

Well Name: Watts Ranch #1  
 Surface Location: Sec. 15 - T34S - R12W  
 Bottom Location:  
     API: 15-007-24359-00-00  
 License Number: 35679  
 Spud Date: 9/24/2019 Time: 12:00 AM  
     Region: Mid Continent  
 Drilling Completed: 10/2/2019 Time: 12:00 AM  
 Surface Coordinates: 35' FSL & 480' FWL  
 Bottom Hole Coordinates:  
     Ground Elevation: 1434.00ft  
     K.B. Elevation: 1447.00ft  
     Logged Interval: 2600.00ft To: 5470.00ft  
     Total Depth: 5470.00ft  
     Formation: Misner  
 Drilling Fluid Type: Chemical/Fresh Water Gel

**OPERATOR**

Company: Sapphire Resources, LLC  
 Address: 45 E. Loucks Street - Suite 209  
     P. O. Box 6690  
     Sheridan, WY 82801  
 Contact Geologist: Rick Briscoe  
 Contact Phone Nbr: 307-752-7630  
 Well Name: Watts Ranch #1  
 Location: Sec. 15 - T34S - R12W  
     API: 15-007-24359-00-00  
     Pool: Barber County Field: wildcat  
     State: Kansas Country: USA

**CONTRACTOR**

Contractor: Duke Drilling Company  
 Rig #: 7  
 Rig Type: mud rotary  
 Spud Date: 9/24/2019 Time: 12:00 AM  
 TD Date: 10/2/2019 Time: 12:00 AM  
 Rig Release: 10/3/2019 Time: 9:30 PM

**LOGGED BY**

## Ard Consulting Services Bruce B. Ard

6000 10th Street  
Great Bend, KS 67530

Company: A.C.S. - Ard Consulting Services  
 Address: 6000 10th Street  
     Great Bend, KS  
     67530  
 Phone Nbr: 620-357-1849  
 Logged By: Geologist Name: Bruce B. Ard - KPG # 220

**TOTAL DEPTH**

Measurement Type:	Measurement Depth:	TVD:
	0.00	0.00

**SURFACE CO-ORDINATES**

Well Type: Vertical  
 Longitude:  
 Latitude:  
 N/S Co-ord: 35' FSL  
 E/W Co-ord: 480' FWL

**ELEVATIONS**

K.B. Elevation: 1447.00ft  
 K.B. to Ground: 13.00ft

Ground Elevation: 1434.00ft

**NOTES**

After review of the Open Hole Logs, DST Results and Geological Log, it was recommended and agreed upon by all interested parties to cease drilling of the Watts Ranch #1 test well to plug and abandon as a dry hole.

The drilling samples were requested by the Kansas Geological Survey, located in Wichita, Ks. where they will be delivered, processed, and deposited.

Respectfully Submitted, Bruce B. Ard - KPG #220

# Sapphire Resources, LLC

## WELL COMPARISON SHEET

DRILLING WELL					COMPARISON WELL			
Watts Ranch #1					Lawrence #1			
35' FSL & 480' FWL					1570' FSL & 1320' FWL			
Sec. 15 - T34S - R12W					Sec. 15 - T34S - R12W		Structural Relationship	
1447 KB					1426 KB			
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log
Kanawaka	3548	-2101	3550	-2103	3517	-2091	-10	-12
Elgin	3577	-2130	3579	-2132	3550	-2124	-6	-8
Heebner	3780	-2333	3777	-2330	3749	-2323	-10	-7
Br. Lime	3971	-2524	3969	-2522	3941	-2515	-9	-7
Lansing	3978	-2531	3976	-2529	3946	-2520	-11	-9
Stark	4440	-2993	4443	-2996	4411	-2985	-8	-11
Hushpuckney	4465	-3018	4470	-3023	4438	-3012	-6	-11
BKC	4518	-3071	4519	-3072	4486	-3060	-11	-12
Marmaton	4528	-3081	4534	-3087	4501	-3075	-6	-12
Cherokee	4646	-3199	4646	-3199	4617	-3191	-8	-8
Mississippian	4658	-3211	4658	-3211	4630	-3204	-7	-7
Kinderhook	4964	-3517	4948	-3501	4918	-3492	-25	-9
Woodford	5028	-3581	5018	-3571	4991	-3565	-16	-6
Milner	5062	-3615	5058	-3611	5027	-3601	-14	-10
Viola	5085	-3638	5083	-3636	5051	-3625	-13	-11
Simpson Sh	5175	-3728	5176	-3729	5143	-3717	-11	-12
1st sand	5190	-3743	5196	-3749	5164	-3738	-5	-11
2nd sand	5319	-3872	5318	-3871	5285	-3859	-13	-12
Arbuckle	5360	-3913	5360	-3913	5329	-3903	-10	-10
Total Depth	5470	-4023	5471	-4024	5374	-3948		

**ROCK TYPES**

Cht vari	Dolsec	shale, gm	Carbon Sh	Ss
Dolprim	Lmst fw>	shale, gry	Shcol	

**ACCESSORIES**

**MINERAL**

- ⊥ Calcareous
- ▲ Chert, dark
- ⌋ Dolomitic
- ∩ Glauconite
- P Pyrite
- Sandy
- Silty
- △ Chert White
- Mc Mica
- Argillaceous/Shale

