



Scale 1:240 (5"=100') Imperial  
Measured Depth Log

Well Name: STECKEL TRUST 1-16  
Well Id:  
Location: Sec 16 12s 14w Russell Coutny, Kansas  
License Number: 15-617-24110-0000  
Spud Date: OCT. 12TH 2021  
Surface Coordinates: Sec 16 12S 14W, Russell county, Kansas

Region:

Drilling Completed: OCT. 18TH 2021

Bottom Hole  
Coordinates:  
Ground Elevation (ft): 1768'  
Logged Interval (ft): 2400 To: 3365' K.B. Elevation (ft): 1776'  
Formation: Total Depth (ft): 3365'  
Type of Drilling Fluid: Natural Chemical

Printed by WellSight LogViewer from WellSight Systems 1-800-447-1534 [www.WellSight.com](http://www.WellSight.com)

#### OPERATOR

Company: Black Oak Exploration,LLC  
Address: 1474 S. St. Paul Avenue  
Denver, Co. 80210

#### GEOLOGIST

Name: Tim Hedrick  
Company: Earth Tech OGL,Inc.  
Address: PO Box 822  
Hooker, Okla. 73945



Test Start: 2021.10.16 @ 02:15:00

## KB to GR/CF: 8.00 ft

Time Off Btm: 2021.10.16 @ 06:06:17

## 30-FSI-No Return





**TRILOBITE**  
**TESTING, INC.**

# DRILL STEM TEST REPORT

Black Oak Exploration LLC

16-12s-14w Russell KS

1474 S St. Paul ST  
Denver CO 80210+2514

Steckel Trust #1-16

Job Ticket: 68304

DST#: 2

ATTN: Tom Fertal

Test Start: 2021.10.17 @ 13:15:00

## GENERAL INFORMATION:

Formation: LKC G

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:12:22

Time Test Ended: 18:15:37

Test Type: Conventional Bottom Hole (Reset)

Tester: Spencer J Staab

Unit No: 84

Interval: 3041.00 ft (KB) To 3048.00 ft (KB) (TVD)

Total Depth: 3048.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1776.00 ft (KB)

1768.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8875

Inside

Press@RunDepth: 23.42 psig @ 3042.00 ft (KB)

Start Date: 2021.10.17

End Date:

2021.10.17

Capacity: psig

Last Calib.: 2021.10.17

Start Time: 13:15:00

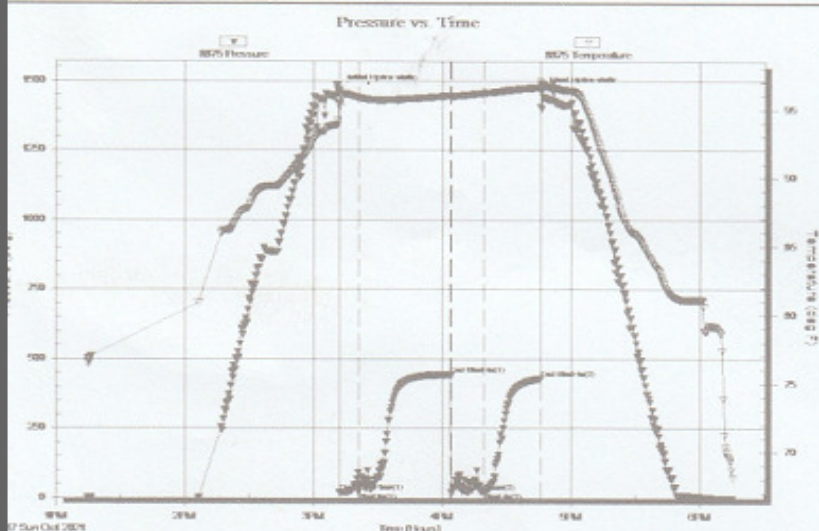
End Time:

18:15:37

Time On Btm: 2021.10.17 @ 15:12:07

Time Off Btm: 2021.10.17 @ 16:46:12

TEST COMMENT: 10-IF-Surface to 1/2"  
40-ISI-No Return  
15-FF-No Blow  
30-FSI-No Return



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1469.67         | 95.42        | Initial Hydro-static |
| 1           | 21.63           | 95.20        | Open To Flow (1)     |
| 10          | 22.62           | 95.85        | Shut-In(1)           |
| 52          | 442.79          | 96.00        | End Shut-In(1)       |
| 53          | 22.24           | 95.97        | Open To Flow (2)     |
| 68          | 23.42           | 96.19        | Shut-In(2)           |
| 94          | 429.12          | 96.65        | End Shut-In(2)       |
| 95          | 1461.44         | 96.84        | Final Hydro-static   |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 10.00       | OSM 100%M   | 0.05         |
|             |             |              |
|             |             |              |
|             |             |              |
|             |             |              |

\* Recovery from multiple tests

## Gas Rates

| Choke (inches) | Pressure (psig) | Gas Rate (Mcf/d) |
|----------------|-----------------|------------------|
|----------------|-----------------|------------------|

## ROCK TYPES

Anhy  
 Bent  
 Brec  
 Cht  
 Clyst  
 Coal  
 Congl  
 Dol

Gyp  
 Igne  
 Lmst  
 Meta  
 Mrlst  
 Salt  
 Shale  
 Shcol

Shgy  
 Sltst  
 Ss  
 Till  
 Carb sh  
 Dol  
 Dtd  
 Gry sh

Sandylms  
 Shale  
 Sltstn  
 Shlyslts  
 Sltyslts  
 Lms

## ACCESSORIES

### MINERAL

Anhy  
 Arggrn  
 Arg  
 Bent  
 Bit  
 Brecfrag  
 Calc  
 Carb  
 Chtdk  
 Chtlt  
 Dol  
 Feldspar  
 Ferrpel  
 Ferr  
 Glau  
 Gyp  
 Hvymin  
 Kaol  
 Marl  
 Minxl  
 Nodule  
 Phos  
 Pyr

Salt  
 Sandy  
 Silt  
 Sil  
 Sulphur  
 Tuff  
 Chlorite  
 Dol  
 Sand  
 Sltyslts

### FOSSIL

Algae  
 Amph  
 Belm  
 Bioclst  
 Brach  
 Bryozoa  
 Cephal  
 Coral  
 Crin  
 Echin  
 Fish  
 Foram

Fossil  
 Gastro  
 Oolite  
 Ostra  
 Pelec  
 Pellet  
 Pisolite  
 Plant  
 Strom  
 Fuss  
 Oomold

### STRINGER

Anhy  
 Arg  
 Bent  
 Coal  
 Dol  
 Gyp  
 Ls  
 Mrst  
 Sltstrg  
 Ssstrg  
 Carbsh

Clystn  
 Dol  
 Grysh  
 Gryslt  
 Lms  
 Sandylms  
 Sh  
 Sltstn

### TEXTURE

Boundst  
 Chalky  
 Cryxln  
 Earthy  
 Finexln  
 Grainst  
 Lithogr  
 Microxln  
 Mudst  
 Packst  
 Wackest

