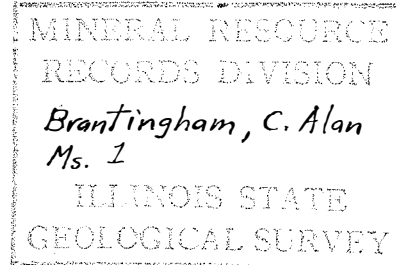


State of Illinois  
STATE GEOLOGICAL SURVEY DIVISION

June 22, 1933

Mr. Walter B. Farmer  
Managing Director  
Utah Metal and Tunnel Company  
50 Congress Street  
Boston, Massachusetts



Dear Mr. Farmer:

Confirming the oral report already given during my field conference on June 21 with you, Mr. C. A. Brantingham of Rockford, Illinois, and Mr. A. R. Morris of Terre Haute, Indiana, I am writing you in regard to the geology and oil and gas prospects of a block of oil and gas leases comprising secs. 13, 14, 23, 24, N. 1/2 of 25 and N. 1/2 of 26, T. 7 N., R. 11 W., Crawford County Illinois, which I understand are owned jointly by Mr. Morris, and by Mr. Stevens, a director of your company.

The available data regarding the ten test borings recently made by Mr. Morris and Mr. Tom Sharpe on the above mentioned acreage, ranging in depth from 13 to 60 feet, indicate that they were all in deposits of Recent or Pleistocene age and that none of them entered the underlying Coal Measures. The results, therefore, give no information regarding the structure of the bedrock strata.

In order to determine structural conditions in the bedrock it is necessary to drill tests to a key horizon in the Pennsylvanian. The driller's log of the Bolton et al, Martha J. Shaw well, N. W. corner N. E. 1/4, sec. 13, T. 7 N., R. 11 W., near the north edge of the block, shows soil, sand and gravel to a depth of 120 feet and the uppermost coal bed in the Pennsylvanian in this location at depth 125 feet. It is possible that this coal bed would be a good key horizon for the area, but as it is close to the Pennsylvanian-Pleistocene contact it may be cut out in places by the Pleistocene. If so the limestone at depth 224 in the Shaw well or one of the lower coals might be used as a key horizon for structure.

If you or your associates should decide to do further drilling in Illinois we shall be glad to cooperate by giving our geological interpretation of the results of the drilling.

As you requested, I am sending you enclosed the original records of the test borings and the map prepared by Mr. Morris is being sent under separate cover.

I greatly appreciate your courtesy in supplying me with transportation in the field.

With kind regards

Yours very truly,  
A. H. Bell  
Geologist and Head Oil & Gas  
Division

Illinois Gas Property

DRILLING RECORDS

June 9/33      Hole # 1

Sand Shale.....	18'	
Sand & Gravel.....	10'	
Coal Blossom.....	--	28'
Sand & Gravel.....	27'	
Total Depth.....	55'	
Total Cover over coal.....	28'	

June 10/33      Hole # 2

Surface.....	2'	
Sand & Bolders.....	20'	
Coal Blossom.....	--	
Sand & Gravel.....	18'	
Drilled.....	40'	
Total Cover.....	22'	

June 12/33      Hole # 3

Surface.....	7'	
Sand & Gravel.....	9'	
Coal Blossom.....	--	
Sand & Gravel.....	24'	
Drilled.....	40'	
Total Cover.....	16'	

June 13/33      Hole #4

Surface.....	10'	
Blue Mud.....	9'	
Sand & Gravel.....	10'	
Coal Blossom.....	--	
Sand & Gravel.....	2'	
Drilled.....	31'	
Total Cover.....	29'	

## 2--Drilling Record

June 14/33      Hole # 5

Surface.....	5'
Blue Mud.....	10'
Sand.....	4'
Coal Blossom.....	--
Sand & Gravel.....	21'
Drilled.....	40'
Total Cover.....	19'

June 15/33      Hole # 6

Sand & Gravel.....	29'
Coal Blossom.....	--
Sand & Gravel.....	16'
Drilled.....	45'
Total Cover.....	29'

June 16/33      Hole # 7

Surface.....	5'
Blue Mud.....	7'
Coal Blossom.....	--
Sand & Gravel.....	9'
Quick Sand.....	19'
Drilled.....	40'
Total Cover.....	12'

June 17/33      Hole # 8

Surface.....	7'
Sand & Gravel.....	24'
Quick Sand.....	29'
Drilled.....	60'
No coal	
Total Cover.....	

