



# Musgrove

## Geologist's Report

**Company:** American Warrior Inc.

**Lease:** Hoelscher #4-10

**Field:** Unknown

**Location:** SE-NW-SW-NE (1800 FNL & 2150 FEL)

**Sec:** 10 **Twsp:** 18S **Rge:** 10W

**County:** Rice **State:** Kansas

**GL:** 1799' **KB:** 1807'

**Contractor:** Duke Drilling Rig #8

**Spud:** 11/07/14 **Comp:** 11/12/14

**RTD:** 3400' **LTD:** 3399'

**Mud Up:** 2600' **Type Mud:** Chemical/Displaced

**Samples Saved From:** 2700' to RTD

**Drilling Time Kept From:** 2800' to RTD

**Samples Examined From:** 2800' to RTD

**Geological Supervision From:** 2800' to RTD

**Geologist on Well:** Clint Musgrove

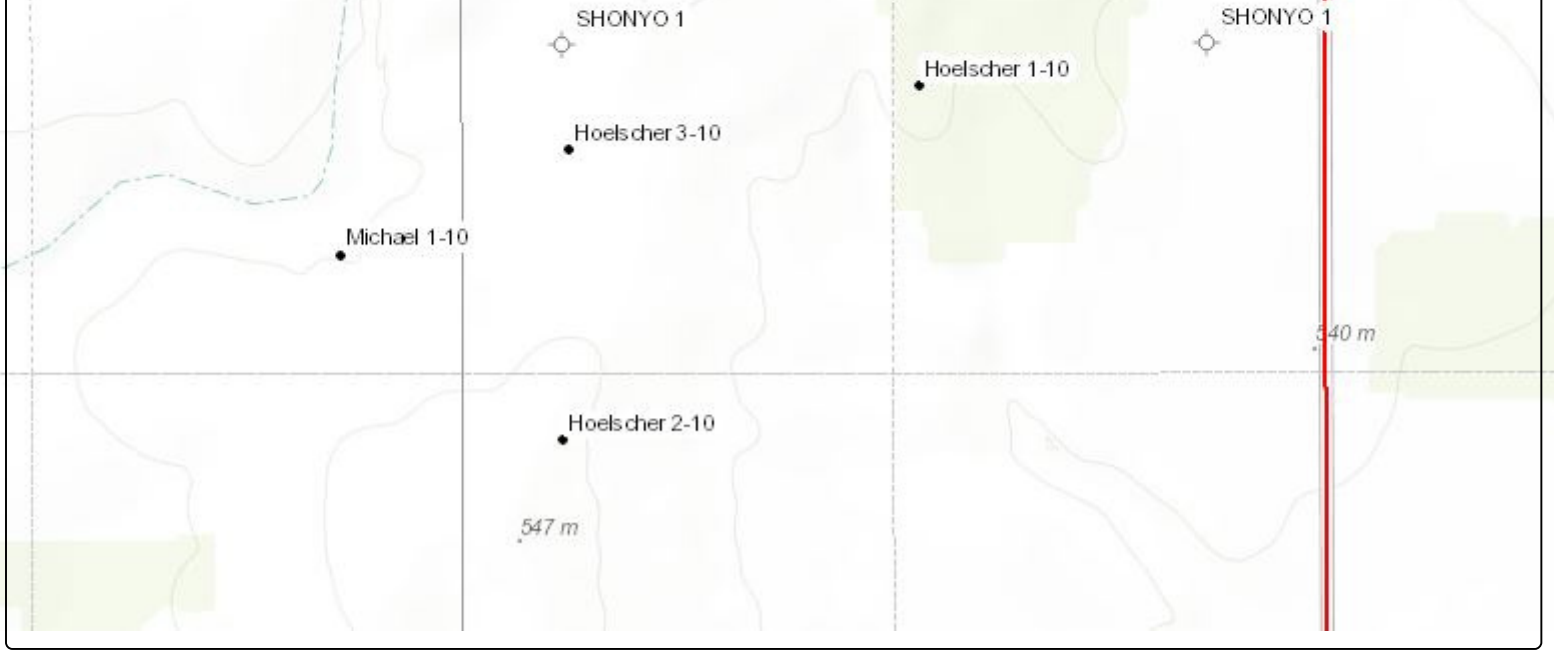
**Surface Casing:** 8 5/8" @ 472'