**FOSSIL**

- F Fossils < 20%
- ⊕ Oomoldic

**STRINGER**

- Limestone
- Sandstone
- Siltstone
- Shale
- green shale
- red shale

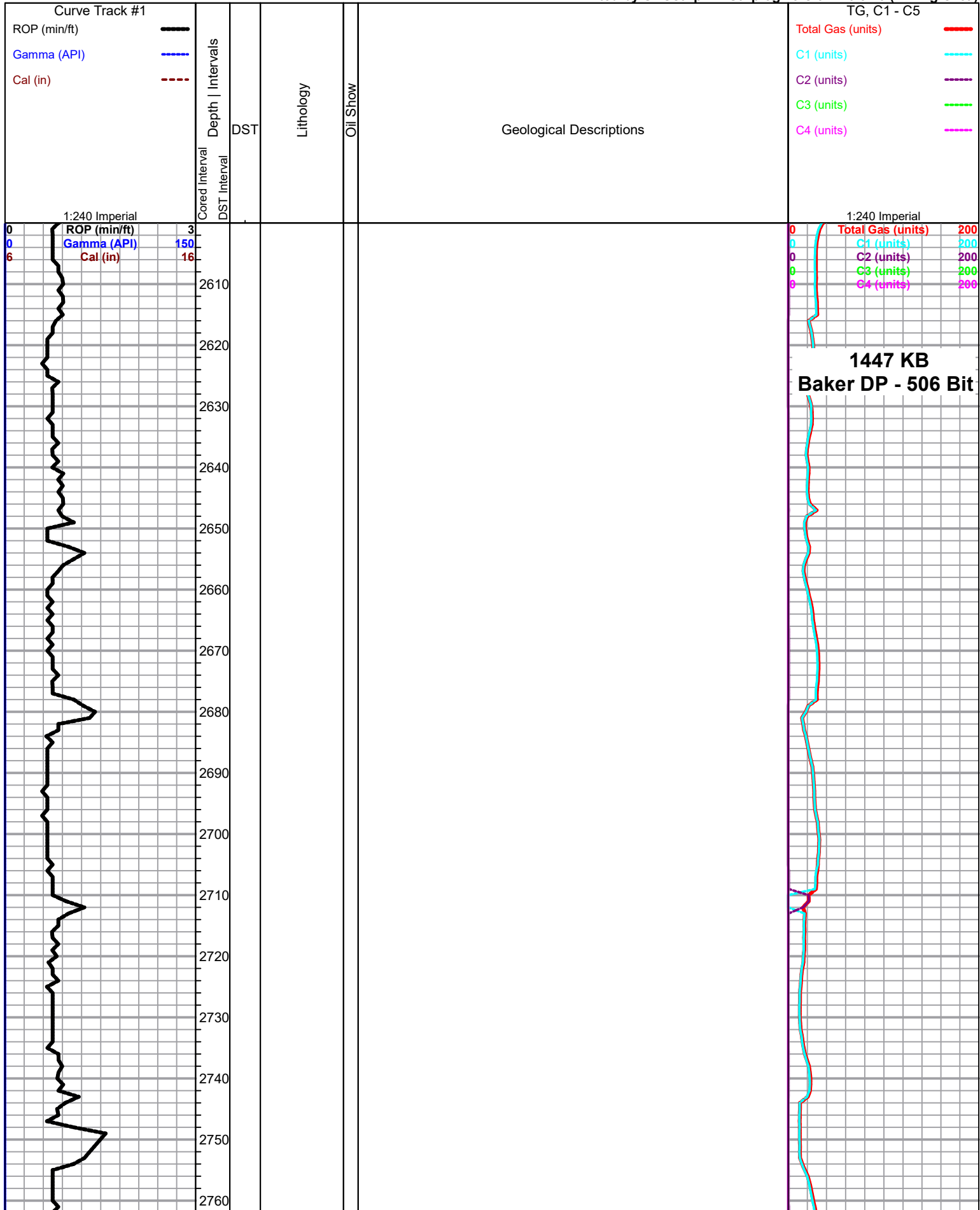
**TEXTURE**

- C Chalky
- FX Finexln

# OTHER SYMBOLS

**DST**  
 DST Int  
 DST alt

Printed by GEOstrip VC Striplog version 4.0.8.15 (www.grsi.ca)



2770  
2780  
2790  
2800  
2810  
2820  
2830  
2840  
2850  
2860  
2870  
2880  
2890  
2900  
2910  
2920  
2930  
2940  
2950  
2960  
2970  
2980

ROP (min/ft) 3  
Gamma (API) 150  
Cal (in) 16

0  
0  
6

Root Shale

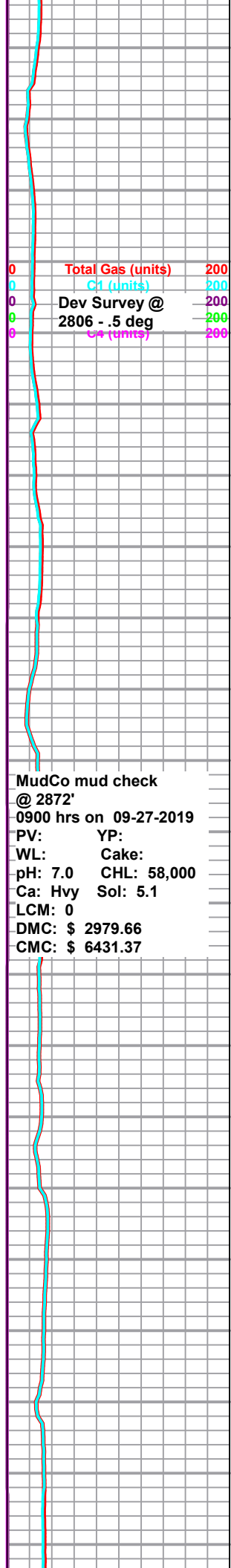
Stotler

Terkie

Total Gas (units) 200  
C1 (units) 200  
Dev Survey @ 2806 - .5 deg  
C4 (units) 200

0  
0  
0  
0

MudCo mud check  
@ 2872'  
0900 hrs on 09-27-2019  
PV: YP:  
WL: Cake:  
pH: 7.0 CHL: 58,000  
Ca: Hvy Sol: 5.1  
LCM: 0  
DMC: \$ 2979.66  
CMC: \$ 6431.37



TARKIO

2990  
3000  
3010  
3020  
3030  
3040  
3050  
3060  
3070  
3080  
3090  
3100  
3110  
3120  
3130  
3140  
3150  
3160  
3170  
3180  
3190  
3200

ROP (min/ft) 3  
Gamma (API) 150  
Cal (in) 16

ROP (min/ft) 3  
Gamma (API) 150  
Cal (in) 16

Topeka

Total Gas (units) 200  
C1 (units) 200  
C2 (units) 200  
C3 (units) 200  
C4 (units) 200

Geologist on location @ 3125'

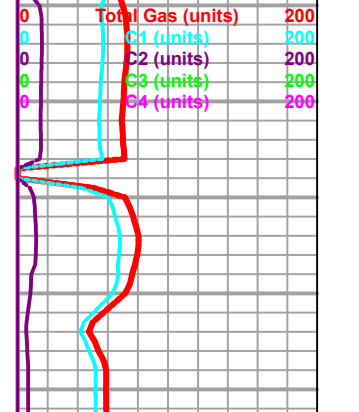
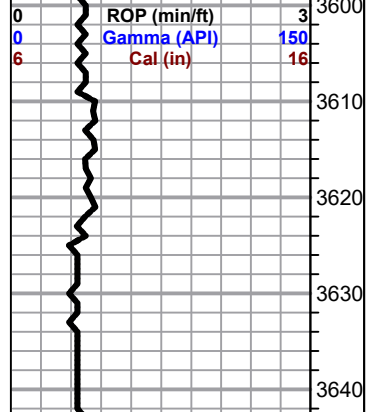
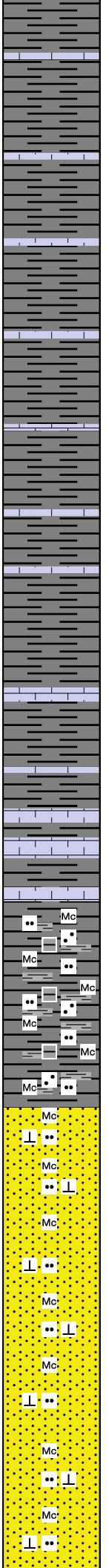
Displaced @ 3181'

Total Gas (units) 200  
C1 (units) 200  
C2 (units) 200  
C3 (units) 200  
C4 (units) 200

