



# MID CONTINENT WELL LOGGING SERVICE, INC.

CONTINUOUS WELL LOGGING / COMPLETE HYDROCARBON ANALYSIS

2222 WESTPARK DR. STE. A  
NORMAN, OK 73069  
OFFICE (405) 360-7333  
OPERATIONS (405) 590-3655  
SALES (405) 203-9989

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

Well Name: NEISES 4-11-4-14H SOURCE ENERGY MIDCON, LLC  
Location: SEC 4-32S-2E, 620 FWL & 350 FNL, NE NW NW  
License Number: 15-191-22676-01-00 Region: SUMNER CO., KS  
Spud Date: 7/4/2013 Drilling Completed: 7/20/2013  
Surface Coordinates: 37.30299, -97220444  
Bottom Hole Coordinates: 37.290881, -97.2206  
Ground Elevation (ft): 1,228' K.B. Elevation (ft): 1,242'  
Logged Interval (ft): 2,000' To: 8,581' Total Depth (ft): 8,581'  
Formation: MISSISSIPPI LIME  
Type of Drilling Fluid: FRESH WATER

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

## OPERATOR

Company: SOURCE ENERGY MIDCON, LLC  
Address: 1805 Shea Center Dr. Suite 100  
Highlands Ranch, CO 80129

## GEOLOGIST

Name: JULIA CALDARO-BAIRD  
Company: SOURCE ENERGY MIDCON, LLC  
Address: 1805 Shea Center Dr. Suite 100  
Highlands Ranch, CO 80129

### Comments

REPORT FOR: MRS. JULIA CALDARO-BAIRD  
 LOGGERS: MR. JOE EDMONDS & MR. CHRIS KING








































































DRLG CONTRACTOR: HWD #7

MUD ENGINEER: MICHAEL LINDELL  
 NOV FLUIDCONTROL
























### ROCK TYPES

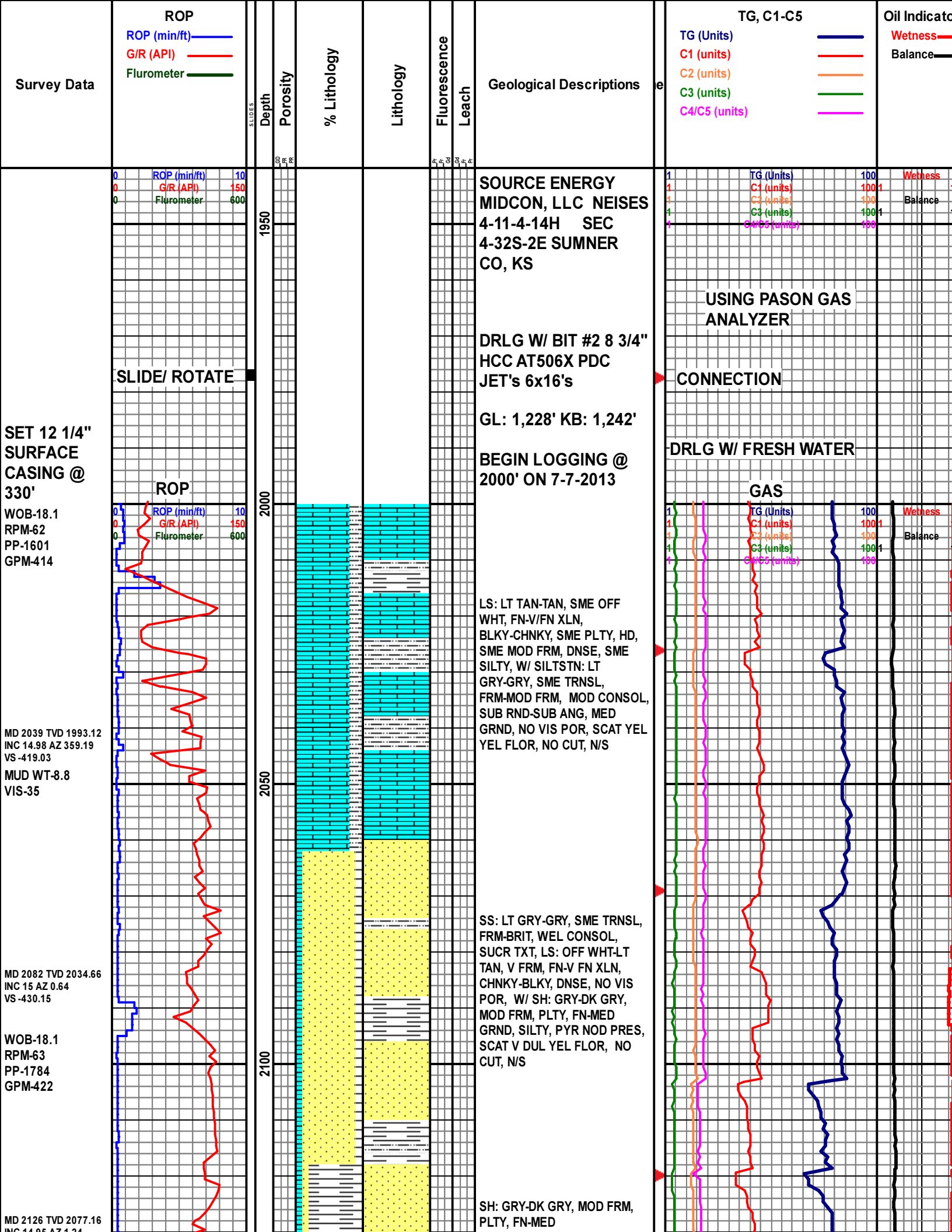
 Sndylm	 Coal	 Meta	 Cemnt
 Anhy	 Congl	 Mrlst	 Ss
 Bent	 Dol	 Salt	 Till
 Brec	 Gyp	 Shale	 Hotsh
 Cht	 Igne	 Shcol	 Sltst
 Clyst	 Lmst	 Shgy	

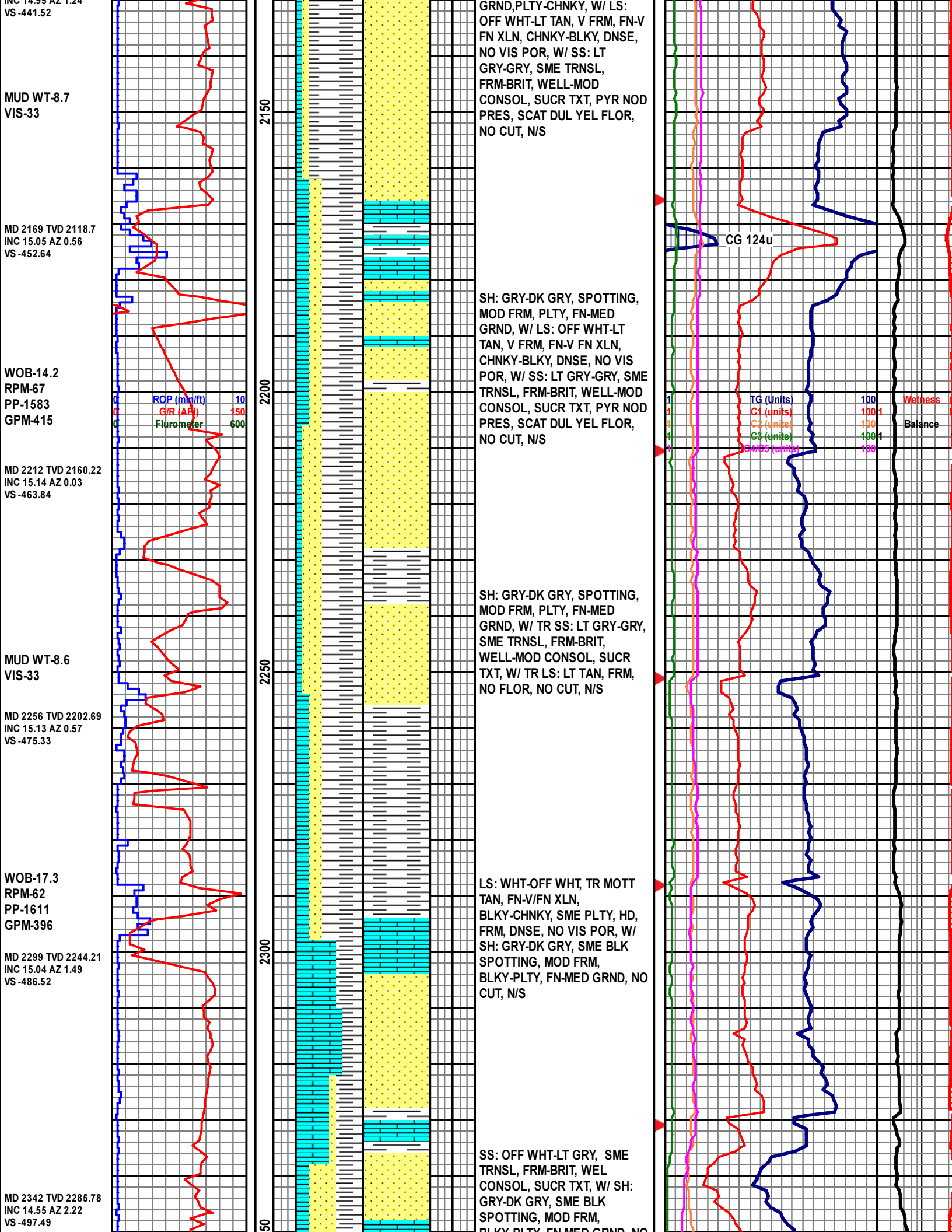
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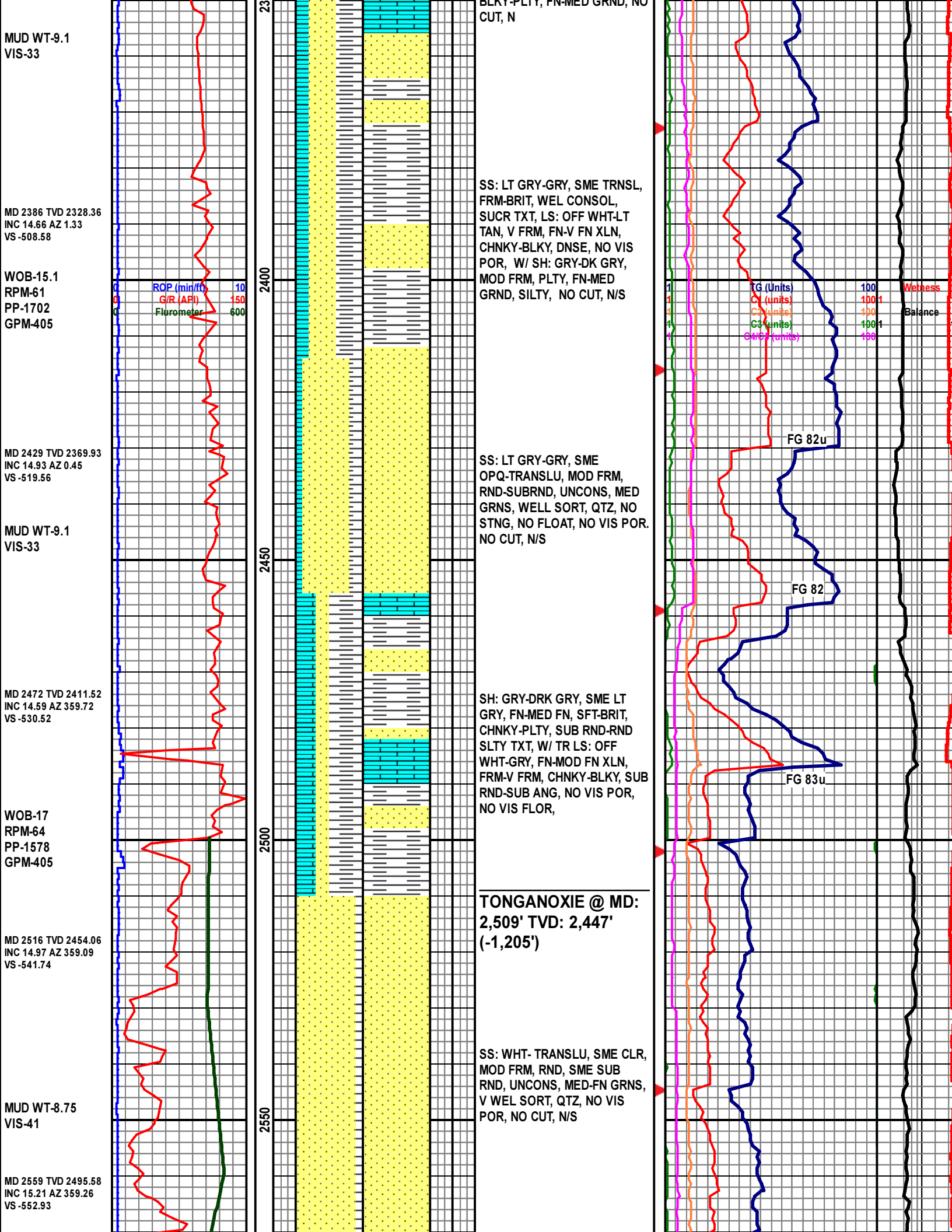
<b>MINERAL</b>	 Minxl	 Crin	 Gyp
 Anhy	 Nodule	 Echin	 Ls
 Arggrn	 Phos	 Fish	 Mrlst
 Arg	 Pyr	 Foram	 Ssstrg
 Bent	 Salt	 Fossil	 Sltstrg
 Bit	 Sandy	 Gastro	
 Brecfrag	 Silt	 Oolite	<b>TEXTURE</b>
 Calc	 Sil	 Ostra	 Boundst
 Carb	 Sulphur	 Pelec	 Chalky
 Chtdk	 Tuff	 Pellet	 Cryxln
 Chtlt	<b>FOSSIL</b>	 Pisolite	 Earthy
 Dol	 Algae	 Plant	 Finexln
 Feldspar	 Amph	 Strom	 Grainst
 Ferrpel	 Belm	<b>STRINGER</b>	 Lithogr
 Ferr	 Bioclst	 Anhy	 Microxln
 Glau	 Brach	 Arg	 Mudst
 Gyp	 Bryozoa	 Bent	 Packst
 Hvymin	 Cephal	 Coal	 Wackest
 Kaol	 Coral	 Dol	
 Marl			

