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15-175-21682

Geological Report

VENUS EXPLORATION BROWN #26-1
KB 2739'
1803' FNL & 862' FEL
SECTION 26-33S-31W
SEWARD COUNTY, KANSAS

The Venus Brown #26-1 spudded at 5:30AM on Friday 31 October 1997 and reached a total depth of 7290' at 1:45AM on Monday 16 November1997. One foot drilling time was kept from 5800' to 7290' (drillers total Depth). Ten foot samples were caught from 5300' to total depth by the drilling rig crew (Abercrombie Drilling Rig #5). A one man logging unit from Earth Tech Logging, Inc. with hot wire and chromatograph gas detection equipment was on duty from 5300' to total depth.

All samples were examined for lithology and hydrocarbon shows. Two off bottom drill stem tests were run. Geophysical logs were run at total depth (7290') by Schlumberger and included Array Induction (1709'-7282'), Compensated Neutron Litho Density (5900'-7264'), Microlog (5900-7264'), BHC Sonic , (1709'-7232') and Stratigraphic Dipmeter(5300'-7274') Logs. Twenty one mechanical sidewall cores were taken in the Spergen, Osage, Simpson, and Arbuckle formations.

Elevations and Electric Log Tops are;

Kelly Bushing	2739'
Derrick Floor	2737'
Ground Level	2727'

			Relation to	
Formation	**Depth'**	**Subsea'**	**Simonson 26-1**	**Simonson 25-1**
Brown Dolomite	2612'	+127	-1'	even
Krider	2770'	-31	+1	+4'
Council Grove	3104'	-365	-5'	+3'
Base Heebner Sh.	4257'	-1518'	+9'	+17'
Toronto	4266'	-1527'	+12'	+18'
Lansing	4380'	-1641'	+11'	+14'
Kansas City	4836'	-2097'	+6'	+12'
Marmaton	5016'	-2277'	+12'	+8'
Fort Scott	5088'	-2349'	+12'	+13'
Cherokee	5185'	-2446'	+9'	+7'
Atoka	5323'	-2584'	+10'	+6'
Morrow Shale	5502'	-2763'	+14'	+5'
Chester	5552'	-2813'	+12'	+3'

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Formation	Depth'	Subsea'	Relation to Simonson 26-1		Simonson #25-1
St. Gen.	5598'	-2859'		+10'	-19'
St. Louis	5687'	-2948'		+28'	-2'
Spergen	5937'	-3198'		+23'	+16'
Warsaw	6142'	-3403'		+38'	+3'
Osage	6293'	-3554'		+20	+20'
Osage Pay	6422'	-3683'		-57'	-49
Osage Dolomite	6583'	-3844'		+1'	-1'
Osage Dolomite "pay"	6619'	-3880'		+23'	absent
Viola	6747'	-4008'	(est)	+28'	+36'
Simpson	6921'	-4182'		nde	+39'
Arbuckle	6979'	-4240'		nde	+31'

Formation Descriptions and Shows 6000' to TD

6011-6027' *Spergen;* *16 feet* Dolomite, brown stain, very fine to fine crystalline sucrosic, good trace pin point porosity, slightly argeleous, dull gold fluorescence, excellent stream cut. Gas increased from 200 units to 389 units and then returned to 200 units background. 130 units C1, 60 units C2, and 40 units C3, were recorded at the peak gas reading. Drilling broke from 2 1/2 min/ft to 1 min/ft and returned to 3 min/ft. porosity logs read 16-20% with deep resistivites of 1.2 to 1.7 ohms with calculated water saturation's in the 70's.
Three side wall mechanical cores were taken in this zone (6012, 15, & 28). Core analysis by Core Labs indicate porosity's from 8.1 to 19.3% and water saturation's from 54.4-79.9%.

6450-55' & 6462-66' *Osage 9 feet;* Limestone, buff white to slightly pink, friable, chalky, medium to coarse crystalline, cherty crinoid fossil fragments, trace of good visible porosity, bright yellow-gold florescence with streaming yellow cut. Drilling rate broke from 3 min/ft to 1 1/2 - 2 min/ft then 3 min/ft. Gas readings increased from 30 units background to 143 and 155 units respectively, total gas and returned to 55 units background after the break.C1 60 , C2 26, and C3 20. Porosity log indicates 8-11% porosity with a deep resistivity of 30 ohms, for a calculated water saturation's of 37-33%.

