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

Well Name:	WALZ 31-8		
Location:	SEC. 31-10S-21W	GRAHAM CO., KS	
License Number:	15-065-23995-0000	Region:	Wildcat
Spud Date:	12-6-13	Drilling Completed:	12-14-13
Surface Coordinates:	2230 FLN/ 330 FEL		
Bottom Hole Coordinates:			
Ground Elevation (ft):	2221'	K.B. Elevation (ft):	2231'
Logged Interval (ft):	3225' To: 4000'	Total Depth (ft):	4000'
Formation:	Lansing/ Arbuckle		
Type of Drilling Fluid:	Natural Chemical		

Printed by WellSight Log Viewer from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: Sam Gary Jr. Associates, Inc.
Address: 1515 Wynkoop St, STE 700
Denver Co, 80202
Co. Geo: Chris Mitchell

GEOLOGIST

Name: Jordan Newsom/ Schuyler Hedrick
Company: Earth Tech OGL, Inc.
Address: PO Box 683
Hooker, Okla. 73945
1-(888)- 543-8378 Work Cell-(580)-754-0990

DST's Report

DST#1 3572'-3644' 5-60-30-120
IF-WEAK TO FAIR BLOW1/2" TO 4" BLOW, ISI- NO BLOW, FF- SURFACE BLOW, FSI- NO BLOW
IH- 1758, FH- 1751/ IF- 29, FF- 47/ ISI- 1011, FSI- 1022
REC 40' OF TF/ 40' OF SOCM 1% OIL, 99% MUD/ BHT- 105/ CHLOR- 5000 PPM SYSTEM

DST's Report

DST#2 3572'-3644' 5-60-30-120
IF- WEAK TO FAIR BLOW 1/2" TO 4 1/4" BLOW, ISI- NO BLOW, FF- WEAK TO STRONG IN 20 MIN, FSI- 1/4" BLOW BACK
IH- 1757, FH-1718/ IF- 28 TO 59, FF- 49 TO 116/ ISI- 1006, FSI- 980
REC- 195' OF TF/ 175' GIP/ 15' CO/ 115' 0&GCM 5% GAS, 10% OIL, 85% MUD/ 65' O&GCM 5% GAS, 15% OIL, 80% MUD/ BHT- 104, GRAVITY- 33/ CHLOR- 5000 PPM SYSTEM

DST's Report

DST#3 3685'-3750' 5-60-30-120
IF-WEAK TO FAIR BLOW 1/2" TO 4 1/2" BLOW, ISI- NO BLOW BACK, FF- WEAK TO STRONG IN 12 MIN, FSI 1/4" BLOW BACK
IH- 1810, FH-1774/ IF-26 TO 91, FF- 39 TO 92/ ISI- 1252, FSI- 1243
REC- 150' OF TF/ 275' GIP/ 65' CO/ 85' O&GCM 10% GAS, 25% OIL, 65% MUD
BHT- 109, GRAVITY-35/ CHLOR-4000 PPM SYSTEM

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
- Sltysh
- 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
- Slty

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
- Grysltt
- 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

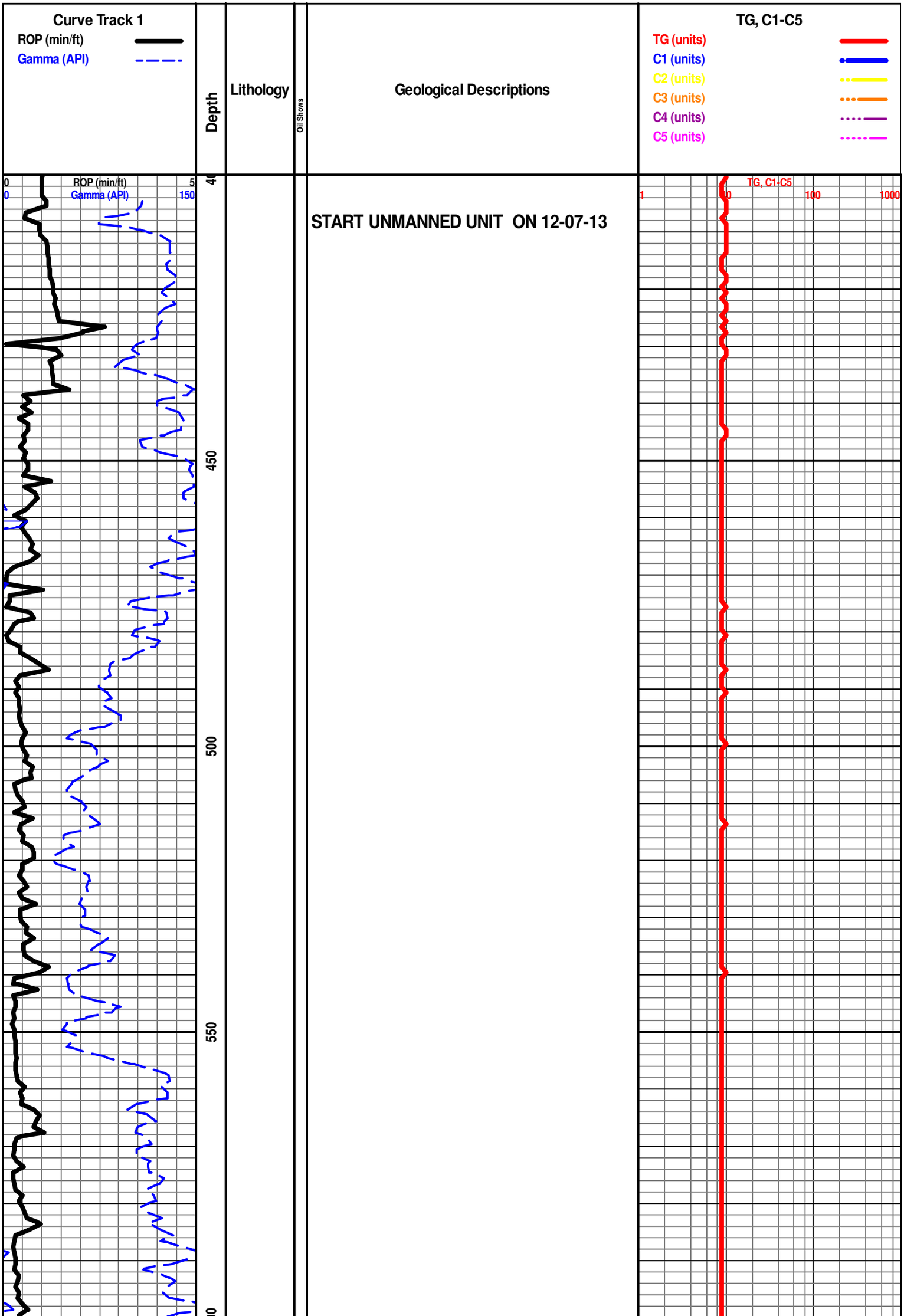
- Even
- Spotted
- Ques
- Dead
- Gas show

