

Petroleum Geology
212 Main Street, Claflin KS

Geologist's Report

Company: L.D. Drilling, Inc.
 Lease: Shumway AA #3
 Field: Max
 Surface Location: NE-SE-SE (990' FSL & 330' FEL)
 Sec: 27 Twp: 21S Rge: 12W
 County: Stafford State: Kansas
 GL: 1838' KB: 1843'

Contractor: Petromark Drilling Rig #2
 Spud: 12/1/14 Comp: 12/12/14
 RTD: 3725' LTD: 3715'
 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: 3000' to RTD
 Geologist on Well: Kurt Talbott

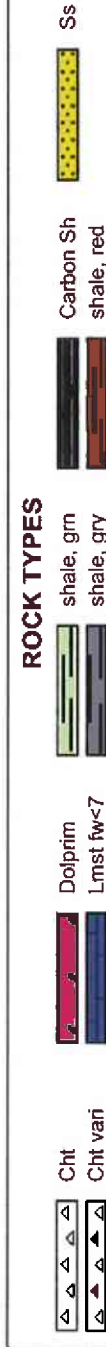
Surface Casing: 8 5/8" @ 333'
 Production Casing: None

Wireline Logs: By Nabors: CNL/CDL, DIL

Well Comparison

FORMATION	WELL BEING DRILLED		OFFSET	
	LD	LD SS	ALLAN SHUMWAY #2	SS
ANHYDRITE	616	1227	618	1220
BASE ANHYDRITE	636	-1207		
HEEBNER	3109	-1266	3113	-1275
TORONTO	3133	-1290		
DOUGLAS	3141	-1298		
BROWN LIME	3240	-1397		
LANGING	3255	-1412	3265	-1427
BASE KC	3490	-1647		
VIOLA	3506	-1663		
SIMPSON SHALE	3552	-1709	3540	-1697
REWORKED ARB	3615	-1772		
SOLID ARBUCKLE	3636	-1793	3590	-1752
TOTAL DEPTH	3715	-1872	3609	-1771

