



**Musgrove**

**PETROLEUM CORPORATION**  
Clafin, Kansas

## GEOLOGIST'S REPORT

### DRILLING TIME AND SAMPLE LOG

COMPANY Richlan Drilling

LEASE Mike #1

FIELD Farmer North

LOCATION 990' FNL & 1320' FEL

SEC 18 TWSP 18S RGE 9W

COUNTY Rice STATE Kansas

**ELEVATIONS**

KB 1742'

DF                     

GL 1737'

Measurements Are All  
From KB

CONTRACTOR WW Drilling Co. (Rig #4)

SPUD 08/29/2018 COMP 09/03/2018

RTD 3292' LTD 3293'

MUD UP 2500' TYPE MUD Chemical

**CASING**

SURFACE 8 5/8" @ 315'

PRODUCTION 5 1/2" @ 3292'

**ELECTRICAL SURVEYS**

ELI; DIL, MEL,  
CDL/CNL

SAMPLES SAVED FROM 2600' TO RTD

DRILLING TIME KEPT FROM 2600' TO RTD

SAMPLES EXAMINED FROM 2600' TO RTD

GEOLOGICAL SUPERVISION FROM 2700' TO RTD






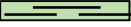


GEOLOGIST ON WELL Jim Musgrove

FORMATION TOPS	LOG	<del>SAMPLES</del>
Anhydrite	446 (+1296)	RTD 3292 (-1550)
B. Anhydrite	461 (+1281)	LTD 3293 (-1551)
Heebner	2748 (-1006)	
Toronto	2769 (-1027)	
Douglas	2778 (-1036)	
Brown Lime	2866 (-1121)	
Lansing	2891 (-1149)	

	18		X

Base Kansas City	3181	(-1439)			
Conglomerate	3195	(-1453)			
Arbuckle	3214	(-1472)			

