



Musgrove
 Petroleum Geology
 212 Main Street, Claflin KS

Geologist's Report

Company: L.D. Drilling, Inc
 Lease: Polzin-Fyler Unit #1-22
 Field: Laud Southwest
 Surface Location: SE-SW-SE-SW (127' FSL & 1713' FWL)
 Sec: 22 Twp: 18S Rge: 14W
 County: Barton State: Kansas
 GL: 1907' KB: 1912'
 Contractor: Petromark Drilling Rig #2
 Spud: 4/10/15 Comp: 4/17/15
 RTD: 3535' LTD: 3538'
 Mud Up: +/- 2700' Mud Type: Chemical Displaced

Drilling Time Kept From: 3000' to RTD
 Samples Saved From: 3000' to RTD
 Samples Examined: 3000' to RTD
 Geological Supervision: 3175' to RTD
 Geologist on Well: Kurt Talbott

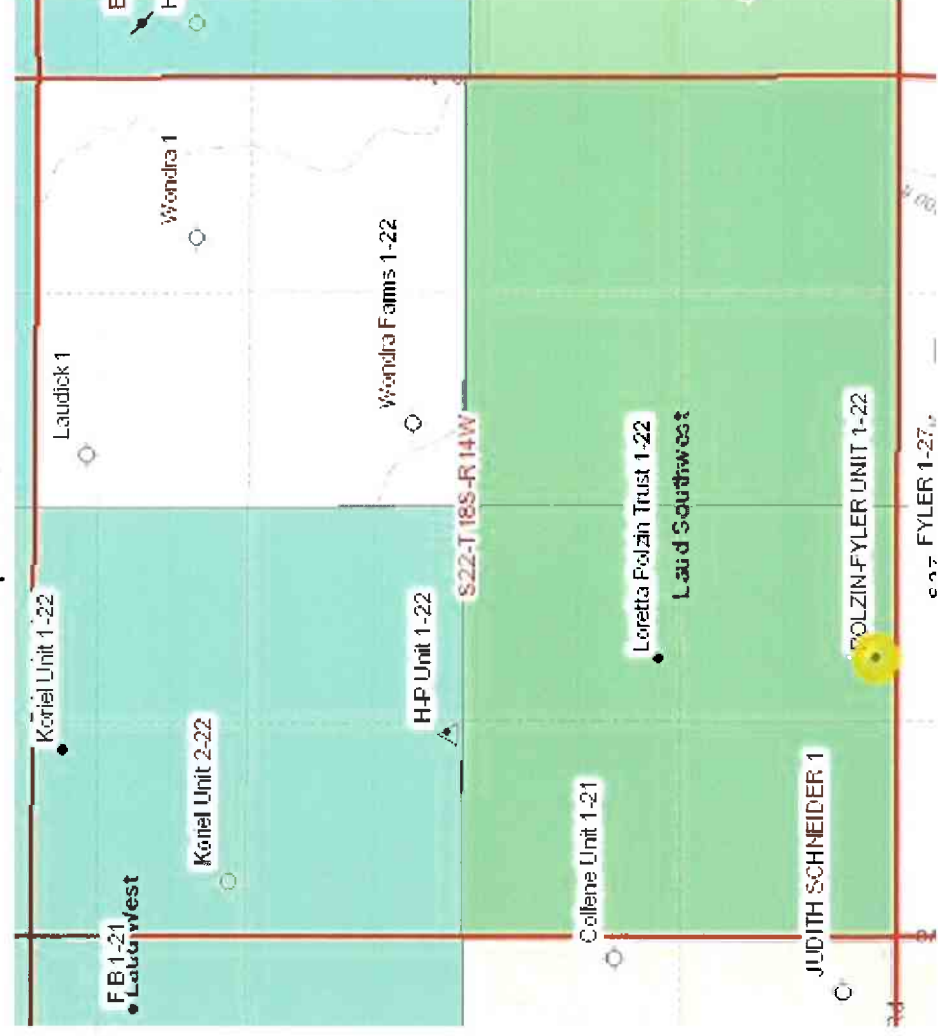
Surface Casing: 8 5/8" @ 854'
 Production Casing: 5 1/2" @

