROM CROSSROADS 0.93 MILE NORTH OF CLAREMONT EAST ALONG HIGHWAY TO T ROAD 0.25 MILE EAST OF NORTHEAST CORNER SECTION 5, T. 3 N., R. 13 W., THENCE NORTH 1 MILE.

	Feet.
T. 4 N., R. 14 W., southwest corner of section 36, at northeast corner of crossroads, on east side of road, 0.7 foot west of fence, 22 feet north of fence corner; iron post stamped "509 ADJ"	510.263
T. 3 N., R. 13 W., 0.25 mile east of northwest corner of section 4, at T road, 0.7 foot north of fence, 24.5 feet east of telegraph pole, about 11 feet east of center line of north and south road; iron post stamped "483 ADJ"	484.085
T. 4 N., R. 13 W., 0.25 mile east of northwest corner of section 33, at T road, on west side of road, 2.2 feet east of fence, in concrete post flush with ground; aluminum tablet stamped "Prim. Trav. Sta. No. 10, 489 ADJ"	490.408

FROM T. 3 N., R. 13 W., SEC. 5, 0.25 MILE EAST OF NORTHEAST CORNER, EAST TO T. 4 N., R. 12 W., NORTHEAST CORNER SECTION 32, THENCE NORTH, TO FAIRVIEW CHURCH.

	Feet.
T. 4 N., R. 13 W., southwest corner of section 36, opposite U. B. Union Chapel, at northeast corner of crossroads, on east side of road, 1.1 feet west of fence, 62 feet north of fence; iron post stamped "570 ADJ"	571.168
T. 3 N., R. 12 W., northwest corner of section 4, at crossroads, State road east to west, on south side of road, on bank a little east of center of road to north, 0.9 foot north of fence, 18.5 feet east of telegraph pole; iron post stamped "457 ADJ"	457.461

FROM POINT 2 MILES NORTH OF BRIDGEPORT SOUTH, TO GRANT SCHOOL, THENCE WEST 5.6 MILES, THENCE NORTH, TO SUMNER.

	Feet.
Bridgeport, 100 feet north of railroad, on front face of southeast corner of yellow brick building owned by F. W. Cox, about 3 feet above sidewalk; aluminum tablet stamped "449 1908"	448.591
T. 3 N., R. 12 W., corner of sections 20, 21, 28 and 29, at northwest corner of crossroads; iron post stamped "489 1908"	489.774
Grant School, corner of sections 4, 5, 8 and 9, T. 2 N., R. 12 W., at northwest corner of crossroads, in southeast corner of school yard, iron post stamped "446 1908"	446.892
T. 2 N., R. 13 W., quarter corner between sections 4 and 9, at southwest corner of crossroads, 3 feet west of corner of John White's yard; iron post stamped "476 1908"	477.274
Sumner, on Main street, 250 feet south of railroad, at northeast corner of street crossing in brick building owned by Mart Wagner, in south face on foot from southwest corner and 3 feet above ground; aluminum tablet stamped "461 ILLINOIS 1908"	462.148
Sumner, railroad crossing on Main street; top of rail	460.5

FROM POINT 5.6 MILES WEST OF GRANT SCHOOL WEST, TO BROWNSVILLE, THENCE NORTH, TO CLAREMONT.

	Feet.
T. 2 N., Rs. 13 and 14 W., corner of sections 1, 6, 7 and 12, Lawrence-Richland county line, at northwest corner of crossroads, in root of tree; spike	537.90
Preston School, corner sections 3, 4, 9 and 10, T. 2 N., R. 14 W., in front of T road east, 600 feet south of T road west, in southeast corner of school yard; iron post stamped "456 1908"	456.244
Black Oak School, corner of sections 27, 28, 33 and 34, T. 3 N., R. 14 W., at northwest corner of crossroads, in southeast corner of school yard, in tree root; spike	497.20
T. 3 N., R. 13 W., at corner of sections 21, 22, 27 and 28, at southwest corner of crossroads, by picket fence; iron post stamped "506 1908"	505.920
Claremont, in front of station; top of rail	509.7

GRANT SCHOOL SOUTH, TO NEAR PATTON.

	Feet.
T. 2 N., R. 12 W., quarter corner between sections 20 and 21, at northeast corner of crossroads, in southwest corner of school yard; iron post stamped "445 1908"	445.641
T. 1 N., R. 12 W., corner sections 8, 9, 16 and 17, at northwest corner of crossroads, by picket fence; iron post stamped "462 1908"	462.325

FROM POINT 5.6 MILES WEST OF GRANT SCHOOL SOUTH AND EAST, VIA FRIENDSVILLE, TO NEAR PATTON.

	Feet.
T. 2 N., R. 13 W., quarter corner between sections 21 and 28, in front of T road west of schoolhouse, 4 feet south of corner fence post; iron post stamped "460 1908"	460.636
Lancaster, 400 feet east by 400 feet south of middle of section 4, T. 1 N., R. 13 W., in west face of Lutheran church directly under window south of entrance, about 2.5 feet above ground; aluminum table stamped "494 ILLINOIS 1908"	494.584
Stoeltz Schoolhouse, quarter corner between sections 20 and 21, T. 1 N., R. 13 W., at southwest corner of crossroads, in northeast corner of school yard; iron post stamped "459 1908"	459.431
Friendsville, quarter corner between sections 23 and 24, T. 1 N., R. 13 W., in east side of brick house of Dr. C. S. Couch, near southeast corner, about 3 feet above ground; bronze tablet stamped "482 VIN"	481.722

FROM STOELTZ SCHOOL WEST, TO PINHOOK, THENCE NORTH, TO BROWNSVILLE.

	Feet.
T. 1 N., Rs. 13 and 14 W., 0.25 mile north of quarter corner between sections 19 and 24, in front of and about 20 feet south of center line of T road east; iron post stamped "409 1908"	409.460
Pinhook, quarter corner between sections 21 and 22, T. 1 N., R. 14 W., at northeast corner of T road north; iron post stamped "435 1908"	435.611
T. 1 and 2 N., R. 14 W., about 0.1 mile east of quarter corner between sections 4 and 33, at northwest corner of crossroads, opposite small white house; iron post stamped "458 1908"	458.416
Red Head Schoolhouse, quarter corner between sections 16 and 21, T. 2 N., R. 14 W., at southwest corner of crossroads, in northeast corner of school yard; iron post stamped "462 1908"	462.584
Preston School, corner of sections 3, 4, 9 and 10, T. 2 N., R. 14 W., in front of T road east, 600 feet south of T road west, in southeast corner of school yard; iron post stamped "456 1908"	456.244

GEOGRAPHIC POSITIONS OF QUADRANGLES.

The following are the geographical positions of points in the three quadrangles covered by this report:

Hardinville quadrangle.

Crawford, Jasper, Lawrence and Richland Counties—The following geographic positions were determined by primary traverse run in July, 1907, by Mr. J. R. Ellis, assistant topographer. The line starts from Claremont triangulation station and follows highways along south and east edges of quadrangle to Robinson, thence westerly along the Illinois Central Railroad to Oblong triangulation station, thence westerly along railroad to Willow Hill, thence southerly along railroad and highways on west edge of quadrangle to Claremont triangulation station:

Geographic Positions Along Highways Near South Border of Quadrangle.

Stations.	Latitude. ° ′ ″	Longitude. ° ′ ″
Claremont triangulation station of the U. S. Lake Survey and U. S. C. & G. S., in section 29, T. 4 N., R. 14 W., German township, 3 miles northwesterly from town of Claremont a station on Ohio and Mississippi Railroad, on land of Brinkley heirs. Station mark: Two stone posts, one above the other in the usual manner. Reference marks. One north 67° 33′ west, distant 23.1 meters. One north 0. 39′ west, distant 7.8 meters. One north 71° 45′ east, distant 24.6 meters from station mark. Northwest corner of section 29 bears north 60° 03′ west, distant 847 meters from station mark	38 45 28.5	87 59 40.8
T. 4 N., R. 14 W., corner sections 28, 29, 32 and 33, 20 feet south to corner fence post	38 44 49.1	87 59 03.2
T. 4 N., R. 14 W., corner sections 27, 28, 33 and 34, T road west at school house, 10 feet east to rail fence	38 44 48.8	87 57 55.4
T. 4 N., R. 14 W., quarter corner between sections 26 and 27, crossroads, 15 feet north to center of bridge	38 45 15.1	87 56 47.2
T. 4 N., R. 14 E., quarter corner between sections 25 and 26, center of crossroads	38 45 14.9	87 55 39.3
T. 4 N., R. 13 and 14 W., quarter corner between sections 25 and 30, center of crossroads, Richland and Lawrence county line	38 45 14.7	87 54 31.4
Sumner, 2.25 miles north by 0.25 mile west of; on west side of road at T road east, 2 feet west to fence, 25 feet east to center of T road east, in top of concrete block 8 x 8 x 20″ in ground, aluminum tablet stamped "Prim. Trav. Sta. No. 10, 1907, ILLINOIS"	38 44 47.8	87 51 58.4
T. 4 N., R. 13 W., corner sections 27, 28, 33 and 34, 25 feet south to corner fence post	38 44 47.7	87 51 06.9
T. 4 N., R. 13 W., east corner sections 27 and 34, stone, T road west at church	38 44 47.5	87 49 58.9
T. 4 N., R. 13 W., corner sections 25, 26, 35 and 36, center of T road south	38 44 44.0	87 48 55.7
T. 4 N., R. 12 and 13 W., corner sections 25, 30, 31 and 36, crossroads, 10 feet west to center of small bridge	38 44 43.8	87 47 48.1
T. 4 N., R. 12 W., stone corner sections 29, 30, 31 and 32, T road south	38 44 44.8	87 46 42.8
Westport, 5.75 miles due south of; on east side of T road west at Fairview church, in top of concrete block 8 x 8 x 20″ inches, aluminum tablet stamped "Prim. Trav. Sta. No. 11, 1907, ILLINOIS"	38 44 46.0	87 45 35.3
T. 4 N., R. 12 W., corner sections 28, 29, 32 and 33, center of T road west	38 44 45.9	87 45 35.5

Geographic Positions Along Highways Near East Border of Quadrangle.

Stations.	Latitude. ° ′ ″	Longitude. ° ′ ″
T. 4 N., R. 12 W., corner sections 20, 21, 28 and 29, T road west	38 45 39.2	87 45 35.4
T. 4 N., R. 12 W., stone corner sections 16, 17, 20 and 21, fence east and west	38 46 32.2	87 45 35.4
Center of T road east	38 46 44.2	87 46 38.5
T. 4 N., R. 12 W., corner sections 7, 8, 17 and 18, center of crossroads	38 47 23.4	87 46 41.8
Westport, 0.75 mile east of; intersection at T road west	38 49 40.2	87 44 42.8
T. 5 N., R. 12 W., corner sections 21, 22, 27 and 28, center of county line road at north and south fence	38 51 00.0	87 44 26.0
Crawford, 1 mile north of; Lawrence county line	38 51 54.8	87 43 52.1
T road east, southeast corner, 7 feet north and 4 feet west to maple tree, 35 feet north and 20 feet west to center of T road east, in concrete block, aluminum tablet stamped "Prim. Trav. Sta. No. 12, 1907, ILLINOIS"	38 52 57.9	87 43 52.7
Quarter corner between sections———, center of crossroads	38 53 40.5	87 43 53.1
T. 5 and 6 N., R. 12 W., corner sections 3, 4, 33 and 34, stone, 1,340 feet east of; T road east on T. S. line	38 54 41.6	87 44 10.4
T. 6 N., R. 12 W., corner sections 27, 28, 33 and 34, T road west, 25 feet due east to corner fence post	38 55 34.0	87 44 27.5
Road west at Indian boundary	38 56 19.8	87 44 51.8
New Hebron, T road just northeast of; 10 feet northeast to large black oak tree	38 57 31.1	87 44 35.8
Lane east at turn of road	38 58 19.1	87 44 30.2
T. 6 N., R. 12 W., corner sections 3, 4, 9 and 10, T road west at school house, 12 feet east to corner yard fence	38 58 59.3	87 44 19.2
T. 6 N., R. 12 W., north corner sections 3 and 4, center of T road south, just east of entrance to Robinson Fair Grounds	38 59 54.5	87 44 19.8
Robinson court house, in stone post at south entrance to grounds, aluminum tablet stamped "Prim. Trav. Sta. No. 13, 1907, ILLINOIS"	39 00 18.2	87 44 21.6

Sumner quadrangle.

Edwards, Lawrence, Richland and Wabash Counties—The following geographic positions on U. S. Standard datum were determined by primary traverse in 1908 by J. R. Ellis, assistant topographer. The line starts from Claremont triangulation station of the U. S. Lake Survey and Coast and Geodetic Survey and follows south along public highways to Parkersburg triangulation station, thence to southwest corner of Sumner quadrangle, thence east to point near Patton and north along border of quadrangle to primary traverse station No. 11, 1907, Illinois:

Geographic Positions Along Highways.

Station.	Latitude.	Longitude.
	° ′ ″	° ′ ″
St. James church, center of cross roads at	38 44 49.2	87 59 54.4
T. 1 N., R. 14 W., ¼ corner between secs. 20 and 21, center of cross roads	38 30 15.3	87 59 05.2
Mills Prairie school house No. 13, at northeast corner of T road north, 0.25 mile east of, 25 feet south and 25 feet west to ¼ corner between secs. 21 and 22, T. 1 N., R. 14 W., elevation 435; iron post stamped "Prim. Trav. Sta. No. 13, 1908, Illinois"	38 30 15.2	87 57 57.8
Edwards-Wabash county line, center of bridge over Bonpas creek	38 30 18.4	87 56 53.2
T. 1 N., R. 14 W., ¼ corner between secs. 23 and 24, center of T road south	38 30 14.6	87 55 48.1
T. 1 N., R. 13 and 14 west, ¼ corner between secs, 19 and 24, center of T road west	38 30 14.5	87 54 41.2
Barney Prairie church, stone at T road west at	38 30 10.0	87 47 55.0
Harmony school house, in southwest corner of yard at; 35 feet south and 30 feet west to ¼ corner between secs. 20 and 31, T. 2 N., R. 12 W., cross roads; elevation 445; iron post stamped "Prim. Trav. Sta. No. 17, 1908, Illinois"	38 35 26.0	87 45 34.1
T. 2 N., R. 12 W., ¼ corner between secs. 20 and 21, center of cross roads	38 35 25.7	87 45 34.5
T. 2 N., R. 12 W., corner secs. 16, 17, 20 and 21	38 35 52.0	87 45 34.0
T. 2 N., R. 12 W., corner secs. 8, 9, 16 and 17	38 36 44.6	87 45 33.4
Grant school house, in southeast corner of yard at; elevation 446; iron post stamped "Prim. Trav. Sta. No. 18, 1908, Illinois"	38 37 38.2	87 45 33.4
T. 2 N., R. 12 W., corner secs. 4, 5, 8 and 9, center of cross roads	38 37 37.5	87 45 33.1
T. 2 N., R. 12 W., corner secs. 4 and 5 (north corner), T road south	38 38 34.6	87 45 33.0
T. 3 N., R. 12 W., corner secs. 32 and 33 (south corner), T road north	38 38 34.6	87 45 34.6
Bridgeport, at northeast corner of cross roads about 3 miles south of; iron post stamped "Prim. Trav. Sta. No. 19, 1908, Illinois"	38 39 28.0	87 45 33.8
T. 3 N., R. 12 W., corner secs. 28, 29, 32 and 33, cross roads	38 39 27.7	87 45 34.0
Bridgeport, at northwest corner of cross roads 2 miles south of, elevation 489; iron post stamped "Prim. Trav. Sta. No. 20, 1908, Illinois"	38 40 20.7	87 45 34.3
T. 3 N., R. 12 W., corner secs. 20, 21, 28 and 29, center of cross roads	38 40 20.4	87 45 33.9
T. 3 N., R. 12 W., corner secs. 16, 17, 20 and 21, center of T road west	38 41 13.2	87 45 33.5
T. 3 N., R. 12 W., corner secs. 8, 9, 16 and 17	38 42 06.2	87 45 33.3
Bridgeport, Main street crossing Baltimore & Ohio railroad	38 42 19.2	87 45 35.3
T. 3 N., R. 12 W., corner secs. 4, 5, 8 and 9, center of cross roads	38 42 59.3	87 45 33.1
T. 3 N., R. 12 W., corner secs. 4 and 5 (north corner), 20 feet north to T road south	38 43 52.6	87 45 33.0
Westport 5.75 miles due south of; on east side of T road west at Fairview church, in top of concrete block 8 by 8 by 20 inches; aluminum tablet stamped "Prim. Trav. Sta. No. 11, 1907, Illinois"	38 44 46.0	87 45 35.3

Magnetic Declination of east border of quadrangle 3° 50′ east.
Magnetic Declination of south border of quadrangle 3° 47′ east.
Magnetic Declination of west border of quadrangle 3° 36′ east.

Vincennes quadrangle.

Geographic Positions Along Highways Near West Border of Quadrangle.

Station.	Latitude.	Longitude.
	° ′ ″	° ′ ″
Patton, at southeast corner of T road west, 1.25 miles north and 0.5 miles east of; 15 feet north and 20 feet west to center of T road: iron post stamped "Prim. Trav. Sta. No. 16, 1908, Illinois"	38 29 54.5	87 44 29.8
T. 1 N., R. 12 W., corner secs. 15, 16, 21 and 22	38 30 34.3	87 44 30.7
T. 1 N., R. 12 W., corner secs. 9, 10, 15 and 16, center of cross roads	38 31 27.3	87 44 31.8

Geographic Positions Along Highways Near South Border of Quadrangle—Concluded.

Stations.	Latitude.	Longitude.
	° ′ ″	° ′ ″
T. 1 N., R. 12 W., corner secs. 3, 4, 9 and 10, center of T road west, at school house	38 32 20.0	87 44 32.6
T. 1 N., R. 12 W., stone corner secs. 3 and 4 (north corner)	38 33 14.9	87 44 33.4
T. 2 N., R. 12 W., stone corner secs. 33 and 34 (south corner)	38 33 14.9	87 44 29.3
T. 2 N., R. 12 W., corner secs. 27, 28, 33 and 34, Lawrence-Wabash county line	38 34 06.8	87 44 28.5
Harmony school house, 1 mile east of, center of cross roads	38 35 25.4	87 44 27.0

Magnetic Declination west border of quadrangle 3° 50′ east.

Elevations of Oil Wells.

The elevation of most of the oil wells in the area studied were secured by means of a Locke or hand-level. The secondary bench marks served as bases for the work, and levels were run from them to the wells. The limit of error in this work was about two feet, although it was probably less because of the check with previously determined elevations and other bench marks. Elevations of about 5,200 wells were determined in the two counties. The leveling in the Hardinville quadrangle was done wholly by use of the Locke level while the elevations of the wells in the Sumner quadrangle were determined by use of a Y level in charge of W. E. Deuchler. As no leveling had been done in the Vincennes quadrangle it became necessary to run secondary levels through the active oil fields from the Sumner quadrangle. About 24 square miles of secondary levels were made in this fashion.

Collection of Well Records.

Records were collected from about 95 per cent of the wells in the area although about 94 per cent of these were skeleton logs or simply notations of the depth and thickness of the producing sands. The scarcity of detailed logs is probably due to rapidity of early development, and the lack of appreciation of their importance. Many detailed records are indispensable in a geological study of any area, especially such as Illinois, which is so covered with drift as to conceal the sequence of formations and practically all evidence of folding. Too little attention is paid to the formations above the oil producing sands, which may often prove excellent key horizons, or widespread formations, that may enable a geologist to interpret future records more readily. All operators and drillers are urged to note the positions of all formations in their wells, as a matter of possible value to themselves in drilling in other areas in the State, and as an assistance to the survey whose duty it is to work out the geological problems connected with the oil industry of the State.

The vast number of records collected for study necessitated a compact and efficient method of readily locating desired logs. A loose-leaf system was established for collecting records in the field and later filing these permanently in the office in suitable binders. The records are arranged by township binders and in each of these, by section, farm name, operator and well number.

GEOLOGICAL ASPECTS.

General Statement.

It is particularly valuable if an area whose oil resources are undei investigation has a persistent key horizon at or near the surface, from which may be determined the interval to the producing sands and the geologic structure. Coals, such as the Pittsburg coal of the Appalachian region or the Herrin (No. 6) coal of western Illinois, serve as excellent key horizons. Limestones of peculiar lithological characteristics are also good horizons for these purposes. Unfortunately, the formations along the eastern boundary of Illinois, as over most of State, are concealed with drift and have been studied but little. Morever, there are no coal mines in this section of the State and the wells of the main fields have offered little or no help toward recognizing persistent horizons close to the surface. Under these conditions it became necessary to resort to altitudes of the sand with respect to sea level in the determination of structure and sand relations.

Local Names of Sands.

The productive horizons in the several pools of Lawrence county were given the names of the land owners upon whose farms oil was first found in these particular horizons, except for the lenticular Bridgeport sands, first discovered in the county. These were named after the town of Bridgeport. The producing sands of Crawford county are also lenticular and are called the Robinson sands, after the city of Robinson. The operators were able to follow and distinguish the sands in their development from the shallow to the deeper fields and in computing their records, designated the names of the sands with fair accuracy. Where the names were missing, the sands were later found to fit their particular horizons on the structure maps and cross-sections.

Correlation of Sands.

Strip plotting was resorted to in correlating sands. The record of the wells were plotted to uniform scale, and with the same symbols, on long narrow strips of cross-section paper. The strips were compared, and by shifting one at the side of the others, the relations of the logs to one another were found. The interpretation and correlation of logs, especially those of wells in the Pennsylvanian beds, requires much work and the results are not always satisfactory.

Altitudes of Sands.

The method used to ascertain the altitudes of the tops of the producing sands was to subtract the elevation of the mouth of the well from the depth to the sand. The altitudes were usually below sea level and therefore were negative. In drawing a contour map under these conditions the high numbers would signify low places and reversely, low numbers high places. In order to avoid confusion in studying contouring an assumed plane 1,500 feet below sea level was chosen, and from this the negative altitudes were subtracted. The resulting high figures then correspond to high places in the structure and the low numbers to low places.

Tables of Well Data.

The desire to present the vast amount of data from wells in the studied area resulted in the compact tables presented on page 185. In order to show reference from well to table it became necessary to adopt a system of well numbers that would not crowd the map. Each section is, therefore, divided into quarters which serve as units for numbering. The total number of wells for each quarter-section is thus kept below 100. References to wells in the text are abbreviated as follows, Pet. sec. 30, SE., No. 60, which signifies well No. 60 in the southeast quarter of section 30, Petty township, Lawrence county, and the record of which may be found in the tables of well data. Other abbreviations are as follows: Ob., Oblong township; Rob., Robinson township; H. C., Honey creek township; Mar., Martin township, all of Crawford county; Bport., Bridgeport township; Law., Lawrence township, and Den., Dennison township, all of Lawrence county.

Countour Maps.

The structure of the producing sands is graphically presented by use of contours or lines defining the elevation, horizontal form, and slope of the top of the sand. The elevation of the contour is designated by the large number which is set in, or at the end of, the line. The slope, or dip and rise of the sand, is expressed through numbers on consecutive contour lines.

The contour maps were drawn on a key or base map which shows the position and reference numbers of all the wells drilled in the area and also additional culture such as towns, streams, roads, pumping stations, etc. All wells that furnished data for a given sand were plotted in position on a skeleton map on which the culture was omitted. The positive altitudes of the sands, with respect to the assumed datum plane 1,500 feet below mean sea level, were contoured between wells. These constitute the structure maps.

Cross-sections.

The structure of the several producing sands is further shown by the use of cross-sections. They portray graphically the rise and the fall of the oil sands along chosen lines and are intended to make clearer the mental picture of the contour idea to those who are not familiar with contouring. At the same time the sections show the relation of the structure of one sand to that of another. The only cross-sections presented in this report are those of Lawrence county.

CHAPTER III.

Detailed Geology of the Crawford County Fields.

GENERAL FEATURES OF THE OIL FIELD.

The shape and extent of the Crawford county pools within the Hardinville quadrangle, are shown on Plate IV, the base map of the area. The map shows the development up to January 1, 1909. The Robinson pool is about 7 miles wide between Oblong and Robinson, but it narrows to about 3½ miles at the southern limit of the county. The western boundary of the oil field trends northwest and southeast and is distinctly abrupt. Its eastern edge is very irregular and the oil zone appears to have pinched out here and there as shown by light producing wells and many dry holes.

A barren area about 3 miles wide separates the Robinson and Honey creek pools in Crawford county and continues south and southwest in a Y shape, separating the Lawrence county pools from those of Crawford county. Detailed data are not at hand to account definitely for the break. It is probably due to a series of undulations transverse to the major axis of the dominant anticline, since the Honey creek sands lie lower structurally than those of the Robinson pool and the Lawrence county sands, higher than those in Crawford county.

Other conspicuous gaps in the Robinson pool are the Hardinville gas dome and an irregular break from east to west directly south of the Illinois Central Railroad. The area just east of Hardinville, namely section 35, Martin township, is barren of oil, except in the northwest corner and along the south line, but shows evidence of fair gas pressures. The producing sands indicate a structural dome. The narrow barren area through sections 2, 3, 4, 8, 9, 10 and 16, T. 6. N., R. 13 W., is due to noticeable thinning of the sand which, elsewhere, varies between 2 and 15 feet in thickness. In some instances the sands are entirely absent. This condition is probably accompanied by a lack of sufficient porosity in the sands to allow oil diffusion; at any rate, there is more regularity in the position, thickness, and production of the sands on both sides of the break.

The Crawford county pools are distinctive for possessing one general oil producing zone, known as the Robinson sand. This sand is so broken and lenticular that it offers little opportunity for structural study. In fact, the sand shows innumerable streaks, tongues, and detached portions and so prohibits correlation and contouring. In some portions of the field, however, the sand is regular in its distribution. It is split into two or three persistent lenses that show average depths of about 850,900, and 940 feet with an average interval between the tops of the sands of about 50 feet. The thickness of the sand lenses varies between 2 and 50 feet with an average of about 25 feet. The average thickness of the lenses is difficult to estimate because a great many wells merely penetrate the pay sand and consequently its total thickness remains unknown. Beyond the confines of these areas the sand lenses merge into one another and become even consolidated in the wells listed below:

List of Wells in Which the Robinson Sand is Exceptionally Thick.

Township.	Section.	Quarter-section.	Well number.
Martin	1	NW.	10
	1	SW.	6
	21	SW.	13, 18
	22	NE.	31
	23	NE.	1
	26	SE.	8, 13
	27	SW.	30
	27	SE.	18
	28	NE.	6
	34	NW.	1, 2, 5, 33
	35	NW.	2, 5
Honey Creek	6	SW.	5
	10	SW.	7
	29	SE.	3
Oblong	2	SE.	1
	5	NW.	20
	6	NE.	6
	7	NE.	2
	15	NW.	31
	16	SW.	12

The maximum thickness of the consolidated sand lenses is 122 feet. In other sections of the field either one, two, or even all the lenses are absent. Those wells in which there is no sand, are as follows:

List of Wells From Which the Robinson Sand is Absent.

Township.	Section.	Quarter-section.	Well number.
Oblong	3	SE.	1
	5	NE.	27
	8	NE.	12
	9	NW.	9
	18	NW.	1, 2
	18	SW.	1
	18	SE.	2
	31	SE.	5
Honey Creek	6	SE.	1
	22	NE.	1
	31	SE.	9

The wells in which one or two lenses are absent are too numerous to mention.

There are additional lenses of sand both above and below the zone which includes the three persistent lenses. One above is known as the "gas" or "stray" sand. It is usually from 6 to 20 feet thick and about 20 to 50 feet above the topmost lens of the Robinson sand. This sand produces small quantities of gas in portions of the field, particularly in the northern part of the Hardinville quadrangle. The sand lens lower than the oil zone may belong to the Robinson sand as a fourth lens, so closely is it related to the upper lenses. It is not productive. There are other minor streaks of sand even in the producing zone that add further confusion to correlation.

There is a shallow sand that is productive of oil in section 27, Martin township that may be comparable to one of the shallow Clark county sands. Its extent is very limited.

DETAILED STRUCTURE OF THE DISTRICT.

Owing to the irregular deposition of sands and shales it was found impossible to correlate and contour any sand beds definitely except the top lens of the Robinson sand which is somewhat persistent over the area. Even this work loses much of its scientific value because parts of it are suppositional through the overlapping and wedging out of this sand bed, as well as those above and below it.

The altitudes of the top lens are assembled and contoured in Plate 5. The general structure of the Robinson pool reveals a broad and gentle arch which is divided into two parts by a transverse basin. The northern part shows the arch to be about 6 miles wide with its crest 95 feet above the lowest explored portions of its limbs. This portion of the arch is subdivided into two crests of the same height. One lies in section 5 and the other in section 10, Oblong township. The southern portion of the arch is about four miles wide and 110 feet high. The crest of this portion lies in section 35, Martin township. The two arches merge into a depressed or synclinal area through sections 13, 14, 15 and 21, T. 6 N., R. 13 W., the bottom of which is 65 feet lower than the crest of the northern arch and 105 feet lower than that of the southern arch. The 1,100-foot contour follows the limits of the pool in a general way and seems to include most of the productive zone.

The contours on the portion of the Honey creek pool shown on the map indicate a lower productive level than the Robinson pool. The heart of the production lies along the 1,080-foot level which is equivalent to the lowest productive levels on the arch of the Robinson pool. This pool is a continuation of the Robinson pool and the difference in oil levels seems to indicate an intervening depression.

The western boundary of the productive field in Crawford county is sharply defined and is marked by an abundance of salt water. It is also worthy of note that there are at least seven wells along this line that show an absence of sands. The western limb of the arch is much the steeper, which fact corroborates previous observations of the LaSalle anticline in its exposure near LaSalle, Ill.[1] It would then follow from the general knowledge of the Illinois basin[2] that the Robinson sands assume a much steeper dip a short distance west of the oil field. The tendency of the sands to remain locally flattened on the east side

[1] Weller, Stuart, The, geological map of Illinois: Bull. Ill. State Geol. Survey, No. 6, 1907, p. 12.
[2] Oil resources of Illinois with special reference to the area outside the Southeastern fields: Bull. Ill. State Geol. Survey, No. 16, 1910, pp. 48-51.

of the arch is in keeping with the slope of the arch at LaSalle. The Duncanville and Flat Rock pools lie at about the same general levels as the Honey creek pool and add further evidence to the mild nature of the eastern limb of the anticline.

Relations of Structure to Oil and Gas.

The Robinson sands have proved rich in their yield of oil. Of the 2,370 wells mapped in this area but 206 or 8.7 per cent were barren of oil or gas. The range of initial production lies between 1 and about 1,600 barrels. The lower lenses have been slightly more productive than the top lens. The distribution of oil has not been even over the area because of the following factors:

1. The porosity of the sands is variable and in many places they are impervious. The drillers have reported the sands hard and dry and thus incapable of containing oil.

2. The sands thin and thicken commonly and in some localities pinch out altogether. Non-porosity usually accompanies such condition. The light producing and barren streak through sections 2, 3, 4, 9, 8 and 7 Martin township offered evidence supporting this.

3. The sandstones are so closely interbedded and related to the shales along the producing zone that cemented mixtures of the two probably prohibit extensive diffusion of oil, gas, or water in some areas.

4. The best productive areas are attended with thicknesses between 20 and 40 feet of sand and are usually free from large amounts of salt water.

5. Local dry spots in the midst of very productive territory cannot be attributed to small depressions or knolls in the sand bodies but they are explained as due to the thinness and non-porosity of the bed. The following few wells illustrate this fact:

Mar. sec. 26, NW. No. 4.
Mar. sec. 36, SW. No. 5.
Ob. sec. 15, SE. No. 8 and 19.
Ob. sec. 10, NW. No. 12.
Rob. sec. 1, NE. No. 7.
H. C. sec. 6. NE. No. 11.

The top lens of the Robinson sand is especially rich in section 9 of Oblong, section 6 of Honey creek, and sections 1 and 2 of Martin townships. The lower lenses are prolific in sections 21, 22, 23, 34, and particularly 26 and 27, Martin township; 10, 14, 15 and 16, Oblong township, and 6, 10 and 15, Honey creek township. Only about half of the records collected furnished information of the initial yield. Enough data, however, was gathered to indicate the distribution of oil in the various sections of the area. The following table shows the number of wells that furnished data of the production. These are listed under headings of townships, sections, No. 1 and lower lenses, and initial production. The gas and dry wells are also given:

List of Wells in Crawford County, With Initial Productions.

Location.			Number of wells indicating initial production.							
Township.	Section.	Lenses.	0-10 bbls.	10-50 bbls.	50-100 bbls.	100-200 bbls.	200-500 bbs.	Over 500 bbls.	Gas.	Dry.
Martin	1	No. 1	1	2	4	2	1		1	2
		Lower	5	10	1		1		2	
	2	No. 1		5	7	4	9			2
		Lower	3	9	3	2	1		1	
	3	No. 1			1					2
		Lower	1	3						
	11	No. 1								4
		Lower	1							
	12	No. 1			1					2
		Lower		3						
	20	No. 1								5
		Lower	1	3						
	21	No. 1			1	2	2	7		3
		Lower	3	6	6	12	14	9		
	22	No. 1		5			1	1	1	1
		Lower	2	16	6	12				
	23	No. 1	1	4			1		1	8
		Lower		12	7	2	1	1		
	24	No. 1	1	3						2
		Lower	3	5	1	1	1			
	25	No. 1		4						4
		Lower	1	4	2	7	1			
	26	No. 1		1	2		1			1
		Lower	1	9	25	18	1	2		
	27	No. 1		1	2		4			3
		Lower	2	2	8	12	6	7		
	28	No. 1		1	1	1				6
		Lower	3	2	1	3	1			
	33	No. 1								3
		Lower	1							
	34	No. 1		4	3	4	2	1		
		Lower		2	5	5	6	5		
	35	No. 1		1	1				4	1
		Lower	2	3	2					
	36	No. 1		14	6	1				3
		Lower	2	7	4	1			1	
	13, 19, 29, 32	No. 1								6
		Lower								
Oblong	2	No. 1	2	1						4
		Lower	3	8	8		1		1	
	3	No. 1	2	2	1					3
		Lower	1	1	1	1				
	4	No. 1	1	7	1					1
		Lower		3						
	5	No. 1				3				5
		Lower		2	2	8	2	2		
	6	No. 1								4
		Lower	1	3						

List of Wells in Crawford County, With Initial Productions—Continued.

Location.			Number of wells indicating initial production.							
Township.	Section.	Lenses.	0-10 bbls.	10-50 bbls.	50-100 bbls.	100-200 bbls.	200-500 bbls.	Over 500 bbls.	Gas.	Dry.
Oblong—*Concl'd.*	7	No. 1		1						5
		Lower	4	10		1				
	8	No. 1	3	9	2	1				4
		Lower								
	9	No. 1	1	10	9	7		1		6
		Lower	1	2						
	10	No. 1	1	4		3	1			2
		Lower	2	5	9	11	2			
	11	No. 1		8		1			1	1
		Lower	8	6		1			4	
	14	No. 1		2	1	1		1		6
		Lower		5	4	6	3	3		
	15	No. 1	2	7	1	1	2	1		3
		Lower	1	15	12	13	13			
	16	No. 1	1	2			1			5
		Lower		3	5	10	8	2		
	17	No. 1	3	2	2					7
		Lower	1	7	2					
	18	No. 1								4
		Lower	2	8	5	1				
	31	No. 1			2	1				2
		Lower		1						
	32	No. 1		1	1	1	3			3
		Lower		2	3	2				
	33	No. 1	2	4		4	2			2
		Lower	1							
	34	No. 1	1	3						
		Lower			1					
	35	No. 1	2	3	3					1
		Lower		4	1					
	1, 11	No. 1								3
		Lower								
Robinson	1	No. 1	1	1						4
		Lower		1						
	6	No. 1		1					1	7
		Lower	2	6						
	12	No. 1		1	1				2	3
		Lower								
	13	No. 1								1
		Lower	1							
	36	No. 1	1		2					3
		Lower		6	2					
	4, 5, 7, 8, 9, 10, 16, 17, 18, 31, 32, 33	No. 1								13
		Lower								
Honey Creek	5	No. 1							1	4
		Lower		1	2					

List of Wells in Crawford County, With Initial Productions—Concluded.

Location.			Number of wells indicating initial production.							
Township.	Section.	Lenses.	0-10 bbls.	10-50 bbls.	50-100 bbls.	100-200 bbls.	200-500 bbls.	Over 500 bbls.	Gas.	Dry.
Honey Creek—*Concluded*	6	No. 1	......	3	5	3	1	1	......	8
		Lower	......	3	5	3	1	2	1	
	10	No. 1	......	1	......	4	1	......	......	2
		Lower	......	......	1	......	......	......	......	
	15	No. 1	......	4	1	1	......	......	......	1
		Lower	......	......	1	......	......	......	......	
	16	No. 1	1	4	1	1	......	......	......	2
		Lower	1	3	......	......	......	......	......	
	31	No. 1	......	4	2	......	......	......	1	4
		Lower	7	17	6	......	......	......	......	
	32	No. 1	......	......	......	......	......	......	2	8
		Lower	4	3	1	......	......	......	......	
	2, 3, 7, 8, 9, 17, 18, 19, 20, 28, 29, 30, 33, 34	No. 1	......	......	......	......	......	......	17	16
		Lower	......	......	......	......	......	......	......	
	Total	No. 1	27	130	64	131	32	13	42	206
		Lower	71	221	142	46	63	33	......	

In general throughout the field gas occurs with oil, but not in large quantities. The wells yielded enough for use on the leases and often for drilling but not for commercial use. The thin stray lens above the No. 1 yielded abundant gas, particularly in the northwest corner of Honey creek township. The quantities were from 1,000,000 to 4,000,000 cubic feet daily and under pressures from 200 to 400 pounds to the square inch. These wells are connected to large mains and furnish gas to nearby towns. This same lens is productive of less quantities of gas in sections 2 and 35, Oblong township and 36 and 1, Robinson township.

The contours of the No. 1 lens reveals a small dome on the anticline in section 35, Martin township. Several small gas wells lie about 25 feet down from the crest of the arch or within the 1,160-foot contour. It is true that in Crawford county, as well as in Lawrence county, the best gas wells are not necessarily found on the highest points of the arch but are located on its slopes. Since the oil lies lower structurally than the gas, the same would follow for the oil accumulation. This would perhaps suggest that where the crests of anticlines are known in unproven areas, drilling should be started slightly to either side of the highest point.

Relations of Salt Water to Structure.

The oil field shows salt water at many points, but particularly along its western limit. Water does not uniformly fill the rocks of the region, as there are many dry strata, of which some are capable of containing water. Great quantities of salt water occur upon the limbs of the anticline and in the Illinois basin beyond the productive area and at its sharply defined boundaries. All the lenses of the Robinson sand are well saturated along this line, but the upper lenses are generally barren of water within the oil pool. The lower lenses reveal water across the fold and in some portions under the oil. Drilling has proven that the oil lies near the top of the lower sand lenses and consequently but few wells pass through the oil stratum and into the water for fear of drowning out the oil. The water is generally very abundant and seems to be under pressure. Its release from the sand sets up a very rapid flow that is difficult to stop.

The basin which divides the major arch in the Robinson pool is barren of water but is productive of oil. This corroborates the theory as to the accumulation of oil in dry rocks. The first lens, however, is less productive than the lower ones through this basin.

The trough that separates the Honey creek and Robinson pools shows salt water in the scattered dry wells drilled into it. Most of the wells in the portion of the Honey creek pool included in this report were only drilled into the oil pay. The wells that penetrated beneath the pay tapped the salt water zone which would indicate that the water controls the accumulation of the oil and instrumental in holding it captive in its present position.

The eastern side of the oil field also shows abundant water in the lower lens but apparently not so much as at the corresponding level on the steeper limb of the arch. Both water and oil are irregularly distributed on the east limb of the anticline.

Conclusion.

It is obvious from the position of the water and oil along the LaSalle anticline that the water has controlled the accumulation of oil in the arch. The water probably has been a means of originally collecting and causing the oil to migrate from long distances up the slope of the arch and into its crest. This is effective for all lenses of the Robinson sand. The degree of saturation is variable over the crest of the arch. The lower lenses are frequently reported saturated with water through the field whereas, for the most part, the upper lens shows little saturation.

CHAPTER IV.

Detailed Geology of the Lawrence County Field.

GENERAL FEATURES OF THE OIL FIELD.

The shape and extent of the oil field in Lawrence county is shown in Plate VI, the base map of the area. The development is indicated to July 1, 1911. The field has a northwest and southeast trend with its northern limit exactly on the Lawrence-Crawford county line and its southern-most extremity in sections 11 and 12, T. 2 N., R. 12 W. The pool is continuous for 17 miles, although it is thinly developed at both ends. It is about 2½ miles wide from the county line to about 9 miles south. It then broadens and includes the Dennison township fields in a width of about 5 miles and narrows again at the extreme southern end to about 3 miles. The field changes its course on the vicinity of Bridgeport from about north 24 degrees west to north 44 degrees west, or 20 degrees.

The western edge of the oil field is similar in character to that of Crawford county, in that it is almost abrupt and uniform, except for a small detached area in sections 20, 29 and 30, Bridgeport township. This extension of the field is due to a small terrace on the western slope of the anticline, indicated later in one of the cross-sections. The eastern edge of the field, like that of Crawford county, is very irregular and is probably due to the flattening of that side.

The Lawrence county field is the richest of the eastern Illinois fields. It has produced more large wells than the rest of the fields combined and its wells have maintained steadier production than those of any other locality in the State. This field is prominent because of its large number of producing sands ranging in depth from 800 to 1,900 feet, or from the top of the Pottsville rocks in the Pennsylvanian series to the top of the hard and thick St. Louis limestone of the Mississippian series. There is a shallow sand at about 450 feet that produces oil but its distribution is limited to a very small area in sections 2 and 3, Dennison township. The other producing sands are in order of depth, the three Bridgeport lenses, Buchanan, "Gas," Kirkwood, Tracey and McClosky sands.

DETAILED STRUCTURE OF THE DISTRICT.

THE "SHALLOW" SAND.

A shallow sand is productive in sections 2 and 3, T. 2 N., R. 12 W. It lies at a depth of from 444 to 485 feet or from 25 feet above sea level to about 17 feet below. The initial production was light, averaging about 12 barrels per day. This sand is thought to be the equivalent of a shallow sand in section 27, Martin township, Crawford county and possibly of one of the Clark county sands. Further details of the sand are found in the tables of well data.

BRIDGEPORT SAND.

The Bridgeport sand derived its name from the town of Bridgeport near the middle of the Lawrence county field. The first well in this field and in this sand was drilled by the Big Four Oil Company in July, 1906, on a narrow strip of land north of the Baltimore, Ohio and Southwestern Railroad and south of the public road in Bridgeport. At the same time that the well was drilled the land belonged to the town of Bridgeport.

The Bridgeport sand is widely developed both north and south of the town. The initial productions of the sand are good. This fact, together with the shallow depth at which the oil is found, attracted attention to the field as a very promising area for exploration. The sand is found over the whole field but is especially productive of oil in sections 31, 32, 5, 6, 7, 8 and 17, Bridgeport township. It is productive of good pressures of gas and some oil in sections 34, 35, 3 and 2, Dennison township.

The Bridgeport sand is lenticular and closely resembles the Robinson sand. In fact it seems to correspond to that sand in position and physical features as shown in the discussion of the stratigraphy of the two counties, page 83. This sand comprises three general lenses and some smaller ones in several parts of the oil field. The depths of the sands vary between 600 and 1,000 feet. Thus a range of depth is due to a sharp uplift of the LaSalle anticline and to the irregularity in the surface. It is impossible to average the thickness of the lenses for the whole of the county, so great is their variability. Some of the lenses are but a few feet thick and others are over 300 feet through. North of Bridgeport they average about 35 feet. In the other areas of good production, the pay lenses have a wide range of thickness. It is also impossible to average the interval between lenses because of the wide difference over the field. The records in many instances show that the lower lenses of the Bridgeport sand merge into the massive sandstone that is characteristic of the Buchanan or basal portion of the Pottsville rocks.

No attempt was made to show the structure of this horizon by means of contours or cross-sections because of the uncertainty of correlation. Moreover the lack of sufficient detailed logs also prohibited any general conclusions as to the distribution of the sand. The oil and salt water relations are discussed later.

Buchanan Sand.

The Buchanan sand is the next producing sand lower than the Bridgeport. It was first discovered in September, 1906, by the Ohio Oil Company on the R. O. Buchanan farm in the S. ½ S. E. ¼ Sec. 16, Lawrence township. The pay was found at 1,332 feet. The type area for the sand lies in sections 15 and 16 Lawrence township; sections 21 and a portion of 22, Dennison township; and sections 17 and 20 of Bridgeport township. Data of the sand are very scattered over the rest of the field. There are enough facts known, however, to show the general structure up to and including sections 24, 19 and 20, Petty township. The information north of these sections is scant and unreliable because of the association of the Buchanan sand with the upper Bridgeport lenses.

The Buchanan sand comprises the basal part of the Pottsville rocks and is characterized by thick or massive sandstones over most of Illinois. These rocks mark the lowest portion of the Pennsylvanian series and lie unconformably on the Chester or upper division of the Mississippian rocks. Most of the well data in the tables indicate shallow penetration into this sand, which was tapped and entered a short distance in order to provide for a sufficient and safe shot. The oil zone is usually underlain with salt water, which, if tapped, offers danger of drowning the oil. In some localities of the State this sand is called the "Salt sand" because saturated with salt water. This sand has been one of the most prolific producers of oil in the Illinois fields. Its wells have yielded large quantities of oil and but little gas.

DETAILED STRUCTURE.

The altitudes of the top of the Buchanan sand were assembled and contoured in Plate VII. In some localities of the field wells giving data were so far apart that it was not justifiable to draw definite contour lines. The dashed lines were substituted to indicate the approximate structure.

The general structure of the Buchanan sand reveals a very irregular surface. The type area of the sand is the most completely drilled. Data from this locality shows two small, symmetrical, domes, one in section 17, Bridgeport township and the other in sections 15 and 16, Lawrence township and section 21, Dennison township. The west dome (section 17) is 107 feet high. It is enclosed by the 640-foot contour line and covers about 1¼ square miles. The crest of the dome lies in the SW. cor., NE. ¼ sec. 17. The second dome is 99 feet high and is also enclosed by the 640-foot contour. It covers about 2 square miles of area. Its crest lies along the W. ½ SW. ¼ sec. 15, Lawrence township.

The sand dips rapidly from the first dome in the type area toward the southwest. From the crest of this dome to Bport., sec. 30 SE., No. 3, the dip is 262 feet in about 2½ miles or at the rate of 105 feet per mile. This rapid dip merges into a minor terrace in the lower sands in the NW. cor., sec. 29, but is not shown for the Buchanan sand.

The structure is very irregular east and south of the type area of the Buchanan sand. The contours range from 600 to 760 feet. They show a general dip to the east. The west side of this part of the field is high structurally but unproductive.

The Buchanan sand dips sharply north of the type area and then gradually rises into an uplift of the main axis of the LaSalle anticline that has the appearance of a narrow double plunging anticline. The apex of this dome-like structure lies near the center of section 30, Petty township. The rise to the north from Bport., sec. 17, NE., No. 15 to Pet. sec. 30, SE., No. 66 is 368 feet in 3⅜ miles, or at the rate of 108 feet per mile. The sides of the dome dip very steep to the west and east from its apex, with the steeper slope to the west. The dip along the C-C cross-section from Pet. sec. 30, SE., No. 66 to Bport. sec. 36, SE., No. 3 is 328 feet in 1⅛ miles, or at the rate of about 290 feet per mile. The dip east from the crest of the dome to Pet. sec. 20, SE., No. 7 along the same cross-section is 223 feet in 1¼ miles, or at the rate of 178 feet per mile. The western side of the dome dips 112 feet more per mile than the eastern side. This is in keeping with the nature of the LaSalle fold exposed near LaSalle. The structure contours reveal a rapid plunge of the sand from the dome to the north and then a rise into a second dome with a crest 22 feet lower than the major uplift. The dip from the crest of the first dome to Pet. sec. 30, NE., No. 22, at the bottom of the basin, is 123 feet in about one-half of a mile. The rise from the bottom of the basin to Pet. sec. 19, SE., No. 38, the crest of the second dome, is 101 feet in about three-fourths of a mile. The contours indicate a uniform dip northward from the second dome. The dip of this sand along the western side of the anticline is uniform.

A small though conspicuous terrace interrupts the long sweeping rise from the type area of the Buchanan sand into the dome in Petty township. It lies in sections 7 and 8, Bridgeport township along the 700-foot contour. The area covers about one-half of a square mile. The wells yielded good intial productions of oil.

"Gas" Sand.

The "Gas" sand is so named because it produces small amounts of gas wherever encountered, though in some instances it is productive of oil. The sand underlies the Buchanan sand and is usually the first or second sand in this district penetrated in the Mississippian or, specifically, the Chester rocks. There are 36 wells in the area that furnish data for both Buchanan and "Gas" sands and from these the average interval between these sands is found to be 198 feet.

The sand is definitely correlated from section 36, Petty township to sections 5 and 6, Bridgeport township. Without detailed knowledge of the plunging anticline in section 30, Petty township or the stratigraphy of the area, the oil men have confused the "Gas" sand with the upper sands, particularly with the Buchanan bed, and in some instances with the Kirkwood sand beneath. The relations of this sand to the others of the region are geographically shown in cross-sections A-A, B-B, and C-C.

The average thickness of the "Gas" sand estimated from data furnished by 245 wells is 16 feet with a range from 1 to 68 feet.

The "Gas" sand produces gas over most of the contoured area. The amounts were not reported.

DETAILED STRUCTURE.

The altitudes of the top of the "Gas" sand were assembled and contoured in Plate VIII. The structure of this sand is the most regular of any in this field, with the exception of the Kirkwood. The contours indicate a uniform dip of the sand along the east and west flanks of a strongly defined anticline. The structure further confirms the double plunging of the major fold both to the north and south. The highest point of the anticlinal dome is in Pet., sec. 30, NE., No. 5. The dip to the north from this point to Pet., sec. 36, NW., No. 12, is 232 feet in slightly over 5 miles or at the rate of about 46 feet per mile. The decline to Bport., sec. 17, NE., No. 39, is 246 feet in 4⅜ miles or at the rate of about 56 feet per mile. The western dip from the crest to Bport., sec. 36, SE., No. 8, is 321 feet in 1¾ miles or at the rate of 183 feet per mile. The dip eastward from the crest to Pet., sec. 29, NE., No. 7, is 210 feet in seven-eighths of a mile.

The two lowest points along the western flank of the anticline conform to the 440-foot contour. The field is bounded by the 500-foot contour on the west and the 600-foot contour on the east. The contours south of the north line of sections 5 and 6, Bridgeport township, were broken because the data was scattered and somewhat indefinite.

Kirkwood Sand.

The Kirkwood sand was first developed in 1907 by the Burton Bros. Oil Company on the Thomas Kirkwood farm in the E. ½ NE. ¼ sec. 14, Lawrence township, now known as the R. M. Kirkwood farm and operated by the Bridgeport Oil Company. This sand is the most widely developed and productive of any in the Lawrence county field. It extends from section 36, Petty township, to section 8, Dennison township and spreads into all outlying pools, thus indicating the shape and extent of the Lawrence county field.

The Kirkwood sand is the most widespread sand that is productive of oil in the Illinois basin. It is the equivalent of the Sparta sand of Randolph county, the Lindley gas sand of Greenville, the Carlyle oil sand of Clinton county, the Benoist sand of Marion county, and the Oakland City sand of Pike county, Indiana. This sand lies low in the Chester series and is usually overlain by a succession of shales, limestone, some sandstone, and at least two and often three red shales. The second red shale usually serves as its horizon marker as the red rock is easy to distinguish because it discolors the water used in drilling.

The Kirkwood sand is lenticular in some portions of the field. It is subdivided into two and often three thin lenses. The surface of the top lens, however, is uniform over the county and is taken as a basis of contouring.

The sand shows excellent initial productions and has promise of being long lived and steady in its yield. It is the most reliable of all the sands. There is little or no gas yield from it except close to the northern limits of the county. The oil is a "sweet" oil containing a small percentage of sulphur and has about 36° gravity, Beaume.

There are three areas in the field where this sand is especially productive. The type locality includes sections 11, 12, 14, 15, Lawrence township and sections 22, 23, 25, 26 and 36, Dennison township. The next important area lies about the anticlinal dome spoken of under the discussion of the upper sand beds of the field, page 107. This area includes sections 19, 20, 29 and 30, Petty township, and sections 6, 31, 32 and 36, Bridgeport township. A less important area is well developed in parts of sections 7, 8, and 17, Bridgeport township.

Data from 220 wells in the Lawrence county field indicate an average interval of 67 feet between the Kirkwood and "Gas" sands in the upper part of the field, and 243 wells indicate an average interval of 265 feet between the Kirkwood and Buchanan sands in its lower part, where the "Gas" sand is not correlated. The average interval between the Kirkwood and "Gas" sands in 157 wells in Petty township is 63 feet. There are 63 wells in the northern part of Bridgeport township that show an average interval of 78 feet between the two sands. The range of interval lies between 26 and 134 feet.

The intervals between the Kirkwood and Buchanan sands were calculated for that portion of the field south of Petty township. Those in Petty township were not averaged because of the uncertainty of correlation of the Buchanan sand.

There are 85 wells in Bridgeport township that show an average interval of 255 feet between the two sands; 57 wells in Lawrence township with an interval of 244 feet; and 101 wells in Dennison township with an average interval of 287 feet. The interval therefore seems to increase toward the southern end of the field. There are eight wells on the terrace in sections 20, 29 and 30, Bridgeport township that show an average interval of 450 feet between the sands. This seems to indicate a rapid thickening of the formations as they dip west into the Illinois basin, adjacent to the LaSalle anticline. The wells in the eastern extension of the field in sections 11 and 12 of Lawrence township indicate a lessening of interval between the sands and an average of about 200 feet.

The thickness of the Kirkwood sand is very irregular over the field. It is found to average about 30 feet in those wells that pass through the sand.

DETAILED STRUCTURE.

The altitudes of the top lens of the Kirkwood sand were assembled and contoured in Plate IX. The contours on this sand give a most complete and satisfactory idea of the structure of the LaSalle fold. The information was abundant and widely distributed.

The upper part of the field from sections 35 and 36, Petty township, to and including sections 7 and 8, Bridgeport township, shows an elongated dome or double plunging anticline. The actual top of the dome lies around Pet. sec. 30, SE., No. 55. The sand dips in four directions from this well. The general crest lies within the 680-foot

contour and has an areal extent of about 80 acres. A part of it overlaps into section 29, Petty township. The sand dips 240 feet northward along the A-A cross-section, between the crest and Pet. sec. 35, NE., No. 2, a distance of 5¾ miles. The rate of dip is 41 feet per mile. The dip to the east along the C-C cross-section to Pet. sec. 20, SE., No. 10, is 219 feet in 1⅛ miles or 194 feet per mile. The dip to the west along the same cross-section to Bport. sec. 36, SE., No. 8, is 342 feet in 1½ miles or at the rate of 228 feet per mile. The southward dip of the sand through the center of the field to Den. sec. 22, NW., No. 5, is 335 feet in 5¼ miles or at the rate of 63 feet per mile.

The dome-like structure merges into a mild trough in sections 4, 9, 10, Lawrence township, and sections 21 and 22, Dennison township. The sand then lies flat to the south through Lawrence and Dennison townships forming a broad plateau-like crest of the major fold. The sand lies at a uniform level at about the 400-foot contour. The sands on both sides of the field and to the south dip toward the limbs of the major fold. The southern limits of the field seem to gradually drop lower than the producing zone of the sand. Whether the major fold continues to drop, until it merges into the southeastern side of the eastern interior coal basin or whether the drop is local, as seems to be the case between Crawford and Lawrence counties, is not known. At any rate the anticline loses much of its identity as a structural fold, thus suggesting its mergence into the rim of the basin.

The terrace in sections 20, 29 and 30, Bridgeport township, previously spoken of, is prominently shown by the Kirkwood sand contours. It seemingly covers an areal extent of about 240 acres and lies between the 100 and 120-foot contours. This is about 300 feet lower than the producing sand in the Kirkwood area of Dennison township, three miles east. Further drilling will possibly extend production until the area will cover several times its present extent.

Tracey Sand.

The Tracey sand was first developed in 1908 by Busch and Everett in the R. J. Tracey farm in the NW. ¼, NE. ¼, sec. 13, Lawrence township. This sand is not found widely productive of oil. The type localities lie in sections 11 and 14, Lawrence township; sections 25 and 26, Dennison township; and sections 19 and 30, and sections 25, 26, 35 and 36, Petty township.

This sandstone is soft and calcerous. It overlies the Ste. Genevieve and massive St. Louis limestones, which the oil men often call the "big lime." The Tracey sand lies in the basal portion of the Tribune formation and does not correspond to the Cypress sandstone, as has been suggested by the author in his earlier studies of the stratigraphy of the area.[1]

Data from 194 wells over the entire field indicate an average interval of 114 feet between the Kirkwood and the Tracey sands. The average interval for each of the townships is shown in the following table:

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[1] Economic Geology, Vol. VII, No. 6, September, 1912, p. 579

Intervals Between Kirkwood and Tracey Sands.

Township.	Number of wells giving data.	Average interval between the Kirkwood and Tracy sands in feet.
Dennison	65	105
Lawrence	21	111
Bridgeport	30	118
Petty	78	120

The interval seems to widen as the sands dip into the limbs of the anticline. The interval in Pet. sec. 15, NE., No. 1, is 160 feet and in Pet. sec. 23, NE., No. 1, 210 feet. The intervals lessen to the north to about 40 feet. This fact is borne out by the A-A cross-section.

The Tracey sand yields excellent pressures of gas in the northern half of the field. The gas has a rank odor in consequence of its large sulphur content, and the oil is "sour." This sand is so closely associated with the underlying limestones that its oil and gas probably had its origin from them.

DETAILED STRUCTURE.

The altitudes of the top of the Tracey sand were assembled and contoured on Plate X. The data were too scattered to warrant well defined contouring, hence many of the contour lines are broken to indicate merely the general trend of the structure. Only the type localities mentioned above justified continuous contour lines. The structure of the sand closely resembles that of the overlying Kirkwood except that the dips are not so pronounced. As with the other sands, the Tracey conforms to the dome-like structure in Petty township. The crest of the dome lies at Pet. sec. 30, SE., No. 63. The dip northward to Pet. sec. 26, NE., No. 2, is 247 feet in 6⅝ miles or at the rate of 37 feet per mile. The sand appears very flat in parts of sections 12, 13, and all of 18, about 1½ miles north of the apex of the dome. The fold dips equally about 240 feet to both sides of this flat. The dip south from the apex of the dome to Law. sec. 10, SW., No. 1, is 283 feet in 3⅞ miles or at the rate of 73 feet per mile. The Tracey, like the Kirkwood horizon, assumes a plateau-like nature on the crest of the anticline to the south of the last mentioned well.

McCLOSKY SAND.

The McClosky sand was developed by the International Oil and Gas Company on the M. McClosky farm in the NW. ¼ SE. ¼ section 25, Dennison township. The type locality for this sand lies in sections 25 and 36, Dennison township. It is also productive at the same level in sections 11, 12, 13 and 14, Lawrence township. This formation is extensively developed in a long narrow strip beginning in the NE. ¼ section 6, Bridgeport township and extending through the middle of the field into section 19, Petty township. The McClosky sand is widely developed in the northern end of the field in sections 1, 7, 11, 12, 13, 18, 25, 35 and 36, Petty township.

The McClosky sand is a soft oolitic limestone known as the Ste. Genevieve. This limestone underlies the Cypress and Chester rocks and overlies the massive and hard St. Louis limestone. The contact between the overlying Chester and the Ste. Genevieve in Lawrence county is well defined but the lower portion of the Ste. Genevieve merges into the St. Louis. In many places the two limestones can be distinguished only by the difference in their hardness and the presence of oolites in the Ste. Genevieve.

Data from 150 wells in the Lawrence county field show an average interval of 104 feet between the McClosky and Tracey sands. The average interval in each of the townships is shown in the following table:

Intervals Between Tracey and McClosky Sands.

Township.	Number of wells giving data.	Average intervals between the Tracey and McClosky sands in feet.
Dennison	43	113
Lawrence	14	118
Bridgeport	15	105
Petty	78	96

The interval widens perceptibly as the sand dips into the limbs of the anticline. The interval in Pet. sec. 15, NE. No. 1, is 174 feet and in Pet. sec. 23, NE., No. 1, is 175 feet.

The McClosky sand has yielded the largest initial productions of any of the producing sands in Illinois. It is not widely developed because of the large expense incurred in drilling. The wells in the northern section of the field have been good producers and have yielded some gas. The oil and gas have a large sulphur content. The southern part of the field has yielded several oil gushers and but one or two gas wells. The oil has a much smaller sulphur content than that from the northern portion of the field.

DETAILED STRUCTURE.

The altitudes of the top of the McClosky sand were assembled and contoured in Plate XI. The contours reveal one major and three minor domes along the crest of the anticline. The first dome lies at the northern boundary of the county, in sections 25 and 36, Petty township. It falls within the 320-foot contour. The top of the dome covers about three-fourths of a square mile.

The sand dips from this dome into a basin about 90 feet deep and then gradually rises into a terrace through sections 12, 13, 18 and 19, Petty township. The terrace merges rapidly into the major dome of the fold in section 30, Petty township. The top of the dome lies at Pet. sec. 30, SE., No. 59. The dip from the apex eastward to Pet. sec. 20, SE., No. 10, is 164 feet in 1⅛ miles, or at the rate of 145 feet per mile. The dip westward to Bport. sec. 31, SW., No. 5, is 218 feet in $1\frac{1}{8}$ miles, or at the rate of 193 feet per mile. The west dip of the fold is 45 feet greater than the east dip for the same distance. There are two very small domes or sharp pinnacles in the sand immediately south of the major uplift. The crests of these lie at Pet. sec. 32, SW., Nos. 10 and 17. The sand lies at 413 and 418 feet respectively above the assumed datum plane of 1,500 feet below sea level or only 27 feet below the top of the largest dome.

The data are scanty along the sides of the main anticline and therefore the contours are dashed. They show strong dips to both sides of the field and a long gentle dip to its southern end. The structure of the sands in the southern half of the field is very similar to that of the Kirkwood and Tracey sands. The crest of the anticline merges from the major dome into an extensive flat area which lies uniformly around the 160-foot contour.

CROSS-SECTIONS.

General Statement.

Four cross-sections were constructed along lines that pass through and across the Lawrence county field. They were chosen especially with respect to the structure of the area, as it is desired to show the nature of the crest of the LaSalle anticline as well as the flanks. The sections were also chosen along lines that pass through or near a large number of wells.

The cross-sections were constructed by plotting records with respect to sea level. A line representing sea level was drawn, and another representing an ideal surface 500 feet above it. This is marked off to correspond with the points where the line crosses section or township lines. The names of the townships are placed in their proper positions. The records of the wells were located with respect to their position along the line and above sea level. They were then plotted with uniform symbols and scale. Wherever the cross-section line cut a contour line the altitude of the contour was marked with a cross and set in its proper position. Correlation lines were then drawn through all crosses representing the altitude of a particular sand and between similar formations in detailed records. Since a datum plane 1,500 feet below sea level was used to make the contouring read positive this line is drawn on the sections merely to emphasize its use. The position of any sand can be measured directly above the datum plane line and the figures thus obtained should correspond with those obtained from the structure maps and those recorded in the tables of well data.

Cross-section A-A.

The A-A cross-section, Pl. XII, presents the structure of the sands along the crest of the anticline and through the middle of the entire Lawrence county field. As a whole the section is especially valuable since it shows the double plunging anticline, the crest of which lies in section 30, Petty township, the convergence of the sands at the northern end, and the dip from the dome into the flat at the southern end of the field. The sands are shown to be generally parallel with local irregularities that seem due, in most cases, to the thinning and thickening of the sand. All sands conform to a mild basin at the foot of the elongated dome in sections 9 and 16, Lawrence township.

LOGS.

The section is made up from many skeleton logs which are found in the tables of well data. The detailed logs are presented below.

The records of the following wells are found in the tables:

List of Wells in Lawrence County Furnishing Data for Cross-Section A-A.

Township.	Section.	Quarter-section.	Well number.
Petty	26	NE.	1
	26	SE.	4
	35	NE.	2
	36	NW.	11
	36	SW.	5
	36	SW.	6
	12	NE.	4
	12	NE.	5
	12	NE.	6
	12	NE.	14
	12	NE.	12
	12	SE.	10
	12	SE.	9
	18	NW.	17
	18	NW.	16
	18	NW.	15
	18	SW.	1
	18	SW.	3
	19	NW.	3
	19	NW.	4
	19	NW.	5
	19	NW.	6
	19	SW.	21
	19	SE.	19
	19	SE.	16
	19	SE.	14
	19	SE.	3
	30	NE	13
	30	NE.	15
	30	NE.	26
	30	SE.	60
	30	SE.	59
	30	SE.	69
	30	SE.	76
Bridgeport	32	NW.	35
	32	NW.	33, 34
	32	SW.	23
	32	SW.	26
	5	NW.	9, 10
	5	NW.	4
	5	NE.	10
	5	NE.	9
	5	SE.	15
Lawrence	9	SW.	15
	9	NE.	4
	15	NW.	12
	15	NW.	11
	15	NW.	7
	15	SW.	22
	15	SW.	20
	15	SE.	1
Dennison	22	NE.	4
	22	NE.	8
	23	SW.	1
	23	SW.	5
	26	NW.	1
	26	NE.	14
	26	NE.	10
	26	SE.	15

List of Wells in Lawrence County—Concluded.

Township.	Section.	Quarter-section.	Well number.
Dennison—*Concluded*	25	SW.	2
	25	SW.	3
	36	NW.	2
	36	NE.	13
	36	SE.	19
	36	SE.	16
	36	SE.	9
	6	NW.	5
	6	NW.	4
	6	SE.	1
	8	NW.	1
	8	NW.	2

The following logs are those shown in detail in the cross-section and briefly referred to in the tables:

Pet. sec. 36, SW., No. 8.

Operator—Snowden Bros.
Farm and well—Petty, No. 1.
Elevation—436 feet.

	Thickness Feet	Depth Feet
Sand and gravel, loose	112	112
Slate, blue, soft	68	180
Limestone, gray, hard (3 bailers water, 190 feet)	10	190
Slate, brown, soft	110	300
Limestone, yellow, hard	6	306
Slate, blue	10	316
Slate, brown, hard	124	440
Slate, black, soft	10	450
Coal	4	454
Shells	15	469
Slate, white, hard	55	524
Shell, blue, hard	5	529
Coal	5	534
Slate, blue, soft	56	590
Shale, white, hard	15	605
Shale, brown, soft	85	690
Slate, black, soft	10	700
Slate, blue, soft	10	710
Slate, brown, hard	15	725
Limestone, white, hard	10	735
Shale, white, soft	10	745
Limestone, blue, hard	20	765
Shells, hard	15	780
Limestone, red, soft	5	785
Slate, blue, soft	10	795
Limestone, blue, hard (2 bailers water, 800 feet)	5	800
Slate, blue, soft	15	815
Limestone shells, gray, hard	20	935
Slate, black	35	870
Sand, white (10 bailers water per hour, 885 feet)	15	885
Slate and shells, blue	35	920
Sand (hole full of water, 980 feet)	60	980
Slate, blue, soft	25	1,005
Sandy shale, brown	90	1,095
Sand, white, soft	8	1,103
Slate, black	10	1,113
Sand, gray, hard	62	1,175
Slate, black	10	1,185
Sand, white	35	1,220
Slate, brown, soft	20	1,240
Sand, loose	15	1,255
Slate, light brown, soft	5	1,260
Limestone, hard	5	1,265
Sand, white, hard	10	1,275
Limestone, gray, hard	10	1,285
Slate, blue, soft	13	1,298
Sandy limestone	28	1,326
Oil sand	10	1,336

Logs—Continued.

	Thickness Feet	Depth Feet
Slate, blue, soft	10	1,346
Limestone, yellow, hard	20	1,366
Oil sand, white, soft	26	1,392
Limestone, gray	8	1,400
Sand, white, oil	12	1,412
Slate, blue, soft	10	1,422
Total depth	......	1,422

Initial production, 125 bbls.

Pet. Sec. 36, SW., No. 10.

Operator—Snowden Bros.
Farm and well—Petty, No. 3.
Elevation—435 feet.

	Thickness Feet	Depth Feet
Sand, white, soft	100	970
Slate, blue, soft	130	1,100
Limestone, light, hard	15	1,115
Sand, white, hard	100	1,215
Slate, blue, soft	10	1,225
Limestone, gray, hard	5	1,230
Sand, white, hard	15	1,245
Slate, white, soft	5	1,250
Limestone, light, hard	30	1,280
Slate, white, soft	5	1,285
Limestone, light, hard	20	1,305
Slate, light brown, soft	5	1,310
Sand, hard (oil 1,328 to 1,332 feet)	22	1,332
Slate, light brown	15	1,347
Limestone, gray, hard	17	1,364
Slate, blue, soft	3	1,367
Sand, white, soft (oil 1,375 to 1,387 feet)	20	1,387
Slate, blue, hard	5	1,392
Limestone, hard	10	1,402
Sand, white, soft	12	1,414
Limestone, blue, hard	21	1,435
Total depth	......	1,435

Pet. sec. 1, NW., No. 3.

Operators—Snowden Bros.
Farm and well—Drole, No. 7.
Elevation—435 feet.

	Thickness Feet	Depth Feet
Clay, soft	18	18
Sand and gravel, soft	96	114
Slate, soft	108	232
Sand, hard	10	242
Shell, hard (water)	23	265
Slate, white, hard	95	360
Slate, dark, hard	60	420
Shell, hard	5	425
Coal	6	431
Slate, light, soft	269	700
Shell, light, hard	25	725
Slate, light, dark, red and blue, soft	90	815
Sand, hard (water)	25	840
Slate, light, soft	10	850
Sand, white, loose	45	895
Slate, light, soft	5	900
Sand, white, hard	63	963
Slate, light, soft	50	1,013
Slate, dark, hard	40	1,053
Limestone, gray, hard	7	1,060
Slate, light, soft	50	1,110
Sand, gray, loose (water, 1,150 to 1,240 feet)	40	1,150
Sand, white, hard	90	1,240
Limestone, gray, hard	30	1,270

Logs—Continued.

	Thickness Feet	Depth Feet
Slate, dark	20	1,290
Slate, light, loose	28	1,318
Oil sand, gray, loose	8	1,326
Slate, dark, hard	12	1,338
Limestone, gray, hard	25	1,363
Sand, white, loose	12	1,375
Slate, black, hard	9	1,384
Sand, white, hard	18	1,402
Oil sand	10	1,412
Slate, dark, hard	2	1,414
Limestone, gray, hard	17	1,431
Total depth	......	1,431

Pet. sec. 1, SW., No. 5.

Operators—Snowden Bros.
Farm and well—Piper, No. 9.
Elevation—435 feet.

	Thickness Feet	Depth Feet
Soil	18	18
Mud, blue, soft	4	22
Slate, light, soft	34	56
Sand, white, soft (water)	2	58
Slate, light, soft	57	115
Coal	2	117
Slate, light, soft	123	240
Limestone, white, soft	6	246
Slate, white, soft	59	305
Slate, black	20	325
Slate, white	30	355
Limestone, white, hard	8	363
Slate, white, soft	15	378
Slate, black	32	410
Slate, light	10	420
Coal	3	423
Limestone, white, hard	3	426
Slate, black, soft	42	468
Sand, white, soft	7	475
Coal	4	479
Slate, white	21	500
Slate, brown	52	552
Slate, white	20	572
Sand, white, hard	6	578
Slate, white, soft	17	595
Slate, brown	45	640
Slate, black	12	652
Slate, light	33	685
Limestone, white, hard	5	690
Sand, white, hard	10	700
Slate, white, loose	10	710
Slate, brown, loose	40	750
Limestone, white, hard	10	760
Slate, white, soft	5	765
Slate, black	30	795
Limestone shell, hard	10	805
Sand, brown, open	11	816
Shale	8	824
Sand, white	15	839
Limestone, gray	12	851
Sand, white	122	973
Slate, black	41	1,014
Limestone shell, hard	5	1,019
Slate	120	1,139
Sand, white, soft	68	1,207
Limestone shell, hard	28	1,235
Red rock	10	1,245
Slate, black	7	1,252
Limestone, white, hard	23	1,275
Slate, black	25	1,300
Sand, gray	12	1,312
Slate, black	14	1,326
Total depth	......	1,326

Initial production, 90 bbls.

Logs—Continued.

Pet. sec. 30, NE., No. 9.

Operators—Bridgeport Oil Company.
Farm and well—Boyd, No. 11.
Elevation—452 feet.

	Thickness Feet	Depth Feet
Mud and slate	44	44
Limestone	6	50
Slate	20	70
Sand	20	90
Slate	55	145
Limestone	15	160
Slate	5	165
Sand	25	190
Slate	10	200
Limestone, hard	5	205
Slate	45	250
Sand	40	290
Slate	50	340
Coal	5	345
Slate	55	400
Limestone shell	10	410
Coal	5	415
Slate	100	515
Sand	5	520
Coal	3	523
Shale, brown	32	555
Sand	30	585
Slate	15	600
Limestone shell	8	608
Sand	64	672
Slate	28	700
Limestone shell	5	705
Slate	75	780
Limestone shell	5	785
Slate	45	830
Stray sand	13	843
Slate	33	876
Sand	4	880
Sand, broken	15	895
Oil sand (best oil, 933 to 950 feet)	57	952
Total depth	......	952

Pet. sec. 30, SE., No. 50.

Operators—Curtis and Akin.
Farm and well—Fitch, No. 17.
Elevation—475 feet.

	Thickness Feet	Depth Feet
First water at	......	120
Red rock at	......	217
Sand at	......	612
Bottom of sand	78	690
Slate	34	724
Limestone shells	4	728
Sand (show of oil, 773 feet)	124	852
Slate	53	905
Sand (oil, 945 feet)	90	995
Slate	65	1,060
Sand	45	1,105
Sand and limestone	20	1,125
Red rock	1,159 to	1,166
Slate	4	1,170
Limestone	20	1,190
Slate	34	1,224
Sand (gas)	4	1,228
Limestone	16	1,244
Slate	41	1,285
Red rock	15	1,300
Sand (oil, 1,340 feet)	40	1,340
Slate	28	1,368

Logs—Continued.

	Thickness Feet	Depth Feet
Sand	20	1,388
Slate	10	1,398
Sand (little oil, best showing, 1,411 feet)	26	1,424
Total depth	......	1,424

Bport. sec. 32, NW., No. 23.

Operators—Snowden Bros.
Farm and well—Perkins, No. 28.
Elevation—511 feet.

	Thickness Feet	Depth Feet
Clay	20	20
Slate	80	100
Sand	60	160
Slate	109	269
Shell	6	275
Slate	75	350
Slate and shells	50	400
Slate	100	500
Limestone	8	508
Slate	72	580
Limestone	4	584
Slate	132	716
Limestone shells	4	720
Slate	45	765
Limestone shells	6	771
Slate	23	794
Sand	26	820
Slate	17	837
Limestone	10	847
Slate	8	855
Slate and shells	30	885
Sand and limestone (oil, 890 feet)	5	890
Sand	25	915
Slate	60	975
Limestone	17	992
Sand	21	1,013
Shells	11	1,024
Sand	66	1,090
Slate	6	1,096
Limestone	29	1,125
Slate	15	1,140
Limestone	16	1,156
Slate	9	1,163
Limestone	14	1,177
Slate	33	1,210
Red rock	6	1,216
Slate	20	1,236
Shells	24	1,260
Limestone	4	1,264
Slate	19	1,283
Limestone (little gas, 1,290 feet)	32	1,315
Slate	6	1,321
Gas sand (gas, 1,322 feet)	9	1,330
Slate	15	1,345
Red rock	6	1,351
Slate	15	1,364
Oil sand (oil, 1,370 to 1,384 feet)	22	1,386
Slate	12	1,400
Sand	12	1,412
Slate	50	1,462
Oil sand (oil, 1,468 to 1,482 feet)	28	1,490
Slate	7	1,497
Limestone	8	1,505
Total depth	......	1,505

Bport. sec. 32, NW., No. 19.

Operators—Snowden Bros.
Farm and well—Perkins, No. 22.
Elevation—488 feet.

Logs—Continued.

	Thickness Feet	Depth Feet
Clay	23	23
Slate	52	75
Sand (water, 135 to 150 feet)	75	150
Slate	25	175
Sand	70	245
Slate	4	249
Limestone shells	6	255
Slate, red	5	260
Slate	125	385
Sand	10	395
Slate, dark	30	425
Slate, light	40	465
Slate, dark	20	485
Sand shells	5	490
Slate, dark	180	670
Slate, light	23	693
Limestone shells	12	705
Slate	25	730
Slate and shells, light	55	785
Slate and shells, dark	43	828
Sand	22	850
Slate	20	870
Sand	30	900
Slate	45	945
Sandy limestone	40	985
Sand	28	1,013
Total depth	......	1,013

Bport. sec. 32, SW., No. 5.

Operators—Snowden Bros.
Farm and well—Perkins, No. 17.
Elevation—479 feet.

	Thickness Feet	Depth Feet
Clay	20	20
Slate	60	80
Sand	70	150
Slate	15	165
Sand	89	254
Limestone	6	260
Slate	5	265
Red rock	5	270
Slate	175	445
Sandy limestone	10	455
Slate	20	475
Limestone	5	480
Slate	10	490
Limestone	3	493
Coal	3	496
Limestone	7	503
Slate	87	590
Sandy shells	5	595
Slate	95	690
Sandy shells	10	700
Sand	10	710
Slate	32	742
Sand	6	748
Slate and shells	37	785
Sand	15	800
Slate and shells	45	845
Limestone	5	850
Sand	7	857
Slate	18	875
Sand	15	890
Slate	14	904
Sand and slate	6	910
Slate	10	920
Sand (oil, 925 to 935 feet)	42	962
Slate	13	975
Limestone, gritty	45	1,020
Sand (oil, 1,045 feet; water, 1,050 feet)	85	1,105
Slate	3	1,108
Sand	28	1,136

Logs—Concluded.

	Thickness Feet	Depth Feet
Slate	2	1,138
Sand	22	1,160
Slate	24	1,184
Limestone	3	1,187
Red slate	6	1,193
Slate and shells	27	1,220
Limestone	25	1,245
Slate and shells	13	1,258
Red slate	4	1,262
Sand (gas, 1,267 feet)	28	1,290
Limestone	15	1,305
Red slate	25	1,330
Slate	20	1,350
Sand (oil, 1,351 feet)	45	1,395
Slate	21	1,416
Sand and shells	14	1,430
Slate and shells	20	1,450
Sand (oil, 1,461 feet)	10	1,460
Slate	15	1,475
Sand (gas, 1,490 feet)	25	1,500
Slate and shells	40	1,540
Limestone and slate	30	1,570
Sand (gas, 1,580 feet)	25	1,595
Limestone, gritty	45	1,640
Limestone and sand (show of oil, 1,695 feet)	55	1,690
Sandy limestone	24	1,714
Total depth	......	1,714

Bport. sec. 32, SW., No. 13.

Operators—Snowden Bros.

Farm and well—Perkins, No. 16.

Elevation—494 feet.

	Thickness Feet	Depth Feet
Sand (water)	130	125 to 255
Limestone shell, very hard	10	270 to 280
Red rock	7	285 to 292
Coal	6	430 to 436
Coal	5	500 to 505
Limestone shell	7	710 to 717
Sand	5	720 to 725
Sand (show of oil, 805 feet)	26	800 to 826
Oil sand (water, 880 feet)	75	840 to 915
Sand, hole full of water	96	1,060 to 1,150
Slate and shells	9	1,156 to 1,165
Limestone	15	1,180
Slate	30	1,210
Red slate	5	1,215
Slate	20	1,235
Limestone	8	1,243
Slate	4	1,247
Limestone	11	1,258
Slate	14	1,272
Red slate	6	1,278
Slate	2	1,280
Sand (gas, 1,285 feet)	20	1,300
Slate	5	1,305
Limestone	6	1,311
Slate	33	1,344
Red slate	6	1,350
Slate	6	1,356
Sand (oil, 1,378 and 1,398 feet)	54	1,410
Slate	33	1,443
Sand (pay, 1,445 to 1,450 feet)	17	1,460
Slate	19	1,479
Sand	14	1,493
Slate	10	1,503
Limestone	5	1,508
Total depth	......	1,508

Production, 100 bbls.

Cross-section B-B.

The B-B crsos-section, Pl. XIII, shows the structure of the northern end of the field. It crosses the field diagonally between Pet. sec. 15, NE., No. 1, and Pet. sec. 30, SW., No. 1. The sands above the "Gas" sand were not correlated because of their irregularity. The lower sands show the major arch of this region to be about 250 feet high and three miles wide. The section is made up of the following records.

LOGS.

The records of the following wells are found in the tables of well data:

List of Wells in Lawrence County Furnishing Data for Cross-Section B-B.

Township.	Section.	Quarter-section.	Well number.
Petty	2	SE.	2
	2	SE.	7
	2	SE.	5
	2	NE.	6
	36	SW.	13
	36	SW.	1
	36	NE.	7
	36	NE.	6
	30	SW.	1

Pet. sec. 15, NE., No. 1.

Presented in the stratigraphic discussion, page 80.

Pet. sec. 2, SW., No. 6.

Operators—Snowden Bros.
Farm and well—Armitage, No. 2.
Elevation—445 feet.

	Thickness Feet	Depth Feet
Soil, yellow	33	33
Slate, dark	162	195
Sand, light	15	210
Slate, dark	35	245
Limestone, light	8	253
Slate, white, soft	25	278
Limestone, white	15	293
Slate, white, soft	17	310
Sand, light (7 bailers of water per hour, 345 feet)	35	345
Slate and limestone shells, light, hard	11	356
Red rock	9	365
Slate, white	20	385
Sand, white	20	405
Slate, black, soft	75	480
Sand, light	15	495
Slate, light	25	520
Limestone, light	15	535
Slate and shells	30	565
Limestone, light, hard	12	577
Slate, black, soft	13	590
Limestone, white, medium	15	605
Slate, dark, soft	55	660
Sand, light	40	700
Slate, light, soft	100	800
Limestone, light, hard	7	807
Slate, dark, soft	12	819

Logs—Continued.

	Thickness Feet	Depth Feet
Red rock	10	829
Limestone, white, hard	15	844
Sand, white	25	869
Slate, dark, soft	40	909
Limestone, white, hard	15	924
Sand, white	12	936
Slate, dark, soft	15	951
Sand, white	13	964
Sandy limestone, white	30	994
Slate and shells	146	1,140
Sand (hole full of water, 1,140 feet)	30	1,170
Slate, black	5	1,175
Limestone shells and sand	20	1,195
Slate, dark, soft	45	1,240
Limestone shells, light	3	1,243
Slate and shells, light	42	1,285
Sandy limestone	15	1,300
Slate and shells	15	1,315
Limestone, light, hard	5	1,320
Slate and shells	115	1,435
Limestone, light, hard	5	1,440
Slate	18	1,458
Limestone, light, hard	22	1,480
Slate, white, soft	15	1,495
Red rock	10	1,505
Sand, light (show of oil, 1,505 feet)	6	1,511
Slate and shells	24	1,535
Sand (oil, 1,555 feet)	30	1,565
Slate	12	1,577
Limestone and sand (oil, 1,578 to 1,583 feet)	20	1,597
Slate	13	1,610
Total depth	......	1,610

Pet. sec. 2, SE., No. 10.

Presented in the stratigraphic discussion, page 81.

Pet. sec. 1, NW., No. 3.

Presented in the discussion of the A-A cross-section, page 117.

Pet. sec. 36, SW., No. 10.

Presented in the discussion of the A-A cross-section, page 117.

Pet. sec. 36, NE., No. 10.

Operators—Snowden Bros.
Farm and well—Nutall, No. 5.
Elevation—435 feet.

	Thickness Feet	Depth Feet
Gravel, yellow, soft	180	180
Slate, black, soft	80	260
Limestone, white, hard (water)	40	300
Sand, white, hard (12 bailers water, 305 feet)	5	305
Red rock	5	310
Slate, white, soft	60	370
Limestone, white, hard	85	455
Sand, white, soft (water)	45	500
Slate, white, soft	40	540
Slate, black, soft	25	565
Slate and limestone shells	70	635
Slate, black, soft	90	720
Sand, white, soft (water)	25	750
Slate, white	35	785
Sand (hole full of water, 1,000 feet)	215	1,000
Limestone, white, hard	95	1,095
Sand, white, hard	65	1,160

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Logs—Concluded.

	Thickness Feet	Depth Feet
Sand, slate, and shells, dark	50	1,210
Slate, white, hard	50	1,260
Sand, white, hard	35	1,295
Limestone, white, hard	15	1,310
Red rock	5	1,315
Limestone, white, hard	100	1,415
Slate, black, soft	19	1,435
Oil sand, gray	9	1,444
Slate, black	11	1,455
Sand, white (4 bailers of water, 1,465 feet)	10	1,465
Slate	25	1,490
Limestone, white, soft	60	1,550
Limestone, yellow, hard (oil, 1,564 feet)	15	1,565
Sandy limestone, white, soft	4	1,569
Sand, green oil, hard (first showing, 1,612 feet)	53	1,622
Slate, black, soft	15	1,637
Total depth	......	1,637

Cross-section C-C.

The C-C cross-section, Pl. XIV, is chosen along a line crossing the crest of the large dome in section 30, Petty township. This cross-section presents the extreme structure of the Lawrence county field. It shows the arch to be about 400 feet high and three miles wide. Correlation lines of five sands are drawn over the dome and reveal some irregularities of interval, particularly between the Kirkwood and Tracey sands and the Buchanan and "Gas" sands.

The section is made up of the following records:

LOGS.

The records of the following wells are in the tables of well data:

List of Wells Affording Data for Cross-Section C-C.

Township.	Section.	Quarter-section.	Well number.
Bridgeport	36	NE.	7
	31	NW.	5
	31	NW.	4
Petty	30	SW.	13
	30	SW.	12
	30	SE.	18
	30	SE.	15
	30	SE.	64
	30	SE.	63
	30	SE.	52
	30	SE.	53
	29	NW.	30, 31
	29	NW.	29
	29	NW.	2
	20	SE.	3

The remaining detailed logs of the section are presented as follows:

Bport. sec. 36, SE., No. 8.

Operators—Bridgeport Oil Company.
Farm and well—Stoltz, No. 13.
Elevation—523 feet.

Logs—Continued.

	Thickness Feet	Depth Feet
Slate and shells	65	65
Limestone	20	85
Slate	25	110
Limestone	10	120
Sand	15	135
Slate	105	240
Sand (water)	40	280
Sand	20	300
Slate	40	340
Coal	5	345
Limestone	35	380
Big limestone shell	40	420
Red rock	8	428
Slate	13	441
Limestone (?) (probably slate and shells)	139	580
Slate	20	600
Limestone (?) (probably slate and shells)	170	770
Sand (salt water)	25	795
Black slate	55	850
Sand	40	890
Sand (water)	45	935
Slate	12	947
Coal	2	949
Slate	10	959
Limestone	5	964
Slate	3	967
Sand	8	975
Slate	45	1,020
Sand	15	1,035
Slate	20	1,055
Limestone	3	1,058
Slate	40	1,098
Limestone	2	1,100
Slate	25	1,125
Limestone	21	1,146
Salt sand	99	1,245
Slate	15	1,260
Sand (salt water)	60	1,320
Slate	27	1,347
Limestone	37	1,370
Slate	20	1,390
Sand	10	1,400
Slate	15	1,415
Limestone	20	1,435
Slate	10	1,445
Sand (water)	20	1,465
Slate	8	1,473
Limestone	5	1,478
Slate	17	1,495
Limestone	10	1,505
Slate	17	1,522
Red rock	13	1,535
Slate	5	1,540
Limestone	35	1,575
Slate	20	1,595
Sand (5 bailers of water per hour)	10	1,605
Limestone	25	1,630
Slate	43	1,673
Limestone	2	1,675
Slate	4	1,679
Sand (oil, 1,689 feet)	21	1,700
Sand, broken	10	1,710
Slate	5	1,715
Sand, broken	12	1,727
Slate	6	1,733
Total depth	......	1,733

Bport. sec. 36, SE., No. 2.

Operators—Snowden Bros.

Farm and well—E. Fyffe, No. 9.

Elevation—506 feet.

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Logs—Continued.

	Thickness Feet	Depth Feet
Soil	14	14
Slate	90	104
Limestone shell	10	114
Slate	111	225
Sand (water, 240 to 300 feet)	85	310
Slate	55	365
Sand	40	405
Slate	10	415
Limestone, hard	12	427
Red slate	10	437
Sand, white, hard	15	452
Limestone, white, hard	7	459
Slate, dark, soft	192	651
Sand, white, hard	11	662
Slate	176	838
Limestone, white, hard	2	840
Slate	18	858
Limestone	7	865
Slate	25	890
Sand (water, 905 feet)	50	940
Slate	185	1,125
Sand (water, 1,160 feet)	135	1,260
Slate	25	1,285
Sand (water, 1,325 feet)	40	1,325
Slate	65	1,390
Sand (water, 1,435 feet)	60	1,450
Limestone	10	1,460
Slate, dark	43	1,503
Red rock, cave	7	1,510
Slate, dark, soft	5	1,515
Slate, dark, hard	17	1,532
Sand, white, hard	7	1,539
Slate, white, soft	15	1,554
Shale	19	1,573
Sand (water, 1,589½ feet)	16	1,589
Limestone	20	1,609
Slate, black	20	1,629
Slate, white	9	1,638
Red slate	2	1,640
Shell, hard	2	1,642
Sand, white (oil, 1,651 feet)	57	1,699
Slate, dark	18½	1,717½
Total depth	......	1,717½

Initial production, 150 bbls.

Bport. sec. 31, NW., No. 14.

Operators—Central Refining Company.
Farm and well—Perry King, No. 5.
Elevation—487 feet.

	Thickness Feet	Depth Feet
Clay	70	70
Limestone	6	76
Slate	20	96
Limestone	14	110
Slate	35	145
Limestone	5	150
Sand	80	230
Limestone	30	260
Sand	45	305
Slate	10	315
Sand	10	325
Red rock	6	331
Limestone	20	351
Slate	174	525
Sand	12	537
Slate	158	695
Sand	30	725
Slate	55	780
Limestone	5	785
Sand	80	865
Slate and shells	115	980
Sand (show of oil, 995 feet)	60	1,040

Logs—Continued.

	Thickness Feet	Depth Feet
Slate	12	1,052
Sand	83	1,135
Slate	10	1,145
Sand	145	1,290
Slate	15	1,305
Sand	35	1,340
Slate	10	1,350
Red rock	12	1,362
Limestone	53	1,415
Red rock	6	1,421
Sand	15	1,436
Limestone	29	1,465
Slate	14	1,479
Red rock	15	1,494
Sand (oil)	30	1,524
Total depth	......	1,524

Pet. sec. 30, SE., No. 26.

Operators—Bridgeport Oil Company.
Farm and well—Willey, No. 11.
Elevation—507 feet.

	Thickness Feet	Depth Feet
Soil	6	6
Quicksand	9	15
Slate	85	100
Sand	25	125
Limestone, hard	7	132
Sand	18	150
Slate and limestone	85	235
Sand	5	240
Coal	3	243
Slate and limestone	12	255
Red rock	20	275
Limestone and slate	85	360
Sand	30	390
Slate and limestone	84	474
Coal	2	476
Slate and limestone	134	610
Sand	28	638
Slate and limestone	67	705
Salt sand	45	750
Slate and limestone	45	795
Sand (oil, 820 feet)	35	830
Limestone	10	840
Slate	15	855
Limestone	103	958
Slate	5	963
Sand, broken	26	989
Sand (show of oil, 1,000 feet)	16	1,005
Slate	10	1,015
Sand	25	1,040
Slate	10	1,050
Limestone	15	1,065
Sand	40	1,105
Limestone	10	1,115
Salt sand	57	1,172
Limestone	6	1,178
Slate	21	1,199
Sand	9	1,208
Slate	7	1,215
Red rock	10	1,225
Limestone	5	1,230
Slate	20	1,250
Limestone	15	1,265
Slate	2	1,267
Limestone	8	1,275
Slate	15	1,290
Sand (gas)	10	1,300
Limestone	18	1,318
Slate	36	1,354
Sand (oil, 1,358 feet)	8	1,362
Slate	......	1,362
Total depth	......	1,362

Logs—Continued.

Pet. sec. 29, NW., No. 39.

Operators—Silurian Oil Company.
Farm and well—J. D. Bowers, No. 7.
Elevation—443 feet.

	Thickness Feet	Depth Feet
Sand (oil, 920 feet)	75	910 to 985
Sand (salt water)	40	1,060 to 1,100
Slate	38	1,138
Red rock	4	1,142
Slate	32	1,174
Limestone	12	1,186
Slate	39	1,225
Limestone	15	1,240
Slate	25	1,265
Red rock	5	1,275 to 1,280
Slate	8	1,288
Sand	32	1,320
Slate	35	1,355
Limestone	15	1,370
Slate	50	1,420
Sand (gas, 1,427 feet)	15	1,425 to 1,440
Total depth	......	1,440

Gas well, 520 pounds rock pressure.

Pet. sec. 29, NW., No. 8.

Operators—Bridgeport Oil Company.
Farm and well—Eshelman, No. 16.
Elevation—438 feet.

	Thickness Feet	Depth Feet
Soil	25	25
Sand	47	72
Slate	53	125
Sand	20	145
Slate	10	155
Sand	10	165
Slate	5	170
Limestone	5	175
Slate	60	235
Limestone	10	245
Slate	15	260
Sand	40	300
Limestone	5	305
Slate	45	350
Sand	15	365
Slate	42	407
Coal	3	410
Slate	90	500
Sand	20	520
Slate	55	575
Limestone, hard	5	580
Slate	5	585
Sand, broken	81	666
Slate, soft	24	690
Limestone	10	700
Slate	60	760
Limestone	15	775
Sandy limestone	27	802
Slate, black	58	860
Sand (oil)	10	870
Broken sand	52	922
Sand (some oil, 925 feet), white	58	980
Slate	7	987
Limestone	11	998
Slate	7	1,005
Limestone, hard	10	1,015
Slate	10	1,025
Limestone	10	1,035

Logs—Concluded.

	Thickness Feet	Depth Feet
Slate	15	1,050
Sand (salt water)	55	1,105
Limestone	5	1,110
Slate	6	1,116
Sandy limestone	13	1,129
Limestone	15	1,144
Red rock	2	1,146
Slate	34	1,180
Limestone	18	1,198
Slate	12	1,210
Red rock	13	1,223
Slate	4	1,227
Sand (gas)	13	1,240
Limestone, hard	10	1,250
Slate	23	1,273
Red rock	12	1,285
Sand (oil pay, 1,298 to 1,330 feet)	63	1,348
Slate	25	1,373
Limestone	14	1,387
Slate	33	1,420
Limestone	6	1,426
Total depth	......	1,426

Pet. sec. 20, SE., No. 7.

Operators—E. N. Gillespie.
Farm and well—Smith, No. 24.
Elevation—435 feet.

	Thickness Feet	Depth Feet
Sand (salt water)	25	725
Slate and shells	251	976
Sand	5	981
Sand (water)	94	1,075
Slate	95	1,170
Sand, salt	86	1,256
Slate and shells	41	1,297
Red rock	13	1,310
Slate	10	1,320
Limestone	30	1,350
Slate	35	1,385
Shells and slate	52	1,437
Sand, broken	27	1,465
Sand (oil)	10	1,475
Slate	8	1,483
Sand	56	1,539
Limestone	5	1,544
Slate	17	1,561
Total depth	......	1,561

Initial production, 80 bbls.

Cross-section D-D.

The D-D cross-section, Pl. XV, is drawn across the southern end of the field. It shows the flattened nature of the LaSalle anticline in this region and the small terrace on the western limb of the fold. The "Gas" sand is not noted in this portion of the field. The remaining producing sands are essentially flat but locally irregular. The section is made up of the following records:

LOGS.

The records of the following wells are in the tables of well data:

Logs—Continued.

List of Wells Affording Data for Cross-Section D-D.

Township.	Section.	Quarter-section.	Well number.
Bridgeport	29	NE.	2
Dennison	21	SW.	2
	21	SW.	3
	21	NW.	6
	21	NE.	9
	21	NE.	10
	22	NW.	12, 13
Lawrence	15	SW.	17
	15	SE.	1
	15	SE.	9
	15	SE.	12
	14	NW.	7
	14	NW.	3
	14	NE.	17
	14	NE.	1
	12	SW.	8

The remaining detailed logs of the section are presented below and elsewhere in this report:

Bport. sec. 30, NE., No. 2.

Operators—Snowden Bros.
Farm and well—McOrr, No. 1.
Elevation—503 feet.

	Thickness Feet	Depth Feet
Soil and slate	80	80
Sand, white (water, 80 feet)	35	125
Slate, white, soft	105	230
Sand	30	260
Slate	10	270
Limestone	4	274
Slate	156	430
Limestone	8	438
Slate, red, soft	7	445
Slate, white, soft	15	460
Sand	15	475
Slate	125	600
Coal	4	604
Slate	71	675
Sand, white, hard	5	680
Slate	90	770
Limestone	15	785
Slate, white, soft	83	868
Sand, white, soft (hole full of water, 916 feet)	48	916
Slate, dark, soft	25	941
Limestone, white, hard	9	950
Slate	20	970
Limestone	8	978
Slate	19	997
Sand	3	1,000
Slate	40	1,040
Sand, white, soft (water, 1,045 feet)	15	1,055
Slate	20	1,075
Limestone, white, very hard	3	1,078
Slate, dark, soft	42	1,120
Sand, white, soft (hole full of water, 1,170 feet)	210	1,330
Slate, dark	53	1,383
Sand, light, hard	9	1,392
Slate, dark, soft	23	1,415
Sand, white (water, 1,420 feet)	35	1,450
Slate, dark, soft	70	1,520
Sand (hole full of water, 1,522 feet)	25	1,545
Slate	49	1,594
Sand	59	1,653
Limestone, white, hard	15	1,668

Logs—Continued.

	Thickness Feet	Depth Feet
Slate, dark, loose	19	1,687
Sand, dark, soft (8 bailers of water, 1,708 feet)	21	1,708
Slate	5	1,713
Limestone, white, hard	2	1,715
Red rock	10	1,725
Slate, light	13	1,738
Limestone	2	1,740
Slate, dark, very soft	14	1,754
Limestone	10	1,764
Slate, dark, very soft	26	1,790
Sand, light, hard	10	1,800
Slate	8	1,808
Limestone	20	1,828
Slate	37	1,865
Sand (4 bailers of water, 1,880 feet)	71	1,936
Slate	22	1,958
Sand (pay, 1,962 to 1,972 feet)	14	1,972
Total depth	......	1,972

Bport. sec. 29, NW., No. 2.

Operators—Snowden Bros.
Farm and well—H. K. Seed, No. 2.
Elevation—490 feet.

	Thickness Feet	Depth Feet
Soil	18	18
Sand, slate and shells	332	350
Sand, white, soft	50	400
Slate and shells	300	700
Slate, white	50	750
Slate, dark	81	831
Sand, white (salt water, 851 feet)	129	960
Slate, sand, and shells (salt water, 1,165 feet)	205	1,165
Sand, white	105	1,270
Slate, dark	25	1,295
Sand	25	1,320
Limestone, white	25	1,345
Slate, dark	80	1,425
Sand, white	187	1,612
Slate	8	1,620
Sand, white (salt water, 1,650 feet)	30	1,650
Red slate	25	1,675
Limestone shells	55	1,730
Sand	20	1,750
Slate and shells	35	1,785
Red rock	6	1,791
Slate	11	1,802
Sand, white	26	1,828
Slate	17	1,845
Sand, white (salt water, 1,860 feet)	20	1,865
Slate	14	1,879
Shells, hard	2	1,881
Sand, brown	17	1,898
Total depth	......	1,900

Initial production, 125 bbls.

Bport. sec. 29, NW., No. 1.

Operators—Snowden Bros.
Farm and well—H. K. Seed, No. 1.
Elevation—476 feet.

	Thickness Feet	Depth Feet
Red rock	5	415
Sand, dry	14	610
Slate	150	760
Sand	15	775

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Logs—Continued.

	Thickness Feet	Depth Feet
Slate	55	830
Sand (salt water, 840 and 880 feet)	40	870
Slate	5	875 to 880
Sand (water)	40	920
Slate	10	930
Sand (water)	20	950
Slate	95	1,045
Sand (water)	230	1,275
Limestone	25	1,300
Slate	150	1,450
Sand (water, 1,460 feet)	40	1,490
Slate	20	1,510
Limestone	20	1,530
Sand	5	1,532 to 1,537
Slate	163	1,700
Red rock	5	1,705
Slate	95	1,800
Red rock	15	1,815
Sand (water, 1,830 feet)	15	1,830
Slate	28	1,858
Limestone	2	1,860
Slate	2	1,862
Oil sand	12	1,874
Slate	11	1,885
Total depth	......	1,885

Initial production, 40 bbls.

Law sec. 11, SE., No. 6.

Presented in the stratigraphic discussion, page 67.

Law. sec. 12, SW., No. 7.

Presented in the stratigraphic discussion, page 68.

Law. sec. 12, SW., No. 4.

Operators—Bridgeport Oil Company.
Farm and well—Henry, No. 1.
Elevation—440 feet.

	Thickness Feet	Depth Feet
Soil, etc	......	90
Sand (fresh water)	17	107
Slate	38	145
Limestone	10	155
Slate	10	165
Limestone shells	100	265
Red rock	13	278
Limestone, slate, and shells	72	350
Slate, pencil cave	70	420
Limestone and slate	190	610
Sand (hole full of salt water, 700 feet)	90	700
Slate and shells	205	905
Sand (salt water, 910 feet)	15	920
Slate	60	980
Sand (salt water, 1,000 and 1.030 feet)	85	1,065
Slate, black	115	1,180
Slate and shells	110	1,290
Limestone	10	1,300
Sand (water, 1,300 feet)	16	1,316
Slate	6	1,322
Sand	8	1,330
Limestone	55	1,385
Slate and shells	44	1,429
Limestone	30	1,459
Slate	31	1,490
Red rock, cave	10	1,500
Slate	5	1,505
Lime	16	1,521
Slate	23	1,544

Logs—Concluded.

	Thickness Feet	Depth Feet
Red rock	5	1,549
Sand (oil, 1,556 and 1,568 feet)	31	1,580
Slate	10	1,590
Sand (show of oil)	5	1,595
Slate	5	1,600
Sand (oil pay)	10	1,610
Limestone shell	90	1,700
Red rock, cave	10	1,710
Limestone	77	1,787
Sand	4	1,791
Limestone	91	1,882
McClosky sand	6	1,888
Total depth	......	1,889

Law. sec. 12, SE., No. 2.

Operators—Bridgeport Oil Company.
Farm and well—Tracey Heirs, No. 1.
Elevation—455 feet.

	Thickness Feet	Depth Feet
Sand (water at 12 feet.)		
Sand and gravel	85	85
Slate	15	100
Sand	10	110
Limestone	10	120
Sand	30	150
Limestone	5	155
Slate	85	230
Limestone	12	242
Slate	48	290
Limestone	10	300
Slate	15	315
Sand	25	340
Limestone	12	352
Slate	48	400
Limestone	10	410
Slate	50	460
Limestone	15	475
Slate	103	578
Limestone	5	583
Slate	17	600
Sand (water)	30	630
Slate	50	680
Limestone	30	710
Slate	13	723
Sand	12	735
Slate	80	915
Limestone	5	920
Slate	27	947
Sand	63	1,010
Slate	31	1,041
Sand (water)	29	1,070
Slate	15	1,085
Sand	40	1,125
Slate	68	1,193
Limestone	15	1,208
Slate	57	1,265
Sand (show of oil, 1,285 feet)	47	1,312
Slate	48	1,360
Sand	45	1,405
Slate	20	1,425
Limestone	25	1,450
Slate	30	1,480
Red rock	10	1,490
Limestone	10	1,500
Sand	10	1,510
Slate	55	1,565
Sand (water, 1,570 feet)	20	1,585
Slate	5	1,590
Sand (show of oil, 1,595 feet. Water, 1,600 feet)	25	1,615
Slate	112	1,727
Limestone	45	1,772
Sand	14	1,786
Limestone	297	2,083

Well plugged and abandoned.

RELATIONS OF STRUCTURE TO OIL AND GAS.

OIL.

The oil sands of Lawrence county have proven the richest in Illinois. They show remarkable stability in their yield and have promise of long life. The shallower sands have declined rapidly, but the Kirkwood, Tracey and McClosky sands are still prolific. Of the 2,810 wells mapped in this county, but 156, or 5½ per cent were dry. There are 890 wells mapped in Petty township, 860 in Bridgeport, 349 in Lawrence, and 711 in Dennison. The range of initial production is between one and 2,400 barrels per day. The Kirkwood sand has shown the best general production while the McClosky sand yielded the greatest number of gushers. The Bridgeport sand is the second best general producing sand. It has declined rapidly, however, and is giving way to the development of steadier sands beneath. There are 1,835 of the 2,654 producing wells, or about 70 per cent, that furnish information of the initial yield. This is sufficient to indicate the nature of distribution of oil in this field with respect to structural conditions. The following table shows the number of wells that furnished data of initial productions for each sand. They are listed by townships, sands, and extent of yield. The gas and dry wells are also given:

Table Showing Initial Productions of Various Sands in the Lawrence County Field.

Lawrence county.		Number of wells classified according to their initial production.							
Township.	Producing sand.	0-10 bbls.	10-50 bbls.	50-100 bbls.	100-200 bbls.	200-500 bbls.	Over 500 bbls.	Gas.	Dry.
Petty	Bridgeport	4	27	19	21	15	....	1	
	Buchanan	....	....	....	....	....	....	....	
	"Gas"	....	13	6	3	....	....	3	
	Kirkwood	4	71	87	63	10	4	8	
	Tracey	2	20	15	7	1	....	22	
	McClosky	8	52	35	23	4	6	5	44
Bridgeport	Bridgeport	6	48	100	47	3	3	....	
	Buchanan	....	4	8	30	38	8	....	
	"Gas"	....	7	2	3	1	....	3	
	Kirkwood	4	60	74	47	19	4	....	
	Tracey	....	1	1	1	....	....	1	
	McClosky	....	5	13	3	6	4	8	22
Lawrence	Bridgeport	....	1	1	4	....	....	....	
	Buchanan	....	7	11	51	22	1	....	
	"Gas"	....	....	....	....	....	....	....	
	Kirkwood	3	44	27	21	6	....	....	
	Tracey	....	8	1	....	....	....	....	
	McClosky	1	2	4	4	5	4	....	25
Dennison	Shallow	....	4	....	....	....	....	....	
	Bridgeport	5	50	51	54	9	....	9	
	Buchanan	1	1	3	22	10	....	....	
	"Gas"	....	....	....	....	....	....	....	
	Kirkwood	12	65	76	38	11	....	1	
	Tracey	3	5	4	2	1		1	
	McClosky	....	4	5	7	6	16	....	65
Total for field.	Shallow	....	4	....	....	....	....	....	
	Bridgeport	15	126	171	126	27	3	10	
	Buchanan	1	12	22	103	70	9	....	
	"Gas"	....	20	8	6	1	....	6	
	Kirkwood	3	240	264	169	46	8	9	
	Tracey	5	34	21	10	2	....	24	
	McClosky	9	63	57	37	21	30	13	156

PETTY TOWNSHIP.

The oil in sections 25, 26, 35 and 36, at the extreme northern end of the county, comes from the McClosky and Tracey sands. The initial yield per well does not exceed 200 barrels. The oil in both sands is found under a small dome on the top of the fold, which is separated from the elongated dome farther south by a narrow barren depression across the field. The McClosky sand is highly productive along a narrow strip north and south through the center of the field, especially in sections 18 and 30. The largest initial productions of Lawrence county were found in this sand in section 18. The oil is crowded into a small dome, similar in height, extent, and altitude to the arch in the extreme northern end of the field. The same sand is productive at a like altitude on the western flank of the dome-like structure in section 30. The productive strip is very narrow through this section but becomes broader in sections 31 and 6, Bridgeport township.

The Kirkwood sand shows the greatest number of producing wells in the remaining sections of the field, especially along the eastern dip of the anticline in sections 20 and 29. The wells in this region reported excellent initial productions. The Kirkwood sand is also highly productive in section 30, between 30 and 80 feet lower than the crest on the west side of the dome.

The "Gas" sand primarily produces gas but is productive of oil in the following wells:

List of Wells Producing Oil From the 'Gas' Sand; Lawrence County.

Township.	Section.	Quarter-section.	Number of well.	Initial production in bbls.
Petty	1	NE.	9	20
	7	NW.	9	40
	7	SW.	1	45
	7	SW.	4	35
	7	SW.	17	15
	12	NE.	2	65
	12	SW.	9	75
	12	SE.	6	135
	12	SE.	7	110
	13	SE.	2	75
	17	SW.	5	35
	17	SW.	6	25
	20	NW.	1	25
	24	NE.	2	40
	24	SE.	7	20
Bridgeport	5	NW.	9	170
	6	NE.	19	70
	6	NE.	22	30
	6	NE.	23	45
	8	NE.	9	60
	8	NW.	26	50
	8	NW.	27	30
	31	NE.	55	100
	31	NE.	56	100
	31	NE.	59	250
	31	SE.	4	50
	32	NE.	5	105
	32	NE.	18	20
	32	SW.	6	25

The Buchanan sand appears unproductive in Petty township. It is not correlated in this region because of possible confusion with the Bridgeport lenses. In fact, it may be possible that some of the lower productive lenses of the Bridgeport sand are mistaken for the Buchanan.

The Bridgeport sand is especially productive in sections 18, 19, 20, 29 and 30. The initial yields are between 30 and 300 barrels.

BRIDGEPORT TOWNSHIP.

The Bridgeport, Buchanan, and Kirkwood sands are the most productive in Bridgeport township. The Bridgeport and Kirkwood sands have the largest number of average size wells, while the Buchanan sand has the larger number of gushers.

The Bridgeport sand is especially productive in sections 32, 5 and 8, which lie structurally along the southern slope of the double plunging anticline. The average yield in these sections is between 50 and 150 barrels.

The Buchanan sand has its type area in section 17. The wells are very rich in their initial yield, varying between 100 and over 500 barrels. There are a number of gushers recorded from this locality. The oil is crowded into a small dome on the crest of the anticline; the structure is discussed on page 107.

The Kirkwood sand yields the best wells in sections 6, 31 and 32, which lie along the western flank of the arch and the south-western slope of the largest dome.

The McClosky sand is productive in sections 6 and 31. This is an extension of the narrow productive area through Petty township. Several gushers are reported from section 31.

LAWRENCE TOWNSHIP.

The Kirkwood and Buchanan sands are the most productive in Lawrence township. This locality is the type area for the Kirkwood and a portion of the Buchanan sands.

The Buchanan sand is especially productive in sections 15 and 16. The average yield is 100 to 200 barrels. Several large wells are reported from this area. The oil is crowded into a dome similar in height and altitude to the one in section 17, Bridgeport township.

The type locality for the Kirkwood sand lies in sections 13 and 14 and extends southward into Dennison township. The wells are not highly productive. The oil lies in an extensive flat in the sand which spreads southward through the remainder of the field. The McClosky sand shows a number of excellent wells in section 14.

DENNISON TOWNSHIP.

The Bridgeport, Kirkwood and McClosky are the prominent producing sands of Dennison township. The Kirkwood sand, as in Bridgeport and Petty townships, is the most widely productive. The Bridgeport sand closely follows the Kirkwood sand in yield but is spotted in its distribution. The McClosky formation has furnished the best producing wells.

The Bridgeport sand is especially productive in sections 2, 26, 34 and 35. This area lies along the southwestern edge of the field. The wells average 50 to 150 barrels initial yield.

The Buchanan sand is notably productive only in section 21, which is an extension of the small dome lying in sections 15 and 16, Lawrence township. The wells are exceptionally large in their initial yield.

The Kirkwood sand shows many wells in sections 22, 23, 25, 26, 35 and 36. The initial yield averages 100 barrels. The oil lies over a broad flat in the sand that covers most of Dennison township.

The Tracey sand shows a light production in sections 25 and 26.

The McClosky sand has its type area and best production in section 25. There are many gushers from the McClosky sand in this section, the highest reporting 1,860 barrels for the first day. The productive areas of this sand lie at an altitude of about 160 feet above the datum plane.

Gas.

There are about 70 gas wells in Lawrence county. Gas is reported incidentally in over half of the records and is widely distributed in all the sands. The Kirkwood, Tracey and McClosky sands have yielded the most gas, particularly in Petty township where the field is governed by an elongated dome. The following table shows the locations and all available production data of the gas wells in Lawrence county:

Locations of Gas Wells in Lawrence County, and Sources of Gas.

Township.	Section.	Quarter-section.	Well number.	Name of sand.	Yield in cu. ft. per day.	Remarks.
petty	1	NW.	6	Tracey		
	1	SW.	3			
	2	NE.	2	Kirkwood	4,000,000	Second lens
	2	NE.	4			
	2	NE.	6	McClosky	2,500,000	
	2	NE.	7	Kirkwood		
	2	NW.	1	..do		
	2	SE.	2	..do	7,000,000	600 pounds pressure
	2	SE.	5	..do		Second lens
	7	NW.	10	Tracey		
	7	SW.	9	..do		
	12	NE.	4	Kirkwood		
	12	NE.	5	Tracey		
	12	NW.	1	..do		
	12	NW.	2	..do		
	12	NW.	7	..do		
	12	SE.	1	..do		
	12	SE.	9	..do		
	13	NE.	4	Kirkwood		
	19	NW.	2	Tracey	3,000,000	
	19	NW.	6	..do	7,500,000	650 pounds pressure
	19	SE.	6	..do		400 pounds pressure
	19	SE.	29	"Gas"		
	20	SW.	29	Bridgeport		
	24	NW.	3	Kirkwood		Second lens
	25	NE.	7	Tracey		T. 5 N., R. 13 W.
	25	SW.	4	..do		..do
	25	SW.	5	..do		..do
	29	NW.	39	..do		520 pounds pressure
	29	SE.	1	"Gas"		
	30	NE.	24	McClosky		
	30	SW.	6	Kirkwood		
	30	SW.	9	Tracey		
	30	SW.	13	"Gas"		
	30	SE.	31	..do		
	30	SE.	59	McClosky	6,000,000	
	30	SE.	69	..do	2,000,000	
	36	NW.	9	..do		T. 5 N., R. 13 W.
	36	NW.	12	Kirkwood		..do

Locations of Gas Wells in Lawrence County—Concluded.

Township.	Section.	Quarter-section.	Well number.	Name of sand.	Yield in cu. ft. per day.	Remarks.
Bridgeport	8	NW.	29	Buchanan	1,000,000	
	31	NE.	7	McClosky	1,000,000	
	31	NE.	23	..do		
	31	NE.	48	..do		
	31	NE.	50	..do		
	31	SE.	6	"Gas"		
	31	SE.	11	McClosky		
	31	SE.	14	"Gas"		
	32	SW.	6	..do	1,000,000	
	32	SW.	10	McClosky		
	32	SW.	24	Kirkwood		
Dennison	1	SW.	2	Tracey	4,500,000	
	1	SW.	6	Kirkwood	3,000,000	Second lens
	27	SE.	3	Bridgeport		
	27	SE.	4	..do		
	34	NE.	2	..do		
	34	NE.	5	..do		
	34	NE.	6	..do		
	35	NE.	4	..do	2,000,000	
	35	NW.	7	..do		
	35	NW.	8	..do		
	35	SE.	1	Shallow	2,500,000	

PETTY TOWNSHIP.

The greatest number of gas wells of the Lawrence county field lie in Petty township. They are scattered along the flanks of the anticline. The "Gas" sand yields gas in small quantities over Petty township and abundantly in section 30. The gas does not occur at the apex of the large dome centering in this section but lies about 60 feet below on its western flank. The Kirkwood sand is especially productive of gas in sections 1 and 2 in the northern end of the field. The gas seems to be arrested along the steep western flank of the anticline. The Tracey sand shows the greatest productions of gas in this township, and, indeed, over the entire area. The best yield is in the northern portion of the township and through the middle of the broad fold. Several wells also yield gas about 120 feet below the apex of the dome in section 30. The McClosky sand shows an excellent yield of gas on the crest of the same dome.

BRIDGEPORT TOWNSHIP.

The "Gas" and McClosky sands yield the best pressures of gas in the northern end of the township. The McClosky sand shows several good wells in section 31, about 70 feet lower than the crest of the dome. The two smaller domes in sections 31 and 32 contain gas. The "Gas" sand yields abundant gas in sections 6 and 31, but it lies between 100 and 140 feet below the crest of the dome. The Buchanan sand usually possesses little or no gas, but it reports it in several wells in sections 7 and 8. The type locality of this sand, section 17, does not report any gas. The Kirkwood sand shows a scattered record of gas in its many wells, but particularly in section 17.

Lawrence Township.

The Kirkwood sand shows gas in most of the wells in Lawrence township. The Bridgeport and Buchanan sands show no gas while the McClosky gives data from about six wells. There are no commercial gas wells in the township.

Dennison Township.

The Bridgeport sand shows a number of gas wells in sections 1, 2, 34 and 35. Most all the wells penetrating the Bridgeport lenses record gas in them. The Kirkwood sand gives numerous records of gas over the township but particularly in sections 22, 23 and 36. The McClosky sand shows abundant gas in sections 25 and 36. The gas would be marketable from this sand but for the enormous yield of oil.

RELATIONS OF STRUCTURE TO SALT WATER.

The sands of Lawrence county show abundant water along the flanks of the anticline and but little through the center of the field except in the lower Bridgeport and Buchanan sands. The Pottsville rocks appear well saturated with water over the entire field and into the limbs of the LaSalle fold. The Chester sands are not uniformly saturated with water but seem to have limit lines of saturation along the limbs of the fold, more particularly along the western side. The McClosky sand similarly shows abundant water on the western slope of the fold and in parts of Petty township.

Petty Township.

There is but little water shown in the record of wells in the producing sands of Petty township. The Bridgeport and Buchanan sands are closely associated and show abundant water in sections 1, 2, 19, 20, 29, 30 and 36. The Kirkwood sand shows some saturation beneath the oil in sections 12 and 36. The McClosky sand shows some water content in sections 12, 13, 15, 24 and 25.

Bridgeport Township.

All the sands in sections 1, 18 and 36, Bridgeport township dip low on the western limb of the anticline and show much water. The upper Bridgeport lenses, like those of the Robinson sand of Crawford county, are generally barren of water within the oil pool in this region. The lower lenses are widely saturated in sections 6, 7, 8, 31 and 32. The Buchanan sand is completely saturated with water in sections 6 and 31, but water underlies the oil zone in its type locality, section 17. The Kirkwood and McClosky sands are usually free from water in this region, except along their outer edges.

Lawrence Township.

The Bridgeport sands contain abundant water in Lawrence township. The Buchanan sand is water-bearing in sections 2, 11, 12 and 14, but contains less water and is oil-bearing in section 16. No water is reported for this sand in section 15. The bottom of the Kirkwood sand contains water in sections 1 and 13. The Tracey sand, in several cases, shows abundant water in section 10. The McClosky sand is reported water-bearing only in section 1.

Dennison Township.

The lower Bridgeport lenses and Buchanan sand contain water over most of Dennison township. The upper lenses are productive at the southern end of the field and show some water beneath the oil in section 2. The Kirkwood sand shows water beneath the oil in sections 1, 5, 6, 7, 24 and 30. The McClosky sand is wet in sections 19, 24, and in the northern part of 25.

CHAPTER V.

General Summary of Geological Conditions in Crawford and Lawrence Counties.

GENERAL STATEMENT.

The features of the structure maps of the different sands, and their individual oil, gas, and salt water relations just described, are sufficiently similar to permit general conclusions as to the accumulation of oil and gas in Crawford and Lawrence counties. These conclusions add to the general fund of evidence confirming the accumulation of oil and gas in folded rocks.

GENERAL STRUCTURE OF REGION OF THE LA SALLE ANTICLINE.

The greater portion of Illinois lies within the Eastern Interior Coal Basin, which is, broadly speaking, an extensive spoon-shaped basin, with its long axis extending along a line through Cerro Gordo, Lovington and Olney and with its deepest part in Wayne, Hamilton and Edwards counties. The east side of the basin rises into a strong longitudinal fold known as the LaSalle anticline, which extends from the vicinity east of LaSalle in a southeastern direction to Sadorous in Champaign county. From thence it passes near Tuscola and enters the oil territory of Clark county near Westfield. It continues in a direct line through the oil fields in Clark, Crawford and Lawrence counties until the vicinity of St. Francisville in the latter county is reached. The identity of the fold is lost beyond Lawrence county but it is thought to cross the Wabash into Indiana and possibly merges into the eastern flank of the Illinois basin. The writer has compiled several structure sections[1] which illustrate these facts.

The formations ascend from the axis of the basin into the Crawford and Lawrence county oil fields at the rate of about 50 feet per mile. The ascent becomes more rapid in Lawrence county because of the presence here of the very sharp apex of the anticlinal dome.

The sands of the Illinois basin have been thoroughly tested immediately west of the oil fields and found full of salt water. The lower

[1] Ill. State Geol. Survey, Bull. No. 16, 1910, pls. 7 and 11.

flanks of the fold are known to yield abundant salt water in all the sands which are productive in the main fields. The conditions for the accumulation of oil and gas in the fields are ideal because of the presence of the following governing factors:

1. There is an extensive anticline with a marked basin on at least one side.
2. The depressions on both sides of the fold, showing abundant water, comprise extensive "feeding areas" for the arch.
3. The sands are commonly porous and hence form suitable reservoirs for the storage of oil.
4. There are abundant shales and limestones overlying the sandstones which originally furnished the oil and now probably serve as impervious covers to the reservoirs.
5. The sands in both limbs of the anticline are abundantly saturated with salt water which is probably instrumental in holding the oil and gas captive in its present position. This consideration is highly important because of the relations of water and oil and the resultant concentration of oil in folded structure.
6. The portion of the arch containing oil is six to seven miles in its extreme breadth and one or two miles wide in the narrowest places. The large amplitude and breadth of the arch offered an enormous reservoir capacity.

DETAILED FEATURES OF THE FIELDS.

The detailed discussion of the structure in the Crawford and Lawrence county field proves conclusively the presence of a major fold governing the accumulation of oil and gas in this region. The crest of the fold, however, is shown to be very irregular. It is interrupted by numerous minor domes and transverse depressions, which perhaps have been instrumental in segregating the pools. The succession of irregularities culminates in a very extensive uplift of the axis of the anticline north of Bridgeport, Lawrence county, which has the appearance of an elongated dome. Other portions of the anticline show a flattened crest or minor domes.

With one exception the best collection of oil was found over the extensive flat areas along the crest of the parent fold. The large dome in the Lawrence county field shows an exceptional accumulation of oil around its flanks but not at the crest. The domes over the entire area investigated are logical gas reservoirs. The gas, however, does not lay at the apexes of the domes but a short distance below. The best gas and oil wells on the dome in Petty township, Lawrence county, are from 50 to 100 feet lower than the apex. The smaller domes in Lawrence county show good accumulations of oil.

The uppermost part of the flanks of the major fold contain abundant oil. The oil decreases in quantity toward the outer boundaries of the field. The western limit is abrupt and the wells along this boundary produce abundant water. Enough data are at hand to conclude that this is a line of water saturation and that above this line and over the fold most of the sands are wholly oil-bearing. The Pottsville rocks are exceptional in that they contain water in the lower portions and in some cases are wholly saturated over the fold. These rocks are widely distributed over Illinois and are conspicuous for their yield of salt water. The sands lower than the Pottsville and the upper Bridgeport and Robinson lenses do not show much saturation over the crest of the anticline. There are one or two spots in the field that show isolated patches of water-bearing sand, particularly in the Kirkwood and McClosky sands.

Some of the non-producing wells in the producing areas owe their condition to impervious sands or thinning out of producing sands. Lack of porosity will perhaps explain the position of dry wells often occurring at or near the very minor domes or small pits that occasionally exist along the crest of the fold.

Prospective Pools.

It is probable that the high spots along the crest of the major fold, especially the one in section 30, Petty township, Lawrence county, represents cross folding or buckling. This condition would suggest that the territory east of the fold would be similarly affected, particularly in the lower producing formations. New pools are then possible to the east of the fold in positions and directions perpendicular to the trend of the field and parallel to the raised portions of the anticline. The presence of oil in Honey Creek and Montgomery townships of Crawford county seem to bear out this relation. The chief raised portions of the fold occur in section 1, the northwest corner of section 18, and section 30 of Petty township; sections 10 and 14, Lawrence township and sections 23, 26 and 35 Dennison township, all of Lawrence county.

The western side of the Crawford and Lawrence county oil fields, with one exception, is sharply defined and is bounded by a line of water saturation. In addition to this, the dip of the strata into the Illinois basin is so pronounced that the only possibility for new pools lies along unknown terraces, similar to the one occurring in section 29, Bridgeport township.

The extension of the south end of the field is problematical and almost impossible to forecast with the present development, owing to the lack of data and the uncertain character of the anticline. It is also likely that the gap between the Lawrence and Crawford county fields will remain barren as it seems to represent a large transverse basin on the fold.

Possibilities for the production of oil in sands in Crawford county, corresponding to the deep producing formations of Lawrence county, are slight because of the established fact that these formations gradually pinch out to the north of Lawrence county.

CHAPTER VI.

Economic Features of the Illinois Fields.

INTRODUCTION.

The discovery of profitable quantities of oil in Clark county in 1904 and 1905 led to a remarkably rapid development of the oil fields in the State. The development is all the more surprising when it is noted that in the short period of six years a production of such proportions reached its zenith. Other great fields of America required as high as 30 years to attain such a position. Besides, the Illinois production comes from the smallest areal extent of oil producing territory of the first seven ranking states:

Rank.	State.	Square miles of petroleum lands.
1	California	850
2	Oklahoma	400
3	Illinois	250
4	West Virginia	570
5	Ohio	650
6	Texas	400
7	Pennsylvania	2,000

Illinois gained ninth place for production and value of oil in 1906 and third place for both in 1907. Since 1907 the State has held third place for production and second for value and has been exceeded only by California and Oklahoma. Up to January 1, 1912, about 19,982 wells had been drilled for oil and gas in the State, of which 15.7 per cent were barren. The remaining 84.3 per cent have produced since 1905 about 157,905,084 barrels of oil, valued at about $101,666,473. The extent of the fields, the grade of the oil, and the efficiency of production, place them among the greatest of the world from an economic point of view.

The successful growth of the Illinois fields may be attributed particularly to the quiet efficiency of experienced and capable oil men. The Appalachian fields supplied the greatest influx of operators, and these, through many years of training, determined the trend of development. They soon established the limits of the field and thus prevented useless explorations.

After oil has been found in commercial quantities in the shallow Casey pool, the operators began to drill in all directions. They were, however, soon limited east and west of Casey by boundaries which were defined by barren wells that either failed to show oil or yielded large quantities of salt water. This caused a shifting of the development inward and along a north and south direction. The discovery of oil in deeper sands in Crawford county led to the same tactics of development, and eventually the long narrow strip of oil country in Clark county approached the broader pool of Crawford county. Similarly, the movement continued from the deeper productive fields of Lawrence county.

The Illinois fields are somewhat different from others because of local conditions and the necessity of properly and economically caring for enormous quantities of oil. The business is divided into many branches, each of which, from the first step of leasing to that of an established production, requires careful and systematic attention. The Ohio Oil Company (Standard) controls most of the production and under its management, there have sprung up various departments necessary to cope with the rapidly increasing yield of oil. This has been done remarkably well and as has been truthfully said, "there never has been an oil field so well taken care of in so short a time as that of Illinois."

The following general discussion of the several phases of the oil business is made with a view of enlightening those readers who are not familiar with the business. It is not intended to be an authoritative explanation of the methods used in developing an oil field or of the details of drilling a well.

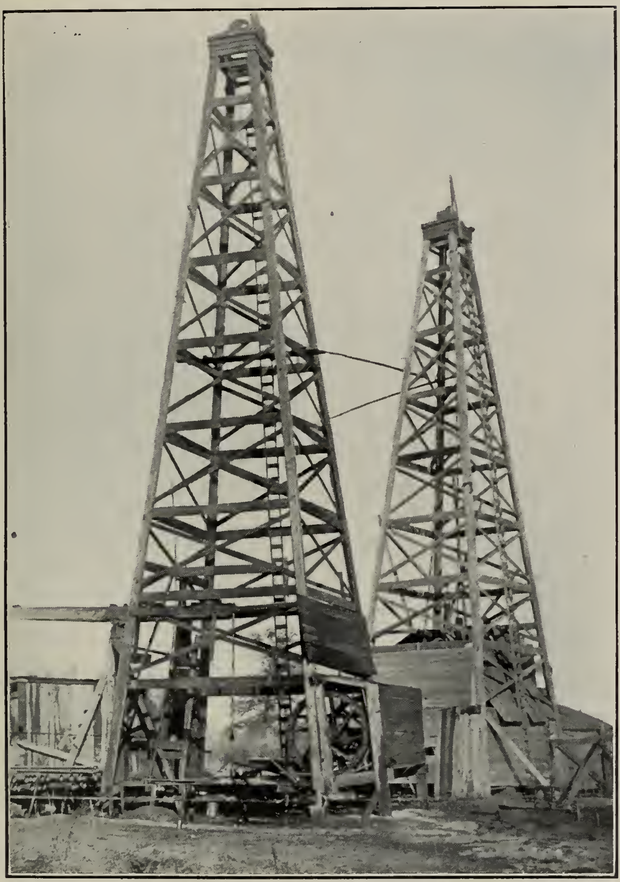
DEVELOPMENT OF OIL PROPERTIES.