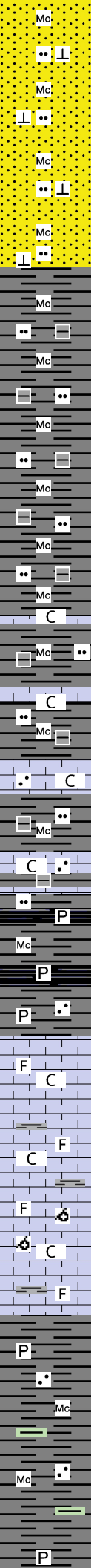


3430  
3440  
3450  
3460  
3470  
3480  
3490  
3500  
3510  
3520  
3530  
3540  
3550  
3560  
3570  
3580  
3590  
3600  
3610  
3620  
3630  
3640

same aa,  
same aa  
same aa  
same aa, sli incr gy lms  
lg influx lt & dk gy sh, sli mica, sli argil, sli calc, dirty  
same sh, lms, lt crm, dse, xtaln, Trc fos  
same w/incr lt crm lms aa  
**Kanawaka**  
lg influx sh, lt gry, argil, mica, sli sdy, silty  
same  
**Elgin**  
sandstone, vlt gy-wht, dirty, silty, blk sh inclu, mica, vsli calc, f-md  
grnd, sub-rnded to sub-ang  
same  
same  
same  
same



3650  
3660  
3670  
3680  
3690  
3700  
3710  
3720  
3730  
3740  
3750  
3760  
3770  
3780  
3790  
3800  
3810  
3820  
3830  
3840  
3850  
3860



same  
same

lg influx sh, lt & dk gy sh, silty, mica, argil

same

same, sli incr lm, lt & dk crm-gry, chlky

incr lm, lt crm, vsdy, sli chlky, silty, dirty, blk inclu

gy & dk gy-blk, fissle, trc pyr

### Heebner

gy sh aa, incr blk carb sh, sli pyr, few scatt sd clstrs, lt gy-crm, dirty, calc matrix

### Toronto

lg influx wht to lt gy, dse, sli xtaln, sli rextalized, sli chlky, sli fos, pscatt por, ns

lm aa, & lt gy-crm, dse, sli chlky, xtaln, & rextalized, sli fos/oom, scatt vis fos/oom por, ns

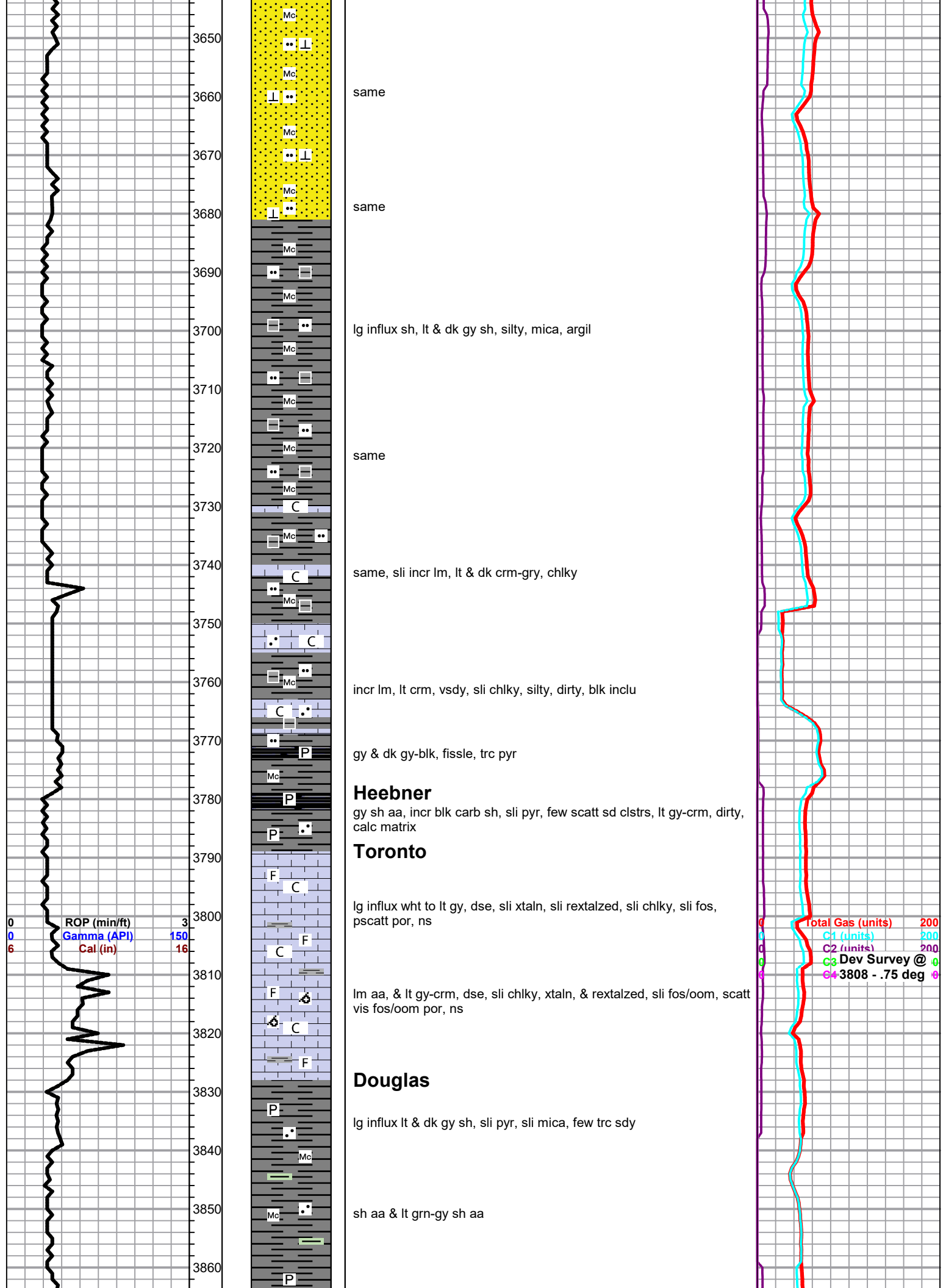
### Douglas

lg influx lt & dk gy sh, sli pyr, sli mica, few trc sdy

sh aa & lt grn-gy sh aa

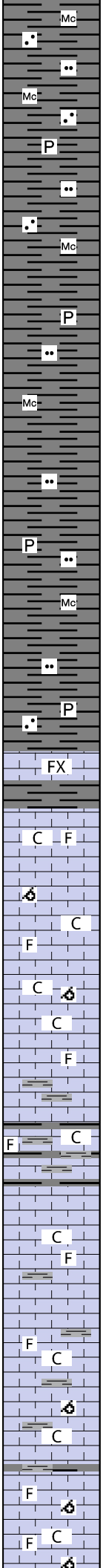
ROP (min/ft) 3  
Gamma (API) 150  
Cal (in) 16

Total Gas (units) 200  
C1 (units) 200  
C2 (units) 200  
Dev Survey @ 3808 - .75 deg





