

GEOLOGICAL WELL REPORT

NORTH SLOPE LTD.

No. 1 Donohue

Wildcat

C E/2 NE Sec. 18, Twp. 27S., Rge. 15E.

WILSON COUNTY, KANSAS

by

Jack Wells
Consulting Geologist
2 Keeney Court
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March 17, 1980

GEOLOGICAL WELL REPORT
North Slope Ltd., No. 1 Donohue
E/2 NE/4 Sec. 18, Twp. 27S., Rge. 15E.
Wilson County, Kansas

Contractor: Earth Scientists
Spud: 5 March 1980
Set 57' 10" of 6 $\frac{1}{4}$ " I.D. Surface
Completed as dry hole 7 March 1980
Rotary Total Depth: 1,495'

North Slope Ltd.
Suite 2000
7777 Bonhomme Avenue
Clayton, Missouri 63105

Gentlemen:

Following are the pertinent geologic tops and evaluation of porosity zones encountered as determined by sample study at the drill site. No drill stem tests or cores were taken. A Gamma Ray - Neutron log was obtained before the rig was moved. A copy of the log is included in this report.

I arrived at the drill location with drilling underway at a depth of 240 feet and witnessed the drilling from that point to total depth of 1,495 feet. Samples were examined from 70 feet to total depth.

Enclosed is a copy of a geologic strip log plotted at a scale of 5" = 100', which shows lithology, porous zones, oil shows, formation tops, and sample descriptions. You have previously been furnished with a colored strip log at a scale of 2" = 100' as well as a machine copy of the original hand-written sample descriptions.

FORMATION TOPS

<u>ELEVATION</u>	<u>1,027' est.</u>	<u>Sample</u>	<u>Electric</u>
<u>Base Kansas City</u>		<u>780'</u>	<u>775'</u>
630'-640'	Limestone: brown, dense, fine to medium crystalline. Trace (less than 5%) amounts of brown free oil - No visual porosity.		
640'-650'	Limestone: brown, fine to medium crystalline, poor porosity, trace amounts of brown free oil and dead oil. Gold fluorescence, good "cut" with CCl ₄ .		

<u>Weiser Sand Zone</u>		<u>890'</u>	<u>900'</u>
890'-980'	Sandstone; gray, very fine to silt, shaly in part, hard, tight, No shows noted.		
<u>Base Marmaton (Oswego)</u>		<u>1074'</u>	<u>1064'</u>
1010'-1015	Limestone; tan to brown, dense to fine crystalline. No visual porosity. Oil odor. Spotted gold fluorescence (10%) very slight "cut" with CCl ₄ . No visible stain.		
<u>Squirrel Sand Zone</u>		<u>1084'</u>	<u>1084'</u>
Spl. 1084'-1100'	Sandstone; gray, very fine to fine, dirty, with much carbonaceous material. Spotted gold fluorescence (5%) dark brown oil stain 1085-90 no fluorescence but good cut and fluor. with CCl ₄ . Trace amounts of dark brown free oil. Fair odor. Shale break 1088-1092.		
Elec. 1084'-1098'			
<u>Bartlesville Sand Zone</u>		<u>1262'</u>	<u>1256'</u>
1262'-1270'	Siltstone; light gray, very dirty, shaly, hard. No shows noted.		
<u>"Chat" Zone</u>		<u>1406'</u>	<u>1402'</u>
1406'-1412	Sandstone; light tan, very fine to fine, 2'+ of thin chert, white and claystone tan. Oil odor at blooie pipe. No visual stains or oil in samples.		
<u>Mississippian Lime</u>		<u>1412'</u>	<u>(-385')</u> <u>1412'</u>
1412'-1430'	Limestone; tan, fine to medium crystalline, cherty. Poor visual porosity. No shows or fluorescence noted in samples.		
<u>TOTAL DEPTH</u>		<u>1,495'</u>	

CONCLUSIONS AND RECOMMENDATIONS

The subject well is located on the southern flanks of the Silver City Dome and on the northern western flanks of a mapped Ordovician high (Fredonia Dome). From using a driller's log located approximately one mile northwest and a driller's log of a well one and one-half mile to the east, it appears this well is structurally high on the top of the Mississippian. The top of the Mississippian is at -500 feet in the No. 1 Puckett, located to the northwest in SW/4 Sec. 7, at -385 feet in the Donohue well and -400 in the well to the east (No. 1 Loomis) in SW/4 Sec. 16. Projecting regional dip it appears that other marker beds higher in the section would be about flat.

The somewhat high Mississippian may account for the poor development of the Squirrel Sand and the virtual absence of the Bartlesville Sand.

Although small amounts of a ~~sticky~~ brown free oil and dead oil was noted in the Squirrel Sand it would be my judgment that the sand is too tight and dirty to be seriously considered for completion. A lack of porosity in the samples as well as on the neutron log would seem to eliminate consideration of the minor shows in the Kansas City Limestones at the 630-50-foot depth.

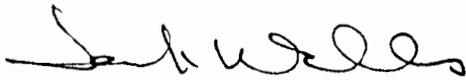
Although some porosity zones were indicated on the neutron log in the Mississippian, no visual shows of oil were noted except for a trace of odor at the end of the blooie

pipe and a very few small oil bubbles on the mud pit.

If the offset well (McCune No. 1) is not to be drilled, it would be my suggestion to investigate the possibilities of deepening the Donohue well to the Arbuckle. A tentative regional structural interpretation suggest an Ordovician structural high which would tend to be substantiated in this case by the higher Mississippian in this well.

Other than possibly deepening this well it would be recommended that the test be abandoned as a dry hole.

Sincerely,

A handwritten signature in cursive script, appearing to read "Jack Wells". The signature is written in dark ink and is positioned above the typed name.

Jack Wells
Geologist

DRILLING PROGRESS

5 March 1980

Rigging up and setting surface casing.

6 March

Crew drilling @ 240 feet - time 0900 hrs.

Rig shut down - waiting for water truck 1630-1730 hrs.

Drilling ahead from 790' @ 1730 hrs. Drilled to 1,195 feet at 2200 hrs -

Topped Squirrel Sand - Driller shut rig down for night.

7 March

On site @ 0800 hrs.

Driller blowing hole clean of water. Questionable trace of oil on water after sitting all night. Considerable amount of water in hole. Drilling ahead @ 0815 hrs.

Topped Mississippian Lime @ 1220 hrs - Circulated out spls. @: 10 min. @ 1412, 10 min. @ 1415, 10 min. @ 1420 feet. T.D. of 1495' in hard, dense limestone @ 1545 hrs - loaded up car and went into nearby town of Buffalo to call Mr. Farrell Kahn for instructions.

Drilling contractor to log hole - with a Gamma Ray - Neutron tool - Witnessed and accepted log @ 2200 hrs.