Wireline Logs: By Nabors: CDL/CNL, DIL, MEL, BHCS

Well Comparison

FORMATION	WELL BEING DRILLED		OFFSET	
	LD	LD SS	LD DRILLING	LD SS
ANHYDRITE	857	1055	856	1060
BASE ANHYDRITE	885	1027	882	1034
TOPEKA	2856	946	2856	940
HEBNER	3096	-1184	3092	-1176
TORONTO	3108	-1196	3105	-1189
DOUGLAS	3120	-1208	3167	-1251
BROWN LIME	3174	-1262	3176	-1260
LANSING	3188	-1276	3390	-1474
BASE KC	3396	-1484	3425	-1509
ARBUCKLE	3428	-1516	3525	-1609
TOTAL DEPTH	3538	-1625	3549	1633

Spot Location



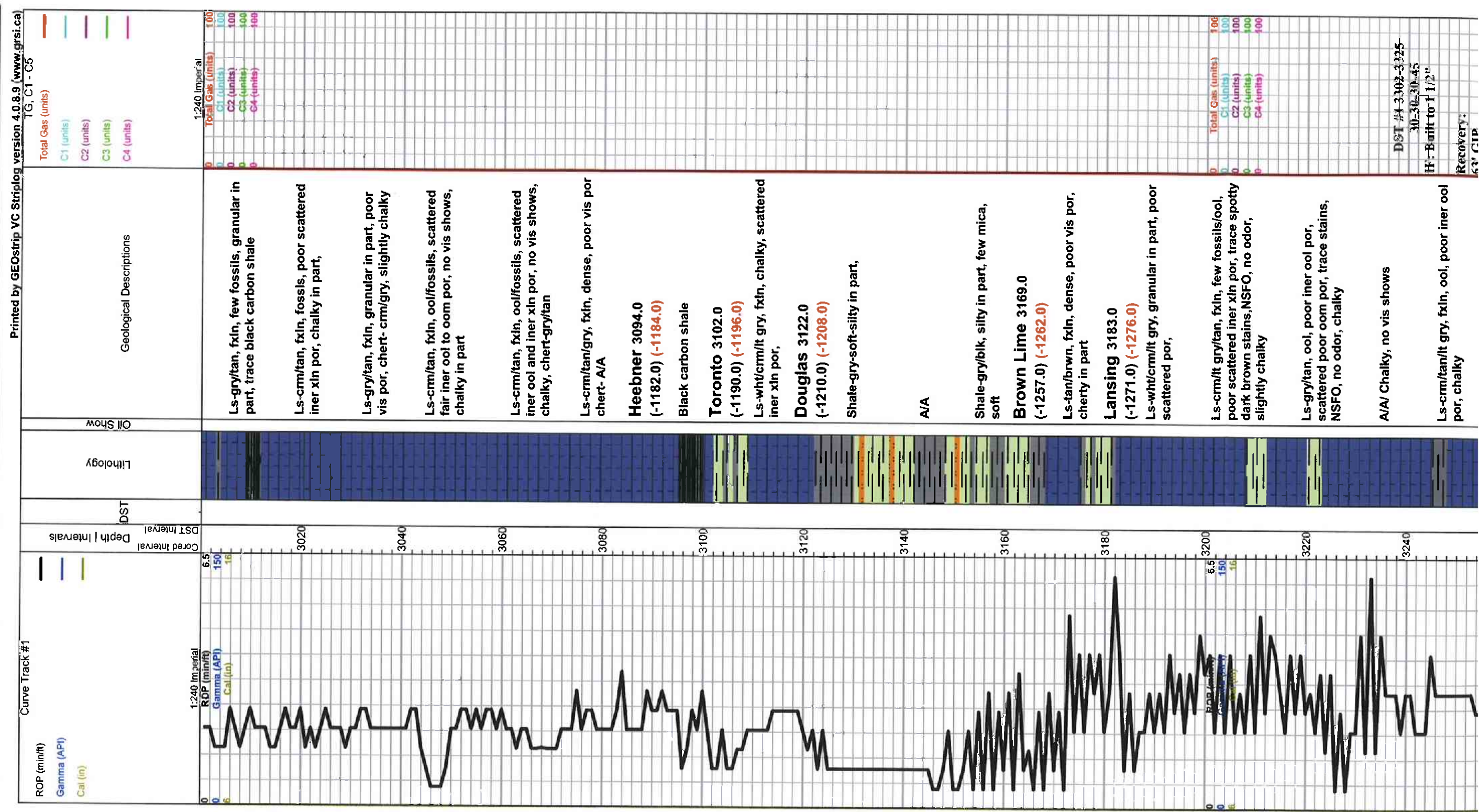
ROCK TYPES

Cht
 Dolprim
 Lmst fw<7 shale, gry
 Carbon Sh
 shale, red
 Sfst

OTHER SYMBOLS

EVENTS
 Casing Shoe
 RTF
 Sidewall
 Left Casing Shoe
 Right Casing Shoe

INTERVALS
 Core
 DST



DST #1-3302-3325
30-30-30-45
H: Built to 1 1/2"
Recovery:
53% CIP

Flow Summary

Recovery:

63' GIP
1" Clean Oil
62' OCMW
2% O 63% W 35% M
61' VSOCMW
(1% O 86% W 13% M)

Pressures:

ISIP 1011 psi
FSIP 1024 psi
IFP 13-44 psi
FFP 50-71 psi
HSH 1602-1599 psi

DST #2-3323-3380
30-30-X-X

IF: Blow Dried in 7 min
Tool Flush and packers
unscated.

Recovery:

143' Mud

Pressures:

ISIP 43 psi
FSIP X
IFP 13-15 psi
FFP X
HSH 1608-1607 psi

Total Gas (units) 100
C1 (units) 100
C2 (units) 100
C3 (units) 100
C4 (units) 100

DST #3 3360-3431
30-45-45-60

IF: Built to 9"
ISI: Weak Surface Blow

Recovery:

118' GIP
22' Clean Oil
49' HOCM
(52% Oil 48% Mud)
123' GOCM
(10% Gas 38% Oil 52% Mud)

Pressures:

ISIP 912 psi
FSIP 963 psi
IFP 22-72 psi
FFP 86-91 psi
HSH 1622-1631 psi

Ls-gry/wht, fxln, ool, good oom por, chalky in part, no vis shows,