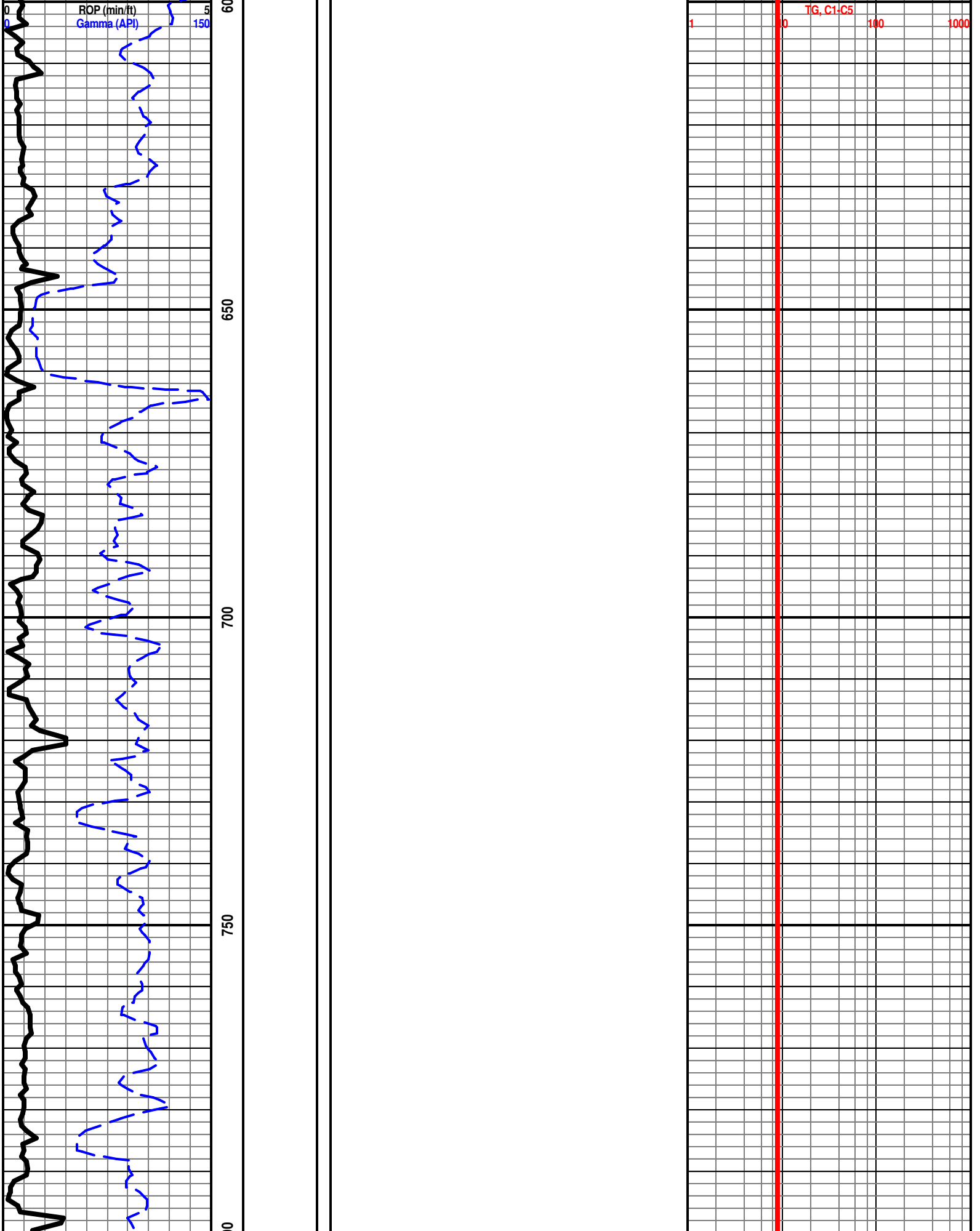
INTERVALS

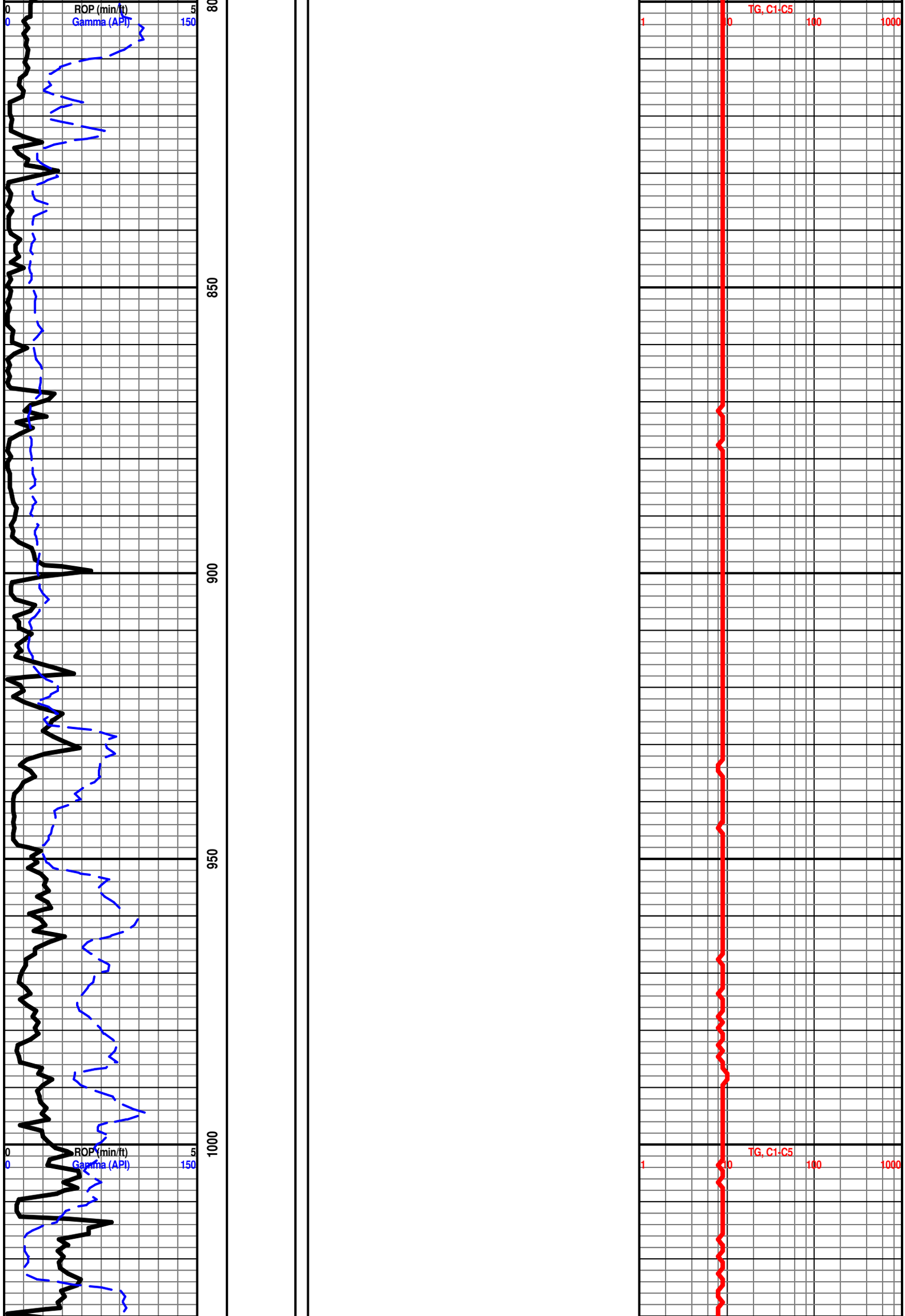
- Core
- Dst
- Dst

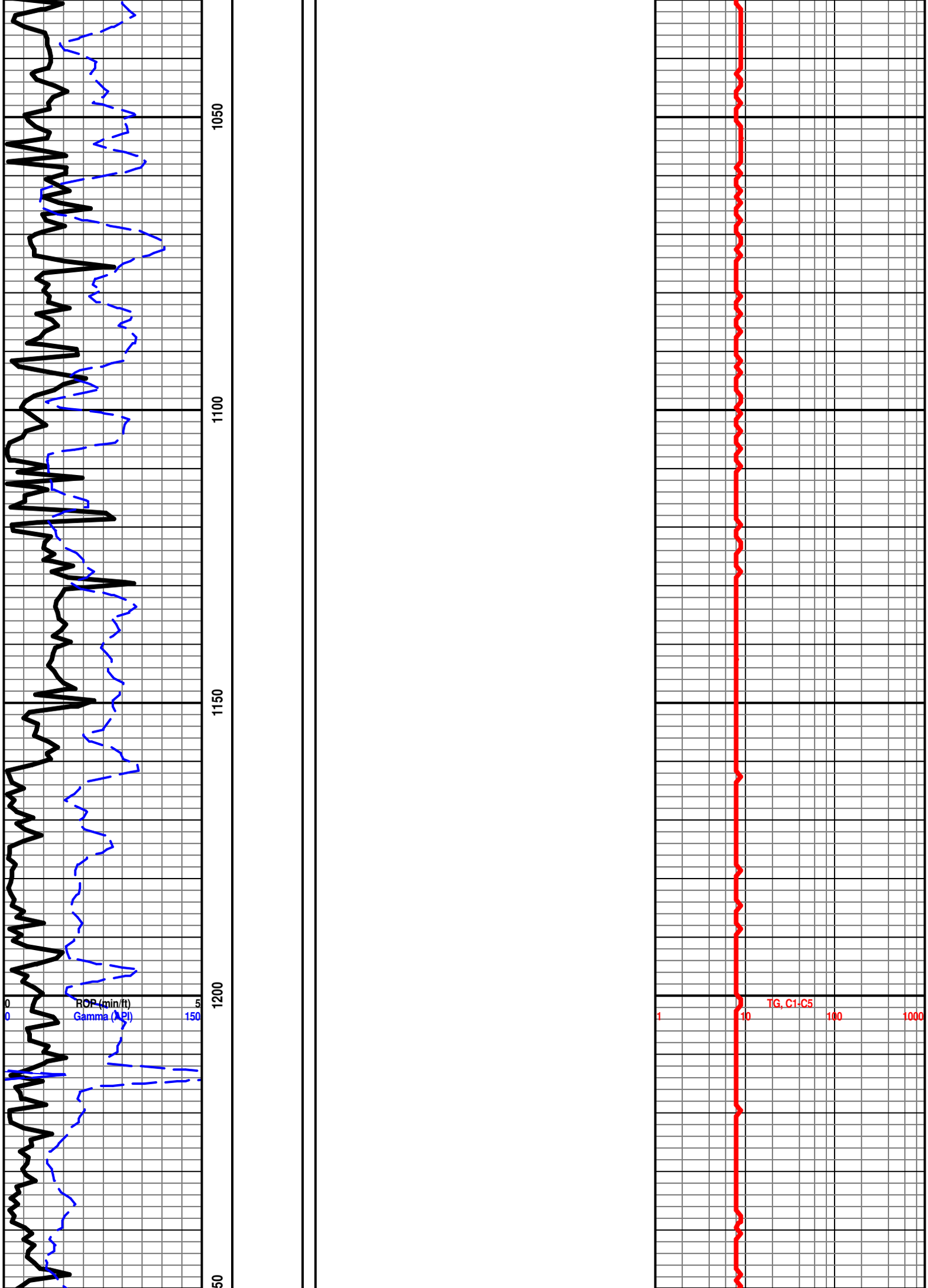
EVENTS

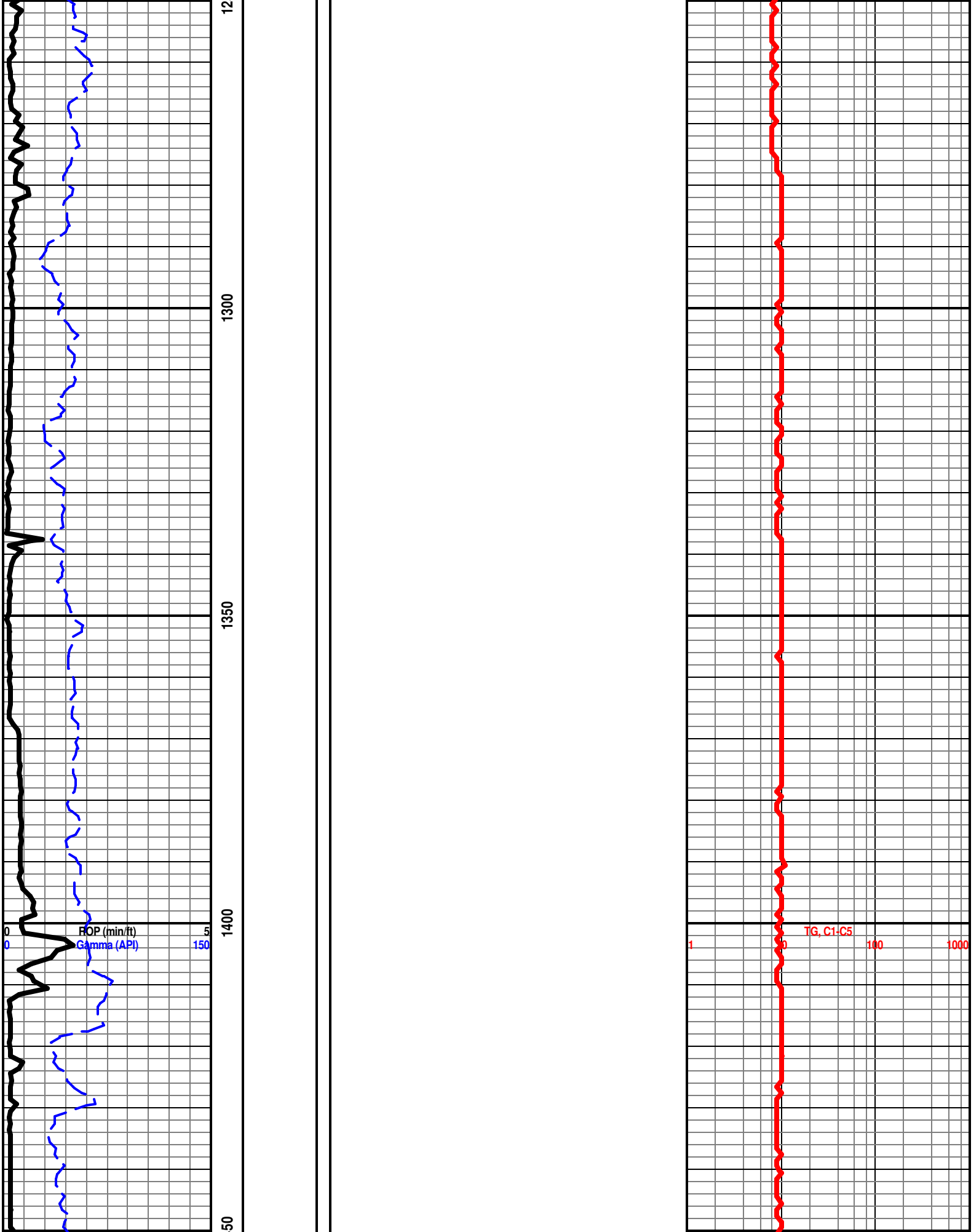
- Rft
- Sidewall

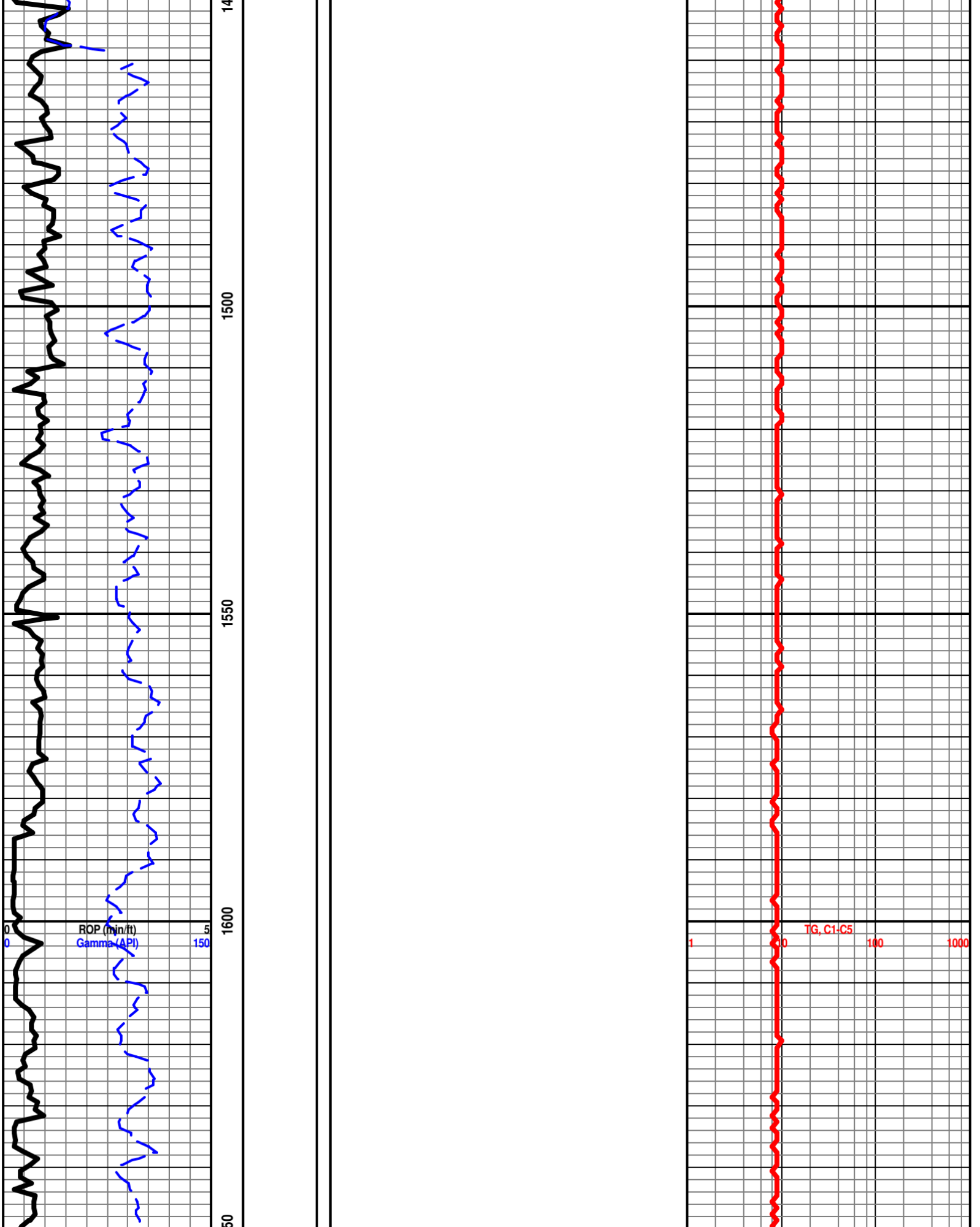

Curve Track 1
ROP (min/ft)
Gamma (API)
Depth
Lithology
Oil Shows
Geological Descriptions
TG, C1-C5
TG (units)
C1 (units)
C2 (units)
C3 (units)