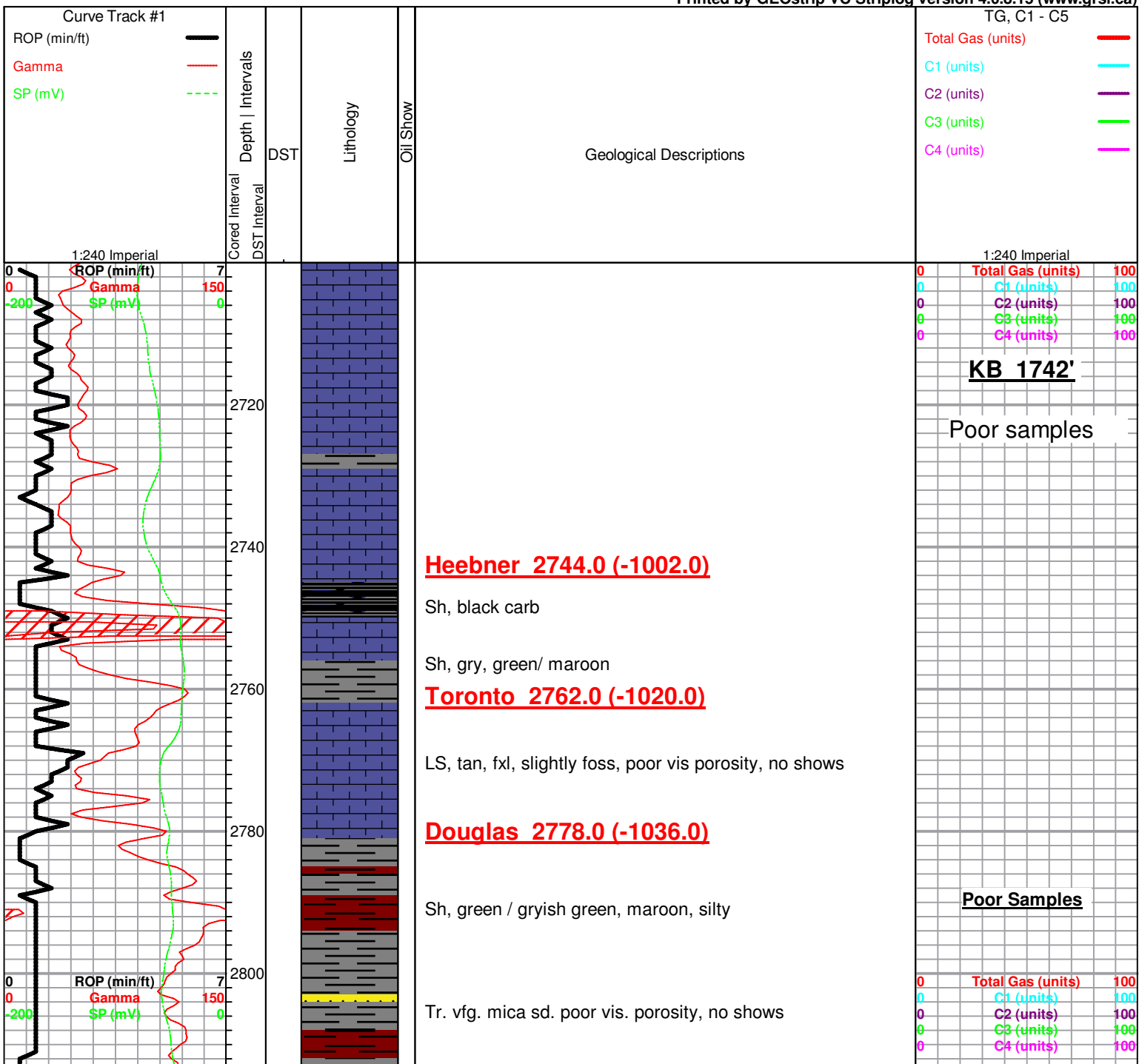
**ROCK TYPES**

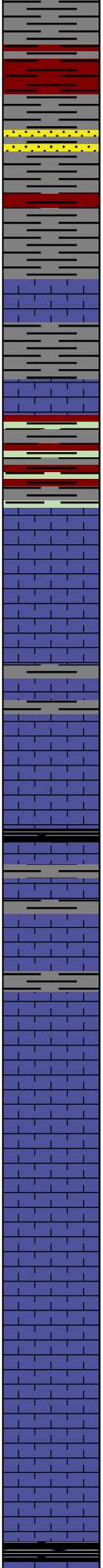
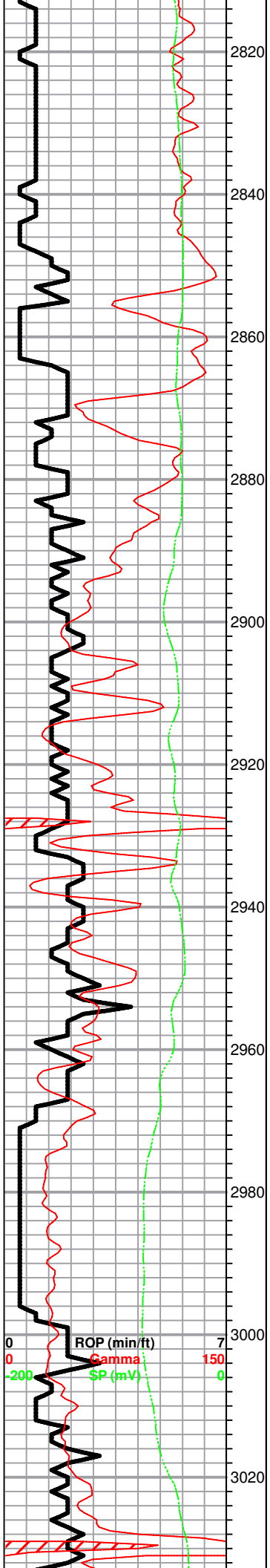
 Chtcongl	 Lmst fw<7	 shale, gry	 shale, red
 Dolprim	 shale, grn	 Carbon Sh	 Ss

**OTHER SYMBOLS**

<b>Oil Show</b>	<b>DST</b>
● Good Show	■ DST Int
● Fair Show	■ DST alt
● Poor Show	■ Core
○ Spotted or Trace	■ tail pipe
○ Questionable Stn	
D Dead Oil Stn	
■ Fluorescence	
* Gas	

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Sh, / Sd. a/a

LS, white, fxl, chalky, poor vis. porosity

**Brown Lime 2865.0 (-1123.0)**

LS, tan, fxl, slightly cherty, no shows

Sh, gryish green silty

**Lansing 2885.0 (-1143.0)**

LS, white, tan, fxl, few foss, poor vis. porosity, no shows

LS, tan, brown, gry, fxl, sightly cherty (dense)

Sh, gry/ greenish, tr. black carb Sh.  
+ tr. gry boney chert

LS, gry, white, foss, few sub oom, chalky, (poorly developed porosity)

LS, a/a

LS, tan, oom, poorly developed oom porosity, (barren)