### OTHER SYMBOLS

<b>POROSITY</b>	<b>SORTING</b>	 Angular	<b>INTERVAL</b>
 Earthy	 Well	<b>OIL SHOW</b>	 Core
 Fenest	 Moderate	 Even	 Dst
 Fracture	 Poor	 Spotted	<b>EVENT</b>
 Inter	<b>ROUNDING</b>	 Ques	 Rft
 Moldic	 Rounded	 Dead	 Sidewall
 Organic	 Subrnd		
 Pinpoint	 Subang		
 Vuggy			







WOB-13.2  
RPM-62  
PP-1397  
GPM-389

MD 2602 TVD 2537.08  
INC 15.08 AZ 358.29  
VS -564.16

RQP (mils/d) 10  
GIR (API) 150  
Fluorometer 600

MD 2646 TVD 2579.57  
INC 15.02 AZ 356.89  
VS -575.58

MUD WT-8.75  
VIS-41

MD 2690 TVD 2622.07  
INC 15.03 AZ 357.93  
VS -586.97

WOB-13.5  
RPM-62  
PP-1548  
GPM-380

MD 2733 TVD 2663.6  
INC 15.03 AZ 359.58  
VS -598.12

MUD WT-8.8  
VIS-42

07/08/2013

MD 2776 TVD 2705.13  
INC 14.97 AZ 0.51  
VS -609.25

2600

2650

2700

2750

SS: WHT- TRANSLU, SME CLR,  
MOD FRM, RND, SME SUB  
RND, UNCONS, MED-FN GRNS,  
V WEL SORT, QTZ NO STNG,  
NO FLOAT, NO VIS POR, NO  
CUT, N/S

SS: TRANSLU- CLR, SME WHT,  
TR LT GRY, FRM-MOD FRM,  
RND, SME SUB RND, UN CONS,  
FN GR, WEL SORT, QTZ,W/ SH:  
LT GRY-GRY, OCC LT GRN,  
SFT-BRIT, CHNKY-PLTY, SUB  
ANG-ANG, NO VIS FLOR, NO  
CUT, N/S

SH: GRY-DK GRY, SME LT GRY  
MOD FRM, PLTY, FN-MED  
GRND, W/ SS: LT GRY-GRY,  
SME TRNSL, FRM-BRIT,  
WELL-MOD CONSOL, NO  
FLOR, NO CUT, N/S

SH: GRY-DK GRY, OCC LT GRY,  
MOD FRM, BLKY-CHNKY, SLTY  
TXT, W/ TR SS: LT GRY-GRY,  
SME TRNSL, FRM-BRIT,  
WELL-MOD CONSOL, NO  
FLOR, NO CUT, N/S

TG (Units) 100  
C1 (units) 100.1  
C2 (units) 100  
C3 (units) 100.1  
P4/G5 (mils/d) 100

Wetness  
Balance

CG 47u

CG 51u

WOB-15.4  
RPM-64  
PP-1908  
GPM-400

ROP (min/ft) 10  
G/R (API) 150  
Flurometer 600

MD 2820 TVD 2747.63  
INC 15.06 AZ 0.34  
VS -620.65

MUD WT-9  
VIS-37

MD 2863 TVD 2789.16  
INC 15 AZ 359.94  
VS -631.8

WOB-17.9  
RPM-61  
PP-1766  
GPM-397

MD 2906 TVD 2830.69  
INC 15.09 AZ 359.63  
VS -642.96

MUD WT-8.9  
VIS-39

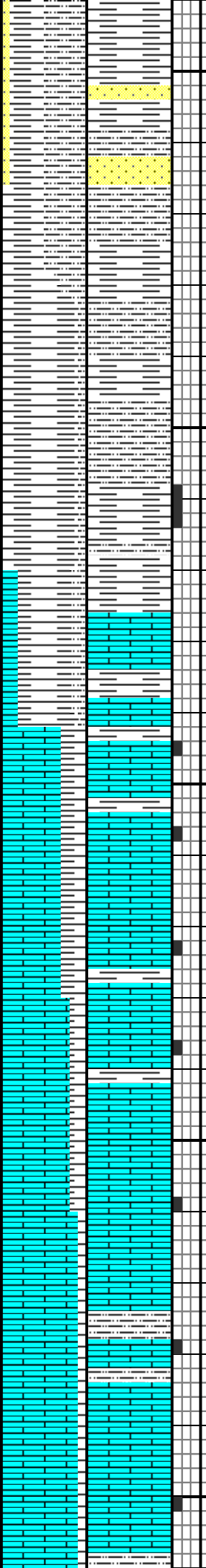
MD 2950 TVD 2873.26  
INC 14.2 AZ 359.93  
VS -654.08

MD 2993 TVD 2915.16  
INC 11.5 AZ 2.31  
VS -597.99

WOB-17.4  
RPM-64  
PP-1908

ROP (min/ft) 10  
G/R (API) 150  
Flurometer 600

2800  
2850  
2900  
2950  
3000



SH: DRK-GRY, SME LT GRY,  
FRM-MOD FRM, CHNKY-BLKY  
SLTY TXT,W/ SS: LT  
GRY-GRY,SME TRNSL-OPQ,  
FRM-MOD FRM, WEL SORT,  
MOD-WEL CONSOL, NO FLOR,  
NO CUT, N/S

SH: DRK GRY-BLK, SME LT  
GRY, MOD FRM-BRIT,  
CHNKY-FISS, SUB ANG- ANG,  
OCC SLTY TXT, W/ LS: OFF  
WHT- WHT, V FN-FN XLN, V FM-  
HD, CHNKY, SME BLKY, PR  
INXLN POR, PR HL FRAC POR,  
YEL-GLD FLOR, NO CUT N/S

**KANSAS CITY @ MD  
2,876' TVD 2,802'  
(-1,560')**

LS: WHT-OFF-WHT, TR CRM, FN  
XLN, FRM-V FRM, CHNKY, SUB  
ANG-SUB RND, PR FRAC POR,  
PR INTXLN POR, W/ SH: DRK  
GRY-GRY, BRIT-SFT,  
CHNKY-BLKY, SUB RND-SUB  
ANG, DUL YEL FLOR, TR BRI  
YEL FLOR, NO CUT, N/S

LS: OFF-WHT-CRM, FN XLN,  
FRM-V FRM, CHNKY, SUB  
ANG-SUB RND, PR INTXLN  
POR, W/ SH: DRK GRY-GRY,  
BRIT-SFT, CHNKY-BLKY, SUB  
RND-SUB ANG, DUL YEL FLOR,  
TR BRI YEL FLOR, NO CUT, N/S

LS: OFF-WHT-LT TAN, SME  
WHT, FN XLN, FRM-V-HD, SME  
SFT, CHNKY, SUB ANG-SUB  
RND, DNS, PR INTXLN POR, W/  
SH: DRK GRY-GRY, BRIT-SFT,  
CHNKY-BLKY, SUB RND-SUB  
ANG, SILTY, DUL YEL FLOR,  
TR BRI YEL FLOR, NO CUT, N/S

TG (Units) 100  
C1 (units) 100.1  
C2 (units) 100  
C3 (units) 100.1  
C4(C5 (units)) 100

Wetness  
Balance

FG 77u

MUD CHECK@  
2,930'  
MUD WT-8.85  
VIS-34  
PV-9  
YP-7  
GEL-8/16  
WL-N/C  
CK-1  
SOL-4  
WTR-96  
CHLR-3200  
CALC-160

TG (Units) 100  
C1 (units) 100.1  
C2 (units) 100  
C3 (units) 100.1  
C4(C5 (units)) 100

Wetness  
Balance

P-1802  
GPM-424

MD 3037 TVD 1958.49  
INC 8.4 AZ 5.75  
VS -605.59

MUD WT-9.0  
VIS-33

MD 3080 TVD 3001.19  
INC 5.1 AZ 11.14  
VS -610.63

WOB-17.9  
RPM-64  
PP-1778  
GPM-407

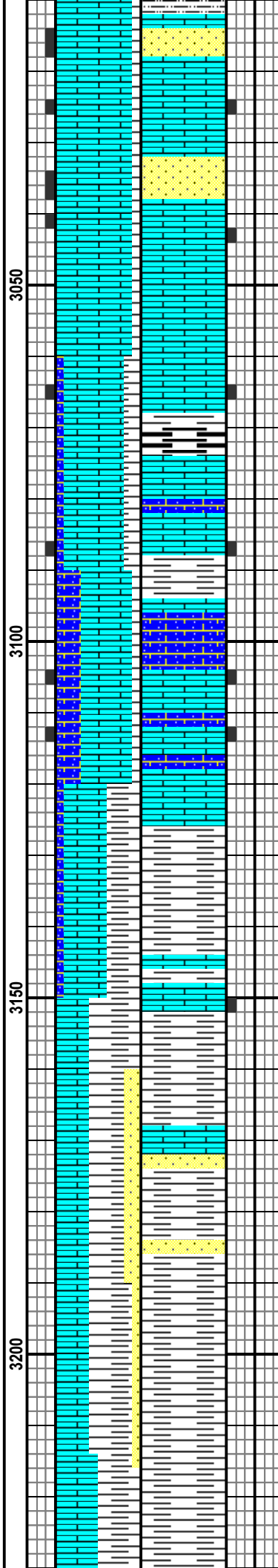
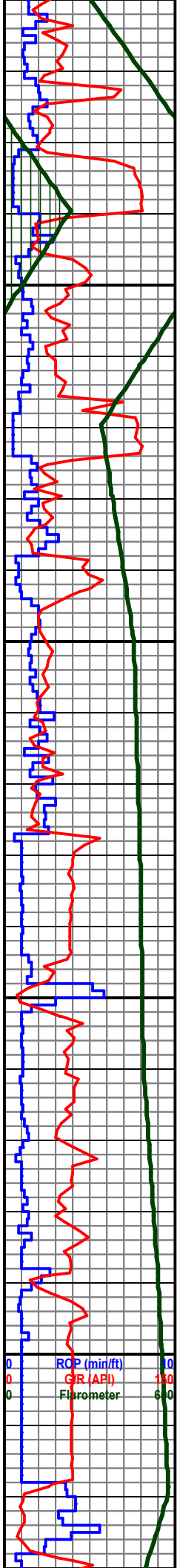
MD 3123 TVD 3044.11  
INC 1.4 AZ 60.82  
VS -612.63

MUD WT-9.0  
VIS-42

MD 3167 TVD 3088.08  
INC 3.6 AZ 151.37  
VS -611.9

WOB-13.7  
RPM-64  
PP-1671  
GPM-394

MD 3210 TVD 3130.87  
INC 7.6 AZ 164.58  
VS -608.01



### CLEVELAND @ MD 3,015' TVD 2,936' (-1,694')

LS: LT TAN-OFF WHT, FRM-HD, FN XLN, CHNKY-PLTY, SUB RND-SUB ANG, POR INTRXLN POR, W/ SH: DK GRY, SME BLK, MOD FRM-SFT, SILTY, W/ SS: OFF WHT, WEL SRTD, SUB ANG GRND, DUL YEL FLOR, NO CUT, N/S

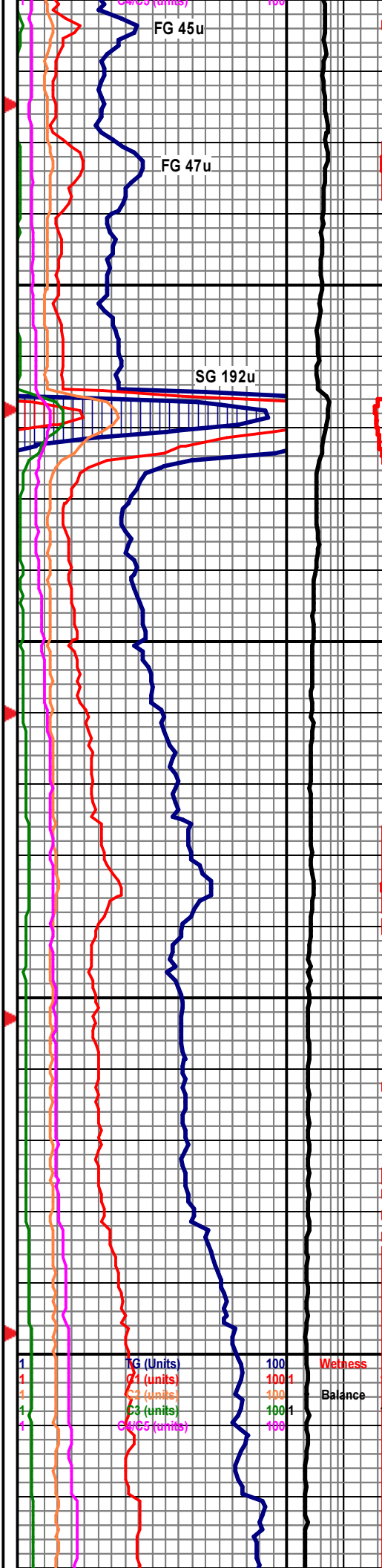
LS: LT TAN-OFF WHT, FRM-HD, FN XLN, CHNKY-PLTY, SUB RND-SUB ANG, POR INTRXLN POR, V SILTY, W/ SH: DK GRY, SME BLK, MOD FRM-SFT, DUL YEL FLOR, NO CUT, N/S

LS: OFF WHT-WHT, FRM-HD, FN XLN, PLTY-CHNKY, SUB ANG-ANG, POR INTRXLN POR, V SILTY, W/ SH: DK GRY-BLK, MOD FRM-SFT, DUL YEL FLOR, NO CUT, N/S

SH: LT GRY-LT GRN, SME BLK, MOD FRM-FRM, SME SFT, BLKY-PLTY, FN TXT, SME SILTY, W/ LS: OFF WHT-LT TAN, FRM-MOD FRM, CHNKY-PLTY, FN XLN, W/ SS: OFF WHT, FRM, MED GRND, MOD-WEL CONSOL, TR DUL YEL FLOR, NO CUT, N/S

