

REPORT OF THE STATE NATURAL GAS SUPER-
VISOR FOR THE YEAR 1907.

BY

B. A. KINNEY.

Annual Report of the State Natural Gas Supervisor.

OFFICE OF THE STATE NATURAL GAS SUPERVISOR,
MARION, INDIANA, February 1, 1908.

Prof. W. S. Blatchley, State Geologist:

SIR—I have the honor to submit to you herewith my fifth annual report as State Gas Supervisor, for the year 1907, the same being the sixteenth report from this department. In former reports I have endeavored to call your attention to the waste of gas resulting from the criminal negligence of operators and producers; also of the evil results to the gas supply from pumping stations, now mostly abandoned, and of my efforts in seeking to prevent such abuses. This report will contain a great deal of matter on this line. I have sought, however, to eliminate all matter that has been fully treated in former reports and has no special importance at this time. I have dwelt largely in this report upon the improvement in conditions in the gas fields of the State in general, of the prospecting for new gas territory and the development of the same, giving, I think, much information in detail that will be valuable and instructive to the people of Indiana.

I trust that this report will receive your approval and the approval of those who, from their interest and experience in the gas field, are capable of judging of the same.

Respectfully yours,

B. A. KINNEY,
State Natural Gas Supervisor.

ANNUAL REPORT OF THE STATE NATURAL GAS SUPERVISOR.

WELL PLUGGING.

In my last annual report I gave considerable space to the ruinous effects upon the gas fields of the State resulting from the failure or neglect of operators and producers to plug up the abandoned wells. It is of such supreme importance to the people of Indiana that this great natural resource be husbanded and saved for those to whom it is such a blessing that I again wish to urge upon all who read this, if they be engaged in the development of the gas business, the necessity of complying with the State law upon the above subject. A great majority of gas operators realize the importance of taking care of the gas fields, and I am happy to say that the laws on this subject were more generally obeyed within the last year than ever before.

There are, of course, many operators who care only for their own convenience and for their immediate profits, disregarding the rights of the landowners and those of the public at large. This class includes some gas companies, individuals drilling wells for speculation and oil operators. The last two classes, in the event of failure to obtain a good paying well in one territory and foreseeing no good prospects ahead, sometimes abandon their leases, "pull" their wells and seek other gas fields which promise better results, without having properly plugged the wells. Hence a great deal of my time is taken up in seeking out these abandoned wells. As I have said above, however, these law violations are growing less in number, and I have had the co-operation and sympathy of most of the producers, only a few of them having tried to obstruct me in the discharge of my duties.

The law on the subject of plugging abandoned wells was enacted by the General Assembly of 1903 and approved March 7, 1903, and I herewith give a brief synopsis of the same for the benefit of those interested who may read this report.

Section 1 provides: "That before the casing shall be drawn from any well—to be abandoned—which has been drilled into the gas or oil bearing rock it shall be the duty of any person, firm or corporation, having control of said well, as well as the owner of the lands whereon such well is situated, to properly stop or plug the same in the following manner: Such hole shall first be solidly

filled from the bottom thereof to a point at least 25 feet above such gas or oil bearing rock with sand, gravel or pulverized rock, immediately upon the top of which filling shall be seated a dry pine wood plug, not less than 2 feet in length, having a diameter of not less than one-fourth of an inch less than the inside diameter of the casing in such well; above such wooden plug such well shall be solidly filled for at least 25 feet with the above mentioned filling material, immediately upon which shall be seated another wooden plug of the same kind and size above provided, and such well shall again be filled solidly for at least 25 feet above such plug with said filling material. After the casing has been drawn from such well there shall immediately be seated at the point where such casing was seated a cast iron ball or a tapered wooden plug at least two feet in length, the diameter of which ball or the top of which plug shall be greater than the hole below the point where such casing was seated, and above such ball or plug such well shall be solidly filled with the aforesaid filling material for a distance of at least fifty feet."

Section 2 provides: "That an affidavit must be made by at least two persons who assisted in the plugging of such well, which is to be recorded in the recorder's office of the county where the well is located; this to be filed within fifteen days after such plugging, and shall set out in detail the manner in which the well is plugged, following the law's instructions as above, giving the depths below the surface of the plugs or iron ball."