**Production:** 5 1/2 @ 3398'

**Logs:** By Pioneer: CNL/CDL, DIL, & MEL

Map

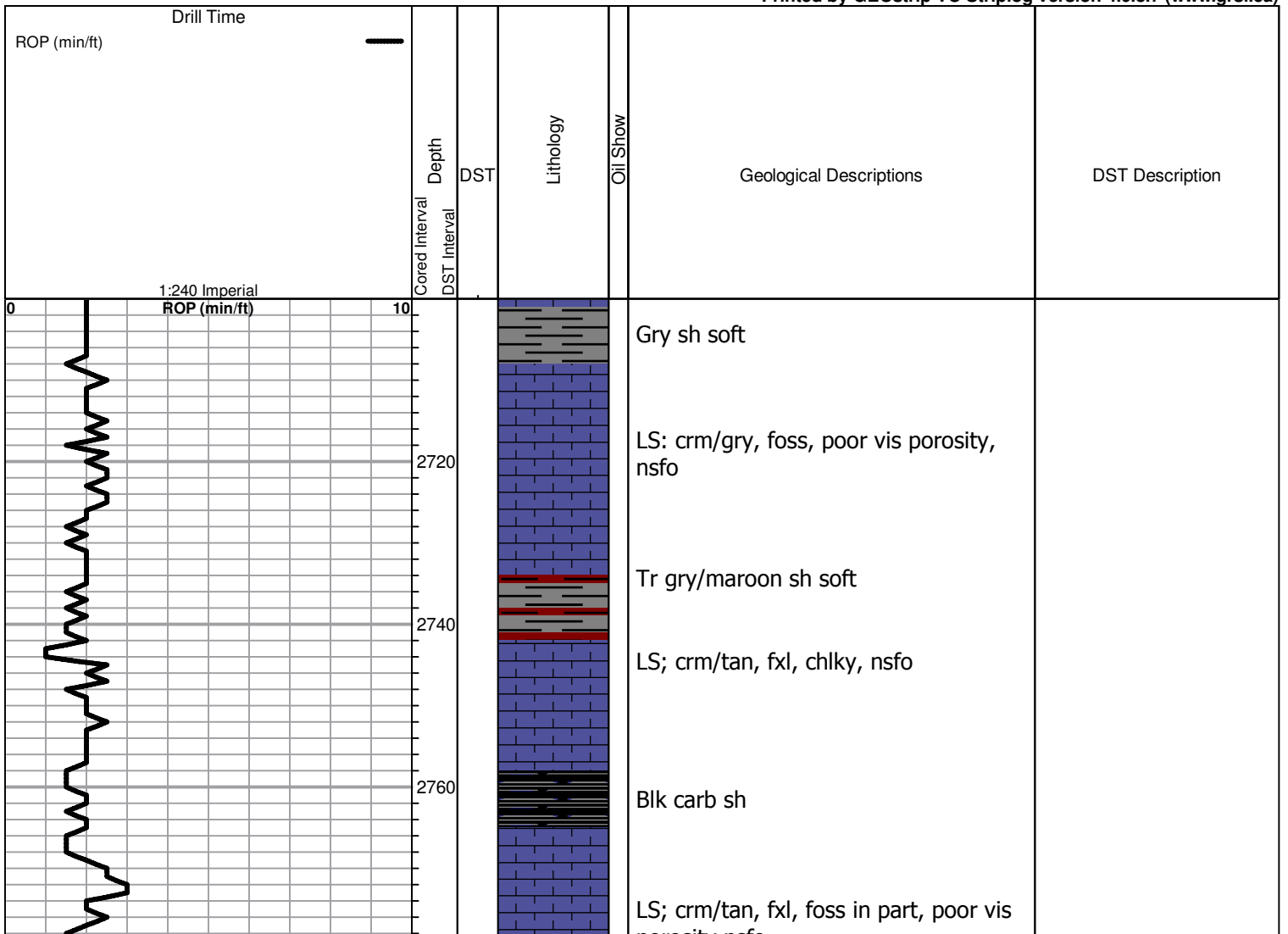


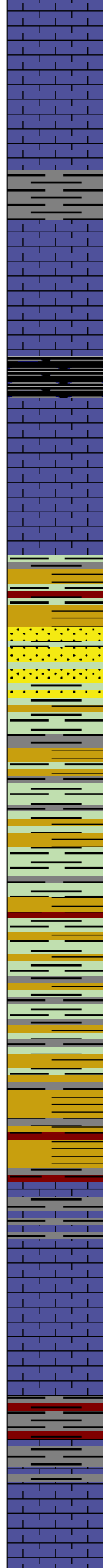
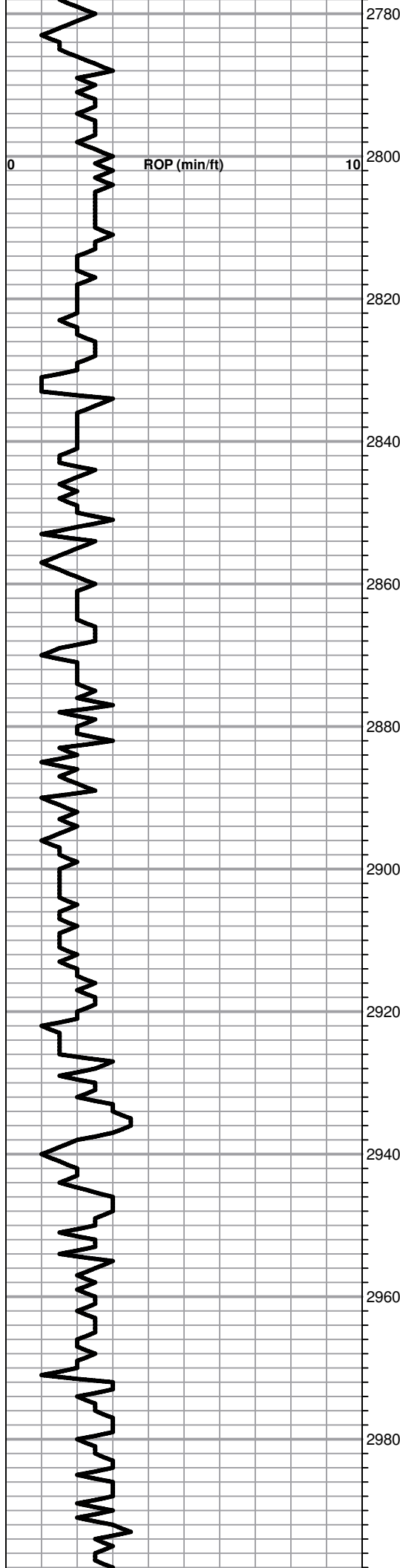


ROCK TYPES									
	Chtcongl		Lmst fw<7		shale, gry		shale, red		Ss
	Dolprim		shale, grn		Carbon Sh		Shcol		

OTHER SYMBOLS	
<b>DST</b>	
	DST Int
	DST alt

Printed by GEOstrip VC Striplog version 4.0.8.7 (www.grsi.ca)