C4 (units)
C5 (units)
ROP (min/ft)
Gamma (API)
150
450
500
550
TG, C1-C5
1
100
1000
START UNMANNED UNIT ON 12-07-13

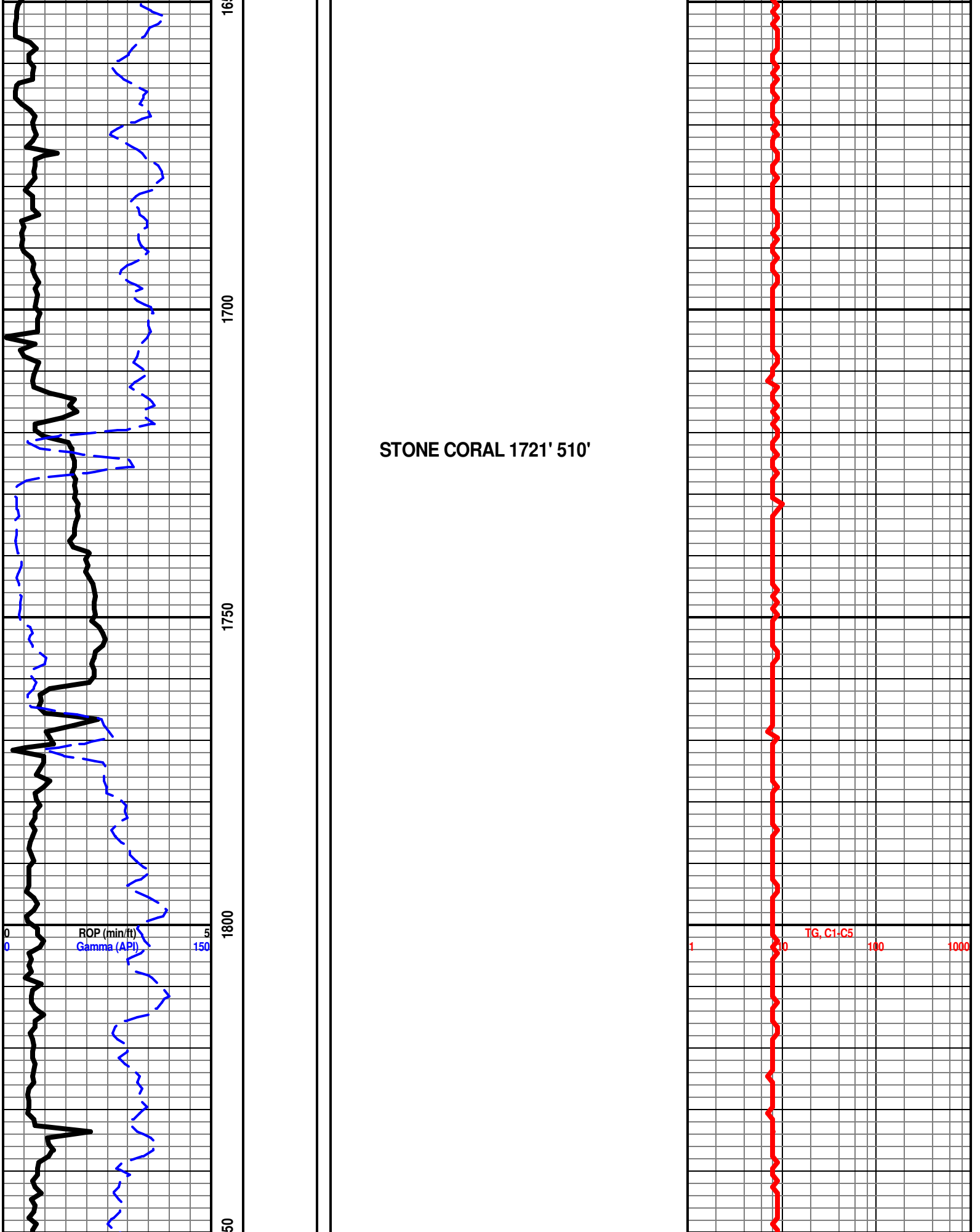

0
ROP (min/ft)
5
0
Gamma (API)
150
TG, C1-C5
1
10
100
1000
650
700
750

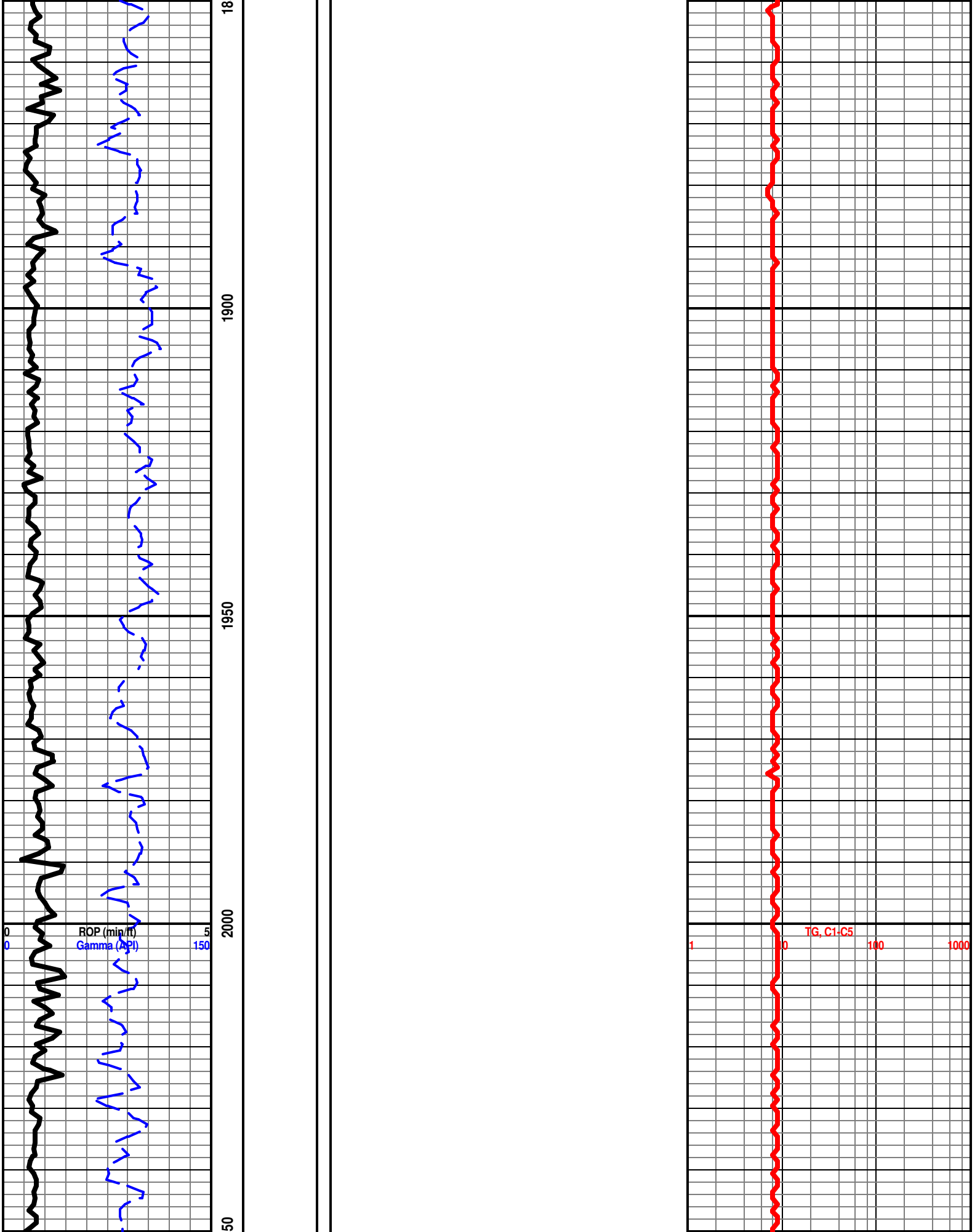

0
ROP (min/ft)
5
0
Gamma (API)
150
800
850
900
950
1000
0
ROP (min/ft)
5
0
Gamma (API)
150
TG, C1-C5
1
10
100
1000
TG, C1-C5
1
10
100
1000