Section 3 provides: "That in sinking wells into the gas or oil bearing rock that the water be cased off from such well."

Section 4 provides: "A penalty for any violation of this act the sum of \$200 and \$200 more for each ten days such violation shall continue, to be recovered in a civil action in a court of competent jurisdiction, brought in the name of the State of Indiana, for the use of the county where the violation occurred, and the county may also recover attorney's fees in case of a recovery by it."

Section 5 repeals a former law passed in 1893.

Section 6 empowers the State Gas Supervisor to enter upon any land at any time for the purpose of examining and testing any such well or wells.

The Natural Gas Supervisor has endeavored to do his duty according to the above law, but he has no means of knowing when wells are to be abandoned, and can only act in cases of violations of the law on information furnished him by outside parties. I believe all good citizens should assist me in enforcing this law as a

means of preserving this gas supply. I promise in return to put the law into motion, without fear or favor, against any violators brought to my knowledge.

Among the most common violators of the law are the junk dealers, who buy the old iron and casing from defunct gas and oil wells and leave them without any attention whatever. The land-owners then disclaim any responsibility for the plugging of the wells, as do also the junk men, making it difficult to locate the responsible party.

It is a matter of common knowledge among gas and oil operators that much of the oil and gas bearing rock is connected throughout the State, though in some localities it differs in porosity from others. Therefore, if by reason of a failure to properly plug an abandoned well or to case off the water from the rock when a well has been drilled, water is introduced into the rock strata, an injurious effect is produced upon the gas bearing rock for many miles in extent, and affects good producing wells many miles away from where the mischief was done.

While on the subject of well plugging I can do no better than to reproduce the suggestions of Mr. Henry C. Zeigler, president of the Heat, Light and Power Company of Muncie, the principal gas company there, who wrote to me under date of February 7, 1908. The letter contains so many good ideas as well as valuable information about the Delaware County gas field that I present it herewith verbatim:

MUNCIE, IND., February 7, 1908.

Mr. B. A. Kinney, Care Denison Hotel, Indianapolis, Ind.:

Dear Sir—Replying to your esteemed favor of the 4th, and your inquiry therein contained as to the number of wells we have drilled in the year 1907, we beg to state that the Heat, Light and Power Company has not been obliged to drill a well, and did not drill any during the year 1907, and we have a good volume, a plentiful supply for our patrons. The gas pressure is growing better gradually, and to such an extent that it is convincing proof of a general betterment.

Four years since the pressure, as taken by a committee from the Common Council of the city of Muncie during a three days' trip over the gas field of Delaware County, which same is a matter of record, showed pressures running from 0 up to 6 pounds, but very few wells registered the higher figure, the average being $1\frac{1}{2}$ pounds, where wells were feeding into pipe lines and on which no pumps were connected. The six-pound pressure wells were those that were not connected to feed lines. Our wells, since the manufacturers' pumps have been abandoned, have shown a constant increase, and those on the pumps, if the gate is closed, will register from 2 to 8 pounds within five to seven minutes. We have a number that will

run up to 10 pounds or better that have been on the pumps for the last year. Wells that are not on the pumps, that were practically dead four years ago, will register from 20 to 40 pounds. The writer is not disappointed, as we maintained early in the history of the gas field what the result would be when the mammoth pumps were dismantled.

In the meantime we are prone to give due credit to the State Gas Inspector's office, the good efforts of Mr. Blatchley, and his assistant, yourself, in the matter of advising the proper plugging of wells. We regret the law is not a little more explicit and far-reaching. To one who has been engaged in the natural gas and oil business for better than thirty years, we think it very important that a law should be enacted making it possible for the State Gas Inspector to appoint an assistant in every district, to whom the owner of any well, when desiring to have the same pulled, should report, and that such assistant should be at the well and see that the well is plugged in accordance with the law regulating the plugging of wells. In this way only can we expect proper results from the law as now enacted.

We drop in these suggestions in the hope that you will lend your good influence towards the enactment of such a law as will bring proper results, and thus, save to the citizens within the gas producing territory of the State the valuable fuel that the writer believes will be in abundance for many years if water is not allowed to flow into the gas producing strata.