porosity nsfo

LS; crm/tan, fxl, ool, foss, poor vis porosity, nsfo

Gry sh soft

**Heebner**  
 Sample 2828.0 (-1021.0)  
 Log 2830.0 (-1023.0)

Blk carb sh

**Toronto**  
 Sample 2844.0 (-1037.0)  
 Log 2846.0 (-1039.0)

LS; crm/tan, fxl, foss, cherty, poor vis porosity

**Douglas**  
 Sample 3860.0 (-1053.0)  
 Log 2859.0 (-1052.0)

Sh, gry, silty + mica

AA + tr sd

Sh gry, greenish + mica well sorted, nsfo, no odor

Sh- gry/grn, silty + mica

AA + gry/ maroon sh

AA

**Brown Lime**  
 Sample 2946.0 (-1139.0)  
 Log 2946.0 (-1139.0)

LS; tan/brn, fxl, chlky, poor vis porosity

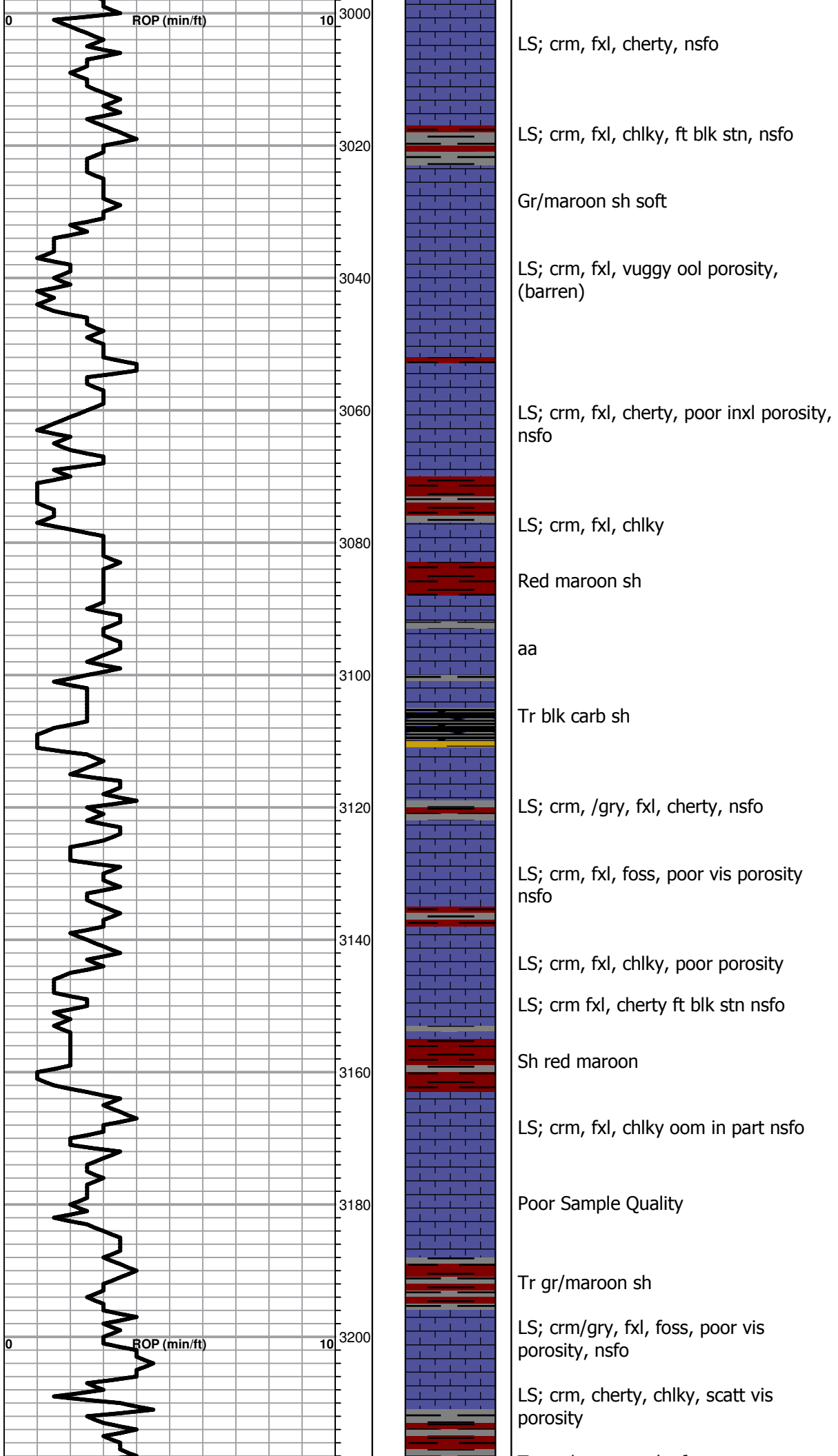
**Lansing**  
 Sample 2865.0 (-1158.0)  
 Log 2962.0 (-1155.0)