3870  
3880  
3890  
3900  
3910  
3920  
3930  
3940  
3950  
3960  
3970  
3980  
3990  
4000  
4010  
4020  
4030  
4040  
4050  
4060  
4070  
4080



sli incr dk sh aa, mica, dirty, argil, silty, trc sd

same aa, mica, silty, trc pyr, trc sdy sh

dk sh aa,

dk sh aa

same aa

**Brown Lime**  
lm, dk crm-brn, dse, tite, fxtaln, vpvis por

**Lansing**  
lm, lt crm, dse, xtaln to sli rextalized, sli fos & sli ool, sli chlky, scatt pp por & fos/ool por, ns

lm, lt crm, dse, chlky, rextalized, ool & ooc scatt por

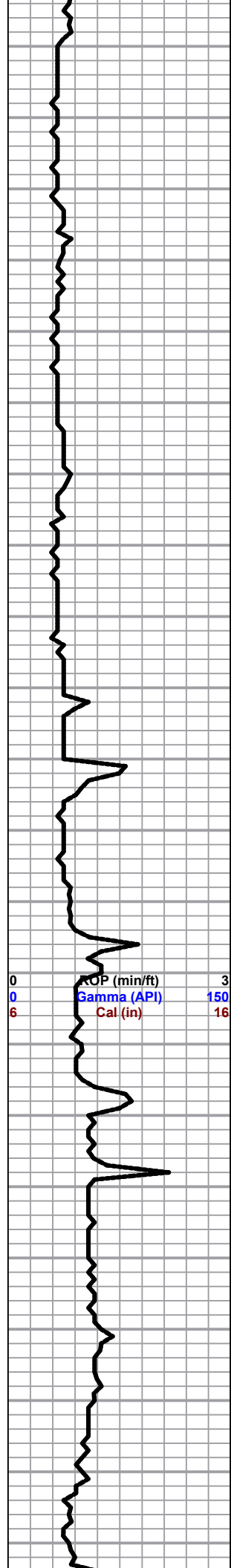
lm, lt gy-crm, dse, sli chlky, sli fos, pscatt pp por, sli incr sh

lm, lt gy-crm-wht, dse, sli chlky, sli rextalized, trc fos, pscatt por

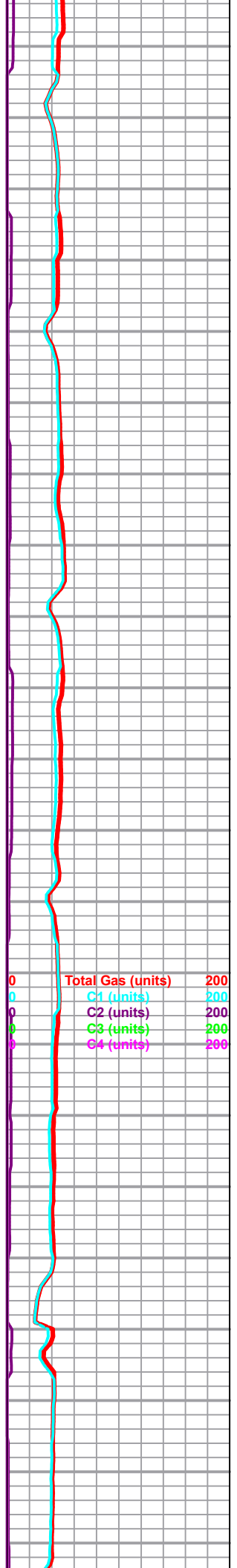
lm, gy to gy-crm, dse, sli chlky, mottled, sli rextalized, sli fos/ool, sli scatt sh

**D zone**  
lm, lt gy-wht, dse, sli chlky, rextalized, sli fos/ool, scatt pp & fos/ool por

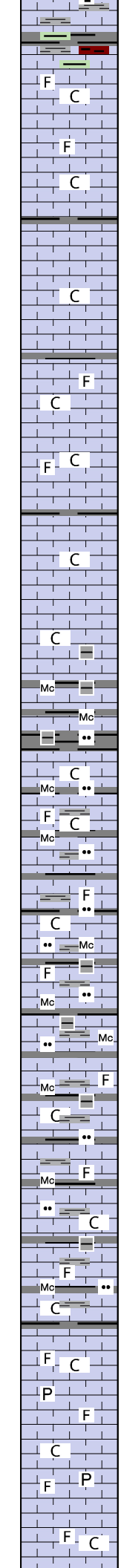
ROP (min/ft) 3  
Gamma (API) 150  
Cal (in) 16



Total Gas (units) 200  
C1 (units) 200  
C2 (units) 200  
C3 (units) 200  
C4 (units) 200



4090  
4100  
4110  
4120  
4130  
4140  
4150  
4160  
4170  
4180  
4190  
4200  
4210  
4220  
4230  
4240  
4250  
4260  
4270  
4280  
4290  
4300



Im, lt gy-wht-frm, dse, sli chlky, xtaln, sli fos, pscatt pp por, sli incr sh, some grn & rd

Im, lt & dk frm to lt brn, dse, vfxaln, vp to nvis por, some lt gy-wht, sli chlky lm aa

**E zone**  
Im, lt & dk gy to gy-wht-frm, dse, sli chlky, xtaln, sli fos, pvls por

Im, lt & dk gy to gy-wht, dse, sli chlky, xtaln, & lt frm, frm-gy, dse, fxtaln, sli rextalzed, pvls por

Im aa, lt frm-gry, w/lg influx gy sh, sli mica, argil

same sh, dk gy, some silty, lm lt gy-wht, sli chlky, sli fos

lg incr silty dk gy sh, soft, argil, sli mica, blk wash, same lm

same shs, lm lt gy-wht, sli chlky, trc fos

same shs, same lm

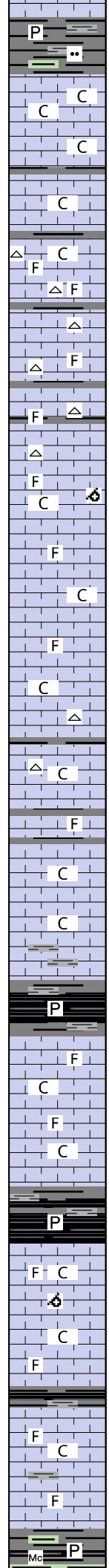
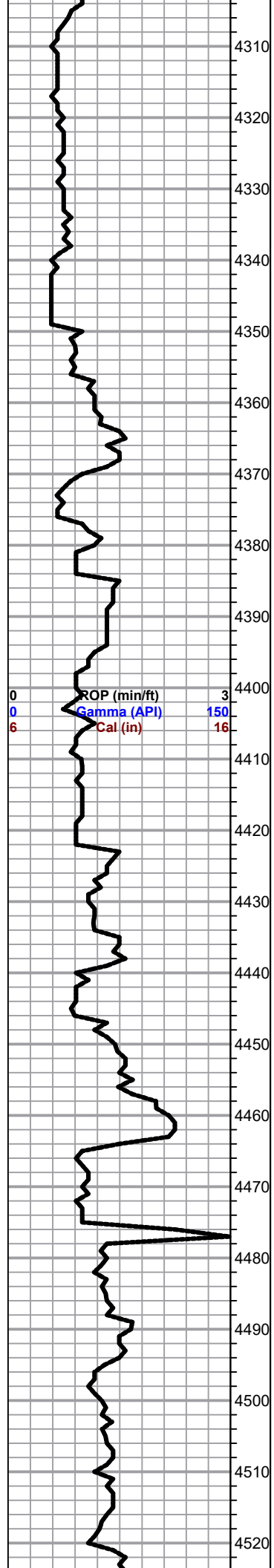
**F zone**  
influx lm, lt frm to frm-wht, dse, fxtaln, sli rextalzed, fos, trc pyr, some wht chlky, pvls por

lm, wht-lt frm, dse, sli chlky, sli rextalzed, fos, some fxtaln w/trc fos, pvls por