3--Drilling Records

June 19/33      Hole # 9

Surface..... 4'  
Sand & Gravel..... 9'  
Coal Blossom..... --  
  
Drilled.....13'  
  
Total Cover.....13'

June 19/33      Hole # 10

Surface..... 5'  
Sand & Gravel.....55'  
  
Drilled,,.....60'  
  
No coal  
  
Total Cover.....

A  
R E P O R T  
of  
CONFERENCE REGARDING  
PROPERTY  
LOCATED IN CRAWFORD COUNTY  
ACROSS  
FROM MERON, INDIANA  
By  
C. A. BRANTINGHAM

July 25, 1933

## R E P O R T

LEASE HOLES LOCATED IN SECTIONS  
13 - 14 - 15 - 22 - 23 - 24 - 25 - 26  
RANGE 11 W - TOWNSHIP 7 N  
CRAWFORD COUNTY, ILLINOIS

### PURPOSE

The purpose of this report is to investigate and analyze the information now available regarding the property located on the Wabash River at Crawford County, as shown on the accompanying map, marked Appendix "A", and to suggest the future method of further exploitations of this property.

### SOURCES OF INFORMATION

Because Crawford County has very limited geological information available by virtue of comparatively minor explorations in recent years, it was necessary to depend quite largely upon the drillers' logs (See Appendix B) of the Walker and Shaw Wells, indicated on the map (See Appendix A), both of which are on this property.

The second source of information was that of Mr. Karns, who is very familiar with all of the property throughout this section of the country, as well as the general knowledge of the Illinois Geological Survey at Urbana.

### PRESENT GEOLOGICAL INFORMATION

There are now in existence a good many wells within the general region of the above mentioned property. (See Appendix C). On this map it will be noted that at Well marked "1", which is the Shaw Well, the coal is shown at 125 feet; that at Well marked "2", the coal is shown at 270 feet; at Well marked "3", the coal is shown at 121 feet. At Wells "5", "6" and "7", they were drilled at such an early period; namely, 1903 to 1908, that correct information is not available. At Mine marked "8" the coal is 93 feet; at Mine marked "9", the coal is at 40 feet. Well marked "10", gas was brought in at 900 feet- there is no log available of this Well to determine the coal.

July 25, 1933

On the map shown in Appendix "A", it will be noted that coal and limestone come to the surface near the Walker Well and that at a point approximately half a mile to the Southwest, where a water well was drilled, marked "W" on the map, this same limestone dropped to approximately 40 feet, indicating a very abrupt drop, which likewise would indicate that the high point of the structure is somewhere to the East of what is known as the Walker well.

Because there are no samples of the drillings available from any of the Wells in this immediate vicinity, no correct information is available as to the exact sub-surface structure and there naturally arises the question as to whether the coal (See Appendix C) in Wells #1, #2, #3 and Mine #8 and #9 is the same coal. However, in all cases we do have a very definite strata known as red rock, which is easily identified and which apparently exists in this entire section.

Mr. Karns general knowledge of this section, which necessarily must be of intangible nature, can not be actually put down in a report because it is of necessity arrived at by deductions rather than exact scientific or geological information.

#### DEDUCTIONS

From the above information, it is quite apparent that it would be impossible for Mr. Bell to definitely locate or attempt to locate the exact point for drilling an oil or gas well. From Mr. Karn's general knowledge, and that is partially based on previous geological surveys that have been made of this property by Mr. Conley and Mr. Dining, we have indicated two points marked "K 1" and "K 2" (See Appendix A) where wells might be properly drilled.

It is likewise quite apparent that it would be impractical to undertake Test Wells planning to go only to the coal and that the red rock of this section forms a more exact and proper geological marker.