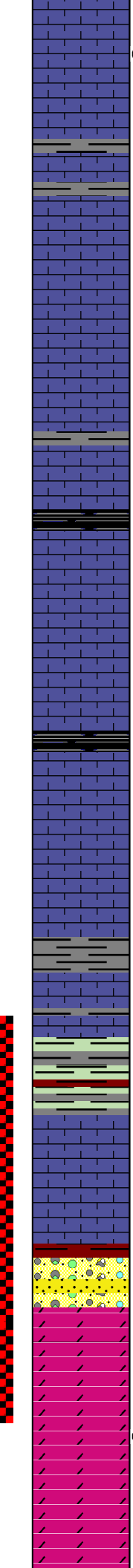
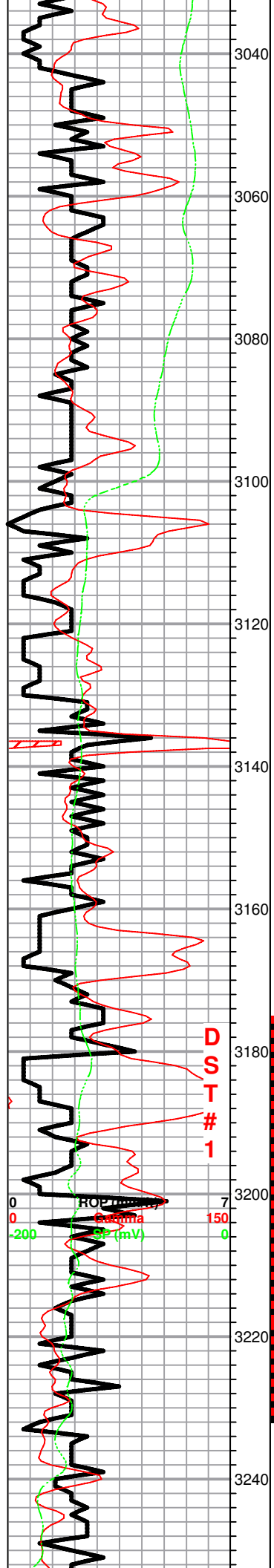
LS, a/a

LS, tan, white, sub oom, no shows

LS, tan, oom

Sh, black carb, sh.

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



3040 ○ LS, tan, oom, scattered oom porosity, tr. golden brown tr. fo, ft. odor  
 3060 LS, tan, gry, fxl, slightly cherty, dense  
 3080 a/a  
 3100 LS, white, gry, ool, poor visl porosity, no shows  
 3120 Sh, black carb  
 3140 LS, gry, white, ool, scattered porosity, ditto  
 3160 Sh, black carb  
 3180 LS, white, gry, fxl, ool, chalky no shows  
 3200 Sh, gry gryish green, maroon  
 3220 LS, gry, white, chalky, dense  
 3240 **BKC 3177.0 (-1435.0)**  
 Sh, gry, green, maroon, - brick red  
 LS, white/ gry, few foss , chalky, --> dense  
 Sh, maroon brick red sh.  
 tr. sd. white, qtz, sub rounded friable . no shows  
**Arbuckle 3216.0 (-1474.0)**  
 one (1) piece dol. white, cream, fxl, suc. poor vis. porosity  
 Dol. white/ cream, suc. scattered porosity, tr. brn stain, sfo, ft. odor  
 Dol. white, gry, fxl, poor vis. porosity, slightly chert, no shows

**Poor Samples**

**DST#1 3175-3232**  
**45-30-30-60**

**1st Open:**  
1/4" blow inc. to 4" in 4.5 mins.

**2nd Open:**  
Weak Surface blow inc. to 5" in 60 min.

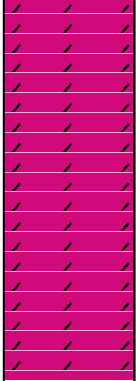
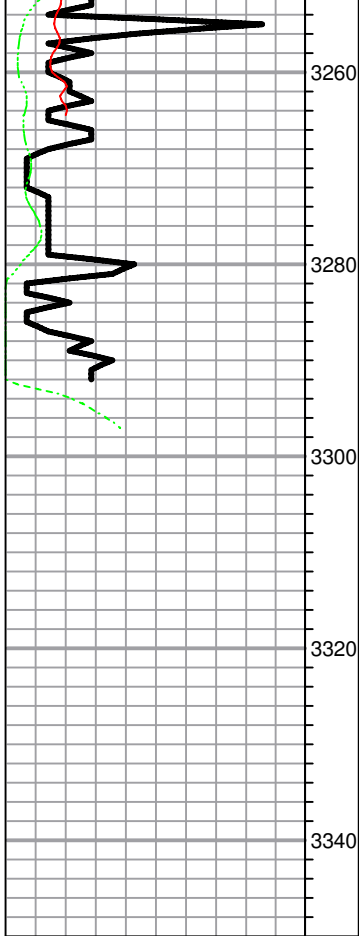
**Recovery:**  
65' Clean Oil

60' OCM  
(23%O, 77 %M)

**Pressures:**  
ISIP 943 psi  
FSIP 1013 psi  
IFP 14-37 psi  
FFP 40-60 psi  
HSH 1528-1518 psi

**DST # 1**

0  
 0  
 -200  
 HOP  
 Gamma  
 SP (mV)



Dol. a/a no shows tr. pyrite

Dol. a/a no shows, + white chert

**RTD 3292.0 (-1550.0)**

**LTD 3293.0 (-1551.0)**

**\* Poor samples throughout well**