



Region: Lane Co., KS

Drilling Completed: October 16, 2013

Well Name: Phyllis B #1-4

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

Spud Date: October 8, 2013 Surface Coordinates: 2550' FNL & 340' FEL

Licence Number: API: 15-101-22466

Bottom Hole Coordinates: Ground Elevation (ft): 2834' K.B. Elevation (ft): 2841' Logged Interval (ft): 3800' To: RTD Total Depth (ft): 4670'

Location: SW SE SE NE SEC. 04-19s-29w

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:

DP 4.5" XH (16.6#); DC 6.25" x 2.25" x 560', Kelly 40.30', Tool Joint 5.5"; Bit: JZ-HA20-Q, 7-7/8", extended jets 14-14-15; rpm 80, WOB 35k; Kelly Bushing 7' above ground level; LeWayne "Lew" Tresner (tool pusher).

CASING:

Set 8-5/8" casing at 276' Set 4-1/2" production casing

Morgan Mud, Inc., Cade Lines, David Lines.

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

CIRCULATION SYSTEM: Continental EMSCO D-300, duplex, 6 x 14, 60 spm, Chemical, premix, displaced 3420 to 3440'; earth pits,

| | | | | OPEN HOLE LOGS: onic; 5" detail LTD-3600; 2" DI to sufac total depth (4670') was equal to rotary t | | | | | | | ı-Pi | one | er | |
|--|--------------|-----------|-------------|--|------------------------|-------------|------------------|---------|--------|---------------------------|--------|----------------|-------|--------------------|
| DRILL STEM TEST #1: LKC "H-zone": Interval: 4170-4197 (27'): Blow: weak incr to 1/2" IFP, no RB, very weak surf blow, no RB; Times: 5-15-15-30; Recovery: 30' mud (100%M); Pressures: HP: 2091-2087, SIP: 815-808, FP: 39-41, 40-42; BHT: 115 F; packers were set and reset initially due to small mud loss; Trilobite Testing, Inc., Scott City, KS, Sam Esparza. | | | | | | | | | | | | | | |
| DRILL STEM TEST #2: Pawnee, Myrick Station, Ft. Scott: Interval: 4462-4545 (83'): Blow: weak incr 7" IFP, surf RB ISIP, BOB 5 min. FFP, surf RB built to 1/8" FSIP; Times: 5-15-30-60; Recovery: 242' TF, 693' GIP: 5' CO (100%O, 41 grav.), 58' GO (10%G, 90%O), 179' GMO (40%G, 30%O, 30%M); Pressures: HP: 2293-2192, SIP: 1091-1091, FP: 30-50, 62-97; BHT: 123 F; Trilobite Testing, Inc., Scott City, KS, Cornelio "Corndog" Landa III. | | | | | | | | | | | | | | |
| DRILL STEM TEST #3: Cherokee Lime: Interval: 4540-4605 (65'): Blow: weak incr 1/2" IFP; weak surf RB ISIP, weak surf died 8 min FFP; no RB; Times: 5-15-15-30; Recovery: 30' SOCM (5%O, 95%M); Pressures: HP: 2228-2214, SIP: 155-109, FP: 23-23, 23-25; BHT: 113 F; Trilobite Testing, Inc., Scott City, KS, Cornelio "Corndog" Landa III. ROP Total Gas | | | | | | | | | | | | | | |
| ROP ROP (min/ft) Five Ten | DST | Lithology | Depth Depth | Geological Descriptions | TG (units) Fifty One | | | | | | | | | |
| 0 ROP 15 START DIGITAL ROP 10:08 PM 10/11/2013 START 10' SAMPLES | | | 3800 | | PHY DUA | LLIS 'A | A' #1-4 MPENS | , SW I | NW NE | ON ENG E NE S OSITY | EC. 4, | RING, 19S-2 | | 100 |
| | | | | LS: grayish-brown; vf-xtal; granular in part; few dark pellets; poor apparent porosity; N.S. Shale: black; carbon; 3850.` LS: dense; indistinct; | AN | HYDF NHY | RITE | 2176 | | | im" | | | |
| | | | 3850 | Shale: calcareous; LS: It gray; mic-vf xtal; dense to sli chalky; no visible porosity; N.S. | | | | | | | | | | |
| | | | ð | LS: grayish brown; vf-xtal; finely granular; tight fos-moldic & vug porosity; N.S. Shale: dk gray to brownish; | | | | | | | | | | |
| | | | | LS: It grayish brown; vf-xtal; sli cherty; dense to chalky; poor porosity; N.S. Shale: dark gray; LS: dk grayish brown; vf-xtal; dense; N.S. | | | | | | | | | | |
| | | | 3900 | | | | | | | | | | | |
| | | | | LS: It brown; vf-xtal; finely granular, fos-frag in part; tight int gran porosity; N.S. | | | | | | | | | | |
| | | | 3950 | Shale: dk gray, brownish; LS: It-md grayish brown; vf-xtal; finely gran; sli cherty; poor porosity; N.S. HEEBNER 3957 (-1116) | | | | | | | | | | |
| TORONTO | | | | Shale: black; carbon; few chips 3970 sample. Shale/SiltSt: dull green; fine sulfides; | | | | | | | | | | |
| | | | | LS: white to It brown; mic-vf xtal; dense to chalky in part; trc chert; no visible porosity; scattered dull mineral fluor; N.S. Shale: It green, silty to dk gray; trc sulfides; | | | | | | | | | | |
| LANSING 15 | | | 4000 | LANSING 4000 (-1159) LS: v-It brown; vf-xtal; sli granular; mostly dense; trc milky chert; trc free calcite; trc fine vug porosity; N.S. LS: It brown; vf-xtal; dense; trc fos; trc milky chert; | 0 | | | | Hot- | Wire | | | | 100 |
| B-zone | | | | no visible porosity; N.S. Shale: grays; LS: It brown; vf-xtal; trc deformed oolite; finely | VIS | 60, WT | 8.9, F | IL 8.0, | CHL | 1700, I | LCM 2 | | | |