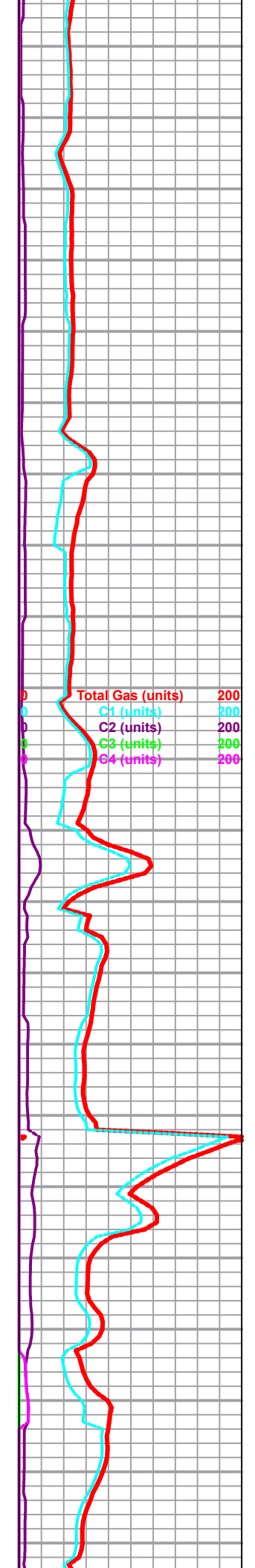
0 ROP (min/ft) 3  
0 Gamma (API) 150  
6 Cal (in) 16

0 Total Gas (units) 200  
0 C1 (units) 200  
0 C2 (units) 200  
0 C3 (units) 200  
0 C4 (units) 200

MudCo mud check  
@ 4244  
1100 hrs on 09-28-2019  
Vis: 52 Wt: 9.4+  
PV: 15 YP: 14  
WL: 9.0 Cake 1/32  
pH: 10.5 CHL: 5000  
Sol: 7.5 LCM: 0  
DMC: \$ 1611.79  
CMC: \$ 8043.16

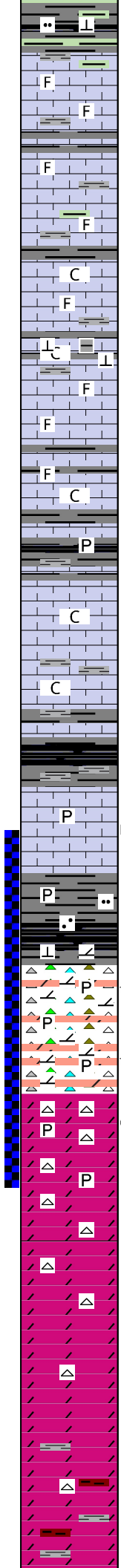


Im same, sli incr dk gy-blk sh, sli silty, trc pyr, & wht mushy chlk  
 wht chlk & lm, lt gy-crm, dse, xtaln, sli fos, trc lt gy-wht semi-trans chert, sli sh  
 lm & chert aa, sli fos/ooc, sli sh  
 lm, lt gy & lt crm, dse, fxtaln, sli chlky, sli fos, sli rextalized, pvls por  
 lm, lt gy & gy-crm, dse, xtaln to fxtaln, sli fos, sli chlky, pvls por, sli chert  
 same lm aa, sli cherty  
 lm, lt crm-gy, dse, sli chlky, fxtaln, sli fos, pvls por, sli incr sh  
 start 10 ft samples  
 lm, lt crm-gy, xtaln, soft, sli chlky, (2) spls w/blk dos, no, nf, nsfo  
**Stark**  
 influx dk gy & blk carb sh  
**Swope**  
 lm, lt crm-wht, dse, chlky, xtaln, sli rextalized, sli fos, pvls por  
 lm aa, incr xtaln to fxtaln, less vis por, sli incr shs  
**Hushpuckney**  
 influx dk gy & blk carb sh  
**Hertha**  
 lm, lt gy-wht, dse, sli chlky, fxtaln, some xtaln & sli rextalized, sli fos/ooc, pvls por, (1) spl wblk /dos, no,nf,nsfo noted  
 lm, lt & dk crm, dse, fxtaln, some rextalized, sli fos, sli chlky  
 influx dk gy & blk carb sh, lm, gy to gy-crm, dse, xtaln, sli chlky, sli rextalized, sli fos, pvls por  
 lm, lt & dk crm, dse, fxtaln, trc rextalized fos, pvls por  
**Base Kansas City**  
 influx shs, lt & dk gy, dirty, silty, sli pyr, sli mica, & grn & gy-grn sh



lmax shs, lt & dk gy, dirty, silty, sil pyr, sil mica, & gm & gy-grm sh, fissle, dse, sli calc

4530  
4540  
4550  
4560  
4570  
4580  
4590  
4600  
4610  
4620  
4630  
4640  
4650  
4660  
4670  
4680  
4690  
4700  
4710  
4720  
4730  
4740



### Marmaton

lm, dk gy-crm & crm, dse, fxtaln, rextalized, fos, pvis por

same, sli incr sh

lm, dk brn, dse, vfxaln, almost sucr text, sli fos, vp to nviz por

incr sh, lm, lt crm, dse, sli chlky, xtaln, sli fos, pviz por

incr shs, lt & dk gy, some grn-gy, argil, sli calc, w/lm aa

lm, lt gy & lt crm-gy, dse, xtaln, scatt rextalized, fos, pscatt por

lm, crm-gy, dse, rextalized, sli fos, trc chlk, pviz por

### Pawnee

abdt shs, lt & dk gry, some vdk gy to blk, trc pyr

lm, lt crm-wht to dk crm, dse, vfxaln, trc chlky, p to nviz por

lm same, sli incr sh

### Fort Scott

abdt shs, lt & dk gy, blk carb

lm, lt crm, vdse, fxtaln, sli rextalized, trc pyr, pviz por, few spls w/scatt yl fluor, nsfo, no, ? min fluor

