



Musgrove

Petroleum Geology
212 Main Street, Claflin KS

Geologist's Report

Company: L. D. Drilling Inc.

Lease: Wanda 1-25

Field: Chase-Silica

Surface Location: SE-SE-NW-SE (1630' FSL & 1630' FEL)

Sec: 25 Twp: 20S Rge: 12W

County: Barton State: Kansas

GL: 1818' KB: 1823'

Contractor: Petromark Drilling Rig #1

Spud: 2/2/15 Comp: 2/9/15

RTD: 3413' LTD:

Mud Up: +/- 2700' Mud Type: Chemical Displaced

Drilling Time Kept From: 2800' to RTD

Samples Saved From: 2800' to RTD

Samples Examined: 2800' to RTD

Geological Supervision: 3010' to RTD

Geologist on Well: Kurt Talbott

Surface Casing: 8 5/8"@ 410'

Production Casing: None

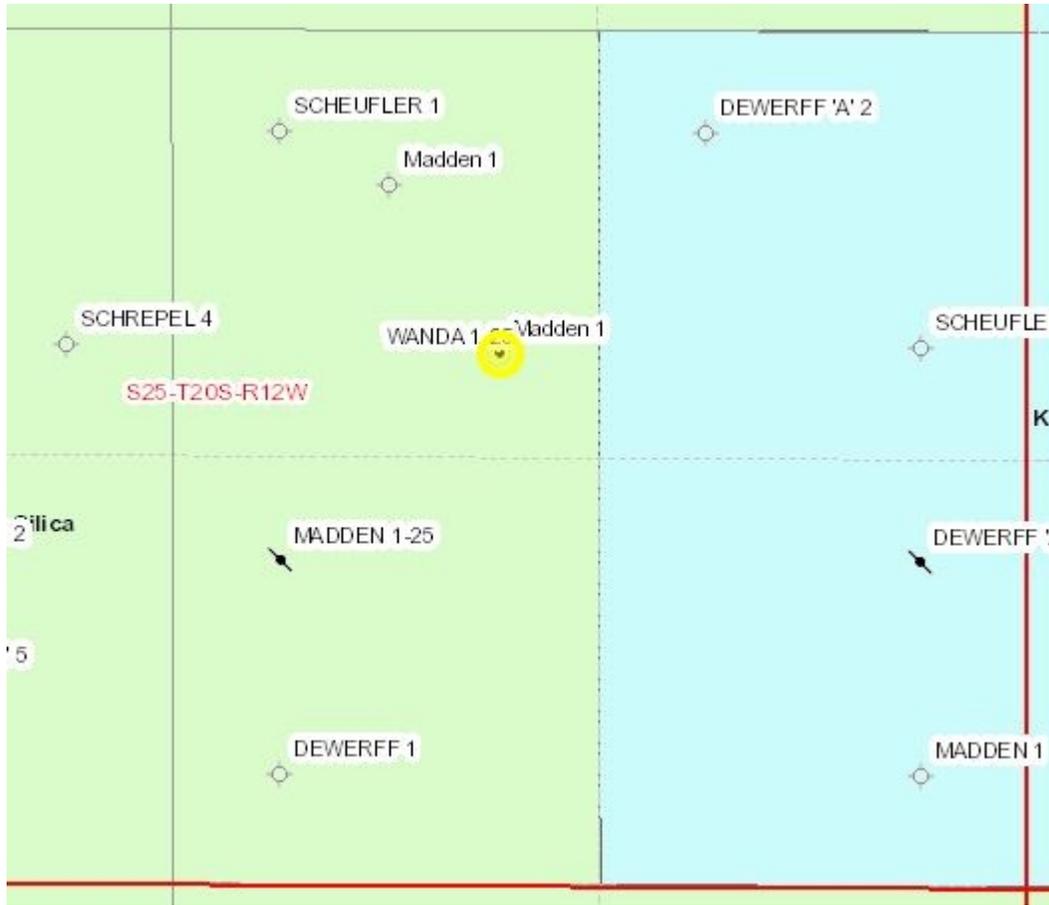
Wireline Logs: None

Well Comparison

FORMATION	WELL BEING DRILLED LD DRILLING WANDA 1-25 1823 KB		OFFSET MAI MADDEN #1 1825 KB	
	MD	MD SS	LD	SS
ANHYDRITE				
BASE ANHYDRITE				
HEEBNER	3000	-1177	2994	-1167
TORONTO	3014	-1191	3014	-1189
DOUGLAS	3030	-1207	3022	-1197
BROWN LIME	3131	-1309	3122	-1297
LANSING	3145	-1322	3137	-1312