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Three side wall mechanical cores were taken in this zone (6453, 54, & 63). Core analysis by Core Labs indicate porosity's from 6.5 to 9.8% and water saturation's from 30.1 to 38.5%.

6619-28' *Osage Dolomite "B"* ***9 feet;*** Dolomite, medium steel gray to buff tan & light brown (stain), friable, fine to coarse crystalline rhombic dolomite, excellent visible porosity, vugular porosity, bright yellow-blue florescence, excellent bright blue flush cut, strong odor of oil in samples. Drilling broke from 3 min/ft to 1 min/ft and returned to 4-5 min/ft. Gas increased from a background of 100 units to 216 units and decreased to100 units after the break. Chromatograph read 56 units of C1, 34 units of C2, 38 units of C3, 4 units of C4, and 11 units of C5. Note, C3 exceeds C2 readings.
Two mechanical side wall cores were taken in this zone (6625, & 27') and tested by Core Labs. Porosity's were 20.8% and 30.9% respectively with water saturation's of 27.2 and 33.3%. Vugular porosity was very obvious in the core with vugs 1/8 to 1/4" in diameter. The core was stained and has a strong odor of oil.
E logs show 9 feet of 20% porosity with resistivities of 5-10 ohms for calculated water saturation's of 27 to 40% at Rw .04 ohms.

This particular dolomite porosity zone correlates to the zone (second dolomite porosity zone hereafter named the Osage Dolomite "B") we tested in the #1 Simonson which tested 2% oil. with a good show of gas before an acid job and swabbed at 13 bbls of fluid per hour with a trace of oil and gas after a 500 gal 7 1/2% acid job. The Brown #26-1 "B" is 23 feet high to #1 Simonson.

6747-6921' *Viola;* Limestone, buff-cream, moderately dense, fine to micro crystalline, trace fracturing, with chert; white to translucent with "ghost" images of fossils no fluorescence or cut in samples. Limestone becomes pink to cream, moderately friable, fine to coarsely crystalline, chalky, recrystallized fossil fragments of crinoids and bryozooan. There were no obvious shows in the Viola, however with some additional fracturing or porosity development this formation may prove productive on the Kismet structure.

6934-40' *Upper Simpson Sand* ***6 feet;*** Clear to white sand grains with black (shale rip-up fragments) grains (10-20%), some light stain, friable, very fine at top grading to fine to medium grained, subangular grains, well sorted, dolomite cement, slight trace of pyrite, good to excellent visible porosity, 100% green gold fluorescence, flush cut. 45 units background gas increased to 120 units total gas and returned to 50 units after break. C1 37, C2 15, C3 17, C5 4. Drilling broke from 9 min/ft to 2 min/ft then returned to 6 min/ft.

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E logs show 4 feet of 9% porosity with 15 ohms of deep resistivity for a calculated water saturation of 55%
Two mechanical sidewall cores were taken in the upper Simpson sand at 6937' and 6938'. Analysis by Core Labs show 9.2-11.9% porosity with water saturation's of 67 and 30.5% respectfully. An increase in porosity to 11.9% showed a decrease in water saturation to 30.5% indicating that the high water saturation's of 67% are probably bound water and not producable. This probably explains why the Simonson #25-1 DST #2 in the Simpson sand recovered no water with 180' of gas and a trace of oil in the 40' of recovered mud yet the logs calculated 75% water saturation.