### Cherokee

abdt shs, blk carb, lt & dk gry, few dirty, trc sd, trc pyr, some splintery, sli calc/dolom, silty

### Mississippian

chert, pale milky, wht trans, shrp, trc pyr, & wht opq, trc dolom, trc stn, nf, ns, w/brkn gas bubls will form & cling to spl after brkg, ft odor

chert aa, incr dolo, lt crm, dse, fgran tex, vvf, pviz por, trc do stn, when brkn in acid, efferv slowly, nsfo noted, floating do residue, nf, some dolo appears dirty & sli cherty, ft odo

dolo aa, lt crm, dse, vf gran to sucr text, scatt vfpp por, trc stn, ? fo specks w/brkn, nf, chert wht-gy, opq, trc pyr, do residue in acid, nf

lg influx dolom chert, lt gy-grnish, vdse, vf gran text, pviz por, sli scatt stn, ? trc fo specks, does not flour

start 20 ft samples

lg incr dolo, lt gy-grn, vf sucr/gran text, vf pp por, no stng, not cherty, clean, vdse dolo, ns noted, few scatt chert

dolo same aa, spls finer, less gran, more sucr, pviz por, trc scatt chert, incr shs, lt & dk gy, few rd

ROP (min/ft) 3  
Gamma (API) 150  
Cal (in) 16

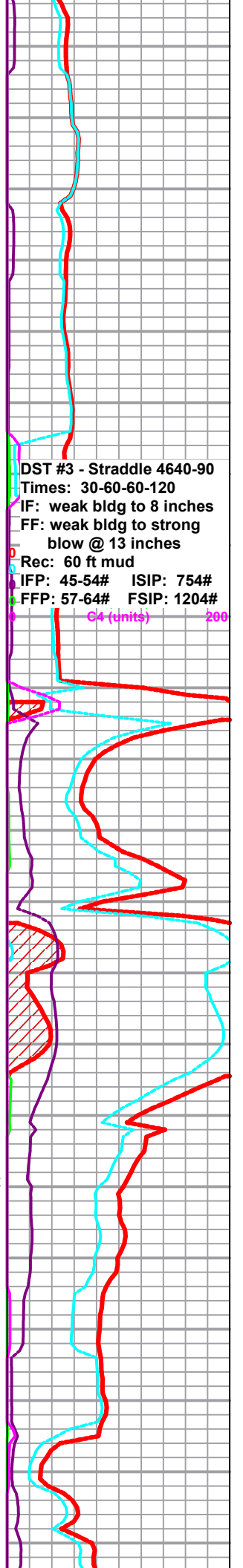
wiper trip @ 4620

DST #3 Straddle

cfs @ 4682

DST #3 - Straddle 4640-90  
Times: 30-60-60-120  
IF: weak bldg to 8 inches  
FF: weak bldg to strong blow @ 13 inches  
Rec: 60 ft mud  
IFP: 45-54# ISIP: 754#  
FFP: 57-64# FSIP: 1204#

G4 (units) 200



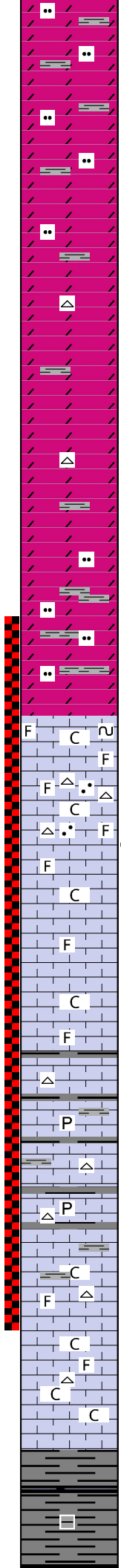
4750  
4760  
4770  
4780  
4790  
4800  
4810  
4820  
4830  
4840  
4850  
4860  
4870  
4880  
4890  
4900  
4910  
4920  
4930  
4940  
4950  
4960

ROP (min/ft) 3  
Gamma (API) 150  
Cal (in) 16

DST #1

DST #1

cfs @ 4930



dolo, lt gy to gy, fxtaln, dse, sli silty/shly to sli dolom, pvis por, ns, incr lt & dk gy sh

gy to dk gy dolo aa, silty/shly, dse, fxtaln, pvis por, ns, sh aa

same aa, few chert, float?, sh aa

same, less sh

dolo aa, lt to dk gy, silty/shly content, vdse, fxtaln, pvis por, some fresh splintery gy sh

### Miss Lime

lg influx lm, wht to vlt gy, dse, sli chlky, f-md xtaln, rextalized, vfos, trc glauc, fvis por, ns

lm, lt gy-wht, soft, chlky, rextalized, xtaln, vfos, pvis por, scatt pale wht opq to semi-trans chert, sharp, sli incr gy sh

show spls-clear, clean, qtz/sd w/ qtz xtals, nvis matrix, dk brn hvy fo vis, w/brkn, oil flows, not tarry, vft odor, vdull fluor, gd intergran xtaln vis por

lm, wht to lt-gy, dse, sli chlky, f to md xtaln, sli rextalized, sli fos, pvis scatt por, ns aa

lm, wht to lt gy aa, w/influx lm, lt gy-grn, dse, less chlky, xtaln, dirty, sli incr gy sh, scatt wht opq chert, scatt trc pyr, ns

same, sli incr fos, sli incr gy sh, sli incr cherts, wht & some milky trans, trc pyr specks, ns

lg influx lm, lt crm to crm-gy, dse, sli chlky, xtaln, sli rextalized, sli incr fos, less sh aa, less cherts, ns

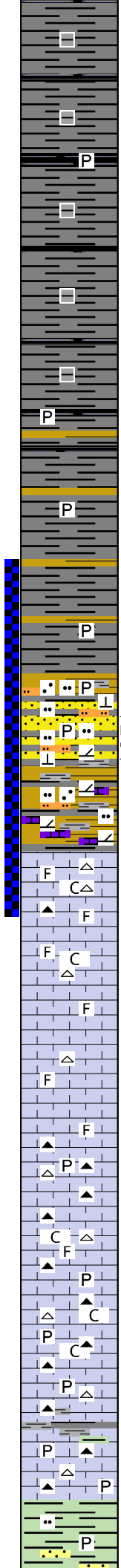
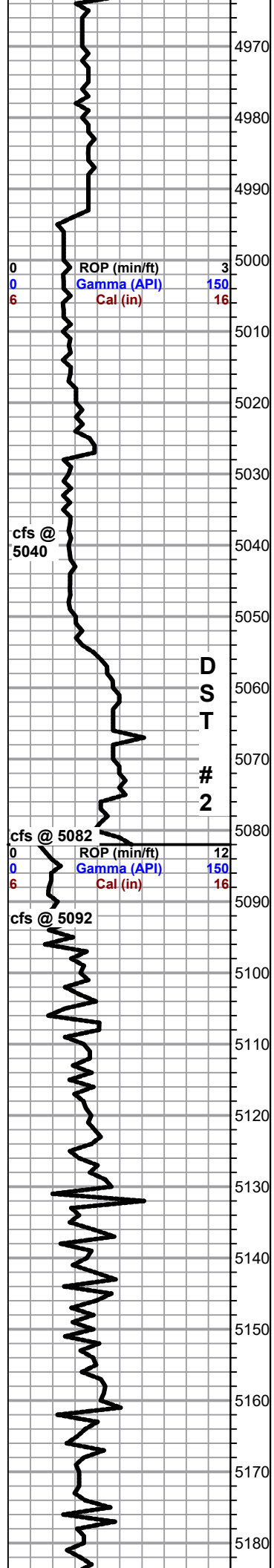
lm aa, lt crm, dse, incr chlk, less dse, scatt rextalized fos, less xtaln, less cherts, less sh, spls wash wht, ns