Forenote.

The first step necessary to the development of any oil field is a business-like lease of the land, conveying distinct rights to both the landowner and the lessee. The successive steps of choosing well sites, drilling, shooting wells, and equipping oil properties involve activities separate from each other, yet so connected that each is a necessary part of the whole. In fact, the largest oil companies in Illinois have separate branches for leasing, drilling, buying, pipe-line discharging, telegraphing, and engineering.

The first step of the oil operator after learning of an "oil strike," is to lease as near as possible to the producing wells. If he has sufficient knowledge of the geological structure of the area, he follows the trend of the anticline or terrace, as the case may be. If he feels that his properties are within the limits of possible producing territory, he makes his locations and starts his drilling.

It is regrettable that many inexperienced operators are attracted by the rush to newly proven areas and by lack of knowledge of both the nature of the business and underground conditions, are led to failure. It is often the case that such novices open up a field. Any observer of the oil business will soon note, however, that the larger companies and operators do but little "wildcatting," preferring to profit by the ex-



The standard derrick.

perience of the novice. It is true also, that field limits of many proven areas are established only by these indiscriminate test holes.

Leasing.

In contrast with the oil territories of the mountainous Appalachian regions and of the far west, Illinois is a drift-covered plain. All of it is either in cultivation or devoted to pasture. The land divisions are simple and uniform and are based on the civil township of thirty-six sections. Each section usually is sub-divided into tracts of the multiple of twenty acres. The leasing of properties then starts upon a simple basis.

There are no set rules concerning leasing as this is necessarily dependent upon local conditions. The oil men deal entirely with individual land-owners, and leases are private bargains. While some of the territory is developed by land-owners, it is more often leased to operators for a period of five years, with option of further lease as production continues. If adjoining property is untested at the time of leasing, the farmer usually receives a royalty of from one-eighth to one-sixth of the future production, with the further stipulation that drilling is to begin within six months to two years, or that a stated rental per acre will be paid until the first well is drilled. If, on the other hand, the desired property lies near producing territory, the land assumes added value and a bonus is demanded in addition to the royalty and the reservation of the fee. The closer the farm is to good oil properties, the higher the bonus becomes; it averages from $10.00 to $40.00 per acre, but sometimes reaches $200.00 or more per acre.

The land-owner retains all surface rights of the land, except on the portion necessarily used by the operator for his equipment, including a full quota of wells, power house, boiler house, tankage, waste pit, and pull rods. Upon an 80-acre tract not more than six acres are necessary for this. A large portion of the land in the oil district is not considered especially valuable from an agricultural point of view and consequently but little restriction is placed upon the operations.

In certain portions of the field, industrious farmers till their ground and at the same time derive a good income from oil. If a large storage of oil is contemplated it is customary to buy the land outright for a so-called tank-farm.

Stipulations are usually made regarding the use of gas by the land-owner and of payment by the lessor for active gas wells. This generally averages from $100.00 to $200.00 per well per year. There are but few large gas wells in the Illinois fields and the income is insignificant as compared with that derived from the vast production of oil.

The lessee further agrees not to drill wells closer than 200 feet to any dwelling or barn, except in the case of town lots. (See Pl. XXIII, B.) This may be made optional with the land-owner and merely serves as a protection to his perishable property.

It is also agreed that the lessee shall be responsible for all damages caused to growing crops, provided there is enough in amount to warrant complaint. Oftentimes when a well is shot and a good flow is secured, the wind will spray the oil over a considerable area of growing grain and will thus render it unfit for use. Again careless driving over cultivated ground will destroy a portion of the crop and so warrant complaint. All pipe lines are buried below plow depth.

After production is established, the lease becomes the most valuable part of the oil property. It is often sold, the price depending mainly on the number of producing wells and their average daily yield. A transfer of lease often takes place even though no wells have been drilled on the tract. The price of this is dependent upon the distance from proven property. In fact, lease speculation has become a very lucrative business, particularly in newly opened areas. The speculator watches the prospecting and upon the first news of the oil strike, rushes to the locality and leases what he can without a great amount of expense. The demand for land "close up" to the active wells soon outstrips the supply and the unfortunate operator who is late or who really wishes to drill, is forced to pay the speculator's price. A good example of this type of traffic was shown in the recent Carlyle, Illinois excitement.

The following form of lease is in common use in Illinois:

The steel derrick.

OIL AND GAS LEASE.

Agreement, Made and entered into the..................day of.............................., A. D. 191...., by and between.. of..........................., County of..............................., and State of..........................., part........of the first part, and... party of the second part.

WITNESSETH, That the said part.....................of the first part, for and in consideration of the sum of One Dollar to ....in hand well and truly paid by the said party of the second part, the receipt of which is hereby acknowledged, and of the Covenants and agreements hereinafter contained on the part of the said part.......................of the second part, to be paid, kept and performed, ha........granted, demised, leased and let and by these presents do........grant, demise, lease and let unto the said party of the second part, for the sole and only purpose of drilling and operating for oil and gas, and of laying pipe lines and of building tanks and structures thereon, to take care of said products all that certain tract of land situated in.........................Township, ... County, and State of.................................., described substantially as follows:

....

....

....

....

....

....

....

....

Containing ....acres, more or less, hereby waiving all rights under and by virtue of the homestead exemption laws of this state, reserving, however, therefrom, one hundred feet around the buildings on which no well shall be drilled by either party except by mutual consent.

It is agreed that this lease shall remain in force for the term of five years from this date, and as long thereafter as oil or gas or either of them is produced therefrom in paying quantities by the party of the second part.

IN CONSIDERATION OF THE PREMISES, the said party of the second part covenants and agrees: 1st; To deliver to the credit of the first part..heirs or assigns, free of cost in the pipe line to which the wells may be connected, the equal one-eighth part of all the oil produced and saved from the leased premises; and 2nd; To pay..Dollars per year for the gas from each and every well (from which gas only is produced) drilled on said premises, and marketed off the premises, said payment to be made on each well within 60 days after commencing to market gas therefrom, as aforesaid, and to be paid yearly thereafter while the gas from said well is so used.

First parties shall have gas, if found on this farm, free for heating and lighting one dwelling, from surplus gas, if any over and above the demands for pumping and operating this lease, by making their own connections. In consideration of free gas as aforesaid, second party shall have the privilege of using surplus casing-head gas from these premises (provided said dwelling be supplied as aforesaid) to operate other wells owned by second party without payment for any gas so used. Second party covenants and agrees to locate all wells so as to interfere as little as possible with the cultivated portions of the farm. And further, to commence a well on said premises within..from the date hereof, and drill same to completion with all available speed, or pay thereafter at the rate of...Dollars, quarterly in advance, for each additional three months such commencement is delayed, and it is agreed that the commencement of

Oil and Gas Lease—Concluded.

such well, as aforesaid, shall be and operate as a full liquidation of all rental under this provision during the remainder of the term of this lease. Any payments falling due may be made direct to lessor........or deposited to..............................credit in ....

....

Second party agrees to bury all pipe lines below plowing depth when requested by first par........

Second party agrees to pay all damages to crops caused by his operations on this land.

....

....

....

IT IS AGREED, That the second party is to have the privilege of using sufficient water, oil or gas from the premises to operate same (except water from wells, ponds or cisterns without consent of first part......) and at any time to remove all machinery and fixtures placed on said premises, and further, upon the payment of One Dollar, at any time, by the party of the second part, to the part...... of the first part, said party of the second part shall have the right to surrender this lease for cancellation, after which all payments and liabilities to accrue under and by virtue of its terms shall cease and determine and this lease shall become absolutely null and void.

It is expressly understood and agreed that all agreements, terms and stipulations contained herein shall extend to respective heirs, successors, administrators or assigns of parties hereto.

Witness the following signatures and seals.

WITNESS:

....	....(SEAL)
....	....(SEAL)
....	....(SEAL)
....	....(SEAL)

A.

B.

A. A nitroglycerine plant.
B. A storage magazine for nitroglycerine.

Choosing a Well Site.

When the lease is secured and the operator is ready to drill, he must choose the site for his first well. This is governed by one or two generally recognized rules or courtesies and many local circumstances. It is usually the custom to place wells about 210 feet inside the property line. This varies, however, with different depths of sand. Wells in the shallow fields are often placed 100 feet, or perhaps less, from the property lines. The drilling is usually inexpensive and many wells are drilled in the eager demand for the oil, with the result that such a field is quickly drained. The location lines in Crawford county are almost always maintained at the regular interval of 210 feet from the line but in the deep Lawrence county pools the distance is from 250 to 300 feet. The distance between wells on the same lease depends on expense and other factors. In the Clark and Crawford county fields they are generally placed 450 feet apart, but in Lawrence county, wells to the deeper sands are located 660 feet apart.

An unwritten law among operators in most fields requires the lessee to drill opposite producing wells on adjoining property. This is called "offsetting" and is done to protect property lines and prevent drainage of oil from the lease. It has been legally determined that a landowner can bring suit to make a lessee "offset" wells or else secure the surrender of the lease. It is the custom to offset all adjoining wells on the neighboring leases and leave the centers to be drawn upon. The free space in an 80-acre tract thus measures 900 by 2,250 feet. The line wells then draw to good advantage, and unnecessary center wells are avoided. It is a difficult matter to estimate the acreage drawn upon by oil wells. This is dependent upon the thickness and porosity of the sand, the area of the pool, and the location distances of the wells. It is estimated that about five acres are drawn upon by the Clark county wells, eight in Crawford county, and ten to twelve in Lawrence county. Without considering center wells, twelve to fourteen are drilled on an 80-acre tract in Clark and Crawford counties and from eight to ten in the Lawrence county field.

The choosing of a site may be affected, furthermore, by sudden dips in the sand about a regular location, thus breaking up the regularity of location lines. Further irregularity may be caused by the presence of buildings, permanent power houses, or unfavorable topographic features. It may seem advisable to even shift wells from a drift covered valley to the side of a hill where less expense is incurred in placing the drive-pipe. Well locations are often chosen in prospective areas with respect to the water and fuel supply. The advance of oil operators into active coal fields of the State may necessitate selection of well sites so as not to endanger mines and their employees.

Drilling.

The third step in the development of oil properties is a contract between the operator and the drilling contractor. An agreement is drawn up between the two for the drilling at a certain price per foot, dependent upon the locality and the depth of the desired sand. A uniform rate is usually established by the supply houses in an active oil field. Drilling in "wildcat" areas usually costs more than in a proven area because of the distance from railroads and the lack of material, fuel, water, etc. Deep sands and peculiar formations also affect the cost per foot of drilling.

Stipulations are made in the contract for drilling a specified depth and the contractor is held responsible for the well to that depth, or possibly to the extent of reaching the desired sand and determining its productivity. The agreement states that drilling shall begin within a specified time.

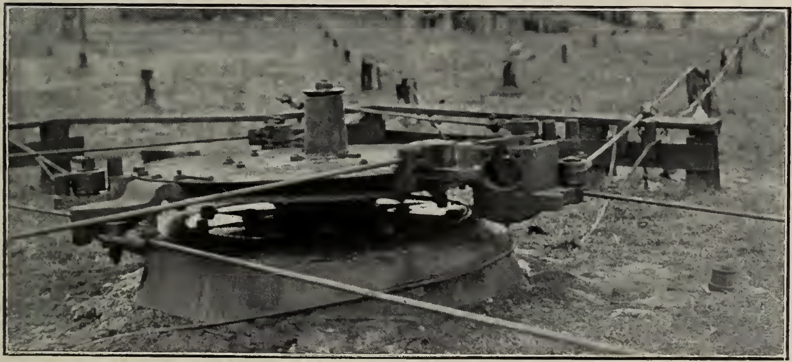
The contractor is responsible for the purchase and construction of the derrick. He furnishes boiler, string of tools, fuel, water, drillers and tool-dressers, and is held responsible for accidents. The contractor must replace the casing after a successful shot; clean out the well and pump it for a specified time free of charge, and tube the well. Should further cleaning be necessary after the time stated, a charge is usually made by the contractor for this service at the rate of $15.00 per day and the operator furnishes fuel and water. A rate of $2.50 per day is usually made for extra pumping. The contractor is permitted to use any oil or gas as fuel for drilling that he may find during the progress of his well. If the contractor experiences trouble in setting his casing, he is usually paid a reasonable amount for labor. In case a dry hole is secured the contractor must pull all the casing possible and in the event of a producing well he must draw that casing which is not desired in the well. In all events the contractor must put the well in order for pumping.

The operator, on his part, usually agrees to furnish conductor, drive-pipe, casing, tubing, and rodding. He provides for hauling the pipe and necessary accessories other than the driller's string of tools and rig. The operator is responsible for the plugging of a dry well and the filing of the affidavit thereto.

When the contract for drilling is signed, the operations pass into the hands of the contractor, who in turn contracts with the rig-builder. Nearly all rigs in the Illinois fields, outside of the Clark county pools and portions of Crawford county, are of the Standard type. (See Pl. XVI.) They are constructed of timber and consist of four strong uprights held in the shape of a pyramid by ties and braces, and resting on strong wooden sills. This derrick is used as a support for the sheave or crown pulley, which must be of sufficient height—66 feet in the shallow fields and 72 feet in the deeper fields—to swing the long, heavy, drilling tools free from the derrick floor. A second pulley is fastened to the top to swing the bailer free.

Connected with the derrick are principally the bull-wheel and shaft on which is wound the cable supporting the drilling bit; the walking beam, giving vertical motion to the tools; the band wheels, transmitting power from the engine to the movable parts; and the sheds to protect the engine, bull-wheel, and shaft from inclement weather. When these main portions of the derrick with necessary minor details are complete, the rigbuilder has fulfilled his part of the contract. The contractor then sets his boiler in place, adjusts his engine; winds his cables; places his swinging cranes for lifting the drilling bits; and does many trivial things necessary to facilitate his work.

A.



B.

A. Oil tanks under shed.
B. A pumping disc.

The construction of the standard rig requires about three days and costs about $500.00. The same derrick can be used about twelve times, at an extra cost of about $100.00 each time for tearing down and rebuilding and for additional repairs and materials.

The steel derrick (see Plate XVII) is used in some portions of the field, though not extensively. The uprights are of steel and the braces and ties are of wire, cable or thin steel rods. The sheds, shaft, and bull-wheels are of wood. The steel derrick can be torn down easily and moved indefinitely but its original expense is much greater than the standard derrick. The leading objection to the steel derrick is the probability of breaking or twisting pieces of the frame work during transportation and causing delay in expense and repair.

In the shallow fields a portable drilling rig is more often used than a permanent one. The whole outfit is mounted on a heavy wagon and includes a single high timber, fitted up as a derrick, while the remaining necessary parts are assembled in a compact manner back of it. This rig is not practical for deep sands or hard formations. There are two types of portable rigs, known as the "Star" and the "Parkersburg." Their cost, including all equipment, is about $2,300.00. A larger type of portable drilling rig has been perfected recently that is suitable for deeper sand pools. The cost of this rig is about $10,000.00.

The costs of drilling wells in Illinois has gradually declined since the opening of the Casey field in 1906. At that time the cost was $1.00 per foot when fuel and water were not included, and 90 cents per foot when they were supplied. The following costs of drilling are representative for the various pools:

Cost of Drilling in Illinois Oil Fields.

Pools. Depth.	Cost per foot.
Clark county, 400 to 500 feet	$0 80
Crawford county, 750 to 1,000 feet, 1907	1 00
Crawford county, 750 to 1,000 feet, 1908	0 90
Crawford county, 750 to 1,000 feet, 1909-1910	0 80
Crawford county, 750 to 1,000 feet, 1911	0 70 to 0 85
Lawrence County—	
Bridgeport sands, 800 to 950 feet, with 10-inch drive-pipe and 6 5/8-inch casing	0 80
Bridgeport sands, with 16-inch drive-pipe and 8¼-inch casing	1 35
Buchanan sands, 1,250 to 1,400 feet	1 35
Kirkwood sands, 1,450 to 1,650 feet	1 50
Tracey sands, 1,700 to 1,750 feet	1 50
McClosky sands, 1,775 to 1,875 feet	1 50

The approximate time required to drill, shoot, clean, and put in order a well in the different pools is as follows:

Pool.	Days.
Clark county, or Shallow sands	4 to 5
Crawford county	10 to 12
Lawrence County—	
Bridgeport sands	10 to 12
Buchanan sand	20 to 25
Kirkwood sand	35 to 45
Tracey sand	60 to 75
McClosky sand	60 to 100

The Bridgeport sands were the first developed in Lawrence county and were drilled with the small sized pipe similar to that used in the Robinson sand of Crawford county which is at the same depth. Later when the deeper sands were discovered and found more prolific, it became impracticable to use 6¼ inch casing. To secure production from all sands, therefore, a larger size drive-pipe and 8¼ inch casing were introduced. The operators found it profitable to drill new wells with larger size pipe rather than redrill the older ones. The old wells were allowed to produce until abandonment and, indeed, there are many that are still producing. These lie close to the town of Bridgeport.

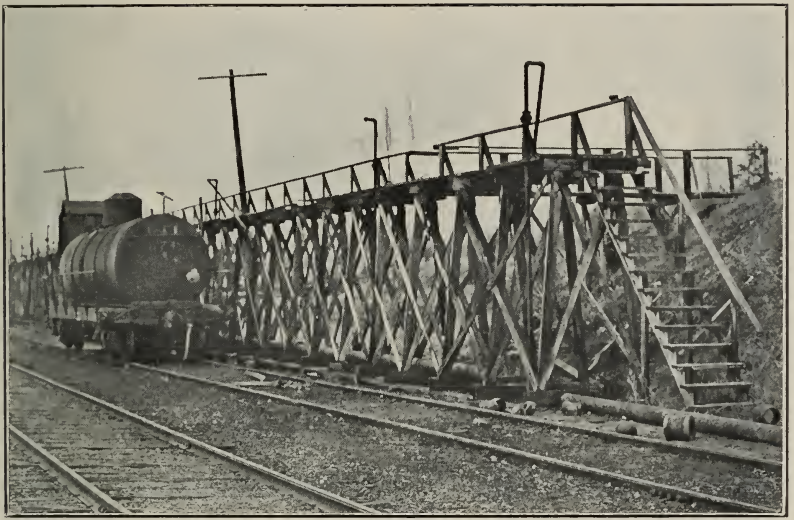
The drilling crew consists of two drillers and two tool-dressers, who work by pairs in shifts or "tours" of twelve hours each. It is the duty of the driller to stay close to the mouth of the bore, regulate the cable and temper screw when necessary, control the machinery, etc. The tool-dresser acts as an assistant, fires the boilers, attends to the engines, dresses or sharpens the bits, assembles the small tools, switches the bull-wheel cable, etc. The average daily wages of drillers is $5.00 and of tool-dressers $4.00.

The first process in the drilling of oil well is that of "spudding" —a method used in drilling the first 75 to 150 feet through what is known as the drift, and usually stopping at bed rock. The drift is composed of soil, sub-soil, clay, gravels, and sands, and is usually soft. A short cable is fastened by a shoe to the crank of the band wheel and to the general cable extending from the bull-shaft over the crown pulley and to the spudding drill in the well. As the band wheel turns, the short cable jerks the tools up and down. The bull-shaft is clamped while the spudding is going on and when it is released the cable and spudding drill are fed downward into the hole.

The hole is usually started in a large size conductor and the spudding apparatus is guided by hand. The regular drilling bit and stem are too long and heavy to manipulate for spudding.

When the spudding has been completed the stem and bit are substituted and are connected to the walking-beam and temper screw which lift the tools and cable at a varying rate of speed, dependent upon the depth of the well and the condition of the formations. The walking-beam rocks back and forth on an upright post independent of the derrick and so gives vertical motion to the cable and drill. The temper screw is fastened to the end of the walking-beam. The cable is clamped to the lower end of the screw and as it is necessary to lower the drill, a handle is turned and the tools are fed downward. The driller determines the lowering of the cable by the feel of the rope or its tension, and the temper screw is adjusted accordingly.

The temper screw varies in size from four to seven feet, the average screw-depth measuring five feet. The difference in length is due to the spring of the hemp cable. After a screw-depth of drilling has been accomplished the tools are withdrawn and a bailer is lowered in the hole. The bailer or sand bucket is a long section of hollow tubing with a ball and tongue valve at the bottom. As this is lowered into the thin mud and liquid at the bottom of the well, the valve opens and allows the bailer to fill. The weight of the liquid closes the valve as the bailer



A.

B.

A. A modern tank-car loading rack.
B. An early tank-car loading rack.

is lifted. When the bailer touches the ground at the mouth of the well, the valve releases and the slush pours out.

It is customary to place drive-pipe through the drift to bed rock. A square hammer is usually fitted to the top of the stem. The stem rests inside the pipe as the hammer strikes the top of it. When a section is driven its length into the hole, a second section is then coupled to the first and the driving is continued. The driving of the pipe is manipulated with the same apparatus used for spudding. The first casing is usually driven through the first salt water sand and, in the event of a bad cave, also through the caved material. Casing is never driven until it becomes necessary to do so. In case the driving of the pipe is difficult, a sharp heavy shoe is attached to the bottom.

Shooting the Well.

When the oil-bearing stratum has been tapped and found productive the work is continued slowly until within a few feet of the bottom of the sand or until evidence of salt water appears. The driller notifies the operator who in turn arranges with the agent of a nitroglycerine company to bring the explosive and shoot the well. After the shooter has measured the sand accurately with a steel-line tape, he pours the nitroglycerine into tin shells 5½ inches wide by 5 feet long, holding from 10 to 20 quarts each; and by means of a lowering line, pulley, and special releasing device, lowers them to the producing sand. The shells are conical at the lower end and concave at the upper, so as to fit snugly together. The top shell bears a water-proof percussion cap connected by a wire to an electric hand-battery above ground. A "Jack-squib" is often used to explode the shot. This is a tin tube, about 3 feet long containing a dynamite cap packed around with sand. A fuse is extended from the squib and is lighted and lowered. This is used when the hole is clean and not caving and when the casing is not pulled before the shot. In some cases the squib may contain a small quantity of nitroglycerine and be arranged to explode with a time fuse. The explosion opens a large cavity in the producing sand and cracks the bed for a wide radius, thus allowing the contained oil and gas to flow to the well. The greatest care is used in placing the shot in order not to disturb the overlying shales or the underlying sand, which usually contains salt water. If the shales are loosened to any extent they fill the cavity with debris and make the work of cleaning the well difficult. In case it is known that the lower sand does not contain salt water, drilling is carried through the sand and a pocket is made by the explosive to catch the caving material. If the salt water sand is tapped, a flow is often started that is difficult to control and which often drowns out the oil. In such a case the well is usually abandoned, although instances are known where the salt water head has been pumped off and a production of oil secured later. If it is desired to shoot the sand some distance from the bottom, an anchor, or supporting tube for the shot is placed at the bottom of the sand. If there are two producing sands close together two charges are set and an anchor, loaded with nitroglycerine, is placed between the sands. The explosion of the upper shot transmits the force to the second through the anchor.

The size of the shot depends upon the texture and thickness of the producing sand. It has been found that 30 feet of sand requires about 60 quarts of nitroglycerine. A charge of 80 to 100 quarts is sufficient for all sands in the Illinois fields. It is usually the custom to leave the 8 and 10-inch casing in the well and pull the casing near the producing sand previous to the shooting. This eliminates danger of collapsing or mangling. The casing is lowered later in cleaning the well.

About ten seconds after the shooter has discharged the explosive there is a quick jar of the earth, followed by a muffled report. With a roar the gas pours forth from the well in a bluish-white streak, followed, shortly, by a column of oil and water. This rises slowly to above the top of the derrick, where it sprays out in the direction of the wind. The rattling pebbles against the derrick, and the heavier thuds of large fragments on the ground are heard for several minutes. The column of oil subsides in a short time and the drillers cap the well or turn the flow into emergency tanks.

The shooters hold responsible positions and are chosen by the explosive manufacturers for their cool-headedness and skill. They receive salaries from $100 to $125 per month and usually a bonus for successful work and good behavior.

The torpedo company, through its shooter, is held responsible for the well from the moment of taking charge, and, if a premature shot takes place through carelessness or neglect, must arrange to drill another well immediately near the same location or pay for the ruined well. When the shot is successful the contractor resumes charge of the well and completes it by cleaning out and putting it in order for pumping. In all cases the shooter is required to know that the well is in perfect condition before shooting. It often occurs that after his explosive is partially set, the overlying formations cave and cover the shot. The shooter and drillers coöperate and clean out the well very cautiously to the top of the shot. Several days of the shooters time are thus required before he can complete his task, at an extra cost to the company.

The torpedo companies maintain manufacturing plants in isolated spots in each main field (see Pl. XVIII, A). Small storage magazines are built in other out-of-the-way places, usually one-half mile from any dwelling, so as to distribute the supply and avoid large loss in case of accident (see Pl. XVIII, B).

Special transportation is necessary to distribute the nitroglycerine. Large stock wagons supply the magazines and lighter wagons make distribution to the wells. The nitroglycerine wagon is built on strong but flexible springs, and is easily recognizable because of the height of the bed above ground. The bed of the wagon is fitted with square padded cells for each 10-quart can of liquid. The words "Nitroglycerine, Dangerous," are printed on the outside of each wagon and serve to notify the public of the nature of the vehicle. The shooter usually drives along unconcerned over bumps and ruts, confident of the security of his peculiar wagon. Accidents are rare, but they, sometimes, may be caused by collision or carelessness in pouring the liquid into the cans. A drop on the side of a can may be exploded by friction. The viscous liquid is safely poured by a steady hand.

A.

B.

A. A power or pumping house.
B. A boiler house.

Both liquid and solid nitroglycerine have been used in the field. The liquid explosive is a definite chemical compound, known as tri-nitro-cellulose. Glycerine is treated with a mixture of concentrated sulphuric and nitric acids at a temperature below 30° centigrade to prevent explosion. During the nitrating process water is given off and is absorbed by the sulphuric acid. The temperature of 30° centigrade is kept uniform and is effected by blown air during the mixing. The rate of mixing is slow and regular. After mixing the product is washed with water to remove the surplus acid. The solid nitroglycerine is made into cylindrical forms and has the appearance of a yellowish transparent jelly. It has the consistency of rubber and can be readily handled without danger, both during transportation and at the well. The process and product are patented. The liquid explosive is preferred because of its efficiency. The standard prices for the explosive are as follows:

Quarts.	Value.
10	$25 00
20	40 00
30	47 50
40	55 00
60 and more, per quart	1 15

Other charges include 2 cents per foot for electric wiring, and in case of delay, an extra charge of $15.00 per day for the time of the shooter.

Lease Equipment.

CLEANING OUT AND TUBING THE WELL.

After the well has been shot and a production of oil assured, the drillers clean it out in a manner similar to the original drilling. The bit is worked through any accumulated debris and the bailer brings up the slush. The pocket or cavity is emptied and thus serves as a reservoir. A two-inch tubing, containing a 5/8 inch sucker rod and cup, usually placed in the casing to the sand and is connected to the pumping machinery. If the well is the first one, the rod is set to pumping directly from the walking beam. If the well is one of several, it is connected to the power-house by a pumping jack. A three-inch tubing is often used if the well is a large one or large quantities of salt water are encountered. The cost of tubing is 11½ cents per foot. During the life of the well cups often become worn or loose and are repaired by the use of a portable cleaning rig. (See Pl. XXVII, B.)

TANKS.

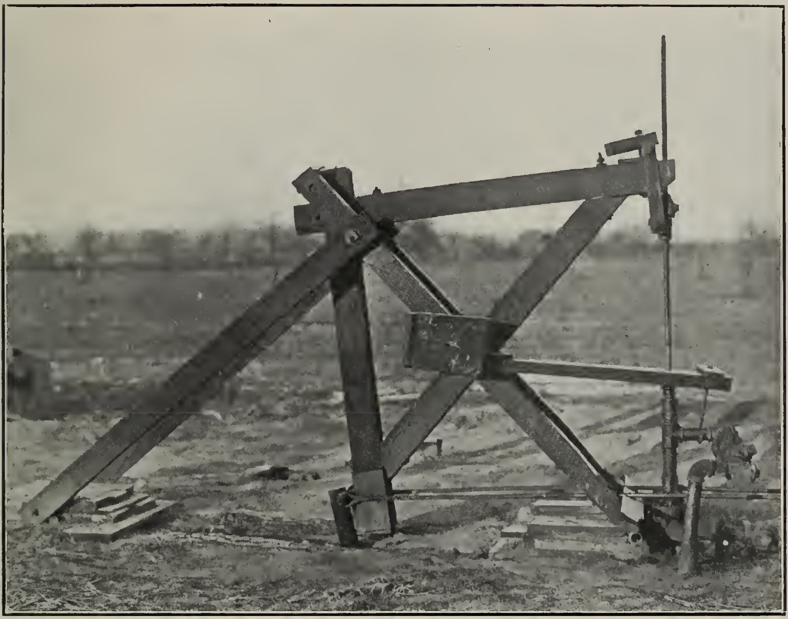
The oil from the first well is sent to emergency tanks and from later wells to the lease tanks. The tanks are usually low cylinders, built of wooden staves and steel bands. They range from 100 to 1,600 barrels capacity. The smaller tanks are transported to a well when oil is found and are used to receive the supply until the permanent lease tanks are located and built. The usual 250-barrel tank measures 2½ barrels of oil to the inch or 25 barrels to ten inches of depth. The cost of this size tank is about $90, and of the 1,600-barrel tank about $450. Second-hand 250-barrel tanks cost about $50 and are preferred because they are saturated with oil and less liable to leakage. When several tanks have been built on a lease, sheds are placed over them for protection from evaporation and to prevent their warping by the sun's heat. (See Pl. XIX, A.) The average cost of these is about $60, although the cost is dependent upon the size.

LOADING RACKS.

The oil from a new field is generally sent by donkey-pump to the nearest railway loading-rack (see Pl. XX, B) and is shipped by tank-car to the refineries or to manufacturing companies who have use for crude oil. The racks are usually composed of upright tubing of about two or three inches in diameter with swinging ends that fit into the mouths of the tank cars. They are connected direct to the pipe lines from the lease. The loading racks that are maintained in the fields at present are provided with facilities for measuring the exact amounts of oil shipped (see Pl. XX, A). Loading racks are installed at Bridgeport and Lawrenceville on the Baltimore and Ohio railroad; Lawrenceville, Birds, Flat Rock, and Robinson, on the Big Four railroad; Robinson, Stoy, Bakers Lane, and Oblong on the Illinois Central railroad; Casey and Oilfield on the Cincinnati, Hamilton and Dayton railroad; and Casey and Martinsville on the Vandalia railroad.

POWER AND BOILER HOUSES.

With four or five wells on a lease it becomes practicable to build a centrally located power-house for pumping them. The walls of the building are constructed of wood or corrugated sheet-iron, and the floors of cement (see Pl. XXI, A). A gas engine is installed at one end of the building, and at the other end an oscillating pull-wheel to give horizontal movement to the surface rods radiating from it to the different wells. The pull-wheel draws the surface rod toward the power and the weight of the sucker rod in the well assists in pulling it back, thus providing the necessary balance of work. A boiler-house is built close to the power house for emergency use and for steaming the oil (see Pl. XXI, B). The average cost of the power-house and boiler-house is about $1,200. The 25-H. P. gas engines cost $425; the 35-H. P. engines, $585; the Mascot power, $320, and the boiler, $385. One equipment serves as many as 40 wells, but usually only 25 to 30. The power man in charge can not look after more than this number and accomplish his daily work. The power man makes the rounds of inspection, cares for his engine, boiler and oil tanks, and makes a daily report. It often becomes necessary on the larger leases to employ a helper. He is called the "roust-a-bout" and assists the power man in looking after the wells. The power fuel is usually gas and is generally piped from the wells in the lease. Some leases do not produce gas and it is then bought from another lease or from a nearby gas line. Steam is used if the lease is isolated or gas cannot be secured.



A.

B.

A. The standard pumping-jack.
B. The steel pumping-jack.

PULL-RODS AND PUMPING DISCS.

The surface pull-rods are generally made of steel or wire cable. They are supported in a level line to the well by posts of various lengths, depending upon the undulations of the farm. Notches are cut in the top of the posts for guiding the lines, and are greased occasionally to minimize the friction of the rod. Wells may be pumped in spite of intervening buildings or two wells may be attached to one general lead-line by the use of suitable angle-knees. Large flat, oscillating pumping discs are often used to overcome surface irregularities or obstructions, and for pumping across highways (see Pl. XIX, B). They are placed in the open field and are connected to the power by large pull-rods, which move alternately and turn the disc through an arc of about one-fifth of a circle. Surface rods radiate from the disc to the wells.

PUMPING JACKS.

The standard wooden jack, steel jack and "home-made" wooden jacks are used in Illinois. The standard jack is substantially mounted over the well on heavy wooden sills. (See Pl. XXII, A.) The workable portions resemble a right triangle, with the right angle pivoted, the upper acute angle fastened to the sucker rod, and the lower acute angle to the surface rod. The pull-wheel draws the lower angle outward and at the same time raises the upper angle and sucker rod. When the stroke is made the weight of the sucker rod pulls the jack to its normal position. The steel jack is similar to the standard wooden jack except for materials and weight. (See Pl. XXII, B.) With the home-made jack the angles are reversed and the action is one of pushing. (See Pl. XXIII, A.) Light weight jacks cost about $10.00 and heavy ones about $17.00. Sometimes wells are so arranged that the working balance between sucker and surface rods is uneven. In this case adjustment is made by weights upon the jack to push the sucker rod down or by weights at other points to aid the pull-rod.

REMOVAL OF SALT WATER AND STEAMING OIL.

Salt water often accompanies the oil into the tanks and by difference in weight finds its way to the bottom where it is withdrawn by opening a bung-hole. It is the usual practice to run the oil into separating tanks where a siphon is so set that the oil runs one way into the lease tanks and the water flows in another direction into nearby streams. The oil often roils and assumes a yellowish color when it is pumped too hard. This is due to a suspension of sulphur which interferes with refining. The removal of the sulphur and other impurities is accomplished by precipitation with steam, usually for three hours in a 250-barrel tank. The sediment is piped away from the bottom of the tank to a shallow pit some distance from the buildings, where it is burned and prevented from polluting the streams. (See Pl. XXIV, A.) The waste pit is a shallow hole in the ground surrounded by a small dike. It is usually constructed at a lower elevation than the tanks in order to provide a flow by gravity. A recent investigation by federal officials has put a stop to running waste oil into streams. It is claimed that the waste has killed many fish and contaminated the water in the Embarrass and Wabash rivers. During freshets, it has saturated the foliage and underbrush along their tributaries, and in several cases, this was later destroyed by fire. (See Pl. XXIV, B.) The pollution of the streams is not only unsightly but the waste becomes offensive after having stood through the heat of a summer. It is true, however, that the streams cannot be freed entirely from waste because the surplus salt water must be taken care of. The present system of burning has greatly minimized the problem.

The Approximate Cost of Oil Wells.

The following table presents the approximate cost of the first wells and the lease equipment in the various Illinois pools:

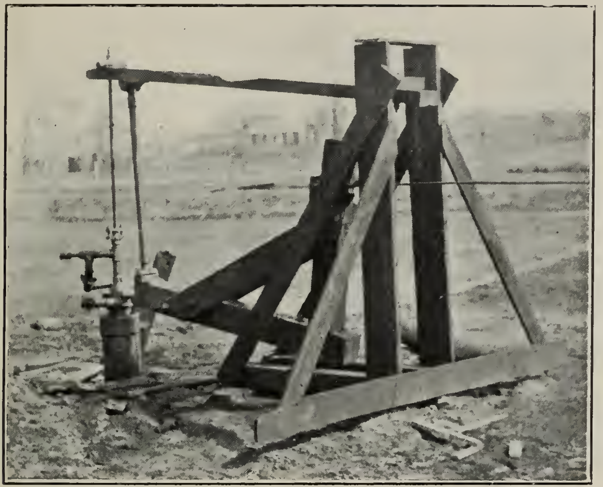
Cost of Wells and Their Equipment in Illinois.

Items.	Clark county.	Crawford county.	Lawrence county.				
			Bridgeport sand.	Buchanan sand.	Kirkwood sand.	Tracey sand.	McCloskey sand.
Rig	....	$ 500	$ 500	$ 500	$ 500	$ 500	$ 500
Drilling	$ 360	700	750	1,750	2,300	2,500	2,800
Drive-pipe	80	90	90	90	90	90	90
Casing	250	800	900	1,700	2,800	3,400	3,800
Shooting	90	90	90	100	100	100	100
Tubing and pumping outfit	150	150	150	200	215	250	250
Power and boiler-house equipment	1,200	1,200	1,200	1,200	1,200	1,200	1,200
Tanks and sheds	250	250	250	250	250	250	250
Belting and lead lines	100	100	100	100	100	100	100
Incidentals	100	100	100	100	100	100	100
Total	$2,580	$3,980	$4,130	$5,990	$7,655	$8,490	$9,190

The above figures may be increased considerably if trouble is encountered in drilling the well or if the well is situated at a considerable distance from transportation. The second and succeeding wells cost less than the first one by about $1,700.00 in Clark county, $2,400.00 in Crawford county, $2,300.00 for those in the Bridgeport sand, $2,800.00 for those in the Buchanan sand, $2,900.00 for those in the Kirkwood sand, $3,500.00 for those in the Tracey sand, and $3,800.00 for those in the McClosky sand. The rig, drive-pipe, a portion of the casing, tanks and power and boiler-house equipment serve for several wells. The incidentals include the expenses of the operator and the cost of teaming, which is dependent upon available teamsters and the amount of work being done, but which averages $4.50 per day. The weights of the various sizes of casing most commonly used are,

10-inch ....32 lbs. per foot
8¼-inch ....24 lbs. per foot
6 5/8-inch ....13 lbs. per foot

The general cost of drive-pipe, casing, tubing and rodding is as follows:



A.

B.

A. A third type of pumping-jack.
B. A town-lot well in Bridgeport, Ill.

Cost of Well Supplies in Illinois.

	Diameter—inches.	Cost per foot.
Drive-pipe	16	$3.25
Casing (No. 50)	12½	2.15
Casing (St'd)	12½	1.24
Casing	10	1.09
Casing	8¼	0.728
Casing	6⅝	0.5195
Casing	5 3/16	0.407
Tubing	2	0.12
Oil line	2	0.098
Gas line	2	0.885
Sucker-rods	⅝	*4.04
Pull-rods	⅝	*3.57

* Per hundred feet.

An idea of the enormous amount of casing and supplies used in the Lawrence county district is presented in Plate XXX.

The Cost of Operating a Lease.

The cost of operating a lease does not vary noticeably in the several Illinois pools and indeed is often negligible when compared with the earning power of the wells. The high cost of development, the interest on the investment, and the expense of plugging wells are the barriers to be overcome, particularly in the deep sand areas of Lawrence county before profits accrue to the operators. The shallow fields of Clark county have been among the most profitable in the world because of the low cost of development and the high returns. On the other hand the deep wells of Lawrence county have been just as profitable perhaps, but the expense of development has been very high. This was overcome by a high and steady production. The Crawford county area has been a valuable and safe field because of the steady yield of the wells and a rather low cost of development. The first wells in any field usually hold up better than later wells and naturally produce more oil, probably because the openings were made permanent under stress or pressure, etc. The essential feature in operating is to overcome first cost and the interest on the investment. In the shallow fields eight wells steadily making two and even one barrel per day are found to be profitable. One company has operated 100 old wells for two years that yielded totally, 150 to 300 barrels per day. The total cost of operation was $600.00 per month. The yield of oil gave an average net income of $3,000.00 per month, with a maximum of $7,000.00 per month. The minimum cost of operating a lease should average about $120.00 per month while the maximum should be about $160.00. The pumper receives $66.00 for care of a light lease and about $72.00 for two small leases or a large one. The sum of $20.00 is required for fuel, although the gas cost is usually low or nothing, and $30.00 for teaming and supplies.

In a declining field, after the cost of development has been met, it has been found profitable to pump three or four wells of 5-barrel capacity. The monthly output from four 5-barrel wells, after deducting a royalty of one-sixth, is 500 barrels. At the current price of 67 cents per barrel January 1, 1912, the income is as follows:

Five hundred barrels at 67 cents	$335 00
Cost of operating	140 00
Net income	$170 00

The net income from ten 5-barrel wells or five 10-barrel wells would be about $700.00 per month.

INVESTMENTS IN OIL PROPERTIES.

Investments in oil properties fall naturally into two classes—those in the wild-cat, or unproven territory, and those in developed fields. One deals with chance and the other is largely a definite business venture.

An investment in a wild-cat scheme is at all times uncertain because there is no assurance of finding oil. Wild-cat work is necessary for the development of any oil territory, but it should be left, if possible, to those large companies which have a reserve fund for such purpose. These companies are in a position to drill several wells before oil is found or the venture abandoned. The basis of wild-cat work may be a geological study, surface seepage or a previous exploitation of some kind. The area in consideration is then leased, often in lots as much as 40,000 acres, which in case oil is found, would naturally protect the interests of the active operators. The only definite knowledge the prospecting company might have in unproven territory would be the result of the work of a competent geologist. This knowledge should lead the company from drilling in the basins, which would probably be full of salt water and afford little promise of the presence of oil, to raised structures where conditions for the accumulation of oil are more favorable. The drilling bit alone will give evidence of the actual presence of oil or its absence. The man of small means should, for his own protection, beware of venturing into new territory but should, if possible, join a responsible oil company that intends to purchase a proven property and develop it as such. He could lease and drill only in a limited area and one or two unsuccessful attempts would force him to abandonment. It has happened, however, that in some instances the small operator has been successful and has opened up a field, but experience proves that, generally, the case is otherwise.

Investments in developed fields are matters of calculation and judgment. A usual custom of a purchasing company is to send representatives into a field to carry on a ten-day gauge on those properties the buying of which is under consideration. At the end of this time the value of the property is rated at a definite amount per barrel of the average daily yield of the lease. The usual price per barrel for future production is about $400, though it often reaches $500 or more, if a property is particularly desirable. If a 40-acre lease produces steadily 500 barrels of oil per day, the buying price would be 500x400 or $200,000.00. Under this investment a property with a reasonable decline should pay for itself in about three years. There is some opportunity

A.

B.

A. A waste pit for burning waste oil.
B. The effect of fire from waste oil on streams.

of failure even in producing areas through a sudden drain of the sands or a flooding of the area with salt water.

The actual amounts of oil won per acre are variable. Some portions of the field have yielded 6,000 barrels per acre and are still producing, though not extensively. Other portions with wells equally good in initial production have yielded only 500 barrels or less per acre. One tract produced 10,000 barrels per acre and from another of 20 acres over a million barrels of oil were taken. The last was only possible because the owner built his own storage tanks and pumped constantly. It is evident that this shrewd gentleman secured some oil which would have gone to his neighbors had they been similarly provided with storage.

The deeper and more prolific sands of Lawrence county have yielded much greater quantities of oil and perhaps will continue to do so, because of the several producing sands and the remarkable staying qualities of the wells. This area will probably be productive for a good many years, as has been the case in the Appalachian region. The shallower fields to the north with one sand, or two or more lenses of the same sand, are already showing signs of decline. The combined daily output of the Clark, Cumberland and Edgar county wells on January 1, 1912, was about 9,000 barrels as against about 40,000 barrels in 1907. The Crawford county yield reached about 20,000 barrels daily, as against 100,000 barrels in 1907. The Lawrence county production has steadily increased since the first development and at the present time produces more than the rest of the counties combined and about double that of Crawford county.

Since the Illinois fields were discovered, many men wishing to invest have found that the field was completely leased and that the only opportunity to share in the business was to join an established company or to organize a new company to buy partially or wholly developed tracts. Even this has been difficult because of the enormous prices asked for good leases and the scarcity of stocks of organized and prosperous companies.

The transfer of oil properties has been common in the last two years and has comprised dealings in both developed and undeveloped leases. The Ohio Oil Company, the producing agent of the Standard Oil Company, has been the most active purchaser of producing properties in Illinois. It has recently bought out many large companies such as the Jennings Oil Company, Parker and Edwards, Riddle Oil Company, Brown and Hogue, The Lee Oil Company, The North Fork Oil Company, and other smaller companies. Before these purchases it owned and operated leases to the amount of about 40 per cent of the fields. Its total holdings now are probably more than 70 per cent of the total development. This company buys and stores more than 90 per cent of the oil of the State. How much of the production comes from its own leases is not known, but certainly not less than half.

BUYING, TRANSPORTING AND STORING OIL.

Buying Oil.

When the oil is steamed and ready to be sold, the power man notifies the gauger of the Ohio Oil Company or the Indian Refining Company, who determines the quality and quantity of oil on each lease. A report or "ticket" is made and signed by the gauger and lease man and copies are retained by each while an additional one is sent to the purchasing company's office. The purchasing company enters the report on its books and in a short time checks are made out individually to all parties interested in the transaction under what are termed division orders. A division order is a tabulated form including signed and sworn statements that the operator has a certain interest in a producing company or in a lease and that the landowner has a royalty, usually one-eighth of the oil. The division order is kept on file with the purchasing company. A producer can hold his oil in storage for two months, and at the expiration of that time checks are sent at the prevailing price. The purchasing company pro-rates its own leases as it does those of individual operators and issues royalty checks directly to the farmer. In all reports 3 per cent of the gauged oil is deducted for leakage, sediment and evaporation, which goes on continually until the oil reaches the refinery. This is a natural loss and is borne by all interested in the production.

The auditing department of the Ohio Oil Company, Marshall, Ill., has one of the most complete systems of its kind. The amount of work done by it is enormous, and its thoroughness is attested by the scarcity of complaints from either landowner or operator.

TRANSPORTING THE OIL.

The Ohio Oil Company is not a common carrier of oil, but is a buyer. The old system of carrying oil at a certain rate in addition to storage has disappeared. During 1907 and 1908 the Ohio Oil Company built an extensive system of gravity pipe-lines for collecting oil from the greater part of the field. E. C. Bolton, chief engineer, made thorough detailed surveys of all the leases and all the stream courses through or near the field. Advantage was taken of the slope of the streams and pipe-lines were laid along them. Branch lines were run to each lease so that the oil, when released from the lease tanks, flows by its own weight into the general stream main, and down its course to a substation, where it is caught and pumped back through a larger main to the head pumping station at Martinsville, Ill. There are thirteen substations in the main fields and one at Sandoval, Ill., located as follows:

Location of the Ohio Oil Company's Pumping Stations in Illinois.[1]

Order	Station—name.	Section.	Township.	County.
1	Martinsville	7	Martinsville	Clark
2	Stoy	2	Oblong	Crawford (see Pl. XXV A)
3	Bridgeport	9	Lawrence	Lawrence (see Pl. XXVI)
4	Casey	17	Casey	Clark
5	Cumberland	23	Union	Cumberland
6	Muddy Creek	20	Petty	Lawrence
7	North Fork	1	Licking	Crawford
8	Martinsville Tank Farm	13	Casey	Clark
9	Bailey	29	Martin	Crawford
10	Muchmore	14	Oblong	..do
11	Tracey	13	Lawrence	Lawrence
12	Ackman	6	Dennison	..do
13	Shipman	11	Martin	Crawford
14	Sandoval	7	Sandoval	Marion

[1] Kindly furnished by D. Roach, chief of pipe-line department, Ohio Oil Co., Marshall, Ill.

A.

B.

A. The Ohio Oil Company's pumping station, Stoy, Ill.
B. The Tidewater Pipe Line Company's pumping station, Stoy, Ill.

Each station controls the area north of it to the next station. From the head station at Martinsville, the oil is pumped through one 12-inch and two 8-inch pipes across Indiana and Ohio to eastern refineries, and through one 8-inch to Alton, Ill. The inter-state pipe-lines are pumped in relays, with sub-stations at Jamestown and Montpelier, Ind., and at Lima, Ohio. Oil is pumped at about 600 pounds pressure in the lines.

Gravity has displaced the old donkey pump that was formerly required on each lease, except in the extreme northern end of the field. The gravity lines extend northward within 2½ miles south of Casey. The donkey pump is still used in this area. The Ohio Oil Company pays one cent per barrel to the producers for steam used. The efficiency of the gravity system is twice as great as with steam and the cost is one-third as great. The cost of transfer by the gravity system is borne by the Ohio Oil Company. A regular force of men, aside from the company's corps of surveyors is kept at work improving and repairing the lines. The company keeps apace with new development and supplys new lines at fast as they are needed.

The Ohio Oil Company maintains engineering and surveying, discharge, and telegraph departments in its general offices at Marshall, Ill. The engineering and surveying department surveys and outlines sites for pipe-lines, pumping stations, tank farms, power-houses, district supply-houses, etc. It makes all field, farm, tank-farm, road and pipe-line maps. In fact, this branch of the work covers completely all the phases of work connected with civil engineering. It is occasionally called upon to make plans of specially needed machinery, or the construction of some special type of building. As yet these departments have done little toward determining structural relations of the formations and working out geological problems dependent upon this phase of work.

The discharge department has charge of the pumping of oil. This division merely regulates and checks the pumping of the oil into and through the interstate lines. The telegraph department of the company consists of a complete system of telegraph lines to all portions of the field, thus bringing its large force of employees into close touch with headquarters. Wires are also maintained and operated to eastern offices.

Storing the Oil.

The production of the Illinois fields so far exceeds the capacity of pipe-lines that storage tanks have been established. Permanent tank farms are maintained at Martinsville, Stoy and Bridgeport. (See Pl. XXVII, A.) The sub-stations discharge the surplus oil to these tanks, where it lies until it can be pumped to the refineries. The Ohio Oil Company has 471 storage tanks which hold about 35,000 barrels each. These tanks are distributed in the oil producing counties of Illinois as follows:

Clark	235
Crawford	43
Lawrence	192
Marion	1
Total	471

The cost of each tank, including a circular dike for catching the oil in case the tank bursts or catches fire, is about $9,000.00. The tanks are made of riveted steel plate, measuring ½ inch thick at the bottom and on the floor, and 3-16 inch thick at the top. They are 95 feet in diameter and 28 feet 7½ inches high. The floor space is 7,200 square feet. The total investment in tank-farms and equipment is about $5,000,000.00. Other large companies maintain tanks, but they are scattered singly over the field.

Lightning has occasional heavy losses on tank farms. At least one dozen tanks have been destroyed in the last two years. (See Pl. XXVIII.) Lightning pierces the tanks easily and sets fire to the gases and oils. In a short time the top of the tank drops in and the flames send up dense, black, curling smoke, which presents a most unusual and startling spectacle. It requires about 24 hours for the entire contents of a tank to boil over its sides and 50 hours for the fire to burn out. At the time of boiling the smoke and danger are greatest. If the wind should be blowing strongly, any buildings, timber, or nearby tanks would probably be destroyed. The Ohio Oil Company always rushes a large force of men to the scene of a fire and takes every precaution to minimize the loss by strengthening the dike and removing inflammable material. The nearest pumping station is called upon to connect with the burning tank and draw out as much oil as possible with safety, usually about half the amount in the tank. The loss by fire of a tank full of oil is about $20,000.00. The heat thrown off from a tank fire is intense and the effect on the tank is disastrous. (See Pl. XXIX.)

Independent Oil Companies.

The independent operators and oil companies have been forced to rely on tank-cars for oil shipments until recently, or to sell to the Ohio Oil Company. Most of them have preferred the latter plan. The Tidewater Pipe Line Company, with the Associated Producers Oil Company, however, has recently built an 8-inch line into the field and constructed a pumping station near Stoy, Crawford county, with a capacity of about 25,000 barrels daily. (See Pl. XXV, B.)

The Pure Oil Company which has been a large producer in this field, is said to have bought right of way for a second independent pipe-line. The Indian Refining Company of Cincinnati and New York has over 500 tank cars and 30 distributing stations, with refineries at Georgetown, Ky., Lawrenceville, and East St. Louis, Ill.; a combined capacity of about 8,000 barrels per day. The Sun Oil Company ships by tank cars and sells its oil for fuel. The Missouri-Illinois Oil Co. operates in St. Louis, Mo. The Central Refining Company has a refinery at Lawrenceville and secures oil from its own leases. The other companies that make shipments from the fields are the Cornplanter Refining Company, W. F. Watson of Bridgeport, Ill., and Rogers and Dibble of Oil City, Pa. It is estimated that the independents are handling between 9,000 and 12,000 barrels of oil per day. The Robinson Oil Refining Co. maintained a small plant at Robinson until the latter part of 1908, when it fell into the hands of a receiver and has since been idle.

The Ohio Oil Company's pumping station, Bridgeport, Ill.

PRICES AND PIPE-LINE RUNS OF ILLINOIS OIL.

PRICES OF ILLINOIS OIL.

The price of Illinois oil increased steadily from the opening of the field in 1905 to July of 1906. From 1907 to November, 1909, the decline was gradual. The price then remained steady for 18 months and since May, 1911, has begun to increase. From 1905 to 1907 inclusive all oil sold at one price, varying from 60 to 83 cents per barrel. A grading and division in price took place in 1908. The better grades of oil were found to lie between 30 and 35° B, while that of the Duncanville pool lies between 22 and 23° B. The Duncanville oil is sold only for fuel. The development of the Tracey and McClosky sands in Lawrence county gave still higher grades of oil, varying from 35 to 39° B. The difference of gravities necessarily caused a division of price and since 1908, oil above 30° B has commanded one price while that below 30° B has commanded another. The following table gives the average monthly prices paid for Illinois petroleum from 1905 to 1910, inclusive, as reported by Dr. D. T. Day and to January 1, 1912, the date of completion of this report, as supplied by the writer:

Average Monthly Prices of Illinois Petroleum, 1905-1911, Per Bbl.[1]

Month.	Year.										
	1905.	1906.	1907.	1908.		1909.		1910.		1911.[2]	
				Above 30° B.	Below 30° B.	Above 30° B.	Below 30° B.	Above 30° B.	Below 30° B.	Above 30° B.	Below 30° B.
January	....	$ .79	$0.64	$0.68	$0.60	$0.68	$0.60	$0.60	$0.52	$0.60	$0.52
February	....	.79	.65¼	.68	.60	.68	.60	.60	.52	.60	.52
March	....	.79	.67½	.68	.60	.68	.60	.60	.52	.60	.52
April	....	.80⅝	.68	.68	.60	.68	.60	.60	.52	.60	.52
May	....	.83	.68	.68	.60	.68	.60	.60	.52	.63	.55
June	$0.60	.83	.68	.68	.60	.67½	.59½	.60	.52	.65	.55
July	.60	.82¾	.68	.68	.60	.63⅜	.55⅜	.60	.52	.65	.55
August	.60	.71⅛	.68	.68	.60	.62	.54	.60	.52	.65	.55
September	.61	.64	.68	.68	.60	.62	.54	.60	.52	.67	.57
October	.64	.64	.68	.68	.60	.61¼	.53¼	.60	.52	.67	.57
November	.66	.64	.68	.68	.60	.60	.52	.60	.52	.67	.57
December	.70	.64	.68	.68	.60	.60	.52	.60	.52	.67	.57
Average	$0.644	$0.745	$0.67375	$0.68	$0.60	$0.64625	$0.56625	$0.60	$0.52	$0.6383	$0.5466

[1] Mineral Resources of the U. S., 1910, Part II, U. S. Geol. Survey, 1911, p. 387.
[2] Compiled from files of the Oil City Derrick.

B.

A.

A. A portion of the Ohio Oil Company's tank farm, Stoy, Ill.
B. A cleaning rig.

The Princeton, Indiana, Sandoval and Carlyle, Illinois oils are above 30° B. and are controlled by the market price of the better Illinois grades.

Pipe-Line Runs and Stocks of Illinois Oil.

The annual statistics of the production of petroleum in Illinois are compiled by Dr. D. T. Day of the U. S. Geological Survey and comprise the pipe-line runs of the Ohio Oil Company, Tidewater Pipe-line Company, and the Indian Refining Company, and the tank-car shipments of the Sun Oil Company, Cornplanter Refining Company, Indian Refining Company, Missouri-Illinois Oil Company, Central Refining Company, W. F. Watson of Bridgeport, Illinois, and Rogers and Dibble of Oil City, Pa. The actual production of oil is the amount which has been run from the producers tanks into the tanks of the transportation company, whether it is a railroad company or pipe-line, and from thence discharged through general pipe-lines to various refineries. The shipments recorded in the oil journals each month are used merely as a check to make accuracy more certain. The federal survey has in contemplation the collection of oil and gas statistics directly from the producer, thus placing a check on the general figures.

SUMMARY TABLES.

The total amount of oil produced previous to 1905, when the main fields were opened up, is almost negligible in comparison with the present annual production. The following brief table gives the yearly production from 1889 to 1911 inclusive:[1]

Annual Production of Oil From Illinois Fields, 1889-1911.

Year.	Bbls.
1889	1,460
1890	900
1891	675
1892	521
1893	400
1894	300
1895	200
1896	250
1897	500
1898	360
1899	360
1900	200
1901	250
1902	200
1903	0
1904	0
1905	181,084
1906	4,397,050
1907	24,281,973
1908	33,686,238
1909	30,898,339
1910	33,143,362
[2]1911	31,317,038
Grand total	157,911,660

[1] Day, D. T., Mineral Resources of the U. S. for 1910, Part II, U. S. Geol. Survey, 1911, p. 331.
[2] Day, D. T., Mineral Resources of the U. S., calendar year 1911, advance chapter, 1912, p. 64.

The two following tables present the ranks of the various petroleum-producing states for the years 1905-1910:

Rank of petroleum-producing States, with quantities and percentages produced by each, from 1905 to 1911, in barrels.

State.	Rank.	Quantity.	Percentage.
1905.[1]			
California	1	33,427,473	24.81
Texas	2	28,136,189	20.89
Ohio	3	16,346,660	12.13
Kansas Indian Territory Oklahoma	4	12,013,495	8.92
West Virginia	5	11,578,110	8.59
Indiana	6	10,964,247	8.14
Pennsylvania	7	10,437,195	7.75
Louisiana	8	8,910,416	6.61
Kentucky Tennessee	9	1,217,337	.90
New York	10	1,117,582	.83
Colorado	11	376,238	.28
Illinois	12	181,084	.14
Wyoming	13	8,454	.01
Michigan Missouri	14	3,100	
Total	....	134,717,580	100.00
1906.[2]			
California	1	33,098,598	26.17
Kansas Indian Territory Oklahoma	2	21,718,648	17.17
Ohio	3	14,787,763	11.69
Texas	4	12,567,897	9.93
Pennsylvania	5	10,256,893	8.11
West Virginia	6	10,120,935	8.00
Louisiana	7	9,077,528	7.18
Indiana	8	7,673,477	6.07
Illinois	9	4,397,050	3.47
New York	10	1,243,517	.98
Kentucky Tennessee	11	1,213,548	.96
Colorado	12	327,572	.26
Wyoming	13	7,000	.01
Michigan Missouri	14	3,500	
Total	....	126,493,936	100.00
1907.[2]			
Oklahoma Kansas	1	45,933,649	27.65
California	2	39,748,375	23.93
Illinois	3	24,281,973	14.62
Texas	4	12,322,696	7.42
Ohio	5	12,207,448	7.35
Pennsylvania	6	9,999,306	6.02
West Virginia	7	9,095,296	5.48
Indiana	8	5,128,037	3.09
Louisiana	9	5,000,221	3.01
New York	10	1,212,300	.73
Kentucky Tennessee	11	820,844	.49
Colorado	12	331,851	.20
Utah Wyoming	13	9,339	.01
Michigan Missouri	14	4,000	
Total	....	166,095,335	100.00

[1] Griswold, W. T., Mineral Resources of the U. S.f or 1906, U. S. Geol. Survey, 1907, p. 830.
[2] Day, D. T., Mineral Resources of the U. S. for 1907, Part II, U. S. Geol. Survey, 1908, p. 348.

A 35,000-barrel tank fire.

Table—Continued.

State.	Rank.	Quantity.	Percentage.
1908.[1]			
Oklahoma	1	45,798,765	25.65
California	2	44,854,737	25.13
Illinois	3	33,686,238	18.87
Texas	4	11,206,464	6.28
Ohio	5	10,858,797	6.08
West Virginia	6	9,523,176	5.33
Pennsylvania	7	9,424,325	5.28
Louisiana	8	5,788,874	3.24
Indiana	9	3,283,629	1.84
Kansas	10	1,801,781	1.01
New York	11	1,160,128	.65
Kentucky	12	727,767	.41
Colorado	13	379,653	.21
Wyoming Utah	14	17,775	.01
Missouri Michigan	15	15,246	.01
Total	....	178,527,355	100.00
1909.[1]			
California	1	55,471,601	30.28
Oklahoma	2	47,859,218	26.13
Illinois	3	30,898,339	16.87
West Virginia	4	10,745,092	5.87
Ohio	5	10,632,793	5.80
Texas	6	9,534,467	5.21
Pennsylvania	7	9,299,403	5.08
Louisiana	8	3,059,531	1.67
Indiana	9	2,296,086	1.25
Kansas	10	1,263,764	.69
New York	11	1,134,897	.62
Kentucky	12	639,861	.35
Colorado	13	310,861	.17
Wyoming Michigan Missouri Utah	14 15 16 17	25,806	.01
Total	....	183,170,874	100.00
1910.[2]			
California	1	73,010,560	34.84
Oklahoma	2	52,028,718	24.83
Illinois	3	33,143,362	15.82
West Virginia	4	11,751,871	5.61
Ohio	5	9,916,370	4.73
Texas	6	8,899,266	4.25
Pennsylvania	7	8,794,662	4.20
Louisiana	8	6,841,395	3.26
Indiana	9	2,159,725	1.03
Kansas	10	1,128,668	.54
New York	11	1,053,838	.50
Kentucky	12	468,774	.22
Colorado	13	239,794	.12
Wyoming Utah Michigan Missouri	14 15 16 17	119,045	05
Total	....	209,556,048	100.00
1911.[3]			
California	1	81,134,391	36.80
Oklahoma	2	56,069,637	25.44
Illinois	3	31,317,038	4.21
Louisiana	4	10,720,420	4.86
West Virginia	5	9,795,464	4.44
Texas	6	9,526,474	4.32
Ohio	7	8,817,112	4.00

[1] Day, D. T., Mineral Resources of the U. S. for 1909, Part II, U. S. Geol. Survey, 1911, p. 304.
[2] Day, D. T., Mineral Resources of the U. S. for 1910, Part II, U. S. Geol. Survey, 1911, p. 329.
[3] Day, D. T., Mineral Resources of the U. S. for 1911, advance chapter, 1912, U. S. Geol. Survey, p. 10.

Table—Concluded.

State.	Rank.	Quantity.	Percentage.
1911.			
Pennsylvania	8	8,248,158	3.74
Indiana	9	1,695,289	.77
Kansas	10	1,278,819	.58
New York	11	952,515	.43
Kentucky	12	472,458	.22
Colorado	13	226,926	.10
Wyoming	14		
Missouri	15	194,690	.09
Utah	16		
Michigan	17		
Total		220,449,391	100.00

Rank of petroleum-producing States, with value of production and percentage of each, from 1905-1191.

State.	Rank.	Value.	Percentage.
1905.[1]			
Ohio	1	$17,054,877	20.27
West Virginia	2	16,132,631	19.17
Pennsylvania	3	14,653,278	17.41
Indiana	4	9,404,909	11.18
California	5	8,201,846	9.74
Texas	6	7,552,262	8.97
Kansas Indian Territory Oklahoma	7	6,546,398	7.78
Louisiana	8	1,601,325	1.90
New York	9	1,557,630	1.85
Kentucky Tennessee	10	943,211	1.12
Colorado	11	337,606	.40
Illinois	12	116,561	.14
Wyoming Michigan Missouri	13	54,865	.07
Total		$84,157,399	100.00
1906.[1]			
Ohio	1	$16,997,000	18.39
Pennsylvania	2	16,596,943	17.95
West Virginia	3	16,170,293	17.49
Kansas Indian Territory Oklahoma	4	9,615,198	10.40
California	5	9,553,430	10.34
Indiana	6	6,770,066	7.32
Texas	7	6,565,578	7.10
Louisiana	8	3,557,838	3.85
Illinois	9	3,274,818	3.54
New York	10	1,995,377	2.16
Kentucky Tennessee	11	1,031,629	1.12
Colorado	12	262,675	.28
Wyoming Michigan Missouri	13	53,890	.06
Total		$92,444,735	100.00
1907.[2]			
Oklahoma Kansas	1	$18,478,658	15.38
Pennsylvania	2	17,579,706	14.64

[1] Griswold, W. T., Mineral Resources of the U. S., 1906, U. S. Geol. Survey, 1907, p. 830.
[2] Day, D. T., Mineral Resources of the U. S. 1907, Part II, U. S. Geol. Survey, 1908, p. 349.

The tank after the fire.

Table—Continued.

State.	Rank.	Value.	Percentage.
1907.			
Illinois	3	$16,432,947	13.68
West Virginia	4	15,852,428	13.20
Ohio	5	14,769,888	12.30
California	6	14,699,956	12.24
Texas	7	10,401,863	8.66
Indiana	8	4,536,930	3.78
Louisiana	9	4,063,033	3.38
New York	10	2,127,748	1.77
Kentucky, Tennessee	11	862,396	.72
Colorado	12	272,813	.23
Utah, Wyoming, Michigan, Missouri	13	28,383	.02
Total	....	$120,106,749	100.00
1908.[1]			
California	1	$23,433,502	18.15
Illinois	2	22,649,561	17.55
Oklahoma	3	17,694,843	13.71
West Virginia	4	16,911,865	13.10
Pennsylvania	5	16,881,194	13.08
Ohio	6	14,178,502	10.98
Texas	7	6,700 708	5.20
Louisiana	8	3,503,419	2.71
Indiana	9	3,203,883	2.48
New York	10	2,071,533	1.60
Kansas	11	746,695	.58
Kentucky	12	706,811	.55
Colorado	13	346,403	.27
Missouri, Utah, Wyoming, Michigan	14	50,265	.04
Total	....	$129,079,184	100.00
1909.[2]			
California	1	$30,756,713	23.97
Illinois	2	19,788,864	15.42
West Virginia	3	17,642,283	13.75
Oklahoma	4	17,428,990	13.58
Pennsylvania	5	15,424,554	12.02
Ohio	6	13,225,377	10.31
Texas	7	6,793,050	5.30
Louisiana	8	2,022,449	1.58
Indiana	9	1,997,610	1.55
New York	10	1,878,217	1.46
Kentucky	11	518,299	.40
Kansas	12	491,633	.38
Colorado	13	318,162	.25
Wyoming	14	42,286	.03
Missouri	15		
Michigan	16		
Utah	17		
Total	....	$128,328,487	100.00
1910.[2]			
California	1	$35,749,473	27.95
Oklahoma	2	19,922,660	15.58
Illinois	3	19,669,383	15.38
West Virginia	4	15,720,184	12.29
Pennsylvania	5	11,908,914	9.31
Ohio	6	10,651,568	8.33
Texas	7	6,605,755	5.16
Louisiana	8	3,574,069	2.80
Indiana	9	1,568,475	1.21

[1] Day, D. T., Mineral Resources of the U. S., 1909, Part II, U. S. Geol. Survey, 1911, p. 306.
[2] Day, D .T., Mineral Resources of the U. S., 1910, Part II, U. S. Geol. Survey, 1911, p. 330.

Table—Concluded.

State.	Rank.	Value.	Percentage.
1910.			
New York	10	$1,414,688	1.11
Kansas	11	444,763	.35
Kentucky	12	324,684	.25
Colorado	13	243,402	.20
Wyoming	14	98,330	.08
Utah	15		
Michigan	16		
Missouri	17		
Total		$127,896,328	100.00
1911.[1]			
California	1	$38,719,080	28.89
Oklahoma	2	26,451,767	19.73
Illinois	3	19,734,339	14.72
West Virginia	4	12,767,293	9.52
Pennsylvania	5	10,894,074	8.13
Ohio	6	9,479,542	7.07
Texas	7	6,554,552	4.89
Louisiana	8	5,668,814	4.23
New York	9	1,248,950	.93
Indiana	10	1,228,835	.92
Kansas	11	608,756	.45
Kentucky	12	328,614	.25
Colorado	13	228,104	.17
Wyoming	14	132,032	.10
Utah	15		
Missouri	16		
Michigan	17		
Total		$134,044,752	100.00

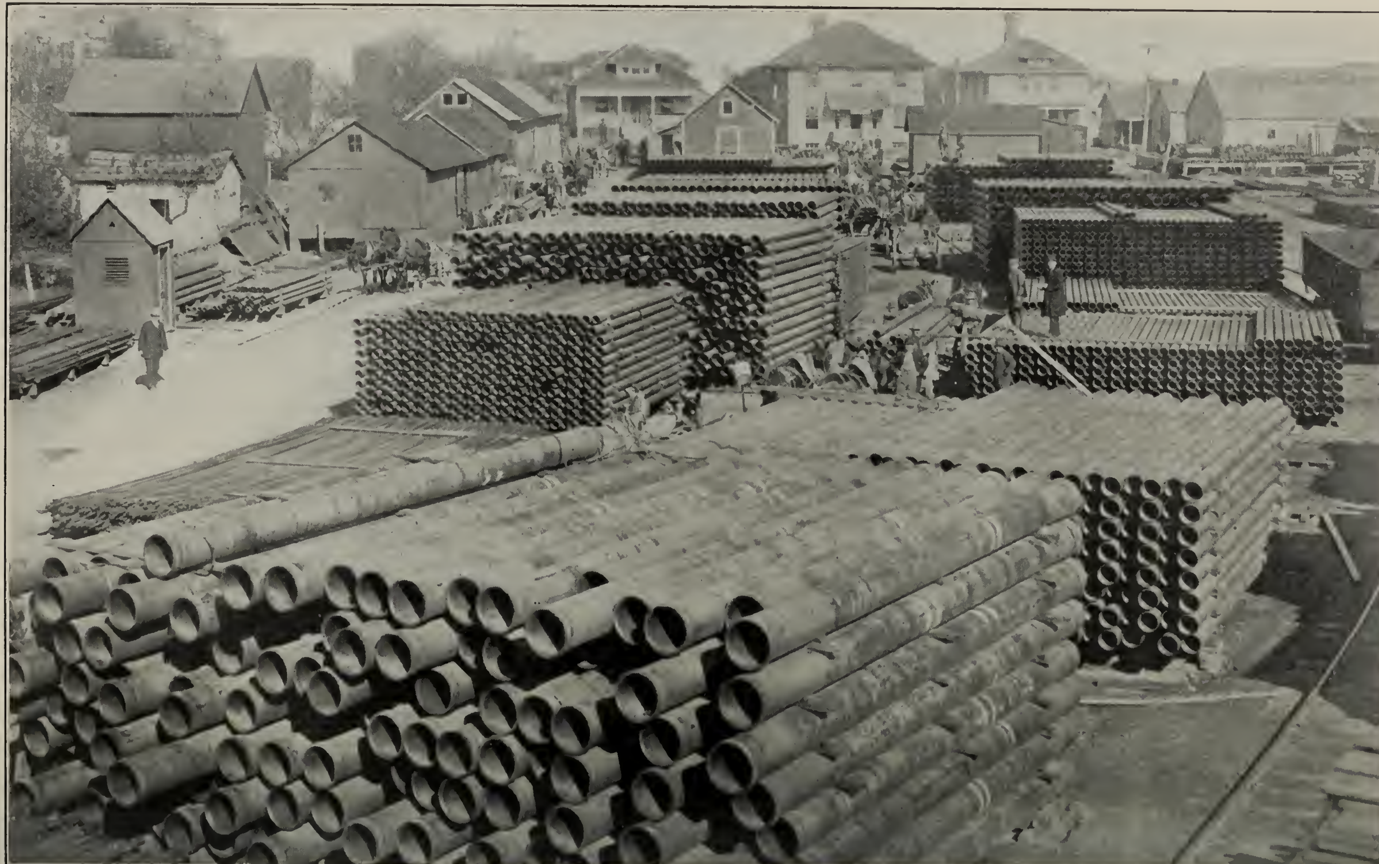
The total production in Illinois, by months, for the last six years is given in the following table:[2]

Production of petroleum in Illinois, 1905-1911, by months, in bbls.

Month.	Year.						
	1905.	1906.	1907.	1908.	1909.	1910.	1911.[3]
January		55,680	781,812	2,703,973	2,668,607	2,640,303	2,578,579
February		65,208	956,399	2,572,115	2,510,548	2,353,684	2,373,229
March		19,352	1,547,323	2,825,491	2,757,794	2,865,055	2,790,515
April		102,862	1,874,465	3,249,690	2,562,215	2,776,800	2,560,963
May		267,746	2,138,918	3,223,515	2,829,277	2,860,760	2,731,965
June	6,521	410,655	1,879,362	3,081,848	2,670,549	2,746,620	2,634,521
July	17,306	610,401	2,422,192	2,693,288	2,728,857	3,029,787	2,740,654
August	23,827	778,464	2,446,042	2,808,667	2,719,958	3,007,151	2,770,946
September	26,586	722,168	2,605,663	2,675,385	1,902,197	2,850,119	2,615,120
October	27,589	463,819	2,863,812	2,709,913	2,560,072	2,768,750	2,638,927
November	34,611	350,985	2,510,146	2,479,926	2,497,847	2,629,132	2,400,670
December	44,644	549,710	2,255,839	2,662,427	2,490,418	2,615,201	2,480,949
Total	181,084	4,397,050	24,281,973	33,686,238	30,898,339	33,143,362	31,317,038

The following table shows the value of Illinois oil produced from 1905-1911:

[1] Day, D. T., Mineral Resources of the U. S., 1911, advance chapter, U. S. Geol. Survey, 1912, p. 10.
[2] Mineral resources of the U. S. for 1910, Part II, U. S. Geol. Survey, 1911, p. 385.
[3] Day, D. T., Mineral Resources of the U. S. for 1911, advance chapter, 1912, U. S. Geol. Survey, p. 64.



A supply yard in Bridgeport.

Production and value of petroleum in Illinois, 1905-1911, in bbls.

Year.	Production.			Total value.
	Ohio Oil Co.	Other lines.	Total quantity.	
1905	156,503	24,581	181,084	$ 116,561
1906	4,385,471	11,579	4,397,050	3,274,818
1907	23,733,790	548,183	24,281,973	16,432,947
1908	31,972,634	1,713,604	33,686,238	22,649,561
1909	27,640,773	3,257,566	30,898,339	19,788,864
1910	27,751,090	5,392,272	33,143,362	19,669,383
1911	25,987,480	5,329,558	31,317,038	19,734,339
Total			157,905,084	$101,666,473

The following table presents kind and amount of petroleum produced in Illinois from 1909 to 1911, in barrels:[1]

Year.	Light.	Heavy.	Total.
1909	28,049,468	2,848,871	30,898,339
1910	30,444,279	2,699,083	33,143,362
1911	29,103,220	2,213,818	31,317,038

The following table shows the pipe-line runs of the Ohio Oil Company in Illinois from 1905-1911, by months, in barrels:

Pipe-line runs.[2]

Month.	1905.	1906.	1907.	1908.	1909.	1910.	1911.[3]
January		55,680	752,671	2,497,359	2,494,492	2,220,842	2,137,674
February		65,208	918,620	2,464,914	2,358,198	1,976,637	1,968,429
March		19,352	1,494,598	2,591,911	2,568,392	2,377,012	2,349,208
April		102,862	1,823,025	3,089,417	2,388,309	2,306,336	2,138,500
May		267,746	2,094,195	3,084,816	2,536,413	2,374,134	2,264,925
June	5,489	410,655	1,830,634	2,965,786	2,365,956	2,274,501	2,177,280
July	9,208	610,401	2,376,281	2,579,977	2,413,218	2,569,830	2,265,374
August	15,092	778,464	2,398,895	2,690,931	2,411,483	2,528,532	2,312,973
September	19,592	722,168	2,560,593	2,555,871	1,595,934	2,409,232	2,154,693
October	26,444	463,819	2,818,032	2,582,561	2,228,269	2,334,659	2,172,457
November	34,766	350,985	2,464,981	2,356,386	2,149,372	2,211,286	1,977,073
December	45,912	538,131	2,201,265	2,512,705	2,130,737	2,168,089	2,068,894
Total	156,503	4,385,471	23,733,790	31,972,634	27,640,773	27,751,090	25,987,480

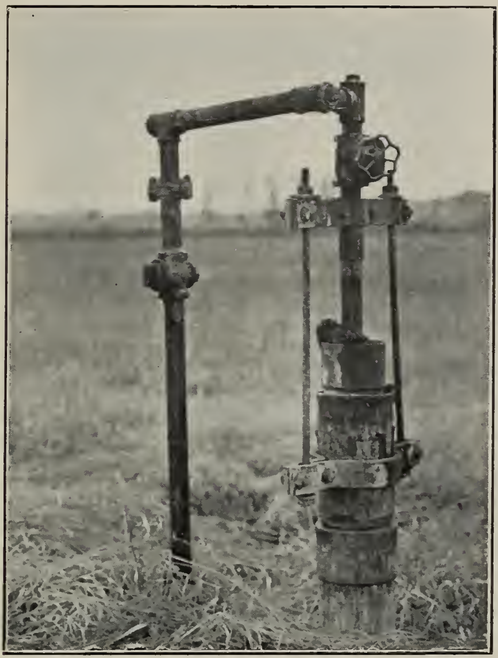
The table below gives the gross stocks held by the Ohio Oil Company, and the eastern lines operating in Illinois from 1907 to 1911, by months, in barrels:

[1] Loc. cit.
[2] Day, D. T., Mineral Resources of the U. S., 1910, Part II, U. S. Geol. Survey, 1911, p. 385.
[3] Mineral Resources of the U. S., 1911, advance chapter, 1912, U. S. Geol. Survey, p. 65.

Stocks of the Ohio Oil Company and Eastern lines in Illinois, 1907-1911, by months, in bbls.

Months.	Gross stocks.								
	1907.	1908		1909.		1910.		1911.	
	Ohio Oil Co.[1]	Ohio Oil Co.[1]	Eastern lines.[2]	Ohio Oil Co.[1]	Eastern lines.[2]	Ohio Oil Co.[1]	Eastern lines.[2]	Ohio Oil Co.[2]	Eastern lines.[2]
January	2,509,598	14,129,954	....	25,876,529	3,325,613	28,355,182	3,340,116	26,243,015	3,860,578
February	3,040,111	15,069,278	2,086,609	26,203,238	3,389,803	28,356,243	3,138,018	25,635,245	3,998,278
March	4,117,635	15,975,633	2,919,608	26,630,509	3,726,418	28,373,855	3,637,610	23,997,496	3,941,079
April	5,528,759	17,420,534	3,189,075	26,856,675	3,580,142	28,593,365	3,210,907	24,005,010	3,141,490
May	7,117,033	19,077,020	2,912,737	27,593,494	2,894,212	29,025,647	3,148,509	24,129,388	3,193,449
June	8,448,344	20,456,387	3,049,094	27,899,220	2,922,182	29,106,098	3,724,919	23,195,749	3,744,088
July	9,387,999	21,036,143	3,452,404	27,627,086	3,408,835	29,198,965	4,187,362	22,714,183	4,076,403
August	10,355,000	22,267,197	3,203,173	27,683,334	4,071,808	29,177,382	4,141,713	22,265,928	3,986,160
September	12,557,522	23,485,690	2,726,598	28,399,427	3,646,595	28,879,676	4,066,122	21,904,719	3,558,641
October	13,724,691	24,396,787	2,852,588	28,535,636	2,913,877	28,492,136	3,455,197	21,359,482	2,444,909
November	14,275,036	24,905,168	3,297,260	28,373,985	2,854,051	28,086,619	2,996,608	20,211,934	2,657,620
December	15,571,305	25,252,468	3,572,263	28,671,543	3,351,947	27,348,358	3,240,387	19,131,678	....

1 Day, D. T., Mineral Resources of the U. S. for 1910, Part II, U. S. Geol. Survey, 1911, p. 386.
2 Compiled from files of the Oil City Derrick.



A.

B.

A. A gas well.
B. A gas well with a water retainer.

The following table shows the quantity of petroleum shipped by railroad from the Illinois oil fields, 1906 to 1911, by months. The amounts were estimated by Dr. D. T. Day of the U. S. Geological Survey, on the basis of 7.16 pounds to the gallon in 1906, and from 296.476 to 321.17 pounds to the barrel in 1907 to 1911:

Rail shipments of oil from Illinois, 1906-1911, by months.

Month.	1906.[1]	1907.[2]	1908.[3]	1909.[4]	1910.[5]	1911.[3]
January	60,134	8,701	91,807	144,511	220,856	228,404
February	51,358	14,598	71,170	111,407	217,917	224,856
March	16,009	23,947	132,300	152,056	263,056	254,927
April	35,539	42,249	118,074	109,872	257,292	347,530
May	160,121	158,227	84,290	157,783	283,285	333,324
June	358,039	166,644	122,317	183,432	285,095	329,621
July	515,956	322,622	107,688	158,642	276,533	311,681
August	534,821	223,134	70,171	166,943	277,317	297,784
September	368,625	70,555	83,042	173,509	253,788	238,917
October	162,547	56,570	102,163	200,067	213,217	292,004
November	48,747	56,080	138,147	198,044	287,750	263,627
December	30,843	66,692	126,967	185,166	234,819	285,082
Total	2,342,739	1,210,019	1,248,136	1,941,432	3,070,925	3,407,757

[1] Shipments were made from loading racks at Bridgeport, Oilfield and Stoy. The railroads were the Vandalia; the Baltimore & Ohio; the Cincinnati, Hamilton & Dayton; and the Indianapolis Southern.

[2] Shipments were made from loading racks at Duncansville, Lawrenceville, Stoy, Robinson, Bridgeport, Oilfield and Casey. The railroads were the Vandalia; the Baltimore & Ohio; the Cincinnati, Hamilton & Dayton; the Indianapolis Southern and the Cleveland, Cincinnati, Chicago & St. Louis.

[3] Shipments were made from Duncansville, Lawrenceville, Stoy, Robinson, Bridgeport, Sparta and Casey. The railroads were the Vandalia; the Baltimore & Ohio; the Illinois Southern; the Indianapolis Southern; and the Cleveland, Cincinnati, Chicago & St. Louis.

[4] Shipments were made from Duncansville, Flat Rock, Lawrenceville, Stoy, Robinson, Bridgeport, Casey, and Sparta, the same railroads shipping in 1909 as in 1908. The number of tank cars shipped in 1909 was 11,820.

[5] Shipments were made from Duncansville, Flat Rock, Lawrenceville, Stoy, Sandoval, Bridgeport, Casey and Sparta, the same railroads shipping in 1910 as in 1908 and 1909. The number of tank cars shipped in 1910 was 17,049.

The following table gives the statistics of field operations since 1905:

Number of wells completed and the total and average initial petroleum of new wells in Illinois, 1906-1911, by counties.[1]

County.	Completed.						Productive.						Dry.					
	1906.	1907.	1908.	1909.	1910.	1911.[2]	1906.	1907.	1908.	1909.	1910.	1911.[2]	1906.	1907.	1908.	1909.	1910.	1911.[2]
Bond	....	....	....	....	7	10	....	....	....	....	1	....	....	....	....	....	6	10
Clark	1,337	1,176	385	181	112	68	1,173	975	298	134	80	41	164	201	87	47	32	27
Clinton	....	....	....	....	....	172	....	....	....	....	....	123	....	....	....	....	....	49
Coles	65	56	9	12	5	2	51	45	8	9	4	2	14	11	1	3	1	....
Crawford	1,060	2,840	2,322	2,093	1,210	481	896	2,464	1,986	1,738	950	369	164	376	336	355	260	112
Cumberland	558	152	42	33	17	14	505	139	31	23	13	7	53	13	11	10	4	7
Edgar	37	25	9	6	2	1	21	11	7	2	....	....	16	14	2	4	2	1
Jackson	....	....	....	3	2	....	....	....	....	1	....	....	....	....	....	2	2	....
Jasper	....	....	....	18	8	5	....	....	....	7	4	3	....	....	....	11	4	2
Lawrence	176	691	762	724	669	523	143	621	684	668	584	466	33	70	78	56	95	57
Macoupin	....	....	....	9	2	2	....	....	....	1	....	....	....	....	....	8	2	....
Madison	....	....	....	2	1	1	....	....	....	1	....	....	....	....	....	1	1	1
Marion	....	....	....	23	60	55	....	....	....	6	34	44	....	....	....	17	26	11
Randolph	....	....	....	12	....	....	....	....	....	2	....	....	....	....	....	10	....	....
Saline	....	....	....	2	1	....	....	....	....	1	....	....	....	....	....	1	1	....
Miscellaneous	50	48	45	33	33	30	4	5	5	....	1	2	46	43	40	33	32	28
Total	3,283	4,988	3,574	3,151	2,139	1,364	2,793	4,260	3,019	2,593	1,671	1,057	490	728	555	558	[3]468	[4]305

[1] Day, D. T., Mineral Resources of the U. S. for 1910, Part II, U. S. Geol. Survey, 1911, pp. 387-388.
[2] Compiled from files of Oil City Derrick.
[3] Includes 75 gas wells.
[4] Includes 41 gas wells.

Number of Wells Completed—1906-1911—Concluded.

County.	Total initial production.						Average initial production per well.					
	1906.	1907.	1908.	1909.	1910.	1911.[1]	1906.	1907.	1908.	1909.	1910.	1911.
Bond					25						25.0	
Clark	31,060	20,385	6,953	3,219	1,802	811	26.5	20.9	23.3	24.0	22.8	19.7
Clinton						11,681						94.9
Coles	279	314	122	95	65	10	5.5	7.0	15.3	10.6	16.2	5.0
Crawford	59,204	84,163	46,694	44,379	26,382	9,802	66.1	34.2	23.5	25.5	27.8	26.5
Cumberland	15,115	3,612	303	558	162	125	29.9	26.0	9.8	24.3	12.4	17.8
Edgar	101	118	45	10			4.8	10.7	6.4	5.0		
Jackson				3						3.0		
Jasper				50	40	20				7.1	10.0	6.6
Lawrence	7,230	30,543	24,793	41,056	61,015	40,432	50.6	49.2	36.2	61.5	102.7	86.7
Macoupin				5		7				5.0		
Madison				10						10.0		
Marion				223	3,760	4,025				37.2	110.6	91.4
Randolph				145						72.5		
Saline				3						3.0		
Miscellaneous	23	28	50		5	6	5.8	5.6	10.0		5.0	3.0
Total	113,012	139,163	78,960	89,756	93,256	66,919	40.5	32.7	26.2	34.6	55.5	63.3

[1] Compiled from files of Oil City Derrick.

Number of wells completed in Illinois, 1906-1911, by months.[1]

Year.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1906	....	....	....	108	253	359	435	496	449	453	376	354	3,283
1907	253	356	351	387	493	639	521	461	400	363	430	334	4,988
1908	303	157	187	197	264	390	474	417	344	290	273	278	3,574
1909	213	224	216	203	321	342	346	303	282	242	223	176	3,151
1910	111	158	128	157	192	211	172	235	234	198	177	166	2,139
1911	104	89	71	81	117	147	127	146	138	107	129	108	1,364

[1] Day, D. T., Mineral Resources of the U. S. in 1910, Part II, U. S. Geol. Survey, 1911, p. 388.

Number of dry holes drilled in Illinois, 1906-1911, by months.[1]

Year.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1906	....	....	....	20	37	41	69	82	69	47	64	61	490
1907	41	55	60	40	64	75	72	45	62	82	80	52	728
1908	55	22	37	33	35	54	65	55	49	51	47	52	555
1909	41	47	45	38	45	53	50	57	50	48	52	32	558
1910	17	43	29	41	43	50	43	47	48	30	39	38	[2]468
1911	22	25	15	16	33	43	26	27	38	17	25	18	[3]305

[1] Day, D. T., Mineral Resources of the U. S. for 1910, Part II, U. S. Geol. Survey, 1911, p. 388.
[2] Includes 75 gas wells.
[3] Includes 41 gas wells.

Total initial daily production of new wells in Illinois, 1906-1911, by months, in barrels.[1]

Year.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1906	....	....	....	3,736	8,137	17,148	15,262	22,432	9,705	14,039	10,611	11,942	113,012
19 7	9,433	9,842	10,392	11,083	13,329	18,807	17,375	11,240	10,967	8,157	9,780	8,758	139,163
1908	6,144	3,329	4,133	4,285	6,628	9,856	9,475	8,322	7,848	6,091	6,242	6,607	78,960
1909	5,060	4,833	5,018	5,237	7,681	9,050	9,820	8,661	8,324	8,904	9,628	7,540	89,756
1910	5,331	6,840	5,593	7,460	8,091	9,267	6,386	10,042	8,419	10,133	8,832	7,062	93,256
1911	5,677	3,512	3,909	5,587	5,132	5,850	9,058	7,578	6,576	4,782	5,826	3,432	66,919

[1] Loc. cit.

Petroleum field report in 1910, by counties.

County.	Wells.			Acreage.		
	Productive, Dec. 31.	Abandoned	Drilling, Dec. 31.	Fee.	Lease.	Total.
Clark	2,341	124	....	1,065	58,515	59,580
Coles	67	1	....	140	575	715
Crawford	6,652	217	15	913	102,737	103,650
Cumberland	677	4	....	....	6,221	6,221
Edgar	6	1	....	530	80	610
Jersey	....	....	....	....	....	....
Lawrence	2,411	38	30	329	80,615	80,944
Macoupin	....	....	1	....	23,793	23,793
Madison	....	....	....	....	11,486	11,486
Marion	12	....	4	407	35,920	35,920
Randolph	5	....	....	....	493	900
Miscellaneous (undevel'd)	....	....	....	....	84,760	84,760
Total	12,171	385	50	3,384	405,195	408,579

On January 1, 1912, it was estimated that 19,982 wells had been drilled in Illinois. Of these 3, 152 or 15.7 per cent were barren. There were 84 wells abandoned in 1910 and 198 in 1911. The abandonment of wells in the shallow fields has been under way since 1909 and is gradually growing as the sands are exhausted. Unless new wells from deeper pay sands or the extension of portions of the area are developed this field will probably be completely abandoned by the close of 1913. The deeper field of Crawford county is showing a decline, but its life will be much longer.

NATURAL GAS IN ILLINOIS.

Illinois produces a very small amount of natural gas in proportion to the immense quantities of petroleum. Her rank is eighth among gas producing states with the following preceding her in order: 1, West Virginia; 2, Pennsylvania; 3, Ohio; 4, Kansas; 5, Oklahoma; 6, New York; 7, Indiana. The principal gas areas lie within the oil fields and the supply is used, chiefly, for field operations. Gas is used for domestic purposes in the towns within the oil belt and in several others near the fields. Gas is sold in Lawrenceville, Bridgeport, Pinkstaff, Birds, Flat Rock, Oblong, Palestine, Robinson, New Hebron, Porterville, Stoy, Hutsonville, Annapolis, Casey, Westfield and Martinsville, all being in or near the oil fields. Outside towns, such as Marshall, Vincennes, Indiana, Olney, and Sumner, are connected by direct mains with the fields. The majority of active oil wells produce small amounts of gas, which is collected in gas tanks on each lease. There are, however, several areas within the fields that yield high pressure gas wells, and these serve the commercial demand for the fuel. (See Pl. XXXI.) Such areas lie near Bellair, Hardinville in Honey Creek township, and north of Bridgeport. The gas comes, seemingly, in each case, from raised portions of the oil horizon. The following brief table shows the approximate depths of gas sands and the accompanying pressures:

List of gas-sands in Illinois fields, with depths and gas pressures.

County.	Depth in feet.	Pressure in pounds per square inch.	
		1908.	1910.
Bureau	105–330	0–30	0–23
Champaign	80–130	....	15–32
Clark	250–550	65–100	35–45
Crawford	500–1000	25–400	20–225
Cumberland	500–575	15–35	....
DeWitt	94–120	....	25–50
Edgar	265–600	....	75–127
Lawrence	900–1850	500–600	200–750
Lee	175–280	....	18–28
Pike	100–893	3–10	4–10

Natural gas was found at a depth of 1,528 feet in Marion county during 1909-1910, at the time the Sandoval field was opened up. The original pressure was about 370 pounds to the square inch. Several wells adjoining the first one developed also produce gas at high pressures and the product of all of them is used for field operations and for domestic use in Sandoval.

A new gas area was tapped early in the year 1910, near Greenville, Bond county. The sand is found between 950 and 1,000 feet and is correlated with the Benoist sand of Sandoval and the Kirkwood sand of Lawrence county. Three wells yielded from 1,250,000 to 2,000,000 cubic feet of gas daily. Several light-pressure gas wells were drilled near Jacksonville, Morgan county, during the year 1910. The yield came from a sand overlying the St. Louis limestone, at a depth of about 300 feet. The gas is odorless, colorless, and burns with a very hot, blue flame.

A gas area similar to the Jacksonville field was tapped in 1908, near Carlinville. Good pressures were secured. A gas, called "drift gas," has been obtained from the Pleistocene deposits over portions of northern-central Illinois and used for the past 25 years. The pressure is usually slight and the lives of the individual wells are short. The depths, from which the gas comes, vary from 50 to 250 feet. Wells of this type have been drilled near Champaign, Princeton, Colchester, Wapella, Heyworth and elsewhere.

The following table records the natural gas development in Illinois from 1906-1910, according to B. Hill:[1]

Record of natural gas industry in Illinois, 1906-1910.

Year.	Gas produced.		Gas consumed.			Wells.		
	Number of producers.	Value.	Number of consumers.		Value.	Drilled.		Productive Dec. 31, 1910.
			Domestic.	Industrial.		Gas.	Dry.	
1906	66	$ 87,211	1,429	2	$ 87,211	....	....	200
1907	128	143,577	2,126	61	143,577	94	41	283
1908	185	446,077	[2]7,377	[2]204	446,077	121	42	400
1909	194	644,401	[2]8,458	[2]518	644,401	56	11	414
1910	207	613,642	[2]10,109	[2]479	613,642	64	31	435

[1] B. Hill, Natural Gas, Mineral Resources, U. S. for 1910, U. S. Geol. Survey, 1911, p. 317.
[2] Includes number of consumers and value of gas consumed in Vincennes, Indiana.

The following table prepared by Mr. Hill[1] shows the total estimated value of natural gas in Illinois from 1885 to 1910, inclusive:

Production of natural gas in Illinois, 1885-1910.

Year.	Value.
1885	$ 1,200
1886	4,000
1887	....
1888	....
1889	10,615
1890	6,000
1891	6,000
1892	12,988
1893	14,000
1894	15,000
1895	7,500
1896	6,375
1897	5,000
1898	2,498
1899	2,067
1900	1,700
1901	1,825
1902	1,844
1903	3,310
1904	4,745
1905	7,223
1906	87,211
1907	143,577
1908	446,077
1909	644,401
1910	613,642
Total	$2,048,798

[1] Idem, pp. 300-301.

Record of consumption of natural gas from Illinois, 1908 to 1910.

Year.	Number of producers having gas wells.	Consumers.		Gas consumed.								
				Domestic.			Industrial.			Total.		
		Domestic.	Industrial	Quantity M cu. ft.	Cents per M cu. ft.	Value.	Quantity M cu. ft.	Cents per M cu. ft.	Value.	Quantity—M cu. ft.	Cents per M cu. ft.	Value.
1908	185	7,377	204	1,050,252	18.5	$194,859	3,928,627	6.4	$251,218	4,978,879	8.96	$446,077
1909	194	8,458	518	1,270,421	19.5	248,318	7,202,439	5.5	396,083	8,472,860	7.61	644,401
1910	207	10,109	479	1,266,057	21.9	278,377	5,457,229	6.1	335,265	6,723,286	9.13	613,642

APPENDIX—TABLES OF WELL DATA.

INDEX TO TABLES.

Crawford County—Honey Creek Township.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
2— N. W.	1	Unknown	Wesley, No. 1	528								Dry	No record
3— N. E.	1	Shaffer	Parker, No. 1	605								Gas	do
S. W.	1	Harrington & Co.	Goff, No. 1	590		962		372	1,128		1,000	Dry	Salt water, 970 feet
					Stray	790		210	1,290				Gas, 790 feet, 250 pounds pressure
S. E.	1	Shaffer	Wesley, No. 1	580	Stray	832		252	1,248				Gas, 832 feet, 250 pounds pressure
					Robinson	980		400	1,100			Gas	Gas, 980 feet, 400 pounds pressure
	2	Murphy	Maxwell, No. 1	541	Stray	830	80	289	1,211	850	1,000	Gas	Gas, 830 feet
5— N. W.	1	Riddle	Mann, No. 14	464	Robinson-1	864	19	400	1,100				
					Robinson-2	910	19	446	1,054			100	
	2	Riddle	Mann, No. 13	473	Robinson-1	870	5	397	1,103				
					Robinson-2	919	10	446	1,054			100	
	3	Red Bank	Allison, No. 1	477	do	925	35	448	1,052			50	
	4	Shaffer	Price, No. 1	477	do	923	21	446	1,054	931	960	Light	Gas, 930 feet
	5	Shaffer	Price, No. 4	482	do	923	5	441	1,059		970	Dry	
	6	Shaffer	Price, No. 2	472	do	915	5	443	1,057	915	950		Well abandoned
	7	Shaffer	Price, No. 5	492							1,000	Dry	No record
	8	Shaffer	Price, No. 3	486	Robinson-1	905	5	419	1,081		915	Dry	
S. E.	1	Whitehall & Fritz	Moore, No. 1	536	Stray	928		392	1,108		936	Gas	Gas, 932 feet
	2	Pease	Smith, No. 1	511	Robinson-3	1,010		499	1,001			Dry	Salt water
6— N. E.	1	Riddle	Mann, No. 12	460	Robinson-1	844		384	1,116	850			Gas, 844 feet
					Robinson-2	886	17	426	1,074			300	
					do	908	37	448	1,052				
	2	Riddle	Mann, No. 11	476	Stray	847	15	371	1,129	847		Light	
					Robinson-1	877		401	1,099			200	
	3	Red Bank	Allison, No. 2	478	do	887	6	409	1,091			Dry	

	4	Riddle	Mann, No. 1	461	..do	856	12	395	1,105				Gas sand
					Robinson-2	895	30	434	1,066			1,600	
	5	Riddle	Mann, No. 3	460	Robinson-1	873	34	413	1,087		907	*150	Quit in sand
	6	Riddle	Mann, No. 4	459	..do	844	16	385	1,115				
					Robinson-2	886	23	427	1,073			150	
	7	Riddle	Mann, No. 5	467	..do	885	20	418	1,082	885		200	
	8	Riddle	Mann, No. 2	460	..do	888	36	428	1,072			1,200	
	9	Riddle	Mann, No. 8	458	..do	892	27	434	1,066	910			Hard lime from 1,400 to 1,663 feet
						1,344	19	886	614		1,663		Hole full of salt water
	10	Riddle	Mann, No. 17	458	Stray	842	10	384	1,116				
					Robinson-2	885	51	427	1,073	913			
	11	Treat, Crawford & Treat	Boyd, No. 6	477	Robinson-1	883	5	406	1,094				
						1,020		543	957			Dry	Salt water
	12	Treat, Crawford & Treat	Boyd, No. 7	477	Stray	850		373	1,127			20	
	13	Treat, Crawford & Treat	Boyd, No. 3	481	Robinson-2	908		427	1,073	908			
					Robinson-3	970		489	1,011	970		35	
	14	Treat, Crawford & Treat	Boyd, No. 2	476	Stray	860		384	1,116				
					Robinson-1	885	40	409	1,091		933	100	
	15	Treat, Crawford & Treat	Boyd, No. 1	477	..do	885	45	408	1,092	900		100	
	16	Ohio	Kent, No. 2	471	Stray	855		384	1,116	865		90	Gas, 860 feet
	17	Ohio	Kent, No. 4	471	Robinson-1	884	23	413	1,087	885		200	Gas, 885 feet
	18	Ohio	Kent, No. 1	484	Robinson-2	925	23	441	1,059	930		143	Gas, 930 feet
	19	Ohio	Kent, No. 3	480	Robinson-1	885		405	1,095				Gas, 888 feet
					Robinson-2	915	20	435	1,065	915		80	
	20	Ohio	Kent, No. 5	478	Stray	822	23	344	1,156				
					Robinson-2	895	19	417	1,083	897		90	
	21	Ohio	Kent, No. 6	471	Robinson-1	875	12	404	1,096	878		25	Gas, 875 feet
	22	Ohio	Kent, No. 7	470	Stray	859	6	389	1,111	861			Gas, 859 feet
					Robinson-1	872	28	402	1,098	875		60	
	23	Ohio	Kent, No. 8	476	Stray	858	19	382	1,118	865		170	Gas, 860 feet
					Robinson-1	884	11	408	1,092				
	24	Ohio	Kent, No. 9	479	..do	867	38	388	1,112	869		350	Gas, 867 feet
N. W..	1	Riddle	Mann, No. 18	456	..do	830	20	374	1,126			100	
	2	Riddle	Mann, No. 16	466	..do	848	44	382	1,118	855		75	
					Robinson-3	913	16	447	1,053				
	3	Riddle	Mann, No. 19	454	Robinson-2	853	30	399	1,101	862		100	
	4	Riddle	Mann, No. 6	463	Robinson-1	832	16	369	1,131	838	955		No. 2 lens absent
	5	Riddle	Mann, No. 7	469	..do	834	19	365	1,135		890		Gas, 841 feet. Well abandoned
	6	Hazelwood	Richart, No. 1	458	..do	822	22	364	1,136				
					Robinson-3	887	10	429	1,071		917		
	7	Hazelwood	Richart, No. 2	460	Robinson-4	952	3	492	1,008			Dry	Salt water, 952 feet. No upper oil sands
	8	Hazelwood	Richart, No. 3	473	Robinson-2	860	11	387	1,113				
					Robinson-3	903	14	430	1,070		941	Dry	
	9	Hazelwood	Richart, No. 5	470	Robinson-1	827	17	357	1,143		873		No. 2 lens absent
	10	Hazelwood	Richart, No. 4	469	..do	822	16	353	1,147				
					Robinson-3	890	10	421	1,079			Dry	

* Barrels per hour.

Crawford County—Honey Creek Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Total depth—feet.	Oil depth—feet.	Initial product—barrels.	Remarks.
6—													
N. W.	11	Ohio	G. Kersey, No. 1	464	Robinson-1	814	26	350	1,150	820			Gas, 814 feet
					Robinson-3	885	17	421	1,079	890		50	
	12	Ohio	G. Kersey, No. 2	462	Robinson-2	855	11	393	1,107	860			Gas, 855 feet
					Robinson-3	885	15	423	1,077	890		25	
	13	Riddle	Mann, No. 20	470	Robinson-1	835	6	365	1,135				
					Robinson-2	885	30	415	1,085				
	14	Riddle	Mann, No. 15	477	Robinson-1	851	32	374	1,126			500	
					Robinson-3	918	28	441	1,059			Show	
	15	Riddle	Mann, No. 10	488	Robinson-1	864	19	376	1,124	869			
					Robinson-2	925	15	437	1,063				
	16	Riddle	Mann, No. 9	496	Robinson-1	866	10	370	1,130				
					Robinson-3	958	28	462	1,038			40	
S. W.	1	Ohio	Frost, No. 1	484		1,203		719	781		1,203	Dry	Salt water
	2	Devonian	Frost, No. 1	481	Robinson-1	845		364	1,136				
					Robinson-2	920	5	439	1,061				
					Robinson-3	945	13	464	1,036	951	1,212	Dry	Salt water, 958 feet
	3	Devonian	Frost, No. 4	497	Robinson-1	845	22	348	1,152				Gas, 845 feet
					Robinson-2	934	46	437	1,063		982	Gas	Gas, 938 feet
	4	Devonian	Frost, No. 2	487	Robinson-1	859	12	372	1,128			Show	
					Robinson-2	876	43	389	1,111		929		
	5	Devonian	Frost, No. 3	492	Robinson-1	857	7	365	1,135				
					Robinson-2	869	148	377	1,123		1,017	Light	
S. E.	1	Treat, Crawford & Treat	Boyd, No. 8	483	Robinson-1	863	40	380	1,120	870			
	2	Treat, Crawford & Treat	Boyd, No. 9	506							914	Dry	No sands
	3	Treat, Crawford & Treat	Boyd, No. 5	494	Robinson-1	864	46	370	1,130	864		Light	Well abandoned
	4	Treat, Crawford & Treat	Boyd, No. 4	481	do	855	55	374	1,126	864		20	
	5	Ohio	Boyd, No. 1	481	do	845		364	1,136				Gas, 845 feet
					Robinson-3	920		439	1,061			Dry	Salt water
	6	Ohio	Boyd, Hrs. No. 2	488	Robinson-1	860	15	372	1,128	862		20	
	7	Ohio	Boyd, Hrs. No. 3	482	Robinson-2	887	13	405	1,095	887		25	

7—													
N. W.	1	Boles, Slattery & Dunn	Munkhank, No. 1	482	Shallow	726	10	244	1,256			Show	
					Robinson-2	930	15	448	1,052	970		Show	Considered a dry well
	2	Ohio	Longnecker, No. 1	546		1,070		524	976		1,075	Dry	Salt water, 1,075 feet
8—													
N. E.	1	Shaffer	Wesley, No. 1	533								Dry	No record
N. W.	1	Ohio	Goff, No. 1	571	Stray	923	18	352	1,148				
					..do	950	15	379	1,121			Gas	Gas, 960 feet
S. W.	1	Ohio	Goff, No. 2	521	Robinson-2	971	9	450	1,050				
					Robinson-3	988	6	467	1,033	988		2	Gas, 988 feet. Salt water, 1,054 feet.—Well abandoned
9—													
S. W.	1	Leeper Bros	Bishop, No. 1	475	..do	965		490	1,010		985	Dry	Salt water, 970 feet
S. E.	1	Caldwell, et al	Mullin, No. 1	480	Robinson-2	952	14	472	1,028		1,015	Dry	Salt water, 962 feet
10—													
N. E.	1	Craig & Lowrie	Young, No. 1	580	..do	1,058	7	478	1,022				
					Robinson-3	1,078	7	498	1,002		1,085	Dry	
S. W.	1	Shaffer	Vinsel, No. 3	571	Robinson-1	1,000	24	429	1,071	1,000			
	2	Shaffer	Vinsel, No. 10	562	..do	997	29	435	1,065	997			
	3	Shaffer	Vinsel, No. 9	567	..do	1,000	19	433	1,067	1,000	1,019		Quit in sand
	4	Shaffer	Vinsel, No. 5	572	..do	1,000	30	428	1,072	1,000			
	5	Shaffer	Vinsel, No. 7	584	..do	1,008	27	424	1,076	1,008	1,035		Quit in sand
	6	Shaffer	Vinsel, No. 8	555	..do	1,000	22	445	1,055	1,010	1,022		..do
	7	Linden	Maxwell, No .8	589	..do	990	108	401	1,099	992		30	
S. E.	1	Linden	Maxwell, No. 1	580	..do	1,007	20	427	1,073			150	
	2	Linden	Maxwell, No. 2	585	..do	1,003	35	418	1,082			150	
	3	Linden	Maxwell, No. 3	574	..do	983	35	409	1,091			150	
	4	Linden	Maxwell, No. 4	576	..do	996	31	420	1,080			300	
	5	Linden	Maxwell, No. 6	570	..do	997	31	427	1,073				
	6	Linden	Maxwell, No. 7	579	..do	997	35	418	1,082				
	7	Linden	Maxwell, No. 5	580	Robinson-2	1,031	21	451	1,049			75	Salt water, 1,047 feet
	8	Linden	Maxwell, No. 9	590	Robinson-1	995	36	405	1,095			125	
	9	Linden	Maxwell, No. 11	595	..do	991	20	396	1,104	998	1,015		
	10	Craig & Lowrie	Weger, No. 5	575	..do	937	60	362	1,138	956			
	11	Craig & Lowrie	Weger, No. 3	553	Robinson-2	1,010	21	457	1,043	1,010	1,031		Quit in sand
	12	Craig & Lowrie	Weger, No. 2	561	Robinson-1	980	44	419	1,081	981	1,024		..do
	13	Craig & Lowrie	Weger, No. 4	572	..do	988	37	416	1,084	996	1,025		..do
	14	Craig & Lowrie	Weger, No. 6	572	..do	952	78	380	1,120	953			
	15	Craig & Lowrie	Weger, No. 7	565	Robinson						1,040	Dry	No sand record
15—													
N. E.	1	Shaffer	H. Parker, No. 4	553	Robinson-1	983	35	430	1,070	997			Salt water, 1,000 feet
	2	Shaffer	H. Parker, No. 6	571	..do	991	32	420	1,080	1,005			
	3	Shaffer	H. Parker, No. 8	585	..do	991	26	406	1,094	991			
	4	Craig & Lowrie	R. Weger, No. 5	579	..do	984	34	405	1,095		1,018		Quit in sand
	5	Craig & Lowrie	R. Weger, No. 6	580	..do	980	47	400	1,100	991	1,027		..do
	6	Craig & Lowrie	R. Weger, No. 8	583	..do	1,014	19	431	1,069	1,014	1,033		..do
	7	Craig & Lowrie	R. Weger, No. 9	596	..do	1,013	17	417	1,083	1,030	1,030		..do
	8	Craig & Lowrie	R. Weger, No. 7	567	..do	990	37	423	1,077		1,027		..do
	9	Craig & Lowrie	R. Weger, No. 3	575	..do	985	49	410	1,090	1,000	1,034		..do
	10	Craig & Lowrie	R. Weger, No. 2	573	..do	998	35	425	1,075	1,010	1,033		..do
	11	Craig & Lowrie	R. Weger, No. 10	554								Dry	No record

Crawford County—Honey Creek Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand.					Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
					Name.	Depth to top—feet.	Thickness penetrated—feet.	Altitude below sea level—feet.	Altitude above datum plane—feet.				
15—N. E.	12	Craig & Lowrie	R. Weger, No. 1	581	Robinson-1	998	35	417	1,083	1,010	1,033		Quit in sand
	13	Craig & Lowrie	R. Weger, No. 4	585	..do	980	52	395	1,105	1,015	1,032		..do
	14	Shaffer	H. Parker, No. 2	582	Robinson-2	1,026	37	444	1,056	1,026			Well abandoned
	15	Shaffer	H. Parker, No. 13	594	Robinson-1	1,010	33	416	1,084	1,030			
	16	Shaffer	H. Parker, No. 11	598	..do	1,001	18	413	1,087	1,011			
	17	Shaffer	H. Parker, No. 10	600	..do	1,005	20	405	1,095	1,005			
	18	Shaffer	H. Parker, No. 12	595	..do	995	17	400	1,100	1,000	1,012		Quit in sand
	19	Shaffer	H. Parker, No 9	591	..do	992	25	401	1,099	992			
	20	Shaffer	H. Parker, No. 16	585	..do	1,005	15	420	1,080	1,010	1,020		Quit in sand
	21	Shaffer	H. Parker, No. 22	582	..do	974	20	392	1,108	974			
	22	Shaffer	H. Parker, No. 25	586	..do	994	20	408	1,092	994	1,014		Quit in sand
	23	Shaffer	H. Parker, No. 15	578	..do	993	13	415	1,085	993	1,009		..do
	24	Shaffer	H. Parker, No. 21	577	..do	1,000	17	423	1,077	1,000			
N. W.	1	Shaffer	H. Parker, No. 3	561	..do	944	49	383	1,117	955	993		Quit in sand
	2	Shaffer	H. Parker, No. 23	548	Robinson-2	1,004	15	456	1,044	1,004	1,019		..do
	3	Shaffer	H. Parker, No. 5	574	Robinson-1	1,000	26	426	1,074	1,000			
	4	Shaffer	H. Parker, No. 24	565	..do	991	18	426	1,074	991			
	5	Shaffer	H. Parker, No. 14	563	..do	994	28	431	1,069	994	1,022		Quit in sand
	6	Shaffer	H. Parker, No. 1	568	..do	967	60	399	1,101				
	7	Shaffer	J. Weger, No. 8	514	..do	958	30	444	1,056	962	983		Quit in sand
	8	Shaffer	J. Weger, No. 11	546	..do	977	19	431	1,069	977	996		..do
	9	Shaffer	J. Weger, No. 9	549	..do	984	30	435	1,065	984			Salt water, 989 feet
	10	Shaffer	J. Weger, No. 10	542	..do	973	24	431	1,069	983			
	11	Shaffer	J. Weger, No. 2	569	..do	978	94	409	1,091	978			
S. W.	1	Shaffer	G. Parker, No. 5	593	..do	1,012	36	419	1,081	1,030			
	2	Shaffer	G. Parker, No. 6	579	..do	1,003	24	424	1,076	1,003			
	3	Shaffer	G. Parker, No. 4	585	..do	1,010	33	425	1,075	1,017	1,043		Quit in sand
	4	Shaffer	G. Parker, No. 2	573	..do	993	39	420	1,080	993	1,032		..do
	5	Shaffer	G. Parker, No. 3	580	..do	1,003	36	423	1,077	1,003	1,039		..do
	6	Shaffer	G. Parker, No. 1	587	..do	1,006	46	419	1,081	1,006	1,052		..do
	7	Ohio	Sequist, No. 1	582	..do	1,008	37	426	1,074				
	8	Ohio	Sequist, No. 2	564	..do	985	30	421	1,079				

	9	Ohio	Sequist, No. 3	558	Robinson-1	989	23	431	1,069				Salt water
	10	Ohio	Sequist, No. 4	544	..do	960	44	416	1,084				
	11	Ohio	Sequist, No. 5	573	..do	996	28	423	1,077				
	12	Red Bank	Johnson, No. 8	552	..do	958	8	406	1,094			50	
	13	Red Bank	Johnson, No. 7	525	..do	955		430	1,070				
					Robinson-2	988		463	1,037		1,011	100	Quit in sand
	14	Red Bank	Johnson, No. 9	540	Robinson-1	976	20	436	1,064			50	
	15	Red Bank	Johnson, No. 1	538	Stray	915		377	1,123				Gas, 915 feet
					Robinson-1	961	15	423	1,077	964			
	16	Red Bank	Johnson, No. 5	548	..do	985	32	437	1,063	990		200	
	17	Red Bank	Johnson, No. 2	537	..do	988		421	1,079	967		50	
					Robinson-2	1,007	13	470	1,030				
	18	Red Bank	Johnson, No. 4	561	Robinson-1	980	30	419	1,081	984		50	
	19	Red Bank	Johnson, No. 3	556	..do	952	48	396	1,104			100	
	20	Shaffer	Ford, No. 1	538	..do	962	52	424	1,076				Quit in sand
	21	Shaffer	Ford, No. 2	543	..do	967	49	424	1,076	971			
	22	Shaffer	Ford, No. 5	526	..do	960	38	434	1,066	960	998		Quit in sand
	23	Shaffer	Ford, No. 4	537	Robinson-2	995	17	458	1,042	995			
	24	Shaffer	Ford, No. 3	562	Robinson-1	998	29	426	1,074	96			
	25	Shaffer	Vinsel, No. 4	577	..do	1,001	30	424	1,076	1,001			
	26	Shaffer	Vinsel, No. 1	572	..do	990	42	418	1,082	1,015	1,032		Quit in sand
	27	Shaffer	Vinsel, No. 2	571	..do	1,000	29	429	1,071	1,000			
	28	Shaffer	Vinsel, No. 6	578	..do	1,009	23	431	1,069	1,009	1,032		Quit in sand
	29	Shaffer	Vinsel, No. 12	583	..do	985	28	402	1,098	990			
	30	Shaffer	Vinsel, No. 11	588	..do	985	34	397	1,103	985	1,019		Quit in sand
S. E.	1	Shaffer	Vinsel, No. 2	581	..do	1,015	19	434	1,066	1,019			
	2	Shaffer	Vinsel, No. 1	583	..do	1,006	35	423	1,077	1,014	1,041		Quit in sand
	3	Shaffer	Mail, No. 1	557	..do	995	18	438	1,062	995			
	4	Shaffer	H. Parker, No. 7	586	..do	1,006	32	420	1,080	1,006			
	5	Shaffer	H. Parker, No 20	554	..do	984	22	430	1,070	984			
	6	Shaffer	H. Parker, No. 19	551	..do	993	22	442	1,058	993			
	7	Shaffer	H. Parker, No. 18	565	..do	980	21	415	1,085	995			
	8	Shaffer	H. Parker, No. 17	561	..do	990	21	429	1,071	990	1,011		Quit in sand
16— N. E.	1	Ohio	Darone, No. 2	533	..do	960	16	427	1,073	960		15	Salt water 976 feet
	2	Ohio	Darone, No. 1	540	..do	973	13	433	1,067	973		150	Salt water, 986 feet
S. W.	1	Red Bank	G. Weger, No. 1	493	..do	951		458	1,042			Dry	
	2	Pease & Co	Ford, No. 1	475	Robinson-3	990		515	985		1,028	Dry	Salt water, 1,028 feet
S E.	1	Shaffer	J. Weger, No. 7	554	Robinson-1	994	25	440	1,060	994	1,021		Quit in sand
	2	Shaffer	J. Weger, No. 6	531	..do	969	25	438	1,066	969			
	3	Shaffer	J. Weger, No. 5	532	..do	966	21	434	1,066	966	987		Quit in sand
	4	Red Bank	J Goff, No. 2	512	..do	940	22	428	1,072			2	Salt water, 962 feet. Well abandoned
	5	Red Bank	J. Goff, No. 1	496	Robinson-2	960		464	1,036	965			Well abandoned
	6	Shaffer	J. Weger, No. 4	517	..do	969	20	452	1,048	969			
	7	Shaffer	J. Weger, No. 3	532	Robinson-1	980	28	448	1,052	980			
	8	Shaffer	Weger, No 1	532	..do	991	40	439	1,061	991			
	9	Ohio	G. Parker, No. 1	552	..do	999		447	1,053	1,002		100	
	10	Ohio	G. Parker, No. 5	544	..do	985	23	441	1,059	990		50	Salt water, 1,008 feet
	11	Ohio	G. Parker, No. 4	528	..do	973		445	1,055	973		40	Salt water, 995 feet
	12	Ohio	G. Parker, No. 2	548	..do	978	5	430	1,070				
						987	36	439	1,061	1,006		100	

Crawford County—Honey Creek Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
16—S. E.	13	Ohio	G. Parker, No. 3	538	Robinson-2	1,001	27	463	1,037	1,001		40	Salt water, 1,028 feet
	14	Ohio	G. Parker, No. 6	530	do	998	5	458	1,042	998		10	Salt water, 1,003 feet
	15	Ohio	A. Goff, No. 3	516	do	961	23	445	1,055	965		40	Salt water, 984 feet
	16	Ohio	A. Goff, No. 1	516	do	966	29	450	1,050	966		50	Salt, water 995 feet
	17	Ohio	A. Goff, No. 2	490	Robinson-1	931		441	1,059	931		30	Salt water, 965 feet
17—N. E.	1	Red Bank	Jewel, No. 1	466	Robinson-3	958		492	1.008			Dry	Salt water, 975 feet
18—N. W.	1	Ohio	Baker, No. 1	467		1,080	9	613	887			Dry	Salt water, 1,080 feet
	2	Ohio	Mann, No. 1	435							1,420	Dry	No sands
19 (N)—S. W.	1	Red Bank	Maxwell, No. 1	475	Stray	800	10	325	1,175			Gas	T. 6 N., R 12 W
					do	830	15	355	1,145	830		10	Gas well
	2	Red Bank	Garrard, No. 2	487	Robinson-1	860	51	373	1,127			Gas	1,000,000 cu. feet gas daily
S. E.	1	Red Bank	Garrard, No. 1	480	Robinson-3	951	20	471	1,029			Gas	2,000,000 cubic feet gas daily
20 (S)—N. E.	1	Ohio	Stephenson, No. 1	438	Robinson-2	891	82	453	1,047		973	Dry	Salt water, 943 feet. T. 5 N., R. 12 W
N. W.	1	Ohio	Darnold, No. 1	455		1,028		573	927		1,035	Dry	Salt water, 1,028 feet
20 (N)—S. W.	1	Ohio	Eagleton, No. 1	506	Stray	890	8	384	1,116			Gas	Gas, 892 feet
	2	Ohio	P. Frost, No. 1	497	Stray	925	20	428	1,072				T. 6 N., R. 12 W
					Robinson-3	975		478	1,022			Gas	Gas, 976 feet
S. E.	1	Ohio	Rodrick, No. 1	480	Robinson-3	952	18	472	1,028		1,227	Dry	Salt water, 970 feet
21—N. E.	1	Ohio	G. Parker, No. 6	534	Robinson-1	982		448	1,052	987	1,002	25	Salt water, 1,002 feet, T. 5 N., R. 12 W
22—N. E.	1	Ohio	Mann, No. 1	572							1,102	Dry	No sands. Salt water, 1,065 feet
N. W.	1	Murphy	T. Parker, No. 3	544	Robinson-1	986		442	1,058		998	Dry	Salt water, 998 feet

	2	Murphy	T. Parker, No. 2	537	Robinson-1	975	20	438	1,062	980	995	Light	Salt water, 994 feet
	3	Murphy	T. Parker, No. 1	523	Robinson-2	990	......	437	1,033	......	1,005	Dry	Salt water, 1,000 feet
	4	Red Bank	Johnson, No. 6	526	Robinson-1	955	26	429	1,071	960	......	200	......
28— N. E.	1	Unknown	Watt, No. 1	560	......	......	......	......	......	......	......	Dry	No record
29— N. W.	1	Red Bank	J. Frost, No. 1	467	Stray	893	18	426	1,074	......	......	......	1,000,000 cubic feet gas daily
					Robinson-3	950	16	483	1,017	......	......	Gas	Salt water, 966 feet
	2	Crescent	M. Frost, No. 1	461	Stray	898	15	437	1,063	......	......	Gas	......
					Robinson-2	921	......	460	1,040	......	921	Show	Gas well
S. W.	1	Ohio	Davis, No. 2	465	Robinson-2	915	15	450	1,050	......	......	......	......
					......	1,030	10	565	935	......	......	......	Salt water, 1,030 feet
	2	Ohio	Davis, No. 1	495	......	921	......	426	1,074	924	......	Gas	Gas well
S. E.	1	Shaffer	Reinochl, No. 3	495	Robinson-2	942	12	447	1,053	......	......	Gas	Gas, 942 feet, 185 pounds, minute pressure
	2	Shaffer	Reinochl, No. 2	518	......	921	24	403	1,097	......	......	Gas	Gas, 921 feet
	3	Shaffer	Reinochl, No. 1	529	......	921	110	392	1,108	......	......	Gas	Gas, 921 feet, 425 pounds pressure
30— N. E.	1	Ohio	A. Frost, No. 1	482	Robinson-4	1,010	6	528	972	......	......	Dry	Salt water, 1,010 feet
	2	Crescent	M. Frost, No. 1	480	......	873	29	393	1,107	878	......	......	......
					Robinson-2	920	11	440	1,060	......	938	......	......
N. W.	1	Ohio	Purcell, No. 1	465	......	870	76	405	1,095	......	......	......	......
					Robinson-3	956	74	491	1,009	......	......	......	Salt water, 1,030 feet
	2	Associated Producers	Van Winkle, No. 1	460	Robinson-2	900	67	440	1,060	925	......	Gas	......
	3	Associated Producers	Van Winkle, No. 2	482	Stray	816	47	334	1,166	863	......	Show	......
30—					Robinson-2	921	10	439	1,061	......	......	Gas	Gas well
S. E.	1	Red Bank	Sears, No. 1	486	Robinson-1	870	......	384	1,116	......	......	Show	......
					Robinson-2	933	8	447	1,053	......	......	......	500,000 cubic feet gas daily. Well abandoned
31— N. E.	1	Ohio	Clark, No. 6	466	Robinson-2	905	......	439	1,061	923	......	8	Gas, 910 feet
	2	Red Bank	Miller, No. 2	457	Robinson-1	849	12	392	1,108	......	......	40	......
					Robinson-2	875	35	418	1,082	......	......	......	......
	3	Red Bank	Miller, No. 1	458	Robinson-1	866	......	408	1,092	875	......	......	......
N. W.	1	Red Bank	Miller, No. 3	475	Stray	835	......	360	1,140	......	......	......	......
					Robinson-1	855	75	380	1,120	......	......	......	......
					Robinson-3	950	......	475	1,025	......	......	50	......
	2	Ohio	Doucommon, No. 2	474	Robinson-3	921	......	447	1,053	......	952	5	......
S. W.	1	Ohio	Kennedy, No. 1	453	Robinson-3	910	......	457	1,043	915	......	30	Gas, 915 feet. Salt water 936 feet
	2	Ohio	Kennedy, No. 5	455	Robinson-4	938	......	483	1,017	942	......	15	Gas, 938 feet. Salt water 951 feet
	3	Ohio	Kennedy, No. 3	455	Robinson-1	829	33	374	1,126	835	......	80	Gas, 830 feet
	4	Ohio	Kennedy, No. 4	463	Robinson-1	836	33	373	1,127	860	......	30	Gas, 841 feet
	5	Ohio	Kennedy, No. 2	450	Robinson-1	820	20	370	1,130	......	......	......	......
					Robinson-2	855	13	405	1,095	855	......	20	Gas, 855 feet
	6	Treat, Crawford & Treat	Purcell, No. 4	465	Robinson-1	840	......	375	1,125	......	......	......	......
					Robinson-3	924	19	459	1,041	924	......	10	......