## OTHER SYMBOLS

### POROSITY TYPE

Earthy  
 Fenest  
 Fracture  
 Inter  
 Moldic  
 Organic  
 Pinpoint  
 Vuggy

### SORTING

Well  
 Moderate  
 Poor

### ROUNDING

Rounded  
 Subrnd  
 Subang

Angular

### OIL SHOWS

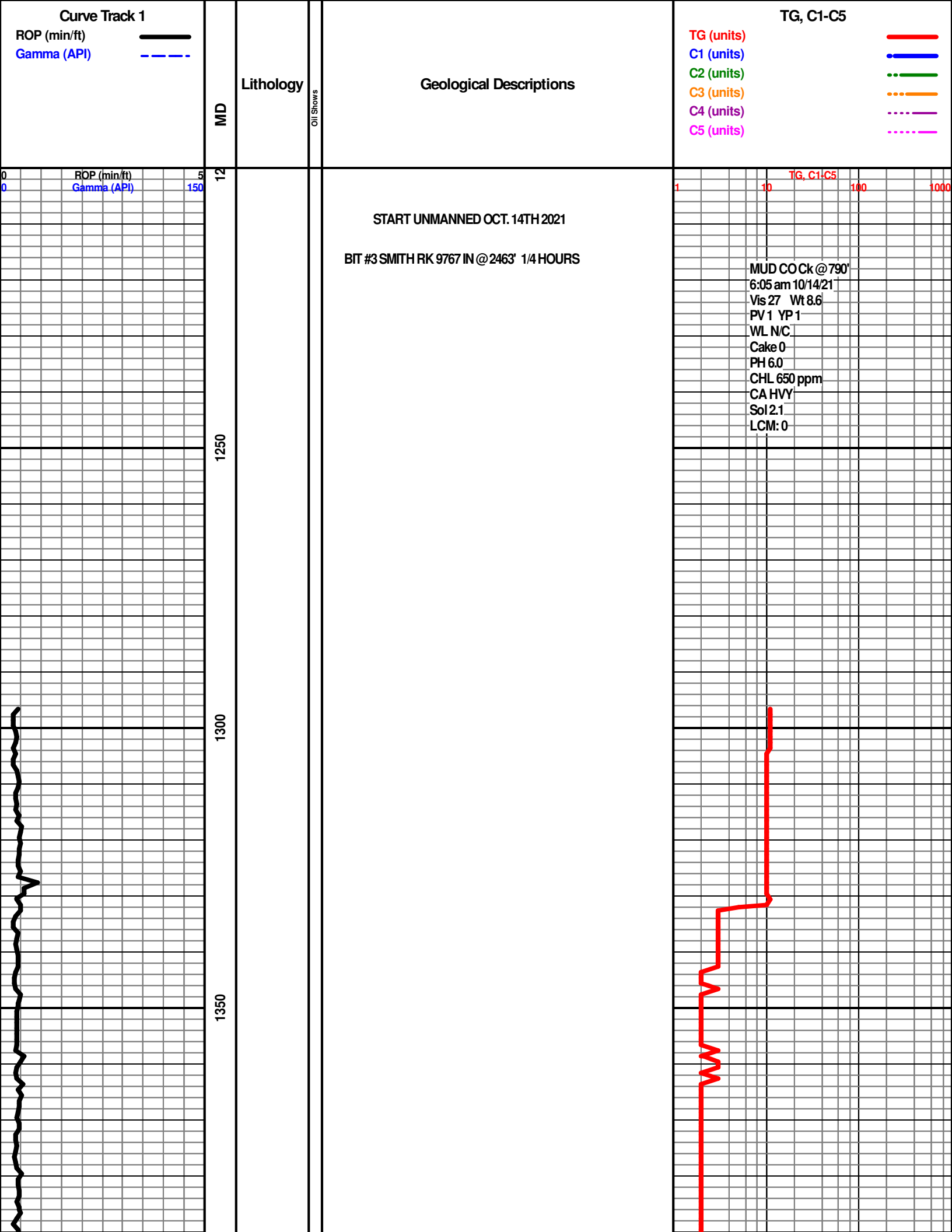
Even  
 Spotted  
 Ques  
 Dead  
 Gas show

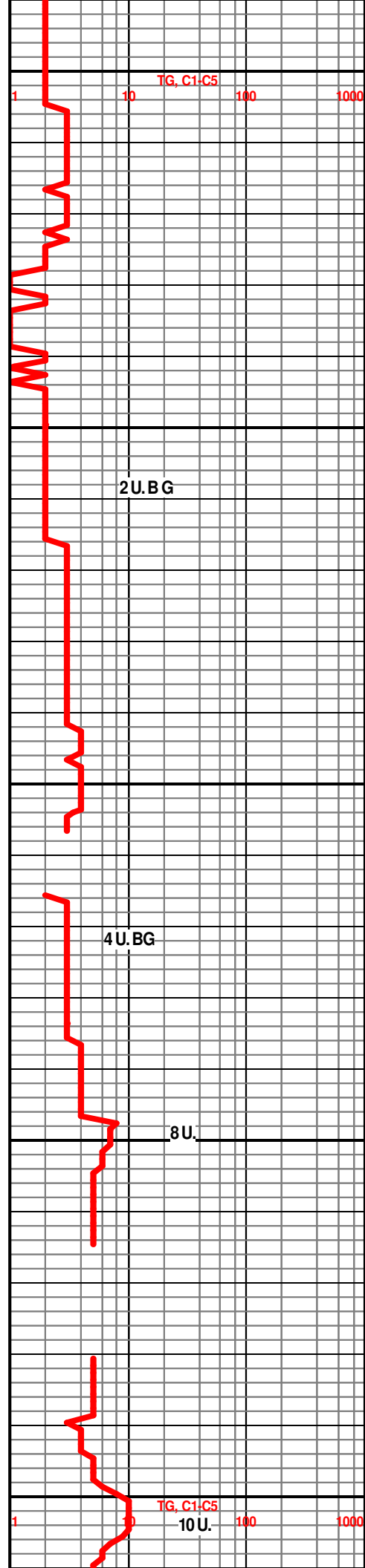
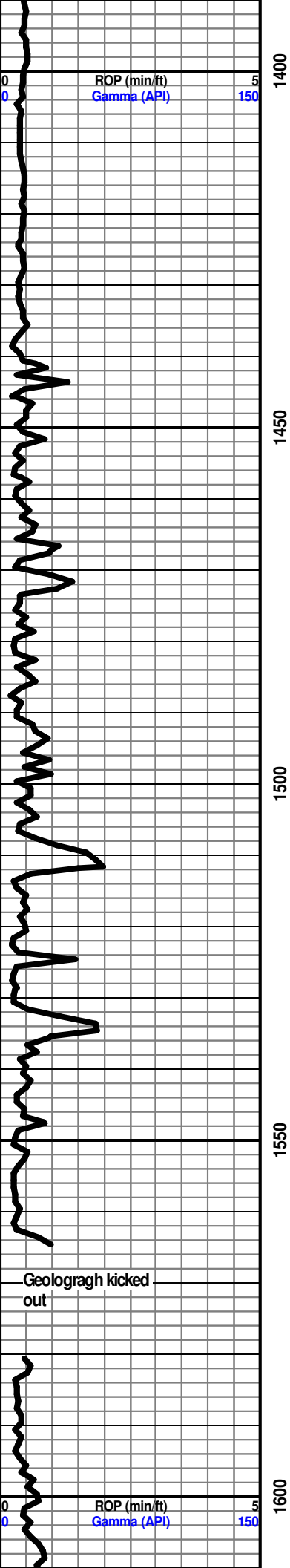
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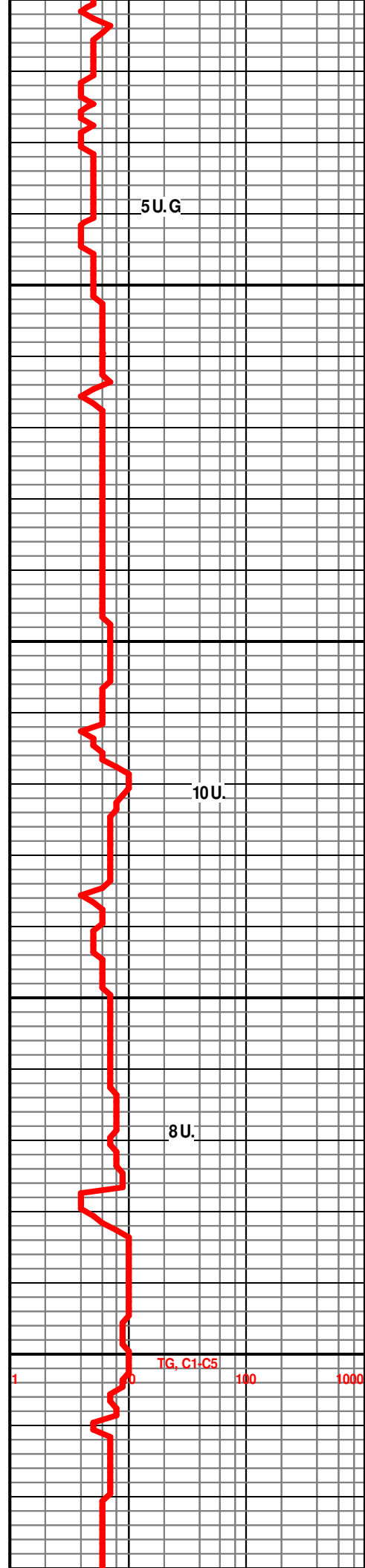
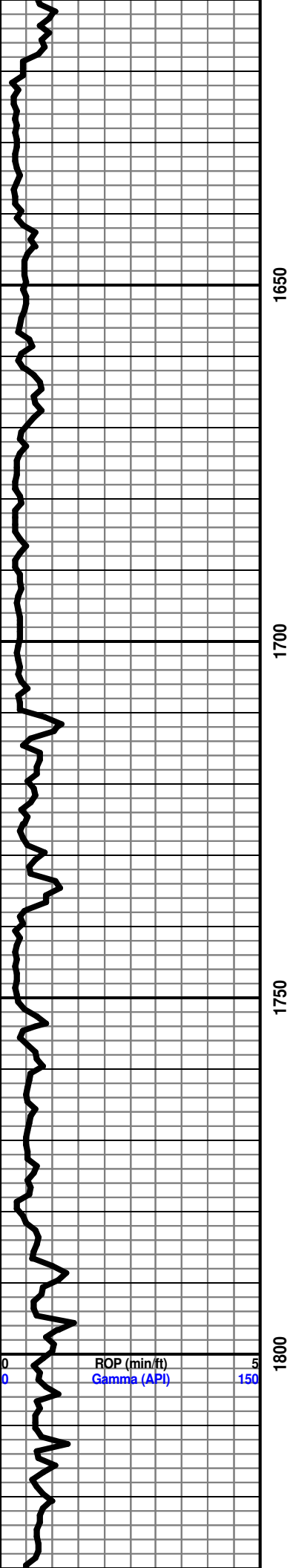
Core  
 Dst  
 Dst