BASE KC			3366	-1541
ARBUCKLE	3399	-1576	3378	-1553
TOTAL DEPTH	3413	-1590	3458	-1633

Spot Location



ROCK TYPES

Dolprim	shale, gm	Carbon Sh	Shcol
Lmst fw<7	shale, gry	shale, red	Ss

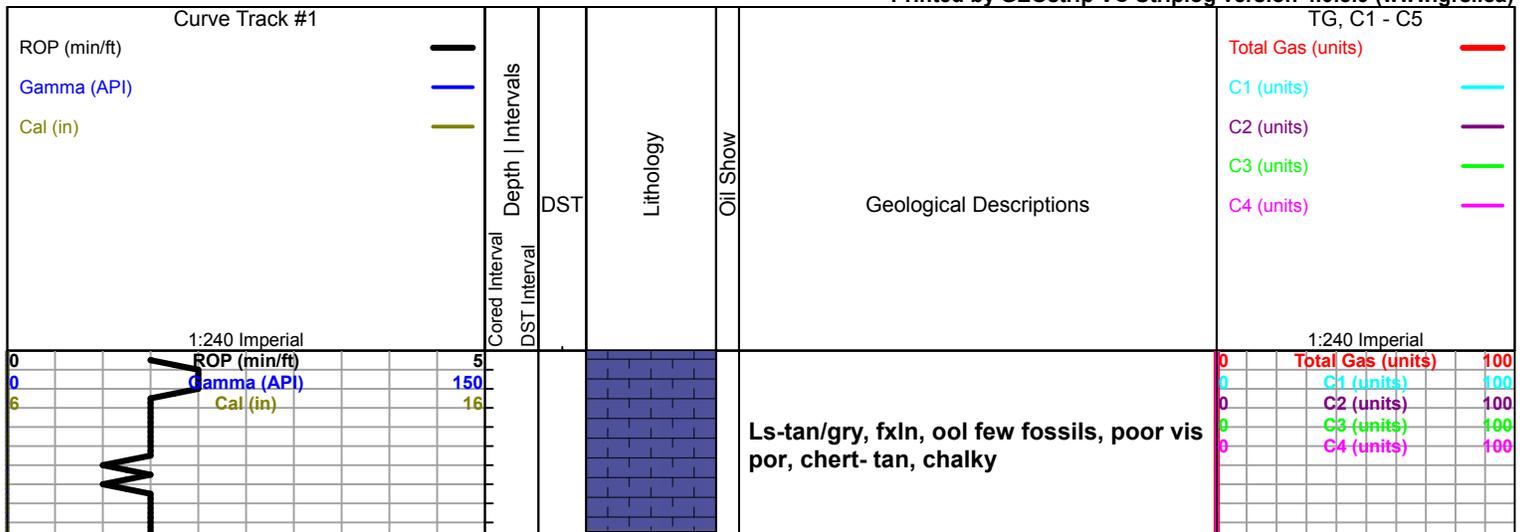
OTHER SYMBOLS

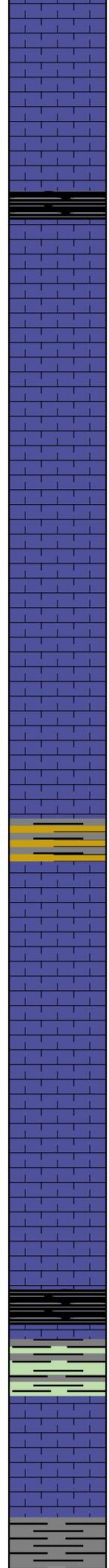
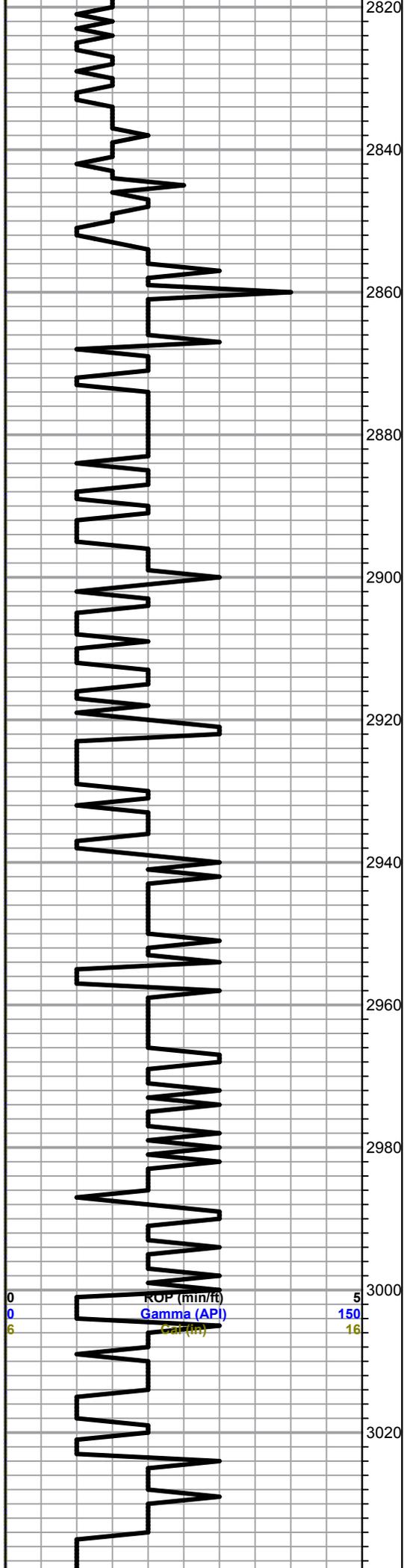
- EVENTS**
- ⌋ Casing Shoe
 - ▽ RTF
 - ▶ Sidewall
 - ▶ Left Casing Shoe
 - ▶ Right Casing Shoe

- INTERVALS**
- Core
 - DST

- DST**
- DST Int
 - DST alt

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A/A