| -D-zone | | | 4050 | granular in part; chalky in part; poor porosity; N.S. Shale: greenish, gray; calcareous in part; LS: It brown; vf-xtal; dense to chalky in part; finely | | | | | | | | | | |
| | | | | granular in part; trc chert; no visible porosity; N.S. LS: as above; LS: It brown to It gray in part; vf-xtal; dense; no | | | | | | | | | | |
| | | | | visible porosity; N.S. LS: It brown; vf-xtal; dense to chalky in part; no visible porosity; N.S. | | | | | | | | | | |
| CFS 4110 30 min. | | | 4100 | semi-trans chert; no visible porosity; N.S. LS: It brown to It gray, some white & rough; mic-vf | | | | | | | | | | |
| | | | | xtal; dense; poor vug porosity; N.S. LS: It brown; vf-xtal; as above w/trace poor oom porosity; N.S. | | | | | | | | | | |
| | | | 4150 | LS: It brown; vf-xtal; dense to chalky in part; trc dolomitic; poor porosity; N.S. LS: It brown; vf-xtal; dense; along with white, mic-xtal, soft chalk; poor porosity; N.S.` | | | | | | | | | | |
| | DSTI #1: | | | MUNCIE CREEK 4171 (-1330) Shale: black; carbon; poorly expressed; 4180. | | | | | | | | | | |
| CFS 4180 30/60 O | | | > | LS: md-dk brown; vf-xtal; dense; sli fos; smokey chert; only trc fluor, trc fine vug por w/speckled stain, crush few dk oil micro-dots 30, 60m. LS: It brown; vf-xtal; dense to sli chalky in pt; only dull fluor; no visible porosity; N.S. | DS. | 5-15-3 | 4170 | -419 | 7: W | EAK | | W; - 08, FI | P: 39 |)-41, [_] |
| CFS 4197 30/60. ○ ROP 15 | | | 4200 | LS: It-brown to It gray; mic-vf xtal; chalky; dull fluor; no visible porosity; N.S. Shale: dk gray; LS: md-dk brown; vf-xtal; dense; N.S. | -CIR(| 30 M | IN BEF | ORE | | -ING | | | | 100 |
| | | | | LS: It gray; vf-xtal; chalky in part; trc poor oom porosity; N.S. LS: It gray to md brown; vf-xtal, trc druse; trc calc siltst; mostly dense; poor vug porosity; N.S. | -VIS | 60, WT | 9.1, F | IL 7.2, | CHL | 3000, I | LCM 2 | # | | |
| CFS 4240 30/60 © | | | 4250 | LS: It-md grayish-brown; vf-xtal; fine-coarse granular but dense; sli fos-frag; poor porosity; minor chalk; N.S. | | | | | | | | | | |
| CFS 4257 30 min | | 0 | - 5 - | LS: It gray; vf-xtal; coarse oolitic-oomoldic; fair to good oom porosity; only dull fluor; N.S. LS: oomoldic, N.S. as above; LS: It grayish-brown; vf-xtal; dense to sli chalky; | | | | | | | | | | |
| -morn | | | | cherty; no visible porosity; N.S. STARK SH 4283 (-1442) Shale: black; carb; only trace 4300, 4305. LS: dk brown; vf-xtal; dense; N.S. Shale: greenish-gray; silty; coarse pyrites; calc in part; minor SiltSt; 4305. | | | | | | | | | | |
| CFS 4305 30/60 | | | 4300 | LS: It grayish-brown; vf-xtal; mostly dense; some fair vug porosity; only dull fluor; no visible stain or oil, no cut; N.S. LS: It grayish brown; vf-xtal; dense to chalky in part; minor cherts; no visible porosity; N.S. | | | | | | | | | | |
| CFS 4327 30/60 © | | | | HUSHPUCKNEY 4321 (-1480) Shale: black; carbon; 4327-30m. LS: md-dk grayish brown; vf-xtal; dense; fine sulfides; v-poor porosity; no fluor; N.S. LS: It-md gryaish brown; vf-xtal; dense to chalky in part; no visible porosity; N.S. | | | | | | | | | | |
| CFS 4342 30/60 | | | 4350 | LS: It grayish brown; vf xtal w/trace druse; pos coarse vug porosity; N.S. LS: It-md brown; vf-xtal; dense; no visible porosity; N.S. | | | | | | | | | | |
| | | | | Shale: green, gray; minor shaley lime; LS: It-md gray & brown; vfx-tal; mostly dense; trc fos; minor gray, semi-trans chert; no visible prosity; N.S. | | | | | | | | | | |
| | | | | Shale: green, gray, trc brown; limey in part; LS: dk brown; vf-xtal; dense, blocky; no visible | VIS | 65, W | Г 9.2, | FIL 8.0 | o, CH | L 2000 | , LCN | 11# | | |
| 0 ROP 115 | | | 4400 | porosity; no fluor; N.S. Shale: green, gray MARMATON 4412 (-1571) LS: browns; vf-xtal; dense; tan ~ orange, semi-trans | 0 | | | | Hot- | Wire | | | | 100 |
| CON | | | | chert; green shale contacts; no visible porosity; N.S. LS: It brown; mic-vf xtal; dense to chalky in part; chert as above; lacks green discolor; poor porosity; N.S. | -PUN | IP RAT | E 62.8 | 31 SPM | Л, 750 |)-775 P | 'SI — | | | |
| | | | 4450 | LS: It brown; mic-vf xtal; dense to chalky in part; tro fos; orange chert; poor porosity; N.S. | | | | | | | | | | |
| | 0\$1 #2: | | , | LS: It brown to gray; mic-vf xtal; dense to chalky; orange cherts; poor porosity; N.S. Shale: dk gray, indistinct; PAWNEE 4468 (-1627) LS: white to lt gray; mic-vf xtal; dense to chalky; includes lt gray, opaq to tan, translucent cherts; trace | PUM | IP RAT | E 62.9 | 00 SPM | И, 750 | D-775 P | PSI | | | |
| | | | | bright fluor (1pc) w/sptd stain, 4488-30m; trc bright chalk 4495. | | | | | | | | | | |