Spot Location



OTHER SYMBOLS

EVENTS

- Casing Shoe
- RTF
- Sidewall
- Left Casing Shoe

INTERVALS

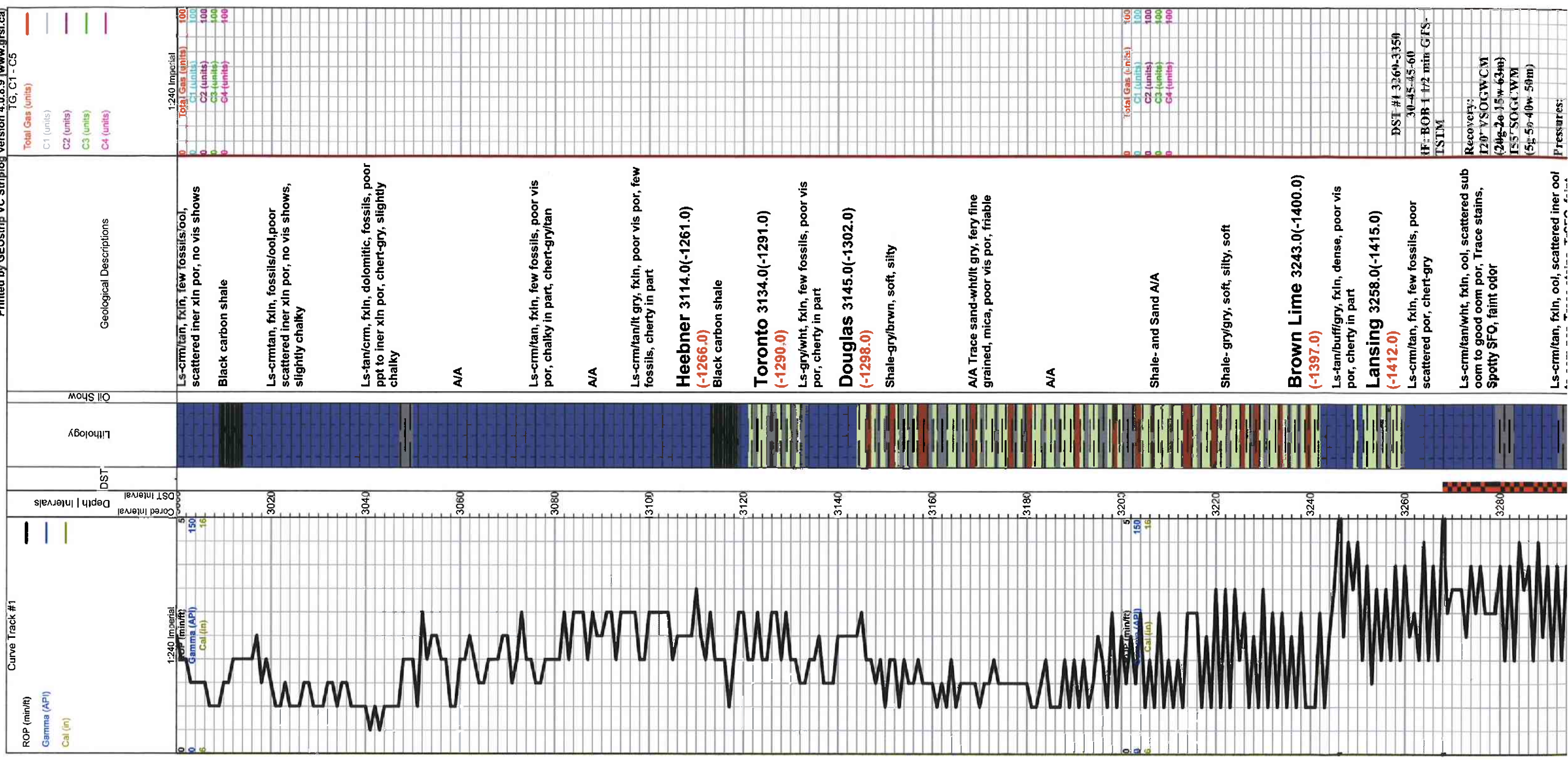
Core

DST

DST

DST Int

DST at



1:240 Imperial
 Total Gas (units)
 C1 (units)
 C2 (units)
 C3 (units)
 C4 (units)

Geological Descriptions
 Oil Show
 Lithology
 DST
 Depth | Intervals
 Cored Interval
 DST Interval

1:240 Imperial
 ROP (min/ft)
 Gamma (API)
 Cal (in)

1:240 Imperial
 Total Gas (units)
 C1 (units)
 C2 (units)
 C3 (units)
 C4 (units)

3000 5
 150
 16
 Gamma (API)
 Cal (in)

3020
 3040
 3060
 3080
 3100
 3120
 3140
 3160
 3180
 3200 5
 150
 16
 Gamma (API)
 Cal (in)

3220
 3240
 3260
 3280

0 100
 C1 (units)
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DST #1 3260-3350
 30-45-45-60
 IF: BOB 1 1/2 min GFS-
 TSLM

Recovery:
 I20 VSOCWCM
 (20g-2e-15w-63m)
 I55 VSOCWCM
 (5g-5e-40w-50m)

Pressures:

LS-crm/tan, fxln, few fossils, ool, scattered inner xln por, no vis shows
 Black carbon shale
 LS-crm/tan, fxln, fossils/ool, poor scattered inner xln por, no vis shows, slightly chalky
 LS-tan/crm, fxln, dolomitic, fossils, poor ppt to inner xln por, chert-gry, slightly chalky
 A/A
 LS-crm/tan, fxln, few fossils, poor vis por, chalky in part, chert-gry/tan
 A/A
 LS-crm/tan/lt gry, fxln, poor vis por, few fossils, cherty in part
Heebner 3114.0(-1261.0)
 (-1266.0)
 Black carbon shale
Toronto 3134.0(-1291.0)
 (-1290.0)
 LS-gry/wht, fxln, few fossils, poor vis por, cherty in part
Douglas 3145.0(-1302.0)
 (-1298.0)
 Shale-gry/brwn, soft, silty
 A/A Trace sand-wht/lt gry, fery fine grained, mica, poor vis por, friable
 A/A
 Shale- and Sand A/A
 Shale- gry/gry, soft, silty, soft

