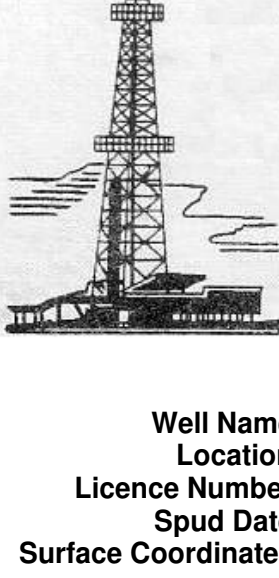


WELLSITE GEOLOGIST'S REPORT

VERNON C. SCHRAG
CONSULTANT GEOLOGIST



Scale 1:240 (5"=100') Imperial

Well Name: Frontier Unit #1
 Location: NE NE NE Sec. 01-20S-30W
 Licence Number: API: 15-101-22382
 Spud Date: June 30, 2012
 Surface Coordinates: 100' FNL & 100' FEL
 Region: Lane Co., KS
 Drilling Completed: July 10, 2012

Bottom Hole Vertical Coordinates:
 Ground Elevation (ft): 2886' K.B. Elevation (ft): 2898'
 Logged Interval (ft): 3500' To: RTD Total Depth (ft): 4750'
 Formation: Mississippi
 Type of Drilling Fluid: Chemical Premix (Displaced)
 Printed by MUD.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR:

Company: CARMEN SCHMITT, INC.
 Address: P.O. Box 47
 Great Bend, KS 67530

DRILLING CONTRACTOR:

Southwind Drilling, LLC, Rig #70

DP 16.6#, 4.5"; DC: 6.25" x 2.25" x 541.08'; Kelly: 41.35'; Bit: 7-7/8"; Reed PDC to 3490, Reed button bit w/jets 14-14-14; Kelly bushing 12' above ground level. Carl Jessep (tool pusher).

SURFACE CASING:

8-5/8" casing at 222'

CIRCULATION SYSTEM:

BH-800 II, triplex pump, 8.5 x 6, 120 spm, was running SPP 1250 psi until about 4300 when this was cut back to about 950 psi to improve samples; chemical premix, steel pits, shale shaker; displaced about 3300; Mud-Co/Service Mud, Inc., Tyler Lang.

OPEN HOLE LOGS:

DN, DI (SP) (Run-1); ML/Sonic (Run-2); 5" detail LTD-3500; 2" DI to surface casing; LogTech-Pioneer Wireline, Hays, KS, J. Long, Log total depth (4747) was three feet high to rotary total depth (4750).

DRILL STEM TEST #1:

Marmaton: Interval: 4407-4495 (88'); Blow: weak incr 3" IFF, no RB, weak incr 6.5" FFP, no RB; Times: 15-30-60-90; Recovery: 255' MW (10%W, 90%M); Pressures: HP: 2295-2087; SIP: 1176-1179; FP: 65-89, 94-113; BHT: 124 F; dual packers, jars, joints, no DC; Trilobite Testing, Inc., Tate Lang.

DRILL STEM TEST #2:

Pawnee thru Ft. Scott: Interval: 4502-4575 (73'); Blow: weak incr to 6.5" IFF, no RB, weak incr to 8.25" FFP, no RB; Times: 15-30-60-90; Recovery: 360' GIP, 300' TF: 120' OCM (20%G, 35%O, 45%M); Pressure: HP: 2279-2065; SIP: 1092-1037; FP: 32-62, 101-162; BHT: 122 F; dual packers, jars, joints, no DC; Trilobite Testing, Inc., Tate Lang.

DRILL STEM TEST #3:

Cherokee / Johnson: Interval: 4574-4639 (65'); Blow: weak 3/4" IFF, no RB, no blow at second open; Time: 15-30-10-T.O.H.; Recovery: 540' TF: 480' (no show), 60' OCM (20%G, 35%O, 45%M); Pressure: HP: 2239-2265; SIP: 1167-N/A; FP: 323-322, 336-N/A; BHT: 121 F: There was abnormal first initial flow pressure; Tester "tagged" bottom prior to test run, allowing mud to flow into drill pipe creating a "choke"; formation not free to flow; test was judged a misrun; dual packers, jars, joints, no DC; Trilobite Testing, Inc., Tate Lang.