SH: LT GRY-LT GRN, SME BLK, MOD FRM-FRM, SME SFT, BLKY-PLTY, FN TXT, SME SILTY, W/ LS: OFF WHT-LT TAN, FRM-MOD FRM, PLTY-BLKY, FN XLN, TR SS, TR DUL YEL FLOR, NO CUT, N/S

### MARMATON @ MD 3,217' TVD 3,138' (-1,714')



1	FG (Units)	100	Wetness
1	G1 (units)	100.1	
1	G2 (units)	100	Balance
1	G3 (units)	100.1	
4	G4 (units)	100	



MUD WT-8.0  
VIS-42  
MD 3253 TVD 3173.2  
INC 12.3 AZ 169.14  
VS -600.75

WOB-9.3  
RPM-64  
PP-1686  
GPM-393

MD 3296 TVD 3214.75  
INC 17.4 AZ 172.04  
VS -598.87

MD 3340 TVD 3271.23  
INC 21.57 AZ 175.71  
VS -640.85

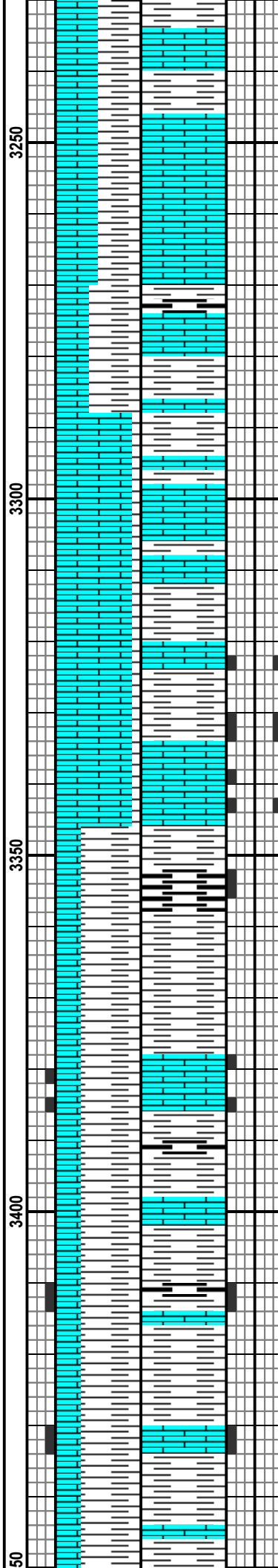
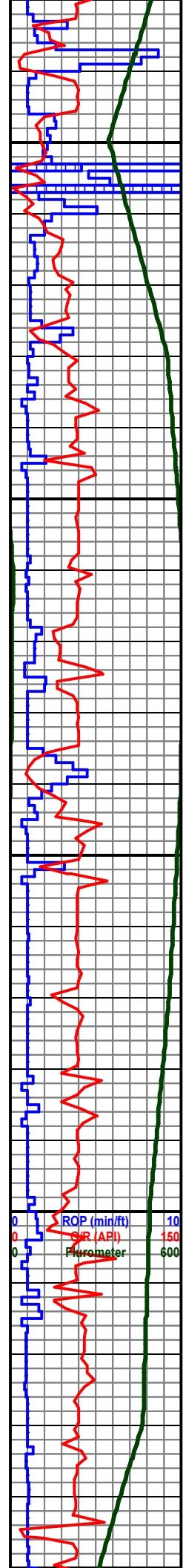
MUD WT-8.9  
VIS-46

MD 3383 TVD 3310.7  
INC 25.13 AZ 178.88  
VS -623.83

WOB-22.4  
RPM-63  
PP-1981  
GPM-411

MD 3426 TVD 3334.04  
INC 28.71 AZ 182.92  
VS -538.79

MUD WT-8.9



LS: LT TAN-TAN, SME OFF WHT, FN XLN, PLTY, SME FLKY, SUCR TXT, PR INTRXTLN POR, W/ SH: GRY, MOD FRM-FRM, BLKY-CHNKY, DUL YEL FLOR, NO CUT, N/S

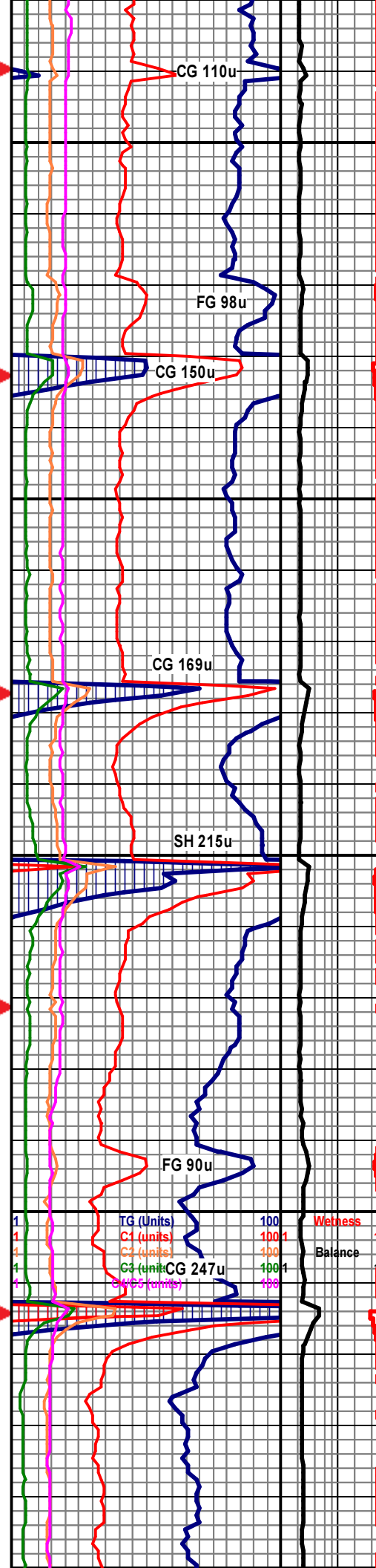
LS: LT TAN-OFF WHT, SME LT GRY, FN XLN, PLTY, SME FLKY, SUCR TXT, PR INTRXTLN POR, W/ SH: GRY-DRK GRY, TR BLK, MOD FRM-FRM, BLKY-CHNKY, DUL YEL FLOR, NO CUT, N/S

LS: OFF WHT-CRM, SME LT TAN, FN-V FN XLN, FRM-V FRM, CHNKY-PLTY, SME CHNKY, PR INTRXLN POR, W/ SH: DRK GRY-BLKY, SME LT GRY, FRM-MOD FRM, CHNKY, SME BLKY, DUL YEL FLOR, SME BRI YEL-GLD FLOR, NO VIS CUT, DUL BLU RES RING

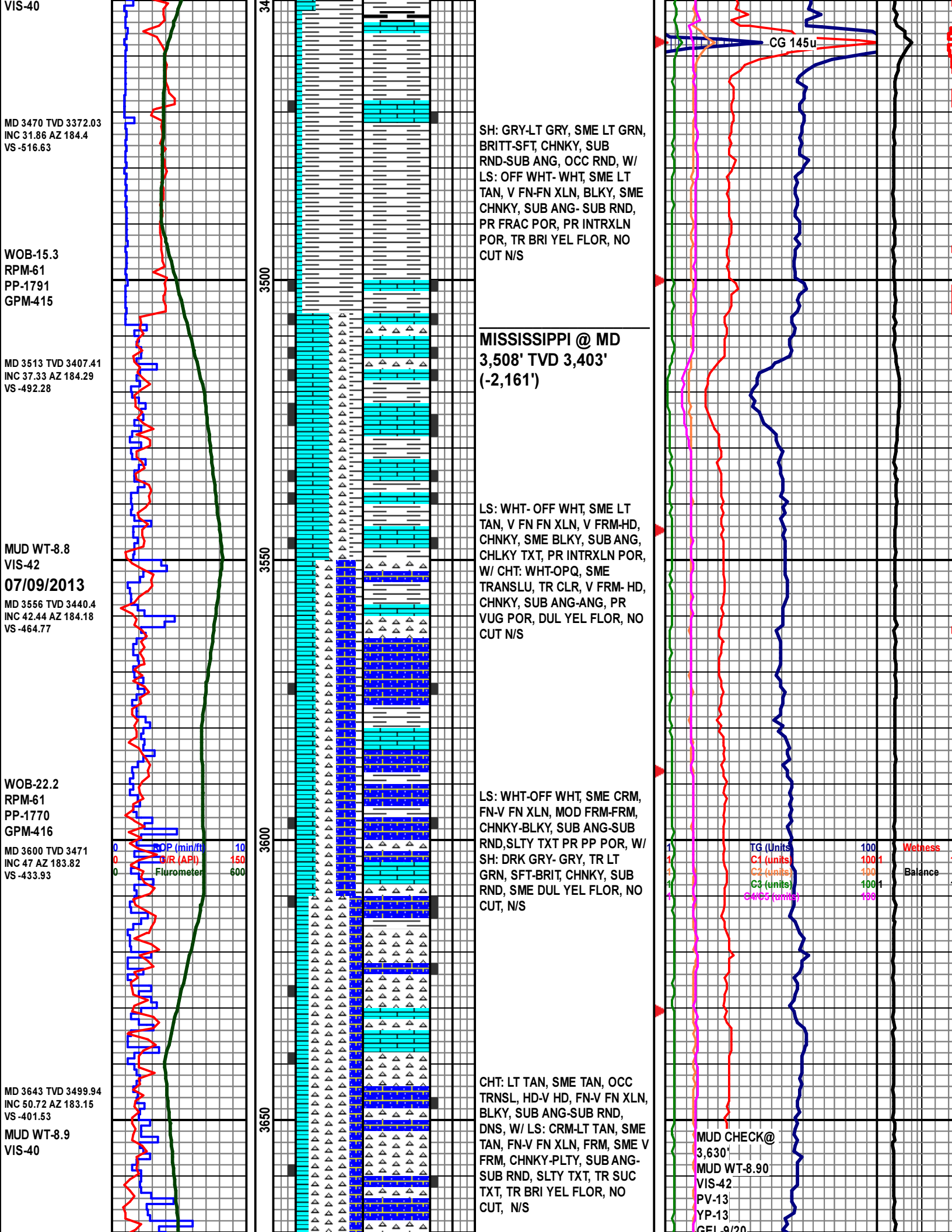
**LOWER CHEROKEE @ MD 3,354' TVD 3,269' (-2,027')**

SH: DRK GRY-BLK, SME LT GRY, FRM-MOD FRM, CHNKY, BLKY, SUB RND- SUB ANG, SME ANG, CORS TXT, W/ LS: OFF WHT- WHT, SME CRM, FN-V FN XLN, FRM-V FRM, BLKY- CHNKY, SUB ANG-SUB RND, SME BRI YEL FLOR, NO CUT N/S

SH: DRK GRY- GRY, FRM-MOD FRM, CHNKY, BLKY, SUB RND- SUB ANG, SME ANG, CORS TXT, W/ LS: OFF WHT- WHT, SME CRM, FN-V FN XLN, FRM-V FRM, BLKY- CHNKY, SUB ANG-SUB RND, SME BRI YEL FLOR, NO CUT, N/S



TG (Units)	100	Wetness
C1 (units)	100.1	
C2 (units)	100	Balance
C3 (units)	100.1	
C4 (units)	100	



VIS-40

MD 3470 TVD 3372.03  
INC 31.86 AZ 184.4  
VS -516.63

WOB-15.3  
RPM-61  
PP-1791  
GPM-415

MD 3513 TVD 3407.41  
INC 37.33 AZ 184.29  
VS -492.28

MUD WT-8.8  
VIS-42  
**07/09/2013**

MD 3556 TVD 3440.4  
INC 42.44 AZ 184.18  
VS -464.77

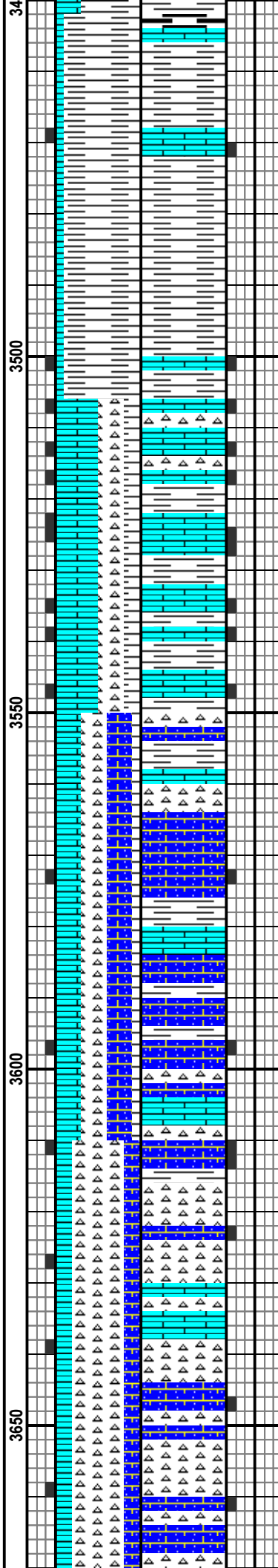
WOB-22.2  
RPM-61  
PP-1770  
GPM-416

MD 3600 TVD 3471  
INC 47 AZ 183.82  
VS -433.93

MD 3643 TVD 3499.94  
INC 50.72 AZ 183.15  
VS -401.53

MUD WT-8.9  
VIS-40

ROP (min/ft) 10  
GOR (API) 150  
Fluorometer 600



SH: GRY-LT GRY, SME LT GRN, BRITT-SFT, CHNKY, SUB RND-SUB ANG, OCC RND, W/ LS: OFF WHT- WHT, SME LT TAN, V FN-FN XLN, BLKY, SME CHNKY, SUB ANG- SUB RND, PR FRAC POR, PR INTRXLN POR, TR BRI YEL FLOR, NO CUT N/S

**MISSISSIPPI @ MD 3,508' TVD 3,403' (-2,161')**

LS: WHT-OFF WHT, SME LT TAN, V FN FN XLN, V FRM-HD, CHNKY, SME BLKY, SUB ANG, CHLKY TXT, PR INTRXLN POR, W/ CHT: WHT-OPQ, SME TRANSLU, TR CLR, V FRM- HD, CHNKY, SUB ANG-ANG, PR VUG POR, DUL YEL FLOR, NO CUT N/S