Brown Lime 3243.0(-1400.0)
 (-1397.0)
 LS-tan/buff/gry, fxln, dense, poor vis por, cherty in part
Lansing 3258.0(-1415.0)
 (-1412.0)
 LS-crm/tan, fxln, few fossils, poor scattered por, chert-gry
 LS-crm/tan/wht, fxln, ool, scattered sub oom to good oom por, Trace stains, Spotty SFO, faint odor
 LS-crm/tan, fxln, ool, scattered inner ool

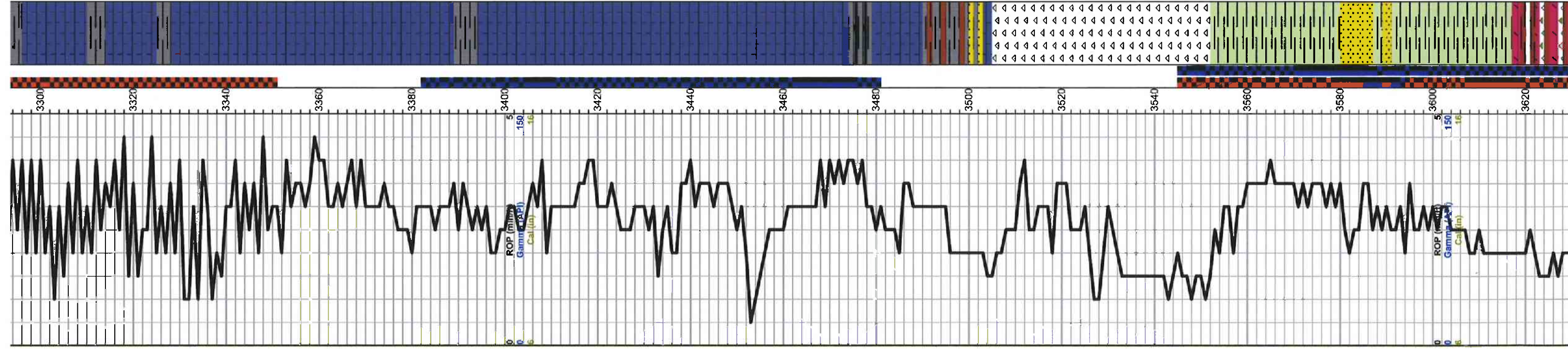
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 C2 (units)
 C3 (units)
 C4 (units)

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 C3 (units)
 C4 (units)



to oom por, Trace stains, TrSFO, faint odor, shale-gry

Ls-tan/bwn, fxl, ool, poor iner ool to oom por, brown stains, SFO, fair odor, slightly chalky

Ls-crm/lt gry, fxl, ool, poo rscattered iner ool por, Trace dark brown stains, Fair SFO, fair odor

Ls-crm/lt gry, fxl, ool, poor, scattered por, spotty stains, NSFO

Ls-gry/tan, fxl, poor vis por, cherty in part

A/A

Ls-tan/buff, fxl, dense, cherty in part, poor vis por,

Ls-crm/tan, fxl, ool, fair oom por, no vis shows, chalky in part

Ls-crm/tan, fxl, ool, dense, cherty in part, poor vis por,

A/A

Ls-crm/wht, fxl, ool, poor iner xln por, dark brown stains, TrSFO, faint odor

Ls-crm/wht, fxl, ool, poor iner xln to finely vug por, golden to dark brown stains, SFO, fair odor