From the information that is available on the Shaw Well and the Walker Well, two test holes (See Appendix A) marked "B 1" and "B 2", might give sufficient and proper information from which the point of location of the well might be deduced. Assuming that these two wells are drilled and accurate and sufficient information is not available, then test holes at points marked "B3" and "B4" might properly be put down. It is believed that these four test holes would give sufficient information to deduce the high point of the structure.

July 25, 1933

FURTHER EXPLOITATION OF THE SHAW WELL

In order to determine at a minimum cost whether the rock that is located at 1200 feet below the surface carries oil or not, the suggestion has been made that the present existing Gas Well be cleaned out and a 5 3/4" string of pipe be put down in that Well and driven into the rock, in order to cut off the water that now exists there, and the Well be drilled about 250 feet deeper. It is estimated that if this work were done on a time and material basis, as indicated in the following paragraph under "Cost of Test Wells", that this work could be done, including the cost of the pipe, for approximately \$600.00.

It was thought that there is a reasonable possibility that a small production of oil might be obtained in this rock and very definite information regarding the rock, its type, structure, etc., would be certain. This cost is based on the rental of the pipe and not on the purchase price.

COST OF DRILLING TEST WELLS

Because of the necessity of having accurate and complete information of the various strata, it is believed that the only practical way to do it would be to bring in a small rig on a rental basis as outlined in Mr. Karns' letter of July 14, which states "The cost of the machine and tools per day will be \$8.00, fuel for the machine \$2.00 per day, oil for the Engine Crankcase \$1.00 per day (This may be a little high but if it is, we can adjust it when we get through), then the Pipe per well would cost approximately \$25.00 per hole and the labor on the well at \$5.00 for the driller and \$4.00 for the tool dresser." It is estimated that the holes could properly be put down on this arrangement to the red rock for approximately \$150.00 per hole.

CONCLUSIONS

After approximately a six hour conference on this subject, Mr. Karns, Mr. Bell and the writer came to the following conclusions:

1. That sufficient accurate geological data is not available at the present time to intelligently locate the proper point for drilling an oil well.
2. That probably the drilling of two test wells to the red rock would give the proper information, but that it might be necessary to drill two additional test holes.



July 25, 1933

3. That it probably would be worth while to clean out the present existing gas well, drive a 5 3/4" casing into the rock and drill approximately 250 feet into that rock.

4. That a definite decision as to the next step be established as quickly as practical, in order to take advantage of the present good weather for exploration purposes.

### RECOMMENDATIONS

I recommend:

1. That authorization be given to drill two test holes to the red rock at points shown on map (See Appendix A) marked "B1" and "B2", at an estimated cost of approximately \$300.00.
2. That if sufficient information can be obtained from these two test holes to intelligently locate the well that the Shaw well next be cleaned out at an estimated cost of \$600.00, to determine whether or not the limestone located at approximately 1200 feet below the surface of the ground is oil producing.
3. If sufficient information is not available from the two test holes mentioned in Recommendation #1 that two additional holes at estimated cost of approximately \$300.00 be drilled at points shown on the map ( See Appendix A), marked "B3" and "B4".

