



Geologist's Report

Company: **Empire Energy E&P, LLC.**  
 Lease: **Driscoll Heirs #5**  
 Field: **Wildcat**  
 Location: **NW-NW-NE-SE**  
 Sec: **31** Twsp: **15S** Rge: **19W**  
 County: **Barton** State: **Kansas**  
 GL: **1878** KB: **1891**

Contractor:  
 Spud: **10/15/13** Comp: **10/21/13**  
 RTD: **3715'** LTD: **3717'**  
 Mud Up: **3000'** Type Mud: **Chemical/Displaced**

Samples Saved From: **3100' to RTD**  
 Drilling Time Kept From: **3000' to RTD**  
 Samples Examined From: **3100' to RTD**  
 Geological Supervision From: **3300' to RTD**  
 Geologist on Well: **Kurt Talbott**

Surface Casing: **8 5/8" @ 218'**  
 Production: **5 1/2" @**

Logs: **By Nabors: CNL/CDL, DIL, MEL, SONIC**

ROCK TYPES

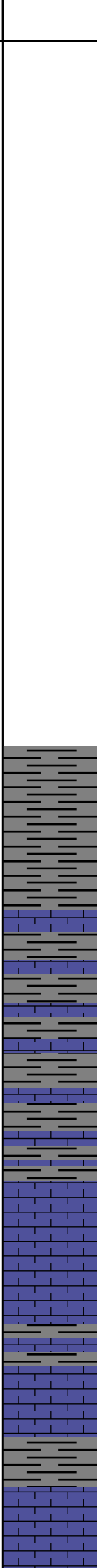
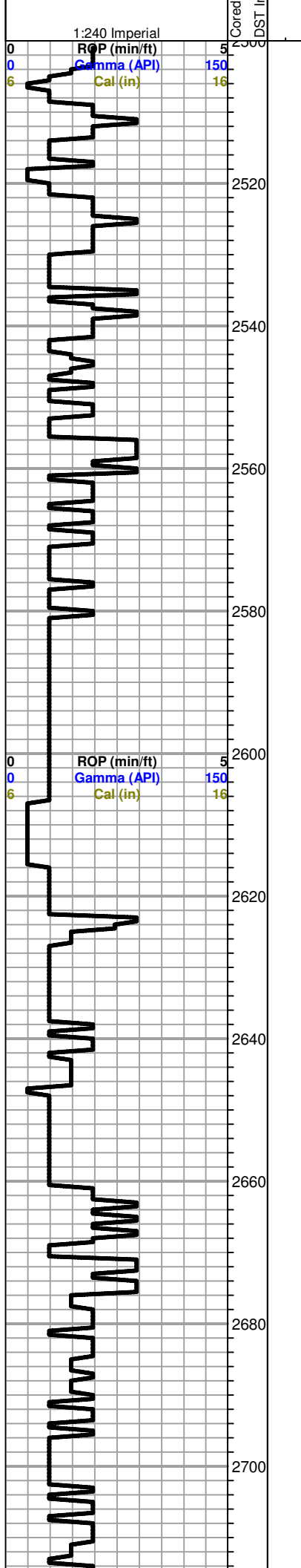


OTHER SYMBOLS



Printed by GEOstrip VC Striplog version 4.0.7.0 ([www.grsi.ca](http://www.grsi.ca))

Curve Track #1				Geological Descriptions				TG, C1 - C5			
ROP (min/ft)	—	Depth   Intervals Interval interval	DST	Lithology	Oil Show	Total Gas (units)					
Gamma (API)	—					C1 (units)					
Cal (in)	---					C2 (units)					
						C3 (units)					
						C4 (units)					