LS: WHT-OFF WHT, SME CRM, FN-V FN XLN, MOD FRM-FRM, CHNKY-BLKY, SUB ANG-SUB RND,SLTY TXT PR PP POR, W/ SH: DRK GRY- GRY, TR LT GRN, SFT-BRIT, CHNKY, SUB RND, SME DUL YEL FLOR, NO CUT, N/S

CHT: LT TAN, SME TAN, OCC TRNSL, HD-V HD, FN-V FN XLN, BLKY, SUB ANG-SUB RND, DNS, W/ LS: CRM-LT TAN, SME TAN, FN-V FN XLN, FRM, SME V FRM, CHNKY-PLTY, SUB ANG-SUB RND, SLTY TXT, TR SUC TXT, TR BRI YEL FLOR, NO CUT, N/S



TG (Units) 100 Wetness  
C1 (units) 100.1 Balance  
C2 (units) 100  
C3 (units) 100.1  
C4/C5 (units) 100

MUD CHECK@ 3,630'  
MUD WT-8.90  
VIS-42  
PV-13  
YP-13  
GEI 8/20

MD 3687 TVD 3526.46  
 INC 55.15 AZ 181.45  
 VS -366.45

WOB-22.8  
 RPM-65  
 PP-1834  
 GPM-420

MD 3729 TVD 3549.02  
 INC 59.84 AZ 179.58  
 VS -331.04

07/10/2013

MUD WT-9  
 VIS-39

MD 3773 TVD 3569.51  
 INC 64.63 AZ 179.02  
 VS -292.13

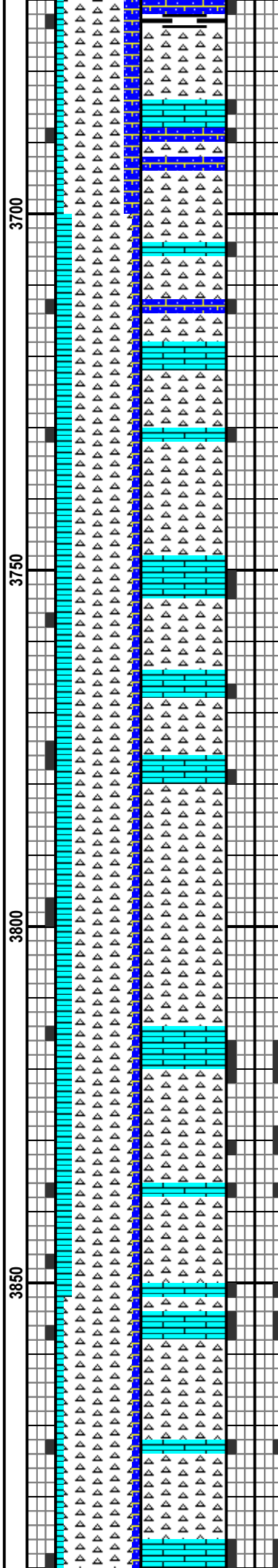
WOB-20.7  
 RPM-103  
 PP-1856  
 GPM-411

ROP (min/ft)	10
SR (API)	150
Fluorometer	600

MD 3817 TVD 3586.8  
 INC 69.09 AZ 178.67  
 VS -251.7

MUD WT-9  
 VIS-40

MD 3860 TVD 3601.95  
 INC 69.66 AZ 178.68  
 VS -212.11



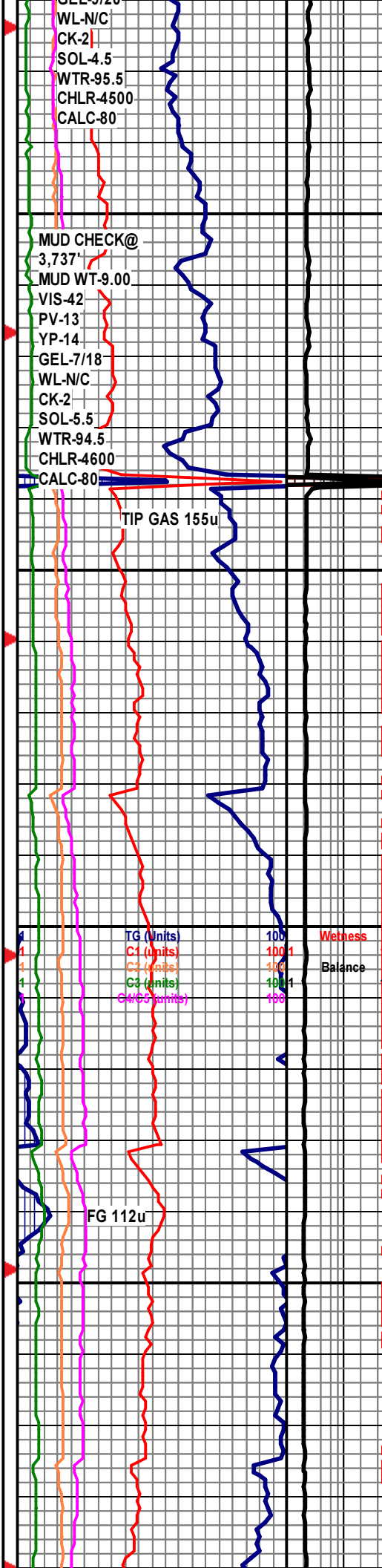
CHT: LT TAN, SME TAN, HD-V  
 HD, FN-V FN XLN, BLKY-PLTY,  
 SUB ANG-SUB RND, DNS, W/  
 LS: LT TAN-CRM, MOD FRM, FN  
 XLN, PLTY-FLKY, SILTY, TR  
 SUCR TXT, TR BRI YEL FLOR,  
 NO CUT, N/S

**TOOH @ 3737' FOR  
 NEW MUD MOTOR  
 TIH W/ BIT # 3 8 3/4"  
 HCC AT506X PDC  
 JET's 6x16's**

CHT: LT TAN, SME TAN, HD-V  
 HD, FN-V FN XLN, BLKY-PLTY,  
 SUB ANG-SUB RND, DNS, W/  
 LS: LT TAN-CRM, MOD FRM, FN  
 XLN, PLTY-FLKY, SILTY, TR  
 SUCR TXT, TR BRI YEL FLOR,  
 NO CUT, N/S

CHT: TAN, SME LT TAN, HD-V  
 FRM, V FN-FN XLN,  
 CHNKY-PLTY, SUB ANG, SME  
 SUB RND, DNS, W/ LS: LT TAN,  
 SME CRM, MOD FRM-FRM, FN  
 XLN, PLTY-FLKY, SLTY, OCC  
 SUC TXT, SME BRI YEL FLOR,  
 SLW DUL CUT, BRI GRN RES  
 RING

CHT: TAN-LT TAN, HD-V FRM, V  
 FN-FN XLN, CHNKY-BLKY, OCC  
 PLTY, SUB ANG-SUB RND,  
 DNS, W/ LS: LT TAN, SME CRM,  
 MOD FRM-FRM, FN XLN,  
 PLTY-FLKY, SLTY, OCC SUC  
 TXT, SME BRI YEL FLOR, NO



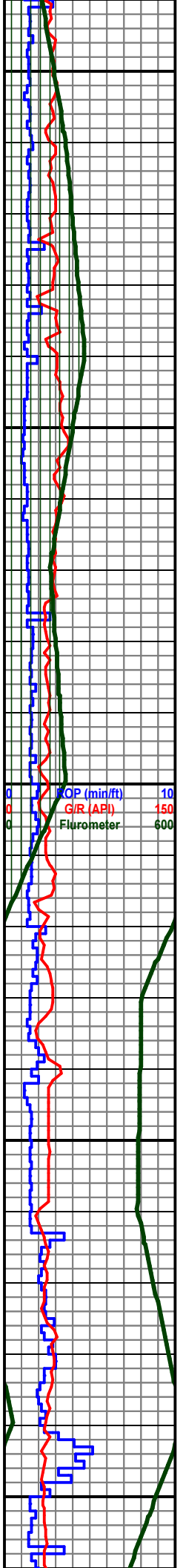
WOB-22.8  
RPM-42  
PP-1766  
GPM-408  
MD 3903 TVD 3616.89  
INC 69.66 AZ 179.58  
VS -171.18

MUD WT-8.9  
VIS-43

MD 3947 TVD 3631.87  
INC 70.55 AZ 179.8  
VS -129.81

MD 3990 TVD 3645.26  
INC 73.16 AZ 179.22  
VS -88.96

WOB-23.3  
RPM-41  
PP-1825  
GPM-413

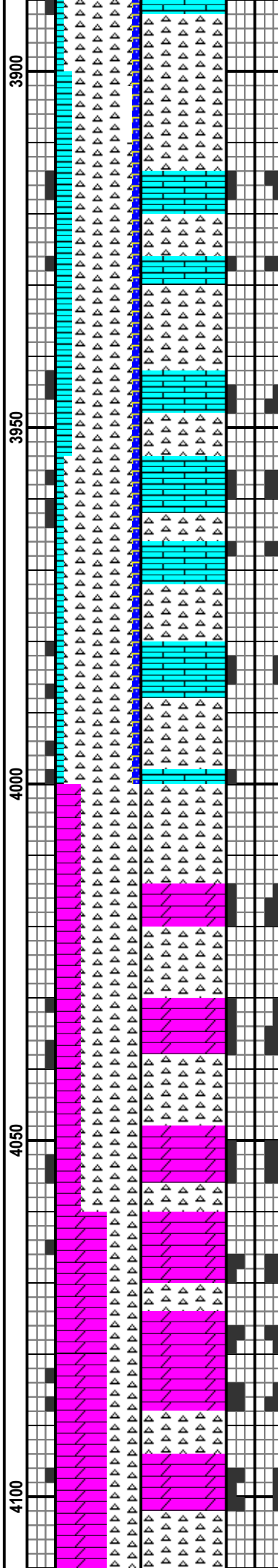


07/11/2013  
MD 4033 TVD 3656.57  
INC 76.33 AZ 179.34  
VS -47.49

MUD WT-8.9  
VIS-43

MD 4077 TVD 3665.26  
INC 80.89 AZ 178.43  
VS -4.4

WOB-22.1  
RPM-93  
PP-1845  
GPM-408

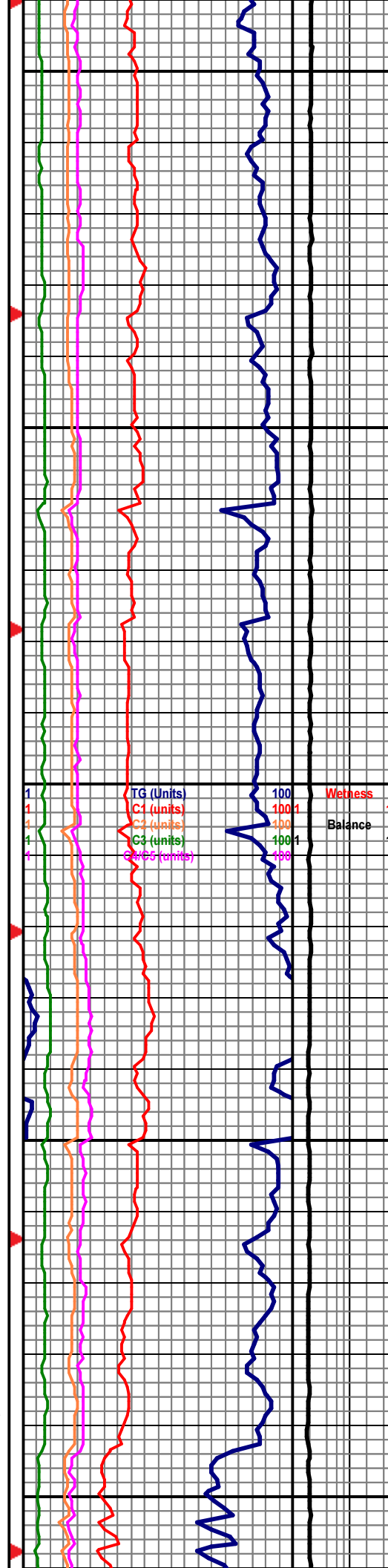


VIS CUT , DUL GRN RES RING  
CHT: TAN, SME LT TAN, V HD-HD, V FN- MIC FN XLN, CHNKY, SME PLTY, SUB ANG, OCC SUB RND, DNS, W/ LS: LT TAN- CRM, HD- V FRM, V FN XLN, FLKY-CHNKY, TR PLTY, SUB ANG, TR SUC TXT, SLTY, TR DUL YEL FLOR, BRI MLKY FLSH CUT, THK BRI BLU-GRN RES RING

CHT: TAN, SME LT TAN, HD-V FRM, V FN-FN XLN, CHNKY-PLTY, SUB ANG, SME SUB RND, DNS, W/ LS: LT TAN, SME CRM, MOD FRM-FRM, FN XLN, PLTY-FLKY, SLTY, OCC SUC TXT, TR BRI YEL FLOR, DUL MILKY FLASH CUT, BRI THK BLU RES RING

CHT: TAN, SME LT TAN, HD-V FRM, V FN-FN XLN, CHNKY-BLKY, SUB ANG, SME SUB RND, DNS, W/ DOL: LT TAN-CRM, MOD FRM-FRM, FN XLN, CHNKY, SUC TXT, SME BRI YEL FLOR, BRI MILKY FLSH CUT, BRI THK BLU-GRN RES RING

DOL: TAN- LT TAN, HD- V FRM, V FN XLN, CHNKY, SME PLTY, SUB ANG-SUB RND, SUC TXT, SME DNS, PR PP POR, PR INTRXLN POR, CHT: OPQ-TRANSLU, OCC WHT, V HD-HD, V FN XLN, CHNKY, SUB ANG- ANG, TR BRI YEL FLOR, BRI MILKY FLSH CUT, THK BRI BLU-GRN RES RING

