



WELLSITE GEOLOGIST'S REPORT

VERNON C. SCHRAG
CONSULTANT GEOLOGIST



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

Well Name: SHAPLAND TRUST #1-21
Location: NE NW SW SE OF SEC. 21-18S-28W
Licence Number: API: 15-101-22524
Spud Date: July 02, 2014
Surface Coordinates: 1037' FSL & 2104' FEL

Region: Lane Co., KS
Drilling Completed: July 12, 2014

Bottom Hole Coordinates:
Ground Elevation (ft): 2742' K.B. Elevation (ft): 2749'
Logged Interval (ft): 3800' To: RTD Total Depth (ft): 4625'
Formation: D&A Mississippi
Type of Drilling Fluid: Chemical Premix (Displaced)

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OPERATOR:

Company: Larson Engineering Inc.
Address: 562 West State Road 4
Olmitz, 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 556', 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 263'

CIRCULATION SYSTEM:

Continental EMSCO D-300, duplex, 6 x 14, 60-62 spm, Chemical, premix, earth pits, Morgan Mud, Inc., Cade Lines.

OPEN HOLE LOGS:

DN, DI (SP) (Run-1); ML (Run-2); No Sonic; 5" detail LTD-3600; 2" DI to surface casing; LogTech-Pioneer Wireline, Hays, KS, J. Hendrickson, Log total depth (4622') was three feet short to rotary total depth (4625').

DRILL STEM TEST #1:

LKC (J-zone): Interval: 4216-4245 (29'); Blow: weak surf died 9 min FFP; Times: 5-15-30; Recovery: 5' mud (100%M); Pressures: HP: 2121-2008, SIP: 687-756, FP: 16-17, 18-19; BHT: 121 F; Trilobite Testing, Inc., Scott City, KS, Sam Esparza.

DRILL STEM TEST #2:

LKC (K-zone): Interval: 4253-4265 (12'); Blow: IFP unknown due to broken nipple; no blow after 10 min FFP; Times: 5-15-30-60; Recovery: 5' mud w/oil spots (100%M); Pressures: HP: 2132-2102, SIP: 663-664, FP: 12-17, 15-22; BHT: 120 F; Trilobite Testing, Inc., Scott City, KS, Sam Esparza.

DRILL STEM TEST #3:

LKC (K-zone): Interval: 4251-4269 (18'); Blow: 1/2" IFP, no RB, incr 1-1/2" FFP, no RB; Times: 5-15-30-60; Recovery: 70' WCM w/scum oil on top (15%W, 85%M); Pressures: HP: 2136-2094, SIP: 653-650; FP: 14-20, 21-47; BHT: 120 F; Trilobite Testing, Inc., Scott City, KS, Sam Esparza.

DRILL STEM TEST #4:

LKC (Middle Creek): Interval: 4284-4296 (12'); Blow: weak surf died 12 min FFP; Times: 5-15-30; Recovery: 5' mud (100%M); Pressures: HP: 2141-2119; SIP: 15-16; FP: 13-14, 14-14; BHT: 116 F; Trilobite Testing, Inc., Scott City, KS, Sam Esparza.

DRILL STEM TEST #5:

Marmaton: Interval: 4328-4415 (87'); Blow: weak surf IFP, no RB, weak surf FFP, no RB; Times: 5-15-30; Recovery: 10' mud w/oil spots; Pressures: HP: 2217-2202, SIP: 541-601, FP: 17-19, 20-22; BHT: 117 F; Trilobite Testing, Inc., Scott City, KS, Sam Esparza.

DRILL STEM TEST #6:

Pawnee thru Cherokee: Interval: 4442-4580 (138'); Blow: weak surf IFP, no RB, weak surf FFP, no RB; Times: 5-15-30; Recovery: 10' mud (100%M); Pressures: HP: 2327-2275, SIP: 398-379; FP: 20-22, 24-25; BHT: 121 F; Trilobite Testing, Inc., Scott City, KS, Sam Esparza.