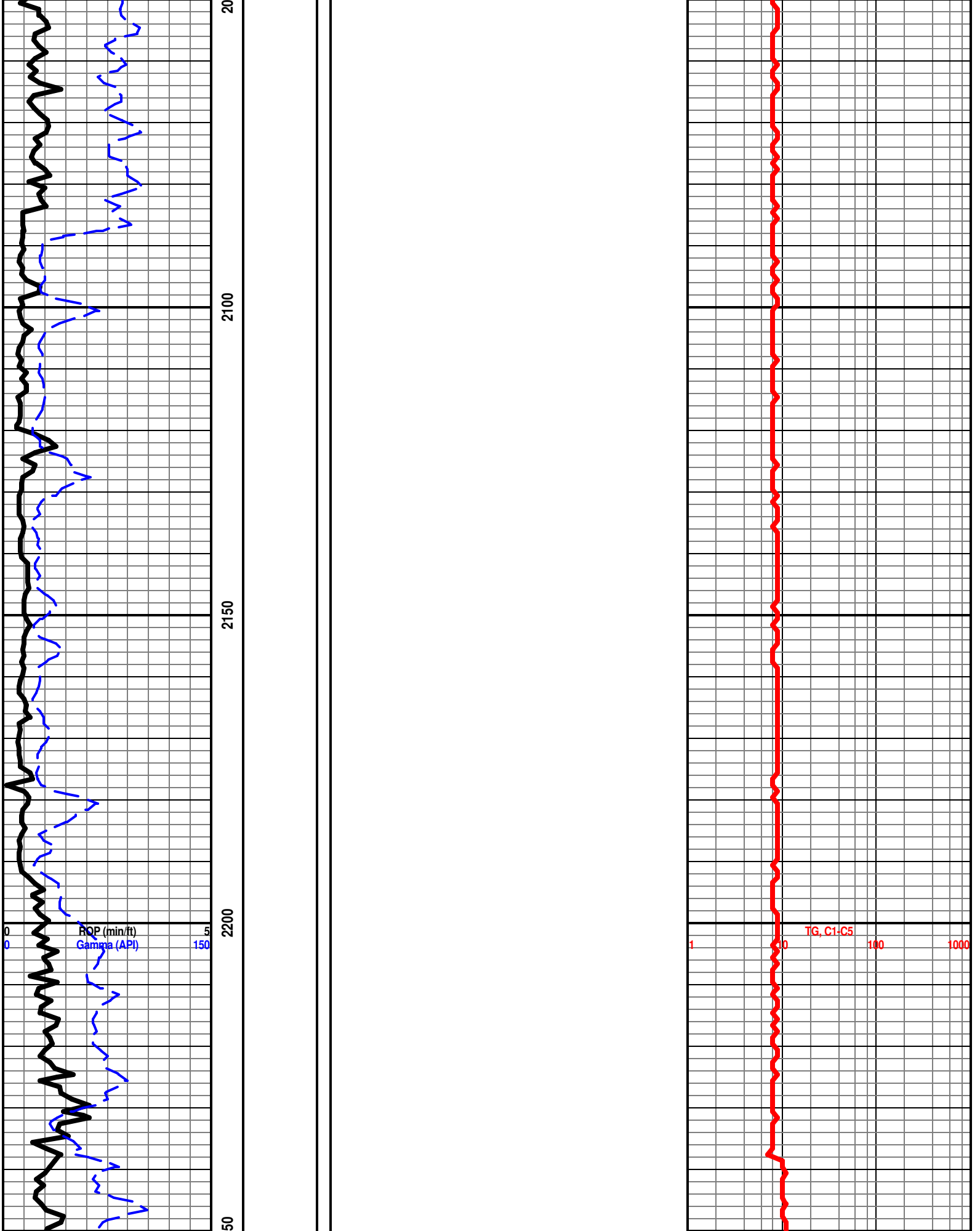

1050
1100
1150
1200
0
ROP (min/ft)
5
0
Gamma (API)
150
TG, C1-C5
1
10
100
1000

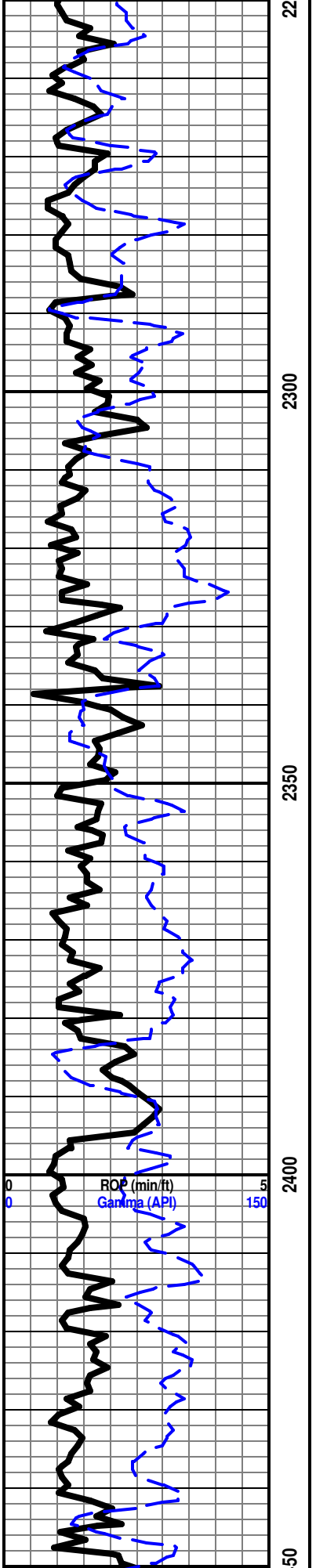

1300
1350
1400
0
ROP (min/ft)
5
0
Gamma (API)
150
TG, C1-C5
1
10
100
1000

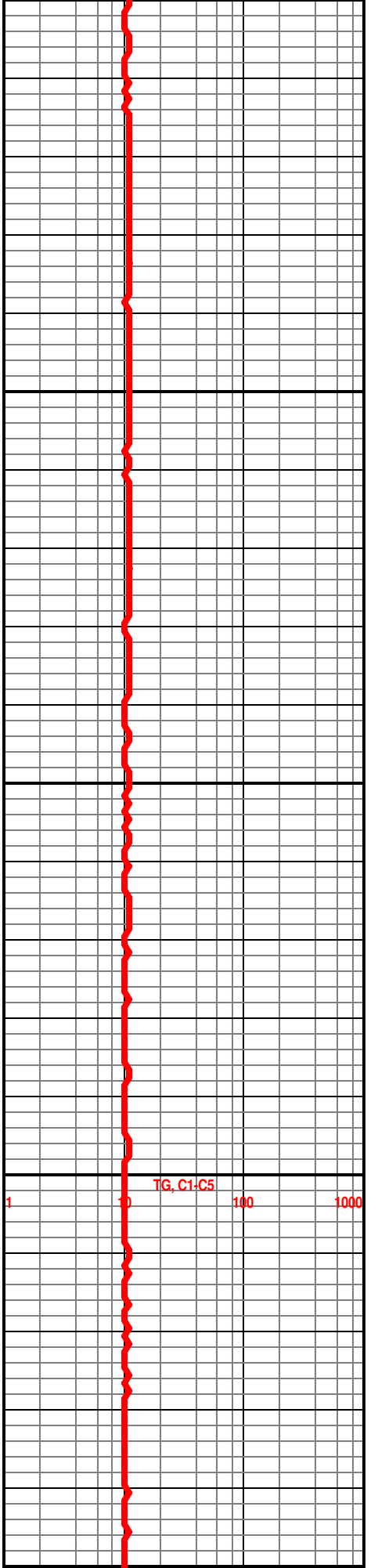

1500
1550
1600
0
ROP (min/ft)
5
0
Gamma (API)
150
TG, C1-C5
1
10
100
1000

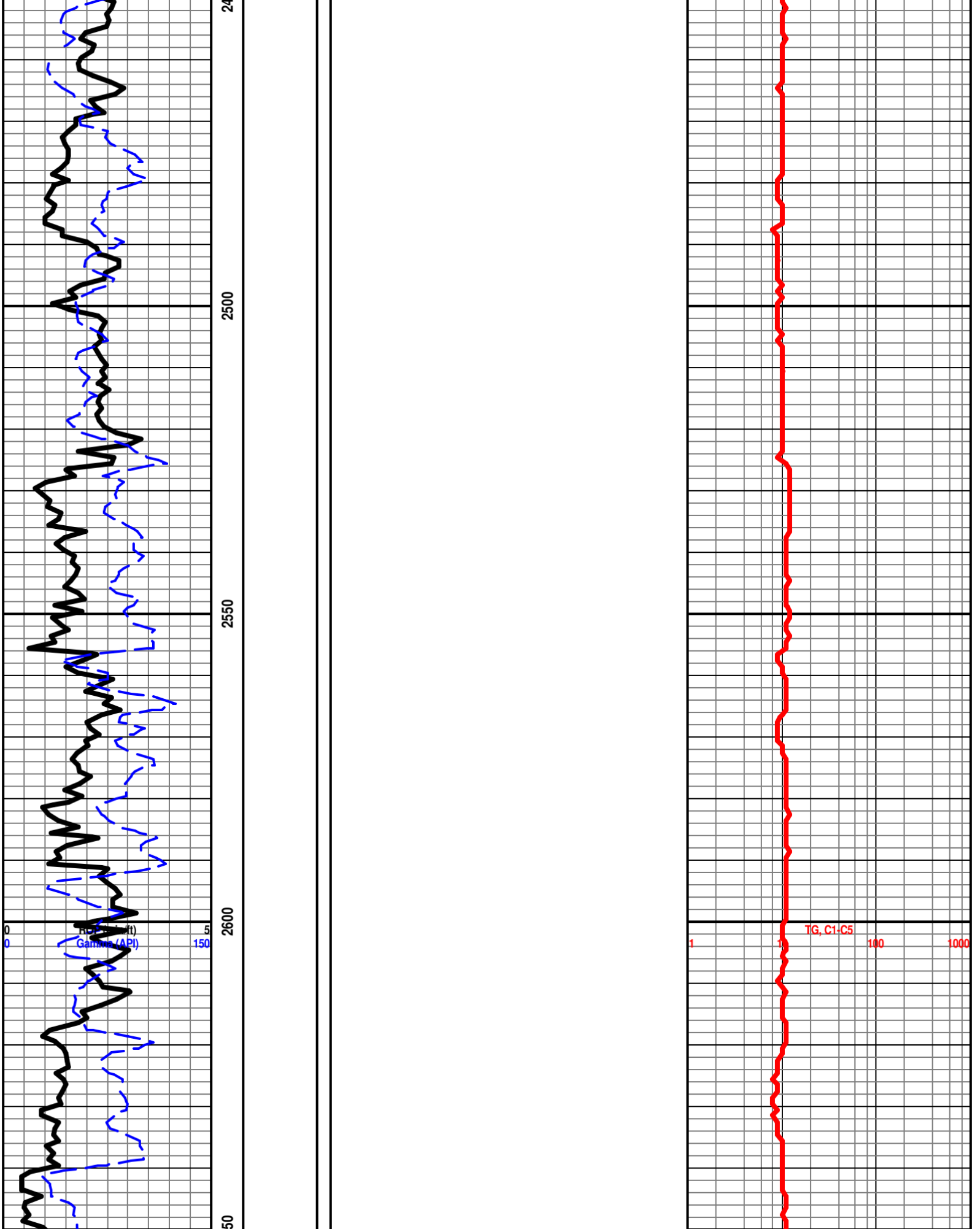

1700
1750
1800
0
ROP (min/ft)
5
0
Gamma (API)
150
STONE CORAL 1721' 510'
TG, C1-C5
1
10
100
1000