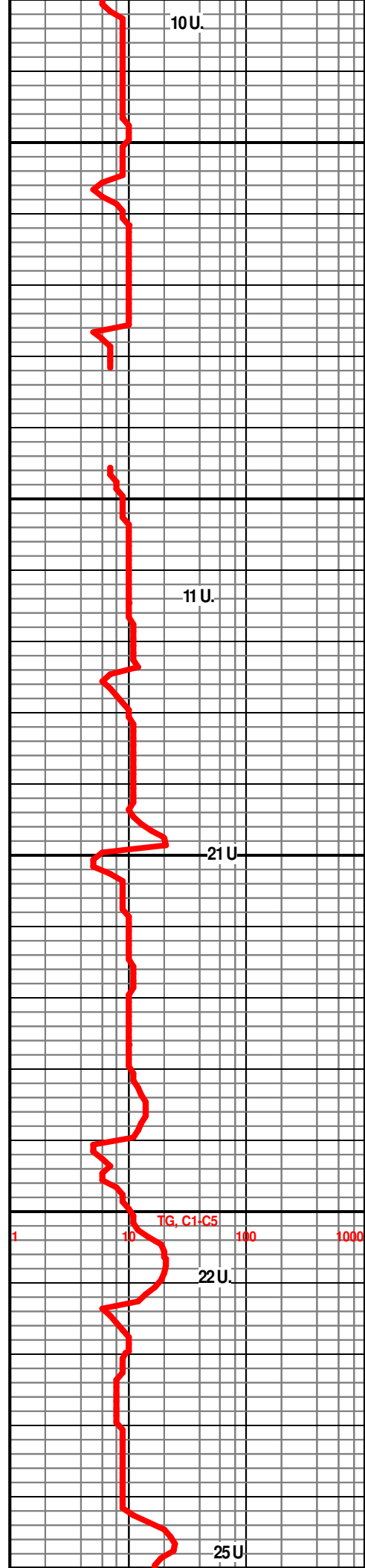
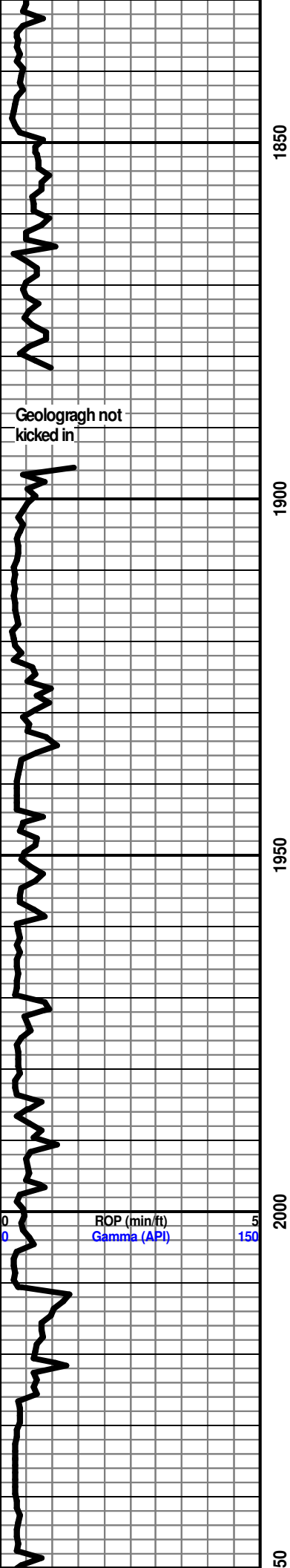
### EVENTS

