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WICHITA, KS

ORIGINAL

**GEOLOGICAL REPORT**

GS & C INC.  
LEWIS NO. H-1

15035 240950100

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## **GEOLOGICAL REPORT**

**LEWIS NO. H-1**  
**W/2-NE-SE-NE 3600' FSL 1100' FEL**  
**SECTION 28-31S-4E**  
**COWLEY COUNTY, KANSAS**

**OPERATOR:** GS & C Inc.

**SPUD:** November 11, 1996

**LOGGED:** November 20, 1996

**TOTAL DEPTH:** 3381' Driller  
3381' Logger

**CONTRACTOR:** Summit Drilling Inc.  
Emporia, Kansas

**DEVIATION SURVEYS:**

222' . . . . 3/4	3001' . . . 1
746' . . . . 3/4	3358' . . . 2
1406' . . . . 1	
2262' . . . . 1	

**HOLE SIZE:** 12 1/4" From Surface to 222'  
7 7/8" 222' to Total Depth

**ELECTRIC LOGGING:** BPB Logging Service  
Kilgore, Texas

**SURVEYS:** Array Induction Shallow Focused Log  
Compensated Neutron-Photo Density Log  
Micro-Resistivity Log w/ GR

**ELEVATIONS:** Ground Level 1265' Kelly Bushing 1275'  
All measurements relative to kelly bushing.

<u>FORMATION TOPS:</u>	<u>FORMATION</u>	<u>DEPTH (SUBSEA)</u>
	Stalnaker Sand	1990' (-715')
	Layton Sandstone	2420' (-1145')
	Kansas City	2487' (-1212')
	Checkerboard Lime	2644' (-1369')
	Cleveland Sandstone	2660' (-1385')
	Marmaton	2720' (-1445')
	Bartlesville Sandstone	2998' (-1723')
	Mississippian	3024' (-1749')
	Woodford Shale	3276' (-2001')
	Arbuckle	3354' (-2079')

**Classification of Shows:**

Fluorescence:	Faint, Dull, Bright, Very Bright
Odors:	Slight, Fair, Good, Strong
Cuts:	Poor, Fair, Good, Excellent
Porosity:	Tight, Fair, Good, Very Good

**DETAILED DESCRIPTION OF MAJOR ZONES:**

**I. Layton Sandstone**

**2420' to 2462'**

- A. Sandstone, light gray and tan, fine to medium grain, sub-angular, well-sorted, micaceous, calcareous cement, good porosity, good fluorescence--spotted i.p., fair blooming cut w/HCL, sample was described two days after drilling resulting in no odor evaluation.

<u>B. Depth</u>	<u>Porosity</u>	<u>Wtr. Res.</u>	<u>Form. Res.</u>	<u>Wtr. Saturation</u>
2424'	18%	.045 ohms	3.0 ohms	60%
2428'	17%	.045 ohms	2.75 ohms	67%
2446'	24%	.045 ohms	2.5 ohms	47%
2452'	24%	.045 ohms	1.5 ohms	63%
2454'	21%	.045 ohms	1.25 ohms	80%
2456'	21%	.045 ohms	1.0 ohms	90%

II. Bartlesville Sandstone

2998' to 3008'

A. Bartlesville Sandstone was cored from 2998' to 3008', the core was taken to a lab to be analyzed.

B. <u>Interval</u>	<u>Porosity</u>	<u>Wtr. Res.</u>	<u>Form. Res.</u>	<u>Wtr. Saturation</u>
3000'	15%	.045 ohms	5 ohms	58%
3002'	15%	.045 ohms	5 ohms	58%
3004'	14%	.045 ohms	4.75 ohms	63%
3006'	13%	.045 ohms	5 ohms	68%
3008'	16%	.045 ohms	5 ohms	55%

CONCLUSIONS:

The Arbuckle was cored from 3356.5 to 3381.6 in the Lewis No. H-1. The cored was described and boxed by myself and Dr. James Derby of Tulsa, Oklahoma. Dr. Derby has submitted a detailed description which is not included in this report. The cores were taken to "Core Lab" in Oklahoma City, Oklahoma to run the necessary tests.

The log calculations over the Arbuckle are suspect because of the difference in hole size and are therefore not considered useable. The well was logged after coring of the Arbuckle resulting in different hole sizes.

Discussions were made about the possibilities of laterally drilling two zones in the Arbuckle. Because most of the Arbuckle completions in the field only drilled the top 10 or 15 feet, the reservoir could be better developed when drilled horizontally. I concur with this idea as the Arbuckle has a strong water drive resulting in enough remaining pressures for a successful lateral completion.

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