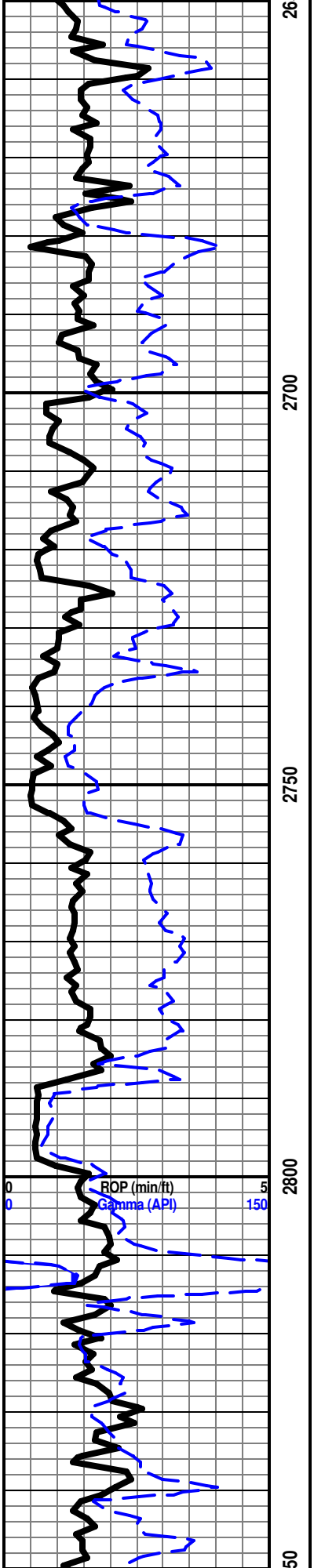

1850
1900
1950
2000
0
ROP (min/ft)
5
0
Gamma (API)
150
TG, C1-C5
1
10
100
1000


2100
2150
2200
0
ROP (min/ft)
5
0
Gamma (API)
150
TG, C1-C5
1
10
100
1000

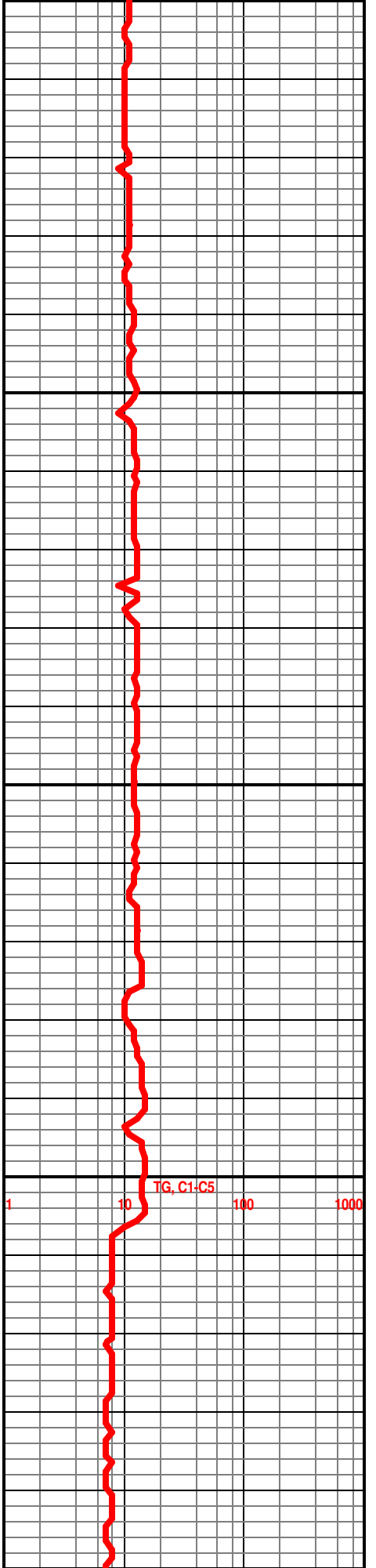

0
ROP (min/ft)
5
0
Gamma (API)
150
2300
2350
2400

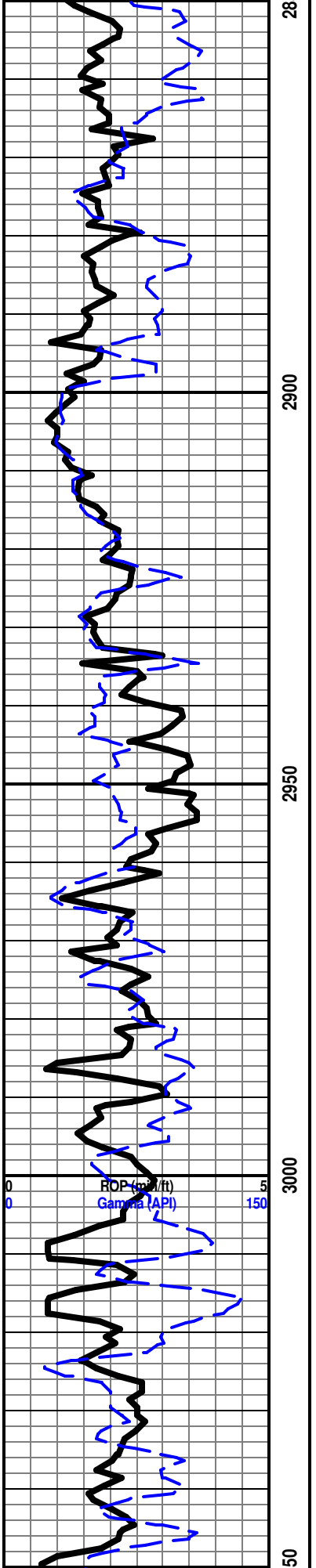

TG, C1-C5
1
10
100
1000


2500
2550
2600
0
5
0
150
TG, C1-C5
1
10
100
1000

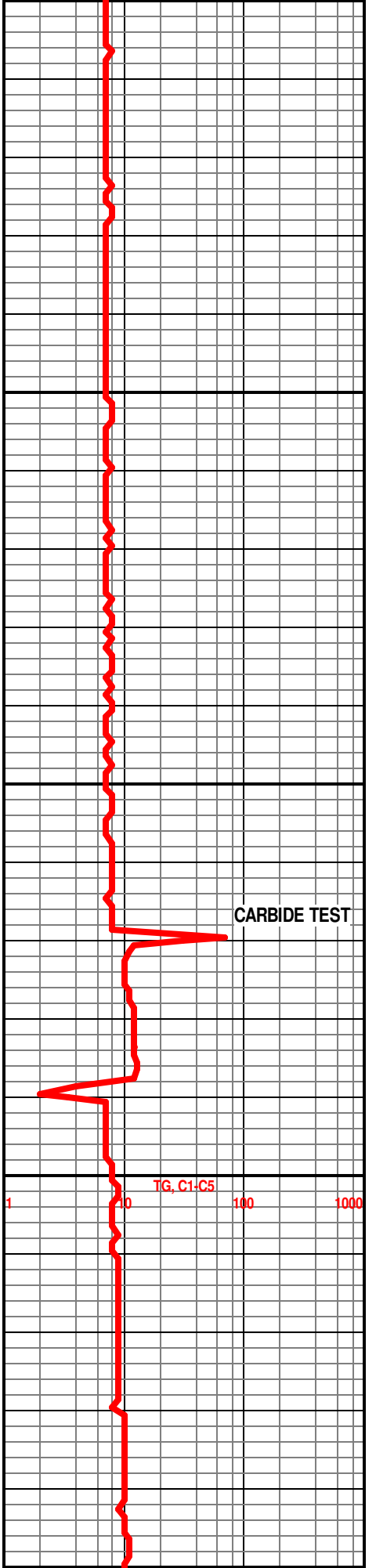


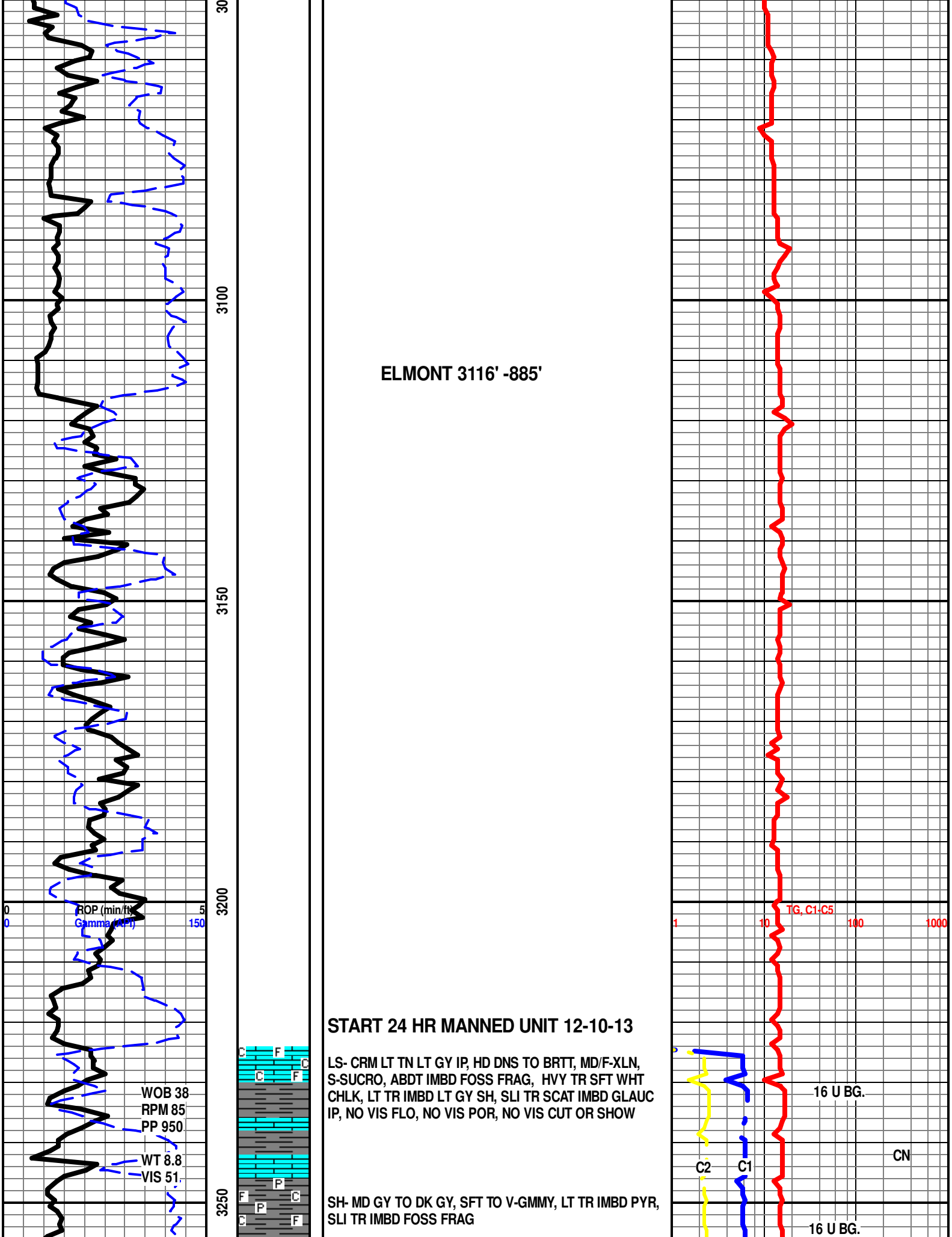
ESKRIDGE 2753' -522'