Ls-tan/crm, fxln, ool, fair to good oom por, chert-crm/tan,

Ls-tan/crm, fxln, ool, poor vis por, chalky in part, cherty in part,

A/A Shale-gry/bik

Ls-tan/gry, fxln, ool, inner ool to oom por, golden to dark brown stains, slightly saturated, SFO, fair odor

Ls-tan/gry, fxln, ool, poor vis por, cherty in part, slightly chalky

A/A Shale-gry/gm, Chert-tan/crm

Ls-crm/tan, fxln, ool, poor inner xln por, dark brown stains, TrSFO, faint odor

Ls-crm/tan, fxln, ool/few fossils, poor inner xln por, dark brwn stains, TrSFO, faint odor

Ls-crm/tan/gry, fxln, poor scattered inner xln por, cherty in part, slightly chalky,

Base KC 3390.0 (-1478.0) (-1484.0)

Chert-orange/wht/boney wht Shale-red/brwn

Shale and Chert- A/A

Ls-crm/tan, granular, poor vis por, cherty in part

Arbuckle 3425.0 (-1513.0) (-1516.0)

Dol-wht/crm, fine to med rhomb xln, fair inner xln por, dark brown stains, SFO, good odor

Dol-wht/lt gry, fine to med rhomb xln, fair inner xln por, dark brown stains, SFO, fair odor, chert- boney wht/crm

Dol-wht/lt gry/crm, fxln, dense, poor to fair inner xln por, dark brown to black stains, TrSFO, faint odor, chalky in part

Dol-wht/lt gry, f-med xln, few rhomb xln, fair to good inner xln to vug por, dark brown to black stains, Weak SFO, faint odor, chalky in part

Dol-wht/lt gry, f-med rhomb xln, fair inner xln to vug por, cherty in part, chalky

A/A

Dol-wht/lt gry/crm, fxln, dense, poor scattered inner xln por, chert-boney wht/crm

Total Depth 3535.0 (-1623.0) (-1626.0)