Black carbon shale

Ls-wht/crm, fxln, ool/fossils, chalky, poor scattered iner xln por

A/A

Ls-crm/tan/lt gry, fxln, fossils, poor scattered iner xln por,

Ls- A/A poor ppt to iner xln por

A/A Shale-gry/blk /brwn abunda t

Ls-wht/crm, fxln, fossils, poor ppt to iner xln por, Trace black carbon shale

Ls-crm/tan, fxln, poor vis por, few fossils, cherty in part,

Heebner 3000.0 (-1177.0)

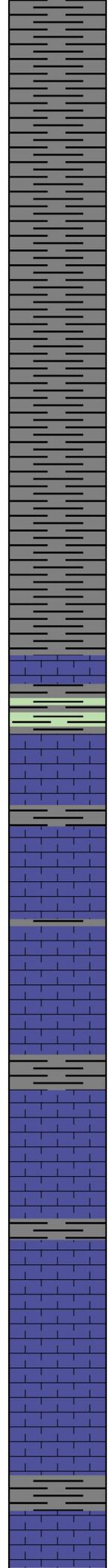
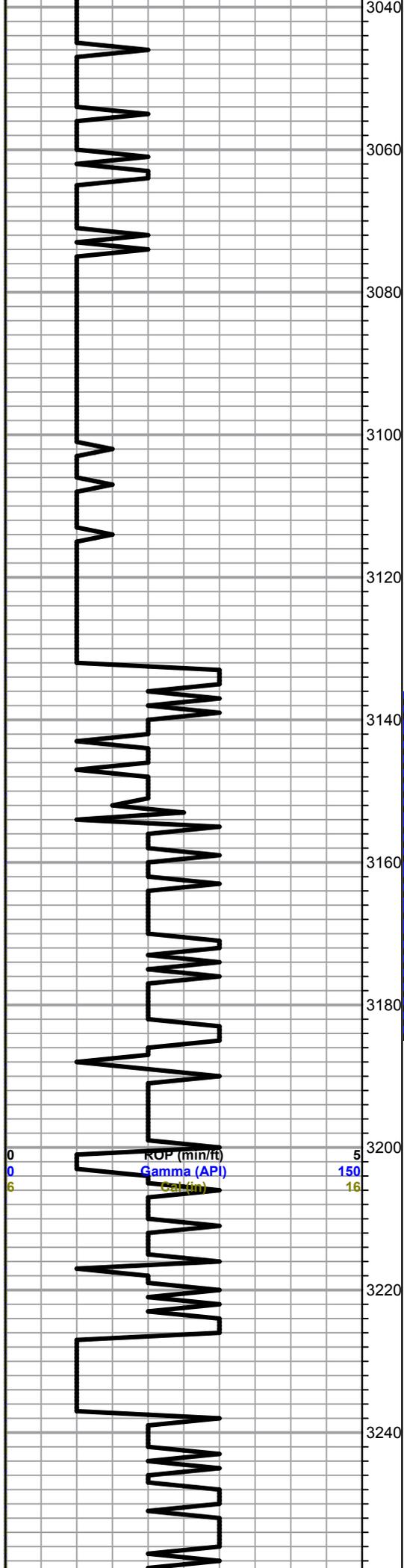
Black cabron shale