Shale-gry-silty Trace shaley sand, vfg- mica poorly developed

A/A

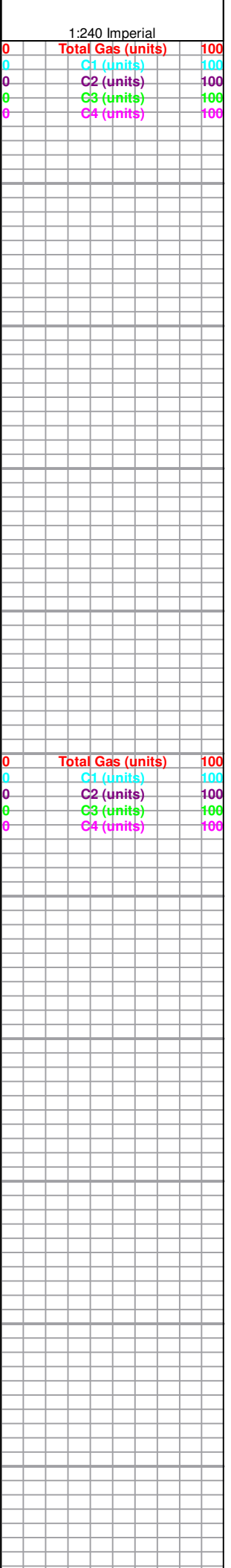
Topeka 2660.0 (-769.0) -769.0

Ls-wht/gry, fxln few fossils, poor vis por chalky

A/A Shale- gry, gry

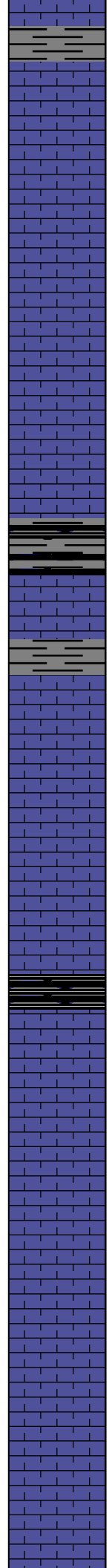
Poor samples, Ls-crm/tan/wht, fxln, few fossils, poor scattered por, chert- gry/tan Shale-gry/blk

Ls-crm/tan, fxln, few fossils, dense, poor vis por



2720  
2740  
2760  
2780  
2800  
2820  
2840  
2860  
2880  
2900  
2920

0 ROP (min/ft) 5  
0 Gamma (API) 150  
6 Cal (in) 16



A/A

Ls-tan/crrm, f-med xln, scattered iner xln por, trace dark brown stains NSFO, cherty

Ls-crm/tan, fxln, few fossils poor iner xln por, chalky, cherty

A/A

Ls-crm/tan, fxln, dense, poor vis por, few fossils Shale-gry-silty

Ls-crm/tan, fxln, fossils, dense, poor vis por

Ls-crm/tan, fxln, fossils, poor vis por, shale-A/A abundant

Ls-crm/tan, f-med xln, fossis, poor iner xln por, dark brown stains, NSFO, no odor

Ls-crm/tan/gry, fxln, fossils, poor iner xln por, trace spotty dark brown stains, NSFO chalky cherty

Black carbon shale

Ls-crm/tan, f-med, xln, ool/fossils, poor to fair iner xln to oom por, golden brown to dark brown stains, SFO, fair odor

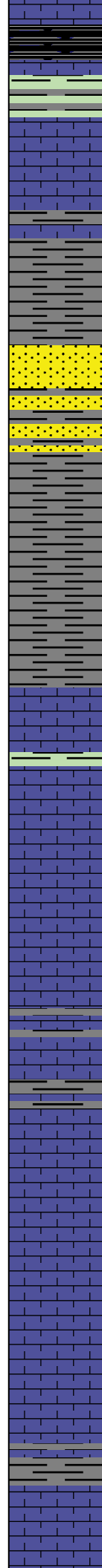
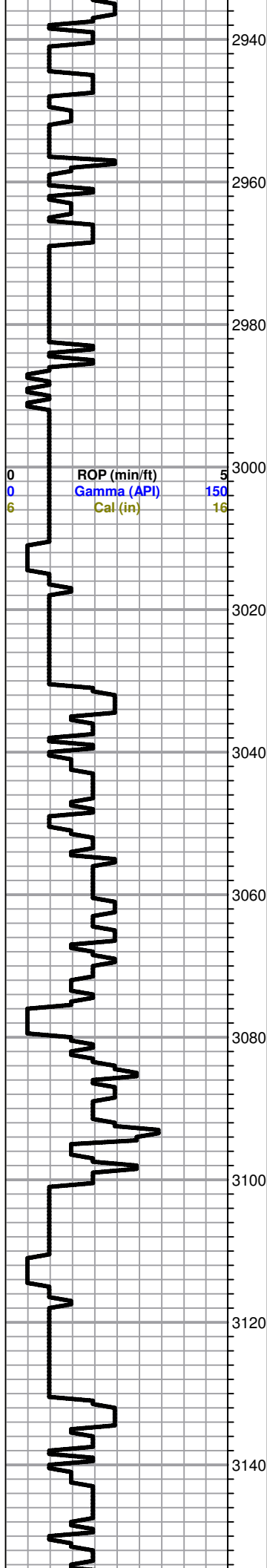
Ls-crm/tan/wht, f-med xln, ool, few fossils, poor to ppt to iner xln por, trace stains, NSFO, chalky

