

JOHNS AND MAGATHAN
CONSULTING GEOLOGISTS

WENDELL S. JOHNS
WILLIS JACK MAGATHAN

501 BITTING BUILDING
WICHITA 2, KANSAS

TELEPHONE 3-1540

April 6, 1954

Mr. H. L. Moore
810 Palace Building
Tulsa, Oklahoma

Re: Geological Report: H.L. Moore #2 Hoener
NW/NE/NW; 26-26S-13W
Pratt County, Kansas
Elevation: 1943 derrick floor
1946 rotary bushing
Contractor: Reserve Drilling Co.

OWLL

Dear Sir:

The #2 Hoener was spudded February 24, 1954, and was drilled from the surface to a total depth of 4371' 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 well and it agreed with the drilling measurements to within a foot or so. Drilling measurements have been used throughout this report.

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. All measurements are from the top of the rotary bushing which is three feet above the derrick floor and the rotary bushing elevation has been used to compute all distances from sea level.

<u>Formation Name</u>	<u>Depth Below Surface</u>	<u>Distance From Sea Level</u>	<u>Remarks</u>
8 5/8" surface casing	541'		375 sacks cement
Stone Corral Anhydrite	808 - 832	-1138 to -1114	Electric log top
Heebner Shale	3564 - 68	-1618 to -1622	
Toronto Limestone	3581 - 98	-1635 to -1652	
Top Brown Lansing	3732	-1786	
Top Lansing	3755	-1809	
(1) Porous zone	3781 - 98		Good odor; good spotted stain
(2) Porous zone	3810 - 20		Spotted stain
(3) Porous zone	3853 - 57		Trace stain
(4) Porous zone	3862 - 74		Slight odor; trace stain

<u>Formation Name</u>	<u>Depth Below Surface</u>	<u>Distance From Sea Level</u>	<u>Remarks</u>
(5) Porous zone	3878 - 90		Odor; spotted stain
(6) Porous zone	3894 - 3901		Very slight spotted stain
(7) Porous zone	3927 - 30		Good stain
(8) Porous zone	3944 - 46		Good stain
(9) Porous zone	3979 - 82		Spotted stain
(10) Porous zone	4000 - 05		Spotted stain
(11) Porous zone	4033 - 36		Slight odor; slight show free oil.
Base Kansas City	4078	-2132	
Marmaton	4078 - 4173	-2132 to -2227	
Mississippi	4173 - 91	-2227 to -2245	Trace odor; slight to fair show free oil; D.S.T.
Top Kinderhook	4191	-2245	
Top Viola	4212	-2266	
(1) chert zone	4212-50		Fair odor; very slight show free oil, slight odor; D.S.T.
Top Simpson	4255	-2309	
(1) Sand zone	4288-91		Very slight show free oil, slight odor; DST
(2) Shaly sand zone	4299 - 4304		Slight to fair spotted stain
(3) Sand zone	4304 - 10		Slight to fair spotted stain
Top Arbuckle	4352	-2406	
(1) Porous zone	4356 - 64		Fair odor, slight show free oil; DST
(2) Porous zone	4366 - 71		Good odor, fair show free oil; DST
Rotary Total Depth	4371	-2425	
5½" casing	4353	-2407	

Drill Stem Test Data:

Mississippi: DST #1 4173-93; open 1 hour - good blow throughout test
recovered 30' mud
Bottom Hole Pressure 0# (20 min)

Viola: DST #2 4203-50; open 1 hour - strong blow throughout test - gas
to surface in 43 min.
Recovered 30' slightly oil and gas cut mud
120' heavily oil and gas cut mud
120' muddy oil
60' clean oil with few slugs mud
Bottom hole pressure 1110# (20 min.)

Simpson: DST #3 4260-95; packer failed
4245-95; open 1 hour - small blow throughout test
recovered 3950' gas
15' medium oil and gas cut mud
60' muddy oil and oily mud
Bottom hole pressure 1155# (20 min.)

Arbuckle: DST #4 4343-71; open 1 hour - strong blow throughout test;
gas to surface in 38 min.
Recovered 2630' clean oil
Bottom hole pressure 1380# (20 min)
Initial flow pressure 390#
Final flow pressure 1010#

Completion Data:

Drilled plug and cleaned out to total depth of 4371.
Ran tubing and rods and set pumping equipment
State Potential: 302 BO/24 hrs. physical.

Structural Position:

On top of the Lansing, the #2 Hoener was 4' higher than the #1 Hoener and 2' higher than the #1 Gobin, the north offset.

On top of the Simpson, the #2 Hoener was 3' higher than the #1 Hoener and 3' higher than the #1 Gobin.

On the Arbuckle, the #2 Hoener was 5' higher than the #1 Hoener and 4' lower than the #1 Gobin.

Possible Producing Horizons:

Lansing-Kansas City:

All of the zones in the Lansing-Kansas City are either too tight to produce or will almost certainly produce water with the exception of zone #10 (4000-05). Although this zone does not look too prospective in the samples, the electric log would indicate that it holds some possibility for production. It is possible that the zone might make a commercial producer if treated with acid.

Mississippi:

The chert section (4173-91) was drill stem tested, on this well and the results of this test indicate that the zone may not be expected to be commercially productive.

(4) Geological report: H.L.Moore #2 Hoener.

Viola:

The results of the drill stem test taken in the Viola Chert (4212-50) indicate that this zone will almost certainly make some kind of a well. In view of the successful completion techniques used in this zone in the East Chance Pool (Sections 34 & 35-26S-13W) I would recommend perforations from 4213-25 (electric log measurements) followed by 250 gal. mud acid and 250 gal. common acid followed by a sand-oil frac treatment.

Simpson:

The two sand zones (4288-91 and 4304-10) and the shaly sand zone (4299-4304) all look somewhat prospective both in the samples and on the electric log. Since the #1 sand zone looks the most prospective on the electric log, it should be tested first. The water saturation figures on these zones are quite high. However they have been high on all other Simpson wells recently completed in this area so it may be that this is a normal condition in the Simpson.

There is a possibility that the oil recovered in the drill stem test covering sand zone #1 came from the basal part of the Viola. However, I believe that the oil actually came from sand zone #1. In taking this drill stem test we attempted to seat a packer at 4260, in the top part of a dolomite bed. Although this section looks alright on the electric log, the packer for some reason failed to seat so the anchor was lengthened and the packer moved up to the next favorable place at 4245.

Arbuckle:

The well is now producing in the Arbuckle from 4353-71. As soon as production from the present zones is exhausted the well should be deepened.

Very truly yours,

JOHNS AND MAGATHAN

By: Willis Jack Magathan

WJM:bjm