Crawford County—Honey Creek Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
31—													
S. W.	7	Treat, Crawford & Treat	Purcell No. 2	457	Stray	816		359	1,141			10	Gas well
					Robinson-1	863		406	1,094			Gas	
	8	Treat, Crawford & Treat	Purcell, No. 1	455	Robinson-3	900	67	445	1,055	925		10	Well abandoned
	9	Treat, Crawford & Treat	Purcell, No. 3	470	Robinson-1	864		394	1,106				
					Robinson-4	953	22	483	1,017	953		10	
	10	Leeper Bros	Sparks, No. 7	455	Ropinson-1	817	27	362	1,138	825			
					Robinson-2	849	11	394	1,106				
	11	Leeper Bros	Sparks, No. 11	460	Robinson-1	819	15	359	1,141		892		
	12	Leeper Bros	Sparks, No. 3	456	..do	822	9	366	1,134				
	13	Leeper Bros	Sparks, No. 1	456	..do	828		372	1,128	833			
					Stray	842		386	1,114				Gas
					Robinson-2	865	5	409	1,091		933		
	14	Leeper Bros	Sparks, No. 2	456	Robinson-1	823	12	367	1,133		933	Dry	Salt water, 933 feet
	15	Ohio	Reinochl, No. 3	460	..do	837	18	377	1,123				
					Robinson-2	888	14	428	1,072			35	Salt water, 945 feet
	16	Ohio	Reinochl, No. 4	454	Robinson-1	860	5	406	1,094				
					Robinson-4	967	14	513	987	967		15	
	17	Ohio	Reinochl, No. 5	453	Robinson-1	835	55	382	1,118	838		60	Gas, 838 feet
	18	Ohio	Reinochl, No. 2	455	Robinson-3	941		486	1,014	954		25	Salt water, 975 feet
	19	Ohio	Reinochl, No. 1	457	..do	930	40	473	1,027	940		56	Gas, 935 feet, salt water, 968 feet
	20	Ohio	Reinochl, No. 7	456									No record
	21	Ohio	Reinochl, No. 6	452	Robinson-4	945	22	493	1,007	948		4	Gas, 945 feet; salt water, 967 feet
S. E.	1	Ohio	Clark, No. 4	459	Robinson-2	908	24	449	1,051	920		25	Gas, 908 feet
	2	Ohio	Clark, No 5	458	..do	900	31	442	1,058	910		15	Gas, 900 feet
	3	Ohio	Clark, No. 3	466	..do	919	36	453	1,047	928		60	Gas, 924 feet
	4	Ohio	Clark, No. 1	471	..do	890	22	419	1,081				Gas, 895 feet
					Robinson-3	943	24	472	1,028	951		45	
	5	Ohio	Clark, No. 2	468	..do	947		479	1,021	963		15	
	6	Ohio	Clark, No. 7	469	..do	943	12	474	1,026	950		15	Gas, 944 feet. Salt water, 978 feet

	7	Ohio	Highsmith, No. 4	462	Robinson-2	905	12	443	1,057				
					Robinson-3	932	11	470	1,030			50	
	8	Ohio	Highsmith, No. 1	468	Robinson-2	905	5	437	1,063			Dry	Salt water, 975 feet
	9	Ohio	Highsmith, No. 2	462								Dry	No sands
	10	Ohio	Highsmith, No. 5	458	Robinson-4	990		532	968			Dry	Salt water, 992 feet
	11	Ohio	Highsmith, No. 6	457	Robinson-1	873	17	416	1,084				Gas, 873feet
					Robinson-3	919	12	462	1,038	920		5	
	12	Ohio	Highsmith, No. 3	457	Robinson-1	874	40	417	1,083			20	
	13	Red Bank	Highsmith, No. 1	457	..do	870	43	413	1,087	840		80	
	14	Red Bank	Highsmith, No. 2	457	..do	874		417	1,083				
					Robinson-3	940	34	483	1,017	940		25	
	15	Morrison	Highsmith, No. 1	465	Robinson-2	890		425	1,075				Rapid decline of well. Abandoned
					Robinson-3	958	26	493	1,007	958		80	Low gravity oil
	16	Morrison	Highsmith, No. 2	470	Robinson-2	904		434	1,066				
					Robinson-3	958	20	488	1,012			80	Well abandoned
	17	Morrison	Highsmith, No. 4	457	Stray	844		387	1,113				Gas, 844 feet
					Robinson-2	899	43	442	1,058			80	Well abandoned
	18	Red Bank	Highsmith, No 5	456	Robinson-2	880	39	424	1,076	890		20	
	19	Red Bank	Highsmith, No. 4	456	Robinson-2	888	39	432	1,068	897		25	
	20	Red Bank	Highsmith, No. 6	455	Stray	827		372	1,128				
					Robinson-1	873	49	418	1,082			25	
	21	Morrison	Highsmith, No. 3	456	Stray	830		374	1,126				Gas, 832 feet
					Robinson-2	900	38	444	1,056			80	Well abandoned because of rapid decline
	22	Red Bank	Highsmith, No. 3	457	Robinson-1	848		391	1,109				
					Robinson-2	892	30	435	1,065			25	
32—													
N. E.	1	Treat, Crawford & Treat	Highsmith, No. 1	531	Stray	855		324	1,176			Show	
						935	17	404	1,096			Gas	Gas, 325 pounds presure.
	2	Ohio	Richey, No. 5	498								Dry	No record
	3	Ohio	Richey, No. 3	528							1,100	Dry	No record
	4	Ohio	Richey, No. 1	525	Robinson-1	958	7	433	1,067				
					Robinson-2	988	7	463	1,037		1,060	Dry	
	5	Ohio	Richey, No. 4	509	Robinson-1	925		416	1,084	956	960	Light	Gas, 954 feet
	6	Ohio	Richey, No. 2	482	Robinson-3	960		478	1,022	975	1,075	Light	Salt water, 1058 feet
N. W.	1	Red Bank	McCarter, No. 1	495		920		425	1,075		930	Gas	Gas, 925 feet
	2	Ohio	Bartlet, No. 1	486	Robinson-3	937	16	451	1,049	939		60	
S W.	1	Ohio	Crum, No. 1	481	Robinson-3	924		443	1,057	954			Gas, 954 feet. Well abandoned
	2	Ohio	Crum, No. 4	480	Robinson-3	944	14	464	1,036	950		8	Gas, 944 feet
	3	Ohio	Crum, No. 7	476	Robinson-3	940	25	464	1,036	950		2	Gas, 940 feet
	4	Ohio	Crum, No. 3	459	Robinson-2	905		446	1,054	913		45	Gas, 913 feet
	5	Ohio	Crum, No. 5	464	Robinson-4	960	5	496	1,004	962		4	Gas, 960 feet
					Robinson-4	975	14	511	989				Salt water, 994 feet
	6	Ohio	Crum, No. 2	469	Robinson-3	942	21	473	1,027	952		25	Gas, 950 feet
	7	Ohio	Crum, No. 6	465	Robinson-3	937	19	472	1,028	941		10	Gas, 937 feet
	8	Red Bank	Siler, No. 1	466	Robinson-2	913	32	447	1,053	920		20	
	9	Red Bank	Siler, No. 2	467									No record
	10	Red Bank	Siler, No. 3	485									No record
S. E.	1	Red Bank	Highsmith, No. 1	479	Robinson-3	961		482	1,018			Dry	Salt water, 1,040 feet
	2	Wilcox & Schuler	Jackson, No. 3	504								Dry	No record

Crawford County—Honey Creek Township—Concluded.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
32—S. E.	3	Wilcox & Schuler	Jackson, No. 1	502								Dry	No record
	4	Wilcox & Schuler	Jackson, No. 2	502								Dry	do
	5	Red Bank	Garrard, No. 1	516	Robinson-1	930		414	1,086		1,010	Dry	Salt water, 1,005 feet
33—S. W.	1	Ohio	Rich, No. 1	500	Robinson-1	926		426	1,074			Dry	Salt water, 1,002 feet
34—S. E.	1	Ohio	Simmons, No. 1	582	Stray	960	2	378	1,122		976	Gas	Gas, 960 feet
	2	Shaffer	Kent, No. 1	587	Stray	940		353	1,147		986	Dry	Gas, 940 feet. Salt water, 970 feet
35—S. W.	1	Shaffer	Evans, No. 1	566								Gas	No record

Crawford County—Martin Township.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Depth to top—feet.	Thickness penetrated—feet.	Altitude below sea level—feet.	Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
1— N. E.	1	Hazelwood	A. Pope, No. 17	470	Robinson-1	824	14	354	1,146				
					Robinson-2	847	11	377	1,123		890		
	2	Hazelwood	A. Pope, No. 15	471	Robinson-1	816	22	345	1,155				
					Robinson-2	852	16	381	1,119		888		
	3	Hazelwood	A. Pope, No. 11	469	Robinson-1	823	25	354	1,146		888		
	4	Hazelwood	A. Pope, No. 13	471	Robinson-1	816	18	345	1,155				
					Robinson-2	857	12	386	1,114		884		
	5	Hazelwood	A. Pope, No. 12	465	Robinson-1	813	23	348	1,152				
					Robinson-2	850	15	385	1,115		885		
	6	Hazelwood	A. Pope, No. 10	465	Robinson-1	808	12	343	1,157				Slate, 820 to 824 feet
					Stray	824	16	359	1,141				
					Robinson-2	850	12	385	1,115		869		
	7	Hazelwood	A. Pope, No. 14	464	Robinson-1	820	25	356	1,144				
					Robinson-2	851	8	387	1,113		876		
	8	Hazelwood	A. Pope No. 9	465	Robinson-1	804	23	339	1,161		842		
	9	Hazelwood	A. Pope, No. 8	460	Robinson-1	798	26	338	1,162		844		
	10	Hazelwood	A. Pope, No. 7	464	Robinson-1	797	24	333	1,167		848		
	11	Hazelwood	A. Pope, No. 4	455	Robinson-1	780	18	325	1,175				
					Robinson-2	853	5	398	1,102		871		
	12	Hazelwood	A. Pope, No. 5	458	Robinson-1	781	31	323	1,177				
					Robinson-2	821	7	363	1,137		835		
	13	Ohio	M. Kersey, No. 1	456	Robinson-1	802		346	1,154	808		8	Gas, 786 feet
	14	Ohio	M. Kersey, No. 3	452	Robinson-1	800	7	348	1,152	803		20	
					Robinson-2	818	22	366	1,134				
					Robinson-3	856	28	404	1,096				
	15	Ohio	M. Kersey, No. 2	464	Robinson-1	808		344	1,156	813		80	Gas, 810 feet
	16	Ohio	M. Kersey, No. 5	465	Robinson-1	806		341	1,159	810		50	Gas, 806 feet
	17	Ohio	M. Kersey, No. 7	463	Robinson-1	828		365	1,135				
					Robinson-3	894		431	1,069				
	18	Ohio	M. Kersey, No. 4	457	Robinson-1	798	14	341	1,159	800		25	
	19	Ohio	A. Kersey, No. 1	463	Robinson-1	815	10	352	1,148	820		125	Gas, 815 feet
					Robinson-2	858	8	395	1,105				

Crawford County—Martin Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Depth to top—feet.	Thickness penetrated—feet.	Altitude below sea level—feet.	Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
1— N. E.	20	Ohio	A. Kersey, No. 3	465	Robinson-1	818	22	353	1,147	820		400	Gas, 818 feet
					Robinson-2	850	28	385	1,115			400	
	21	Ohio	E. Kersey, No. 2	466	Robinson-1	830	14	364	1,136	835			Gas, 832 feet
					Robinson-2	850	20	384	1,116	860			
	22	Ohio	E. Kersey, No. 3	467	Stray	800		333	1,167				
	23	Ohio	E. Kersey, No. 1	464	Robinson-2	826	7	362	1,138	828			Gas, 826 feet
					Robinson-3	888	13	424	1,076	890		300	Best production, 850 feet.
	24	Ohio	A. Kersey, No. 4	465	Robinson-2	828	34	363	1,137	850			
					Robinson-3	894	8	429	1,071	895		50	
	25	Ohio	A. Kersey, No. 2	461	Robinson-1	806	8	345	1,155	812			Gas, 806 feet
					Robinson-3	881	19	420	1,080	885		5	Best production, 885 feet.
	26	Ohio	J. Hudson, No. 1	473	Robinson-2	800	30	327	1,173	820			Gas, 800 feet
					Robinson-3	895	3	422	1,078				Salt water, 898 feet. Well abandoned
	27	Ohio	M. Kersey, No. 6	466	Stray	785	5	319	1,181				Gas, 785 feet
					Robinson-3	890	10	424	1,076	890		25	Salt water, 923 feet
	28	Hazelwood	Wilson, No. 2	450	Robinson-1	785	23	335	1,165				
					Robinson-2	921	11	371	1,129		849		
	29	Hazelwood	Wilson, No. 4	451	Stray	772	5	321	1,179				
					Robinson-1	800	18	349	1,151				
					Robinson-2	840	58	389	1,111	878	900		Gas, 840 feet. Salt water, 900 feet
	30	Hazelwood	Wilson, No. 3	445	Robinson-1	782	33	337	1,163		825		
	31	Hazelwood	Wilson, No. 5	455	Stray	782	18	327	1,173	785			
					Robinson-3	858	36	403	1,097	860	894		
N. W.	1	Red Bank	F. Frost, No. 1	442	Robinson-1	783	23	341	1,159			100	
	2	Reb Bank	F. Frost, No. 4	442	..do	767		325	1,175	770		150	
	3	Ohio	F. Frost, No. 2	443	..do	775	12	332	1,168				Slate, 787 to 789 feet
					Stray	789	9	346	1,154		862		
	4	Ohio	F. Frost, No. 1	445	Robinson-1	795		350	1,150				No second lens
					Robinson-3	887		442	1,058			Dry	

	5	Hazelwood	Wilson, No. 1	437	Stray	744	20	307	1,193				
					Robinson-1	803	32	366	1,134				Gas. Well abandoned
	6	Red Bank	F. Frost, No. 2	441	..do	773	22	332	1,168	785		100	
	7	Red Bank	F. Frost, No. 3	440	..do	766	18	326	1,174				
					Robinson-3	875	8	435	1,065			40	
	8	Ohio	L. Smith, No. 1	442	..do	865	15	423	1,077	868		30	Gas, 865 feet. Salt water, 880 feet
	9	Ohio	A. Mann, Acct. 2, No. 1	443	..do	866	19	423	1,077	871		40	Gas, 866 feet. Salt water, 885 feet
	10	Ohio	A. Mann, Acct. 2, No. 5	443	..do	861	149	418	1,082			Dry	Salt water. 1,000 feet. Well abandoned
	11	Ohio	A. Mann, Acct. 2, No. 2	438	..do	864		426	1,074	868		3	Gas, 864 feet
	12	Ohio	A. Mann, Acct. 2, No. 3	442	..do	856		414	1,086	860		3	Gas, 856 feet. Salt water, 871 feet
	13	Ohio	A. Mann, Acct. 2, No. 4	437	..do	845	20	408	1,092			Gas	Gas, 848 ft., 3,000,000 cu. ft
S. W.	1	Ohio	A. Mann, Acct. 2, No. 6	437	Robinson-2	827	43	390	1,110	852	855	4	Gas, 827 feet
	2	Treat, Crawford & Treat	Due, No. 1	434	Robinson-3	906	15	472	1,028			2	
	3	Fertig Bros	Parker, No. 3	436	Robinson-1	794	10	358	1,142				
					Robinson-3	880	10	444	1,056	880	901		Gas, 880 feet
	4	Fertig Bros	Parker, No. 2	465									No record
	5	Fertig Bros	Parker No. 1	460	Robinson-2	858	5	398	1,102				
					Robinson-3	889		429	1,071	889	908		Quit in sand
	6	Leeper Bros	Haskins, No. 1	439	Stray	752		313	1,187				
					Robinson-2	811	81	372	1,128				Salt water, 892 feet
	7	Leeper Bros	Haskins, No. 4	446	..do	845	49	399	1,101		894		Salt water, 894 feet
S. E.	1	Leeper Bros	Haskins, No. 8	454	Robinson-1	815	68	361	1,139	870	883	Gas	Gas, 817 feet and 865 feet.
	2	Leeper Bros	Haskins, No. 7	455	Robinson-2	860	56	405	1,095	881			Gas, 865 feet. Salt water, 916 feet
	3	Leeper Bros	Haskins, No. 6	448	Robinson-3	875	37	427	1,073		912		Quit in sand
	4	Leeper Bros	Haskins, No. 5	457	Robinson-2	868	48	411	1,089	903	916	Gas	Gas, 886 feet and 892 feet.
	5	Leeper Bros	Haskins, No. 3	450	Robinson-1	830	18	380	1,120	843			
					Robinson-3	889	20	439	1,061				
	6	Leeper Bros	Haskins, No. 2	446	Robinson-2	860	37	414	1,086				
	7	W. L. Curtis	Mulvane, No. 2	460	Robinson-1	831	18	371	1,129	825			
					Robinson-3	895	22	435	1,065	895	917		Quit in sand
	8	W. L. Curtis	Mulvane, No. 3	462	Robinson-3	890	35	428	1,072	907			Gas, 895 feet
	9	W. L. Curtis	Mulvane, No. 4	464	Robinson-1	830	2	366	1,134				Stray
					Robinson-3	890	29	426	1,074	910			Gas, 892 feet
	10	W. L. Curtis	Mulvane, No. 1	461									No record
	11	Leeper Bros	O. E. & J. C. Eagleton, No. 4	457	Robinson-3	880	29	423	1,077	900	919		Quit in sand
	12	Leeper Bros	O. E. & J. C. Eagleton, No. 1	458	Robinson-2	857		399	1,101	897	921		Gas, 897 feet. Salt water, 921 feet
	13	Leeper Bros	O. E. & J. C. Eagleton. No. 2	454	Shallow	678	23	224	1,276			100	
	14	Leeper Bros	O. E. & J. C. Eagleton, No. 3	451	Shallow	678	16	227	1,273			25	Salt water, 694 feet
	15	Ohio	C. Eagleton, No. 1	455	Robinson-2	855	10	400	1,100				Gas, 860 feet
					Robinson-3	893		438	1,062	898		35	Salt water, 920 feet
	16	Ohio	C. Eagleton, No. 5	461	..do	890	24	429	1,071	900		50	Gas, 895 feet
	17	Ohio	C. Eagleton, No. 6	456	..do	898	19	442	1,058	910		25	Gas, 898 feet. Salt water, 917 feet
	18	Ohio	C. Eagleton, No. 2	450	..do	896	17	446	1,054	896		75	
	19	Ohio	C. Eagelton, No. 3	449	..do	890	23	441	1,059	893		12	Gas, 890 feet
	20	Ohio	C. Eagleton, No. 4	459	..do	901	17	442	1,058	905		50	Gas, 904 feet

Crawford County—Martin Township—Continued.

Section No.	Map No.	Name of oil company	Name of well.	Surface elevation—feet.	Sand: Name.	Sand: Depth to top—feet.	Sand: Thickness penetrated—feet.	Sand: Altitude below sea level—feet.	Sand: Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
2—N. E.	1	Ohio	G. W. Jones, No. 1	442	Robinson-2	835		393	1,107				Gas, 837 feet
	2	Ohio	G. W. Jones, No. 6	440	..do	857	21	417	1,083	868		75	Gas, 860 feet
	3	Ohio	Coulter, No. 6	441	..do	852		411	1,089	860		10	Gas, 852 feet
	4	Ohio	Coulter, No. 7	448	..do	860		412	1,088	870		15	Gas, 860 feet
	5	Ohio	Coulter, No. 8	441	Robinson-1	783	27	342	1,158	788		75	Gas, 783 feet
	6	Ohio	Coulter, No. 5	450	..do	823	17	373	1,127	830		100	Gas, 823 feet
					Robinson-2	848	30	398	1,102				
	7	Ohio	Coulter, No. 3	455	Robinson-1	830	23	375	1,125				
	8	Ohio	Coulter, No. 2	455	..do	810	22	355	1,145				
	9	Ohio	Coulter, No. 1	457	..do	800	22	343	1,157				
	10	Ohio	Coulter, No. 4	455	..do	788	18	333	1,167				
	11	Ohio	G. W. Jones, No. 4	459	..do	799		340	1,160	802		75	Gas, 784 feet
	12	Ohio	G. W. Jones, No. 2	460	..do	803	19	343	1,157	808		200	Gas, 803 feet
	13	Ohio	G. W. Jones, No. 3	464	..do	796		332	1,168	808		75	Gas, 796 feet
	14	Ohio	G. W. Jones, No. 7	460	..do	800	20	340	1,160				Gas, 800 feet
					Robinson-3	887	16	427	1,073	890		50	
	15	Ohio	G. W. Jones, No. 5	465	..do	898		433	1,067	905		50	Salt water, 920 feet
N. W.	1	Riddle	Marshall, No. 6	471	Robinson-1	800	8	329	1,171				
					Robinson-2	856	67½	385	1,115	903		150	Gas, 859 feet
	2	Riddle	Mashall, No. 5	466	Robinson-1	800	20	334	1,166			100	
	3	Riddle	Marshall, No. 3	463	..do	808	22	345	1,155			100	
	4	Riddle	Marshall, No. 4	470	..do	825	23	355	1,145			100	
	5	Riddle	Marshall, No. 7	467	..do	799	31	332	1,168	818			
					Robinson-2	859	26	392	1,108		992		Gas, 885 feet
	6	Riddle	Marshall, No. 8	471	Robinson-1	802	17	331	1,169			100	
	7	Riddle	Marshall, No. 2	471	..do	825	26	354	1,146				
					Ropinson-2	868	25	397	1,103				Gas, 885 feet
					Robinson-3	930	21	459	1,041	930		150	
	8	Riddle	Marshall, No. 1	470	Robinson-1	836	21	366	1,134			125	
	9	Treat, Crawford & Treat	Due, No. 4	463	..do	824	25	361	1,139	827		250	
	10	Treat, Crawford & Treat	Due, No. 7	461	..do	823	37	362	1,138	840		250	
	11	Treat, Crawford & Treat	Due, No. 5	457	..do	834	50	377	1,123	838		250	

	12	Treat, Crawford & Treat	Due, No. 6	462	..do	834	31	372	1,128	840		250	
	13	Associated Producers	Due, No. 8	462	Shallow	625	10	163	1,337				
					Robinson-1	850	28	388	1,112	854			Slate, 635 feet to 850 feet
	14	Treat, Crawford & Treat	Due, No. 3	463	..do	860		397	1,103			850	
	15	Treat, Crawford & Treat	Due, No. 2	460	..do	847	33	387	1,113	855		250	
	16	Treat, Crawford & Treat	Due, No. 1	467	..do	846	28	379	1,121	848		300	
	17	Ohio	V. Parker, No. 5	476	Robinson-2	888		412	1,088			Gas	Gas, 898 feet. 6,000,000 cubic feet gas
	18	Ohio	V. Parker, No. 6	480	..do	916	12	436	1,064	920		10	Gas, 916 feet
	19	Ohio	V. Parker, No. 7	477	Robinson-1	870	18	393	1,107	875			Gas, 870 feet
					Robinson-2	910	26	433	1,067	912		200	Best production
	20	Ohio	V. Parker, No. 8	472	Robinson-1	852	33	380	1,120	860		140	Gas, 855 feet
	21	Ohio	V. Parker, No. 3	470	..do	838	40	368	1,132				Gas, 878 feet
					Robinson-2	893	15	423	1,077	893		5	
	22	Ohio	V. Parker, No. 1	463	Robinson-1	825		362	1,138	830		300	Gas, 825 feet
	23	Ohio	V. Parker, No. 2	472	..do	824	26	352	1,148	838		200	Gas, 834 feet
	24	Ohio	V. Parker, No. 4	473	..do	868	33	395	1,105	870		250	Gas, 870 feet
	25	Ohio	Lamb, No. 2	463	..do	842	29	379	1,121				
	26	Ohio	Lamb, No. 3	476	..do	855	26	379	1,121				
	27	Ohio	Lamb, No. 5	475	..do	868		393	1,107				
					Robinson-2	900	6	425	1,075				
	28	Ohio	Lamb, No. 4	466	Robinson-1	861	31	395	1,105				
	29	Samuels & McArthur	Lamb, No. 1	466	Robinson-2	876	21	410	1,090		897		
	30	Samuels & McArthur	Lamb, No. 2	472	..do	891	25	419	1,081		916		
	31	Samuels & McArthur	Lamb, No. 3	474	Stray	850	18	376	1,124				
S. W.	1	Leeper Bros.	Sexton, No. 1	467	Robinson-1	886		419	1,081			Dry	
	2	Leeper Bros.	Sexton, No. 2	468								Dry	No record
	3	Pease & Co.	Lathrop & McCarty, No. 1	456	Stray	845	5	389	1,111				Red shale. 624 to 658 feet
					Robinson-1	860	10	404	1,096		887	15	Oil of about 36° gravity
	4	Pease & Co.	Lathrop & McCarty, No. 5	460	Stray	857	7	397	1,103				
					Robinson-1	872	12	412	1,088		898	25	
	5	Pease & Co.	Lathrop & McCarty, No. 2	454	Stray	785	16	331	1,169				
					Robinson-1	852	37	398	1,102		919	20	
	6	Pease & Co.	Lathrop & McCarty, No. 3	454	..do	838	57	384	1,116		903	40	
	7	Pease & Co.	Lathrop & McCarty, No. 4	455	Robinson-2	883	19	428	1,072			15	
	8	Ohio	Baker, No. 2	455	..do	894	43	439	1,061	920		45	Gas, 918 feet
	9	Ohio	Baker, No. 1	453	Robinson-3	899	22	446	1,054	899		50	Gas, 905 feet
S. E.	1	Ohio	Randolph, No. 1	449							923		Bottom of sand
	2	Ohio	Randolph, No. 7	436	Robinson-1	857	59	421	1,079	880		15	Gas, 857 feet
	3	Ohio	Randolph, No. 2	435	..do	855	21	420	1,080	860		12	Gas, 857 feet
	4	Ohio	Randolph, No. 6	443	Robinson-2	870	19	427	1,073	875		40	Gas, 870 feet
	5	Ohio	Randolph, No. 8	441	..do	833	23	392	1,108	845			Gas, 833 feet. Salt water, 860 feet
	6	Ohio	Randolph, No. 5	444	Robinson-1	801	11	357	1,143				
					Robinson-2	868	23	424	1,076	875		60	Gas, 867 feet
	7	Ohio	Randolph, No. 4	443	..do	852	34	409	1,091	855		75	Gas, 852 feet
	8	Ohio	Randolph, No. 3	443	Robinson-1	803	22	360	1,140	805			Gas, 803 feet
					Robinson-2	833	17	390	1,110	843		50	Best production
	9	P. Ewing	Randolph, No. 5	441									No record
	10	P. Ewing	Randolph, No. 3	449	Robinson-1	825	14	376	1,124				
					Robinson-2	881	5	432	1,068				
	11	P. Ewing	Randolph, No. 2	454	Robinson-1	837	3	383	1,117				

Crawford County—Martin Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Depth to top—feet.	Thickness penetrated—feet.	Altitude below sea level—feet.	Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
2— S. E.	12	P. Ewing	Randolph, No. 1	453	Robinson-1	853	20	400	1,100				
	13	P. Ewing	Randolph, No. 4	451									No. record
	14	P. Ewing	Randolph, No. 6	452									do
	1	Pure	S. Shipman, No. 3	484	Robinson-1	885	15	401	1,099				
					Robinson-3	915	17	431	1,069			10	
3— N. E.	2	Pure	S. Shipman, No. 7	485	do	932	18	447	1,053		950		
	3	Pure	S. Shipman, No. 6	487	Robinson-2	926	12	439	1,061	926			
					Robinson-3	943	29	456	1,044	943	977		
	4	Pure	S. Shipman, No. 4	490	Robinson-2	920	23	430	1,070				
					Robinson-3	1,006	11	516	984			15	Slate, 943 to 1,006 feet
	5	Pure	S. Shipman, No. 5	481	Robinson-1	880	25	399	1,101				
					Robinson-3	935	18	454	1,046		960	30	Slate, 905 to 935 feet
	6	Pure	S. Shipman, No. 1	476	Robinson-1	890	22	414	1,086		919	75	
	7	Pure	S. Shipman, No. 2	480	Robinson-2	911	12	431	1,069		928	30	
	8	Ohio	Lamb, No. 6	477	do	905	21	428	1,072				
	9	Ohio	Lamb, No. 7	478	Robinson-3	930	10	452	1,048				
	10	Ohio	Lamb, No. 1	473	do	936	12	463	1,037		952	Dry	
	11	Samuels & McArthur	S. Lamb, No. 4	471									No record
N. W.	1	Ohio	S. Shipman, No. 1	490		1,070		580	920			Dry	Salt water
11— N. E.	1	Ohio	D. Shipman, No. 1	436	Robinson-1	856	22	420	1,080		828		
	2	Ohio	D. Shipman, No. 3	436	Robinson-3	932		496	1,004	934	950	10	Gas, 932 feet. Salt water 950 feet.
	3	Ohio	D. Shipman, No. 2	435	do	890	12	455	1,045	893			Gas, 892 feet
	4	Ohio	Conover, No. 2	435	Stray	996		561	939			Dry	Salt water, 996 feet
	5	Ohio	Conover, No. 3	434	do	1,010	10	576	924			Dry	Salt water, 1,010 feet
	6	Ohio	Conover, No. 1	439		1,026		587	913			Dry	
N. W.	1	Hubbard	Baker, No. 1	448								Dry	No record
12— N. W.	1	Ohio	Jones, No. 1	451	Robinson-2	879		428	1,072				Well abandoned
	2	Ohio	Jones, No. 3	430	do	855		425	1,075	858		35	Gas, 855 feet

	3	Ohio	Jones, No. 2	434	Robinson-1	850	23	416	1,084	860		100	..do
	4	Ohio	Jones, No. 4	433	Robinson-2	870	6	437	1,063	873			Gas, 870 feet
					Robinson-3	886	10	453	1,047	890		45	Best production
	5	Ohio	Jones, No. 5	436	Robinson-2	861	14	425	1,075	865	898	50	Gas, 861 feet
S. W.	1	Ohio	Mann, No. 1	444	Stray	994		550	950			Dry	Salt water, 994 feet. Well abondoned
S. E.	1	Thayer	Due, No. 1	463	Robinson-2	923	3	460	1,040			Show	
					Robinson-3	963	41	500	1,000		1,004	Dry	Salt water, 994 feet
13— N. E.	1	Ohio	Baker, No. 1	452	Robinson	1,080		628	872			Dry	Salt water, 1,088 feet
19— N. W.	1	McGranahan	Gross, No. 1	459								Dry	No record
	1	Ohio	R. Woods, No. 1	468		1,366	4	898	602		1,370	Dry	Salt water
S. W.	1	Ohio	J. Sears, No. 1	469		1,075		606	894				..do
						1,432		963	537		1,451	Dry	..do
20— N. E.	1	Ohio	L. Smith, No. 4	462	Robinson-2	913		451	1,049	915		20	Gas, 915 feet
	2	Ohio	L. Smith, No. 5	463	..do	907	20	444	1,056	912		20	Gas, 908 feet
	3	Ohio	Abbot, No. 3	461	..do	915		454	1,046	921		12	Gas, 920 feet
	4	Ohio	Abbot, No. 2	464	..do	918		454	1,046	922		4	..do
	5	Ohio	Abbot, No. 1	460	Robinson-1	880		420	1,080		972		Salt water, 968 feet
	6	Ohio	Abbot, No. 4	462		1,057		595	905				Salt water, 1,057 feet
	7	Rock	Uhrich, No. 2	464								Dry	No record
	8	Rock	Uhrich, No. 3	457	Shallow	450	35	+7	1,507				
					Robinson-1	770	25	413	1,087				
					Robinson-3	940	35	483	1,017			Dry	
N. W.	1	Crescent	Baldwin, No. 2	447	..do	934		487	1,013				
					Stray	1,077	2	630	870			Dry	Salt water
	2	Minnetonka	Willard, No. 1	460	Robinson-2	928		468	1,032		980	Dry	Salt water, 976 feet
S. E.	1	Rock	Uhrich, No. 1	443								Dry	No record
21— N. E.	1	Benedum-Trees	R. Siler, No. 5	474	Robinson-1	890		416	1,084	895	917		Gas, 892 feet
	2	Benedum-Trees	R. Siler, No. 8	477	Robinson-2	905		428	1,072	910	937		Quit in sand
	3	Benedum-Trees	R. Siler, No. 10	473	Stray	825		352	1,148		938	150	Gas, 825 feet. Quit in sand
	4	Benedum-Trees	R. Siler, No. 7	472	Robinson-2	900		428	1,072	900	930		Quit in sand
	5	Benedum-Trees	R. Siler, No. 9	473	..do	897	47	424	1,076	905	944		
	6	Benedum-Trees	R. Siler, No. 6	473	..do	897		424	1,076	902	929		Quit in sand
	7	Brown & Hogue	Wasson, No. 11	467	Robinson-1	880	50	413	1,087		940		
	8	Brown & Hogue	Wasson, No. 10	473	Robinson-2	902	22	429	1,071				
	9	Brown & Hogue	Wasson, No. 12	472	Robinson-1	878	45	406	1,094		940		
	10	Brown & Hogue	Wasson, No. 9	475	Robinson-2	910	30	435	1,065				
	11	Brown & Hogue	Wasson, No. 8	475	..do	902	35	427	1,073	935			
	12	Brown & Hogue	Wasson, No. 7	477	..do	908	27	431	1,069				
	13	Ohio	S. Shire, No. 5	472	..do	902		430	1,070	902		400	Gas, 902 feet
	14	Ohio	S. Shire, No. 6	472	..do	893		421	1,079	900		150	Gas, 905 feet. Salt water 910 feet
	15	Ohio	S. Shire, No. 7	472	..do	913		441	1,059	915		200	Gas, 913 feet. Salt water, 930 feet
	16	Ohio	S. Shire, No. 16	472	..do	914		442	1,058	918		150	Gas, 915 feet
	17	Ohio	S. Shire, No. 17	472	..do	901		429	1,071	915		200	Gas, 905 feet
	18	Ohio	S. Shire, No. 4	473	..do	911		438	1,062	915		150	Gas, 911 feet

Crawford County—Martin Township—Continued.

Section No.	Map No.	Name of oil company	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
21—N. E.	19	Ohio	S. Shire, No. 1	474	Robinson-2	902	......	428	1,072	920	......	700	Gas, 915 feet. Salt water 942 feet
	20	Ohio	S. Shire, No. 20	472	..do	910	......	438	1,062	915	......	30	Gas, 910 feet. Salt water 928 feet
	21	Ohio	S. Shire, No. 22	471	..do	916	......	445	1,055	918	......	150	Gas, 916 feet
	22	Ohio	S. Shire, No. 2	472	..do	902	......	430	1,070	920	......	100	Gas, 905 feet
	23	Ohio	S. Shire, No. 18	472	..do	900	38	428	1,072	905	......	250	Gas, 901 feet
	24	Ohio	S. Shire, No. 19	467	..do	907	......	440	1,060	912	......	250	Gas, 908 feet
	25	Ohio	S. Shire, No. 3	474	..do	897	......	423	1,077	910	......	200	Gas, 900 feet
	26	Ohio	S. Shire, No. 9	473	..do	902	......	429	1,071	910	......	100	Gas, 902 feet
	27	Ohio	S. Shire, No. 10	465	..do	907	......	442	1,058	937	......	150	Gas, 908 feet
N. W.	1	Ohio	S. Shire, No. 11	463	..do	914	......	451	1,049	918	......	200	Gas, 918 feet
	2	Ohio	S. Shire, No. 12	464	Robinson-1	887	......	423	1,077	885	......	100	Gas, 885 feet
	3	Ohio	S. Shire, No. 13	464	No sands	......	......	......	......	......	......	Dry	Well abandoned
	4	Ohio	S. Shire, No. 15	467	Robinson-3	941	15	474	1,026	945	......	60	Gas, 941 feet
	5	Ohio	S. Shire, No. 21	464	Robinson-2	916	......	452	1,048	920	......	200	Gas, 918 feet
	6	Ohio	N. Siler, No. 3	473	..do	929	......	456	1,044	933	......	50	Gas, 930 feet
	7	Ohio	N. Siler, No. 4	477	..do	943	......	466	1,034	945	......	50	Gas, 943 feet
	8	Ohio	S. Shire, No. 14	473	..do	925	......	452	1,048	928	......	150	Gas, 926 feet
	9	Ohio	S. Shire, No. 8	472	..do	908	......	436	1,064	914	......	100	Gas, 914 feet
	10	Ohio	N. Siler, No. 1	473	..do	915	......	442	1,058	935	......	270	Gas, 920 feet
	11	Ohio	N. Siler, No. 2	472	..do	920	......	448	1,052	930	......	240	Gas, 925 feet
	12	Ohio	L. Smith, No. 6	468	..do	934	8	466	1,034	936	......	Dry	Gas, 935 feet. Salt water 949 feet. Well abandoned
	13	Ohio	L. Smith, No. 2	470	..do	937	17	467	1,033	942	......	5	Gas, 938 feet. Salt water 954 feet
	14	Ohio	L. Smith, No. 1	472	..do	932	......	460	1,040	935	......	500	Gas, 933 feet
	15	Ohio	L. Smith, No. 3	473	Robinson-3	955	......	482	1,018	961	......	12	Gas, 960 feet
S. W.	1	Ohio	B. Smith, No. 1	472	Robinson-2	932	......	460	1,040	935	......	50	Gas, 932 feet. Salt water 976 feet
	2	Ohio	B. Smith, No. 2	476	Stray	873	......	397	1,103	......	......	Dry	Salt water, 964 feet

	3	Ohio	J. A. Smith, No. 2	471	Robinson-3	948		477	1,023	938		5	Gas, 936 feet
	4	Ohio	J. A. Smith, No. 1	470	Robinson-2	936	8	466	1,034	951		10	Gas, 950 feet
	5	Red Bank	C. McColpin, No. 1	465	Robinson-3	955		490	1,010		975		Reported dry
	6	Morrison	Hughes, No. 1	454	Robinson-2	904	44	450	1,050			20	
	7	Morrison	Hughes, No. 2	452	..do	895	41	443	1,057	911		225	
	8	Morrison	Hughes, No. 3	447	..do	900	36	453	1,047	923		12	Salt water, 942 feet
	9	Treat, Crawford & Treat	Hawes, No. 4	447	..do	880	26	433	1,067			300	
	10	Treat, Crawford & Treat	Hawes, No. 6	446	..do	890	57	444	1,056	905		300	
	11	Treat, Crawford & Treat	Hawes, No. 7	446	..do	904	36	458	1,042	910		300	
	12	Treat, Crawford & Treat	Hawes, No. 10	469	..do	930	33	461	1,039	934		300	
	13	Treat, Crawford & Treat	Hawes, No. 3	468	Robinson-1	880	77	412	1,088	915		300	
	14	Treat, Crawford & Treat	Hawes, No. 2	472	Robinson-2	915	52	443	1,057	912		300	
	15	Treat, Crawford & Treat	Hawes, No. 9	468	..do	928	32	460	1,040	935		300	
	16	Treat, Crawford & Treat	Hawes, No. 8	469	..do	920	49	451	1,049	930		310	
	17	Treat, Crswford & Treat	Hawes, No. 5	470	..do	913	47	443	1,057	918		300	
	18	Treat, Crawford & Treat	Hawes, No. 1	471	Robinson 1	891	79	420	1,080			300	
S. E.	1	Morrison	Carleton, No. 5	471	Stray	850		379	1,121				
					Robinson-2	900	45	429	1,071		949		
	2	Morrison	Carleton, No. 4	472	..do	896	44	424	1,076			500	
	3	Morrison	Carleton, No. 3	472	Sha'low	680		208	1,292				Gas
					Stray	817		345	1,155				..do
					Robinson-2	902	38	430	1,070			500	
	4	Morrison	Carleton, No. 2	467	Stray	844		377	1,123				
					Robinson-2	907	44	440	1,060			500	
	5	Morrison	Carleton, No. 6	461	..do	889	50	428	1,072	890			
	6	Morrison	Carleton, No. 8	470	..do	902	15	432	1,068			500	
	7	Morrison	Carleton, No. 1	452	Stray	822	15	370	1,130				
					Robinson-1	865	38	413	1,087				
	8	Morrison	Carleton, No. 9	473	Robinson-2	900	35	427	1,073	910			
	9	Morrison	Carleton, No. 7	461	..do	896	47	435	1,065			1,200	
	10	Ohio	Carleton, No. 2	455	..do	878	45	423	1,077	878			
	11	Ohio	Carleton, No. 5	452	..do	891	36	439	1,061			50	
	12	Ohio	Carleton, No. 1	452	Robinson-1	866	27	414	1,086				
	13	Ohio	Carleton, No. 6	451	Robinson-2	890		439	1,061				
					Robinson-3	934	7	483	1,017				
	14	Ohio	Carleton, No. 3	452	Robinson-2	900		448	1,052	905			
	15	Ohio	Carleton, No. 4	450	Robinson-1	850	36	400	1,100	865			
					Robinson-2	904	35	454	1,046				
	16	Ohio	Carleton, No. 8	451	..do	880	32	429	1,071	884		100	Gas, 881 feet
	17	Ohio	Carleton, No. 7	450	Robinson-1	846		396	1,104				
					Robinson-2	890	29	440	1,060				
	18	Featzer, Copeland, et al	Stewart, No. 7	461	..do	889	24	428	1,072	900	916		
	19	Featzer, Copeland, et al	Stewart, No. 6	468	..do	895	34	427	1,073		929		Quit in sand
	20	Featzer, Copeland, et al	Stewart, No. 8	475	..do	908	52	433	1,067	911	969	500	Sand compact and hard at the bottom
	21	Featzer, Copeland, et al	Stewart, No. 5	470	..do	897	13	427	1,073	904			
					Robinson-3	921	7	451	1,049		927		Quit in sand
	22	Featzer, Copeland, et al	Stewart, No. 4	476	Robinson-1	894	31	418	1,082	894		600	
	23	Featzer, Copeland, et al	Stewart, No. 3	451	..do	848	39	397	1,103			1,000	
	24	Featzer, Copeland, et al	Stewart, No. 2	452	..do	844	40	392	1,108	855		600	
	25	Featzer, Copeland, et al	Stewart, No. 1	455	..do	857	36	402	1,098	860		1,000	White coarse sand

Crawford County—Martin Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
21—S. E.	26	Ohio	McColpin, No. 1	450	Robinson-1	854		404	1,096	856		800	Gas, 854 feet. Salt water, 861 feet
	27	Ohio	McColpin, No. 2	450	..do	845		395	1,105	870		150	Gas, 850 feet, Salt water. 870 feet
	28	Ohio	McColpin, No. 3	451	..do	843		392	1,108	850		1,000	Gas, 845 feet
	29	Ohio	McColpin, No. 6	458	..do	855		397	1,103	865		800	Gas, 860 feet. Salt water, 875 feet.
	30	Featzer, Copeland et, al	McColpin, No. 5	457	..do	850		393	1,107	855		200	Gas, 850 feet
	31	Featzer, Copeland et, al	McColpin, No. 4	451	Robinson-2	863		412	1,088	865		1,100	Gas, 865 feet. Salt water, 870 feet
	32	Brown-Hogue	Wasson, No. 2	452	Robinson-1	842	20	390	1,110	862	904		
	33	Brown-Hogue	Wasson, No. 3	458	..do	860	50	402	1,098		915		
	34	Brown-Hogue	Wasson, No. 4	469	Robinson-2	892	31	423	1,077				
	35	Brown-Hogue	Wasson, No. 6	472	..do	912	28	440	1,060				
	36	Brown-Hogue	Wasson, No. 5	465	..do	885	41	420	1,080				
22—N. E.	1	Red Bank	C. Martin, No. 10	484	Robinson-1	858		374	1,126			Gas	Gas, 858 feet. 1,500,000 cu. ft. gas from this well
					Robinson-2	900	68	416	1,084				Gas, 900 feet
	2	Red Bank	C. Martin, No. 7	484	Robinson-1	855		371	1,129				
					Robinson-2	875		391	1,109				
					Robinson-3	943		459	1,041	943			
	3	Red Bank	C. Martin, No. 6	480	Robinson-1	840		360	1,140				
					Robinson-2	875	20	395	1,105	890			
					Robinson-3	925	10	445	1,055	925		35	
	4	Red Bank	C. Martin, No. 3	470	Robinson-1	843	25	373	1,127				
					Robinson-2	873	27	403	1,097	873		50	
	5	Red Bank	C. Martin, No. 5	475	Robinson-1	859		384	1,116	882			
	6	Red Bank	C. Martin, No. 1	486	Casey	400		+86	1,586				
					Robinson-1	860	24	374	1,126				
					Robinson-2	890		404	1,096	902 920			

7	Crescent	Wakefield Hrs., No. 1	486	Robinson-1	873	10	387	1,113				
				Robinson-2	893	37	407	1,093		937		
8	Crescent	H. Martin, No. 1	485	Robinson-1	872	17	387	1,113	872			
				Robinson-2	892	42	407	1,093		938		
9	Crescent	H. Martin, No. 8	483	Robinson-1	878	12	395	1,105				
				Robinson-2	892	46	409	1,091	892	943		
10	Crescent	H. Martin, No. 7	486	Robinson-1	866	13	380	1,120				
				Robinson-2	900	28	414	1,086	920	939		
11	Crescent	H. Martin, No. 6	484	Robinson-1	870	5	386	1,114				
				Robinson-2	895	53	411	1,089	907	948		
12	Crescent	H. Martin, No. 9	477	do	891	50	414	1,086		941		
13	Crescent	H. Martin, No. 2	482	Robinson-1	876	4	394	1,106				
				Robinson-2	896	24	414	1,086		925		
14	Crescent	H. Martin, No. 3	477	Robinson-1	867	8	390	1,110	867			Gas, 860 feet
				Robinson-2	880	31	403	1,097		997		
15	Crescent	H. Martin, No. 4	482	Robinson-1	868	15	386	1,114	870			
				Robinson-2	895	27	413	1,087		950		
16	Crescent	H. Martin, No. 5	482	Robinson-1	861	69	379	1,121		936		Gas, 861 feet
17	Red Bank	A. Smith, No. 3	468	Robinson-2	887	17	419	1,081			50	
18	Red Bank	A. Smith, No. 1	482	Robinson-1	855	18	373	1,127				Gas sand
				Robinson-2	891	29	409	1,091			100	
19	Red Bank	A. Smith, No. 2	470	Robinson-1	852	51	382	1,118	892		25	
20	Red Bank	A. Smith, No. 4	475	do	855	36	380	1,120				
21	Morrison	do	479	do	847		368	1,132				Gas
				Robinson-2	882	23	403	1,097			125	
22	Morrison	A. Smith, No. 5	465	Robinson-1	838	12	373	1,127				
				Robinson-2	884	28	419	1,081			125	
23	Morrison	A. Smith, No. 3	460	do	864	27	404	1,096			125	
24	Morrison	A. Smith, No. 2	464	Robinson-1	836	29	372	1,128				
				Robinson-2	874	21	410	1,090				
				Robinson-3	945	10	481	1,019			125	
25	Morrison	A. Smith, No. 1	474	Robinson-2	883	34	409	1,091			125	
26	Wark	Dennis, No. 1	469	Robinson-1	836	63	367	1,133			300	
27	Wark	Dennis, No. 2	477	do	850	35	373	1,127				
				Robinson-2	910	8	433	1,067				
				Robinson-3	926	12	449	1,051				
				Robinson-4	965	13	488	1.012			40	
28	Wark	Dennis, No 3	483	Robinson-1	856	15	373	1,127				
				Robinson-2	901	39	418	1,082				
				Robinson-4	970	5	487	1,013		1,025	10	
29	W. W. Splane	Prior, No. 4	475	Robinson-1	847	5	372	1,128			Show	
				Robinson-2	878	10	403	1,097	878			
				Stray	899	6	424	1,076	900			
				Robinson-3	931	11	456	1,044				
				Stray	942	6	467	1,033	942			
				Robinson-4	954	12	479	1,021	955			
30	W. W. Splane	Prior, No. 8	469	Robinson-1	827	23	358	1,142				
				Robinson-2	879	18	410	1,090				
				Robinson-3	927	14	458	1,042				
31	W. W. Splane	Prior, No. 6	481	Robinson-1	837	75	356	1,144	874			Gas, 837 to 872 feet
				Robinson-2	923	8	442	1,058	925			
				Robinson-3	942		461	1,039				Salt water, 958 feet

Crawford County—Martin Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
22—													
N. E.	32	W. W. Splane	Prior, No. 7	473	Robinson-1	837	16	364	1,136				Gas
					Robinson-2	874	29	401	1,099	874			
					Robinson-3	936		463	1,037				
	33	W. W. Splane	Prior, No. 5	472	Robinson-1	851	22	379	1,121				
					Robinson-2	904	6	432	1,068	904			
					Robinson-3	935	30	463	1,037	940			Salt water, 954 to 965 feet.
	34	W. W. Splane	Prior, No. 2	465	Robinson-1	840	42	375	1,125				
					Robinson-2	897	6	432	1,068				Sand and slate, 966 to 976 feet
					Robinson-3	937	1	472	1,028				Salt sand, 980 to 988 feet
	35	W. W. Splane	Prior, No. 1	474	Robinson-1	845	25	371	1,129	847		Show	Gas, 847 feet
					Robinson-2	880	5	406	1,094			Show	Coal, 825 to 830 feet
					Robinson-3	940	27	466	1,034				
	36	W. W. Splane	Prior, No. 3	482	Ropinson-1	862	52	380	1,120	899			
					Robinson-2	924	5	442	1,058				Salt water, 907 feet
					Robinson-3	935	49	453	1,047	950			Salt water, 980 feet
N. W.	1	Ohio	H. Martin, No. 3	484	Robinson-1	890	35	406	1,094	898			
	2	Ohio	H. Martin, No. 2	479	..do	874	46	395	1,105	885			
	3	Ohio	H. Martin, No. 1	481	..do	878	61	397	1,103				
	4	Ohio	H. Martin, No. 6	472	..do	862	1	390	1,110				
					Robinson-2	907	8	435	1,065	907			
	5	Ohio	H. Martin, No. 4	472	Robinson-1	872	9	400	1,100				
					Robinson-2	901	36	429	1,071				
	6	Ohio	H. Martin, No. 5	455	..do	880	37	425	1,075				
	7	Ohio	H. Martin, No. 7	472	..do	905		433	1,067				Salt water, 926 feet
	8	Wabash	J. Birch, No. 2	456	..do	888	30	432	1,068				
	9	Wabash	J. Birch, No. 1	462	..do	885	36	423	1,077				
	10	Red Bank	J. Birch, No. 2	467	Robinson-1	886	22	419	1,081	894		15	Gas, 886 feet
	11	Red Bank	J. Birch, No. 1	473	Stray	826		353	1,147				
					Robinson-1	886	25	413	1,087			500	Gas, 886 feet.
	12	Ohio	..do	463	Robinson-2	900	15	437	1,063				

	13	Ohio	J. Birch, No. 3	472	..do	916	14	444	1,056				
					Robinson-3	953		481	1,019				Salt water, 1,079 feet
	14	Ohio	J. Birch, No. 4	456	Robinson-2	901	15	445	1,055	907			Gas, 907 feet
					Robinson-3	938	47	482	1,018			5	
	15	Ohio	J. Birch, No. 2	472	Robinson-2	909	30	437	1,063				
	16	Morrison	A. & E. Birch, No. 3	467	..do	898	32	431	1,069			20	
	17	Morrison	A. & E. Birch, No. 4	475	..do	902	37	427	1,073	907		100	
	18	Morrison	A. & E. Birch, No. 6	455	..do	900	16	445	1,055				
					Robinson-3	942	25	487	1,013	942		100	
	19	Morrison	A. & E. Birch, No. 1	455	Robinson-2	888	29	433	1,067	900		20	
	20	McArthur	Wasson, No. 13	477	..do	902	46	425	1,075		950		
	21	McArthur	Wasson, No. 14	454	..do	901	13	447	1,053		920		
	22	McArthur	Wasson, No. 15	453	..do	875	20	422	1,078		905		Quit in sand
	23	Morrison	A. & E. Birch, No. 5	454	..do	894	16	440	1,060			100	
	24	Morrison	A. & E. Birch, No. 2	476	Robinson-1	860	14	384	1,116				
					Robinson-2	913	17	437	1,063	913		20	
	25	Morrison	Tohill, No. 7	458	Robinson-1	844		386	1,114				
					Robinson-2	893	11	435	1,065			125	
	26	Morrison	Tohill, No. 6	462	..do	890	7	428	1,072				
					Robinson-3	952	15	490	1,010		967	125	
	27	Morrison	Tohill, No. 5	481	Robinson-1	870	10	389	1,111				Gas
					Robinson-2	904	14	423	1,077			125	
	28	Morrison	Tohill, No. 4	476	Robinson-1	860	10	384	1,116				Gas
					Robinson-2	889	31	413	1,087			125	
	29	Morrison	Tohill, No. 1	482	Robinson-1	872	15	390	1.110				
					Robinson-2	897	31	415	1,085			125	
	30	Morrison	Tohill, No. 2	477	Robinson-1	872	10	395	1,105				
					Robinson-2	897	14	420	1,080			125	
	31	Morrison	Tohill, No. 3	472	Robinson-1	857	10	385	1,115				Gas
					Robinson-2	919	7	447	1,053			125	
					Robinson-1	832	10	379	1,121				
S. W..	1	Brown & Hogue	Wasson, No. 1	453	Robinson-2	869	36	416	1,084	875 905	914		
	2	Parker & Edwards	Tohill, No. 7	477	..do	889	40	412	1,088				
	3	Parker & Edwards	Tohill, No. 6	466	..do	907		441	1,059				
					Robinson-3	943	28	477	1,023		971		
	4	Parker & Edwards	Tohill, No. 8	456	Robinson-2	871	24	415	1,085				
					Robinson-3	903	30	447	1,053				
	5	Parker & Edwards	Tohill, No. 2	453	Robinson-1	844	39	391	1,109				
	6	Parker & Edwards	Tohill, No 1	453	..do	855	38	402	1,098				
	7	Parker & Edwards	Tohill, No. 3	458	..do	863	41	405	1,095				
	8	Parker & Edwares	Tohill, No. 4	479	..do	881	41	402	1,098				
	9	Parker & Edwards	Tohill, No. 5	455	Robinson-3	925	26	470	1,030				
	10	Ohio	Tohill, No. 1	472	Robinson-2	881	46	409	1,091	890			
	11	Ohio	Tohill, No. 2	473	Robinson-1	840	50	367	1,133				
	12	Ohio	Tohill, No. 8	479	Robinson-2	891	21	412	1,098	892		20	Gas, 891 feet
	13	Ohio	Tohill, No. 3	478	Robinson-1	861	14	383	1,117	896			
					Robinson-4	997	23	519	981			50	Well abandoned
	14	Ohio	Tohill, No. 4	469	Robinson-3	942	18	473	1,027	946			
					Robinson-4	998	17	529	971				
	15	Ohio	Tohill, No. 6	469	Robinson-2	889	35	420	1,080				
	16	Ohio	Tohill, No. 10	474	..do	895	26	421	1,079	898		80	Gas, 896 feet

Crawford County—Martin Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
22—													
S. W.	17	Wattford	Doolittle, No. 6	462	Stray	798	8	336	1,164				
					Robinson-1	824	25	362	1.138				
					Robinson-2	868	15	406	1,094				
					Robinson-3	927	27	465	1,035		954		
	18	Wattford	Doolittle, No. 7	474	Robinson-1	865	1	391	1,109				
					Robinson-2	905	30	431	1,069	915			
					Robinson-3	947	32	473	1,027				
	19	Wattford	Doolittle, No. 5	478	Robinson-1	840	18	362	1,138				
					Robinson-2	870	8	392	1,108		935		
	20	Wattford	Doolittle, No. 4	475	Robinson-1	848	18	373	1,127				
					Robinson-2	882	31	407	1,093		934		
	21	Wattford	Doolittle, No. 3	468	Robinson-1	856		388	1,112				
					Robinson-3	942	14	474	1,026		961		Quit in sand
	22	Wattford	Doolittle, No. 2	484	Robinson-1	876	15	392	1,108				Slate, 891 to 985 feet
					Robinson-4	985	10	501	999		995		No. 2 and 3 lenses out
	23	Wattford	Doolittle, No. 1	485	Robinson-1	855	20	370	1,130				
					Robinson-2	901	22	416	1,084		923		
	24	Wattford	Doolittle, No. 8	480									No record
	25	Wattford	Doolittle, No. 10	464								Dry	do
S. E.	1	Red Bank	A. Smith, No. 5	481	Robinson-1	855	26	374	1,126	870		30	
	2	Red Bank	A. Smith, No. 6	481	Robinson-1	857		376	1,124				
					Robinson-3	970	10	489	1,011				
	3	Morrison	A. Smith, No. 6	474	Robinson-1	837		363	1,137				Gas, 837 feet
					Robinson-2	885		411	1,089				Gas, 885 feet
					Robinson-3	948	16	474	1,026				
	4	Ohio	A. Smith, No. 9	480	Robinson-1	852	18	372	1,128				
					Robinson-3	959	9	479	1,021	965	973	15	Gas, 963 feet
	5	Ohio	A. Smith, No. 3	481	Robinson-1	853	52	372	1,128				
					Robinson-3	932	31	451	1,049			75	
	6	Ohio	A. Smith, No. 2	480	Robinson-1	853	59	373	1,127				
					Robinson-3	940	27	460	1,040			25	

	7	Ohio	A. Smith, No 8	481	Stray	921	10	440	1,060				
					Robinson-3	950	20	469	1,031	962		35	Gas, 956 feet
	8	Ohio	A. Smith, No. 5	483	Robinson-1	849	24	366	1,134			40	
	9	Wattford	Doolittle, No. 12	487									No record
	10	Wattford	Doolittle, No. 14	486									do
	11	Wattford	Doolittle, No. 9	484									do
	12	Wattford	Doolittle, No. 11	485									do
	13	Wattford	Doolittle, No. 13	486									do
	14	Wattford	Doolittle, No. 15	486									do
	15	Ohio	A. Smith, No. 7	489	Robinson-1	841	6	352	1,148				
					Robinson-3	942	20	453	1,047	952	967	35	Gas, 945 feet
	16	Ohio	A. Smith, No. 6	490	Robinson-1	855	40	365	1,135	858		40	Gas, 858 feet
					Robinson-3	954	5	464	1,036				
	17	Ohio	A. Smith, No. 1	491	Robinson-1	844	4	353	1,147				
					Robinson-3	932	43	441	1,059			25	
	18	Ohio	A. Smith, No. 4	487	Robinson-1	857	12	370	1,130				
					Robinson-3	939	15	452	1,048			50	
	19	Ohio	S. Tohill (1 acre), No. 1	484	Robinson-1	845	3	361	1,139				
					Robinson-3	951	14	467	1,033			20	
	20	Splane	Brubaker, No. 7	485	Robinson-1	836	21	351	1,149				
					Robinson-2	875	22	390	1,100				
					Robinson-3	938	34	453	1,047				
	21	Bruner & Splane	Brubaker, No. 5	487	Robinson-2	900	12	413	1,087	902			
					Robinson-3	956		469	1,031	960	982		Quit in sand
	22	Bruner & Splane	Brubaker, No. 4	487	Robinson-2	883	29	396	1,104	883	922		
	23	Bruner & Splane	Brubaker, No. 6	479	Robinson-1	854	11	375	1,125				
					Robinson-(?)	879	9	400	1,100				Stray lens
					Robinson-2	894	16	415	1,085				
	24	Bruner & Splane	Brubaker, No. 1	479	Robinson-1	862	24	383	1,117				Broken sand
					Robinson-2	896	10	417	1,083	896			
					Robinson-3	958	26	479	1,021	958			
	25	Bruner & Splane	Brubaker, No. 2	484	Robinson-2	879	34	395	1,105	879			Gas, 879 feet
	26	Bruner & Splane	Brubaker, No. 3	481	Robinson-1	845		364	1,136				
					Stray	936	8	455	1,045	936			
					Robinson-3	954	24	473	1,027	954	990		Black slate, 944 to 954 feet.
23— N. E.	1	Peoples Oil & Gas Co.	Hopkins (upper) No. 2	521	Robinson-1	909	97	388	1,112				
					Robinson-4	1,013	41	492	1,008			Dry	Salt water, 1,013 feet. Well abandoned
	2	Peoples Oil & Gas Co.	Hopkins (upper), No. 1	515	Robinson-1	918	22	403	1,097			Dry	
	3	Morrison	Walters, No. 1	522	Robinson-1	912		390	1,110				
					Robinson-2	937		415	1,085				
					Robinson-3	964	11	442	1,058			45	
	4	Morrison	Martin, No. 7	512	Robinson-1	886	5	374	1,126				Gas sand
					Robinson-2	922	2	410	1,090	922		Show	
					Robinson-3	976	34	464	1,036	980			Salt water, 976 feet
	5	Morrison	Martin, No. 5	504	Robinson-1	907	19	403	1,097	912		50	
					Robinson-3	977	9	473	1,027				
	6	Morrison	Martin, No. 6	505	Stray	962	6	457	1,043				
					Robinson-3	975	16	470	1,030	975			
	7	Morrison	Martin, No. 1	509	Stray	1,017	7	512	988		1,028		Well abandoned
					Robinson-2	936	22	427	1,073			50	

Crawford County—Martin Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
23—N. E.	8	Morrison	Martin, No. 2	498	Robinson-1	905	45	407	1,093	915		50	
	9	Morrison	Martin, No. 3	500	..do	909	10	409	1,091				
					Robinson-2	937	23	437	1,063				
					Robinson-3	963	5	463	1,037			50	
N. W.	1	Ohio	Reed, No. 8	501	Stray	915	7	414	1,086	917			Gas, 917 feet
					Robinson-2	930	10	429	1,071	934		80	
	2	Ohio	Reed, No. 9	492									No record. Well abandoned
	3	Ohio	Reed, No. 7	500								Dry	No record
	4	Ohio	Reed, No. 4	484	Robinson-1	868		384	1,116			5	Well abandoned
	5	Parker-Crowly	Crowly, No. 1	490	..do	875	20	385	1,115				
					Robinson-2	908	47	418	1,082		975		
	6	Parker-Crowly	Crowly, No. 3	496	Robinson-2	910	10	414	1,086				
					Stray	935	5	439	1,061		952		
	7	Parker-Crowly	Crowly, No. 2	500	Robinson-2	920	21	420	1,080	930	950		Gas, 926 feet
	8	Parker-Crowly	Crowly, No. 4	500	..do	920	18	420	1,080		948		Salt water, 948 feet
	9	Parker-Edwards	Crowly, No. 1	485	Robinson-1	880		395	1,105		925	Dry	Salt water, 895 feet
	10	Parker-Edwards	Crowly, No. 2	492						905	952		Salt water, 906 feet. Well abandoned
	11	Wark	Dennis, No. 4	484	Robinson-1	860	57	376	1,124				
					Robinson-3	932	18	448	1,052		964	75	
	12	Ohio	C. T. Stewart, No. 4	482	Robinson-1	874	6	392	1,108				
					Robinson-3	919	22	437	1,063	932		80	Gas, 930 feet
	13	Ohio	C. T. Stewart, No. 1	474	Robinson-2	875		401	1,099	902		60	Gas, 912 feet
	14	Ohio	C. T Stewart, No. 5	478	Robinson-1	849	17	371	1,129				
					Robinson-2	869	35	391	1,109	876		50	Gas, 876 feet
	15	Ohio	C. T. Stewart, No. 3	487	..do	888		401	1,099			300	Gas, 895 feet
	16	Ohio	C. T. Stewart, No. 2	491	Robinson-3	935		444	1,056	936		45	Gas, 930 feet
	17	Ohio	Sparks, No. 1	498	..do	932		434	1,066	940		45	Gas, 936 feet
	18	Ohio	Sparks, No. 2	504	..do	940		436	1,064	946		20	Gas, 944 feet
	19	Ohio	Sparks, No. 3	482	Robinson-1	876	24	394	1,106				
					Robinson-2	910	57	428	1,072	920		150	Gas, 915 feet

S. W.	20	Ohio	Sparks, No. 4	491	..do	920	21	429	1,071	932		100	Gas, 924 feet
	21	Ohio	Sparks, No. 5	497	Stray	911	6	414	1,086	914			
					Robinson-2	934	6	437	1,063	936		40	Gas, 935 feet
	1	Red Bank	Mitchell, No. 3	489	Robinson-1	855		366	1,134				
					Robinson-2	884	14	395	1,105			500	
	2	Red Bank	Mitchell, No. 2	496	Robinson-3	930	17	434	1,066			20	
	3	Red Bank	Mitchell, No. 1	490	Robinson-1	870	41	380	1,120	887		250	
	4	Ohio	..do	490	Robinson-2	894	21	404	1,096				
					Robinson-3	930	10	440	1,060				
	5	Ohio	Mitchell, No. 2	493	Robinson-1	867	7	374	1,126				
					Robinson-3	937		444	1,056	937	963		
	6	Ohio	Mitchell, No. 3	496								Dry	No record
	7	Ohio	McColpin, No. 7	494	Robinson-3	937		443	1,057	940		150	Gas, 938 feet
	8	Ohio	McColpin, No. 9	500	Robinson-1	882		382	1,118		1,023	Dry	
	9	Ohio	McColpin, No. 13	495	..do	861	24	366	1,134	867		25	Gas, 863 feet. Salt water, 995 feet
	10	Ohio	McColpin, No. 19	494									No record
	11	Ohio	McColpin, No. 15	493	Robinson-2	866	56	373	1,127	886		60	Gas, 872 feet
	12	Pure	Stewart Heirs, No. 3	503	Robinson-1	855	15	352	1,148				
					Robinson-3	930	23	427	1,073		957	75	
	13	Pure	Stewart Heirs, No. 4	515	Robinson-2	898	4	383	1,117				
					Robinson-3	920	21	405	1,095		975	25	
	14	Pure	Stewart Heirs, No. 5	513	Robinson-1	880	17	367	1,133		897	50	
	15	Pure	Stewart Heirs, No. 6	509	..do	890	26	381	1,119				
					Robinson-2	928	7	419	1,081				
					Robinson-4	1,002	25	493	1,007		1,027	30	
	16	Pure	Stewart Heirs, No. 2	498	Robinson-1	902	3	404	1,096				
					Robinson-4	990	4	492	1,008				
					Stray	1,045	2	547	953				
					Stray	1,109	3	611	889		1,122	Dry	
	17	Pure	Stewart Heirs, No. 1	499									No record
	18	Peoples Oil and Gas Co	Hopkins (lower 40), No. 4	497	Robinson-1	895	25	398	1,102				
					Robinson-4	981	21	484	1,016				
	19	Peoples Oil and Gas Co	Hopkins (lower 40), No. 3	499	Robinson-1	890	24	391	1,109				
					Robinson-3	962	20	463	1,037				
	20	Peoples Oil and Gas Co	Hopkins (lower 40), No. 5	499	Robinson-1	891	15	392	1,108				
					Robinson-3	940	7	441	1,059				
					Robinson-4	986	18	487	1,013				
	21	Peoples Oil and Gas Co	Hopkins (lower 40), No. 2	504	Robinson-3	950	10	446	1,054				
					Robinson-4	998	18	494	1,006				
	22	Peoples Oil and Gas Co	Hopkins (lower 40) No. 1	498	Robinson-1	886	6	388	1,112				
					Robinson-3	928	30	430	1,070				
S. E.	1	Smith, Neely & Kerr	Shipman, No. 1	509								Dry	No record
	2	Smith, Neely & Kerr	Shipman, No. 2	521	Robinson-2	932		411	1,089	940	960	Light	Well abandoned
	3	Crescent	Hooker, No. 3	526	Robinson-1	912	18	386	1,114				
					Robinson-2	948	14	422	1,078		966		
	4	Crescent	Hooker, No. 2	513	Robinson-1	890	27	377	1,123	890			
					Robinson-2	936	24	423	1,077		960		
	5	Crescent	Hooker, No. 1	516	Robinson-3	976	22	460	1,040	998			
					Stray	1,038	10	522	978	1,038			Salt water, 1,004 feet
					Stray	1,087	8	571	929	1,087			Well abandoned
	6	Crescent	Hooker, No. 4	517									No record

Crawford County—Martin Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
23—S. E.	7	Crescent	Hooker, No. 5	512									No record
	8	Ohio	Hooker, No. 2	512	Robinson-1	855		343	1,157				
					Robinson-3	950	10	438	1,062		966	25	
	9	Ohio	Hooker, No. 3	524	Robinson-1	916	6	392	1,108		980		
	10	Ohio	Hooker, No. 4	524	do	918	6	394	1,106		981	Light	
	11	Ohio	Hooker, No. 1	524	do	919	30	395	1,105				
					Robinson-3	966	17	442	1,058		983		
24—N. E.	1	Ohio	O. Mann, No. 1	529	Robinson-1	918	30	389	1,111				
					Robinson-3	980		451	1,049			Dry	Salt water, 990 feet
N. W.	1	Ohio	Morrison, No. 1	522	Robinson-1	935	15	413	1,087				
					Robinson-2	953	10	431	1,069				Slate, 950 to 953 feet
	2	Ohio	Morrison, No. 2	525	do	958	5	433	1,067			25	
	3	Morrison	Weirich, No. 1	517	Robinson-1	911		394	1,106				
						921	33	404	1,096			50	
	4	Morrison	Weirich, No. 4	527	Robinson-1	920	49	393	1,107	932		50	Gas, 920 feet
	5	Morrison	Weirich, No. 3	523	do	922		399	1,101				Gas, 922 feet
					Robinson-2	950	21	427	1,073			50	
	6	Morrison	Weirich, No. 2	522	Robinson-1	912	14	390	1,110				
					Robinson-2	936		414	1,086				
					Robinson-3	970		448	1,052			50	
S. W.	1	Morrison	Butler, No. 2	523	Robinson-1	925		402	1,098				
					Robinson-2	982	8	459	1,041	982		3	
	2	Morrison	Butler, No. 1	523	Robinson-1	921		398	1,102				
					Robinson-2	940	29	417	1,083	940		200	
	3	Morrison	Butler, No. 3	508	do	922		414	1,086	930		Show	Gas, 922 feet
					Robinson-3	963	15	455	1,045	963			
	4	Morrison	Butler, No. 4	518	Robinson-1	907		389	1,111				
					Robinson-3	979	5	461	1,039			1¼	
	5	Red Bank	Dyar, No. 1	514	Robinson-1	903		389	1,111	925		25	
					Robinson-3	964	18	450	1,050				
	6	Red Bank	Dyar, No. 2	506	Robinson-2	923	45	417	1,083	928		300	

	7	Red Bank	Dyar, No. 4	511	Robinson-1	885		374	1,126				
					Robinson-3	948	18	437	1,063			40	
	8	Red Bank	Dyar, No. 3	502	Robinson-1	872		370	1 130	897			
					Robinson-3	960	30	458	1,042	960		25	
	9	Ohio	Smith, No. 4	500	Robinson-1	905	65	405	1,095	960		5	
	10	Ohio	Smith, No. 2	518	Robinson-3	969	11	451	1,049			10	
	11	Ohio	Smith, No. 3	520	..do	965	10	445	1,055				
	12	Ohio	Smith, No. 1	520	Robinson-1	923	27	403	1,097				
					Robinson-2	952	19	432	1,068			100	
S. E.	1	Red Bank	Johnson, No. 3	518	Stray	881	10	363	1,137			Light	
					Robinson-3	981	11	463	1,037			Show	Salt water, 986 feet. Well abandoned.
	2	Red Bank	Johnson, No. 2	498	Robinson-2	923	32	425	1,075				Gas, 923 feet
					Robinson-3	977	12	479	1,021			Dry	
	3	Red Bank	Johnson, No. 1	488	Robinson-2	939		451	1,049	950			Salt water, 955 feet
N. E.	1	Crescent	Johnson, No 1	497	Robinson-1	890	35	393	1,107				
					Robinson-2	942	10	445	1,055				
					Robinson-3	960	5	463	1,037		965		Quit in sand
	2	Crescent	Johnson, No. 2	498	Robinson-1	885	35	387	1,113				
					Robinson-2	935	12	437	1,063				
					Robinson-3	958	18	460	1,040				Salt water, 976 feet
	3	Haywood	Richart, No. 1	495	Robinson-1	890	20	395	1,105				Coal, 725 feet
					Robinson-3	964	16	469	1,031			Dry	Salt water, 978 feet. Well abandoned.
	4	Splane	Coulter, No. 1	492	Robinson-1	867	19	375	1,125				
					Robinson-3	937	24	445	1,055	943			
N. W.	1	Mahutska	Weirich, Heirs, No 4	491	..do	959	7	468	1,032				Salt water, 970 feet. Well abandoned.
	2	Mahutska	Weirich, Heirs, No. 2	496	Robinson-1	875	62	379	1,121				
					Robinson-3	962	13	466	1,034		978	Dry	Salt water, 978 feet
	3	Mahutska	Weirich, Heirs, No. 3	497	Robinson-1	849	31	352	1,148				
					Stray	886	14	389	1,111				
					Robinson-2	914	22	417	1,083				Salt water, 922 feet. Well abandoned.
	4	Mahutska	Weirich, Heirs, No. 1	488	Robinson-1	835	44	347	1,153				
					Robinson-2	905	8	417	1,083				
					Stray	922	11	434	1,066				
					Robinson-3	950	20	462	1,038			Dry	
	5	Mahutska	H. Weirich, No. 2	493	Robinson-1	838		345	1,155			Show	
					Robinson-2	909	28	416	1,084	935		150	
					Robinson-3	956	9	463	1,037				
	6	Mahutska	H. Weirich, No. 8	497	Robinson-1	853	17	356	1,144				
					Robinson-2	927	6	430	1,070				
					Robinson-3	960	6	463	1,037		996		
	7	Mahutska	H. Weirich, No. 5	504	Robinson-1	860	15	356	1,144				
					Robinson-2	914	46	410	1,090			150	
	8	Mahutska	H. Weirich, No. 6	496	Robinson-1	880	32	384	1,116				
					Robinson-3	934	6	438	1,062			150	
	9	Mahutska	H. Weirich, No. 3	508	Robinson-1	860	10	352	1,148			Show	
					Robinson-2	914	46	406	1,094			150	

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Crawford County—Martin Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
25— N W.	10	Mahutska	H. Weirich, No. 4	508	Robinson-1	866	15	358	1,142				
					Bobinson-2	923	46	415	1,085			150	
	11	Mahutska	H. Weirich, No. 10	503	Robinson-1	835	25	332	1,168				
					Robinson-2	920	28	417	1,083				
	12	Mahutska	H. Weirich, No. 9	484	Robinson-1	820	27	336	1,164	832			
					Robinson 2	903	35	419	1,081				
	13	Mahutska	H. Weirich, No. 1	498	Robinson-1	842	13	344	1,156				
					Robinson-2	914	32	416	1,084			150	
	14	Mahutska	H. Weirich, No. 7	479	Robinson-1	824	14	345	1,155				
					Robinson-2	888	60	409	1,091			150	
S W.	1	Red Bank	Smith, No. 3	493									No record
	2	Red Bank	Smith, No. 2 "B"	473	Robinson-1	815	11	342	1,158				
					Robinson-2	902	25	429	1,071			50	
	3	Red Bank	Smith, No. 1 "B"	473	Stray	795	22	322	1,178				
					Robinson-1	842	32	369	1,131				
	4	Red Bank	Maxwell, No. 3	486	Robinson-1	830	10	344	1,156				
					Robinson-2	912	15	426	1,074	912		10	
	5	Red Bank	Maxwell, No. 1	490	Stray	785	24	295	1,205				
					Robinson-1	852	12	362	1,138			25	
	6	Bed Bank	Maxwell, No. 2	490	Stray	815	15	325	1,175	820		25	
					Robinson-2	906	10	416	1,084				
	7	Red Bank	Maxwell, No. 4	488	Robinson-1	830	8	342	1,158				
					Robinson-3	918	18	430	1,070			50	
	8	Ohio	Smith, No. 1	469	Robinson-1	808	30	339	1,161				
					Robinson-2	885	22	416	1,084				
	9	Ohio	Smith, No. 2	480	Robinson-3	902	23	422	1,078			100	
	10	Ohio	Maxwell, No. 1	483	do	906	7	423	1,077				
	11	Ohio	Maxwell, No. 2	484	Robinson-1	820	26	336	1,164	832			
					Robinson-2	895	9	411	1,089				
	12	Ohio	Maxwell, No. 3	483	Robinson-1	859	4	376	1,124				
					Robinson-2	910	18	427	1,073				

	13	Ohio	Maxwell, No. 4	486	..do	891	13	405	1,095				
					Robinson-3	937	18	451	1,049			15	
	14	Whittaker	Doucummen, No. 1	477									No record
	15	Whittaker	Doucummen, No. 2	464									..do
	16	Whittaker	Doucummen, No. 3	465									..do
	17	Whittaker	Doucummen, No. 4	461									..do
	18	Whittaker	Doucummen, No. 5	481									..do
	19	Whittaker	Doucummen, No. 7	464									..do
	20	Morrison	C. Doucummen, No. 1	477	Robinson-1	814	27	337	1,163				
					Robinson-3	917	19	440	1,060			100	
	21	Morrison	C. Doucummen, No. 4	485	Robinson-1	834	32	349	1,151			40	
	22	Morrison	C. Doucummen, No. 8	484	..do	849	20	365	1,135				
					Robinson-2	895		411	1,089				
					Robinson-3	907	8	423	1,077			Dry	
	23	Morrison	C. Doucummen, No. 3	472	Robinson-1	815		343	1,157				
					Robinson-2	875	18	403	1,097			300	
	24	Morrison	C. Doucummen, No. 5	480	Robinson-1	824	36	344	1,156			50	
	25	Morrison	C. Doucummen, No. 6	475	..do	824		349	1,151				
					Robinson-2	842	18	367	1,133			50	
S. E.	1	American Oil & Development Co	Richart, No. 7	474	Robinson-1	822		348	1,152	855	889	50	
	2	American Oil & Development Co	Richart, No. 23	480	..do	849	27	369	1,131	854		24	
	3	Reel	Coulter, No. 2	489	Shallow	700	8	211	1,289				Coal, 695 feet. Gas, 710 feet. Salt water, 710 feet
					Robinson-3	940	10	451	1,049				
	4	Reel	Coulter, No. 3	488	Robinson-4	954		465	1,035		968		Quit in sand
					Robinson-1	870	12	382	1,118				Gas, 870 feet
					Robinson-2	922		434	1,066	945			Salt water, 968 feet. Well abandoned
26— N. E.	1	Ohio	Dyar, No. 2	511									No record
	2	Ohio	Dyar, No. 1	490	Robinson-1	838	30	348	1,152				
					Robinson-2	897	55	407	1,093			25	
	3	Ohio	Dyar, No. 7	491	Robinson-1	866	8	375	1,125				
					Robinson-3	910	22	419	1,081	915		120	
	4	Ohio	Dyar, No. 5	505	Robinson-1	845	40	340	1,160				Gas, 845 feet
					Robinson-2	910	25	405	1,095	910		60	
	5	Ohio	Dyar, No. 3	508	Robinson-3	935	16	427	1,073	901		60	
	6	Ohio	Dyar, No. 4	514	Stray	812	12	298	1,202				
					Robinson-2	916	18	402	1,098	920		80	
	7	Ohio	Dyar, No. 6	515	Robinson-2	915	15	400	1,100			80	
	8	Crawford & Milligan	J. Wright, No. 17	514	Robinson-1	855	7	341	1,159				
					Stray	887	6	373	1,127				
					Robinson-2	904	36	390	1,110	909	944		
	9	Crawford & Milligan	J. Wright, No. 14	510	Robinson-1	845	20	335	1,165				
					Robinson-2	891	47	381	1,119				
	10	Crawford & Milligan	J. Wright, No. 10	510	Robinson-1	855	5	345	1,155				
					Robinson-2	893	46	383	1,117				
	11	Crawford & Milligan	J. Wright, No. 9	513	Robinson-1	865	10	352	1,148			Show	
					Robinson-2	897	40	384	1,116				

Crawford County—Martin Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation feet.	Sand. Name.	Depth to top—feet.	Thickness penetrated—feet.	Altitude below sea level—feet.	Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
26—													
N. E.	12	Red Bank	H mblin, No. 1 "R. B"	508	Robinson-1	853	17	345	1,155				
					Robinson-2	891	15	383	1,117			100	
	13	Red Bank	Hamblin, No. 2 "R. B."	506	Robinson-1	847	34	341	1,159				
	14	Red Bank	Hamblin, No. 1 "B"	499	do	848	9	349	1,151				
					Robinson-2	884	16	385	1,115				
	15	Ohio	Cullison-Wagner, No. 3	504									No record
	16	Ohio	Cullison-Wagner, No. 1	499	Robinson-2	897	24	398	1,102	902			
	17	Ohio	Cullison-Wagner, No. 2	494	Shallow	480	25	+14	1,514				Gas, 820 feet
					Robinson-2	892	34	398	1,102	895		60	
	18	Red Bank	Weirich, No. 1	503	Robinson-1	845	11	342	1,158				
					Robinson-2	886	20	383	1,117	886			
					Robinson-3	949	10	446	1,054				
	19	Red Bank	Weirich, No. 2	506	Robinson-1	846	9	340	1,160				Gas 846 feet
					Robinson-2	890	19	384	1,116			100	
	20	Wabash	Weirich, No. 1	498	Robinson-1	843	50	345	1,155				
					Robinson-3	911	37	413	1,087				
	21	Ohio	Weirich, No. 5	498	Robinson-1	845		347	1,153				Gas, 845 feet
					Robinson-2	879	4	381	1,119				
					Robinson-3	925	23	427	1,073	926		150	
	22	Ohio	Weirich, No. 1	497	do	910	30	413	1,087				
	23	Ohio	Weirich, No. 3	495	do	905	35	410	1,090			200	
	24	Ohio	Weirich, No. 6	498									No record
	25	Ohio	Weirich, No. 2	509	Stray	827	6	318	1,182			300	
	26	Ohio	Weirich, No. 4	498	Robinson-1	825	15	327	1,173				Gas, 830 feet
					Robinson-2	892	14	394	1,106	898		110	
N. W.	1	Crawford & Milligan	J. Wright, No. 8	515	Robinson-1	840		325	1,175				
					Robinson-2	882	2	367	1,133				
					Robinson-3	907	12	392	1,108	908			
	2	Crawford & Milligan	J. Wright, No. 5	508									No record
	3	Crawford & Milligan	J. Wright, No. 13	510	Robinson 1	853	7	343	1,157				
					Robinson-2	882	22	372	1,128				

	4	Crawford & Milligan	J. Wright, No. 7	510	Robinson-1	840	6	330	1,170				
					Robinson-2	884	4	374	1,126			Show	
					Robinson-3	904	4	394	1,106				
					Robinson-4	988	12	478	1,022		1000	Dry	Salt water, 1,000 feet
	5	Crawford & Milligan	J. Wright, No. 6	511	Robinson-1	853	7	342	1,158				
					Robinson-3	912	28	401	1,099		940		
	6	Crawford & Milligan	J. Wright, No. 3	506	Robinson-1	840	10	334	1,166				
					Robinson-2	870		364	1,136	888			
					Robinson-3	915	12	409	1,091	915			
	7	Crawford & Milligan	J. Wright, No. 16	516	Robinson-1	862	5	346	1,154				
					Robinson-2	888	2	372	1,128				
					Robinson-3	920	20	404	1,096		972		
	8	Crawford & Milligan	J. Wright, No. 11	513	Robinson-1	855	5	342	1,158				
					Robinson-2	893	41	380	1,120				
	9	Crawford & Milligan	J. Wright, No. 15	509	..do	872	27	363	1,137				
					Robinson-3	935	18	426	1,074		953		Quit in sand
	10	Crawford & Milligan	J. Wright, No. 1	503	Robinson-2	880	32	377	1,123				
					Robinson-3	917	6	414	1,086		930		
	11	Crawford & Milligan	J. Wright, No. 2	502	Robinson-2	859	51	357	1,143	873			
	12	Crawford & Milligan	J. Wright, No. 12	503	Stray	825	10	322	1,178				
					Robinson-2	865	23	362	1,138				
					Robinson-3	960	9	457	1,043		969		Quit in sand
	13	Crawford & Milligan	J. Wright, No. 4	507	Stray	831	8	324	1,176				
					Robinson-2	900	3	393	1,107				
					Robinson-3	950	27	443	1,057		977		Quit in sand
	14	Ohio	Thompson, No. 3	502	Stray	818	8	316	1,184				Gas, 820 feet
					Robinson-2	859	30	357	1,143	870		40	
	15	Ohio	Thompson, No. 4	499	Robinson-1	838	29	339	1,161				Gas, 845 feet
					Robinson-2	870	18	371	1,129	870		30	
	16	Parker-Edwards	Thompson, No. 6	503	Stray	820		317	1,183				Gas, 820 feet
					Robinson-2	885	10	382	1,118	889	939		
	17	Parker-Edwards	Thompson, No. 5	495	Robinson-1	834		339	1,161				Gas, 834 feet
					Robinson-2	870		375	1,125		910		
	18	Parker-Edwards	Thompson, No. 3	492	Stray	815		323	1,177				Gas, 815 feet
					Robinson-2	872		380	1,120				
	19	Ohio	Fowler, No. 1	490	Robinson-1	835	15	345	1,155				
					Robinson-2	871	33	381	1,119			120	Gas, 874 feet
	20	Ohio	Fowler, No. 2	496	..do	876	31	380	1,120			80	Gas, 880 feet
	21	Ohio	Fowler, No. 3	495	..do	875	28	380	1,120	880		150	Gas, 878 feet
	22	Ohio	Fowler, No. 4	506	..do	895	12	389	1,111	898		100	Gas, 897 feet
	23	Ohio	Fowler, No. 7	500	..do	888	34	388	1,112	890		200	
	24	Ohio	Fowler, No. 5	502	..do	897	27	395	1,105	904		150	Gas, 901 feet
	25	Ohio	Fowler, No. 6	494	..do	867	35	373	1,127	874		200	Gas, 872 feet
S. W.	1	Morrison	Hughes, No. 6	496	Robinson-1	863	42	367	1,133				
	2	Morrison	Hughes, No. 7	497	..do	827	73	330	1,170	872		40	
					Robinson-2	905	7	408	1,092				
	3	Morrison	Hughes, No. 5	502	..do	896	35	394	1,106				
	4	Morrison	Hughes, No. 8	495	Robinson-1	862	45	367	1,133				
					Robinson-3	931	16	436	1,064			150	
	5	Morrison	Hughes, No. 4	503	Robinson-2	893	49	390	1,110				
	6	Morrison	Hughes, No. 3	498	Robinson-1	862	31	364	1,136				
					Robinson-3	903	31	405	1,095				

Crawford County—Martin Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
26— S. W.	7	Morrison	Hughes, No. 2	499	Robinson-1	818	77	319	1,181	861			
					Robinson-2	901	21	402	1,098				
	8	Morrison	Hughes, No. 1	501	do	896	31	395	1,105			800	
	9	Red Bank	Renchen, No. 2	497	Robinson-1	866	23	369	1,131	870		75	
	10	Red Bank	Renchen, No. 3	504	Robinson-2	898	52	394	1,106	904		200	
	11	Red Bank	Renchen, No. 1	500	do	900	33	400	1,100			100	
	12	Ohio	Renchen, No. 3	500	Robinson-1	845		345	1,155				
					Robinson-2	908	49	408	1,092			29	
	13	Ohio	Rencher, No. 2	504	Robinson-1	839	26	335	1,165				
					Robinson-2	907	35	403	1,097				
	14	Ohio	Rencher, No. 1	498	Robinson-1	830	23	332	1,168				
					Robinson-2	900	45	402	1,098				
	15	Red Bank	Wampler, No. 1	498	Robinson-3	942	8	444	1,056			100	
	16	Red Bank	Wampler, No. 3	500	Robinson-2	897		397	1,103				
					Robinson-3	920	53	420	1,080				
	17	Red Bank	Wampler, No. 2	500	Robinson-2	879	22	379	1,121				
	18	Ohio	Wampler, No. 3	500	Robinson-1	845	21	345	1,155				
					Robinson-3	930	18	430	1,070			40	
	19	Ohio	Wampler, No. 2	505	Robinson-1	852	20	347	1,153				
					Robinson-2	905	49	400	1,100			75	
	20	Ohio	Wampler, No. 1	500	Robinson-3	936	24	436	1,064			75	
	21	Ohio	Leonard, No. 4	494	Robinson-1	838	5	344	1,156				Gas, 935 feet
					Robinson-3	941	26	447	1,053	941			Salt water, 965 feet
	22	Ohio	Leonard, No. 1	499	do	937	38	438	1,062			60	Gas, 945 feet
	23	Ohio	Leonard, No. 2	496	do	950	27	454	1,046	952		10	Gas, 950 feet. Salt water, 977 feet
	24	Ohio	Leonard, No. 3	484	Robinson-1	830		347	1,154				Gas, 830 feet
					Robinson-2	880		396	1,104				
					Robinson-3	925		441	1,059			42	Salt water, 964 feet
	25	Ohio	Renchen, No. 6	483	Robinson-1	827	10	344	1,156				
					Robinson-3	905	20	422	1,078				
	26	Ohio	Renchen, No. 5	495	do	909	26	414	1,086			35	

	27	Ohio	Renchen, No. 4	508	Robinson-2	901		393	1,107				
					Robinson-3	929	14	421	1,079			20	
	28	Wabash	Renchen, No. 3	504	Robinson-2	884	56	380	1,120				
	29	Wabash	Renchen, No. 2	495	..do	898	39	403	1,097				
	30	Wabash	Renchen, No. 1	487	Robinson-3	904	28	417	1,083				
	31	Pease & Co	Shipman, No. 4	495	Robinson-1	835	22	340	1,160				
					Robinson-2	885	10	390	1,110		922	200	
	32	Pease & Co	Shipman, No. 5	496	Stray	810	8	314	1,186				
					Robinson-2	880	10	384	1,116	890	913	150	
	33	Pease & Co	Shipman, No. 3	504	Robinson-1	833	12	329	1,171				
					Robinson-2	890	10	386	1,114				
					Robinson-3	915	4	411	1,089		932	600	
	34	Pease & Co	Shipman, No. 7	504	Robinson-1	835		331	1,169				
					Robinson-2	890	43	386	1,114			150	
	35	Pease & Co	Shipman, No. 1	503	Stray	820		317	1,183				Gravity of oil 31 to 32° Beaume
	36	Pease & Co	Shipman, No. 6	500	..do	817	13	317	1,183				
					Robinson-2	870	42	370	1,130			40	
	37	Pease & Co	Shipman, No. 2	499	Robinson-1	827	18	328	1,172				
					Robinson-2	868	22	369	1,131		945	60	
	38	Pease & Co	Shipman, No. 8	498	Robinson-1	825	4	327	1,173				
					Robinson-2	886	58	388	1,112			150	
S. E.	1	Red Bank	Wampler, No. 1	502	..do	884	23	382	1,118	892			
	2	Red Bank	Wampler, No. 2	503	Stray	821		318	1,182				
					Robinson-2	887	34	384	1,116	900		75	
	3	Red Bank	Wampler, No. 1 "B"	492									No record
	4	Ohio	Wampler, No. 6	498	Robinson-1	820	25	322	1,178				Gas, 825 feet
					Robinson-2	891	27	393	1,107	896		285	
	5	Ohio	Wampler, No. 5	503	..do	890	42	387	1,113				
	6	Ohio	Wampler, No. 4	505	Robinson-1	825		320	1,180				
					Robinson-2	887	25	382	1,118			100	
	7	Red Bank	Smith, No. 5	505									No record
	8	Ohio	Smith, No. 3	505	Robinson-1	826	76	321	1,179			250	
	9	Ohio	Smith, No. 5	503	Robinson-1	820	25	317	1,183				Gas, 830 feet
					Robinson-2	890	15	387	1,113	895		150	
	10	Unknown		499									No record
	11	Unknown		498									..do
	12	Red Bank	Mitchell, No. 1 "B"	505	Stray	807	27	302	1,198				
					Robinson-2	847	17	342	1,158			75	
	13	Red Bank	Mitchell, No. 1 "R. B"	507	Robinson-1	838	86	331	1,169	912		75	
	14	Ohio	Mitchell, No. 1	507	Stray	806	19	299	1,201				
	15	Ohio	Mitchell, No. 2	499	..do	791	19	292	1,208			25	
	16	Ohio	Mitchell, No. 3	496	Shallow	671	14	175	1,325				
					Robinson-2	912	35	416	1,084	920		150	
	17	Unknown	Whitaker, No. 1	502									No record
	18	Unknown	Whitaker, No. 3	504									..do
	19	Red Bank	Mitchell, No. 2 "B"	497	Robinson-1	808	30	311	1,189				
					Robinson-2	900	26	403	1,097				
	20	Whitaker	Doucummen, No. 5	488	Shallow	475		+13	1,513				
					Robinson-2	905	7	417	1,083				
					Robinson-3	927	7	439	1,061				

Crawford County—Martin Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
26—													
S. E.	21	Whitaker	Doucummen, No. 4	487	Shallow	475	5	+12	1,512				
					Robinson-2	898		411	1,089				
					Robinson-3	921	33	434	1,066	921			
	22	Whitaker	Doucummen, No. 3	486	Robinson-2	895		409	1,091				
					Robinson-3	920	20	434	1,066		940		Quit in sand
	23	Whitaker	Doucummen, No. 2	487	Robinson-2	895		408	1,092				
					Robinson-3	918	26	431	1,069	918	944		Quit in sand
	24	Whitaker	Doucummen, No. 1	486	Robinson-1	820	10	334	1,166				
					Robinson-3	920	20	434	1,066	920	940		Quit in sand
	25	Ohio	Fry, No. 1	482	Robinson-1	818	20	336	1,164				
					Robinson-3	896	22	414	1,086				
	26	Ohio	Fry, No. 2	484	Robinson-1	822		338	1,162				
					Robinson-3	914	14	430	1,070	920			
	27	Ohio	Fry, No. 3	488	Robinson-1	835	27	347	1,153				
					Robinson-3	920	12	432	1,068			100	
	28	Ohio	Fry, No. 4	485	Robinson-1	820	12	335	1,165				Gas, 820 feet
					Robinson-3	895	25	410	1,090	900		128	
	29	Ohio	Fry, No. 5	481	Robinson-1	830	15	349	1,151				Gas, 830 feet
					Robinson-3	899	13	418	1,082	900		80	
	30	Red Bank	Fry, No. 2 "R B"	484	Robinson-1	810	30	326	1,174				
					Robinson-2	874	16	390	1,110			100	
	31	Red Bank	Fry No. 2 "B"	477	Robinson-1	832		355	1,145				
					Robinson-2	882	30	405	1,095	882		100	
	32	Red Bank	Fry, No. 1 "B"	487	Robinson-1	824		337	1,163				
					Robinson-2	900	24	413	1,087	902		75	
	33	Red Bank	Fry, No. 3 "B"	478	Robinson-1	812	13	334	1,166				
					Robinson-2	888	38	410	1,090			100	
	34	Red Bank	Fry, No. 1 "R B"	479	Robinson-1	825		346	1,154				Gas, 830 feet
					Robinson-3	901	19	422	1,078	915		100	
27— N. E.	1	Ohio	McColpin, No. 16	489	Robinson-1	835	5	346	1,154				
					Robinson-3	943	32	454	1,046	946		75	Gas, 946 feet
	2	Ohio	McColpin, No. 14	482	Robinson-2	855	39	373	1,127			120	Gas, 862 feet

	3	Ohio	McColpin, No. 11	485	..do	863	......	378	1,122	870	......	70	
	4	Ohio	McColpin, No. 10	491	..do	860	......	369	1,131	872	......	100	Gas, 870 feet
	5	Parker-Edwards	Thompson, No. 1	486	Shallow	460	......	+26	1,526	......	......	....	
					Robinson-1	838	......	352	1,148	......	......	....	
					Robinson-2	859	30	373	1,127	......	895	....	
	6	Parker-Edwards	Thompson, No. 2	484	Shallow	465	20	+19	1,519	......	......	....	
					Robinson-2	862	......	378	1,122	......	......	....	
					Robinson-2	886	26	402	1,098	......	......	....	
	7	Parker-Edwards	Thompson, No. 4	480	Stray	805	......	325	1,175	......	......	....	
					Robinson-2	861	......	381	1,119	......	912	....	
	8	Parker-Edwards	Thompson, No. 7	481	Shallow	447	28	+34	1,534	......	......	....	
	9	Parker-Edwards	Thompson, No. 8	486	..do	449	24	+37	1,537	......	476	....	
	10	Ohio	Thompson, No. 1	482	Robinson-2	847	18	365	1,135	......	......	....	
					Robinson-3	935	46	453	1,047	......	......	25	
	11	Ohio	Thompson, No. 2	484	Robinson-2	847	31	363	1,137	......	......	Dry	
	12	North Fork	G. Walker, No. 4	487	Robinson-1	806	44	319	1,181	......	......	....	
					Robinson-2	860	40	373	1,127	......	......	....	
	13	North Fork	G. Walker, No. 9	487	Robinson-1	834	......	347	1,153	......	......	....	Gas, 852, feet
					Robinson-2	898	......	411	1,089	898	917	....	
	14	North Fork	G. Walker, No. 5	486	Robinson-1	848	......	362	1,138	862	......	....	
					Robinson-2	885	24	399	1,101	......	933	....	
	15	North Fork	G. Walker, No. 8	487	Robinson-1	834	......	347	1,153	......	......	....	
					Robinson-2	845	......	558	1,142	......	......	....	Salt water, 859 feet
	16	North Fork	G. Walker, No. 10	478	..do	860	17	382	1,118	......	896	....	
	17	North Fork	G. Walker, No. 2	488	Stray	815	......	327	1,173	......	......	....	
					Robinson-2	840	45	352	1,148	......	......	....	
	18	North Fork	G. Walker, No. 1	482	Shallow	430	35	+52	1,552	......	......	Pay	
					Stray	810	12	328	1,172	......	......	....	
					Robinson-2	886	19	404	1,096	......	......	Pay	
					Robinson-3	935	19	453	1,047	......	......	....	
	19	Ohio	McColpin, No. 8	486	..do	952	......	466	1,034	......	......	10	Gas, 954 feet
	20	Ohio	McColpin, No. 12	489	Robinson-2	863	......	374	1,126	......	......	150	Gas, 865 feet
	21	Ohio	McColpin, No. 17	487	Robinson-1	850	18	363	1,137	855	......	60	Gas, 855 feet
	22	Ohio	McColpin, No. 18	484	Robinson-3	941	17	457	1,043	943	......	75	Gas, 943 feet
N. W.	1	Bruner	Hughes, No. 4	482	Robinson-2	903	6	421	1,079	......	......	....	
					Robinson-3	940	......	458	1,042	......	......	Dry	Salt water, 980 feet. Gas, 940 feet
	2	Bruner	Hughes, No. 1	462	Robinson-2	858	32	396	1,104	858	......	....	
	3	Bruner	Hughes, No. 5	473	Robinson-1	840	20	367	1,133	......	......	....	
					Robinson-2	900	......	427	1,073	947	962	....	
	4	Bruner	Hughes, No. 2	473	Robinson-1	818	18	345	1,155	......	......	....	
					Robinson-3	932	25	459	1,041	947	957	....	
	5	Bruner	Hughes, No. 10	478	Robinson-1	830	15	352	1,148	830	......	....	
					Robinson-3	915	50	437	1,063	925	967	....	
	6	Bruner	Hughes, No. 7	481	Robinson-1	822	......	341	1,159	......	......	....	Gas, 822 feet
					Robinson-2	840	39	359	1,141	840	892	....	
	7	Bruner	Hughes, No. 9	478	Robinson-2	880	15	402	1,098	882	......	....	
					Robinson-3	932	5	454	1,046	......	963	....	Quit in sand
	8	Bruner	Hughes, No. 3	486	Stray	812	10	326	1,174	......	......	....	
					Robinson-2	850	36	364	1,136	855	890	....	
	9	Bruner	Hughes, No. 6	485	Robinson-1	831	50	346	1,154	853	888	....	

Crawford County—Martin Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
27—					Stray	822	6	340	1,160				
N. W.	10	Bruner	Hughes, No. 8	482	Robinson-1	834	20	352	1,148	834			
					Robinson-2	870	15	388	1,112	870	891		
	11	Hughes & Co	Leeds, No. 8	478	Shallow	432	5	+46	1,546			Good	
					..do	458	15	+20	1,520				
	12	Hughes & Co	Leeds, No. 2	478	Robinson-3	975	50	497	1,003				
	13	Hughes & Co	Leeds, No. 6	476	..do	958	42	482	1,018				
	14	Hughes & Co	Leeds, No. 7	477	Shallow	567		90	1,410			Dry	
	15	Hughes & Co	Leeds, No. 1	460	Robinson-4	985	60	525	975				
	16	Hughes & Co	Leeds, No. 5	473	Robinson-3	965	40	492	1,008				
	17	Hughes & Co	Leeds, No. 4	473	..do	946	60	473	1,027				
	18	Hughes & Co	Leeds, No. 3	469	..do	945	65	476	1,024				
	19	Ohio	Tohill, No. 9	475	..do	974	6	499	1,001	975		10	Gas, 975 feet. Salt water, 999 feet
	20	Ohio	Tohill, No. 7	473	Robinson-2	910	10	437	1,063				
					Robinson-3	942	23	469	1,031				
	21	Ohio	Tohill, No. 5	474	Robinson-1	849	27	375	1,125				
					Robinson-2	894	11	420	1,080				
	22	Ohio	Tohill, No. 11	479	..do	900	20	421	1,079	905		150	Gas, 901 feet
S. W.	1	Ohio	C. Dennis, No. 1	462	..do	874		412	1,088	874		300	Gas, 874 feet
	2	Ohio	C. Dennis, No. 12	472	Stray	816		344	1,156				
					Robinson-2	880		408	1,092	890		200	Gas, 880 feet
	3	Ohio	C. Dennis, No. 3	477	..do	880	32	403	1,097	865		75	Gas, 865 feet
	4	Ohio	C. Dennis, No. 8	477	Robinson-1	852		375	1,125	854		100	
	5	Ohio	C. Dennis, No. 11	472	..do	840		368	1,132	845		50	Gas, 840 feet
	6	Ohio	C. Dennis, No. 14	479	..do	850	26	371	1,129	860			Gas, 855 feet
					Robinson-2	881	25	402	1,098			200	
	7	Ohio	C. Dennis, No. 17	470	Robinson-1	863	37	393	1,107	867		300	Gas, 864 feet
	8	Ohio	C. Dennis, No. 9	479	..do	851		372	1,128	860		400	Gas, 851 feet
	9	Ohio	C. Dennis, No. 22	471	Shallow	447	27	+24	1,524	455		100	Gas, 450 feet. Salt water, 474 feet
	10	Ohio	C. Dennis, No. 6	470	Robinson-2	871	37	401	1,099	880		500	Gas, 873 feet

	11	Ohio	C. Dennis, No. 18	472	Shallow	447	29	+25	1,525	455		100	Gas, 450 feet
	12	Ohio	C. Dennis, No. 2	467	Robinson-2	882		415	1,085	898		75	Gas, 898 feet
	13	Ohio	C. Dennis, No. 5	472	Robinson-1	855	25	383	1,117				
					Robinson-2	895	20	423	1,077	895		300	Gas, 895 feet
	14	Ohio	C. Dennis, No. 20	476									No record
	15	Ohio	C. Dennis, No. 19	468	Robinson-2	897	38	429	1,071	900		150	Gas, 898 feet
	16	Ohio	C. Dennis, No. 4	461	..do	874	5	413	1,087				
					Robinson-3	906	21	445	1,055	908		70	Gas, 908 feet
	17	Ohio	C. Dennis, No. 7	462	..do	903	20	441	1,059	915		150	Gas, 905 feet
	18	Ohio	J. Dennis, No. 1	469	Robinson-2	870		401	1,099	920		200	Gas, 910 feet
	19	Ohio	J. Dennis, No. 14	464	..do	893	38	429	1,071	895		200	Gas, 894 feet
	20	Ohio	J. Dennis, No. 3	466	Robinson-3	918		452	1,048	919		300	Gas, 919 feet
	21	Ohio	J. Dennis, No. 15	476	Robinson-2	900	32	424	1,076	915		100	Gas, 912 feet
	22	Ohio	J. Dennis, No. 2	474	..do	883	9	409	1,091	884			Gas, 884 feet
					Robinson-3	915	21	441	1,059	915		300	
	23	Ohio	J. Dennis, No. 4	479	..do	917	8	438	1,062	920		400	Gas, 918 feet
	24	Ohio	J. Dennis, No. 5	470	Robinson-2	880		410	1,090	885		600	Gas, 881 feet
	25	Wark	J. Dennis, No. 3	466	Robinson-1	840	15	374	1,126	847			
					Robinson-2	875	40	409	1,091			600	
	26	Wark	J. Dennis, No. 17	466	Shallow	455	18	+11	1,511				
	27	Wark	J. Dennis, No. 1	470	Robinson-1	835	24	365	1,135				
					Robinson-2	877	43	407	1,093		931	600	
	28	Wark	J. Dennis, No. 16	473	Shallow	460	17	+13	1,513			100	
	29	Wark	J. Dennis, No. 2	475	Robinson-1	836	20	361	1,139	846			Gas, 836 feet
					Robinson-2	877	42	402	1,098			500	
	30	Wark	J. Dennis, No. 14	474	Robinson-1	826	122	352	1,148			300	
	31	Wark	J. Dennis, No. 18	476	Shallow	442	23	+34	1,534				
	32	Wark	J. Dennis, No. 4	478	Robinson-1	831	19	353	1,147				
					Robinson-2	865	45	387	1,113			1,500	
	33	Wark	J. Dennis, No. 9	476	Shallow	600		124	1,376				
					Robinson-1	824	83	348	1,152			400	
					Robinson-3	908	37	432	1,068				
S. E.	1	North Fork	Newlin, No. 10	486	Robinson-1	847	61	361	1,139	884			
					Robinson-3	914		428	1,072		950		
	2	North Fork	Newlin, No. 8	487	Robinson-2	867	52	380	1,120				Salt water, 875 feet
					Robinson-3	922	13	435	1,065		942		
	3	North Fork	Newlin, No. 12	491	Robinson-1	876	6	385	1,115				
					Robinson-2	895	23	404	1,096				
					Robinson-3	928	32	437	1,063		970		Salt water
	4	North Fork	Newlin, No. 5	484	Robinson-2	873	70	389	1,111		950	1,000	
	5	North Fork	Newlin, No. 11	489	Robinson-1	855		366	1,134				
					Robinson-2	879	26	390	1,110				
					Robinson-3	918	21	429	1,071		943		
	6	North Fork	Newlin, No. 1	492	Shallow	460	20	+32	1,532				
					Robinson-1	862		370	1,130				
					Robinson-2	881		389	1,111				Salt water
	7	North Fork	G. Walker, No. 3	487	Robinson-1	823		336	1,164				
					Robinson-2	870	55	383	1,117				
	8	North Fork	G. Walker, No. 6	486	Robinson-1	840	12	354	1,146				
					Robinson-1	854	19	368	1,132				
					Robinson-2	886	39	400	1,100		933		
	9	Ohio	C. Dennis, No. 13	484	..do	863	27	379	1,121	878		300	Gas, 868 feet

Crawford County—Martin Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
27—S. E.	10	Ohio	C. Dennis, No. 15	480	Robinson-2	862	26	382	1,118	866		200	Gas, 865 feet
	11	Ohio	C. Dennis, No. 21	485	..do	873	32	388	1,112	875		150	Gas, 874 feet
	12	Ohio	C. Dennis, No. 16	478	..do	855	34	377	1,123	860		200	Gas, 860 feet
	13	Ohio	C. Dennis, No. 10	486	..do	890		404	1,096	895		50	Gas, 891 feet
	14	North Fork	G. Walker, No. 11	487	Robinson-1	853	9	366	1,134				
					Robinson-2	884	44	397	1,103				
	15	North Fork	G. Walker, No. 7	489	Robinson-2	872	26	383	1,117				
					Robinson-3	920	30	431	1,069				
	16	North Fork	C. Walker, No. 2	487	Stray	810		323	1,177				
					Robinson-1	857	26	370	1,130				
					Robinson-2	894		407	1,093		917		
	17	North Fork	C. Walker, No. 1	489	Robinson-1	867		378	1,122				
					Robinson-2	885	10	396	1,104				
					Robinson-3	912	26	423	1,077	931			Salt water, 912 feet
	18	North Fork	C. Walker, No. 5	495	Robinson-1	872	85	377	1,123				
	19	North Fork	C. Walker, No. 3	500	..do	876	6	376	1,124				
					Robinson-2	895		395	1,105				
					Robinson-3	913	24	413	1,087				
	20	North Fork	C. Walker, No. 6	493	Robinson-2	897	10	404	1,096				
					Robinson-2 (?)	921	11	428	1,072				
					Robinson-3	955	11	462	1,038		972		
	21	North Fork	C. Walker, No. 4	489	Robinson-1	840	37	351	1,149	865			
					Robinson-2	897	14	408	1,092	897			
					Robinson-3	936	33	447	1,053				
	22	North Fork	Hicks, No. 1	491	Robinson-2	875	15	384	1,116				
					Robinson-3	909		418	1,082		934		
	23	North Fork	Hicks, No. 14	493	Stray	922	12	429	1,071				
					Robinson-3	946	35	453	1,047				
	24	North Fork	Hicks, No. 7	496	Robinson-1	870	25	374	1,126				
					Robinson-2	900	45	404	1,096		950		

	25	North Fork	Hicks, No. 8	495	Stray	839	16	344	1,156	842			
					Robinson-1	872		377	1,123	878			Gas, 896 feet. Salt water, 906 feet
	26	North Fork	Hicks, No. 9	498	Stray	845	27	347	1,153				
					Robinson-1	877	10	379	1,121				
					Robinson-2	890	21	392	1,108				
					Robinson-3	920	20	422	1,078				Salt water
	27	North Fork	Hicks, No. 10	495	Stray	850	20	355	1,145				
					Robinson-1	883	23	388	1,112				
					Robinson-2	911	12	416	1,084				
					Robinson-3	928	27	433	1,067				
	28	North Fork	Hicks, No. 13	493	Robinson-1	865	8	372	1,128				
					Robinson-2	880	7	387	1,113				
					Robinson-3	920	20	427	1,073		962		
28—													
N. E.	1	Mahutska	Carleton, No. 7	474	Robinson-1	857	22	383	1,117				
					Robinson-2	913	12	439	1,061			200	
	2	Mahutska	Carleton, No. 1	465	do	885	37	420	1,080			20	
	3	Mahutska	Carleton, No. 4	456	Robinson-1	844	11	388	1,112				
					Robinson-2	875	27	419	1,081			200	
	4	Mahutska	Carleton, No. 5	473	Robinson-1	865	38	392	1,108				
					Robinson-2	906	34	433	1,067				
	5	Mahutska	Carleton, No. 6	458	Shallow	435	11	+23	1,523			100	
					Robinson-3	918	27	460	1,040			200	
	6	Mahutska	Carleton, No. 2	462	Robinson-1	867	97	405	1,095			150	Sand, broken
	7	Mahutska	Carleton, No. 3	462	do	868	6	406	1,094			Show	
					Robinson-2	895	11	433	1,067				
					Robinson-3	918	14	456	1,044			250	
	8	Mahutska	Carleton, No. 8	462	Robinson-1	873	6	411	1,089				
					Robinson-2	890	60	428	1,072				
	9	Mahutska	Carleton, No. 9	474	Robinson-1	861	8	387	1,113				
					Robinson-2	886	60	412	1,088				
	10	Mahutska	Carleton, No. 10	463	Robinson-1	851	12	388	1,112				
					Robinson-3	908	22	445	1,055		970	Dry	
	11	Homestead	Stewart, No. 5	469	Robinson-1	887	25	418	1,082	887			
	12	Homestead	Stewart, No. 6	474	Robinson-1	872		398	1,102				
					Robinson-3	920	10	446	1,054				
					Robinson-4	943	7	469	1,031		960	Dry	
	13	Homestead	Stewart, No. 7	477	Robinson-1	893	22	416	1,084				
					Robinson-2	933	22	456	1,044				
					Robinson-3	982	12	505	995			Dry	
	14	C. K. Brown	Stewart, No. 1	463	do	903		440	1,060	951		2	Salt water, 976 feet. Well abandoned
	15	Bruner	To ill, No. 1	462	Stray	827		365	1,135				
					Robinson-1	847	18	385	1,115				
					Robinson-3	947	15	485	1,015		962		Quit in sand
N. W.	1	Ohio	Bailey, No. 3	461	Robinson-1	870	23	409	1,091	875			
					Robinson-3	935	24	474	1,026	935			
	2	Ohio	Bailey, No. 1	467	do	938		471	1,029	940		100	Gas, 938 feet
	3	Ohio	Bailey, No. 5	468	Robinson-1	895	5	427	1,073				
					Robinson-2	917	11	449	1,051	920		5	Gas, 918 feet

Crawford County—Martin Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
28—													
N. W.	4	Ohio	Bailey, No. 2	468	Stray	857	10	389	1,111				
					Robinson-2	892	15	424	1,076		907		Salt water, 892 feet
	5	Ohio	Bailey, No. 4	466	Robinson-2	905	5	439	1,061	905			Gas, 905 feet
					Robinson-3	932	5	466	1,034			50	
	6	Ohio	Bailey, No. 7	466	Robinson-1	877	26	411	1,089	880		70	Gas, 879 feet
	7	Ohio	Bailey, No. 6	458	do	862		404	1,096	864		15	Gas, 862 feet
	8	Ohio	Bailey, No. 8	471	Robinson-3	972	30	501	999	973		3	Gas, 972 feet. Salt water, 1002 feet
	9	McArthur	Bailey, No. 1	465	Stray	845	6	380	1,120		915	Dry	
	10	Ohio	McColpin, No. 1	472	Robinson-3	994		522	978		994	Dry	Salt water
S. E.	1	Homestead	Stewart, No. 4	476	Robinson-1	895	21	419	1,081				
					Robinson-3	1,007	13	531	969		1,039	Dry	Salt water, 1039 feet
	2	Homestead	Stewart, No. 1	466	Robinson-2	900	15	434	1,066				
					Robinson-3	939	29	473	1,027		968		Quit in sand
	3	Homestead	Stewart, No. 2	470	do	927	29	457	1,043	938	956		Salt water, 951 feet. Quit in sand
	4	Homestead	Stewart, No. 3	476	Robinson-1	883	23	407	1,093			Show	
					Robinson-3	926	18	450	1,050		944		Quit in sand
	5	Bruner	Tohill, No. 8	473	Robinson-2	912	35	439	1,061	915	951		
	6	Bruner	Tohill, No. 7	470	Robinson-1	862	20	392	1,108				
					Robinson-2	898		428	1,072	898	926		Quit in sand
	7	Bruner	Tohill, No. 6	475	Robinson-1	877	13	402	1,098	877			
					Robinson-3	916		441	1,059		935		Quit in sand
	8	Bruner	Tohill, No. 5	476	Robinson-2	893	15	417	1,083	893			
					Robinson-3	933		457	1,043	935	946		Salt water, 946 feet. Quit in sand
	9	Bruner	Tohill, No. 4	472	Robinson-1	856	10	384	1,116	384			
					Robinson-2	895		423	1,077	423	933		Quit in sand
	10	Bruner	Tohill, No. 3	471	Robinson-1	880	20	409	1,091	883			
					Robinson-3	918		447	1,053	923	941		Quit in sand
	11	Bruner	Tohill, No. 2	473	Robinson-2	882	25	409	1,091	887			
					Robinson-3	926	17	453	1,047	926	943		

	12	Bruner	Pato, No. 1	471	Shallow	483	28	12	1,488	493			
					Robinson-2	881	17	410	1,090				
					Robinson-3	918	23	447	1,053	920			
	13	Bruner	Pato, No. 2	475	Robinson-2	886	20	411	1,089	891			
					Robinson-3	934	21	459	1,041				
	14	Bruner	Pato, No. 3	477	Robinson-2	885	17	408	1,092	887			
					Robinson-3	923	39	446	1,054	935			Salt water, 950 feet
	15	Bruner	Pato, No. 8	473	Robinson-2	909	24	436	1,064	910	938		
	16	Bruner	Pato, No. 7	473	..do	911	20	438	1,062				
					Robinson-3	969	12	496	1,004				Salt water, 969 feet
	17	Bruner	Pato, No. 5	474	Robinson-2	901	23	427	1,073	905			
					Robinson-3	942	17	468	1,032	944	959		Quit in sand
	18	Bruner	Pato, No. 10	476	Robinson-2	908	20	432	1,068	908			
					Robinson-3	965		489	1,011	968	977		
33— N. E.	1	Bruner	Pato, No. 4	482	Robinson-1	887	27	405	1,095	887	960		
	2	Bruner	Pato, No. 9	478	Robinson-2	916	15	438	1,062	918			
	3	Bruner	Pato, No. 6	485	Robinson-1	887	27	402	1,098	890			
	4	Bruner	Pato, No. 11	487	Robinson-2	901	21	414	1,086	901	928		
	5	Treat, Crawford & Treat	Fritz, No. 1	486	..do	915	17	429	1,071	918		3	
	6	Treat, Crawford & Treat	Fritz, No. 2	480	Robinson-3	936	26	456	1,044			Dry	
N. W.	1	McArthur	Murry, No. 1	477	Robinson-3	955	17	478	1,022		972	Dry	Salt water, 972 feet
34— N. E.	1	North Fork	Hicks, No. 11	500	Robinson-3	947	8	447	1,053				
					Robinson-4	957	39	457	1,043				
	2	North Fork	Hicks, No. 2	491	Robinson-1	876	5	385	1,115				
					Robinson-2	893	11	402	1,098				
					Robinson-3	914	31	423	1,077				
	3	North Fork	Hicks, No. 12	504	Stray	932	8	428	1,072				
					Robinson-3	960	19	456	1,044		984		
	4	North Fork	Hicks, No. 15	505	Robinson-1	848	14	343	1,157				
					Robinson-2	900	19	395	1,105				
					Robinson-4	988	5	483	1,017		993		Salt water
	5	North Fork	Hicks, No. 4	494	Robinson-1	857	15	363	1,137				
					Robinson-2	886	6	392	1,108				
					Robinson-3	911	19	417	1,083		934		
	6	North Fork	Hicks, No. 5	501	Robinson-1	887	15	386	1,114				
					Robinson-3	916	20	415	1,085				
					Robinson-4	942		441	1,059		960		
	7	North Fork	Hicks, No. 6	505	Robinson-2	907		402	1,098	917	957		
	8	North Fork	Hicks, No. 3	509	Robinson-1	889	10	380	1,120				
					Robinson-2	911	21	402	1,098	917	989		
	9	Taylor	Town Lot, No. 1	504									No record
	10	Kohler	H. Casty Lot, No. 1	505	Robinson-3	917	27	412	1,088		977		
	11	Unknown	N. Shipman, No. 1	503									No record
	12	Unknown	I. Shipman, No 2	500									..do
	13	Unknown	I. Shipman, No. 1	497									..do
	14	Stephens, Hawkins & Steele	Waggoner, No. 1	494	Robinson-1	865	7	371	1,129				
					Robinson-2	885	10	391	1,109				
					Robinson-3	909	30	415	1,085				

Crawford County—Martin Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Depth to top—feet.	Thickness penetrated—feet.	Altitude below sea level—feet.	Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
34—N. E.	14	Stephens, Hawkins & Steele	Waggoner, No. 2	496	Robinson-1	867	7	371	1,129				
					Robinson-2	887	6	391	1,109				
					Robinson-3	919	24	423	1,077				
	16	Craig & Lowrie	Anderson, No. 1	495									No record
	17	Stephens, Hawkins & Steele	Waggoner, No. 3	493	Robinson-1	864	13	371	1,129				
					Robinson-2	886	14	393	1,107				
					Robinson-3	907	31	414	1,086				
					Robinson-4	942	13	449	1,051		958		
	18	Stephens, Hawkins & Steele	Padgett, No. 6	493									No record
	19	Stephens, Hawkins & Steele	Padgett, No. 5	497									do
	20	Porter	Church Lot, No. 1	503									do
	21	Parker-Edwards	Hardin, No. 4	500	Robinson-1	878	14	378	1,122				
					Robinson-2	907	17	407	1,093				
					Robinson-3	928	41	428	1,072		969		
	22	Parker Edwards	Hardin, No. 3	494	Robinson-1	876	20	382	1,118				
					Robinson-2	906	14	402	1,098				
					Robinson-3	925	26	431	1,069		951		
	23	Parker-Edwards	Hardin, No. 2	490	Robinson-1	859	11	369	1,131				
					Robinson-2	881	46	391	1,109		942		
	24	Stephens, Hawkins & Steele	Pagdett, No. 4	493									No record
	25	Stephens, Hawkins & Steele	Padgett, No. 2	492									do
	26	Stephens, Hawkins & Steele	Padgett, No. 1	495									do
	27	Stephens, Hawkins & Steele	Padgett, No. 3	495									do
	28	Parker-Edwards	Hardin, No. 1	496	Robinson-1	862	14	366	1,134				
					Robinson-2	890	14	394	1,106				
					Robinson-3	914	16	418	1,082				

	29	North Fork	Newlin, No. 4	494	Robinson-1	878	44	384	1,116	901	937		
	30	North Fork	Newlin, No. 2	495	..do	865		370	1,130	887			
	31	North Fork	Newlin, No. 9	493	Robinson-2	897	13	404	1,096				
					Robinson-3	927	25	434	1,066				
	32	North Fork	Newlin, No. 7	493	Robinson-2	872	40	379	1,121	887			
					Robinson-3	917		424	1,076		941		
	33	North Fork	Newlin, No. 3	491	Robinson-2	880	35	389	1,111				
					Robinson-3	924		433	1,067				
	34	North Fork	Newlin, No. 6	490	Robinson-2	875	25	385	1,115	895			
					Robinson-3	914	30	424	1,076	921			
	35	Kelly	Town Lot, No. 1	491									No record
	36	Kelly	Town Lot, No. 2	490									..do
	37	Homestead	Martin, No. 1	492	Robinson-1	858	11	366	1,134				
					Robinson-2	904	7	412	1,088		911		Quit in sand
	38	Homestead	Martin, No. 4	492	Robinson-1	852	15	360	1,140				
					Robinson-2	874	39	382	1,118		913		Quit in sand
	39	Homestead	Martin, No. 3	495	Robinson-1	859	8	364	1,136				
					Robinson-2	879	14	384	1,116				
					Robinson-3	899	11	404	1,096		913		
	40	Homestead	Martin, No. 2	493	Robinson-1	862	12	369	1,131				
					Robinson-2	884	17	391	1,109				
					Robinson-3	909	20	416	1,084		931		
N. W.	1	Wark	J. Dennis, No. 12	485	Robinson-1	825	119	340	1,160			3,000	
	2	Wark	J. Dennis, No. 15	480	..do	830	117	350	1,150		947	250	Quit in sand
	3	Wark	J. Dennis, No. 7	479	..do	835	15	356	1,144				
					Robinson-2	876	38	397	1,103			600	
	4	Wark	J. Dennis, No. 11	485	Robinson-1	846	24	361	1,139				
					Robinson-2	896	49	411	1,089		945	500	Quit in sand
	5	Wark	J. Dennis, No. 13	486	Robinson-1	844	100	358	1,142			250	
	6	Wark	J. Dennis, No. 10	489	Robinson-1	843	14	354	1,146				
					Robinson-2	893	40	404	1,096		933	500	Quit in sand
	7	Wark	J. Dennis, No. 5	490	Robinson-1	855	10	365	1,135				
					Robinson-2	885	7	395	1,105				
					Robinson-3	902	16	412	1,088			250	
	8	Wark	J. Dennis, No. 6	486	Robinson-1	857	8	371	1,129				
					Robinson-2	884	57	398	1,102			500	
	9	Wark	J. Dennis, No. 8	482	Robinson-1	857	18	375	1,125				
					Robinson-3	916	23	334	1,066			600	
	10	Ohio	J. Dennis, No. 9	482	Robinson-3	922		440	1,060	925		250	Gas, 925 feet
	11	Ohio	J. Dennis, No. 10	485	Robinson-2	904	23	419	1,081	910		250	Gas, 905 feet
	12	Ohio	J. Dennis, No. 7	480	..do	903		423	1,077	903		200	Gas, 903 feet
	13	Ohio	J. Dennis, No. 16	479									No record
	14	Ohio	J. Dennis, No. 6	480	Robinson-3	920		440	1,060	925		150	Gas, 925 feet
	15	Ohio	J. Dennis, No. 8	484	..do	918		434	1,066	920		200	Gas, 918 feet
	16	Ohio	J. Dennis, No. 13	487	Robinson-2	904	22	417	1,083	906			Gas, 905 feet
	17	Ohio	J. Dennis, No. 12	486	..do	910		424	1,076				
	18	Ohio	J. Dennis, No. 11	487	Robinson-3	938	19	451	1,049	950		75	Gas, 940 feet
	19	Pure	Price, No. 8	486	Stray	876	5	390	1,110				
					Robinson-1	890	36	404	1,096		926	75	
	20	Pure	Price, No. 7	485	..do	890	40	405	1,095		945	75	
	21	Pure	Price, No. 6	482	..do	887	18	405	1,095				
					Robinson-3	918	40	436	1,064			200	

Crawford County—Martin Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
34—N. W.	22	Pure	Price, No. 5	483	Robinson-1	860	5	377	1,123				
					Robinson-3	920	21	437	1,063			400	
	23	Pure	Price, No. 4	485	Robinson-1	856	16	371	1,129				
					Robinson-2	898	44	413	1,087		942		
	24	Pure	Price, No. 1	484	Robinson-1	870	5	386	1,114				
					Robinson-2	890	6	406	1,194				
					Robinson-3	908	22	424	1,076		930		
	25	Pure	Price, No. 2	485	Robinson-1	870	10	835	1,115				
					Robinson-2	895	60	410	1,090		955	400	
	26	Pure	Price, No. 13	482	Robinson-1	872	8	390	1,110				
					Robinson-3	915	26	433	1,067			100	
	27	Pure	Price, No. 14	478	Robinson-1	875	9	397	1,103				
					Robinson-2	890	31	412	1,088		938	75	
	28	Pure	Price, No. 15	483	Robinson-1	898	17	415	1,085		917	20	
	29	Pure	Price, No. 12	487	..do	898	27	420	1,080		925	75	
	30	Pure	Price, No. 11	484	..do	890	18	406	1,094				
					Robinson-3	930	30	446	1,054		966	100	
	31	Pure	Price, No. 10	480	Robinson-1	880	25	400	1,100				
					Robinson-3	930	30	450	1,050		960	400	
	32	Pure	Price, No. 9	484	..do	920	40	436	1,064		960		
	33	Pure	Price, No. 3	488	Robinson-1	870	82	382	1,118		952		
S. W.	1	Bruner	Thomas, No. 9	477	..do	909	31	432	1,068				Salt water, 927 feet
	2	Bruner	Thomas, No. 8	485	..do	909	18	424	1,076		954		
	3	Bruner	Thomas, No. 6	480	..do	901	12	421	1,079	903			
					Robinson-3	931	9	451	1,049	940	955		
	4	Bruner	Thomas, No. 5	485	Robinson-1	890	16	405	1,095	892			
					Robinson-2	917	10	432	1,068	925			
	5	Bruner	Thomas, No. 3	489	Robinson-1	893	37	404	1,096	900	936		Quit in sand
	6	Bruner	Thomas, No. 2	494	Robinson-1	909	11	415	1,085	911			
					Robinson-3	951	19	457	1,043	951			
	7	Bruner	Thomas, No. 1	501	Robinson-1	924	24	423	1,077				

	8	Bruner	Thomas, No. 4	499	Robinson-1	929	14	430	1,070				
					Robinson-2	946	8	447	1,053				
	9	Bruner	Thomas, No. 7	487	Robinson-3	945	15	458	1,042				
					Robinson-4	974		487	1,013		984		Salt water, 974 feet
	10	Fertig Bros.	Newman, No. 3	409	Robinson-1	945	14	436	1,064				
					Robinson-2	967	17	458	1,042	967	984		
S. E.	1	Fertig Bros.	Newman, No. 1	507	Robinson-3	972	25	465	1,035	975	999		
	2	Fertig Bros.	Newman, No. 2	509	Robinson-1	925	15	416	1,084				
					Robinson-2	955	12	446	1,054				
					Robinson-3	983	25	474	1,026	983	1,008		
	3	Fertig Bros.	Newman, No. 4	497	Robinson-1	916	10	419	1,081				
					Robinson-2	933	12	436	1,064	945			
					Robinson-3	952	13	455	1,045				
	4	Fertig Bros.	Newman, No. 5	510	Robinson-1	919	15	409	1,091				
					Robinson-3	975	8	465	1,035		997		
	5	Fertig Bros.	Newman, No. 6	509	do	980	13	471	1,029				
					Stray	1,034		525	975		1,034		Salt water, 1034 feet
	6	Ohio	L. Hicks, No. 4	510	Robinson-1	911		401	1,099	915		20	Gas, 912 feet
	7	Ohio	L. Hicks, No. 1	504	do	918		414	1,086	920		200	Gas, 920 feet
	8	Ohio	L. Hicks, No. 5	506	do	905		399	1,101	910		150	Gas, 905 feet
	9	Ohio	L. Hicks, No. 6	508	do	906		398	1,102	910		40	Gas, 907 feet
	10	Ohio	L. Hicks, No. 7	512	do	912		400	1,100	912		30	Gas, 912 feet
	11	Ohio	L. Hicks, No. 8	509	Robinson-3	975	27	466	1,034	978		30	Gas, 975 feet
	12	Ohio	L. Hicks, No. 2	500	Robinson-1	893		393	1,107	895		200	Gas, 893 feet
	13	Ohio	L. Hicks, No. 3	502	do	892		390	1,110	926		200	Gas, 906 feet
	14	Riddle	Houts, No. 1	498	do	889	10	391	1,109				
					Robinson-2	909	16	411	1,089				
					Robinson-3	931	26	433	1,067		957	125	
	15	Riddle	Hardin, No. 1	506	Robinson-1	894	13	388	1,112				
					Robinson-2	920	12	414	1,086				
					Robinson-3	938	18	432	1,068			50	
	16	Riddle	Albin, No. 1	515	Robinson-1	915	10	400	1,100				
					Robinson-2	943	5	428	1,072				
					Robinson-3	960	12	445	1,055				
					Robinson-4	992	16	477	1,023			75	
	17	Riddle	Albin, No. 2	509	Robinson-1	896	8	387	1,113				
					Robinson-2	934	10	425	1,075				
					Robinson-3	958	47	449	1,051	977	1,005		
	18	Kohler	Whisnand, No. 2	508									No record
	19	Kohler	E. Shipman, No. 2	509	Robinson-3	969	35	460	1,040		1,004		
	20	Kohler	E. Shipman, No. 1	507	Shallow	625	25	118	1,382			Show	
					Robinson-1	883	11	376	1,124			Show	
					Robinson-2	916	14	409	1,091			Show	
					Robinson-3	970	21	463	1,037		993		
	21	Kohler	Whisnand, No. 1	508	do	980	13	472	1,028		999		
	22	North Fork	Newlin Lot, No. 1	505	Robinson-1	905	10	400	1,100				
					Robinson-3	990	13	485	1,015		1,009		
	23	Parker-Crowly	Barnett, No. 1	505									No record
	24	Parker-Crowly	Barnett, No. 2	504								Dry	do
	25	Parker-Crowly	Barnett, No. 3	502									do
	26	Parker-Crowly	Barnett, No. 4	493									do
	27	Parker-Crowly	Barnett, No. 5	491									do

Crawford County—Martin Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
34—S. E.	28	Parker-Crowly	Barnett, No. 6	486									No record
35—N. E.	1	Red Bank	C. Doucummen, No. 1	486	Robinson-3	940	25	454	1,046			100	
	2	Red ank	C. Doucummen, No. 2	487	Robinson-1	810		323	1,177				
					Robinson-3	929		442	1,058	929			
					Robinson-4	940	32	453	1,047	940			
	3	Red Bank	C. Doucummen, No. 3	493	Robinson-2	917	41	424	1,076			40	
	4	Ohio	C. Doucummen, No. 1	470	Shallow	419	9	+51	1,551				
					do	456	10	+14	1,514				
					Robinson-1	815		345	1,155		962	Gas	3,000,000 cubic feet of gas.
	5	Ohio	C. Doucummen, No. 4	479	Robinson-1	800	16	321	1,179		818	Gas	Gas, 804 feet
N. W.	1	Ohio	Shipman, No. 3	485	do	825		340	1,160				
					Robinson-2	938		453	1,047	940		80	Salt water, 987 feet
	2	Ohio	Shipman, No. 2	479	Robinson-1	812	140	333	1,167			Gas	Gas, 820 feet
	3	Ohio	Shipman, No. 5	495	Robinson-3	939	25	444	1,056	940		40	Gas, 945 feet
	4	Ohio	Shipman, No. 4	499	Robinson-1	849		350	1,150				
					Robinson-3	958		459	1,041	960		75	Gas, 958 feet
	5	Ohio	Shipman, No. 1	503	Robinson-1	848	15	345	1,155	850		20	
					Robinson-2	910	112	407	1,093				Salt water, 1,068 feet
	6	Ohio	Shipman, No. 6	507	Stray	896		389	1,111				Gas, 896 feet
					Robinson-3	975		468	1,032	975		8	Salt water, 987 feet
	7	Ohio	Shipman, No. 7	503	Robinson-1	852	5	349	1,151				
					Robinson-2	904	6	401	1,099	940	958	12	
S. W.	1	Watkins	Shipman, No. 1	480								Dry	No record.
	2	Red Bank	A. Shipman, No. 1	474	Robinson-1	802	30	328	1,172			Gas	Gas, 802 feet
	3	Finley	Marshall, No. 4	472	Robinson-3	877	22	405	1,095				
	4	Finley	Marshall, No. 1	471	Robinson-1	781	13	310	1,190				
					Robinson-2	847		376	1,124				
					Robinson-3	895	20	424	1,076				
	5	Finley	Marshall, No. 3	470	Robinson-2	845	23	375	1,125				
					Robinson-3	898	15	428	1,072				

	6	Finley	Marshall, No. 2	477	Robinson-1	805	25	328	1,172				
					Robinson-2	849		372	1,128				
					Robinson-3	906	19	429	1,071				
	7	Watkins	Buser, No. 2	474									No record
S. E.	1	Ohio	Jones, No. 8	463	Robinson-2	830		367	1,133				Gas, 830 feet
					Robinson-3	886	18	423	1,077	866		60	
	2	Ohio	Jones, No. 10	461	Robinson-2	830	6	369	1,131				Gas, 830 feet
					Robinson-3	884	18	423	1,077	885		50	
	3	Ohio	Jones, No. 9	452	Robinson-1	800		348	1,152				Gas, 800 feet
					Robinson-3	888	8	436	1,064	888		6	Salt water, 895 feet
36—N. E.	1	Bruner	Wilkinson, No. 2	478	Robinson-1	844	20	366	1,134	848			
					Robinson-3	921	33	443	1,057	923			Gas, 938 feet. Salt water, 950 feet
	2	Bruner	Wilkinson No. 3	476	Robinson-3	924	96	448	1,052				
						1,085	78	609	891			Dry	Salt water, 1163 feet
	3	Bruner	Wilkinson, No. 1	471	Robinson-3	921	35	450	1,050	931			
					Robinson-4	967		496	1,004		967		Salt water, 967 feet
	4	American Oil & Development Co	Richart, No. 2	476	..do	960	5	484	1,016		967	Dry	Salt water
	5	American Oil & Development Co	Richart, No. 1	475	Robinson-3	920	40	445	1,055	928	960		Gas, 928 feet. Quit in sand
	6	American Oil & Development Co	Richart, No. 10	456	..do	925	13	469	1,031	935	958	10	
	7	American Oil & Development Co	Richart, No. 11	459	Robinson-1	823	20	364	1,136				
					Robinson-3	904	26	445	1,055		930	20	Quit in sand
	8	American Oil & Development Co	Richart, No. 13	455	Robinson-1	811	20	356	1,144	812	833		
	9	American Oil & Development Co	Richart, No. 20	482	..do	848	13	366	1,134		953	30	
	10	American Oil & Development Co	Richart, No. 22	477	..do	852	14	375	1,125	856	974		
	11	American Oil & Development Co	Richart, No. 25	474	..do	830	25	356	1,144		896		
	12	American Oil & Development Co	Richart, No. 24	463	..do	815	23	352	1,148				
					Robinson-2	847	5	384	1,116				
					Robinson-3	890	5	427	1,073		908		
	13	American Oil & Development Co	Richart, No. 18	470	Robinson-1	816	12	346	1,154				
					Robinson-2	890	5	420	1,080				
					Robinson-3	917	13	447	1,053				
	14	American Oil & Development Co	Richart, No. 19	470	Robinson-1	820	25	350	1,150	822		100	
	15	American Oil & Development Co	Richart, No. 9	468	Robinson-2	829		361	1,139	805	837	150	
	16	American Oil & Development Co	Richart, No. 21	458	Robinson-1	802	28	344	1,156	805	837	85	
	17	American Oil & Development Co	Richart, No. 12	460	..do	800	40	340	1,160		840	80	Quit in sand
	18	Ohio	Adams, No. 3	454	..do	816	6	362	1,138	816		40	Gas, 816 feet
	19	Ohio	Adams, No. 4	451	..do	806	10	355	1,145	810		30	Gas, 806 feet

Crawford County—Martin Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
36—N. E.	20	Ohio	Adams, No. 6	452	Robinson-1	803	27	351	1,149	805		15	Gas, 805 feet
	21	Ohio	Adams, No. 8	453	..do	802	26	349	1,151	805		45	Gas, 803 feet
	22	Ohio	Adams, No. 2	467	..do	808	37	341	1,159	815		200	Gas, 815 feet
	23	Ohio	Adams, No. 7	462	..do	790	32	328	1,172	808		40	Gas, 796 feet
N. W.	1	American Oil & Development Co	Richart, No. 5	464	..do	814	31	350	1,150	833			
	2	American Oil & Development Co	Richart, No. 4	475	..do	824	41	349	1,151			100	
	3	American Oil & Development Co	Richart, No. 3	467	Robinson-2	863	32	396	1,104				
					Robinson-3	925	17	458	1,042	926	943	50	
	4	American Oil & Development Co	Richart, No. 6	461	Shallow	640	14	179	1,321				
					Robinson-1	792	24	331	1,169	811			
					Robinson-2	850	30	389	1,111	876			
	5	American Oil & Development Co	Richart, No. 8	464	Stray	767	56	303	1,197			100	
	6	American Oil & Development Co	Richart, No. 26	455	Robinson-1	787	32	332	1,168	792			
					Robinson-2	829	5	374	1,126				
					Robinson-3	850	42	395	1,105		897		
	7	American Oil & Development Co	Richart No. 15	468	Robinson-1	807	26	339	1,161		845	100	
	8	Red Bank	Mitchell, No. 1	468	..do	804	24	336	1,164	820		100	
	9	Red Bank	Mitchell, No. 2	465	..do	790	27	325	1,175			20	
	10	Ohio	Mitchell, No. 3	480									No record
	11	Ohio	Mitchell, No. 2	456	..do	791	19	335	1,165		818	25	
	12	Ohio	Mitchell, No. 1	475	..do	806	19	331	1,169		975		
	13	Ohio	Adams, No. 5	475	..do	825	10	350	1,150	830		60	Gas, 827 feet
	14	Ohio	Adams, No. 1	454	..do	804	10	350	1,150			80	Gas, 806 feet
	15	Wabash	Doucummen, No. 1	456	Robinson-1	775	16	319	1,181	791			
					Robinson-3	912	32	456	1,044				
	16	Ohio	Doucummen, No. 6	464	Robinson-2	854	12	390	1,110				Gas, 860 feet
					Robinson-3	906	19	442	1,058	910		5	

	17	Ohio	Doucummen, No. 5	452	..do	886	......	434	1,066	......	......	....	....
	18	Ohio	Doucummen, No. 3	479	Robinson-1	809	10	330	1,170	......	823	40	....
	19	Morrison	Doucummen, No. 7	468	..do	791	......	323	1,177	......	......	....	....
					Stray	809	11	341	1,159	......	......	30	....
	20	Morrison	Doucummen, No. 2	462	Robinson-1	788	34	326	1,174	......	......	....	....
					Robinson-2	868	12	406	1,094	......	......	100	....
S W...	1	Ohio	Sparks, No. 1	466	Robinson-2	867	5	401	1,099	......	......	....	Gas, 867 feet
					Robinson-3	903	......	437	1,063	905	......	22	Salt water, 927 feet
	2	Red Bank	Maxwell, No. 3	451	Robinson-2	830	10	379	1,121	......	......	....	....
					Robinson-3	912	15	461	1,039	......	......	Gas	....
	3	Ohio	Maxwell, No. 6	447	Robinson-1	773	20	326	1,174	772	......	42	....
	4	Ohio	Maxwell, No. 7	448	..do	772	3	324	1,176	......	......	....	....
					Robinson-3	891	11	443	1,057	......	......	....	Salt water, 902 feet
	5	Hazelwood	Pope, No. 3	442	Robinson-1	775	8	333	1,167	......	......	....	....
					Robinson-3	888	12	446	1,054	......	......	Dry	Salt water, 902 feet
	6	Hazelwood	Pope, No. 16	446	Robinson-1	770	32	324	1,176	......	906	....	....
	7	Hazelwood	Pope, No. 2	444	..do	773	27	329	1,171	......	......	....	....
					Robinson-2	850	27	406	1,094	......	887	....	....
	8	Hazelwood	Pope, No. 18	441	Shallow	385	33	+56	1,556	......	......	8	....
					Robinson-1	767	23	326	1,174	......	......	....	Salt water, 902 feet
	9	Hazelwood	Pope, No. 1	441	..do	782	38	341	1,159	......	......	....	....
					Robinson-2	857	13	416	1,084	......	872	....	....
	10	Hazelwood	Pope, No. 6	443	Robinson-1	775	28	332	1,168	......	......	....	....
					Robinson-2	846	15	403	1,097	......	892	....	....
S. E...	1	Leeper Bros	Sparks, No. 4	460	Robinson-1	792	38	332	1,168	......	877	....	....
	2	Leeper Bros	Sparks, No. 1	454	Shallow	390	45	+64	1,564	......	468	....	....
	3	Leeper Bros	Sparks, No. 13	459	Robinson-1	799	32	340	1,150	......	909	....	....
	4	Leeper Bros	Sparks, No. 17	467	..do	815	23	348	1,152	......	899	....	....
	5	Leeper Bros	Sparks, No. 15	467	..do	810	20	343	1,157	......	......	....	....
					Robinson-2	851	3	384	1,116	......	870	....	....
	6	Leeper Bros	Sparks, No. 14	465	Robinson-1	808	22	343	1,157	......	852	....	Quit in sand
	7	Leeper Bros	Sparks, No. 12	466	..do	824	26	358	1,142	......	910	....	....
	8	Leeper Bros	Sparks, No. 16	465	..do	823	15	358	1,142	......	......	....	....
					Robinson-2	851	14	386	1,114	......	902	....	....
	9	Leeper Bros	Sparks, No. 9	463	Robinson-1	826	20	363	1,137	......	......	....	....
	10	Leeper Bros	Sparks, No. 10	461	..do	804	32	343	1,157	815	861	Good	Gas, 815 feet
	11	Leeper Bros	Sparks, No. 18	470	..do	817	22	347	1,153	......	875	....	....
	12	Leeper Bros	Sparks, No. 8	453	..do	789	23	336	1,164	......	903	....	....
	13	Leeper Bros	Sparks, No. 6	450	....	......	......	......	......	......	......	....	No record
	14	Leeper Bros	Sparks, No. 5	448	Robinson-1	772	22	324	1,176	794	820	....	....
	15	Leeper Bros	Sparks, No. 19	462	..do	805	20	343	1,157	......	872	....	....
	16	Ohio	Maxwell, No. 5	445	..do	772	27	327	1,173	......	......	25	....
	17	Wabash	Maxwell, No. 1	452	..do	790	6	338	1,162	......	......	....	....
					Robinson-3	890	25	438	1,062	......	......	....	Salt water, 918 feet
	18	American Oil & Development Co	Richart, No. 27	452	Robinson-1	788	30	336	1,164	......	851	....	....
	19	American Oil & Development Co	Richart, No. 14	452	..do	787	34	335	1,165	......	821	....	Quit in sand
	20	American Oil & Development Co	Richart, No. 16	450	..do	795	20	345	1,155	......	......	....	....
					Robinson-3	917	20	467	1,033	......	......	25	....