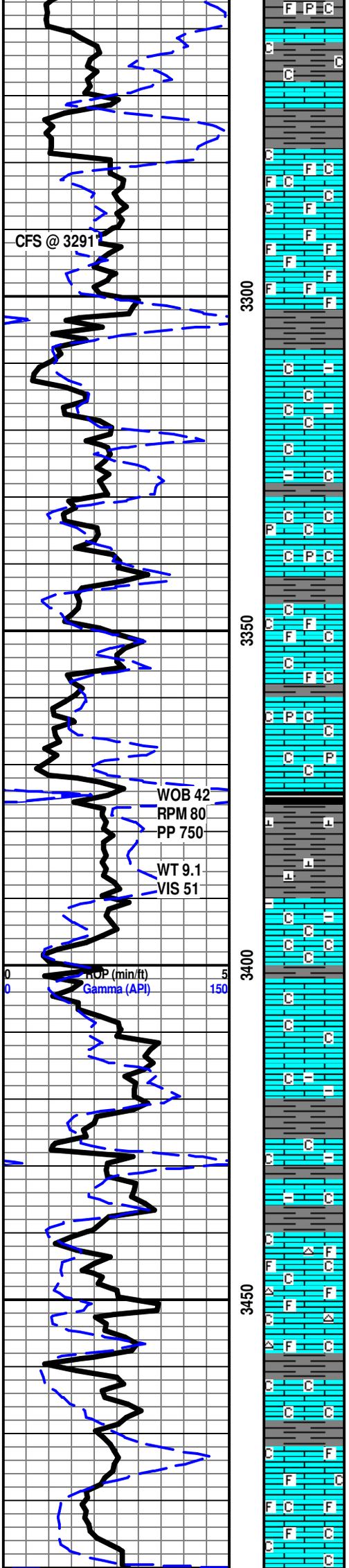




TRIP OUT OF HOLE DUE TO PLUGGED BIT




3100
3150
3200
3250
0
ROP (min/ft)
5
0
Gamma (API)
150
WOB 38
RPM 85
PP 950
WT 8.8
VIS 51
ELMONT 3116' -885'
START 24 HR MANNED UNIT 12-10-13
LS- CRM LT TN LT GY IP, HD DNS TO BRTT, MD/F-XLN, S-SUCRO, ABDT IMBD FOSS FRAG, HVY TR SFT WHT CHLK, LT TR IMBD LT GY SH, SLI TR SCAT IMBD GLAUC IP, NO VIS FLO, NO VIS POR, NO VIS CUT OR SHOW
SH- MD GY TO DK GY, SFT TO V-GMMY, LT TR IMBD PYR, SLI TR IMBD FOSS FRAG
TG, C1-C5
1
10
100
1000
16 U BG.
CN
C2
C1
16 U BG.



SH- LT GY TO RD GRN IP, SFT TO V-GMMY THRU, SLTY TXT, HVY TR SFT WHT CHLK, INTERBED LS THRU

TOPEKA 3279' -1048'

LS-OFF WHT TO CRM LT TN IP, HD DNS TO BRITT IP, MD/F-XLN S-CHLKY, HVY TR IMBD SFT WHT CHLK SCATT IMBD FOSS FRAG IP, DUL YEL MIN FLO IN 10%, TR VY PR MICRO PP POR IP, NO VIS CUT OR SHOW

LS-LT TN TO TN, VY HD DNS TO SLI BRITT IP, F/VF-XLN, S-SUCRO IP, RE-XLN IP, LT TR IMBD FOSS FRAG IP, V DUL YEL MIN FLO IP, NO VIS POR, NO VIS CUT OR SHOW

LS- OFF WHT TO CRM, HD TO SFT, MD-XLN V-CHLKY MTRX, ABDT IMBD SFT WHT CHLK THRU, LT TR IMBD DK GY SH IP, YEL MIN FLO THRU, NO VIS POR, NO VIS CUT OR SHOW

LS- CRM TO LT TN TN IP, HD DNS TO BRTT, MD/F-XLN, S-CHLKY, HVY TR SFT WHT CHLK IN TRAY, V LT TR DISS PYR IP, DUL YEL MIN FLO IN 60%, NO VIS POR, NO VIS CUT OR SHOW

LS- CRM TO OFF WHT LT TN IP, HD DNS TO BRTT, MD/F-XLN, S-CHLKY, HVY TR SFT WHT CHLK IN TRAY, LT TR IMBD FOSS FRAG IP, NO VIS FLO, NO VIS POR , NO VIS CUT OR SHOW

LS- CRM TO LT TN, HD DNS TO V BRTT, MD-XLN V CHLKY MTRX, ABDT IMBD SFT WHT CHLK THRU, V SLI TR PYR, NO VIS FLO, NO POR, NO VIS SHOW

SH- BLK SFT CARB W/MD GY TO DK GY, SFT SPLNTY TO GMMY IP, HVY TR INTERBED LS

LS- OFF WHT TO CRM LT TN IP, HD DNS TO BRTT, F-XLN V S-CHLKY, ABDT SFT WHT CHLK THRU TRAY, VY LT TR IMBD GY SH IP, NO VIS FLO, NO VIS POR, NO VIS SHOW

LS- OFF WHT TO CRM, HD DNS TO BRTT, M-XLN RE-XLN IP, S-SUCRO, HVY TR IMBD CALC-XLS THRU, HVY TR WHT CHLK THRU TRAY, IMBD RD SH, DUL YEL MIN FLO IN 40%, TR V PR MICR VUG POR IP, NO VIS CUT OR SHOW

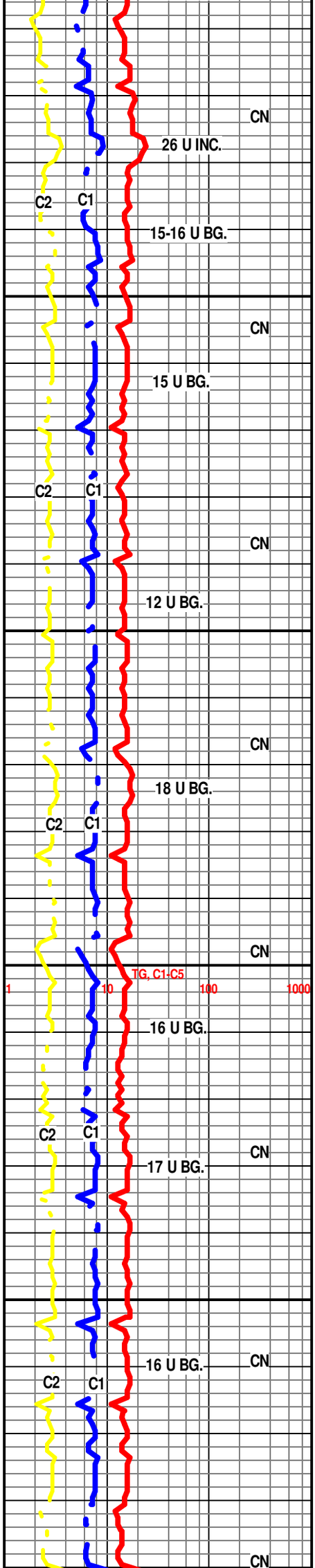
LS- CRM TO LT TN, HD DNS TO BRTT, MD/F-XLN S-CHLKY, ABDT SFT CHLK THRU TRAY, LT TR IMBD SM CALC-XLS IP, SLI TR IMBD RD SH, NO VIS FLO, NO VIS POR, NO VIS CUT OR SHOW

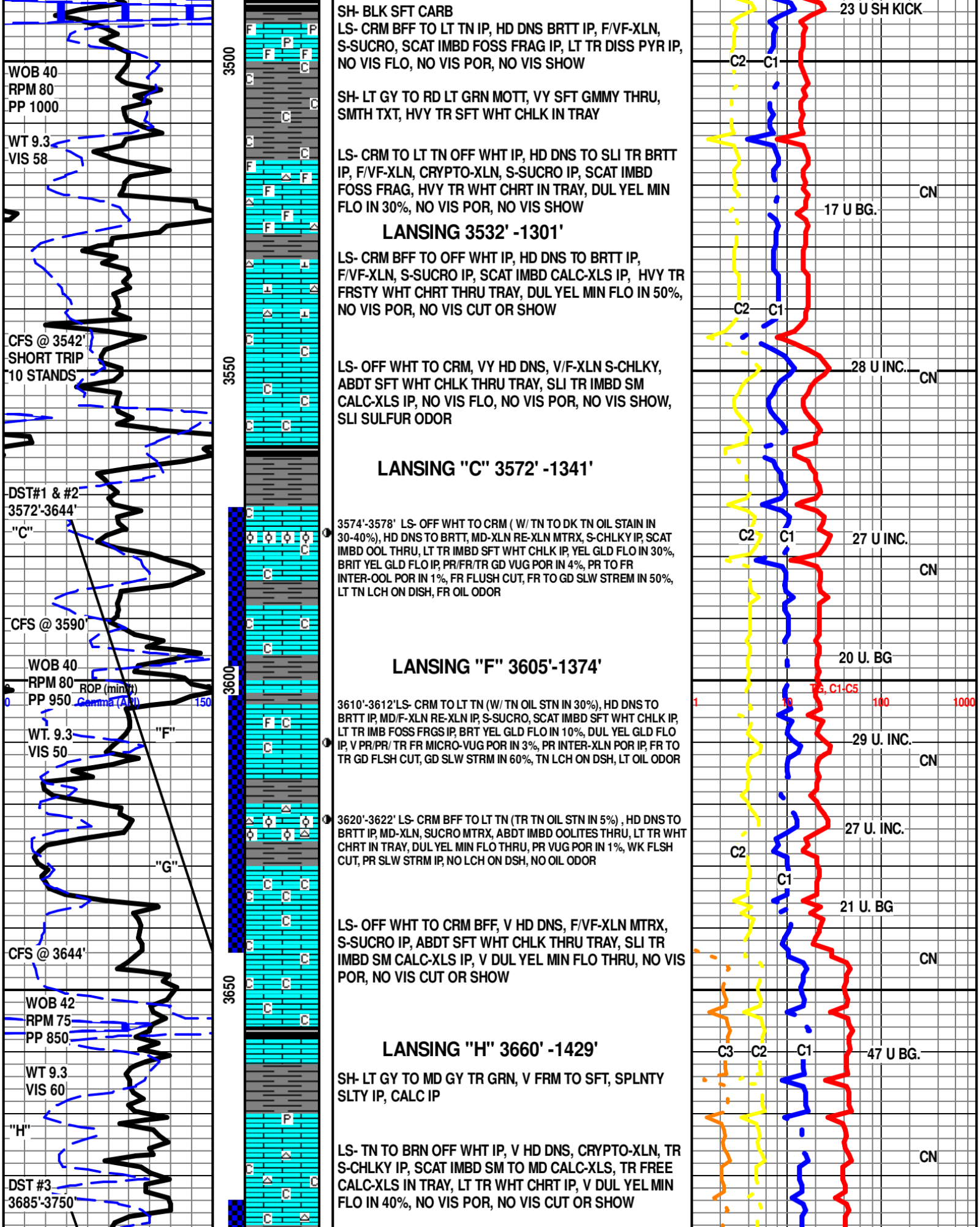
LS- OFF WHT TO CRM TO LT TN, HD DNS TO BRTT IP, MD/F-XLN, S-SUCRO, S-CHLKY IP, HVY TR IMBD SFT WHT CHLK, HVY TR WHT & LT TN CHRT THRU TRAY, LT TR IMBD FOSS FRAG, VY DUL YEL MIN FLO IN 50%, NO VIS POR, NO VIS CUT OR SHOW