LS: It gray; vf-xtal; dense to chalky in part; It gray

Shale: black; carbonaceous; trc 4500, incr 4510. LS: dk grayish-brown; vf-xtal; dense; much smokey

LS: It gray; mic-vf xtal; chalky; It-gray, opaq chert;

poor vug por; few chips bright fluor; 2 pc edge fluor; light spotted stain; crush micro- dots It oil; sli dry

Shale: black; carbon; floods 4530 sample.

FT. SCOTT 4521 (-1680) LS: md-dk grayish-brown; vf-xtal; well def oolite w/tight int ool porosity & int-ool stain; dull fluor; crush

LS: md-dk grayish brown; vf-xtal; dense; smokey

LS: It-md grayish brown; vf xtal; trc oolite; mostly dense; no visible porosity; N.S.

LS: It-md grayish brown; vf-xtal; dense; no visible

LS: It brown; vf-xtal; tight int granular & fine vug porosity; even bright fluor; v-sli show oil; only few

Shale: green; sli silty; trc white SiltSt; 60 min.

LS: It brown, cream; mic-vf xtal; sli oolitic & chalky; trc lithographic; no visible porosity; N.S.

DOL: md-dk grayish-brown; f-xtal; tight int xtal porosity w/scattered fine vugs; dull fluor; N.S.

DOL: md-dk grayish brown; f-xtal; as above;

ROTARY TOTAL DEPTH 4670 (-1829)

LS: dolomitic; md-dk brn, some gray, spotted dk-gray in part; vf-f xtal; tight int xtal porosity; N.S.

Shale: It-green; sli silty; w/ white Siltst.

MISSISSIPPI 4613 (-1772)

DST #2: PAWNEE, MYRICK, FT. SCOTT:

CIRC 30 MIN BEFORE DRILL AHEAD.

30-50, 62-97.+

4462-4545: BOB 5 MIN FFP; 5-15-30-60; 693'

GIP, 63' GO, 179' GMO; SIP: 1093- 1093, FP: -

VIS 62, WT 9.5, FIL 7.6, CHL 2400, LCM 1#, JET & ADD PREMIX AFTER DST 2.

DST #3: CHEROKEE: 4540-4605: BLOW DIED; 5-15-15-30; 30' SOCM; SIP: 155-109,

Hot-Wire

100

CIRC 30 MIN BEFORE DRILL AHEAD.-

VIS 56, WT 9.3, FIL 8.0, CHL 3200, LCM 2#_

PIONEER WIRELINE SERVICES LTD 4670'

FP: 23-23, 23-25;

chert; no visible porosity; N.S.

chert; poor porosity; N.S., 4510.

stain, no dry fluor 4520.

few micro-dots oil; 4540;

LS: as above;

porosity; N.S.

Shale: dk gray; w/limes;

chips; 4600, 4605; 30 min.

LS: It gray; mic-xtal; dense; N.S.

chert; no visible porosity; N.S.

CHEROKEE SH 4545 (-1704)

CFS 4488 30©

MYRICK

CFS 4545 30/60

CFS 4605

ST LOU

30/60

CFS 4670 30/60

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LABETTE