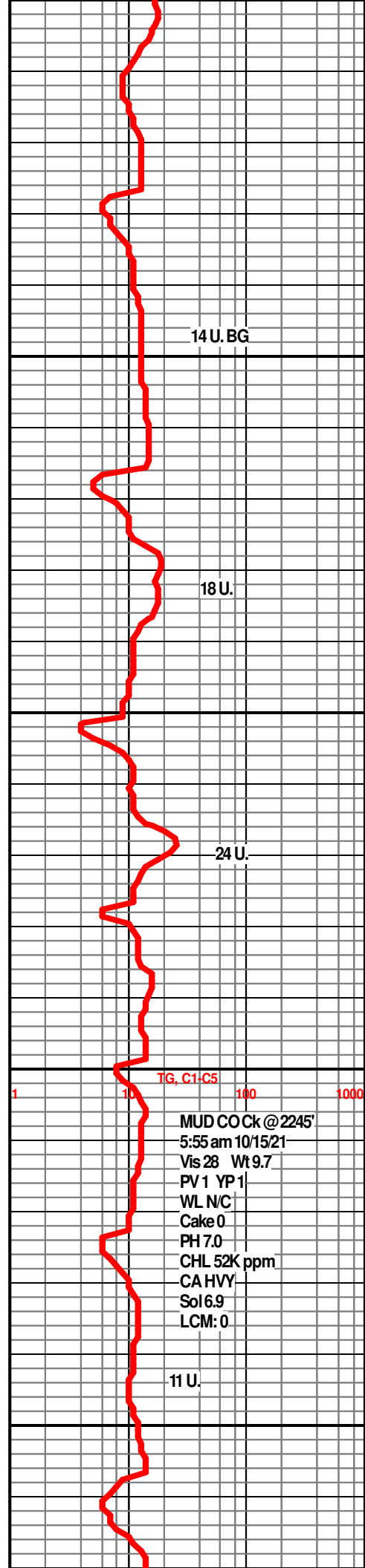
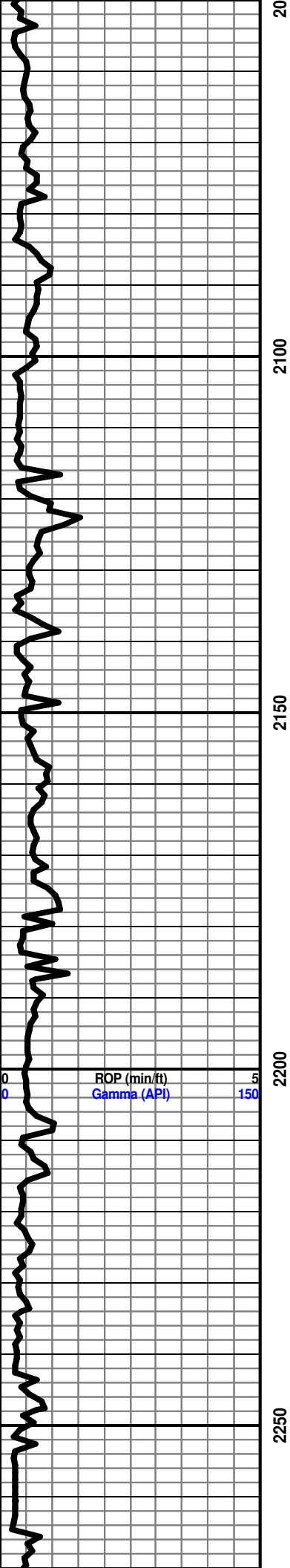
Rft  
 Sidewall



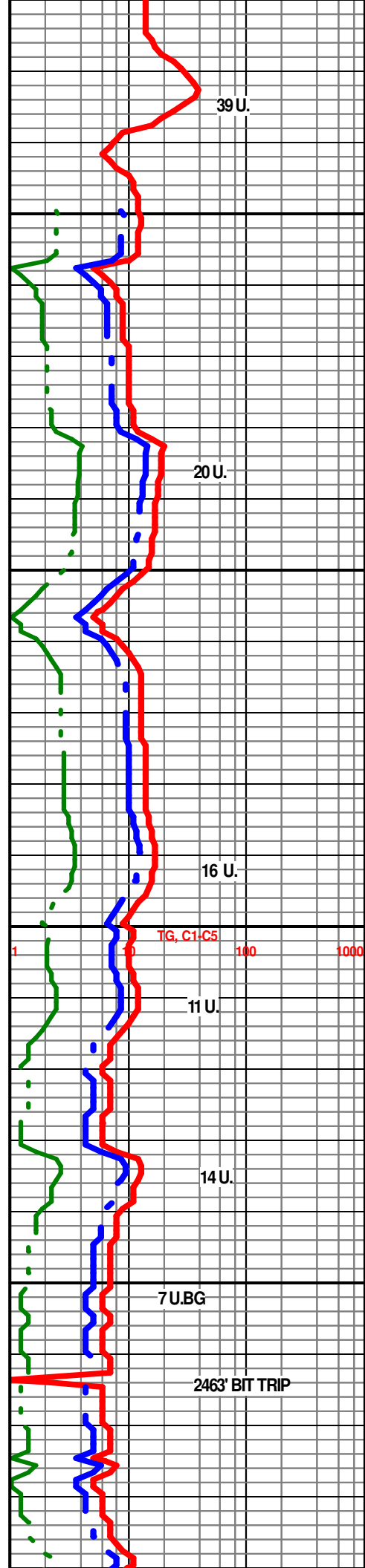
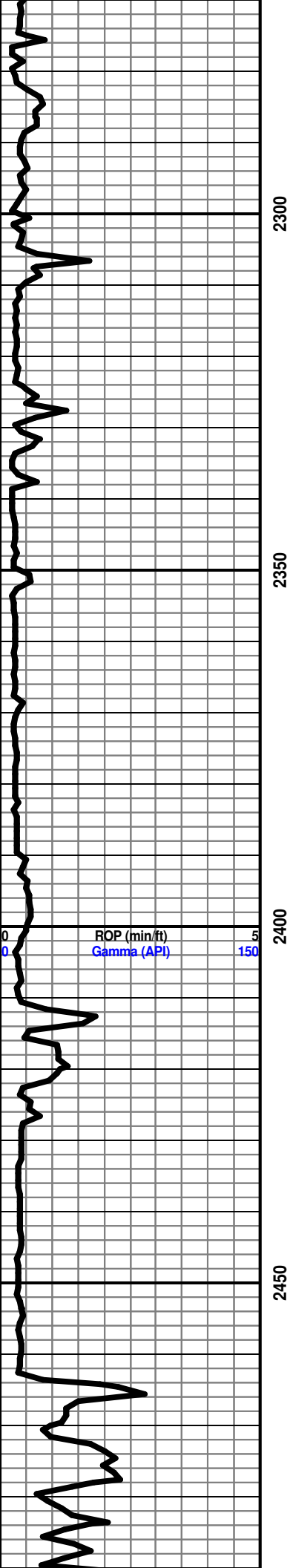


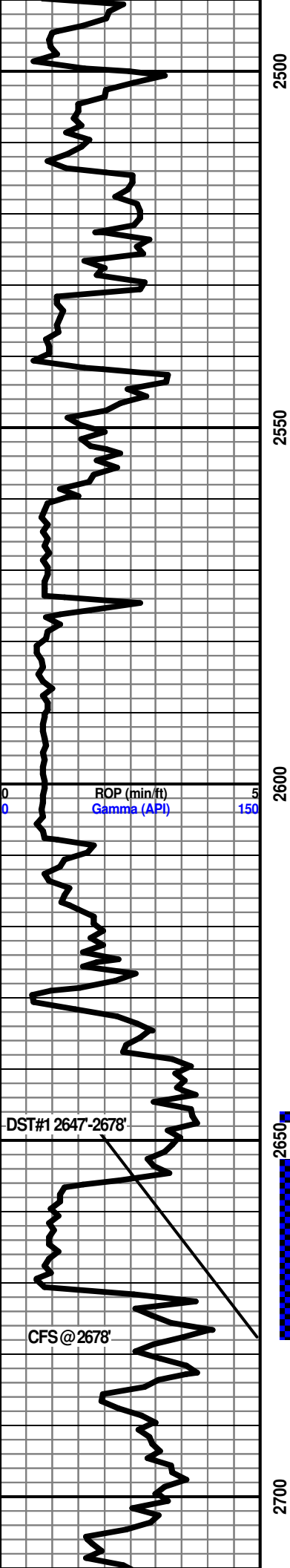






MUD COCK @ 2245'  
5:55 am 10/15/21  
Vis 28 Wt 9.7  
PV 1 YP 1  
WL NC  
Cake 0  
PH 7.0  
CHL 52K ppm  
CA HVY  
Sol 6.9  
LCM: 0