### Kinderhook

lg influx sh, lt & dk gy to gy-blk, argil

DST #1 4830-4930  
Times: 30-60-30-60  
IF: Built to 3" - no return  
FF: 1/2" thru-out - no retrn  
Rec: 40 ft Oil Spotted Mud  
IFP: 36-28# ISIP: 111#  
FFP: 20-28# FSIP: 64#  
Pipe Strap: 1 ft short

MudCo mud check @ 4930'  
1200 hrs on 09/29-2019  
Vis: 50 Wt: 9.5  
PV: 14 YP: 14  
WL: 10.8 Cake 1/32  
pH: 9.5 CHL: 8000  
Ca: 80 Sol: 7.8  
LCM: 4#  
DMC: \$ 2321.44  
CMC: \$ 10,364.60



sh aa & grn-gy argil sh

same

**Woodford**

influx sh, dk brn-gy, sli pyr, spores, few spls gas bubbles

same

start 10 ft samples

same

**Misner**

sandstone, dirty clstrs, f-md, few lg sd grns, dirty, silty, sh inclu, pyr inclu, sli calc matrix, brn hydroc residue, scatt fluor, nsfo w/brkn, also ss, sli cleaner, less sh, silt, pyr inclu, shows aa w/few spls w/trc gas w/brkn, friable/ss, lt brn stnd, sd f-md clear grns, sh inclu, w/brkn, gas bubl & vlt clear fo vis w/gd odor, efferv vslowly, dolom matrix, trc fo specks w/brkn in acid, sli spotty to even fluor

**Viola**

lm, wht, dse, coarse xtaln, sli rextalized fos, few lt crm-gy, dse, fxtaln, sli chlky & chert, wht, opq, & trans, dse, sharp, ns noted

lm, lt crm-wht, vdse, vfxaln, & lt gy-wht, dse, sli chlky, rextalized fos, xtaln, few wht & lt gy cherts

lm, lt gy-wht, dse, md xtaln, rextalized fos, & lt crm, vdse, fxtaln aa, few scatt wht opq to trans cherts

same lm aa, w/incr lt gy cherts, speckled, w/trc pyr

lm, lt gy-crm, dse, fxtaln, sli chlky, & wht, dse, chlky, xtaln, sli fos

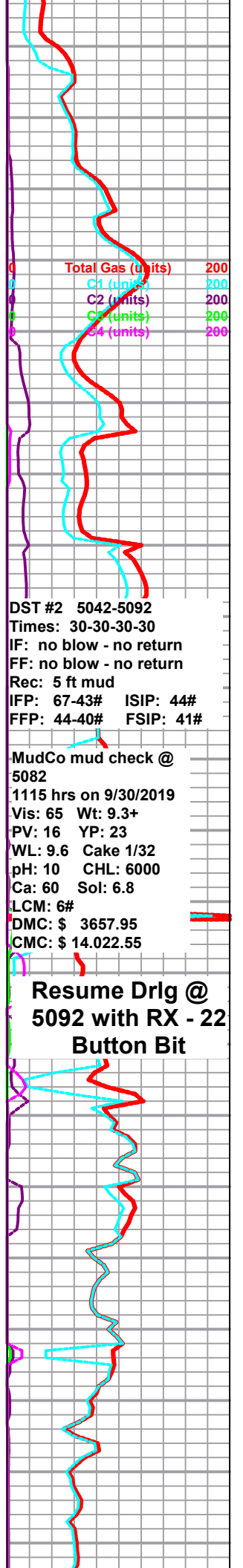
lm aa, sli incr wht chlky, chert, gy-crm, speckled, opq, trc pyr

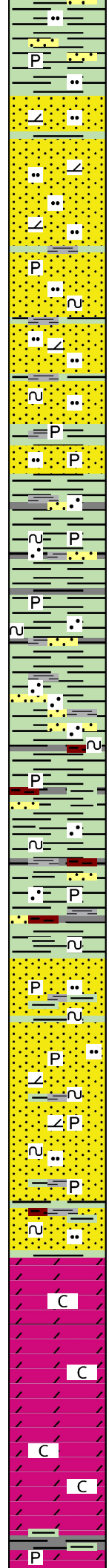
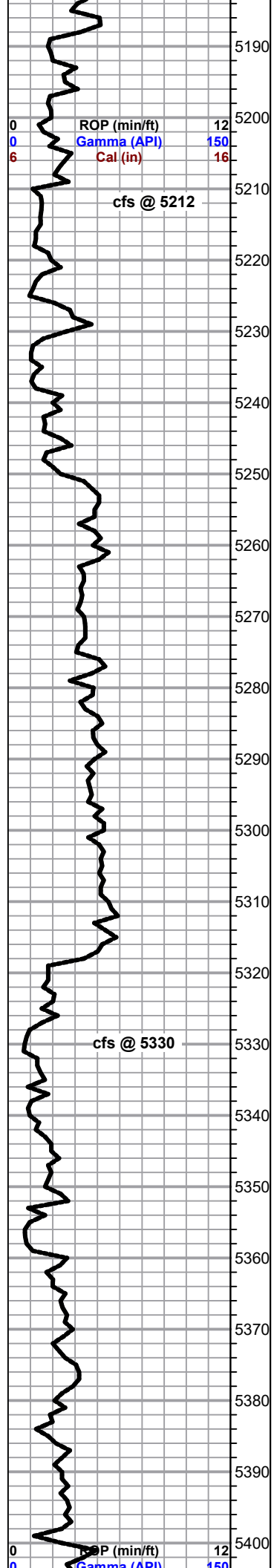
incr chert, dk crm-gy to gy-crm, speckled, opq & semi trans, sharp, dse

lm, dk crm, vdse, vfxaln, cherts aa, sli incr shs

**Simpson Sh**

influx sh, lt grn to grn-gy, some fissle, trc scatt pyr, scatt sdy shly matl





same, sdy sh dirty

### Simpson Sd

sandstone, wht & clear qtz clstrs, friable, f to md grns, sub-ang to sub-rnded, sli sh inclu, f intergran por, sli dolom matrix, ns noted

same aa, w/ lt grn-gy to grn-wht sd clstrs, less friable, f to md, sub-ang to sub-rnded, incr sh inclu, trc dolom matrix, abdt loose sd grns in tray, ns noted