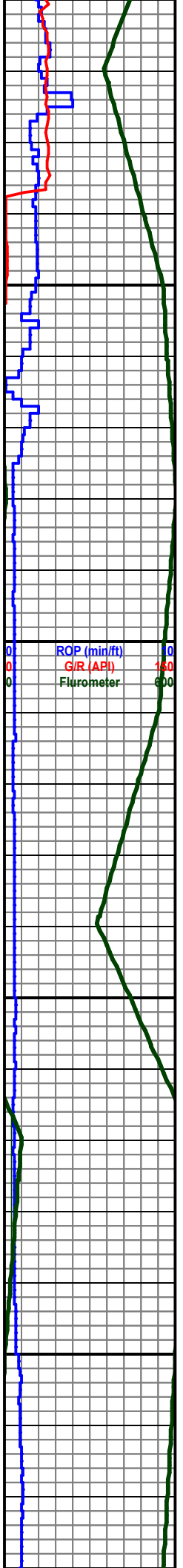


MD 4120 TVD 3669.67  
INC 87.32 AZ 178.5  
VS 38.32

MUD WT-9.0  
VIS-41

MD 4175 TVD 3671.33  
INC 89.23 AZ 178.53  
VS 93.25

WOB-20  
RPM-74  
PP-1573  
GPM-291



4150

4200

4250

4300

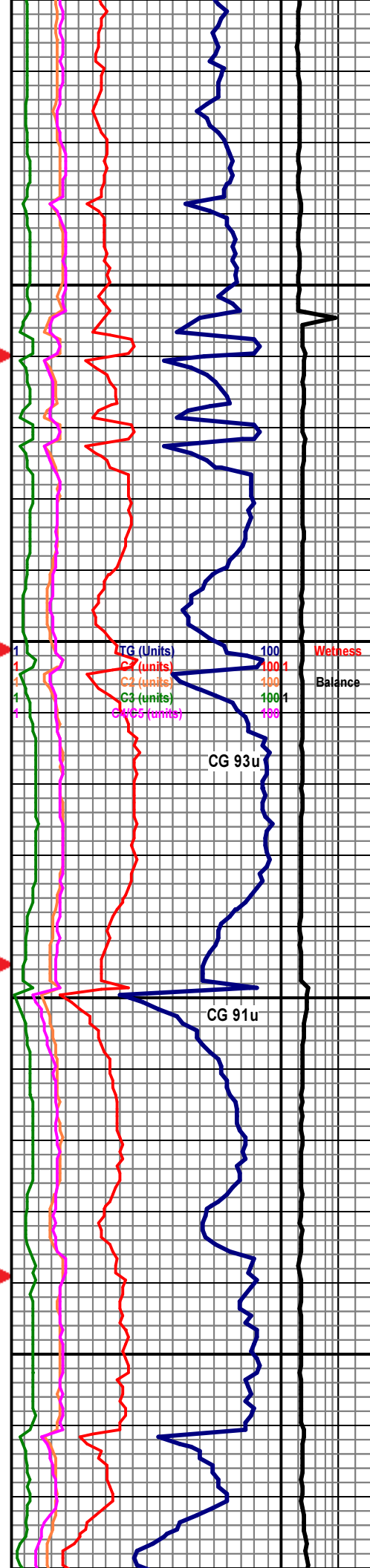
DOL: TAN- LT TAN, HD-V FRM,  
SME V HD, V FN XLN, CHNKY,  
SME PLTY, SUB ANG-SUB RND,  
SUC TXT, SME DNS, PR PP  
POR, PR INTRXLN POR, CHT:  
OPQ-WHT, V HD-HD, V FN XLN,  
CHNKY, SUB ANG-ANG, TR BRI  
YEL FLOR, GD FLSH CUT, THK  
BLU-GRN RES RING

**TOOH @ 4154' FOR  
INTERMEDIATE  
CASING  
TIH W/ BIT #4  
HUGHES 6 1/8"  
DPD406X 6x12'S**

DOL: TAN- LT TAN, HD-V FRM,  
SME V HD, V FN XLN, CHNKY,  
SME PLTY, SUB ANG-SUB RND,  
SUC TXT, SME DNS, PR PP  
POR, PR INTRXLN POR, CHT:  
OPQ-WHT, V HD-HD, V FN XLN,  
CHNKY, SUB ANG-ANG, TR BRI  
YEL FLOR, DUL MILKY FLSH  
CUT, BRI BLU-GRN RES RING

DOL: TAN- LT TAN, HD- V FRM,  
V FN XLN, CHNKY, SME PLTY,  
SUB ANG-SUB RND, SUC TXT,  
SME DNS, PR PP POR, PR  
INTRXLN POR, CHT:  
OPQ-TRANSLU, OCC WHT, V  
HD-HD, V FN XLN, CHNKY, SUB  
ANG- ANG, TR BRI YEL FLOR,  
DUL MILKY FLSH CUT, BRI  
BLU-GRN RES RING

DOL: TAN, TR LT TAN, HD- V  
FRM, V FN XLN, CHNKY, SME  
PLTY, SUB ANG-SUB RND, SUC  
TXT, SME DNS, PR PP POR, PR  
INTRXLN POR, CHT:  
OPQ-TRANSLU, OCC WHT, V  
HD-HD, V FN XLN, CHNKY, SUB  
ANG- ANG, TR BRI YEL FLOR,  
DUL MILKY FLSH CUT, BRI  
BLU-GRN RES RING



G1 (Units) 100  
G2 (units) 100  
G3 (units) 100  
G4 (units) 100  
Wetness  
Balance

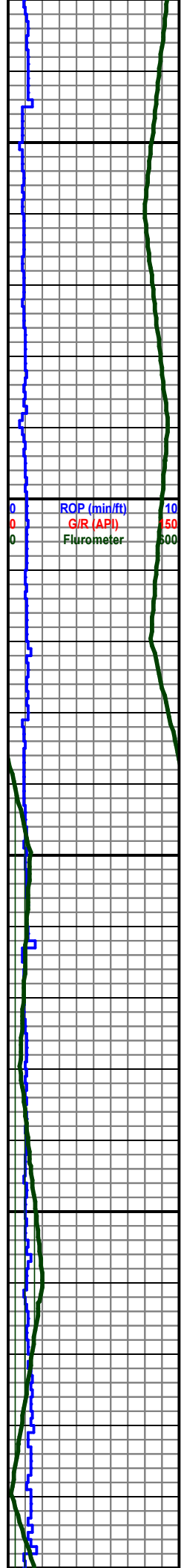
CG 93 u

CG 91 u

MD 4348 TVD 3674.49  
INC 90.77 AZ 181.06  
VS 266.16

MUD WT-8.6  
VIS-31

WOB-20.3  
RPM-74  
PP-1532  
GPM-293



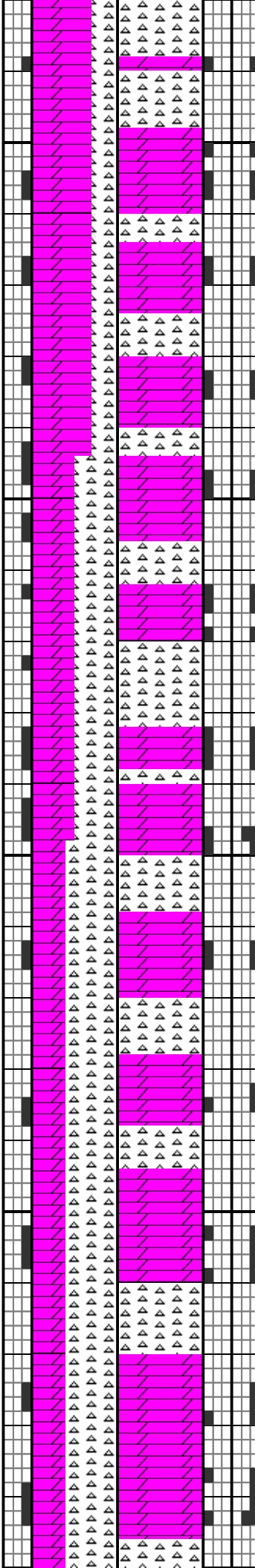
4350

4400

4450

4500

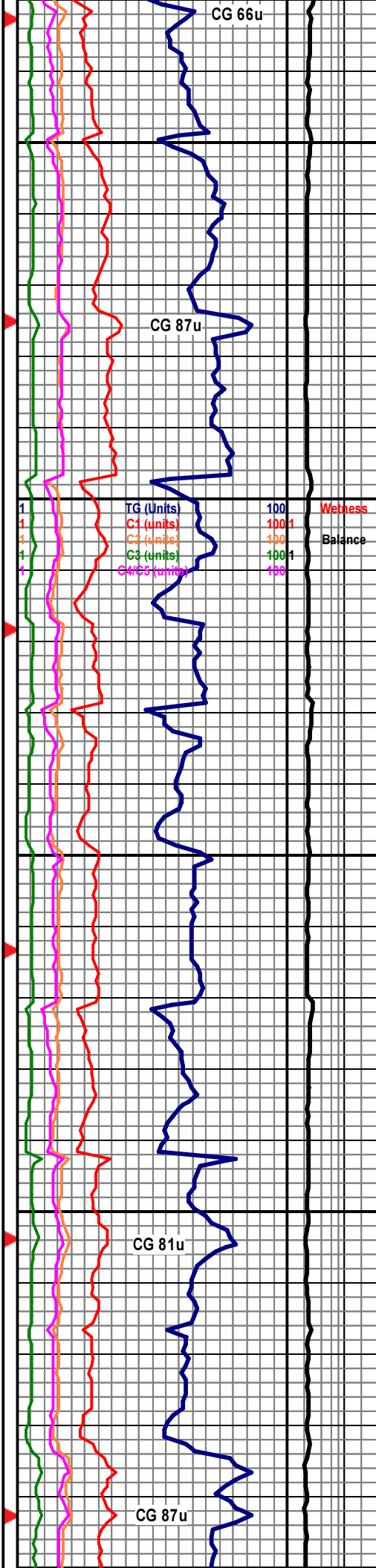
4550



DOL: TAN- LT TAN, HD- V FRM,  
V FN XLN, CHNKY, SME PLTY,  
SUB RND-SUB ANG, SUC TXT,  
SME DNS, PR PP POR, PR  
INTRXLN POR, CHT:  
OPQ-TRANSLU, OCC WHT, V  
HD-HD, V FN XLN, CHNKY, SUB  
ANG- ANG, TR BRI YEL FLOR,  
BRI MILKY FLSH CUT, BRI YEL  
RES RING

DOL: TAN- LT TAN, HD- V FRM,  
V FN XLN, CHNKY-BLKY, SUB  
ANG-SUB RND, SUC TXT, SME  
DNS, PR PP POR, PR INTRXLN  
POR, CHT: OPQ-TRANSLU,  
OCC WHT, V HD-HD, V FN XLN,  
CHNKY, SUB ANG-ANG, TR BRI  
YEL FLOR, BRI MILKY FLSH  
CUT, BRI YEL RES RING

DOL: LT TAN- TAN, SME DRK  
TAN, HD- V FRM, V FN XLN,  
CHNKY- BLKY, SUB RND- SUB  
ANG, SUC TXT, W/ CHT: LT  
TAN, HD, V FN XLN, CHNKY,  
ANG- SUB ANG, PR INXLN  
POR, PR PP POR, TR DUL  
YEL-BLU FLOR, BRI MILKY  
FLSH CUT, BRI YEL RES RING



CG 66u

CG 87u

CG 81u

CG 87u

TG (Units)	100	Wetness
C1 (units)	100.1	
C2 (units)	100	Balance
C3 (units)	100.1	
C4/C5 (units)	100	

MD 4434 TVD 3673.2  
INC 90.95 AZ 180.49  
VS 352.16

MUD WT-8.6  
VIS-31

WOB-21.2  
RPM-71  
PP-1609  
GPM-293

MD 4520 TVD 3671.79  
INC 90.92 AZ 180.73  
VS 438.14

MUD WT-8.6  
VIS-31

07/14/2013

WOB-21.1  
 RPM-73  
 PP-1723  
 GPM-291

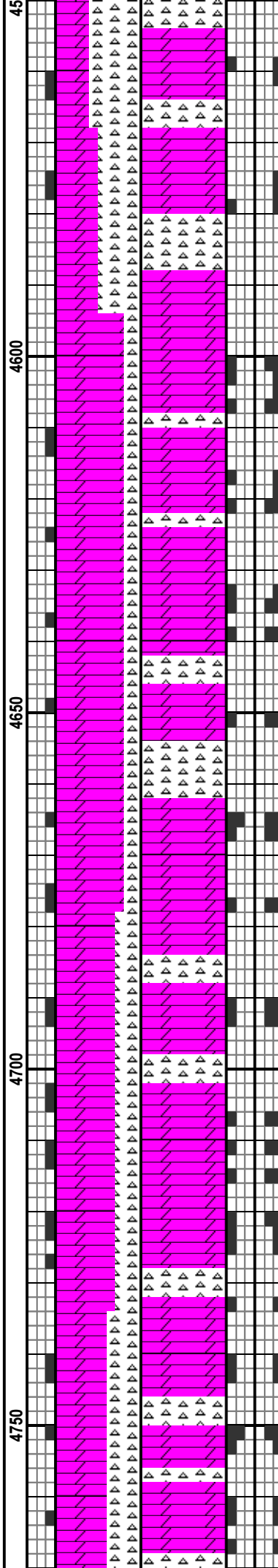
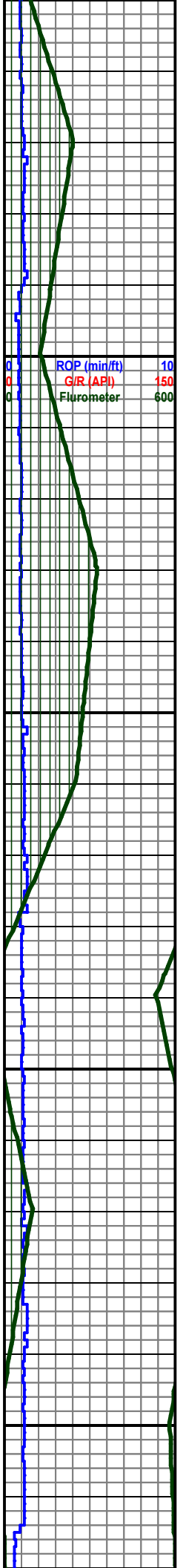
MD 4607 TVD 3670.23  
 INC 91.14 AZ 182.06  
 VS 525.12