2500

2550

2600

2650

2700

START SAMPLES AT 2620'

LS- CRM LT TAN TO DK GY- HR DNS F-XLN TO TT SUCRO IP, MOTT, EMBED DK GY SH IP, SCAT FOSS FRGS IP, NO FLO, NO VIS POR, NO VIS HOW OR CUT

SH- LT GRY TO LT GREEN- FRM BLKY SMOOTH TXT TO GMMY IP

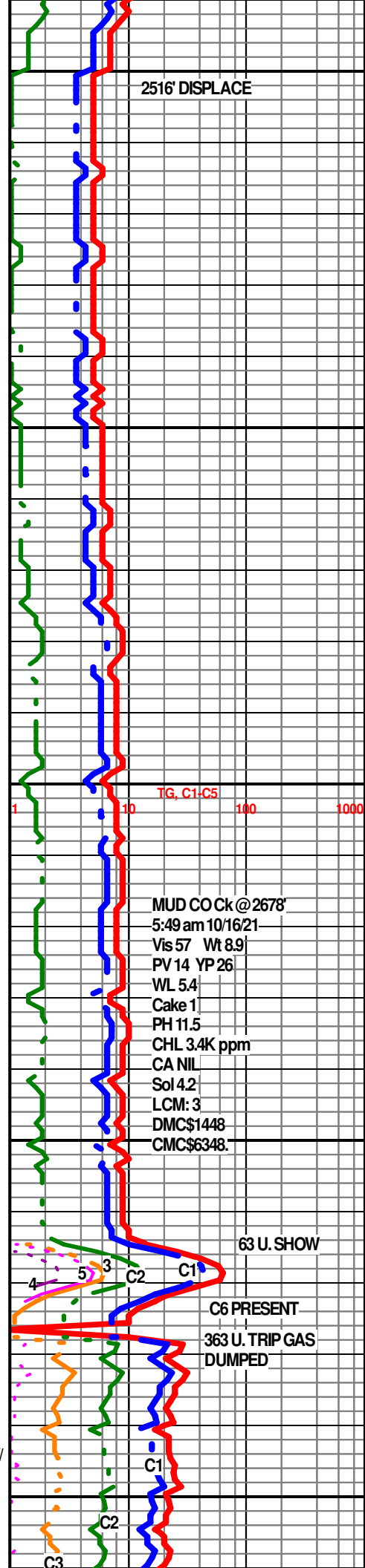
LS- CRM LT TN - HD DNS TO SLI TR BRITTLE MEDIUM TO FINE XLN- RE-XLN IP, SCAT EMBED FOSS FRGS, DULL YEL MIN FLUOR IP, NO VIS POR, NO VISIBLE SHOW OR CUT

SH- LIGHT TO DK GRY- VERY SFT GMMY TEXT

### TOPEKA 2665' - 889'

LS- DK TAN TO BROWN (DUE TO SAT OIL STAIN THRUOUT) ABDT LIVE OIL IN TRAY, HD V/ V/BRITT, V/FINE TO COARSE SUCRO MATRIX, LRG FREE CALC XLS W/ OIL STAIN AND SMALL CALC XLS ON ONE FACES ROCK, DULL YEL GLDN FLUOR THRUOUT, POOR VISIBLE MICRO PP POR IN PART, SCAT PR MICROVUG POR IN PART, POSS FRACT POR, EXCEL FLUSH CUT THRUOUT, EXCEL SLO STREAM CUT THRU, STRONG OIL ODOR, OIL ODOR PRESENT AT PITS B4 SAMPLES CAUGHT

LS- CRM LT TN TAN, HD DENSE SLIGHTLY BRITT, V/F-XLN TO V/ TT SUCRO IP, TR SCATTERED FOSS FRGS, TRACE OF EMBED GRAY SH IP, GRADING TO FIRM TO SFT WHITE CHALK, LT YEL FLUOR IP, NO VIS POR, N VISIBLE SHOW OR CUT



2516' DISPLACE

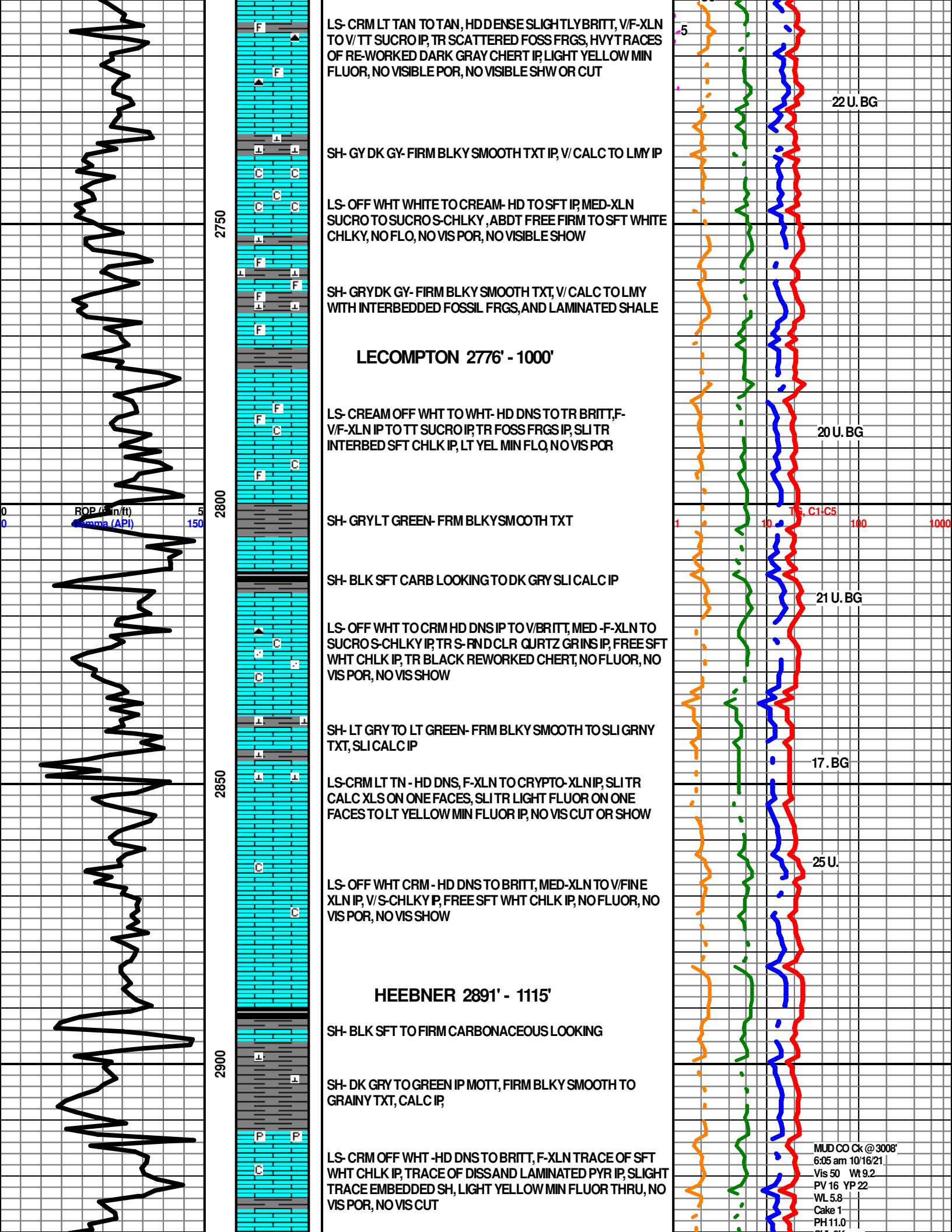
TG, C1-C5

MUD CO Ck @ 2678'  
5:49 am 10/16/21  
Vis 57 Wt 8.9  
PV 14 YP 26  
WL 5.4  
Cake 1  
PH 11.5  
CHL 3.4K ppm  
CA NIL  
Sol 4.2  
LCM: 3  
DMC\$1448  
CMC\$6348.