Respectfully yours,

H. C. ZEIGLER.

I heartily endorse the suggestions of the writer of the above, Mr. Zeigler, on whose opinion upon the question of gas preservation I have learned long since to place a high value. His suggestion to have assistant gas supervisors appointed in each gas district to oversee the plugging or packing of wells, and to provide that no well should be plugged or packed without the presence of the Supervisor or an assistant on the ground, meets with my earnest approval. A law enacted following out the above ideas would present the most practical and efficient method of preventing the abandonment of wells without proper plugging or packing, and would help to save the gas bearing porous rock strata from salt or fresh water flowing in from abandoned wells.

PUMPING STATIONS.

In former reports the Natural Gas Supervisors have given considerable space to the subject of pumping stations. These stations, intended to reinforce the natural rock pressure by pumping the wells, have been the means of exhausting the gas supply years earlier than would have resulted had the natural pressure been depended upon. Wherever pumps have been used to increase the flow of gas from wells the gas bearing rock has been rapidly ex-

hausted, and in many cases, in gas territories where this artificial means was applied, the gas bearing rock stratum has become saturated with water drawn in from below by the suction of the pumps.

I find where these pumping stations have been abandoned and have ceased to draw upon the gas bearing rock, that the gas wells that formerly had a very feeble pressure have, since the stopping of the pumps, shown an increased flow of gas, and new wells drilled have given promise of a long continued supply of the fuel.

About all of the pumping stations now in existence in Indiana is the one at Anderson of the Hazelwood Gas Company, the station at Richmond of the Richmond Natural Gas Company, the one of J. M. Leach on the east line of Howard County, the two stations of the Indiana Natural Gas and Oil Company, one near Fairmount, Grant County, the other at Greentown, Howard County, as stated in another part of this report, and the stations of the Southern Indiana Gas Company, of Decatur County, and the Shelbyville Gas Company, of Shelby County.

The Indiana Natural Gas and Oil Company, with a pipe line to Chicago, is the only company which now pipes gas out of the State.

I will refer the reader to the letters of H. C. Zeigler, president of the Heat, Light and Power Company of Muncie; of J. M. Leach, of Kokomo, and of Thos. Wisheart, general superintendent of the Lafayette Gas Company, made a part of this report, all of which are pertinent on the subject of pumping stations.

THE OLD FIELD.

In Madison County the conditions are much improved within the last year. The pumping stations that contributed to the exhaustion of this field have been abandoned. The gas is no longer used for manufacturing purposes, and the supply for domestic use is increasing. What is said of Madison County is true also in speaking of Delaware County, adjoining. A number of old wells are still producing a fair flow of gas.

In Grant County two pumping stations still exist. The one owned by the Indiana Gas and Oil Company east of Fairmount, which supplied gas to Chicago, is still operating, pumping about 500 wells. They formerly pumped 3,000 wells. This pumping station more than anything else has been the cause of exhausting the Grant County field, as the gas is pumped from the gas bearing rock by artificial suction into the mains, and is then by reinforced pressure forced through the mains. It is evident from the constantly decreasing supply of gas in this territory that the field must

soon be abandoned. This company still maintains a pumping station at Greentown.

The pumping station near Upland, Grant County, is still in use, being owned by the Huntington Light and Fuel Company of Huntington, Indiana, which supplies that city with gas. This station is used to force the gas through the mains, and does not pump from the wells direct. The Huntington Company has a chain of wells along its pipe line, about 300 of which are in fair condition.

At Marion the Marion Gas Company still supplies the majority of the citizens with gas. The gas supply is holding up well there. No gas is used for manufacturing purposes. The Marion Gas Company have drilled about forty wells within the last year. The Marion company depends on natural pressure, having no pumping station.

Jay County has a good supply of gas, a number of wells there showing a moderate pressure. This field was revived into life after the dismantling of the pumping stations which drew on this county's gas territory. The pumping station located at Perkinsville, belonging to the Fort Wayne Gas Company, has been dismantled and the pipe lines of the company have been taken up. This company formerly supplied the city of Fort Wayne and intermediate cities with gas.

The Lafayette Gas Company, better known as the "Deitrich Syndicate," has practically gone out of business. This company formerly supplied gas to the cities of Lafayette, Logansport, Peru and Wabash. Independent companies furnish what gas is available to these cities. A letter from Thos. Wisehart, the company's superintendent, is made a part of this report.