Toronto 3014.0 (-1191.0)

Ls-wht/ fxln, poor iner xln por, chalky chert-boney wht

Douglas 3030.0 (-1207.0)

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



Shale-soft- gry-silty

Shale- gry-soft, mica, silty

Shale-gry/grn, soft, silty in part, mica

A/A

Brown Lime 3132.0 (-1309.0)

Ls-tan/buff, fxln, dense, poor vis por,

Lansing 3145.0 (-1322.0)

Ls-wht/crm, fxln, ool/fossils, poor iner xln por, cahky in part,

Ls-crm/tan/lt gry, fxln, ool, few fossils, poor ppt to iner xln por, light brown stains, TrSFO, very faint odor

Ls-crm/wht, fxln, ool few fossils, poor ppt por, Trace stains, NSFO, chalky

Ls-gry/tan/crm, fxln, ool/fossils, poor vis por, Traces spotty stains, NSFO, shale-brwn/gry/gry

Ls-crm/wht, fxln, trace iner xln por, light brown stains, TrSFO, faint odor

Ls-wht/crm, fxln, ool, iner ool to oom por, light brown stains, NSFO, no doodr,

Ls-tan/cr, fxln, ool/fossils, poor iner xln por, Trace stains, NSFO, chalky

A/A

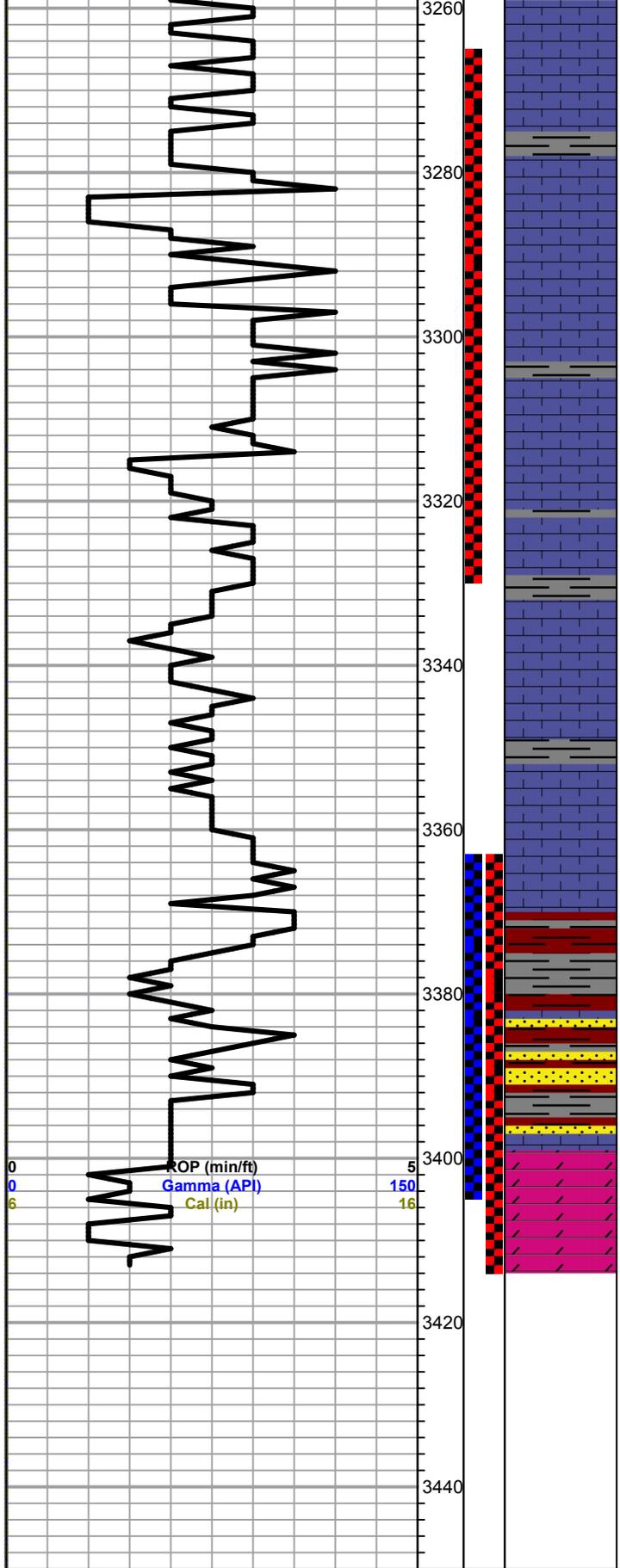
DST #1 3136-3185
 30-30-30-30
 IF: Weak Surface Blow

Recovery:
 15' VSOCM
 (1% oil 99% mud)

Pressures:
 ISIP 43 psi
 FSIP 32 psi
 HFP 18-23 psi
 FFP 24-24 psi
 HSH 1529-1526 psi

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

DST #2 3265-3330



3260

3280

3300

3320

3340

3360

3380

3400

3420

3440

Ls-wht/crm, fxln, ool, poor iner part por, trace spotty stains, TrSFO, faint odor
