JOHNS AND MAGATHAN
CONSULTING GEOLOGISTS
501 BITTING BUILDING
WICHITA 2, KANSAS
FOREST 3-1540

WENDELL S. JOHNS
WILLIS JACK MAGATHAN

August 9, 1955

Mr. W. H. Amis Jr.
311 National Bank of Tulsa Building
Tulsa, Oklahoma

Geological Report: W. H. Amis, Jr. #1 Henderson
NE SE SW; 6-26S-13W
Pratt County, Kansas
Elevation: 1965 Derrick floor
1968 Kelly bushing
Contractor: Peel Brothers, Inc.

Dear Sir:

The #1 Henderson was spudded June 28, 1955 and was drilled from the surface to a total depth of 4480' with rotary tools. Samples were saved and a time log was kept from 3500' to the total depth.

A Schlumberger Salt Mud Survey was run on this hole and the measurements on this log differed with drilling measurements as follows:

3500' to 3900' electric log 3' deeper than drilling
3900' to 4330' electric log 2' deeper than drilling
4330' to 4390' electric log and drilling measurements were the same
4390' to total depth electric log 2' deeper than drilling

OWLL

The electric log measurements have been used throughout this section of the report. However, in the time log and formation log, the drilling measurements have been used.

The following is a list of formation tops and other data of interest. Unless otherwise noted, all information is from my sample log which has been corrected for sample lag by use of the time log and further adjusted to agree with electric log measurements. All measurements are from the top of the kelly bushing, which is three feet above the derrick floor and the rotary bushing elevation has been used to compute all datums.

Formation Name	Depth Below Surface	Datum	Remarks
8 5/8" surface casing	799		500 sacks common cement ≠ 300 # c.c.
Heebner Shale	3584 - 90	-1616 to -1622	
Top Brown Lime	3745	-1777	

Formation Name	Depth Below Surface	Datum	Remarks
Top Lansing	3770	-1802	
(1) Porous zone	3801 - 09		No show
(2) Porous zone	3821 - 26		No show
(3) Porous zone	3863 - 72		Good brown stain
(3a) Porous zone	3874 - 76		Good brown stain
(4) Porous zone	3883 - 94		Spotted stain
(5) Porous zone	3902 - 08		Very little stain
(6) Porous zone	3918 - 22		Fair odor, fair show free oil; D.S.T.
(7) Porous zone	3935 - 38		Porous on electric log, no porosity detected in samples
(8) Porous zone	3952 - 55		Slight show free oil: D.S.T.
(9) Porous zone	3965 - 76		Spotted good show free oil; D.S.T.
(10) Porous zone	3989 - 91		Fair spotted show free oil; D.S.T.
(11) Porous zone	3999 - 4012		Spotted porosity throughout - fair spotted show free oil; D.S.T.
(12) Porous zone	4041 - 50		Trace stain
Base Kansas City	4080	-2112	
Top Marmaton	4080	-2112	
Top Mississippi	4204	-2236	
(1) Chert zone	4204 - 23		Spotted show free oil; D.S.T.
Top Kinderhook	4223	-2255	
Top Viola	4274	-2306	
Top Simpson	4366	-2398	
(1) Sand zone	4379 - 94		No show
Top Erosional Arbuckle	4428	-2460	
Top Arbuckle	4435	-2467	
(1) Porous zone	4435 - 38		No show
(2) Porous zone	4456 - 58		No show
(3) Porous zone	4463 - 64		No show
(4) Porous zone	4472 - 76		No show
Total Depth	4482	-2514	
5½" casing	4025	-2057	

Structural Position:

On top of the Lansing the #1 Henderson was 1' lower than the Texas Co. #2 Fred Smith, a Kansas City producer, approximately ½ mile northeast, 4' higher than the #3 Fred Smith, a Kansas City producer approximately ½ mile east and 30' higher than the McKnab #1 Donner, a dry hole approximately ½ mile southeast.

Structural Position: continued

On the Solid Arbuckle, the #1 Henderson was 3' higher than the #2 Fred Smith and 49' higher than the Donner. The #3 Fred Smith was not drilled to the Arbuckle.

Drill Stem Test Data:

Lansing - Kansas City:

(1) D.S.T. 3908 - 22; Open 1 hour - strong blow throughout - gas to surface in 8 minutes
Recovered 85' oily mud
240' muddy oil
Initial Flow Pressure: 46 p.s.i.
Final Flow Pressure: 156 p.s.i.
Bottom Hole Pressure: 915 p.s.i. (30 min.)

(2) D.S.T. 3950 - 76; Open 1 hour - fair blow throughout test
Recovered 375' gas
65' slightly oil and gas cut mud
Initial Flow Pressure: 35 p.s.i.
Final Flow Pressure: 58 p.s.i.
Bottom Hole Pressure: 1034 p.s.i. (30 min. still building rapidly)

(3) D.S.T. 3981 - 4010; Open 1 hour - good blow throughout - gas to surface in 42 minutes.
Recovered 115' slightly oil and gas cut mud
125' very heavily oil and gas cut mud
Initial Flow Pressure: 75 p.s.i.
Final Flow Pressure: 100 p.s.i.
Bottom Hole Pressure: 1000 p.s.i. (30 min. - still building rapidly

Mississippi:

(4) D.S.T. 4198 - 4226; Open 1 hour - fair blow throughout test
Recovered 65' mud - few spots oil
Note: No pressures were recorded on this test due to failure of the recorders

Geological Report
W. H. Amis Jr., #1 Henderson

Completion Data:

5½" casing set at 4025'; 100 sacks cement.
Rigged up cable tools.
Plug back to 4000' and ran gamma ray
Perforated 24 holes 3917-23 (4 jet shots per foot)
After setting overnight had few feet fluid in hole.
Acidized with 2000 gal. - recovered load in 2 hours.
Well flowed approximately 20-22 BOPH.
Shut in to set tanks.
On July 28, after tanks were erected, well flowed 7 BOPH on 15/64" choke.

Producing Zone:

The well is now producing from Lansing - Kansas City zone #6, through perforations from 3917-23 and the zone may be considered fully developed.

Future Prospects, - Additional Producing Horizons:

Other than the Mississippi Chert, there were no pre-Kansas City zones of interest in the #1 Henderson. There was no good clean chert development in the Viola and the Simpson Sand and Arbuckle porous zones appeared barren in the samples. None of these zones appeared prospective on the electric log.

Mississippi:
The Mississippi was represented, in this well, by a fairly clean chert section which carried spotted shows of free oil in the samples. However, a drill stem test which covered the zone failed to recover more than a little mud with a few spots of oil and on the electric log the resistivity is much too high and the porosity too streaked to be prospective.

Lansing - Kansas City:

There is only one zone in the Lansing - Kansas City, other than the producing zone, which does not appear to be a certain water zone on the electric log. This zone (zone #10; 3989-91) was covered by drill stem test #2 which recovered 240' of oil cut mud with no water. However, because the zone is only 2' thick and because the water saturation calculation from the electric log is 60%, I do not believe that the zone is prospective.

Very truly yours,
Johns and Magathan

by Willis Jack Magathan
Willis Jack Magathan

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