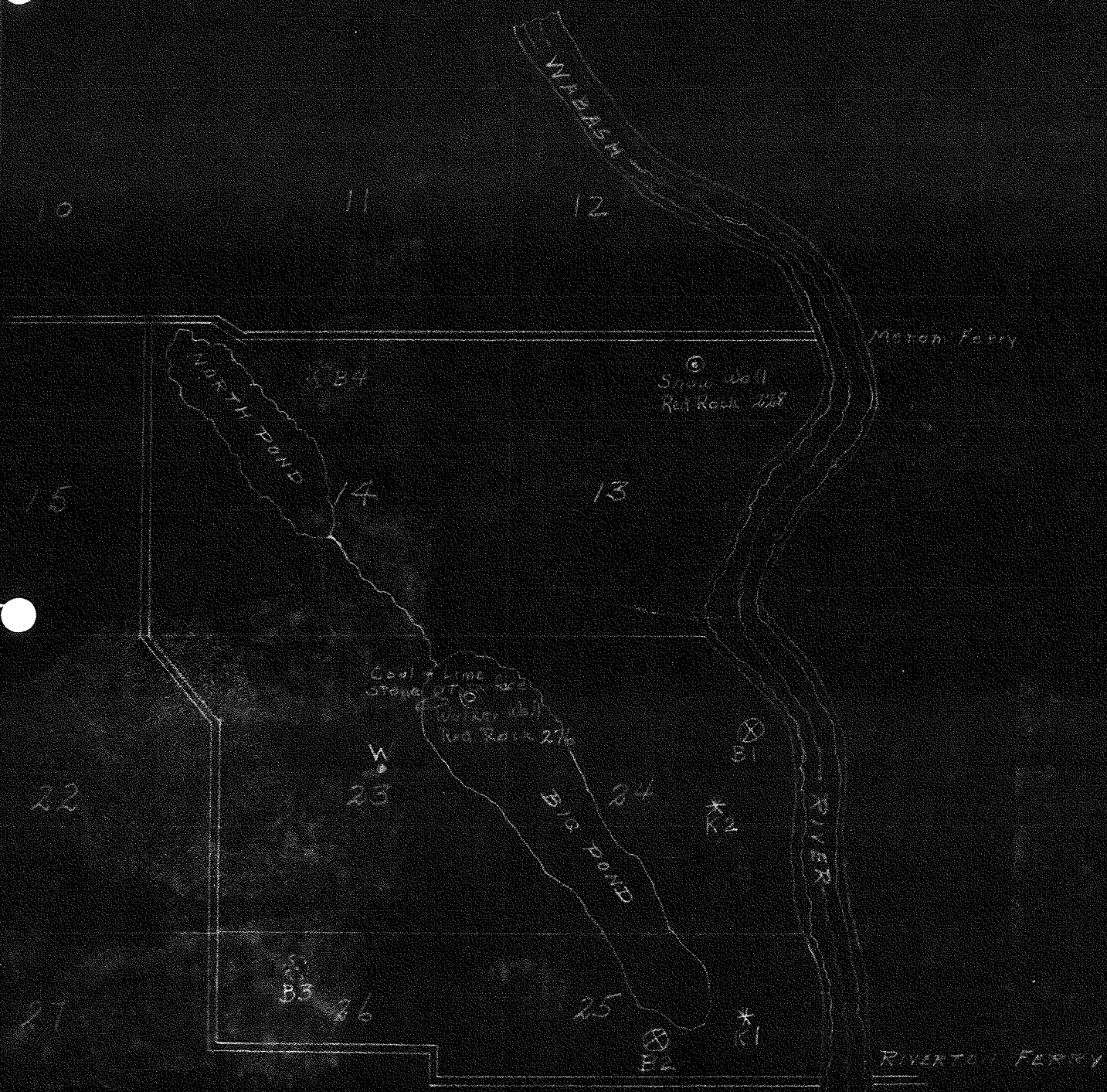
It is not recommended to drill a well at the present time but that the above Recommendations be carried out completely and exactly in accordance with the Illinois Geological Survey standard of procedure; namely, taking samples every 5 feet, properly marking the samples and delivering them to Illinois Geological Survey for analysis and recommendations, then to holding after this information has been obtained a further conference on the advisability of the location of the main well.

Yours very truly,

AMF:CAB

INVESTIGATING ENGINEER

APPENDIX "A"



APPENDIX "B"

*with logs in file*

Map No. 6

R. 11W

T. 7 N

Sec.

13

NW

NW

NE

Town - Palestine

Company Bolton et al

Farm Martha J. Shaw

No. 1

Authority. Chas. Karnes Drillers Log

Collector. W.B. Roe

Date Drilled Aug.

Sept.