 Ls-wht/crm, ool, oom to scattered ginely vug por, brown stains, SFO, faint to fair odor
 Ls-crm/tan, fxln, fossils, poor iner part to scattered finely vug por, light brown stains, SFO, faint odor,
 Ls-crm/ tan, fxln, ool, poor vis por, cherty in part, dense,
 Ls-wht/crm/tan, fxln, ool, few fossils, poor iner xln por, Trace Stains, NSFO, chalky
 Ls-crm/tan, fxln, ool, scattered iner xln por, chalky, cherty in part,
 Ls-tan/gry, fxln, ool, dense, cherty, poor vis por,
 Shale-brwn/gry/gry-soft, Slightly sandy in part,
 Shale- brown/red, soft, Trace wht sand-fine grained, sub round,
Arbuckle 3399.0 (-1576.0)
 Dol-crm/tan, f-few med xln, poor to fair iner xln por, dark brown stains, TrSFO, faint odor,
 Dol-crm/tan, f-med xln, fair oom por, dark brown to black stains, SFO, fair odor
Total Depth 3413.0 (-1590.0)

30-30-30-30
 IF: Weak 1/4" blow

Recovery:
 5' Mud

Pressures:
 ISIP 275 psi
 FSIP 159 psi
 IFP 8-14 psi
 FFP 14-16 psi
 HSH 1643-1636 psi

DST #3 3363-3405
 30-30-30-30
 IF: Weak Surface Blow

Recovery:
 5' Mud

Pressures:
 ISIP 325 psi
 FSIP 327 psi
 IFP 15-18 psi
 FFP 18-20 psi
 HSH 1660-1659 psi

DST #4 3363-3413
 30-30-45-45
 IF: Built to 1 3/4"

Recovery:
 15' Mud

Pressures:
 ISIP 148 psi
 FSIP 392 psi
 IFP 19-27 psi
 FFP 28-70 psi
 HSH 1651-1643 psi

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