Crawford County—Martin Township—Concluded.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
36—S. E.	21	American Oil & Development Co.	Richart, No. 17	445	Robinson-1	808	8	363	1,137	808	......	35	
	21				Robinson-2	818	11	373	1,127	......	......	......	
					Robinson-3	931	......	486	1,014	......	......	......	Salt water, 931 feet
	22	Riddle	Mann, No. 5	450	Robinson-1	803	18	353	1,147	807	......	50	
					Robinson-3	923	12	473	1,027	......	......	......	Salt water, 930 feet
	23	Riddle	Mann, No. 6	455	Robinson-1	800	32	345	1,155	......	......	40	
	24	Riddle	Mann, No. 7	455	..do	819	14	364	1,136	......	......	......	
					Robinson-3	911	26	456	1,044	......	......	......	
	25	Riddle	Mann, No. 8	450	Robinson-1	815	15	365	1,135	......	......	......	
					Robinson-3	919	......	469	1,031	938	......	......	
	26	Riddle	Mann, No. 4	445	Robinson-1	802	19	357	1,143	816	......	......	
					Robinson-3	912	26	467	1,033	915	......	40	Gas, 915 feet
	27	Riddle	Mann, No. 3	450	Robinson-1	795	35	345	1,155	801	......	Show	
					Robinson-3	893	41	443	1,057	......	......	40	
	28	Riddle	Mann, No. 2	450	Robinson-1	815	5	365	1,135	......	......	......	
					Robinson-3	901	32	451	1,049	......	......	80	
	29	Riddle	Mann, No. 1	451	Robinson-3	908	47	457	1,043	......	......	40	

Crawford County—Oblong Township.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet	Sand. Name.	Depth to top—feet.	Thickness penetrated—feet.	Altitude below sea level—feet	Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels	Remarks.
2—													
N. E.	1	Cromack	Stephens, No. 6	511	Stray	895	12	384	1,116				Salt water, 976 feet. Coal 224 and 420 feet
					Robinson-1	930	35	419	1,081	940			
					Robinson-3	973	3	462	1,038		983		This formation contained pebbles
	2	Cromack	Stephens, No. 8	510	Robinson-1	925	45	415	1,085	940	970	10	Coal 226 feet
	3	Cromack	Stephens, No. 7	509	..do	924	47	415	1,085	940			Gas, 924 feet
					Robinson-3	974	3	465	1,035		977	Show	Quit in sand
	4	Cromack	Stephens, No. 2	502	Robinson-2	930	29	428	1,072			50	
					Robinson-3	964	13	462	1,038				
	5	Cromack	Stephens, No. 1	504	Stray	885	64	381	1,119	940	975	10	
	6	Bailey & Fritz	Stephens, No. 3	502	..do	839	10	337	1,163				
					Robinson-2	934	42	432	1,068			250	
	7	Bailey & Fritz	Stephens, No. 4	470	Stray	841	15	371	1,129				
					Robinson-1	880	44	410	1,090				
	8	Bailey & Fritz	Stephens, No. 2	468	Stray	765		297	1,203				
					Robinson-2	896	28	428	1,072		968		Salt water, 968 feet
	9	Bailey & Fritz	Stephens, No. 1	497	Stray	855	5	358	1,142				
					Robinson-2	937	55	440	1,060			Light	
	10	Fisher	Miller, No. 2	470	..do	909	38	439	1,061	919	947	Light	Salt water, 947 feet
	11	Fisher	Miller, No. 3	476	..do	923	31	447	1,053	937		100	
	12	Fisher	Miller, No. 4	507	..do	945	24	438	1,062	949		5	
	13	Fisher	Miller, No. 5	511	..do	949	29	438	1,062	951		25	
	14	Fisher	Miller, No. 6	508	..do	957	20	449	1,051	959		25	
	15	Cromack	Stephens, No. 5	507	..do	960	24	453	1,047		984	25	Salt water, 984 feet
	16	Cromack	Stephens, No. 4	507	Robinson-1	924	26	417	1,083				
					Robinson-2	953	18	446	1,054		971	20	Quit in sand
	18	Cromack	Stephens, No. 3	509	..do	935	25	426	1,074				..do
					Robinson-3	966	21	457	1,043		987	75	Salt water, 978 feet
N. W.	1	Bailey & Fritz	Boa, No. 2	498	Stray	846	24	348	1,152				Gas, 846 feet, 2,000,000 cubic feet, daily
					Robinson-2	919	11	421	1,079		953	Gas	

Crawford County—Oblong Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
2—N. W.	2	Bailey & Fritz	Boa, No. 3	472									No record
	3	Bailey & Fritz	Boa, No. 1	472	Stray	800	10	328	1,172				
					do	820	20	348	1,152				
					Robinson-2	903	33	431	1,069		940		
	4	Bailey & Fritz	Purcell, No. 1	468	Robinson-1	860		392	1,108				
					Robinson-2	904	20	436	1,064	904		5	Well abandoned. Salt water, 924 feet
	5	Bailey & Fritz	Purcell, No. 2	465	Stray	835		370	1,130				
					Robinson-3	927	9	462	1,038	927			
	6	Bailey & Fritz	Purcell, No. 4	465	Robinson-1	860		395	1,105				
					Robinson-3	919	20	454	1,046	916		75	
	7	Bailey & Fritz	Purcell, No. 3	464	Robinson-2	909	25	445	1,055	920		100	
	8	Ohio	Reed, No. 4	472	Robinson-3	942	25	470	1,030			100	Gas, 940 feet
	9	Ohio	Reed, No. 5	464	Stray	930	20	366	1,134	830		100	
	10	Ohio	Reed, No. 1	466	Robinson-3	935	16	469	1,031	935		75	Gas, 925 feet
	11	Ohio	Reed, No. 6	490	do	963	8	473	1,027	963		5	Salt water, 971 feet
	12	Ohio	Reed, No. 2	462	do	938	10	470	1,030	938		75	
	13	Ohio	Reed, No. 3	474	Robinson-1	860	20	386	1,114	860		35	
	14	Fisher	Miller, No. 10	490	do	870	10	380	1,120				
					Robinson-3	960	9	470	1,030	969		15	
	15	Fisher	Miller, No. 9	494	do	949	20	465	1,035	951			
	16	Fisher	Miller, No. 11	467	Stray	823	10	356	1,144				
					Robinson-3	922	13	455	1,045	922			
	17	Fisher	Miller, No. 1	469	Robinson-2	900	22	431	1,069		925		Quit in sand. Well abandoned
S. W.	1	Wark	Lackey, No. 2	495	Robinson-3	953	53	458	1,042				
						1,306	4	811	689				
						1,420	20	925	575			Dry	
	2	Tecumseh	R. W. No. 1	496	Stray	875	2	379	1,121		990	Dry	
	3	Fisher	Miller, No. 8	490	Robinson-2	937	50	447	1,053	945			Well abandoned
	4	Wark	Lackey, No. 4	500	Robinson-1	887	8	387	1,113				
					Robinson-3	968	18	468	1,032			30	

	5	Wark	Lackey, No. 3	495	Robinson-1	887	20	392	1,108				
					Robinson-3	965	15	470	1,030			30	
	6	Wark	Lackey, No. 1									Dry	No record
	7	Wark	Dennis, No. 2	487	Robinson-1	870	15	383	1,117				
					Robinson-3	948	28	461	1,039			75	
	8	Wark	Dennis, No. 1	492	Robinson-1	883	13	391	1,109	893		10	
	9	Wark	Dennis, No. 4	476									No record
	10	Wark	Dennis, No. 3	477									do
S. E.	1	Fisher	McQueen, No. 2	496	Robinson-1	858	118	362	1,138	961	985		Gas, 950 feet
	2	Fisher	McQueen, No. 1	498	Stray	872	4	374	1,126				
					Robinson-3	948	20	450	1,050	954	967		Gas, 954 feet
	3	Millikin	Furman Hrs., No. 1	505	Robinson-1	903	7	398	1,102	905	925	Light	Well abandoned
	4	Fisher	Miller, No. 1	510	Robinson-3	975	29	465	1,035			Dry	
	5	Milliken	Furman Hrs., No. 2	507	Robinson-1	905	5	398	1,102	905		Light	Gas, 905 feet. Well abandoned
3—													
N. E.	1	Ohio	Correll, No. 1	479	Robinson-3	942	37	463	1,037	942		125	
	2	Ohio	Correll, No. 3	465	do	940	12	475	1,025	940		10	
	3	Ohio	Correll, No. 2	492	do	963	21	471	1,029	963		100	
	4	Ohio	Mefford, No. 3	492	Robinson-1	867	10	375	1,125	867		5	
	5	Ohio	Mefford, No. 2	492	Robinson-3	967	15	475	1,025	967		25	
N. W.	1	Brown & Hogue	Harbison, No. 1	455	Robinson-1	833		378	1,122		965	Dry	
S. W.	1	Brown & Hogue	Harbison, No. 7	453	Stray	782		329	1,171				
					Robinson-1	834	16	381	1,119		850		
	2	Ohio	Mefford, No. 5	453	do	838	12	385	1,115	838		75	Gas, 815 feet
	3	Ohio	Mefford, No. 6	458	do	855	10	397	1,103	860		10	Gas, 858 feet
						1,001	14	543	957				Salt water, 1,015 feet
	4	Ohio	Mefford, No. 4	491	Robinson-1	892	20	401	1,099	892		20	
	5	Brown & Hogue	Harbison, No. 11	453	do	835	15	382	1,118		866		
	6	Brown & Hogue	Harbison, No. 9	471	Robinson-4	994	15	523	977				
	7	Brown & Hogue	Harbison, No. 8	456	do	980	17	524	976		990		Salt water, 990 feet
	8	Brown & Hogue	Harbison, No. 5	456	Stray	800		344	1,156				
					Robinson-1	819	16	363	1,137		865		
S. E.	1	Partridge & Newcomer	Lackey, No. 3	490								Dry	No sand, salt water, 1,065 feet
	2	Partridge & Newcomer	Lackey, No. 1	493	Robinson-1	890	2	397	1,103			Show	Well abandoned
					Robinson-4	1,012	2	519	981			Show	Salt water, 1,026 feet
	3	Partridge & Newcomer	W. Lackey, No. 4	494	Robinson-1	886	18	392	1,108		970		
	4	Partridge & Newcomer	W. Lackey, No. 5	496	do	890	15	394	1,106		934		
	5	Partridge & Newcomer	W. Lackey, No. 2	494	do	887	15	393	1,107		1,022		
	6	Ohio	J. Lackey, No. 1	493	do	890	18	397	1,103	890		25	
	7	Brown & Hogue	Harbison, No. 4	492	do	891	13	399	1,101		1,209		
	8	Brown & Hogue	Harbison, No. 3	495	do	896		401	1,099	902			Salt water, 915 feet
	9	Ohio	Mefford, No. 1	493								Dry	No record
4—													
N. E.	1	Bruner	Harte, No. 1	488	Shallow	665		177	1,323				Gas, 685 feet
					Stray	813		325	1,175				Gas, 813 feet
					do	847	5	359	1,141				Gas, 847 feet
					Robinson-1	854	40	366	1,134	854	906		

Crawford County—Oblong Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
4—													
N. E.	2	Bruner	Harte, No. 2	486	Shallow	665	......	179	1,321	......	......	....	Gas, 665 feet
					..do	765	......	279	1,221	......	......	....	Gas, 765 feet
					Stray	805	......	319	1,181	......	......	....	Gas, 805 feet
					Robinson-1	852	63	366	1,134	858	925	....	Gas, 854 feet
	3	Bruner	Harte, No. 3	484	Stray	812	14	328	1,172	816	......	....	
					Robinson-1	854	24	370	1,130	859	......	....	
					....	882	13	398	1,102	......	......	....	
					Robinson-2	916	......	432	1,068	......	......	....	Gas, 916 feet
	4	Ohio	Newlin, No. 1	482	Stray	880	......	398	1,102	880	......	12	Gas, 880 feet. Salt water, 900 feet
	5	Ohio	Newlin, No. 3	459	Robinson-1	850	......	391	1,109	860	......	12	Gas, 860 feet
	6	N. Y. Oil & Petroleum Co.	Biggs, No. 1	483	..do	875	30	392	1,108	885	......	15	Gas, 880 feet
	7	N. Y. Oil & Petroleum Co.	Biggs, No. 8	481	Stray	808	15	327	1,173	815	......	....	
					Robinson-3	968	10	487	1,013	......	......	20	Salt water, 978 feet
	8	N. Y. Oil & Petroleum Co.	Biggs, No. 6	478	Robinson-1	842	15	364	1,136	848	......	25	Gas, 842 feet
	9	N. Y. Oil & Petroleum Co.	Biggs, No. 5	486	Stray	795	10	309	1,191	......	......	....	Gas, 795 feet
					Robinson-1	850	41	364	1,136	850	......	35	
	10	N. Y. Oil & Petroleum Co.	Biggs, No. 3	484	Stray	800	10	316	1,184	......	......	....	Gas, 800 feet
					Robinson-1	858	27	374	1,126	860	......	50	
	11	N. Y. Oil & Petroleum Co.	Biggs, No. 2	483	Stray	795	30	312	1,188	805	......	50	Gas, 800 feet
					Robinson-1	873	19	390	1,110	......	......	....	
	12	N. Y. Oil & Petroleum Co.	Biggs, No. 4	479	Stray	810	10	331	1,169	......	......	....	
					Robinson-1	870	25	391	1,109	876	......	70	
	13	N. Y. Oil & Petroleum Co.	Biggs, No. 7	480	..do	867	15	387	1,113	870	......	20	
	14	N. Y. Oil & Petroleum Co.	Biggs, No. 9	481	Robinson-2	910	16	429	1,071	429	......	25	
N. W.	1	Parker & Edwards	W. Buck, No. 13	479	Stray	846	......	367	1,133	......	......	....	
					Robinson-1	871	......	392	1,108	......	......	Show	
					Robinson-2	910	10	431	1,069	......	......	....	Well abandoned
	2	Parker & Edwards	W. Buck, No. 8	483	....	......	......	......	......	......	......	....	No record
	3	Parker & Edwards	W. Buck, No. 2	483	Stray	812	25	329	1,171	826	......	....	
					Robinson-1	873	31	390	1,110	880	908	....	

	4	Parker & Edwards	W. Buck, No. 17	483	Stray	800	38	317	1,183	819		Show	
					Robinson-1	846	4	362	1,138				
					Robinson-2	894	19	411	1,089			Dry	
	5	Parker & Edwards	W. Buck, No. 9	483	Stray	832	7	349	1,151				
					Robinson-1	863	34	380	1,120	869	914		
	6	Parker & Edwards	W. Buck, No. 12	481	..do	870	10	389	1,111				
					Stray	885	5	404	1,096				
					Robinson-2	896		415	1,085		936		
	7	Parker & Edwards	W. Buck, No. 1	483	Robinson-1	846	50	363	1,137	858			
					Robinson-2	900	38	417	1,083				
	8	Liberty	Houton, No. 5	481	Robinson-1	845	41	364	1,136	850			
					Robinson-2	900	19	419	1,081	910	919		
	9	Parker & Edwards	W. Buck, No. 6	484	Robinson-1	855	10	371	1,129				
					Robinson-2	889	24	405	1,095				
S. W.	1	Parker & Edwards	W. Buck, No. 3	454	Robinson-1	830	25	376	1,124	834			
	2	Parker & Edwards	W. Buck, No. 18	481	..do	856	17	375	1,125				
	3	Parker & Edwards	W. Buck, No. 16	479	Stray	830		351	1,149				
					Robinson-1	856	16	377	1,123	860	892		
S. E.	1	Peoples Oil and Gas Co	Huckaba, No. 3	478	..do	863	16	385	1,115				
	2	Peoples Oil and Gas Co	Huckaba, No. 2	481	..do	863	25	382	1.118				
	3	Peoples Oil and Gas Co	Huckaba, No. 1	484	..do	864	18	380	1,120				
	4	Wabash	J. Buck, No. 3	478	..do	861	18	383	1,117				
	5	Wabash	J. Buck, No. 2	471	..do	853	13	382	1,118				
					Robinson-2	869	16	398	1,102				
	6	Wabash	J. Buck, No. 1	485	Robinson-1	863	15	378	1,122				
	7	Wabash	J. Buck, No. 5	460	..do	845	15	385	1,115				
					Robinson-2	868	6	408	1,092				
	8	Wabash	J. Buck, No. 4	477	Robinson-1	856	21	379	1,121				
					Robinson-2	889	11	412	1,188		900		
	9	Hubbard	H. Dee, No. 2	470	Robinson-1	864	16	394	1,106				
	10	Hubbard	H. Dee, No. 1	466	..do	858	19	392	1,108				
	11	N. Y. Oil and Petroleum Co	Biggs, No. 10	480	Robinson-2	878	15	398	1,102	884		15	
	12	Ohio	Newlin, No. 5	468	Robinson-1	854	23	386	1,114	860		8	Gas, 855 feet
	13	Ohio	Newlin, No. 2	460	..do	845	20	385	1,115	849		25	Gas, 845 feet
	14	Charles Coffin	Davidson, No. 8	460	..do	852	22	392	1,108				Salt water, 859 feet
	15	Charles Coffin	Davidson, No. 4	459	..do	835	12	376	1,124				
	16	Charles Coffin	Davidson, No. 1	457	..do	835	7	378	1,122				
	17	Charles Coffin	Davidson, No. 2	457	..do	832	17	375	1,125				
	18	Charles Coffin	Davidson, No. 3	456	..do	832	14	376	1,124				
	19	Charles Coffin	Davidson, No. 6	457	..do	839	13	382	1,118				
					Robinson-4	986	11	529	971		997		Salt water, 994 feet
	20	Charles Coffin	Davidson, No. 5	456	Robinson-1	843	14	387	1,113				
	21	Charles Coffin	Davidson, No. 7	458	..do	843	13	385	1,115				
					Robinson-4	988	182	530	970				Salt water, 999 and 1,003 feet
5— N. E.	1	American Oil and Development Co	Short, No. 16	484	Robinson-1 (?)	816	64	332	1,168	865	884		
	2	American Oil and Development Co	Short, No. 11	478	Robinson-4	970		492	1,008			Dry	Salt water

Crawford County—Oblong Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
5—N. E.	3	American Oil and Development Co.	Short, No. 15	467	Robinson-1	811	20	344	1,156		950	Dry	
		American Oil and Development Co.	Short, No. 14	468	Stray	800	17	332	1,168				
					Robinson-1	828	12	360	1,140				
					Robinson-2	850	20	382	1,118				Salt water, 865 feet
	5	American Oil and Development Co.	Short, No. 13	460	Robinson-1 (?)	806	49	346	1,154				
					Robinson-3	897	5	437	1,063				
	6	American Oil and Development Co.	Short, No. 10	483	Stray	827	12	344	1,156				
					Robinson-1	850	10	367	1,133				
					Robinson-2	882	10	399	1,101				
	7	Parker & Edwards	W. Buck, No. 7	464	..do	874	24	410	1,090				Salt water, 885 feet. Well abandoned.
	8	Parker & Edwards	W. Buck, No. 11	461	Robinson-3	893		432	1,068				
					Robinson-4	908		447	1,053				
	9	Parker & Edwards	W. Buck, No. 10	460	Robinson-1	823	15	363	1,137				
					Robinson-3	885	25	425	1,075		910		
	10	Ohio	D. Kirtland, No. 1	478	Robinson-1	857	28	379	1,121	862			
					Robinson-3	918	11	440	1,060				Salt water, 953 feet
	11	Ohio	D. Kirtland, No. 5	476	Robinson-1	808	68	332	1,168	838			
	12	Ohio	D. Kirtland, No. 2	471	..do	828	49	357	1,143	852		200	
	13	Red Bank	D. Kirtland, No. 2 (east)	475	..do	850	27	375	1,125		881		
	14	Red Bank	D. Kirtland, No. 3 (east)	475	..do	845	20	370	1,130		885		
	15	Red Bank	D. Kirtland, No. 1 (east)	478	..do	855	25	377	1,123				
					Robinson-3	916	14	438	1,062		950	150	
	16	Brenneman & McDonald.	O. Kirtland, No. 2	477	Robinons-1 (?)	815	54	338	1,162	835			Gas, 821 feet
					Robinson-3	893	21	416	1,084	893			
	17	Brenneman & McDonald.	O. Kirtland, No. 3	475	Robinson-1 (?)	801	55	326	1,174	829			
					Robinson-2	858	22	383	1,117				Salt water, 858 feet
					Robinson-3	897	14	422	1,078	897	913		

	18	Brenneman & McDonald.	O. Kirtland, No. 4	476	Robinson-1	838		362	1,138				
					Robinson-2	850	21	374	1,126	850		Show	
					Robinson-3	893	18	417	1,083				Salt water, 906 feet
	19	Brenneman & McDonald.	O. Kirtland, No. 9	477	Robinson-1	829	51	352	1,148	839			Gas, 832 feet
					Robinson-3	912	5	435	1,065		917		Salt water
	20	Brenneman & McDonald.	O. Kirtland, No. 8	475	Robinson-1 (?)	814	59	339	1,161	834	943		Gas, 814 feet
	21	Brenneman & McDonald.	O. rtland, o. 1	476	Stray	818	25	342	1,158	843			Gas 818 feet
					Robinson-1	851	16	375	1,125	851			
					Robinson-3	896	18	420	1,080	896			Salt water, 914 feet
	22	Pure	P. Dee, No. 1	464									No record
	23	Pure	P. Dee, No. 3	471	Robinson-1	822	42	351	1,149	839			
					Robinson-3	886		415	1,085		910	300	Salt water, 910 feet
	24	Pure	P. Dee, No. 4	475	Robinson-1	826	44	351	1,149	837			
					Robinson-3	888	18	413	1,087				
	25	Pure	P. Dee, No. 6	478	Robinson-1	841	28	363	1,137	846			
					Robinson-3	889	20	411	1,089	890	911	800	
	26	Pure	P. Dee, No. 12	485	Robinson-2	870	23	385	1,115	868	913	150	Salt water, 890 feet
	27	Pure	P. Dee, No. 14	485							938	Dry	No sands
	28	Pure	P. Dee, No. 11	475	Robinson-1	816	5	341	1,159				
					Robinson-2	864	13	389	1,111		927	120	
	29	American Oil and Development Co	A. Short, No. 6	484	Stray	813		329	1,171	816		Show	
					Robinson-2	865		381	1,119		896		
	30	Pure	P. Dee, No. 13	480	Stray	808	8	328	1,172				
					Robinson-1	855	15	375	1,125				
					Robinson-3	900	24	420	1,080		932	500	
N. W.	1	Pure	P. Dee, No. 10	484	Robinson-1	848		364	1,136				
					Robinson-2	874	12	390	1,110				
					Robinson-3	920	27	436	1,064				
					Robinson-4	964	18	480	1,020			Dry	Salt water, 982 feet
	2	Pure	P. Dee, No. 5	482	Robinson-1	837	10	355	1,145			Light	
					Robinson-2	860	38	378	1,122	893	911	150	
	3	Pure	P. Dee, No. 7	476	Robinson-1	826	39	350	1,140	842			Gas, 837 feet
					Robinson-3	890	21	414	1,086	895		250	
	4	Pure	P. Dee, No. 9	483	Robinson-2	876	14	393	1,107	876	922	150	
	5	Pure	P. Dee, No. 2	483	Robinson-1	839		356	1,144				
					Robinson-2	870	19	387	1,113		905	200	
	6	Pure	P. Dee, No. 8	484	Robinson-1	840	20	356	1,144	845			
					Robinson-2	865	24	381	1,119		892	200	
	7	Brenneman & McDonald.	O. Kirtland, No. 13	482	Robinson-1	823	61	341	1,159	865			Salt water, 860 feet
					Robinson-3	904	20	422	1,078		924		Salt water
	8	Brenneman & McDonald.	O. Kirtland, No. 12	476	Robinson-1	823	15	347	1,153	823			
					Robinson-2	858	19	382	1,118				
					Robinson-3	893	16	417	1,083		912		
	9	Brenneman & McDonald.	O. Kirtland, No 11	466	Robinson-1	822	28	356	1,144	823			
					Robinson-2	864	35	398	1,102	885	908		Salt water, 880 feet and 892 feet.
	10	Brenneman & McDonald.	O. Kirtland, No. 10	481	Robinson-1	835	35	354	1,146	841			
					Robinson-3	897	12	416	1,084		909		Salt water
	11	Brenneman & McDonald.	O. Dee, No. 1	486	Robinson-1	850	22	364	1,136	850			Salt water, 866 feet
					Robinson-2	885	11	399	1,101				
					Robinson-3	913	8	427	1,073				
	12	Brenneman & McDonald.	O. Dee No. 2	489	Robinson-2	880	58	391	1,109	885	940		

Crawford County—Oblong Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
5—N. W.	13	Brenneman & McDonald.	O. Dee, No. 3	485									No record
	14	Brenneman & McDonald.	O. Dee, No. 4	481	Robinson-2	887	59	406	1,094	885	954		Salt water, 910 feet
	15	Brenneman & McDonald.	O. Kirtland, No. 14	483	Robinson-1	843	30	360	1,140				
					Robinson-2	887	16	404	1,096				
					Robinson-3	927	18	444	1,056				
	16	Brenneman & McDonald.	O. Kirtland, No. 7	479	Stray	808	36	329	1,171			Show	
					Robinson-1	850	18	371	1,129	850			
					Robinson-2	874	14	395	1,105				
					Stray	891	10	412	1,088				
					Robinson-3	917	8	438	1,062				Salt water
	17	Brenneman & McDonald.	O. Kirtland, No. 6	479	Robinson-2	880	60	401	1,099	880			
	18	Brenneman & McDonald.	O. Kirtland, No. 5	467	Robinson-1	813	56	345	1,154				
					Robinson-3	892	16	425	1,075		918		
	19	Red Bank	D. Kirtland, No. 1	464	Robinson-1	825	45	361	1,139	830		200	
	20	Red Bank	D. Kirtland, No. 3	481	..do	851	71	370	1,130	895		25	
	21	Red Bank	D. Kirtland, No. 2	484	..do	845		361	1,139	850			
					Robinson-2	880		396	1,104	880		20	
	22	Ohio	D. Kirtland, No. 3	466	Robinson-1	820	59	354	1,146	848			
	23	Ohio	D. Kirtland, No. 4	474	..do	833	44	359	1,141				
					Robinson-3	908	36	434	1,066				
	24	Ohio	D. Kirtland, No. 6	485	Robinson-2	895	5	410	1,090				
					Robinson-3	914	33	429	1,071				
	25	Brenneman & McDonald.	O. Kirtland, No. 15	478	Robinson-1	854	51	376	1,124	887			
					Robinson-3	927	25	449	1,051				
	26	Brenneman & McDonald.	O. Kirtland, No. 16	458	Robinson-2	865	25	407	1,093	865			
					Robinson-3	899	28	441	1,059		927		
	27	Brenneman & McDonald.	O. Kirtland, No. 17	458	Robinson-2	878	32	420	1,080	903			
					Robinson-3	927	14	469	1,031		941		
5—S. W.	1	Rapp	Zeigler, No. 4	458	..do	917	20	459	1,041	918	945		Gas, 919 feet
	2	Rapp	Zeigler, No. 3	457	Robinson-1	841		384	1,116	843			Gas, 841 feet
					Robinson-2	876	23	419	1,081	893	905		

3	Rapp	Zeigler, No. 1	468	Robinson-3	894	5	426	1,074				
				Robinson-4	945		477	1,023		953		
4	Rapp	Zeigler, No. 2	464	Robinson-1	848	15	384	1,110				
				Robinson-2	865	25	401	1,099		900	100	
5	Jennings	McCrillis, No. 15	472	..do	876	6	404	1,096				
				Robinson-3	905	17	433	1,067		937		
6	Jennings	McCrillis, No. 14	467	..do	888	28	421	1,079		947		
7	Jennings	McCrillis, No. 12	473	Robinson-2	870	9	397	1,103				
				Robinson-3	898	14	425	1,075		912		Quit in sand
8	Jennings	McCrillis, No. 7	473	Stray	844	6	371	1,129				
				Robinson-1 (?)	862	15	389	1,111				
				Robinson-2	890	7	417	1,083				
				Robinson-3	935	16	462	1,038		964		
9	Jennings	McCrillis, No. 17	464	Rovinson-1	834	8	370	1,130				
				Robinson-2	865	32	401	1,099	875	901		
10	Jennings	McCrillis, No. 13	457	Robinson-1	857	13	400	1,100				
				Robinson-2	888	7	431	1,069				
				Robinson-3	916	18	459	1,041				
11	Jennings	McCrillis, No. 10	458	Robinson-1	822	37	364	1,136		934		Quit in sand
				Robinson-2	864	15	406	1,094		901		
12	Ohio	Zeigler, No. 1	457	Robinson-1	848	15	391	1,109				
				Robinson-2	868	30	411	1,089				
13	Ohio	Zeigler, No. 2	457	Robinson-1	844	15	387	1,113				
				Robinson-2	864	20	407	1,093				
14	Ohio	Zeigler, No. 5	457	..do	876	23	419	1,081	843			Gas, 843 feet
15	Ohio	Zeigler, No. 3	457	..do	880	26	423	1,077	880			
16	Ohio	Zeigler, No. 6	472	Robinson-3	918	19	446	1,054	918		25	Gas, 919 feet
17	Pure	Heck, No. 3	476	Robinson-1	870	20	394	1,106	875		150	
				Robinson-2	895	15	419	1,081		917		
18	Pure	Heck, No. 2	459	Robinson-1	850	16	391	1,109	855			
				Robinson-2	890	10	431	1,069	892	909	100	
19	Pure	Heck, No. 4	457	..do	870	12	413	1,087		935	112	
20	Pure	Heck, No. 6	475									No record
21	Pure	Heck, No. 1	456		1,040	220	584	916	1,040		Snow	Salt water, 1,055 feet
					1,360	15	904	596				Salt water
					1,400	20	944	556		1,460	Dry	..do
22	McBride	Browning, No. 3	460									No record
23	McBride	Browning, No. 5	472	Robinson-1	856	15	384	1,116				
				Robinson-2	880	18	408	1,092		900		
24	McBride	Browning, No. 2	473									No record
25	McBride	Browning, No. 8	459	Robinson-1	830	20	371	1,129				
				Robinson-2	878	9	419	1,081				
				Robinson-3	905	10	446	1,054				
26	McBride	Browning, No. 6	475	Robinson-1	850	5	375	1,125				
				Robinson-2	883	13	408	1,092				
				Robinson-3	907	17	432	1,068				
27	McBride	Browning, No. 1	472									No record
28	McBride	Browning, No. 7	465	Robinson-1	830	10	365	1,135				
				Robinson-2	858	12	393	1,107				
				Robinson-3	888	21	423	1,077				
29	McBride	Browning, No. 4	457									No record

Crawford County—Oblong Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Depth to top—feet.	Thickness penetrated—feet.	Altitude below sea level—feet.	Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Intial product—barrels.	Remarks.
S. E.	1	Jennings	McCrillis, No. 4	475	Robinson-1	849	16	374	1,126	849			
					Robinson-2	898	15	423	1,077	898	917		
	2	Jennings	McCrillis, No. 9	473	Robinson-1	850	4	377	1,123				
					Stray	859	6	386	1,114				
					do	872	15	399	1,101				
					Robinson-2	908	12	435	1,065		936		
	3	Jennings	McCrillis, No. 11	470	Robinson-1	864	21	394	1,106				
					Robinson-2	900		430	1,070				
					Robinson-3	922	8	452	1,048	922	932		
	4	Jennings	McCrillis, No. 19	477	Robinson-1	848	12	371	1,129				
					Robinson-2	872	21	395	1,105				
					Robinson-3	906	12	429	1,071		923		
	5	Jennings	McCrillis, No. 5	477	Robinson-1	845	33	368	1,132	845			
					Robinson-2	888	20	411	1,089	888	912		
	6	Jennings	McCrillis, No. 20	475	Robinson-1	874	12	399	1,101				
					Robinson-3	922	12	447	1,053		939		
	7	Jennings	McCrillis, No. 21	469	Robinson-1	846	10	377	1,123		951		
	8	Jennings	McCrillis, No. 2	475	do	864	30	389	1,111	864	927		
	9	Jennings	McCrillis, No. 1	458	do	831	38	373	1,127		936		
	10	Parker and Edwards	W. Buck, No. 4	464	do	843	49	379	1,121		927		
	11	Parker and Edwards	W. Buck, No. 5	460	do	837	47	377	1,123				
					Robinson-3	892	14	432	1,068		914		Salt water
	12	Parker and Edwards	W. Buck, No. 14	463	do	890	15	427	1,073				
					Robinson-4	913	10	450	1,050				
	13	Parker and Edwards	W. Buck, No. 15	460	Robinson-1	840	33	380	1,120				
					Robinson-3	893	6	433	1,067				Salt water
	14	Jennings	McCrillis, No. 18	476	Robinson-1	846	17	370	1,130				
					Stray	877	10	401	1,099				
					Robinson-3	897	8	421	1,079	897	947		
	15	Jennings	McCrillis, No. 16	463	Robinson-2	872	13	409	1,091				
					Robinson-4	915	15	452	1,048		959		

	16	Jennings	McCrillis, No. 3	475	Robinson-2	867	14	392	1,108				
					Robinson-3	900	20	425	1,075				
					Robinson-4	925	5	450	1,050		930		Salt water
	17	Jennings	McCrillis, No. 6	471	Robinson-1	812	71	341	1,159	812			
					Robinson-3	896	9	425	1,075	896	905		Quit in sand
	18	Jennings	McCrillis, No. 8	476	Stray	810	25	334	1,166	829			
					Robinson-2	874	18	398	1,102				
					Robinson-3	906	6	430	1,070		912		Quit in sand
	19	Jennings	McCrillis, No. 22	477	Robinson-1	835	20	358	1,142				
					Robinson-2	860	18	383	1,117	860			
					Robinson-3	904	14	427	1,073		918		Quit in sand
6—													
N. E.	1	Brenneman & McDonald.	G. Dee, No. 1	461	Robinson-1	866	14	405	1,095	866			
					Robinson-2	892	30	431	1,069				
					Robinson-3	943	27	482	1,018		975		
	2	Brenneman & McDonald.	G. Dee, No. 2	460	Robinson-1	863	10	403	1,097				
					Robinson-2	891	83	431	1,069				
	3	Brenneman & McDonald.	G. Dee, No. 3	463	Robinson-1	860	22	397	1,103				
					Robinson-2	894	24	431	1,069				
	4	Brenneman & McDonald.	Wekeman, No. 5	485	Robinson-1	890	19	405	1,095				
					Robinson-3	937	51	452	1,048		988		
	5	Brenneman & McDonald.	Wekeman, No. 4	497	Stray	860	8	363	1,137				
					Robinson-1	896	20	399	1,101		925		
	6	Brenneman & McDonald.	Wekeman, No. 1	460	Robinson-1	822	92	362	1,138	822			
					Robinson-3	921	24	461	1,039		945		Salt water
	7	Brenneman & McDonald.	Wekeman, No. 2	496	Robinson-1	892	37	396	1,104	929			
					Robinson-3	974	22	478	1,022		996		
	8	Brenneman & McDonald.	Wekeman, No. 3	497	Robinson-2	941	19	444	1,056				
					Robinson-3	980	5	483	1,017		987		Salt water
	9	McBride	Muchmore, No. 6	518	Stray	827		309	1,191				do
					Robinson-1	903	13	385	1,115			Dry	
	10	McBride	Muchmore, No. 2	465								Dry	No record
	11	McBride	Muchmore, No. 1	521									do
	12	McBride	Muchmore, No. 5	507	Stray	814		307	1,193				
					Robinson-1	915	8	408	1,092				
					Robinson-2	945	10	438	1,062	945			
	13	McBride	Muchmore, No. 7	479	do	912	53	433	1,067	916			
N. W.	1	McBride	Muchmore, No. 3	517	do	938	23	421	1,079				
	2	McBride	Muchmore, No. 4	509	Robinson-1	912	8	403	1,097	912			
					Robinson-2	941	16	432	1,068	941			
	3	Unknown	Caywood, No. 1	515	Robinson-3	994	7	479	1,021		1,074	1	Well abandoned
S. W.	1	Mahutska	Ormiston, No. 1	505	Robinson-1	903	5	398	1,102				
					Robinson-2	929	15	424	1,076			Dry	
	2	Thompson	Caywood, No. 2	499	Robinson-3	995	20	496	1,004		1,015	30	
	3	Thompson	Caywood, No. 1	499	do	996	19	497	1,003		1,015	20	
S. E.	1	Pure	Heck, No. 5	496	Robinson-2	935	7	439	1,061			Dry	Salt water, 1,006 feet
	2	Ohio	Zeigler, No. 4	497	Robinson-3	965	22	468	1,032			20	
	3	Brenneman & McDonald.	Zeigler, No. 3	479	Robinson-1	872	14	393	1,107				
					Robinson-2	902	10	423	1,077				
					Robinson-3	918	21	439	1,061		939		
	4	Red Bank	Zeigler, No. 2	464	Robinson-2	880		416	1,084	886			
	5	Red Bank	Zeigler, No. 1	471	do	902	51	431	1,069				

Crawford County—Oblong Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
7—N. E.	1	Wabash	Wekeman, No. 5	480	Robinson-2	921	10	441	1,059				
					Robinson-3	948	12	468	1,032				
	2	Wabash	Wekeman, No. 4	484	Stray	858	22	374	1,126				
					Robinson-1	885	111	401	1,099				
	3	Red Bank	Sibley, No. 1 "B"	485	Robinson-1	900	55	415	1,085			50	
	4	Red Bank	Sibley, No. 2 "B"	482	Robinson-2	938	30	456	1,044	940		25	
	5	Red Bank	Sibley, No. 1 "R. B"	482	..do	938	3	456	1,044	942		15	
	6	Red Bank	Sibley, No. 2 "R. B"	484	..do	949		465	1,035	953		20	
	7	Ohio	Sibley, No. 1	483	Robinson-1	928	6	445	1,055				
					Robinson-3	975		492	1,008				Salt water, 995 feet
	8	Ohio	Edwards, No. 10	481	Robinson-2	945	15	464	1,036			3	Gas, 950 feet
	9	Ohio	Edwards, No. 2	484	..do	952	33	468	1,032	955		30	Gas, 955 feet. Salt water, 990 feet
	10	Ohio	Edwards, No. 4	478	Robinson-3	973	9	495	1,005	975			Gas, 975 feet
					Robinson-4	987	5	509	991			5	
N. W.	1	Ohio	Edwards, No. 6	483	Robinson-3	978	12	495	1,005	980		12	Gas, 980 feet
	2	Ohio	Edwards, No. 7	482	..do	988	12	506	994	992		35	Gas, 990 feet
	3	Ohio	Edwards, No. 8	485	..do	980	9	495	1,005	984		10	Gas, 982 feet. Salt water, 990 feet
	4	Ohio	Edwards, No. 9	382	..do	980	12	498	1,002	986		40	
	5	McBride	Berryhill, No. 9	492	Robinson-2	960		468	1,032				Salt water
					Robinson-3	990	8	498	1,002	990			
					Robinson-4	1,003	17	511	989	1,003			
	6	McBride	Berryhill, No. 6	494	Robinson-2	965		471	1,029				Salt water
					Robinson-3	992	12	498	1,002				
	7	McBride	Berryhill, No. 5	477	Robinson-3	967		490	1,101				Salt water
					Robinson-4	996	30	519	981				
	8	McBride	Berryhill, No. 10	488									No record
	9	McBride	Berryhill, No. 8	491	Robinson-2	973		482	1,018				Salt water
					Robinson-3	998	10	507	993	998			
						1,013		522	978	1,013			Salt water, 1,023 feet
	10	Unknown	Kirtland, No. 1	491									No record

	11	Wabash	J. Smith, No. 1	485	Robinson-3	997	31	512	988				
	12	Red Bank	J. Smith, No. 1	493	..do	1,110	10	517	983				
					Robinson-4	1,050	5	557	943		1,055	Dry	Salt water, 1,055 feet
	13	Ohio	J. Smith, No. 2	486	Robinson-3	1,014		528	972		1,035		Well abandoned
	14	Ohio	J. Smith, No. 1	488	..do	995	5	507	993				
					Robinson-4	1,030	24	542	958		1,054	Dry	
S. W.	1	McBride	Berryhill, No. 7	486	Robinson-2	954		468	1,032				
					Robinson-3	995	40	509	991				Well abandoned
	2	McBride	Berryhill, No. 4	476	..do	972		496	1,004				Salt water
					Robinson-4	994	6	518	982				
	3	McBride	Berryhill, No. 3	487	Robinson-2	967		480	1,020				
					Robinson-3	988	32	501	999				
	4	McBride	Berryhill, No. 11	488	Robinson-2	974		486	1,014				Salt water
					Robinson-3	1,000	35	512	988				
	5	McBride	Berryhill, No. 13	488	Robinson-2	955		467	1,033				Salt water
					Robinson-3	997	5	509	991		1,030	Dry	
S. E.	1	McBride	Berryhill, No. 2	485	Robinson-2	949		464	1,036				Salt water
					Robinson-3	986	13	501	999				..do
	2	McBride	Berryhill, No. 12	484	Robinson-2	965		481	1,019				..do
					Robinson-3	985	26	501	999				
	3	McBride	Berryhill, No. 1	483	Robinson-1	928		445	1,055				Salt water
					Robinson-3	992	6	509	991				
					Robinson-4	1,015	5	532	968				
	4	Ohio	Edwards, No. 1	483	Robinson-3	980		497	1,003	985			Gas, 985 feet
						1,064		581	919				Salt water
	5	Ohio	Edwards, No. 11	482	Robinson-3	981	42	499	1,001				
						1,078		596	904			Dry	Salt water
	6	Ohio	Edwards, No. 5	482	Robinson-3	975	12	493	1,007	980		5	Gas, 980 feet
	7	Ohio	Edwards, No. 3	480	Robinson-2	947	10	467	1,033	950		15	Gas, 950 feet
	8	Unknown	Neeley, No. 1	478									No record
	9	Ohio	Neeley, No. 1	475	Robinson-3	950	48	475	1,025	978		150	
	10	Ohio	Shiltz, No. 1	476	..do	952	26	476	1,024				
	11	Ohio	Shiltz, No. 5	473	..do	953	13	480	1,020	953		35	Gas, 954 feet
	12	Ohio	Shiltz, No. 2	475								Dry	No record
	13	Ohio	Shiltz, No. 4	478	Robinson-3	950	11	472	1,028	950		20	Gas, 951 feet
	14	Ohio	Shiltz, No. 3	480	Robinson-2	941	6	461	1,039				
	15	Ohio	Shiltz, No. 7	485	Robinson-1	910	40	425	1,075				Samples were saved and studied from this well and the log is published eleswhere in this report.
N. E.	1	Ohio	Keeley, No. 15	476	..do	862	7	386	1,114	864		5	Gas, 864 feet
	2	Ohio	Keeley, No. 14	477	..do	872		395	1,105	876		60	Gas, 876 feet
	3	Ohio	Keeley, No. 8	465	..do	855	35	390	1,110	870	900	8	Gas, 870 feet. Salt water, 900 feet
	4	Ohio	Keeley, No. 4	474	..do	873	17	399	1,101	883		45	Gas, 883 feet
					Robinson-3	929		455	1,045		929		Salt water
	5	Ohio	Keeley, No. 2	473	Robinson-1	875	15	402	1,098	880		30	Gas, 878 feet
					Robinson-2	900	10	427	1,073				
					Robinson-3	928		455	1,045		928		Salt water
	6	Ohio	Keeley, No. 7	470	Robinson-1	868	15	398	1,102	875		18	Gas, 875 feet
					Robinson-2	890	25	420	1,080		913		Salt water, 913 feet

Crawford County—Oblong Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Depth to top—feet.	Thickness penetrated—feet.	Altitude below sea level—feet.	Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks
8—													
N. E...	7	Ohio	Keeley, No. 9	467	Robinson-1	860	11	393	1,107	865		100	Gas, 865 feet
					Robinson-2	912	9	445	1,055				
					Robinson-3	925		458	1,042	925			Salt water
	8	Ohio	Keeley, No. 11	453	Robinson-1	850	35	397	1,103	852			Gas, 852 feet
					Robinson-3	930		477	1,023				Salt water
	9	Flannigan	Apple, No. 6	470	Robinson-2	888	4	418	1,082		914	Dry	
	10	Flannigan	Apple, No. 3	449	Stray	868	5	419	1,081				
					Robinson-2	887	17	438	1,062		923		
	11	Flannigan	Apple, No. 5	450	..do	874	16	424	1,076		893		
	12	Flannigan	Apple, No. 4	474								Dry	No sands
	13	Ohio	Keeley, No. 13	478	Robinson-1	870		392	1,108	870		10	Gas, 875 feet
N. W..	1	Ohio	Keeley, No. 5	471	..do	865	13	394	1,106	868		30	Gas, 868 feet
	2	Ohio	Keeley, No. 12	477	..do	852		375	1,125	870		200	Gas, 870 feet
	3	Ohio	Keeley, No. 3	460	..do	854	10	394	1,106	857		20	Gas, 857 feet
					Robinson-2	895	20	435	1,065				
					Robinson-3	930		470	1,030		930		Salt water
	4	Ohio	Keeley, No. 10	458	Robinson-1	873	17	415	1,085	878			Gas, 878 feet
					Robinson-2	900	15	442	1,058				
					Tobinson-3	940		482	1,018				Salt water
	5	Ohio	Keeley, No. 1	456	Robinson-1	870		414	1,086				Gas, 900 feet
	6	Ohio	Keeley, No. 6	459	..do	842	34	383	1,117	850		15	Gas, 850 feet
					Robinson-2	902	12	443	1,057		914		Salt water, 914 feet
	7	Flannigan	Apple, No. 2	452	..do	895	24	443	1,057		919		
	8	Flannigan	Apple, No. 1	450	..do	889	19	439	1,061		916		
	9	Wabash	Wekeman, No. 1	478	Robinson-1	874	30	396	1,104				
					Robinson-3	930	19	452	1,048				
	10	Wabash	Wekeman, No. 3	458	Robinson-1	876	15	418	1,082				
					Robinson-2	904	10	446	1,054				
	11	Wabash	Wekeman, No. 2	457	..do	891	58	434	1,066				
	12	Wabash	Wekeman, No. 6	478	Stray	835	40	357	1,143				
					Robinson-1	899	24	421	1,079				
					Robinson-3	930	15	452	1,048				

S. W.	1	Crescent	Shiltz, No. 3	461	Robinson-1	898	12	437	1,063				
					Robinson-2	925	26	464	1,036		963		
	2	Flannigan	Murphy, No. 1	452	Robinson-1	872	6	420	1,080				
					Robinson-3	894	8	442	1,058				
					Robinson-4	958		506	994		958		Salt water
	3	Crescent	Shiltz, No. 2	470	Robinson-3	965	15	495	1,005		986		
	4	Crescent	Shiltz, No. 1	465	Robinson-1	880	6	415	1,085				
					Robinson-2	905	5	440	1,060				
					Robinson-4	1,010	56	545	955		1,066	Dry	
S. E.	1	Mahutska	Netherly, No. 1	449	Stray	841	9	392	1,108				
					Robinson-1	868	22	419	1,081			50	
	2	Mahutska	Netherly, No. 3	450	Stray	830	5	380	1,120				
					Robinson-1	860	10	410	1,090			50	
	3	Mahutska	Netherly, No. 4	470	..do	889	6	419	1,081				
					Robinson-4	1,046		576	924				Salt water. Well abandoned
	4	Mahutska	Netherly, No. 2	450	Robinson-1	860	12	410	1,090	860		50	
	5	Lord	Kirtland, No. 1	450	..do	850	15	400	1,100				
	6	Lord	Kirtland, No. 6	450	..do	842		392	1,108	842			
	7	Ohio	Keeley, No. 16	450	..do	846	85	396	1,104			Dry	
N. E.	1	Ohio	C. Dees, No. 14	457	..do	844	16	387	1,113	848		200	Gas, 846 feet
	2	Ohio	C. Dees, No. 11	458	..do	846	11	388	1,112	850		150	Gas, 848 feet
	3	Ohio	C. Dees, No. 15	457	..do	845	26	388	1,112	852		80	Gas, 851 feet
	4	Ohio	C. Dees, No. 16	456	..do	845	17	389	1,111	848		60	Gas, 848 feet
	5	Ohio	C. Dees. No. 10	472	..do	859	14	387	1,113	862		120	Gas, 861 feet
	6	Ohio	C. Dees, No. 9	457	..do	845	18	388	1,112	848		175	Gas, 847 feet
	7	Ohio	C. Dees, No. 7	460	..do	840	19	380	1,120	847		50	Gas, 844 feet
	8	Red Bank	Wall, No. 5	477	..do	855	8	378	1,122			50	
	9	Red Bank	Wall, No. 4	476	..do	850	25	374	1,126	858		75	
	10	Crescent	Wall, No. 4	479	..do	864	8	385	1,115				
					Robinson,2	877	8	398	1,102		907		
	11	Crescent	Wall, No. 1	476	Robinson-1	859	26	383	1,117	870			Gas, 859 feet
					Robinson-2	898	18	422	1,078		918		
	12	Crescent	Wall, No. 2	482	Robinson-1	858	23	376	1,124		899		
	13	Crescent	Wall, No. 5	470	..do	857	15	387	1,113		894		
	14	Red Bank	Wall, No. 3	460	..do	840	12	380	1,120	845		100	
	15	Red Bank	Wall, No. 2	476	..do	849	31	373	1,127	857		100	
	16	Red Bank	Wall, No. 1	467	..do	835	25	368	1,132	840		150	
	17	Crescent	Wall, No. 6	478	..do	851	11	373	1,127				
					Robinson-2	882	29	404	1,096		918		
	18	Crescent	Wall, No. 3	482	Robinson-1	860	16	378	1,122		894		
	19	Parker & Edwards	Wall, No. 8	482	..do	858		376	1,124	858	934		
	20	Parker & Edwards	Wall, No. 1	482	..do	862	38	380	1,120		920		
	21	Parker & Edwards	Wall, No. 2	465	..do	842	41	377	1,123		883		
	22	Parker & Edwards	Wall, No. 7	484	..do	861	16	377	1,123	865	910		
	23	Parker & Edwards	Wall, No, 3	460	..do	843	33	383	1,117	853			
	24	Parker & Edwards	Wall, No. 6	463	..do	834	32	371	1,129				
	25	Parker & Edwards	Wall, No. 5	459	..do	835	50	376	1,124				
	26	Parker & Edwards	Wall, No. 4	458	..do	850	26	392	1,108	855			
	27	Ohio	C. Dees, No. 5	458	..do	850	13	392	1,108	852		150	Gas, 852 feet
	28	Ohio	C. Dees, No. 4	466	..do	852	11	386	1,114			100	Gas, 854 feet

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Crawford County—Oblong Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
9— N. E.	29	Ohio	C. Dees, No. 3	459	Robinson-1	844	31	385	1,115	846		1,000	Gas, 846 feet
N. W.	1	Morrison	Berryhill, No. 4	478	do	858	22	380	1,120			20	
	2	Morrison	Berryhill, No. 3	482	do	857	23	375	1,125			15	
	3	Morrison	Berryhill, No. 2	479	do	860	20	381	1,119			30	
	4	Ohio	Berryhill, No. 3	479	do	858	29	379	1,121		892	25	
	5	Ohio	Berryhill, No. 2	483	do	860	10	377	1,123		884	75	
	6	Ohio	Berryhill, No. 1	465	do	852		387	1,113		907	200	
	7	Ohio	Berryhill, No. 4	478	do	853	12	375	1,125		906	45	
	8	Morrison	Berryhill, No. 1	475								Dry	No record
	9	McGranahan	Dennis, No. 1	473								Dry	No oil sands
	10	McGranahan	Dennis, No. 2	466	Stray	790	10	324	1,176				Salt water
					Robinson-1	827	21	361	1,139			3	
					Robinson-4	1,020	4	554	946		1,024		Salt water. Well abandoned
S. W.	1	Lord	Kirtland, No. 5	450	Robinson-1	837		387	1,113	837			
					Robinson-2	853	12	403	1,097				
	2	Lord	Kirtland, No. 4	450	do	860	42	410	1,090				
	3	Lord	Kirtland, No. 3	450	Robinson-1	840	20	390	1,110	840	875		
	4	Lord	Kirtland, No. 2	450	do	837	11	387	1,113		953	Light	
	5	Black and Fitzgerald	Wilson, No. 4	450									No record
	6	Black and Fitzgerald	Wilson, No. 3	450								Dry	do
	7	Black and Fitzgerald	Wilson, No. 2	450									do
	8	Black and Fitzgerald	Wilson, No. 1	450									do
	9	Ohio	Good, No. 1	450	Robinson-1	851	10	401	1,099	852	1,000	25	Gas, 852 feet
	10	Ohio	Good, No. 2	450	Robinson-2	862	6	412	1,088	865			Gas, 865 feet
					Robinson-3	874	5	424	1,076	876		7	
	11	Ohio	Good, No. 3	450	Robinson-1	845	8	395	1,105	847		30	Gas, 847 feet
S. E.	1	Ohio	C. Dees, No. 12	458	do	826	17	368	1,132	828		100	Gas, 828 feet
	2	Ohio	C. Dees, No. 8	457	Robinson-2	889	10	432	1,068	892			
					Robinson-4	1,003		546	954				Salt water. Well abandoned
	3	Ohio	C. Dees, No. 6	458	Robinson-1	847	9	389	1,111	852		50	Gas, 849 feet

	4	Ohio	C. Dees, No. 13	456	..do	841	10	385	1,115	843		150	Gas, 842 feet
	5	Ohio	C. Dees, No. 2	460	Robinson-4	992		532	968			Dry	Salt water, 1,004 feet
	6	Ohio	C. Dees, No. 1	455	Robinson-3	922		467	1,033	930		22	Gas, 927 feet
	7	Red Bank	Berry, No. 3	460	Robinson-4	953		493	1,007			Dry	Salt water
	8	Ohio	Berry, No. 2	458	Robinson-2	903		445	1,035	915		50	
					Robinson-3	927		469	1,031				
	9	Ohio	Berry, No. 1	474	Robinson-2	910		436	1,064	920			
10— N. E...	1	Ohio	Reed, No. 4	470	Robinson-3	913	45	443	1,057	916		20	Gas, 916 feet
					Robinson-4	975		505	995				Salt water
	2	Ohio	Reed, No. 1	496	Robinson-3	939		443	1,057			10	Gas, 970 feet
	3	Ohio	Reed, No. 3	471	Robinson-1	838		367	1,133				
					Robinson-3	940		469	1,031	940			Gas, 940 feet
					Robinson-4	980		509	991				Salt water, 980 feet. Well abandoned
	4	Ohio	Reed, No. 2	491	Stray	822		331	1,169	824		14	Gas, 824 feet
	5	Brown & Hogue	Wakefield, No. 2	490	Robinson-1	871		381	1,119				
					Robinson-3	923	42	433	1,067		971		
	6	Brown & Hogue	Wakefield, No. 3	474	Stray	807		333	1,167				
					Robinson-1	852	9	378	1,122				
					Robinson-3	920	30	446	1,054				
	7	Brown & Hogue	Wakefield, No. 1	491	Robinson-1	844		353	1,147				
					Robinson-3	934		443	1,057		962		Oil from conglomerate. Quit in sand
	8	Ohio	Wakefield, No. 1	488	..do	933	37	445	1,055	938		90	Gas, 938 feet
					Robinson-4	980		492	1,008				Salt water
	9	Ohio	Wakefield, No. 2	474	Robinson-3	915	35	441	1,059	927		80	Gas, 920 feet
	10	Ohio	Wakefield, No. 3	489	Robinson-3	932	40	443	1,057	940		60	Gas, 938 feet
	11	Harrington & Root	W. Lackey, No. 2	475	Robinson-1	847	17	372	1,128				
					Robinson-3	912	40	437	1,063			30	
	12	Harrington & Root	W. Lackey, No. 4	490									No record
	13	Harrington & Root	W. Lackey, No. 3	490									..do
	14	Harrington & Root	W. Lackey, No. 5	490									..do
	15	Harrington & Root	W. Lackey, No. 6	491									..do
	16	Harrington & Root	W. Lackey, No. 1	491	Robinson-1	890	18	399	1,101			15	
N. W..	1	Peoples Oil & Gas Co	S. Johnson, No. 1	485	Robinson-4	1,040	11	555	945			Dry	Salt water, 1,051 feet
	2	Red Bank	J. Lackey, No. 2	492									No record
	2	Red Bank	J. Lackey, No. 1	491	Stray	820	5	329	1,171				Gas, 820 feet
					Robinson-1	860	38	369	1,131			300	
	4	Wabash	J. Lackey, No. 1	490	..do	868	28	478	1,022				
					Robonsin-3	943	12	453	1,047				
	5	Wabash	J. Lackey, No. 2	490	Robinson-1	864	26	374	1,126				
					Robinson-3	930	6	440	1,060				
	6	Red Bank	J. Lackey, No. 2	487	Robinson-1	858	51	371	1,129	877		10	
	7	Red Bank	J. Lackey, No. 5	477	..do	860	18	383	1,117			40	
	8	Red Bank	J. Lackey, No. 4	489	..do	858	32	369	1,131	865		20	
	9	Red Bank	J. Lackey, No. 1	489	..do	867	55	378	1,122	882		15	Gas, 867 feet
	10	Wabash	Imboden, No. 2	466	Robinson-2	890	10	424	1,076				Salt water
	11	Wabash	Imboden, No. 1	471								Dry	No record

Crawford County—Oblong Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Intial product—barrels.	Remarks.
10—													
N. W.	12	Parker and Edwards	Harbison, No. 2	458	Robinson-1	824	16	366	1,134	829			
					Robinson-2	859	6	401	1,099				
					Robinson-3	890		432	1,068			Dry	
					Stray	911		453	1,047		947		
	13	Parker and Edwards	Harbison, No. 10	456	Robinson-1	848	6	392	1,108				
	14	Parker and Edwards	Harbison, No. 6	456	Stray	765		309	1,191				
					..do	821	8	365	1,135				
					Robinson-1	838	19	382	1,118				
					Robinson-2	870		414	1,086		874		
S. W.	1	Ohio	Imboden, No. 1	464	Robinson-1	847	17	383	1,117				Well abandoned
	2	Ohio	Imboden, No. 2	471	Robinson-3	930	32	459	1,041	942			
	3	Ohio	Imboden, No. 3	488	..do	931	14	443	1,057				
	4	Ohio	Imboden, No. 4	488	Stray	838	10	350	1,150				
					Robinson-2	883	10	395	1,105				
					Robinson-3	942	29	454	1,046			10	
	5	Ohio	J. Lackey, No. 2	470	Robinson-2	868	14	398	1,102				
					Robinson-3	925	30	455	1,045				
	6	Ohio	J. Lackey, No. 5	487	Robinson-1	852	38	365	1,135	856		120	Gas, 856 feet
					Robinson-3	930	12	443	1,057				
	7	Ohio	J. Lackey, No. 4	491	Robinson-1	859	26	368	1,132				
					Robinson-3	944	30	453	1,047				
					Robinson-4	978		487	1,013				Salt water
	8	Ohio	J. Lackey, No. 1	490	Robinson-3	921		431	1,069	932			Gas, 921 feet
	9	Ohio	J. Lackey, No. 3	487	..do	938	29	451	1,049				
	10	Mahutska	Bond, No. 7	473	Robinson-1	845	12	372	1,128				
					Robinson-3	906	23	433	1,067		929		Quit in sand
	11	Mahutska	Bond, No. 9	488	Robinson-1	863	36	375	1,125			150	
					Robinson-3	923	31	435	1,065				Oil in slate, 949 to 954 feet
	12	Mahutska	Bond, No. 8	488	Robinson-1	890	12	402	1,098				
					Robinson-3	926	24	438	1,062			150	
	13	Mahutska	Bond, No. 1	492	..do	931	24	439	1,061	931	955	150	Gas, 931 feet. Quit in sand

	14	Mahutska	Bond, No. 2	490	Stray	826	12	336	1,164				Gas, 826 feet
					Robinson-3	933	26	443	1,057	933		150	
					Robinson-4	1,048	12	558	942		1,061		
	15	Mahutska	Bond, No. 5	490	Robinson-1	855		365	1,135				
					Robinson-3	926	31	436	1,064	926	957	150	
	16	Mahutska	Bond, No. 3	491	..do	928	33	437	1,063	930	961		Quit in sand
	17	Mahutska	Bond, No. 4	490	Robinson-1	878		388	1,112				
					Robinson-3	933	25	443	1,057			150	
	18	Mahutska	Bond, No. 6	490	Stray	803	7	313	1,187				
					Robinson-3	925	22	435	1,065			150	
S. E.	1	Mahutska	C. Shire, No. 5	490	Robinson-1	855	20	365	1,135				
					Robinson-3	945	20	455	1,045				
	2	Mahutska	C. Shire, No. 4	491	Robinson-1	845	5	354	1,146				
					Robinson-2	931	24	440	1,060			150	
	3	Mahutska	C. Shire, No. 3	493	Robinson-1	842	8	349	1,151				
					Robinson-3	930	35	437	1,063			150	
	4	Mahutska	C. Shire, No. 1	492	Robinson-1	861	32	369	1,131				
					Robinson-3	930	33	438	1,062			150	
	5	Mahutska	C. Shire, No. 6	490	Robinson-1	855	18	365	1,135				
					Robinson-3	940	27	450	1,050				
	6	Mahutska	C. Shire, No. 7	491	Robinson-1	843	34	352	1,148				
					Robinson-3	931	20	440	1,060				
	7	Mahutska	C. Shire, No. 2	494	Robinson-1	850	10	356	1,144				
					Robinson-3	931	21	437	1,063			150	
	8	Mahutska	C. Shire, No. 8	492	Robinson-1	837	33	345	1,155				
					Robinson-3	940	25	448	1,052	945			
	9	Mahutska	C. Shire, No. 9	490	Robinson-1 (?)	826	39	336	1,164				
					Robinson-2	900	8	410	1,090				
					Robinson-3	930	29	440	1,060		960		
	10	Mahutska	C. & J. Shire, No. 2	483	Robinson-1	841	10	358	1,142				
					Robinson-3	941	24	458	1,042		972		
	11	Mahutska	C. & J. Shire, No. 1	476	Robinson-1	831	10	355	1,145				
					Robinson-3	914	36	438	1,062		1,026	150	
	12	Mahutska	C. & J. Shire, No. 3	490	Robinson-1	868	10	378	1,122				
					Robinson-3	930	26	440	1,060			250	Salt water, 956 feet
	13	Mahutska	C. & J. Shire, No. 8	486	Robinson-1	848	12	362	1,138				
					Robinson-4	971	27	485	1,015	971		250	
	14	Mahutska	Taylor, No. 3	490	Stray	820	18	330	1,170				
					Robinson-2	907	45	417	1,083			75	
	15	Mahutska	Taylor, No. 1	491	Robinson-1	854	2	363	1,137				
					Robinson-3	930	26	439	1,061			Dry	
	16	Mahutska	Taylor, No. 4	490	Robinson-1	846	12	356	1,144				
					Robinson-2	922	5	432	1,068				
					Robinson-3	940	28	450	1,050	953		75	
					Robinson-4	975	22	485	1,015				
	17	Mahutska	Taylor, No. 2	492	Stray	880	5	388	1,112				
					Robinson-4	972	25	480	1,020			75	
	18	Ohio	Taylor, No. 5	479	Robinson-3	935		456	1,044	940		50	Gas, 940 feet
	19	Ohio	Taylor, No. 6	473	..do	907	25	434	1,066	912		60	Gas, 912 feet
					Robinson-4	960		487	1,013				Salt water
	20	Ohio	Taylor, No. 4	475	Robinson-3	920		445	1,055	935		100	Gas, 924 feet

Crawford County—Oblong Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
10— S. E.	21	Ohio	Taylor, No. 2	480	Stray	803		323	1,177				Gas, 803 feet
					Robinson-3	919		439	1,061	924		100	
	22	Ohio	Taylor, No. 7	482	Robinson-3	921	36	439	1,061	930		45	Gas, 930 feet
					Robinson-4	962		480	1,020				Salt water
	23	Ohio	Taylor, No. 3	487	Robinson-3	927		440	1,060	933		30	Gas, 933 feet
11— N. E.	1	Benedum & Trees	York, No. 1	506	Robinson-1	916	28	410	1,090	938		Gas	Gas, 920 feet. 2,000,000 cu. ft. gas
N. W.	1	Ohio	Meserve, No. 13	493	Stray	858	18	365	1,135				
					Robinson-3	961		468	1,032	961		10	
	2	Ohio	Meserve, No. 12	501	Stray	872	5	371	1,129				
					Robinson-3	950	17	449	1,051	954		15	Gas, 954 feet
	3	Ohio	Meserve, No. 11	479	Robinson-1	860	6	381	1,119				
					Robinson-3	925	17	446	1,054	930		12	Gas, 930 feet
	4	Ohio	Meserve, No. 15	503	Robinson-1	886	15	383	1,117			18	
					Robinson-3	952	14	449	1,051				
	5	Ohio	Meserve, No. 10	495	Robinson-1	868	13	373	1,127				
					Robinson-3	928	29	433	1,067	934		40	Gas, 942 feet
	6	Ohio	Meserve, No. 9	479	Robinson-1	858	12	379	1,121	860		12	Gas, 859 feet
	7	Ohio	Meserve, No. 4	474	Robinson-3	934		460	1,040	934		150	Gas, 934 feet
	8	Ohio	Meserve, No. 3	498	Robinson-1	870		372	1,128	879		35	Gas, 874 feet
					Robinson-3	970		472	1,028				Salt water
	9	Ohio	Meserve, No. 8	504	Robinson-1	885	15	381	1,119	894		15	Gas, 890 feet
	10	Ohio	Meserve, Mo. 7	500	do	889	10	389	1,111	905		20	Gas, 902 feet
	11	Ohio	Meserve, No. 6	491	Robinson-3	932	25	441	1,059	940			Gas, 940 feet
					Robinson-4	981	16	490	1,010				
					Robinson-5	1,020		529	971				Salt water
	12	Ohio	Meserve, No. 2	499	Robinson-1	876		377	1,123	879		120	Gas, 877 feet
					Robinson-3	940	15	441	1,059				
	13	C. E. Thomas	Griswold, No. 2	494	Robinson-1	860		366	1,134				
					Robinson-3	939		445	1,055		969		

	14	C. E. Thomas	Griswold, No. 4	493	Robinson-1	845		352	1,148				
					Robinson-3	940		447	1,053		985		
	15	C. E. Thomas	Griswold, No. 5	493	Robinson-1	850		357	1,143				
					Robinson-3	940		447	1,053		967		
	16	C. E. Thomas	Griswold, No. 6	491	Robinson-1	855		364	1,136				
					Robinson-3	930		439	1,061		967		
	17	C. E. Thomas	Griswold, No. 3	492	Robinson-1	860		368	1,132				
					Robinson-3	935		443	1,057		970		
	18	C. E. Thomas	Griswold, No. 1	489	Robinson-1	845		356	1,144				
					Robinson-3	938		449	1,051				
S. W.	1	Red Bank	Lemar, No. 2	488	Robinson-1	868	12	380	1,120				
					Robinson-3	939	14	451	1,049			10	
	2	Red Bank	Lemar, No. 8	490	Robinson-1	870	34	380	1,120			Dry	Sand is very broken
	3	Red Bank	Lemar, No. 3	495	..do	863	16	368	1,132				
					Robinson-2	922	6	427	1,073			Gas	Gas, 922 feet. 4,000,000 cubic feet
	4	Red Bank	Lemar, No. 7	496	Robinson-1	877	47	381	1,119				
					Robinson-3	945	29	449	1,051			5	
	5	Red Bank	Lemar, No. 5	477	..do	930	12	453	1,047	934		20	
	6	Red Bank	Lemar, No. 4	491	Robinson-1	869		378	1,122			20	
	7	Red Bank	Lemar, No. 6	494	..do	890	33	396	1,104	907		25	
	8	Red Bank	Lemar, No. 1	492	Stray	847		355	1,145				
					Robinson-1	885		393	1,107				
					Robinson-2	902	32	410	1,090			20	
	9	Morrison	Lemar, No. 3	500	..do	922	10	422	1,078				
					Robinson-3	942	16	442	1,058			5	
	10	Morrison	Lemar, No. 4	492	Robinson-1	872	18	380	1,120				
					Robinson-2	928	14	436	1,064			5	
	11	Morrison	Lemar, No. 2	498	..do	935	24	437	1,063	950		5	Gas, 935 feet. Salt water 959 feet
	12	Morrison	Lemar, No. 1	499	Robinson-2	918		419	1,081				
					Robinson-3	940	20	441	1,059			5	Salt water, 960 feet
					Robinson-4	963		464	1,036				
	13	Ohio	Newlin & Abbott, No. 6	499	Robinson-1	883	8	384	1,116				
					Robinson-4	984	15	485	1,015			Gas	Gas, 995 feet
	14	Ohio	Newlin & Abbott, No. 4	491	Robinson-1	886	57	395	1,105				
	15	Ohio	Newlin & Abbott, No. 8	498	..do	895	6	397	1,103	901			Gas, 901 feet
					Robinson-3	940	10	442	1,058	945		½	Gas, 945 feet
	16	Ohio	Newlin & Abbott, No. 7	493	..do	917	10	424	1,076				
					..do	948	16	455	1,045	954		30	Gas, 952 feet
	17	Ohio	Newlin & Abbott, No. 1	492	Robinson-1	885	28	393	1,107	890			
	18	Ohio	Newlin & Abbott, No. 5	492	..do	890	35	398	1,102			20	
	19	Ohio	Newlin & Abbott, No. 2	498	..do	887	31	389	1,111				
	20	Ohio	Newlin & Abbott, No. 3	500	..do	899	27	399	1,101				
S. E.	1	Ohio	Meserve, No. 1	498	..do	896		398	1,102		1,012	Gas	Well abandoned
	2	Ohio	Meserve, No. 5	503	Robinson-2	938		435	1,065		944	Gas	Gas, 940 feet. Well abandoned
	3	Ohio	Meserve, No. 14	508	..do	945	2	437	1,063				
N. E.	1	Ohio	J. Taylor, No. 4	507	Robinson-1	912	24	405	1,095				
					Robinson-2	964	2	457	1,043				
					Robinson-4	1,020		513	987			Dry	Salt water

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Crawford County—Oblong Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Intial product—barrels.	Remarks.
14—N E...	2	Ohio	G. Taylor, No. 8	497	Robinson-3	961	29	464	1,036	......	......	100	Gas, 967 feet. Well abandoned.
	3	Ohio	G. Taylor, No. 1	496	Robinson-1	892	......	396	1,104	893	......	......	Gas, 892 feet
N. W...	1	Treat, Crawford & Treat.	Birch, No. 9	498	Stray	852	......	354	1,146	......	......	......	
					Robinson-1	900	......	402	1,098	900	......	25	
	2	Treat, Crawford & Treat.	Birch, No. 8	499	Robinson-2	910	......	411	1,089	......	......	......	
					Robinson-4	990	......	491	1,009	......	......	Dry	
	3	Treat, Crawford & Treat.	Birch, No. 7	500	Stray	852	......	352	1,148	......	......	......	
					Robinson-1	900	......	400	1,100	900	......	......	
					Robinson-2	930	20	430	1,070	930	......	100	
	4	Treat, Crawford & Treat.	Birch, No. 4	499	Stray	858	......	359	1,141	......	......	......	
					Robinson-1	886	......	387	1,113	886	......	......	
					Robinson-2	925	21	426	1,074	925	......	700	
	5	Treat, Crawford & Treat.	Birch, No. 3	500	Stray	858	......	358	1,142	......	......	......	
					Robinson-1	895	12	395	1,105	895	......	......	
					Robinson-2	930	20	430	1,070	930	......	700	
	6	Treat, Crawford & Treat.	Birch, No. 1	496	Stray	865	......	369	1,131	......	......	......	The Stray sand in this vicinity varies from 3 to 7 feet in thickness
					Robinson-1	890	67	394	1,106	910	......	......	
	7	Treat, Crawford & Treat.	Birch, No. 2	485	Stray	850	......	365	1,135	......	......	......	
					Robinson-1	867	79	382	1,118	914	......	750	
	8	Treat, Crawford & Treat.	Birch, No. 5	500	Stray	862	......	362	1,138	......	......	......	
					Robinson-1	880	......	380	1,120	880	......	......	
					Robinson-2	918	30	418	1,082	918	......	700	
	9	Treat, Crawford & Treat.	Birch, No 6	495	Stray	869	......	374	1,126	......	......	......	
					Robinson-1	880	......	385	1,115	880	......	......	
					Robinson-2	920	26	425	1,075	920	......	100	
	10	Treat, Crawford & Treat.	Birch, No. 10	499	Stray	863	......	364	1,136	......	......	......	
					Robinson-1	880	......	381	1,119	880	950	50	
	11	Treat, Crawford & Treat.	Birch, No. 11	500	..do	875	......	375	1,125	......	......	......	
					Robinson-2	925	28	425	1,075	925	......	50	

	12	Treat, Crawford & Treat.	Birch, No. 12	496	Robinson-1	896		400	1,100				
					Robinson-2	913	39	417	1,083	913		50	
	13	Treat, Crawford & Treat.	Birch, No. 13	493	Robinson-1	880		387	1,113				
					Robinson-3	925	16	432	1,068	925		100	
	14	Red Bank	E. Miller, No. 1 "B"	499	Robinson-1	860	33	361	1,139				
					Robinson-2	912	28	413	1,087			400	
	15	Wabash	E. Miller, No. 1	500	Robinson-1	881	29	381	1,119				
					Robinson-2	930	20	430	1,070				
	16	Wabash	E. Miller, No. 2	495	Robinson-1	893	58	398	1,102				
	17	Wabash	E. Miller, No. 3	498	..do	893	58	395	1,105				
	18	Red Bank	E. Miller, No. 1 "RB"	486	..do	890	10	404	1,096				
					Robinson-2	924	39	438	1,062				
	19	Ohio	E. Miller, No. 1	468	..do	894	25	426	1,074				
	20	Ohio	E. Miller, No. 2	496	Stray	846	5	350	1,150				
					Robinson-2	920	38	424	1,076				
	21	Ohio	E. Miller, No. 4	495	Robinson-1	894	30	399	1,101				
	22	Ohio	E. Miller, No. 6	496	..do	885	41	389	1,111				
	23	Ohio	E. Miller, No. 7	499	..do	885	41	386	1,114	916	916		
	24	Mahutska	P. Miller, No. 10	500	Stray	868	12	368	1,132				
					Robinson-1	895	32	395	1,105			200	
	25	Mahutska	P. Miller, No. 6	495	..do	866	28	401	1,099	924			Gas, 924 feet
					Robinson-3	957	35	462	1,038	967	995	200	
	26	Mahutska	P. Miller, No. 3	496	Robinson-1	870	12	374	1,126				
					Robinson-2	914	21	418	1,082			200	
	27	Mahutska	P. Miller, No. 1	469	Stray	830	12	361	1,139				
					Robinson-2	895	24	426	1,074			20	
	28	Mahutska	P. Miller, No. 11	469	Robinson-1	852	5	383	1,117				
					Robinson-2	902	32	433	1,067			200	
S. W...	1	Red Bank	J. Taylor, No. 1	485	Robinson-1	870		385	1,115				
					Robinson-3	938	6	453	1,047			30	
	2	Red Bank	J. Taylor, No. 2	477	Robinson-1	867		390	1,110			Dry	Salt water, 867 feet
	3	Ohio	J. Taylor, No. 1	487	..do	889	31	402	1,098				
	4	Ohio	Hamilton, No. 1	476	Robinson-3	926		450	1,050		999	Dry	
	5	Ohio	Hamilton, No. 6	484	Robinson-2	902	38	418	1,082	920		250	Gas, 912 feet
	6	Ohio	Hamilton, No. 7	488	Robinson-1	892	43	404	1,096	910		60	Gas, 910 feet
	7	Ohio	J. Taylor, No. 6	490	Robinson-4	1,053		563	937			Dry	Salt water
	8	Ohio	J. Taylor, No. 2	479	Robinson-1	883	32	404	1,096				
					Robinson-3	929	85	450	1,050				
S. E...	1	Ohio	Hamilton, No. 5	501	Robinson-1	903	10	402	1,098				
					Robinson-2	921	25	420	1,080	924		120	Gas, 922 feet
	2	Ohio	Hamilton, No. 4	506	Robinson-1	912	5	406	1,094				
					Robinson-2	931	27	425	1,075	937		150	Gas, 942 feet
	3	Ohio	Hamilton, No. 2	511	..do	941	14	430	1,070	950		50	Gas, 948 feet
	4	Ohio	P. Miller, No. 1	511	..do	943	10	432	1,068				
	5	Ohio	Hamilton, No. 3	505	Robinson-3	1,001	39	496	1,004				Salt water, 1,001 feet
					Robinson-4	1,100	20	595	905		1,214	Dry	
	6	Ohio	Hamilton, No. 8	504	Robinson-1	907	5	403	1,097				
					Robinson-2	917	40	413	1,087	924		200	Gas, 932 feet
	7	Ohio	Hamilton, No. 9	507	Robinson-1	912	2	405	1,095				
					Robinson-2	922	32	415	1,085	926		250	Gas, 926 feet

Crawford County—Oblong Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
15—													
N. E.	1	Mahutska	J. Shire, No. 2	492	Robinson-1	864	11	372	1,128				
					Robinson-2	927	25	435	1,065			250	
	2	Ohio	J. Shire, No. 1	464	Robinson-2	892	28	428	1,072			250	First productive well drilled in the Crawford county field
	3	Mahutska	J. Shire, No. 4	491	Stray	849	20	358	1,142				
					Robinson-2	906	22	415	1,085			250	
	4	Mahutska	J. Shire, No. 5	486	Stray	840	10	354	1,146				
					Robinson-2	902	25	416	1,084			250	
	5	Mahutska	J. Shire, No. 6	481	Robinson-1	844	12	363	1,137				
					Robinson-2	909	31	428	1,072			250	
	6	Mahutska	J. Shire, No. 7	469	Stray	822	10	353	1,147				
					Robinson-2	883	26	414	1,086			250	
	7	Red Bank	E. Miller, No. 4	486	Robinson-1	836	46	350	1,150				
					Robinson-2	912	13	426	1,074			100	
	8	Red Bank	E. Miller, No. 3	471	Robinson-1	822	49	351	1,149				
					Robinson-2	904	17	433	1,067			300	
	9	Red Bank	E. Miller, No. 2	477	Robinson-1	843	29	366	1,134				
					Robinson-2	908	25	431	1,069			200	
	10	Ohio	E. Miller ,No. 3	470	Robinson-1	833	43	363	1,137				
					Robinson-2	895	24	425	1,075				
	11	Ohio	E. Miller, No. 5	480	Robinson-1	875	29	395	1,105				
					Robinson-3	921	30	441	1,059				
	12	Ohio	E. Miller, No. 8	486	Robinson-1	878	5	392	1,108	880			Gas, 880 feet
					Robinson-2	907	41	421	1,079	917		16	
	13	Mahutska	P. Miller, No. 7	488	Robinson-1	855	47	367	1,133				
					Robinson-2	921	32	433	1,067	930		200	
	14	Mahutska	P. Miller, No. 5	478	Robinson-1	840		362	1,138				
					Robinson-2	914	16	436	1,064			20	
	15	Mahutska	P. Miller, No. 4	488	Robinson-1	872		384	1,116				
					Robinson-2	921	24	433	1,067			200	

	16	Mahutska	P. Miller, No. 2	489	Robinson-1	881	12	392	1,108				
					Robinson-2	917	22	428	1,072			200	
	17	Mahutska	P. Miller, No. 8	486	Stray	840	5	354	1,146	840			
					Robinson-4	972	21	486	1,014			200	
	18	Mahutska	P. Miller, No. 9	490	Robinson-1	885	20	395	1,105				
					Robinson-3	945	13	455	1,045	950			
					Robinson-4	974	7	484	1,016		983	200	
	19	Mahutska	Walker, No. 2	482	Stray	825		343	1,157				
					Robinson-3	923	31	441	1,059			250	
	20	Mahutska	Walker, No. 10	490	Robinson-1	860	20	370	1,130				
					Robinson-2	917	19	427	1,073				
					Robinson-3	947	18	457	1,043			250	
	21	Mahutska	Walker, No. 9	471	Robinson-1	862	6	391	1,109				
					Robinson-3	922	8	451	1,049				
					Robinson-4	948	28	477	1,023			250	
	22	Mahutska	Walker, No. 12	466	Robinson-1	850	20	384	1,116				
					Robinson-3	925	25	459	1,041				
					Robinson-4	963	14	497	1,003				Salt water
	23	Mahutska	Walker, No. 1	482	Stray	820	15	338	1,162				
					Robinson-1	862	3	380	1,120				
					Robinson-2	880	40	398	1,102	901		250	Lenses 2 and 3 consolidated in this well
	24	Mahutska	Walker, No. 8	476	Stray	839		363	1,137				
					Robinson-1	850		374	1,126				Gas, 850 feet
					Robinson-2	875	25	399	1,101	938		250	
					Robinson-4	1,000	7	524	976				
	25	Mahutska	Walker, No. 7	487	Robinson-3	926	20	439	1,061			250	
	26	Mahutska	Walker, No. 5	491	Stray	806	18	315	1,185				
					Robinson-2	890	33	399	1,101	895			
	27	Mahutska	Walker, No. 6	491	Stray	839	15	348	1,152				
					Robinson-1	860	7	369	1,131				
					Robinson-4	995	23	504	996				
	28	Mahutska	Walker, No. 4	473	Stray	807		334	1,166				
					Robinson-3	940	24	467	1,033	946	964		Quit in sand
	29	Mahutska	Walker, No. 3	467	Robinson-1	825	12	358	1,142				
					Robinson-3	940	32	473	1,027	946	946		Quit in sand
	30	Mahutska	Walker, No. 11	462	Robinson-2	867	13	405	1,095				
					Robinson-3	923	7	461	1,039				
					Robinson-4	948	12	486	1,014				
N. W.	1	Ohio	Mann, No. 1	489	Stray	825	30	336	1,164				Gas, 825 feet
					Robinson-2	926	14	437	1,063	928		50	
	2	Ohio	Mann, No. 15	488	..do	928		441	1,059			40	Gas, 935 feet
	3	Ohio	Mann, No. 2	486	..do	928		442	1,058	930		30	
	4	Ohio	Mann, No. 4	486	Robinson-1	860		374	1,126				Gas, 860 feet
					Robinson-2	918		432	1,068	943		200	
	5	Ohio	Mann, No. 19	485	Robinson-1	870	5	385	1,115	872			
					Robinson-3	935	26	450	1,050	942		50	Gas, 937 feet
	6	Ohio	Mann, No. 3	488	Robinson-3	930		442	1,058	935			
					Robinson-4	970		482	1,018				Salt water
	7	Ohio	Mann, No. 18	491	Robinson-3	940	23	449	1,051	945		75	Gas, 942 feet
	8	Ohio	Mann, No. 21	488	Robinson-2	920	6	432	1,068				
					Robinson-3	932	34	444	1,056	940		50	Gas, 935 feet

Crawford County—Oblong Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet	Sand. Name.	Depth to top—feet.	Thickness penetrated—feet.	Altitude below sea level—feet.	Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
15—N. W.	9	Ohio	Mann, No. 12	487	Robinson-3	927		440	1,060	936		50	Gas, 930 feet
	10	Ohio	Mann, No. 13	482	do	924		442	1,058	930		50	Gas, 927 feet
	11	Ohio	Mann, No. 25	492	do	940		448	1,052	960		80	Gas, 945 feet
	12	Ohio	Mann, No. 24	494	do	940	55	446	1,054	946		100	Gas, 946 feet
	13	Ohio	Mann, No. 11	482	do	926	39	444	1,056	940		60	Gas, 930 feet
	14	Ohio	Mann, No. 14	482	Robinson-2	910	45	428	1,072	920		80	Gas, 912 feet
	15	Ohio	Mann, No. 23	467	do	898	22	431	1,069	910		120	Gas, 902 feet
	16	Ohio	Ricker, No. 8	483	Robinson-1	869	28	386	1,114	875			Gas, 870 feet
					Robinson-3	927	40	444	1,056				
	17	Ohio	Ricker, No. 7	480	Robinson-1	863	37	383	1,117				
					Robinson-3	931	32	451	1,049		966		
	18	Ohio	Ricker, No. 2	480	Robinson-2	916	36	436	1,064		954		
	19	Ohio	Ricker, No. 5	480	do	912		432	1,068		960		
	20	Ohio	Ricker, No. 9	482	Robinson-1	857	35	375	1,125				
					Robinson-2	912	46	430	1,070	917			Gas, 917 feet
	21	Ohio	Ricker, No. 3	482	Robinson-1	867	33	385	1,115				
					Robinson-2	911	38	429	1,071		960		
	22	Ohio	Ricker, No. 4	482	Robinson-3	931	29	449	1,051	931			
	23	Ohio	Ricker, No. 6	481	Robinson-1	857	35	376	1,124				
					Robinson-2	912	46	431	1,069	919			Gas, 919 feet
	24	Ohio	Ricker, No. 1	480	Robinson-1	855	10	375	1,125				
					Robinson-2	916	26	436	1,064		963		
	25	Red Bank	Ricker, No. 2 "R B"	480	Robinson-1	849	8	369	1,131				
					Robinson-3	922	19	442	1,058			25	
	26	Ohio	Ricker, No. 3 "R B"	481	Robinson-1	860		379	1,121				
					Robinson-2	903	36	422	1,078			30	
	27	Wabash	Ricker, No. 2	486	Robinson-2	923	34	437	1,063				
	28	Red Bank	Ricker, No. 2 "B"	486	do	921	31	435	1,065				
	29	Red Bank	Ricker, No. 3 "B"	486	Robinson-1	862		376	1,124				
					Robinson-2	921	30	435	1,065				
	30	Wabash	Ricker, No. 3	484	Robinson-3	927	29	443	1,057				
	31	Red Bank	Ricker, No. 4 "R B"	485	Robinson-1	872	74	387	1,113	918		50	

S. W...	32	Red Bank	Ricker, No. 1 "R B"	484	Robinson-1	865	10	381	1,119				
					Robinson-3	918	17	434	1,066			110	
	33	Wabash	Ricker, No. 1	485	Robinson-3	925	25	440	1,060				
	34	Red Bank	Ricker, No. 1 "B"	485	..do	927	25	442	1,058				
	1	Lee	Basom, No. 1	478	Robinson-2	885	85	407	1,093	885	970		
	2	Lee	Basom, No. 6	478	Robinson-3	933	32	455	1,045				
	3	Lee	Basom, No. 9	480	Robinson-2	908		428	1,072				
					Robinson-3	921	20	441	1,059				
	4	Lee	Basom, No. 3	469	Robinson-2	885		416	1,084				
					Robinson-4	943	29	474	1,026	943			
	5	Lee	Basom, No. 8	475	Robinson-1	847	13	372	1,128				
					Robinson-3	915	19	440	1,060		939		
	6	Lee	Basom, No. 10	478	Robinson-2	902	25	424	1,076		952		
	7	Lee	Basom, No. 4	467	Robinson-3	902		435	1,065				
					Robinson-4	941		474	1,026		953		
	8	Lee	Basom, No. 2	468	Robinson-1	838	23	370	1,130				
					Robinson-2	887	51	419	1,081	887	966		
	9	Lee	Basom, No. 7	476	..do	902	25	426	1,074		952		
	10	Lee	Basom, No. 5	481	Robinson-1	887	50	406	1,094				
	11	Benedum-Trees	Siler, No. 4	477	..do	882	46	405	1,095	894	928		Gas, 886 feet. Quit in sand
	12	Lee	Siler, No. 11	475	..do	884		409	1,091				Gas, 884 feet
	13	Lee	Siler, No. 1	467	..do	880		413	1,087	890	912		Gas, 884 feet. Quit in sand
	14	North Fork	School House lot	467	Robinson-2	890	30	423	1,077	895	920		Quit in sand
	15	Benedum-Trees	Siler, No. 3	466	..do	880		414	1,086	890	911		Gas, 885 feet. Quit in sand
	16	Benedum-Trees	Siler, No. 2	469	Stray	822	32	853	647				
					Robinson-1	873		404	1,096	873	900		
	17	McArthur	Weirick, No. 3	454	..do	850	50	396	1,104		900		Quit in sand
	18	McArthur	Weirick, No. 2	454	Robinson-2	880	55	426	1,074		935		..do
	19	McArthur	Weirick, No. 1	486	Robinson-1	897	56	411	1,089				
	20	McArthur	Weirick, No. 6	487	..do	860	45	373	1,127		920		
	21	McArthur	Weirick, No. 5	455	..do	860	45	405	1,095		917		
	22	McArthur	Weirick, No. 4	470	..do	873	43	403	1,097		932		
	23	Ohio	Mann, No. 5	475	..do	870		395	1,105	893		30	Gas, 874 feet
	24	Ohio	Mann, No. 6	460	..do	860		400	1,100	862		50	Gas, 862 feet
	25	Ohio	Mann, No. 7	480	..do	884		404	1,096	892		300	Gas, 894 feet
	26	Ohio	Mann, No. 16	465	..do	873	47	408	1,092	900		100	Gas, 880 feet
	27	Ohio	Mann, No. 20	462	Stray	829	8	367	1,133				
					Robinson-1	868	42	406	1,094	876		120	Gas, 872 feet
	28	Ohio	Mann, No. 8	485	Robinson-2	904		419	1,081	910			
	29	Ohio	Mann, No. 9	473	..do	888		415	1,085	896		100	Gas, 890 feet
	30	Ohio	Mann, No 17	463	Robinson-1	864	10	401	1,099				
					Robinson-2	888	32	425	1,075	894		100	Gas, 890 feet
	31	Ohio	Mann, No. 22	463	..do	891	30	428	1,072	895		100	Gas, 893 feet
	32	Ohio	Mann, No. 10	485	..do	911		426	1,074	917		60	Gas, 915 feet
S. E...	1	Ohio	Wakefield, No. 5	488	Robinson-1	894		406	1,094	912		250	Gas, 900 feet
	2	Ohio	Wakefield, No. 2	483	Robinson-2	920		437	1,063	923		150	Gas, 928 feet
	3	Ohio	Wakefield, No. 4	486	Robinson-1	887		401	1,099	890		10	Gas, 890 feet
	4	Ohio	Wakefield, No. 11	483	Robinson-2	918	20	435	1,065				
					Robinson-3	961	41	478	1,022	920		80	Gas, 922 feet

Crawford County—Oblong Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand: Name.	Sand: Depth to top—feet.	Sand: Thickness penetrated—feet.	Sand: Altitude below sea level—feet.	Sand: Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Intial product—barrels.	Remarks.
15—S. E.	5	Ohio	Wakefield, No. 6	488	Robinson-2	928		440	1,060	938		50	Gas, 933 feet
	6	Ohio	Wakefield, No. 8	490	Stray	817		327	1,173				
					Robinson-2	920		430	1,070			40	Gas, 920 feet
	7	Ohio	Wakefield, No. 12	480	Robinson-1	868	2	388	1,112				
					Robinson-2	900	38	420	1,080	916		150	Gas, 904 feet
	8	Ohio	Wakefield, No. 7	486	Robinson-1	884		398	1,102		942	Dry	
	9	Ohio	Wakefield, No. 13	489	Robinson-2	919	29	430	1,070	926		60	Gas, 924 feet
	10	Ohio	Wakefield, No. 10	465	Robinson-3	907	24	442	1,058	916		100	Gas, 912 feet
	11	Ohio	Wakefield, No. 9	460	do	906	28	440	1,060	913		40	Gas, 913 feet
	12	Ohio	Wakefield, No. 1	490	Robinson-1	897		407	1,093	907		20	
	13	Ohio	Wakefield, No. 3	487	do	903		416	1,084	908		30	
	14	Ohio	Reed, No. 5	496	Robinson-1	894		398	1,102	896			
					Robinson-3	964		468	1,032	964		2	
	15	Ohio	Reed, No. 6	493	Robinson-3	941		448	1,052	946		20	Gas, 944 feet
	16	Ohio	Reed, No. 1	490	Robinson-1	887		397	1,103	893		400	
	17	Ohio	Reed, No. 2	490	do	900		410	1,090	905		20	
	18	Ohio	Reed, No. 3	490	do	907		417	1,083	918		2	
	19	Red Bank	Martin, No. 8	488	Stray	856	14	368	1,132				
					Robinson-1	906	10	418	1,082			Dry	
	20	Red Bank	Martin, No. 2	485	do	890	48	405	1,095	905		25	
	21	Red Bank	Martin, No. 9	487	Stray	876	15	389	1,111				
					Robinson-1	910	5	423	1,077				
					Robinson-2	935		448	1,052				
					Robinson-3	980	6	493	1,007				
					Robinson-4	1,013	10	526	974				
						1,092	30	605	895			Dry	
	22	Red Bank	Martin, No. 4	486	Robinson-3	940	25	454	1,046			100	
16—N. E.	1	Mahutska	Bond, No. 13	481	Robinson-1	885		404	1,096				
					Robinson-2	905	13	424	1,076				
					Robinson-3	940	17	459	1,041			150	

	2	Mahutska	Bond, No. 15	476	Stray	832	10	356	1,144				
					Robinson-3	924	26	448	1,052		957		
	3	Mahutska	Bond, No. 12	479	Robinson-1	850		371	1,129				Gas, 850 feet
					Robinson-3	913	30	434	1,066			150	
	4	Mahutska	Bond, No. 14	466	Stray	825	21	359	1,141				
					Robinson-3	902	30	436	1,064		935		
	5	Mahutska	Bond, No. 10	480	Robinson-1	868	11	388	1,112				
					Robinson-3	915	33	435	1,065			150	
	6	Mahutska	Bond, No. 11	473	Robinson-1	851		378	1,122				
					Robinson-3	913	32	440	1,060	920		150	
	7	Red Bank	Littlejohn, No. 1	461	..do	926	5	464	1,036		975	Dry	
	8	Ohio	Littlejohn, No. 3	478	Robinson-1	860	5	382	1,118				
					Robinson-3	927	27	449	1,051	932		50	Gas, 932 feet
	9	Ohio	Littlejohn, No. 1	476	..do	917	23	441	1,059	919			
	10	Ohio	Littlejohn, No. 2	479	Robinson-1	887	12	408	1,092		939		
	11	Mahutska	Mitchell, No. 10	479	..do	875	16	396	1,104			250	
	12	Mahutska	Mitchell, No. 8	474	Robinson-1	850	17	376	1,124				Gas, 850 feet
					Robinsoo-2	900	41	426	1,074			250	
	13	Mahutska	Mitchell, No. 9	474	Robinson-1	835		361	1,139				
					Robinson-2	885	39	411	1,089			250	
	14	Mahutska	Mitchell, No. 7	479	Robinson-1	851	6	372	1,128				
					Robinson-2	907	42	428	1,072			250	
	15	Mahutska	Mitchell, No. 1	479	Robinson-1	846	11	367	1,133				Gas, 846 feet
					Robinson-2	891	41	412	1,088	891		250	
	16	Mahutska	Mitchell, No. 2	482	Robinson-1	850	12	368	1,132				Gas, 850 feet
					Robinson-2	902	33	420	1,080			250	
	17	Mahutska	Mitchell, No. 12	478	Robinson-1	841	4	363	1,137				
					Robinson-2	904	42	426	1,074				
	18	Mahutska	Mitchell, No. 11	477	Stray	823	36	346	1,154				
					Robinson-2	904	33	427	1,073				
	19	Mahutska	Mitchell, No. 5	477	Robinson-1	860	10	383	1,117				Gas, 860 feet
					Robinson-2	898	28	421	1,079				
	20	Mahutska	Mitchell, No. 4	476	Robinson-1	858	12	382	1,118				
					Robinson-3	917	35	441	1,059				
	21	Mahutska	Mitchell, No. 3	476	Robinson-1	861	11	385	1,115				
					Robinson-3	912	52	436	1,064				
	22	Mahutska	Mitchell, No. 6	477	Stray	830	10	353	1,147				
					Robinson-3	912	46	435	1,065				
N. W.	1	Mefford	Siler, No. 1	474	..do	920	42	446	1,054		962		
	2	Mefford	Siler, No. 2	475	Robinson-1	876	4	401	1,099				
					Robinson-3	945	25	470	1,030		973		
	3	Mefford	Siler, No. 3	478	Stray	853	38	375	1,125	880			
					Robinson-1	904	17	426	1,074		949		
	4	Mefford	Siler, No. 4	458	..do	888		430	1,070				
					Robinson-4	1,012	5	555	945			Dry	Salt water
	5	Mefford	Siler, No. 5	469	Stray	842		373	1,127				
					Robinson-1	875	13	406	1,094	875	917		
	6	Mefford	Siler, No. 6	474	Stray	851	22	377	1,123				
					Robinson-1	888	12	414	1,086				
	7	Ohio	Haskins. No. 1	466	..do	880		414	1,086	885		2	Gas, 880 feet, salt water, 890 feet
	8	Ohio	Haskins, No. 2	465	Stray	839	17	374	1,126	842		30	Gas, 840 feet

Crawford County—Oblong Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
16—N. E.	9	Ohio	Haskins, No. 4	450	Stray	814	18	364	1,136	818		200	Gas, 815 feet
	10	Ohio	Haskins, No. 3	445	..do	820	12	375	1,125	824		30	Gas, 821 feet
W.	1	Treat, Crawford & Treat.	Connett, No. 3	457	..do	840	30	383	1,117			100	
	2	Treat, Crawford & Treat.	Connett, No. 4	457	..do	835		378	1,122		1,029	10	
	3	Treat, Crawford & Treat.	Connett, No. 5	465	..do	847	6	382	1,118				
	4	Treat, Crawford & Treat.	Connett, No. 1	468	Robinson-1	879		411	1,089				
					Robinson-4	1,062		594	906		1062	Dry	
	5	Treat, Crawford & Treat.	Connett, No. 2	469	Robinson-2	899		430	1,070			Dry	
	6	Featzer & Copeland	Good, No. 5	472	Robinson-1	871	7	399	1,101				
					Robinson-2	900	15	428	1,072				
					Robinson-3	939	12	467	1,033	945			Salt water, 946 feet
	7	Featzer & Copeland	Good, No. 2	472	..do	922	32	450	1,050	930			Salt water, 950 feet
	8	Featzer & Copeland	Good, No. 4	468	..do	942	19	474	1,026				Salt water, 954 feet
	9	Featzer & Copeland	Good, No. 1	472	..do	927	26	455	1,045	935			Salt water, 950 feet
	10	Featzer & Copeland	Good, No. 3	467	..do	932	18	465	1,035				
	11	Treat, Crawford & Treat.	J. Good, No. 9	469	Robinson-2	905	33	436	1,064	908		50	
	12	Treat, Crawford & Treat.	J. Good, No. 12	471	Robinson-1	890	78	419	1,081	943		50	
	13	Treat, Crawford & Treat.	J. Good, No. 11	468	Robinson-2	902	56	434	1,066	932		150	
	14	Treat, Crawford & Treat.	J. Good, No. 13	468	..do	917	18	449	1,051			100	
	15	Ohio	R. Good, No. 1	462	Robinson-4	978		511	989			Dry	Salt water. No sands above
S. E.	1	Treat, Crawford & Treat.	J. Good, No. 10	465	Robinson-2	900	42	435	1,065	910		300	
	2	Treat, Crawford & Treat.	J. Good, No. 7	465	Robinson-1	891	53	426	1,074	905		50	
	3	Treat, Crawford & Treat.	J. Good, No. 4	469	..do	891		422	1,078				
					Robinson-2	912	35	443	1,057	912		100	
	4	Bruner	Dewey, No. 6	470	Robinson-1	896	38	426	1,074	899	941		
	5	Bruner	Dewey, No. 7	473	..do	894	46	421	1,079	897	947		
	6	Bruner	Dewey, No. 2	475	Stray	821	25	346	1,154				
					Robinson-1	881	39	406	1,094	886			
	7	Bruner	Dewey, No. 3	464	..do	881	56	417	1,083	884			

	8	Bruner	Dewey, No. 1	465	Stray	836		371	1,129				
					Robinson-1	890	40	425	1,075	896			
	9	Bruner	Dewey, No. 4	470	Stray	841		371	1,129				
					Robinson-1	898	39	428	1,072	901	946		
	10	Bruner	Dewey, No. 5	472	..do	896	39	424	1,076	901	948		
	11	Treat, Crawford & Treat.	J. Good, No. 8	468	Robinson-2	904	47	436	1,064	910		200	
	12	Treat, Crawford & Treat.	J. Good, No. 2	469	Robinson-1	864	31	395	1,105				Gas, 864 feet
					Robinson-3	942	15	473	1,027	952		300	
	13	Treat, Crawford & Treat.	J. Good, No. 5	471	Robinson-2	930	25	459	1,041	933		50	
	14	Red Bank	Carlisle, No. 4	472	..do	903	10	431	1,069			150	
	15	Red Bank	Carlisle, No. 5	472	Stray	822		350	1,150				
					Robinson-1	862		390	1,110				
					Robinson-2	900	30	428	1,072	902		150	
	16	Red Bank	Carlisle, No. 2	471	..do	907		436	1,064	912		200	
	17	Red Bank	Carlisle, No. 6	475	..do	905		430	1,070	915		150	Gas, 910 feet
					Robinson-3	935		460	1,040				
	18	Red Bank	Carlisle, No. 1	478	Stray	835	1	357	1,143				Gas, 835 feet
					Robinson-2	910	31	432	1,068	920			
	19	Red Bank	Carlisle, No. 7	470	..do	882		412	1,088				
					Stray	895		425	1,075				
					Robinson-2	902	31	432	1,068			100	
	20	Red Bank	Carlisle, No 8	474	..do	888		414	1,086	899		100	
	21	Red Bank	Carlisle, No. 3	474	..do	907	30	433	1,067	912		700	
	22	Red Bank	Carlisle, No. 9	472	Shallow	690		218	1,282				Gas, 690 feet
					Robinson-2	907		435	1,065	915			
	23	Treat, Crawford & Treat.	J. Good, No. 6	472	..do	909	36	437	1,063	912	950	100	
	24	Treat, Crawford & Treat.	J. Good, No. 1	472	..do	910	40	438	1,062	912		1,000	
	25	Treat, Crawford & Treat.	J. Good, No. 3	472	..do	912	53	440	1,060	929		300	
17— N. E.	1	Ohio	Randolph, No. 2	447	Robinson-1	859	23	412	1,088	863		30	Gas, 860 feet
	2	Ohio	Randolph, No. 1	447	..do	863	11	416	1,084				
					Robinson-2	879	8	432	1,068				
	3	Pure	Shiltz, No. 3	450							976	Dry	
	4	Pure	Shiltz, No. 2	450	Robinson-1	868	23	418	1,082		903	Dry	
	5	Pure	Shiltz, No. 4	452	..do	871	20	419	1,081	871	903	5	
	6	Pure	Shiltz, No. 6	450	Robinson-2	882	26	432	1,068		918		
	7	Pure	Shiltz, No. 1	452	Robinson-1	877	16	425	1,075		922		
	8	Ohio	Dedrick, No. 4	450	Robinson-2	882	18	432	1,068				
					Robinson-3	905	13	455	1,045		927		
	9	Ohio	Dedrick, No. 1	460	Robinson-2	906	14	446	1,054				
					Robinson-3	926	11	466	1,034	938	940		
	10	Ohio	Dedrick, No. 2	448	..do	899	31	451	1,049	899			
	11	Ohio	Dedrick, No. 3	447	Robinson-2	888	18	441	1,059		1,042	Dry	
	12	Ohio	H. Mitchell, No. 2	461	Robinson-3	912	12	451	1,049	915		4	Gas, 913 feet. Well abandoned
	13	Ohio	H. Mitchell, No. 3	463	Robinson-1 (?)	843	38	380	1,120	846		125	Gas, 846 feet
	14	Ohio	H. Mitchell, No. 4	464	Robinson-1	876	12	412	1,088	878		2	Gas, 876 feet
	15	Ohio	H. Mitchell, No. 1	446	..do	870		424	1,076	876			Salt water, 876 feet
N. W.	1	Ohio	Perkins, No. 1	450	Robinson-2	893	24	443	1,057		976		
	2	Red Bank	Perkins, No. 1	455	Robinson-2	901		446	1,054	905		30	
	3	Ohio	Perkins, No. 2	450	..do	905	31	455	1,045		956		
	4	Red Bank	Dedrick, No. 8	460	Robinson-3	932	61	472	1,028		993	Dry	

Crawford County—Oblong Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
16— N. W.	5	Red Bank	Dedrick, No. 7	467	Robinson-2	927	25	460	1,040			50	
	6	Red Bank	Dedrick, No. 9	468	Robinson-3	942	19	474	1,026	949		75	
	7	Ohio	Dedrick, No. 8	468	..do	951	15	483	1,017	951		35	Gas, 952 feet
	8	Ohio	Dedrick, No. 9	462	..do	946	14	484	1,016	946		90	Gas, 947 feet
	9	Ohio	Dedrick, No. 7	465	Robinson-2	930	13	465	1,035			50	
	10	Red Bank	Dedrick, No. 10	460	Robinson-1	902	40	442	1,058	937		50	
	11	Ohio	Dedrick, No. 6	463	Robinson-2	932	15	469	1,031	935			
					Robinson-3	960	7	497	1,003				
	12	Ohio	Dedrick, No. 5	463	Robinson-2	926	7	463	1,037	927			
					Robinson-3	938	11	475	1,025				
S. W.	1	Ohio	Baldwin, No. 2	461	..do	952	6	491	1,009			30	
	2	Ohio	Baldwin, No. 1	456	Robinson-2	937	12	481	1,019	938			
					Robinson-3	961	3	505	995				
	3	Crescent	Baldwin, No. 7	461	Robinson-2	933	9	472	1,028				
					Robinson-3	957	14	496	1,004		986		
	4	Crescent	Baldwin, No. 5	460	Robinson-2	927	10	467	1,033				
					Robinson-3	955	11	495	1,005		977		
	5	Crescent	Baldwin, No. 1	445	Robinson-2	900	14	455	1,045				
					Robinson-3	930	14	485	1,015			Light	Salt water, 944 feet
	6	Crescent	Baldwin, No. 3	445	Robinson-1	890	18	445	1,055				
					Robinson-3	912	23	467	1,033		943		
	7	Crescent	Baldwin, No. 4	445	Robinson-2	907	30	462	1,038		998		
	8	Crescent	Baldwin, No. 6	455	Robinson-2	914				920			
					Robinson-3	939	13				976		
S. E.	1	Crescent	W. Mitchell, No. 1	447	Robinson-1	868	2	421	1,079		925	Dry	
	2	Ohio	W. Mitchell, No. 2	447	..do	868	10	421	1,079				
					Robinson-2	882	12	435	1,065			35	
	3	Ohio	J. Mitchell, No. 4	447	..do	882	15	435	1,065	886		25	Gas, 885 feet. Salt water, 897 feet
	4	Ohio	J. Mitchell, No. 3	447	Robinson-4	1,007		560	940		1,107	Dry	Salt water
	5	Campbell Bros	Murphy, No. 9	447	Robinson-1	862	30	415	1,085		895		
	6	Campbell Bros	Murphy, No. 5	450	Robinson-1 (?)	846	53	396	1,104		899		

	7	Campbell Bros	Murphy, No. 3	463	Robinson								No record
	8	Campbell Bros	Murphy, No. 6	463	Robinson-1 (?)	851	51	388	1,112		906		
	9	Campbell Bros	Murphy, No 2	465	..do	860	35	395	1,105		920		
	10	Campbell Bros	Murphy, No. 4	468									No record
	11	Campbell Bros	Murphy, No. 7	465	Robinson-1 (?)	836	57	371	1,129		893		
	12	Campbell Bros	Murphy, No 8	467	..do	835	55	368	1,132		894		
	13	Campbell Bros	Murphy, No. 1	463									No record
	14	Ohio	McColpin, No. 4	448	Robinson-1	879		431	1,069	890		2	Salt water, 890 feet. Well abandoned
	15	Ohio	McColpin, No. 3	447	..do	880		433	1,067			75	Gas, 885 feet. Salt water, 900 feet
	16	Ohio	McColpin, No. 1	448	..do	890		442	1,058	892		100	
	17	Ohio	McColpin, No. 2	448	..do	897		449	1,051	900		Light	Gas, 900 feet. Well abandoned
					Robinson-3	927		479	1,021				Salt water, 927 feet
	18	Ohio	McColpin, No. 5	448	Robinson-4	1,040		592	908		1,040	Dry	Salt water
8— N. E.	1	Red Bank	Dedrick, No. 5	476	Robinson-2	945	14	469	1,031	955		20	
	2	Red Bank	Dedrick, No. 4	478	Robinson-3	958	18	480	1,020	964		20	
	3	Red Bank	Dedrick, No. 1	478	Robinson-2	947	14	469	1,031	949		40	
	4	Red Bank	Dedrick, No. 2	472	Robinson-3	947	16	475	1,025			10	
	5	Red Bank	Dedrick, No. 6	476	Robinson-2	942	12	466	1,034			50	
	6	Red Bank	Dedrick, No. 3	475	..do	941	38	466	1,034			100	
	7	Morrison	Perkins, No. 1	478	Stray	840		362	1,138				
					Robinson-3	970	20	492	1,008	975		15	
	8	Morrison	Perkins, No. 2	476	..do	970	27	494	1,006	977		70	
	9	Morrison	Perkins, No. 3	476	..do	958	34	482	1,018	961		100	
	10	Morrison	Perkins, No. 6	475	..do	983	21	508	992			18	
	11	Morrison	Perkins, No. 4	474	..do	963	22	489	1,011	965		70	
	12	Morrison	Perkins, No. 5	475	..do	971	29	496	1,004			20	
	13	Ohio	Dedrick, No. 4	476	..do	988	8	512	988		996	35	
	14	Ohio	Dedrick, No. 3	474	Robinson-2	950	35	476	1,024		985	130	
	15	Ohio	Dedrick, No. 5	472	Robinson-3	985		513	987	985	1,007	55	Gas, 986 feet
	16	Ohio	Dedrick, No. 6	472	..do	990	18	518	982	990	1,014	7	Gas, 991 feet
N. W.	1	Ohio	Caywood, No. 1	474								Dry	No record
	2	Ohio	Cooley, No. 1	474		1,230		756	744			Dry	Salt water, 1,230 feet. No upper sands
S. W.	1	Ohio	Reade, No. 1	472		1,315		843	657			Dry	No upper sands. Salt water, 1,315 feet
S. E.	1	Anchor & Seibert	School House Lot	472	Robinson-3	996	9	524	976		1,010		
	2	Ohio	Cooley, No. 2	469	Robinson-4	1,037		568	932			Dry	No upper sands
	3	Morrison	Dedrick, No. 1	470									No record
31— S. E.	1	Ohio	Wirt, No. 1	465	Robinson-3	930	10	465	1,035	930			
	2	Ohio	Wirt, No. 2	464	Robinson-1	865	12	401	1,099	865		60	
	3	Unknown	Wirt, No. 1	466									
	4	Red Bank	Wirt, No. 3	468	Robinson-1	866	9	400	1,100				
					Robinson-4	970	13	504	996			75	
	5	Red Bank	Wirt, No. 4	463								Dry	No sands, all shale
	6	Red Bank	Wirt, No. 1	487	Robinson-3	929	46	442	1,058			Dry	
	7	Red Bank	Wirt, No. 2	463	Robinson-1	869	28	406	1,094	871		200	
	8	Ohio	Wirt, No. 3	462	Stray	849	14	387	1,113	849		150	

Crawford County—Oblong Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Intial product—barrels.	Remarks.
31—													
S. E.	9	Ohio	Wirt, No. 4	462	Robinson-1	869	7	407	1,093				
					Robinson-2	890	20	428	1,072				
					Robinson-3	923	18	461	1,039			25	
32—													
S. W.	1	Kanawha	Wood, No. 15	489	Robinson-1	865	15	376	1,121				
					Robinson-2	912		423	1,077		935		
	2	Kanawha	Wood, No. 31	486	Robinson-1	883	9	397	1,103				
					Robinson-3	918	27	432	1,068		952		
	3	Kanawha	Wood, No. 32	487	Robinson-1	852	25	365	1,135				Gas, 852 feet
					Robinson-2	893	7	406	1,094				
					Robinson-3	918	18	431	1,069		943		
	4	Kanawha	Wood, No. 14	488	Robinson-1	858	29	370	1,130	864			
					Robinson-2	905		417	1,083		932		
	5	Kanawha	Wood, No. 13	484	Robinson-1	858	10	374	1,126				
					Robinson-2	904		420	1,080		929		
	6	Kanawha	Wood, No. 12	474	do	882		408	1,092	894	917		
	7	Kanawha	Wood, No. 9	477	Robinson-1	863	9	386	1,114				
					Robinson-2	874		397	1,103		911		
	8	Kanawha	Wood, No. 7	480	Robinson-1	865	15	385	1,115	875	933		
	9	Kanawha	Wood, No. 6	484	do	846		362	1,138	860			
					Robinson-2	903		419	1,081		919		
	10	Kanawha	Wood, No. 5	485	Robinson-1	855	42	370	1,130				
					Robinson-3	919		434	1,066		944		
	11	Kanawha	Wood, No. 10	487	Robinson-1	872	17	385	1,115	877			
					Robinson-2	901		414	1,086		938		Well abandoned
S. E.	1	American Oil and Development Co	Short, No. 1	483	Robinson-1	825		342	1,158	828			Shale gas, 650 feet
					Robinson-2	873		390	1,110	873	920		
	2	American Oil and Development Co	Short, No. 21	488	Robinson-1	863	57	375	1,125	881	952		Shale gas, 670 feet
	3	American Oil and Development Co	Short, No. 20	487	Stray	813	7	326	1,174				
					Robinson-1	835	5	348	1,152				
					Robinson-2	903	17	416	1,084		942		Salt water

4	American Oil and Development Co.	Short, No. 19	486	Robinson-1	842	14	356	1,144	845		230	
				Robinson-2	898	5	412	1,088				Salt water
				Robinson-3	923	8	437	1,063		935		
5	American Oil and Development Co.	Short, No. 2	478	Robinson-1	829	19	351	1,149	833			
				Robinson-2	868	18	390	1,110				
				Robinson-4	955	4	477	1,023				Salt water
6	American Oil and Development Co.	Short, No. 18	487	Robinson-1	830		343	1,157				
				Robinson-3	925	5	438	1,062		980	Dry	
7	American Oil and Development Co.	Short, No. 17	489	Robinson-1	858	32	369	1,131	860	885	200	
8	American Oil and Development Co.	Short, No. 23	484	..do	819	10	335	1,165				
				Robinson-2	904	8	420	1,080			100	
9	American Oil and Development Co.	Short, No. 3	468	Robinson-1	815	12	347	1,153				
				Robinson-2	857	15	389	1,111				
				Robinson-3	906		438	1,062		934		
10	American Oil and Development Co.	Short, No. 24	489									No record
11	American Oil and Development Co.	Short, No. 5	468	Robinson-1	810	10	342	1,158				
				Robinson-2	830	5	362	1,138			Dry	
12		Railway right of way	489									No record
13		..do	490									..do
14		..do	478									..do
15	American Oil and Development Co.	Wall, No. 1	483	Robinson-1	860	21	377	1,123	862			Shale gas, 585 and 750 feet
16	American Oil and Development Co.	Wall, No. 16	488	..do	862	15	374	1,126	863	886	50	
17	American Oil and Development Co.	Wall, No. 12	488	..do	870	23	382	1,118	872			Shale gas, 670 feet
18	American Oil and Development Co.	Wall, No. 11	481	..do	845	2	364	1,136				Shale gas, 605 feet
				Robinson-3	906	23	425	1,075	912	934	50	
19	American Oil and Development Co.	Wall, No. 10	482	Robinson-1	833	24	351	1,149				Shale, gas, 690 feet
				Robinson-3	912	20	430	1,070				
20	American Oil and Development Co.	Wall, No. 13	485	Robinson-1	870	25	385	1,115				Salt water, 885 feet
				Robinson-3	912	22	427	1,073	917		75	Shale gas, 650 feet
21	American Oil and Development Co.	Wall, No. 2	478	..do	904	19	426	1,074	907	928		Shale gas, 670 feet
22	American Oil and Development Co.	Wall, No. 9	489	Robinson-1	878	5	389	1,111				Shale gas, 625 feet
				Robinson-2	904	20	415	1,085	909	929	75	
23	American Oil and Development Co.	Wall, No. 3	485	Robinson-1	863	32	378	1,122				
				Robinson-3	925	17	440	1,060	926	943	50	
24	American Oil and Development Co.	Wall, No. 8	488	..do	875	41	387	1,113	975	939	400	

Crawford County—Oblong Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
32—S. E...	25	American Oil and Development Co	Wall, No. 4	483	Robinson-1	834	52	351	1,149	871		100	
					Robinson-2	895	20	412	1,088		920		
	26	American Oil and Development Co	Wall, No. 5	488	Shallow	770	29	282	1,218				
					Robinson-1	836	24	348	1,152				
					Robinson-2	890	15	402	1,098			200	
	27	American Oil and Development Co	Wall, No. 6	489	Stray	830	15	341	1,159	834			
					Robinson-1	850	45	361	1,139	880	935	400	
	28	American Oil and Development Co	Wall, No. 7	487	..do	868	15	381	1,119				
					Robinson-2	890	15	403	1,097		930	200	
	29	American Oil and Development Co	Wall, No. 17	483	Robinson-1	855	6	372	1,128		948	Dry	
33—S. W..	1	Fidelity	Davidson, No. 7	482									No record
	2	Fidelity	Davidson, No. 2	485									..do
	3	Fidelity	Davidson, No. 1	478									..do
	4	Fidelity	Davidson, No. 6	486									..do
	5	Fidelity	Davidson, No. 4	484									..do
	6	Fidelity	Davidson, No. 5	485									..do
	7	Fidelity	Davidson, No. 3	488									..do
	8	Liberty Oil and Gas Co	Houghton, No. 4	484	Robinson-1	835	19	351	1,149	843	920	300	Shale gas, 615 feet
	9	Liberty Oil and Gas Co	Houghton, No. 3	483	..do	825	39	342	1,158	844		125	Salt water, 864 feet
					Robinson-3	932		449	1,051		948		
	19	Liberty Oil and Gas Co	Houghton, No. 2	479	Robinson-1	823	32	344	1,156	831		200	
					Robinson-3	910	6	431	1,069		936		
	11	Liberty Oil and Gas Co	Houghton, No. 12	486									No record
	12	Liberty Oil and Gas Co	Houghton, No. 1	486	Robinson-1	825	15	339	1,161				Shale gas, 600 feet
					Robinson-2	879	16	393	1,107	879			
					Robinson-3	927	7	441	1,059	930	944		Well abandoned because of fresh water

