



# Musgrove

Petroleum Geology  
212 Main Street, Claflin KS

### Geologist's Report

Company: RJM Company, Inc. / Robl Six

Lease: Hammeke #2

Field: Cheyenne View Southeast

Surface Location: NW-SW-NW-SE (1750' FSL & 2750' FWL)

Sec: 13 Twp: 19S Rge: 12W

County: Barton State: Kansas

GL: 1803' KB: 1812'

Contractor: Southwind Drilling Rig #2

Spud: 12/1/14 Comp: 12/8/14

RTD: 3675' LTD: 3675'

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: 2800' to RTD

Geologist on Well: Kurt Talbott

Surface Casing: 8 5/8"@ 361'

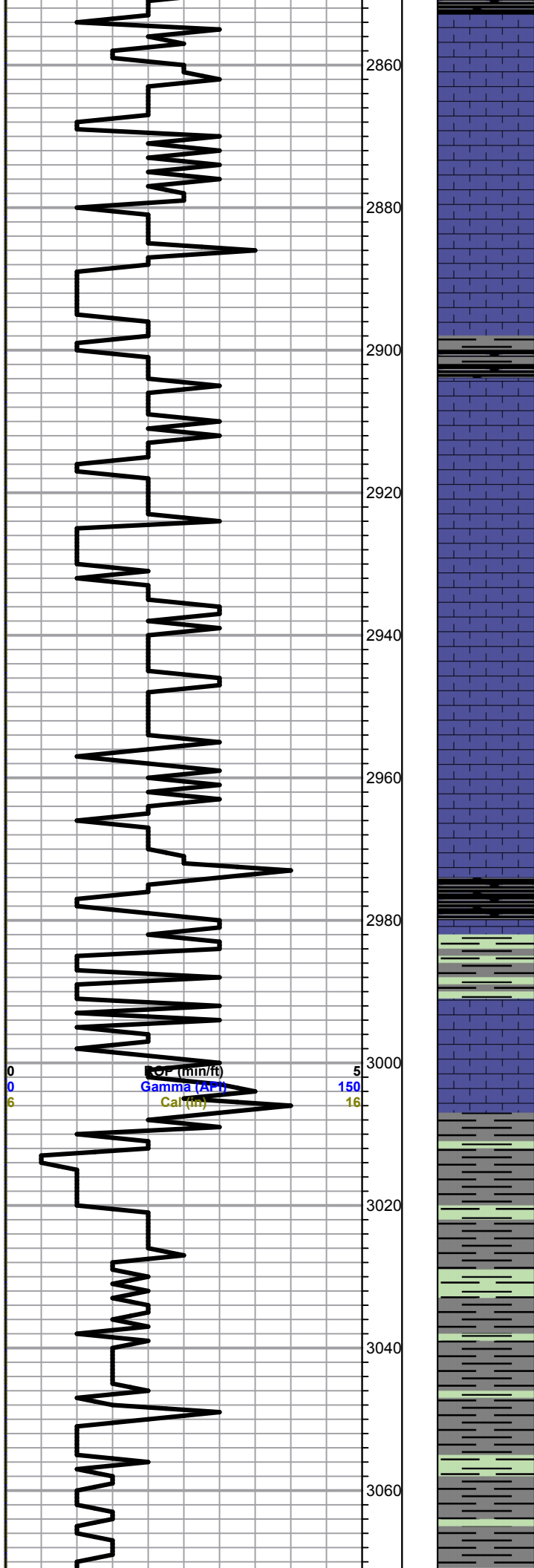
Production Casing: 5 1/2" @ 3463'

Wireline Logs: None

### Well Comparison

FORMATION	WELL BEING DRILLED RJM HAMMEKE #2 1812 KB		OFFSET RJM HAMMEKE #1 1824 KB	
	MD	LD SS	LD	SS
ANHYDRITE			631	1193
BASE ANHYDRITE			658	1166
HEEBNER	2975	-1163	2975	-1151
TORONTO	2992	-1180	2995	-1171
DOUGLAS	3008	-1196	3011	-1187
BROWN LIME	3090	-1278	3093	-1201
LANSING	3106	-1294	3108	-1269





Trace black carbon shale

Ls-crm/lt gry, fxln, fossils/ool, poor vis por, slightly chalky

A/A

Ls-crm/lt gry/wht, fxln, fossils, granular in part, scattered iner xln por, chalky