The condition of the gas supply in Howard County is shown by the following statement: The Plate Glass Company of Kokomo has within the last two years drilled 256 wells with an average pressure of 200 pounds. John M. Leach, of Kokomo, has drilled fifteen wells within the last year having about the same pressure. These wells are mostly in good condition.

In Hancock County conditions in the gas field are still good. Many of the wells drilled by the Southern Indiana Gas Company, which supplies Greenfield and other towns, are still producing. Gas operations are being carried on vigorously here, many wells being drilled in. A favorable report can be made also of the gas field in Shelby County. Operations there are still active, many new wells are being drilled.

In Decatur County the people are enjoying the boon of cheap

gas. The citizens of Greensburg are bountifully supplied with the best fuel on earth for fifteen cents per thousand cubic feet. The farmers of Decatur County also share the privilege of using cheap gas. In fact, it is a rare sight to see a wood or coal stove in the county. In many localities every well-to-do farmer has his own gas well, from which he uses gas for heat and light for his house and outbuildings, as well as for power for a gas engine. He then supplies the needs of his neighbors, who are small farmers or tenants. The greater part of the gas supply of Decatur County comes from the Trenton rock at a depth of 800 to 1,000 feet, though there are many good wells that were drilled just into the "shale" that lies just above the limestone. There are no especially strong wells here, but the flow is strong and steady from all of them.

Many old wells that were filled up with water have been revived by cleaning and packing so as to keep out the water and are now good producers. Decatur County has never been considered in the "gas belt," but her people have enjoyed the use of gas necessary for domestic use ever since the first discovery of gas in Indiana. In the year 1907, in Decatur County, the gas companies of the county drilled 115 wells. The Greensburg Natural Gas, Oil and Water Company drilled 30 wells, the Greensburg Gas and Electric Company 40 wells, the Muddy Fork Natural Gas Company drilled 45 wells. These wells were drilled to an average depth of 900 feet; average rock pressure, 200 pounds.

The letters contained in this report, from H. C. Zeigler, J. M. Leach and Thos. Wischart, are interesting, containing much interesting information regarding the old gas field of Indiana. The letters of Mr. Leach and Mr. Wischart follow hereafter.

Mr. J. M. Leach writes the following letter:

KOKOMO, IND., February 11, 1908.

Mr. B. A. Kinney, Marion, Ind.:

Dear Sir—Replying to your favor of the 4th, beg to advise that I have drilled 15 wells in the past year, with an average capacity of 100,000 feet for the first 24 hours, and the average rock pressure is 225 pounds; with the exception of one well, which was drilled just east of Kokomo, the rest were drilled just north of Kokomo. Am running the pumping station in the daytime only.

Yours very truly,

J. M. LEACH.

P. S.—We are using about 125,000,000 feet per year.

Mr. Leach is a prominent manufacturer and gas producer of Kokomo.

Mr. Wisheart, Superintendent of the Lafayette Gas Company, sends me the following interesting reply to an inquiring letter of mine:

LAFAYETTE, IND., February 20, 1908.

Mr. B. A. Kinney, State Gas Inspector:

Dear Sir—Complying with your request, I here hand you statement of conditions of the various fields in my charge:

First, the Indiana field has been discontinued and abandoned. The main line from and through Tipton County to Frankfort and Crawfordsville is still intact but not in use. The pumping station at Kempton has been removed and all machinery gone. The Curtisville station is still intact but not in use.

The Lafayette Gas Company's field has been discontinued and abandoned. All field lines and wells have been removed and field generally cleaned up except the main lines through the field, and also main line to Lafayette, which is still intact, but not in use. The stations on the Lafayette plant, Kempton station boilers have all been removed, but the compressors are still intact, but not in use.

The Windfall station is still intact, but not in use. The Summitville station still intact, but not in use.

The Logansport and Wabash Valley Company have abandoned Peru, and the only towns now being furnished with gas are Converse, Swayzee, Miers, Herbst, and Geneva (the last) in Adams County.