	13	Liberty Oil & Gas Co.	Houghton, No. 11	481	Stray	804	4	323	1,177				
					..do	828	6	347	1,153				
					Robinson-1	848	57	367	1,133	870	932		Salt water, 912 feet
	14	Liberty Oil & Gas Co.	Houghton, No. 10	481	..do	840	25	359	1,141	840			
					Robinson-2	890	13	409	1,091		903		
	15	Liberty Oil & Gas Co.	Houghton, No. 6	469	Robinson-1	815	48	346	1,154	815			
					Robinson-2	880	18	411	1,089				Salt water
					Robinson-3	908	14	439	1,061		922		
	16	Liberty Oil & Gas Co.	Houghton, No. 13	479	Stray	799	12	320	1,180	822			
					Robinson-1	822	28	343	1,157	828			
					Robinson-2	882	19	403	1,097				
					Robinson-3	923	15	444	1,056		938		Salt water
	17	Liberty Oil & Gas Co.	Houghton, No. 9	483	Robinson-1	835	25	352	1,148	835		10	
					Robinson-2	880	17	397	1,103		938		
	18	Liberty Oil & Gas Co.	Houghton, No. 8	470	Robinson-1	821	25	351	1,149	821			
					Robinson-2	867	16	397	1,103	870	921		
	19	Liberty Oil & Gas Co.	Houghton, No. 7	483	Stray	800	51	317	1,183	831			
					..do	866	5	383	1,117				
					Robinson-2	885	5	402	1,098		940		Well ruined by premature shot and abandoned
S. E.	1	Ohio	Woodworth, No. 11	485	Robinson-1	858	30	373	1,127	875	888	200	Gas, 859 feet
	2	Ohio	Woodworth, No. 10	487	..do	870	50	383	1,117	875	937	210	Gas, 875 feet
	3	Ohio	Woodworth, No. 19	489	Robinson-2	909	8	420	1,080	912	937	10	Gas, 910 feet
	4	Ohio	Woodworth, No. 1	486	Robinson-1	876		390	1,110	920	953	15	
	5	Ohio	Woodworth, No. 3	485	..do	870		385	1,115	874		25	Gas, 870 feet
					Robinson-2	903		418	1,082		905		Salt water
	6	Ohio	Woodworth, No. 2	484	Stray	838		354	1,146	885	893	250	
	7	Ohio	Woodworth, No. 5	482	Robinson-1	872		390	1,110	880	906	10	Gas, 876 feet. Salt water 902 feet
	8	Ohio	Woodworth, No. 4	484	..do	845		361	1,139	860			Gas, 845 feet. Salt water, 890 feet
	9	Ohio	Woodworth, No. 8	484	..do	852	45	368	1,132	860	907	50	Gas, 860 feet, Salt water, 900 feet
	10	Ohio	Woodworth, No. 9	486	..do	862	60	376	1,124	886	942	200	Gas, 886 feet
	11	Ohio	Woodworth, No. 12	486	..do	856	20	370	1,130		898	Dry	Salt water, 898 feet
	12	Ohio	Woodworth, No. 1	484	..do	855	45	371	1,129	865		Show	
						1,045	145	561	939				200 barrels salt water per hour
						1,255	100	771	729				
						1,428		994	506		1,430	Dry	
	13	Ohio	Woodworth, No. 6	483	Robinson-1	865		382	1,118	870	982	15	Gas, 870 feet. Salt water, 980 feet
34— S. E.	1	Ohio	J. H. Wood, No. 3	485	Robinson-2	917	15	432	1,068	922	946	100	Gas, 920 feet
	2	Ohio	J. H. Wood, No. 1	490	Robinson-1	892	12	402	1,098	900	958	30	Gas, 900 feet. Salt water, 955 feet
	3	Ohio	J. H. Wood, No. 2	480	..do	896	44	416	1,084	910	948	25	Gas, 900 feet. Salt water, * 948 feet
	4	Ohio	R. Wood, No. 15	467	..do	875	10	408	1,092	875	929	2	Gas, 875 feet. Salt water, 929 feet

Crawford County—Oblong Township—Concluded.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Intial product—barrels.	Remarks.
35—S. W.	1	Ohio	Firebaugh, No. 4	512	Robinson-1	927	18	415	1,085	930		15	Gas, 930 feet
	2	Ohio	Firebaugh, No. 3	509	..do	931	10	422	1,078	905		10	Gas, 935 feet
	3	Ohio	Firebaugh, No. 2	509	Robinson-2	946	13	437	1,063	950		12	Gas, 950 feet. Salt water, 975 feet
	4	Ohio	Firebaugh, No. 8	502	Robinson-1	923	10	421	1,079	930		75	Gas, 925 feet
	5	Ohio	Firebaugh, No. 7	503	..do	920	15	417	1,083	925		5	Gas, 925 feet. Salt water, 943 feet
	6	Ohio	Firebaugh, No. 13	502	Robinson-3	960	15	458	1,042	970		100	
S. E.	1	Ohio	Warnock, No. 3	501						875			No record
	2	Ohio	Warnock, No. 4	499						960			..do
	3	Ohio	Warnock, No. 7	516	Robinson-2	950	18	434	1,066	960		25	Gas, 950 feet
	4	Ohio	Warnock, No. 8	514	..do	941	15	427	1,073	945		30	Gas, 941 feet
	5	Ohio	Warnock, No. 2	490						896			No record
	6	Ohio	Warnock, No. 1	504						918			..do
	7	Ohio	McLain, No. 2	488						928			..do
	8	Ohio	McLain, No. 1	490						870			..do
	9	Ohio	McLain, No. 4	507						910			..do
	10	Ohio	McLain, No. 3	511						935			..do
	11	Bailey & Fritz	Beeman, No. 2	488	Stray	870		382	1,118				
					Robinson-1	908	14	420	1,080		932		Salt water, 932 feet
	12	Boles	Grieves, No. 1	504	..do	923	22	419	1,081	935		40	Gas, 923 feet
	13	Boles	McLain, No. 3	513	Stray	890		377	1,123				
					Robinson-1	936	27	423	1,077			100	Well abandoned
	14	Boles	McLain, No. 1	513	Stray	885		372	1,128				
					Robinson-2	955	69	442	1,058			15	5,000,000, cubic feet gas daily
	15	Boles	McLain, No. 2	507	Stray	885		378	1,122				
					Robinson-1	932	38	425	1,075			100	
	16	Gillespie	Barnes, No. 2	504	Stray	873	49	369	1,131				Gas, 877 feet
					Robinson-1	830	29	426	1,074				
	17	Gillespie	Barnes, No. 3	509	Stray	878	50	369	1,131				Gas, 898 feet
					Robinson-1	938	18	429	1,071				

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Depth to top—feet.	Thickness penetrated—feet.	Altitude below sea level—feet.	Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
	18	Bailey & Fritz	Beeman, No. 4	504								Dry	No sands
	19	Bailey & Fritz	Beeman, No. 3	507	Stray	894		387	1,113				
					Robinson-1	930	19	423	1,077	930	970		
	20	Bailey & Fritz	Beeman, No. 1	500	Stray	852	13	352	1,148				
					Robinson-1	913	87	413	1,087	922		50	5,000,000 cubic feet gas daily

Crawford County—Robinson Township.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Depth to top—feet.	Thickness penetrated—feet.	Altitude below sea level—feet.	Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
1— N. E.	1	Ohio	Walters, No. 7	520	Stray	900		380	1,120				
	2	Ohio	Walter, No. 8	519	Robinson-1	890	45	371	1,129				
	3	Ohio	Walters, No. 15	520	..do	923	53	403	1,097	923		13	
	4	Ohio	Walters, No. 17	520	Stray	903	2	383	1,117				
					Robinson-3	1,022	68	502	998			Dry	Salt water, 1,022 feet
	5	Ohio	Walters, No. 11	520	Stray	893	15	373	1,127				
	6	Ohio	Walters, No. 12	522	..do	896	11	374	1,126				
	7	Ohio	Walters, No. 19	522	..do	912	6	390	1,110				
					Robinson-3	1,010		488	1,012			Dry	
N. W.	1	Ohio	Walters, No. 14	522	Stray	900	6	378	1,122	903		30	
	2	Ohio	Jones, No. 8	511	Robinson-1	930	12	419	1,081	930		4	Gas, 930 feet
	3	Ohio	Jones, No. 9	511	..do	932	5	421	1,079				Salt water, 942 feet
					Robinson-3	970	10	459	1,041	970		15	
S. W.	1	Ohio	Mikeworth, No. 1	505	Shallow	710	20	205	1,295				
					Robinson-1	903		398	1,102				Gas, 903 feet
					Robinson-3	1,005		500	1,000		1,012	Dry	Salt water, 1,005 feet
S. E.	1	Leeper	Furman, No. 1	504	Robinson-1	910		406	1,094				
					Robinson-3	1,025		521	979		1,028	Dry	Salt water
	2	Gunchen	Quick, No. 1	513	Stray	900		387	1,113	910	950	Light	Well abandoned
	3	Chase	Quick, No. 2	507									No record
	4	Chase	Quick, No. 1	504									..do

Crawford County—Robinson Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
4— S. E.	1	White & Cromack	Parker, No. 1	519	Shallow	927		408	1,092	950		Dry	Gas, 932 feet Salt water, 945 feet.
5— N. W.	1	Minnetonka	Wilson, No. 1	528	Robinson-1	975		447	1,053	1,200		Dry	
6— N. E.	1	Fisher	Randolph, No. 3	527	Shallow	885	20	358	1,142				
					Robinson-1	972	12	445	1,055				
					Robinson-2	995	35	468	1,032				Salt water, 1,030 feet.
						1,285		758	742	1,300		Dry	Salt water, 1,300 feet.
	2	Fisher	Henry, No. 4	525								Dry	No record.
	3	Fisher	Henry, No. 3	523	Robinson-2	983	23	460	1,040	988			
N. W.	1	Fisher	Randolph, No. 1	519	Stray	900	20	381	1,119				
					Robinson-4	1,059	6	540	960	1,088		Dry	Salt water, 1,065 feet.
	2	Ohio	W. Jones, No. 4	525	Robinson-2	993	7	468	1,032				
					Robinson-3	1,005	13	480	1,020	1,009		4	
	3	Ohio	W. Jones, No. 2	524	Robinson-2	986		462	1,038	986		40	Gas, 986 feet.
					Robinson	993	7	469	1,031				
					Robinson-3	1,005	13	479	1,021				
	4	Ohio	W. Jones, No. 3	523	Robinson-2	984	8	461	1,039	894			
					Robinson-4	1,080		557	943				Salt water.
						1,269	10	746	754			Dry	
	5	Ohio	W. Jones, No. 1	520	Robinson-2	980	7	460	1,040				Gas, 995 feet.
					Robinson-4	1,050	9	530	970	1,050		10	Salt water, 1,059 feet.
	6	Fisher	Randolph, No. 2	520	Robinson-2	963	17	443	1,057				
					Robinson-3	996		476	1,024				
					Robinson-4	1,050	22	530	970		1,204	30	
	7	Fisher	Henry, No 1	515	Stray	902	5	387	1,113				Gas, 887 feet (shell).
					Robinson-1	950	30	435	1,065		982	25	Gas, 955 feet.
	8	Fisher	Henry, No. 2	520	Stray	890	30	370	1,130				
					Robinson-3	998	2	478	1,022	998	1,006	35	

	9	Red Bank	Cortelyou, No. 1 "B"	519	Stray	881		362	1,138				
					Robinson-1	956	16	437	1,063			Gas	Gas, 956 feet, 3,000,000 cubic feet gas
	10	Red Bank	Cortelyou, No. 2 "B"	519	Stray	873	32	354	1,146				
					Robinson-1	957	15	438	1,062			20	3,000,000 cubic feet gas
	11	Red Bank	Cortelyou, No. 1 "R. B"	520	Stray	887	15	367	1,133			Show	
					Robinson-2	976	6	456	1,044			50	
	12	Red Bank	Cortelyou, No. 2 "R. B"	522	Stray	881	2	359	1,141				
					Robinson-2	963	20	441	1,059			50	
	13	Ohio	Cortelyou, No. 1	524	Stray	903	20	379	1,021	912			
					Robinson-2	966	18	442	1,058				
	14	Ohio	Cortelyou, No. 4	521									No record
	15	Ohio	Cortelyou, No. 2	514	Stray	893	20	379	1,121				Gas, 893 feet
					Robinson-4	1,057	10	543	957	1,057			
	16	Ohio	Cortelyou, No. 3	517	Robinson-3	973	12	456	1,044				
					Stray	1,013		496	1,004				Salt water
					Robinson-4	1,062	15	545	955				
	17	Leeper	Furman, No. 1	524	Stray	898		374	1,126				
	18	Leeper	Furman, No. 2	515									No record
	19	Leeper	Furman, No. 3	518									..do
	20	Leeper	Furman, No. 4	522	Stray	920	10	398	1,102				
					Robinson-1	958	30	436	1,064		1,000		
S. W.	1	Davis	Dean, No. 1	514								Dry	No record
	2	Davis	Dean, No. 2	530								Dry	No record
S. E.	1	Leeper	C. Jones, No. 1	522	Robinson-2	990		468	1,032				Gas, 996 feet
					Robinson-3	1,017		495	1,005		1,025	Dry	Salt water
7— N. W.	1	Davis	Dean, No. 2	530	Stray	910	5	380	1,120	910	975	Light	
	2	Davis	Dean, No. 1	514	..do	900	22	386	1,114	918	950	Light	
S. W.	1	Ohio	G. Jones, No. 1	525	Robinson-3	1,016		491	1,009			Dry	Salt water
8— S. W.	1	Ohio	Griswold, No. 1	492	..do	990	10	498	1,002			Dry	Salt water, 1,000 feet
9— S. W.	1	Unknown	Griswold, No. 1	498								Dry	No record
10— S. W.	1	Unknown	Combs, No. 1	505							1,078	Dry	..do
12— N. E.	1	Central Oil & Gas Co.	Dean, No. 1	508	Robinson-1	905		397	1,103		985	Gas	Gas, 930 feet
	2	Central Oil & Gas Co.	Dean, No. 2	508	..do	915	10	407	1,093	918	962	Light	Salt water, 962 feet. Well abandoned
	3	Ohio	W. Jones, No. 1	508	..do	907		399	1,101			Gas	Gas, 933 feet
N. W.	1	Ohio	W. Jones, No. 2	509	..do	912	12	403	1,097	914		20	Gas, 912 feet
	2	Ohio	W. Jones, No. 3	508	..do	912		404	1,096	915		15	Gas, 935 feet
	3	Superior	Richart, No. 1	495								Dry	No record
	4	Superior	Richart, No. 2	511	Robinson-1	916		405	1,095		926	75	Gas, 918 feet
S. W.	1	Jennings	Meserve, No. 1	511								Dry	No record
	2	Ohio	Wakefield, No. 1	527	Stray	898	6	371	1,129				
					Robinson-2	970		443	1,057			Dry	Salt water
13— N. W.	1	Ohio	Wakefield, No. 2	522	Robinson-1	922	30	400	1,100				
					Robinson-2	959	10	437	1,063				
					Robinson-3	982		460	1,040				

Crawford County—Robinson Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Depth to top—feet.	Thickness penetrated—feet.	Altitude below sea level—feet.	Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Intial product—barrels.	Remarks.
13—N. W.	2	Ohio	Wakefield, No. 3	524	Robinson-3	995		471	1,029				
	3	Ohio	Taylor, No. 5	520	..do	985	15	465	1,035				
	4	Ohio	Taylor, No. 3	520	Robinson-1	930	25	410	1,090				
S. W.	1	Morrison	Walter, No. 1	522	..do	929		407	1,093				
						1,233		711	789			Dry	Salt water
	2	Ohio	Mann, No. 1	517	Robinson-2	938		421	1,079	938		9	Gas, 938 feet
16—N. E.	1	Red Bank	Rafferty, No. 1	533	Stray	910		377	1,123				Gas, 915 feet
					Robinson-3	1,037		504	996		1,037	Dry	Salt water
17—N. E.	1	Red Bank	Stephenson, No. 1	510	Robinson-1 (?)	927	12	417	1,083	932	939	15	Well abandoned
18—S. W.	1	Red Bank	Mann, No. 1	520	Stray	883		363	1,137			Dry	
31—S. W.	1	Samuels & Booth	F. Burner, No. 5	528	Robinson-2	972	12	444	1,056	974			North 40 acres
					Robinson-3	1,030	15	502	998				Gas, 1,035 feet. North 40 acres
						1,235		707	793		1,238	Light	Salt water. Well abanconed
	2	Samuels & Booth	F. Burner, No. 3	528	Robinson-3	1,040	20	512	988				Gas, 1,040 feet. North 40 acres
					Robinson-4	1,120	15	592	908	1,120	1,135		
	3	Unknown	Ill. Central, No. 1	529								Dry	No record
	4	Samuels & Booth	F. Burner, No 2	530	Robinson-3	1,020	27	490	1,010	1,020			North 40 acres
					Robinson-4	1,095	42	565	935				
	5	Samuels & Booth	F. Burner, No. 4	530	Robinson-2	980	20	450	1,050	980			North 40 acres
					Robinson-4	1,107	33	577	923		1,140		
	6	Samuels & Booth	F. Burner, No. 1	534	Stray	870	20	336	1,164	950			North 40 acres
					Robinson-4	1,096	34	562	938	1,096	1,130		
	7	Samuels & Booth	F. Burner, No. 1	532	Stray	888	17	356	1,144				South 40 acres. Gas, 890 feet
					Robinson-2	986	18	454	1,046	940	1,004		

	8	Samuels & Booth	F. Burner, No. 2	532	Stray	917		385	1,115				Gas, 917 feet. South 40 acres
					Robinson-2	978	25	446	1,054	978	1,006		
	9	Samuels & Booth	F. Burner, No. 3	529	Stray	917	9	388	1,112	917			South 40 acres
					Robinson-1	950	10	421	1,079				Gas, 950 feet
					Robinson-2	983	19	454	1,046		1,002		
	10	Vincent	Newlin, No. 9	521	Stray	890		369	1,131				
					do	905	25	384	1,116	920	1,006		
	11	Vincent	Newlin, No. 8	522	do	870		348	1,152				
					Robinson-4	1,057	15	535	965				
	12	Vincent	Newlin, No. 5	530	Stray	885		355	1,145				
					Robinson-2	968		438	1,062				
					Robinson-4	1,058	19	528	972		1,082		
	13	Vincent	Newlin, No. 6	529	Stray	914	15	385	1,115		933		
	14	Vincent	Newlin, No 10	529	do	874		345	1,155				
					Robinson-4	1,040		511	989	1,067	1,081		
	15	Vincent	Newlin, No. 11	522									
	16	Vincent	Newlin, No. 7	526							931		No record
	17	Vincent	Newlin, No. 3	526	Stray	890		364	1,136		895		
	18	Vincent	Newlin, No. 1	511	do	852		341	1,159				
					do	876		365	1,135		895		
	19	Vincent	Newlin, No. 2	521	do	885		364	1,136	940	984		
	20	Vincent	Newlin, No. 4	517	do	860		343	1,157				
					Robinson-3	979		462	1,038				
					Robinson-4	1,035		518	982		1,086		Salt water
S. E.	1	Unknown	F. Burner, No. 1	532								Dry	No record
	2	Rogers	A. Burner, No. 1	531	Robinson-1	956	49	425	1,075	978			
					Robinson-3	1,027	23	496	1,004		1,192		Gas, 1,038 feet
	3	Rogers	A. Burner, No. 2	533								Dry	No record
32— S. W.	1	Annin	McGovern, No. 1	544							1,400	Dry	do
	2	Annin	McGovern, No. 2	533	Robinson-3	1,050		517	983				Gas, 1,050 feet
					Robinson-4	1,105		572	928		1,110	Dry	Salt water, 1,105 feet
33— S. W.	1	Unknown	Jones	548	Robinson-1	1,010		462	1,038		1,360		Good gas, 1,020 feet. Well abandoned
36— S. W.	1	Ohio	Firebaugh, No. 4	494	Robinson-4	1,015	57	521	979			Dry	Salt water, 1,015 feet
	2	Ohio	Firebaugh, No. 5	487	Stray	860	5	373	1,127				
					Robinson-1	892	15	405	1,095	894		55	Gas, 894 feet
	3	Ohio	Firebaugh, No. 2	484	Stray	840		356	1,144	845		35	Gas, 845 feet. Salt water, 862 feet
	4	Ohio	Firebaugh, No. 3	513	Robinson-2	970		457	1,043	980		15	Gas, 970 feet. Salt water, 986 feet
	5	Ohio	Firebaugh, No. 1	487	Stray	872		385	1,115			75	Gas, 877 feet
	6	Ohio	Walters, No. 4	505	Robinson-2	950	30	445	1,055				
	7	Ohio	Walters, No. 21	486	Stray	872		386	1,114	872		60	
					Robinson-3	951	40	465	1,035				
	8	Ohio	Walters, No. 1	486	Robinson-1 (?)	872	30	386	1,114			Dry	
	9	Ohio	Walter, No. 3	506	do	872	72	366	1,134				

Crawford County—Robinson Township—Concluded.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
36—													
S. W.	10	Ohio	W. Jones, No. 2	506	Stray	888		382	1,118				
					Robinson-3	970		464	1,036	970			Gas, 968 feet. Salt water, 980 feet
	11	Ohio	W. Jones, No. 1	486	Stray	858		372	1,128				
					Robinson-3	953		467	1,033	953		15	
	12	Ohio	W. Jones, No. 7	513	Robinson-2	960	6	447	1,053	960		20	
	13	Ohio	W. Jones, No. 3	486	do	925		439	1,061	932		60	Gas, 925 feet
					Robinson-3	970		484	1,016				Salt water
	14	Ohio	W. Jones, No. 6	513	Robinson-1	929	4	416	1,084				Gas, 932 feet
					Robinson-2	940	21	427	1,073	950		60	
	15	Ohio	W. Jones, No. 5	513	Robinson-1	932	6	419	1,081				
					Robinson-2	949	12	436	1,064	954		30	Gas, 949 feet
	16	Ohio	W. Jones, No. 4	488	Robinson-1	898		410	1,090	900		75	Gas, 898 feet. Salt water, 922 feet
	17	Ohio	Warnock, No. 3	486						890			No record
	18	Ohio	Warnock, No. 4	504						896			do
	19	Ohio	Warnock, No. 2	488						910			do
	20	Ohio	Warnock, No. 1	496						894			do
	21	Ohio	Walters, No. 13	522	Stray	899	20	377	1,123	901		75	
S. E.	1	Ohio	Walters, No. 2	522	do	887	15	365	1,135				Salt water, 929 feet
	2	Ohio	Walters, No. 10	520								Dry	No record
	3	Ohio	Walters, No. 5	522	Robinson-1	940	25	418	1,082				
					Stray	865	15	360	1,140				
	4	Ohio	Walters, No. 16	505	Robinson-1 (?)	900	12	395	1,105	900		40	
	5	Ohio	Walters, No. 9	522	Stray	887	15	365	1,135				
	6	Ohio	Walters, No. 20	526	Robinson-2	973	10	447	1,053	973		20	Salt water, 986 feet
	7	Ohio	Walters, No. 18	503	Stray	874	26	371	1,129	874		60	
	8	Ohio	Walters, No. 23	518	do	877	7	359	1,141				
					Robinson-1	945	22	427	1,073	947		8	
	9	Ohio	Walters, No. 22	521	Stray	895	7	374	1,126				Gas, 898 feet
					Robinson-2	954	16	433	1,067	954		20	

	10	Ohio	Walters, No. 6	507	Robinson-1	900		395	1,105				Gas, 920 feet
					Robinson-3	990		483	1,017		1,148		Salt water
	11	Leeper	Crebbs, No. 1	521	Stray	883	7	362	1,138				
					Robinson-4	1,086	10	565	935		1,102		
	12	Leeper	Crebbs, No. 3	524	Stray	875	19	351	1,149				
					Robinson-1	930		406	1,094				
	13	Leeper	Crebbs, No. 4	526	Stray	874	16	348	1,152		1,160		
	14	Leeper	Crebbs, No. 9	524	..do	883	9	359	1,141				
					Robinson-2	960	22	436	1,064				
					Robinson-4	1,069	18	545	955				
						1,188	25	664	836		1,213		Salt water, 1,213 feet
	15	Leeper	Crebbs, No. 2	525	Stray	878	14	353	1,147				
					Robinson-4	1,086	10	561	939		1,069		Quit in sand
	16	Leeper	Crebbs, No. 8	511	Stray	846		335	1,165				
					..do	881	9	370	1,130				
					..do	900	19	389	1,111		942		
	17	Leeper	Crebbs, No. 5	526	..do	874	16	348	1,152				
					Robinson-3	990	10	464	1,036		1,002		
	18	Leeper	Crebbs, No. 7	506	Stray	838		332	1,168				
					..do	870	22	364	1,136		930		
	19	Leeper	Crebbs, No. 6	486	..do	851		365	1,135				
					Robinson-1	889	15	403	1,097		965		

Lawrence County—Bridgeport Township.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Intial product—barrels.	Remarks.
1—N. E.	1	Snowden Bros	E. Fyffe, No. 2	528	Kirkwood	1,644	34	1,116	384	1,644	1,678		
	2	Snowden Bros	E. Fyffe, No 5	524	Bridgeport	870		346	1,154				Salt water, 870 feet
					Buchanan	1,360		836	664				Salt water, 1,360 feet
					"Gas"	1,475		951	549				Salt water, 1, 475 feet
					Kirkwood-1	1,668		1,144	356				Salt water, 1,668 feet
					Kirkwood-2	1,682	19	1,158	342	1,682			
					Kirkwood-3	1,712	15	1,188	312		1,727	65	

Lawrence County—Bridgeport Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
1—													
					Bridgeport	840	20	310	1,190				Salt water, 840 feet
					..do	930	30	400	1,100				Salt water, 930 feet
N. E.	3	Bridgeport	Klinger, No. 1	530	Bridgeport and Buchanan	1,040	314	510	990				Salt water, 1,185 feet. This probably includes the Buchanan No. 1 sand
					"Gas"	1,480	15	950	550				Salt water, 1,480 feet
					Stray	1,535	5	1,005	495				Salt water, 1,535 feet
					Kirkwood	1,723	17	1,193	307		1,740	40	
					Bridgeport	790	30	270	1,230				
					..do	1,110	130	590	910				Salt water, 1,145 feet
					Stray	1,275	25	755	745				
	4	Snowden Bros	E. Fyffe	520	Buchanan-1	1,345	25	825	675				
					Buchanan-2	1,440	23	920	580				Salt water, 1,440 feet
					Stray	1,567	12	1,047	453				Salt water, 1,567 feet
					Kirkwood	1,633	24	1,113	387	1,641	1,665		
	5	Ohio	Baker, No. 1	515	..do	1,657	52	1,142	358	1,662	1,711	75	
	6	Ohio	Baker, No. 3	517	Bridgeport	1,115	60	598	902				
					Kirkwood	1,659	20	1,142	358	1,659	1,688	100	
	7	Ohio	Baker, No. 2	514	..do	1,669	30	1,155	345	1,670	1,704	65	
S. E.	1	Ohio	Lake No. 1	514	..do	1,705	20	1,191	309				
					McClosky	1,942	5	1,428	72	1,942	2,003	Dry	Salt water, 1,947 feet
	2	Ohio	Middaugh, No. 1	514	Kirkwood	1,690	29	1,176	321	1,700	1,905	72	
	3	Ohio	Middaugh, No. 2	512	..do	1,689	20	1,177	323	1,690	1,720	30	Gas, 1,700 feet
5— N. E.	1	Ohio	J. Lewis, No. 4	461	..do	1,412	70	951	549	1,437	1,482	100	Gas, 1,437 feet
	2	Ohio	J. Lewis, No. 5	456	..do	1,420	20	964	536		1,445		
	3	Ohio	J. Lewis, No. 13	462	Bridgeport	1,040	12	578	922				
					Kirkwood	1,426	12	964	536	1,426	1,450	45	Gas, 1,426 feet
	4	Ohio	J. Lewis, No. 6	454	Bridgeport-2	895	35	441	1,059		933		
	5	Ohio	J. Lewis, No. 7	459	Bridgeport-1	780	15	321	1,179				
					Bridgeport-2	895	25	436	1,064		920		

	6	Ohio	J. Lewis, No. 8	472	Bridgeport-1	788	8	316	1,184			
					Bridgeport-2	795	30	323	1,177		930		
	7	Ohio	J. Lewis, No. 10	481	..do	895	40	414	1,086				
	8	Ohio	J. Lewis, No. 9	486	Bridgeport-1	810	10	324	1,176				
					Bridgeport-2	885	5	399	1,101				
					Bridgeport-3	895	38	409	1,091		933		
	9	Ohio	Eshelman, No. 9	500	..do	926		426	1,074	935	954	140	Gas, 930 feet
	10	Ohio	Eshelman, No. 6	496	Kirkwood	1,428	10	932	568			Show	
					Stray	1,612	8	1,116	384		1,736	Gas	
	11	Ohio	Eshelman, No. 5	493	Bridgeport-1	787	10	294	1,206				
					Bridgeport-2	895	200	402	1,098		1,038		
	12	Ohio	Eshelman, No. 1	470									No record
	13	Ohio	Eshelman, No 4	490	Bridgeport-1	815	10	325	1,175		1,045	Show	Well abandoned
	14	Ohio	Eshelman, No 3	484	..do	790	15	306	1,194				
					Bridgeport-2	891	14	407	1,093				
					Bridgeport-3	1,035	15	551	949				
					"Gas"	1,300	10	816	684		1,310		Originally a gas well
	15	Ohio	Eshelman, No. 2	493	Bridgeport-1	795	33	302	1,198			Show	
					Bridgeport-2	865	10	372	1,128			Show	
					Bridgeport-3	880	26	387	1,113			Good	
					Bridgeport-4	927		434	1,066				
					Bridgeport-5	990	15	497	1,003		1,000	200	Best production
	16	Ohio	Eshelman, No. 7	478	Bridgeport-1	860	40	382	1,118				
					Bridgeport-2	940	25	462	1,038		1,000		
	17	Ohio	Eshelman, No. 8	465	Bridgeport-1	860	15	395	1,105				
					Bridgeport-2	960	10	495	1,005		1,007		
	18	Ohio	Eshelman, No. 10	465	..do	905	28	440	1,060				
					Kirkwood	1,376	15	911	589	1,376	1,394	60	
N. W..	1	Ohio	Cooper, No 11	495	Bridgeport-1	801	27	306	1,194				
					Bridgeport,2	892	138	397	1,103	1,005	1,030	700	Gas, 1,005 feet
	2	Ohio	Cooper, No. 7	509	Bridgeport-1	815	10	306	1,194				
					Bridgeport-3	975	60	466	1,034	980	1,035	75	
	3	Ohio	Cooper, No. 14	498	Bridgeport-1	802		304	1,196				
					Bridgeport-2	990		492	1,008	1,030	1,033	125	
	4	Ohio	Cooper, No. 16	500	Bridgeport-1	810		310	1,190				
					Bridgeport-2	995		495	1,005	995	1,032	100	
	5	Ohio	Cooper, No. 17	492	..do	880	46	388	1,112				
					Bridgeport-3	972	32	480	1,020	985	1,024	150	
	6	Ohio	Cooper, No. 18	495	Bridgeport-1	821	34	326	1,174				
					Bridgeport-2	988	43	493	1,007	1,000	1,031	100	
	7	Ohio	Cooper, No. 8	522	Bridgeport	915	113	393	1,107	1,015	1,028	50	
	8	Ohio	Cooper, No. 5	521	Bridgeport-1	800	20	279	1,221				
					Bridgeport-2	838	5	317	1,183				
					Bridgeport-3	902	63	381	1,119	910	975	80	Salt water, 965 feet
	9	Ohio	Cooper No. 25	508	"Gas"	1,375	36	867	633	1,390	1,414	170	
	10	Ohio	Cooper, No. 1	507	Bridgeport-1	877	33	370	1,130	887			
					Bridgeport-2	992		485	1,015		1,025	125	
	11	Ohio	McElfresh, No. 11	507	..do	945		438	1,062		1,400		
	12	Ohio	McElfresh, No. 12	504	"Gas"	1,310	32	806	694				
					Kirkwood	1,386	9	882	618		1,424		
	13	Ohio	McElfresh, No. 3	519	Bridgeport-1	842	18	323	1,177			Dry	
					Bridgeport-3	1,035	25	516	984	1,045	1,062	50	

Lawrence County—Bridgeport Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Intial product—barrels.	Remarks.
5—													
N. W.	14	Ohio	McElfresh, No. 2	513	Bridgeport-2	925	22	412	1,088				
					Bridgeport-3	1,030	20	517	983		1,055		
	15	Ohio	McElfresh, No. 4	520	Bridgeport	982	12	462	1,038				
					..do	1,033	27	513	987		1,062		
	16	Ohio	McElfresh, No. 1	503	Bridgeport-1	820	22	317	1,183				
					Bridgeport-2	915	21	412	1,088		1,040		
	17	Ohio	McElfresh, No. 18	519	Stray	1,150	20	631	869				
					Kirkwood	1,413	33	894	606	1,440	1,466	35	Gas, 1,420 feet
	18	Ohio	McElfresh, No. 6	529	Bridgeport-1	834	21	305	1,195				
					Bridgeport-2	905		476	1,024				
					Bridgeport-3	965	20	436	1,064				
					"Gas"	1,340		811	689				
					Kirkwood	1,432	13	903	597				
	19	Ohio	McElfresh, No. 14	530	..do	1,433	6	903	597				
					McClosky	1,683	12	1,153	347	1,687	1,738	50	Gas, 1,673 feet
	20	Ohio	McElfresh, No. 10	520	Bridgeport-2	892	90	372	1,128	953	1,035		
	21	Ohio	McElfresh, No. 16	506	Tracey	1,520	30	1,014	486				
					McClosky	1,665	13	1,159	341	1,668	1,700	70	Gas, 1,675 feet
	22	Ohio	McElfresh, No. 5	505	Bridgeport-2	902	50	397	1,103		1,038	75	
	23	Ohio	Cooper, No. 19	504	..do	915	53	411	1,089	918	968		
	24	Ohio	Cooper, No. 26	503	Kirkwood	1,410	30	907	593				
					McClosky	1,650	13	1,147	353	1,655	1,663	800	Gas, 1,649 feet
	25	Ohio	Cooper, No. 13	506	Bridgeport-1	810	35	304	1,196				
					Bridgeport-3	1,015	51	509	991	1,030	1,066	75	
	26	Ohio	Cooper, No. 9	507	Bridgeport-1	819	12	312	1,188				
					Bridgeport-3	1,010	45	503	997	1,020	1,055	100	
	27	Ohio	Cooper, No. 21	487	Bridgeport-2	914	51	427	1,073	935	965	40	
S. W.	1	Ohio	Cooper, No. 22	478	..do	909	42	431	1,069	913	951	175	
	2	Ohio	Cooper, No. 24	475	..do	915	38	440	1,060	920	953	22	
	3	Ohio	Cooper, No. 23	475	..do	913	39	1,438	1,062		952		Well abandoned
	4	Ohio	Cooper, No. 20	484	Bridgeport-1	820	140	336	1,164	937	970	117	Gas, 902 feet
	5	Ohio	Cooper, No. 12	489	Bridgeport-2	900	79	411	1,089	910	979	100	

	6	Ohio	Newell, No. 10	499	..do	896	14	397	1,103				
					Bridgeport-3	930	42	431	1,069	933	972	75	
	7	Ohio	Newell, No. 12	507	..do	962	28	455	1,045	970	990	100	
	8	Henley, Watson, et al	School House Lot, No. 1	521									No record
	9	Henley, Watson, et al	School House Lot, No. 2	520									..do
	10	Ohio	J. King, No. 26	518	Bridgeport-3	989	23	471	1,029	994	1,012	150	
	11	Ohio	Newell, No. 11	511	..do	979	31	468	1,032	979	1,010	100	
	12	Ohio	Newell, No. 13	508	Kirkwood	1,494	12	986	574				
					McClosky	1,733	12	1,225	275	1,745	1,793	90	Gas, 1,745 feet
	13	Ohio	Newell, No. 3	492	Bridgeport-1	777	19	285	1,215				
					Bridgeport-2	810	121	318	1,182		931		
	14	Ohio	Newell, No. 1	467	Bridgeport-1	770	52	303	1,197				
					Bridgeport-2	847	95	380	1,120	869	912		
	15	Ohio	Newell, No. 2	456	..do	834	32	378	1,122				
					Bridgeport-3	930	10	474	1,026	930	959		
	16	Ohio	Newell, No. 4	468	Bridgeport-1	789		321	1,179	796			
					Bridgeport-2	852	66	384	1,116	890	918		
	17	Ohio	Newell, No. 5	462	Bridgeport-1	800	40	338	1,162				
					Bridgeport-2	887	55	425	1,075	900	942		
	18	Ohio	Newell, No. 6	469	..do	842	21	373	1,127	852	900		
	19	Ohio	Newell, No. 7	459	Bridgeport-1	777	13	318	1,182				
					Bridgeport-2	823	47	364	1,136		890		
	20	Ohio	Newell, No. 8	462	Bridgeport-1	788	30	326	1,174				
					Bridgeport-2	895	44	433	1,067	900	939		
	21	Ohio	Newell, No. 9	482	Bridgeport-1	785	40	303	1,197				
					Bridgeport-2	889	51	407	1,093	890	940	50	
	22	Ohio	Cooper, No. 6	470	..do	906	46	436	1,064	915	952	50	Salt water, 950 feet
	23	Ohio	Cooper, No. 4	467	Bridgeport-1	820		353	1,147				
					Bridgeport-2	898		431	1,069	900	1,043	25	
	24	Ohio	Cooper, No. 3	476	Bridgeport-1	796	16	320	1,180	796			
					Bridgeport-2	859	12	383	1,117	859	1,038	50	
	25	Ohio	Cooper, No. 2	477	..do	863	11	386	1,114				
					Buchanan	1,180	16	703	797	1,180	1,196	50	
	26	Ohio	Cooper, No. 10	487	Bridgeport-1	806	20	319	1,181				
					Bridgeport-3	918	59	431	1,069	925	977	40	
	27	Ohio	Cooper, No. 15	502	Bridgeport-1	830	15	328	1,172				
					Kirkwood	1,427	23	925	575	1,431	1,450	50	Gas, 1,427 feet
S. E.	1	Ohio	Robbins, No. 1	475	Bridgeport-1	800	25	325	1,175	805			
					Bridgeport-2	892	34	417	1,083	895	926	40	
	2	Ohio	Robbins, No. 7	495	Bridgeport-1	820	40	325	1,175				
					Bridgeport-2	879	71	384	1,116	885	950	150	
	3	Ohio	Robbins, No. 5	492	Bridgeport-1	840	30	348	1,152				
					Bridgeport-2	897	54	405	1,095	914	951	125	
	4	Ohio	Robbins, No. 11	484	Bridgeport-1	820	135	336	1,164	895	955	125	
	5	Ohio	Robbins, No. 15	504	Bridgeport-3	910	53	406	1,094	930	963	65	
	6	Ohio	Robbins, No. 13	506	Bridgeport,2	842	119	336	1,164	842	961	68	
	7	Ohio	Robbins, No. 10	480	Bridgeport-1	820	133	340	1,160	895	953	65	
	8	Ohio	Robbins, No. 2	477	..do	795		318	1,182	820			
					Bridgeport-2	875	33	398	1,102	915	928	75	
	9	Ohio	Robbins, No. 3	481	Bridgeport-1	800	20	319	1,181				
					Bridgeport-3	905	59	424	1,076	910	964	100	Salt water, 964 feet
	10	Ohio	Robbins, No. 12	485	..do	893	61	408	1,092	893	954	60	

Lawrence County—Bridgeport Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
5—													
S. E.	11	Ohio	Robbins, No. 4	489	Bridgeport-1	801	24	312	1,188				
					Bridgeport-3	912	51	423	1,077	950	970	25	
	12	Ohio	Robbins, No. 14	497	Bridgeport-1	830	115	333	1,167		955	65	
	13	Ohio	Robbins, No. 6	496	..do	815	20	319	1,181				
					Bridgeport-3	911	63	415	1,085		974	90	
	14	Ohio	Robbins, No. 8	503	Bridgeport-1	830	15	327	1,173				
					Bridgeport-3	930	42	427	1,073	940	972	100	
	15	Ohio	Robbins, No. 9	509	Bridgeport-1	827	16	318	1,182				
					Bridgeport-3	904	152	395	1,105	1,022	1,056	50	
	16	Ohio	Robbins, No. 18	510	..do	920	37	410	1,090	930	957	55	
	17	Ohio	Robbins, No. 17	506	..do	922	34	416	1,084	930	956	60	
	16	Ohio	Robbins, No. 16	495	Bridgeport-2	895	66	400	1,100	908	961	100	
6—													
N. E.	1	Snowden Bros	Cummings, No. 1	529	Bridgeport-1	840	20	311	1,189	840			
					Bridgeport-2	930	80	401	1,099				
					Bridgeport-3	1,022	18	493	1,007		1,260	40	
	2	Snowden Bros	Cummings, No. 13	529	Bridgeport-1	833	8	304	1,196	835		Show	
					Bridgeport-2	920	80	391	1,109				
					Bridgeport-3	1,035	100	506	994				Salt water, 1,070 feet
					Bridgeport and Buchanan	1,147	88	618	882				
					"Gas"	1,350	9	821	679				Gas, 1,359 feet
					Kirkwood	1,425	17	896	694				
					Tracey	1,525	22	996	504				
					McClosky	1,632	85	1,103	397	1,691	1,717		Lime Gas, 1,662 feet
	3	Snowden Bros	Cummings, No. 5	523	Bridgeport-1	840	50	317	1,183	840			
					Bridgeport-2	945	89	422	1,078				
					"Gas"	1,345		822	678				Gas, 1,345 feet
					Kirkwood	1,437		914	586			10	

				Bridgeport	790	18	271	1,229	......	......	....	....
				..do	835	20	316	1,184	840	......	Show	....
				..do	930	40	411	1,089	950	......	Show	....
				..do	980	15	461	1,039	......	......	....	Salt water, 995 feet
4	Snowden Bros	Cummings, No. 11	519	Bridgeport and Buchanan (?)	1,015	150	496	1,004	......	......	....	....
				Stray	1,212	10	693	807	......	......	....	....
				"Gas"	1,350	16	831	669	......	......	....	....
				Kirkwood-1	1,420	35	901	599	1,440	......	....	....
				Kirkwood-2	1,472	4	963	537	......	......	....	....
				Tracey	1,585	10	1,066	434	......	......	....	....
				McClosky	1,630	56	1,111	389	1,666	1,686	....	Lime. Green oil
				Bridgeport-1	805	10	286	1,214	......	......	....	....
				Bridgeport-2	845	35	326	1,174	848	......	Show	....
				Bridgeport-3 and Buchanan-1	940	240	421	1,079	1,107	......	Show	Salt water, 1,020, 1,050, 1,075 and 1,100 feet
5	Snowden Bros	Cummings, No. 8	518	Buchanan-2	1,220	26	701	799	......	......	....	....
				Stray	1,330	3	811	689	......	......	....	....
				"Gas"	1,350	13	831	669	......	......	....	Gas, 1,355 feet
				Kirkwood-1	1,445	12	926	574	1,445	......	800	....
				Kirkwood-2	1,461	34	942	558	......	......	....	....
				Tracey	1,540	35	1,021	479	......	......	....	Broken sand. Dry
				McClosky	1,654	......	1,135	365	......	1,689	....	Lime and sand
				Bridgeport-1	850	25	330	1,170	875	......	....	....
6	Snowden Bros	Cummings, No. 3	520	Bridgeport-2	960	45	440	1,060	......	......	....	....
				Bridgeport-3	1,010	25	490	1,010	......	1,035	50	....
				Bridgeport-1	840	90	313	1,187	840	......	....	....
				Bridgeport-3	1,015	......	488	1,012	1,015	......	....	Salt water, 1,015 feet
7	Snowden Bros	Cummings, No. 6	527	Stray	1,220	......	693	807	1,220	......	Show	Salt water, 1,225 feet
				"Gas"	1,360	12	833	667	......	......	....	....
				Kirkwood	1,435	21	908	592	......	1,456	75	....
				Bridgeport-2	936	20	418	1,082	936	......	....	....
8	Snowden Bros	Cummings, No. 2	518	Bridgeport-3	960	76	442	1,058	960	1,036	60	....
				Bridgeport	930	40	414	1,086	940	......	Light	....
				..do	985	15	469	1,031	......	......	....	....
				..do	1,135	15	619	881	......	......	....	....
				Buchanan	1,165	50	649	851	......	......	....	....
9	Snowden Bros	Cummings, No. 12	516	Stray	1,270	5	754	746	......	......	....	....
				"Gas"	1,345	18	829	671	......	......	....	Gas, 1,347 feet
				Stray	1,389	7	873	627	......	......	....	....
				Kirkwood-1	1,425	15	909	591	1,428	......	Show	....
				Kirkwood-2	1,455	15	939	561	......	......	....	....
				McClosky	1,625	31	1,109	391	1,656	1,733	Show	Lime

Lawrence County—Bridgeport Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Intial product—barrels.	Remarks.
6—													
					Bridgeport	825	12	329	1,171	837		Show	
					..do	920	30	424	1,076				
					..do	976	29	480	1,020				Salt water, 990 feet
					Bridgeport and Buchanan-1	1,025	145	529	971				Hole full water, 1,065 feet.
N. E.	10	Snowden Bros	Cummings, No. 9	496	Buchanan-2	1,190	25	694	806				
					Kirkwood-1	1,412	7	916	584				
					Kirkwood-2	1,428	7	932	568	1,428		Show	
					Kirkwood-3	1,460	5	964	536				
					Tracey	1,580	6	1,084	416				
					McClosky	1,626	36	1,130	370	1,650	1,662	400	Lime and sand. Gas, 1,638 feet
					Bridgeport-1	825	20	324	1,176				
	11	Snowden Bros	Cummings, No. 4	501	Bridgeport-2	945	40	444	1,056	985			
					Bridgeport-3	990	17	489	1,011		1,007	45	
					Bridgeport	815	30	314	1,186	835		Show	
					..do	880	10	379	1,121				
					..do	930	56	429	1,071				
					..do	992	28	491	1,009	975			
					Buchanan	1,025	125	524	976				Salt water, 1,020 feet
	12	Snowden Bros	Cummings, No. 10	501	Stray	1,172	15	671	829				
					"Gas"	1,351	22	850	650	1,351		Show	Show of gas, 1,351 feet. Salt water, 1,365 feet
					Stray	1,393	7	892	608				
					Kirkwood	1,460	25	959	541				
					McClosky	1,675	50	1,174	326	1,700	1,752		

				Bridgeport-2	875		357	1,143	875			
				Bridgeport-3 and Buchanan	975		457	1,043	975			Salt water, 1,060 and 1,220 feet
13	Snowden Bros	Cummings, No. 7	518	"Gas"	1,375	15	857	643				Gas, 1,395 feet
				Kirkwood-1	1,445	3	927	573	1,445			
				Kirkwood-2	1,454	18	936	564				Slate, 1,448 to 1,454 feet
				Kirkwood-3	1,475	15	957	543		1,518	35	Slate, 1,472 to 1,475 feet
14	Ohio	McElfresh, No. 8	524	Bridgeport-2	972	24	448	1,052				
				"Gas"	1,374		850	650				
				Kirkwood	1,448	25	924	576		1,483		
15	Ohio	McElfresh, No. 13	524	McClosky-1	1,678	5	1,154	346				
				McClosky-2	1,693	7	1,169	331	1,695	1,720	185	Gas, 1,694 feet
16	Ohio	McElfresh, No. 7	512	Bridgeport-1	845	10	333	1,167				
				Bridgeport-2	955	25	443	1,057		985	30	
17	Ohio	McElfresh, No. 9	510	..do	941	49	431	1,069		993	30	
18	Ohio	McElfresh, No. 15	510	Kirkwood	1,450	20	940	560				
				McClosky	1,691	26	1,181	319	1,698	1,748	80	Gas, 1,695 feet
19	Ohio	Bedford, No. 3	513	"Gas"	1,385	132	872	628	1,390	1,523	70	
20	Ohio	Bedford, No. 2	515	Bridgeport-2	940	35	425	1,075	960	976	50	
21	Ohio	Bedford, No. 9	520	Kirkwood	1,520	15	1,000	500				
				McClosky	1,700	10	1,180	320	1,708	1,742	25	Gas, 1,705 feet
22	Ohio	Bedford, No. 1	534	"Gas"	1,404		870	630	1,410	1,424	30	Gas, 1,406 feet
23	Ohio	Bedford, No. 4	543	..do	1,430	20	887	613	1,430	1,484	45	
24	Ohio	Bedford, No. 5	533	Kirkwood	1,503	22	970	530	1,510	1,532	45	
25	Ohio	Bedford, No. 6	541	..do	1,525	23	984	516	1,533	1,549	25	
26	Ohio	Bedford, No. 7	550	..do	1,530	30	980	520	1,535		15	Gas, 1,540 feet
				McClosky	1,807	14	1,257	243		1,821		
27	Ohio	Bedford, No. 8	521	Kirkwood	1,532	20	1,011	489				
				McClosky	1,760	12	1,239	261	1,765	1,788	75	Gas, 1,758 feet
28	Ohio	J. King, No. 18	503	Bridgeport-3	957	29	454	1,046	969	986	45	
29	Ohio	J. King, No. 34	505	Kirkwood	1,453	20	948	552				
				McClosky	1,723	15	1,218	282	1,725	1,758	35	Gas, 1,723 feet
30	Ohio	J. King, No. 16	490	Bridgeport	875	116	385	1,115				
				Kirkwood	1,414	35	924	756	1,418	1,449	140	
31	Ohio	J. King, No. 33	490	"Gas"	1,328	12	838	662				
				McClosky	1,658	6	1,168	332	1,660	1,672	85	Gas, 1,640 feet
32	Ohio	J. King, No. 10	497	Bridgeport-2	915	73	418	1,082	925	988	60	Salt water, 988 feet. Well abandoned
33	Ohio	J. King, No. 35	495	Kirkwood	1,425	10	930	570				
				McClosky	1,670	5	1,175	325	1,672	1,698	70	Gas, 1,670 feet
34	Ohio	J. King, No. 19	483	Bridgeport-2	911	72	428	1,072	919	983	80	
35	Ohio	J. King, No. 21	479	..do	910	52	431	1,069	917	962	50	
36	Ohio	Cullison, No. 3	550	Kirkwood	1,525	34	975	525	1,547	1,583	65	
37	Ohio	Severn, No. 5	553	..do	1,583	29	1,030	470	1,583	1,617	45	
38	Ohio	Severn, No. 1	540	Bridgeport,1	842	8	302	1,198				
				Bridgeport-3	1,027		487	1,013		1,186		Salt water, 1,037 feet. Well abandoned
39	Ohio	Severn, No. 7	543	Kirkwood	1,568	5	1,025					
				McClosky	1,795	8	1,252	248	1,800	1,816	20	Gas, 1,798 feet

Lawrence County—Bridgeport Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
6—N. W.	1	Ohio	Cullison, No. 2	539	Kirkwood	1,525	56	986	514	1,553	1,583	65	
	2	Ohio	Cullison, No. 6	532	..do	1,600	40	1,068	432				
					Tracey	1,685	14	1,163	347	1,688	1,815	30	Gas, 1,687 feet
	3	Ohio	Cullison, No. 5	523	Kirkwood	1,598	24	1,075	425	1,598	1,623	45	
	4	Ohio	Severn, No. 6	522	..do	1,589	26	1,067	433	1,589	1,617	35	
	5	Ohio	Severn, No. 8	523	..do	1,572	28	1,049	451	1,580	1,606	20	Gas, 1,575 feet
	6	Ohio	Severn, No. 2	520	Kirkwood	1,557	34	1,037	463	1,560	1,623	90	Gas, 1,565 feet
	7	Ohio	Severn, No. 3	524	Bridgeport-2	941	22	417	1,083				
					Kirkwood	1,559	31	1,035	465	1,559	1,594	100	
	8	Bridgeport	Abernathy, No. 1	531	..do	1,600	23	1,069	431	1,600	1,623	250	
	9	Bridgeport	Abernathy, No. 2	512	Bridgeport-2	980	50	468	1,032				Salt water, 980 feet
					Stray	1,500	15	988	512				Salt water, 1,500 feet
					Kirkwood	1,587	17	1,075	425		1,612	125	
	10	Bridgeport	Abernathy, No. 4	518	Bridgeport	815	25	297	1,203				Salt water, 830 feet
					..do	860	30	342	1,158				Salt water, 870 feet
					Buchanan-1	1,215	80	697	803				Salt water, 1,225 feet
					Buchanan-2	1,300	60	782	718				Salt water, 1,316 feet
					Stray	1,460	25	942	558	1,470			Salt water, 1,470 feet
					Kirkwood	1,571	39	1,053	447		1,610	50	
	11	Snowden Bros	Fyffe, No. 1	526	Bridgeport-1	882	28	356	1,144				
					Bridgeport-2	1,010	10	484	1,016				
					Bridgeport-3	1,105	135	579	921				Salt water, 1,105 feet
					Buchanan	1,323	22	797	703				
					"Gas"	1,405	7	879	621				
					Stray	1,528	17	1,002	498			Show	Hard sand
					Kirkwood	1,612	23	1,086	414	1,612	1,635	135	
	12	Snowden Bros	Fyffe, No. 4	519	..do	1,605	32	1,086	414		1,637		
	13	Snowden Bros	Fyffe, No. 6	512	Bridgeport-3	1,083		571	929				Salt water, 1,083 feet
					Buchanan	1,335		823	677				Salt water, 1,335 feet
					Stray	1,435		923	577				Salt, water, 1,435 feet
					Kirkwood	1,605	27	1,093	407		1,632	100	
	14	Ohio	Severn, No. 4	505	..do	1,614	38	1,109	391	1,634	1,653	150	

	15	Ohio	Cullison, No. 1	514	..do	1,606	29	1,092	408	1,611	1,636	75	
	16	Ohio	Cullison, No. 4	499	..do	1,632	46	1,133	367	1,632	1,680	75	
S. W.	1	Ohio	M. L. Cooper, No. 2	515	..do	1,650	31	1,135	365	1,667	1,695	100	
	2	Ohio	M. L. Cooper, No. 3	495	..do	1,687	20	1,183	317	1,678	1,707	50	Gas, 1,678 feet
	3	Ohio	M. E. Cooper, No. 3	518	..do	1,677	51	1,159	341	1,685	1,733	20	Gas, 1,680 feet
	4	Ohio	M. L. Cooper, No. 4	526	..do	1,613	12	1,087	413	1,613	2,020	10	Gas, 1,615 feet
	5	Ohio	M. L. Cooper, No. 1	520	..do	1,583	5	1,063	437	1,583	1,648	20	
S. E.	1	Ohio	J. W. Highfield, No. 1	537	..do	1,563	76	1,026	474	1,563	1,639	75	
	2	Ohio	M. E. Cooper, No. 1	533	Bridgeport-3	1,004	6	471	1,029				
					Kirkwood	1,628	12	1,095	405	1,630	1,640	75	Gas, 1,630 feet
	3	Ohio	M. E. Cooper, No. 2	533	Buchanan	1,320		787	713				Gas, 1,320 feet
					Kirkwood	1,562	28	1,029	471	1,571	1,593	260	
	4	Ohio	J. King, No. 24	520	..do	1,511	41	991	509	1,518	1,557	110	
	5	Ohio	J. King, No. 25	530	Bridgeport-3	989	22	459	1,041	994	1,011	100	
	6	Ohio	J. King, No. 23	532	..do	978	32	446	1,054	983	1,010	175	
	7	Ohio	J. King, No. 13	522	Bridgeport-2	912	74	390	1,110	975	986	75	
	8	Ohio	J. King, No. 12	540	Kirkwood	1,616	24	1,076	424	1,618	1,640	15	
	9	Ohio	J. King, No. 30	543	..do	1,548	28	1,005	495	1,548	1,620	50	
	10	Ohio	J. King, No. 9	499	Bridgeport-2	908	52	409	1,091	919	980	80	
	11	Ohio	J. King, No. 20	489	..do	932	38	443	1,057	932	970	120	
	12	Ohio	J. King, No. 32	532	Tracey	1,656	8	1,124	376	1,664			
					McClosky	1,745	11	1,213	287	1,753	1,780	80	Gas, 1,745 feet
	13	Ohio	J. Highfield, No. 2	532	Kirkwood	1,578	28	1,046	454				
					McClosky	1,782	8	1,250	250	1,787	1,818	75	Gas, 1,784 feet
7— N. E.	1	Ohio	J. King, No. 29	504	Buchanan	1,290		786	714				Gas, 1,290 feet
					Kirkwood	1,503	29	999	501	1,507	1,523	100	
	2	Ohio	W. King, No. 1	515	Bridgeport-3	1,000	25	485	1,015				
					Buchanan	1,315	34	800	700	1,316	1,349	50	
	3	Ohio	W. King, No. 2	513	..do	1,329	30	816	684				
					Kirkwood	1,635	15	1,122	378	1,640	1,650	150	Gas, 1,640 feet
	4	Ohio	J. R. King, No. 31	501	Buchanan	1,300	30	799	701				
					Kirkwood	1,604	19	1,103	397	1,606	1,632	120	Gas, 1,610 feet
	5	Ohio	J. R. King, No. 14	523	Buchanan	1,308	12	785	715				
					Kirkwood	1,625	34	1,102	398	1,651	1,667	30	
	6	Ball	Lawson Lot	521									No record
	7	Big Four	Buchanan Hrs., No. 4	520	Buchanan	1,328	17	808	692				
	8	Big Four	Buchanan Hrs., No. 6	515	..do	1,333	52	818	682				
					Kirkwood	1,570		1,055	445		1,590		Known locally as the Cooper sand
	9	Big Four	Buchanan Hrs., No. 12	495	Buchanan	1,315	40	820	680				
					Kirkwood-1	1,595	10	1,100	400			100	
					Kirkwood-2	1,622	5	1,127	373		1,727		
	10	Ohio	W. R. King, No. 3	518	Kirkwood	1,620	14	1,102	398	1,628	1,642	35	Gas, 1,625 feet
S. W.	1	Ohio	W. Gray, No. 1	470	Buchanan-1	1,270	60	800	700				
					Buchanan-2	1,385	150	915	585		1,741	Dry	
	2	Ohio	S. Bouchie, No. 1	465	Kirkwood	1,620	31	1,155	345				
					McClosky	1,796	14	1,331	169	1,800	2,001	40	Gas, 1,805 feet
S. E.	1	Ohio	A. Griggs, No. 4	456	Kirkwood	1,585	27	1,129	371	1,585	1,649	30	
	2	Allshouse & Son	Long, No. 1	467	..do	1,569	38	1,102	398				
	3	Shaffer & Smathers	W. Finley, No. 33	470	Kirkwood-1	1,540	16	1,070	430	1,546			
					Kirkwood-2	1,564	10	1,094	406	1,564	1,586	150	

Lawrence County—Bridgeport Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Intial product—barrels.	Remarks.
7—S. E.	4	Shaffer & Smathers	W. Finley, No. 35	485	Kirkwood	1,550	35	1,065	435	1,552	1,596	100	
	5	Allshouse & Son	Long, No. 3	487	Kirkwood-1	1,549	38	1,062	438				
					Kirkwood-2	1,615	15	1,128	372				
	6	Allshouse & Son	Long, No. 2	480	Kirkwood-1	1,556	41	1,076	424				
					Kirkwood-2	1,627	6	1,147	353				
	7	Allshouse & Son	Long, No. 5	478	Kirkwood-1	1,565	45	1,087	413				
					Kirkwood-2	1,631	12	1,153	347				
	8	Allshouse & Son	Long, No. 8	471	Kirkwood-1	1,565	43	1,094	406				
					Kirkwood-2	1,631	8	1,160	340				
					Stray	1,661	9	1,190	310				
					McClosky	1,734	17	1,263	237		1,757		
	9	Allshouse & Son	Long, No. 9	460	Kirkwood-1	1,585	33	1,125	375				
					Kirkwood-2	1,643	13	1,183	317				
					Stray	1,685	5	1,225	275				
					Tracey	1,706	22	1,246	254				
					McClosky	1,747	19	1,287	213		1,766		
	10	Allshouse & Son	Long, No. 11	460	Kirkwood-1	1,580	38	1,120	380				
					Kirkwood-2	1 644	7	1,184	316				
					Tracey	1,676	19	1,216	284				
					McClosky	1,762	10	1,302	198		1,783		
	11	Allshouse & Son	Long, No. 7	486	Kirkwood-1	1,560	40	1,074	426				
					Kirkwood-2	1,623	21	1,137	363				
					Kirkwood-3	1,662	8	1,176	324				
					Tracey	1,734	14	1,248	252				
	12	Allshouse & Son	Long, No 4	489	Kirkwood-1	1,563	37	1,074	426				
					Kirkwood-2	1,619	13	1,130	370				
	13	Allshouse & Son	Long, No. 6	500	Kirkwood	1,623	10	1,123	377				
					Tracey	1,730	8	1,230	270		1,860		
	14	Allshouse & Son	Long, No. 10	495	Kirkwood-1	1,600	16	1,105	395				
					Kirkwood-2	1,651	9	1,156	344				
					Stray	1,690	6	1,195	305				
					Tracey	1,712	8	1,217	283		1,732		

	15	Big Four	Buchanan Hrs., No. 9	498	Kirkwood-1	1,648	5	1,150	350				
					Kirkwood-2	1,672	12	1,174	326		1,684		
	16	Big Four	Buchanan Hrs., No. 15	502	Bridgeport	942	48	440	1,060	964	990	30	
	17	Big Four	Buchanan Hrs., No. 13	503	Kirkwood-1	1,646	14	1,143	357	1,651		100	Salt water, 1,509 feet
					Kirkwood-2	1,670	8	1,167	333				
					Tracey	1,722	10	1,219	281	1,722	1,732		Sour oil
	18	Big Four	Buchanan Hrs., No 11	496	Kirkwood-1	1,653	12	1,157	343				Salt water, 1,492 feet
					Kirkwood-2	1,673	12	1,177	323		1,685	75	
	19	Big Four	Buchanan Hrs., No. 14	505	Kirkwood	1,646	8	1,141	359				Salt water, 1,493 feet
					Tracey	1,732	6	1,227	273		1,744	100	
	20	Ohio	A. Griggs, No. 1	492	Kirkwood-1	1,625	12	1,133	367	1,630			
					Kirkwood-2	1,659	13	1,167	333		1,672	65	Gas, 1,662 feet
	21	Ohio	A. Griggs, No. 2	481	Kirkwood	1,641	11	1,160	340				
					Tracey	1,738	12	1,257	243	1,745	1,995	40	
	22	Ohio	Gray, No. 2	486	..do	1,770	12	1,284	216	1,770	2,001	5	
8— N. E.	1	Ohio	Judy, No. 6	474	Bridgeport-2	885	72	411	1,089	885	957	95	
	2	Ohio	Judy, No. 3	479	Bridgeport-1	830	40	351	1,149				
					Bridgeport-2	892	65	413	1,087	900	957	150	Salt water, 955 feet
	3	Ohio	Judy, No. 2	474	Bridgeport-1	822	12	348	1,152				
					Bridgeport-2	898		424	1,076	923	948	75	Salt water, 948 feet
	4	Ohio	Judy, No. 5	462	..do	918	46	456	1,044	920	964	98	
	5	Ohio	Judy, No. 4	457	Bridgeport-1	834	28	377	1,123				
					Bridgeport-2	909	64	452	1,048	920	973	50	
	6	Ohio	Judy, No 7	470	"Gas"	1,380	25	910	590				
					Kirkwood	1,447	33	977	523	1,452	1,482	60	
	7	Ohio	Judy, No. 1	470	Bridgeport	836	25	366	1,134				
					..do	913		443	1,057	913	953		
	8	Ohio	Booe, No. 23	456	Bridgeport-2	914	29	458	1,042	918	943	75	
	9	Ohio	Booe, No. 38	471	Bridgeport	890	60	419	1,081				
					"Gas"	1,363	29	892	608	1,375	1,398	60	Gas, 1,363 feet
	10	Ohio	Booe, No. 14	471	Bridgeport-2	928	32	457	1,043	929	966	100	
	11	Ohio	Booe, No. 28	468								Dry	No record
	12	Ohio	Booe, No. 18	464	Bridgeport-2	888	45	424	1,076	890	933	100	
	13	Ohio	Booe, No. 22	457	..do	908	46	451	1,049	910	954	125	
	14	Ohio	Booe, No. 7	456	..do	892	38	436	1,064	895	940	75	
	15	Ohio	Booe, No. 13	450	..do	873	53	423	1,077	874	926	100	
	16	Ohio	Booe, No. 31	460	..do	880	38	420	1,080	880	918	60	
	17	Ohio	Booe, No 20	463	Bridgeport-1	835	15	372	1,128				
					Bridgeport-2	886		423	1,077	890	939	50	Salt water, 935 feet
	18	Ohio	Booe, No. 33	452	Bridgeport	874	9	422	1,078				
					..do	885	43	433	1,067	884	928	220	
	19	Ohio	Booe, No 35	452	Bridgeport-2	876	53	424	1,076	880	929	115	
	20	Ohio	Booe, No. 4	447	..do	878	40	431	1,069	883	927	60	
	21	Ohio	Booe, No. 37	457	..do	873	43	416	1,084	883	916	100	
	22	Ohio	Booe, No. 21	457	Bridgeport-1	810	30	353	1,147				
					Bridgeport-2	890	47	433	1,067	902	937	50	
	23	Ohio	Booe, No. 26	476	Buchanan	1,335	25	859	641				
					Kirkwood	1,470	20	994	506	1,475	1,496	50	
	24	Ohio	Booe, No. 15	476	Bridgeport-2	915	30	436	1,064	918	945	100	Gas, 918 feet
	25	Ohio	Booe, No. 17	465	..do	894	59	429	1,071	898	953	125	Salt water, 953 feet
	26	Ohio	Booe, No. 16	459	..do	888	40	429	1,071	925	928	125	Gas, 890 feet

Lawrence County—Bridgeport Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
8—N. E.	27	Ohio	Williams, No. 2	459	Bridgeport-2	887		428	1,072	888	930	150	
	28	Ohio	Williams, No. 7	476	Bridgeport-1	808	10	332	1,168				
					Bridgeport-2	910	59	434	1,066	920	969	100	
	29	Ohio	Williams, No. 4	485	..do	923		438	1,062	930	974	125	
	30	Ohio	Williams, No 8	480	Kirkwood	1,460	22	980	520	1,460	1,485	55	
	31	Ohio	Williams, No. 6	489	Bridgeport-1	848	12	359	1,141				
					Bridgeport-2	905	46	416	1,084	920	951	100	
	32	Ohio	Williams, No. 5	488	Bridgeport-1	837	6	349	1,151				
					Bridgeport-2	906	50	418	1,082	910	956	125	
	33	Ohio	Williams, No. 1	474	Bridgeport-1	801	24	327	1,173	806			
					Bridgeport-2	900	26	426	1,074		926	100	
	34	Ohio	Williams, No. 3	467	..do	877	57	420	1,080	890	944	100	
N. W.	1	Ohio	J. King, No. 3	463	Bridgeport-1	800	20	337	1,163				
					Bridgeport-2	872	28	409	1,091	907	947		
	2	Ohio	J. King, No. 4	464	Bridgeport-1	800	20	336	1,164				
					Bridgeport-3	925	30	461	1,039	925	955		
	3	Ohio	J. King, No. 5	454	Bridgeport-2	884	16	430	1,070				
					Bridgeport-3	916	18	462	1,038	916	934		
	4	Ohio	Booe, No. 25	452	Kirkwood	1,406	26	954	546	1,414	1,434	75	
	5	Ohio	Booe, No. 12	452	Bridgeport-1	822	8	370	1,130				
					Bridgeport-2	890	48	438	1,062	901	938	50	
	6	Ohio	Booe, No. 11	450	..do	878	47	428	1,072	890	925	75	
	7	Ohio	Booe, No. 24	450	Buchanan	1,255	12	805	695	1,255	1,267	80	
	8	Ohio	Booe, No. 32	452	Bridgeport-2	892	50	440	1,060				
					Buchanan	1,265	40	813	687				
					Kirkwood	1,444	33	992	508	1,447	1,479	160	
	9	Ohio	Booe, No. 36	452	Buchanan	1,254	36	802	689	1,268	1,300	700	Gas, 1,263 feet.
	10	Ohio	Booe, No. 10	452	Bridgeport-2	880	30	428	1,072	894	930	75	
	11	Lantz	Burns, No. 13	459	..do	899	41	440	1,060				
					Buchanan	1,255	60	796	704	1,260		387	Gas, 1,256 feet.
					Kirkwood	1,450	58	991	509	1,460	1,508	Light	
	12	Lantz	Burns, No. 1	459	Bridgeport-2	899	27	440	1,060	909	940	110	

13	Lantz	Burns, No. 14	459	..do	902	33	443	1,057	910			Salt water, 960 feet
				Buchanan	1,262	66	803	697	1,275			
				Stray	1,340	9	881	619	1,340	1,349		Salt water, 1,349 feet
14	Lantz	Burns, No. 2	464	Bridgeport-2	900	50	436	1,064				
				Buchanan-2	1,268		804	696	1,268	1,288	120	No. 2 redrilled
15	Lantz	Burns, No. 2a	462	Bridgeport-1	820	20	358	1,142			Show	
				Bridgeport-2	905	15	443	1,057	917			
				Bridgeport-3	940	6	478	1,022		949	90	
16	Lantz	Burns, No. 3	460	Bridgeport-1	820	6	360	1,140			Show	Salt water, 820 feet
				Bridgeport-2	908	6	448	1,052			Show	
				Bridgeport-3	940	10	480	1,020				
				Buchanan	1,249	31	789	711				
				Kirkwood	1,417	21	957	543	1,417		80	
17	Ohio	J. King, No. 6	453	Bridgeport-1	815	20	362	1,138				
				Bridgeport-2	900	15	447	1,053				
				Bridgeport-3	925	20	472	1,028	925	945		
18	Ohio	J. King, No. 27	453	Buchanan	1,230		777	723				Gas, 1,230 feet
				Kirkwood	1,390	37	937	563	1,400	1,430	75	
19	Ohio	J. King, No. 8	464	Bridgeport-1	805	15	341	1,159	810			
				Bridgeport-2	908	44	444	1,056	940	952	75	Well abandoned
20	Ohio	J. King, No. 22	467	Buchanan	1,244		777	723				Gas, 1,244 feet
				Kirkwood	1,419	22	952	548	1,419	1,441	125	
21	Ohio	J. King, No. 2	455	Bridgeport-2	852	22	397	1,103				
				Bridgeport-3	906	33	451	1,049	906	939		
22	Ohio	J. King, No. 1	463	Bridgeport-1	789	12	326	1,174				
				Bridgeport-2	855	10	392	1,108				
				Bridgeport-3	901	41	438	1,062	902	942		
23	Ohio	J. King, No. 7	487	Bridgeport-2	830	5	343	1,157				
				Bridgeport-3	933	59	446	1,054	940	992	100	
24	Ohio	J. King, No. 11	490	Bridgeport-2	895	65	405	1,095	910	960	50	
25	Ohio	J. King, No. 28	490	Kirkwood	1,468	12	978	522	1,468	1,491	60	
26	Ohio	J. King, No. 17	495	Bridgeport-1	820	10	325	1,175				
				"Gas"	1,410	16	915	585	1,410	1,429	50	
27	Ohio	J. King, No. 15	511	..do	1,425		914	586	1,533	1,554	30	
28	Lantz	Burns, No. 12	519	Bridgeport-3	1,005	25	486	1,014			Show	Salt water, 1,076 feet
				Buchanan	1,314	34	795	705	1,321	1,348		Gas, 1,326 feet
29	Lantz	Burns, No. 6	479	Bridgeport-2	915	17	436	1,064				
				Bridgeport-3	960	15	481	1,019				Salt water, 960 feet
				Buchanan	1,280	20	801	699	1,300			1,000,000 cubic feet gas daily
				Kirkwood-1	1,469	23	990	510				
				Kirkwood-2	1,540	100	1,061	439		1,640	120	
30	Lantz	Burns, No. 5	472	Bridgeport-2	899	36	427	1,073	906			
				Bridgeport-3	940	220	468	1,032				Salt water, 940 feet
				Buchanan	1,258	14	786	714				Gas, 1,258 feet, 100,000 cubic feet gas daily
31	Lantz	Burns, No. 8	476	Kirkwood	1,424	51	952	548	1,435			
				Bridgeport-2	922	8	446	1,054				
				Bridgeport-3	940	10	464	1,036		950	10	

Lawrence County—Bridgeport Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Intial product—barrels.	Remarks.
8—													
N. W.	32	Lantz	Burns, No. 9	503	Bridgeport-3	960	35	457	1,043			Show	
					Buchanan	1,300	54	797	703	1,306		125	Redrilled
					Kirkwood-2	1,600	10	1,097	403	1,600			
					McClosky	1,775	35	1,272	228		•1,810	145	Green oil
	33	Lantz	Burns, No. 11	518	Buchanan	1,312	37	799	701	1,376			
					Kirkwood	1,525	25	1,012	488	1,535	1,567	80	
	34	Lantz	Burns, No. 10	502	Bridgeport-3	970	217	468	1,032				Salt water, 982 feet
					"Gas"	1,415		913	587			Dry	
	35	Lantz	Burns, No. 7	487	Bridgeport-2	918	55	431	1,069	945	980	210	
	36	Lantz	Burns, No. 4	476	..do	930	36	454	1,046	932	966	145	
S W.	1	Big Four	Buchanan Hrs., No 5	499	Kirkwood	1,616	13	1,117	383		1,629		Known as Cooper sand
	2	Big Four	Tabor, No. 1	498	..do	1,623	37	1,125	375		1,660		
	3	Lantz	Zeller, No. 4	487	Bridgeport	930	45	443	1,057	945	978		Salt water, 975 feet
	4	Lantz	Zeller, No. 5	489	..do	945	51	456	1,044				
					..do	1,010	110	521	979				Salt water, 1,010 feet
					Buchanan-1	1,304	25	815	685				
					Buchanan-2	1,345	27	856	644	1,350		180	
					Kirkwood-1	1,512	28	1,023	477	1,522			
					Kirkwood-2	1,665	20	1,166	334				
	5	Lantz	Zeller, No. 3	482	Bridgeport	909	56	427	1,073	933	967	145	
	6	Lantz	Zeller, No. 16	475									Drilling
	7	Lantz	Kinsey Lot, No. 1	472	Bridgeport-1	855	20	383	1,117				Salt water, 855 feet
					Bridgeport-3	934	14	462	1,038	934	948	40	Salt water, 948 feet
	8	Lantz	Zeller, Lot No 1	462	Bridgeport	840	19	378	1,122				
					..do	902	40	440	1,060	913	942	125	
	9	Lantz	Zeller, No. 11	450	..do	829	32	379	1,121				
					..do	917	194	467	1,033				Salt water, 1,028 feet
					Buchanan	1,272		822	678	1278 / 1300	1323		

10	Lantz	Zeller, No. 12	450	Bridgeport	859	11	409	1,091				Salt water
				..do	910	24	460	1,040	915			
				..do	948	157	498	1,002				
				Buchanan	1,259	57	809	691	1272 1300			Gas, 1,280 feet. Saltwater 1,346 feet
				Kirkwood-1	1,445	55	995	505	1,445			Salt water, 1,459 feet
				Stray	1,510	5	1,060	440	1,510		Show	
				Kirkwood-2	1,590	10	1,140	360				
				Broken, Kirkwood-3	1,611	44	1,161	339				Gas, 1,611 feet
				Tracey	1,695	12	1,245	255	1,703	1,707		Green oil
11	Lantz	Zeller, No. 13	470									Drilling
12	Lantz	Griggs, No 7	445	Bridgeport	892	47	447	1,053				
				Buchanan	1,260	74	815	685	1,260	1,338	60	
13	Lantz	Griggs, No. 5	448	Bridgeport-1	830	20	382	1,118				Salt water, 830 feet
				Bridgeport-2	893	37	445	1,055	902	930	110	
14	Lantz	Griggs, No. 6	445	..do	899	131	454	1,046	902			Salt water, 1,030 feet
				Buchanan	1,255		810	690	1,261			Gas, 1,255 feet
				Kirkwood	1,450	59	1,005	495	1,455	1,514	500	
15	Lantz	Griggs, No. 4	449	Bridgeport-2	896	47	447	1,053	896 929	943	80	
16	Lantz	Griggs, No. 3	447	Bridgeport-1	850	20	403	1,097				Salt water, 850 feet
				Bridgeport-2	907	23	460	1,040	915	930	50	Coal, 450 to 452 feet
17	Unknown	Gray Lot, No. 1	444									No record
18	Unknown	Lawson Lot, No. 1	450									..do
19	Lantz	Griggs, No. 2	451	Bridgeport-1	845	20	394	1,106				Salt water, 845 feet
				Bridgeport-2	902	22	451	1,049	908	930	50	
20	Lantz	Griggs, No. 1	459	..do	901	49	442	1,058	918	950	80	Salt water, 945 feet
21	Unknown	Unknown	450								Dry	No record
22	Unknown	Spencer, No. 2	450								Dry	..do
23	Big Four	Buchanan, No. 8	452	Bridgeport-2	896	45	444	1,056	916			Well abandoned
24	Big Four	Buchanan, No. 2	450									Well abandoned. No record
25	Big Four	Buchanan, No. 7	457	Kirkwood-1	1,500	33	1,043	457	1,520			"Finley" sand
				Kirkwood-2	1,598	35	1,141	359	1,614	1,633		Locally known as Cooper sand
26	Big Four	Buchanan, No. 3	455	Bridgeport-2	912	40	457	1,043	914			Well abandoned
27	Big Four	Buchanan, No. 10	460	..do	912	22	452	1,048				Well abandoned
28	Big Four	Spencer, No. 1	456	..do	902	44	446	1,054				
29	Big Four	Buchanan, No. 1	461	..do	901	39	440	1,060	901			Well abandoned
30	Lantz	Zeller, No. 2	468	Bridgeport	940	49	472	1,028				Salt water, 947 feet
				..do	1,000	160	532	968				Salt water, 1,000 feet
				Buchanan	1,285	15	817	683		1,372	Dry	
31	Lantz	Zeller, No. 6	457	Bridgeport-2	900	300	443	1,057				
				Kirkwood-1	1,481	66	1,024	476	1,486			Locally known as "Finley" sand
				Kirkwood-2	1,595	45	1,138	362	1,622	1,660	250	Locally known as ""Cooper" sand
32	Lantz	Zeller, No. 7	465	Bridgeport-3	940	245	475	1,025				
				Kirkwood	1,488	61	1,023	477	1,495	1,567	350	
33	Lantz	Zeller, No. 8	469	Bridgeport-3	960	220	491	1,009				Salt water, 1,000 feet
				Kirkwood	1,529	37	1,060	440	1,534	1,566	420	

Lawrence County—Bridgeport Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
8—S. W.	34	Lantz	Zeller, No. 9	481	Bridgeport-3	972	116	491	1,009				Salt water, 1,012 feet
					Kirkwood	1,516	54	1,035	465	1,534	1,577	50	
	35	Lantz	Zeller, No. 10	469	Bridgeport-2	944	46	475	1,025				
					Bridgeport-3	1,000	179	531	969				Salt water, 1,000 feet
					Kirkwood-1	1,515	38	1,046	454	1,520			
					Kirkwood-2	1,570	20	1,101	399	1,570	1,604	300	
S. E.	1	Shaffer & Smathers	P. Finley, No 1	444	Bridgeport	895	25	451	1,049	909	920	45	
	2	Shaffer & Smathers	P. Finley, No. 16	444									No record
	3	Shaffer & Smathers	P. Finley, No. 8	441	Bridgeport-2	885	25	444	1,056	895	910	75	
	4	Big Four	Lanterman Park, No. 3	441	..do	902	25	461	1,039				
	5	Big Four	Lanterman Park, No. 4	441	Kirkwood-1	1,471	10	1,030	470	1,471		Show	Red rock, 1,460 feet
					Kirkwood-2	1,506	17	1,065	435	1,506		Show	Well abandoned
	6	Unknown	Town Lot	439									No record
	7	Big Four	Lanterman Park, No. 2	438	Bridgeport-2	888	32	450	1,050				
	8	Shaffer & Smathers	P. Finley, No. 4	442	..do	881	35	439	1,061	886	916	75	
	9	Shaffer & Smathers	P. Finley, No. 15	442									No record
	10	Shaffer & Smathers	P. Finley, No. 10	447	Bridgeport-2	907	19	460	1,040	915	936	40	
	11	Shaffer & Smathers	P. Finley, No. 13	445									No record
	12	Shaffer & Smathers	P. Finley, No. 3	440	Bridgeport-2	873	40	433	1,067	887	913	100	
	13	Shaffer & Smathers	P. Finley, No. 9	441	..do	872	41	431	1,069	874	913	80	
	14	Shaffer & Smathers	P. Finley, No. 1	448	..do	902	24	454	1,046	907	928		Well abandoned
	15	Shaffer & Smathers	P. Finley, No. 6	440	..do	885	34	445	1,055	890	919	100	
	16	Big Four	Lanterman Park, No. 1	439	..do	887	27	448	1,052				
	17	Unknown	Lot	438								Dry	No record
	18	Unknown	..do	438								Dry	No record
	19	Ohio	Booe, No. 6	442	Bridgeport-2	869	41	427	1,073	870	916	125	
	20	Ohio	Booe, No. 8	440	..do	865	55	425	1,075	866	926	125	
	21	Ohio	Booe, No. 9	442	..do	861	64	419	1,081	862	932	150	
	22	Ohio	Booe, No. 27	442	..do	875	47	433	1,067	880	922	125	
	23	Ohio	Booe, No. 2	447	..do	900	34	453	1,047	902	935	Water	Salt water, 912 feet
	24	Ohio	Booe, No. 34	447	..do	900	42	453	1,047				
					Kirkwood-2 (?)	1,552	6	1,105	395		2,007	Dry	

	25	Ohio	Booe, No. 1	444	Bridgeport-2	888	......	444	1,056	890	914	245	
	26	Ohio	Booe, No. 30	442	..do	871	33	429	1,071	875	905	75	
	27	Ohio	Booe, No. 5	445	..do	872	65	427	1,073	873	937	100	Salt water, 937 feet
	28	Ohio	Booe, No. 19	447	..do	858	......	411	1,089	862	927	150	
	28	Ohio	Booe, No. 29	448	Bridgeport	872	......	424	1,076	872	902	175	
	30	Ohio	Booe, No. 39	446	..do	872	50	426	1,074	918	922	30	
	31	Ohio	Booe, No. 3	446	Bridgeport-2	873	35	427	1,073	884	909	120	
	32	Ohio	Lutz Lot, No. 1	453	..do	885	......	432	1,068	936	936	......	
	33	Ohio	J. Burns Lot, No. 1	457	Bridgeport-1	860	20	403	1,097	......	......	......	
					Bridgeport-2	923	......	466	1,034	927	960	75	
9— N. W..	1	Ohio	Patton, No. 1	474	Kirkwood	1,605	11	1,131	369	1,607	1,620	40	
	2	Ohio	Patton, No. 2	478	..do	1,578	26	1,100	400	1,528	1,605	......	
	3	Ohio	Patton, No. 3	483	..do	1,555	17	1,072	428	1,560	1,575	120	
	4	Ohio	H. Lewis, No. 2	482	..do	1,520	32	1,038	462	1,535	1,555	40	
	5	Ohio	H. Lewis, No. 1	452	Bridgeport-2	885	......	433	1,067	......	......	......	
					Kirkwood	1,481	......	1,029	471	1,493	1,510	20	
	6	Ohio	Patton, No. 4	462	..do	1,586	17	1,124	376	1,590	1,605	160	
	7	Ohio	C. E. Seed, No. 1	447	..do	1,572	28	1,125	375	1,580	1,607	175	
	8	Ohio	W. Gray, No. 1	453	Kirkwood-2	1,606	13	1,153	347	1,614	1,626	30	
S. W..	1	Ohio	L. Lewis, No. 11	438	Buchanan	1,310	30	872	628	......	......	......	
					Kirkwood	1,514	20	1,076	1,424	1,514	1,556	25	Gas, 1,517 feet
17— N. E...	1	Shaffer & Smathers	M. Martin, No. 3	441	..do	1,492	23	1,051	449	1,497	1,524	25	
	2	Shaffer & Smathers	M. Martin, No. 2	453	..do	1,506	21	1,052	447	......	1,527	......	
	3	Shaffer & Smathers	M. Martin, No. 4	441	Kirkwood-1	1,479	16	1,038	462	1,490	......	......	
					Kirkwood-2	1,515	22	1,074	426	1,515	1,549	......	
	4	Shaffer & Smathers	M. Martin, No. 1	444	Kirkwood	1,492	21	1,048	452	......	1,513	......	
	5	Ohio	Thorn, No. 25	451	Buchanan	1,303	......	852	648	1,308	1,327	200	
	6	Ohio	Thorn, No. 35	449	Kirkwood-1	1,513	18	1,064	436	1,515	......	300	Gas, 1,515 feet
					Kirkwood-2	1,534	20	1,085	415	......	1,554	......	Salt water, 1,550 feet
	7	Ohio	Thorn, No. 20	457	Buchanan	1,300	......	843	657	1,305	1,314	250	
	8	Ohio	Thorn, No. 21	441	..do	1,299	......	858	642	......	......	......	
					Kirkwood	1,493	......	1,052	448	1,495	1,514	150	
	9	Ohio	Thorn, No. 26	442	..do	1,485	29	1,043	457	1,488	1,514	100	
	10	Ohio	Thorn, No. 5	442	Bridgeport-2	899	27	457	1,043	......	926	......	Well abandoned
	11	Shaffer & Smathers	P. Finley, No. 11	443	Kirkwood	1,517	16	1,074	426	......	1,562	......	
	12	Shaffer & Smathers	P. Finley, No. 5	449	Bridgeport-2	900	20	451	1,049	903	923	50	
					Kirkwood	1,510	19	1,061	439	......	1,536	......	
	13	Shaffer & Smathers	P. Finley, No. 2	448	Bridgeport-2	892	30	444	1,056	897	922	100	
	14	Shaffer & Smathers	P. Finley, No. 12	445	Kirkwood-1	1,478	20	1,033	467	1,483	......	......	
					Kirkwood-2	1,518	20	1,073	427	1,523	1,560	75	
	15	Shaffer & Smathers	P. Finley, No. 14	448	Buchanan	1,328	12	880	620	......	1,364	......	
	16	Ohio	Thorn, No. 22	452	..do	1,270	......	818	682	1,276	1,287	50	
	17	Ohio	Thorn, No. 29	452	..do	1,272	68	820	680	......	......	......	
					Kirkwood	1,480	21	1,028	472	1,490	1,501	120	Gas, 1,488 feet
	18	Ohio	Thorn, No. 1	452	Bridgeport-2	903	21	451	1,049	......	924	......	Well abandoned
	19	Ohio	Thorn, No. 3	451	..do	885	......	434	1,066	......	913	......	..do
	20	Ohio	Thorn, No. 23	451	Buchanan	1,275	......	824	676	1,238	1,301	100	
	21	Ohio	Thorn, No. 34	451	..do	1,242	85	791	709	......	......	......	
					Kirkwood	1,471	60	1,020	480	1,506	1,531	150	Gas, 1,505 feet
	22	Ohio	Thorn, No. 24	450	Buchanan	1,290	......	840	660	1,294	1,304	150	

Lawrence County—Bridgeport Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Intial product—barrels.	Remarks.
17—N. E...	23	Ohio	Thorn, No. 7	450	Buchanan	912	28	462	1,038	912	940		Well abandoned
	24	Ohio	Thorn, No. 27	454	..do	1,265		811	689	1,278	1,284	200	
	25	Ohio	Thorn, No. 19	453	..do	1,270		817	683	1,276	1,289	200	
	26	Ohio	Thorn, No. 8	456	..do	1,265	14	809	691	1,265	1,279		
	27	Ohio	Thorn, No. 30	457	..do	1,256	100	799	701				
					Kirkwood	1,498	28	1,041	459	1,507	1,526	400	Gas, 1,503 feet
	28	Ohio	Thorn, No. 10	462	Buchanan	1,263	18	801	699	1,264	1,281	350	
	29	Ohio	Thorn, No. 31	463	Kirkwood	1,505	24	1,042	458	1,510	1,534	200	Gas, 1,512 feet
	30	Ohio	Thorn, No. 16	454	Buchanan	1,250		796	704	1,252	1,268	200	
	31	Ohio	Thorn, No. 18	461	..do	1,254		793	707	1,258	1,280	200	
	32	Ohio	Thorn, No. 15	466	..do	1,247		781	719	1,250	1,265	250	
	33	Ohio	Thorn, No. 11	469	..do	1,245	16	776	724	1,250	1,261	250	
	34	Ohio	Thorn, No. 33	469	..do	1,242	83	773	727				
					Kirkwood	1,521	26	1,052	448	1,530	1,547	150	Gas, 1,525 feet
	35	Ohio	Thorn, No. 2	473	Buchanan	1,254	11	781	719	1,254	1,365		
	36	Ohio	Thorn, No. 32	473	..do	1,263	110	790	710				
					Kirkwood	1,534	24	1,061	439	1,540	1,561	200	Gas, 1,536 feet
	37	Ohio	Thorn, No. 12	473	Buchanan	1,252	19	779	721	1,258	1,271	200	
	38	Ohio	Thorn, No. 4	473	Bridgeport-3	941	19	468	1,032		960		Well abandoned
	39	Ohio	Thorn, No. 36	473	Buchanan	1,250	100	777	723			200	
					Gas	1,470	20	997	503	1,473	1,537		Gas, 1,475 feet. Salt water 1,537 feet
	40	Ohio	Thorn, No. 39	465	Bridgeport	880	110	415	1,085				
					Buchanan	1,246	29	781	719	1,246	1,275	200	
	41	Ohio	Thorn, No. 6	465	..do	1,236	46	771	729		1,282		
	42	Ohio	Thorn, No. 37	470	..do	1,253	87	783	717				
					Kirkwood	1,523	67	1,053	447	1,525	1,802	300	Gas, 1,525 feet
	43	Ohio	Thorn, No. 38	479	Buchanan	1,278	72	799	701				
					Kirkwood	1,540	32	1,061	439	1,543	1,572	250	Gas, 1,547 feet
	44	Ohio	Thorn, No. 9	486	Buchanan	1,290	21	804	696		1,311		
	45	Ohio	Thorn, No. 40	491	Bridgeport	950	230	459	1,041				
					Buchanan	1,325	60	834	666				
					Kirkwood	1,555	24	1,064	436	1,555	1,579	70	Gas, 1,560 feet

	46	Ohio	Thorn, No. 13	493	Buchanan	1,318	17	825	675	1,319	1,335	225	
	47	Ohio	Thorn, No. 14	494	..do	1,297		803	697	1,305	1,314	200	
	48	Ohio	Thorn, No. 17	473	..do	1,272		799	701	1,276	1,288	200	
	49	Ohio	Thorn, No. 28	459	..do	1,294	17	835	665	1,298	1,311	100	
N. W.	1	Shaffer & Smathers	W. E. Finley, No. 40	447	Kirkwood-1	1,480	35	1,033	467	1,515		100	
					Kirkwood-2	1,580	39	1,133	367		1,624		
	2	Shaffer & Smathers	W. E. Finley, No. 27	447									No. record
	3	Shaffer & Smathers	W. E. Finley, No. 2	447	Bridgeport-2	899	26	452	1,048	914	925		Well abandoned
	4	Shaffer & Smathers	W. E. Finley, No. 16	448	Kirkwood	1,485	35	1,037	463				
	5	Shaffer & Smathers	W. E. Finley, No. 4	459	Bridgeport-2	933	15	474	1,026	936			
					Buchanan	1,258	15	799	701	1,258	1,273	150	
	6	Shaffer & Smathers	W. E. Finley, No. 20	459	Kirkwood	1,504	19	1,045	455				
	7	Shaffer & Smathers	W. E. Finley, No. 6	458	Buchanan	1,288	14	830	670	1,294	1,302	100	
	8	Shaffer & Smathers	W. E. Finley, No. 19	459	..do	1,350		891	609				
					Kirkwood	1,510	21	1,051	449				
	9	Shaffer & Smathers	W. E. Finley, No. 18	453	Kirkwood	1,508	25	1,055	445	1,508			Gas, 1,508 feet
	10	Shaffer & Smathers	W. E. Finley, No. 7	456	Buchanan	1,317	38	861	639	1,321			
	11	Shaffer & Smathers	W. E. Finley, No. 24	448	Kirkwood	1,489	69	1,041	459		1,553		
	12	Shaffer & Smathers	W. E. Finley, No. 1	449									No record
	13	Shaffer & Smathers	W. E. Finley, No. 25	450	Kirkwood	1,485	33	1,035	465		1,553		
	14	Shaffer & Smathers	W. E. Finley, No. 28	457	..do	1,487	45	1,030	470	1,505	1,532		
	15	Shaffer & Smathers	W. E. Finley, No. 31	462	..do	1,523	23	1,061	439	1,528	1,546	600	
	16	Shaffer & Smathers	W. E. Finley, No. 37	450	Kirkwood-1	1,492	31	1,042	458	1,507			
					Kirkwood-2	1,532	26	1,082	418		1,558		
	17	Shaffer & Smathers	W. E. Finley, No. 34	451	Buchanan	1,336	79	885	615				Salt water, 1,336 feet
					Kirkwood-1	1,546	24	1,095	405	1,547			
					Kirkwood-2	1,587	16	1,136	364		1,612		
	18	Shaffer & Smathers	W. E. Finley, No. 22	450	Kirkwood-1	1,522	22	1,072	428				
					Kirkwood-2	1,566	20	1,116	384		1,608		
	19	Shaffer & Smathers	W. E. Finley, No. 39	463									No record
	20	Shaffer & Smathers	W. E. Finley, No. 8	457	Buchanan	1,340		883	617	1,350			
					Kirkwood	1,536	12	1,079	421		1,548		
	21	Shaffer & Smathers	W. E. Finley, No. 23	460	..do	1,537	76	1,077	423		1,616		
	22	Shaffer & Smathers	W. E. Finley, No. 9	469	Buchanan	1,317	22	848	652		1,349		
	23	Shaffer & Smathers	W. E. Finley, No. 17	476	..do	1,345	15	869	631				
					Kirkwood	1,580	64	1,104	396	1,580	1,644		
	24	Shaffer & Smathers	W. E. Finley, No. 5	479	Buchanan	1,339	21	860	640	1,345	1,368	200	
	25	Shaffer & Smathers	W. E. Finley, No. 38	479	Stray	1,440		961	539				Salt water
					Kirkwood-1	1,578	33	1,099	401	1,584			
					Kirkwood-2	1,630	30	1,151	349	1,660			
					McClosky	1,840		1,361	139	1,840	1,880		
	26	Ohio	Diver, No. 6	470	Buchanan	1,289	17	819	681		1,306		
	27	Ohio	Diver, No. 4	471	..do	1,270	30	799	701		1,300		
	28	Ohio	Diver, No. 13	473	..do	1,270	65	797	703				
					..do	1,345	30	872	628				Salt water, 1,345 feet
	29	Ohio	Diver, No. 1	473									No record
	30	Ohio	Diver, No. 9	470									..do
	31	Ohio	Diver, No. 15	469	Buchanan	1,270	69	801	699			375	
					Kirkwood	1,537	29	1,068	432		1,574	500	

Lawrence County—Bridgeport Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
17— N. W.	32	Ohio	Diver, No. 3	469									No record
	33	Ohio	Diver, No. 10	464	Buchanan	1,272	68	808	692		1,341		
	34	Ohio	Diver, No. 8	464	..do	1,291	20	827	673		1,311		
	35	Ohio	Diver, No. 14	464	..do	1,280	84	816	684				Salt water, 1,320 feet
					Kirkwood	1,537	72	1,073	427	1,545	1,626	150	
	36	Ohio	Diver, No. 7	455	Buchanan	1,284	43	829	671				
					Kirkwood	1,526	19	1,071	429		1,545		
	37	Ohio	Diver, No. 11	462	Buchanan	1,276	72	814	686				
					Kirkwood	1,526	28	1,064	436		1,563	300	
	38	Ohio	Diver, No. 5	453	Buchanan	1,270	27	817	683		1,297		
	39	Ohio	Diver, No. 2	464									No record
	40	Ohio	Diver, No. 12	464	Buchanan	1,364	88	800	700				
					Kirkwood	1,510	35	1,046	454	1,515	1,553		
S. W.	1	Shaffer & Smathers	W. E. Finley, No. 13	480	Buchanan	1,324	25	844	656	1,326	1,349		
	2	Shaffer & Smathers	W. E. Finley, No. 10	483	..do	1,320	30	837	663	1,327	1,355		
	3	Shaffer & Smathers	W. E. Finley, No. 14	489	..do	1,328	105	839	661	1,340			No "Finley" sand present
					Kirkwood-2	1,648	12	1,159	341	1,648	1,706		
	4	Shaffer & Smathers	W. E. Finley, No. 11	492	Buchanan	1,322	25	840	660		1,357		
	5	Shaffer & Smathers	W. E. Finley, No. 21	502	..do	1,357	9	855	645		1,366		
	6	Shaffer & Smathers	W. E. Finley, No. 15	504	..do	1,351	24	847	653		1,375		
	7	Shaffer & Smathers	W. E. Finley, No. 12	495	..do	1,336	20	841	659		1,356		
	8	Ohio	Clark, No. 6	508	..do	1,365	18	857	643	1,370	1,383	150	
	9	Ohio	Clark, No. 3	515	..do	1,355	28	840	660	1,374	1,383	300	
	10	Ohio	Clark, No. 2	506	..do	1,339	25	833	667	1,349	1,364	150	
	11	Ohio	Clark, No. 4	525	..do	1,385	20	860	640	1,397	1,405	400	
	12	Ohio	Clark, No. 5	517	..do	1,360		843	657	1,381	1,387	250	
	13	Ohio	Clark, No. 1	527	..do	1,400	9	873	627	1,405	1,409	225	
	14	Ohio	Rogers, No. 8	512	..do	1,370	10	858	642	1,373	1,380	200	
	15	Ohio	Rogers, No. 15	508	..do	1,350		842	658	1,355	1,362	250	
	16	Ohio	Rogers, No. 17	510	..do	1,337		827	673	1,346	1,352	250	
	17	Ohio	Rogers, No. 10	509	..do	1,325	15	816	684	1,328	1,340	200	
	18	Ohio	Rogers, No. 14	487	..do	1,317		830	670	1,325	1,329	300	

	19	Ohio	Rogers, No. 13	527	..do	1,354	12	827	673	1,361	1,366	250	
	20	Ohio	Rogers, No. 12	491	..do	1,319		828	672	1,328	1,338	275	
	21	Ohio	Rogers, No. 11	490	..do	1,322	23	832	668	1,328	1,345	150	
	22	Ohio	Rogers, No. 9	489	..do	1,312		823	677	1,320	1,332	250	
	23	Ohio	Rogers, No. 7	504	..do	1,310	18	806	694	1,312	1,328	200	
	24	Ohio	Rogers, No. 18	501	Bridgeport	974	16	473	1,027	980			
					Buchanan	1,295	30	794	706	1,295			
					Stray	1,353	22	852	648				Salt water
					Kirkwood	1,575	15	1,074	426				
					Tracey	1,740	10	1,239	261				
					McClosky	1,894	21	1,393	107	1,894	2,007	200	Gas, 1,894 feet
	25	Ohio	Rogers, No. 3	497	Buchanan-1	1,283		786	714	1,288		350	
					Buchanan-2	1,312		815	685		1,312		
	26	Ohio	Rogers, No 5	477	Buchanan	1,288	26	811	689	1,293	1,314	250	
	27	Ohio	Rogers, No. 6	478	..do	1,308	25	830	670	1,312	1,333	200	
	28	Ohio	Rogers, No. 4	480	..do	1,302	22	822	678	1,310	1,324	250	
	29	Ohio	Rogers, No. 2	473	..do	1,287		814	686	1,290	1,311	200	
	30	Ohio	Rogers, No. 1	483	..do	1,280		797	703	1,285	1,286	100	
	31	Ohio	Rogers, No. 16	483	..do	1,290	90	807	693				
					Kirkwood	1,569	16	1,086	414	1,580	1,782	80	Gas, 1,582 feet
S. E.	1	Gray & Watson	School House Lot	514									No record
	2	Snowden Bros	O'Donnel, No. 20	510	Bridgeport	985	341	475	1,025				Salt water, 1,050 and 1,190 feet
					Buchanan	1,332	10	822	678		1,342	400	
	3	Snowden Bros	O'Donnel, No. 19	514	Bridgeport	1,025		511	989				Salt water, 1,060 and 1,180 feet
					Buchanan	1,329	16	815	685	1,337	1,345	500	
	4	Snowden Bros	O'Donnel, No. 21	513	Bridgeport	1,015		502	998				Salt water, 1,075 and 1,200 feet
					Buchanan	1,340	13	827	673	1,340			
	5	Snowden Bros	O'Donnel, No. 22	506	..do	1,354	13	848	652	1,354	1,367	300	Salt water, 820 and 1,090 feet
	6	Snowden Bros	O'Donnel, No. 17	506	Bridgeport	1,000		494	1,006				Salt water, 1,015 feet
					Stray	1,210		704	796				Salt water, 1,210 feet
					Buchanan	1,340	13	834	666		1,353	300	
	7	Snowden Bros	O'Donnel, No. 14	510	Bridgeport	960	80	450	1,050	960		Show	
					Buchanan	1,315	25	805	695	1,331	1,340	300	
	8	Snowden Bros	O'Donnel, No. 12	506	..do	1,294	25	788	712	1,305	1,319	400	
	9	Snowden Bros	O'Donnel, No. 28	498	Bridgeport	805	10	307	1,193				
					..do	962	86	464	1,036	970			Hole full of salt water, 990 feet
					..do	1,050	20	552	948				
					..do	1,095	40	597	903				
					Stray	1,150	25	652	848				
					Buchanan	1,280	115	782	718	1,298			Salt water, 1,360 feet
					Stray	1,425	13	927	573				
					Kirkwood-1	1,593	32	1,095	405	1,600		Show	
					Kirkwood-2	1,638	12	1,140	360				
					Kirkwood-3	1,676	52	1,178	322				
					Tracey	1,757	8	1,259	241				
					McClosky	1,835	388	1,337	163	1,860	2,223	Show	Limestone

Lawrence County—Bridgeport Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Intial product—barrels.	Remarks.
17—S. E.					Bridgeport-3	1,000		500	1,000				
	10	Snowden Bros	O'Donnel, No. 15	500	Buchanan	1,297	28	797	703		1,325	400	
					Bridgeport	953	10	474	1,026				
					..do	967	10	488	1,012				
					..do	995	160	516	984				Salt water, 1,060 feet
	11	Snowden Bros	O'Donnel, No. 25	479	Buchanan	1,298	72	819	681	1,305			Salt water, 1,344 feet
					Kirkwood-1	1,506	11	1,027	473	1,506			
					Kirkwood-2	1,534	4	1,055	445				
					Kirkwood-3	1,564	25	1,085	415	1,566			Some gas, 1,566 feet
					Kirkwood-4	1,601	5	1,122	378	1,606			Gas, 1,606 feet
	12	Snowden Bros	O'Donnel, No. 8	494	Buchanan	1,283	29	789	711	1,290	1,312	600	
					Bridgeport-2	940	60	444	1,056				
	13	Snowden Bros	O'Donnel, No. 7	496	Stray	1,120		624	876				Salt water
					Buchanan	1,281	10	785	715	1,291	1,305	400	
					Bridgeport	960	40	479	1,021				Salt water, 1,010 feet
	14	Snowden Bros	O'Donnel, No. 18	481	Stray	1,220		739	761				Salt water, 1,220 feet
					Buchanan	1,282	33	801	699				Slate, 1,315 to 1,318 feet
					..do	1,318	5	837	663		1,350	150	Salt water, 1,318 feet
	15	Snowden Bros	O'Donnel, No. 1	481	Bridgeport-2	949	31	468	1,032			125	
					Buchanan	1,282	3	801	699	1,285	1,311		
					Bridgeport	942	18	461	1,039	942			
					..do	1,015		534	966				Salt water
					Buchanan	1,325	48	844	656	1,325			
	16	Snowden Bros	O'Donnel, No. 26	481	Kirkwood-1	1,560	25	1,079	421	1,560			
					Kirkwood-2	1,628	20	1,147	353	1,628			
					Kirkwood-3	1,665	35	1,184	316				
					Tracey-1	1,710	15	1,229	271				
					Tracey-2	1,730	2	1,249	251	1,730	1,747		Quit in lime
	17	Snowden Bros	O'Donnel, No. 2	481	Stray	1,283		802	698		1,321	600	

	18	Snowden Bros	O'Donnel, No. 29	483	Bridgeport	950	15	467	1,033	950		Show	
					..do	995	90	512	988				Salt water, 1,020 feet
					..do	1,095	60	612	888				
					Buchanan	1,280	22	797	703	1,282	1,302	100	
	19	Snowden Bros	O'Donnel, No. 27	469	Bridgeport	894	241	425	1,075				Salt water, 1,020 feet
					Buchanan	1,288	50	819	681	1,308			Salt water, 1,316 feet
					Kirkwood-1	1,481	84	1,012	488	1,542		300	
					Kirkwood-2	1,616	39	1,147	353				Salt water, 1,616 feet
	20	Snowden Bros	O'Donnel, No. 3	469	Buchanan	1,280	15	811	689	1,295	1,305	700	
	21	Snowden Bros	O'Donnel, No. 30	492	Bridgeport	1,015	100	523	977				Salt water, 1,040 feet
					..do	1,135	25	643	857				
					Buchanan	1,319	76	827	673	1,325			Salt water, 1,355 feet
					Kirkwood	1,565	32	1,073	427	1,574	1,619		
	22	Snowden Bros	O'Donnel, No. 4	497	Buchanan	1,333	7	836	664		1,359	500	
	23	Snowden Bros	O'Donnel, No. 5	503	..do	1,334	20	831	669	1,350	1,354	400	
	24	Snowden Bros	O'Donnel, No. 6	510	..do	1,346	31	836	664	1,370	1,377	300	
	25	Snowden Bros	O'Donnel, No. 11	497	..do	1,319	31	822	678	1,325	1,350	500	
	26	Snowden Bros	O'Donnel, No. 10	481	..do	1,310	10	829	671	1,320	1,335	500	
	27	Snowden Bros	O'Donnel, No. 16	484	Bridgport	940		456	1,044				Salt water, 1,080 feet
					Buchanan	1,312	19	828	672		1,331	400	
	28	Snowden Bros	O'Donnel, No. 24	500	Bridgeport	1,070		570	930				Salt water, 765, 1,070 and 1,220 feet
					Buchanan	1,327	19	827	673		1,346	200	
	29	Snowden Bros	O'Donnel, No. 9	508	..do	1,350	23	842	658	1,375	1,378	300	
	30	Snowden Bros	O'Donnel, No. 13	503	..do	1,372	26	869	631	1,385	1,398	200	Salt water, 1,389 feet
	31	Snowden Bros	O'Donnel, No. 23	501	Bridgeport	1,030	70	529	971				Salt water, 750 feet
					Buchanan	1,349	16	848	652	1,349	1,365	200	
N. E.	1	Shaffer & Smathers	W. E. Finley, No. 32	462	Kirkwood	1,538	37	1,076	424	1,557	1,588	150	
	2	Shaffer & Smathers	W. E. Finley, No. 30	453	..do	1,534	50	1,081	419	1,550	1,596		
	3	Shaffer & Smathers	W. E. Finley, No. 36	460	..do	1,569	39	1,109	391	1,572	1,621	25	
	4	Shaffer & Smathers	W. E. Finley, No. 29	455	Buchanan	1,325	55	870	630				Salt water, 1,365 feet
					Kirkwood	1,565	5	1,110	390		1,615		
	5	Unknown	P. Caney, No. 1	472									No record
	6	Unknown	P. Caney, No. 2	453									..do
	7	Unknown	P. Caney, No. 3	456									..do
	8	Ohio	A. Griggs, No. 3	456	Kirkwood	1,575	35	1,119	381	1,580	1,620	70	Gas, 1,579 feet
	9	Ohio	A. Griggs, No. 2	456	..do	1,585	33	1,129	371	1,590	1,620	15	Gas, 1,592 feet
	10	Ohio	A. Griggs, No. 1	477	..do	1,604	36	1,127	373	1,608	1,640	30	Gas, 1,606 feet. Salt water, 1,640 feet
	11	Ohio	Bell, No. 3	478	..do	1,630	26	1,152	348	1,630	2,015		Salt water, 1,900 feet. Well abandoned
	12	Ohio	Bell, No. 2	458	..do	1,566	31	1,108	392	1,569	1,597	60	Gas, 1,568 feet
	13	Ohio	Bell, No. 1	455	..do	1,595	28	1,140	360	1,597	1,623	20	Gas, 1,607 feet
19—													
N. E.	1	Ohio	M. Stivers, No. 1	510	Bridgeport	1,135	140	625	875				
					Buchanan	1,430	190	920	580				
					Gas	1,755	30	1,245	255				
					Kirkwood	1,890	15	1,380	120				
					Stray	2,042	2	1,532	—32	2,042	2,072	Dry	Show

Lawrence County—Bridgeport Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
19—													
S. E.	1	Ohio	LeGrand, No. 1	472	Bridgeport	1,125	140	653	847				
					Buchanan	1,420	190	948	552				
					Stray	1,640	25	1,168	332				Salt water, 1,640 feet
					Kirkwood	1,912	25	1,440	60		2,005	Dry	
20—													
N. E.	1	Ohio	E. Lutz, No. 1	500	Bridgeport	1,080	140	580	920				
					Buchanan	1,395	105	895	605				
					Kirkwood	1,605	25	1,105	395	1,605		15	
					Tracey	1,792	20	1,292	208		2,000		Gas, 1,946 to 1,950 feet
	2	Ohio	Millhouse, No. 1	512	Buchanan	1,378	102	866	634				
					Kirkwood	1,705	16	1,193	307		1,721	Dry	Salt water, 1,719 feet
	3	Ohio	Miller, No. 1	506	Buchanan	1,398		892	608		1,398		Well abandoned
	4	Ohio	Miller, No. 6	517	..do	1,363	7	846	654		1,370	300	
	5	Ohio	Miller, No. 10	516	..do	1,398	5	882	618	1,401	1,403	25	Salt water, 1,403 feet
	6	Ohio	Miller, No. 18	516	..do	1,410	60	894	606				
					Tracey	1,771	12	1,255	245		1,783	Gas	Gas, 1,771 feet. Salt water, 1,740 feet
	7	Ohio	Miller, No. 15	510	Buchanan	1,371	20	861	639	1,388	1,391		
	8	Ohio	Miller, No. 9	518	..do	1,364	7	846	654	1,366			
	9	Ohio	Miller, No. 7	521	..do	1,352	15	831	669		1,367	350	
	10	Ohio	Miller, No. 19	516	..do	1,346	6	830	670	1,346			Salt water, 1,740 feet
					Tracey	1,810	10	1,294	206				Well abandoned
	11	Ohio	Miller, No. 5	515	Buchanan	1,343	10	828	672	1,347	1,353	325	
N. W.	1	Ohio	Miller, No. 8	512	..do	1,351	12	839	661		1,363	400	
	2	Ohio	Miller, No. 12	520	..do	1,355	25	835	665	1,377	1,380	200	
	3	Ohio	Miller, No. 13	507	..do	1,374	12	867	633	1,384	1,386	150	
	4	Ohio	Miller, No. 14	523	..do	1,381	2	858	642	1,381	1,383		
	5	Ohio	Miller, No. 11	525	..do	1,362	24	837	663	1,379	1,386	250	
	6	Ohio	Miller, No. 4	514	..do	1,358	6	844	656		1,364	290	
	7	Ohio	Miller, No. 3	526	..do	1,393	7	867	633				
	8	Ohio	Miller, No. 2	530	..do	1,406	6	876	634		1,412	Dry	
S. W.	1	Ohio	Miller, No. 23	502									Drilling

					Bridgeport	1,000	310	497	1,003				
	2	Ohio	Miller, No. 20	503	Buchanan-1	1,450	110	947	553				
					Buchanan-2	1,595	30	1,092	408				
					Tracey	1,904	22	1,401	99	1,904	1,926	125	Gas, 1,904 feet
					Bridgeport	1,100	150	591	906				
	3	Ohio	Miller, No. 21	506	Buchanan	1,400	150	894	606				
					Stray	1,700	30	1,194	306				Salt water, 1,710 feet
					Kirkwood	1,900	16	1,394	106	1,900	1,918	100	Gas, 1,904 feet
	4	Ohio	Miller, No. 22	496									Drilling
	5	Ohio	Miller, No. 16	486	Kirkwood	1,866	26	1,380	120	1,866	1,892	110	Gas, 1,866 feet
	6	Ohio	Miller, No. 17	476	Stray	1,720	16	1,244	256				
					Kirkwood	1,851	37	1,375	125	1,851	1,888	25	Gas, 1,851 feet
					Buchanan	1,410	50	929	571				
S. E.	1	Shaffer & Smathers	Tabscott, No. 1	481	Stray	1,510		1,029	471				Salt water
					..do	1,686		1,205	295	1,686		Show	
					Kirkwood	1,865	33	1,384	116	1,865	2,013		
	2	Ohio	Millhouse (Acct. 2), No 1	520	Stray	1,765		1,245	255				Salt water
					Kirkwood	1,820		1,300	200		1,998		Gas
29— N. E.	1	Ohio	J. Gillespie, No. 1	467	..do	1,850	4	1,383	117	1,852	2,004	Show	Well abandoned
	2	Shaffer & Smathers	Tabscott, No. 2	479	..do	1,865	31	1,386	114		2,013	Show	..do
					Bridgeport	830	40	354	1,146				
					..do	880	40	404	1,096				Salt water
					..do	930	20	454	1,046				..do
					..do	1,045	230	569	931				..do
N. W.	1	Snowden Bros	H. Seed, No. 1	476	Buchanan	1,450	40	974	526				Salt water, 1,460 feet
					Stray	1,532	5	1,056	444				Red rock, 1,700 and 1,810 feet
					..do	1,820	10	1,344	156				Salt water
					Kirkwood	1,862	12	1,386	114	1,862	1,885		
					Bridgeport	831	129	341	1,159				Salt water, 851 feet
					..do	1,165	105	675	825				Salt water, 1,166 feet
					..do	1,295	25	805	695				
					Buchanan-1	1,425	187	935	565				
	2	Snowden Bros	H. Seed, No. 2	490	Buchanan-2	1,620	30	1,130	370				Salt water, 1,650 feet
					Stray	1,730	20	1,240	260				Red rock, 1,650 and 1,785 feet
					..do	1,802	26	1,312	188				
					..do	1,845	20	1,355	145				Salt water, 1,860 feet
					Kirkwood	1,881	17	1,391	109	1,882	1,900	125	Known as Seed sand
	3	Snowden Bros	H. Seed, No. 5	501									Drilling
	4	Mahugh	H. P. Seed, No. 2	504									..do
	5	Mahugh	H. P. Seed, No. 1	506									No record
	6	Snowden Bros	H. K. Seed, No. 4	510									..do

Lawrence County—Bridgeport Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Depth to top—feet.	Thickness penetrated—feet.	Altitude below sea level—feet.	Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
29—													
S. W.	1	Snowden Bros.	H. K. Seed, No. 3	513	Bridgeport	890	35	377	1,123				Hole full water, 905 feet.
					..do	1,040	50	527	973				
					..do	1,130	252	617	883				Hole full water, 1,140 feet.
					Buchanan-1	1,518	73	1,005	495				Salt water, 1,591 feet.
					Buchanan-2	1,640	47	1,127	373				Hole full water, 1,640 feet.
					Stray	1,703	22	1,190	310				Red rock, 1,729 and 1,803 feet.
					..do	1,810	13	1,297	203				Salt water, 1,822 feet.
					..do	1,865	7	1,352	148				Salt water, 1,872 feet.
					Kirkwood-1	1,894	22	1,381	119				
					Kirkwood-2	1,922	25	1,409	91				Salt water, 1,947 feet.
					Kirkwood-3	1,982	19	1,469	31	1,982	2,001		
30—													
N. E.	1	Ohio	Longan, No. 1	499	Bridgeport	1,000	310	501	999				
					..do	1,450	175	951	549				Salt water, 1,650 and 1,700 feet.
					Stray	1,775	15	1,276	224				
					Kirkwood	1,911	17	1,412	88	1,911	1,933	50	Gas, 1,915 feet.
	2	Snowden Bros.	McOrr, No. 1	503	Bridgeport	868	48	365	1,135				Hole full water, 916 feet.
					..do	1,040	15	537	963				Salt water, 1,045 feet.
					..do	1,120	210	617	883				
					Stray	1,383	9	880	620				
					Buchanan-1	1,415	35	912	588				Salt water, 1,420 feet.
					Buchanan-2	1,520	25	1,017	483				Salt water, 1,522 feet.
					Buchanan-3	1,594	59	1,091	409				
					Stray	1,687	21	1,184	316				Salt water, 1,708 feet.
					..do	1,800	8	1,297	203				
					Kirkwood-1	1,865	71	1,362	138				Salt water, 1,880 and 1,928 feet.
					Kirkwood-2	1,958	14	1,455	45	1,962	1,972		
S. E.	1	Mahugh	Shepherd, No. 2	508									No record.
	2	Mahugh	Shepherd, No. 1	497									..do.

	3	Snowden	Clevey, No. 1	510	Bridgeport	770	25	260	1,240				Salt water, 795 feet
					..do	890	15	380	1,120				Salt water, 905 feet
					..do	1,010	10	500	1,000				
					..do	1,065	15	555	945				
					..do	1,140	193	630	870				Salt water, 1,140 feet
					Stray	1,463	20	953	547				Gas sand
					Buchanan-1	1,545	10	1,035	465				
					Buchanan-2	1,567	33	1,057	443		1,600	Dry	
31—N E..	1	Ohio	School House Lot, No. 2	536	Bridgeport-2	912	21	376	1,124				
					Bridgeport-3	1,020	25	484	1,016	1,035		75	
	2	Ohio	E. Combs (Acct. 1), No 7	532	Bridgeport-1	815	20	283	1,217	820			
					Bridgeport-3	1,060	8	528	972	1,062		30	Salt water, 1,068 feet
	3	Ohio	E. Combs (Acct. 1), No. 2	537	Bridgeport-1	830	25	293	1,207	830			
					Bridgeport-2	992	11	455	1,045			10	
	4	Ohio	E. Combs (Acct. 2), No. 5	537									No record
	5	Ohio	E. Combs (Acct. 2), No. 8	522	Kirkwood	1,412	44	890	610	1,414	1,461	250	
	6	Ohio	E. Combs (Acct. 2), No. 4	521	Bridgeport-1	854	18	333	1,167	860			
					Bridgeport-3	1,037	20	516	984			75	Salt water, 1,080 feet
	7	Ohio	E. Combs (Acct 2), No. 10	521	Kirkwood	1,420	35	899	601				
					McClosky	1,643	11	1,122	378		1,656	Gas	Gas, 1,643 feet. 1,000,000 cu. ft. gas first day
	8	Ohio	E. Combs (Acct. 2), No. 3	526	Bridgeport-1	842	18	316	1,184	850			
					Bridgeport-3	1,037	20	511	989	1,047		100	
	9	Ohio	E. Combs (Acct. 2), No. 1	523	Bridgeport-1	835	20	312	1,188				
					Bridgeport-3	1,021	41	498	1,002	1,056		50	Salt water, 1,063 feet
	10	Ohio	E. Combs (Acct. 2), No. 9	522	Kirkwood	1,385	25	863	637	1,391	1,414	50	
	11	Ohio	E. Combs (Acct. 2), No 6	516	Bridgeport-1	824	20	308	1,192	830			
					Bridgeport-3	1,038	20	522	978	1,050		40	
	12	Int'l Oil & Gas Co	E. Fyffe, No. 6	526	"Gas"	1,335		809	691				Gas, 1,335 feet
					Kirkwood	1,396	48	870	630	1,410	1,430		
	13	Int'l Oil & Gas Co	E. Fyffe, No. 1	526	Bridgeport	825	140	299	1,201				
					Kirkwood	1,396	48	870	630			30	Gas, 1,335 feet
	14	Int'l Oil & Gas Co	E. Fyffe, No. 3	527	Bridgeport-1	832	23	305	1,195				
					Bridgeport-2	902	46	375	1,125				
					Bridgeport-3	964	38	437	1,063				
	15	Int'l Oil & Gas Co	E. Fyffe, No. 12	521	Bridgeport	740	40	219	1,281				
					..do	840	72	319	1,181				
					Buchanan	1,100	125	579	921				Salt water, 1,115 feet
					Kirkwood	1,425	50	904	596				
					McClosky	1,660		1,139	361	1,665	1,665		Gas, 1,660 feet
	16	Int'l Oil & Gas Co	E. Fyffe, No 4	521	Bridgeport-1	850	110	329	1,171				
					Bridgeport-3	972	38	451	1,049				
					Kirkwood	1,395	58	874	626				
	17	Int'l Oil & Gas Co	E. Fyffe, No. 11	507	Bridgeport	735	60	228	1,272				Salt water, 745 feet
					..do	835	70	328	1,172				
					Buchanan	1,085	135	578	922				
					Kirkwood	1,431	38	924	576				
					Tracey	1,580		1,073	427				
					McClosky	1,659		1,152	348	1,666	1,672		Gas, 1,659 feet

Lawrence County—Bridgeport Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
31—					Bridgeport	740	30	226	1,274				
					..do	840		326	1,174				
N. E.	18	Int'l Oil & Gas Co.	E. Fyffe, No. 10	514	Buchanan	1,085		571	929				Salt water, 1,120 feet
					Kirkwood	1,414	48	900	600				
					McClosky	1,652		1,138	362	1,652	1,665		
					Bridgeport-1	847		354	1,146	847			
	19	Int'l Oil & Gas Co.	E. Fyffe, No. 5	493	Kirkwood	1,415	18	922	578				
					Bridgeport	855		361	1,139				
					..do	1,050		556	944				
	20	Int'l Oil & Gas Co.	E. Fyffe, No. 9	494	Buchanan	1,090	140	596	904				Salt water, 1,135 feet
					Kirkwood	1,437	38	943	557				
					McClosky	1,649	16	1,155	345	1,665	1,672		
					Bridgeport	700		190	1,310				
					..do	760	25	250	1,250				Salt water, 760 feet
					..do	840	124	330	1,170	850			
					..do	1,035	20	525	975				
	21	Int'l Oil & Gas Co.	E. Fyffe, No. 8	510	Buchanan-1	1,080	25	570	930				
					Buchanan-2	1,130	95	629	880				Salt water, 1,130 feet
					Kirkwood	1,416	33	906	594				
					McClosky	1,634	14	1,124	376	1,652	1,657		Gas, 1,634 feet
	22	Int'l Oil & Gas Co.	E. Fyffe, No. 2	512	Bridgeport-1	839	212	327	1,173	839 1,031			Abandoned
					Bridgeport	745		225	1,275				
					..do	845		325	1,175				
					..do	1,035	25	515	985				
	23	Int'l Oil & Gas Co.	E. Fyffe, No 13	520	Buchanan	1,075		655	845				Salt water, 1,075 feet
					Kirkwood	1,421	30	901	599				
					McClosky	1,650		1,130	370		1,657		Gas, 1,650 feet
					Bridgeport	840		320	1,180				
	24	Int'l Oil & Gas Co.	E. Fyffe, No 7	520	..do	1,033	19	513	987				
					Kirkwood	1,405	27	885	615		1,450		
	25	Silurian	Crump (28 Acres), No. 15	507	Bridgeport	850	25	343	1,157		1,003	100	

26	Silurian	Crump (28), No. 4	510	..do	755	45	245	1,255				
				..do	850	25	340	1,160	850		Show	
				..do	975	65	465	1,035				
				Buchanan	1,090	45	580	920				Salt water
				"Gas"	1,305	42	795	705				
				Kirkwood-1	1,408	18	898	602	1,408			
				Kirkwood-2	1,455	8	945	555		1,471	247	
27	Silurian	Crump (28), No. 2	520									No record. Well abandoned.
28	Silurian	Crump (28), No. 6	512	Bridgeport	860	15	348	1,152				
				Buchanan	1,100	130	588	912				Salt water, 1,140 feet
				"Gas"	1.355	10	843	657				
				Kirkwood	1,428	60	916	584	1,438	1,488	400	
29	Silurian	Crump (28), No. 11	497	Bridgeport	975	30	478	1,022				Salt water
				Kirkwood	1,465	12	968	532				
30	Silurian	Crump (28), No 3	499	Bridgeport	860		361	1,139	875			
				Buchanan	1,165	15	666	834				Salt water, 1,165 feet
				Stray	1,280	15	781	719				
				"Gas"	1,362	26	863	637	1,362	1,390		Gas, 1,362 feet
31	Silurian	Crump (28), No 10	494	Kirkwood-1	1,462	9	968	532				
				Kirkwood-2	1,477	5	983	517				
				McClosky	1,691		1,197	303		1,704	300	
32	Silurian	Crump (28), No. 12	504	Bridgeport	740	40	236	1,264				
				..do	836	10	332	1,168				
				Kirkwood-1	1,410	32	906	594				
				Kirkwood-2	1,455	11	951	549				
				McClosky	1,640	3	1,136	364				
33	Silurian	Crump (28), No. 9	500	Bridgeport	975	35	475	1,025				
				Buchanan	1,168	127	658	832				Salt water
				Kirkwood	1,444	20	944	556				Red rock, 1,295 and 1,434 feet
				McClosky	1,674	11	1,174	326	1,674	1,685	600	
34	Silurian	Crump (28), No. 8	526	Bridgeport	865	31	339	1,161				
				Kirkwood-1	1,465	15	939	561				
				Kirkwood-2	1,480	20	959	541				
				McClosky	1,683	6	1,157	343		1,702	500	
35	Silurian	Crump (28), No. 13	520	Bridgeport	868	10	348	1,152			10	
36	Silurian	Crump (28), No. 5	502	Bridgeport	860	15	358	1,142				
				Buchanan	1,090	165	588	912				Salt water
				"Gas"	1,360	30	858	642				Red rock, 1,285 and 1,432 feet
				Kirkwood	1,439	33	937	563	1,469			
				McClosky	1,630	52	1,128	372	1,672	1,682	300	Gas, 1,672 feet
37	Silurian	Crump (28), No. 7	521	Bridgeport	846	30	325	1,175				
				"Gas"	1,351	35	830	670				Gas, 1,353 feet
				Kirkwood-1	1,431	25	910	590			200	
				Kirkwood-2	1,462	23	941	559				
				McClosky	1,672	12	1,151	349			300	
38	Silurian	Crump (28), No. 1	517	Bridgeport-1	767	4	250	1,250				
				Bridgeport-2	845	17	328	1,172	845			
				Bridgeport-3	1,064	9	547	953				Gas, 1,064 feet
39	Silurian	Crump (28), No. 14	521	Bridgeport	980	21	459	1,041	980			

Lawrence County—Bridgeport Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand.					Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
					Name.	Depth to top—feet.	Thickness penetrated—feet.	Altitude below sea level—feet.	Altitude above datum plane—feet.				
31—N. E.	40	Ohio	McCleave, No. 4	518	Kirkwood	1,492	47	974	526	1,500	......	150	
					McClosky	1,721	5	1,203	297	1,721	1,742	....	Gas, 1,720 feet
	41	Ohio	McCleave, No. 3	528	Kirkwood	1,467	52	939	561	1,490	......	100	
					McClosky	1,698	10	1,170	330	......	1,732	....	
	42	Ohio	McCleave, No. 5	536	Kirkwood	1,462	42	926	574	1,463	1,506	125	
	43	Ohio	McCleave, No. 1	534	Bridgeport-2	867	8	333	1,167	867	......	100	
					Bridgeport-3	1,073	6	539	961	......	......	....	Well abandoned
	44	Ohio	McCleave, No. 2	534	Kirkwood	1,459	44	925	575	......	......	....	do
					McClosky	1,691	10	1,157	343	1,701	1,706	500	Gas, 1,691 feet
	45	Ohio	Clark, No. 11	534	Kirkwood	1,447	45	913	587	1,465	......	125	
					McClosky	1,675	13	1,141	359	1,675	1,688	....	Gas, 1,670 feet
	46	Ohio	Clark No. 4	533	Bridgeport	940	17	407	1,093	......	......	....	
					do	1,024	11	491	1,009	......	1,043	....	Well abandoned
	47	Ohio	Clark, No. 12	531	Kirkwood	1,445	42	914	586	1,447	1,502	150	
	48	Ohio	Clark, No. 17	529	Bridgeport	990	60	461	1,039	......	......	....	
					Kirkwood	1,442	31	913	587	......	......	....	
					McClosky	1,660	10	1,131	369	......	1,670	Gas	Gas, 1,660 feet
	49	Ohio	Clark, No. 8	526	Bridgeport	830	12	304	1,196	......	......	....	
					do	1,040	10	514	986	......	......	....	
					Kirkwood	1,404	......	878	622	1,414	1,430	....	
	50	Ohio	Clark, No. 18	520	do	1,424	39	904	596	......	......	....	
					McClosky	1,654	10	1,134	366	......	1,665	Gas	
	51	Ohio	Clark, No. 7	522	Bridgeport	820	25	298	1,202	......	......	....	
					do	1,054	6	532	968	......	1,062	....	
	52	Ohio	Clark, No. 9	522	Kirkwood	1,404	......	882	618	1,414	1,430	....	
	53	Ohio	Clark, No. 6	526	Bridgeport-1	830	15	304	1,196	......	......	....	
					Bridgeport-2	934	10	408	1,092	......	......	....	
					Bridgeport-3	1,010	41	484	1,016	......	1,051	....	
	54	Ohio	Clark, No. 5	522	Bridgeport-1	805	15	283	1,217	......	......	....	
					Bridgeport-2	895	12	373	1,127	......	......	....	
					Bridgeport-3	995	55	473	1,027	......	1,045	....	