63 U. SHOW

C6 PRESENT

363 U. TRIP GAS DUMPED



LS- CRM LT TAN TO TAN, HDDENSE SLIGHTLY BRITT, V/F-XLN TO V/TT SUCRO IP, TR SCATTERED FOSS FRGS, HVYT RACES OF RE-WORKED DARK GRAY CHERT IP, LIGHT YELLOW MIN FLUOR, NO VISIBLE POR, NO VISIBLE SHW OR CUT

SH- GY DK GY- FIRM BLKY SMOOTH TXT IP, V/ CALC TO LMY IP

LS- OFF WHT WHITE TO CREAM- HD TO SFT IP, MED-XLN SUCRO TO SUCRO S-CHLKY, ABDT FREE FIRM TO SFT WHITE CHLKY, NO FLO, NO VIS POR, NO VISIBLE SHOW

SH- GRYDK GY- FIRM BLKY SMOOTH TXT, V/ CALC TO LMY WITH INTERBEDDED FOSSIL FRGS, AND LAMINATED SHALE

### LECOMPTON 2776' - 1000'

LS- CREAM OFF WHT TO WHT- HD DNS TO TR BRITT, F- V/F-XLN IP TO TT SUCRO IP, TR FOSS FRGS IP, SLI TR INTERBED SFT CHLK IP, LT YEL MIN FLO, NO VIS POR

SH- GRYLT GREEN- FRM BLKY SMOOTH TXT

SH- BLK SFT CARB LOOKING TO DK GRY SLI CALC IP

LS- OFF WHT TO CRM HD DNS IP TO V/BRITT, MED -F-XLN TO SUCRO S-CHLKY IP, TR S- RND CLR QRTZ GRINS IP, FREE SFT WHT CHLK IP, TR BLACK REWORKED CHERT, NO FLUOR, NO VIS POR, NO VIS SHOW

SH- LT GRY TO LT GREEN- FRM BLKY SMOOTH TO SLI GRNY TXT, SLI CALC IP

LS- CRM LT TN - HD DNS, F-XLN TO CRYPTO-XLN IP, SLI TR CALC XLS ON ONE FACES, SLI TR LIGHT FLUOR ON ONE FACES TO LT YELLOW MIN FLUOR IP, NO VIS CUT OR SHOW

LS- OFF WHT CRM - HD DNS TO BRITT, MED-XLN TO V/FINE XLN IP, V/S-CHLKY IP, FREE SFT WHT CHLK IP, NO FLUOR, NO VIS POR, NO VIS SHOW

### HEEBNER 2891' - 1115'

SH- BLK SFT TO FIRM CARBONACEOUS LOOKING

SH- DK GRY TO GREEN IP MOTT, FIRM BLKY SMOOTH TO GRAINY TXT, CALC IP,

LS- CRM OFF WHT -HD DNS TO BRITT, F-XLN TRACE OF SFT WHT CHLK IP, TRACE OF DISSAND LAMINATED PYR IP, SLIGHT TRACE EMBEDDED SH, LIGHT YELLOW MIN FLUOR THRU, NO VIS POR, NO VIS CUT

22 U. BG

20 U. BG

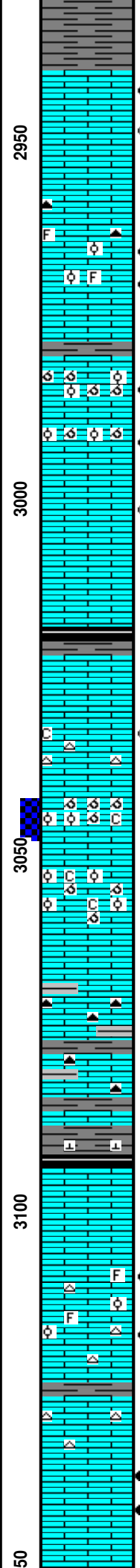
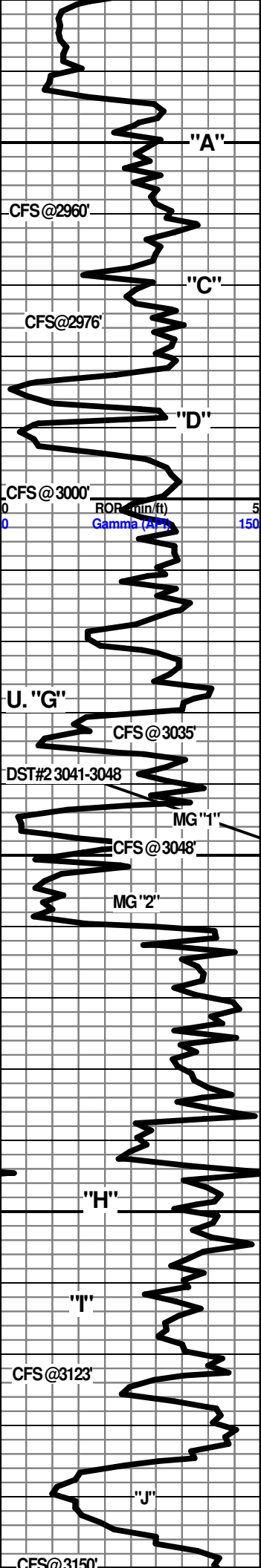
21 U. BG

17. BG

25 U.

MUD CO Ck @ 3008'  
6:05 am 10/16/21  
Vis 50 WL 9.2  
PV 16 YP 22  
WL 5.8  
Cake 1  
PH 11.0

# LANSCING 2939' - 1163'



( "A" ) LS- CRM LT TN TN DUE TO SCATTERED LT BROWN OIL STAIN IN 50%, HD DNS TO V/ BRITT, V/ SUCRO MTRX W/ HVY TRACE CALC XLS EMBED AND FREE CALCITE XLS, DULL YELLOW GOLD FLUOR THRUOUT, POOR VISIBLE MICRO PP POR, POSS FRACT. POR, FAIR TO GOOD FLUSH CUT TO GOOD SLOW STREAM CUT, FAIR OIL ODOR, SKIM OIL IN CUP

( "C" ) LS- CRM LT TN (DUE TO LT BRN OILSTAIN THRUOUT, HD DNS TO BRITT MED F-XLN RE-XLN, EMBED FOSS FRGS IP, SCAT EMBED SMLL TO MED OOLITES IP, SMALL TO MED CALC XLS, HVY TR ORANGE CHERT, DULL YEL GOLD FLUOR IN 60%, PR FR TO TR GOOD INTER-XLN POR IN PART, MICRO VUG POR IP, FAIR TO GOOD FLUSH CUT TO GOOD SLOW STREAM CUT IN 60%, GOOD OIL ODOR