MUD WT-8.7  
 VIS-28

MD 4694 TVD 3669.08  
 INC 90.37 AZ 182.41  
 VS 612.08

WOB-20  
 RPM-71  
 PP-1650  
 GPM-292

MUD WT-8.7  
 VIS-30

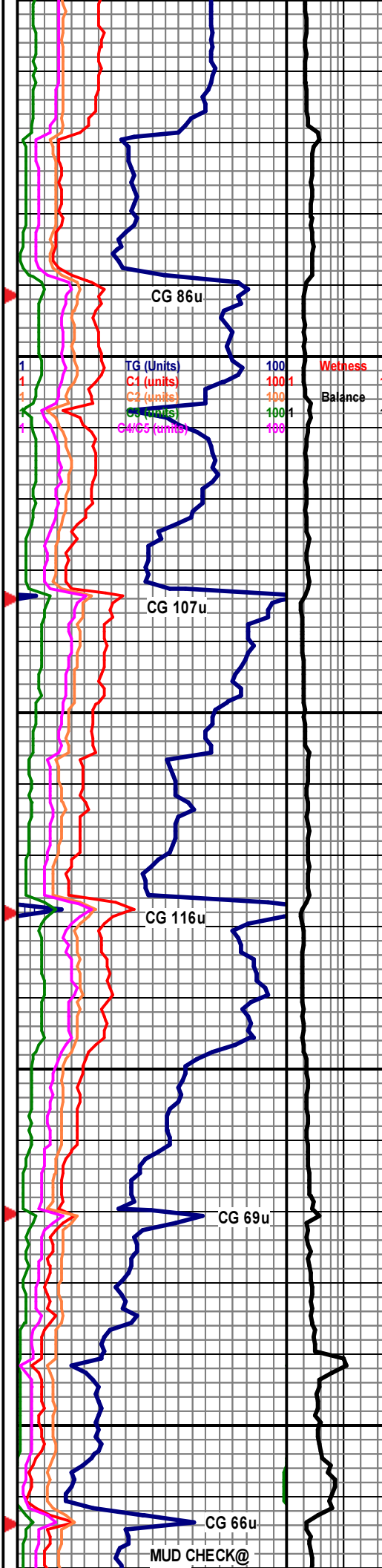


DOL: TAN- LT TAN, HD- V FRM, V FN XLN, CHNKY, SME PLTY, SUB RND-SUB ANG, SUC TXT, SME DNS, PR PP POR, PR INTRXLN POR, CHT: OPQ-TRANSLU, OCC WHT, V HD-HD, V FN XLN, CHNKY, SUB ANG- ANG, TR BRI YEL FLOR, BRI MILKY FLSH CUT, BRI YEL RES RING

DOL: TAN, OCC LT TAN, V FRM-FRM, FN XLN, CHNKY, SME BLKY, SUB RND- SUB ANG, SUC TXT, FR PP POR, W/ TR CHT: TRANSLU, SME OPQ W/ TAN STNG, HD- V HD, V FN XLN, CHNKY, ANG- SUB ANG, SME SURC TXT, SME DUL YEL FLOR, BRI MILKY FLSH CUT, BRI BLU RES RING

DOL: LT TAN- TAN, FRM-V FRM, V FN- FN XLN, CHNKY-BLKY, SUB RND, SUC TXT, FR PP POR, TR FRAC POR, W/ CHT: TRANSLU- OPQ, TAN STN, HD- V HD, V FN XLN, BLKY, SME CHNKY, SUB ANG, GLY TXT, TR BR YEL FLOR, BRI MILKY FLSH CUT, BRI THK BLU RES RING

DOL: LT TAN, V FRM, V FN XLN, CHNKY-BLKY, SUB RND, SUC TXT, PR PP POR, TR FRAC POR, W/ CHT: TRANSL-OPQ, TAN STN, HD- V HD, V FN XLN, BLKY, SME CHNKY, SUB ANG, GLY TXT, TR BR YEL FLOR, BRI MILKY FLSH CUT, BRI THK BLU RES RING



MD 4779 TVD 3668.01  
INC 91.08 AZ 182.19  
VS 697.04

WOB-22.2  
RPM-67  
PP-1673  
GPM-292

ROP (min/ft) 10  
G/R (API) 150  
Flurometer 600

MUD WT-8.6  
VIS-29

MD 4865 TVD 3666.34  
INC 91.14 AZ 181.6  
VS 783

WOB-21.8  
RPM-72  
PP-1785  
GPM-289

MD 4908 TVD 3665.41  
INC 91.35 AZ 181.83  
VS 825.99

MUD WT-8.6  
VIS-30

4800

4850

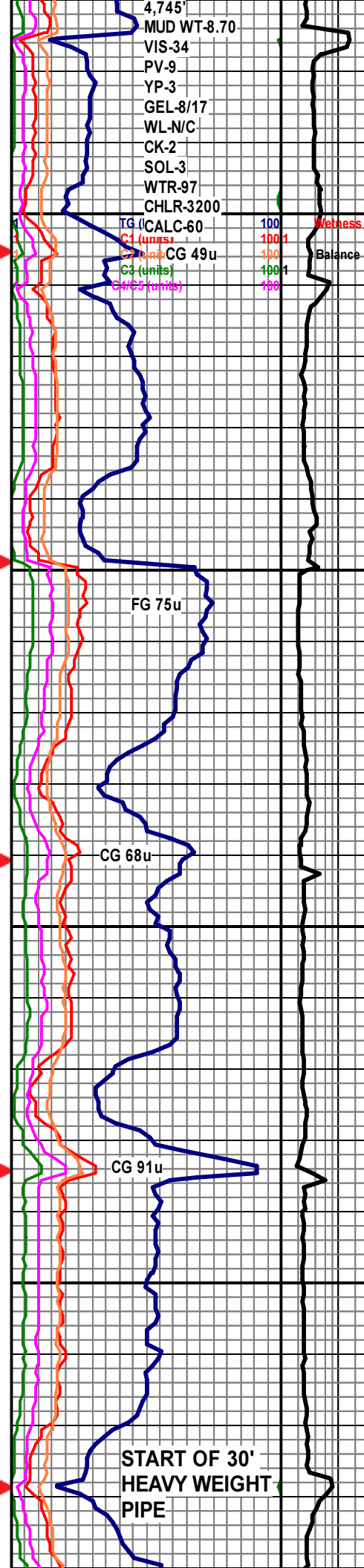
4900

4950

DOL: TAN, OCC LT TAN, V  
FRM-FRM, FN XLN, CHNKY,  
SME BLKY, SUB RND-SUB  
ANG, SUC TXT, FR PP POR, W/  
TR CHT: TRNSL, SME OPQ W/  
TAN STNG, HD- V HD, V FN  
XLN, CHNKY, ANG- SUB ANG,  
SME SUCR TXT, SME DUL YEL  
FLOR, BRI FLSH CUT, BRI BLU  
RES RING

DOL: LT TAN-TAN, SME GRY,  
FRM-V FRM, V FN-FN XLN,  
CHNKY-BLKY, SUB RND, SUCR  
TXT, FR PP POR, TR FRAC  
POR, W/ CHT: TRANSL-OPQ,  
TAN, HD-BRIT, V FN XLN,  
CHNKY-BLKY, SUB ANG, GLY  
TXT, TR BR YEL FLOR, BRI  
MLKY FLSH CUT, BRI THK BLU  
RES RING

DOL: LT TAN-LT TAN, V FRM, V  
FN XLN, CHNKY-BLKY, SUB  
RND, SUC TXT, POR, TR FRAC  
POR, W/ CHT: TRNSL-OPQ,  
TAN STN, HD- V HD, V FN XLN,  
BLKY, SME CHNKY, SUB ANG,  
GLY TXT, TR BR YEL FLOR, GD  
FLSH CUT, BRI THK BLU RES  
RING



4,745'  
MUD WT-8.70  
VIS-34  
PV-9  
YP-3  
GEL-8/17  
WL-N/C  
CK-2  
SOL-3  
WTR-97  
CHLR-3200

TG (CALC-60) 100 Wtess  
C1 (units) 100.1 Balance  
C2 (units) 100  
C3 (units) 100.1  
C4 (units) 100

FG 75u

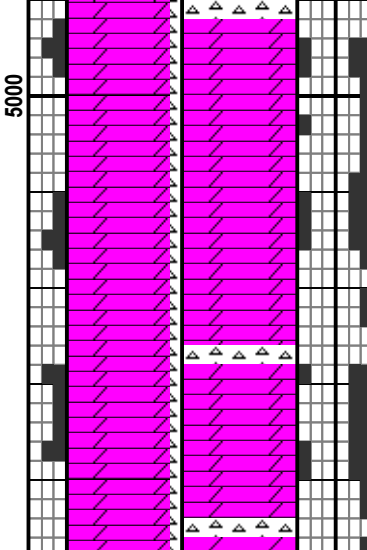
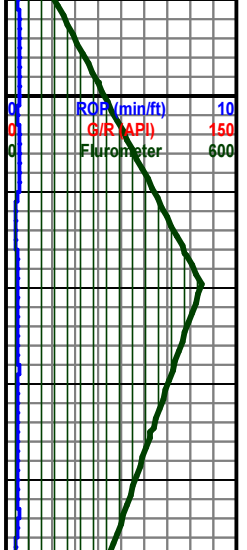
CG 68u

CG 91u

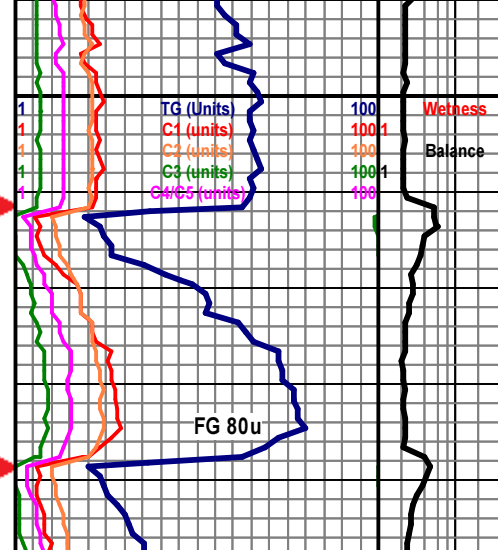
START OF 30'  
HEAVY WEIGHT  
PIPE



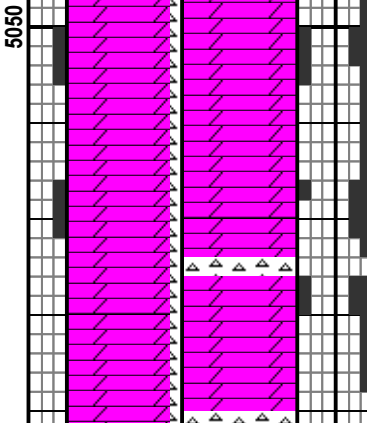
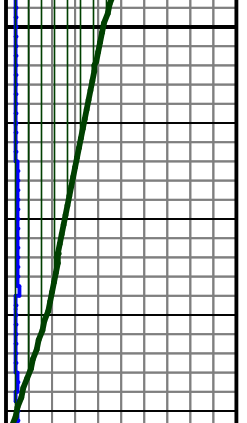
WOB-23.6  
RPM-77  
PP-1730  
GPM-292  
MD 5000 TVD 3663.34  
INC 91.23 AZ 180.89  
VS 917.95



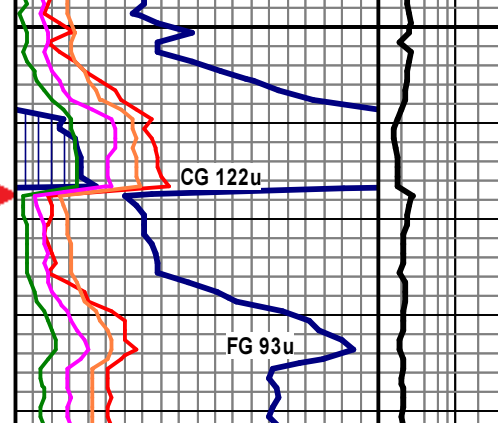
DOL: LT TAN- TAN, FRM-V FRM,  
V FN- FN XLN, CHNKY-BLKY,  
SUB RND, SUC TXT, FR PP  
POR, TR FRAC POR, W/ CHT:  
TRNSL-OPQ, TAN, HD-V HD, V  
FN XLN, BLKY-CHNKY, SUB  
ANG, GLY TXT, TR BR YEL  
FLOR, FR FLSH CUT, BRI THK  
BLU RES RING



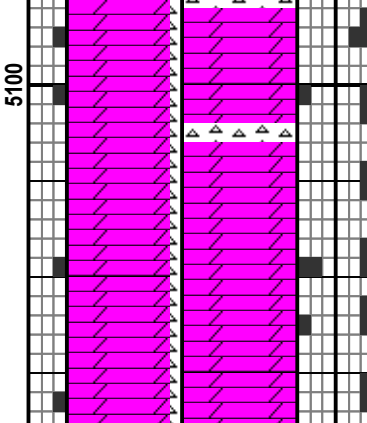
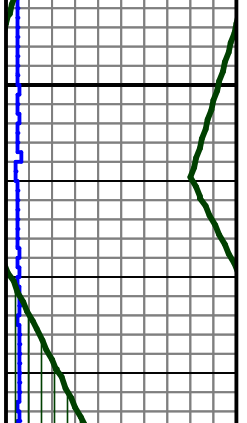
MUD WT-8.6  
VIS-28



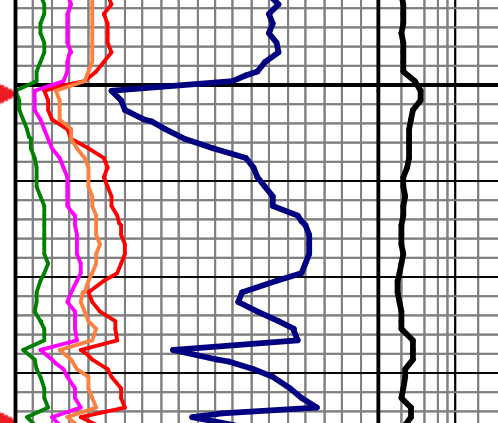
DOL: LT TAN, V FRM, V FN  
XLN, CHNKY-BLKY, SUB RND,  
SUC TXT, PR PP POR, TR  
FRAC POR, W/ CHT:  
TRNSL-OPQ, SME TAN, HD- V  
HD, V FN XLN, BLKY, SME  
CHNKY, SUB ANG, GLY TXT, TR  
BR YEL FLOR, FR FLSH CUT,  
BRI THK BLU RES RING