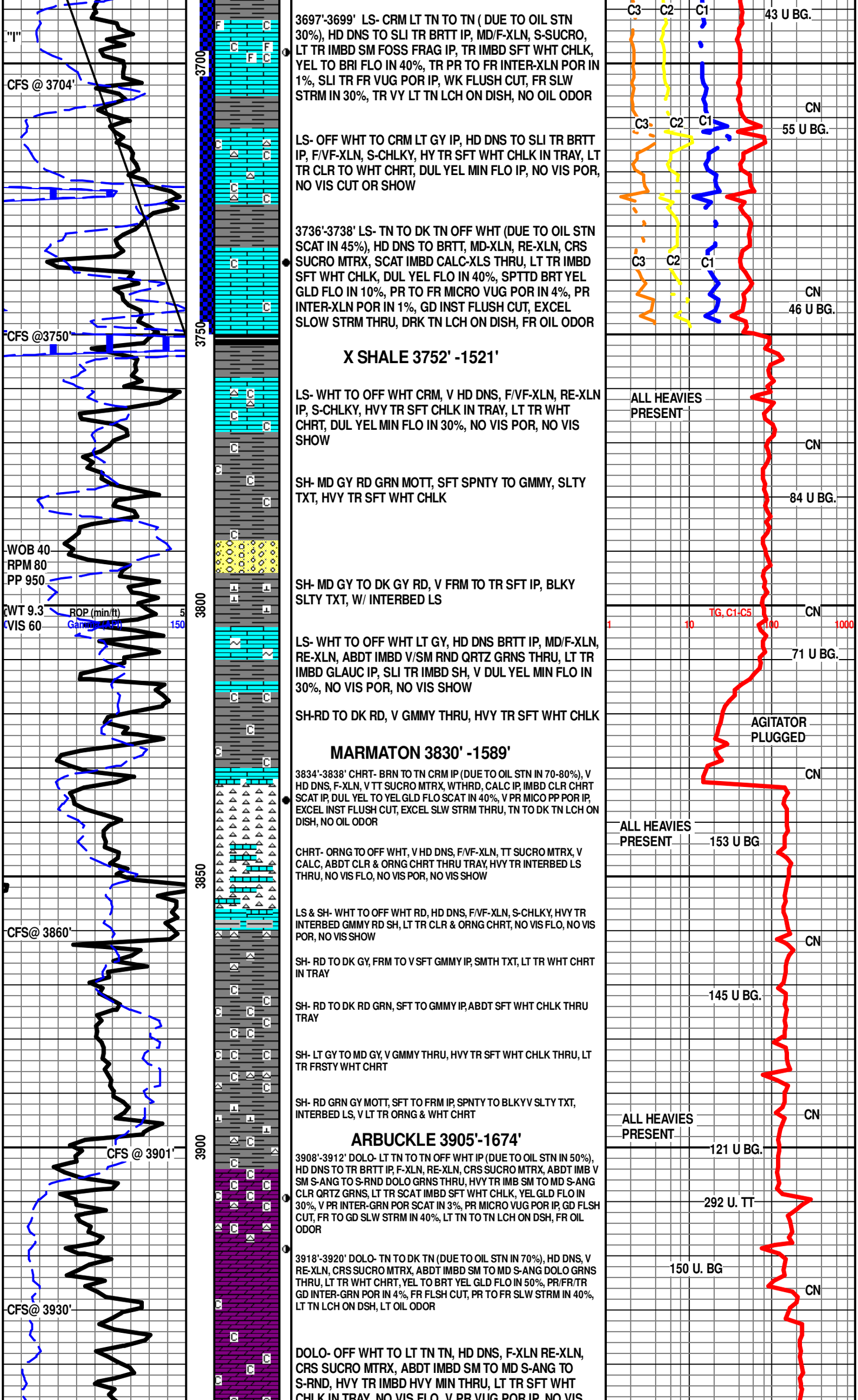
LS- CRM TO LT TN TN, HD DNS TO BRTT, MD/F-XLN S-CHLKY, ABDT SFT WHT CHLK IN TRAY, SCAT IMBD CALC-XLS IP, NO VIS FLO, NO VIS POR, NO VIS CUT OR SHOW

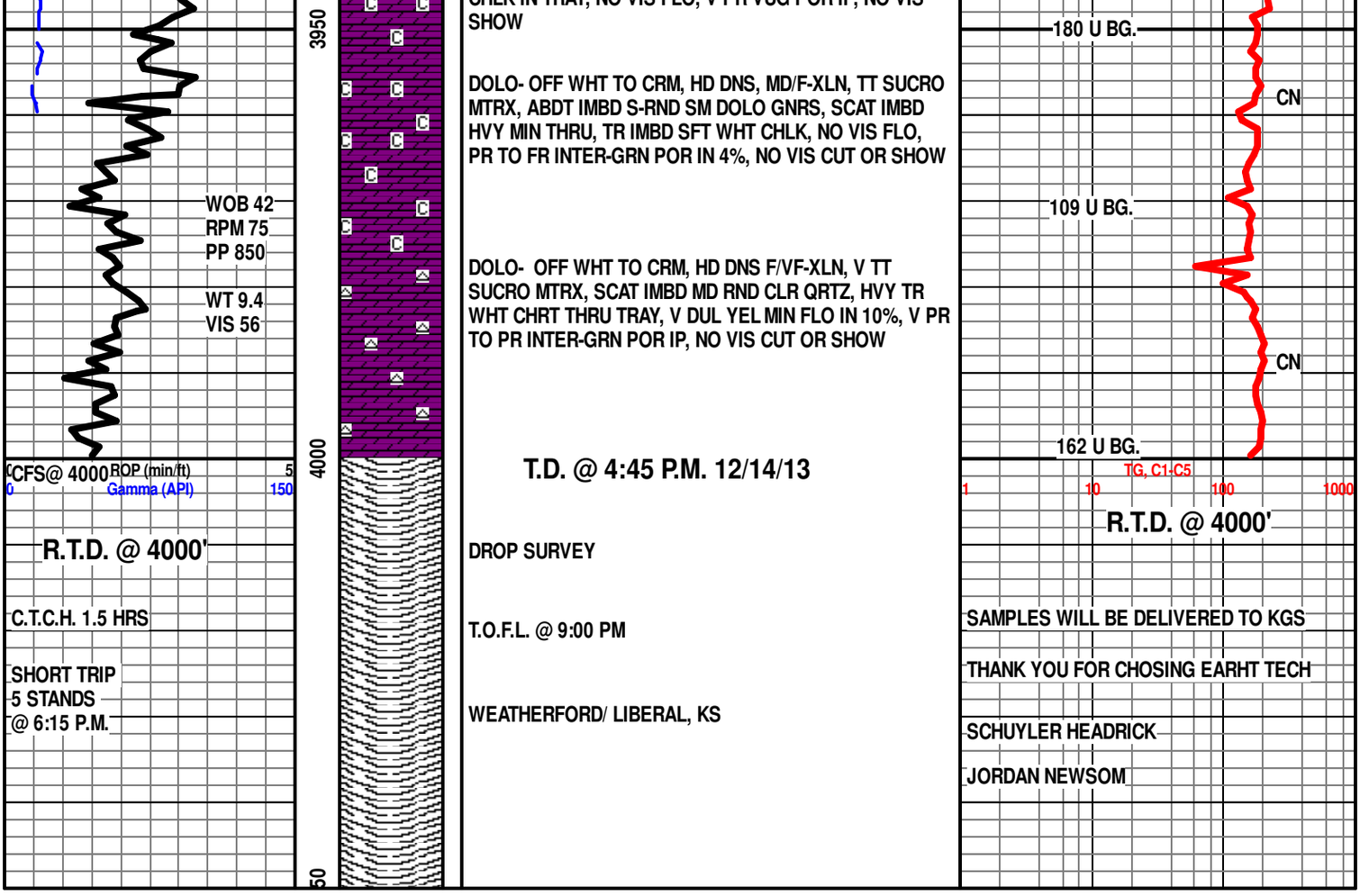
LS- OFF WHT TO CRM LT TN IP, HD DNS TO BRTT IP, F/VF-XLN, VY S-CHLKY, ABDT SFT WHT CHLK IN TRAY, IMBD FOSS FRAG THRU, DUL YEL MIN FLO IN 40%, NO VIS POR, NO VIS CUT OR SHOW

HEEBNER 3492' -1261'