Ls-crm/tan, fxln, few fossils, poor vi spor, chalky, chert-gey

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

Heebner 2040.0 / 1040.0 / 1051.0

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



**Black carbon shale**

**Shale-gry/grn**

**Toronto 2954.0 (-1063.0) -1070.0**

**Ls-crm/wht, fxln, few fossils, poor vis por, slightly chalky, dense,**

**Douglas 2968.0 (-1077.0) -1081.0**

**Shale-gry/grn**

**Shale-gry/grn/brwn**

**Sand=tan/gry, vfg-fgrained, friable, poorly developed, sub round**

**A/A**

**Shale-gry/mar/grn**

**A/A**

**Brown Lime 3030.0 (-1139.0) -1142.0**

**Ls-tan/gry, fxln, few fossils, poor vis por, dense,**

**Lansing 3047.0 (-1056.0) -1059.0**

**Ls-crm/wht, fxln, ool/fossils, poor scattered ppt por, chalky,**

**Ls-crm/tan, fxln, ool/fossils, poor vis por, chalky,**

**Ls-crm/wht, fxln, ool/fossils, scattered fair oom por, trace dark brwn stains, NSFO, no odor, slightly chalky**

**Ls-crm/tan, ool, poor vis por, dense, slightly cherty Shale-gry/grn**

**Ls-crm/tan, fxln, ool, poor/fair oom por, trace golden brown stains, TrSFO, faint odor**

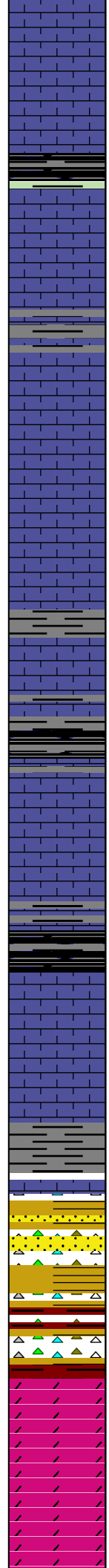
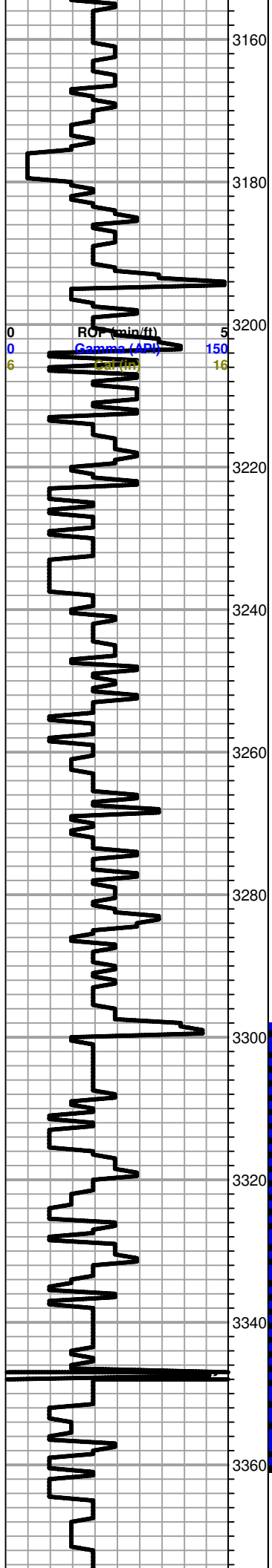
**Ls-crm/wht, fxln, ool, fair oom por, trace stains, NSFO, chalky, faint odor**

**Ls-crm/tan, fxln, ool, fair oom por, chalky, trace stains, NSFO,**

**Ls-crm/tan, fxln, ool, dene, poor vis por, Shale-gry/grn**

**Ls-crm/wt, fxln, ool, poor iner xln to iner ool por, dark brown stains, NSFO, faint odor,**

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



**Ls-crm/tan, fxln, fossils/ool, poor iner xln to scattered iner ool por, dark brown stains, NSFO, slightly chalky**

**Ls-crn/buff, fxln, fossils, dnese, cherty in part, poor vis por, shale-gry, grn**

**Ls-tan/gry/buff, fxln, dene, poor vi spor, cherty in parrt,**

**Ls-tan/buff/gry, fxln, dense, few fossils, cherty in part, scattered ppt to iner xln por, Trace brwn stains, Gas Bubbles??? TrSFO, Faint odor**