Shale-gry/blk

Ls-wht/crm, fxln, few fossil,s scattered iner ool to oom por, chalky

Ls-crm/wht/lt gry, fxln, fossils/ool, fair iner ool to oom por, cherty

Ls-lt gry/crm, fxln, ool/fossils, poor scattered por, chert-gry/tan

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

**Heebner 2975.0 (-1163.0)**  
Black carbon shale

**Toronto 2992.0 (-1180.0)**  
Ls-wht/crm/lt gry, fxln, fossils, dense, cherty in part, poor vis por,

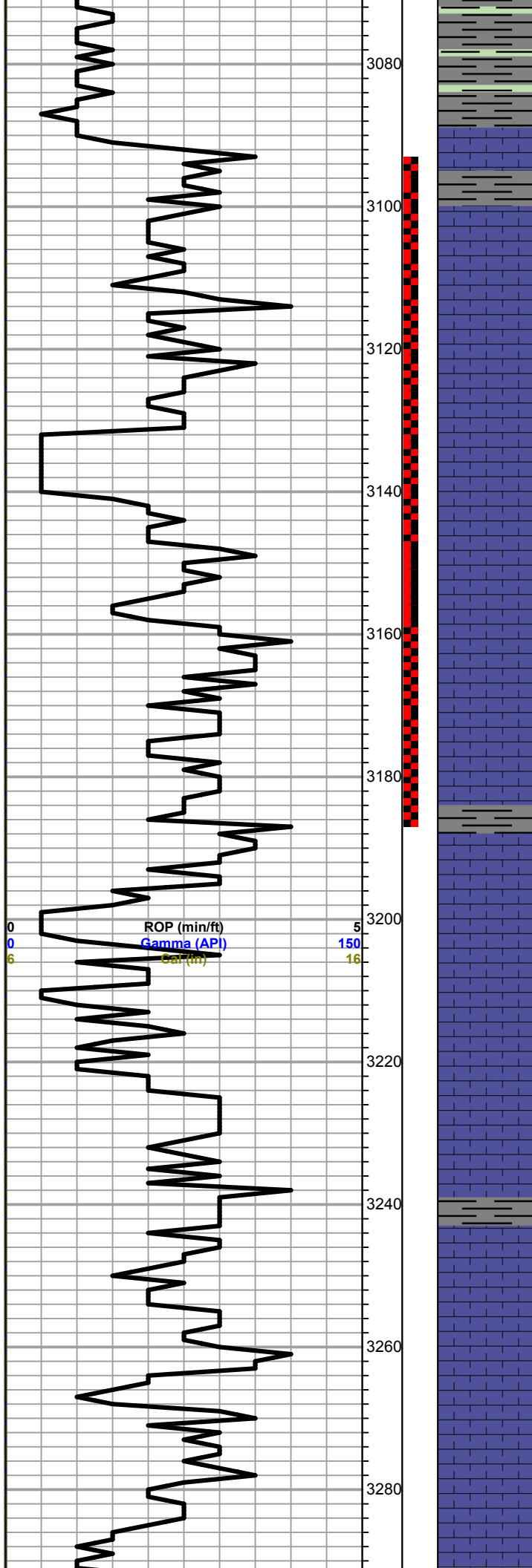
**Douglas 3008.0 (-1196.0)**

Shale-gry/grn-soft-mica

Trace sand-very fine grained, poor vis por, friable, mica,

Shale-gry/grn- soft

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



A/A

**Brown Lime 3090.0 (-1278.0)**

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

**Lansing 3106.0 (-1294.0)**

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

Ls-wht/crm, fxln, ool, good oom por, dark brown stains, Trace to Fair SFO, fair odor, slightly chalky

Ls-crm/tan, fxln, ool, poor inner ool to sub oom por, trace dark brown stains, TrSFO, faint odor, chalky

Ls-crm/lt gry, fxln, ool, fair sub oom to oom por, trace stains, TrSFO, fair odor,

Ls-crm/wht, fxln, ool, fair ppt to inner xln por, trace stains, TrSFO, faint to fair odor