DRILL STEM TEST #4:

Cherokee / Johnson Refest: Interval: 4586-4639 (53'); Blow: weak incr 6" IFF, no RB, BOB 27 min FFP, no RB; Times: 15-30-60-90; Recovery: 372' GIP, 62' TF: 5" CO (100%O); 52' GMCO (10%G, 10%M, 80%O), 5' MCO (30%M, 70%O); Pressures: HP: 2402-2170; SIP: 1121-1129; FP: 24-25, 29-37; BHT: 124 F; dual packers, jars, joints, no DC; Trilobite Testing, Inc., Tate Lang.

ROP ROP (min/ft)	DST	Lithology Percent and %	Depth	Geological Descriptions	Total Gas TG (units)
0	ROP		3800	LS: even lt-brown; mic-vf xtal; dense to chalky in part; no visible porosity; N.S. LS: even lt brown; vf-xtal; sil fos; finely granular; poor apparent porosity; N.S. LS: lt-md grayish brown; vf-xtal; coarse granular in part; mostly dense; chalky in part; poor apparent porosity; N.S. LS: lt-md brown; mic-vf xtal; chalky; scattered fine streaks of brown shale; poor apparent porosity; N.S. LS: even lt-brown; mic-vf xtal; dense to chalky; platy; no visible porosity; N.S.	
			3850	LS: lt brown; vf-xtal; finely granular in part; light int gran porosity; N.S. LS: lt-md brown; vf-xtal; sil argill; poor apparent porosity; N.S. LS: lt brown; mic-vf xtal; oolitic in part; rough textured; prob poor-fair vug porosity; N.S. LS: md-dk brown; vf-xtal; shaley; sil chalky; v-fos; poor apparent porosity; N.S. LS: as above.	
			3950	HEEBNER 3968 (-1070) Shale: black; carbon; 3980. LS: dense; Shale: mostly gray, calc; minor green, silty; LS: v-lt brown; vf-xtal; mostly dense; rough; trace white, opaq chert; no apparent porosity; N.S. LS: even lt brown, off-white; mic-vf xtal; sil chalky; smooth, clean; trace vug porosity; N.S.	
			4000	LANSING 4004 (-1106) LS: lt brown; vf-xtal; trc white, opaq chert; sil granular; scattered vug porosity; clean; barren. 4030. LS: as above but chert seems to increase downward, N.S., 4040. Shale: gray, brown, calc in part; LS: even lt brown; vf-xtal; scattered shaley streaks; sil fos; cherty; no visible porosity; N.S. LS: lt-brown; vf-xtal; dense; sil chert; sil fos; poor apparent porosity; N.S. LS: even lt brown; vf-xtal; cherty; oolitic in part; dense; poor apparent porosity; N.S. LS: even lt brown; vf-xtal; cherty; oolitic; dense; poor apparent porosity; N.S. LS: even lt brown; vf-xtal; sil granular; less chert than above; dense; no visible por; N.S. LS: lt brown; vf-xtal; trace semi-trans chert; sil fos-frag; dense; N.S. Shale: green, gray, brownish; scattered lime grains; LS: lt-brown; vf-xtal; dense; trace oolite; sil granular; no visible porosity; N.S. LS: lt-brown; vf-xtal; dense; no visible porosity; N.S. LS: dolomitic in part; lt brown; vf-x xtal; light int xtaline porosity; N.S. 4160 prob caught late? LS: lt-brown; vf-xtal; sil oolitic; poor int xtal porosity; N.S. LS: lt brown; vf-xtal; sil ool; dense to chalky in part; poor apparent porosity; N.S. LS: lt-brown; vf-xtal; trace oolite; dense; some chalk; poor apparent porosity; N.S. LS: lt-md brown; vf-xtal; dense; no visible porosity; N.S.	
			4050	MUNCIE CREEK 4194 (-1296) Shale: black; carbon; few chips 4215, 4215-30. LS: md-dk brown; vf-xtal; dense; no visible porosity; N.S. Shale: grays; LS: lt brown; vf-xtal; sil ool to fos-frag; dense; cherty; chalky in part; poor apparent porosity; N.S. LS: lt-brown; vf-xtal; dense; cherty as above; poor apparent porosity; N.S. LS: lt-md grayish brown; vf-xtal; sil fos; dense; no visible porosity; N.S. 4250. LS: lt-brown; vf-xtal; sil fos; dense to chalky in part; no visible porosity; N.S. LS: lt-brown; vf-xtal; sil ool to fos-frag; minor white, opaq chert; dense; no visible porosity; N.S.	