1931

	Thickness	Depth
Soil	17	17
Gravel and sand (Drive pipe to 122')	103	120
Shale, white mud	5	125
Coal	3	128
Slate, blue	7	135
Shell, sandy	2	137
Shale, white	7	144
Sand, hard, 1/2 bailer water	20	164
Shale, sandy	43	207
Coal	2	209
Slate, blue	15	224
Lime, hard grey	4	228
Rock, red and slate, mixed	7	235
Slate, blue, muddy	5	240
Shale, sandy	25	265
Coal	3	268
Slate, black	12	280
Sand	5	285
Slate, black	29	314
Coal	3	317
Slate, grey	5	322
Lime	3	325
Mud, grey	25	350
Slate, blue	7	357
Coal	3	360
Slate	10	370
Slate, white	26	396
Coal	4	400
Slate, white	2	402
Shell	1	403
Shale, grey	4	407
Lime, hard bluish grey	7	417
Slate, blue	51	465
Lime, grey, drills good	14	479
Slate, blue	6	485
Lime, sandy	6	491
Shale, white	7	498
Lime, brown	2	500
Slate, black	2	502

	Thickness	Depth
Coal	6	508
Shale, grey	30	538
Sand, grey, show of oil	7	545
Slate	2	547
Sand, hard grey	8	555
Lime	7	562
Slate	4	566
Coal, lots of water	6	572
Sand (gas est. 1/4 million feet, hole full water)	13	585
Slate, black	10	595
Slate, blue	13	608
Coal ( water flowing)	6	614
Shale, sandy	15	629
Lime, brown	6	635
Slate, white	4	639
Lime, grey	6	645
Slate, grey	7	652
Sand, salt	76	728
Slate	1	729
Sand, limey hard	18	747
Slate, blue	20	767
Shale, sandy	10	777
Slate, blue	23	800
Coal	2	802
Slate, blue	5	807
Slate and shells, some gravel	11	818
Sand, hard Gas & oil	9	827
Slate, blue	13	840
Lime, sandy	12	852
Slate, blue	2	854
Sand, grey hard	16	870
Sand, sharp white	28	898
Sand, sharp hard grey	30	928
Lime, 20% sand	7	935
Slate, blue and white	95	1030
Sand	58	1088
Lime	3	1091
Slate	15	1106
Lime, sandy grey, hard streaks	39	1145
Shale, top blue to grey	30	1175
Lime, brownish grey	2	1177
Sand, fine white, iron stained	23	1200

September 21, 1931

Same as above

1253

Town - Palestine

Map No. 6

Farm-H. Walker

R. 11 W

Sec. 23

Authority Wyman and Brown

Twn. 7

Elevation

N

Collector J.H.H.

Date Drilled 1934

	Thickness	Depth
	Feet	Feet
Soil and gravel	1	10
Sandstone	2	12
Slate, blue	48	60
Coal	2	62
Slate, gray	58	120
Lime	5	125
Slate, blue	5	160
Lime, sandy	6	166
Lime	4	170
Slate, blue	55	225
Sand, hard	15	240
Slate	23	263
Coal	3	266
Sand	4	270
Lime, hard, white	4	274
Coal	2	276
Rock, red	5	281
Slate, black	19	300
Slate, gray	80	380
Lime	10	390
Sand	5	395
Slate	25	420
Lime	25	425
Slate, black	5	430
Slate, white	20	450
Slate, black	10	460
Coal, slate, black	5	465
Sandstone, gray	6	471
Coal	6	477
Slate, gray	5	482
Lime	5	487
Slate, gray	18	505
Slate, blue, dark gray	70	575
Lime	5	580
Slate, black	4	584
Coal	6	590
Slate, blue	65	650
Slate, brown	20	670
Sand; 4 bailers water	15	685
Shale, sandy	20	670

# H. Walker Farm

	Thickness	Depth
Lime	5	710
Slate, brown; 4 bailers water	10	720
Slate, blue	10	730
Sand, dark gray, show of oil	5	735
Slate, blue	25	760
Shale, light and dark	70	830
Lime; 3 bailers water	1	831
Coal	2	833
Slate, black	7	840
Lime; 300' of water	5	845
Slate, blue	13	858
Sand, coarse, gray	12	870
Slate, dark	30	900
Lime	5	905
Slate, dark	15	920
Sand, into sand and salt water	3	923
Salt sand	40	960
Slate, blue	8	968
Shale, sandy	4	972
Slate, blue	4	976
Sand	126	1100
Slate, blue	15	1115

CRAWFORD COUNTY

INDEX NO. 0423



APPENDIX "C"