	55	Ohio	Clark, No. 16	531	Bridgeport	1,025	29	504	996				
					"Gas"	1,372	34	851	649	1,380	1,406	100	
	56	Ohio	Clark, No. 15	520	..do	1,392	34	872	628	1,395	1,426	125	
	57	Ohio	Clark, No. 2	522	Bridgeport-1	812	20	290	1,210			Show	
					Bridgeport-2	905	13	383	1,117				
					Bridgeport-3	982	25	460	1,040	982	1,007		
	58	Ohio	Clark, No. 13	521	Bridgeport	1,025	29	504	996	1,030	1,054	170	
	59	Ohio	Clark, No. 14	523	"Gas"	1,392	38	869	631	1,395	1,439	250	Gas, 1,390 feet
	60	Ohio	Clark, No. 10	523	Bridgeport	1,040	23	517	983	1,040	1,063	200	
	61	Ohio	Clark, No. 1	523	Bridgeport-1	826	10	303	1,197				
					Bridgeport-2	911	20	388	1,112				
					Bridgeport-3	981	56	458	1,042	981			
	62	Ohio	Clark, No. 3	528	Bridgeport-1	820	20	292	1,208				
					Bridgeport-2	909	25	381	1,119				
					Bridgeport-3	1,000	30	472	1,028	1,000	1,030		
N. W.	1	Ohio	Delaney, No. 6	502	Kirkwood	1,437	40	935	565	1,445			
					McClosky	1,655	15	1,153	347	1,655	1,670	450	Flowing well
	2	Ohio	Delaney, No. 1	500	"Gas"	1,354	16	854	646				Gas, 1,354 feet
					Kirkwood	1,433		933	567	1,433		40	
	3	Ohio	Delaney, No. 5	502	Kirkwood-1	1,421	9	919	581	1,430			Gas, 1,421 feet
					Kirkwood-2	1,437	38	935	565	1,437	1,475	400	
	4	Ohio	Delaney, No. 4	473	"Gas"	1,343	12	870	630	1,343			
					Kirkwood	1,440	26	967	533	1,440	1,471	250	
	5	Ohio	Delaney, No. 3	489	..do	1,426	28	937	563	1,426	1,460	65	
	6	Ohio	Delaney, No. 7	500	..do	1,438	40	938	562	1,441		25	
					McClosky	1,656	11	1,156	344		1,673		
	7	Ohio	Adkins, No. 1	483	Kirkwood	1,422	14	939	561	1,422		42	
	8	Ohio	Delaney, No. 8	483	..do	1,453	28	970	530	1,453	1,486	50	
	9	Ohio	Delaney, No 2	482	"Gas"	1,395	3	913	587	1,395			Gas, 1,395 feet. Salt, water, 1,030 feet
					Kirkwood	1,450	21	968	532	1,450		80	
	10	Central Refining Co	P. King, No. 8	464	Bridgeport	755	35	291	1,209				Salt water
					..do	845	5	381	1,119				
					..do	860	5	396	1,104				
					..do	920	80	456	1,044	925			
					..do	1,015	25	551	949				
					..do / Buchanan	1,042	43	578	922				
					Buchanan-1	1,130	50	666	834				Salt water
					Buchanan-2	1,218	50	754	746				..do
					Stray	1,380	15	916	584	1,380		Show	
					Kirkwood-1	1,458	41	994	506	1,478			
					Kirkwood-2	1,525	5	1,061	439				
					Kirkwood-3	1,551	22	1,087	413	1,551		Show	
					Tracey	1,602	3	1,138	362				
					McClosky	1,688	5	1,224	276	1,688	1,693	Show	

Lawrence County—Bridgeport Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
31—													
					Bridgeport	775	45	298	1,202				
					..do	945	105	468	1,032	945			Salt water, 1,020 feet
					..do	1,070	50	593	907				Salt water
					Buchanan	1,235	50	758	742				..do
					Stray	1,315	5	838	662				
N. W..	11	Central Refining Co	P. King, No. 9	477	Gas	1,400	15	923	577	1,400		Show	
					Kirkwood-1	1,481	37	1,004	496	1,485			
					Kirkwood-2	1,535	5	1,058	442				
					Kirkwood-3	1,565	7	1,088	412				
					Tracey	1,585	12	1,108	392	1,589	1,674		Gas, 1,589 feet
					Stray	1,630		1,153	347				
	12	Central Refining Co	P. King, No. 1	488	Kirkwood	1,515		1,027	473		1,530	75	
					Bridgeport	1,005	75	513	987				Salt water
	13	Central Refining Co	P. King, No. 4	492	Buchanan	1,210	70	718	782				
					"Gas"	1,445	15	953	547				Salt water
					Kirkwood	1,534	31	1,042	458	1,565	1,565		
					Bridgeport	785	80	298	1,202				
					..do	980	60	493	1,007	995		Show	
					..do	1,052	83	565	935				Hard sand
	14	Central Refining Co	P. King, No. 5	487	Buchanan-1	1,145	145	658	842				
					Buchanan-2	1,305	35	818	682				
					"Gas"	1,421	15	934	566				
					Kirkwood	1,494	30	1,007	493	1,494	1,524		
	15	Central Refining Co	P. King, No. 3	514	..do	1,558	30	1,044	456			30	
					Bridgeport	795	35	276	1,224				
					..do	920	10	401	1,099	920		Show	
					..do	1,020	100	501	999				Salt water
	16	Central Refining Co	P. King, No. 7	519	Stray	1,175	5	656	844				
					Buchanan-1	1,235	85	716	784				
					Buchanan-2	1,443	7	924	576				
					Kirkwood	1,510	39	991	509	1,530	1,553		

	17	Central Refining Co	P. King, No. 6	521	Bridgeport	790	50	269	1,231				
					..do	895	20	374	1,126				
					..do	1,035	135	514	986				
					Buchanan-1	1,210	35	689	811				
					Buchanan-2	1,290	65	769	731				
					"Gas"	1,450	20	929	571				
					Kirkwood	1,537	43	1,016	484	1,537	1,580		
	18	Central Refining Co	P. King, No. 2	512	..do	1,570	39	1,058	442			50	Salt water, 1,500 feet
	19	Ohio	Kimmel, No. 25	534	..do	1,525	40	991	509	1,527	1,772	100	
	20	Ohio	Kinmel, No. 11	532	..do	1,521	32	989	511	1,521	1,553	30	
	21	Ohio	Kimmel, No. 8	487	..do	1,477	24	990	510	1,477		80	
	22	Ohio	Kimmel, No. 29	490									Drilling
	23	Ohio	Kimmel, No 14	504	Kirkwood	1,481	49	977	523	1,481	1,532	400	Gas, 1,481 feet
	24	Ohio	Kimmel, No. 24	493	..do	1,467	39	974	526				
					McClosky	1,689	9	1,196	304	1,689	1,702	100	Gas, 1,687 feet
	25	Ohio	Kimmel, No. 7	493	Bridgeport-2	960	20	467	1,033				
					Kirkwood	1,452	26	959	541	1,452		140	Gas, 1,452 feet
	26	Ohio	Kimmel, No. 19	501	..do	1,500	22	999	501	1,510			Gas, 1,695 feet
					McClosky	1,704	10	1,203	297	1,705	1,721	100	
	27	Ohio	Kimmel, No. 26	513	"Gas"	1,385	15	872	628				
					Kirkwood	1,487	27	974	526	1,487	1,516	75	
	28	Ohio	Kimmel, No. 21	515	..do	1,503	35	988	512				
					McClosky	1,731	8	1,216	284	1,731	1,750	100	Gas, 1,730 feet
S. W.	1	Bridgeport	J. Abernathy, No. 3	495	Bridgeport-1	815	25	320	1,180				Salt water, 830 feet
					Bridgeport-2	860	30	365	1,135				Salt water, 870 feet
					Buchanan	1,215	145	720	780				Salt water, 1,225 and 1,316 feet
					Kirkwood	1,571	39	1,076	424		1,610	50	Well abandoned
	2	Bridgeport	J. Abernathy, No. 7	500									No receord
	3	Bridgeport	J. Abernathy, No. 6	504									..do
	4	Bridgeport	J. Abernathy, No. 5	521	Kirkwood	1,548	28	1,027	473				
	5	Bridgeport	J. Abernathy, No. 8	512	Bridgeport	1,040	175	528	972				Salt water, 1,075 feet
					Buchanan-2	1,300	50	788	712				
					"Gas"	1,458	10	946	554	1,458			
					Kirkwood	1,560	35	1,048	452	1,576			
					Tracey	1,648	15	1,136	364				
					McClosky	1,788	8	1,276	224	1,792	1,828		Salt water, 1,820 feet in lime
	6	Ohio	S. Abernathy, No. 4	512	Kirkwood	1,600	50	1,088	412	1,606	1,658	Dry	Gas, 1,606 feet
	7	Ohio	S. Abernathy, No. 6	512	..do	1,600	39	1,088	412	1,606	1,639	125	Gas, 1,604 feet
	8	Ohio	S.A bernathy, No. 8	517	..do	1,587	37	1,070	430	1,590	1,624	25	
	9	Ohio	S. Abernathy, No. 5	531	..do	1,587	33	1,056	444	1,592	1,625	75	Gas, 1,590 feet
	10	Ohio	S. Abernathy, No. 2	541	..do	1,615	25	1,074	426	1,620		65	
					Tracey	1,648	4	1,107	393				
	11	Ohio	S. Abernathy, No. 7	537	Kirkwood	1,627	60	1,090	410	1,630	1,687	125	
	12	Ohio	S. Abernathy, No. 1	534	..do	1,585	51	1,051	449	1,615		75	Gas, 1,615 feet. Well abandoned
	13	Ohio	C. Abernathy, No. 1	528	Kirkwood-1	1,540	28	1,012	488	1,540		17	
					Kirkwood-2	1,600		1,072	428		1,623		
	14	Ohio	C. Abernathy, No. 3	537	Kirkwood	1,546	37	1,009	491	1,555	1,583	100	Gas, 1,550 feet
	15	Ohio	C. Abernathy, No. 2	553	"Gas"	1,445	26	892	608				
					Kirkwood	1,545	30	992	508	1,545	1,602	7	

Lawrence County—Bridgeport Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
31— S. W.	16	Ohio	Kimmel, No. 15	539	Kirkwood	1,550	38	1,011	489	1,552	1,597	75	Gas, 1,555 feet
	17	Ohio	Kimmel, No. 18	537	..do	1,555	31	1,018	482	1,558	1,586	75	
	18	Ohio	Kimmel, No. 9	544	..do	1,543	20	999	501	1,545	1,569	25	
S. E.	1	Ohio	S. Abernathy, No. 3	550	Kirkwood-1	1,545	12	995	505	1,551		25	
					Kirkwood-2	1,563	16	1,013	487		1,586		
	2	McAuliff	Cullison, Lot No. 1	552									No record
	3	Ohio	Kimmel, No. 10	556	Kirkwood	1,522	38	966	534	1,540	1,567	25	
	4	Ohio	E. Combs, No. 5	561	"Gas"	1,410	(?)100	849	651		1,528	50	
	5	Ohio	E. Combs, No. 4	546	Bridgeport	860	20	314	1,186	860			
					Kirkwood	1,458	5	912	588	1,458		25	
	6	Ohio	E. Combs, No. 2	546	Bridgeport	995	15	449	1,051	1,000			
					"Gas"	1,375	11	829	671			Gas	Gas, 1,375 feet
	7	Ohio	E. Combs, No. 7	546	McClosky-1	1,682	5	1,136	364				
					McClosky-2	1,699	9	1,153	347	1,699	1,717	300	
	8	D. Quinlan	A. Combs, No. 1	525									No record
	9	D. Quinlan	A. Combs, No. 3	525									..do
	10	D. Quinlan	A. Combs, No. 2	521									..do
	11	Ohio	E. Combs, No. 8	520	McClosky-1	1,642	4	1,122	378				
					McClosky-2	1,660	4	1,140	360		1,664	Gas	
	12	Ohio	E. Combs, No. 3	526	"Gas"	1,340	10	814	686				Gas, 1,340 feet
					Kirkwood	1,440	10	914	586	1,440		17	
	13	Ohio	E. Combs, No. 6	525	Kirkwood-1	1,439	9	914	586	1,439		140	Gas, 1,340 feet
					Kirkwood-2	1,453	11	928	572		1,533		
	14	Ohio	E. Combs, No. 1	526	"Gas"	1,345	25	819	681		1,370	Gas	Gas, 1,355 feet
	15	Ohio	E. Combs, No 9	536	Kirkwood	1,450	42	914	586				
					McClosky-2	1,685	10	1,149	351	1,690	1,700	75	Gas, 1,685 feet
	16	Ohio	Kimmel, No. 16	534	Kirkwood-1	1,450	25	916	584				
					Kirkwood-2	1,480	20	946	554				
					McClosky	1,682	10	1,148	352	1,683	1,692	60	Gas, 1,680 feet
	17	Ohio	Kimmel, No. 13	525	Kirkwood-1	1,418	12	893	607	1,420		80	Gas, 1,418 feet
					Kirkwood-2	1,432	20	907	593		1,452		

	18	Ohio	Kimmel, No. 1	525	Bridgeport	852		327	1,173	853		35	
					..do	863	14	338	1,162				Well abandoned
	19	Ohio	Kimmel, No. 12	525	..do	950	72	425	1,075	950	1,029	17	..do
	20	Ohio	Kimmel, No. 2	502	Bridgeport-2	938	7	436	1,064	940			
					Bridgeport-3	1,029	11	527	973	1,029			Well abandoned
	21	Ohio	Kimmel, No 17	502	Kirkwood	1,391	16	889	611	1,395	1,421	125	Gas, 1,391 feet
	22	Ohio	Kimmel, No. 20	518	..do	1,394	36	876	624	1,405	1,430	100	Gas, 1,400 feet
	23	Ohio	Kimmel, No. 3	519	Bridgeport-1	827	8	308	1,192	827		100	
					Bridgeport	1,039	22	520	980	1,039			
	24	Ohio	Kimmel, No. 4	525	Bridgeport-1	831	14	306	1,194	832		75	
					Bridgeport-3	1,019	21	494	1,006	1,020			
	25	Ohio	Kimmel, No. 23	521	Kirkwood	1,441	49	920	580	1,450		50	
					Stray	1,628	7	1,107	393				
					McClosky-2	1,667	5	1,146	354		1,697		Gas, 1,665 feet
	26	Ohio	Kimmel, No. 5	577	Bridgeport	1,033	29	506	994	1,036		50	
	27	Ohio	Kimmel, No. 27	539	Kirkwood	1,467	47	928	572	1,467	1,516	125	
	28	Ohio	Kimmel, No. 6	544	"Gas"	1,390	11	846	654		1 401	Gas	Gas, 1,395 feet. Well abandoned
	29	Ohio	Kimmel, No. 28	549	Kirkwood	1,497	42	948	552	1,497	1,544	75	
	25	Ohio	Kimmel, No. 22	548	..do	1,513	52	965	535	1,502		75	
					McClosky	1,741	5	1,193	307	1,743			Gas, 1,740 feet
32— N. E.	1	Kale & Vietch	School House Lot	508									No record
	2	Ohio	Griggs, No. 25	495	Kirkwood	1,430	25	935	565	1,430		5	
					Tracey	1,517	9	1,022	478		1,554		
	3	Ohio	Griggs, No. 28	489	Bridgeport	975	22	486	1,014	990	997	60	
	4	Ohio	Griggs, No. 5	490	..do	813	9	323	1,177	813		7	
	5	Ohio	Griggs, No. 29	509	"Gas"	1,394	12	885	615	1,396		105	Gas, 1,394 feet
					Kirkwood	1,410	36	901	599		1,446		
	6	Ohio	Griggs, No. 1	519	Bridgeport	831	22	312	1,188	832		190	
	7	Ohio	Griggs, No 2	526	..do	818	19	292	1,208	825			Gas, 825 feet
					Kirkwood	983	12	457	1,043	983		125	
	8	Ohio	Griggs, No. 6	496	Bridgeport	799	26	303	1,197	810		20	Gas, 801 feet
					..do	900	29	404	1,096				
	9	Ohio	Griggs, No. 3	492	..do	789	3	297	1,203				Gas, 789 feet
					..do	902	10	410	1,090			10	Salt water, 912 feet
	10	Ohio	Griggs, No. 4	486	..do	880	26	394	1,106	881		100	
					..do	972	20	486	1,014				
	11	Ohio	Griggs, No. 9	495	..do	879	18	384	1,116				
					..do	950	40	455	1,045	940		80	
	12	Ohio	Griggs, No. 7	478	..do	941	21	463	1,037	946		75	
	13	Ohio	Griggs, No. 8	483	..do	779	14	296	1,204	779			
					..do	950	29	467	1,033	965		50	
	14	Ohio	Griggs, No. 26	478	..do	788	28	310	1,190	788	1,013	60	
	15	Ohio	Griggs, No. 15	476	..do	815	3	339	1,161	815			
					"Gas"	1,350		874	626				Salt water, 1,350 feet
					Kirkwood	1,424	35	948	552	1,450		105	
	16	Ohio	Griggs, No. 12	463	..do	1,440	18	977	523	1,440		200	Gas, 1,440 feet
	17	Ohio	Griggs, No. 13	466	..do	1,468	15	1,002	498	1,468		100	Gas, 1,468 feet
	18	Ohio	Griggs, No. 16	468	Bridgeport	790	200	322	1,178				
					"Gas"	1,396	15	928	572	1,397		20	Salt water, 1,425 feet
	19	Ohio	Griggs, No. 18	472	Bridgeport	915	60	443	1,057	915		90	

Lawrence County—Bridgeport Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
32—													
N. E...	20	Ohio	Griggs, No. 19	471	Bridgeport	810	110	339	1,161	810	......	....	
					..do	944	60	473	1,027	944	......	....	
					Kirkwood	1,431	19	960	540	1,431	......	117	
N. W..	1	Ohio	R. Middaugh, No. 10	524	..do	1,364	39	840	660	1,364	1,424	80	
	2	Ohio	R. Middaugh, No. 12	519	..do	1,360	57	841	659	1,365	1,422	100	Gas, 1,380 feet
	3	Ohio	R. Middaugh, No. 7	526	Bridgeport	825	20	299	1,201	828	......	25	
					..do	1,033	15	507	993	......	......	....	
	4	Ohio	R. Middaugh, No. 16	497	Kirkwood	1,360	30	863	637	1,360	1,394	60	
	5	Ohio	R. Middaugh, No. 15	495	Bridgeport	968	62	473	1,027	968	1,034	75	
	6	Ohio	R. Middaugh, No. 2	518	..do	825	......	307	1,193	......	......	....	
					..do	1,055	......	537	963	......	......	....	
	7	Ohio	R. Middaugh, No 8	494	..do	800	3	306	1,194	800	......	....	
					..do	911	27	417	1,083	911	......	120	Gas, 911 feet
	8	Ohio	R. Middaugh, No. 14	496	Kirkwood	1,347	33	851	649	1,350	1,388	100	Gas, 1,345 feet
	9	Ohio	R. Middaugh, No 6	495	Bridgeport	800	15	305	1,195	810	......	60	
					..do	1,035	9	540	960	......	......	....	
	10	Ohio	R. Middaugh, No. 13	486	Kirkwood	1,349	38	863	637	1,350	1,392	100	Gas, 1,352 feet
	11	Ohio	R. Middaugh, No. 5	485	Bridgeport	788	27	303	1,197	788	......	70	
					..do	1,014	24	529	971	......	......	....	
	12	Ohio	R. Middaugh, No. 3	483	..do	782	39	299	1,201	794	......	....	
					..do	904	......	421	1,079	915	......	80	
	13	Ohio	R. Middaugh, No 4	479	..do	777	20	298	1,202	......	......	....	
					..do	904	13	425	1,075	908	......	80	
	14	Ohio	R Middaugh, No. 9	495	Kirkwood	1,350	33	855	645	1,350	......	135	Gas, 1,360 feet
	15	Ohio	R. Middaugh, No. 1	488	Bridgeport	795	17	307	1,193	......	......	....	
					..do	919	4	431	1,069	......	......	....	
	16	Ohio	R. Middaugh, No. 11	493	Kirkwood	1,342	38	849	651	1,345	1,392	75	Gas, 1,350 feet

17	Snowden Bros	Perkins, No 23	486	Bridgeport	778	20	292	1,208	780		Show	
				..do	830	68	344	1,156	885			
				..do	915	60	429	1,071				Salt water, 1,080 feet
				..do	1,000	80	514	986	1,029			Some gas, 1,012 feet
				Buchanan	1,090	57	604	896				Salt water, 1,147 feet
				"Gas"	1,265	13	779	721				
				Kirkwood	1,340	50	854	646	1,355	1,411		Gas, 1,355 feet
18	Snowden Bros	Perkins, No 11	486	Bridgeport	810	10	324	1,176				
				..do	875	28	389	1,111				
19	Snowden Bros	Perkins, No. 22	488	..do	1,055	19	519	981			150	
				..do	828	22	340	1,160				
				..do	870	30	382	1,118				
				..do	985	28	497	1,003		1,013		
20	Snowden Bros	Perkins, No 26	511	..do	790	8	279	1,221				
				..do	882	20	371	1,129				
				..do	1,015	15	504	996	1,030		Show	
				..do	1,035	51	524	976				Salt water, 1,086 feet
				Stray	1,110	15	599	901				
				Kirkwood-1	1,362	32	851	649	1,377			
				Kirkwood-2	1,467	28	956	544	1,472	1,511		
21	Snowden Bros	Perkins, No. 5	511	Bridgeport	810	20	299	1,201				
				..do	905	10	394	1,106				
				..do	1,017	5	506	994			75	
22	Snowden Bros	Perkins, No. 6	511	..do	810	10	299	1,201				
				..do	880	126	369	1,131				
				Buchanan	1,013	2	502	998			75	
23	Snowden Bros	Perkins, No. 28	511	Bridgeport	794	26	283	1,217				
				..do	890	25	379	1,121	890			
				..do	992	21	481	1,019				
				..do	1,024	66	513	987				
				"Gas"	1,321	9	810	690				Gas, 1,322 feet
				Kirkwood-1	1,364	22	853	647	1,368			
				Kirkwood-2	1,400	12	889	611				
				Tracey	1,462	28	951	549	1,465	1,505		
24	Snowden Bros	Perkins, No. 12	500	Bridgeport	798	10	298	1,202				
				..do	871	15	371	1,129				
				..do	977	39	477	1,023			125	
				..do	770	25	270	1,230	775		Show	
				..do	840	10	340	1,160				
				..do	870	13	370	1,130				
25	Snowden Bros	Perkins, No. 27	500	..do	910	10	410	1,090				
				..do	962	100	462	1,038	975			Salt water, 993, 1,016 and 1,040 feet
				Stray	1,108	8	608	892				
				"Gas"	1,258	4	758	742				Gas, 1,260 feet
				Kirkwood	1,355	15	855	645				
				Stray	1,490	7	990	510				Gas, 1,490 feet
				Tracey-1	1,500	10	1,000	500				
				Tracey-2	1,523	8	1,023	477		1,531		Gas, 1,523 feet

Lawrence County—Bridgeport Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Depth to top—feet.	Thickness penetrated—feet.	Altitude below sea level—feet.	Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
32—													
					Bridgeport	760	15	262	1,238				
					..do	960	55	462	1,038				
N. W.	26	Snowden Bros	Perkins, No. 25	498	..do	1,020	70	522	978				Salt water, 1,060 feet
					Buchanan	1,100	50	602	898				
					Kirkwood-1	1,356	9	858	642	1,372			
					Kirkwood-2	1,369	13	871	629		1,408		
	27	Snowden Bros	Perkins, No. 8	494	Bridgeport	879	116	385	1,115			200	
	28	Ohio	Petty, No. 8	514	Kirkwood	1,348	34	834	666	1,350	1,383	125	Gas, 1,350 feet
	29	Ohio	Petty No. 1	510	Bridgeport	810	24	300	1,200				
					..do	993	13	483	1,017				
	30	Ohio	Petty, No. 5	510	..do	1,007	31	497	1,003	1,008		25	
	31	Ohio	Petty, No. 9	504	Kirkwood	1,350	25	846	654	1,355	1,390	75	Gas, 1 360 feet
	32	Ohio	Petty, No. 6	504	Bridgeport	985	23	481	1,019	985		100	
	33	Ohio	Petty, No. 10	505	Kirkwood	1,360	36	855	645	1,360	1,396	200	
	34	Ohio	Petty, No. 3	505	Bridgeport	832	10	327	1,173	835			
					..do	992	38	487	1,013	995		50	
	35	Ohio	Petty, No. 4	523	..do	828	15	305	1,195	834			
					..do	1,022	28	499	1,001	1,040		30	
	36	Ohio	Petty, No. 2	525	..do	900	20	375	1,125	902			
					..do	1,023	18	498	1,002	1,025		40	
	37	Ohio	Petty, No. 7	529	Kirkwood	1,362	56	833	667	1,362	1,423	70	Gas, 1,287 feet
					Bridgeport	809		302	1,198				
S. W.	1	Snowden Bros	Perkins, No. 3	507	..do	910	10	403	1,097				
					..do	1,030	7	523	977			150	Salt water, 1,037 feet
					..do	800	5	295	1,205	805		Show	
					..do	870	40	365	1,135	875			
					..do	932	21	427	1,073				
	2	Snowden Bros	Perkins, No. 24	505	..do	1,035	95	530	970				Salt water, 1,045 feet
					"Gas"	1,290	20	785	715				Gas, 1,293 feet
					Kirkwood	1,371	30	866	634	1,378			
					Stray	1,478	16	973	527	1,480	1,515		

3	Snowden Bros	Perkins, No 2	480	Bridgeport	778	32	298	1,202	......	......	....	Slate, 796 to 800 feet
				..do	869	11	389	1,110	......	......	....	....
				..do	1,010	20	530	970	......	......	100	....
4	Snowden Bros	Perkins, No. 21	480	..do	780	25	300	1,20[illegible]	......	......	....	....
				..do	855	40	375	1,125	860	......	Show	....
				..do	925	25	445	1,055	940	......	148	....
				..do	1,050	90	570	930	......	......	....	Salt water, 1,055 feet
				"Gas"	1,264	6	784	716	......	......	....	Gas, 1,270 feet
				Kirkwood-1	1,328	9	848	652	......	......	....	....
				Kirkwood-2	1,339	51	859	641	......	1,408	....	....
				Bridgeport	785	15	306	1,194	......	......	....	....
				..do	850	7	371	1,129	......	......	....	....
				..do	875	15	396	1,104	......	......	....	....
				..do	920	42	441	1,059	925	......	....	....
				..do	1,020	85	541	959	1,045	......	....	Salt water, 1,050 and 1,075 feet
5	Snowden Bros	Perkins, No 17	479	Buchanan-1	1,108	28	629	871	......	......	....	....
				Buchanan-2	1,138	22	659	841	......	......	....	....
				"Gas"	1,262	28	783	717	......	......	....	Gas, 1,267 feet
				Kirkwood	1,350	45	871	629	1,351	......	....	....
				Tracey-1	1,450	10	971	529	1,461	......	....	....
				Tracey-2	1,475	25	996	504	......	......	....	Gas, 1,490 feet
				Tracey-3	1,570	25	1,091	409	......	......	....	Gas, 1,580 feet
				McClosky	1,640	......	1,161	339	1,695	1,714	....	....
6	Snowden Bros	Perkins, No. 9	480	Bridgeport	817	8	337	1,163	......	......	....	....
				..do	936	10	456	1,044	......	......	....	....
				..do	1,002	28	522	978	......	......	....	....
				"Gas"	1,238	24	758	742	......	......	Gas 25	Gas, 1,238 feet. 1,000,000 cu. ft. daily
7	Snowden Bros	Perkins, No. 1	501	Bridgeport	810	15	309	1,191	815	......	....	....
				..do	932	103	431	1,069	......	......	....	....
8	Snowden Bros	Perkins, No. 20	499	..do	808	20	307	1,193	810	......	Show	....
				..do	900	30	401	1,099	......	......	....	....
				..do	1,030	90	531	969	1,030	......	Show	Salt water, 1,045 feet
				"Gas"	1,285	20	786	714	......	......	....	Gas, 1,290 feet
				Kirkwood	1,372	20	873	627	1,375	......	Show	....
				Tracey	1,472	18	973	527	1,475	1,512	....	....
9	Snowden Bros	Perkins, No. 15	525	Bridgeport and Buchanan	1,061	99	530	964	......	......	....	Salt water, 1,070 feet
				"Gas"	1,320	20	795	705	......	......	....	Gas, 1,325 feet
				Kirkwood-1	1,404	21	879	621	1,404	......	....	....
				Kirkwood-2	1,452	8	927	573	......	......	....	....
				Tracey	1,508	16	983	517	1,508	1,541	....	....

Lawrence County—Bridgeport Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Depth to top—feet.	Thickness penetrated—feet.	Altitude below sea level—feet.	Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
32—													
					Bridgeport	760	15	262	1,238				
					..do	815	10	317	1,183				
					..do	945	50	447	1,053	951		Show	
S. W..	10	Snowden Bros	Perkins, No. 29	498	Bridgeport and Buchanan	1,040	80	542	958				Salt water, 1,050 feet
					"Gas'	1,295	15	797	703				Gas, 1,300 feet
					Kirkwood-1	1 386	18	888	612				
					Kirkwood-2	1 408	8	910	590	1,410			
					McClosky	1,585	64	1,087	413		1,649	Gas	G s, 1,596, 1,613 and 1,628 feet
					Bridgeport	817	20	319	1,181				
	11	Snowden Bros	Perkins, No. 4	498	..do	911	19	413	1,087				
					..do	1,043	7	545	955			10	Well abandoned
					..do	808	10	314	1,186				
	12	Snowden Bros	Perkins, No. 7	494	..do	898	137	404	1,096				
					..do	720	5	226	1,274				
					..do	800	26	306	1,194	805		Show	
					..do	840	75	346	1,154	840			Salt water, 880 feet
	13	Snowden Bros	Perkins, No. 16	494	Bridgeport and Buchanan	1,060	90	566	934				Hole full of water
					"Gas"	1,280	20	786	714				Gas, 1,285 feet
					Kirkwood-1	1,356	54	862	638	1,378			
					Kirkwood-2	1,443	17	949	551	1,445		100	
					Tracey	1,479	14	985	515		1,508		
					Bridgeport	940	60	412	1,088				
	14	Snowden Bros	Perkins, No. 10	528	"Gas"	1,338	22	810	690				Gas, 1,338 feet
					Kirkwood	1,428	13	900	600		1,445	50	

15	Snowden Bros	Perkins, No. 19	529	Bridgeport	910	46	381	1,119	930		Show	
				Bridgeport and Buchanan	1,050	115	521	979				Salt water, 1,075 feet
				"Gas"	1,333	12	804	696				
				Kirkwood	1,407	30	878	622				
				Tracey	1,515	18	986	514	1,520			Gas, 1,654 feet
				McClosky	1,686	10	1,157	343	1,686	1,802		
16	Snowden Bros	Perkins, No. 14	521	Bridgeport	840		319	1,181				
				..do	900		379	1,121				
				..do	1,070		549	951				Salt water, 1,070 feet
				"Gas"	1,340	15	819	681				Gas, 1,340 feet. Salt water 1,220 feet
17	Snowden Bros	Perkins, No. 18	525	Kirkwood	1,426	16	905	595			75	
				Bridgeport	835	15	310	1,190	850		Show	
				..do	855	25	330	1,170	880		Show	
				..do	920	70	395	1,105				
				..do	1,023	12	498	1,002				
				..do	1,070	105	545	955				Hole full water, 1,075 feet
				Stray	1,222	13	697	803				
				"Gas"	1,338	13	813	687				Gas, 1,347 feet
				Kirkwood	1,411	39	886	614	1,419		Show	
				Tracey	1,522	18	997	503	1,530		Show	
				McClosky-1	1,607	19	1,082	418	1,609		Pay	
				McClosky-2	1,628		1,103	397	1,682	1,708		Limestone. Gas, 1,660 feet
18	Snowden Bros	Perkins, No. 13	529	Bridgeport	840	20	311	1,189			Show	
				..do	1,000	50	471	1,029				Salt water, 1,070 and 1,215 feet
				"Gas"	1,332	26	803	697				
				Kirkwood-1	1,418	15	889	611				
				Kirkwood-2	1,450	12	921	579			75	
19	Ohio	Lewis, No. 12	518	Bridgeport	880	30	362	1,138				
				..do	1,050	135	532	968				Salt water
				"Gas"	1,320	18	802	698				
				Kirkwood	1,404	12	886	614		1,420		
20	Ohio	Lewis, No. 2	512	Bridgeport	810	15	298	1,202				
				..do	905	20	393	1,107				
				..do	1,030	30	518	982		1,060		
21	Ohio	Lewis, No. 15	507	Kirkwood-1	1,390	23	883	617	1,395			
				Kirkwood-2	1,419	21	912	588	1,420	1,440	150	
22	Ohio	Lewis, No. 3	512									No record
23	Ohio	Lewis, No. 11	509	Bridgeport	896	24	387	1,113				
				..do	1,060	85	551	949				Salt water
				"Gas"	1,340	8	831	669				
				Kirkwood	1,372	32	863	637		1,404	65	
24	Ohio	Lewis, No. 14	510	Bridgeport	905	35	395	1,105				
				Kirkwood	1,390	50	880	620		1,721	Gas	Gas, 1,537, 1,658 and 1,714 feet
25	Ohio	Lewis, No. 1	512	Bridgeport	810	13	298	1,202				
				..do	903	22	391	1,109				Slate, 908 to 911 feet
				..do	1,027	13	515	985				

Lawrence County—Bridgeport Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
32—													
S. W.	26	M. Murphy	Stoltz Hrs., No. 8	501	Bridgeport	840	76	339	1,161				
					do	1,060	30	559	941				Salt water, 1,090 feet
					Stray	1,298	5	797	703				Gas, 1,303 feet
					"Gas"	1,318	16	817	683	1,334			
					Kirkwood	1,386	20	885	615	1,406	1,426		
	27	M. Murphy	Stoltz Hrs., No. 2	500	Bridgeport	800	8	300	1,200				
					do	845	18	345	1,155	863			
					do	876	40	376	1,124	916			
					do	1,002	25	502	998	1,027	1,027		
	28	M. Murphy	Stoltz, Hrs., No. 3	506	do	791	19	285	1,215				
					do	810	4½	304	1,196	810			
					do	824	15	318	1,182				
					do	852	7	346	1,154				
					do	864	10	358	1,142	864			
					do	892	31	386	1,114	892	933		
	29	M. Murphy	Stoltz Hrs., No. 7	508	do	792	268	284	1,216	1,060			
					"Gas"	1,297	16	789	711				Gas, 1,313 feet
					Kirkwood	1,380	21	872	628	1,391	1,401		
	30	M. Murphy	Stoltz Hrs., No. 4	503	Bridgeport	792	20	289	1,211				
					do	886	34	383	1,117				
					do	982	34	479	1,021				
					do	1,027	9	524	976		1,036		
	31	M. Murphy	Stoltz Hrs., No. 5	491	do	772	23	281	1,219	785			
					do	862	34	371	1,129				
					do	982	6	491	1,009				
					do	1,005	6	514	986	1,011	1,019		
	32	M. Murphy	Stoltz Hrs., No. 9	493	do	860	40	367	1,133	890			
					do	1,000	19	507	993				
					"Gas"	1,285	1	792	708				Gas, 1,286 feet
					Kirkwood-1	1,347	13	854	646	1,347			
					Kirkwood-2	1,362	9	869	631	1,371	1,406		

	33	M. Murphy	Stoltz Hrs., No. 6	478	Bridgeport	774	15	296	1,204	774			
					..do	852	30	374	1,126	852			
					..do	1,016	18	538	962		1,034		
					..do	795	237	315	1,185	1,032			
	34	M. Murphy	Stoltz Hrs., No. 10	480	"Gas"	1,256	17	776	724				Gas, 1,273 feet
					Kirkwood-1	1,346	23	866	634	1,354			
					Kirkwood-2	1,376	6	896	604		1,382		
	35	M. Murphy	Stoltz Hrs., No. 1	480	Bridgeport	785	10	305	1,195	795			
					..do	868	20	388	1,112				
					..do	921	14	441	1,059				
					..do	1,015	15	535	965		1,030		Well abandoned
	36	M. Murphy	Stoltz Hrs., No. 11	480	Kirkwood	1,337	53	857	643		1,390		
	37	Ohio	J. Middaugh, No. 6	481	Bridgeport	780	15	299	1,201	780			
					..do	1,048	6	567	933	1,050		20	
	38	Ohio	J. Middaugh, No. 8	477	..do	777	20	300	1,200	780			
					..do	900	21	423	1,077	905		40	
	39	Ohio	J. Middaugh, No. 14	472	Kirkwood-1	1,335	29	863	637	1,356			
					Kirkwood-2	1,370	16	898	602	1,375	1,388	20	
	40	Ohio	J. Middaugh, No. 9	471	Bridgeport	775	22	304	1,196	782			
					..do	938	15	467	1,033	943		40	
	41	Ohio	J. Middaugh, No. 4	466	..do	779	25	313	1,187	789			
					..do	917	33	451	1,049	917		80	
	42	Ohio	J. Middaugh, No. 13	494	Kirkwood	1,349	33	855	645	1,360	1,386	60	
	43	Ohio	J. Middaugh, No. 2	501	Bridgeport	798	12	297	1,203				Gas, 806 feet
					..do	858	22	357	1,143	860		60	
	44	Ohio	J. Middaugh, No. 5	501	..do	790	30	289	1,211	795		90	
					..do	990	27	489	1,011				
	45	Ohio	J. Middaugh, No. 10	479	..do	792	27	313	1,187	800			
					..do	954	7	475	1,025	960		90	
	46	Ohio	J. Middaugh, No. 12	492	..do	853	57	361	1,139	853		60	
	47	Ohio	J. Middaugh, No. 3	487	..do	788	27	301	1,199	800			
					..do	983	29	496	1,004	983		80	
	48	Ohio	J. Middaugh, No. 11	487	..do	917	23	430	1,070				
	49	Ohio	J. Middaugh, No. 15	502	Kirkwood-1	1,398	2	896	604	1,398			
					Kirkwood-2	1,416	6	914	586	1,420	1,428	100	
	50	Ohio	J. Middaugh, No. 1	502	Bridgeport	852	58	350	1,150	874			Slate, 870 to 874 feet
	51	Ohio	J. Middaugh, No. 7	504	..do	795	18	291	1,209	800			
					..do	1,005	30	501	999	1,010		500	
S. E.	1	Ohio	Johnson, No. 4	481	..do	780	18	299	1,201	785			
					..do	990	25	509	991	1,010		1,000	
					..do	820	10	350	1,150	820			
	2	Ohio	Johnson, No. 7	470	..do	856	18	386	1,114	856			Gas, 895 feet
					..do	965	22	495	1,005	965		110	
	3	Ohio	Johnson, No. 6	465	..do	825	42	360	1,140	852			
					..do	955	15	490	1,010	955		105	Gas, 920 feet
					Kirkwood	1,360	5	895	605				
	4	Ohio	Johnson, No. 8	463	Bridgeport	857	18	394	1,106	857			
					..do	940	38	477	1,023			75	Gas, 920 feet
	5	Ohio	Johnson, No. 9	465	..do	861	21	396	1,104	861		70	
	6	Ohio	Johnson, No. 10	464	..do	850	38	386	1,114	870		80	Gas, 850 feet
	7	Ohio	Johnson, No. 11	472	..do	777	21	305	1,195	777			
					..do	870	20	398	1,102	870	893	55	

Lawrence County—Bridgeport Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
32—S. E.	8	Ohio	Johnson, No. 5	470	Bridgeport	780	15	310	1,190	785			
					do	939	27	469	1,031	940		100	
	9	Ohio	Johnson, No. 1	472	do	782	18	310	1,190	785			
					do	890	10	418	1,082	895		50	
	10	Ohio	Johnson, No. 2	461	do	865	21	404	1,096				
					do	925	25	464	1,036	930		75	
	11	Ohio	Johnson, No. 3	462	do	775	21	313	1,187	780		90	
					do	927	18	465	1,035				
	12	Ohio	Griggs, No. 14	458	Kirkwood-1	1,417	3	959	541				
					Kirkwood-2	1,457	7	999	501	1,450		50	
	13	Ohio	Griggs, No. 20	457	Kirkwood-1	1,431	7	974	526	1,431			
					Kirkwood-2	1,464	8	1,007	493	1,464		40	
	14	Ohio	Griggs, No. 11	461	Kirkwood	1,445		894	516	1,448		100	
	15	Ohio	Griggs, No. 21	458	Bridgeport	867	23	409	1,091	867			
					do	910	17	452	1,048			50	
	16	Ohio	Griggs, No. 27	473	"Gas"	1,358	24	885	615	1,358			Gas, 1,358 feet
					Kirkwood	1,432	26	959	541	1,437	1,467	100	
	17	Ohio	Griggs, No. 22	463	Bridgeport	861	42	398	1,102	861		65	Gas, 916 feet
					do	916	3	453	1,047				
	18	Ohio	Griggs, No. 17	468	do	881	13	413	1,087	881		170	
	19	Ohio	Griggs, No. 23	467	do	786	125	319	1,181	790 890		85	Gas, 872 feet
	20	Ohio	Griggs, No. 10	465	Kirkwood	1,432	37	967	533	1,432		200	
	21	Ohio	Griggs, No. 24	474	Bridgeport	898	22	424	1,076	898		80	
36—N. E.	1	Bridgeport	Stoltz, No. 2	498	Kirkwood	1,558	30	1,060	440	1,560	1,589		

	2	Bridgeport	Stoltz, No. 12	508	Bridgeport	700	30	192	1,308				Salt water, 715 feet
					..do	745	35	237	1,263				Salt water, 780 feet
					..do	825	55	317	1,183				
					..do	1,040	20	532	968				
					Buchanan	1,318	39	810	690				
					"Gas"	1,485	10	977	523				
					Kirkwood	1,554	39	1,046	454	1,572	1,609		
	3	Bridgeport	Stoltz, No. 4	510	Bridgeport	868	12	358	1,142				Salt water
					..do	900	12	390	1,110				
					..do	1,114	211	604	896				Salt water, 1,204 and 1,278 feet
					Buchanan	1,348	40	838	662				
					Stray	1,462	6	952	548				
					Kirkwood	1,652	20	1,142	358	1,660		240	
					Bridgeport	830	40	326	1,174				
	4	Bridgeport	Stoltz, No. 6	504	..do	1,040	112	536	964				Salt water
					Bridgeport and Buchanan	1,175	75	671	829				..do
					Buchanan	1,250	168	746	754				..do
					"Gas"	1,480	10	976	524			Show	Salt water, 1,340 feet
					Kirkwood	1,557	24	1,053	447	1,567		100	
	5	Bridgeport	Stoltz, No. 5	481	..do	1,580	48	1,099	401	1,587	1,628	50	
	6	Bridgeport	Stoltz, No. 1	488	"Gas"	1,485	10	997	503			Show	
					Kirkwood	1,565	22	1,077	423	1,565		300	
	7	Bridgeport	Stoltz, No. 8	485	..do	1,590		1,105	395	1,603	1,618		
	8	Bridgeport	Stoltz, No. 3	489	Bridgeport	820	35	331	1,169				Salt water
					..do	1,050	165	561	939				Salt water, 1,195 feet
					Buchanan	1,300	40	811	689				
					"Gas"	1,475	20	986	514				Salt water
					Kirkwood	1,570	36	1,081	419	1,570		80	
	9	Bridgeport	Stoltz, No. 11	516	"Gas"	1,562		1,046	454				
					Kirkwood	1,616	60	1,100	400	1,625	1,691		
	10	Burton Bros	Piper, No. 1	492									No record
	11	Burton Bros	Piper, No. 2	509									..do
	12	Burton Bros	Piper, No. 3	524									..do
S. E.	1	Bridgeport	Stoltz, No. 10	521	Bridgeport	810	18	289	1,211				
					..do	880	50	359	1,141				
					..do	1,160	125	639	861				
					"Gas"	1,590	15	1,069	431				Salt water
					Kirkwood	1,672	37	1,151	349	1,677	1,709		
	2	Snowden Bros	Fyffe, No. 9	506	Bridgeport	890	50	384	1,116				Salt water, 905 feet
					..do	1,125	135	619	881				Salt water, 1,160 feet
					..do	1,285	40	779	721				Salt water, 1,325 feet
					Buchanan	1,390	60	884	616				Salt water, 1,435 feet
					Stray	1,532	7	1,026	474				
					"Gas"	1,573	16	1,067	433				Salt water, 1,589 feet
					Kirkwood	1,642	57	1,136	364	1,651	1,717	150	

Lawrence County—Bridgeport Township—Concluded.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
36—													
					Bridgeport	855	37	356	1,144				Hole full of water, 885 feet.
					..do	1,085	100	586	914				Hole full of water, 1,110 feet
S. E.	3	Snowden Bross	Fyffe, No. 8	499	..do	1,275	25	776	724				
					Buchanan	1,345	65	846	654				
					"Gas"	1,535	21	1,036	464				Salt water, 1,544 feet
					Kirkwood	1,621	46	1,122	378	1,625	1,670	125	
	4	Snowden Bros	Fyffe, No. 3	506	..do	1,593	18	1,087	413			100	
	5	International Oil & Gas Co	C. Fyffe, No. 2	512	..do	1,594	24	1,082	418			125	
					Bridgeport	1,125	75	609	891				
					..do	1,222	35	706	794				
					..do	1,300	25	784	716				
	6	International Oil & Gas Co	C. Fyffe, No. 4	516	Buchanan	1,410	25	894	606				
					Stray	1,465	15	949	551				
					Kirkwood-1	1,645	22	1,129	371				
					Kirkwood-2	1,673	5	1,157	343		1,685		
	7	International Oil & Gas Co	C. Fyffe, No. 5	526	Bridgeport	1,120	90	594	906				Hole full of salt water, 1,135 feet
					Kirkwood-1	1,666	18	1,140	360	1,666		Show	
					Kirkwood-2	1,689	21	1,163	337	1,689	1,720		
					Bridgeport	770	25	247	1,253				Salt water
					..do	850	85	327	1,173				Salt water, 935 feet
					..do	967	8	444	1,056				
					..do	1,020	15	497	1,003				
	8	Bridgeport	Stoltz, No. 13	523	..do	1,146	99	623	877				Salt water
					..do	1,260	60	737	763				..do
					Buchanan	1,390	10	867	633				
					Stray	1,445	25	922	578				
					"Gas"	1,595	10	1,073	428				Salt water
					Kirkwood	1,679	31	1,156	344	1,689	1,733		

	9	International Oil & Gas Co.	C. Fyffe, No. 6	531	Bridgeport	875	70	344	1,156				Salt water, 894 feet.
					..do	1,100	141	579	921				Salt water, 1,170 feet.
					Buchanan	1,420	28	889	611				Salt water, 1,430 feet.
					"Gas"	1,550	25	1,019	481				
					Kirkwood	1,623	12	1,092	408	1,635	1,668		
	10	International Oil & Gas Co.	C. Fyffe, No. 1	538	..do	1,600		1,062	438				Salt water
	11	International Oil & Gas Co.	C. Fyffe, No. 3	529	..do	1,677		1,148	352	1,686	1,710		
	12	Bridgeport	Stoltz, No. 9	526	Bridgeport	1,160	150	634	866				Salt water, 1,270 feet.
					Kirkwood	1,698	25	1,172	328	1,710			

Lawrence County—Christy Township.

Section No.	Map No.	Name of oil company	Name of well.	Surface elevation—feet.	Sand: Name.	Sand: Depth to top—feet.	Sand: Thickness penetrated—feet.	Sand: Altitude below sea level—feet.	Sand: Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
10—N. E.	1	Home Oil & Gas Co.	Mathias, No. 1	470	Shallow	825	20	355	1,145				Salt water, 852 feet.
					Bridgeport	1,000		530	970				Coal, 760 feet (lime cap).
12—N. W.	1	Home Oil & Gas Co.	Saunders, No. 1		Shallow	830	40						
					Stray	1,110						Show	Coal, 770 feet (lime cap).
13—N. W.	1	Ohio	Neidaugh, No. 1	495	Bridgeport	1,330	130	835	665		1,526	Dry	Salt water, 1,400 feet.
36—N. W.	1	Everson	Candle, No. 1	509	..do	900	25	391	1,109				
					..do	1,075	10	566	934				Salt water, 1,120 feet.
					Buchanan	1,235	235	726	774				
					Stray	1,470	20	961	539				
					Kirkwood	1,680	50	1,171	329		1,730		

Lawrence County—Dennison Township.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
1— N. E.	1	Wark	Lingenfelter, No. 9	439									Drilling
	2	Wark	Lingenfelter, No. 1	437	Kirkwood-1	1,571	10	1,134	366				
					Kirkwood-2	1,612	10	1,175	325		1,622		Quit in hard sand
	3	Wark	Lingenfelter, No. 2	438	Kirkwood-1	1,545	20	1,107	393				
					Kirkwood-2	1,591	10	1,153	347		1,601		
N. W.	1	Wark	Lingenfelter, No. 3	445	Kirkwood-1	1,542	53	1,097	403				Salt water, 1,585 feet. Sand, white, broken
	2	Wark	Lingenfelter, No. 4	445	Bridgeport	934	18	489	1,011				
					Kirkwood-1	1,533	32	1,088	411	1,550			
					Kirkwood-2	1,572	8	1,127	373		1,580		
	3	Wark	Lingenfelter, No. 5	453	Bridgeport	937	13	484	1,016	943	950		
	4	Wark	Lingenfelter, No. 6	462	Kirkwood-1	1,549	73	1,087	413	1,558 1,605			Hard white sand, 1,578 to 1,605 feet, 1,611 to 1,622 feet.
					Stray	1,654	23	1,192	308	1,662			
					Tracey	1,693	10	1,231	269	1,693	1,705		
	5	Wark	Lingenfelter, No. 7	461	Kirkwood	1,555	20	1,094	406			Show	
					Tracey	1,670	28	1,209	291	1,670	1,699		
	6	Wark	Lingenfelter, No. 8	455	Kirkwood	1,536	20	1,081	419	1,536	1,612		
	7	Central Refining Co.	Jenner, No. 9	472	Bridgeport	978		506	994				Salt water, 1,045 feet
					Kirkwood	1,565	47	1,093	407	1,570			
					Tracey	1,670	16	1,198	302		1,720		
	8	Central Refining Co.	Jenner, No. 6	476	Bridgeport	965		489	1,011				Salt water, 1,005 feet
					Kirkwood	1,587	41	1,111	389	1,592	1,673		
	9	Central Refining Co.	Jenner, No. 4	482	Bridgeport	945	23	463	1,037		986		
	10	Donnel, Agent	C. Buchanan, No. 5	477	Kirkwood-2	1,610	25	1,133	367				
					Tracey	1,697	3	1,220	280				
					McClosky	1,850		1,373	127		1,869		Salt water, 1,850 feet. Well abandoned.
	11	Donnel, Agent	C. Buchanan, No. 7	475	Kirkwood-1	1,540		1,065	435		2,005		Salt water, 1,440 and 1,850 feet. Well abandoned.

	12	Donnel, Agent	C. Buehanan, No. 9	440	Bridgeport	933	......	493	1,007	940	......	Show	Gas, 940 feet. Salt water. 1,000 feet
					Kirkwood-1	1,570	......	1,130	370	......	......	......	Salt water, 1,600 feet
					Tracey	1,680	......	1,240	260	......	2,017	......	Well abandoned
S. W.	1	Ohio	A. Buehanan, No. 1	479	Bridgeport	960	13	481	1,019	963	973	160	Gas, 962 feet
	2	Ohio	A. Buchanan, No. 12	467	..do	940	17	473	1,027	......	......	......	Salt water, 1,115 feet
					Buchanan	1,300	195	833	667	......	......	......	Salt water, 1,310 feet
					Kirkwood-2	1,602	46	1,135	365	......	......	......	Salt water, 1,648 feet
					Tracey	1,709	10	1,242	258	......	1,719	Gas	Gas, 1,709 feet. 4,500,000 cu. ft. gas first day
	3	Ohio	A. Buchanan, No. 13	468	Bridgeport	795	7	327	1,173	795	803	250	Gas, 795 feet
	4	Ohio	E. J. Ridgely, No. 2	473	..do	945	10	472	1,028	......	......	......	......
					Buchanan	1,335	30	862	638	......	......	......	......
					Krikwood	1,560	40	1,087	413	......	......	......	......
					Tracey	1,700	20	1,227	273	......	......	......	......
					McClosky	1,775	7	1,302	198	......	......	Dry	Salt water, 1,782 feet
	5	Ohio	C. Gillespie, No. 1	473	Bridgeport	975	140	502	998	......	......	......	......
					Buchanan	1,310	15	837	663	......	......	......	......
					Kirkwood-2	1,625	16	1,152	348	1,631	1,641	12	Salt water, 1,640 feet. Gas 1,625 feet
	6	Ohio	Wm. Gillepsie, No. 2	472	Bridgeport	973	47	501	999	......	......	......	......
					Stray	1,120	30	648	852	......	......	......	Salt water
					Buchanan	1,320	80	848	652	......	......	......	..do
					Kirkwood-1	1,565	25	1,093	407	......	......	......	......
					Kirkwood-2	1,619	3	1,147	353	......	1,621	Gas	3,000,000 cu. ft. gas first day
N. E.	1	Shaffer and Smathers	Finley, No. 7	475	Kirkwood	1,570	35	1,095	405	1,582	......	......	......
					Tracey	1,653	22	1,178	322	1,655	1,681	50	......
	2	Shaffer and Smathers	Finley, No. 3	487	......	......	......	......	......	......	......	......	No record
	3	Shaffer and Smathers	Finley, No. 6	487	......	......	......	......	......	......	......	Dry	..do
	4	Shaffer and Smathers	Finley, No. 2	503	......	......	......	......	......	......	......	......	..do
	5	Shaffer and Smathers	Finley, No. 4	504	......	......	......	......	......	......	......	......	..do
	6	Shaffer and Smathers	Finley, No. 5	507	......	......	......	......	......	......	......	......	..do
	7	Shaffer and Smathers	Finley, No. 1	496	......	......	......	......	......	......	......	......	..do
	8	Associated Producers	Irish, No. 1	484	Shallow	600	30	116	1,384	......	......	......	......
					Bridgeport	843	19	359	1,141	......	......	......	Salt water
					..do	868	20	384	1,116	......	......	......	......
					..do	952	13	468	1,032	960	......	......	......
					..do	983	162	499	1,001	995	......	......	Salt water, 1,005 feet
					Buchanan-1	1,315	10	831	669	......	......	......	......
					Buchanan-2	1,350	20	866	634	......	......	......	......
	9	Associated Producers	Irish, No. 10	474	Stray	1,417	38	933	567	......	......	......	Salt water
					..do	1,528	12	1,044	456	......	......	......	......
					Kirkwood	1,580	38	1,096	404	......	1,618	70	......
					Bridgeport-1	949	3	475	1,025	......	......	Show	......
					Bridgeport-2	953	17	479	1,021	......	976	40	......
	10	Associated Producers	Irish, No. 2	477	Bridgeport	955	23	478	1,022	......	978	200	......
	11	Associated Producers	Irish, No. 3	499	Shallow	700	15	201	1,299	......	......	......	......
					Bridgeport	977	27	478	1,022	......	1,100	......	......
	12	Associated Producers	Irish, No. 9	503	..do	1,000	72	497	1,003	1,000	1,125	Show	Well abandoned

Lawrence County—Dennison Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
2—													
N. E.	13	Ohio	L. Buchanan, No. 22	517	Bridgeport	992	32	475	1,025				Salt water, 1,028 to 1,155 feet
					Buchanan	1,290	190	773	727				Salt water, 1,315 feet
					Kirkwood	1,578	37	1,061	439	1,593	1,615	15	Gas, 1,590 feet
	14	Ohio	L. Buchanan, No. 23	508	Bridgeport	968	152	460	1,040				Salt water, 1,020 feet
					Buchanan	1,300	165	792	708				Salt water, 1,320 feet
					Kirkwood	1,595	25	1,087	413	1,600	1,620	50	Gas, 1,598 feet
	15	Ohio	L. Buchanan, No. 16	507	Bridgeport	935	60	428	1,072	936	995	125	Gas, 935 feet
	16	Ohio	L. Buchanan, No. 13	512	..do	976	49	464	1,036	990	1,025	50	Gas, 980 feet
	17	Ohio	L. Buchanan, No. 11	517	..do	979	41	462	1,038	990	1,020	100	Gas, 982 feet
	18	Ohio	L. Buchanan, No. 2	490	..do	980	20	490	1,010				
					Kirkwood	1,592	38	1,102	398	1,608	1,630	125	Gas, 1,605 feet
	19	Ohio	L. Buchanan, No. 7	512	Bridgeport	966	40	454	1,046	970	1,006	150	Gas, 968 feet
	20	Ohio	L. Buchanan, No. 9	512	..do	945	71	433	1,067				
					Kirkwood	1,588	65	1,076	424		1,653	Dry	Salt water, 1,592 feet
	21	Ohio	L. Buchanan, No. 6	503	Bridgeport	967	20	464	1,036				
					Kirkwood	1,590	51	1,087	413	1,610	1,641	150	
	22	Ohio	L. Buchanan, No. 8	518	Bridgeport	970	30	452	1,048				
					Kirkwood	1,600	41	1,082	418	1,620	1,641	30	Gas, 1,615 feet. Salt water, 1,641 feet
	23	Ohio	L. Buchanan, No. 10	522	Bridgeport	970	50	448	1,052	985	1,022	125	Gas, 972 feet
	24	Ohio	L. Buchanan, No. 4	509	..do	960	27	451	1,049	972	987	90	
	25	Ohio	L. Buchanan, No. 1	493	..do	961	23	468	1,032	961	984	100	Gas, 956 feet
	26	Ohio	L. Buchanan, No. 25	497	Bridgeport	933	57	436	1,064				
					..do	1,020	80	523	977				Salt water
					Buchanan	1,300	182	803	697				Salt water, 1,315 feet
					Kirkwood	1,564	23	1,067	433	1,566	1,587	125	Gas, 1,565 feet
	27	Ohio	L. Buchanan, No. 26	518	Bridgeport	970	48	452	1,048				
					Buchanan	1,310	15	792	708				
					Kirkwood	1,588	30	1,070	430	1,610	1,618	75	Gas, 1,607 feet
	28	Ohio	L. Buchanan, No. 3	518	Bridgeport	970	45	452	1,048	970	1,015	175	Gas, 970 feet
	29	Ohio	L. Buchanan, No. 17	513	..do	979	60	466	1,034	995	1,039	50	Gas, 994 feet

	30	Ohio	L. Buchanan, No. 5	513	..do	970	70	457	1,043				
					Kirkwood	1,592	54	1,079	421	1,609	1,646		Gas, 1,595 feet. Salt water, 1,646 feet. Well abandoned
					Bridgeport	975	30	465	1,035				
N. W.	1	Ohio	Kerr, No. 19	510	Buchanan	1,300	110	790	710				
					Kirkwood	1,567	38	1,057	443	1,582	1,605	150	Gas, 1,590 feet
	2	Ohio	Kerr, No. 1	509	Bridgeport	955	47	446	1,054	973	1,002		Gas, 960 feet
	3	Ohio	Kerr, No. 4	515	..do	960	49	445	1,055	975			Gas, 965 feet
	4	Ohio	Kerr, No. 10	517	Shallow	643	8	126	1,374				
					Bridgeport	970	30	453	1,047	977	1,005		
	5	Ohio	Kerr, No. 7	517	Kirkwood	1,597	39	1,080	420	1,607			
	6	Ohio	Kerr, No. 9	515	Shallow	753	14	238	1,262				
	7	Ohio	Kerr, No. 13	515	Bridgeport	960	49	445	1,055		1,009		
	8	Ohio	Kerr, No. 15	512	..do	972		460	1,040	978	1,011		
	9	Ohio	Kerr, No. 17	512	..do	966		454	1,046	970	1,000		
	10	Ohio	Kerr, No. 18	512	Shallow	649	25	137	1,363	649	679		
	11	Ohio	Kerr, No. 16	504	Bridgeport	972		468	1,032	972	980		
	12	Ohio	Kerr, No. 12	500	..do	968	33	468	1,032		1,001		
	13	Ohio	Kerr, No. 24	499									Drilling
	14	Ohio	Kerr, No. 11	494	Bridgeport	941	50	447	1,053				
	15	Ohio	Kerr, No. 8	494	Shallow	585	60	91	1,409		645		
	16	Ohio	Kerr, No. 6	505	Bridgeport	910	87	405	1,095	964			
	17	Ohio	Kerr, No. 23	509									Drilling
	18	Ohio	Kerr, No. 5	509	Bridgeport	965	42	456	1,044	974			
					Stray	1,260		745	755				
	19	Ohio	Kerr, No. 21	515	Buchanan	1,308		793	707				
					Kirkwood	1,586		1,071	429	1,586	1,616		
	20	Ohio	Kerr, No. 3	515	Bridgeport	970	45	455	1,045	986	1,015		
	21	Ohio	Kerr, No. 22	515	Stray	1,264	2	749	751				
					Buchanan	1,300	21	785	715		1,321		Well abandoned
	22	Ohio	Kerr, No. 2	516	Bridgeport	920	10	404	1,096	982	1,010		Gas, 920 feet
	23	Ohio	Kerr, No. 20	516	Kirkwood	1,580		1,064	436		1,613		
					Bridgeport	985	245	471	1,029				Salt water, 1,035 feet
	24	Ohio	T. Gould, No. 20	514	Buchanan	1,305	145	791	709				Salt water, 1,320 feet
					Kirkwood	1,586	22	1,072	428	1,587	1,608	100	Gas, 1,586 feet
	25	Ohio	T. Gould, No. 7	516	Bridgeport	988	42	472	1,028	1,003	1,031	100	Gas, 990 feet
	26	Ohio	T. Gould, No. 8	510	..do	978	32	468	1,032	983	1,010	125	Gas, 980 feet
	27	Ohio	T. Gould, No. 1	519	..do	980	44	461	1,039	986	1,024	40	Gas, 980 feet
	28	Ohio	S. Gray, No. 2	491	..do	957	29	466	1,034	957	486	60	Gas, 957 feet
	29	Ohio	S. Gray, No. 5	493	..do	952		459	1,041	956	984	200	
	30	Ohio	S. Gray, No. 3	514	..do	965	28	451	1,049	970	993	140	
	31	Ohio	S. Gray, No. 4	492	..do	953	32	461	1,039	955	985	175	
	32	Donnel, Agent	C. H. Buchanan, No. 3	493	Shallow	610	30	117	1,383				
					Bridgeport	949		456	1,044	965	1,004	140	
	33	Donnel, Agent	C. H. Buchanan, No. 4	487	..do	962		475	1,025	968	986	60	
					..do	852	18	361	1,139				
	34	Donnel, Agent	C. H. Buchanan, No. 2	491	..do	880	17	389	1,111				
					..do	973	5	482	1,018	978	997	50	Salt water, 997 feet
	35	Donnel, Agent	C. H. Buchanan, No. 1	491	Shallow	770		279	1,221		784	200	
	36	Donnel, Agent	C. E. Buchanan, No. 1	473	Bridgeport	975		502	998	980	1,002	30	
	37	Donnel, Agent	C. E. Buchanan, No. 2	483	..do	990	15	507	993	995	1,005	40	

Lawrence County—Dennison Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
2—N. W.	38	Donnel, Agent	E. Vandermark, No. 2	470									Well abandoned
	39	Donnel, Agent	E. Vandermark, No. 1	475									No record
	40	Lantz	A. Gray, No. 4	483	Shallow	635	25	152	1,348			15	Exhausted
					Bridgeport	969	30	486	1,014	992		200	
					Buchanan	1,350	212	867	633				
					Kirkwood	1,605		1,122	378				Red rock, 1,600 and 1,640 feet
					Stray	1,643		1,160	340	1,643		20	Salt water, 1,667 feet
					McClosky	1,902		1,419	81		2,280	Show	Salt water, 2,280 feet
S. W.	1	Ohio	Clark, Acct. 2, No. 1	466	Bridgeport	956	40	490	1,010				
					Kirkwood	1,604	38	1,138	362		2,028	Dry	Salt water, 2,012 feet
	2	Ohio	Kerr, No. 14	474	Bridgeport	945		471	1,029	950	990		
	3	Mae	Gillespie, No. 1	465	Shallow	445	10	—20	1,520				Sand above sea level
					Bridgeport	950	53	481	1,019	950	1,003	5	Salt water, 1,003 feet
	4	Mae	Gillespie, No. 3	468	Shallow	485	7	17	1,483		493	12	
	5	Mae	Gillespie, No. 2	469	..do	444	12	—25	1,525			Light	
					..do	485	7	16	1,484		493	50	
	6	Ohio	Clark, Acct. 2, No. 4	465	..do	482	16	17	1,483				
					Bridgeport	958	42	493	1,007	997	1,002	5	Gas, 997 feet
	7	Ohio	Clark, Acct. 2, No. 2	462	..do	942	105	480	1,020			Dry	Salt water, 1,040 feet
S. E.	1	Ohio	L. Buchanan, No. 14	468	..do	926	49	458	1,042	931	975	200	Gas, 930 feet
	2	Ohio	L. Buchanan, No. 15	477	..do	929	48	452	1,048	935	977	250	Gas, 930 feet
	3	Ohio	L. Buchanan, No. 24	489	..do	938	32	449	1,051	953	970	50	Gas, 952 feet
	4	Ohio	A. Buchanan, No. 8	503	..do	1,033	4	530	970		1,040	Dry	Salt water, 1,037 feet
	5	Ohio	A. Buchanan, No. 6	505		390	22	—115	1,615				
	6	Ohio	A. Buchanan, No. 7	491	Bridgeport	945	45	440	1,060	967	990	175	Gas, 966 feet
					Shallow	685	15	194	1,306				
					Stray	790	10	299	1,201				
					Bridgeport	948	22	457	1,043	955	970	150	Gas, 950 feet

	7	Ohio	L. Buchanan, No. 18	485	Shallow	505	5	20	1,480				Exhausted of oil
					..do	615	5	130	1,370				
					..do	678	7	193	1,307				
					Bridgeport	954	38	469	1,031	955	992	90	Gas, 954 feet
	8	Mae	School House Lot, No. 1	469	..do	944	30	475	1,025	944	982	25	Salt water, 970 feet
	9	Ohio	L. Buchanan, No. 12	474	..do	947	43	473	1,027	960	990	40	Gas, 950 feet. Salt water, 990 feet
	10	Ohio	L. Buchanan, No. 19	492	Shallow	391	29	—101	1,601				
					Bridgeport	960	17	468	1,032	966	977	75	Gas, 965 feet
	11	Associated Producers	Irish, No. 6	485	..do	929	71	444	1,056		1,000	140	
	12	Associated Producers	Irish, No. 5	492	..do	940	38	448	1,052	951	978	200	Gas, 951 feet
	13	Ohio	A. Buchanan, No. 5	500	..do	932	43	432	1,068	956	975	150	Gas, 934 feet
	14	Associated Producers	Irish, No. 7	497	..do	968	49	471	1,029	968	1,017	120	Salt water, 1,012 feet
	15	Ohio	L. Buchanan, No. 20	496	..do	970	75	474	1,026		1,083	Dry	Salt water, 1,033 feet
	16	Ohio	L. Buchanan, No. 21	507	..do	968	49	461	1,039	992	1,017	15	Gas, 990 feet
	17	Associated Producers	Irish, No. 8	509	..do	979	21	470	1,030		1,013	50	
	18	Associated Producers	Irish, No. 4	508	..do	975	35	467	1,033	975	1,010	200	Quit in sand
	19	Ohio	A. Buchanan, No. 4	485	..do	937	35	452	1,048	943	972	250	Gas, 938 feet
	20	Ohio	A. Buchanan, No. 3	480	..do	948	35	468	1,032	953	983	200	Gas, 950 feet. Quit in sand
3— N. E.	1	Ohio	S. Gray, No. 6	512	..do	994	25	482	1,018	994	1,019	100	Gas, 995 feet
	2	Ohio	S. Gray, No. 1	504	..do	988	34	484	1,016	987	1,022	85	Gas, 987 feet
	3	Lantz	A. Gray, No. 5	500	..do	980		480	1,020	985	1,018		
	4	Lantz	A. Gray, No. 1	500	..do	920	104	420	1,080	991	1,024		Salt water, 780 and 1,024 feet
	5	Lantz	Vandermark, No. 1	507	..do	960	38	453	1,047	980	998	80	Gas, 960 feet
	6	Lantz	Vandermark, No. 2	501	Stray	725	15	224	1,276				
					Bridgeport	900	75	399	1,101	958	975	50	
	7	Lantz	Vandermark, No. 4	500	Stray	804		304	1,196			Show	
					Bridgeport	960	54	460	1,040	960	1,014		Hole full of water, 804 and 1,014 feet
	8	Lantz	Vandermark, No. 5	481	..do	899	97	418	1,082	980	996	78	
	9	Lantz	Vandermark, No. 3	489	..do	950	63	461	1,039	994	1,013		Salt water, 1,013 feet
	10	Snowden Bros	Lewis, No. 2	491	Stray	700		209	1,291				
					Bridgeport	1,000		509	991				
					Lime	1,915	130	1,424	76		2,045		Salt water, 2,045 feet
	11	Snowden Bros	Lewis, No. 4	483									No record
	12	Lantz	J. Gray, No. 2	489	Bridgeport	895	99	406	1,094	958	994	35	
	13	Snowden Bros	Lewis, No. 3	490	Shallow	640	15	150	1,350	645		Show	
					Bridgeport	964	13	474	1,026		977	90	
	14	Lantz	J. Gray, No. 3	504	..do	890	110	386	1,114	972	1,000	100	
	15	Snowden Bros	Lewis, No. 1	498	Shallow	485	12	—13	1,513	485			
					..do	640	8	142	1,358				
					..do	685		187	1,313				
					Bridgeport	983	14	485	1,015	983	1,047	125	
N. W.	1	Ohio	Dennison, No. 1	478	..do	870	11	392	1,108	870		Show	
					..do	919	72	441	1,059				
					Stray	1,302	2	824	676				
					Buchanan	1,379	16	901	599		1,395	Dry	Salt water
S. E.	1	Wheeler & James	Leighty, No. 1	472	Shallow	325	5	—147	1,647			Show	
					Stray	785	30	313	1,187				
					Bridgeport	975	23	503	997	975	998	50	

Lawrence County—Dennison Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
3—S. E.	2	Wheeler & James	Leighty, No. 2	462									No record
	3	Ohio	Clark, No. 3	454	Shallow	500	20	46	1,454	500		15	
					Stray	750	50	296	1,204		1,031		
5—N. W.	1	Ohio	L. Jenner, No. 2	410	Kirkwood	1,557	44	1,147	353		1,602	Dry	
	2	Ohio	L. Jenner, No. 1	409	..do	1,540	39	1,131	369	1,548	1,579	65	Gas, 1,548 feet
	3	Jennings	A. Jordan, No. 1	411	..do	1,548	19	1,137	363	1,554	1,598		
	4	Ohio	L. Jenner, No. 3	408	Kirwood-2	1,604		1,196	304		1,637	Dry	Salt water, 1,633 feet
S. W.	1	Ohio	E. Meagher, No. 1	419	Kirkwood	1,578	32	1,159	341	1,584	1,615	25	Gas, 1,580 feet. Salt water, 1,612 feet
S. E.	1	Ohio	Murphy, No. 1	412	..do	1,541		1,129	371		1,640	Dry	Salt water, 1,637 feet
6—N. E.	1	Ohio	Ackman, No. 3	412	..do	1,537	43	1,125	375		1,612	20	Salt water, 1,598 feet
	2	Ohio	Ackman, No. 2	409	..do	1,538	41	1,129	371	1,642	1,579	80	Gas, 1,542 feet
	3	Ohio	Shuey, No. 3	410	..do	1,548		1,138	362	1,549	1,577	30	
	4	Ohio	Shuey, No. 4	418	..do	1,582	51	1,164	336	1,612	1,633	Dry	Salt water, 1,631 feet. Gas 1,612 feet
	5	Ohio	Shuey, No. 1	410	..do	1,550	29	1,140	360	1,550	1,579	150	Gas, 1550 feet
	6	Ohio	Ackman, No. 1	412	..do	1,552		1,140	360	1,552	1,587	75	Gas, 1,552 feet
	7	Ohio	Ackman, No. 5	413	..do	1,532	38	1,119	381	1,548	1,570	130	Gas, 1,547 feet
	8	Ohio	Ackman, No. 4	415	..do	1,537	43	1,122	378	1,572	1,612	20	Gas, 1,572 feet. Salt water, 1,598 feet
N. W.	1	Ohio	Jordan, No. 2	425	..do	1,548	50	1,123	377	1,564	1,600		Gas, 1,567 feet
	2	Ohio	Jordan, No. 3	423	..do	1,557	68	1,134	366	1,565	1,630		
	3	Ohio	E. Leighty, No. 2	423	..do	1,554	64	1,131	369				Salt water, 1,570 feet
					McClosky	1,742	6	1,319	181		1,783	Dry	
	4	Ohio	E. Leighty, No. 1	424	Kirkwood	1,565	20	1,141	359		1,816	Dry	
	5	Ohio	E. Leighty, No. 4	424	Bridgeport	900	24	476	1,024				
					Buchanan	1,285	105	861	639				
					Kirkwood-1	1,551	23	1,127	373				
					Kirkwood-2	1,602	18	1,178	322	1,604	1,620	100	Gas, 1,602 feet
	6	Ohio	Shuey, No. 2	422	Kirkwood	1,560	25	1,138	362		1,597	Dry	Salt water, 1,562 feet

S. E.	1	Ohio	G. Barnett, No. 1	414	..do	1,557	36	1,143	357	1,582	1,593	60	Gas, 1,575 feet
7— N. W.	1	Ohio	N. Buchanan, No. 1	416	..do	1,565	65	1,149	351				
					Tracey	1,665	10	1,249	251		1,670	Dry	
8— N. W.	1	Ohio	G. Barnett, No. 2	442	Kirkwood	1,600	38	1,158	342	1,626	1,646	5	Gas, 1,620 feet. Salt water, 1,638 feet
	2	Ohio	A. Jordan, No. 1	440	..do	1,605	35	1,165	335		1,641	Dry	Salt water, 1,640 feet. Well abandoned
11— N. E.	1	Shaw	Knight, No. 3	487									No record
	2	Shaw	Knight, No. 2	472									..do
	3	Shaw	Knight, No. 1	468	Stray	700		232	1,268				
					Bridgeport	815		347	1,153				Gas, 815 feet
					..do	920	36	452	1,048		956		
	4	Shaw	Knight, No. 4	464									No record
	5	Shaw	Knight, No. 5	462									..do
	6	Shaw	Harding, No. 1	462	Bridgeport	947	39	485	1,015	948	986	20	Gas, 948 feet
	7	Shaw	Ridgely, No. 1	471	..do	957	32	486	1,014				
					..do	1,025	35	554	946				Salt water
					Stray	1,205	7	734	766	1,206		150	Gas, 1,205 feet
					..do	1,227	17	756	744		1,244		
N. W.	1	Shaw	A. Buchanan, No. 2	464	Bridgeport	906	47	442	1,058	937	953	60	Gas, 906 feet
	2	Shaw	A. Buchanan, No. 10	464	Stray	720	10	256	1,244				
					Bridgeport	914	48	450	1,050	927	962	125	Gas, 915 feet
	3	Shaw	A. Buchanan, No. 9	462	..do	928	30	466	1,034	937	958	150	Gas, 935 feet
	4	Shaw	A. Buchanan, No. 11	462	..do	933	122	471	1,029		1,058	Dry	Salt water, 985 feet
	5	Shaw	W. Gillespie, No. 1	465	Kirkwood	1,560	40	1,095	405		1,611	Dry	Salt water, 1,570 feet
S. W.	1	Shaw	I. Buchanan, No. 1	440	Bridgeport	1,011	9	571	929				Elevation estimated
					Buchanan	1,300	15	860	640				
					Kirkwood	1,622	18	1,182	318				
					Tracey	1,735	15	1,295	205				
					McClosky	1,774	7	1,334	166	1,774	1,781	100	Gas, 1,774 feet
	2	Shaw	J. Buchanan, No 1	440	Bridgeport	1,000	175	560	940				Salt water, 1,020 feet
					Buchanan	1,280	120	840	660				Salt water, 1,290 feet
					Kirkwood	1,600	15	1,160	340				Elevation estimated
					Tracey	1,740	15	1,300	200				
					McClosky	1,777	13	1,337	163		2,017	Dry	Show of oil and gas, 1,777 feet
S. E.	1	Ohio	Taylor, No. 1	463	Bridgeport	967	33	494	1,006				
					..do	1,065	25	602	898				Salt water
					Stray	1,200	44	737	763	1,204	1,246	100	Gas, 1,206 feet
12— N. E.	1	Ohio	Des Beuof, No. 1	470	Bridgeport	940	20	470	1,030				Salt water
					Buchanan	1,270	110	800	700				Salt water, 1,280 feet
					Kirkwood	1,615	25	1,145	355				Salt water, 1,630 feet
					Tracey	1,725	10	1,255	245				Salt water, 1,730 feet
					McClosky	1,870	20	1,300	200				Salt water, 1,870 feet
						1,900	15	1,430	70		1,940	Dry	Elevation estimated
N. W.	1	Donnel, Agent	C. Buchanan, No. 5	459	Bridgeport	1,045	205	586	914				Salt water
					Kirkwood	1,630		1,171	329	1,632	1,672	Dry	Salt water, 1,665 feet

Lawrence County—Dennison Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
19—S. W.	1	Big Four	S. Seed, No. 5	512	Kirkwood	1,639	23	1,127	373	1,644		30	
					McClosky	1,852		1,340	160	1,852	1,852	Show	Salt water, 1,852 feet
	2	Shamless	S. Seed, No. 2	508	Bridgeport	963		455	1,045				Salt water, 963 feet
					Stray	1,472		964	536				Salt water, 1,472 feet
					Kirkwood	1,600	51	1,092	408	1,600	1,656	100	Slate, 1,630 to 1,635 feet.
	3	Big Four	S. Seed, No. 3	494	..do	1,633	15	1,139	361				
	4	Big Four	S. Seed, No. 2	487	..do	1,622	18	1,135	365		1,640		
	5	Big Four	S. Seed, No. 1	475	..do	1,588	31	1,113	387	1,597	1,619		
	6	Shamless	S. Seed, No. 1	490	Bridgeport	940		450	1,050				Salt water, 940 feet
					Stray	1,448		958	542				
					Kirkwood	1,590	34	1,100	400	1,600	1,624	110	
	7	Big Four	S. Seed, No. 4	470	..do	1,587	55	1,117	383		1,600		Slate, 1,615 to 1,627 feet.
	8	Associated Producers	Snyder, No. 10	477	Buchanan	1,315		838	662				
					Kirkwood	1,586	18	1,109	391				
						1,628	12	1,151	349		1,650		
	9	Shamless	Snyder, No. 1	488	Bridgeport	945		457	1,043				
					Stray	1,460		972	528				
					Kirkwood	1,595	53	1,107	393	1,648	1,648		
	10	Shamless	S. Seed, No. 3	504	..do	1,595	57	1,091	409	1,625	1,652		
	11	Silurian	S. Seed, No. 1	458	Stray	760	40	302	1,198				Salt water
					Bridgeport	1,003	57	545	955				..do
					Buchanan	1,345	110	887	613				..do
					Kirkwood-1	1,600	25	1,142	358	1,606		Show	Salt water, 1,612 feet
					Kirkwood-2	1,650	10	1,192	308				Salt water, 1,655 feet
					McClosky	1,824	5	1,366	134		1,840	Dry	Salt water
21—N. E.	1	Ohio	R. Buchanan, No. 6	467	Buchanan	1,308	17	841	659	1,311	1,325	200	
	2	Ohio	R. Buchanan, No. 14	485	..do	1,316	51	831	669	1,320	1,367	190	
	3	Ohio	R. Buchanan, No. 13	482	..do	1,305	53	823	677	1,310	1,358	360	
	4	Ohio	R. Buchanan, No. 11	479	..do	1,313	37	834	666	1,318	1,350	400	
	5	Ohio	R. Buchanan, No. 1	482	..do	1,332	12	850	650	1,333	1,344	200	
	6	Ohio	Wm. Seed, No. 1	483	..do	1,331	28	848	652	1,333	1,359	300	

	7	Ohio	Wm. Seed, No. 13	486	..do	1,318	43	832	668	1,321	1,361	360	
	8	Ohio	Wm. Seed, No. 15	487	..do	1,312	43	825	675	1,317	1,355	160	
	9	Ohio	Wm. Seed, No. 17	483	..do	1,310	55	827	673				
					Kirkwood	1,634	18	1,151	349	1,636	1,652	100	Gas, 1,636 feet
	10	Ohio	Wm. Seed, No. 5	478	Buchanan	1,331	31	853	647	1,358	1,362	165	
	11	Ohio	Wm. Seed, No. 22	481	..do	1,315	30	834	666	1,330	1,345	200	
	12	Ohio	Wm. Seed, No. 21	500	..do	1,317	20	817	683	1,317	1,337	200	
	13	Ohio	Wm. Seed, No. 2	500	..do	1,336	26	836	664	1,340	1,362	150	
	14	Ohio	Wm. Seed, No. 3	492	..do	1,340	28	848	652		1,368	125	
	15	Ohio	Wm. Seed, No. 4	482	..do	1,330	28	848	652	1,335	1,358	100	
	16	Ohio	Wm. Seed, No. 19	483	..do	1,330	37	847	653	1,335	1,367	100	
	17	Ohio	Wm. Seed, No. 20	480	..do	1,336	40	856	644	1,340	1,376	120	
	18	Ohio	Wm. Seed, No. 11	467	..do	1,312	58	845	655				
					Kirkwood	1,610	24	1,143	357	1,615	1,634	75	
	19	Ohio	Wm. Seed, No. 9	464	Buchanan	1,293	53	829	671	1,298	1,346	150	
	20	Ohio	Wm. Seed, No. 6	476	..do	1,314	28	838	662		1,342	200	
	21	Ohio	Wm. Seed, No. 23	475	..do	1,331	23	856	644	1,331	1,354	125	
	22	Ohio	Wm. Seed, No. 10	474	..do	1,326	27	852	648	1,343	1,353	100	
N. W.	1	Ohio	Swail, No. 4	473	..do	1,311	56	838	662	1,320	1,367	250	
	2	Ohio	Swail, No. 19	492	..do	1,380	100	888	612				Salt water, 1,400 feet
					McClosky	1,893	7	1,401	99	1,895	1,900	25	Gas, 1,894 feet
	3	Ohio	Swail, No. 5	479	Buchanan	1,319	42	840	660		1,365	200	
	4	Ohio	Swail, No. 18	483	..do	1,327	53	844	656	1,340	1,360	250	
	5	Ohio	Swail, No. 17	486	..do	1,335	35	849	651	1,355	1,370	200	
	6	Ohio	Swail, No. 6	515	..do	1,365	25	850	650	1,371	1,390	225	
	7	Ohio	Swail, No. 13	525	..do	1,380	20	855	645		1,400	200	
	8	Ohio	Swail, No. 20	519	..do	1,370	16	851	649	1,371	1,386	200	
	9	Ohio	Lutz, No. 3	521	..do	1,366	13	845	655	1,368	1,379	300	Gas, 1,372 feet
	10	Ohio	Lutz, No. 2	507	..do	1,354	13	847	653	1,357	1,367	250	
	11	Ohio	Lutz, No. 1	487	..do	1,375	21	888	612				
					Kirkwood	1,592	32	1,105	395	1,606	1,624	7	
S. W.	1	Ohio	Combs, No. 1	521	Buchanan	1,375	11	854	646	1,377	1,386	200	
	2	Ohio	H. Seed, No. 3	523	..do	1,376	36	853	647				Well abandoned
	3	Ohio	H. Seed, No. 2	526	Bridgeport	830	150	304	1,196				
					Buchanan	1,367	26	841	659	1,367 1,393	1,432		Salt water, 1,367 feet
	4	Ohio	H. Seed, No. 1	520	..do	1,378	27	858	642	1,387	1,405		
	5	Ohio	H. Seed, No. 4	516	Bridgeport	970	10	454	1,046	1,395	1,401	50	
					Buchanan	1,373	31	857	643				
S. E.	1	Big Four	L. Seed, No. 7	459	..do	1,320	30	861	639				
	2	Big Four	L. Seed, No. 8	455	Kirkwood	1,623	21	1,168	332	1,634			Well abandoned
	3	Big Four	L. Seed, No. 6	460	..do	1,610	17	1,150	350		1,627		
	4	Big Four	L. Seed, No. 5	465	Buchanan	1,330	25	865	635				
	5	Big Four	L. Seed, No. 4	476	..do	1,327	30	851	649				
	6	Big Four	L. Seed, No. 9	479	..do	1,330	14	851	649		1,344	200	
	7	Big Four	L. Seed, No. 3	468	..do	1,315	32	847	653				
	8	Big Four	L. Seed, No. 2	490	..do	1,335	30	845	655				
	9	Big Four	L. Seed, No. 1	502	..do	1,360	18	858	642				
N. E.	1	Ohio	A. Gillespie, No. 1	476	Kirkwood	1,562	40	1,086	414	1,587	1,602	50	
	2	Ohio	A. Gillespie, No. 2	500	Bridgeport	885	166	385	1,115	898	1,051	140	Well abandoned
	3	Ohio	A. Gillespie, No. 4	480	Kirkwood	1,570	26	1,090	410	1,570	1,602	70	Gas, 1,570 feet

Lawrence County—Dennison Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Intial product—barrels.	Remarks.
22—N. E.	4	Ohio	A. Gillespie, No. 5	457	Kirkwood	1,557	27	1,100	400	1,572	1,586	30	Gas, 1,557 feet
	5	Ohio	A. Gillespie, No. 3	462	..do	1,600	24	1,138	362	1,600	1,624	50	Gas, 1,600 feet
	6	Ohio	L. Gillespie, No. 12	469	..do	1,607	10	1,138	362		1,967	Dry	
	7	Ohio	L. Gillespie, No. 8	512	..do	1,586	58	1,074	426	1,590	1,644	50	
	8	Ohio	L. Gillespie, No. 13	484	Bridgeport	985	15	501	999	985	1,000	75	
N. W.	1	Ohio	L. Gillespie, No. 3	440	Buchanan	1,291	27	851	649	1,295	1,318	20	
	2	Ohio	L. Gillespie, No. 10	453	Kirkwood	1,590	49	1,137	363	1,595	1,639	10	
	3	Ohio	L. Gillespie, No. 7	453	..do	1,578		1,125	375	1,610	1,625	65	
	4	Ohio	L. Gillespie, No. 6	447	..do	1,568	32	1,121	379	1,578	1,600	40	
	5	Ohio	L. Gillespie, No. 5	443	..do	1,592	13	1,149	351	1,599	1,605	100	
	6	Ohio	L. Gillespie, No. 2	439	Buchanan	1,295	59	856	644	1,331	1,354	5	Salt water, 1,354 feet. Well abandoned
	7	Ohio	L. Gillespie, No. 9	441	Kirkwood	1,573	42	1,132	368	1,580	1,615	7	Salt water, 1,615 feet
	8	Ohio	L. Gillespie, No. 1	440	Buchanan	1,280		840	660	1,300	1,314	150	
	9	Big Four	E. Seed, No. 13	441									No record
	10	Big Four	E. Seed, No. 10	442	Kirkwood	1,576	12	1,134	366		1,580		
	11	Big Four	E. Seed, No. 7	463	Buchanan	1,305	30	842	658				
	12	Big Four	E. Seed, No. 17	468	Kirkwood	1,606	25	1,138	362		1,631	60	
	13	Big Four	E. Seed, No. 11	468	Buchanan	1,309	31	841	659				Well abandoned
	14	Big Four	E. Seed, No. 12	464	..do	1,298	32	834	666		1,330		
	15	Ohio	W. Seed, No. 7	458	..do	1,300		842	658	1,305	1,320	175	
	16	Ohio	W. Seed, No. 8	445	Buchanan	1,290	20	845	655				
					Kirkwood	1,570	17	1,125	375	1,570	1,587	75	Gas, 1,570 feet
	17	Ohio	W. Seed, No. 14	440	..do	1,570	20	1,130	370	1,576	1,590	50	
S. W.	1	Ohio	W. Seed, No. 12	453	..do	1,592	10	1,139	361	1,592	1,602	80	Gas, 1,592 feet
	2	Ohio	W. Seed, No. 16	461	Buchanan	1,271	119	810	690				
					Kirkwood	1,587	13	1,126	374	1,587	1,600	90	Gas, 1,587 feet
	3	Ohio	W. Seed, No. 18	494	Bridgeport	1,015	39	521	979	1,021	1,054	225	
	4	Ohio	Borden, No. 2	500	Buchanan	1,363	87	863	637				
					Kirkwood	1,644	31	1,144	356	1,652	1,675	30	Gas, 1,652 feet
	5	Ohio	Borden, No. 1	510	Stray	1,523	4	1,013	487				
					Kirkwood	1,610	20	1,100	400	1,610	1,630	90	Gas, 1,610 feet

	6	Ohio	Irwin, No. 2	514	..do	1,604	55	1,090	410	1,617	1,659	85	Gas, 1,617 feet
	7	Ohio	Irwin, No. 4	480	Buchanan	1,282	118	802	698	......	......	......	......
					Kirkwood	1,612	53	1,132	368	1,612	1,665	40	Gas, 1,612 feet
	8	Ohio	Irwin, No. 5	464	Buchanan	1,300	115	836	664	......	......	......	......
					Kirkwood	1,618	33	1,154	346	1,618	1,651	30	Gas, 1,618 feet
	9	Ohio	Irwin, No. 3	459	Bridgeport	985	55	526	974	......	......	......	......
					Kirkwood	1,576	69	1,117	383	1,630	1,824	100	Gas, 1,630 feet
	10	Ohio	Irwin, No. 1	519	..do	1,528	27	1,009	491	1,528	1,545	50	Gas, 1,528 feet
S. E.	1	Ohio	T. Gillespie, No. 5	501	..do	1,530	10	1,029	471	......	1,658	Dry	......
	2	Ohio	T. Gillespie, No. 19	469	..do	1,538	14	1,069	431	1,538	1,559	50	Gas, 1,538 feet
	3	Ohio	T. Gillespie, No. 16	466	..do	1,527	29	1,061	439	1,546	1,556	50	Gas, 1,546 feet
	4	Ohio	T. Gillespie, No. 13	460	Bridgeport and Buchanan	1,100	104	640	860	......	......	......	......
					Kirkwood	1,537	15	1,077	423	1,537	1,552	50	Gas, 1,537 feet
	5	Ohio	T. Gillespie, No. 11	465	Bridgeport	939	28	474	1,026	941	967	100	......
23—N. E.	1	Ohio	Ryan, No. 8	431	Kirkwood	1,555	40	1,124	376	1,560	1,601	20	Salt water, 1,582 feet
	2	Ohio	Ryan, No. 9	432	..do	1,531	30	1,099	401	1,531	1,576	......	......
	3	Ohio	Ryan, No. 12	432	Bridgeport	900	345	468	1,032	......	......	......	Salt water
					Kirkwood	1,525	55	1,093	407	......	......	......	......
					McClosky	1,771	3	1,339	161	1,772	1,775	950	Flowing from McClosky sand
	4	Ohio	Ryan, No. 13	429	Bridgeport	1,920	160	491	1,009	......	......	......	......
					Buchanan	1,260	85	831	669	......	......	......	......
					Kirkwood	1,525	25	1,096	404	1,532	......	......	Tracey sand absent
					McClosky	1,763	......	1,334	166	......	1,768	900	Flowing well. Gas, 1,763 feet
	5	Ohio	Ryan, No. 3	429	Kirkwood	1,525	37	1,096	404	......	1,564	200	......
	6	Ohio	Ryan, No. 1	427	Kirkwood-1	1,512	26	1,085	415	......	......	......	......
					Kirkwood-2	1,550	19	1,123	377	......	1,569	......	......
	7	Unknown	School House Lot	427	......	......	......	......	......	......	......	......	No record
	8	Ohio	G. Ryan, No. 4	427	Kirkwood-1	1,505	37	1,078	422	......	......	Show	......
					Kirkwood-2	1,547	16	1,120	380	1,554	1,569	......	Slate, 1,542 to 1,547 feet
	9	Ohio	G. Ryan, No. 11	430	Bridgeport	911	189	481	1,019	......	......	......	Salt water, 950 feet
					Buchanan	1,250	80	820	680	......	......	......	......
					Kirkwood	1,488	67	1,058	442	1,524	1,556	20	Gas, 1,524 feet
	10	Ohio	G. Ryan, No. 10	427	Stray	700	110	273	1,227	......	......	......	......
					Bridgeport	935	165	508	992	......	......	......	......
					Buchanan	1,250	80	823	677	......	......	......	......
					Kirkwood	1,505	39	1,078	422	1,530	1,545	25	Gas, 1,530 feet
	11	Ohio	G. Ryan, No. 7	427	..do	1,507	34	1,080	420	1,515	1,551	150	......
	12	Ohio	G. Ryan, No. 6	430	..do	1,526	31	1,096	404	1,534	1,557	140	......
	13	Ohio	G. Ryan, No. 5	432	..do	1,537	25	1,105	395	1,547	1,583	......	......
	14	Ohio	G. Ryan, No. 2	432	Kirkwood-1	1,542	2	1,110	390	......	......	......	......
					Kirkwood-2	1,585	15	1,153	347	1,590	......	......	Well abandoned
N. W.	1	Ohio	T. Gillespie, No. 3	436	Kirkwood-1	1,510	15	1,074	426	......	......	......	......
					Kirkwood-2	1,534	......	1,098	402	1,515	1,576	125	Gas, 1,510 feet
	2	Ohio	T. Gillespie, No. 6	440	Kirkwood	1,515	39	1,075	425	1,515	1,554	230	Gas, 1,515 feet
	3	Ohio	T. Gillespie, No. 23	435	Bridgeport	965	135	530	970	......	......	......	......
					Buchanan	1,250	80	815	685	......	......	......	......
					Kirkwood	1,515	45	1,080	420	1,520	1,560	25	Gas, 1,525 feet

Lawrence County—Dennison Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
23—													
N. W.	4	Ohio	T. Gillespie, No. 22	430	Bridgeport	925	175	495	1,005				
					Buchanan	1,250	80	820	680				
					Kirkwood	1,497	61	1,067	433	1,500	1,559	30	Gas, 1,520 feet
	5	Ohio	T. Gillespie, No. 17	487	..do	1,538	34	1,051	449	1,542	1,578	35	Gas, 1,542 feet
	6	Ohio	T. Gillespie, No. 7	481	..do	1,540	50	1,059	441	1,584	1,600	40	Gas, 1,584 feet
	7	Ohio	T. Gillespie, No. 8	492	Buchanan	1,293	107	801	699				
					Kirkwood	1,570	47	1,078	422	1,576	1,617	25	Gas, 1,576 feet
	8	Ohio	T. Gillespie, No. 9	504	Buchanan	1,294	106	790	710				
					Kirkwood	1,577	60	1,073	427	1,594	1,637	30	Gas, 1,594 feet
	9	Ohio	T. Gillespie, No. 10	466	Bridgeport	954	22	488	1,012	954	976	200	
S. W.	1	Ohio	T. Gillespie, No. 12	450	Buchanan	1,197	153	747	753				
					Kirkwood	1,526	37	1,076	424	1,549	1,563	45	Gas, 1,549 feet
	2	Ohio	T. Gillespie, No. 14	449	..do	1,515	37	1,066	434	1,520	1,552	60	Gas, 1,520 feet
	3	Ohio	T. Gillespie, No. 15	447	Kirkwood-1	1,504	39	1,057	443	1,535		50	Gas, 1,535 feet
					Kirkwood-2	1,625	19	1,178	322	1,648	1,648		
	4	Ohio	T. Gillespie, No. 2	447	Kirkwood	1,500		1,053	447	1,520	1,529	100	Gas, 1,515 feet
	5	Ohio	T. Gillespie, No. 4	449	..do	1,524		1,075	425	1,524	1,582	30	Gas, 1,524 feet
	6	Ohio	T. Gillespie, No. 18	450	..do	1,487	70	1,037	463	1,511	1,557	125	Gas, 1,535 feet
	7	Ohio	T. Gillespie, No. 20	430	Bridgeport	900	40	470	1,030				
					Kirkwood	1,490	55	1,060	440	1,510	1,546	45	Gas, 1,510 feet
	8	Ohio	T. Gillespie, No. 21	430	Bridgeport	925	75	495	1,005				Salt water, 950 feet
					Buchanan	1,250	80	820	680				
					Kirkwood	1,504	46	1,074	426	1,510	1,553	25	Gas, 1,510 feet
S. E.	1	Ohio	Gould, No. 1	445	..do	1,514	51	1,069	431	1,544	1,565	125	Gas, 1,544 feet
	2	Ohio	Gould, No. 10	428	..do	1,490	48	1,062	438	1,500	1,545	150	Gas, 1,520 feet
	3	Ohio	Gould, No. 12	427	Bridgeport	900	40	473	1,027				
					Kirkwood	1,490	50	1,063	437	1,518	1,547	15	Gas, 1,520 feet
	4	Ohio	Gould, No. 13	427	Bridgeport	930	200	503	997				
					Buchanan	1,260	70	833	667				
					Kirkwood	1,496	58	1,069	431	1,521	1,555	25	Gas, 1,521 feet
	5	Ohio	Gould, No. 8	427	Buchanan	1,214	166	787	713				
					Kirkwood	1,517	159	1,090	410	1,517	1,676	80	Gas, 1,517 feet

	6	Ohio	Gould, No. 7	432	..do	1,526	37	1,094	406	1,526	1,563	200	Gas, 1,526 feet
	7	Ohio	Gould, No. 6	446	..do	1,538	32	1,092	408	1,538	1,570	260	Gas, 1,538 feet
	8	Ohio	Gould, No. 2	459	..do	1,556	15	1,097	403	1,556	1,571	250	Gas, 1,556 feet
	9	Ohio	Gould, No. 5	475	..do	1,568	16	1,093	407	1,568	1,584		Gas, 1,568 feet. Well abandoned
	10	Ohio	Gould, No. 11	479	..do	1,572	28	1,093	407	1,572	1,600	25	Gas, 1,574 feet
	11	Ohio	Gould, No. 9	476	Buchanan	1,300	107	824	676				
					Kirkwood	1,563	28	1,087	413	1,568	1,591	35	Gas, 1,561 feet
	12	Ohio	Mieure, No. 4	482	Kirkwood	1,570	40	1,088	412				
					Tracey	1,710	13	1,228	272	1,715	1,728	15	
	13	Ohio	Mieure, No. 1	477	Kirkwood	1,557	43	1,080	420	1,585	1,600	35	Gas, 1,585 feet
	14	Ohio	Gould, No. 3	457	..do	1,539	20	1,082	418	1,539	1,559	125	Gas, 1,539 feet
	15	Ohio	Gould, No. 4	455	Buchanan	1,246	128	791	709				
					Kirkwood	1,537	20	1,082	418	1,537	1,557	35	Gas, 1,537 feet
24 – N. E..	1	Busch-Everett	Brunson, No. 1	455								Dry	No record
	2	Central Refining Co	Hollister, No. 1	484									..do
N. W..	1	Ohio	Lewis, No. 4	482	Kirkwood	1,581	35	1,099	401	1,595	1,616	30	
	2	Ohio	Lewis, No. 7	452	Bridgeport	1,040	60	588	912				
					Stray	1,375	25	923	577				
					Kirkwood	1,580	52	1,128	372			20	Gas, 1,584 feet. Tracy sand absent
					McClosky	1,895	3	1,443	57	1,895	1,923	Show	Salt water, 1,900 feet
	3	Ohio	Lewis, No. 1	432	Kirkwood	1,567	15	1,135	365				
					Tracey	1,710	5	1,278	222		1,794	Dry	
	4	Ohio	Lewis, No. 2	472	Kirkwood	1,583	4	1,111	389	1,587	1,600	50	
S. W..	1	Ohio	Lewis, No. 3	469	Bridgeport and Buchanan	1,170	220	701	799				
					Kirkwood	1,555	27	1,086	414	1,565	1,582	45	Gas, 1,565 feet
	2	Ohio	Lewis, No. 5	477	..do	1,584	38	1,107	393	1,595	1,622	200	Gas, 1,595 feet
	3	Ohio	Lewis, No. 6	495	..do	1,635	28	1,140	360	1,644		Show	
					Tracey	1,739	20	1,244	256		2,075	Dry	Salt water, 2,070 feet
	4	Mahugh	Irwin, No. 1	476								Dry	No record
	5	Mahugh	Irwin, No. 4	477									..do
	6	Mahugh	Irwin, No. 3	468									..do
	7	Mahugh	Irwin, No. 2	470									..do
	8	Ohio	Mieure, No. 3	477	Kirkwood	1,580	12	1,103	397	1,580	1,592	20	
	9	Ohio	Mieure, No. 5	473	Bridgeport	900	40	427	1,073				
					Kirkwood	1,595	23	1,122	378	1,600	1,635	30	Gas, 1,600 feet
	10	Ohio	Mieure, No. 7	489	Bridgeport	985	145	496	1,004				
					Buchanan	1,315	95	826	674				
					Kirkwood	1,582	28	1,093	407				Dry well
					McClosky	1,842	1	1,353	147	1,842	2,016	Dry	Salt water, 2,004 feet
	11	Ohio	Mieure, No. 2	489	Kirkwood	1,582	41	1,093	407		1,623	Dry	Salt water, 1,615 feet
	12	Ohio	Mieure, No. 6	509	Bridgeport	925	115	416	1,084				Salt water, 925 feet
					Stray	1,440	15	931	569				
					Kirkwood	1,595	80	1,086	414				Salt water, 1,875 feet
					McClosky	1,855	15	1,346	154	1,855	2,034		Gas, 1,855 feet. Well abandoned

Lawrence County—Dennison Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
24—													
S. E.	1	Shannon	Crutchfield, No. 1	467	Bridgeport	1,050	70	583	917				
					Bridgeport and Buchanan	1,185	275	718	782				Salt water
					Kirkwood	1,590	58	1,123	377	1,606	1,648	10	Salt water, 1,643 feet
	2	Central Refining Co	Hollister, No. 3	470	Kirkwood	1,578	61	1,108	392	1,596	1,639		
	3	Central Refining Co	Hollister, No. 2	480	do	1,630	23	1,150	350	1,630	1,653		Salt water, 1,430 feet
	4	Shannon	Crutchfield, No. 2	511	Bridgeport	1,065	115	554	946				
					Buchanan	1,350	115	839	661				Salt water, 1,350 feet
					Kirkwood	1,618	48	1,107	393	1,640	1,667	40	
	5	Central Refining Co	Hollister, No. 1	509	do	1,604	51	1,905	405				
					Tracey	1,710	10	1,201	299				
					McClosky	1,824	11	1,315	185		1,857		
	6	Busch-Everett	Gee, No. 1	505	Bridgeport	1,075		570	930				
					Buchanan	1,360		855	645				
					Kirkwood	1,677		1,172	328			Dry	
	7	Busch-Everett	Gee, No. 2	503	Bridgeport	925		422	1,078				
					Stray	1,470		967	533				
					Kirkwood	1,651		1,148	352				
25—													
N. E.	1	Associated Producers	Snyder, No. 12	466	Bridgeport	970		504	996				
					Buchanan	1,315		849	651				
					Kirkwood-1	1,570	45	1,104	396	1,580		40	
					Kirkwood-2	1,625	20	1,159	341		1,649		
	2	Associated Producers	Snyder, No. 3	463	Bridgeport-1	900	4	437	1,063			Show	
					Bridgeport-2	960		497	1,003				Salt water, 960 feet
					Buchanan	1,305		842	658				
					Kirkwood	1,600	3	1,137	363		1,650	Dry	
	3	Associated Producers	Snyder, No. 4	462	Bridgeport	900	5	438	1,062			Show	Salt water, 965 feet
					Buchanan	1,305		843	657				
					Kirkwood	1,577	27	1,115	385		1,604	90	

	4	Associated Producers	Snyder, No. 1	464	Bridgeport	885	21	421	1,079				
					Buchanan	1,300		836	664				
					Kirkwood	1,580	40	1,116	384		1,620	150	
	5	Associated Producers	Snyder, No. 13	462	Bridgeport	895	10	433	1,067				
					Buchanan	1,305		843	657				
					Kirkwood	1,580	32	1,118	382		1,615	180	
	6	Associated Producers	Snyder, No. 6	463	Bridgeport	895	12	432	1,068				
					Buchanan	1,305		842	658				
					Kirkwood	1,578		1,115	385		1,600	160	
	7	Associated Producers	Snyder, No. 2	462	..do	1,584		1,122	378		1,600	100	
	8	Ohio	Borden, No. 2	460	..do	1,578	32	1,118	382	1,593	1,625	50	Well abandoned
	9	Ohio	Borden, No. 3	460	..do	1,579	29	1,119	381	1,588	1,608	25	Gas, 1,588 feet
	10	Ohio	Borden, No. 4	463	..do	1,580	34	1,117	383		1,614	Dry	
	11	Ohio	Borden, No. 5	464	..do	1,588		1,124	376				
					Tracey	1,710		1,246	254		1,715	Dry	
	12	Ohio	Borden, No. 1	465	Kirkwood	1,591	17	1,126	374	1,595	1,608	75	Gas, 1,595 feet
	13	Ohio	Borden, No. 7	477	Kirkwood-1	1,597	30	1,120	380				
					Kirkwood-2	1,640	25	1,163	337				
					Tracey	1,721	19	1,244	256				
					McClosky	1,802	33	1,325	175		1,835	Dry	Salt water, 1,833 feet
	14	Ohio	Borden, No. 6	471	Kirkwood	1,591		1,120	380	1,592	1,613	60	Gas, 1,592 feet
	15	Ohio	Borden, No. 8	463	McClosky	1,797	8	1,334	166	1,798	1,805	550	Gas, 1,597 feet
N. W.	1	Ohio	Borden, No. 10	502	Bridgeport	975	95	473	1,027				Salt water, 1,008 feet
					Buchanan	1,300	145	798	702				
					Kirkwood	1,640	30	1,138	362				Salt water, 1,650 feet
					Tracey	1,720	30	1,218	282				
					McClosky	1,828	12	1,326	174	1,828	2,016	Dry	Dry well
	2	Ohio	Borden, No. 9	490	Kirkwood	1,622	23	1,132	368				
					McClosky	1,828	23	1,338	162	1,828	1,852	200	Gas, 1,842 feet
	3	Ohio	Snyder, No. 2	474	Kirkwood	1,598	20	1,124	376	1,607	1,619	20	Gas, 1,605 feet
	4	Ohio	Snyder, No. 4	466	Kirkwood	1,600	12	1,134	366				
					Tracey	1,697	16	1,231	269	1,703	1,716	25	Gas, 1,700 feet
	5	Ohio	Snyder, No. 9	470	Bridgeport	975	25	505	995				
					Buchanan	1,300	75	830	670				
					Kirkwood	1,597	28	1,127	373	1,600			Gas, 1,598 feet
					Tracey	1,700	15	1,230	270	1,704			Gas, 1,700 feet
					McClosky	1,823	5	1,353	147	1,823	1,829	225	Salt water, 1,829 feet
	6	Ohio	Snyder, No. 1	470	Kirkwood	1,596	9	1,126	374	1,597	1,605	25	Gas, 1,590 feet
	7	Ohio	Snyder, No. 3	487	..do	1,604	26	1,117	383	1,612	1,632	125	Gas, 1,611 feet
	8	Ohio	Snyder, No. 6	480	Bridgeport	1,075	100	595	905				Salt water, 1,100 feet
					Buchanan	1,300	100	820	680				Salt water, 1,300 feet
					Kirkwood	1,606	30	1,126	374	1,618		200	Gas, 1,616 feet
					Tracey	1,695	13	1,215	285				
					McClosky	1,827	6	1,347	153		1,833		
	9	Ohio	Snyder, No. 5	481	Kirkwood	1,646	14	1,165	335				
					McClosky	1,772	13	1,291	209	1,775	1,795	70	Gas, 1,774 feet
	10	Leighty	Leighty, No. 5	500	Kirkwood-1	1,621	24	1,121	379	1,622			
					Kirkwood-2	1,657	23	1,157	343	1,667			Salt water, 1,674 feet
					Tracey	1,707	14	1,207	293	1,708	1,723	25	

Lawrence County—Dennison Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks
25—													
					Kirkwood-1	1,614	38	1,104	396				
N. W.	11	Leighty	Leighty, No. 6	510	Kirkwood-2	1,675	15	1,165	335				
					Tracey	1,703	32	1,193	307				
					McClosky	1,844	18	1,334	166		1,866	9	Salt water, 1,862 feet
	12	Leighty	Leighty, No. 3	487	Kirkwood	1,574	40	1,087	413	1,588		15	
					Tracey	1,691	25	1,204	296				Tracey sand, dry
					Kirkwood-1	1,604	8	1,114	386				
	13	Leighty	Leighty, No. 7	490	Kirkwood-2	1,615	18	1,125	375				
					Kirkwood-3	1,645	11	1,155	345				
					McClosky	1,830	29	1,340	160		1,859	200	
					Bridgeport	1,000	180	498	1,002				Salt water, 1,020 feet
					Buchanan	1,320	120	818	682				Salt water, 1,350 feet
	14	Ohio	Snyder, No. 8	502	Kirkwood	1,605	25	1,103	397	1,612			Gas, 1,609 feet
					Tracey	1,720	10	1,218	282	1,721			Gas, 1,720 feet
					McClosky	1,832	6	1,330	170	1,833	1,855	175	Gas, 1,832 feet
					Bridgeport	1,050	150	555	945				Salt water, 1,125 feet
					Buchanan	1,300	130	805	695				Salt water, 1,320 feet
	15	Ohio	Snyder, No. 7	495	Kirkwood	1,632	30	1,127	373	1,628			Gas, 1,623 feet
					Tracey	1,708	12	1,213	287				
					McClosky	1,834	10	1,339	161	1,834	2,000	20	
					Bridgeport	1,000	75	505	995				
					Buchanan	1,280	120	785	715				
S. W.	1	Ohio	Vandermark, No. 16	495	Kirkwood	1,620	13	1,125	375				
					Tracey	1,715	3	1,220	280				
					McClosky	1,826	3	1,331	169	1,826	1,833	100	Gas, 1,826 feet
					Bridgeport	1,055	45	543	957				Salt water
					Buchanan	1,325	75	813	687				Salt water
	2	Ohio	Vandermark, No. 11	512	Kirkwood	1,623	17	1,111	689				
					Tracey	1,720	15	1,208	292				
					McClosky	1,841	7	1,329	171	1,842	1,850	850	Gas, 1,841 feet

	3	Ohio	Vandermark, No. 15	496	Bridgeport	1,050	50	554	946				Salt water, 1,055 feet
					Buchanan	1,260	40	764	736				Salt water
					Kirkwood	1,592	30	1,096	404	1,595			Gas, 1,594 feet
					Tracey	1,711	14	1,215	285	1,713			Gas, 1,712 feet
					McClosky	1,823	5	1,327	173	1,824	1,828	720	Gas, 1,823 feet
	4	Ohio	Vandermark, No. 17	474	Bridgeport	976	24	502	998				
					Buchanan	1,280	100	806	694				
					Kirkwood	1,569	23	1,095	405	1,575			Gas, 1,570 feet
					Tracey	1,682	12	1,208	292	1,690			Gas, 1,685 feet
					McClosky	1,800	6	1,326	174	1,800	1,806	1,500	Flowing well. Gas, 1,800 feet. Quit in limestone
	5	Ohio	Vandermark, No. 3	484	Kirkwood	1,612	26	1,128	372	1.618	1,642	25	
	6	Ohio	Vandermark, No. 4	502	..do	1,638	23	1,136	364				
					Tracey	1,722	16	1,220	280	1,729	1,738	60	Gas, 1,728 feet
	7	Ohio	Vandermark, No. 2	527	Bridgeport	1,020	23	493	1,007	1,035	1,043	40	
	8	Ohio	Vandermark, No. 7	507	Kirkwood	1,633	27	1,126	374	1,646	1,660	45	Gas, 1,645 feet
	9	Ohio	Vandermark, No. 6	503	..do	1,630	40	1,127	373				
					Tracey	1,713	20	1,210	290	1,728	1,739	30	Gas, 1,723 feet
	10	Ohio	Vandermark, No. 14	515	Bridgeport	1,010	75	495	1,005				Salt water, 1,030 feet
					Buchanan	1,360	65	845	655				Salt water, 1,375 feet
					Kirkwood	1,640	15	1,125	375				
					Tracey	1,721	14	1,206	294				
					McClosky	1,841	14	1,326	174	1,845	1,855	1,080	Gas, 1,841 feet
	11	International Oil & Gas Co	McClosky, No. 1	471	Shallow	650	50	179	1,321				Salt water
					Bridgeport	1,000	205	529	971				Hole full of water, 1,040 feet
					Buchanan	1,325	100	854	646				
					Kirkwood	1,612	27	1,141	359	1,618			
					Stray	1,663	8	1,192	308				Salt water, 1,663 feet
					Tracey	1,705	14	1,234	266	1,710		60	
					McClosky	1,842		1,371	129				
	12	International Oil & Gas Co	McClosky, No. 8	481	Kirkwood	1,600	35	1,119	381	1,620		100	
					McClosky	1,832	28	1,351	149				
	13	International Oil & Gas Co	McClosky, No. 9	485	Kirkwood	1,597	30	1,112	388				
					McClosky	1,810	12	1,325	175			300	
	14	International Oil & Gas Co	McClosky, No. 4	480	Bridgeport	990	210	510	990				
					Kirkwood	1,591	35	1,111	389				
					Stray	1,659	6	1,179	321				Salt water, 1,659 feet
					Tracey	1,693	36	1,213	287				
					McClosky	1,824	13	1,344	156		1,837	1,700	
	15	Ohio	Vandermark, No. 10	505	Bridgeport	1,000	75	495	1,005				
					Buchanan	1,350	70	845	655				
					Kirkwood	1,630	25	1,125	375				
					Tracey	1,740	10	1,235	265				
					McClosky	1,843	9	1,338	162	1,844	1,855	750	Gas, 1,843 feet
S. E.	1	Ohio	Vandermark, No. 1	519	Kirkwood	1,611	37	1,092	408	1,622	1,648	80	Gas, 1,622 feet

Lawrence County—Dennison Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Depth to top—feet.	Thickness penetrated—feet.	Altitude below sea level—feet.	Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
25—													
S. E.	2	Ohio	Vandermark, No. 9	500	Bridgeport	980	120	480	1,020				Salt water, 1,005 feet
					Buchanan	1,285	95	785	715				Salt water 1,330 feet
					Kirkwood	1,605	30	1,105	395				
					Tracey	1,710	10	1,210	290				
					McClosky	1,828	12	1,328	172				
					Stray	1,898	7	1,398	102		2,101	Dry	Salt water
	3	Ohio	Vandermark, No. 12	495	Bridgeport	960	90	465	1,035				Salt water, 1,000 feet
					Buchanan	1,300	100	805	695				Salt water, 1,350 feet
					Kirkwood	1,612	33	1,117	383				
					Tracey	1,705	10	1,210	290				
					McClosky	1,832	9	1,337	163	1,835		40	Gas, 1,833 feet
	4	Ohio	Vandermark, No. 8	489	Kirkwood	1,607	37	1,118	382				
					McClosky	1,823	6	1,334	166	1,823	1,829	1,200	Gas, 1,822 feet
	5	Ohio	Vandermark, No. 13	509	Bridgeport	990	110	481	1,019				Salt water, 1,025 feet
					Buchanan	1,385	95	876	624				Salt water, 1,400 feet
					Kirkwood	1,617	30	1,108	392	1,620			Gas, 1,618 feet
					McClosky	1,829	6	1,330	170	1,840	1,845	1,860	Gas, 1,839 feet
	6	Ohio	Vandermark, No. 5	509	Kirkwood	1,616	29	1,107	393	1,622	1,646	160	Gas, 1,620 feet
	7	International Oil & Gas Co.	McClosky, No. 2	499	Bridgeport	925		426	1,074				
					Buchanan	1,328	100	829	671				
					Kirkwood	1,616	24	1,117	383	1,620		125	
					Tracey	1,710		1,211	289				
					McClosky	1,842		1,343	157			150	
	8	International Gas & Oil Co	McClosky, No. 5	478	Bridgeport	1,000	210	522	978				Salt water
					Buchanan	1,325	100	847	653				do
					Kirkwood	1,625	60	1,147	353				
					Tracey	1,695	35	1,217	283				Calcareous sand
					McClosky	1,820	11	1,342	158	1,820	1,831	300	Soft limestone
	9	International Oil & Gas Co	McClosky, No. 7	483	Kirkwood	1,605	26	1,122	378				
					McClosky	1,820	15	1,337	163		1,835	1,500	

	10	International Oil & Gas Co.	McClosky, No. 6	472	Kirkwood	1,602	18	1,130	370				
					Tracey	1,712	12	1,240	260				
					McClosky	1,804	11	1,332	168		1,815	1,290	
	11	International Oil & Gas Co.	McClosky, No. 3	469	Bridgeport	985	195	516	984				
					Buchanan	1,330	100	861	639				
					Kirkwood	1,587	41	1,118	382				
					Tracey	1,692	20	1,223	277	1,700		40	
					McClosky	1,807	4	1,338	162	1,807	1,811	400	
	12	Associated Producers	Snyder, No. 11	468	Bridgeport	896	12	428	1,072				
					Buchanan	1,312		844	656				
					Kirkwood	1,580	32	1,112	388				
					Tracey	1,700	13	1,232	268			60	
	13	Associated Producers	Snyder, No. 14	462	Bridgeport	898	14	436	1,064				
					Buchanan	1,312		850	650				
					Kirkwood	1,578	44	1,116	384			200	
					McClosky	1,794		1,332	168	1,796	1,804		
	14	Associated Producers	Snyder, No. 5	460	Bridgeport	900		440	1,060				
					Buchanan	1,307	83	847	653		1,390	Dry	
	15	Associated Producers	Snyder, No. 16	468									No record
	16	Associated Producers	Snyder, No. 15	474									do
	17	Associated Producers	Snyder, No. 17	465									do
	18	International Oil & Gas Co.	Seed, No. 2	477	Kirkwood	1,615	40	1,138	362			60	Well abandoned
	19	International Oil & Gas Co.	Seed, No. 3	485									No record
	20	International Oil & Gas Co.	Seed, No. 4	487									do
	21	International Oil & Gas Co.	Seed, No. 1	487	Kirkwood	1,600	20	1,113	387				Well abandoned
26— N. E.	1	Leighty	Leighty, No. 2	462	do	1,553	5	1,091	409	1,567		Light	
					Tracey	1,650	33	1,188	312	1,669	1,683	5	Salt water, 1,683 feet. Locally known as Mulholland sand
	2	Leighty	Leighty, No. 8	488									Original well ruined. No record
	3	Leighty	Leighty, No. 8	488	Kirkwood-1	1,591	17	1,103	397				
					Kirkwood-2	1,638	19	1,150	350				
					Tracey	1,687	10	1,199	301				
					McClosky	1,827	34	1,339	161		1,861	20	
	4	Leighty	Leighty, No. 1	465	Kirkwood	1,546	33	1,081	419	1,558	1,579	50	
	5	Leighty	Leighty, No. 9	484	Bridgeport	961	28	477	1,023		989	10	
	6	Leighty	Leighty, No. 10	501									Drilling
	7	Leighty	Leighty, No. 4	492	Bridgeport	979	36	487	1,013	985			
					Buchanan	1,297	15	805	695	1,297			
					Kirkwood-1	1,575	28	1,083	417	1,597			
					Kirkwood-2	1,608	12	1,116	384	1,608			
					Tracey	1,698	22	1,206	294	1,699	1,743	200	
	8	Big Four	S. Gillespie, No. 4	500	Kirkwood-1	1,598	14	1,098	402	1,602			
					Kirkwood-2	1,625	13	1,125	375	1,625		50	
					Tracey	1,698	27	1,198	302				
					McClosky	1,836		1,336	164	1,836	1,855	Show	

Lawrence County—Dennison Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand.					Oil depth—feet.	Total depth—feet.	Intial product—barrels.	Remarks.
					Name.	Depth to top—feet.	Thickness penetrated—feet.	Altitude below sea level—feet.	Altitude above datum plane—feet.				
26—N. E.	9	Big Four	S. Gillespie, No. 1	488	Kirkwood	1,615	11	1,127	373				
	10	Ohio	Gray, No. 3	478	..do	1,553	62	1,075	425	1,590	1,615	25	Gas, 1,585 feet
	11	Ohio	Gray, No. 4	472	Buchanan	1,207	192	735	765				
					Kirkwood	1,545	85	1,073	427	1,555	1,630	10	Gas, 1,555 feet
	12	Ohio	Gray, No. 2	462	..do	1,498	81	1,036	464	1,557	1,584	50	Gas, 1,557 feet
	13	Ohio	Gray, No. 1	447	..do	1,523	24	1,076	424	1,523	1,547	65	Gas, 1.523 feet.
	14	Ohio	Gray, No. 9	462	Bridgeport	955	95	493	1,007				Salt water, 980 feet
					Buchanan	1,260	60	798	702				
					Kirkwood	1,545	35	1,083	417	1,550	1,586	75	Gas, 1,545 feet
	15	Ohio	Gray, No. 6	462	Bridgeport	954		492	1,008	964	993	40	Gas, 974 feet. Salt water, 993 feet
	16	Ohio	Gray, No. 7	472	..do	890	111	418	1,082				
					Kirkwood	1,568	25	1,096	404	1,568	1,623	100	Gas, 1,568 feet
	17	Ohio	Gray, No. 5	473	Bridgeport	950	41	477	1,023	965	991	15	Gas, 960 feet
	18	Ohio	Gray, No. 8	480	Buchanan	1,259	13	779	721				
					Kirkwood	1,559	43	1,079	421	1,563	1,602	60	Gas, 1,563 feet
N. W.	1	Ohio	E. Ryan, No. 3	455	Kirkwood	1,521	24	1,066	434	1,525	1,545	150	
	2	Ohio	E. Ryan, No. 4	464	Bridgeport	973	20	509	991	975		12	Salt water
					Buchanan	1,287	63	823	677	1,305		Show	Salt water, 1,290 feet
					Kirkwood	1,538	38	1,074	426	1,548		10	Gas, 1,548 feet
					Tracey	1,648	20	1,184	316	1,656		10	
	3	Silurian	Hinkle, No. 2	459	Bridgeport	968	17	509	991	980			Salt water, 982 feet
	4	Silurian	Hinkle, No. 4	471									No record
	5	Silurian	Hinkle, No. 3	474	Bridgeport	964		490	1,010	972			
					Kirkwood	1,545	35	1,071	429	1,545		125	
					Tracey	1,650	18	1,176	324				
	6	Ohio	E. Ryan, No. 1	449	Kirkwood	1,500	24	1,051	449	1,510	1,524	60	
	7	Ohio	E. Ryan, No. 2	456	..do	1,510	19	1,054	446		1,550		

S. W..	8	Silurian	Hinkle, No. 1	468	Stray	700	70	232	268				
					Bridgeport	950	73	482	1,018				
					Buchanan	1,300	40	832	668				
					Kirkwood-1	1,520	32	1,052	448				
					Kirkwood-2	1,569	15	1,101	399		1,595		
	1	Ohio	E. Leighty, No. 8	505	Bridgeport	955	50	450	1,050				
					Buchanan	1,269	90	764	736				Salt water
					Kirkwood	1,537	37	1,032	468	1,557	1,574	60	Gas, 1,557 feet
	2	Ohio	E. Leighty, No. 9	501	Bridgeport	960	140	459	1,041				
					Buchanan	1,260	100	759	741				
					Kirkwood	1,560	23	1,059	441	1,570	1,585	60	Gas, 1,570 feet
	3	Ohio	E. Leighty, No. 14	530	Bridgeport	980	65	450	1,050	995	1,045	50	Gas, 985 feet
	4	Ohio	E. Leighty, No. 3	530	..do	972	26	442	1,058		998	Gas	Gas, 994 feet
	5	Ohio	E. Leighty, No. 7	524	..do	987	43	463	1,037	998			Gas, 998 feet
					..do	1,031	26	507	993		1,057	60	Salt water, 1,057 feet
	6	Ohio	E. Leighty, No. 4	472	..do	947	23	475	1,025	947	970	240	Gas, 947 feet
	7	A. Campbell	School Lot, No. 1	470									No record
	8	A. Campbell	School Lot, No. 2	470									..do
	9	Ohio	E. Leighty, No. ?	470									..do
	10	Ohio	E. Leighty, No. 10	468	Bridgeport	968	32	500	1,000	985	1,000	25	Gas, 985 feet
	11	Ohio	E. Leighty, No. 11	486	..do	977	18	491	1,009	990	995	40	Gas, 990 feet
	12	Ohio	E. Leighty, No. 12	491	..do	972	22	481	1,019	980	994	25	Gas, 982 feet
	13	Ohio	E. Leighty, No. 6	483	Kirkwood	1,556	36	1,073	427	1,570			Gas, 1,570 feet
					Tracey	1,663	61	1,180	320		1,730	125	
S. E..	1	Big Four	L. Gillespie, No. 4	469	Bridgeport	931	44	462	1,038	944			
	2	Big Four	L. Gillespie, No. 18	469									No record
	3	Big Four	L. Gillespie, No. 11	477	..do	963	31	486	1,014		994	75	
	4	Big Four	L. Gillespie, No. 12	498	..do	961	43	463	1,037	970	1,004	75	
	5	Big Four	L. Gillespie, No. 13	500	..do	961	43	461	1,039	984	1,004	50	Gas, 970 feet
	6	Big Four	L. Gillespie, No. 2	472	Kirkwood	1,547	26	1,075	425	1,566			
	7	Big Four	L. Gillespie, No. 1	509									Well abandoned. No record
	8	Big Four	L. Gillespie, No. 9	510	Bridgeport	980		470	1,030	980			Salt water, 1,030 and 1,155 feet
					Buchanan	1,260		750	750				Salt water, 1,335 feet
	9	Big Four	L. Gillespie, No. 10	495	Kirkwood	1,582		1,072	428				
					..do	1,579		1,084	416	1,581			
					Tracey	1,695	13	1,200	300				
					McClosky	1,803		1,308	192		1,864	150	
	10	Big Four	L. Gillespie, No. 8	495									No record
	11	Ohio	G. Ryan, No. 4	508	Bridgeport	1,003	26	495	1,005	1,010	1,032	20	
	12	Ohio	G. Ryan, No. 11	506	..do	1,000	80	494	1,006	1,014			Salt water, 1,045 feet
					Buchanan	1,300	75	794	706				Salt water
					Kirkwood	1,598	31	1,092	408	1,608	1,629	195	Gas, 1,608 feet
	13	Ohio	G. Ryan, No. 5	517	..do	1,599	33	1,082	418	1,604	1,633	300	Gas, 1,600 feet
	14	Big Four	S. Gillespie, No. 2	518	Bridgeport	920	5	402	1,098				
					..do	940	60	422	1,078				
					..do	1,030	30	512	988				
					Buchanan	1,250	100	732	768				
					Kirkwood	1,592	26	1,074	426				

Lawrence County—Dennison Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Intial product—barrels.	Remarks.
26— S. E.	15	Big Four	S. Gillespie, No. 5	494	Kirkwood	1,590	35	1,096	404	1,600		150	
					Tracey	1,688	32	1,194	306				
					McClosky	1,812	2	1,318	182		1,855		
	16	Big Four	S. Gillespie, No. 3	507	Kirkwood	1,595	30	1,088	412				
					Tracey	1,693	27	1,186	314				
					McClosky	1,841	28	1,334	166		1,920	120	
	17	Ohio	G. Ryan, No. 12	504	Bridgeport	1,080	60	576	924				Salt water, 1,115 feet
					Buchanan	1,285	90	781	719				Salt water, 1,300 feet
					Kirkwood	1,595	32	1,091	409	1,597		100	Gas, 1,596 feet
					Tracey	1,709	11	1,205	295	1,712			Gas, 1,711 feet
					McClosky	1,826	43	1,322	178	1,827	1,860	300	Gas, 1,827 feet
	18	Ohio	G. Ryan, No. 13	494	Bridgeport	975	25	481	1,019				
					Buchanan	1,300	100	806	694				Salt water, 1,330 feet
					Kirkwood	1,592	35	1,098	402	1,600			Gas, 1,592 feet
					Tracey	1,693	10	1,199	301	1,695			Gas, 1,693 feet
					McClosky	1,802	4	1,308	192	1,802	1,806		Gas, 1,802 feet
27— N. E.	1	Ohio	T. Gillespie, No. 1	454	Kirkwood	1,498		1,044	456	1,510	1,529	25	
	2	Ohio	T. Gillespie, No. 24	462	Bridgeport	940	110	478	1,022				
					Buchanan	1,225	100	763	737				
					Kirkwood	1,520	38	1,058	442	1,542	1,745	10	Gas, 1,520 feet
	3	Ohio	L. Gillespie, No. 4	466	Bridgeport	950	100	484	1,016				Salt water, 1,000 feet
					Buchanan	1,230	130	764	736				
					Kirkwood	1,514	13	1,048	452	1,514	1,549	50	Gas, 1,515 feet
	4	Ohio	L. Gillespie, No. 3	454	..do	1,505		1,051	449	1,510	1,540	30	Gas, 1,510 feet
	5	Ohio	L. Gillespie, No. 2	458	..do	1,515	31	1,057	443	1,520	1,546	25	Gas, 1,515 feet
	6	Ohio	L. Gillespie, No. 1	512	Buchanan	1,243	32	731	769	1,253	1,275	200	
N. W.	1	Ohio	E. Gillespie, No. 1	515	..do	1,255		740	760	1,260	1,270	225	Well abandoned
	2	Ohio	E. Gillespie, No. 2	508	Kirkwood	1,622	10	1,114	386		1,700	Dry	
	3	Ohio	E. Gillespie, No. 3	517	Bridgeport and Buchanan	1,100	170	583	917				
					Kirkwood	1,615	47	1,098	402		1,662	Dry	

	4	Fisher	Lackey, No. 1	505								Dry	No record
S. W.	1	Ohio	Wm. Seed, No. 1	531	Bridgeport	980	46	449	1,051	1,005	1,026	Gas	Gas, 998 feet; gas 2,500,000 cu. ft. daily
S. E.	1	Ohio	P. Leighty, No. 13	528	..do	977	52	449	1,051	995	1,034	30	Gas, 995 feet
	2	Ohio	P. Leighty, No. 2	505	..do	960	47	455	1,045	961	1,007	180	
	3	Ohio	P. Leighty, No. 1	534	..do	970		436	1,064		1,000	Gas	Gas, 1,000 feet
	4	Ohio	P. Leighty, No. 5	540	..do	985	21	445	1,055			Gas	Gas, 998 feet
					..do	1,012	44	472	1,028	1,031	1,056	20	
	5	Ohio	P. Leighty, No. 15	513	..do	960	140	447	1,053				
					Buchanan	1,260	110	747	753				
					Kirkwood	1,577	23	1,064	436	1,580	1,604	60	Gas, 1,580 feet. Quit in sand
	6	Ohio	E. Robins, No. 1	496	Bridgeport	965	105	469	1,031				
					Buchanan	1,254	22	758	742				
					Kirkwood	1,538	35	1,042	458	1,540	1,573	75	Gas, 1,540 feet
28— N. W.	1	Unknown	H. K. Seed, No. 1	491									No record
	2	Ohio	E. Gillespie, No. 4	478	Buchanan	1,510	110	1,032	468				
						1,960	15	1,482	18	1,962	2,063	Show	Salt water, 1,860 feet. Well abandoned
S. E.	1	St. Louis	Turner Hrs., No. 2	498								Dry	No record
	2	St. Louis	Turner Hrs., No. 1	508							1,000	Dry	..do
30— N. E.	1	Ohio	R. Ackman, No. 1	480	Kirkwood	1,587	25	1,107	393	1,602	1,810	1½	Gas, 1,598 feet. Salt water, 1,615 feet. Well abandoned
N. W.	1	Central Refining Co.	Snyder, No. 2	478	..do	1,586	51	1,108	392	1,586	1,637		
	2	Associated Producers	Snyder, No. 8	469	Buchanan	1,315		846	654				
					Kirkwood-1	1,582	22	1,113	387				
					Kirkwood-2	1,628	12	1,159	341		1,643	90	
	3	Associated Producers	Snyder, No. 7	474	Buchanan	1,315		841	659				
					Kirkwood-1	1,580	22	1,106	394				
					Kirkwood-2	1,630	15	1,156	344		1,648	300	
	4	Associated Producers	Snyder, No. 9	469	Kirkwood-1	1,584	22	1,115	385				
					Kirkwood-2	1,628	14	1,159	341		1,645	110	
	5	Associated Producers	Barnhart, No. 4	467	Stray	700		233	1,267				
					Bridgeport	960		493	1,007				
					Buchanan	1,300		833	667		1,660	Dry	No Kirkwood sand
	6	Associated Producers	Barnhart, No. 5	460	Bridgeport	918	18	458	1,042	918		60	
					Kirkwood	1,600	5	1,140	360		1,650		Salt water
	7	Associated Producers	Barnhart, No. 6	458	Buchanan	1,300		842	658				
					Kirkwood	1,602	18	1,144	356		1,640	35	
S. W.	1	Associated Producers	Barnhart, No. 1	456	Bridgeport	902	34	446	1,054	902		180	
	2	Associated Producers	Barnhart, No. 2	456	Buchanan	1,305		849	651				
					Kirkwood	1,565	16	1,109	391	1,565	1,600	50	
	3	Associated Producers	Barnhart, No. 3	456								Dry	No record
	4	Busch-Everett	Vandermark, No. 1	460	Bridgeport	980		520	980				
					Stray	1,385		925	575				
					Kirkwood	1,620		1,160	340			Dry	
	5	Busch-Everett	Vandermark, No. 2	454	..do	1,600		1,146	354				

Lawrence County—Dennison Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
31— N. W.	1	Ohio	Vanwey, No. 5	460	Bridgeport	950	25	490	1,010				
					Bridgeport and Buchanan	1,200	90	740	760				
					Kirkwood	1,565	16	1,105	395	1,573	1,581	15	Gas, 1,565 feet.
	2	Ohio	Vanwey, No. 4	456	Bridgeport	980	80	524	976				Salt water, 1,010 feet.
					Buchanan	1,290	80	834	666				Salt water, 1,300 feet.
					Krikwood	1,556	21	1,100	400	1,562	1,578	20	Gas, 1,560 feet.
S. W.	1	Ohio	Vanwey, No. 2	460	..do	1,567	20	1,107	393				
					Tracey	1,765	43	1,305	195				Salt water, 1,808 feet.
					McClosky	1,870	50	1,410	90		2,000	Dry	Salt water, 1,915 and 1,975 feet.
	2	Ohio	Vanwey, No. 1	460	Kirkwood-1	1,565	25	1,105	395	1,570			Gas, 1,575 feet.
					Kirkwood-2	1,610	3	1,150	350		1,699		Salt water.
	3	Donnell, Agent	Burkett, No. 2	458	Kirkwood	1,570		1,112	338	1,579	1,600	36	Gas, 1,575 feet.
	4	Ohio	Vanwey, No. 3	449	Bridgeport	980	195	531	969				Salt water, 1,050 feet.
					Buchanan	1,260	125	811	689				Salt water, 1,275 feet.
					Kirkwood	1,566	37	1,117	383	1,573	1,603	5	Gas, 1,572 feet.
	5	Ohio	E. Leighty, No. 3	420	..do	1,564	30	1,144	386				
					Stray	1,945	16	1,525	—25		1,961	Dry	Salt water, 1,954 feet.
	6	Ohio	Jqrdan, No. 4	418	Kirkwood	1,545	101	1,127	373	1,546	1,717		Gas, 1,610 feet.
S. E.	1	Donnel, Agent	Burkett, No. 1	422	Bridgeport	934		512	988		1,712	Dry	
					Kirkwood-1	1,540	10	1,128	372	1,540			
32— S. W.	1	Cochran	Seed, No. 1	412	Kirkwood-2	1,575	6	1,163	337		1,608	25	Salt water, 1,590 feet. Well abondoned.
34— N. E.	1	Ohio	L. Vandermark, No. 4	533	Bridgeport	976	51	443	1,057	1,001	1,027	25	Gas, 986 feet.
	2	Ohio	L. Vandermark, No. 1	517	..do	953	12	436	1,064		965	Gas	Gas, 954 feet.
	3	Ohio	L. Vandermark, No. 5	540	..do	972	48	432	1,068	1,000	1,020	25	Gas, 978 feet.
	4	Ohio	L. Vandermark, No. 3	548	..do	998	32	450	1,050	1,013	1,030	20	Gas, 999 feet.
	5	Ohio	L. Vandermark, No. 2	523	..do	957		434	1,066		987	Gas	Gas, 977 feet.
	6	Ohio	S. Gee, No. 2	530	..do	985	2	455	1,045		990	Gas	Gas, 987 feet.