			4250	LS: lt-brown, lt gray; vf-xtal; coarse oolite; fair oomolitic porosity; N.S. LS: oomolitic, N.S. as above;	
			4300	STARK SH 4299 (-1401) Shale: black; 4315; LS: lt brown, lt gray; vf-xtal; coarse oom por; barren; LS: lt-brown, off-white; mic vf-xtal; dense to chalky in part; no visible porosity; N.S. LS: lt-md grayish brown; mic-vf-xtal; argill, dirty; no apparent porosity; N.S. HUSHPUCKNEY 4344 (-1446) LS: md-dk brown; vf-xtal; dense, blocky; no visible porosity; N.S. LS: lt-md brown; vf-xtal; oolitic - oomolitic; poor oom porosity; N.S. LS: lt-brown; vf-xtal; mostly dense; no visible porosity; N.S. LS: even md brown; vf-xtal; dense, blocky; no visible porosity; N.S. LS: lt brown; vf-xtal; fair oom porosity; N.S. LS: lt-md brown; vf-xtal; scattered vug porosity; N.S.	
			4400	LS: grayish brown; vf-xtal; mostly dense; cherty; no visible porosity; N.S. LS: gray to brown; vf-xtal; dense to chalky in part; no apparent porosity; N.S. LS: gray to brown; vf-xtal; dense; includes coarse orange-red cherts which indicates Altamont; poor apparent porosity; N.S. 4460-30 min. LS: brown; vf-xtal; mostly dense; trace orange-red chert; poor apparent porosity; N.S. LS: grayish brown; vf-xtal; sil chalky; trc orange chert; argill in part; N.S. LS: grayish brown; vf-xtal; mostly dense; no visible porosity; N.S.	
			4450	Shale: dk gray, black; trace PAWNEE 4506 (-1608) LS: lt gray; vf-xtal; even-textured; scattered vug porosity w/spotted lt-brn stain; sil show oil; no odor; 4520. LS: lt-gray, off white; mic-vf xtal; dense to chalky in part; poor apparent porosity; N.S. Shale: black; trace; LS: lt-brown; vf-xtal; scattered vug porosity w/lt brown spotted grains; v-sil show oil; no odor; 4550. Shale: black; carbon; 4570. LS: lt gray w/dk brown oolites; vf-xtal; trace smoleky semi-trans chert; tight; N.S. LS: brown; vf-xtal; trace med-oolite w/tight int ool porosity; spotted stain, v-sil show oil; no odor; 4575-30. CHEROKEE 4575 (-1677) LS: grayish brown; vf-xtal; dense to chalky; sil oolitic; minor cherts; no visible porosity; N.S. LS: lt-dk brown; vf-xtal; dense; cherty; no visible porosity; N.S.	
			4600	LS: lt brown; vf-xtal; sil fos; dense; no apparent porosity; N.S. LS: gray to brown; vf-xtal; Fluted Coral; fair vug & int-fos porosity; black spotted stain & sil show oil; trace silist w/show; weak odor; 4639 stop thru circ sample. Shale: green, gray; LS: lt brown; vf-xtal; sil oolitic; no visible porosity; N.S. LS: lt-brown; vf-xtal; cherty as above; chalky; no visible porosity; N.S. LS: lt-brown; vf-xtal; sandy in part; green shale contacts; poor apparent porosity; N.S. LS: lt brown as above; vf-xtal; sil oolitic; no visible porosity; N.S. Shale: dk gray, greenish gray;	
			4700	Dal/Del-LS: tan brown, dk gray mottled; vf-xtal; tight int xtal porosity; some fair vug porosity; N.S. Dol: as above; LS: lt brown, tan brown; vf-xtal; dolomitic; mostly tight int xtal porosity; poor vug at best; N.S. Dol: tan brown, sil gray mottling; vf-x xtal; tight int xtal porosity & scattered fine vug porosity; N.S.	
			4750	MISSISSIPPI 4647 (-1749) LS: lt brown, tan brown; vf-xtal; dolomitic; mostly tight int xtal porosity; poor vug at best; N.S. Dol: tan brown, sil gray mottling; vf-x xtal; tight int xtal porosity & scattered fine vug porosity; N.S.	
			RTD 3:44 am 07/10/2012	ROTARY TOTAL DEPTH 4750 (-1852)	