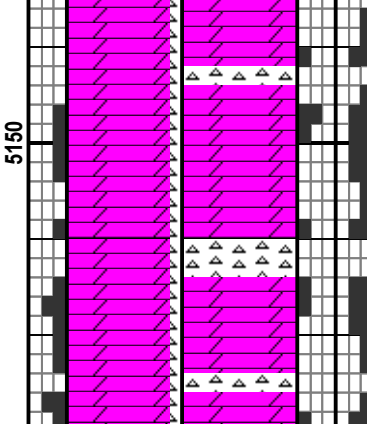
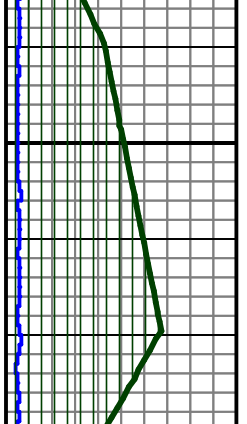
MD 5092 TVD 3661.61  
INC 90.92 AZ 179.48  
VS 1009.93



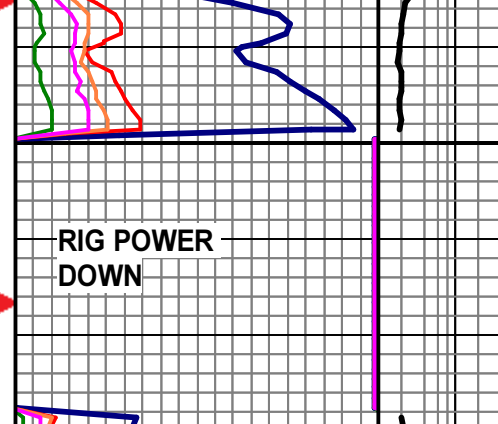
DOL: TAN-LT TAN, V FRM- FRM,  
FN XLN, CHNKY-BLKY, SUB  
RND-SUB ANG, SUCR TXT, FR  
PP POR, W/ TR CHT: TRNSL,  
SME OPQ W/ TAN STNG, HD-V  
HD, V FN XLN, CHNKY,  
ANG-SUB ANG, SME SURC  
TXT, SME BRI YEL FLOR, GD  
FLSH CUT, BRI BLU RES RING



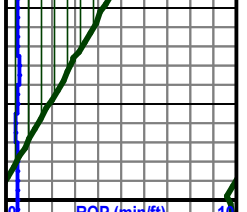
MUD WT-8.6  
VIS-29



DOL: LT TAN-TAN, FRM-V FRM,  
V FN- FN XLN, CHNKY-BLKY,  
SUB RND, SUC TXT, FR PP  
POR, TR FRAC POR, W/ CHT:  
TRNSL-OPQ, TAN, HD-V HD, V  
FN XLN, BLKY-CHNKY, SUB  
ANG, GLY TXT, TR BR YEL  
FLOR, FR FLSH CUT, BRI THK  
BLU RES RING



MD 5184 TVD 3660.25  
INC 90.77 AZ 179.31  
VS 1101.9



DOL: LT TAN-TAN, FRM-V FRM,  
V FN- FN XLN, CHNKY-BLKY,  
SUB RND, SUC TXT, FR PP  
POR, TR FRAC POR, W/ CHT:  
TRNSL-OPQ, TAN, HD-V HD, V  
FN XLN, BLKY-CHNKY, SUB  
ANG, GLY TXT, TR BR YEL  
FLOR, FR FLSH CUT, BRI THK  
BLU RES RING



MUD WT-8.6  
VIS-29

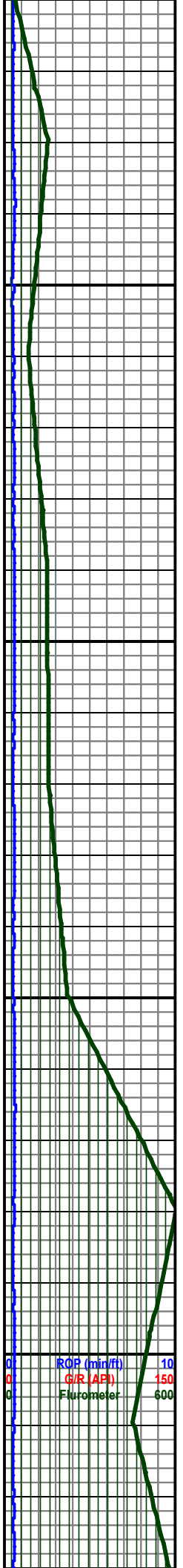
MD 5276 TVD 3658.87  
INC 90.95 AZ 178.33  
VS 1193.84

WOB-23.6  
RPM-73  
PP-1775  
GPM-291

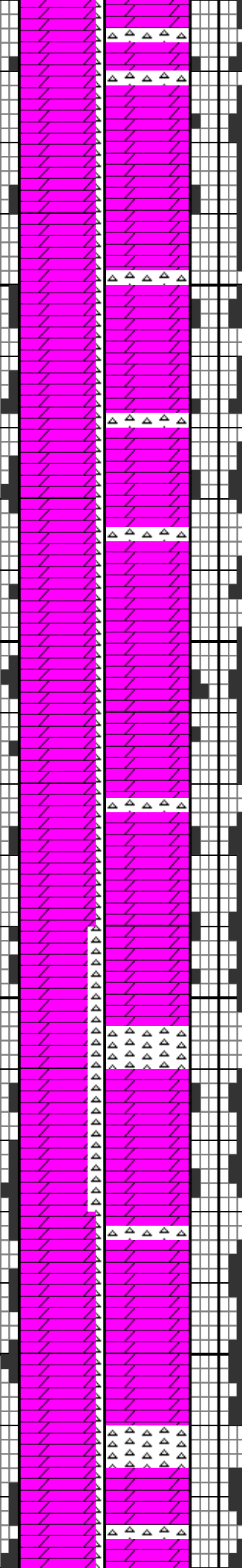
MUD WT-8.6  
VIS-28

MD 5368 TVD 3657.39  
INC 90.89 AZ 176.94  
VS 1285.69

WOB-23.7  
RPM-71  
PP-1770  
GPM-289



5250  
5300  
5350  
5400

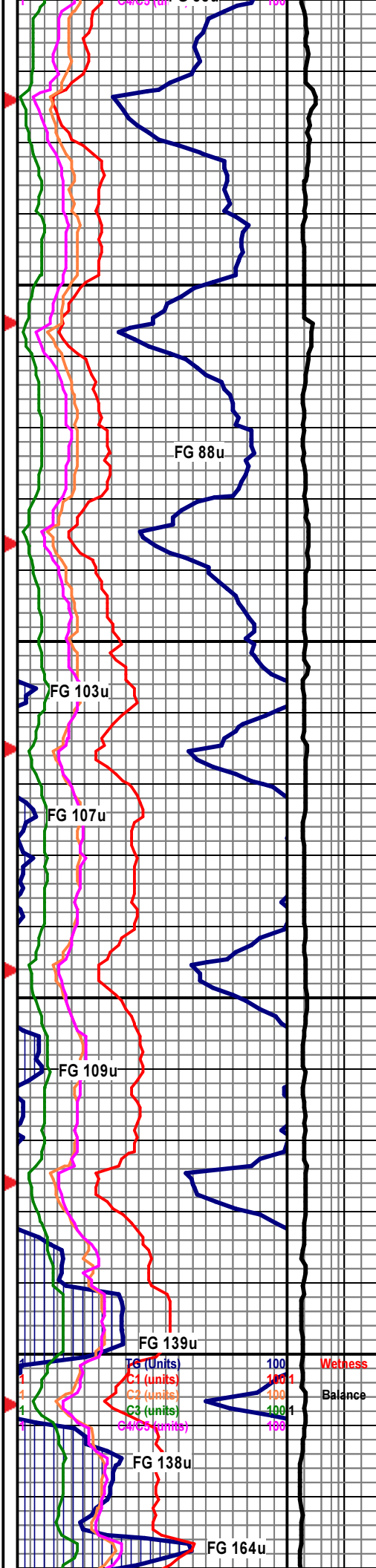


DOL: LT TAN-TAN, FRM-V FRM,  
V FN- FN XLN, CHNKY-BLKY,  
SUB RND, SUC TXT, FR PP  
POR, TR FRAC POR, W/ CHT:  
TRNSL-OPQ, TAN STN, HD- V  
HD, V FN XLN, BLKY, SME  
CHNKY, SUB ANG, GLY TXT, TR  
BR YEL FLOR, GD FLSH CUT,  
BRI THK BLU RES RING

DOL: TAN- LT TAN, HD-V FRM,  
V FN XLN, CHNKY, SME PLTY,  
SUB RND-SUB ANG, SUC TXT,  
SME DNS, PR PP POR, PR  
INTRXLN POR, CHT:  
OPQ-TRNSL, OCC WHT, V  
HD-HD, V FN XLN, CHNKY, SUB  
ANG- ANG, TR BRI YEL FLOR,  
GD FLSH CUT, BRI YEL RES  
RING

DOL: LT TAN-TAN, SME DRK  
TAN, HD-V FRM, V FN XLN,  
CHNKY-BLKY, SUB RND-SUB  
ANG, SUC TXT, W/ CHT: LT  
TAN, HD, V FN XLN, CHNKY,  
ANG-SUB ANG, PR INXLN POR,  
PR PP POR, TR DUL YEL-BLU  
FLOR, GD FLSH CUT, BLU RES  
RING

DOL: LT TAN-TAN, SME GRY,  
FRM-V FRM, V FN- FN XLN,  
CHNKY-BLKY, SUB RND, SUC  
TXT, FR PP POR, TR FRAC  
POR, W/ CHT: TRNSL-OPQ,  
TAN, HD-V HD, V FN XLN,  
BLKY-CHNKY, SUB ANG, GLY



FG 88u  
FG 103u  
FG 107u  
FG 109u  
FG 139u  
FG 138u  
FG 164u

MUD WT-8.6  
VIS-28

MD 5460 TVD 3656.13  
INC 90.68 AZ 175.88  
VS 1377.42

WOB-19.1  
RPM-72  
PP-1747  
GPM-288

MUD WT-8.6  
VIS-28

MD 5552 TVD 3654.92  
INC 90.83 AZ 176.39  
VS 1469.12

WOB-21.6  
RPM-70  
PP-1755  
GPM-289

ROR (min/ft) 10  
G/R (API) 150  
Fluorometer 600

MD 5644 TVD 3653.93  
INC 90.4 AZ 178.26  
VS 1500.05

5450

5500

5550

5600

50



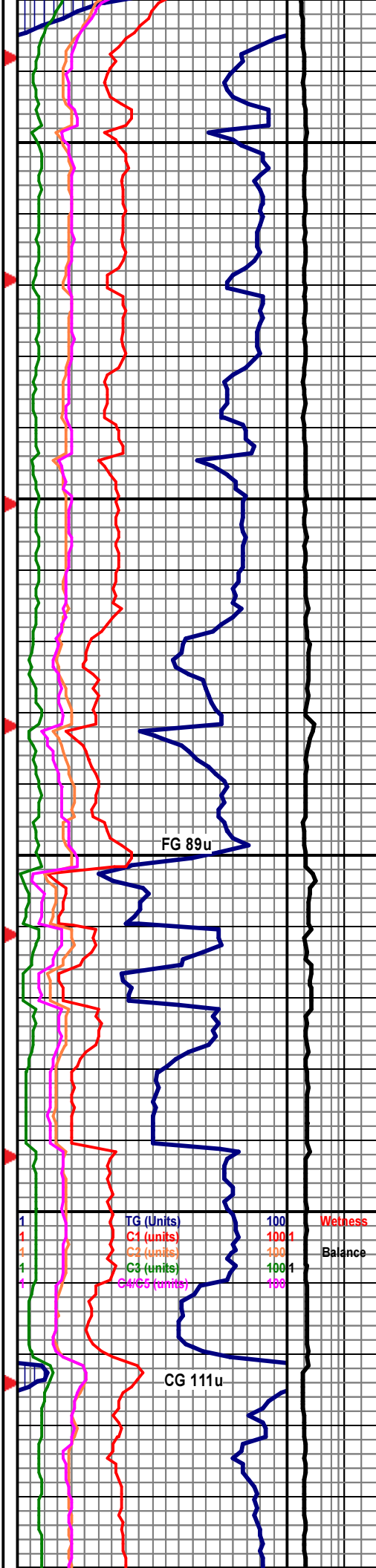
TXT, NO FLOR, FR FLSH CUT,  
THK BLU RES RING

DOL: LT TAN, V FRM, V FN  
XLN, CHNKY-BLKY, SUB RND,  
SUC TXT, PR PP POR, TR  
FRAC POR, W/ CHT:  
TRNSL-OPQ, TAN, HD- V HD, V  
FN XLN, BLKY-CHNKY, SUB  
ANG, GLY TXT, NO FLOR, FR  
FLSH CUT, BRI THK BLU RES  
RING

CHT: TAN, SME LT TAN, HD-V  
FRM, V FN-FN XLN,  
CHNKY-BLKY, OCC PLTY, SUB  
ANG-SUB RND, DNS, W/ DOL:  
LT TAN, V FRM, V FN XLN,  
CHNKY-BLKY, SUB RND, SUC  
TXT, PR PP POR, TR FRAC  
POR, FLOR, NO VIS CUT, DUL  
GRN RES RING

DOL: LT TAN- TAN, HD- V FRM,  
V FN- FN XLN, CHNKY, SME  
BLKY, SUB RND, - SUB ANG,  
SUC TXT, W/ CHT: TRANSLU-  
OPQ SME TAN, HD- V HD, V FN  
XLN, CHNKY, SME PLTY, SUB  
ANG-SUB RND, PR PP POR, TR  
HL FRAC POR, TR BRI YEL  
FLOR, BRI SLW CUT, BRI  
BLU-GRN RES RING