We have a number of small wells through the western part of Grant County and the eastern part of Miami, which are furnishing gas to supply a part of these towns. The pumping station at Converse has been discontinued and removed. Main line between Converse and Peru is still intact. We are furnishing gas to Geneva, Adams County, and purpose furnishing to Decatur. We are not drilling any wells in that vicinity, however, as we are purchasing our gas from the Warren and Indiana Oil Company.

By the way, we have an especially good pressure in that portion of Jay County and in the southern part of Adams County. Last week I gauged one well that showed 320 pounds original rock pressure. The volume, however, was not of much account. We have four other wells from which we are receiving gas belonging to the said Warren Company that showed a pressure of 150 to 170 pounds, giving us ample supply for Geneva.

In making estimate of four of these wells, we found that they measured as against atmosphere about 6,000,000 feet per day of 24 hours.

Yours truly,

THOS. WISEHART,

General Superintendent of Lafayette Gas Company.

THE SULLIVAN FIELD.

Brief mention only was made in my last annual report of the gas developments in Sullivan and Vigo counties, which now promise to become fair productive gas territory. This region is known among oil and gas men as the "Sullivan Field."

SULLIVAN COUNTY.

I give below much detailed information as to the wells recently drilled in Sullivan County. There have been several wells developed which produce more than 1,000,000 cubic feet of gas per day, each. One of these is located on the Jamison farm one mile west of Sullivan. Many wells are being drilled in the same locality and throughout the county, and much activity prevails. Twelve wells that have been drilled in the last year were unsatisfactory, showing more oil than gas. Gas is plentiful here for heat and light and the city of Sullivan is now being piped for the purpose of bringing the new fuel to the doors of its citizens.

From the records of wells drilled in the Sullivan field I make note of the following:

Three wells drilled on Hoseman farm, Section 9, Gill Township, in 1904, first well drilled showing of oil at 865 feet, drilled to 900 feet; enough gas to run boilers. Second well came in in January, 1907, in Jamison sand; shot, water drowned, water flowing out yet; fair gas. Third well came in in August, 1907; abandoned, not shot.

On the P. Osborn lease, in section 12, Hamilton Township, one well was drilled in July, 1907; oil was found at 527 feet, 15 feet in the sand; well was drilled to 830 feet and shot, and abandoned.

On the Gill lease, in section 10, Gill Township, one well was drilled; showing of gas at 772 feet; drilled down to 840 feet and abandoned.

The Deitrich Syndicate in 1906 drilled a well on the Krause farm, in Turman Township. Some gas was obtained at 1,465 feet. Drilled to 1,762 feet.

In July, 1907, a well was completed on the Brokaw lease in section 18, Hamilton Township; no gas obtained; streak of Jamison sand at 760 feet; drilled to 870 feet. On the Mason lease, section 17, Hamilton Township, a well was drilled, reaching the sand at 745 feet; total depth drilled, 860 feet. A well drilled on the Hayden farm, section 26, Hamilton Township, 1,350 feet; slight showing of oil at 1,150 feet.

On the Coulson lease, section 31, Hamilton Township, a well is being drilled which has reached a depth of 775 feet; a flow of oil, five barrels per day, was developed at 738 feet, sand was reached at 734 feet, and after being shot the well flowed 10 barrels of oil per day. This well was not pumped.

On the Scott farm, section 36, Turman Township, a well was

completed October, 1907, located on left side of the road. Drilled 850 feet; dry. In the same month and year a well was completed on right side of road; drilled to 900 feet; oil reached at 745 feet; six-barrel oil well. Showing of oil at 480 to 500 feet, or 15 to 20 feet in the sand. This is found to be general over this field. On the J. M. Springer lease, section 2, Turman Township, a well now being drilled is down to 1,100 feet; small showing of Jamison sand at 800 feet; water flowed at 900 feet to present depth. A well drilled and completed in June, 1907, on T. B. Springer lease, section 2, Turman Township, was abandoned at 900 feet, owing to water. Signs of oil at 400 feet; Jamison sand at 795 feet; fair showing of gas.

Three miles east of Paxton, on the Blakeman lease, section 21, Haddon Township, a well now being drilled has reached a depth of 1,100 feet; showing of oil at 660 to 710 feet; not shot.