Shale-gry/blk

Ls-crm/lt gry, fxln, ool, oom por, trace stains, Weak SFO, no odor, chalky

Ls-crm/tan, good oom por, barren, chalky in part

Ls-gry/tan, fxln, ool, fair oom por, poor spotty stains, NSFO, chalky  
 Shale-gry/blk

Ls-gry/tan, fxln, slightly ool, scattered sub oom to oom por, no vis shows, chalky chert-boney wht/gry

Ls-crm/tan, fxln, fossils/ool, scattered inner ool to fair oom por, no vis shows, chalky

Ls-crm/tan, ool, good oom por, spotty stains, NSFO, chalky

DST #1 3093-3185  
 10-30-20-30  
 HF: Blow died in 2 min

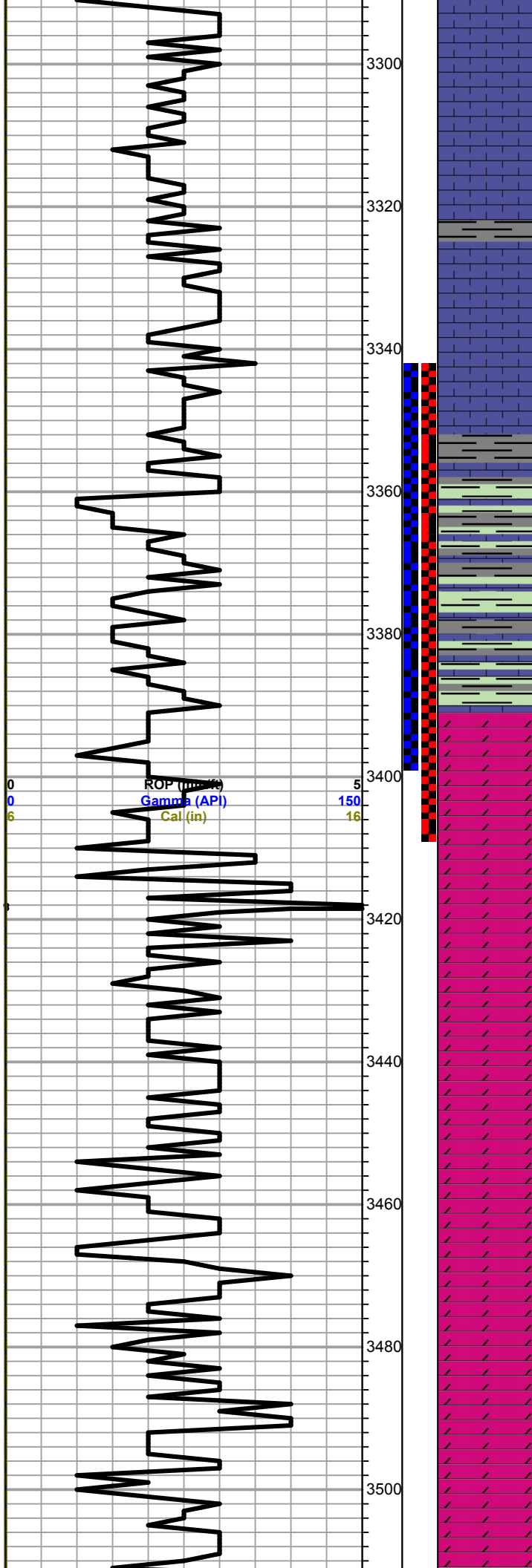
Recovery:  
 156' Mud

Pressures:  
 ISIP 691 psi  
 FSIP 628 psi  
 IEP 122 psi  
 FFP 124-132 psi  
 HSH 1497-1500 psi

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

DST #2 3342-3398  
 30-30-30-30  
 IF: Died in 9 min

Recovery:



Ls-gry/tan, fxln, ool/few fossils, poor scattered iner xln por, cherty in part, slightly chalky

Ls-gry/tan, fxln, ool, poor vis por, chalky, Shale-gry

Ls-crm/lt gry, fxln, dense, cherty in part, poor vis por

Ls-crm/lt gry, fxln, ool, scattered sub oom por, trace black stains, NSFO chalky, Shale-gry/blk,

Shale-brown/maroon/green

Ls-tan, ool, oom por, no vis shows, cherty in part

Shale-gry/soft, white ool chert

**Arbuckle 3391.0 (-1579.0)**

Dol-tan/crm, fxln, sucrosic, scattered iner xln and oom por, golden to dark brown stains, broken open Fair SFO, good odor