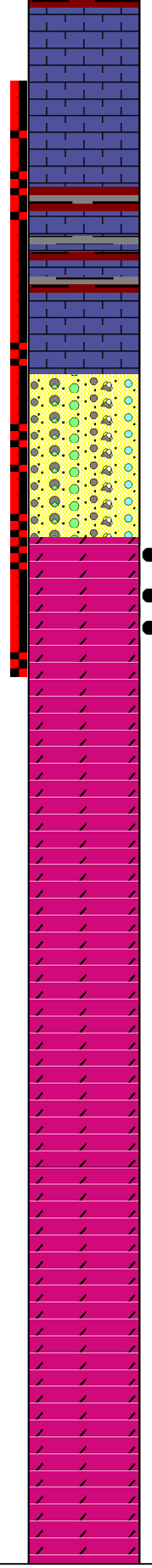
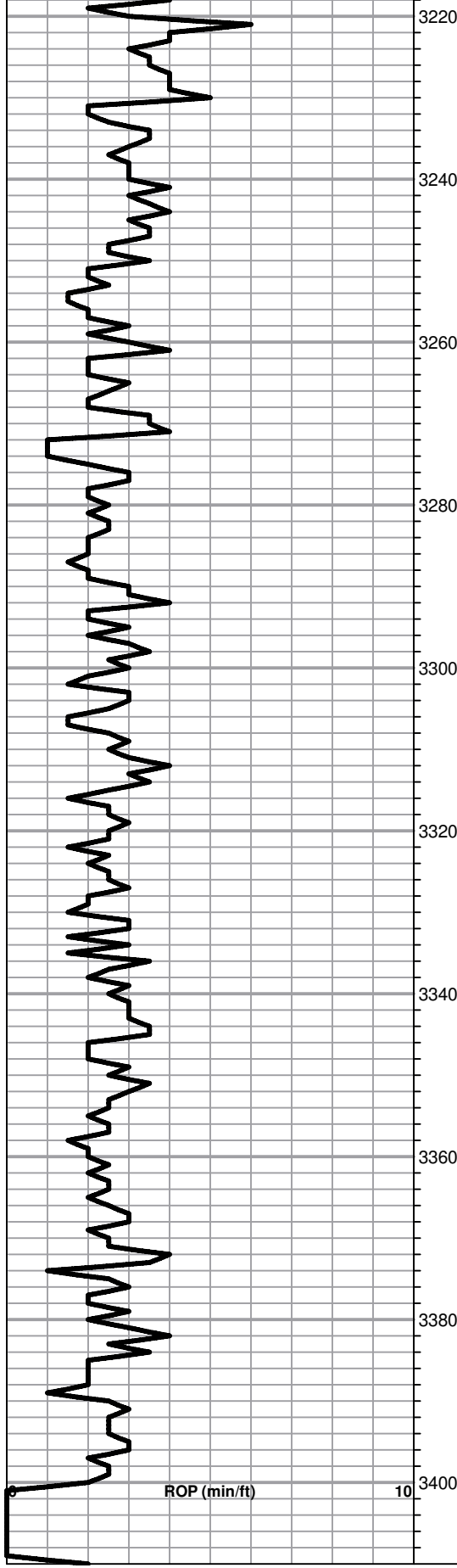
LS; crm, fxl, ft blk stn nsfo

LS; crm, fxl + tr gry sh

LS; crm, fxl, poor vis porosity, nsfo

- 1807 KB -





Tr gry/ maroon sh sfot

LS; crm, fxl, cherty, poor vis porosity, nsfo

**BKC**  
**Sample 3251.0 (-1444.0)**  
**Log 3252.0 (-1445.0)**

LS; crm/gry, vfg cherty, poor vis porosity

**Cong**  
**Sample 3266.0 (-1459.0)**  
**Log 3266.0 (-1459.0)**

VC chert + LS crm, chlky

**Arbuckle**  
**Sample 3288.0 (-1481.0)**  
**Log 3289.0 (-1482.0)**

Dol: tan/crm succ in part, poor iner xln porosity, ft brn stn, sfo, very ft odor

Dol: tan, fxl, poor iner xln porosity, ft brn stn, sfo, no odor

AA + ft odor

Dol; wh/tan, fxl, poor vis porosty, nsfo no odor

aa no odor nsfo

Dol: wh/tan, f-med xln, no odor, nsfo

aa

Dol; wh/gry, fxl, dense, med-xln, no odor, nsfo

**RTD**  
**Sample 3400.0 (-1593.0)**  
**Log 3399.0 (-1592.0)**

**DST #1 3228-3300**  
**30-30-45-60**

**Initial Opening:**  
 Strong BOB 3 mins  
 2nd Opening:  
 Strong BOB 6 min

**Recovery:**  
 654' Clean Oil  
 189' HOCM ( 50%O,  
 50%M)

**Pressures:**  
 ISIP: 704 psi  
 FSIP: 541 psi  
 IFP: 71-271 psi  
 FFP: 220-309 psi  
 HSH: 1604-1566 psi