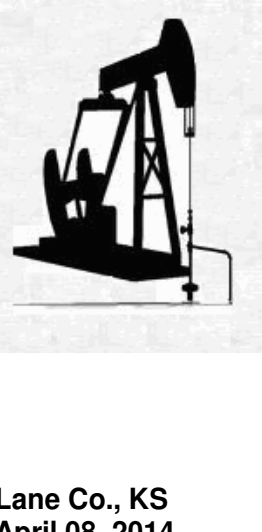


WELLSITE GEOLOGIST'S REPORT

VERNON C. SCHRAG
CONSULTANT GEOLOGIST



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

Well Name: BOOMHOWER B #1-16	Location: SW NE SE 16-17S-29W	Region: Lane Co., KS
Licence Number: API: 15-101-22500	Spud Date: March 22, 2014	Drilling Completed: April 08, 2014
Surface Coordinates: 2265' FSL & 342' FEL		
Bottom Hole Coordinates:		
Ground Elevation (ft): 2798'	K.B. Elevation (ft): 2805'	
Logged Interval (ft): 3800'	To: RTD Total Depth (ft): 4640'	
Formation: Mississippi		
Type of Drilling Fluid: Chemical Premix (Displaced)		

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OPERATOR:

Company: **Larson Engineering Inc.**
Address: **562 West State Road 4
Olmits, KS 67564-8561**

DRILLING CONTRACTOR:

H. D. Drilling, LLC, Rig #3 (Co. Tools)

DP 4.5" XH (16.6#); DC 6.25" x 2.25" x 646' down to 4071, 616' to RTD, hardbanded, Kelly 40.30', Tool Joint 5.5" ; Bit: JZ-HA20-Q, 7-7/8", standard jets 15-15-15; rpm 80, WOB 35k; Kelly Bushing 7" above ground level; LeWayne "Lew" Tresner (tool pusher).

CASING:

Set 8-5/8" casing at 264'

CIRCULATION SYSTEM:

Continental EMSCO D-300, duplex, 6 x 14, 58-60 spm, Chemical, premix, displaced; earth pits, Morgan Mud, Inc., Cade Lines.

OPEN HOLE LOGS:

DN, DI (SP) (Run-1); ML (Run-2); No Sonic; 4 1/2" detail LTD-3600; 2" DI to surface casing; LogTech-Pioneer Wireline, Hays, KS, Y. Ruiz. Log total depth (4637') was three feet short to rotary total depth (4640').

DRILL STEM TEST #1:

LKC "E/F zone": Interval: 4034-4065 (31') : Blow: weak incr 1/2" IFP, no RB, weak incr 2-1/2" FFP, no RB; Times: 5-15-30; Recovery: 2' mud (100%M); Pressures: HP: 2087-2055; SIP: 394-449; FP: 19-23, 25-35; BHT: 110 F; Trilobite Testing, Inc., Scott City, KS, Chuck Smith.

DRILL STEM TEST #2:

LKC (H-zone): Interval: 4125-4148 (23') : Blow: weak 1/2" IFP, no RB, no blow 2nd open, no RB; Times: 5-15-30; Recovery: 5' mud (100%M); Pressures: HP: 2046-1953; SIP: 833-835; FP: 20-21, 22-24; BHT: 107 F; Trilobite Testing, Inc., Scott City, KS, Will MacLeon.

DRILL STEM TEST #3:

LKC (J-zone): Interval: 4185-4204 (19') : Blow: weak surf IFP, no RB, weak surf FFP, no RB; Times: 5-15-30; Recovery: 2' mud w/oil spots (100%M); Pressures: HP: 2105-2127; SIP: 427-427; FP: 16-18, 19-23; BHT: 112 F; Trilobite Testing, Inc., Scott City, KS, Will MacLeon.

DRILL STEM TEST #4:

LKC (J-zone): Interval: 4200-4210 (10') : Blow: weak incr 1/2" IFP, no RB, weak incr 1" FFP, no RB; Times: 5-15-30-60; Recovery: 15' OWC (1%O, 11%W, 88%M); Pressures: HP: 2070-1964; SIP: 433-434; FP: 15-18, 19-25; BHT: 104 F; Trilobite Testing, Inc., Scott City, KS, Will MacLeon.

DRILL STEM TEST #5:

LKC (K-zone): Interval: 4220-4238 (18') : Blow: weak surf IFP, no RB, weak surf FFP, no RB; Times: 5-15-30; Recovery: 5' mud w/oil spots (100%M); Pressures: HP: 2087-1968; SIP: 289-285; FP: 16-18, 18-21; BHT: 106 F; Trilobite Testing, Inc., Scott City, KS, Will MacLeon.