Hot-Wire

REFERENCE WELLS: DANE G. HANSEN TRUST; CLARK #3, NE NW SEC 36-19S-30W; HELMREICH & PAYNE INC., HUTCHINS #1, NE NE SEC 30-19S-28W; MULL DRILLING CO., INC., #1 SELF 'A', NW NE SW SEC 02-20S-30W

MUD-CD: 3737: 07/05-8am: VIS 56, WT 9.0, WL 6.8, pH 10.5, CHL 1700, LCM 2K

AUTO-DRILLER NOT WORKING CORRECTLY FROM START WHICH EXPLAINS ERRATIC DRILL TIME ABOVE 4300'

Hot-Wire

MUD-CD: 4222: 07/06-8am: VIS 54, WT 9.0, WL 8.4, pH 10.5, CHL 1700, LCM 4K

Hot-Wire

MUD-CD: 4222: 07/06-8am: VIS 54, WT 9.0, WL 8.4, pH 10.5, CHL 1700, LCM 4K

SPP WAS 1250 PSI DOWN TO ABOUT 4300 AND WAS CUT BACK TO ABOUT 950 PSI TO RTD TO IMPROVE SAMPLES

Hot-Wire

MUD-CD: 4485: 07/07-11am: VIS 48, WT 9.4, WL 9.2, pH 10.5, CHL 1700, LCM 3K

Hot-Wire

DST #1: MARMATON: 4407-4495: WEAK BLOW 3" IFF: 15-30-60-90: 255' MW: 1176-1179; FP: 65-89, 94-113.

Hot-Wire

MUD-CD: 4575: 07/08-10am: VIS 68, WT 9.4, WL: 7.6, pH 10.0, CHL 2500, LCM 4K

Hot-Wire

DST #2: PAW THRU FT SCOTT: 4502-4575: WEAK INCR BLOW 6" IFF: 15-30-60-90: 240' SOGCM: 60 SOGCM-MW: SIP: 1092-1037; FP: 32-62, 101-162.

Hot-Wire

DST #3: JOHNSON: 4574-4639: BLOW 3/4" IFF, NO BLOW FFP: 15-30-10-T.O.H.; 480' MUD: 60' HOCM: SIP: 1167-N/A, FP: 323-322, 336-N/A, ZONE WAS CHECKED?

Hot-Wire

DST #4: JOHNSON: 4586-4639: BOB 27 MIN FFP: 15-30-60-90: 300' GIP: 62' SOGCM: SIP: 1121-1129; FP: 24-25, 29-37.

MUD-CD: 4639: 07/09-8am: VIS 52, WT 8.1, WL 11.2, pH 9.8, CHL 2700, LCM 2K: PITS WERE WATERED DOWN.

Hot-Wire

MUD-CD: 4750: 07/10-9am: VIS 34, WT 9.0, WL 13.2, pH 10.0, CHL 2400, LCM 1K: PITS WERE WATERED DOWN.

LOG-TECH LTD 4747