2982-2987' LS- LT TN TN LT BRN-DUE TO OILSTN THRUOUT, HD V/ BRITT, V/ OOLMLD, OOLITIC IP, SMALL CALCITE XLS IN OOLMLD DLL YEL TO BRIGHT YEL GLD FLUOR THRU, EXCELLENT OOLMLD POR, V/GOOD FLUSH CUT TO V/GOOD SLOW STREAM CUT THRU, VERY STRONG OIL ODOR, SKIM OIL ON CUP

2989-2994' LS-CRM LT TN TN LT BRN THRU DUE TO OILSTAIN THRUOUT, HD V/ BRITT DNS IP, MED TO F-XLN RE-XLN, MICRO OOLICAST IP EMBED SMLL TO MED CALCITE XLS IP, EMBED SMLL OOLITES IP, DLL YEL TO BRIT YEL GLD FLUOR THRU, GOOD MICRO OOLICAST TO GD VUG POR, PR FR TO GD INTER-XLN POR SCAT THRU, V/GD FLSH CUT TO VERY GOOD SLOW STRM CUT

3000-3003' LS- OFF WHT CRM LT TAN IN 50-60% DUE TO OILSTAIN, HD DNS TO BRITT IP, V/F-XLN TO MED-XLN RE-XLN, SCATTERED CALC XLS IN VUGS AND VISIBLE POR, DLL TO BRIGHT YEL GLD FLUOR THRU, FAIR TO GD SCAT VUG POROSITY IN 20%, POOR TO TR FAIR INTER-XLN POR IN PART, GOOD FLUSH TO GOOD SLOW STREAM CUT IN ALL POROSITY, FAIR OIL ODOR

SH- BLK SFT CARB LOOKING

(U."G" 3030-3035) MED HD V/BRITT, CRM LT TN IN 20%. TAN OILS TN V/ FINE SUCRO MTRX SLI S-CHILKY IP, TR FOSS FRGS IP, DLL YEL GLD FLO TO TR BRIGHT YEL GLD FLO IP, NO VISIBLE POR, WKFLSH CUT IN 20% TO POOR SLO STRM CUT IN PAR. NO ODOR

(M."G" 3043-3047) LS-OFF WHT CREAM BFF- HD BRITT, V/SUCRO MTRX, V/ MICRO OOLMLD THRU, TRACE OF SMLL OOLITES EMBED IP, ABTD SFT WHT FREE CHLK, ABTD WHT OPQUE CHERT, DLL YEL FLUORIP TO NO FLUOR, SCATTERED PR FAIR TO GOOD VISIBLE OOLMLD POR, POOR SCAT VUG POR IP, NO VIS CUT OR SHOW

3052'-3059' LS- WHITE OFF WHITE CRM- HD BRITT, V/SUCRO MTRX, OOLMLD TO SMLL EMBED OOLITES SCAT THRUOUT, HVY TR FREE SFT WHITE CHLK, V/ DLL YEL MIN FLO THRU, PR TO FR SCAT OOLMLD TO MICRO VUG POR SCAT THRU, POSS INTER-XLN POR IP, NO VIS SHOW OR CUT

3059-3070- LS CRM BFF- HD DNS, CRYOPTO-V/V/FV-XLN, FRILY NON DESCRIPT, NO FLO, NO VIS POR, NO VIS SHOW OR CUT

3070-3085' LS- CRM TAN GRY DK GY IP, MOTT, HDDNS V/F-XLN TO V/ TT SUCRO IP, W/ IMBD LT TO DK GRY SH LAMINATED AND DISS IP, ABTD DK GY TO BLCK CHERT, NO FLO, NO VIS POR, NO VIS SHOW

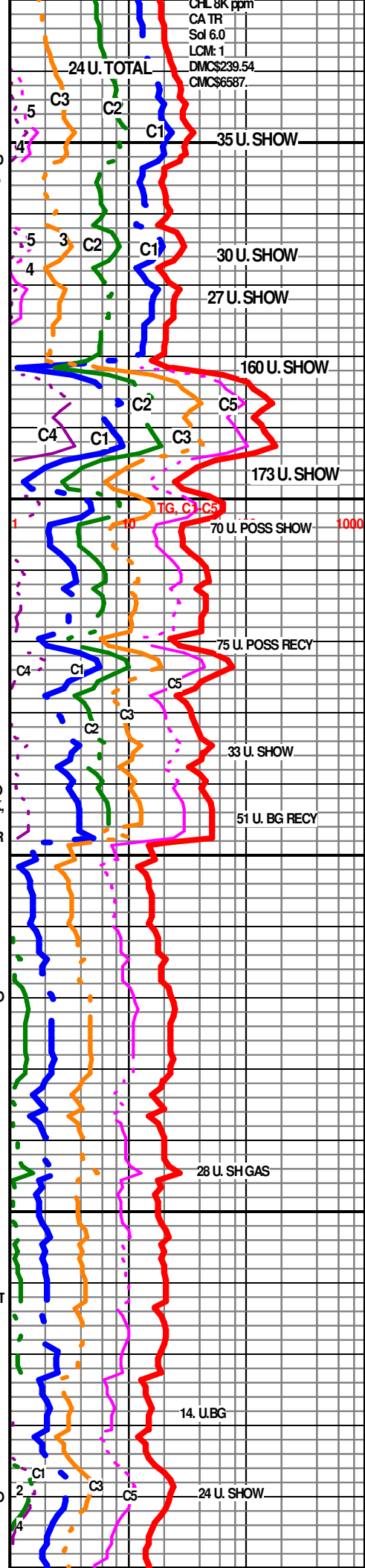
SH- DK GRY TO BLACK SOFT CARBONACEOUS IN PART SLI CALC

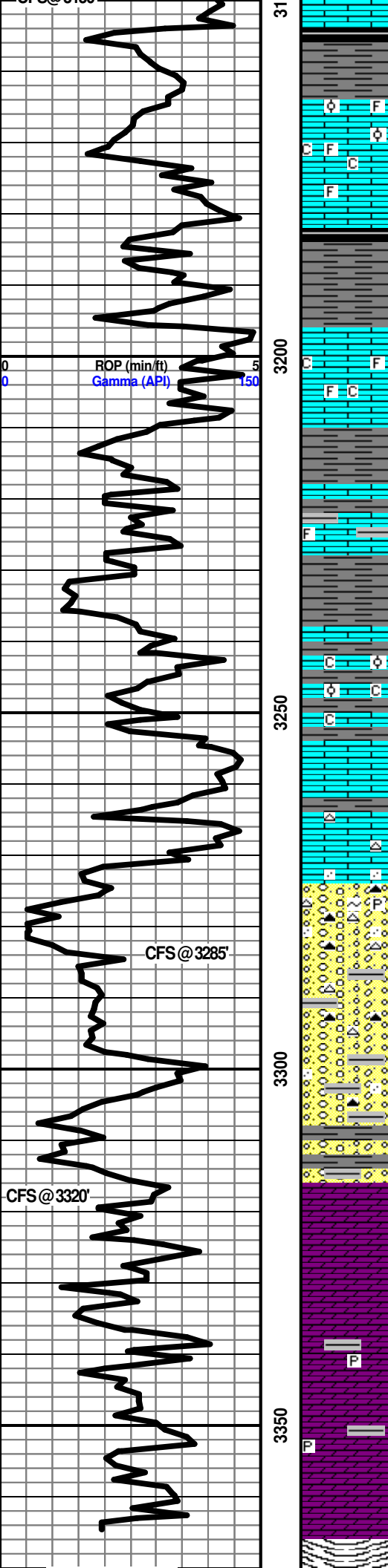
3095'-3105' LS- CRM TAN BRN - MOTT- HARD DENS V/F-CRYPTO-XLN FRILY NON DESCRIPT, NO FLO, NO VIS POR, NO VIS SHOW