	7	Ohio	S. Gee, No. 12	532	..do	985	45	453	1,047	1,010	......	55	Gas, 1,010 feet
	8	Ohio	S. Gee, No. 5	543	..do	990	26	447	1,053	1,004	1,016	20	Gas, 1,000 feet
	9	Ohio	S. Gee, No. 9	521	..do	951	70	430	1,070	1,011	1,021	20	
	10	Ohio	S. Gee, No. 10	536	..do	993	41	457	1,043	1,020	1,034	60	Gas, 1,000 feet
					..do	986	84	447	1,053	......	......	......	
	11	Ohio	S. Gee, No. 13	539	Buchanan	1,300	100	761	739	......	......	......	Salt water
					Kirkwood	1,600	34	1,061	439	1,600	1,634	135	Gas, 1,600 feet. Quit in sand
	12	Ohio	S. Gee, No. 4	544	Bridgeport	992	37	448	1,052	1,011	1,029	45	Gas, 995 feet
	13	Ohio	S. Gee, No. 11	532	..do	998	32	466	1,034	1,000	1,030	125	Gas, 999 feet
	14	Ohio	S. Gee, No. 6	539	..do	989	46	450	1,050	1,010	1,035	50	Gas, 990 feet
	15	Ohio	S. Gee, No. 1	539	..do	975	......	436	1,064	......	990	......	Gas, well abandoned
	16	Ohio	S. Gee, No. 7	543	..do	965	45	422	1,078	995	1,010	60	Gas, 978 feet
	17	Ohio	H. Gould, No. 2	532	..do	959	58	427	1,073	1,000	1,017	100	Gas, 965 feet
	18	Ohio	H. Gould, No. 3	534	..do	953	71	419	1,081	1,000	1,024	50	Gas, 953 feet
	19	Ohio	S. Gee, No. 8	527	..do	948	79	421	1,079	980	1,027	35	Gas, 948 feet
N. W.	1	Ohio	L. Vandermark, No. 3	527	..do	981	42	454	1,046	996	1,023	35	Gas, 981 feet. Quit in white sand
	2	Ohio	L. Vandermark, No. 1	532	..do	1,005	19	473	1,027	1,012	1,024	60	Gas, 1,005 feet
	3	Ohio	S. Gee, No. 3	531	..do	989	25	458	1,042	1,001	1,014	100	Gas, 1,001 feet
	4	Ohio	S. Vandermark, No. 1	526	..do	998	30	472	1,028	1,005	1,028	30	
	5	Ohio	L. Vandermark, No. 2	521	..do	990	36	469	1,031	991	1,026	90	Gas, 990 feet. Quit in sand
	6	Ohio	J. Vandermark, No. 2	512	..do	991	16	479	1,021	995	1,007	90	Gas, 993 feet
	7	Ohio	J. Vandermark, No. 1	506	..do	994	30	488	1,012	997	1,024	45	Gas, 1,010 feet
					..do	947	31	452	1,048	......	......	......	
S. W.	1	Ohio	J. Dennison, No. 1	495	..do	1,047	113	552	948	......	......	......	Salt water
					Buchanan	1,264	28	769	731	......	1,300	Dry	
	2	Wheeler-James	V. Dennison, No. 1	495	......	......	......	......	......	......	......	......	No record
S. E.	1	Ohio	Gray, No. 11	503	Bridgeport	959	33	456	1,044	974	992	150	Gas, 975 feet
	2	Ohio	Gray, No. 1	506	..do	990	37	484	1,016	995	1,027	65	Gas, 995 feet
	3	Ohio	Gray, No. 2	499	..do	971	41	472	1,028	981	1,012	75	
	4	Ohio	Gray, No. 7	515	..do	965	37	450	1,050	985	1,002	150	Gas, 972 feet
	5	Ohio	Gray, No. 5	518	..do	980	39	462	1,038	990	1,019	200	Gas, 985 feet
	6	Ohio	Gray, No. 10	519	..do	964	58	445	1,055	991	1,022	60	Gas, 965 feet
	7	Ohio	Gray, No. 9	519	..do	952	50	433	1,067	989	1,002	10	Gas, 962 feet
	8	Ohio	Gray, No. 8	514	..do	972	22	458	1,042	979	994	75	Gas, 975 feet
	9	Ohio	Gray, No. 6	522	..do	955	85	433	1,067	1,020	1,030	50	Gas, 1,019 feet
	10	Ohio	Gray, No. 3	526	..do	966	65	440	1,060	1,016	1,031	60	
	11	Ohio	Gray, No. 13	523	..do	988	......	465	1,035	......	988	Dry	
	12	Ohio	Gray, No. 14	522	..do	987	27	465	1,035	992	1,014	60	Gas, 992 feet
	13	Ohio	Gray, No. 12	535	..do	1,005	46	470	1,030	1,016	1,051	15	
	14	Ohio	Gray, No. 4	514	..do	973	62	459	1,041	1,028	1,035	......	Salt water, 1,035 feet. Well abandoned
					..do	975	20	486	1,014	......	......	......	
					Buchanan	1,305	40	816	684	......	......	......	
N. E.	1	Ohio	G. Ryan, No. 14	489	Kirkwood	1,572	28	1,083	417	1,573	......	......	Gas, 1,572 feet
					Tracey	1,680	25	1,191	309	1,702	......	......	Gas, 1,685 feet
					McClosky	1,805	5	1,316	184	1,805	1,810	1,440	Gas, 1,806 feet
	2	Ohio	Ryan, No. 8	474	Bridgeport	937	29	453	1,047	......	956	......	
	3	Ohio	Ryan, No. 6	479	..do	902	52	423	1,077	944	......	100	Gas, 902 feet

Lawrence County—Dennison Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
35—N. E.	4	Ohio	Ryan, No. 1	465	Bridgeport	904	52	439	1,061	925	956	......	Gas, 904 feet. Gas, 2,000,000 cubic feet daily
	5	Ohio	Ryan, No. 2	472	do	925	58	453	1,047	940	983	150	Gas, 931 feet
	6	Ohio	Ryan, No. 3	505	do	982	33	477	1,023	988	1,021	125	
	7	Big Four	L. Gillespie, No. 7	487									No record
	8	Big Four	L. Gillespie, No. 17	487									Drilling
	9	Big Four	L. Gillespie, No. 6	477	Bridgeport	915	54	438	1,062	938			
	10	Big Four	L. Gillespie, No. 5	468	do	904	51	436	1,064	923			
	11	Big Four	L. Gillespie, No. 3	472	do	934	42	462	1,038	947	976		Gas, 958 feet
	12	Big Four	L. Gillespie, No. 16	471									No record
	13	Big Four	L. Gillespie, No. 14	474	Bridgeport	947	34	473	1,027	954	981	60	
	14	Big Four	L. Gillespie, No. 15	479	do	947	33	468	1,032	955	980	75	
	15	Ohio	W. Gould, No. 7	489	do	952	26	463	1,037	953	978	100	Gas, 952 feet
	16	Ohio	W. Gould, No. 6	474	do	910	63	436	1,064	939	973	200	Gas, 928 feet
	17	Ohio	W. Gould, No. 2	463	do	909	49	446	1,054	920	958	200	Gas, 909 feet
	18	Ohio	L. Leighty, No. 7	464	do	895	65	431	1,069	920	960	165	Gas, 895 feet
	19	Ohio	L. Leighty, No. 12	466	do	895	59	429	1,071	915	954	150	Gas, 898 feet
	20	Ohio	L. Leighty, No. 13	466	do	933	42	467	1,033	945	975	75	Gas, 940 feet
	21	Ohio	L. Leighty, No. 10	464	do	955	29	491	1,009				
					Kirkwood	1,542	36	1,078	422	1,554	1,578	100	Gas, 1,552 feet
N. W.	1	Ohio	L. Leighty, No. 2	476	Bridgeport	911	87	435	1,065	912	998	60	Gas, 912 feet
	2	Ohio	L. Leighty, No. 19	471									No record
	3	Ohio	L. Leighty, No. 17	479	Bridgeport	954	30	475	1,025	964	984	125	Gas, 955 feet
	4	Ohio	L. Leighty, No. 18	493	do	975	25	482	1,018	976	1,001	125	Gas, 976 feet
	5	Ohio	L. Leighty, No. 11	524	do	950	73	426	1,074	983	1,023	200	Gas, 963 feet
	6	Ohio	L. Leighty, No. 5	521	do	956	39	435	1,065	977	995	25	Gas, 966 feet
	7	Ohio	L. Leighty, No. 1	521	do	945	14	424	1,076		959	Gas	Gas, 948 feet
	8	Ohio	H. Gould, No. 1	520	do	934	10	414	1,086		944	Gas	Gas, 939 feet
	9	Ohio	H. Gould, No. 4	511	do	946	84	435	1,065		1,050	Dry	Salt water, 1,020 feet
	10	Ohio	W. Gould, No. 8	503	do	977	25	474	1,026	983	1,002	100	Gas, 982 feet
S. W.	1	Ohio	H. Gould, No. 5	498	do	956	52	458	1,042	967	1,008	40	Gas, 956 feet. Quit in sand

	2	Ohio	T. Gould, No. 16	484	..do	905	82	421	1,079	959	987	20	Gas, 925 feet
	3	Ohio	T. Gould, No. 14	416	..do	945	55	429	1,071	980	1,000	15	Gas, 950 feet
	4	Ohio	T. Gould, No. 13	519	..do	953	77	434	1,066	970	1,030	300	Gas, 960 feet
	5	Ohio	T. Gould, No. 9	517	..do	989	35	472	1,028	1,000	1,024	100	Gas, 995 feet
	6	Ohio	T. Gould, No. 12	516	..do	969	61	453	1,047	995	1,030	125	Gas, 995 feet
	7	Ohio	T. Gould, No. 19	519	..do	975	50	456	1,044				Salt water, 1,033 feet
					Kirkwood	1,585	26	1,066	434	1,587	1,611	200	Gas, 1,586 feet. Quit in sand
	8	Ohio	T. Gould, No. 6	519	Bridgeport	992	31	473	1,027	997	1,023	200	
	9	Ohio	T. Gould, No. 5	514	..do	975	35	461	1,039	978	1,010	200	
	10	Ohio	T. Gould, No. 18	514	..do	975	125	461	1,039				Salt water, 1,030 feet
					Buchanan	1,300	120	786	714				Salt water, 1,310 feet
					Kirkwood	1,579	86	1,065	435	1,584	1,605	225	Gas, 1,583 feet. Quit in sand
	11	Ohio	T. Gould, No. 11	513	Bridgeport	955	40	442	1,058	980	995	75	Gas, 965 feet
	12	Ohio	T. Gould, No. 2	507	..do	963	38	456	1,044	974	1,001	200	Gas, 965 feet
	13	Ohio	T. Gould, No. 17	504	..do	965	135	461	1,039				Salt water, 1,030 feet
					Buchanan	1,300	110	796	704				Salt water, 1,300 feet
					Kirkwood	1,562	24	1,059	441	1,572	1,587	175	Gas, 1,570 feet
	14	Ohio	T. Gould, No. 4	500	Bridgeport	960	40	460	1,040	965	1,000	150	
	15	Ohio	T. Gould, No. 10	506	..do	959	56	453	1,047	979	1,015	200	Gas, 965 feet
	16	Ohio	T. Gould, No. 15	492	..do	980	30	488	1,012				
					Kirkwood	1,533	29	1,061	439	1,561	1,582	200	Gas, 1,557 feet
	17	Ohio	T. Gould, No. 3	492	Bridgeport	960	40	468	1,032	960	1,000	250	
	18	Ohio	W. Gould, No. 1	487	..do	955	30	468	1,032	970	985	200	
	19	Ohio	W. Gould, No. 5	486	..do	965	25	479	1,021				
					Kirkwood	1,544	30	1,058	442	1,556	1,574	150	Gas, 1,558 feet. Quit in sand
	20	Ohio	W. Gould, No. 4	488	Bridgeport	942	37	454	1,046	952	979	200	Gas, 952 feet
S. E.	1	Central Refining Co	Jenner, No. 1	496	Shallow	585	95	89	1,411				Gas, 600 feet. 2,000,000 cubic feet daily
					Bridgeport	925	15	429	1,071				
	2	Central Refining Co	Jenner, No. 14	496	..do	955	37	459	1,041				
					..do	955	37	459	1,041				
					Kirkwood	1,569	26	1,073	427	1,582	1,606	150	
	3	Central Refining Co	Jenner, No. 3	483	Bridgeport	931	59	448	1,052	941	996		Gas, 936 feet
	4	Central Refining Co	Jenner, No. 16	496	..do	940	59	444	1,056	950			
					Buchanan	1,330	35	834	666				
					Kirkwood	1,577	32	1,081	419	1,577	1,618		
	5	Central Refining Co	Jenner, No. 4	498	Bridgeport	902	95	404	1,096	940	997		Gas, 905 feet
	6	Central Refining Co	Jenner, No. 8	500	..do	920	10	420	1,080	920			
					..do	960	38	460	1,040		998		
	7	Central Refining Co	Jenner, No. 10	500	Kirkwood	1,593	45	1,093	407	1,605	1,638		
	8	Central Refining Co	Jenner, No. 7	487	Bridgeport	935	25	448	1,052	948			Gas, 939 feet
					..do	972	22	485	1,015		1,000		
	9	Central Refining Co	Jenner, No. 9	487	Kirkwood	1,571	39	1,084	416	1,582	1,610		
	10	Central Refining Co	Jenner, No. 15	481	Bridgeport	935	48	454	1,046	938		40	
	11	Central Refining Co	Jenner, No. 6	482	..do	925	70	443	1,057		995		Gas, 932 feet
	12	Central Refining Co	Jenner, No. 12	482	Kirkwood	1,551	46	1,069	431	1,565	51,597	65	
	13	Central Refining Co	Jenner, No. 5	484	Bridgeport	929	78	445	1,055	939	997		Gas, 935 feet
	14	Central Refining Co	Jenner, No. 11	484	Kirkwood	1,567	26	1,083	417				Well abandoned
	15	Central Refining Co	Jenner, No. 13	482	..do	1,549	37	1,067	433	1,556	1,600	105	

Lawrence County—Dennison Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
35—													
S. E.	16	Central Refining Co.	Jenner, No. 2	482	Bridgeport	932	8	450	1,050				
					do	945	37	463	1,037				
					do	991	21	509	991				Salt water, 1,008 feet
	17	Central Refining Co.	A. Gould, No. 2	470	do	920	42	450	1,050	930	962	200	Gas, 925 feet
	18	Central Refining Co.	A. Gould, No. 10	463	do	940	32	477	1,023				
					Kirkwood	1,535	22	1,072	428	1,547	1,557	175	Gas, 1,545 feet. Quit in sand
	19	Central Refining Co.	A. Gould, No. 12	490	Bridgeport	927	48	437	1,063	952	975	70	Gas, 950 feet
	20	Central Refining Co.	A. Gould, No. 5	464	do	913	53	449	1,051	923	966	240	Gas, 913 feet
	21	Central Refining Co.	A. Gould, No. 11	464	do	915	54	451	1,049	925		20	Gas, 915 feet
	22	Central Refining Co.	L. Leighty, No. 8	465	do	928	39	463	1,037	951	967	50	Gas, 928 feet
	23	Ohio	L. Leighty, No. 3	475	do	938	24	463	1,037	944	962	150	Gas, 938 feet
	24	Ohio	L. Leighty, No. 15	475	do	937	28	462	1,038				
					Kirkwood	1,540	31	1,065	435	1,550	1,571	20	Gas, 1,545 feet
	25	Ohio	L. Leighty, No. 9	474	Bridgeport	928	55	454	1,046	940	983	75	Gas, 938 feet
	26	Ohio	L. Leighty, No. 4	490	do	947	27	457	1,043	948	974	135	Gas, 947 feet
	27	Ohio	L. Leighty, No. 14	490	do	930	35	440	1,060				
					Kirkwood	1,554	28	1,064	436	1,562	1,582	150	Gas, 1,560 feet. Quit in sand
	28	Ohio	L. Leighty, No. 6	473	Bridgeport	917	63	444	1,056	935	980	150	Gas, 917 feet
	29	Ohio	L. Leighty, No. 16	473	Buchanan	1,210	190	737	763				Salt water, 1,300 feet
					Kirkwood	1,546	12	1,073	427	1,552	1,567	75	Gas, 1,554 feet
	30	Ohio	A. Gould, No. 3	486	Bridgeport	940	16	454	1,046	945	962	60	Gas, 942 feet
	31	Ohio	A. Gould, No. 9	486	do	948	38	462	1,038				
					Kirkwood	1,559	39	1,073	427	1,580	1,598	200	Gas, 1,575 feet, Quit in sand
	32	Ohio	A. Gould, No. 4	508	Bridgeport	940	25	432	1,068				
					Kirkwood	1,587	30	1,079	421	1,597	1,617		Gas, 1,590 feet. Well abandoned
	33	Ohio	A. Gould, No. 8	508	Bridgeport	940	30	432	1,068				
					Kirkwood	1,585	28	1,077	423	1,590	1,613	100	Gas, 1,587 feet
	34	Ohio	A. Gould, No. 1	505	Bridgeport	960	43	455	1,045	970	1,003		Well abandoned

	35	Ohio	A. Gould, No. 6	506	..do	940	35	434	1,066				
					Kirkwood	1,590	37	1,084	416	1,605	1,627	175	
	36	Ohio	A. Gould, No. 7	488	Bridgeport	965	33	477	1,023				
					Kirkwood	1,572	35	1,084	416	1,584	1,633	75	Gas, 1,597 feet, Salt water, 1,608 feet
36—N. E.	1	Busch-Everett	L. Leighty, No. 1	487									No record
					Bridgeport	950	40	456	1,044				Salt water
					Buchanan	1,300	108	806	694				..do
	2	Ohio	T. Leighty, No. 8	494	Kirkwood	1,587	23	1,093	407				
					Tracey	1,712	13	1,218	282				
					McClosky	1,827	3	1,333	167	1,827		110	Gas, 1,826 feet
					Kirkwood	1,592	43	1,100	400				
	3	Ohio	T. Leighty, No. 6	492	Tracey	1,708	20	1,216	284				
					McClosky	1,797	38	1,305	195	1,802	1,835	715	Gas, 1,800 feet
					Bridgeport	945	105	461	1,039	950		Show	Salt water
					Buchanan	1,320	80	836	664				
	4	Ohio	T. Leighty, No. 7	484	Kirkwood	1,586	43	1,102	398	1,590			Gas, 1,588 feet
					Tracey	1,708	62	1,224	276	1,715			Gas, 1,711 feet
					McClosky	1,827	6	1,343	157	1,830	1,833	100	Gas, 1,828 feet
	5	Gee	Gee, No. 7	479	Kirkwood	1,588	62	1,109	391				
					McClosky	1,814	10	1,335	165		1,824		
					Kirkwood-1	1,572	18	1,111	389				
	6	Gee	Gee, No. 8	461	Kirkwood-2	1,594	21	1,133	367				
					Kirkwood-3	1,621	16	1,160	340		1,637		
	7	Gee	Gee, No. 6	467	Kirkwood	1,577	59	1,110	390	1,580	1,637	60	
	8	Ohio	T. Leighty, No. 5	462	..do	1,558	25	1,096	404	1,565	1,584	75	Gas, 1,560 feet
	9	Gee	Dining, No. 7	467	Kirkwood-1	1,565	53	1,098	402				
					Kirkwood-2	1,621	18	1,154	346		1,639	30	
	10	Gee	Dining, No. 3	464	Kirkwood-1	1,576	22	1,112	388	1,576		100	
					Kirkwood-2	1,603	14	1,139	361	1,603	1,629		
	11	Ohio	T. Leighty, No. 4	454	Kirkwood	1,544	29	1,090	410	1,550	1,574	300	Gas, 1,549 feet
					Bridgeport	920	70	474	1,026				
	12	Ohio	T. Leighty, No. 9	446	Buchanan	1,250	50	804	696				
					Kirkwood	1,550	35	1,104	396				
					McClosky	1,782	5	1,336	164	1,783	1,787	450	Gas, 1,782 feet
	13	Ohio	T. Leighty, No. 2	446	Kirkwood	1,555	25	1,109	391	1,558	1,580	15	Gas, 1,558 feet
	14	Ohio	T. Leighty, No. 3	445	..do	1,540	28	1,095	405	1,548	1,568	50	Gas, 1,542 feet
					Bridgeport	935	210	490	1,010				
					Buchanan	1,300	60	855	645				
	15	Ohio	T. Leighty, No. 10	445	Kirkwood	1,545	40	1,100	400				
					Tracey	1,665	10	1,220	280				
					McClosky	1,797	4	1,352	148	1,797	1,820	50	Gas, 1,797 feet
					Shallow	660	15	151	1,349				
					Bridgeport	850	25	341	1,159				Salt water
	16	Ohio	T. Leighty, No. 1	509	..do	942	15	433	1,067	942			
					..do	1,000	212	441	1,009				Salt water, 1,025 feet
					Kirkwood	1,614	26	1,105	395	1,615	1,648		
N. W.	1	Ohio	Withers, No. 1	508	..do	1,617	33	1,109	391	1,620	1,650	100	Gas, 1,620 feet
	2	Ohio	Withers, No. 3	472	..do	1,572	28	1,100	400	1,583	1,601	100	Gas, 1,582 feet
	3	Ohio	Ryan, No. 7	469	Bridgeport	941		472	1,028	946	978		

Lawrence County—Dennison Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Intial product—barrels.	Remarks.
36—N. W.	4	Ohio	Ryan, No. 10	469	Bridgeport	940	60	471	1,029				
					Kirkwood	1,569	31	1,100	400	1,575	1,600	90	Gas, 1,574 feet
	5	Ohio	Ryan, No. 15	472	Bridgeport	975	15	503	997				
					Buchanan	1,275	100	803	697				
					Kirkwood	1,568	23	1,096	404	1,575			Gas, 1,570 feet
					Tracey	1,676	22	1,204	296	1,685			Gas, 1,680 feet
					McClosky	1,788	5	1,316	184	1,788	1,793	1,650	Gas, 1,788 feet. Flowing well
	6	Ohio	Ryan, No. 9	467	Bridgeport	944	31	477	1,023	960	976	15	
	7	Ohio	J. Gould, No. 2	464	..do	929	36	465	1,035	939	965	27	(Account 2)
	8	Ohio	J. Gould, No. 1	463	Kirkwood	1,560	32	1,097	403	1,565	1,593	100	Gas, 1,563 feet (account 2)
	9	Ohio	Withers, No. 4	465	Bridgeport	980	70	515	985				
					Kirkwood	1,569	24	1,104	396	1,572	1,600	90	Gas, 1,571 feet
	10	Ohio	Withers, No. 2	446	..do	1,543	32	1,097	403	1,545	1,575	75	Gas, 1,544 feet
	11	Ohio	Withers, No. 5	446									Drilling
S. W.	1	Ohio	J. Gould (Acct. 1) No. 1	462	Kirkwood	1,539	29	1,077	423	1,549	1,569	35	Gas, 1,548 feet
	2	Donnell, Agent	Buchman, No. 11	441									Drilling
	3	Donnell, Agent	C. Buchman, No. 3	441	Bridgeport	960		519	981				
					Kirkwood	1,540	28	1,099	401	1,560	1,568	125	
	4	Donnell, Agent	C. Buchman, No. 4	441	..do	1,535		1,094	406	1,545	1,562	120	
	5	Donnell, Agent	C. Buchman, No. 6	439	..do	1,533	27	1,094	406	1,536	1,560	240	
	6	Donnell, Agent	C. Buchman, No. 8	439	..do	1,535	28	1,096	404	1,540	1,563		
	7	Donnell, Agent	C. Buchman, No. 10	440									Drilling
	8	Central Refining Co	Jenner, No. 10	439	Kirkwood	1,536	24	1,097	403	1,536	1,560	130	
	9	Central Refining Co	Jenner, No. 7	440	Bridgeport	926		486	1,014			Show	Salt water, 1,015 feet
					Kirkwood	1,545	43	1,105	395	1,561	1,601		
	10	Central Refining Co	Jenner, No. 2	441	..do	1,534	63	1,093	407	1,534	1,597		
	11	Central Refining Co	Jenner, No. 12	445	..do	1,545	39	1,100	400	1,551	1,651	105	
	12	Central Refining Co	Jenner, No. 11	460	Bridgeport	925	20	465	1,035				
					Kirkwood	1,559	36	1,099	401	1,565		130	
					Tracey	1,638	34	1,178	322	1,647	1,689		

	13	Ohio	J. Gould (Acct. 1) No. 3	464	Kirkwood	1,568	19	1,104	396			
					Tracey	1,655	35	1,191	309	1,658	1,702	250 Gas, 1,656 feet.
	14	Ohio	J. Gould (Acct. 1) No. 2	474	Kirkwood	1,579	27	1,105	395	1,585	1,604	120 Gas, 1,580 feet.
S. E.	1	Central Refining Co	Jenner, No. 1	439	Bridgeport	920		481	1,019			Show
					Kirkwood	1,544	53	1,105	395		1,598	
	2	Central Refining Co	Jenner, No. 13	439	Bridgeport	925	45	486	1,014			
					Kirkwood	1,541	54	1,102	398	1,546	1,610	10
	3	Central Refining Co	Jenner, No. 5	442	Bridgeport	929	68	487	1,013	939		Gas, 935 feet. Well abandoned
	4	Central Refining Co	Jenner, No. 8	442	..do	935		493	1,007	940		
					Kirkwood-1	1,535	5	1,093	407			
					Kirkwood-2	1,557	4	1,115	385			
					Kirkwood-3	1,600	37	1,158	342			
	5	Central Refining Co	Jenner, No. 3	440	Kirkwood-1	1,534	36	1,094	406	1,540		Gas, 1,550 feet
					Kirkwood-2	1,576	14	1,136	364		1,597	
	6	Central Refining Co	Jenner, No. 14	438	Kirkwood	1,539	27	1,101	399	1,539	1,580	
	7	Gee	Dining, No. 8	437	Kirkwood-1	1,543	24	1,106	394			
					Kirkwood-2	1,597	18	1,160	340		1,615	75
	8	Gee	Dining, No. 10	440	Bridgeport	998	17	558	942		1,015	
					Kirkwood-1	1,565	20	1,114	386			
	9	Gee	Dining, No. 9	451	Kirkwood-2	1,608	14	1,157	343		1,628	10
	10	Gee	Dining, No. 6	446	Kirkwood-1	1,554	30	1,108	392			100
					Kirkwood-2	1,614	12	1,168	332		1,626	
	11	Gee	Dining, No. 5	446	Krikwood-1	1,555	42	1,109	391			
					Kirkwood-2	1,614	15	1,168	332		1,629	Quit in sand
	12	Ohio	Irwin, No. 4	438	Kirkwood	1,535	29	1,097	403	1,545	1,564	225 Gas, 1,542 feet
	13	Ohio	Irwin, No. 5	439	..do	1,525	25	1,086	414	1,526	1,550	207 Gas, 1,526 feet
	14	Ohio	Irwin, No. 2	441	..do	1,537	23	1,096	404	1,548	1,560	90 Gas, 1,545 feet
	15	Ohio	Irwin, No. 1	443	Bridgeport	930	200	487	1,013			
					Kirkwood	1,550	29	1,107	393	1,551	1,579	52
	16	Ohio	Irwin, No. 3	446	..do	1,547	30	1,101	399	1,553	1,577	204 Gas, 1,550 feet
	17	Gee	Gee, No. 2	440	Bridgeport	943		503	997	945		
					Kirkwood-1	1,537	34	1,097	403	1,537		90
					Kirkwood-2	1,581	26	1,141	359			
					Tracey	1,630	15	1,190	310			
					McClosky	1,767	28	1,327	173		1,795	
	18	Gee	Gee, No. 5	441	Bridgeport	935	16	494	1,006	935	951	8 Salt water under the oil
	19	Gee	Gee, No. 1	443	Kirkwood	1,539	56	1,096	404	1,547		35
					Tracey-1	1,657	17	1,214	286			
					Tracey-2	1,720	12	1,277	223			
					McClosky	1,789	17	1,346	154	1,789	1,806	
	20	Gee	Gee, No. 4	483	Bridgeport	895	10	412	1,088	895		
					..do	922		439	1,061	936	953	50
	21	Gee	Gee, No. 3	452	..do	940		488	1,012	950		
					Kirkwood	1,551	29	1,099	401	1,558	1,580	360
	22	Gee	Dining, No. 2	452	Bridgeport	916	19	464	1,036	917		
					Kirkwood-1	1,560	36	1,108	392	1,563		
					Kirkwood-2	1,601	11	1,149	351	1,601	1,612	100
	23	Gee	Dining, No. 1	458	Bridgeport	985		527	973			
					Kirkwood	1,556	89	1,098	402			
					Tracey	1,655	12	1,197	303		1,667	

Lawrence County—Dennison Township—Concluded.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
36—													
S. E.	24	Gee	Dining, No. 4	464	Kirkwood-1	1,565	32	1,101	399	1,566			Salt water, 1,582 feet
					Kirkwood-2	1,603	12	1,139	361	1,605			
					Kirkwood-3	1,620	8	1,156	344	1,621	1,629	100	

Lawrence County—Lawrence Township.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
1—													
N. W.	1	Donnel, Agent	E. Martin, No. 1	445	Kirkwood	1,597	11	1,152	348				
					McClosky	1,882	8	1,437	63	1,882	2,000	Dry	Salt water, 1,882 feet
S. W.	1	Gillespie	Stanfield, No. 2	439	Kirkwood	1,564	64	1,125	375	1,570	1,628		
	2	Ohio	R. Kirkwood, No. 2	440	Bridgeport	1,000	100	560	940				Salt water
					Kirkwood	1,565	35	1,125	375		1,610	Dry	
	3	Gillespie	Stanfield, No. 4	440									Drilling

	4	Gillespie	Stanfield, No. 1	442	Bridgeport	1,020	20	578	922				Salt water
					Buchanan	1,300	54	858	642				
					Kirkwood	1,565	45	1,123	377	1,581	1,610	190	Gravity, 38°B
	5	Gillespie	Stanfield, No. 3	448	Bridgeport	1,015	135	567	933				
						1,975	55	1,527	—27		2,560	Dry	Salt water, 2,450 feet
	6	Ohio	R. Kirkwood, No. 1	440	Bridgeport	910	220	470	1,030				
					Kirkwood	1,568	36	1,128	372				
					Tracey	1,776	34	1,336	164				
					McClosky	1,887	13	1,447	53		2,002	Dry	
	7	Ohio	A. Kirkwood, No. 2										Drilling
	8	Ohio	A. Kirkwood, No. 1	445	Kirkwood	1,568	42	1,123	377	1,582	1,651	55	Gas, 1,582 feet
	9	Ohio	M. Kirkwood, No. 1	440	Bridgeport	1,010	105	570	930				
					Stray	1,430	60	990	510				
					Kirkwood	1,563	57	1,123	377		1,628	Dry	Salt water, 1,607 feet
S. E.	1	Ohio	Hennesee, No. 1	450	Bridgeport	1,000	140	550	950				
					Stray	1,460	70	1,010	490				Salt water, 1,480 feet
					Kirkwood	1,620	20	1,170	330	1,625	1,981	12	Gas, 1,625 feet
2—													
S. W.	1	Ohio	Sumner, No. 2	434	Bridgeport	1,000	120	566	934				
					Buchanan	1,340	18	906	594	1,340		25	Gas, 1,344 feet
					Kirkwood	1,600	5	1,166	334				
					Tracey	1,690	6	1,256	244		1,696		
	2	Ohio	Sumner, No. 1	438	Bridgeport	960	140	522	978				
					Buchanan	1,380	50	942	558				
					Kirkwood	1,577	26	1,139	361	1,582	1,821	150	Gas, 1,582 feet
	3	Ohio	Tanquary, No. 1	430	Bridgeport	950	180	520	980				
					Buchanan	1,375	30	945	555				
					Kirkwood,1	1,575	20	1,145	355	1,595		12	
					Kirkwood-2	1.610	17	1,180	320		1,627		Salt water
	4	Snowden Bros	Whittaker, No. 6	446									Drilling
3—													
N. E.	1	Ohio	McCleve, No. 1	492	Bridgeport	1,018	10	526	974				
					Stray	1,124	68	632	868				
						1,927		1,435	65	1,927	2,164	Show	Salt water, 2,164 feet. Abandoned
S. E.	1	Illinois Development & Producing Co.	T. Whittaker, No. 1	449	Kirkwood	1,590	32	1,141	359			175	
	2	Linden	T. Whittaker, No. 1	462									No record
4—													
N. E.	1	Silurian	Hardacre, No. 1	437	Bridgeport	850	110	413	1,087			Show	Salt water, 950 feet
					Buchanan	1,380	20	943	557				Salt water, 1,385 feet
					Kirkwood	1,600	5	1,163	337				
					McClosky	1,870	30	1,433	67	1,880	1,994	Dry	
N. W.	1	Bridgeport	Stoltz, No. 1	445	Bridgeport	840	25	395	1,105				
					..do..	940	100	495	1,005				Salt water, 955 feet and 1,005 feet
					Stray	1,100	40	655	845				Salt water, 1,100 feet
					..do..	1,455	20	1,010	490				Salt water, 1,270 feet
					Kirkwood	1,519		1,074	426	1,550	1,602		Well abandoned
	2	Ohio	Poor Farm, No. 2	448	..do..	1,508	23	1,060	440	1,510	1,531	125	
	3	Ohio	Poor Farm, No. 1	452	Bridgeport	909	46	457	1,043				
					Kirkwood	1,440	45	988	512	1,450	1,485	240	

Lawrence County—Lawrence Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
4—N. W.	4	Ohio	Poor Farm, No. 3	452	Bridgeport	898	17	446	1,054	900	915	160	
	5	Ohio	Poor Farm, No. 4	468	do	898	37	430	1,070	907	935	180	
	6	Ohio	Poor Farm, No. 5	470	do	903	58	433	1,067	918	961	200	
	7	Ohio	Poor Farm, No. 7	486	do	900	57	414	1,086	933	957	80	
	8	Ohio	Poor Farm, No. 6	499	do	926	38	427	1,073	926	964	125	
	9	Ohio	Poor Farm, No. 9	492	do	943	27	451	1,049	955	973	30	
	10	Ohio	Poor Farm, No. 8	492	do	950	31	458	1,042				
					Kirkwood	1,521	40	1,029	471	1,551	1,566	45	Gas, 1,522 feet. Salt water, 1,564 feet.
	11	Bridgeport	Stoltz, No. 2	466	Bridgeport	935	55	469	1,031				
					Buchanan	1,300	40	834	666				
					Kirkwood	1,531	29	1,065	435	1,533	1,560		Gas, 1,550 feet.
S. W.	1	Ohio	Moore, No. 1	503	Bridgeport	940	30	437	1,063		973		
	2	Ohio	Moore, No. 2	502	do	935	40	433	1,067		975		
	3	Ohio	Moore, No. 6	483	Kirkwood-1	1,518	27	1,035	465	1,540			
					Kirkwood-2	1,590	15	1,107	393	1,590	1,618	40	
	4	Ohio	Moore, No. 5	487	Bridgeport	935	30	448	1,052		966		
	5	Ohio	Moore, No. 9	477	Kirkwood	1,518	27	1,041	459	1,538	1,558	50	
	6	Ohio	W. Cooper, No. 5	480	Kirkwood-1	1,529	10	1,049	451				
					Kirkwood-2	1,542	12	1,062	438	1,546	1,559		
	7	Ohio	Moore, No. 10	475	Kirkwood-1	1,514	6	1,039	461				
					Kirkwood-2	1,523	27	1,048	452	1,523	1,554	30	
	8	Ohio	Moore, No. 3	497	Bridgeport	928	32	431	1,069		952		
	9	Ohio	Moore, No. 4	468	Kirkwood-1	1,517	10	1,049	451				
					Kirkwood-2	1,535	20	1,067	433		1,570		
	10	Ohio	W. Cooper, No. 1	460	Kirkwood	1,528	12	1,068	432		1,545	200	
	11	Ohio	W. Cooper, No. 2	478	do	1,607	17	1,129	371	1,610	1,624		
	12	Ohio	W. Cooper, No. 4	484	do	1,603	19	1,119	381	1,606	1,625	100	
	13	Ohio	W. Cooper, No. 3	486	do	1,568	22	1,082	418	1,572	1,606	100	
	14	Ohio	Moore, No. 7	485	do	1,550	12	1,065	435	1,552	1,598	110	
	15	Ohio	Moore, No. 8	488	Kirkwood-1	1,519	7	1,031	469	1,519			
					Kirkwood-2	1,539	13	1,539	449	1,539	1,593	35	

S. E.	1	Ohio	Lamott, No. 1	477	Kirkwood	1,616	19	1,139	361	1,616	1,639	70	
	2	Ohio	S. N. Cooper, No. 1	468	..do	1,606	4	1,138	362		1,802	Dry	
9—													
	1	Ohio	Propes, No. 2	467							1,853	Dry	No sands
N. E.	2	Ohio	Propes, No. 1	464	Kirkwood	1,598	22	1,134	366	1,608	1,632	90	Gas, 1,608 feet
	3	Ohio	J. Griggs, No. 2	467	..do	1,608	7	1,141	359		1,792	Dry	Salt water, 1,640 feet
	4	Ohio	J. Griggs, No. 1	449	Bridgeport	890	8	441	1,059				
					Kirkwood	1,455	45	1,006	494		1,636		Abandoned
S. E.	1	Ohio	Stivers, No. 1	433	Bridgeport	950		517	983				
					Buchanan	1,325		892	608				
					Kirkwood	1,564		1,131	369		1,598	75	
	2	Ohio	Stivers, No. 2	434	McClosky	1,790	6	1,356	144				Gas, 1,790 feet
						1,966	6	1,532	—32		2,007		Salt water, 1,980 feet
	3	Ohio	Umfleet, No. 1	434	Buchanan	1,250	15	816	684				
					Kirkwood	1,558	45	1,124	376	1,560	1,614	60	Gas, 1,563 feet
10—													
N. E.	1	Shaw	Hardacre, No. 4	445									Drilling
	2	Ohio	Hardacre, No. 1	475	Bridgeport	745	250	270	1,230			Show	Salt water, 995 feet
					Kirkwood-1	1,545	30	1,070	430				Salt water, 1,575 feet
					Kirkwood-2	1,605	30	1,130	370			Show	
					Tracey	1,685	70	1,210	290		1,772	Dry	Salt water, 1,735 feet
	3	Shaw	Hardacre, No. 3	424	Kirkwood	1,525	53	1,101	399				
	4	Shaw	Hardacre, No. 1	421									No record
	5	Shaw	Hardacre, No. 2	421	Kirkwood	1,530	48	1,109	391			60	
	6	Ohio	J. Seed, No. 5	422	Bridgeport	1,050	50	628	872				
					Stray	1,415	20	993	607				
					Kirkwood	1,517	13	1,095	405	1,540	1,563	80	Gas, 1,517 feet
	7	Ohio	J. Seed, No. 6	422	Bridgeport	960	373	538	962				
					Stray	1,375	65	953	547				
					Kirkwood	1,519	58	1,097	403	1,519	1,588	170	Gas, 1,519 feet
N. W.	1	Ohio	T. Seed, No. 1										No record
S. W.	1	Ohio	McCormick, No. 1	434	Buchanan	1,310	85	876	624				Gas, 1,578 feet
					Tracey	1,605	28	1,171	329	1,578	1,783	50	Gas, 1,578 feet. Salt water, 1,603 feet
	2	Ohio	Griggs, No. 7	434	Kirkwood	1,577	29	1,143	357	1,577	1,615	22	Gas, 1,577 feet
	3	Ohio	Lawson, No. 2	436	Kirkwood-1	1,490	28	1,054	446			13	
					Kirkwood-2	1,540	70	1,104	396		1,990		
	4	Ohio	Lawson, No. 1	437									No record
S. E.	1	Ohio	J. Seed, No. 3	436	Kirkwood	1,534	41	1,098	402	1,534		50	Gas, 1,534 feet
					Tracey	1,635	12	1,199	301		1,660		
	2	Ohio	J. Seed, No. 4	435	Kirkwood-1	1,515	15	1,080	420	1,515			Gas, 1,515 feet
					Kirkwood-2	1,545	20	1,110	390	1,550	1,581	40	
	3	Ohio	J. Seed, No. 2	433	Kirkwood	1,521	43	1,088	412	1,521		70	Gas, 1,521 feet
					Tracey	1,616	19	1,183	317		1,639		
	4	Ohio	J. Seed, No. 7	436									Drilling
	5	Ohio	J. Seed, No. 1	437	Kirkwood	1,506	12	1,069	431				
					McClosky	1,711	2	1,274	226		2,007	Dry	Salt water, 1,850 feet
11—													
N. E.	1	Ohio	E. Kirkwood, No. 1	445	Bridgeport	1,005	125	560	940				Salt water, 1,010 feet
					Stray	1,460	60	1,015	485				Salt water, 1,475 feet
					Kirkwood	1,568	34	1,123	377	1,580	1,602	175	Gas, 1,580 feet
	2	Ohio	M. Kirkwood, No. 4	439									No record

Lawrence County—Lawrence Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
11—													
N. E.	3	Ohio	M. Kirkwood, No. 3	441	Bridgeport	985	95	544	956				Salt water
					Stray	1,440	60	999	501				
					Kirkwood	1,547	53	1,106	394	1,574	1,594	140	
	4	Ohio	M. Kirkwood, No. 2	446	Bridgeport	815	25	369	1,131				Salt water
					..do	1,000	115	554	946				..do
					Bridgeport and Buchanan	1,147	273	701	799				
					Kirkwood	1,579	26	1,133	367	1,579		100	Gas, 1,579 feet
	5	Ohio	M. Kirkwood, No. 1	448	Bridgeport	1,000	150	552	948				Salt water
					Stray	1,480	40	1,032	468				..do
					Kirkwood	1,566	33	1,118	382	1,569	1,602	175	
N. W.	1	Ohio	M. Kirkwood, No. 5	434	Bridgeport	985	139	551	949				
					Buchanan	1,370	110	936	564				
					Kirkwood	1,543	44	1,109	391	1,543	1,896	100	Gas, 1,570 feet
	2	Snowden Bros	Whitttaker, No. 5	426									No record
	3	Snowden Bros	Whittaker, No. 2	425									..do
	4	Snowden Bros	Whittaker, No. 3	425									..do
S. W.	1	Snowden Bros	Whittaker, No. 4	437									..do
	2	Snowden Bros	Whittaker, No. 1	440	Bridgeport	730	30	290	1,210				
					..do	785	40	345	1,155				Salt water, 810 feet
					..do	996	29	556	994				Hole full of water, 996 feet.
					Buchanan	1,345	30	905	595				
					Kirkwood	1,525	35	1,085	415	1,528			
					Stray	1,700		1,260	240	1,761	1,794		Gas, 1,745 feet
	3	Ohio	Christerson, No. 11	443									Drilling
	4	Ohio	Christerson, No. 4	433	Buchanan	1,320	72	887	613	1,320		5	
					Kirkwood	1,513	54	1,080	420			2	
					Tracey	1,621	15	1,188	312		1,648	90	Well abandoned

	5	Ohio	Christerson, No. 8	437	Bridgeport	940	60	503	997				
					Buchanan	1,314	56	877	623				
					Kirkwood	1,500	65	1,063	437	1,550			Salt water, 1,550 feet
					Tracey	1,635	15	1,198	302	1,635		Show	
					McClosky	1,753	5	1,316	184	1,753	1,758	240	Sand and lime
	6	Ohio	Christerson, No. 10	437	Bridgeport	940	195	503	997				
					Buchanan	1,280	50	843	657				
					Kirkwood	1,500	50	1,063	437	1,510			
					Tracey	1,620	19	1,183	317	1,628			
					McClosky	1,752	8	1,315	185	1,754	1,760	60	
	7	Linden	R. Kirkwood, No. 2	438	Kirkwood	1,535	40	1,097	403			Show	
					Tracey	1,617	18	1,179	321			Show	
					McClosky	1,756	7	1,318	182	1,756	1,763	180	
	8	Linden	R. Kirkwood, No. 3	438	Kirkwood	1,529	48	1,091	409			Show	
					Tracey	1,617	5	1,179	321			Dry	
					McClosky	1,755	5	1,317	183	1,755	1,763	260	
	9	Linden	R. Kirkwood, No. 4	438	Kirkwood	1,523	34	1,085	415			Show	
					Tracey	1,622	5	1,184	316			Light	
					McClosky	1,761	7	1,323	177		1,780	140	Oil from all sands
	10	Linden	R. Kirkwood, No. 5	439									No record
S. E.	1	Bridgeport	R. Kirkwood, No. 1	430	Kirkwood	1,522	8	1,092	408	1,566	1,592		
	2	Linden	R. Kirkwood, No. 1	430	..do	1,558	22	1,128	372	1,560	2,002	40	
	3	Bridgeport	T. Kirkwood, No. 1	431								Dry	No record
	4	Bridgeport	McPherson, No. 2	432	Kirkwood	1,526	31	1,094	406	1,534	1,615		
	5	Bridgeport	McPherson, No. 1	431	Bridgeport	954	12	523	977				
					Stray	1,120	15	689	811				
					Kirkwood	1,525	28	1,094	406	1,534	1,584		
	6	Bridgeport	McPherson, No. 3	429	Bridgeport	745	30	316	1,184				
					..do	940	50	511	989				
					..do	1,030	30	601	899				Salt water
					Buchanan	1,280	52	851	649				
					Kirkwood	1,518	49	1,089	411	1,520			
					Tracey	1,645	15	1,216	284				
					McClosky	1,762	6	1,333	167		1,768		Salt water, 1,766 feet
12— N. W.	1	Bridgeport	Crackle, No. 1	445	Bridgeport	1,003	82	558	942				
					Stray	1,195	25	750	750		1,926	Dry	Lower sands are not present
S. W.	1	Bridgeport	McPherson, No. 6	430									Drilling
	2	Bridgeport	Chas. Kirkwood, No. 2	430	Bridgeport	935	15	505	995			Show	
					..do	960	105	530	970				Hole full of water, (960 feet)
					Stray	1,192	25	762	738				
					Buchanan	1,305	25	875	625				
					Kirkwood-1	1,558	8	1,128	372	1,560		Show	
					Kirkwood-2	1,572	18	1,142	358	1,572	1,614	90	
	3	Bridgeport	Chas. Kirkwood, No. 1	440	Bridgeport	905	15	465	1,035				Salt water, 910 feet
					..do	980	110	540	960				Salt water, at 1,000 and 1,030 feet
					Buchanan-1	1,300	16	860	640				Salt water, 1,300 feet
					Buchanan-2	1,322	8	882	618				
					Kirkwood	1,553	28	1,113	387	1,554	1,584	137	

Lawrence County—Lawrence Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
12—													
S. W.	4	Bridgeport	Henry, No. 1	440	Bridgeport	905	15	465	1,035				Salt water, 910 feet
					do	980	85	540	960				Salt water, 1,000 feet
					Buchanan-1	1,300	16	860	640				Salt water, 1,300 feet
					Buchanan-2	1,322	8	882	618				
					Kirkwood-1	1,549	31	1,109	391	1,556			
					Kirkwood-2	1,590	5	1,150	350	1,590		Show	
					Kirkwood-3	1,600	10	1,160	340	1,600			
					McClosky	1,787	4	1,347	153			Dry	
					Stray	1,883	5	1,443	57		1,889		
	5	Bridgeport	Henry, No. 3	430									Drilling
	6	Bridgeport	Henry, No. 2	430	Bridgeport	860	30	430	1,070				
					do	960	90	530	970				Hole full of water, 975 feet
					Stray	1,174	6	774	756				Salt water
					Buchanan	1,325	55	895	605				
					Kirkwood	1,563	21	1,133	367		1,600		
	7	Bridgeport	McPherson, No. 4	425	Bridgeport	790	15	365	1,135				
					do	870	10	445	1,055				
					do	955	45	530	970				
					do	1,002	63	577	923				
					Stray	1,180	8	755	745				
					Buchanan	1,330	20	905	595				
					Kirkwood-1	1,527	19	1,102	398			Show	
					Kirkwood-2	1,558	17	1,133	367	1,558			Salt water, 1,563 feet
					McClosky	1,771	4	1,346	154		1,986		
	8	Donnel, Agent	J. Seed, No. 3	430	Bridgeport	935		505	995				
					Buchanan	1,300		870	620				
					Kirkwood	1,537	43	1,107	393	1,560		50	Gas, 1,560 feet
					McClosky	1,770	6	1,340	160		1,900	Show	
	9	Donnel, Agent	J. Seed, No. 1	445	Kirkwood	1,550	70	1,105	395				Dry well
					McClosky	1,795		1,350	150	1,795	2,005	Dry	Lime, 1,750 to 2,005 feet

	10	Donnel, Agent	J. Seed, No. 2	430	Bridgeport	960	80	530	970				
					Buchanan	1,315	75	885	615				
					Kirkwood	1,540		1,110	390	1,545	1,580	110	Gas, 1,545 feet
	11	Bridgeport	McPherson, No. 5	423	Bridgeport	775	15	352	1,148				
					..do	892	48	469	1,031				
					..do	1,005	15	582	918				
					Buchanan	1,320	35	897	603				
					Kirkwood	1,532	60	1,109	391	1,535	1,800		Dry in Tracey sand
S. E.	1	Bridgeport	M. White, No. 1	450	Bridgeport	905	116	455	1,045				
					Kirkwood-1	1,552	6	1,102	398				
					Kirkwood-2	1,587	13	1,137	363		1,988		
	2	Bridgeport	Tracey Hrs., No. 1	455	Bridgeport	947	63	492	1,018				
					..do	1,041	29	586	914				Salt water
					..do	1,085	40	630	870				
					Bridgeport	1,265	47	810	690	1,285		Show	
					Buchanan	1,360	45	905	595				
					Kirkwood-1	1,565	20	1,110	390				Salt water, 1,570 feet
					Kirkwood-2	1,590	25	1,135	365	1,595		Show	Salt water, 1,600 feet
					Tracey	1,772	14	1,317	183		2,083	Dry	
13—													
N. E.	1	Busch-Everett	Tracey, No. 1	445	Buchanan	1,375		930	570				
					Kirkwood	1,597		1,152	348				
					McClosky	1,781		1,336	164		2,000	Dry	
N. W.	1	Bridgeport	R. Kirkwood, No. 11	430									Drilling
	2	Bridgeport	R. Kirkwood, No. 8	440	Bridgeport	760	40	320	1,180				
					..do	900	15	460	1,040				
					..do	985	60	545	955				
					Bridgeport and Buchanan	1,205	145	765	735				
					Kirkwood	1,570	20	1,130	370				
					Tracey	1,665	5	1,225	275	1,665			
					McClosky	1,775	7	1,335	165	1,775		10	Salt water, 1,780 feet
	3	Bridgeport	R. Kirkwood, No. 6	436	Bridgeport	945	30	509	991				
					Buchanan	1,278	42	842	658				Salt water, 1,228 feet
					Kirkwood	1,553	51	1,117	383				Salt water, 1,590 feet
					McClosky	1,771	5	1,335	165	1,771	1,776	580	
	4	Busch-Everett	Seed, No. 1	440	Stray	1,430		990	510				
					McClosky	1,770		1,330	170				
	5	Bridgeport	Seed, No. 2	438	Bridgeport	740		302	1,198				
					Stray	1,400		962	538				
					..do	1,610		1,172	328				
					McClosky	1,773		1,335	165				
	6	Donnel, Agent	Irwin, No. 3	437	Kirkwood	1,550	40	1,113	387	1,570	2,000	Dry	Salt water, 1,590 feet
S. W.	1	Donnel, Agent	Irwin, No. 4	435	..do	1,540	25	1,105	395				Salt water, 1,565 feet
					McClosky	1,768	5	1,333	167	1,768		60	
					Stray	1,813		1,378	122	1,813	1,901		Gas, 1,813 feet
	2	Donnel, Agent	Irwin, No. 5	430	Bridgeport	950	90	520	980				Salt water, 990 feet
					Buchanan	1,270	80	840	660				
					Kirkwood	1,550	5	1,120	380				
					McClosky	1,758	10	1,328	172	1,762	1,778	400	Gas, 1,759 feet

Lawrence County—Lawrence Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Intial product—barrels.	Remarks.
13—					Kirkwood	1,563		1,135	365			Dry	Salt water, 1,605 feet
S. W.	3	Donnel, Agent	Irwin, No. 2	428	Tracey	1,680		1,252	248	1,680			Black oil.
					McClosky	1,765	3	1,337	163	1,765	1,768		Gas, 1,765 feet. Green oil.
					Bridgeport	950	75	519	981				
	4	Donnel, Agent	Irwin, No. 6	431	Buchanan	1,270	90	839	661				
					Kirkwood	1,555	35	1,124	376	1,558	1,864	155	Gas, 1,558 feet
	5	Donnel, Agent	Irwin, No. 1	429	..do	1,545	25	1,116	384	1,555	1,570	65	
14—					Bridgeport	948	10	519	981				
N. E.	1	Bridgeport	R. Kirkwood, No. 2	429	Kirkwood	1,532	28	1,103	397	1,534	1,563		
					Bridgeport	940	60	521	979				
	2	Bridgeport	R. Kirkwood, No. 10	419	..do	1,005	65	586	914				
					Buchanan	1,285	65	866	634				
					Kirkwood	1,530	27	1,111	389	1,534	1,823		
	3	Bridgeport	R. Kirkwood, No. 1	419	Bridgeport	930	12	511	989				
					Kirkwood	1,535	28	1,116	384	1,543	1,590		
	4	Bridgeport	McPherson, No. 1	416	Bridgeport	925	10	509	991				
					Kirkwood	1,540	20	1,124	376	1,535	1,560		
	5	Bridgeport	R. Kirkwood, No. 4	428	..do	1,540	20	1,112	388	1,542	1,562		
					Bridgeport	773	27	338	1,162				
					..do	860	20	425	1,075				
					..do	900	20	465	1,035				
					..do	960	90	525	975				Salt water
	6	Bridgeport	R. Kirkwood, No. 7	435	Stray	1,170	10	735	765				
					Buchanan	1,285	95	850	650				
					Kirkwood-1	1,540	40	1,105	395	1,551			
					Kirkwood-2	1,585	5	1,150	350				Salt water
					Kirkwood-3	1,595	10	1,160	340				
					McClosky	1,767	8	1,332	168		1,775	1,200	
					Bridgeport	940	35	505	995	940		Light	Salt water, 975 feet
	7	Bridgeport	R. Kirkwood, No. 5	435	Buchanan	1,280	80	845	655				Salt water, 1,280 feet
					Kirkwood	1,541	29	1,106	394	1,553	1,570		Abandoned

	8	Bridgeport	R. Kirkwood, No. 9	431	Bridgeport	770	20	339	1,161				
					Bridgeport-2	950	15	519	980				
					Bridgeport-3	1,015	30	584	916				Salt water
					Buchanan	1,280	70	849	651				Salt water, hole full
					Kirkwood	1,530	55	1,099	401	1,540			
					Tracey	1,650	15	1,219	281				
					McClosky	1,769	9	1,338	162	1,769	1,778		
	9	Bridgeport	R. Kirkwood, No. 3	431	Kirkwood	1,527	35	1,096	404	1,540	1,563		
	10	Bridgeport	McPherson, No. 2	418	..do	1,516	32	1,098	402	1,519			
	11	Busch-Everett	Christerson, No. 6	428	Stray	1,340		912	588				
					Kirkwood	1,558		1,130	370				
	12	Busch-Everett	Christerson, No. 1 (?)	428									No record
	13	Busch-Everett	Christerson, No. 2	417	Stray	1,325		908	592				
					Kirkwood	1,560		1,143	357				
	14	Busch-Everett	Christerson, No. 1 (?)	426									No record
	15	Busch-Everett	Christerson, No. 3	427	Stray	1,350		923	577				
					Kirkwood	1,570		1,143	357				
	16	Busch-Everett	Christerson, No. 1	427	Stray	1,350		923	577				
					Kirkwood	1,565		1,138	362				
	17	Ohio	Christerson, No. 7	427	Bridgeport	940	60	513	987				
					Buchanan	1,300	40	873	627				
					Kirkwood	1,525	50	1,098	402	1,532		Show	
					Tracey	1,640	9	1,213	287	1,641		Show	
					McClosky	1,738	22	1,311	189	1,738	1,772	80	
	18	Ohio	Christerson, No. 1	427	Kirkwood	1,534		1,107	393		1,572		
	19	Guarantee	Christerson, No. 1	430	Bridgeport	1,024	101	594	906				
					Kirkwood	1,534	28	1,104	396		1,572	25	No Buchanan sand
N. W.	1	Ohio	Christerson, No. 9	435									No record
	2	Ohio	Christerson, No. 6	435	Bridgeport	940	60	505	995				
					Buchanan	1,230	70	795	705				
					Kirkwood	1,510	23	1,075	425	1,528			Gas, 1,510 feet
					Tracey	1,620	23	1,185	315	1,630			Gas, 1,620 feet
					McClosky	1,737	23	1,302	198	1,752	1,767	75	Gas, 1,737 feet
	3	Silurian	Rogers, No. 1	430	Kirkwood	1,537	40	1,107	393	1,542	1,577		
	4	Silurian	Rogers, No. 5	435	Bridgeport	860	220	425	1,075				
					Stray	1,335	15	900	600				
					Kirkwood	1,528	37	1,093	407	1,528		Show	
					Tracey	1,618	47	1,183	317				
					McClosky	1,752	10	1,317	183	1,756	1,782	50	Gas, 1,752 feet
	5	Silurian	Rogers, No. 6	435									Drilling
	6	Silurian	Rogers, No. 4	434									No record
	7	Silurian	Rogers, No. 3	427	Bridgeport	915	25	488	1,012				Salt water, 922 feet
					Buchanan	1,245	10	818	682				Salt water, 1,245 feet
					Kirkwood-1	1,518	13	1,091	409	1,525			
					Kirkwood-2	1,542	8	1,115	385		1,555	Show	
S. W.	1	Silurian	Rogers, No. 2	420	Bridgeport	945	75	525	975			Show	Salt water, 945 and 1,010 feet
					Kirkwood	1,513	25	1,093	407		1,550		
	2	Ohio	A. Gillespie, No. 1	429	..do	1,521		1,092	408	1,521	1,549	33	Gas, 1,521 feet
	3	Ohio	A. Gillespie, No. 3	442	..do	1,528	52	1,086	414	1,538	1,583	30	Gas, 1,538 feet. Salt water 1,580 feet
	4	Ohio	W. Gillespie, No. 1	463	..do	1,508	83	1,045	455	1,578	1,591	80	Well abandoned

Lawrence County—Lawrence Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Intial product—barrels.	Remarks.
14—N. W.	5	Ohio	W. Gillespie, No. 3	477	Buchanan	1,240	150	763	737				
					Kirkwood	1,550	50	1,073	427	1,580	1,602	30	
	6	Ohio	W. Gillespie, No. 7	457	..do	1,532	50	1,075	425	1,560	1,582	25	Gas, 1,560 feet.
	7	Ohio	W. Gillespie, No. 2	429	..do	1,515	57	1,086	414	1,550	1,572	100	
	8	Ohio	W. Gillespie, No. 8	429	..do	1,525	37	1,096	404	1,530	1,565	25	Gas, 1,530 feet.
	9	Ohio	W. Gillespie, No. 4	432	..do	1,528	44	1,096	404	1,550	1,781	30	Gas, 1,550 feet.
	10	Ohio	W. Gillespie, No. 5	430	Buchanan	1,240	165	810	690				
					Kirkwood	1,510	38	1,080	420	1,523	1,548	100	Gas, 1,523 feet.
	11	Ohio	W. Gillespie, No. 6	430	Kirkwood	1,512	45	1,082	418	1,517			Gas, 1,515 feet.
					McClosky	1,768	5	1,338	162		1,802		Salt water, 1,800 feet.
S. E.	1	Ohio	S. Gray, No. 2	425	Kirkwood	1,511	49	1,086	414	1,532	1,558	75	
	2	Ohio	S. Gray, No. 4	424	..do	1,500	70	1,076	424	1,540	1,570	40	
	3	Ohio	S. Gray, No. 8	433	..do	1,545	30	1,112	388				
					McClosky	1,774	1	1,341	159	1,774	1,775	150	Gas, 1,774 feet.
	4	Ohio	S. Gray, No. 3	432	Kirkwood	1,545	36	1,113	387	1,555	1,581	30	Gas, 1,545 feet.
	5	Ohio	S. Gray, No. 14	434	Bridgeport	1,040	85	606	894				
					Buchanan	1,250	105	816	684				
					Kirkwood	1,530	20	1,096	404	1,535			
					McClosky	1,775	3	1,341	159		1,861	Dry	
	6	Ohio	S. Gray, No. 12	434	Bridgeport	925	185	491	1,009				
					Buchanan	1,230	135	796	704				
					Kirkwood	1,555	40	1,121	379				
					McClosky	1,772	7	1,338	162	1,775	1,779	30	
	7	Ohio	S. Gray, No. 11	424	Bridgeport	925	185	501	999				Salt water.
					Buchanan	1,230	130	806	694				
					Kirkwood	1,555	25	1,131	369	1,565		165	
					McClosky	1,769	4	1,345	155	1,770	1,773		Gas, 1,769 feet.
	8	Ohio	S. Gray, No. 5	423	Kirkwood	1,518	52	1,095	405	1,538	1,570	50	
	9	Ohio	S. Gray, No. 6	434	..do	1,520	58	1,086	414	1,530	1,578	45	
	10	Ohio	Chisterson, No. 2	431	Buchanan	1,300	90	869	631				Salt water, 1,300 feet.
					Kirkwood	1,513	39	1,082	418				
					Tracey	1,636	5	1,205	295		1,796	50	

	11	Ohio	Christerson, No. 3	429	Buchanan	1,300	80	371	629				Salt water
					Kirkwood	1,529	38	1,100	400		1,567	5	
	12	Busch-Everett	Christerson, No. 5	417									No record
	13	Busch-Everett	Christerson, No. 4	420								Dry	..do
	14	Ohio	S. Gray, No. 10	425	Bridgeport	925	175	500	1,000				Salt water
					Buchanan	1,230	130	805	695				
					Kirkwood	1,550	40	1,125	375	1,570		380	
					McClosky	1,770	4	1,345	155	1,771	1,774		Gas, 1,770 feet
	15	Ohio	S. Gray, No. 13	427	Bridgeport	925	190	498	1,002				
					Buchanan	1,230	143	803	697				
					Kirkwood	1,550	43	1,123	377	1,566			Gas, 1,550 feet. Salt water, 1,585 feet
					McClosky	1,770	2	1,343	157	1,770	1,772	280	Gas, 1,770 feet
	16	Ohio	S. Gray, No. 1	417	Kirkwood	1,510	58	1,093	407	1,568	50		
	17	Ohio	S. Gray, No. 7	425	..do	1,522	43	1,097	403	1,540	1,565	20	Gas, 1,540 feet
	18	Ohio	S. Gray, No. 9	425	Bridgeport	935	115	510	990				Salt water
					Buchanan	1,225	125	800	700				
					Kirkwood	1,515	45	1,090	410				
					McClosky	1,751	11	1,326	174	1,752	1,762	600	Gas, 1,751 feet
	19	Ohio	Smith, No. 2	430	Bridgeport and Buchanan	1,105	292	675	825				
					Kirkwood	1,541	24	1,111	389	1,545	1,565	25	Gas, 1,542 feet
					Bridgeport	985	155	555	945				Salt water, 1,000 feet
	20	Ohio	Smith, No. 3	430	Buchanan	1,230	110	800	700				
					Kirkwood	1,545	30	1,115	385				
					McClosky	1,756		1,326	174	1,756	1,762	660	Gas, 1,756 feet
	21	Ohio	Smith, No. 1	430	Bridgeport and Buchanan	1,200	214	770	730				
					Kirkwood	1,550	29	1,120	380	1,550	1,579	40	Gas, 1,550 feet
	22	Ohio	Smith, No. 4	427	Bridgeport	925	190	498	1,002				
					Buchanan	1,230	130	803	697				
					Kirkwood	1,552	43	1,125	375	1,552			Salt water, 1,595 feet
					McClosky	1,770	2	1,343	157	1,770	1,772	300	
15—N. E.	1	Ohio	L. Gillespie, No. 16	432	Buchanan	1,294	26	862	638	1,294	1,320	80	
	2	Ohio	L. Gillespie, No. 18	432	Kirkwood-1	1,510	10	1,078	422	1,510			Gas, 1,510 feet
					Kirkwood-2	1,530	25	1,098	402	1,550	1,618	50	
	3	Ohio	L. Gillespie, No. 17	432	Kirkwood	1,518	46	1,086	414	1,525	1,568	50	Gas, 1,518 feet
	4	Ohio	L. Gillespie, No. 15	428	Buchanan	1,268	24	840	660				
					Kirkwood	1,541	25	1,113	387	1,545		35	Gas, 1,547 feet
	5	Ohio	L. Gillespie, No. 14	429	Buchanan	1,297	8	868	632				
					Kirkwood	1,520	40	1,091	409	1,526	1,566	20	Gas, 1,530 feet
	6	Ohio	L. Gillespie, No. 11	429	..do	1,518	59	1,089	411	1,559	1,651		Gas, 1,556 feet. Well abandoned
	7	Ohio	L. Gillespie, No. 19	422	Stray	1,560	20	1,138	362	1,560			Gas, 1,560 feet
					McClosky	1,748	3	1,326	174	1,750	1,771	137	
	8	Ohio	L. Gillespie, No. 4	422	Kirkwood	1,505		1,083	417	1,530	1,539	25	
	9	Ohio	Carlson, No. 2	430	..do	1,496	83	1,066	434	1,540	1,581	20	Gas, 1,556 feet
	10	Ohio	Carlson, No. 1	432	Buchanan	1,279	30	847	653	1,285	1,309	200	
	11	Ohio	Carlson, No. 3	432	Kirkwood	1,555	20	1,123	377	1,560	1,603	100	Gas, 1,562 feet
	12	Ohio	Carlson, No. 5	432	..do	1,531	50	1,099	401	1,535	1,635	32	Gas, 1,531 feet
	13	Ohio	Carlson, No. 4	432	..do	1,556	25	1,124	376	1,558	1,581	70	Gas, 1,556 feet

Lawrence County—Lawrence Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Intial product—barrels.	Remarks.
15— N. E.	14	Ohio	Carlson, No. 8	433	Buchanan	1,304	10	871	629	1,304	1,314	87	
	15	Ohio	Carlson, No. 6	432	..do	1,300	34	868	632	1,311	1,334	107	Well abandoned
	16	Ohio	Carlson, No. 9	432	Bridgeport	1,000	110	568	932				
					Buchanan	1,300	40	868	632				
					Kirkwood	1,534	26	1,102	398	1,536	1,565	5	Gas, 1,538 feet
	17	Ohio	Carlson, No. 7	432	Buchanan	1,318	6	886	614	1,318	1,324	30	
N. W.	1	Ohio	C. Seed, No. 6	434	..do	1,299	6	865	635	1,302	1,305	160	
	2	Ohio	C. Seed, No. 5	438	..do	1,280	10	842	658	1,280		180	
					Kirkwood-1	1,539	16	1,101	399	1,539		20	Gas, 1,539 feet
					Kirkwood-2	1,556	6	1,128	372		1,558		
	3	Ohio	C. Seed, No. 4	432	Buchanan	1,268	15	836	664	1,270	1,283	250	
	4	Ohio	C. Seed, No. 3	433	..do	1,275	13	842	658	1,277	1,288	200	
	5	Ohio	C. Seed, No. 1	437	..do	1,262	15	825	675		1,277	200	
	6	Ohio	C. Seed, No. 2	433	..do	1,280	25	847	653	1,282	1,305	200	
	7	Ohio	Griggs, No. 3	437	..do	1,313	11	876	624	1,314	1,324	200	
	8	Ohio	Griggs, No. 2	447	..do	1,277		830	670		1,298		
	9	Ohio	Griggs, No. 1	456	..do	1,281		825	675		1,307		
	10	Ohio	Griggs, No. 5	434	..do	1,287	17	853	647	1,290	1,304	200	
	11	Ohio	Griggs, No. 4	438	..do	1,288	14	850	650	1,290	1,302	125	
	12	Ohio	Griggs, No. 6	434	..do	1,320	45	886	614				
					Kirkwood	1,528	51	1,094	406	1,546	1,579	100	Gas, 1,540 feet
S. W.	1	Ohio	L. Seed, No. 2	464	Buchanan	1,283	37	819	681	1,288	1,320	720	
	2	Ohio	L. Seed, No. 4	458	..do	1,284	27	826	674	1,290	1,311	150	
	3	Ohio	L. Seed, No. 11	444	..do	1,270		826	674	1,309	1,317	150	
	4	Ohio	L. Seed, No. 13	470	..do	1,251	44	781	719	1,251	1,295	150	
	5	Ohio	L. Seed, No. 6	475	..do	1,290	31	815	685	1,295	1,321	200	
	6	Ohio	L. Seed, No. 12	470	..do	1,261	78	791	709	1,265	1,339	475	
	7	Ohio	L. Seed, No. 3	453	..do	1,282		829	671	1,286	1,316	125	
	8	Ohio	L. fleed, No. 7	490	..do	1,311	28	821	679	1,315	1,339	200	
	9	Ohio	L. Seed, No. 9	463	..do	1,300	27	837	663	1,305	1,325	175	
	10	Ohio	L. Seed, No. 1	449	..do	1,307	27	858	642	1,310	1,334	125	

	11	Big Four	E. Seed, No. 3	485	..do	1,330	27	845	655		1,357		
	12	Big Four	E. Seed, No. 8	470	..do	1,303	27	833	667				
	13	Big Four	E. Seed, No. 16	446	Buchanan	1,318	94	872	628	1,318			
					Kirkwood	1,508	10	1,062	438				
					Tracey	1,608	28	1,162	338				
					McClosky	1,806		1,360	140	1,806	2,000		Gas, 1,806 feet
	14	Big Four	E. Seed, No. 2	446	Buchanan	1,330	21	884	616		1,351		Abandoned
	15	Big Four	E. Seed, No. 9	448	..do	1,302	28	854	646				
	16	Big Four	E. Seed, No. 6	472	..do	1,305	30	833	667				
	17	Ohio	G. Gillespie, No. 2	440	..do	1,293		853	647	1,300	1,319		
	18	Ohio	G. Gillespie, No. 3	438	..do	1,288		850	650	1,290	1,303	200	
	19	Ohio	G. Gillespie, No. 1	441	..do	1,300		859	641	1,318	1,325		
	20	Ohio	G. Gillespie, No. 6	432	Kirkwood	1,581	17	1,149	351	1,583	1,608	40	Gas, 1,582 feet
	21	Ohio	G. Gillespie, No. 4	441	Buchanan	1,290	21	849	651	1,300	1,311	200	
	22	Ohio	W. Gillespie, Lot No. 1	436	..do	1,270	25	834	666	1,280	1,295	180	
	23	Ohio	G. Gillespie, No. 5	433	..do	1,266	47	833	667	1,273	1,313	400	
S. E.	1	Ohio	G. Gillespie, No. 7	428	Kirkwood	1,574	10	1,146	354				
					Tracey	1,650	20	1,222	278	1,660	1,670	30	
	2	Ohio	G. Gillespie, No. 8	448	Kirkwood	1,574	23	1,126	374	1,580	1,606	50	Gas, 1,574 feet
	3	Ohio	A. Gillespie, No. 4	461	..do	1,573	25	1,112	388	1,573	1,603	40	Gas, 1,573 feet
	4	Ohio	A. Gillespie, No. 2	451	..do	1,532	56	1,081	419	1,540	1,588	30	Account, No. 1
	5	Ohio	A. Gillespie, No. 1	451	..do	1,492	84	1,041	459	1,492	1,576	125	Acct. 1, Gas, 1,492 feet
	6	Ohio	A. Gillespie, No. 3	436	..do	1,554	26	1,118	382	1,561	1,621	15	Acct. 1, Gas, 1,561 feet
	7	Ohio	A. Gillespie, No. 2	431	..do	1,538	23	1,107	393	1,538	1,650	35	Acct. 3, Gas, 1,538 feet
	8	Ohio	C. Seed, No. 3	427	Buchanan	1,284	25	857	643				
					Kirkwood	1,561	29	1,134	366	1,564	1,590	25	Gas 1,565 feet
	9	Ohio	C. Seed, No. 4	430	Kirkwood-1	1,536	20	1,106	394	1,537			
					Kirkwood-2	1,565	21	1,135	365		1,586	100	Gas, 1,567 feet
	10	Ohio	C. Gillespie, No. 3	432	Kirkwood	1,528	49	1,096	404	1,530	1,673	30	Gas, 1,528 feet
	11	Ohio	C. Gillespie, No. 4	440	Kirkwood-1	1,530	20	1,090	410	1,530	1,602	30	Gas, 1,530 feet
					Kirkwood-2	1,570	22	1,130	370				
	12	Ohio	C. Gillespie, No. 1	422	Buchanan	1,273	65	851	649				
					Kirkwood	1,505	22	1,083	417	1,505	1,527	35	
	13	Ohio	C. Gillespie, No. 2	427	..do	1,512	30	1,085	415	1,514	1,618	25	Gas, 1,512 feet
	14	Ohio	C. Seed, No. 5	428									No record
	15	Ohio	C. Seed, No. 2	428	Buchanan	1,278	24	850	650	1,286	1,302	350	
	16	Ohio	C. Seed, No. 1	431	Kirkwood	1,563	22	1,132	368	1,569	1,685	1	
	17	Ohio	G. Gillespie, No. 9	430	Tracey	1,656	17	1,226	274	1,656	1,675	12	Gas, 1,656 feet
N. E.	1	Ohio	W. Gillespie, No 5	437	Buchanan	1,316	10	879	621	1,318	1,326	100	
	2	Ohio	W. Gillespie, No. 6	440	Kirkwood-1	1,494	16	1,054	446	1,500			Gas, 1,499 feet
					Kirkwood-2	1,560	39	1,120	380		1,599	60	Salt water, 1,599 feet
	3	Ohio	W. Gillespie, No. 1	448	Buchanan	1,312		864	636	1,312	1,331		
	4	Ohio	W. Gillespie, No. 4	456	..do	1,356	44	900	600		1,420		Salt water, 1,356 feet. Well abandoned
	5	Ohio	R. Gillespie, No. 12	464	..do	1,351	23	887	613		1,374		Salt water, 1,362 feet. Well abandoned
	6	Ohio	R. Gillespie, No. 2	472	..do	1,335	26	863	637		1,361		
	7	Ohio	R. Gillespie, No. 1	464	..do	1,300	19	836	664		1,319		
	8	Ohio	R. Gillespie, No. 5	453	..do	1,303	10	850	650	1,304	1,313	300	
	9	Ohio	R. Gillespie, No. 6	445	..do	1,290	16	845	655	1,295	1,306	300	
	10	Ohio	R. Gillespie, No. 7	443	..do	1,282		839	661	1,287	1,297	250	
	11	Ohio	R. Gillespie, No. 4	448	..do	1,280	17	832	668	1,286	1,297	200	

Lawrence County—Lawrence Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
16—N. E.	12	Ohio	R. Gillespie, No. 14	441	Buchanan	1,296	14	855	645	1,298	1,310	250	
	13	Ohio	R. Gillespie, No. 13	439	..do	1,300	15	861	639	1,304	1,315	200	
	14	Ohio	R. Gillespie, No. 9	443	..do	1,306	20	863	637	1,310	1,326	150	
N. W.	1	Ohio	W. Gillespie, No. 3	460	..do	1,357	15	897	603				Salt water, 1,360 feet.
					Kirkwood	1,520	130	1,060	440		1,725		Well abandoned
	2	Ohio	W. Gillespie, No. 2	470	Buchanan	1,351	8	881	619				
					Kirkwood	1,508	21	1,038	462	1,512	1,607		Salt water, 1,585 feet. Well abandoned
	3	Ohio	Lewis, No. 7	480	Buchanan	1,348	18	868	632	1,352	1,366	200	
	4	Ohio	Lewis, No. 5	452	Kirkwood	1,512	29	1,060	440	1,524	1,541	200	
	5	Ohio	C. Gillespie Lot, No. 1	445	..do	1,506	22	1,061	439	1,507	1,528	100	Gas, 1,510 feet
	6	Ohio	Lewis, No. 6	465	Buchanan	1,312		847	653	1,315	1,325	175	
	7	Ohio	Lewis, No. 10	480	..do	1,335	11	855	645	1,337	1,346	250	
	8	Ohio	Lewis, No. 3	489	..do	1,345		856	644	1,350	1,362	200	
	9	Ohio	Lewis, No. 4	481	..do	1,307	20	826	674	1,308	1,327	200	
	10	Ohio	Lewis, No. 9	476	..do	1,305	41	829	671	1,315	1,346	300	
	11	Ohio	Lewis, No. 2	486	..do	1,320	30	834	666	1,322	1,350	250	
	12	Ohio	Lewis, No. 8	489	..do	1,325	95	836	664	1,349		100	
					Kirkwood	1,530	43	1,041	459		1,795		Salt water, 1,665 feet
	13	Ohio	Lewis, No. 1	489	Buchanan	1,340	19	851	649		1,359	75	Well abandoned
	14	Ohio	R. Gillespie, No. 3	485	..do	1,358		873	627		1,368		
	15	Ohio	R. Gillespie, No. 8	475	..do	1,340		865	635	1,345	1,352	250	
	16	Ohio	R. Gillespie, No. 11	467	..do	1,350	11	883	617	1,353	1,361	60	
	17	Ohio	R. Gillespie, No. 10	483	..do	1,340	22	857	643	1,352	1,362	105	
S. W.	1	Ohio	C. Seed, No. 4	497	..do	1,331	24	834	666	1,335	1,355	50	
	2	Ohio	C. Seed, No. 1	482	..do	1,320	47	838	662	1,357	1,367	150	Salt water, 1,367 feet
	3	Ohio	C. Seed, No. 10	493	..do	1,330	50	837	663	1,340	1,380	75	
	4	Ohio	C. Seed, No. 2	483	..do	1,348	14	865	635	1,350	1,362	180	
	5	Ohio	C. Seed, No. 3	485	..do	1,347	20	862	638	1,357	1,367	125	Salt water, 1,367 feet
	6	Ohio	C. Seed, No. 5	490	..do	1,346		856	644	1,357	1,371	300	
	7	Ohio	C. Seed, No. 6	504	..do	1,338		834	666	1,347	1,369	50	
	8	Ohio	C. Seed, No. 7	505	..do	1,341	48	836	664	1,370	1,389	150	

	9	Ohio	C. Seed, No. 8	502	..do	1,345	43	843	657	1,375	1,388	50	
	10	Ohio	C. Seed, No. 11	498	..do	1,357	18	859	641	1,363	1,375	25	
	11	Ohio	C. Seed, No. 9	477	..do	1,352	12	875	625	1,356	1,364	150	Well abandoned
	12	Ohio	Swail, No. 16	465	..do	1,290	68	825	675	1,341	1,368	40	
	13	Ohio	Swail, No. 15	469	..do	1,293	43	824	676	1,299	1,336	160	
	14	Ohio	Swail, No. 14	461	..do	1,305	40	844	656	1,310	1,350	180	
	15	Ohio	Swail, No. 1	466	..do	1,312	11	846	654	1,315	1,323	100	
	16	Ohio	Swail, No. 11	472	..do	1,343	4	871	629	1,347	1,363	75	Salt water, 1,363 feet
	17	Ohio	Swail, No. 10	476	..do	1,341	16	865	635	1,346	1,357	75	
	18	Ohio	Umfleet, No. 2	477	..do	1,340	14	863	637	1,345	1,352	300	
	19	Ohio	McGrayel, No. 3	472	..do	1,328	41	856	644	1,333	1,369	150	
	20	Ohio	McGrayel, No. 1	464	..do	1,314		850	650	1,325	1,335		
	21	Ohio	McGrayel, No. 2	469	..do	1,341		872	628	1,341	1,354		
	22	Ohio	Umfleet, No. 3	474	..do	1,330	20	856	644	1,335	1,350	250	
	23	Ohio	Umfleet, No. 1	482	..do	1,348		866	634	1,347	1,364		
	24	Ohio	Umfleet, No. 4	474	..do	1,344	23	870	630	1,346	1,367	200	Salt water, 1,365 feet
S. E.	1	Ohio	Buchanan, No. 15	477	..do	1,298	36	821	679	1,305	1,334	180	
	2	Ohio	Buchanan, No. 12	461	..do	1,290	54	829	671	1,314	1,344	160	
	3	Ohio	Buchanan, No. 17	475	..do	1,294	52	819	681	1,300	1,346	250	
	4	Ohio	Buchanan, No. 16	476	..do	1,306	32	830	670	1,310	1,338	150	
	5	Ohio	Buchanan, No. 8	478	..do	1,312		834	666	1,315	1,338	225	
	6	Ohio	Buchanan, No. 5	479	..do	1,306		827	673	1,310	1,330	325	
	7	Ohio	Buchanan, No. 18	470	..do	1,296	29	826	674	1,300	1,325	125	
	8	Ohio	Buchanan, No. 3	476	..do	1,293	31	817	683	1,300	1,324	275	
	9	Ohio	Buchanan, No. 7	466	..do	1,291	29	825	675	1,310	1,320	200	
	10	Ohio	Buchanan, No. 9	457	..do	1,280	30	823	677	1,290	1,310	275	
	11	Ohio	Buchanan, No. 10	456	..do	1,277	31	821	679	1,258	1,308	225	
	12	Ohio	Buchanan, No. 4	453	..do	1,273	31	820	680	1,280	1,304	150	
	13	Ohio	Buchanan, No. 2	455	..do	1,293	29	838	662	1,303	1,322	250	
	14	Ohio	Swail, No. 3	459	..do	1,298	40	839	661	1,304	1,338	300	
	15	Ohio	Swail, No. 8	452	..do	1,283	35	831	669	1,307	1,318	200	
	16	Ohio	Swail, No. 12	450	..do	1,287	26	837	663	1,290	1,313	200	
	17	Ohio	Swail, No. 21	450	..do	1,273	35	823	674	1,293	1,308	200	
	18	Ohio	Swail, No. 9	452	..do	1,301	26	849	651	1,308	1,327	200	
	19	Ohio	Swail, No. 2	466	..do	1,296	29	830	670	1,300	1,325	150	
	20	Ohio	Swail, No. 7	467	..do	1,305	24	838	662	1,310	1,329	150	
	21	Ohio	L. Seed, No. 8	445	..do	1,289	24	844	656	1,295	1,313	250	
	22	Ohio	L. Seed, No. 10	444	..do	1,280	29	836	664	1,290	1,309	160	
	23	Ohio	L. Seed, No. 5	453	..do	1,284	28	831	669	1,290	1,312	200	
	24	Ohio	L. Seed, No. 14	458	..do	1,290	15	832	668	1,290	1,305	300	
	25	Ohio	L. Seed, No. 15	444	..do	1,289	23	845	655	1,289	1,312	200	
	26	Big Four	E. Seed, No. 15	450	..do	1,286	28	836	664		1,314	150	
	27	Big Four	E. Seed, No. 14	462	..do	1,284	42	822	678		1,326	300	Quit in sand
	28	Big Four	E. Seed, No. 1	472	..do	1,288	26	816	684		1,314		
	29	Big Four	E. Seed, No. 4	456	..do	1,322	35	866	634		1,357		
	30	Big Four	E. Seed, No. 5	450	..do	1,289	25	839	661		1,314		
28— S. W.	1	Ohio	Wilson, No. 1	483	Kirkwood	1,536	32	1,053	447	1,539		50	
	2	Kewanee	Combs, No. 1	491									No record
	3	Kewanee	Combs, No. 2	499									..do
	4	Kewanee	Combs, No. 3	507									..do

Lawrence County—Lawrence Township—Concluded.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Intial product—barrels.	Remarks.
33—N. W.	1	Bridgeport	Eshelman, No. 2	475	Kirkwood	1,415	85	940	560	......	......	125	
	2	Bridgeport	Eshelman, No. 1	464	..do	1,477	15	1,013	487	......	......	200	
S. W.	1	Ohio	Middaugh, No. 2	457	..do	1,451	19	994	506	1,451	......	75	Gas, 1,451 feet
	2	Ohio	Middaugh, No. 5	454	Bridgeport	896	7	442	1,058	896	......	100	
					Bridgeport	920	14	466	1,034	......	......	....	Salt water, 976 feet
	3	Ohio	Middaugh, No. 1	456	Kirkwood	1,432	42	976	524	1,460	......	190	
	4	Ohio	Middaugh, No. 3	453	..do	1,443	45	990	510	1,443	1,448	75	
	5	Ohio	Middaugh, No. 6	448	Kirkwood-1	1,440	6	992	508	1,440	......	....	
					Kirkwood-2	1,463	26	1,015	485	1,463	1,492	60	
	6	Ohio	Middaugh, No. 4	458	Kirkwood	1,507	......	1,049	451	1,508	......	60	
	7	Ohio	W. Stoltz, No. 1	465	Bridgeport	1,070	11	605	895	......	1,832	Dry	
	8	Ohio	W. Stoltz, No. 2	480	..do	937	439	457	1,043	......	2,003	Dry	Salt water, 1,224 feet

Lawrence County—Lukin Township.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
32 N. E.	1	Ohio	J. Crane, No. 1	480		1,534	20	1,054	446		1,571	Dry	
S. E.	1	Snowden Bros.	Laughlin, No. 1	469	Bridgeport	830	42						Salt water
					Bridgeport-2	940	5			940		Show	
					Bridgeport-3	1,304	11						
					Stray	1,506	14			1,506			
					Buchanan-1	1,614	118			1,705			
					Buchanan-2	1,750	25						Salt water, 1,775 feet
					Kirkwood	1,985	15			1,985			
					Stray	2,152	4			2,152	2,165		

Lawrence County—Petty Township.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
1—N. E.	1	Ohio	G. Gray, No. 2	435	Kirkwood	1,417	20	982	518	1,417	1,451	150	
	2	Ohio	G. Gray, No. 3	435	..do	1,418	15	983	517	1,418	1,450	80	
	3	Ohio	G. Gray, No. 6	435	"Gas"	1,335		900	600				Gas, 1,335 feet
					Kirkwood	1,426	15	991	509	1,426	1,442	60	
	4	Ohio	I. Judy, No. 1	435	..do	1,428	7	993	507				
					Tracey	1,578	7	1,143	357		1,678		
	5	Ohio	I. Judy, No. 2	435	Kirkwood	1,443	23	1,008	492	1,446	1,466	15	Salt water, 1,464 feet
	6	Ohio	I. Judy, No. 3	435									Drilling
	7	Ohio	N. Updike, No. 3	435	"Gas"	1,355	10	920	580				
					Kirkwood	1,435	10	1,000	500	1,438		25	Gas, 1,435 feet
					McClosky	1,650	12	1,215	285		1,702		
	8	Ohio	N. Updike, No. 1	434							1,700	Dry	
	9	Ohio	N. Updike, No. 2	435	"Gas"	1,328	17	893	607	1,335		20	
					Kirkwood	1,412	15	977	523		1,445		
	10	Ohio	N. Updike, No. 4	434	"Gas"	1,325	10	891	609				
					Kirkwood	1,425	10	991	509	1,428		15	
					Tracey	1,560		1,126	374				Gas, 1,560 feet
	11	Ohio	N. Updike, No. 5	435	Kirkwood	1,406	9	971	529	1,406	1,660	25	Gas, 1,406 feet
N W.	1	Snowden Bros	Drole, No. 3	435	Bridgeport	890		455	1,045				
					Buchanan	1,180	65	745	755				
					"Gas"	1,342	15	907	593	1,342			
					Kirkwood-1	1,420	21	985	515	1,420		100	
					Kirkwood-2	1,498	26	1,063	437				Gas
					Tracey	1,605	68	1,170	330				..do
					McClosky	1,687	8	1,252	248		1,695		Salt water, 1,687 feet
	2	Snowden Bros	Drole, No. 9	435	Bridgeport	860	105	425	1,075				Salt water, 870 and 930 feet
					Buchanan	1,115	145	680	820				Salt water, 1,170 feet
					Stray	1,275	5	840	660				
					"Gas"	1,310	23	875	625	1,326			
					Kirkwood-1	1,370	20	935	565	1,370			
					Kirkwood-2	1,395	15	960	540	1,395	1,434		

	3	Snowden Bros.	Drole, No. 7	435	Bridgeport	815	25	380	1,120				Salt water
					..do	850	45	415	1,085				
					..do	900	63	465	1,035				
					Buchanan	1,110	130	675	825				Salt water, 1,150 to 1,240 feet
					"Gas"	1,318	8	883	617	1,326			
					Kirkwood-1	1,363	12	928	572	1,375			
					Kirkwood-2	1,384	28	949	551	1,402	1,431		
	4	Snowden Bros.	Drole, No. 8	436									No record
	5	Snowden Bros.	Drole, No. 5	435	Bridgeport	850		415	1,085				Salt water
					..do	950		515	985				
					Buchanan	1,175		740	760				
					"Gas"	1,320	20	885	615	1,320			
					Kirkwood	1,412	12	977	523	1,412	1,452		
	6	Snowden Bros.	Drole, No. 4	435	Bridgeport	865	5	430	1,070				Salt water
					..do	899	40	464	1,036				Much water
					..do	945	30	510	990				
					Buchanan	1,040	205	605	895				Salt water, 1,120 feet
					"Gas"	1,325	15	890	610				
					Kirkwood-1	1,408	6	973	527	1,408			
					Kirkwood-2	1,454	10	1,019	481				Salt water
					Kirkwood-3	1,490	15	1,055	445				Gas, 1,490 feet
					Tracey	1,565	15	1,130	370		1,665	Gas	Gas, 1,565 feet
	7	Snowden Bros.	Drole, No. 10	435									No record
S. W.	1	Snowden Bros.	Drole, No. 1	436	Bridgeport	840		404	1,096				Salt water, 1,020 and 1,210 feet
					"Gas"	1,300	15	864	636		1,334	35	
	2	Snowden Bros.	Drole, No. 6	436	Bridgeport	865	85	429	1,071				
					Buchanan	1,050	125	614	886				
					"Gas"	1,307	13	871	629		1,452	60	
	3	Snowden Bros.	Drole, No. 2	436								Gas	No record
	4	Snowden Bros.	Piper, No. 1	435	"Gas"	1,298	14	863	637			50	
	5	Snowden Bros.	Piper, No. 9	435	Bridgeport	805	11	370	1,130				
					..do	824	15	389	1,111				
					Bridgeport	851	122	416	584				
					Buchanan	1,143	64	708	792				
					"Gas"	1,300	12	865	635			90	
S. E.	1	Snowden Bros.	Piper, No. 4	435	Bridgeport	900		465	1,035				Salt water, 900, 1050 feet.
					"Gas"	1,307	17	872	628				
	2	Snowden Bros.	Piper, No. 6	436	Bridgeport	950		514	986				Salt water, 900, 1,050 feet.
					"Gas"	1,311	15	875	625			Show	
					Kirkwood-1	1,445	12	1,009	491				
					Kirkwood-2	1,460	20	1,024	476				
	3	Snowden Bros.	Piper, No. 5	435	Bridgeport	855		420	1,080				Salt water, 855 feet
					Stray	1,200	25	765	735				Salt water, 1,200 feet
					"Gas"	1,308	24	873	627			Dry	
	4	Ohio	R. Judy, No. 1	434	Bridgeport	930	70	496	1,004				
					"Gas"	1,306	18	872	628			Dry	
	5	Ohio	R. Judy, No. 2	434	Bridgeport	930	70	496	1,004				
					"Gas"	1,307	22	873	627				
	6	Ohio	R. Judy, No. 3	436	Kirkwood	1,445		1,009	491				
					Tracey	1,589		1,153	347		1,629		Gas, 1,589 feet

Lawrence County—Petty Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
1—													
S. E.	7	Ohio	R. Judy, No. 4	436	"Gas"	1,312	8	876	624				Salt water, 1,660 to 1,670 feet
					McClosky	1,660	10	1,224	276		1,700	Dry	Well abandoned
	8	Ohio	R. Judy, No. 5	436	Kirkwood	1,408	5	972	528	1,408			Gas, 1,408 to 1,413 feet
					Tracy	1,565	10	1,129	371	1,565		10	
	9	Ohio	M. Martin, No. 1	434	"Gas"	1,330	13	986	604				
					McClosky	1,640	45	1,206	294		1,685	Dry	
	10	Ohio	M. Martin, No. 3	434	"Gas"	1,358		924	576			Show	Black oil
					Tracey	1,590	1,600	1,156	344		1,634		
	11	Ohio	M. Martin, No. 4	434	"Gas"	1,300	20	866	634				
					Kirkwood	1,425	15	991	509				
					McClosky	1,662	10	1,228	272	1,665	1,674	25	
2—													
N. E.	1	Ohio	Poland, No. 1	433	"Gas"	1,360	10	927	573				
					Kirkwood-1	1,386	8	953	547				
					Kirkwood-2	1,470	30	1,037	463	1,473	1,507	50	Gas, 1,470 feet
	2	Ohio	Poland, No. 2	433	Kirkwood-1	1,433	13	1,000	500				
					Kirkwood-2	1,497	16	1,064	436		1,513	Gas	Gas, 1,497 to 1,513 feet. 4,000,000 cubic feet daily
	3	Ohio	Poland, No. 3	435									Drilling
	4	Snowden Bros	Piper, No. 8	435								Gas	Gas well. No record
	5	Ohio	D. Stoltz, No. 6	433	McClosky	1,649	11	1,216	284	1,649	1,661	20	
	6	Ohio	Waggoner, No. 5	435	Kirkwood-1	1,419	21	984	516				Gas, 1,450 to 1, 475 feet
					Kirkwood-2	1,485	15	1,050	450				
					McClosky	1,650	16	1,215	285		1,666	Gas	2,500,000 cubic feet daily.
	7	Ohio	Waggoner, No. 1	438	Kirkwood	1,440	34	1,002	498	1,442		Gas	Gas, 1,442 feet
N. W.	1	Ohio	Rigall, No. 1	450	..do	1,546	4	1,096	404		1,710	Gas	Gas, 1,546 to 1,550 feet
	2	Ohio	S. Jennings, No. 1	436	..do	1,582	18	1,146	354		2,001	Dry	Water, 1,583 to 1,600 feet.
S. W.	1	Ohio	Waggoner, No. 2	440	Kirkwood-1	1,500	10	1,060	440				
					Kirkwood-2	1,548	10	1,108	392	1,548	1,825	30	
	2	Ohio	Waggoner, No. 3	445	Tracy	1,582	10	1,137	363	1,585	1,600	30	
	3	Ohio	Waggoner, No. 4	450	Kirkwood	1,582	20	1,132	368	1,587	1,610	200	

	4	Ohio	Racop, No. 1	455	..do	1,620	9	1,165	335		1,760	Dry	Salt water, 1,759 feet
					Bridgeport	965	15	515	985				
					..do	1,085	15	635	865				Salt water, 1,100 feet
	5	Snowden Bros	Armitage, No. 1	450	Buchanan-1	1,180	25	730	770				
					Buchanan-2	1,220	15	770	730				
					Stray	1,395	5	945	555				
					Kirkwood	1,570	26	1,120	380	1,581	1,606	100	
					Bridgeport	844	25	399	1,101				
					..do	924	12	479	1,021				
					..do	951	13	506	994				
	6	Snowden Bros	Armitage, No. 2	445	Buchanan	1,140	30	695	805				Hole full of water, 1,140 feet
					"Gas"	1,505	6	1,060	440	1,505		Show	
					Kirkwood	1,535	30	1,090	410	1,555			
					Tracey	1,578	5	1,133	367	1,578	1,610		Lime and sand
					Bridgeport	858	17	419	1,081				
					..do	910	21	471	1,029				Salt water, 931 feet
					..do	960	120	521	979				
					Buchanan-1	1,150	40	711	789				
					Buchanan-2	1,260	10	821	679				
S. E.	1	Snowden Bros	Piper, No. 10	439	"Gas"	1,450	25	1,011	489				
					Kirkwood-1	1,481	20	1,042	458	1,481		Show	
					Kirkwood-2	1,511	19	1,072	428				
					Tracey-1	1,591	29	1,152	348				
					Tracey-2	1,630	25	1,191	309		1,708		
	2	Snowden Bros	Piper, No. 3	437	Kirkwood	1,505	8	1,068	432			Gas	600 pounds pressure, 7,000-000 cubic feet gas.
	3	Ohio	Stoltz, No. 2	435	..do	1,463		1,028	472	1,463	1,533		Gas, 1,507 feet. Abandoned
					..do	1,439	40	1,004	496				
	4	Ohio	Stoltz, No. 4	435	Tracey-1	1,588	16	1,153	347				
					Tracey-2	1,633	20	1,198	302		2,002	Dry	
	5	Ohio	Stoltz, No. 3	436	Kirkwood-1	1,444	16	1,008	492				
					Kirkwood-2	1,475		1,039	461		1,660	Gas	Gas, 1,480 feet
	6	Ohio	Stoltz, No. 1	437	Kirkwood	1,460	14	1,023	477	1,463		30	
					..do	1,461	30	1,026	474	1,470			Gas, 1,461 feet
	7	Ohio	Stoltz, No. 5	435	Tracey-1	1,586	14	1,151	349				
					Tracey-2	1,630	19	1,195	305	1,635	1,651	90	
3—													
					Buchanan	1,260		820	680				Salt water, 1,260 to 1,280 feet
S. W.	1	Ohio	Haines, No. 1	440	Stray	1,580	8	1,140	360				
					..do	1,630	8	1,190	310				
					Kirkwood	1,730		1,290	210		1,833	Dry	Salt water, 1,730 to 1,745 feet
6—													
S. W.	1	Ohio	M. Martin, No. 2	434	Tracey	1,587		1,153	347	1,602	1,616		
	2	Ohio	R. Hardacre, No. 1	436	..do	1,596	10	1,160	340				
					McClosky	1,660	13	1,224	276	1,666	1,673	200	
					"Gas"	1,375	5	939	561				
	3	Ohio	R. Hardacre, No. 7	436	Kirkwood	1,457	5	1,021	479				
					Tracey	1,575	55	1,139	361	1,575	1,658	55	

Lawrence County—Petty Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
6— S. W.	4	Ohio	R. Hardacre, No. 4	435	Kirkwood	1,425	22	990	510				
					Tracey	1,598	8	1,163	337				
					McClosky	1,625	11	1,190	310		1,642	30	
7— N. E.	1	Ohio	J. Bolles, No. 3	434	Tracey	1,609	11	1,175	325				
					McClosky	1,700	20	1,266	234	1,720	1,777	20	
	2	Ohio	S. E. Smith, No. 1	434	..do	1,665	26	1,231	269	1,675	1,700	30	
N. W.	1	Ohio	H. A. Hardacre, No. 4	434	Kirkwood	1,420	10	986	514				
					Tracey	1,525	5	1,091	409				Gas, 1,528 feet
					McClosky	1,632	12	1,198	302	1,633	1,654	160	
	2	Ohio	H. A. Hardacre, No. 2	434	..do	1,604	11	1,170	330	1,604	1,640	60	
	3	Ohio	H. A. Hardacre, No. 3	436	"Gas"	1,343	15	907	593	1,349		75	
					Kirkwood	1,366	24	930	570		1,425		
	4	Ohio	R. M. Hardacre, No. 3	436	..do	1,370	40	934	566	1,380	1,422	150	
	5	Ohio	R. M. Hardacre, No. 2	435	"Gas"	1,335	20	900	600				
					McClosky	1,580	12	1,145	355	1,580	1,633	150	
	6	Ohio	I. B. Smith, No. 1	434	Kirkwood	1,385	17	951	549		1,422		
	7	Ohio	I. B. Smith, No. 2	434	..do	1,385	19	951	549				
					McClosky	1,578		1,144	356	1,616	1,664		
	8	Ohio	I. B. Smith, No. 3	434	Kirkwood	1,377		943	557		1,400		
	9	Ohio	M. Ridgely, No. 1	433	"Gas"	1,318	12	885	615	1,320	1,339	40	
	10	Ohio	M. Ridgely, No. 2	435	Kirkwood-1	1,380	26	945	555	1,406			
					Kirkwood-2	1,420	10	985	515				
					Tracey	1,515		1,080	420		1,535	Gas	Gas, 1,515 feet
	11	Ohio	S. E. Smith, No. 2	435	Kirkwood	1,373	9	938	562		2,010	Dry	
S. W.	1	Ohio	A. Applegate, No. 2	433	"Gas"	1,303	12	870	630	1,305		45	
	2	Ohio	A. Applegate, No. 10	434	Kirkwood	1,377	23	943	557	1,377	1,400	200	
	3	Ohio	A. Applegate, No. 11	434	..do	1,363	32	929	571	1,380	1,400	175	
	4	Ohio	A. Applegate, No. 4	434	"Gas"	1,290	10	856	644	1,290		35	
					Kirkwood	1,355	5	921	579		1,363		
	5	Ohio	A. Applegate, No. 12	435	..do	1,350	30	915	585	1,360	1,380	250	

	6	Ohio	A. Applegate, No. 6	434	"Gas"	1,286	14	852	648	1,286			
					Kirkwood	1,323	11	889	611	1,323	1,356	50	
	7	Ohio	A. Applegate, No. 13	435	..do	1,337	26	902	598	1,338	1,363	115	
	8	Ohio	A. Applegrate, No. 7	434	McClosky-1	1,578	6	1,144	356	1,578			
					McClosky-2	1,608	44	1,174	326	1,608	1,652	125	
	9	Ohio	A. Applegate, No. 3	434	"Gas"	1,297	20	863	637	1,297			
					Tracey	1,495		1,061	439		1,536	Gas	Gas, 1,495 feet
	10	Shaffer & Smathers	E. Wiswall, No. 2	434	Bridgeport	890		456	1,044				
					Stray	1,270		836	664				
					"Gas"	1,302		868	632				
					Tracey	1,509		1,075	425				
					McClosky-1	1,577	17	1,143	357				
					McClosky-2	1,595	16	1,161	339		1,630	550	
	11	Shaffer & Smathers	E. Wiswall, No. 9	434	"Gas"	1,283	10	849	651				
					Kirkwood	1,398	8	964	536				Gas, 1,398 feet
					Tracey	1,535	7	1,101	399				Gas, 1,535 feet
					McClosky	1,612	10	1,178	322		1,626	40	Lime, 1,542 to 1,626 feet
	12	Shaffer & Smathers	E. Wiswall, No. 3	435	Bridgeport	1,895		460	1,040			Dry	
					Kirkwood	1,405	25	970	530				
					Tracey	1,517	13	1,082	418				
					McClosky	1,597	17	1,162	338	1,597	1,614	15	Abandoned
	13	Shaffer & Smathers	E. Wiswall, No. 1	435								Dry	No record
	14	Shaffer & Smathers	E. Wiswall, No. 7	435	"Gas"	1,295	9	860	640			125	
					Kirkwood	1,350	19	915	585		1,383		
	15	Shaffer & Smathers	E. Wiswall, No. 8	435	..do	1,363	23	928	572		1,389	20	
	16	Shaffer & Smathers	E. Wiswall, No. 5	435	..do	1,370	26	935	565	1,370	1,410	15	
	17	Shaffer & Smathers	E. Wiswall, No. 4	434	"Gas"	1,310	10	876	624			15	
					Kirkwood	1,383	22	949	551		1,405	70	Red rock between 1,320 and 1,400 feet
	18	Shaffer & Smathers	E. Wiswall, No. 6	435	Kirkwood-1	1,405	22	970	530				
					Kirkwood-2	1,467	16	1,032	468		1,720	Dry	
S. E.	1	Shaffer & Smathers	J. A. Wiswall, No. 2	434	Bridgeport	890	5	456	1,044				Broken sand
					"Gas"	1,311	7	877	623				
					Kirkwood-1	1,385		951	549				
					Kirkwood-2	1,470	8	1,036	464			75	
					McClosky	1,604	26	1,170	330		1,669		Salt water, 1,612 feet
	2	Paden	J. A. Wiswall, No. 1	434									No record
	3	Shaffer & Smathers	J. A. Wiswall, No. 3	435	Kirkwood-2	1,490	11	1,055	445				
					Tracey	1,570	15	1,135	365		1,615	75	
	4	Shaffer & Smathers	J. A. Wiswall, No. 4	435	"Gas"	1,350	5	915	585				
					Kirkwood	1,417	10	982	518		1,429	60	
	5	Shaffer & Smathers	J. A. Wiswall, No. 5	434	Kirkwood-1	1,407	4	973	527				
					Kirkwood-2	1,438	10	1,004	496		1,454	50	Lime, 1,270 to 1,278 feet
	6	Ohio	J. Bolles, No. 2	435	Kirkwood	1,436	12	1,001	499	1,440	1,448	120	
	7	Ohio	J. Bolles, No. 4	435	..do	1,456	14	1,021	479	1,462	1,473	50	
	8	Ohio	J. Bolles, No. 1	428	Tracey	1,602	26	1,174	326				
					McClosky	1,692	26	1,264	236	1,692	1,720	30	

Lawrence County—Petty Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Intial product—barrels.	Remarks.
11—													
N. E.	1	Snowden Bros	Piper, No. 11	435	Bridgeport	860	90	425	1,075				Salt water, 900 to 920 feet
					..do	955	65	520	980				Salt water, 1,000 to 1,020 feet
					Stray	1,225	10	790	710				
					..do	1,237	38	802	698				
					..do	1,373	12	938	562	1,380		Show	
					"Gas"	1,425	25	990	510	1,430			
					Kirkwood	1,485	20	1,050	450				
					Tracey	1,535	5	1,100	400				
					McClosky	1,595	28	1,160	340		1,670		Gas, 1,612 feet, "green" oil sand
	2	Snowden Bros	Piper, No. 2	445	Bridgeport	890		445	1,055				
					"Gas"	1,420	16	975	525				
					Kirkwood	1,478	38	1,033	467				
					McClosky	1,607	63	1,162	338			60	
S. E.	1	Ohio	I. B. Smith, No. 1	448	Tracey	1,545	15	1,097	403	1,550		40	Gas, 1,545 feet. salt water, 1,560 feet
					McClosky	1,616	8	1,168	332				
	2	Ohio	I. B. Smith, No. 2	478	Tracey	1,580	20	1,102	398	1,584	1,617	110	Gas, 1,584 to 1,600 feet
	3	Ohio	I. B. Smith, No. 3	467	McClosky	1,655	20	1,188	312	1,655	1,690	25	Gas, 1,655 feet
	4	McAuliff	Lot	460									No record
	5	Haywood	M. Smith, No. 1	468	Stray	1,290		822	678				No upper sands
					..do	1,820		1,352	148		1,825	Dry	Salt water, 1,290 and 1,820 feet
	6	McAuliff	J. Angle, No. 1	486								Dry	No record
	7	Ohio	E. Heck, No. 1	485	McClosky	1,737	23	1,252	248	1,740	1,813	25	Gas, 1,739 feet
	8	Ohio	Cessna, No. 3	476	..do	1,695	15	1,219	231	1,675	1,735	25	
	9	Ohio	Cessna, No. 1	442	Kirkwood	1,489	11	1,047	453	1,495		25	
	10	Ohio	Cessna, No. 2	460	McClosky	1,660	20	1,200	300	1,670	1,688	75	
	11	Ohio	Cessna, No. 4	467	Bridgeport	1,010	50	543	957				
					McClosky	1,671	11	1,204	296	1,671	1,691	28	Gas and oil, 1,671 feet

12—N. E.	12	Ohio	C. Aker, No. 3	464	Bridgeport	1,015	105	551	949				
					McClosky	1,660	20	1,196	304	1,664	1,683	60	Gas, 1,665 to 1,680 feet
	13	Ohio	A. Westall, No. 9	463	Bridgeport	1,010	85	547	953				
					Tracey	1,595	68	1,132	368	1,640	1,663	20	Gas, 1,610 to 1,660 feet
	14	Ohio	C. Aker, No. 2	455	Kirkwood	1,480	5	1,025	475				
					McClosky	1,650	12	1,195	305	1,650	1,705	25	
	15	Ohio	C. Aker, No. 1	441	Kirkwood	1,480		1,039	461	1,480	1,490		
	16	Ohio	A. Westall, No. 2	448	..do	1,460		1,012	488	1,479		70	
	1	Ohio	H. Hardacre, No. 5	436	..do	1,405	8	969	531	1,405			Gas, 1,405 feet
					Tracey	1,565	10	1,129	371	1,565			
					McClosky	1,612	6	1,176	324		1,640	40	
	2	Ohio	H. Hardacre, No. 1	434	"Gas"	1,304	23	870	630	1,314	1,329	65	
	3	Ohio	R. M. Hardacre, No. 1	434	..do	1,305		871	629	1,311	1,442		
	4	Ohio	R. Hardacre, No. 2	434	Kirkwood	1,417	5	983	517		1,422	Gas	Gas, 1,418 feet
	5	Ohio	R. Hardacre, No. 4	435	Stray	1,460	20	1,025	475				
					Tracey	1,503	32	1,068	432		1,540	Gas	Gas, 1,515 feet
	6	Ohio	R. Hardacre, No. 3	432	"Gas"	1,305	4	873	627				
					Stray	1,456		1,024	476				Gas, 1,456 feet
					McClosky	1,627	10	1,195	305	1,627	1,640	10	
	7	Ohio	R. Hardacre, No. 6	432	Kirkwood	1,375	45	943	557				Gas, 1,375 feet
					McClosky-1	1,607	5	1,175	325				
					McClosky-2	1,615	13	1,183	317	1,615	1,630	107	
	8	Ohio	R. Hardacre, No. 5	434	"Gas"	1,315	15	881	619				
					McClosky	1,634	8	1,200	300	1,634	1,642	100	Gas, 1,500 feet
	9	Ohio	I. B. Smith, No. 4	433	Kirkwood	1,368		935	565		1,391		
	10	Ohio	I. B. Smith, No. 5	432	McClosky	1,609	36	1,177	323	1,637	1,650	80	Gas, 1,590 feet
	11	Ohio	Ridgely, No. 3	433	Kirkwood	1,362	18	929	571	1,365	1,392	180	
	12	Ohio	Ridgely, No. 4	432	"Gas"	1,295	12	863	637				
					Kirkwood	1,352	24	920	580	1,363	1,407	85	
	13	Morrison	McNeece, No. 2	435	"Gas"	1,321	13	886	614				
					Kirkwood	1,410	6	975	525				
					Stray	1,475	4	1,040	460				
					Tracey	1,531	9	1,096	404		1,545	20	
	14	Paden	McNeece, No. 1	434	Stray	1,469		1,035	465	1,469			Now the Morrison Oil Co.
					McClosky	1,641		1,207	293				
	15	Morrison	McNeece, No. 3	435	"Gas"	1,299	8	864	636				
					Kirkwood	1,370	12	935	565		1,426	140	
N. W.	1	Ohio	A. Westall, No. 6	434	Stray	1,450	30	1,016	484				
					Tracey	1,502	18	1,068	432		1,520	Gas	Gas, 1,512 feet
	2	Ohio	A. Westall, No. 8	445	Tracey	1,505	30	1,060	440		1,542	Gas	Gas, 1,520 feet
	3	Ohio	A. Westall, No. 11	450	Bridgeport	950	65	500	1,000				
					Kirkwood	1,364	13	914	586	1,364	1,397	24	Gas, 1,364 feet
	4	Ohio	Clint Thorn, No. 4	454	Bridgeport	890	95	436	1,064				
					"Gas"	1,330	15	876	624	1,330			Gas, 1,330 feet
					Kirkwood	1,375	23	921	579	1,375	1,402	35	
	5	Snowden Bros	Piper, No. 12	433	Bridgeport	880	132	447	1,053				
					Buchanan	1,165	60	732	768				
					"Gas"	1,315	30	882	618			Show	
					Kirkwood	1,384	16	951	549				
					Tracey-1	1,486	29	1,053	447				
					Tracey-2	1,523	8	1,090	410		1,596		Gas, 1,523 feet
	6	Snowden Bros	Piper, No. 7	434									No record

Lawrence County—Petty Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
12— N. W..	7	Ohio	G. Gray No. 1 (acct. 4)	437	"Gas"	1,325	10	888	612				
					Tracey	1,572	12	1,135	365		1,655	Gas	
	8	Ohio	G. Gray (acct. 4), No. 2	436									Drilling
	9	Ohio	G. Gray (acct. 1), No. 1	447	Kirkwood	1,441	13	994	506				
					McClosky	1,607	14	1,160	340	1,613		30	Gas, 1,607 feet.
S. W..	1	Paden	C. Thorn, No. 1	459	..do	1,627		1,168	332				Now Morrison Oil Co.
	2	Morrison	C. Thorn, No. 5	469									No record
	3	Ohio	C. Thorn, No. 2	457	"Gas"	1,335	10	878	622				
					Kirkwood	1,385	40	928	572	1,385	1,425	125	
	4	Ohio	C. Thorn, No. 3	442	..do	1,361	38	919	581	1,390	1,405	100	
	5	Ohio	C. Thorn, No. 1	449	"Gas"	1,360	35	911	589				
					Kirkwood	1,409	16	960	540	1,409	1,430	130	
	6	Ohio	Westall, No. 4	460	McClosky	1,613	37	1,153	347	1,613	1,659	35	
	7	Ohio	Westall, No. 10	464	Bridgeport	1,000	85	536	964				
					Tracey	1,574	96	1,110	390	1,580	1,661		Gas, 1,580 to 1,600 feet
	8	Ohio	Westall, No. 7	450	Kirkwood	1,465	10	1,015	485				
					McClosky	1,638	12	1,188	312	1,638	1,700	50	
	9	Ohio	Westall, No. 5	463	"Gas"	1,352	20	889	611	1,352		75	
					Kirkwood	1,432	10	969	531		1,475		Gas, 1,432 feet
	10	Ohio	Westall, No. 3	447	"Gas"	1,372	5	925	575				
					Kirkwood	1,416	20	969	531	1,430		50	
	11	Ohio	Westall, No. 1	439	..do	1,440	7	1,001	499	1,442		60	
	12	Ohio	Klinger, No. 3	435	..do	1,412	11	977	523	1,415		100	
	13	Ohio	Klinger, No. 6	436	..do	1,395	17	959	541	1,400	1,420	70	
	14	Ohio	Pepple, No. 1	437	Kirkwood-1	1,409	7	972	528				
					Kirkwood-2	1,462	18	1,025	475				
					McClosky	1,616		1,179	321		1,620	Dry	Salt water, 1,616 feet
	15	Ohio	Pepple, No. 2	433	Kirkwood	1,420	12	987	513	1,421		60	
	16	Ohio	Pepple, No. 6	435	Kirkwood-1	1,405	15	970	530	1,405		40	Gas, 1,405 feet
					Kirkwood-2	1,496	20	1,061	439				Salt water, 1,470 feet
					Tracey	1,568	7	1,133	367	1,568	1,630	40	

S. E.	1	Ohio	A. R. Applegate, Tr. No. 1.	436	Buchanan	1,202	112	766	734				
					Tracey	1,510	15	1,074	426		1,525	Gas	Gas, 1,521 feet.
	2	Ohio	A. R. Applegate, Tr. No. 13	436	Kirkwood	1,375	20	939	561	1,380	1,401	125	Gas, 1,375 feet.
	3	Morrison	C. Thorn, No. 3	437	"Gas"	1,309	11	872	628				
					Kirkwood	1,386	9	949	551		1,400	120	
	4	Morrison	C. Thorn, No. 2	442	"Gas"	1,299	9	857	643				
					Kirkwood	1,385	11	943	557		1,402	100	
	5	Morrison	C. Thorn, No. 4	448	"Gas"	1,312	10	864	636				
					Stray	1,355		907	593				
					Kirkwood	1,395	13	947	553		1,408	80	
	6	Ohio	A. R. Applegate, Tr. No. 15	437	"Gas"	1,283	62	846	654	1,345	1,372	135	
	7	Ohio	A. R. Applegate, Tr. No. 12	436	..do	1,297	58	861	639	1,300	1,375	110	
	8	Ohio	A. R. Applegate, Tr. No. 14	436	Kirkwood	1,355	20	919	581	1,365	1,379	200	
	9	Ohio	A. R. Applegate, Tr. No. 1.	436	"Gas"	1,260	60	824	676				
					Tracey	1,509	16	1,073	427			Gas	Gas, 1,509 feet.
	10	Ohio	A. R. Applegate, No. 9	436	McClosky	1,583	42	1,147	353	1,583	1,630	30	
	11	Ohio	A. R. Applegate, No. 5	436	"Gas"	1,288	8	752	648	1,288			
					Kirkwood	1,340	21	904	596	1,340	1,363	45	
	12	Ohio	A. R. Applegate, No. 8	435	"Gas"	1,290	3	855	645	1,290			
					Kirkwood	1,355	17	920	580	1,355	1,375	100	
13— N. E.	1	Ohio	A. R. Applegate, Tr. No. 10	435	Tracey	1,515		1,080	420				Gas, 1,515 feet.
					McClosky	1,615	75	1,180	320	1,615	1,695	165	
	2	Ohio	A. R. Applegate, Tr. No. 6.	435	Kirkwood	1,330	8	895	605				
					Tracey	1,502		1,067	433				Gas, 1,502 feet.
					McClosky	1,595	75	1,160	340	1,595	1,670	240	
	3	Ohio	A. R. Applegate, No. 3	433	"Gas"	1,302	13	869	631	1,303			
					Kirkwood	1,367	20	934	566	1,315	1,387	15	
	4	Ohio	A. R. Applegate, No. 4	436	..do	1,385		949	551		1,541	Gas	
	5	Ohio	A. R. Applegate, Tr. No. 19	433									Drilling.
	6	Ohio	A. R. Applegate, Tr. No. 18	428	Bridgeport	920	90	492	1,008				
					Kirkwood	1,350	20	922	578				
					McClosky	1,662	8	1,234	266	1,662	1,680	65	Gas, 1,662 feet.
N. W.	1	Ohio	Pepple, No. 3	436	"Gas"	1,330	4	894	606		1,654		Gas, 1,371 feet. Well abandoned.
	2	Ohio	Pepple, No. 10	435	..do	1,353	20	918	582				
					McClosky	1,580	15	1,145	355	1,580	1,617	60	
	3	Ohio	Pepple, No. 7	435	Kirkwood	1,375	18	940	560	1,375	1,400	35	
	4	Ohio	Pepple, No. 5	435	Kirkwood-1	1,398	8	963	537	1,398			
					Kirkwood-2	1,408	28	973	527	1,408	1,438	20	
	5	Ohio	Pepple, No. 4	433	McClosky-1	1,599	12	1,166	334	1,599			
					McClosky-2	1,629	6	1,196	304	1,611	1,643	35	
	6	Ohio	Pepple, No. 9	435	McClosky-1	1,616	30	1,181	319	1,631	1,662	75	
	7	Ohio	Pepple, No 8	435	McClosky-2	1,649	16	1,214	286	1,649	1,671	75	
	8	Craig & Lowrie	Gray, No. 3	436	Kirkwood	1,438	24	1,002	498	1,438			Black oil.
					McClosky	1,650	20	1,214	286	1,650	1,675		Green oil.
	9	Craig & Lowrie	Gray, No. 1	434	Kirkwood	1,400	20	966	534	1,405			
					McClosky	1,610	30	1,176	324	1,615	1,642		

Lawrence County—Petty Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
13—													
N. W.	10	Craig & Lowrie	Gray, No. 2	434	Kirkwood-1	1,416	15	982	518	1,416			
					Kirkwood-2	1,447	35	1,013	487	1,447			Broken sand, 1,447 to 1,453 feet
					McClosky-1	1,605	10	1,171	329	1,605			
					McClosky-2	1,632	8	1,198	302		1,642		
	11	Craig & Lowrie	Gray, No. 4	434	McClosky	1,654	16	1,220	280	1,654	1,695		Gas, 1,654 feet
	12	Ohio	Gray, No. 1	434	Kirkwood	1,390	22	956	544	1,408	1,440	50	
	13	Ohio	Gray, No. 2	434	..do	1,392	39	958	542	1,397	1,462	40	
	14	Ohio	Gray, No. 3	434	Bridgeport	900	85	466	1,034				
					Kirkwood	1,358	22	924	576	1,358	1,698	75	
S. W.	1	McAuliff	A. Martin, No. 2	432									No record
	2	McAuliff	A. Martin, No 1	432									..do
	3	Haney & Milligan	A. Martin, No. 1	427	Kirkwood	1,430	8	1,003	497	1,432			
					Tracey	1,543	12	1,116	384				
					McClosky-1	1,620	6	1,193	307				Salt water
					McClosky-2	1,655	3	1,228	272		1,705		
	4	Ohio	A R. Applegate, Tr. No. 16	434	Kirkwood	1,410	25	976	524				
					McClosky	1,620	16	1,186	314	1,620	1,636	110	
	5	Ohio	A. R. Applegate, Tr. No. 11	427	"Gas"	1,380	10	953	547	1,380			
					McClosky	1,602	20	1,175	325	1,605	1,622	30	
	6	Ohio	L. Green, No. 1	430	Kirkwood	1,463	5	1,033	467				
					Stray	1,505	7	1,075	425				
					McClosky	1,663	15	1,233	267	1,663	1,700	40	
	7	Ohio	Douglas, No. 2	435	Kirkwood	1,520	15	1,085	415	1,520		15	
					McClosky	1,710	12	1,275	225		1,734		
	8	Ohio	Douglas, No. 1	430	Kirkwood	1,521	24	1,091	409	1,531	1,554	12	
	9	Ohio	B. H. Crutchfield, No. 1	428	..do	1,500	50	1,072	428				
					McClosky	1,648	12	1,220	280	1,648	1,686	60	Gas, 1,650 feet
	10	Ohio	E. K. Crutchfield, No. 1	428	Kirkwood	1,500	38	1,072	428	1,505		30	
					Tracey	1,540	5	1,112	388		1,545		
	11	Ohio	E. K. Crutchfield, No. 2	429	"Gas"	1,395	30	996	534	1,395			
					Kirkwood	1,478	24	1,049	451	1,485	1,502	85	