DRILL STEM TEST #6:

LKC (L-zone): Interval: 4259-4281 (22') : Blow: weak surf IFP, no RB, weak surf FFP, no RB; Times: 5-15-30; Recovery: 2' mud (100%M); Pressures: HP: 2138-2003; SIP: 74-81; FP: 16-16, 17-18; BHT: 108 F; Trilobite Testing, Inc., Scott City, KS, Will MacLeon.

DRILL STEM TEST #7:

Pleasanton: Interval: 4314-4350 (36') : Blow: weak surf IFP, no RB, no blow 2nd open; Times: 5-15-15-30; Recovery: 1' mud (100%M); Pressures: HP: 2186-2039; SIP: 23-24; FP: 16-18, 17-19; BHT: 111 F; Trilobite Testing, Inc., Scott City, KS, Will MacLeon.

DRILL STEM TEST #8:

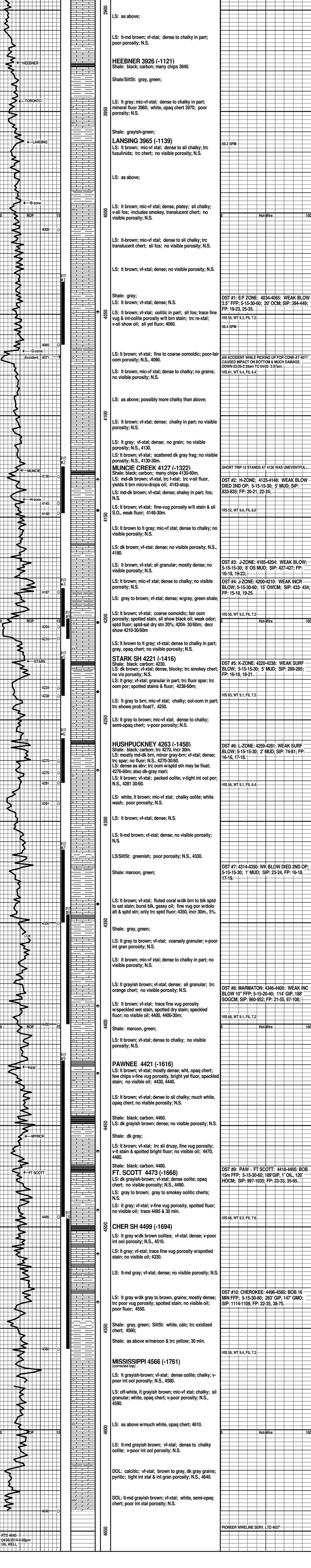
Marmaton: Interval: 4346-4400 (54') : Blow: weak incr 3" IFP, no RB, weak incr 10" FFP, weak surf RB FSIP; Times: 5-15-20-40; Recovery: 114' GIP, 188' TF; Grindouts: 10' GOCM (4%G, 9%O, 87%M), 62' OGCM (12%G, 7%O, 81%M), 58' OGCM (27%G, 10%O, 63%M), 58' OGCM (14%G, 8%O, 78%M); Pressures: HP: 2160-2007; SIP: 960-952; FP: 21-55, 67-108; BHT: 114 F; Trilobite Testing, Inc., Scott City, KS, Will MacLeon.

DRILL STEM TEST #9:

Pawnee, Myrick Station, Ft. Scott: Interval: 4418-4495 (77') : Blow: weak incr 2.5" IFP, no RB; BOB 15 min FFP, weak surf RB FSIP; Times: 5-15-30-60; Recovery: 189' GIP, 121' TF; Grindouts: 1' GO (15%G, 85%O), 30' OGCM (15%G, 10%O, 75%M), 30' GOCM (25%G, 35%O, 40%M), 60' MGO (40%G, 40%O, 20%M); Pressures: HP: 2233-2165; SIP: 997-1035; FP: 23-33, 35-65; BHT: 115 F; Trilobite Testing, Inc., Scott City, KS, Cornelio "Corndog" Landa III.

DRILL STEM TEST #10:

Cherokee: Interval: 4496-4560 (64') : Blow: weak incr 3" IFP, surf RB, BOB 16 min FFP, 1/2" RB FSIP; Times: 5-15-30-60; Recovery: 283' GIP, 147' TF; Grindouts: 1' GO (15%G, 85%O, 36 grav.), 30' GMO (15%G, 55%O, 30%M), 5' GO (15%G, 85%O), 53' GMO (30%G, 60%O, 10%M), 58' GMO (15%G, 65%O, 20%M); Pressures: HP: 2298-2203; SIP: 1114-1109; FP: 22-35, 38-75; BHT: 117 F; Trilobite Testing, Inc., Scott City, KS, Cornelio "Corndog" Landa III.



RTD 4640
04/08/2014 9:08pm
OIL WELL