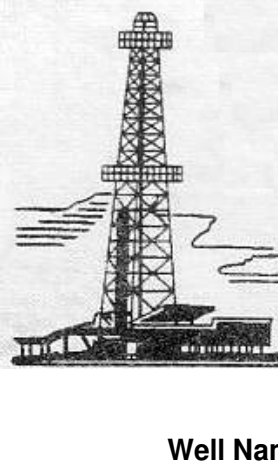


WELLSITE GEOLOGIST'S REPORT

VERNON C. SCHRAG
CONSULTANT GEOLOGIST



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

Well Name: **MARLIN UNIT #1-23**
 Location: **SE NE NW OF SEC. 23-18S-29W**
 Licence Number: **API: 15-101-22552** Region: **Lane Co., KS**
 Spud Date: **December 05, 2014** Drilling Completed: **December 14, 2014**
 Surface Coordinates: **385' FNL & 2479' FWL**

Bottom Hole Coordinates:
 Ground Elevation (ft): **2787'** K.B. Elevation (ft): **2796'**
 Logged Interval (ft): **3800'** To: **RTD** Total Depth (ft): **4650'**
 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: **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 6-1/4" x 2-3/8" x 556', Kelly 40.30', Tool Joint 5.5" ; Bit: JZ-HA20Q, 7-7/8", standard jets 15-15-15; rpm 80, WOB 35k; Kelly Bushing 9' above ground level; LeWayne "Lew" Tresner (tool pusher).

CASING:

Set 8-5/8" casing at 254'
 Set 4-1/2" production casing.

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, Dan Schmidt, Log total depth (4646') was four feet short to rotary total depth (4650').

DRILL STEM TEST #1:

LKC (I-zone) Interval: 4192-4221 (29'): Blow: weak incr 2" IFP, no RB, weak incr 2-3/4" FFP, no RB; Times: 5-15-30-60; Recovery: 70' TF; Grindouts: 40' HOCM (trc G, 40%O, 60%M), 30' MCO (trc G, 60%O, 40%M); Pressures: HP: 2126-2107, SIP: 678-503, FP: 19-36, 54-60; BHT: 115 F; Trilobite Testing, Inc., Scott City, KS, Shane McBride.

DRILL STEM TEST #2:

LKC (K-zone) Interval: 4251-4268 (17'): Blow: 1/4" declined to surf blow IFP, no RB, surf blow died 3 min FFP; Times: 5-15-30-60; Recovery: 1' mud w/oil spots (100%M); Pressures: HP: 2179-2107, SIP: 684-816, FP: 13-15, 16-17; BHT: 109 F; Trilobite Testing, Inc., Scott City, KS, Shane McBride.

DRILL STEM TEST #3:

Marmaton: Interval: 4337-4430 (93'): Blow: incr 6" IFP, no RB, BOB 9 min FFP, 3-1/2" RB died back; Times: 5-15-30-60; Recovery: 402' GIP, 340' TF; Grindouts: 92' GOCM (20%G, 15%O, 65%M), 124' GMO (20%G, 55%O, 25%M), 124' GMO (25%G, 60%O, 15%M); Pressures: HP: 2223-2185, SIP: 1259-1299, FP: 27-80, 89-167; BHT: 117 F; Trilobite Testing, Inc., Scott City, KS, Shane McBride.

DRILL STEM TEST #4:

Myrick Station thru Cherokee: Interval: 4470-4590 (120'): Blow: weak incr 1-3/4" IFP, no RB, weak incr 11" FFP, no RB; Times: 5-15-30-60; Recovery: 90' weak GIP, 154' TF; Grindouts: 20' CO (100%O, grav 31), 72' MO (3%G, 55%O, 42%M), 62' HOCM (3%G, 32%O, 65%M); Pressures: HP: 2339-2285, SIP: 1195-1193, FP: 24-41, 46-81; BHT: 116 F; Trilobite Testing, Inc., Scott City, KS, Shane McBride.