LS- CRM LT TN TN DUE TO EVEN BRN OIL STAIN, HD DNS TO V/ BRITT IP, MD-F-XLN, V/RE-XLN, ABTD IMBD SMLLANG POSS DOLO GRAINS & SCATT EMBED CALC XLS IN POROSITY, SUCRO IP W/ EMBED SMLL OOLITES IP, TR WHT CHERT IP, DULL YEL GLD FLUOR THRU, PR FR TO GOOD VISIBLE INTER-XLN TO MICRO PP POR, SCAT MICROVUG POR IP, GOOD FLSH CUT TO GOOD SLO STREAM CUT THRU. GOOD OIL ODOR, OILY SKIM IN CUP

LS- CRM LT GY- HD DNS V/F-CRYPTO-XLN FRILY NON DESCRIPT WITH WHITE OPQUE RE-WORKED CHERT, NO FLO, NO VIS POR, NO VISIBLE SHOW

LS- LT TAN TAN CRM DUE TO OIL STAIN IN 70%, HD DNS IP TO V/ BRITT, V/SUCRO MTRX, RE-XLN IP, SCATT EMBED SMLL CLC XLS, TR FREE LRG CALCITE XLS W/ OIL STN, BRIT YELLOW GLD FLUOR THRU, FR TO GOOD VISIBLE INTER-XLN SCAT THRU TO FR MICRO VUG POROSITY IN 30%, GOOD FLUSH CUT TO V/GOOD SLO STRM CUT, VERY STRONG OIL ODOR, LT TN STN ON DISH





SH- BLACK SFT CARB TO LT GRY TO LT GREEN FRM BLKY SMOOTH TXT

3164-3172' LS- OFF WHT CRM - HD BRITT MED-F-XLN RE-XLN , EMBED FOSS FRGS EMBED OOLITIC IP, FREE SFT WHT CHLK, LIGHT YEL MINFLUOR THRU, NO VIS POR, NO VIS SHOW

3173-3181' LS- BRN DK BRN - HD DNS V/F-CRYPTO-XLN TRACE OF EMBED FOSS FRGS IP TO FRLY NON DESCRIP, NO FLO ,NO VIS POR, NO VIS SHOW

SH- BLK SFT CARB TO RED GRY MOTT, FRM BLKY SMOOTH TXT TO GMMY GREEN SH IP

LS- CRM LT TAN OFF WHT- HD DNS TO BRITT CRYPTO-XLN TO SUCRO IP S-CHLKY , TR FREE SFT WHT CHLK, TR FREE FOSS CRIN STEMS, NO FLO NO VIS POR

### BKC 3209' -1433'

SH- RED GREEN V/SFT GMMY TXT

LS-CRM TN BRN - HD DNS MOTT, V/F-XLN RE-XLN IP, TR SUCRO , TR IMBD RED AND GREEN SH SCATTERED, NO FLO NO VIS POR, NO VIS SHOW

SH- RED GREEN MOTT, VERY SOFT TO SFT GMMY

LS- OFF WHT CRM REDDISH- MOTT, HD DNS TO BRITT MED-XLN RE-XLN EMBED FOSS FRGS , EMBED LAMINATED RED SH, TR S-CHLKY IP, TR EMBED OOL , NO FLO, NO VIS POR, NO VIS SHOW

LS- CRM LT TN - HD DNS V/F-CRYPTO-XLN TO V/V/TT SUCRO IP IMBD CALC XLS IP, NO FLO ,NO VIS POR NO VIS SHOW

LS- CRM TN - HD DNS F-V/F-XLN TO TT SUCRO IP, HVY TR CLRWHT CHERT, TR CLEAR ANG QUARTZ GRAINS IP, TRCALC XLS, NO FLO ,NO VIS POR, NO VIS SHOW

LS-CRM LT TN RED GREEN- HD DNS TO BRITT, MED-XLN RE-XLN MTRX, IMBD QUARTZ GRAINS ,OOLITES, RED SHALE, ABTD ORANGE WHT TAN REWORKED CHERT, NO FLO, NO VIS POR, NO VIS SHOW

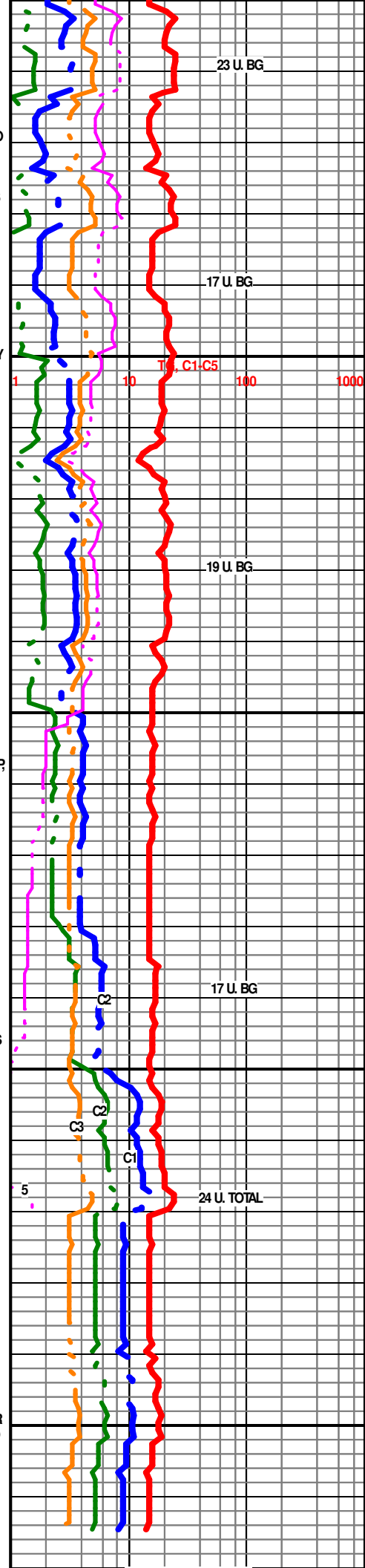
LS-CRM LT TN- HD DNS TO BRITT, MED-XLN RE-XLN MTRX, IMBD QUARTZ GRAINS ,OOLITES, ABTD RED GREEN SHALE V/ GMMY TXT ABTD ORANGE WHT TAN REWORKED CHERT, NO FLO, NO VIS POR, NO VIS SHOW

SHALE- RED VERY SOFT TO GUMMY

### ARBuckle 3315' - 1539'

DOLO- LT TN- HD DNS TO V/ BRITT, V/TT SUCRO MTRXT TO V/COARSE SUCRO MTRX, DLL YEL FLUOR THRU, NO POROSITY IP TO GD INTER-XLN POR, NO VISIBLE CUT OR SHOW

DOLO- LT TN- HD DNS TO V/ BRITT, V/TT SUCRO TO V/COARSE SUCRO MTRX, TR LAMINATED PYR & TRACE GREEN SH, DLL YEL FLUOR THRU, NO POROSITY TO GD INTER-XLN POR, NO VISIBLE CUT OR SHOW



R.T.D. @ 3365'

CFS 1 HOUR

SHORT TRIP 10 STANDS

CTCH 1.5 HOURS/TOFL

LOGGERS HALLIBURTON

R.T.D. @ 3365