On Jamison farm, section 31, Hamilton Township, two good gas wells were drilled and completed between April and September, 1907; gas reached at 700 feet; 30 feet drive pipe used; at 600 to 680 feet 6¼ inch casing used; No. 1 well flows 1,250,000 cubic feet of gas per day; No. 2, 1,200,000 feet; pressure, 297 pounds. The gas from these wells is being piped into the city of Sullivan.

The log of three wells drilled in the Sullivan County field is set forth, as follows:

*Record of the Bailey McConnell Well, Section 28, Haddon Township,
Sullivan County, Indiana.*

	<i>Feet.</i>
Conductor	28
8-inch pipe	38
6¼-inch pipe	930
4½-inch pipe	1470
5 feet coal and gas.....	271
Salt sand	925 to 1015
Break	1027
Salt sand	1027 to 1225
Lime and slate	1225 to 1300
Sand lime-slate	1300 to 1395
Hole full water, oil.....	1395 to 1435
Salt sand	1435 to 1445
Slate	1445 to 1470
Dry hole	1470 to 1860
Water	1860
Good sand with oil	870
Oil at	1395

Drilled in 1905. Abandoned.

Record of W. R. Colvin Well, Section 31, Haddon Township, Sullivan County, Indiana.

	<i>Feet.</i>
8-inch drive-pipe	40
6¾ casing	550
Enough salt water to drill.....	560 to 700
Slate	700 to 842
Slate	842 to 881
Shells and sand oil at bottom.....	881 to 960
Shells-lime	960 to 995
Small shell sharp rock	995 to 1040
Salt sand	1040 to 1085
Slate	1085 to 1120
Salt sand	1120 to 1140
Slate and lime	1140 to 1300
4¾ casing	1310
Sandy lime	1310 to 1370
Soft lime	1370 to 1390
Sharp sand, show oil	1390 to 1440
Good drilling	1440 to 1510
Brown sand, small show of gas.....	1510
Brown sand, show of oil	1565 to 1640
Good sand	1640 to 1660
Water	1687
Drilled in 1905. Abandoned.	

Record of Drilling Turman Township Well, Section 8, on the Farm of John H. Krause, in Sullivan County.

Murdock Gas Company.

	<i>Feet.</i>
Shale	70
Sand	80
Blue shale	255
Coal, 3 feet	260
Dark shale	305
Coal	310
White limestone	310 to 340
Gray shale	340 to 510
Sand (cased)	570 to 574
Shale	584 to 680
Gray sand	910
Salt sand	900
Black sand (Robinson)	985
Shale and salt	1075
Black sand	1140
Black sand and cave	1210
Salt sand	1600
Blue lick water	1720
Total depth	1762

Casing.

	<i>Feet.</i>
13-inch	26
10-inch	584
8-inch	1181
6 $\frac{1}{8}$ -inch	1328
5-inch	1746
Oil	1475
Water	1460 to 1510

This well was drilled in 1906. Abandoned.

GIBSON COUNTY.

The operations in the Princeton field, Gibson County, in the past year, show this territory to be a coming gas field of much importance. Considerable drilling for oil by the Ohio Oil Company and other companies is being done. Each completed well shows a fair flow of gas, and no well so far drilled has failed to furnish enough gas for fuel for the boilers of the oil operators who are now pumping the oil producing wells, many of which are now paying. The following statement of the record of some of these wells operated by the Ohio Oil Company and other companies, is herewith submitted:

The No. 1 well on the I. N. Montgomery lease, completed in December, 1907, drilled to depth of 1,000 feet, sand struck at 845 feet, 87 feet of drive pipe used; dry well. On the Kendall lease, well No. 16, completed in December, 1906, sand at 836 feet; drilled 30 feet in sand; drive pipe 75 feet, 10 inches; 5 to 6 barrel well. No. 17, drilled total depth 862 feet, sand at 820 feet, drive pipe 80 feet 10 inches; 65 barrel well, completed March, 1907. No. 18, completed April, 1907; total depth, 865 feet; sand at 820 feet, 80 feet drive pipe; 92 barrel well. No. 19, completed June, 1907; depth 882 feet, sand at 842 feet, drive pipe 85 feet and 10 inches; 55 barrel well. No. 20, completed in December, 1907; total depth 858 feet, sand at 836 feet, drive pipe 82 feet and 10 inches; 15 barrel well.