6965-76' *Lower Simpson Sand 9 feet pay above indicated oil/water contact at 6974';* light brown(stained), friable with 10-15% unconsolidated grains, fine to medium grains, subangular to subrounded grains, silica cement, good to excellent visible porosity, 100% bright yellow fluorescence, good stream to flush cut. Gas increased from 50 units background to 102 total units and remained up at 78 units after break. C1 35, C2 12, C3 5, C5 3. Drilling broke from 8 min/ft to 3 and 2 min/ft and returned to 7 1/2 min/ft.
E logs show 11 feet of 7 1/2 to 8% cross plot porosity with deep resistivities of 6 to 12 ohms for calculated water saturation's of 98 to 85% using an Rw of .04. Once again the high calculated water saturation's are probably due to bound water especially when the core analysis indicates water saturation's some 32 to 43% less.
Three mechanical cores were taken in the lower Simpson sand at 6970, 74, & 76'. Cores were tested by Core Labs and show porosity's of 6.6 to 10.7% and water saturation's from 41.9 to 66.6%
E logs indicate a possible oil/water contact at 6974' where resistivities drop from 12 to 6 ohms in 7 1/2 % cross plot porosity. Water recovered on DST#1 may be from this zone.

All of the Simpson sand section was open on DST#1 which recovered 5400' of gas, and 325' of gas and oil cut mud with a trace of water.

DST #1 6921-76' 55 feet(corrected to e-log depth) ***Simpson Sands***

IH		3358#
IF 30 min	26 -	86#
ISI 60 min		2272#
FF 90 min	570 -	984# some plugging action noted on chart
FSI 240 min		2295#
FH		3182#

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Recovered; 5400' gas in pipe, 375' of fluid

3'	gas and oil specked mud	10% gas	10% oil	80% mud	
93'	gas and oil specked mud	7% gas	3% oil	90% mud	
93'	gas and oil cut mud	20% gas	10% oil	70% mud	
93'	oil specked watery mud	5% oil	20% water	75% mud	
93'	gas and oil cut watery mud	50% gas	10% oil	30% water	10% mud

Chlorides were tested by Trilobite at 20,000 PPM (this is probably too low based on the their analysis of the Arbuckle water at 42,000 PPM which proved to be 130,000 PPM). Bottom hole temperature was 143 deg F.

6990-97' & 6997-7007' *Arbuckle;* Dolomite, light to medium buff brown (stain), moderately friable, fine to medium crystalline rhombic sucrosic texture dolomite, good trace of pinpoint porosity, some possible fractures, gold fluorescence with slow stream bright yellow cut. Gas readings are invalid due to recycling of oil in mud after DST #1 but sample shows and structure 30 feet high to Simonson #25-1 were significant enough to recommend DST #2. Drilling broke from 4 min/ft to 2 min/ft and returned to 4 min/ft after both breaks.
Log readings show dolomite porosity's of 5.2 to 7.5% with deep resistivities of 10-13ohms for calculated water saturation's of 80-100%. DST#2 recovery of 4400 feet of salt water confirm the water saturation calculations despite the sample shows and structural position.

DST #2 6978-7008' (corrected to e-log depth) ***Arbuckle***

IH		3278#
IF 30 min	571 -	1500#
ISI 60 min		2339#
FF 60 min	1493 -	2275#
FSI 120 min		2346#
FH		3221#

Recovered; 4400 feet of salt water with 60 feet of mud. Chlorides were titrated by the mud engineer and indicated 130,000 PPM. Bottom hole temperature was 152 deg F.

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7142-58' *Arbuckle;* Dolomite, buff to light gray, dense to slightly friable, micro to fine and medium crystalline rhombic dolomite, occasional coarsely crystalline free rhombic crystals, trace of double terminated quartz crystals medium to coarse grain size, 10% bright yellow fluorescence with stream to flush cut. Gas increased from a background of 100 units to a peak of 125 units. Minor increases in C1 through C3 were noted. Drilling broke from 3 min/ft to .5 min/ft for one foot at 7142' on top of the interval and one foot at the bottom of the zone at 7156' and returned to 3 min/ft. The 1/2 min drill offs may be fractures as indicated by the samples and the E-log caliper.
Six mechanical cores were taken in this zone at 7144, 46, 48, 50, 52, 54, & 56'. Core analysis by Core labs shows porosity's from 5.0% to 12.6% with water saturation's from 75.2 to 80.5%.

Thank you for the opportunity to perform this geological analysis on the Venus Exploration Brown #26-1.

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25 November 1997