Dol-crm/tan, fxln, sucrosic, poor iner xln por, dark brown stains, TrSFO, faint odor, chert-boney wht

Dol-crm/tan, sucrosic, fine to few med rhomb xln, Trace Stains, NSFO, cherty in part, pyritic in part,

Dol-tan/buff, f-med rhomb xln, poor to fair iner xln por, no vis shows, faint odor, chert-boney wht/crm

Dol-tan/buff, fxln, dense, poor vis por, cherty in part

Dol-wht/lt gry, fxln, poor iner xln por, cherty in part

Dol-wht/lt gry, fine to med rhomb xln, poor to fair iner xln por, slightly chalky

Dol-tan/buff, fine to med xln, few rhomb

Recovery:  
7' mud  
ISIP 113 psi  
FSIP 195 psi  
IFP 32-34 psi  
FFP 43-36 psi  
HSH 1612-1606 psi

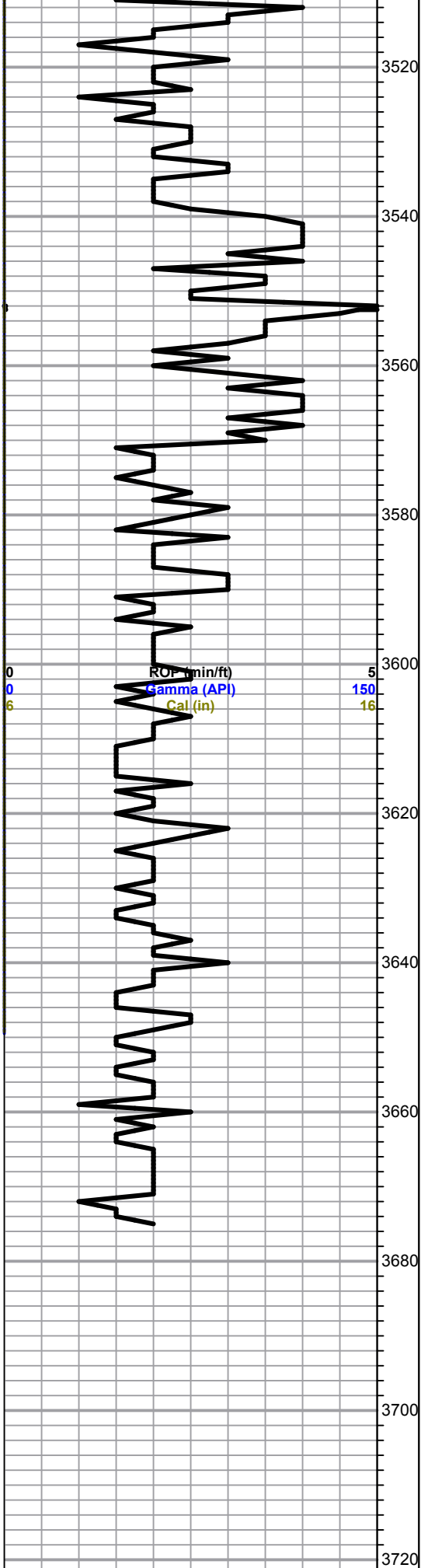
DST #3 3343-3407  
30-30-30-30  
HF: Built to 1"

Recovery:  
20' OCM  
(25% oil 75% mud)

Pressures:  
ISIP 504 psi  
FSIP 465 psi  
IFP 33-34 psi  
FFP 36 psi  
HSH 1614-1606 psi

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

**Robl Six, took over well after DST #3 to convert to SWDW**



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

xln, poor to fair iner xln to finely vug por,

Dol-A/A fair vuggy por

Dol-crm/buff, dense, scattered iner xln por, black stains, NSFO, cherty in part

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

Dol-wht/lt gry, fxln, poor iner xln por,

Dol-wht/lt gry, fine to med rhomb xln, poor to fair iner xln por, chalky, glauconitic in part

Dol-tan/gry, f-med xln, fair iner xln por, chalky, cherty

Dol-A/A

Dol-wht/lt gry, fine to med rhomb xln, poor iner xln to vuggy por, chalky, cherty

Dol-wht, fine to med rhomb xln, fair iner xln to vug por, chalky

**Total Depth 3675.0 (-1863.0)**

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