WOB 40
RPM 80
PP 1000
WT 9.3
VIS 58
CFS @ 3542'
SHORT TRIP
10 STANDS
DST#1 & #2
3572'-3644'
"C"
CFS @ 3590'
WOB 40
RPM 80
PP 950
ROP (min/ft)
Gamma (API)
0
150
WT. 9.3
VIS 50
"F"
"G"
CFS @ 3644'
WOB 42
RPM 75
PP 850
WT 9.3
VIS 60
"H"
DST #3
3685'-3750'
3500
3550
3600
3650
SH- BLK SFT CARB
LS- CRM BFF TO LT TN IP, HD DNS BRTT IP, F/VF-XLN, S-SUCRO, SCAT IMBD FOSS FRAG IP, LT TR DISS PYR IP, NO VIS FLO, NO VIS POR, NO VIS SHOW
SH- LT GY TO RD LT GRN MOTT, VY SFT GMMY THRU, SMTH TXT, HVY TR SFT WHT CHLK IN TRAY
LS- CRM TO LT TN OFF WHT IP, HD DNS TO SLI TR BRTT IP, F/VF-XLN, CRYPTO-XLN, S-SUCRO IP, SCAT IMBD FOSS FRAG, HVY TR WHT CHRT IN TRAY, DUL YEL MIN FLO IN 30%, NO VIS POR, NO VIS SHOW
LANSING 3532' -1301'
LS- CRM BFF TO OFF WHT IP, HD DNS TO BRTT IP, F/VF-XLN, S-SUCRO IP, SCAT IMBD CALC-XLS IP, HVY TR FRSTY WHT CHRT THRU TRAY, DUL YEL MIN FLO IN 50%, NO VIS POR, NO VIS CUT OR SHOW
LS- OFF WHT TO CRM, VY HD DNS, V/F-XLN S-CHLKY, ABDT SFT WHT CHLK THRU TRAY, SLI TR IMBD SM CALC-XLS IP, NO VIS FLO, NO VIS POR, NO VIS SHOW, SLI SULFUR ODOR
LANSING "C" 3572' -1341'
3574'-3578' LS- OFF WHT TO CRM (W/ TN TO DK TN OIL STAIN IN 30-40%), HD DNS TO BRTT, MD-XLN RE-XLN MTRX, S-CHLKY IP, SCAT IMBD OOL THRU, LT TR IMBD SFT WHT CHLK IP, YEL GLD FLO IN 30%, BRIT YEL GLD FLO IP, PR/FR/TR GD VUG POR IN 4%, PR TO FR INTER-OOL POR IN 1%, FR FLUSH CUT, FR TO GD SLW STREM IN 50%, LT TN LCH ON DISH, FR OIL ODOR
LANSING "F" 3605'-1374'
3610'-3612'LS- CRM TO LT TN (W/ TN OIL STN IN 30%), HD DNS TO BRTT IP, MD/F-XLN RE-XLN IP, S-SUCRO, SCAT IMBD SFT WHT CHLK IP, LT TR IMB FOSS FRGS IP, BRT YEL GLD FLO IN 10%, DUL YEL GLD FLO IP, V PR/PR/ TR FR MICRO-VUG POR IN 3%, PR INTER-XLN POR IP, FR TO TR GD FLSH CUT, GD SLW STRM IN 60%, TN LCH ON DSH, LT OIL ODOR
3620'-3622' LS- CRM BFF TO LT TN (TR TN OIL STN IN 5%) , HD DNS TO BRTT IP, MD-XLN, SUCRO MTRX, ABDT IMBD OOLITES THRU, LT TR WHT CHRT IN TRAY, DUL YEL MIN FLO THRU, PR VUG POR IN 1%, WK FLSH CUT, PR SLW STRM IP, NO LCH ON DSH, NO OIL ODOR
LS- OFF WHT TO CRM BFF, V HD DNS, F/VF-XLN MTRX, S-SUCRO IP, ABDT SFT WHT CHLK THRU TRAY, SLI TR IMBD SM CALC-XLS IP, V DUL YEL MIN FLO THRU, NO VIS POR, NO VIS CUT OR SHOW
LANSING "H" 3660' -1429'
SH- LT GY TO MD GY TR GRN, V FRM TO SFT, SPLNTY SLTY IP, CALC IP
LS- TN TO BRN OFF WHT IP, V HD DNS, CRYPTO-XLN, TR S-CHLKY IP, SCAT IMBD SM TO MD CALC-XLS, TR FREE CALC-XLS IN TRAY, LT TR WHT CHRT IP, V DUL YEL MIN FLO IN 40%, NO VIS POR, NO VIS CUT OR SHOW
23 U SH KICK
C2
C1
CN
17 U BG.
28 U INC.
27 U INC.
20 U. BG
TG, C1-C5
1
10
100
1000
29 U. INC.
27 U. INC.
21 U. BG
C3
47 U BG.


"I"
CFS @ 3704'
CFS @3750'
WOB 40
RPM 80
PP 950
WT 9.3
VIS 60
ROP (min/ft)
5
Gamma (API)
150
CFS@ 3860'
CFS @ 3901'
CFS@ 3930'
3700
3750
3800
3850
3900
3697'-3699' LS- CRM LT TN TO TN (DUE TO OIL STN 30%), HD DNS TO SLI TR BRTT IP, MD/F-XLN, S-SUCRO, LT TR IMBD SM FOSS FRAG IP, TR IMBD SFT WHT CHLK, YEL TO BRI FLO IN 40%, TR PR TO FR INTER-XLN POR IN 1%, SLI TR FR VUG POR IP, WK FLUSH CUT, FR SLW STRM IN 30%, TR VY LT TN LCH ON DISH, NO OIL ODOR
LS- OFF WHT TO CRM LT GY IP, HD DNS TO SLI TR BRTT IP, F/VF-XLN, S-CHLKY, HY TR SFT WHT CHLK IN TRAY, LT TR CLR TO WHT CHRT, DUL YEL MIN FLO IP, NO VIS POR, NO VIS CUT OR SHOW
3736'-3738' LS- TN TO DK TN OFF WHT (DUE TO OIL STN SCAT IN 45%), HD DNS TO BRTT, MD-XLN, RE-XLN, CRS SUCRO MTRX, SCAT IMBD CALC-XLS THRU, LT TR IMBD SFT WHT CHLK, DUL YEL FLO IN 40%, SPTTD BRT YEL GLD FLO IN 10%, PR TO FR MICRO VUG POR IN 4%, PR INTER-XLN POR IN 1%, GD INST FLUSH CUT, EXCEL SLOW STRM THRU, DRK TN LCH ON DISH, FR OIL ODOR
X SHALE 3752' -1521'
LS- WHT TO OFF WHT CRM, V HD DNS, F/VF-XLN, RE-XLN IP, S-CHLKY, HVY TR SFT CHLK IN TRAY, LT TR WHT CHRT, DUL YEL MIN FLO IN 30%, NO VIS POR, NO VIS SHOW
SH- MD GY RD GRN MOTT, SFT SPNTY TO GMMY, SLTY TXT, HVY TR SFT WHT CHLK
SH- MD GY TO DK GY RD, V FRM TO TR SFT IP, BLKY SLTY TXT, W/ INTERBED LS
LS- WHT TO OFF WHT LT GY, HD DNS BRTT IP, MD/F-XLN, RE-XLN, ABDT IMBD V/SM RND QRTZ GRNS THRU, LT TR IMBD GLAUC IP, SLI TR IMBD SH, V DUL YEL MIN FLO IN 30%, NO VIS POR, NO VIS SHOW
SH-RD TO DK RD, V GMMY THRU, HVY TR SFT WHT CHLK
MARMATON 3830' -1589'
3834'-3838' CHRT- BRN TO TN CRM IP (DUE TO OIL STN IN 70-80%), V HD DNS, F-XLN, V TT SUCRO MTRX, WTHRD, CALC IP, IMBD CLR CHRT SCAT IP, DUL YEL TO YEL GLD FLO SCAT IN 40%, V PR MICO PP POR IP, EXCEL INST FLUSH CUT, EXCEL SLW STRM THRU, TN TO DK TN LCH ON DISH, NO OIL ODOR
CHRT- ORNG TO OFF WHT, V HD DNS, F/VF-XLN, TT SUCRO MTRX, V CALC, ABDT CLR & ORNG CHRT THRU TRAY, HVY TR INTERBED LS THRU, NO VIS FLO, NO VIS POR, NO VIS SHOW
LS & SH- WHT TO OFF WHT RD, HD DNS, F/VF-XLN, S-CHLKY, HVY TR INTERBED GMMY RD SH, LT TR CLR & ORNG CHRT, NO VIS FLO, NO VIS POR, NO VIS SHOW
SH- RD TO DK GY, FRM TO V SFT GMMY IP, SMTH TXT, LT TR WHT CHRT IN TRAY
SH- RD TO DK RD GRN, SFT TO GMMY IP, ABDT SFT WHT CHLK THRU TRAY
SH- LT GY TO MD GY, V GMMY THRU, HVY TR SFT WHT CHLK THRU, LT TR FRSTY WHT CHRT
SH- RD GRN GY MOTT, SFT TO FRM IP, SPNTY TO BLKY V SLTY TXT, INTERBED LS, V LT TR ORNG & WHT CHRT
ARBUCKLE 3905'-1674'
3908'-3912' DOLO- LT TN TO TN OFF WHT IP (DUE TO OIL STN IN 50%), HD DNS TO TR BRTT IP, F-XLN, RE-XLN, CRS SUCRO MTRX, ABDT IMB V SM S-ANG TO S-RND DOLO GRNS THRU, HVY TR IMB SM TO MD S-ANG CLR QRTZ GRNS, LT TR SCAT IMBD SFT WHT CHLK, YEL GLD FLO IN 30%, V PR INTER-GRN POR SCAT IN 3%, PR MICRO VUG POR IP, GD FLSH CUT, FR TO GD SLW STRM IN 40%, LT TN TO TN LCH ON DSH, FR OIL ODOR
3918'-3920' DOLO- TN TO DK TN (DUE TO OIL STN IN 70%), HD DNS, V RE-XLN, CRS SUCRO MTRX, ABDT IMBD SM TO MD S-ANG DOLO GRNS THRU, LT TR WHT CHRT, YEL TO BRT YEL GLD FLO IN 50%, PR/FR/TR GD INTER-GRN POR IN 4%, FR FLSH CUT, PR TO FR SLW STRM IN 40%, LT TN LCH ON DSH, LT OIL ODOR
DOLO- OFF WHT TO LT TN TN, HD DNS, F-XLN RE-XLN, CRS SUCRO MTRX, ABDT IMBD SM TO MD S-ANG TO S-RND, HVY TR IMBD HVY MIN THRU, LT TR SFT WHT CHLK IN TRAY, NO VIS FLO, V PR VUG POR IP, NO VIS
C3
C2
C1
43 U BG.
CN
55 U BG.
46 U BG.
ALL HEAVIES PRESENT
84 U BG.
TG, C1-C5
1
10
100
1000
71 U BG.
AGITATOR PLUGGED
153 U BG
145 U BG.
121 U BG.
292 U. TT
150 U. BG


WOB 42
RPM 75
PP 850
WT 9.4
VIS 56
CFS@ 4000
ROP (min/ft)
5
0
Gamma (API)
150
R.T.D. @ 4000'
C.T.C.H. 1.5 HRS
SHORT TRIP
5 STANDS
@ 6:15 P.M.
3950
4000
50
CHER IN TRAY, NO VIS FLO, V PR IP, NO VIS SHOW
DOLO- OFF WHT TO CRM, HD DNS, MD/F-XLN, TT SUCRO MTRX, ABDT IMBD S-RND SM DOLO GNRS, SCAT IMBD HVY MIN THRU, TR IMBD SFT WHT CHLK, NO VIS FLO, PR TO FR INTER-GRN POR IN 4%, NO VIS CUT OR SHOW
DOLO- OFF WHT TO CRM, HD DNS F/VF-XLN, V TT SUCRO MTRX, SCAT IMBD MD RND CLR QRTZ, HVY TR WHT CHRT THRU TRAY, V DUL YEL MIN FLO IN 10%, V PR TO PR INTER-GRN POR IP, NO VIS CUT OR SHOW
T.D. @ 4:45 P.M. 12/14/13
DROP SURVEY
T.O.F.L. @ 9:00 PM
WEATHERFORD/ LIBERAL, KS
180 U BG.
CN
109 U BG.
CN
162 U BG.
TG, C1-C5
1
10
100
1000
R.T.D. @ 4000'
SAMPLES WILL BE DELIVERED TO KGS
THANK YOU FOR CHOSING EARHT TECH
SCHUYLER HEADRICK
JORDAN NEWSOM