	12	Ohio	E. K. Crutchfield, No. 3	434	"Gas"	1,397	6	963	537				
					Kirkwood	1,485	35	1,051	449	1,485	1,520	30	
S. E.	1	Ohio	Perry King, No. 33	434	"Gas"	1,383	24	949	551	1,397			
					Kirkwood	1,424	26	990	510	1,427	1,450	65	
					Stray	1,367	8	934	566	1,367			
	2	Ohio	J. R. King, No. 1	433	"Gas"	1,393	10	960	540	1,400		75	
					Kirkwood	1,430	15	997	503		1,455		
	3	Ohio	E. Applegate, No. 2	433	"Gas"	1,390	12	957	543				
					Tracey	1,490		1,057	443	1,490	1,720	50	Gas, 1,517 feet
	4	Ohio	E. Applegate, No. 1	433	"Gas"	1,278	28	845	655				
					Kirkwood	1,378	22	945	555	1,378		120	
14—N. E.	1	Ohio	J. Klinger, No. 1	449	..do	1,431	15	982	518	1,443		125	
	2	Ohio	J. Klinger, No. 5	458	..do	1,452	12	994	506	1,452	1,472	7	
	3	Ohio	J. Klinger, No. 8	442	..do	1,453	30	1,011	489	1,455	1,775	25	
	4	Ohio	J. Klinger, No. 7	440	McClosky	1,660	25	1,220	280	1,670	1,687	100	
	5	Ohio	J. Klinger, No. 2	470	Kirkwood	1,493	11	1,023	477	1,493		145	
	6	Ohio	J. Klinger, No. 4	470	..do	1,498	51	1,028	472	1,545	1,549	50	
	7	Ohio	O. H. Smith, No. 1	481	McClosky	1,730	31	1,219	251	1,730	1,761		
N. W.	1	Haywood	Waggoner, No. 1	470	Stray	1,490	5	1,020	480		1,805	Dry	
S. E.	1	Craig & Lowrie	Martin, No. 2	443	Kirkwood	1,500	10	1,057	443			Light	Black oil
					McClosky	1,700	3	1,257	243		1,955		Salt water, 1,850 feet. Lime, 1,880 to 1,955 feet.
	2	Craig & Lowrie	Martin, No. 1	441	Kirkwood	1,468	5	1,027	473			Light	
					McClosky	1,672	16	1,231	269		1,697		
					Bridgeport	900	45	462	1,038				Salt water, 945 feet
					Bridgeport and Buchanan	1,000	115	562	938				Hole full of water, 1,115 feet
	3	Snowden Bros	Moudy, No. 1	438	Buchanan	1,250	20	812	688				Salt water, 1,270 feet
					Stray	1,375	17	937	563				
					"Gas"	1,465	20	1,027	473	1,465			
					Kirkwood	1,500	50	1,062	438				Salt water, 1,515 feet
					McClosky	1,680	12	1,242	258		1,775		Green oil. Well abandoned
15—													
					Bridgeport	883	20	408	1,092				
					..do	1,003	20	528	972				Salt water, 1,023 feet
					..do	1,095	20	620	880				
					..do	1,192	18	717	783				
N. E.	1	Snowden Bros	I. Vanatta, No. 2	475	Buchanan-1	1,315	55	840	660				
					Buchanan-2	1,520	76	1,045	455				
					Kirkwood	1,635	13	1,160	340				
					Tracey	1,763	99	1,288	212				Salt water, 1,970, 2,025, 2,110, 2,235 and 2,593 feet
					McClosky	1,937	8	1,462	38		2,936	Dry	Lime, 2,003 to 2,936 feet
17—N. E.	1	Cochran	Henry Bolles, No. 1	428	Kirkwood	1,589	22	1,161	337				
					Tracey	1,727	17	1,299	201				
					McClosky	1,793		1,365	135		1,793	Dry	
N. W.	1	Central Refining Co	Klinger, No. 12	435	Kirkwood-1	1,433	5	998	502				
					Kirkwood-2	1,452	32	1,017	483	1,472	1,484		

Lawrence County—Petty Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
17—N. W.	2	Central Refining Co	Klinger, No. 1	435	Bridgeport	872	32	437	1,063	875	919		
S. W.	1	Ohio	J. Bolles, No. 1	436	"Gas"	1,347	68	911	589				
					Tracey	1,451	29	1,015	485	1,451	1,493	150	Gas, 1,451 feet
	2	Ohio	Ridgely, No. 2	436	Kirkwood	1,369	24	933	567	1,372	1,423	150	
	3	Ohio	J. Bolles, No. 3	436	..do	1,424	20	988	512	1,424	1,571	40	
	4	Ohio	W. Westall, No. 5	436	..do	1,340	25	904	596	1,340	1,447	50	
	5	Ohio	W. Westall. No. 3	436	"Gas"	1,318	15	882	618	1,318		35	
					Kirkwood-1	1,356	12	920	580				Salt water
					Kirkwood-2	1,378	12	942	558		1,396		
	6	Ohio	W. Westall, No. 4	437	"Gas"	1,282	15	845	655	1,282	1,305	25	
	7	Ohio	W. Westall, No. 1	435									No record
	8	Ohio	Skiles, No. 4	434	Kirkwood	1,384	16	950	550	1,384	1,402	60	
	9	Ohio	Skiles, No. 7	436	Tracey	1,470	18	1,034	466	1,470	1,491	30	
S. E.	1	Central Refining Co	M. Wood, No. 1	433	Kirkwood	1,413	16	980	520	1,418	1,435		
	2	Central Refining Co	M. Wood, No. 2	433								Dry	No record
	3	Central Refining Co	M. Wood, No. 3	433	Bridgeport	900	10	467	1,033				
					"Gas"	1,343	15	910	590		1,475		
18—N. E.	1	Shaffer & Smathers	Wright, No. 1	436	Kirkwood	1,430	5	994	506				
					McClosky	1,596	4	1,160	340		1,706	Dry	
	2	Shaffer & Smathers	W. Applegate, No. 9	436	Kirkwood	1,406	16	970	530		1,422	60	
	3	Shaffer & Smathers	W. Applegate, No. 6	436	Bridgeport	923	19	487	1,013		942	125	
	4	Shaffer & Smathers	W. Applegate, No. 8	436	..do	920	20	484	1,016				
					McClosky	1,619	9	1,183	317		1,640	60	
	5	Shaffer & Smathers	W. Applegate, No. 5	436	Bridgeport	903	15	467	1,033				
					"Gas"	1,282	10	846	654			15	
					Stray	1,450	8	1,014	486			60	
					..do	1,485	7	1,049	451				Gas, 1,485 feet
					Tracey	1,515	15	1,079	421				
					Stray	1,580	10	1,144	356				Gas sand
					McClosky	1,606	6	1,170	330		1,612	600	

	6	Shaffer & Smathers	W. Applegate, No. 1	436	Bridgeport	890	12	454	1,046			115	
					Stray	1,433	10	997	503		1,455	50	
	7	Shaffer & Smathers	W. Applegate, No. 3	436	Bridgeport	890	17	454	1,046		910	30	Broken sand
	8	Shaffer & Smathers	W. Applegate, No. 7	436	..do	888	32	452	1,048				
					"Gas"	1,304	16	868	632				
					Stray	1,430	10	994	506			75	
					Tracey	1,500	10	1,064	436				
					Stray	1,565		1,129	371				
					..do	1,595	3	1,159	341				
					McClosky	1,601	6	1,165	335		1,617	1,079	Lime, 1,598 to 1,601 feet
	9	Shaffer & Smathers	W. Applegate, No. 2	436	Bridgeport	888	32	452	1,048		940	50	
	10	Shaffer & Smathers	W. Applegate, No. 4	436	McClosky	1,595	20	1,159	341	1,595		20	
					Stray	1,637		1,201	299				Salt water
					..do	1,771		1,335	165		1,780		..do
	11	Central Refining Co	Klinger, No. 5	436	Bridgeport	868	45	432	1,068	895			
					"Gas"	1,307	7	871	629	1,314			
					Kirkwood	1,343	15	907	593				
	12	Central Refining Co	Klinger, No. 11	436	Bridgeport	875	42	439	1,061	880			
					"Gas"	1,290		854	646				
					Kirkwood-1	1,340	20	904	593				
					Kirkwood-2	1,418	22	982	518	1,420			
					Tracey	1,500	15	1,064	436				Gas, 1,500 feet
					McClosky	1,565	47	1,129	372	1,585	1,616		Oil, 1,608 feet
	13	Central Refining Co	Klinger, No. 10	436	Kirkwood-2	1,425	25	989	511		1,483		
	14	Central Refining Co	Klinger, No. 8	436	Bridgeport	868	42	432	1,068	870	922		
	15	Central Refining Co	Klinger, No. 9	436	..do	890	30	454	1,046	905	936		
	16	Central Refining Co	Klinger, No. 3	436	"Gas"	1,298	60	862	638	1,320	1,362		
	17	Central Refining Co	Klinger, No. 1	436	Bridgeport	838	41	402	1,098	840			Salt water, 863 feet
					Bridgeport and Buchanan	961	159	525	975				Salt water, 961 feet
					"Gas"	1,245	32	809	691				Gas, 1,247 feet
					Kirkwood	1,312	45	876	624	1,316			
	18	Central Refining Co	Klinger, No. 2	436	Bridgeport	820	20	384	1,116				
					..do	975		539	961				
					"Gas"	1,265		829	671	1,270			
					Kirkwood	1,318	64	882	618		1,382		
	19	Central Refining Co	Klinger, No. 4	436	Bridgeport	880	16	444	1,056	880	899		
	20	Central Refining Co	Klinger, No. 6	436	Kirkwood	1,385	33	949	551	1,390	1,421		
	21	Central Refining Co	Klinger, No. 13	436									No record. Drilling
N. W.	1	Ohio	Perry King, No. 39	435	Kirkwood	1,359	10	924	576				
					McClosky	1,580	15	1,145	355	1,580	1,605	60	
	2	Ohio	Perry King, No. 28	435	Stray	1,570	4	1,135	365	1,570			
					McClosky	1,604	14	1,169	331	1,604	1,618	125	Production increased to 200 bbls. the 2d day
	3	Ohio	Perry King, No. 40	435	..do	1,573	34	1,138	362	1,585	1,607	200	
	4	Ohio	Perry King, No. 24	434	Kirkwood	1,300	8	866	634				
					Tracey	1,485		1,051	449				Gas, 1,485 feet
					McClosky	1,588	26	1,154	346	1,595	1,604	1,230	Production increased to 1,320 bbls. 2d day
	5	Ohio	Perry King, No. 44	434	Kirkwood	1,339	11	905	595				
					McClosky	1,592	8	1,158	342		1,698	Dry	
	6	Ohio	Perry King, No. 34	435	..do	1,595	5	1,160	340		1,616	25	

Lawrence County—Petty Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
18— N. W.	7	Ohio	Perry King, No. 27	434	Bridgeport	898	47	464	1,036	898	953	90	Well abandoned
	8	Ohio	Perry King, No. 31	434	McClosky-1	1,565	20	1,131	369				
					McClosky-2	1,590	22	1,156	344	1,592	1,615	250	
	9	Ohio	Perry King, No. 26	434	"Gas"	1,290	11	856	644	1,290			
					Kirkwood	1,329	17	895	605	1,335	1,359	65	
	10	Ohio	Perry King, No. 29	434	McClosky	1,565	47	1,131	369	1,575	1,615	2,400	Flowing well. Production 2d day, 2,000 bbls
	11	Ohio	Perry King, No. 22	435	Kirkwood-1	1,327	5	892	608				
					Kirkwood-2	1,349	11	914	586	1,349	1,362	60	
	12	Ohio	Perry King, No. 18	436	Kirkwood	1,312	37	876	624	1,312	1,349	50	
	13	Ohio	Perry King, No. 12	436	"Gas"	1,268	20	832	668				
					Kirkwood	1,342	40	906	594	1,342	1,348	25	
	14	Ohio	A. Applegate, No. 2	435	"Gas"	1,275	5	840	660				
					Stray	1,292	18	857	643	1,292			
					Kirkwood	1,350	30	915	585			60	
	15	Ohio	A. Applegate, No. 5	433	Kirkwood-1	1,360	12	927	573	1,360		10	
					Kirkwood-2	1,400	13	967	533		1,413		
	16	Ohio	A. Applegate, No. 7	435	Tracey	1,485		1,050	450				Gas, 1,485 feet
					McClosky	1,600	20	1,165	335	1,600	1,620	1,200	
	17	Ohio	A. Applegate, No. 9	434	Tracey	1,515		1,081	419				Gas, 1,515 feet
					McClosky	1,598	67	1,164	336	1,608	1,665	175	
	18	Ohio	A. Applegate, No. 17	435	Bridgeport	950	75	515	985				
					Kirkwood-2	1,395	15	960	540	1,395	1,591	35	
	19	Ohio	A. Applegate, No. 8	434	Kirkwood	1,320	10	886	614				
					Stray	1,500		1,066	434				
					McClosky	1,597	23	1,163	337	1,597	1,620	1,400	
S. W.	1	Ohio	Perry King, No. 14	433	Kirkwood	1,355	31	922	578	1,355	1,368	30	
	2	Ohio	Perry King, No. 11	434	Tracey	1,513	22	1,079	421	1,513		125	Gas, 1,513 feet
	3	Ohio	Perry King, No. 20	435	Kirkwood	1,312	45	877	623	1,312	1,357	60	
	4	Ohio	Perry King, No. 5	434	"Gas"	1,226		792	708				Gas, 1,231 feet
					Kirkwood	1,298		864	636			60	Gas, 1,298 feet

S. E.	1	Ohio	Perry King, No. 2	436	"Gas"	1,228		792	708				Gas, 1,228 feet
					Kirkwood	1,295	26	859	641	1,297		90	
	2	Ohio	Perry King, No. 4	437	"Gas"	1,230	30	793	707				Gas, 1,230 feet
					Kirkwood	1,291	26	854	646	1,302		75	
	3	Ohio	Perry King, No. 15	437	"Gas"	1,249	12	812	688				Gas
					Kirkwood	1,289	30	852	648	1,291	1,319	60	
	4	Ohio	Perry King, No. 1	437	Bridgeport	814	46	377	1,123				Salt water, 850 feet
					Bridgeport	909	36	472	1,028	935		2	Well abandoned
	5	Ohio	Perry King, No. 36	437	Kirkwood	1,292	55	855	645	1,292	1,347	145	
	6	Ohio	Perry King, No. 35	436	"Gas"	1,269		833	667				Gas, 1,269 feet
					Kirkwood	1,300	70	864	636	1,300	1,402	135	
	7	Ohio	Perry King, No. 25	437	Bridgeport	890	18	453	1,047	893	931	25	Well abandoned
	8	Ohio	Perry King, No. 43	437	Kirkwood	1,362	35	925	575	1,362	1,397	135	
	9	Ohio	Perry King, No. 23	436	..do	1,288	20	852	648	1,288	1,309	25	
	10	Ohio	Perry King, No. 19	436	"Gas"	1,247		811	689				Gas, 1,247 feet
					Kirkwood	1,310	23	874	626	1,310	1,333	65	
	11	Ohio	J. Bolles, No. 2	436	Bridgeport	885	16	449	1,051	885	928	70	
	12	Ohio	J. Bolles, No. 4	436									Drilling
	13	Ohio	M. Ridgely, No. 1	436	Kirkwood-1	1,325	22	889	611	1,325		100	
					Kirkwood-2	1,350	20	914	586		1,400		
	14	Ohio	W. Westall, No. 7	436	Kirkwood	1,322	54	886	614	1,322	1,416	125	
	15	Ohio	W. Westall, No. 6	437	"Gas"	1,285	5	848	652				Gas
					Kirkwood	1,318	60	881	619	1,318	1,401	65	
	16	Ohio	W. Westall, No. 2	437	Bridgeport	968	11	531	969				
					"Gas"	1,242		805	695				Gas, 1,242 feet
					Kirkwood	1,302	10	865	635			25	
N. E.	1	Ohio	Hazel, No. 21	438	Bridgeport	923	15	485	1,015	938	938	180	
	2	Ohio	Hazel, No. 19	438	Kirkwood	1,306	24	868	632	1,315	1,335	71	
	3	Ohio	Hazel, No. 15	438	Kirkwood-1	1,298	6	860	640	1,299			
					Kirkwood-2	1,325	22	887	613	1,325		80	
	4	Ohio	Hazel, No. 6	439	Bridgeport	931	43	492	1,008	935		20	
	5	Ohio	Hazel, No. 5	439	..do	926	25	487	1,013	937		75	
	6	Ohio	Hazel, No. 16	438	"Gas"	1,243	8	805	695				
					Kirkwood	1,286	33	848	652	1,286		80	
	7	Ohio	Hazel, No. 4	433	Bridgeport	860	46	427	1,073				
					..do	908	26	475	1,025	910		130	
	8	Ohio	Hazel, No. 17	427	Kirkwood	1,275	48	848	652	1,275	1,332	70	
	9	Ohio	Hazel, No. 12	434	Bridgeport	885		451	1,049				
					..do	946		512	988	947		70	
	10	Ohio	Hazel, No. 22	435	Kirkwood	1,293	18	858	642				
					Stray	1,557		1,122	378				Gas, 1,557 feet
					McClosky	1,615	2	1,180	320	1,615	1,642	10	
	11	Ohio	Hazel, No. 10	436	"Gas"	1,250	15	814	686				Gas, 1,255 feet
					Kirkwood	1,283	38	847	653	1,313		140	
	12	Ohio	Hazel, No. 20	436	Bridgeport	927	40	491	1,009	927	967	140	
	13	Ohio	Hazel, No. 8	435	"Gas"	1,227	25	792	708				Gas, 1,245 feet
					Kirkwood	1,287	31	852	648	1,297		60	
	14	Ohio	Hazel, No. 7	434	"Gas"	1,227	23	793	707				Gas, 1,245 feet
					Kirkwood	1,295	23	861	639	1,301		25	
N. W.	1	Bridgeport	Cooper, No. 1	433	..do	1,295		862	638	1,295	1,327	30	

Lawrence County—Petty Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
19—													
N. W.	2	Bridgeport	Cooper, No. 9	433	Kirkwood-1	1,298	13	865	635	1,298			
					Kirkwood-2	1,320	12	887	613	1,322			
					Kirkwood-3	1,355	30	922	578	1,355			
					Tracey	1,485	75	1,052	448		1,560	Gas	3,000,000 cu. ft. gas daily from 1,510 to 1,560 feet
	3	Bridgeport	Cooper, No. 6	433	Kirkwood-1	1,319	34	886	614	1,320		15	
					Kirkwood-2	1,375	10	942	558		1,421		
					Tracey	1,515	81	1,082	418	1,571			3,000,000 cu. ft. gas daily from 1,515 to 1,555 feet
	4	Bridgeport	Cooper, No. 11	433	Stray	1,596	9	1,163	337	1,596			
					McClosky	1,612	29	1,179	321	1,612	1,641	80	Quit in sand
	5	Bridgeport	Cooper, No. 4	437	Kirkwood	1,298	102	861	639	1,315 1,388	1,400	17	
	6	Bridgeport	Cooper, No. 3	436	..do	1,314		878	622	1,320			
					Tracey	1,475		1,039	461		1,525	Gas	7,500,000 cu. ft. gas daily from 1,515 feet, 650 pounds rock pressure
	7	Bridgeport	Cooper, No. 2	437	Kirkwood	1,310	58	873	627	1,335 1,358	1,444	25	
	8	Bridgeport	Cooper, No. 8	426	"Gas"	1,280	14	854	646				
					Kirkwood-1	1,326	30	900	600			Show	
					Kirkwood-2	1,370	15	944	556	1,375			
					Tracey-1	1,475	35	1,049	451				1,000,000 cubic feet gas daily from 1,475 to 1,510 feet
					Tracey-2	1,565	10	1,139	361	1,570			
					McClosky	1,581	38	1,155	345	1,602 1,615	1,619	70	
	9	Bridgeport	Cooper, No. 5	436	Kirkwood-1	1,360	42	924	576	1,371			Sand broken, 1,371 to 1,393 feet
					Kirkwood-2	1,405	10	969	531	1,405			
					Kirkwood-3	1,418	4	982	518		1,422		Well abandoned

	10	Bridgeport	Cooper, No. 12	435									Well abandoned. No record
	11	Bridgeport	Cooper, No. 13	435	Bridgeport	880	32	445	1,055				
					..do	990	30	555	945				
					Buchanan	1,080	98	645	855				
					Stray	1,191	29	756	744				
					"Gas"	1,314		879	621	1,395	1,447		
	12	Bridgeport	Cooper, No. 7	427	..do	1,297	23	870	630	1,297			
					Kirkwood-1	1,375	21	948	552	1,385		100	
					Kirkwood-2	1,406	12	979	521		1,428		
	13	Bridgeport	Cooper, No. 10	426	"Gas"	1,260	15	834	664	1,275		Show	
					Kirkwood-1	1,330	30	904	596	1,340		600	
					Kirkwood-2	1,365	20	939	561		1,548		
	14	Ohio	Perry King, No. 41	430	"Gas"	1,290	15	860	640	1,295			
					Kirkwood	1,355	47	925	575	1,365	1,402	115	
	15	Ohio	Perry King, No. 30	434	"Gas"	1,285	29	851	649				
					Kirkwood	1,328	68	894	606				
					McClosky	1,587	17	1,153	347	1,587	1,605	150	Gas, 1,587 feet
	16	Ohio	Perry King, No. 38	433	Kirkwood	1,327	35	894	606	1,327	1,362	45	
	17	Ohio	Perry King, No. 21	432	Kirkwood-1	1,311	7	879	621				
					Kirkwood-2	1,345	15	913	587	1,345		2	
					Stray	1,485		1,053	447		1,533		Gas
	18	Ohio	Perry King, No. 37	432	Kirkwood	1,340	45	908	592	1,340	1,410	120	
S. W.	1	Ohio	Bowen, No. 3	440	..do	1,391	29	951	549				
					Tracey	1,518	65	1,078	422		1,533		Gas, 1,518 feet
	2	Ohio	Bowen, No. 7	426	Kirkwood	1,400	7	974	526				
					Tracey	1,512		1,086	414				Gas, 1,512 to 1,518 feet
					McClosky	1,600	20	1,174	326	1,600	1,625	50	
	3	Ohio	Bowen, No. 2	424	Kirkwood	1,375	10	951	549	1,380		25	
	4	Ohio	Bowen, No. 8	424	..do	1,371	11	947	553				
					McClosky	1,600	18	1,176	324	1,600	1,618	10	
	5	Ohio	Bowen, No. 6	453	Kirkwood	1,385	20	932	568				
					Tracey	1,521	15	1,068	432				Gas, 1,521 feet
					McClosky	1,636	5	1,183	317	1,636	1,688	7	
	6	Ohio	Bowen, No. 1	447	Kirkwood	1,374		927	573	1,380		150	
	7	Ohio	Bowen, No. 5	469	..do	1,418	22	949	551	1,418	1,558	10	
	8	Ohio	Bowen, No. 4	474	..do	1,420	41	946	554	1,420		30	
	9	Bridgeport	Bennett, No. 3	474	Bridgeport	1,795	205	321	1,179				
					Kirkwood-1	1,444	26	970	530	1,444		Light	
					Kirkwood-2	1,477	16	1,003	497				
					Tracey	1,593	28	1,119	381				Gas sand
					McClosky	1,726	6	1,252	248	1,726	1,734	40	Quit in hard lime
	10	Bridgeport	Bennett, No. 1	459	Kirkwood	1,391		932	568		1,404		
	11	Bridgeport	Bennett, No. 2	445	Kirkwood-1	1,347	15	902	598				
					Kirkwood-2	1,377	12	932	568		1,389		
	12	Ohio	Berkshire Lot, No. 1	444	Kirkwood	1,343	30	899	601	1,343		100	
	13	Ohio	Berkshire, No. 1	432	..do	1,343		911	589	1,343	1,350	90	Gas, 1,348 feet
	14	Ohio	Berkshire, No. 4	437	..do	1,338	40	901	599	1,340		60	
	15	Ohio	Berkshire, No. 5	437	..do	1,309	34	872	628	1,309	1,343	70	
	16	Ohio	Berkshire, No. 3	457	..do	1,352	39	895	605	1,363		100	
	17	Ohio	Berkshire, No. 6	441	..do	1,323	36	882	618	1,339	1,359	50	
	18	Ohio	Berkshire, No. 7	416	..do	1,323	36	907	593	1,339	1,359	50	

Lawrence County—Petty Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
19—													
S. W.	19	Ohio	Berkshire, No. 2	422	"Gas"	1,262		840	660				Gas, 1,265 feet
					Stray	1,400		978	522			Dry	Salt water
	20	Ohio	Willey, No. 8	435	Kirkwood	1,324	10	889	611	1,324	1,444	135	
	21	Ohio	Willey, No. 2	434	Bridgeport	955	22	521	979	960		70	Well abandoned
	22	Ohio	Willey, No. 6	427	Kirkwood	1,313	20	886	714	1,313	1,335	50	
	23	Ohio	Willey, No. 4	436	..do	1,302	31	866	634	1,302		130	
	24	Ohio	Willey, No. 3	435	Bridgeport	902	22	467	1,033	907		60	
	25	Ohio	Willey, No. 7	441	Kirkwood	1,307	36	866	634	1,307	1,353	50	
	26	Ohio	Willey, No. 1	440	Bridgeport	860	30	420	1,080				
					..do	923	28	483	1,017	933		200	
	27	Ohio	Willey, No. 5	442	..do	825	13	383	1,117				
					Kirkwood	1,325	30	883	617	1,331		75	
S. E.	1	Silurian	Crump (40), No. 1	444	Bridgeport	831	104	387	1,113		935		Quit in sand
	2	Silurian	Crump (40), No. 11	444	..do	815	191	371	1,129				Salt water, 936 feet
					"Gas"	1,230	4	786	714				Gas, 1,230 feet
					Stray	1,250		806	694				
					Kirkwood	1,301	44	857	643	1,313	1,347	150	
	3	Silurian	Crump (40), No. 13	445	Bridgeport	917	20	472	1,028			150	
	4	Silurian	Crump (40), No. 9	436	..do	904	34	468	1,032	909			
	5	Silurian	Crump (40), No. 17	440	..do	860	280	420	1,080				Salt water, 972 to 1,140 feet
					Kirkwood	1,282	33	842	658		1,318	125	Red rock, 1,260 to 1,272 feet
	6	Silurian	Crump (40), No. 16	440	Bridgeport	865	30	425	1,075				
					..do	980	120	540	960				Salt water
					Kirkwood	1,281	31	841	659				
					Tracey	1,420	10	980	520			Gas	Gas, 400 pounds rock pressure
	7	Silurian	Crump (40), No. 6	432	Bridgeport	907	13	475	1,025	907	920		
	8	Silurian	Crump (40), No. 15	426	..do	877	19	451	1,049		897	100	

9	Silurian	Crump (40), No. 12	430	..do	885	82	455	1,045				
				Buchanan	1,005	85	575	925				Salt water
				"Gas"	1,229	3	799	701				
				Kirkwood-1	1,266	12	836	664				
				Kirkwood-2	1,282	22	852	648		1,305	150	
				Bridgeport	800	30	370	1,130	800		Show	
10	Silurian	Crump (40), No. 8	430	..do	885	82	455	1,045				
				Buchanan	1,005	85	575	925				Salt water
				"Gas"	1,229	3	799	701				
				Kirkwood	1,266	39	836	664	1,294			Slate, 1,287 to 1,294 feet
11	Silurian	Crump (40), No. 3	430	Bridgeport	850	10	420	1,080			Show	
				..do	895		465	1,035		947		
12	Silurian	Crump (40), No. 7	426	..do	805	75	379	1,121				
13	Silurian	Crump (40), No. 5	426	..do	760	32	334	1,166	780			
				..do	895		469	1,031	905	945	20	
14	Silurian	Crump (40), No. 14	432	..do	758	10	326	1,174				
				..do	802	22	370	1,130				
				..do	882	10	450	1,050		902	100	
15	Silurian	Crump (40), No. 18	435									No record
16	Silurian	Crump (40), No. 10	435	Bridgeport	917	94	482	1,018				
				"Gas"	1,237	13	802	698				
				Kirkwood	1,301	38	866	634				
17	Silurian	Crump (40), No. 4	435	Bridgeport	760	30	325	1,175	790		5	
				..do	918		483	1,017		974		
18	Silurian	Crump (40), No. 2	435	..do	890		455	1,045	900	966		
19	Ohio	Hazel, No. 14	424	"Gas"	1,233	10	809	691				
				Kirkwood	1,280	35	856	644	1,287		90	
20	Ohio	Hazel, No. 13	425	Bridgeport	910	27	485	1,015	913		90	
21	Ohio	Hazel, No. 25	435	..do	870	64	435	1,065				
				Kirkwood	1,271	39	836	664	1,271	1,324	100	
22	Ohio	Hazel, No. 9	435	Bridgeport	795	10	360	1,140				
				..do	901	30	466	1,034	901		250	
23	Ohio	Hazel, No. 11	435	..do	912	30	477	1,023	925		80	
24	Ohio	Hazel, No. 24	435	Kirkwood-1	1,295	15	860	640				
				Kirkwood-2	1,315	30	880	620	1,315	1,354	135	
25	Ohio	Hazel, No. 2	426	Bridgeport	867	36	441	1,059	887			
				..do	909	18	483	1,017	912		100	
26	Ohio	Hazel, No. 23	426	Kirkwood	1,265	57	839	661	1,270	1,317	200	Gas, 1,265 feet
27	Ohio	Hazel, No. 1	433	Bridgeport	813	25	380	1,120				
				..do	870	25	437	1,063				
				..do	916	12	483	1,017	916		210	
28	Ohio	Hazel, No. 3	429	..do	884	26	455	1,045	887		10	
29	Ohio	Hazel, No. 18	424	"Gas"	1,222		798	702			Gas	
				Kirkwood	1,272	30	848	652	1,272	1,302	75	
30	Ohio	Lathrop, No 3	433	Bridgeport	800		367	1,133	925		200	
31	Ohio	Lathrop, No. 4	434	Kirkwood	1,268	24	834	666	1,269	1,292	90	
32	Ohio	Lathrop, No. 5	434	Bridgeport	812	5	378	1,122				
				..do	870	80	436	1,064				
				Buchanan	990	135	556	944				Salt water, 990 feet
				Kirkwood	1,264	42	830	670	1,274	1,306	60	Gas, 1,278 feet
33	Ohio	Lathrop, No. 2	447	Bridgeport	812	30	365	1,135				
				..do	879	30	432	1,068	900			

Lawrence County—Petty Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
19—													
S. E.	34	Ohio	Lathrop, No. 1	432	Bridgeport	805	20	373	1,127				
					do	867	13	435	1,065	885			
	35	Bridgeport	Miller, No. 1	453	do	883	61	430	1,070		944		Quit in sand
	36	Bridgeport	Miller, No. 15	452	do	815	27	363	1,137				
					do	875	25	423	1,077			Show	
					do	905	20	453	1,047				
					do	980	15	528	972				
					Buchanan	1,013	90	561	939				
					Kirkwood	1,280	40	828	672	1,288	1,345		
	37	Birdgeport	Miller, No. 3	452	Bridgeport	920	32	468	1,032		952	250	
	38	Bridgeport	Miller, No. 9	434	do	785		351	1,149				
					do	920	36	486	1,014				
					do	958	5	524	976				
					Buchanan	968	142	534	966				
					"Gas"	1,205	3	771	729				Red rock, 1,120 and 1,255 feet
					Kirkwood	1,265	40	831	669		1,314		
	39	Bridgeport	Miller, No. 7	434									No record
	40	Bridgeport	Miller, No. 10	437	Bridgeport	819		382	1,118				
					do	905	40	468	1,032				
					do	950		513	987	963		20	
	41	Bridgeport	Miller, No. 11	440	do	819		379	1,121				
					do	878	22	438	1,062	885			
					do	910	29	470	1,030	912	939	165	
	42	Bridgeport	Miller, No. 16	442	do	780	47	428	1,072				
	43	Bridgeport	Miller, No. 2	453	do	921	13	468	1,032	875	934	250	
20—													
N. E.	1	Ohio	Hostettler, No. 2	425	Kirkwood	1,425	19	1,000	500	1,425	1,444	60	
	2	Ohio	Hostettler, No. 3	436	Tracey	1,580	4	1,144	356		1,703	Dry	
	3	Ohio	Hostettler, No. 1	435							1,000		No record
	4	Ohio	Hostettler, No. 4	435	Kirkwood	1,489	21	1,054	446	1,489	1,510	75	
N. W.	1	Ohio	Skiles, No. 2	427	do	1,411	27	984	516	1,411	1,438	50	Quit in sand

2	Ohio	Skiles, No. 8	433	"Gas"	1,345	18	912	588	1,345	1,428	25	
3	Ohio	Skiles, No. 3	436	Kirkwood	1,392	26	956	544	1,392	1,418	45	
4	Ohio	Skiles, No. 5	437	Bridgeport	922	31	485	1,015	922	953	100	
5	Ohio	Skiles, No. 1	442	Kirkwood-1	1,294	4	852	648				
				Kirkwood-2	1,313	41	871	629	1,313		30	
6	Ohio	Skiles, No. 6	427	Kirkwood-1	1,350	12	923	577				
				Kirkwood-2	1,431	15	1,004	496	1,431	1,453	100	
7	Bridgeport	M. Wood, No. 11	427	Bridgeport	826	40	399	1,101				
				..do	871	59	444	1,056				
				..do	955	105	528	972				Salt water, 998 feet
				..do	1,080	5	653	847				
				Buchanan	1,130	68	703	797				Salt water
				Stray	1,232	9	805	695				
				"Gas"	1,335	13	908	592				
				Kirkwood-1	1,397	10	970	530	1,406			
				Kirkwood-2	1,433	17	1,006	494	1,445			
				Tracey	1,470	25	1,043	457	1,475	1,505		
8	Bridgeport	M. Wood, No. 12	428	Bridgeport	785	15	357	1,143				
				..do	840	10	412	1,088				
				..do	870	27	442	1,058				
				..do	930	113	502	998				Salt water, 980 feet
				Buchanan	1,105	82	677	823				Salt water, 1,148 feet
				Stray	1,211	13	783	717				
				Kirkwood-1	1,388	3	960	540				
				Kirkwood-2	1,394	26	966	534	1,394		Show	
				Stray	1,435	8	1,007	493	1,437			
				Tracey	1 462	28	1,034	466	1,462	1,498		
9	Bridgeport	M. Wood, No. 7	430								Dry	No record
10	Bridgeport	M. Wood, No. 10	435	Bridgeport	825		390	·1,110				
				..do	915	110	480	1,020	930			Salt water, 985 feet
				Buchanan	1,110	40	675	825				
				"Gas"	1,285	18	850	650				
				Kirkwood	1,333	72	898	602	1,340 1,370	1,408		
11	Bridgeport	M. Wood, No. 4	440	Kirkwood-1	1,312	15	872	628				Slate, 1,327 to 1,329 feet
				Kirkwood-2	1,329	13	889	611				
12	Bridgeport	M. Wood, No. 5	439	Kirkwood	1,296	51	857	643		1,347		
13	Bridgeport	M. Wood, No. 2	430									No record
14	Bridgeport	M. Wood, No. 9	430	Kirkwood	1,279	54	849	651	1,382	1,341		
15	Bridgeport	M. Wood, No. 1	428									No record
16	Bridgeport	M. Wood, No. 3	422									..do
17	Bridgeport	M. Wood, No. 8	431	Stray	1,433	20	1,002	498		1,459		Red rock, 1,300, 1,360 and 1,423 feet
18	Bridgeport	M. Wood, No. 6	435	Bridgeport	910		475	1,025		940		
19	Bridgeport	M. Wood, No. 13	430	..do	875	30	445	1,055				
				..do	1,000	75	570	930				
				Buchanan	1,130	100	700	800				
				"Gas"	1,275	19	845	655				
				Kirkwood	1,380	10	950	550				
				Tracey	1,590	15	1,160	340				
				McClqsky-1	1,670	12	1,240	260				
				McClosky-2	1,698	7	1,268	232		1,705		Salt water

Lawrence County—Petty Township—Continued.

Section No.	Map No.	Name of oil company	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
20— S. W.	1	Bridgeport	Lewis, No. 9	426	Bridgeport	877	30	451	1,049				Slate, 892 to 899 feet
					..do	915	18	489	1,011		933	250	Quit in sand
	2	Bridgeport	Lewis, No. 13	426	..do	800	34	374	-1,126				
					Kirkwood	1,279	56	853	647	1,319	1,342		Gas, 1,305 feet
	3	Bridgeport	Lewis, No. 1	426	Bridgeport	816	20	390	1,110				
					..do	866	20	440	1,060		891		
	4	Bridgeport	Lewis, No. 12	422	..do	880	27	458	1,042				
					..do	913	20	491	1,009			300	
					..do	968		546	954				Salt water
	5	Bridgeport	Lewis, No. 4	420	..do	877	18	457	1,043		895		
	6	Bridgeport	Lewis, No. 3	424	..do	872	12	448	1,052		884		
	7	Bridgeport	Lewis, No. 20	424	..do	867	68	443	1,057		935		
	8	Bridgeport	Lewis, No. 19	440	..do	786	22	346	1,154				
					..do	810	25	370	1,130				
					..do	867	28	427	1,073	871		50	
					..do	898	82	458	1,042	920			
					..do	1,004	23	564	936				
					Buchanan	1,031	99	591	909				Salt water, 1,070 feet
					Stray	1,159	11	719	781				
					Kirkwood-1	1,322	11	882	618	1,328			
					Kirkwood-2	1,335	2	895	605				
					Kirkwood-3	1,350	26	910	590	1,355	1,396		
	9	Bridgeport	Lewis, No. 5	440	Bridgeport	917	25	477	1,023			250	
	10	Bridgeport	Lewis, No. 18	440	..do	835	20	395	1,105				
					..do	895	85	455	1,045	895			
					Buchanan-1	1,017	113	577	923				Salt water, 1,020 feet
					Buchanan-2	1,150	13	710	790				
					Kirkwood-1	1,320	16	880	620	1,325			
					Kirkwood-2	1,341	24	901	599		1,383		
	11	Bridgeport	Lewis, No. 6	440	Bridgeport	892	14	452	1,048				
					..do	908	23	468	1,032		931		Quit in sand

12	Bridgeport	Lewis, No. 7	451	Bridgeport	887	18	436	1,064				
				..do	910	24	459	1,041			250	
				..do	880	113	429	1,071	925			
13	Bridgeport	Lewis, No. 16	451	Buchanan	1,030		579	921				Red rock, 1,175 and 1,282 feet
				Kirkwood	1,320	50	869	631	1,348	1,383		
14	Bridgeport	Lewis, No. 15	449	Bridgeport	875	32	426	1,074	875			
				..do	917	27	468	1,032	919	944		Best pay
15	Bridgeport	Lewis, No. 8	449	..do	880	27	431	1,069				
				..do	919	26	470	1,030			250	
16	Bridgeport	Lewis, No. 14	449	..do	885	88	436	1,044				
				..do	926	9	477	1,023				
				Kirkwood	1,300	30	851	649	1,305	1,335		
17	Bridgeport	Lewis, No. 11	450	Bridgeport	880	20	430	1,070				
				..do	905	47	455	1,045			250	
18	Bridgeport	Lewis, No. 10	449	..do	868	17	419	1,081				
				..do	891	51	442	1,058		942		
19	Bridgeport	Lewis, No. 17	445	..do	814		369	1,131				
				..do	890	17	445	1,055	890	941		
				..do	912	29	467	1,033				
20	Bridgeport	Lewis, No. 2	436	..do	808	25	372	1,128				
				..do	845	13	409	1,091		858		
21	Silurian	Combs, No. 4	423	..do	790	30	367	1,133				Salt water
				..do	840		417	1,083				..do
				..do	889	32	466	1,034	889	911	Dry	
22	Silurian	Combs, No. 10	424	..do	840	25	416	1,084				
				McClosky	1,588	29	1,164	336		1,619	60	Red rock, 1,240 feet
23	Silurian	Combs, No. 9	424									No record
24	Silurian	Combs, No. 7	424	Bridgeport	875	25	451	1,049				
				Kirkwood	1,392	8	968	532				
				Stray	1,470	22	1,046	454		1,494	75	
25	Silurian	Combs, No. 6	424	Bridgeport	890	160	466	1,034				
				Buchanan	1,140	70	716	784				Salt water
				Kirkwood-1	1,397		973	527	1,416		200	
				Kirkwood-2	1,425	30	1,001	499		1,455		
26	Silurian	Combs, No. 8	424	Bridgeport	898	32	474	1,026				
				Kirkwood-1	1,361	10	937	563				
				Kirkwood-2	1,381	73	957	543	1381 1438	1,458	70	Gas, 1,381 feet
27	Silurian	Combs, No. 1	423	Bridgeport	784	16	361	1,139				
				..do	830	15	407	1,093				Salt water
				..do	877	22	454	1,046	877	938		
28	Silurian	Combs, No. 2	440	..do	825	20	385	1,115				
				..do	875	5	435	1,065			Show	
				..do	899	15	459	1,041	899	957		
29	Silurian	Combs, No. 3	439	..do	760	15	321	1,179				
				..do	890	8	451	1,049	890			
				..do	908	24	469	1,031	908	967	Gas	
30	Silurian	Combs, No. 5	424	..do	888	274	464	1,036				Salt water, 1,152 feet
				Kirkwood	1,347	39	923	577				
				Tracey	1,460	18	1,036	464				
				McClosky	1,540	14	1,116	384		1,569	120	Gas, 1,569 feet

Lawrence County—Petty Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Depth to top—feet.	Thickness penetrated—feet.	Altitude below sea level—feet.	Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
—20 S. W.	31	E. N. Gillespie	Smith, No. 23	430	Bridgeport	837	10	407	1,093				Hole full of water, 837 feet
					do	900	74	470	1,030			Show	
					Kirkwood-1	1,378	40	948	552	1,378			
					Kirkwood-2	1,445	16	1,015	485	1,445	1,473	130	
	32	E. N. Gillespie	Smith, No. 2	441	Bridgeport	891	10	450	1,050	893			
					do	915	32	474	1,026	920			
	33	E. N. Gillespie	Smith, No. 14	441									No record
	34	E. N. Gillespie	Smith, No. 1	441	Bridgeport	875	20	434	1,066	881			
					do	920	14	479	1,021	925		375	
	35	E. N. Gillespie	Smith, No. 18	441	do	890	12	449	1,051				
					do	930	55	489	1,011	930			
					Buchanan	1,046	38	605	895				Salt water, 1,090 feet
					Kirkwood-1	1,342	2	901	599			Show	Red shale, 1,325 feet
					Kirkwood-2	1,360	33	919	581		1,427	128	
	36	E. N. Gillespie	Smith, No. 4	451	Bridgeport	887	21	436	1,064	890			
					do	925	45	474	1,026				
	37	E. N. Gillespie	Smith, No. 12	451	do	884	12	433	1,067				
					do	926	21	475	1,025				
					do	953		502	598				Salt water, 953 and 1,140 feet
					Kirkwood	1,332	56	881	619		1,388	282	Red rock, 1,318 feet
	38	E. N. Gillespie	Smith, No. 9	445	Bridgeport	882	22	437	1,063	882			
					do	912	69	467	1,033	912			
					"Gas"	1,250	18	805	695				Some gas, 1,250 feet
					Kirkwood-1	1,290	32	845	655	1,305			
					Kirkwood-2	1,326	25	881	619		1,351	116	Red shale, 1,173 feet
	39	E. N. Gillespie	Smith, No. 3	445	Bridgeport	871	12	426	1,074	873			
					do	909	17	464	1,036	909			
	40	E. N. Gillespie	Smith, No. 15	445	do	885	12	440	860				
					do	909	73	464	1,036		982		
	41	E. N. Gillespie	Smith, No. 5	444	do	866	7	422	1,078				
					do	900	34	456	1,044				

					Bridgeport	865	7	423	1,077				
					..do	906	22	464	1,036	906			
					..do	933	20	491	1,009				
	42	E. N. Gillespie	Smith, No. 10	442	..do	972	23	530	970				
					..do	1,000	40	558	942				Salt water
					Stray	1,160	8	718	782				
					Kirkwood	1,335	55	893	607		1,390	55	Gas, 1,337 feet
					Bridgeport	860	15	414	1,086				
	43	E. N. Gillespie	Smith, No. 6	446	..do	902	29	456	1,044				
					..do	958	11	512	988				
					..do	907	20	461	1,038	907		Show	
					..do	934	76	488	1,012	934		Show	Salt water, 974 feet
					..do	1,065	5	619	881				Salt water
	44	E. N. Gillespie	Smith, No. 25	446	Stray	1,087	8	641	859				
					Buchanan	1,101	85	655	845				Salt water
					Kirkwood-1	1,347	44	901	599			240	
					Kirkwood-2	1,400	14	954	546		1,426		
	45	E. N. Gillespie	Smith, No. 7	433	Bridgeport	900	24	467	1,033				
					..do	948	30	515	985		978	95	100 bbl. water daily
					..do	907	46	474	1,026				
	46	E. N. Gillespie	Smith, No. 16	433	Buchanan	1,090	110	657	843				Salt water
					Kirkwood	1,364	64	931	569		1,428	75	Red rock, 1,225 feet
S. E.	1	E. N. Gillespie	Smith, No. 8	430	Bridgeport	912	23	482	1,018	912		160	
	2	E. N. Gillespie	Smith, No. 17	425									No record
	3	E. N. Gillespie	Smith, No. 22	425	Bridgeport	898	96	473	1,027				
					Kirkwood	1,396	54	971	529		1,455	211	Red shale, 1,275 and 1,384 feet
	4	E. N. Gillespie	Smith, No. 11	425	Bridgeport	864	3	439	1,061				
					..do	931	33	506	994	940	964	150	Well abandoned
					..do	884		458	1,042				
					..do	926	29	500	1,000				
	5	E. N. Gillespie	Smith, No. 19	426	..do	960	65	534	966				
					Buchanan	1,080	140	654	846				Salt water
					Kirkwood	1,390	54	964	536		1,444	600	Red shale, 1,246 feet
					Bridgeport	960	115	534	966				
	6	E. N. Gillespie	Smith, No. 20	426	Buchanan	1,150	67	724	776				Salt water
					Kirkwood	1,385	60	959	541		1,445	500	
					Bridgeport	700	25	265	1,235				Salt water
					..do	976	99	541	959				..do
					Buchanan	1,170	86	735	765				..do
	7	E. N. Gillespie	Smith, No. 24	435	Kirkwood	1,437	38	1,002	498	1,465		80	Broken sand, 1,437 to 1,465 feet
					Tracey (?)	1,483	56	1,048	452		1,561		
					Bridgeport	938	7	488	1,012				
	8	E. N. Gillespie	Smith, No. 13	450	..do	978	113	528	972				Salt water
					Stray	1,411	5	961	539				Red shale, 1,322 feet
					Kirkwood	1,445	19	995	505		1,464	84	Quit in sand
					Bridgeport	680	320	234	1,266				Salt water
	9	E. N. Gillespie	Smith, No. 21	446	Stray	1,435	3	989	511	1,435			Red shale, 1,395 feet
					..do	1,472	5	1,026	474				
					Kirkwood	1,481	38	1,038	462	1,481	1,544		

Lawrence County—Petty Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
22—													
S. E.	10	Ohio	Dickerson, No. 1	473	Kirkwood	1,506	14	1,033	467				
					McClosky	1,695	23	1,222	278	1,700	1,743	25	
	11	Ohio	Dickerson, No. 2	471									Drilling
23—													
					Bridgeport	800	50	370	1,130				Salt water, 850 feet
					..do	1,010	100	580	920				Salt water, 1,010 feet
					Buchanan	1,165	225	735	765				Salt water, 1,375 feet
N E.	1	Snowden Bros	Vanatta, No. 2	430	Kirkwood-1	1,530	35	1,100	400				
					Kirkwood-2	1,600	18	1,170	330				Salt water and show of oil, 1,618 feet
					Tracey	1,740	25	1,310	190				
					McClosky	1,945		1,515	—15	1,945	2,590	Dry	Light show of oil, 1,945 feet
24—													
					"Gas"	1,307	28	873	627	1,307			
N E.	1	Ohio	Perry King, No. 42	434	Stray	1,342	8	908	592				
					Kirkwood	1,365	37	931	569	1,385	1,402	142	
	2	Ohio	Perry King, No. 17	436	"Gas"	1,319	99	883	617	1,362	1,418	40	
	3	Ohio	Perry King, No. 9	451	..do	1,335	6	884	616				
					Kirkwood	1,415	24	964	536	1,415		75	
	4	Ohio	Perry King, No. 8	452	Kirkwood-1	1,375	20	923	577	1,376			
					Kirkwood-2	1,435	15	983	517	1,440		75	
N. W.	1	Ohio	Perry King, No. 32	433	Kirkwood	1,497	20	1,064	436	1,497	1,549	75	
	2	Ohio	Douglas, No. 2	433	Kirkwood-1	1,502	20	1,069	431	1,503			
					Kirkwood-2	1,530	22	1,097	403	1,535	1,552	100	
					Kirkwood-1	1,495	3	1,057	443				Gas well. No gas data
	3	Ohio	Douglas, No. 3	438	Kirkwood-2	1,528	12	1,090	410			Gas	
					Tracey	1,665	14	1,227	273	1,665	1,679	30	
	4	Ohio	Douglas, No. 1	435	Kirkwood	1,515	17	1,080	420	1,521	1,532	180	Gas, 1,515 feet
	5	Ohio	Perry King, No. 10	435	"Gas"	1,449	5	1,014	486	1,449			
					Kirkwood	1,500	17	1,065	435	1,500		150	
	6	Ohio	Perry King, No. 13	429	..do	1,513	22	1,084	416	1,513	1,550	125	Gas, 1,513 feet
	7	Ohio	Perry King, No. 45	442	..do	1,516	23	1,074	426	1,516	1,569	120	

S. W.	1	Snowden Bros.	O. Judy, No. 1	430									No record
	2	Snowden Bros.	Childress, No. 3	440	Bridgeport and Buchanan	1,020	275	580	920				Hole full of water, 1,020 feet.
					"Gas"	1,440	44	1,000	500				
					Kirkwood	1,516	54	1,076	424	1,520		Show	
					Tracey	1,666	29	1,226	274	1,666			
					McClosky	1,776	7	1,336	164		1,783		Salt water, 1,781 feet.
	3	Snowden Bros.	Childress, No. 4	455									Drilling.
	4	Snowden Bros.	Childress, No. 5	445									..do.
S. E.	1	Ohio	Perry King, No. 46	458	Kirkwood	1,506	41	1,048	452	1,506	1,553	160	
	2	Ohio	Perry King, No. 47	453									Drilling.
	3	Ohio	Perry King, No. 48	450									..do.
	4	Ohio	Perry King, No. 6	441	Kirkwood	1,516	12	1,075	425				
					McClosky	1,684	8	1,243	257	1,687		30	
	5	Ohio	Perry King, No. 7	444	Kirkwood	1,491	35	1,047	453	1,491	1,526	20	
	6	Ohio	Perry King, No. 3	478	..do.	1,460	53	982	518	1,485		90	
	7	Ohio	Perry King, No. 16	483	"Gas"	1,354	46	871	629	1,454	1,500	20	
25— N. E.	1	Snowden Bros.	Pepple, No. 2	477	Kirkwood-1	1,470	8	993	507				T. 4 N., R. 13 W.
					Kirkwood-2	1,494	7	1,017	483			150	
	2	Snowden Bros.	Pepple, No. 3	443	Kirkwood-1	1,500	6	1,057	443	1,500		150	
					Kirkwood-2	1,527	3	1,084	416				
	3	Snowden Bros.	Childress, No. 1	440	Kirkwood	1,500		1,060	440			40	
	4	Snowden Bros.	Childress, No. 2	450									No record.
					Bridgeport	854	11	399	1,101				
					..do.	953	12	498	1,002				
					..do.	1,000	15	545	955				
					Bridgeport and Buchanan	1,035	151	580	920				Salt water, 1,035 and 1,163 feet.
	5	Snowden Bros.	Pepple, No. 6	455	Buchanan	1,240	62	785	715				Salt water, 1,273 feet.
					"Gas"	1,433	17	978	522				
					Stray	1,488	6	1,033	467	1,494		Show	
					Kirkwood-1	1,502	15	1,047	453	1,517			
					Kirkwood-2	1,534	9	1,079	421				
					Kirkwood-3	1,588	5	1,133	367				
					Tracey	1,612	25	1,157	343				
					McClosky	1,684	39	1,229	271	1,648	1,723	150	
	6	Snowden Bros.	Pepple, No. 10	477	Bridgeport	790	35	313	1,187				
					..do.	990	15	513	987				
					..do.	1,035	20	558	442				
					..do.	1,115	25	638	682				
					..do.	1,200	30	723	777				
					Buchanan-1	1,250	25	773	727				
					Buchanan-2	1,300	19	823	677				Hole full water, 1,315 feet.
					Stray	1,355	17	878	622				
					"Gas"	1,445	10	968	532				
					Kirkwood-1	1,500	20	1,023	477	1,516			
					Kirkwood-2	1,530	37	1,053	447		1,567		Water and oil, 1,538 feet.

Lawrence County—Petty Township—Continued.

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25—N. E.					Bridgeport	800	20	323	1,177				
					..do	975	25	498	1,002				
					..do	1,025	5	548	952				
					..do	1,065	10	588	912				
					..do	1,090	20	613	887				Salt water, 1,100 feet.
					..do	1,170	15	693	807				Hole full of water, 1,175 feet.
	7	Snowden Bros.	Pepple, No. 8	477	Buchanan-1	1,265	35	788	712				
					Buchanan-2	1,320	10	843	657				
					Kirkwood-1	1,480	15	1,003	497	1,492		Show	
					Kirkwood-2	1,500	10	1,023	477				
					Kirkwood-3	1,520	22	1,043	457				
					Stray	1,605	9	1,128	372				
					Tracey	1,647	15	1,170	330	1,650		Show	
					McClosky	1,727	9	1,250	250		1,922		
N. W.	1	Ohio	T. F. Pepple, No. 1	477	..do	1,907	19	1,430	70	1,907	1,926	60	Gas, 1,907 feet. Salt water, 1,926 feet.
	2	Unknown	T. F. Pepple, (20 acres) No. 1	471									No record.
S. E.	1	Snowden Bros.	J. Adams, No. 2	508	Kirkwood-1	1,615	21	1,107	393				Salt water, 1,636 feet.
					Kirkwood-2	1,646	10	1,138	362		1,914		
	2	Snowden Bros.	J. Adams, No. 1	497	Bridgeport	700		203	1,297		1,818	30	Record incomplete.
	3	Ohio	Stoltz, No. 5	491	Kirkwood	1,528	38	1,037	463	1,528	1,569	105	
	4	Ohio	Stoltz, No. 1	495	..do	1,532	30	1,047	463	1,545		60	Well abandoned.
	5	Ohio	Stoltz, No. 2	485	..do	1,539		1,054	446		1,610	Dry	
	6	Ohio	Stoltz, No. 3	478	"Gas"	1,435	9	957	543				
					Kirkwood	1,494	50	1,016	484	1,500	1,571	110	
	7	Ohio	Stoltz, No. 4	468	..do	1,523	22	1,055	445	1,523	1,669	42	
	1	Craig & Lowrie	Goff, No. 2	429	McClosky	1,640	7	1,211	289	1,642	1,692	Light	T. 5 N., R. 13 W.
N. E.	2	Craig & Lowrie	Goff, No. 1	429	Tracey	1,500	15	1,071	429				Gas, 1,500 feet.
					McClosky	1,639	29	1,210	290	1,642	1,680		
	3	Ohio	Johnson, No. 6	429	Tracey	1,520	15	1,091	409	1,520	1,693	20	
	4	Ohio	Johnson, No. 2	429	McClosky	1,643	21	1,214	286	1,643	1,672	25	

	5	Ohio	Johnson, No. 3	430	McClosky	1,642	18	1,212	288	1,642	1,664	200	
	6	Ohio	E. Martin, No. 2	427	..do	1,645	5	1,218	282		1,799	Dry	
	7	Ohio	E. Martin, No. 1	427	Tracey	1,476	45	1,049	451		1,521	Gas	Gas, 1,516 feet
	8	Ohio	J. C. Martin, No. 1	440	Tracey-2	1,580	10	1,140	360	1,642	1,684	30	Gas, 1,638 feet
	9	Ohio	J. C. Martin, No. 2	430	McClosky	1,640	2	1,210	290		1,681		Well abandoned
	10	Ohio	Gowin, No. 1	430	Tracey	1,500	10	1,070	430				Gas, 1,500 feet
					McClosky	1,644	20	1,214	286	1,644	1,680	25	
	11	Ohio	Gowin, No. 3	440	..do	1,649	13	1,209	291	1,655	1,665	15	Gas, 1,655 feet
N. W.	1	Mahutska	Gowin, No. 1	436	Tracey	1,505	30	1,069	431				
					McClosky	1,637	27	1,201	299	1,642	1,667	20	
	2	Ohio	Gowin, No. 2	438	..do	1,634	18	1,196	304	1,634	1,657	50	
	3	Ohio	Green, No. 2	438	Tracey	1,505	20	1,067	433				
					McClosky	1,625	25	1,187	313	1,625	1,661	100	
	4	Ohio	Green, No. 1	440	Tracey	1,535		1,095	405		1,858	Dry	
S. W.	1	Ohio	Nutall, No. 1	434	..do	1,503	45	1,069	431				Gas, 1,506 feet
					McClosky	1,606	44	1,172	328	1,613	1,658	150	
	2	Ohio	Nutall, No. 2	433	Tracey	1,478	50	1,045	455				Gas, 1,525 feet
					McClosky	1,601	46	1,168	332	1,635	1,647	150	
	3	Ohio	Nutall, No. 4	437	McClosky	1,615		1,178	322	1,615	1,653	65	Gas, 1,615 feet
	4	Ohio	Nutall, No. 3	437	Tracey	1,510	22	1,073	427		1,532	Gas	Gas, 1,510 feet
	5	Ohio	Mefford, No. 1	438	..do	1,512	23	1,074	426		1,540	Gas	Gas, 1,512 feet
	6	Mahutska	W. Updike, No. 6	438	..do	1,478	57	1,040	460				
					McClosky	1,610	37	1,172	328		1,652	60	
	7	Mahutska	W. Updike, No. 1	438	Tracey	1,520	10	1,082	418				Gas, 1,520 feet
					McClosky	1,617	16	1,179	321		1,670	50	
	8	Mahustka	W. Updike, No. 3	438	Tracey	1,507		1,069	431				
					McClosky	1,616	32	1,178	322	1,652	1,654	20	
	9	Mahustka	W. Updike, No. 2	438	Tracey	1,493	32	1,055	445				
					McClosky	1,611	39	1,173	327		1,645	1	Well abandoned
	10	Mahustka	W. Updike, No. 5	438	Tracey	1,507	8	1,069	431				
					McClosky	1,,603	45	1,165	335		1,656	50	
	11	Ohio	Mefford No. 2	438	Tracey	1,483	17	1,045	455				Gas, 1,483 to 1,500 feet
					McClosky	1,613	17	1,175	325	1,618	1,636	75	
S. E.	1	Ohio	S. Updike (10), No. 1	429	..do	1,622	48	1,193	307	1,622	1,670	60	
	2	Haywood	S. Updike, No. 1	428	..do	1,618	13	1,190	310		1,657	150	
	3	Haywood	S. Updike, No. 3	428	..do	1,630	21	1,202	298	1,635	1,674	75	
	4	Ohio	R. Shipman, No. 2	428	..do	1,637	23	1,209	291	1,632	1,680	30	
	5	Ohio	R. Shipman, No. 1	428	Tracey	1,496		1,068	432				Gas, 1,496 feet
					McClosky	1,616	27	1,188	312	1,616	1,651	105	
	6	Oh o	Steffy, No. 1	426	Tracey	1,496		1,070	430				Gas, 1,496 feet
					McClosky	1,620	39	1,194	306	1,625	1,662	120	
	7	Ohio	Steffy, No. 2	426	..do	1,630	30	1,204	296		1,666	80	
	8	Ohio	Johnson, No. 4	432	..do	1,640	20	1,208	292	1,640	1,663	70	
	9	Ohio	Johnson, No. 1	435	..do	1,645	25	1,210	290	1,680	1,682	150	
	10	Ohio	Johnson, No. 5	430	..do	1,632	16	1,202	298	1,632	1,648	40	Gas, 1,632 feet
	11	Haywood	S. Updike, No. 4	428	..do	1,640	25	1,212	288		1,675	75	
	12	Haywood	S. Updike, No. 5	428							1,731	Dry	No regular sands
	13	Haywood	S. Updike, No. 2	429	McClosky	1,630	31	1,201	299	1,634	1,674	50	
N. E.	1	Ohio	M. Coder, No. 1	437	Tracey	1,568	14	1,131	369	1,568	1,582	60	T. 5 N., R. 13, W
	2	Ohio	Kimmel, No. 1	437	..do	1,572	18	1,135	365		1,600	15	Gas, 1,572 feet
	3	Ohio	Rodrick, No. 1	438	..do	1,543	17	1,105	395	1,543	1,562	25	

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Lawrence County—Petty Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
26— N. W.	1	Ohio	T. Smith, No. 1	438									No record
S. W.	1	Ohio	Armitage, No. 1	437	Tracey	1,578	22	1,141	359	1,578	1,600	85	Gas, 1,585 feet
	2	Ohio	Armitage, No. 2	434	..do	1,574	29	1,140	360	1,586	1,603	35	
	3	Central Refining Co	G. Waggoner, No. 2	435	Kirkwood	1,500	30	1,065	435				Salt water
					Tracey	1,564	26	1,129	371	1,570	1,591		Red rock, 1,555 feet
	4	Central Refining Co	G. Waggoner, No. 1	436	McClosky-1	1,579	12	1,143	357		1,622		Salt water, 1,622 feet
	5	Central Refining Co	Paddic, No. 1	436	McClosky-2	1,630	10	1,194	306				Salt water
					..do	1,655	15	1,219	281				..do
	6	Central Refining Co	Paddic, No. 2	436	Tracey	1,550	25	1,114	386				..do
					Stray	1,584	11	1,148	352				
					McClosky	1,598	37	1,162	338		1,658	Dry	Salt water, 1,598 feet
S. E.	1	Ohio	Kettleman, No. 3	437	Tracey	1,548	32	1,111	389	1,548	1,580	117	Gas, 1,548 feet
	2	Ohio	Kettleman, No. 2	435	..do	1,562	20	1,127	373	1,562	1,582	105	
	3	Ohio	Kettleman, No. 1	439	..do	1,564	14	1,125	375	1,564	1,578	75	
	4	Ohio	Kettleman, No. 4	436	..do	1,557	20	1,121	379	1,560	1,577	37	Gas, 1,557 feet
29— N. E.	1	Silurian	Greenlee, No. 2	465	Bridgeport	900	50	435	1,075				Salt water
					Kirkwood	1,512	39	1,047	453	1,542		30	Gas, 1,542 feet. Red shale 1,365 feet
	2	Ohio	Greenlee, No. 1	476	Bridgeport	900	50	424	1,076				
					Kirkwood	1,523	52	1,047	453			40	Red shale, 1,375 feet
	3	Bridgeport	Eshelman, No. 14	450	Bridgeport	710	55	260	1,240				Salt water, 719 feet
					..do	912	33	462	1,038				
					..do	955	70	505	995				Broken sand, 955 to 1,915 feet. Salt water, 1,015 to 1,025 feet
					..do	1,040	33	590	910				Salt water
					Buchanan	1,175	100	725	775				
					"Gas"	1,300	10	850	650				
					Kirkwood	1,468	37	1,018	482		1,512		

4	Bridgeport	Eshelman, No. 10	441	Bridgeport	950	110	509	991	966		Light	Salt water, 983 feet
				Kirkwood	1,420	49	979	521	1,430	1,469		Quit in sand. First red rock, 1,363 feet
				Bridgeport	885	30	447	1,053				
				Bridgeport and Buchanan	940	175	502	998	945		Show	Salt water
5	Bridgeport	Eshelman, No. 15	438	Buchanan	1,125	87	687	813				Salt water, 1,145 feet
				Stray	1,240	10	802	698				
				Kirkwood-1	1,361	9	923	577				
				Kirkwood-2	1,395	20	957	543	1,410			
				Kirkwood-3	1,420	15	982	518	1,420	1,449		
				Bridgeport	840	35	386	1,114				
				..do	890	72	436	1,064				
				..do	970	33	516	984				
				..do	1,038	7	584	916				Salt water, 1,038 feet
6	Bridgeport	Eshelman, No. 13	454	..do	1,055	40	601	899				
				Buchanan	1,175	115	721	779				
				"Gas"	1,392	10	938	562	1,402		Show	
				Stray	1,425	5	971	529				
				Kirkwood	1,465	48	1,011	489	1,465	1,519		
				Bridgeport	1,060		606	894				Salt water
				Buchanan	1,200	80	746	754				..do
7	Bridgeport	Eshelman, No. 12	454	"Gas"	1,395	10	941	559				
				Stray	1,429	3	975	525			Dry	Well abandoned
				Kirkwood	1,470	43	1,016	484	1,480	1,513		Quit in sand. Red rock, 1,320 and 1,382 feet
				Bridgeport	885	25	440	1,060				
				..do	920	30	475	1,025				
8	Silurian	Dalrymple, No. 5	445	..do	960	150	515	985				
				Buchanan-1	1,120	166	675	825				
				Buchanan-2	1,291	39	846	654				Red rock, 1,330 feet
				Kirkwood	1,481	40	1,036	464	1,499	1,531	150	
9	Silurian	Dalrymple, No. 6	457	Bridgeport	944	25	487	1,013	950	965	50	
				..do	944	146	489	1,011				Salt water, 960 feet
				Stray	1,340	10	885	615	1,340		Show	Red rock at 1,270 feet
10	Silurian	Dalrymple, No. 7	455	"Gas"	1,366	6	911	589				
				Stray	1,401	6	946	554				
				Kirkwood-1	1,416	34	961	539	1,416			
				Kirkwood-2	1,480	24	1,025	475	1,480	1,508	350	
11	Silurian	Dalrymple, No. 9	442									Drilling
				Bridgeport	875	33	418	1,082				
				..do	930	14	473	1,027				
12	Silurian	Dalrymple, No. 8	457	..do	1,000	40	543	957				Red shale, 1,220 feet
				"Gas"	1,315	10	858	642				
				Kirkwood	1,360	45	903	597		1,473		
				Bridgeport	790	10	334	1,166	790		Show	
				..do	900	30	444	1,056				Salt water
13	Silurian	Dalrymple, No. 1	456	..do	980	20	524	976	980		Show	
				Buchanan	1,136	39	680	820				
				"Gas"	1,291	31	835	665	1,291			
				Kirkwood	1,352	10	896	604		1,364		Originally a flowing well.

Lawrence County—Petty Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
29—N. E.	14	Silurian	Dalrymple, No. 2	470	Bridgeport	880	20	410	1,090				
					..do	930	15	460	1,040				
					..do	970	30	500	1,000			Show	
					..do	1,030	30	560	940				Salt water
					Stray	1,245	10	775	725				Red rock, 1,260 feet
					"Gas"	1,302	15	832	668				
					Stray	1,360	15	890	610			Show	
					Kirkwood	1,396	48	926	574	1,396			
	15	Silurian	Dalrymple, No. 4	487	Bridgeport	730	20	243	1,257				
					..do	890	20	403	1,097				Salt water
					Buchanan	1,150	60	663	837				Salt water
					"Gas"	1,390	5	903	597	1,390		Show	Red rock, 1,280 feet
					Kirkwood-1	1,450	15	963	537				
					Kirkwood-2	1,471	24	984	516		1,519	50	
	16	Silurian	Dalrymple, No. 3	500	Bridgeport	780	20	280	1,220				Salt water
					..do	985	20	485	1,015				
					..do	1,050	125	550	950				Salt water, 1,050 feet
					Buchanan	1,230	145	730	770				Red rock, 1,360 feet
					"Gas"	1,442	8	942	558	1,442		Show	
					Kirkwood	1,500	35	1,000	500		1,550	130	
N. W.	1	Bridgeport	Eshelman, No. 11	426	Bridgeport	900	59	474	1,026	920	959		
	2	Bridgeport	Eshelman, No. 9	428	..do	898	110	470	1,030	905			Salt water, 970 feet
					"Gas"	1,303	18	875	625				Red rock, 1,215 and 1,350 feet
					Kirkwood	1,355	19	927	573	1,357	1,406	418	Broken sand, 1,374 to 1,406 feet
	3	Bridgeport	Eshelman, No. 6	430	Bridgeport	893	39	463	1,037				Salt water, 1,030 feet
					Kirkwood	1,332	23	902	598	1,332	1,383		Slate and red rock, 1,305 to 1,332 feet
	4	Bridgeport	Eshelman, No. 2	440	Bridgeport	855	14	415	1,085				
					..do	885	6	445	1,055				
					..do	901	44	461	1,039		945		Quit in sand

5	Bridgeport	Eshelman, No. 7	440	Bridgeport	895	80	455	1,045	900			
				"Gas"	1,240		800	700				Gas, 1,240 feet
				Kirkwood	1,298	42	858	642	1,315	1,358		
6	Bridgeport	Eshelman, No. 8	440	Bridgeport	885		445	1,055	910	951		
7	Bridgeport	Eshelman, No. 4	432	..do	852	23	420	1,080				
				..do	878		446	1,054		952		
8	Bridgeport	Eshelman, No. 16	438	..do	860	120	422	1,078	{ 870 922			
				Buchanan	1,050	55	612	888				Salt water, 1,055 feet
				"Gas"	1,227	13	789	711				Gas, 1,227 feet
				Kirkwood	1,285	63	847	653	1,298	1,426		Red rock, 1,144, 1,210 and 1,273 feet
9	Bridgeport	Eshelman, No. 3	438	Bridgeport	862	24	424	1,076		940		
10	Bridgeport	Eshelman, No. 17	433	..do	815	33	382	1,118				
				..do	868	57	435	1,065				
				..do	940	35	507	993				
				..do	1,010	13	577	923				
				Buchanan	1,058	52	625	875				Salt water, 1,065 feet
				Stray	1,135	20	702	798				
				Kirkwood	1,297	63	864	636	1,310	1,389		Red rock, 1,157, 1,226, 1,287 feet
11	Bridgeport	Eshelman, No. 5	433	..do	1,300	29	867	633	1,300			Well abandoned
12	Bridgeport	Eshelman, No. 1	428	Bridgeport	872	12	444	1,056		884		
13	Bridgeport	Eshelman, No. 18	440	..do	820	15	380	1,120				
				..do	850	25	410	1,090				
				..do	895	45	455	1,045				
				..do	992	50	552	948				Salt water, 1,010 feet
				..do	1,060	18	620	880				Salt water
				Buchanan	1,100	45	660	840				
				Stray	1,160	5	720	780				
				..do	1,175	8	735	765				Red rock, 1,200 and 1,334 feet
				Kirkwood-1	1,346	37	906	594	1,359			
				Kirkwood-2	1,390	10	950	550	1,390	1,451		
14	Ohio	Crackle, No. 19	446	Kirkwood	1,291	62	845	655	1,306	1,353	125	
15	Ohio	Crackle, No. 18	446	Stray	1,321		875	625		1,340		Wells 1 to 18 on the Crackle were purchased from Barnsdall in November, 1908
16	Ohio	Crackle, No. 5	446	Bridgeport	868		422	1,078				
				..do	902	15	456	1,044		932		
17	Ohio	Crackle, No. 1	449	..do	870	15	421	1,079				
				..do	906	10	457	1,043				
18	Ohio	Crackle, No. 17	454	..do	845	20	391	1,109				
				..do	915	15	461	1,039				Salt water, 1,005 feet
				Kirkwood	1,285		831	669		1,391		
19	Ohio	Crackle, No. 4	454	Bridgeport	850	15	396	1,104				
				..do	915	15	461	1,039		963		Salt water, 963 feet
20	Ohio	Crackle, No. 23	455	..do	870	32	415	1,085	875	902	17½	
21	Ohio	Crackle, No. 12	455	..do	885		430	1,070			Show	
				..do	910	25	455	1,045		985		Slate, 917 to 922 feet

Lawrence County—Petty Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
29—N. W.	22	Ohio	Crackle, No. 7	448	Bridgeport	865		417	1,083			Show	
					do	907	25	459	1,041		982		
	23	Ohio	Crackle, No. 3	433	do	858	10	425	1,075				
					do	905	55	472	1,028			15	
	24	Ohio	Crackle, No. 26	443	Kirkwood	1,285	51	842	658	1,305	1,336	50	Gas, 1,285 feet.
	25	Ohio	Crackle, No. 2	443	Bridgeport	867	9	424	1,076				
					do	930	20	487	1,013		983		Salt water, 983 feet.
	26	Ohio	Crackle, No. 6	449	do	874	10	425	1,075				
					do	922	12	473	1,027				
	27	Ohio	Crackle, No. 28	453	do	935	69	482	1,018	935			
					Kirkwood	1,309	18	856	644	1,309	1,338	85	
	28	Ohio	Crackle, No. 24	465	Bridgeport	928	42	463	1,037	943	970	70	
	29	Ohio	Crackle, No. 13	457	do	908	86	451	1,049	914	996		
	30	Ohio	Crackle, No. 10	473	do	883		410	1,090			Show	
					do	924	12	451	1,049			Best	
					do	1,005	4	532	968		1,009	Fair	
	31	Ohio	Crackle, No. 20	472	Kirkwood	1,292	39	820	680	1,292	1,336	75	
	32	Ohio	Crackle, No. 8	468	Bridgeport	822		354	1,146				
					do	908	10	440	1,060		999		
	33	Silurian	Bowers, No. 4	455	do	840	10	385	1,115				
					do	981		526	974				
	34	Silurian	Bowers, No. 5	455	do	810	15	355	1,145				
					do	831	64	376	1,124				
					do	931	52	476	1,024		983		Quit in sand. Well abandoned.
	35	Silurian	Bowers, No. 6	458	do	802	29	344	1,156			Show	
					do	852	15	394	1,106	852			
					do	906	34	448	1,052	906	940	50	
	36	Silurian	Bowers, No. 3	456	do	710	90	254	1,246				Salt water.
					do	840	10	384	1,116	840			
					do	981		525	975		981		

	37	Silurian	Bowers, No. 8	447	Bridgeport	923	47	476	1,024				
					"Gas"	1,220		773	727				Gas, 1,220 feet
					Kirkwood	1,292	30	845	655		1,325	75	
	38	Silurian	Bowers, No. 2	477	Bridgeport	810	15	363	1,137				
					..do	830	65	383	1,117	890			
					..do	900		453	1,047	900	960		
					..do	910	75	467	1,033	920			
	39	Silurian	Bowers, No. 7	443	Buchanan	1,060	40	617	883				Salt water
					Kirkwood	1,288	32	845	655				Red rock, 1,275 feet. Gas, 1,427 feet
					Tracey	1,425	15	982	518		1,440	Gas	520 pounds rock pressure.
	40	Silurian	Bowers, No. 1	441	Bridgeport	790	30	349	1,151				
					..do	835	25	394	1,106	859		5	
					..do	896	19	455	1,045		941		
	41	Silurian	Bowers and Ross, No. 1	444	..do	865	25	421	1,079				
					..do	920	57	475	1,024		977		
	42	Silurian	Bowers and Ross, No. 7	449	..do	870	10	421	1,079				
					..do	900	22	451	1,049				
					..do	948	34	499	1,001				Hardsand, 969 to 982 feet.
					Buchanan	1,050	60	601	899				Salt water
					Kirkwood	1,300	44	851	649		1,346	250	
	43	Silurian	Bowers and Ross, No. 6	436	"Gas"	1,236		800	700				Gas, 1,236 feet
					Kirkwood-1	1,312	16	876	624	1,317			
					Kirkwood-2	1,338	12	902	598		1,355	180	
	44	Silurian	Bowers and Ross, No. 5	436	Bridgeport	770	2	334	1,166				
					..do	870	23	434	1,066	877			
					..do	937	48	501	999	945	985		Well abandoned
	45	Silurian	Bowers and Ross, No. 9	437	..do	921	19	484	1,016		940	30	Quit in sand
	46	Silurian	Bowers and Ross, No. 8	438	..do	925	75	487	1,013	948		Show	Salt water, 950 feet
					Buchanan	1,100	70	662	838				Salt water
					"Gas"	1,299	7	861	639				Red rock, 1,200 feet
					Kirkwood-1	1,355	7	917	583				
					Kirkwood-2	1,366	34	928	572				
					Tracey	1,435	11	997	503		1,446	200	
	47	Silurian	Bowers and Ross, No. 4	446	Bridgeport	770	2	324	1,176	770			
					..do	865	25	419	1,081	865			
					..do	920	70	474	1,026				
					Buchanan	1,100	50	654	846				Salt water
					"Gas"	1,289	2	843	657	1,289			
					Kirkwood	1,326	22	880	620	1,326	1,348		Quit in sand
	48	Silurian	Bowers and Ross, No. 3	452	Bridgeport	743	15	291	1,209	743			
					..do	826	25	374	1,126				
					..do	905	60	453	1,047		965		
	49	Silurian	Bowers and Ross, No. 2	460	..do	800	20	340	1,160	820			
					..do	855	25	395	1,105	855			
					..do	900		440	1,060	900	968		
S. W.	1	Ohio	Lewis, No. 7	481	..do	823	11	342	1,158	828		25	
	2	Ohio	Lewis, No. 18	481	..do	855	130	374	1,126				
					"Gas"	1,242	6	761	739				Gas, 1,242 feet
					Kirkwood	1,301	64	820	680	1,301	1,365	35	

Lawrence County—Petty Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
29— S. W.	3	Ohio	Lewis, No. 10	462	Bridgeport	813	45	351	1,149	833		75	
					do	964	27	502	998				
	4	Ohio	Lewis, No. 8	465	do	810	45	345	1,155	828		125	
					do	940	50	475	1,025				
	5	Ohio	Lewis, No. 4	466	do	760	102	294	1,206	775			
					do	930	53	464	1,036				
	6	Ohio	Lewis, No. 16	460	Kirkwood	1,317	20	857	643	1,320		125	
	7	Ohio	Lewis, No. 9	460	Bridgeport	762	18	302	1,198				Salt water, 870 feet
					do	965	41	505	995	973		25	Well abandoned
	8	Ohio	Lewis, No. 6	445	"Gas"	1,256		811	689				Gas, 1,258 feet. Well abandoned
	9	Ohio	Lewis, No. 15	445	do	1,260	27	815	685				Gas, 1,265 feet
					Kirkwood	1,322	59	877	623	1,325		130	
	10	Ohio	Lewis, No. 14	488	Bridgeport	820	15	332	1,168	825			
					do	972	37	484	1,016			50	
	11	Ohio	Lewis, No. 13	490	do	871	15	381	1,119	886			
					do	966	52	476	1,024			125	
	12	Ohio	Lewis, No. 17	493	do	812	192	319	1,181				
					Kirkwood	1,321	18	828	672	1,321	1,347	65	
	13	Ohio	Lewis, No. 2	503	Bridgeport	855	15	352	1,148	856			
					do	956		453	1,047	956		250	
	14	Ohio	Lewis, No. 1	487	do	778	17	291	1,209	778			
					do	820	28	333	1,167	848		50	
	15	Ohio	Lewis, No. 11	495	do	864	20	369	1,131				
					do	958	42	463	1,037	958		125	
	16	Ohio	Lewis, No. 19	497	do	830	185	333	1,167				
					"Gas"	1,263		766	734				
					Kirkwood	1,327	61	830	670	1,330	1,388	50	
	17	Ohio	Lewis, No. 12	541	Bridgeport	843	6	302	1,198	844			
					do	1,003	34	462	1,038	1,025		50	
	18	Ohio	Lewis, No. 21	539	"Gas"	1,300	15	761	739				Gas, 1,300 feet
					Kirkwood	1,373	37	834	666	1,373	1,414	75	

	19	Ohio	Lewis, No. 22	534	Kirkwood	1,399	17	855	645	1,389	1,408	100	
	20	Ohio	Lewis, No. 5	533	Bridgeport	887	55	354	1,146	912		50	
					..do	1,036	10	503	997				Salt water, 1,049 feet
	21	Ohio	Lewis, No. 20	508	"Gas"	1,303	18	795	705				Gas, 1,303 feet
					Kirkwood	1,365	31	857	643	1,365	1,401	70	
	22	Ohio	Lewis, No. 3	508	Bridgeport	811	14	303	1,197				
					..do	870	16	362	1,138		986		Salt water, 873 feet. Well abandoned
S. E.	1	Silurian	Neal No. 1	498	"Gas"	1,270	47	772	728	1,270		Gas	Gas, 1,270 feet. Red rock, 1,220 feet
	2	Silurian	Neal, No. 4	504	Bridgeport	885	10	381	1,119				
					..do	1,015	25	511	989		1,055	50	
	3	Silurian	Neal, No. 8	490	..do	987	34	497	1,003	992	1,021	70	Quit in sand
	4	Silurian	Neal, No. 7	502	..do	750	155	248	1,252	885		Show	Salt water, 905 feet
					..do	1,020	35	518	982				
					Buchanan	1,175	55	673	827				
					"Gas"	1,362	8	860	640	1,362			
					Kirkwood-1	1,460	20	958	542	1,460			
					Kirkwood-2	1,506	18	1,004	496	1,506	1,526	180	
	5	Silurian	Neal, No. 6	490	Bridgeport	760	240	270	1,230	780			
					Bridgeport and Buchanan	1,100	100	610	890				
					"Gas"	1,350	25	860	640	1,350			
					Kirkwood	1,420	40	930	570	1,420	1,492	225	
	6	Silurian	Neal, No. 5	489	Bridgeport	920	20	431	1,069				
					Buchanan	1,220	30	731	769				Salt water
					Stray	1,295	10	806	694				..do
					"Gas"	1,385	5	896	604	1,385		Show	
					Kirkwood	1,442	50	953	547		1,492	110	Quit in sand
	7	Silurian	Neal, No. 2	467	Stray	1,291	8	824	776				
					"Gas"	1,330		863	637	1,335	1,390		
	8	Silurain	Neal, No. 3	457	Bridgeport	975	15	518	982				
					..do	1,130	25	673	827				Salt water
					Buchanan	1,190	103	733	767				
					"Gas"	1,305	20	848	652	1,305			Red rock, 1,300 feet
					Kirkwood	1,376	24	919	581	1,376			
					Tracey	1,435	15	978	522	1,435			
	9	Ohio	Middaugh, No. 4	508	Kirkwood	1,490	27	982	518	1,490	1,517	50	
	10	Ohio	Middaugh, No. 6	522	"Gas"	1,435	8	913	587				
					Kirkwood	1,505	20	983	517	1,505	1,528	75	
	11	Ohio	Middaugh, No. 7	518	"Gas"	1,410	30	892	608				
					Kirkwood	1,540	18	1,022	478	1,540	1,579	140	
	12	Ohio	Middaugh, No. 5	492	Bridgeport	1,007	27	515	985	1,015	1,034	125	
	13	Ohio	Middaugh, No. 3	516	"Gas"	1,460	18	944	556				
					Kirkwood	1,525	29	1,009	491	1,525	1,554	50	
	14	Ohio	Middaugh, No. 8	503	..do	1,517	32	1,014	486	1,517	1,586	150	
	15	Ohio	Middaugh, No. 2	493	..do	1,507	30	1,014	486	1,528	1,539	60	
	16	Ohio	Middaugh, No. 1	491	Bridgeport	852	18	361	1,139				
					..do	874	36	383	1,117	874			
					Kirkwood	1,522	21	1,031	469	1,522	1,543	200	

Lawrence County—Petty Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
30—N. E.	1	Bridgeport	Miller, No. 4	454	Bridgeport	864	62	410	1,090				Slate, 894 to 896 feet
					do	940	24	486	1,014	964		250	T. 4. N. R. 12 W
	2	Bridgeport	Miller, No. 8	453	"Gas"	1,216	9	763	737				
					Kirkwood	1,285	35	832	668	1,287	1,344		Red rock, 1,255 feet
	3	Bridgeport	Miller, No. 5	453	Bridgeport	927	35	474	1,026		998	250	
					do	830	15	382	1,118				
	4	Bridgeport	Miller, No. 13	448	do	871	19	423	1,017				
					do	895	50	447	1,053	910			
					do	955	5	507	993		960		
	5	Bridgeport	Miller, No. 6	449	do	937	30	488	1,012		1,313	80	30,000 barrels oil from this this well in 2 years
					"Gas"	1,200	5	751	749				Gas, 1,200 feet
	6	Bridgeport	Miller, No. 14	440	Bridgeport	803	12	363	1,137				
					do	850	115	410	1,090	860	961		Broken sand, 935 to 965 feet
					do	835	20	398	1,102	842			
	7	Bridgeport	Miller, No 12	437	do	870	20	433	1,067	875			
					do	930	21	493	1,007		951		
					do	825	6	385	1,115	825		Show	
	8	Bridgeport	Boyd, No. 12	440	do	870	48	430	1,070	880		Show	Broken sand, 885 to 918 feet
					do	928		488	1,012	928			
					do	945	20	505	995	945	965		
	9	Bridgeport	Boyd, No. 11	452	do	830	13	378	1,122				
					do	876	76	424	1,076	895 933	952		Quit in sand
					do	829	61	379	1,121				Salt water, 846 feet
	10	Bridgeport	Boyd, No. 5	450	do	920	35	470	1,030				Salt water, 950 to 1,030 feet
					"Gas"	1,240		790	710				
					Kirkwood	1,303	41	853	647	1,305	1,352	125	
	11	Bridgeport	Boyd, No. 2	451	Bridgeport	877		426	1,074				
					do	935	51	484	1,016	935	986		

				Bridgeport	775	60	320	1,180				Broken sand, 775 to 825 feet.
12	Bridgeport	Boyd No. 9	455	..do	886	19	431	1,069				
				..do	908	17	453	1,047				
				..do	935	30	480	1,020	950			
13	Bridgeport	Boyd, No. 4	456	..do	808	25	352	1,148				
				..do	925		469	1,031	938	960		Quit in salt water sand.
				..do	841	16	388	1,112				Salt water, 855 feet.
14	Bridgeport	Baltzell, No. 8	453	..do	887	71	434	1,066	907			
				..do	968	28	515	985				Salt water, 975 feet.
				Buchanan	1,041		588	912		1,057		Salt water, 1,050 feet.
				Bridgeport	878		420	1,080	900		Light	
15	Bridgeport	Baltzell, No. 3	458	..do	925		467	1,033	925		120	
				..do	965		507	993	965		Light	
				..do	918	14	453	1,047				
16	Bridgeport	Baltzell, No. 1	465	..do	956	25	491	1,009				
				Buchanan	1,000	75	535	965				Flowing well.
				Bridgeport	800	20	328	1,172	800		Show	
17	Bridgeport	Baltzell, No. 12	472	..do	840	40	368	1,132				
				..do	885	105	413	1,087	{ 900 948 }	995		Broken sand.
				..do	755	25	295	1,205				
18	Bridgeport	Baltzell, No. 5	460	..do	912	8	452	1,048	912	941	160	
19	Bridgeport	Baltzell, No. 13	463									Drilling.
20	Bridgeport	Baltzell, No. 2	460									No record.
				..do	765	4	300	1,200	765		Show	
				..do	810	10	345	1,145				
21	Bridgeport	Baltzell, No. 10	465	..do	854	20	389	1,111				
				..do	905	20	440	1,060	905		Light	
				..do	950	24	485	1,015	955	980	Best	
				..do	765	25	298	1,202	770			
				..do	835	25	368	1,132				
				..do	908	31	441	1,059	908			
22	Bridgeport	Baltzell, No. 11	467	..do	952	83	485	1,015	958			Gas, 958 feet.
				Buchanan	1,102	18	635	865				
				Stray	1,170	27	703	797				Salt water.
				"Gas"	1,240	8	773	727				Gas, 1,240 feet.
				Kirkwood	1,314	33	847	653	1,318	1,365		Red rock, 1,309 feet.
				Bridgeport	815	5	323	1,177				
23	Bridgeport	Baltzell, No. 9	492	..do	850	87	358	1,142				Broken sand 850 to 904 and 914 to 930 feet.
				..do	991	29	499	1,001	1,000	1,020		Gas, 1,000 feet. Quit in white sand.
				..do	945	18	453	1,047	950		Light	
				..do	1,010	50	518	982				Gas, 1,015 feet. Salt water 1,060 feet.
24	Bridgeport	Baltzell, No. 7	492	Kirkwood	1,361	41	869	631	1,365			Red rock, 1,220 and 1,346 feet.
				Tracey	1,510	10	1,018	482				Gas, 1,515 feet.
				McClosky	1,575	20	1,083	417		1,595	Gas	Gas, 1,590 feet.
25	Ohio	Crackle, No. 14	468	Bridgeport	794	40	326	1,174		990		

Lawrence County—Petty Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
30—N. E.					Bridgeport	935	70	467	1,033				
	26	Ohio	Crackle, No. 29	468	Kirkwood	1,291	46	823	677	1,291			
					Tracey	1,404	12	936	564	1,407	1,428	250	
					Bridgeport	932	75	466	1,034				
	27	Ohio	Crackle, No. 30	466	Kirkwood	1,311	15	845	655	1,311			
					Tracey	1,392	21	926	574	1,392	1,419	90	
					Bridgeport	908	12	438	1,062				
	28	Ohio	Crackle, No. 16	470	..do	930	6	460	1,040				
					..do	964	9	494	1,006		1,004		
	29	Ohio	Crackle, No. 21	469	Kirkwood	1,295	37	826	674	1,295	1,337	70	
	30	Ohio	Crackle, No. 11	469	Bridgeport	870	125	401	1,099	970	1,007		
	31	Ohio	Crackle, No. 25	458	..do	928	36	470	1,030	930	974	70	
					..do	869		416	1,084				
	32	Ohio	Crackle, No. 9	453	..do	915	10	462	1,038				
					..do	935	13	482	1,018		985		
	33	Ohio	Crackle, No. 22	440	..do	871	30	431	1,069	875	901	5	Produced salt water the first day
					..do	807	13	358	1,142				
	34	Ohio	Crackle, No. 15	449	..do	918	2	469	1,031				
					..do	945	20	496	1,004		995		
	35	Ohio	Crackle, No. 27	464	..do	914	14	450	1,050	920			
					..do	960	25	496	1,004	970	985	30	
					..do	810	43	371	1,129				
N. W.	1	Bridgeport	Boyd, No. 6	439	..do	910	71	471	1,029	921			Salt water, 981 feet.
					Kirkwood	1,290	38	851	649	1,295	1,341		Red rock, 1,277 feet.
	2	Bridgeport	Boyd, No. 3	436	Bridgeport	810	3	374	1,126				
					..do	883	30	447	1,053	903	940	40	
					..do	800		361	1,139				
	3	Bridgeport	Boyd, No. 8	439	..do	910		471	1,029	920			
					Kirkwood	1,317	46	878	622		1,367		
	4	Bridgeport	Boyd, No. 1	433	..do	1,338	5	905	595		1,343		

5	Bridgeport	Boyd, No. 10	430	Bridgeport	835	17	405	1,095				
				..do	877	33	447	1,053				Salt water, 910 feet
				Buchanan	1,035	37	605	895				Salt water
				Stray	1,128	22	698	802				..do
				..do	1,175	5	745	755				
				Kirkwood	1,341	59	911	589	1,364			
				McClosky	1,610	19	1,180	320	1,626	1,629		
6	Bridgeport	Boyd, No. 7	472	Bridgeport	820	52	348	1,152	820			
				..do	900	70	428	1,072	910			
				..do	1,318	57	846	654	1,330	1,389		
7	Bridgeport	Baltzell, No. 6	486	Kirkwood	1,362	39	876	624	1,372	1,414		
8	Bridgeport	Baltzell, No. 4	477	"Gas"	1,327		850	650				Gas, 1,327 feet
				Kirkwood	1,386	44	909	591				Salt water, 1,100 feet
9	Snowden Bros	Pepple, No. 4	460	Bridgeport	930	120	470	1,030				Salt water,1,080, 1,100 and 1,220 feet
				"Gas"	1,338	6	878	622				
				Kirkwood	1,396	26	936	564				Slate, 1,411 to 1,412 feet
10	Snowden Bros	Pepple, No. 9	464	Bridgeport	850	40	386	1,114				
				..do	1,010	55	546	954				Broken sand
				Buchanan	1,140	20	676	824				Hole full salt water, 1,140 feet
				Stray	1,240	20	776	724				
				"Gas"	1,378	14	914	586	1,384		Light	Red slate, 1,280 feet
				Kirkwood-1	1,450	10	986	514				
				Kirkwood-2	1,469	27	1,005	495	1,471			
				Tracey-1	1,565	10	1,101	399				Gas, 1,575 feet
				Tracey-2	1,600	25	1,136	364	1,605			Gas, 1,605 feet
				McClosky	1,643	12	1,179	321		1,702		Green oil, 1,685 feet. Limestone, 1,682 to 1,702 feet.
11	Snowden Bros	Pepple, No. 11	458	Bridgeport	820	10	362	1,138				
				..do	850	5	392	1,108				
				..do	880	35	422	1,078				
				..do	940	25	482	1,018				Salt water, 945 feet
				Buchanan	1,075	30	617	883				
				"Gas"	1,335	10	877	623	1,335			Red slate, 1,254 feet
				Kirkwood	1,393	42	935	565	1,395			
				Tracey	1,558	16	1,100	400		1,574		Gas, 1,574 feet
12	Snowden Bros	Pepple, No. 7	430	Bridgeport	815	115	385	1,115				Hole full water, 895 feet
				..do	975	50	545	955				
				..do	1,050	32	620	880				
				Buchanan-1	1,120	53	690	810				Salt water, 1,173 feet
				Buchanan-2	1,200	10	770	730				
				"Gas"	1,305	13	875	625				
				Kirkwood-1	1,360	40	930	570	1,365			
				Kirkwood-2	1,430	10	1,000	500				
				Tracey	1,503	47	1,073	427				Gas, 1,513 feet
				McClosky	1,580	39	1,150	350	1,603	1,619		Sandy lime
13	Snowden Bros	Pepple, No. 1	458	"Gas"	1,375	22	917	583				Salt water, 1,250 feet
				Kirkwood-1	1,415	11	957	543				
				Kirkwood-2	1,430	3	972	528		1,446	100	

Lawrence County—Petty Township—Continued.

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30—													
N. W..	14	Snowden Bros	Pepple, No. 5	467	"Gas"	1,382	......	915	585	......	......	....	Salt water, 920 and 1,205 feet
					Stray	1,418	17	951	549	......	......	Show	
					Kirkwood	1,435	25	968	532	......	1,481	30	
S. W..	1	Ohio	Madding, No. 12	467	"Gas"	1,394	16	927	573	1,395	......	....	
					Kirkwood-1	1,449	21	982	518	......	......	....	
					Kirkwood-2	1,480	29	1,013	487	1,487	1,509	135	
	2	Ohio	Madding, No. 4	469	"Gas"	1,346	4	877	623	......	......	....	
					Kirkwood	1,402	13	933	567	1,406	......	150	
	3	Ohio	Madding, No. 16	469	..do	1,410	45	941	559	......	......	....	
					Tracey	1,573	12	1,104	396	......	......	....	Gas, 1,573 feet
					McClosky	1,650	13	1,181	319	1,650	1,664	30	
	4	Ohio	Madding, No. 6	463	Kirkwood	1,375	47	912	588	1,375	1,422	225	
	5	Ohio	Madding, No. 7	494	..do	1,376	42	882	618	1,376	1,418	122	
	6	Ohio	Madding, No. 11	511	Bridgeport	980	13	469	1,031	......	......	....	
					"Gas"	1,338	12	827	673	......	......	....	
					Kirkwood	1,405	38	894	606	1,405	1,640	Gas	Gas, 1,640 feet
	7	Ohio	Madding, No. 5	511	..do	1,406	37	895	605	1,406	......	40	
	8	Ohio	Madding, No. 14	516	..do	1,405	57	889	611	......	......	....	Gas, 1,455 feet
					McClosky	1,640	3	1,124	376	1,640	1,643	150	
	9	Ohio	Madding, No. 3	516	"Gas"	1,345	8	829	671	1,345	......	....	
					Tracey	1,561	12	1,045	455	......	1,573	Gas	
	10	Ohio	Madding, No. 13	516	"Gas"	1,350	......	834	666	......	......	....	Gas, 1,350 feet
					Kirkwood	1,398	63	881	619	1,410	1,464	165	
	11	Ohio	Madding, No. 2	518	Bridgeport	988	47	470	1,030	1,008	......	40	
	12	Ohio	Madding, No. 15	512	Kirkwood	1,412	46	900	600	......	......	....	
					McClosky	1,649	15	1,137	363	1,649	1,664	35	
	13	Ohio	Madding, No. 1	507	"Gas"	1,344	10	837	663	......	1,354	Gas	Gas, 1,350 feet
	14	Ohio	Madding, No. 10	491	Kirkwood	1,443	29	952	548	......	......	....	
					Stray	1,602	......	1,111	389	......	......	....	
					McClosky	1,678	14	1,187	313	1,683	1,692	10	

					Bridgeport	915	55	449	1,019	940			Salt water, 965 feet
					Kirkwood-1	1,448	4	982	518				
	15	Bridgeport	Whipsky, No. 3	466	Kirkwood-2	1,460	22	994	506	1,465			
					Tracey-1	1,560	20	1,094	406	1,560		Light	
					Tracey-2	1,585	33	1,119	381	1,611	1,664		Gas, 1,585 feet
	16	Bridgeport	Whipsky, No. 1	486	Kirkwood	1,495		1,009	491	1,519		25	Salt water, 1,135 and 1,526 feet
					"Gas"	1,380		914	586	1,384			
					Kirkwood-1	1,460	30	994	506	1,463		Light	
	17	Bridgeport	Whipsky, No. 2	466	Kirkwood-2	1,495	10	1,029	471				
					Tracey	1,594	28	1,128	472	1,600			Gas, 1,594 feet
					McClosky	1,679	121	1,213	287	{1693 1724}	1800		Salt water, 1,750 feet
					Kirkwood	1,462	41	976	524				
	18	Ohio	Madding, No. 8	486	Tracey	1,593		1,107	393				Gas, 1,593 feet
					McClosky	1,683	9	1,197	303	1,684	1,692	150	
	19	Ohio	Madding, No. 9	464	Tracey	1,589	33	1,125	375				
					McClosky	1,672	12	1,208	292	1,672	1,735	285	Gas, 1,675 feet
					Bridgeport	837	5	318	1,182				
S. E.	1	Pemberton	Pemberton, No. 4	519	..do	937	10	418	1,082				
					..do	970	27	451	1,049	970	997	150	Well abandoned
	2	Pemberton	Pemberton, No. 15	518	..do	950	75	432	1,068	970			
					..do	970	35	451	1,049				
	3	Pemberton	Pemberton, No. 8	519	..do	1,050		531	969				Salt water, 1,050 feet
					Kirkwood	1,425		906	594		1,469		
					Bridgeport	834	15	304	1,196				
	4	Pemberton	Pemberton, No. 3	530	..do	894	20	364	1,136				
					..do	917	20	387	1,113				
					..do	977	20	447	1,053			150	Salt water, 997 to 1,017 feet
					..do	858	27	328	1,172				
					..do	1,010	12	480	1,020				
	5	Pemberton	Pemberton, No. 7	530	Buchanan	1,095	115	565	935				Salt water
					"Gas"	1,345		815	685				Gas, 1,345 feet
					Kirkwood	1,421	41	891	609		1,472		Red rock, 1,275 feet
					Bridgeport	836	11	299	1,201				
					..do	931	15	394	1,106				
	6	Pemberton	Pemberton, No. 1	537	..do	967	26	430	1,070				
					..do	998	11	461	1,039			250	Well abandoned
					..do	866	26	329	1,171				
					..do	905	44	368	1,132				
	7	Pemberton	Pemberton, No. 6	537	..do	1,035	40	498	1,002				Salt water
					"Gas"	1,330	23	793	707				Red rock, 1,250 and 1,280 feet
					Kirkwood	1,391	34	854	646		1,425		
	8	Pemberton	Pemberton, No. 16	537	Bridgeport	904	46	367	1,133	925			
					..do	972	37	435	1,065		1,009		
					..do	820	15	300	1,200				
	9	Pemberton	Pemberton, No. 2	520	..do	903	18	383	1,117				
					..do	959		439	1,016				
					..do	984	20	464	1,036			150	

Lawrence County—Petty Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
30—S. E.	10	Pemberton	Pemberton, No. 19	520	Bridgeport	950	80	430	1,070	970			
					"Gas"	1,293	10	773	727				
					Kirkwood	1,343	62	823	677				Red rock, 1,333 feet
					Stray	1,434	14	914	586				
					Tracey	1,501	18	981	519		1,519		
	11	Pemberton	Pemberton, No. 14	513	Bridgeport	940	75	427	1,073				Salt water, 1,015 feet
					"Gas"	1,295		782	618				
					Kirkwood	1,335	47	822	678		1,382		
	12	Pemberton	Pemberton, No. 13	513	"Gas"	1,300		787	713				
					Kirkwood	1,357	49	844	656		1,406		
	13	Pemberton	Pemberton, No. 18	505									No record
	14	Pemberton	Pemberton, No. 10	537									do
	15	Pemberton	Pemberton, No. 12	520	Bridgeport	925	80	405	1,095	975			
					Kirkwood-1	1,380		860	640				
					Kirkwood-2	1,393	55	873	627		1,448		
	16	Pemberton	Pemberton, No. 11	520	Bridgeport	804		284	1,216				
					do	918	92	398	1,102	980			
					Buchanan	1,080		560	940				
					Kirkwood-1	1,385	13	865	635				
					Kirkwood-2	1,408	38	888	612	1,410			
	17	Pemberton	Pemberton, No. 17	520									No record
	18	Pemberton	Pemberton, No. 9	520	Kirkwood	1,404	45	884	616	1,429	1,499		
	19	Pemberton	Pemberton, No. 5	522	Bridgeport	806	4	284	1,216				
					do	926	24	404	1,096				
					do	955	53	433	1,067		1,008	150	
	20	Bridgeport	Willey, No. 6	517	do	810	30	293	1,207				
					do	900	45	383	1,117	925			
					do	960	40	443	1,057	965			
					Buchanan-1	1,063	42	546	954				Salt water
					Buchanan-2	1,107	95	590	910				
					"Gas"	1,320	10	803	697				
					Kirkwood	1,402	32	885	615	1,405	1,437		

				Bridgeport	815	60	298	1,202	826			
21	Bridgeport	Willey, No. 10	517	..do	903	40	386	1,114	903		Light	Salt water, 940 feet
				..do	959	31	442	1,058	867	1,036		
				..do	820	10	308	1,192				
				..do	900	85	388	1,112				
22	Bridgeport	Willey, No. 5	512	Buchanan	1,065	133	553	947				Salt water, 1,095 feet
				"Gas"	1,320	10	808	692				Gas, 1,325 feet
				Kirkwood	1,398	37	886	614	{ 1412 1421	} 1462		Red rock, 1,245 and 1,381 feet
				Bridgeport	750	25	233	1,267				Salt water
				..do	897	35	380	1,120	907			
				..do	950	6	433	1,067				
				..do	965	20	448	1,052	972			
				Buchanan-1	1,070	25	553	947				Salt water, 1,077 feet
23	Bridgeport	Willey, No. 4	517	Buchanan-2	1,100	95	583	917				Salt water, 1,145 feet
				"Gas"	1,330	10	813	687				Gas, 1,235 feet
				Kirkwood	1,396	49	879	621	1,411			
				Tracey	1,500	10	983	517				
				Stray	1,540		1,023	477				Gas, 1,548 feet
				McClosky	1,630	5	1,113	387		1,635		Gas, 1,630 feet
				Bridgeport	830	20	318	1,182	840			
				..do	920	67	408	1,092	950			
				Buchanan-1	1,047	30	535	965				Salt water, 1,072 feet
24	Bridgeport	Willey, No. 7	512	Buchanan-2	1,079	128	567	933				Red rock, 1,246 and 1,374 feet
				"Gas"	307	41	795	705				Gas, 1,325 feet
				Kirkwood	1,383	42	871	629	1,383	1,448		
25	Bridgeport	Willey, No. 8	507	Bridgeport	932	46	425	1,075				
				Kirkwood	1,364	54	857	643	1,378			Red shale, 1,225 feet
				Bridgeport	795	35	288	1,212	820			
				..do	963	42	456	1,044	1,000		Show	Broken sand, 963 to 989 feet
				..do	1,015	30	508	992				
26	Bridgeport	Willey, No. 11	507	Buchanan-1	1,065	40	558	942				
				Buchanan-2	1,115	57	608	892				Salt water
				Stray	1,199	9	692	808				
				"Gas"	1,290	10	783	717				Gas, 1,290 feet
				Kirkwood	1,354	4	847	653	1,358	1,362		
				Bridgeport	795	30	315	1,185	800			
				..do	940	25	460	1,040	950			
				Buchanan-1	1,025	8	545	955	1,027			
27	Bridgeport	Willey, No. 9	480	Buchanan-2	1,040	15	560	940				
				Kirkwood-1	1,337	33	857	643	1,340			Red rock, 1,155 and 1,330 feet
				Kirkwood-2	1,380	23	900	600	1,380	1,419	700	Flowing well
				Bridgeport	776	15	301	1,199				
28	Bridgeport	Willey, No. 1	475	..do	910	30	436	1,065	930			Best pay
				..do	940	25	465	1,035		977		
29	Bridgeport	Willey, No. 2	512	..do	817	15	305	1,195				
				..do	964	20	452	1,048		984		Quit in sand

Lawrence County—Petty Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
30—													
S; E...	30	Bridgeport	Willey, No. 3	514	Bridgeport	900	35	386	1,114				
					..do	955	13	441	1,059		1,037		
					..do	980		476	1,024				
	31	Curtis, Akin & Co.	Fitch, No. 5	504	..do	1,003		499	1,001				
					"Gas"	1,320	25	816	684			Gas	Red rock, 1,380 feet
					Kirkwood	1,387	5	883	617				
	32	Curtis, Akin & Co	Fitch, No. 9	502	Bridgeport	775	10	273	1,227				
					..do	845	9	343	1,157				
					..do	864	35	362	1,138				
					..do	915	10	413	1,087	915			
					..do	960	12	458	1,042	968			Gas, 968 feet
					..do	1,025	19	523	977	1,030			
					Buchanan-1	1,065	30	563	937				Salt water, 1,075 feet
					Buchanan-2	1,135	17	633	867				
					"Gas"	1,300	12	798	702				Gas, 1,306 feet
					Kirkwood-1	1,381	3	879	621	1,380			
					Kirkwood-2	1,391	17	889	611				Gas, 1,391 feet
					Tracey	1,506	8	1,004	496				Gas, 1,506 feet
					McClosky	1,616		1,114	386				Gas, 1,616 feet
	33	Curtis, Akin & Co	Fitch, No. 14	505	Bridgeport	922	6	417	1,083	925		Light	
					..do	1,035	25	530	970	1,042			
					Buchanan	1,075	15	570	930				Salt water, 1,075 feet
	34	Curtis, Akin & Co	Fitch, No. 2	496	Kirkwood	1,394	2	889	611				
					Tracey	1,514	6	1,009	491		1,617		Gas, 1,514 feet
					Bridgeport	795		299	1,201				
					..do	848		352	1,148			Best	
					..do	910		414	1,086		945		
	35	Curtis, Akin & Co	Fitch, No. 15	496	..do	925	19	429	1,071	930			
					..do	1,005	20	509	991	1,015			
					Buchanan	1,045		549	951				Salt water, 1,047 feet
					Kirkwood	1,370	12	874	626	1,373	1,433		

36	Curtis, Akin & Co	Fitch, No. 1	469	Bridgeport	776	......	307	1,193	......	......	....	....
				..do	806	......	337	1,163	......	......	....	....
				..do	874	......	405	1,095	......	944	....	....
				..do	775	25	300	1,200	......	......	....	....
				..do	820	35	345	1,155	......	......	....	....
37	Curtis, Akin & Co	Fitch, No. 20	475	..do	945	35	470	1,030	......	......	....	Red rock, 1,170 and 1,29 feet
				Buchanan	1,060	65	585	915	......	......	....	....
				"Gas"	1,240	8	765	735	......	......	....	....
				Kirkwood	1,315	46	840	660	1,325	1,361	....	....
38	Curtis, Akin & Co	Fitch, No. 18	475	Bridgeport	775	15	300	1,200	780	......	....	....
				..do	810	35	335	1,165	......	......	....	....
				..do	920	20	445	1,055	......	......	....	....
				..do	980	18	505	995	980	......	Show	....
				Buchanan	1,065	60	590	910	......	......	....	Salt water, 1,075 feet
				"Gas"	1,240	10	765	735	......	......	....	....
				Kirkwood	1,313	22	838	662	1,315	......	....	....
				Tracey	1,405	4	930	570	......	1,455	....	Gas, 1,455 feet in lime
39	Curtis, Akin & Co	Fitch, No. 6	475	Bridgeport	777	142	302	1,198	784	1,015	....	....
40	Curtis, Akin & Co	Fitch, No. 19	464	..do	847	......	383	1,117	847	......	Light	....
				..do	862	18	398	1,102	862	......	Light	....
				..do	945	228	481	1,019	945	......	Light	....
				Kirkwood-1	1,298	40	834	666	1,298	......	....	Salt water, 1,050 feet
				Kirkwood-2	1,392	4	928	572	......	1,418	....	....
41	Curtis, Akin & Co	Fitch, No. 4	464	Bridgeport	771	......	307	1,193	......	......	....	....
				..do	881	......	417	1,083	......	......	....	....
				..do	970	26	506	994	......	......	....	....
				..do	862	18	380	1,120	880	......	....	....
42	Curtis, Akin & Co	Fitch, No. 21	482	..do	915	40	433	1,067	915	......	....	....
				..do	985	47	503	997	1,015	......	....	....
				Buchanan-1	1,065	50	583	917	......	......	....	....
				Stray	1,188	2	706	794	......	......	....	....
				Buchanan-2	1,201	17	719	781	......	......	....	....
				Kirkwood	1,333	37	851	649	......	1,411	....	....
43	Curtis, Akin & Co	Fitch, No. 11	484	Bridgeport	870	......	386	1,114	......	......	....	....
				..do	920	15	436	1,064	923	......	....	Broken sand, 935 to 980 feet
				..do	981	23	497	1,003	981	1,004	....	....
44	Curtis, Akin & Co	Fitch, No. 12	474	..do	930	15	456	1,044	935	......	....	....
				..do	992	22	518	982	998	......	....	....
				Kirkwood	1,335	31	816	639	1,357	1,369	....	Red rock, 1,330 feet
45	Curtis, Akin & Co	Fitch, No. 8	493	Bridgeport	940	57	447	1,053	942	......	....	Sand broken, 953 to 997 feet
				..do	1,004	14	511	989	1,004	1,021	Light	Salt water, 1,021 feet
46	Curtis, Akin & Co	Fitch, No. 10	493	..do	930	12	437	1,063	937	......	....	....
				..do	996	25	503	997	1,005	1,021	....	....

Lawrence County—Petty Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
30—S. E.	47	Curtis, Akin & Co	Fitch, No. 7	494	Bridgeport	858	52	364	1,136	894			
					do	951		457	1,043	951			
					Bridgeport and Buchanan	1,015	171	521	979	1,020			Salt water, 1,030 feet
					"Gas"	1,300	20	806	694				Gas, 1,305 feet
					Kirkwood-1	1,365	40	871	629	1,370			Red rock, 1,295 feet
					Kirkwood-2	1,416	6	922	578				
					Tracey-1	1,506	14	1,012	488				
					Tracey-2	1,565	8	1,071	429				Gas, 1,565 feet
					McClosky	1,600		1,106	394		1,606		Gas, 1,600 feet
	48	Curtis, Akin & Co	Fitch, No. 16	498	Bridgeport	889		391	1,109				
					do	1,015	12	517	983	1,015	1,027		
	49	Curtis, Akin & Co	Fitch, No. 3	475	do	776		301	1,199				
					do	806		331	1,169				
					do	874		399	1,101		947		
					do	773	79	298	1,202	773			
					do	905	40	430	1,070				
					do	990	5	515	985	990			
	50	Curtis, Akin & Co	Fitch, No. 17	475	Buchanan	1,060	45	585	915				
					"Gas"	1,228		753	747				
					Kirkwood-1	1,300	40	825	675	1,300			
					Kirkwood-2	1,368	20	893	607				
					Tracey	1,400	24	925	575	1,411	1,424		
	51	Kewanee	Stallings, No. 1	474	Bridgeport	802		328	1,172				
					do	912	81	438	1,062				
	52	Kewanee	Stallings, No. 13	475	Kirkwood	1,304	21	829	671				
					Tracey	1,401	21	926	574		1,433		
	53	Kewanee	Stallings, No. 4	493	Bridgeport	834		341	1,159				
					do	864		371	1,129				
					do	937	5	444	1,056				
					Kirkwood	1,296	54	803	697				

54	Kewanee	Stallings, No. 9	493	Bridgeport	907	13	414	1,086	912		Show	
				..do	945	51	452	1,048		997		
55	Kewanee	Stallings, No. 14	498	..do	945		447	1,053				
				"Gas"	1,260	3	762	738				
				Kirkwood	1,312	60	814	686			250	
				Tracey	1,395	59	897	603		1,454		
56	Kewanee	Stallings, No. 8	498	Bridgeport	933	17	435	1,065				
				..do	980	22	482	1,018	980	1,004		
57	Kewanee	Stallings, No. 5	472	..do	869	41	397	1,103	905			
				..do	930		458	1,042				
				..do	965		493	1,007	985	997		
58	Kewanee	Stallings, No. 3	488	..do	913		425	1,075				
				..do	975	10	487	1,013				
59	Kewanee	Stallings, No. 12	504	Kirkwood	1,322	40	818	682				
				Tracey	1,435	5	931	569				
				McClosky	1,562	4	1,058	442		1,566	Gas	Gas, 1,562 feet, 6,000,000 cu. ft. gas daily
60	Kewanee	Stallings, No. 7	504	Bridgeport	940	20	436	1,064		1,016		
				..do	913		421	1,079				
61	Kewanee	Stallings, No. 6	492	..do	930		438	1,062				
				..do	960		468	1,032				
				..do	985		493	1,007		1,266		
62	Kewanee	Stallings, No. 11	487	..do	903		416	1,084				
				"Gas"	1,262	10	775	725				Gas, 1,262 feet
				Kirkwood	1,320	16	833	667		1,355		
63	Kewanee	Stallings, No. 2	477	Bridgeport	782		305	1,195				
				..do	925	77	448	1,052				
				"Gas"	1,248		771	729				Gas
				Kirkwood-1	1,313		836	664				Oil
				Kirkwood-2	1,350	8	873	627				Gas
				Tracey	1,365	34	888	612				Oil
64	Kewanee	Stallings, No. 10	482	Bridgeport	798	6	316	1,184				
				..do	884	10	402	1,098				
				..do	930	30	448	1,052		984		
65	Ohio	Sutton, No. 5	493	..do	781	30	288	1,212	790		35	
				..do	845	5	352	1,148				
66	Ohio	Sutton, No. 9	488	Buchanan	1,000	15	512	988				
				Kirkwood	1,334	60	846	654		1,394		Well abandoned
67	Ohio	Sutton, No. 11	489	Bridgeport	820	210	331	1,169				
				Kirkwood	1,335	54	846	654	1,335	1,395	100	
68	Ohio	Sutton, No. 4	504	Bridgeport	806	44	302	1,198				
				..do	960	49	456	1,044	1,000		35	
69	Ohio	Sutton, No. 10	500	..do	790	250	290	1,210				
				Kirkwood	1,331	59	831	669	1,340			
				Tracey	1,495	10	995	505				Gas, 1,495 feet
				McClosky	1,565	5	1,065	435		1,570	Gas	Gas, 1,565 feet, 2,000,000 cu. ft. daily
70	Ohio	Sutton, No. 7	505	Kirkwood	1,321	24	816	684	1,329	1,345	68	
71	Ohio	Sutton, No. 1	504	Bridgeport	783	37	279	1,221				
				..do	893	41	389	1,111				
72	Ohio	Sutton, No. 12	485	Kirkwood	1,343	33	858	642	1,343	1,386	75	

Lawrence County—Petty Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
30— S. E.	73	Ohio	Sutton, No. 3	508	Bridgeport	816	24	308	1,192				
					..do	947	24	439	1,061	960		35	
	74	Ohio	Sutton, No. 8	542	Kirkwood	1,392	10	850	650	1,392	1,403	60	Gas, 1,315 feet
	75	Ohio	Sutton, No. 2	542	Bridgeport	847	25	305	1,195	868		60	
					..do	945	20	403	1,097				
	76	Ohio	Sutton, No. 6	537	..do	820	20	283	1,217	835			
					..do	935	113	398	1,102	1,045		50	
30 (N)— N. W.	1	Ohio	Wright, No. 1	435	McClosky	1,647	33	1,212	288	1,650	1,694	25	T. 5 N., R. 12 W
31(N.)— N. W.	1	Haywood	Kimmel, No. 1	432	..do	1,692		1,260	240		1,750	Dry	
S. W.	1	Ohio	Waggoner, No. 1	435	..do	1,663	12	1,228	272		1,745	Dry	T. 5 N., R. 12 W
	2	Ohio	Waggoner, No. 3	435	Kirkwood	1,482	14	1,047	453	1,482			
					McClosky	1,647	18	1,212	228	1,647	1,676	23	Gas 1,647 feet
	3	Ohio	Waggoner, No. 2	435	McClosky	1 670	3	1 235	265		2,001	Dry	
34— S. E.	1	Ohio	A. Waggoner, No. 1	437							1,694	Dry	T. 5 N. R. 13 W
35— N. E.	1	Haywood	D. Updike, No. 7	436									No record
	2	Haywood	D. Updike, No. 5	436	Kirkwood	1,490	25	1,054	446				Gas
					Tracey	1,540	20	1,104	396		1,560	50	
	3	Haywood	D. Updike, No. 6	436	Kirkwood	1,460	14	1,024	476				
					Tracey	1,498	30	1,062	438				Gas
					McClosky	1,617	31	1,181	319	1,630	1,683	50	
	4	Ohio	G. Racop, No. 3	435									Drilling
	5	Ohio	Schafer, No. 1	435	Tracey	1,542	18	1,107	393		1,660	75	
	6	Ohio	Schafer, No. 2	435	..do	1,545	16	1,110	390	1,545	1,563	37	Gas, 1,545 feet
	7	Ohio	Parrot, No. 2	435	..do	1,543	14	1,108	392	1,543	1,563	40	Gas, 1,543 feet
	8	Ohio	Parrot, No. 1	435	..do	1,510	30	1,075	425	1,520		12	Gas, 1,510 feet
					McClosky	1,626	10	1,191	309		1,658		
	9	Ohio	Racop, No. 2	436	..do	1,645	30	1,209	291	1,647	1,700	30	Gas, 1,647 feet

	10	Ohio	Racop, No. 1	436	Tracey-1	1,520	10	1,084	416				Gas, 1,525 feet
					Tracey-2	1,567	8	1,131	369	1,567			
					McClosky	1,646	8	1,210	290	1 647	1,567	20	
	11	Ohio	Devonshire, No. 1	436	Tracey-2	1,566	11	1,130	370				
					McClosky	1,640	8	1,204	296	1,640	1,648	40	Gas, 1,640 feet
	12	Ohio	Mushrush, No 1	435	Tracey	1,540	21	1,105	395	1,540	1,570	60	Gas, 1,545 feet
	13	Ohio	Mushrush, No. 2	436	..do	1,545	25	1,109	391	1,545	1,576	85	
N. W.	1	Ohio	Rigall, No. 3	436	..do	1,573	17	1,137	363	1,574	1,590	112	
	2	Ohio	Rigall, No. 2	435	..do	1,561	29	1,126	374	1,561	1,593	200	Gas, 1,561 feet
	3	Ohio	Rigall, No. 1	435	..do	1,543	10	1,108	392	1,543	1,580	55	Gas, 1,543 feet
	4	Ohio	Rigall, No. 4	435	..do	1,560	30	1,125	375	1,565	1,595	85	
S. W.	1	Ohio	Poland, No 3	435	..do	1,547	16	1,112	388	1,547	1,566	75	
	2	Bridgeport	Eaton, No. 1	436	Bridgeport	925	15	489	1,011				Salt water, 935 feet
					..do	1,000	10	564	936				Well not completed
					Buchanan	1,280		844	656				Salt water
	3	Bridgeport	Nutall, No. 1	435									Drilling
S. E.	1	Ohio	Poland, No. 1	434	Tracey	1,540	20	1,106	394	1,540	1,562	10	Gas, 1,540 feet
	2	Ohio	Poland, No. 2	430									Drilling
	3	Haywood	D. Updike, No. 4	435								Dry	No record kept
	4	Mahutska	W. Updike, No. 4	434	Tracey	1,510	8	1,076	424				
					McClosky	1,615	24	1,181	319		1,648	50	
36—													
	1	Bell Bros	Nutall, No. 5	432	Bridgeport	935	60	503	997				Salt water, 975 feet
					Buchanan-1	1 060	45	628	872				
N. E.					Buchanan-2	1,290	40	858	642				
					Kirkwood	1,488	72	1,056	444	1,507			Gas, 1,510 feet
					McClosky	1,643	31	1,211	289		1,700		Well abandoned
	2	Bell Bros	Nutall, No 3	429	Tracey	1,515		1,086	414				Gas
					McClosky	1,642	22	1,213	287		1,669		
	3	Bell Bros	Nutall, No. 2	434	Tracey	1,515		1,081	419				Gas
					McClosky	1,631	29	1,197	303		1,663	Dry	
	4	Bell Bros	Nutall, No. 4	436	Tracey	1,515		1,079	421				Gas
					McClosky	1,609	30	1,173	327		1,644		
	5	Snowden Bros	Nutall, No. 2	436									No record kept
	6	Bell Bros	Nutall, No. 1	432	Tracey	1,515		1,083	417				
					McClosky	1,628	20	1,196	304		1,648		Quit in sand
					Kirkwood	1,495	7	1,061	439				Salt water, 975, 1,100 and 1,490 feet
	7	Snowden Bros	Nutall, No. 1	434	Tracey	1,522		1,088	412				Top lime, 1,335 to 1,420 feet
					McClosky	1,640	23	1,206	294			90	
	8	Snowden Bros	Nutall, No. 3	436	Bridgeport	965	75	529	971				Salt water
					Buchanan	1,175	45	739	761				Salt water
					"Gas"	1,325	23	889	611				Red rock, 1,420 feet
					Kirkwood	1,437	73	1,001	499	1,463			Salt water, 1,457 feet
					Tracey	1,533	5	1,097	403	1,553			
					McClosky	1,605	25	1,169	331	1,610	1,637	225	

Lawrence County—Petty Township—Continued.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation—feet.	Sand. Name.	Sand. Depth to top—feet.	Sand. Thickness penetrated—feet.	Sand. Altitude below sea level—feet.	Sand. Altitude above datum plane—feet.	Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
36—N. E.	9	Snowden Bros	Nutall, No. 4	436	Bridgeport	915	105	479	1,021				Hole full of water, 1,010 feet
					Buchanan-1	1,050	125	614	886				
					Buchanan-2	1,240	60	804	696				
					Stray	1,379	4	943	557	1,383		Show	
					Kirkwood	1,444	8	1,008	492	1,444			Salt water, 1,447 feet
					Tracey	1,481	39	1,045	455				Gas, 1,489 feet
					McClosky	1,613	17	1,177	323	1,615			
	10	Snowden Bros	Nutall, No. 5	435	Bridgeport	785	215	350	1,150				Hole full of water, 1,000 feet
					Buchanan-1	1,095	65	660	840				
					Buchanan-2	1,260	35	825	675				Red rock, 1,310 feet
					Kirkwood-1	1,434	11	999	501	1,434		Show	
					Kirkwood-2	1,455	10	1,020	480				Salt water, 1,465 feet
					Tracey-1	1,569	34	1,134	366	1,564		Light	
					McClosky	1 609	13	1,174	326	1,612			
N. W.	1	Ohio	S. Updike, No. 3	438	..do	1,606	32	1,168	332	1,611	1,640	75	
	2	Ohio	S. Updike, No. 5	437	..do	1,613	23	1,176	324	1,618	1,653	50	
	3	Haywood	D. Updike, No. 2	438	Kirkwood	1,495	15	1,057	443				
					McClosky	1,608	17	1 170	330		1 625	30	
	4	Haywood	D. Updike, No. 3	438	Kirkwood	1,488	17	1,050	450				Gas
					Tracey	1,532	20	1,094	406		1,557	75	
	5	Haywood	D. Updike, No. 1	438	Kirkwood	1,490	30	1,052	448				Gas
					Tracey	1,534	10	1,096	404			30	
					McClosky	1,601	36	1,163	337		1,690		
	6	Ohio	S. Updike, No. 4	438	Tracey	1,518		1,080	420				Gas, 1,518 feet
					McClosky	1,617		1,179	321	1,617	1,653	75	
	7	Ohio	S. Updike, No. 2	438	Kirkwood	1,485	25	1,047	453				
					McClosky	1,603	32	1,165	335	1,603	1,635	175	
	8	Ohio	Walters, No. 1	438	..do	1,605	30	1,167	333	1,605	1,651	75	
	9	Ohio	Walters, No. 2	438	Tracey	1,525	15	1,087	413				
					McClosky	1,600	25	1,162	338	1,600	1,650	Gas	

S. W.	10	Ohio	M. Smith, No. 2	437	Tracey	1,530	10	1,093	407	1,530		50	
					McClosky	1,601	17	1,164	336		1,672		
	11	Ohio	W. Updike, No. 1	436	Tracey	1,518	17	1,082	418				Gas, 1,518 feet
					McClosky	1,602	16	1,166	334	1,602	1,660	15	
	12	Ohio	M. Smith, No. 1	437	"Gas"	1,420	10	983	517				
					Kirkwood	1,470	40	1,033	467		1,640	Gas	Gas, 1,530 feet
	13	Ohio	Walters, No. 3	436	McClosky	1 600	11	1,164	336	1,600	1,645	5	
	14	Ohio	Walters, No. 7	444	Kirkwood	1,439	8	995	505				
					McClosky	1,605	20	1,161	339	1,605	1,631	35	Gas, 1,605 feet
	15	Ohio	Walters, No. 5	438	..do	1,620	15	1,182	318	1,620	1,641	65	Gas, 1,628 feet
	1	Ohio	Walters, No. 6	444	Kirkwood	1,430	20	986	514				Gas, 1,440 feet
					McClosky	1,603	22	1,159	341	1,615	1,627	50	
	2	Ohio	Walters, No. 4	435	Kirkwood	1,406	16	971	529	1,406	1 427	60	
	3	Ohio	Allen Hrs., No. 1	436	..do	1,378	22	942	558	1,378	1,420	50	
	4	Ohio	Allen Hrs., No. 4	437									Drilling
	5	Ohio	Allen Hrs., No. 3	436	Kirkwood	1,431	14	995	505	1,431	1,447	42	Gas, 1,431 feet
	6	Ohio	Allen Hrs., No. 2	436	..do	1,392	8	956	544		1,406	Dry	
	7	Snowden Bros	Petty, No. 2	436	Bridgeport	950	40	514	986				Hole full of salt water, 990 feet
					Buchanan	1,155	15	719	781				
					Stray	1,275	5	839	661				Salt water, 1,280 feet
					"Gas"	1,330	10	894	606	1,335			Red shale, 1,280 and 1,408 feet
					Kirkwood-1	1,378	22	942	558	1,385			
					Kirkwood-2	1,413	5	977	523	1,413			
	8	Snowden Bros	Petty, No. 1	436	Bridgeport	870	15	434	1,066				Salt water, 800 feet
					..do	920	60	484	1,016				Hole full of water, 980 feet
					..do	1,095	8	659	851				
					Buchanan-1	1,113	62	677	823				
					Buchanan-2	1,185	35	749	751				
					Buchanan-3	1,240	15	804	696				
					Stray	1,265	10	829	671				
					"Gas"	1,326	10	890	610	1,326			
					Kirkwood-1	1,366	26	930	570				
S. E.	9	Snowden Bros	Petty, No. 4	435	Kirkwood-2	1,400	12	964	536	1,400	1,422	125	
					Bridgeport	868	20	433	1,067				Salt water, 870 feet
					..do	938	35	503	997				
					Buchanan	1,118	140	683	817				
					"Gas"	1,325	10	890	610				
					Kirkwood-1	1,372	18	837	563	1,375			
					Kirkwood-2	1,402	9	967	533	1,406	1,432		
	10	Snowden Bros	Petty, No. 3	435	Bridgeport	870		435	1,065				Salt water, 885 and 940 feet
					Buchanan	1,115	100	680	820				
					Stray	1,230	15	795	705				
					"Gas"	1,310	22	875	625	1 328			
					Kirkwood-1	1,367	20	832	568	1,375			
					Kirkwood-2	1,402	12	967	533		1,435		
	11	Ohio	G. Gray, No. 5	435	Kirkwood	1,402	19	967	533	1,408	1,425	60	Gas, 1,408 feet
	12	Ohio	G. Gray, No. 1	435	..do	1,382	44	947	553	1,387	1,441	75	
	13	Ohio	G. Gray, No. 4	434	..do	1,400	19	966	534	1,400	1,425	75	
	1	Ohio	Longnecker, No. 2	435	..do	1,415	15	980	520	1,415	1,435	170	

Lawrence County—Petty Township—Concluded.

Section No.	Map No.	Name of oil company.	Name of well.	Surface elevation feet.	Sand.					Oil depth—feet.	Total depth—feet.	Initial product—barrels.	Remarks.
					Name.	Depth to top—feet.	Thickness penetrated—feet.	Altitude below sea level—feet.	Altitude above datum plane—feet.				
36—													
S. E.	2	Ohio	Longnecker, No. 3	435	Kirkwood	1,450	5	1,015	485			Gas	Gas, 1,450 feet
					McClosky	1,611	7	1,176	324	1,611	1,647	85	
	3	Ohio	Longnecker, No. 1	436	..do	1,602	43	1,166	334		1,952	Dry	Gas, 1,602 feet
	4	Ohio	E. Smith, No. 1	435	Kirkwood	1,498	22	1,063	437				Gas, 1,498 feet
					McClosky	1,616		1,181	319	1,621	1,657	75	
	5	Ohio	E. Gray, No. 1	435	Kirkwood	1,495	20	1,060	440				
					McClosky	1,616	19	1,181	319	1,616	1,645	90	
	6	Ohio	E. Gray, No. 3	436	..do	1,609	12	1,173	327	1,616	1,635	40	
	7	Ohio	E. Gray, No. 2	438	Kirkwood	1,445	15	1,007	493				
					McClosky	1,606	10	1,168	332	1,610	1,621	35	Gas, 1,610 feet

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