Ls-grytan, fxl, ol, poor iner to vuggy por, spotty dark brown stains, SFO, faint odor

Ls-grytan, fxl, ool, dense, poor vis por

A/A Shale- gry/blk

Base KC 3494.0(-1651.0)
(-1647.0)

Shale- gry/grm/maroon
Trace sand- vfg, friable, sub round

Viola 3503.0(-1660.0)
(-1663.0)

Chert-gry/wht/CRM, scattered por, weathered in part,

Chert-gry/boney wht, semi trip, Trace dark brown to black stains, Very weak SFO, no odor,

Chert-wht/CRM, trace stains, NSFO, no odor,

Simpson Shale 3553.0(-1710.0)
(-1709.0)

Shale-gry/olive green/maroon-soft

Shale-waxy-maroon/green

A/A

Sand- clear/gry, fine to med grained, poor iner xln por, friable, trace stains, Weak SFO,

Shale-maroon/grn-soft

Shale-A/A
Chert- varying color

Arbuckle 3621.0(-1778.0)
(-1772.0)

Dol- CRM/lt gry, fxl, sucrosic, poor iner xln por, dark brown stains, SFO, fair to good odor. Chert-drv. Shale- maroon

ISIP	379 psi
FSIP	356 psi
IIP	34-70 si
FFP	75-109 psi
HSH	1659-1654 psi

Total Gas (units)	100
G1 (units)	100
G2 (units)	100
G3 (units)	100
G4 (units)	100

DST #2: 3383-3480

30-45-45-60
IF: BOB 29 min
ISI: No return

Recovery:

500' GIP
66' Mud
30' SGCOM
(10g 25b-65m)

Pressures:

ISIP 364 psi
FSIP 422 psi
IIP 14-34 psi
FFP 29-53 psi
HSH 1662-1658 psi

DST #3: 3545-3630

30-45-30-45

IF: Built to 2 1/2"

Recovery:

30' Mud

Pressures:

ISIP 63 psi
FSIP 54 psi
IIP 21-33 psi
FFP 36-40 psi
HSH 1764-1760 psi

DST #4: 3630-3640

Misrun

DST #5: 3545-3640

30-45-30-45

IF: Built to 3 1/2"

Recovery:

60' Mud

Pressures:

ISIP 142 psi
FSIP 124 psi
IIP 32-42 psi
FFP 38-45 psi
HSH 1740-1735 psi

Total Gas (units)	100
G1 (units)	100
G2 (units)	100
G3 (units)	100
G4 (units)	100

DST #6: 3548-3655

30-45-45-60

IF: Built to 5"

Recovery:
120' Mud

Pressures:

ISIP 431 psi
ESIP 302 psi
IFP 31-68 psi
FEP 70-72 psi
HSH 1736-1735 psi

DST #7 3654-3670
Mis Run

DST #8 3648-3670
30-35-45-60

IF: Built to 7"

Recovery:

90' SWCM
(5w 95m)
60' WCM
(25w 75m)

Pressures:

ISIP 627 psi
ESIP 528 psi
IFP 46-86 psi
FEP 88-101 psi
HSH 1777-1776 psi

Solid Arbuckle 3636.0(-1793.0)

Dol-crm/tan, fine xln, poor iner xln por, Scattered golden to dark brown stains, SFO, fair odor, chert and Shale-A/A

Dol-crm/tan, fine to med xln, few rhomb, good iner xln por, dark brown stains, SFO, faint odor

Dol-crm/buff, f-med rhomb xln, poor to fair iner xln por, dark brown stains, TrSFO, good odor, Shale-maroon/gry

Shale-maroon/gry/grm

Dol-tan/buff, fine to med xln, fair iner xln por with scattered vuggy por, dark brown to blk stains, NSFO, fair odor Chert-tan/gry Shale-A/A

Dol-tan/buff, fine xln, poor vis por, cherty in part, trace stains, NSFO, fair odor

Total Depth 3725.0(-1682.0)