ss aa, lt gy to wht clstrs, less friable, f-md sd grns, trc pyr & glauc w/sh inclu, sli silty, f-md sub-ang to sub-rnded, grn & gy shs, ns noted

ss aa w/lt gy, dirty, sli silty, vf grnd, sub-ang to ang, sli dolom matrix, w/blk dos, nsfo, nf, ? trc odor in acid

incr sh, grn, gy, fissle, trc pyr, & ss, lt gy-wht, sd clstrs, scatt sh inclu, sli pyr, trc glauc, sli silty, sd grns f-md, sub-ang to sub-rnded, less friable to dse, ns noted

lg influx grn, gy, & gy-grn shs, some sli sdy to sdy, blk sh inclu, scatt pyr, & trc scatt glauc

shs aa w/incr grn splintry, argil, some gy blocky sh

shs aa, sdy & pry

incr grn dkr marine sh, fillse, splintry, also gy & maroon

same aa

### Simpson Sd

sandstone, lt gy-wht, dirty sd clstrs, sli silty, sh inclu, sli pyr, trc glauc, sd grns f-md, sub-ang to sub-rnded, ns noted

ss aa, sli incr pyr & glauc, incr sh to vsdy dirty sh, sli dolom matrix, sli effrv, ns noted

sandstone, lt gy-wht, f-md grns, sub-ang to sub-rnded aa, spls dse, less friable, incr sh inclu, scatt pyr & glauc, dirty, ns noted

ss aa, clstrs dse, dirty w/sli incr sh, grn-gy & some maroon

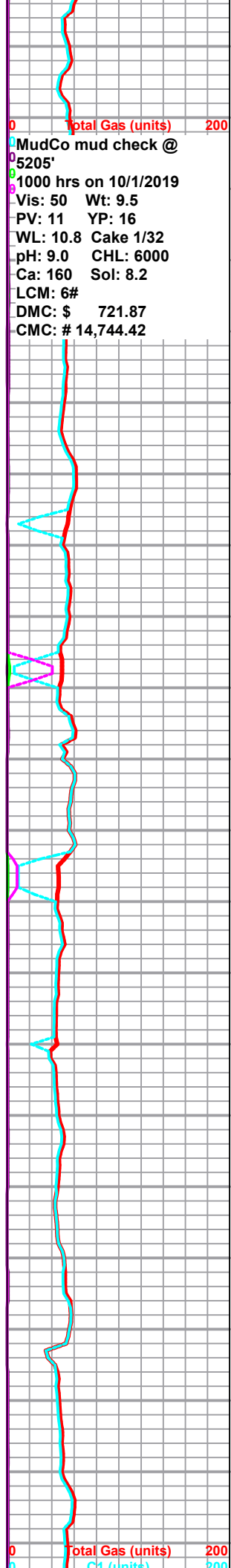
### Arbuckle

dolo, lt & dk crm, dse, fxtaln, sucr text, some md gran text, trc chl

dolo aa & sli incr to coarse gran, sucr text, fvis por, incr chlky

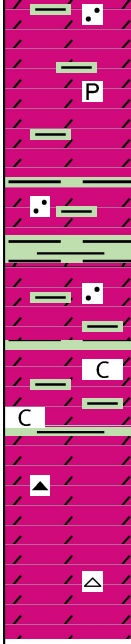
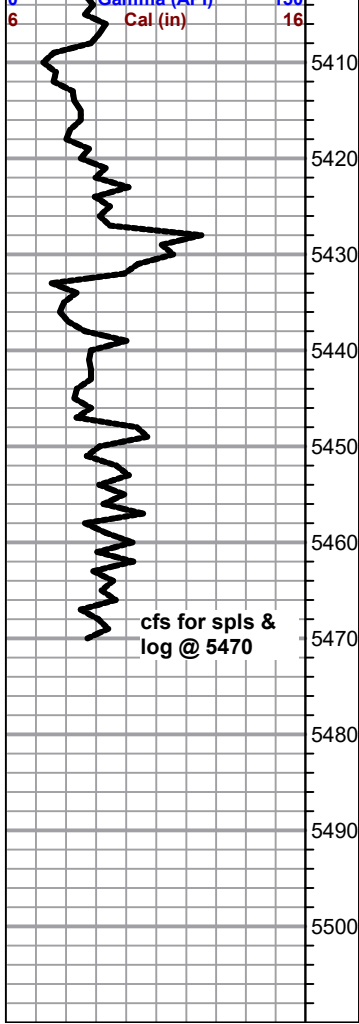
dolo, lt gy to gy-crm, dse, finer xtaln & sucr text than aa, some wht chl, less vis por

incr dolo, lt gy-crm, fxtaln to fsucr, trc pyr, trc sdy, fsub-rnded, clear



0 Total Gas (units) 200  
 MudCo mud check @ 5205'  
 1000 hrs on 10/1/2019  
 Vis: 50 Wt: 9.5  
 PV: 11 YP: 16  
 WL: 10.8 Cake 1/32  
 pH: 9.0 CHL: 6000  
 Ca: 160 Sol: 8.2  
 LCM: 6#  
 DMC: \$ 721.87  
 CMC: # 14,744.42

0 Total Gas (units) 200  
 C1 (units) 200



qtz grns, ns noted, sli incr sh

dolo aa & dk crm dolo, dse, sucr & gran text, few scatt sm vugs vis, trc pyr

dolo aa, becoming fine sucr & gran text, dser, sli incr sh, ? trc scatt sdy matl, ns noted

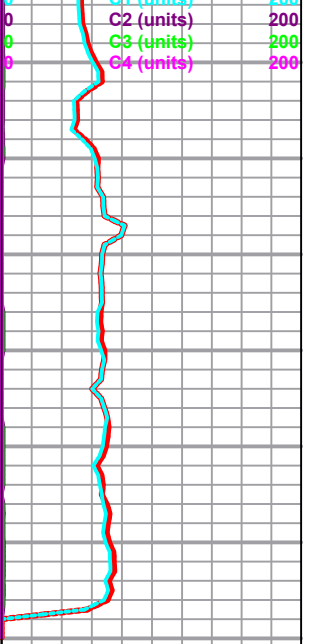
incr sh, gy & crm dolo, dse, incr rextalized xtaln & lg clear qtz grns, sub ang-sub rnded, ns noted

influx lt gy dolo, dse, incr chlky, fxtaln, pvis por, sh aa

dolo, dk, crm, vhard, dse, vfxaln, vp vis por, trc cherty, less sh

same aa, becoming finer, almost cryptxtaln, vlittle to nvis por

**Rotary Total Depth**



**MudCo mud check @ 5470'**  
 1015 hrs on 10/2/2019  
 Vis: 57 Wt: 9.3  
 PV: 15 YP: 17  
 WL: 9.0 Cake 1/32  
 pH: 10 CHL: 5000  
 Ca: 60 Sol: 6.8  
 LCM: 6#  
 DMC: \$ 3364.40  
 CMC: \$ 18,108.82