**Ls-crm/wht, fxln, fossil/ool, slightly chalky, sub oom, poor brown stns, NSFO, no odor**

**A/A**

**Ls-wht/crm, fxln, fossils, dense, poor vis por, chalky**

**SHale-gry/grn/blk**

**Ls-crm/wht, fossils, chalky, poor vis por, scatt dark brwn stains, NSFO, no odor, Chert-tan/gry**

**A/A Shale-gry/blk**

**Ls-gry/wht, fxln, dense, few fossils/ool, por vi spor, shale- Gry/red/mar**

**BKC 3307.0 (-1416.0) -1421.0**

**Shale-gry/mar/grn**

**Chert-tan/gry/crm**

**Sand-wht/grn, sub round, friable, no vis shows,**

**A/A**

**Arbuckle 3350.0 (-1459.0) -1459.0**

**Dol-wht/crm, f-med, xln, few rhomb xln, poor iner xln por with scattered vug por, golden brown stains, SFO, good odor,**

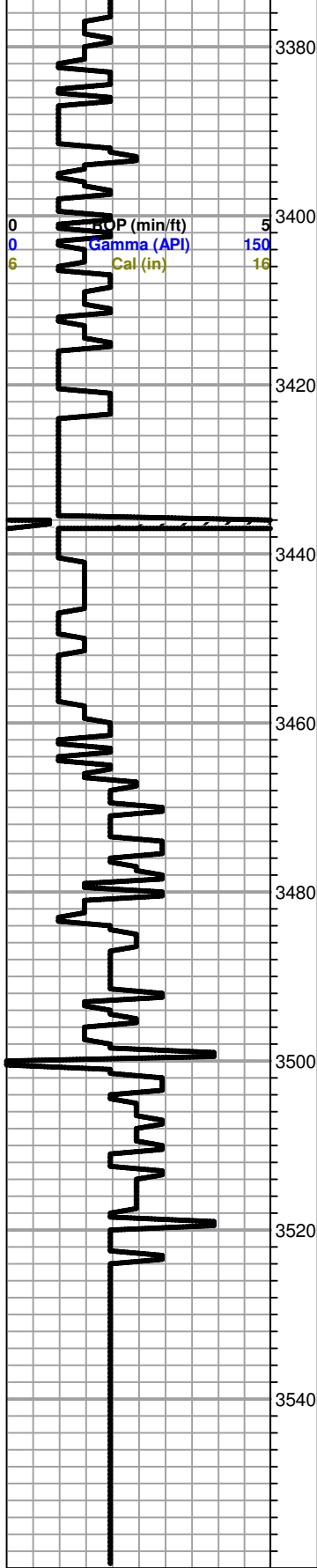
**Dol-wht/crm, f-med xln, few rhomb xln, poor iner xln with sscattered finely vug por, golden brown stains, Fair SFO, faint odor,**

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

**DST #1 3298-3361**  
**30-45-45-45**  
**IF: Built to 4 1/4"**  
**ISI: No Return**

**Recovery:**  
**60' Clean oil**  
**5' OCM**  
**(10%O 90%M)**

**Pressures:**  
**ISIP 717 psi**  
**FSIP 560 psi**  
**IFP 23-32 psi**  
**FFP 33-42 psi**  
**HSH 1672-1619 psi**



Dol-crm/tan, fxln, f-med rhomb xln, poor to fair inner xln por, finely vug por, dark brown stains, TrSFO, fair odor, chert-tan/crm

Dol-crm/wht, f-med xln, fair inner xln por, golden to dark brwn stains, TrSFO, fair odor

Dol-crm/tan, f-med xln, few rhomb, dense, poor to fair inner xln por, scattered dark brown stains, broken open TrSFO, faint odor

Dol-wht/crm/tan, f-med xln, dense, poor inner xln por, chalky, chert, few pyrite, scattered dark brown stains, TrSFO, faint odor

Dol-crm/tan, f-med xln, dense, poor inner xln por, trace dark brown stains, NSFO, no odor, chert-boney wht/crm

Dol-crm/tan, f-med xln, dense, poor inner xln por, no vis shows, chert- A/A, pyrite abundant

A/A Chert-tan/crm

Dol-tan/buff, fxln, dense, poor vis por, chert-tan/crm, pyrite

Dol-tan/buff, f-med xln, poor inner xln por, dense, chert-& pyrite A/A

Dol-tan/buff-f xln, poor inner xln por, chert- and pyrite A/A

A/A

**TD 3525.0 (-1634.0) -1624.0**

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