

GEOLOGIC WELL REPORT

NORTH SLOPE LTD.

#1 Woolery

SE, NW, Sec. 19, Twp. 23S., Rge. 21E.

WILDCAT

ALLEN COUNTY, KANSAS

by

JACK WELLS

Consulting Geologist

2 Keeney Court

Rolla, Missouri

GEOLOGICAL WELL REPORT

North Slope Ltd., No. 1 Woolery
SE, NW, Sec. 19, Twp. 23S., Rge. 21E.
Wildcat, Allen County, Kansas

Contractor Earth Scientists
Spud: 28 February 1980
Rotary Comp: 4 March 1980
6 $\frac{1}{4}$ " I.D. Surface set @ 60'
Rotary Total Depth: 1,260'

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

Gentlemen:

Following are the pertinent geologic tops and evaluations of porosity zones encountered in this well as determined by sample studies at the well site. No drill stem tests or cores were taken.

I arrived at the location at approximately 450 feet and witnessed the drilling from that point to total depth. The engineer in charge was informed of total depth at that time so that wire line logs could be obtained.

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

SAMPLE TOPS

<u>ELEVATION</u>	<u>1,000'</u>	<u>Est. Topo.</u>
<u>B/Kansas City</u>	770'	(+830')
<u>B/Marmaton</u>	510'	(+490')
<u>Squirrel Sand</u>	560'	(+440')
560'-580'		Sandstone, light, gray, very fine to fine, with black carbonaceous laminae, hard, tight, no show.
<u>Bartlesville Sand</u>	720'	(+280')
720'-730'		Sandstone, light gray, very fine, hard, tight, with siderite shot, no show.
730'-740'		Siltstone, light gray, laminated with thin shale layers, no show.
<u>Warner Sand</u>	852'	(+148')
852'-865'		Sandstone, gray, fine to medium, very dirty, hard, tight, no show.

<u>"Chat Zone"</u>	865'	(+135')
865'-880'	Conglomerate, chert fragments, claystone, and decreasing amounts of sandstone with depth. Sandstone caving? Occasional gold fluorescence, no "cut" with CCl ₄ or HCL - no stain, mineral fluor.	
880'-894'	Conglomerate, as above but no fluorescence, trace of tar, slight fluor. and cut after application of CCl ₄ .	
<u>"Mississippian Lime"</u>	894'	(+106')
894'-900'	Dolostone, brown to gray, very fine crystalline, to earthy, slight dead oil stain. No fluorescence until application of CCl ₄ , slight cut with CCl ₄ - spotty dark oil bleeding from occasional chips.	
900'-925'	Dolostone, tan to brown, cherty, very fine to fine crystalline, very occasional vuggy porosity with spotty dead oil stain, occasional oil bleeding from pinpoint porosity.	
925'-930'	Limestone, tan, fine to medium crystalline, cherty, scattered gold fluorescence with slight "cut" with CCl ₄ . Trace of dead oil stain.	
<u>Sylamore Sandstone</u>	1,233'	(-233')
1233'-1235'	Sandstone, white, medium grained, rounded and frosted. Two pieces of sandstone with gold fluorescence, good cut.	
<u>"Arbuckle"</u>	1,235'	(-235')
1235'-1260'	Dolostone, tan to brown, dense to occasional medium crystalline, some poor to fair intercrystalline porosity 1240-45. Otherwise no visual porosity. No shows.	
<u>TOTAL DEPTH</u>	1,260'	

CONCLUSIONS AND RECOMMENDATIONS

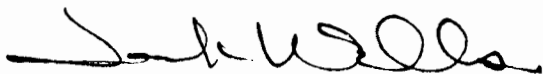
This well is located near the apex of a surface mapped structure known as the Mildred Dome. No close subsurface data were available to judge structural development in this well however. There were no shows of oil noted in the samples from the Squirrel Sand or the Bartlesville sands, although sample quality was not particularly good through this part of the section. Quality of the samples did improve toward the lower part of the Pennsylvanian.

Shows of dead oil and occasional occurrences of dark free oil were noted in the "Chat Zone" immediately overlying the Mississippian surface as well as dead oil, and spotty occurrence of dark oil bleeding from dolostones in the Mississippian. It is reported that occurrences of this nature are not uncommon in the general area; however, it would be my recommendation that if any porosity is shown on the wireline logs, serious consideration be given to try a completion in this zone. Again, depending on what various logs might reveal, it is possible that the Squirrel Sand Zone may be a potential gas horizon and could be tested if attempts at producing the Upper Mississippian proved unsuccessful.

The main objective of this test was the Lower Ordovician or so-called Arbuckle. This section was carefully entered and samples closely checked with no shows or visual

porosity noted. Again no subsurface data were available to judge structural attitudes at this horizon. On the basis of sample examination I judge the Arbuckle to be non-productive at this location.

Sincerely,

A handwritten signature in black ink, appearing to read "Jack Wells". The signature is written in a cursive style with a long horizontal line extending to the left.

Jack Wells
Consulting Geologist

DRILLING PROGRESS

28 February

Drilling under surface 2100 hrs - drilling @ 420 feet 2400 hrs
Caught up with samples and current with driller.

29 February

0100 hrs - Drilling top of Mississippian - logged shows -
Logging conditions virtually impossible.

0300 hrs - Lots of water @ 960' according to driller - too much to use air hammer -
Shut down to call in for tri-cone bit. Depth approximately 1010 feet.

No tri-cone bits available at drill site.

Driller back on location @ 0400 hrs pulling pipe. On surface @ 0545 hrs - waiting
on tri-cone bit to 0830 hrs.

Drove driller in to town to call again - met tool pusher with bit.

Starting in hole @ 0945 hrs - on bottom @ 1145 hrs.

Drilling ahead 1200 hrs. Hydraulic hose broke almost immediately - depth 1017+ feet.

Rig shut down for repairs to 1400 hrs 3 March 1980.

3 March

Drilling from 1017 feet @ 1415 hrs - shut down for water and fuel from 1600 to 1700 hrs.

4 March

T.D. of 1260 @ 0100 hrs. Rig conditioning hole 0100-0200 hrs.