On the M. Howard farm, No. 8 well, completed in August, 1907; was drilled to depth of 910 feet, sand was reached at 862 feet, the drive pipe used was 62 feet long; salt water struck; dry well. On the W. F. Knight lease, No. 5 well, completed in September, 1907; sand at 892 feet, drilled 60 feet in the sand, 80 feet and 10 inches drive pipe, 800 feet of 6 $\frac{1}{4}$ -inch casing used; 10 barrel well. On Watkins's lease, No. 1 well, completed in September, 1907;

total depth drilled 876 feet, sand at 836 feet, 81 feet and 10 inches of drive pipe; 35 barrel well; salt water encountered. No. 2 well, completed in October, 1907; total depth 863 feet, sand at 823 feet, drive pipe 78 feet and 10 inches; 80 barrel well. These wells were all drilled by the Ohio Oil Company, which is at this time drilling other wells in the same vicinity.

On Watson lease, R. Binkley farm, No. 1 well, 812 feet to the sand, drilled 52 feet in sand, 5 barrel oil well; No. 2 well, 840 feet to sand, total depth drilled 880 feet, formation lower in this well; light well. These two wells drilled by New York-Hudson Oil Company.

The Bennedum-Trees Company has lately drilled a well on the Skinner farm, near Oakland City, total depth 1,300 feet; encountered salt water; dry well. Two wells now being drilled near Oatsville, Pike County, one by the above named company, the other by the Pure Oil Company. The Pure Oil Company drilled a well on the Houchins farm, 1,300 feet in depth, salt water encountered; dry well; gas came at 650 feet. Three miles south of Winslow, Pike County, the Southern Oil Company completed not long ago a well on Rev. Woods's farm to a depth of 1,185 feet; sand at 1,160 feet; well shot; initial production of oil 180 barrels in ten days; produces some gas.

In my last report I stated that the gas field in Pike County, around Petersburg, was wholly unproductive. I can add here that all the latest drilling here for gas has resulted in "dry" wells.

On the C. Harding farm, northeast of Decker, in Knox County, a well drilled to 1,660 feet is a failure, salt water encountered; well is dry. One well being drilled west of Decker, on Jordan farm, is 1,440 feet down; a crevice in the rock is encountered; can not be filled. A dry well resulted on the Chas. Griffin lease, the well drilled by the Farmers' Oil Company, completed in October, 1907; depth 1,040 feet, sand at 1,005 feet.

For some time preceding the time of making this report the leasing of lands for gas producing purposes has been carried on, in the counties of Floyd, Scott, Clark, Harrison and Crawford. Before another year, in my opinion, the entire south end of the State will have been tested by seekers for the precious natural fuel.

A test well is being drilled at the present time in Clark County; another in Scott County. The American Car and Foundry Company, of Jeffersonville, has already drilled a well 1,400 feet in depth, and have stopped operations until they can obtain additional gas leases. This company already has leases on 12,000 acres

of land in the counties named in the preceding paragraph. Other companies have, in the aggregate, double that number of acres leased.

GENERAL SUMMARY.

There are twenty-six counties in the State of Indiana in which gas is being produced and used, and in a number of these counties natural gas is the common and most generally used fuel for domestic purposes. But in what has been known as the "gas belt," Delaware, Madison, Grant, Blackford, Wells, Jay and Howard counties, many manufacturers have found the gas supply inadequate for their needs as a fuel.

Adams, Wells, Huntington, Wabash, Miami, Howard, Grant, Blackford, Jay, Randolph, Delaware, Madison, Tipton, Hamilton, Henry, Hancock, Shelby, Rush, Decatur, Franklin, Sullivan, Green, Martin, Pike, Gibson and Vigo counties are within the gas producing territory of Indiana, being 26 counties in all.

At the time of making this report there is, speaking approximately, being produced in the State of Indiana, 20,000,000 cubic feet of gas per day. The average price of gas per thousand cubic feet, over the State, is 30 cents. This represents a daily production from the flow of gas of \$6,000, or \$1,800,000 in one year.

Respectfully submitted,

B. A. KINNEY,
State Natural Gas Inspector.