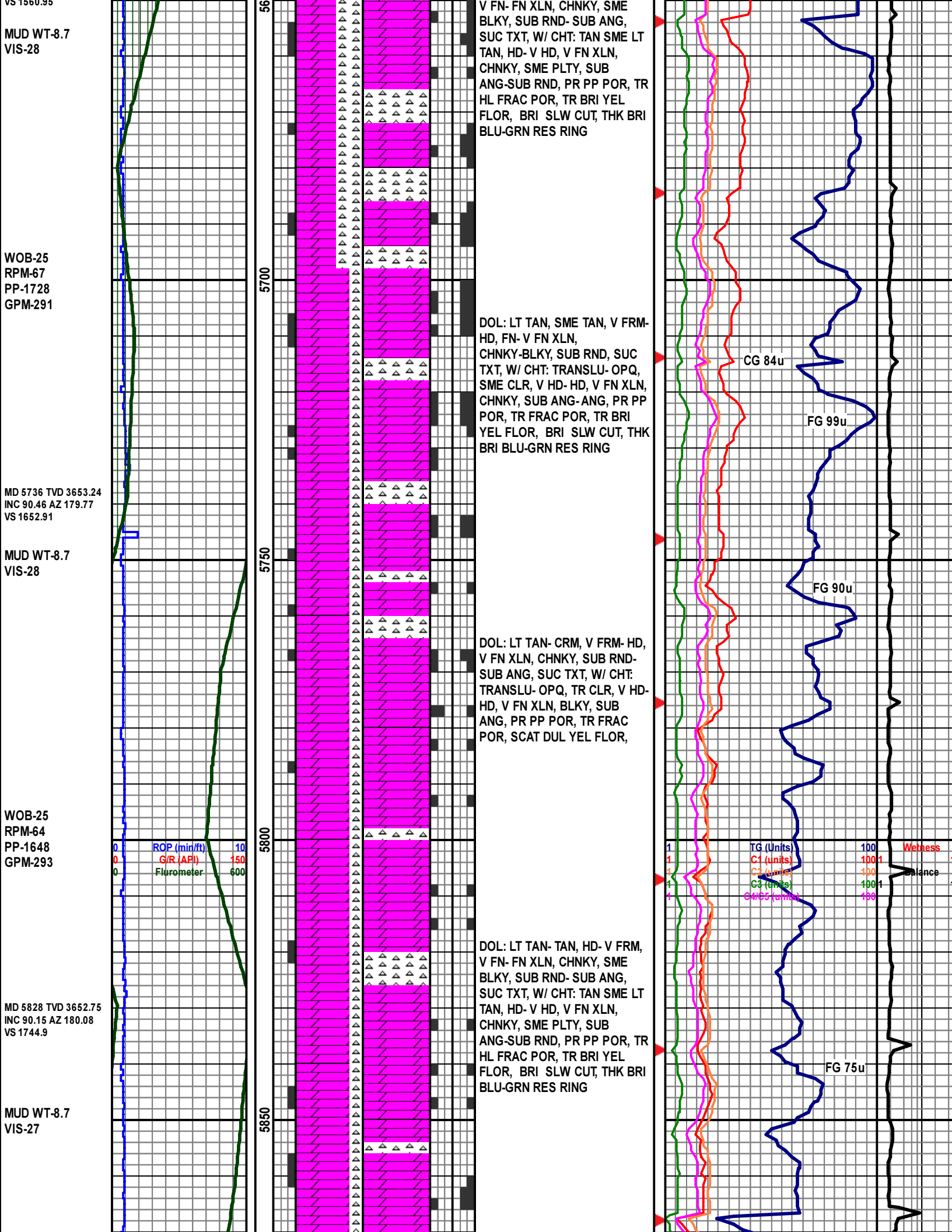
DOL: LT TAN- TAN, HD- V FRM,



FG 89u

CG 111u

1	TG (Units)	100	Wetness
1	C1 (units)	100.1	
1	C2 (units)	100	Balance
1	C3 (units)	100.1	
1	C4(C5 (units))	100	



MD 5736 TVD 3653.24  
INC 90.46 AZ 179.77  
VS 1652.91

WOB-25  
RPM-67  
PP-1728  
GPM-291

MD 5736 TVD 3653.24  
INC 90.46 AZ 179.77  
VS 1652.91

MUD WT-8.7  
VIS-28

WOB-25  
RPM-64  
PP-1648  
GPM-293

ROP (min/ft) 10  
G/R (API) 150  
Flurometer 600

MD 5828 TVD 3652.75  
INC 90.15 AZ 180.08  
VS 1744.9

MUD WT-8.7  
VIS-27

TG (Units) 100  
C1 (units) 100  
C2 (units) 100  
C3 (units) 100  
C4 (units) 100  
Wetness  
Balance

DOL: LT TAN, SME TAN, V FRM-HD, FN-V FN XLN, CHNKY-BLKY, SUB RND, SUC TXT, W/ CHT: TRANSLU-OPQ, SME CLR, V HD-HD, V FN XLN, CHNKY, SUB ANG-ANG, PR PP POR, TR FRAC POR, TR BRI YEL FLOR, BRI SLW CUT, THK BRI BLU-GRN RES RING

DOL: LT TAN-GRM, V FRM-HD, V FN XLN, CHNKY, SUB RND-SUB ANG, SUC TXT, W/ CHT: TRANSLU-OPQ, TR CLR, V HD-HD, V FN XLN, BLKY, SUB ANG, PR PP POR, TR FRAC POR, SCAT DUL YEL FLOR,

DOL: LT TAN-TAN, HD-V FRM, V FN-FN XLN, CHNKY, SME BLKY, SUB RND-SUB ANG, SUC TXT, W/ CHT: TAN SME LT TAN, HD-V HD, V FN XLN, CHNKY, SME PLTY, SUB ANG-SUB RND, PR PP POR, TR HL FRAC POR, TR BRI YEL FLOR, BRI SLW CUT, THK BRI BLU-GRN RES RING

CG 84u

FG 99u

FG 90u

FG 75u

56  
5700  
5750  
5800  
5850

07/15/2013

WOB-25.2  
RPM-64  
PP-1653  
GPM-292

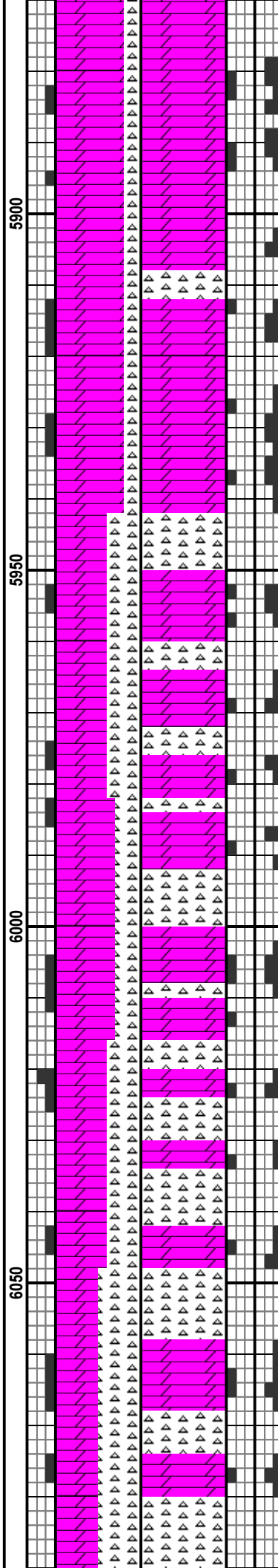
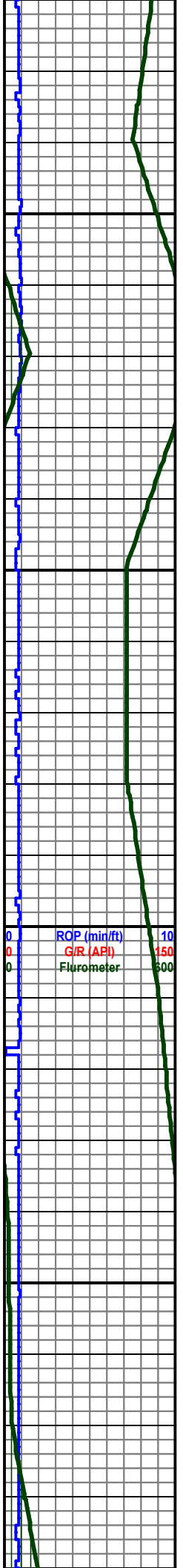
MD 5920 TVD 3652.68  
INC 89.94 AZ 180.22  
VS 1836.9

MUD WT-8.4  
VIS-27

WOB-24.7  
RPM-65  
PP-919  
GPM-305

MD 6012 TVD 3653.05  
INC 89.6 AZ 181.67  
VS 1855.98

MUD WT-8.4  
VIS-27

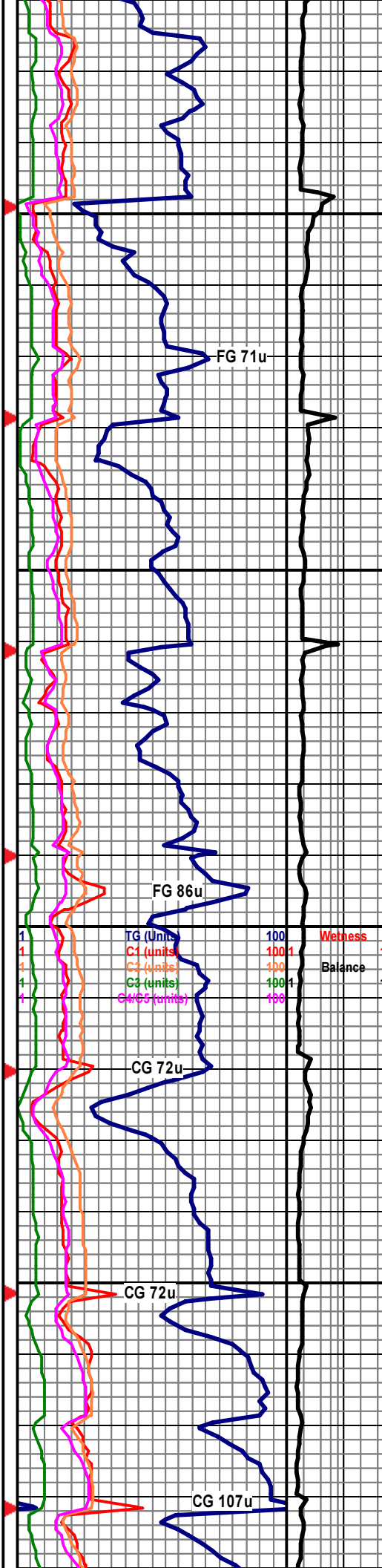


DOL: LT TAN-TAN, HD- V FRM,  
V FN- FN XLN, CHNKY, SME  
BLKY, SUB RND- SUB ANG,  
SUC TXT, W/ CHT: TAN SME LT  
TAN, HD- V HD, V FN XLN,  
CHNKY, SME PLTY, SUB  
ANG-SUB RND, PR PP POR, TR  
HL FRAC POR, NO VIS FLOR,  
BRI MILKY FLSH CUT, THK GLD  
RES RING

DOL: LT TAN, SME TAN HD- V  
FRM, V FN- FN XLN,  
CHNKY-BLKY, SUB RND- SUB  
ANG, SUC TXT, W/ CHT: TAN  
SME LT TAN, HD- V HD, V FN  
XLN, CHNKY, SME PLTY, SUB  
ANG-SUB RND, PR PP POR, TR  
HL FRAC POR, TR DUL YEL  
FLOR, BRI SLW CUT, BRI GLD  
RES RING

DOL: LT TAN-CRM, SME TAN,  
HD- V FRM, V FN XLN, CHNKY-  
BLKY, SUB RND, SME SUB  
ANG, SUC TXT, W/ CHT: WHT-  
TRANSLU, SME LT TAN, TR  
CLR, V HD- HD, FN- V FN XLN,  
BLKY, SME CHNKY, SUB ANG,  
OCC ANG, DNS, FR PP POR,  
PR FRAC POR, SCAT DUL YEL  
FLOR, BRI MILKY SLW CUT,  
THK BRI GLD RES RING

DOL: LT TAN, SME TAN, V FRM-  
HD, FN- V FN XLN,  
CHNKY-BLKY, SUB RND, SUC  
TXT, W/ CHT: TRANSLU-OPQ,  
SME CLR, V HD- HD, V FN XLN,  
CHNKY, SUB ANG-ANG, PR PP  
POR, TR FRAC POR, SCAT DUL  
YEL FLOR, SLW CUT, FR YEL  
RES RING



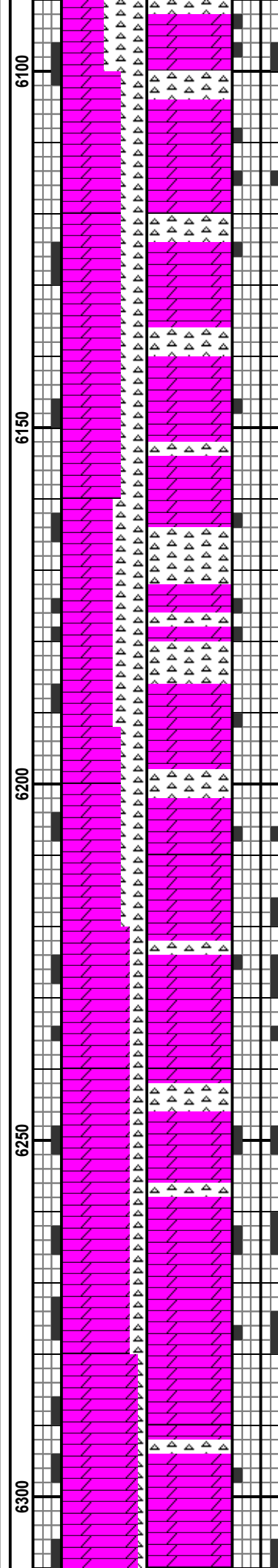
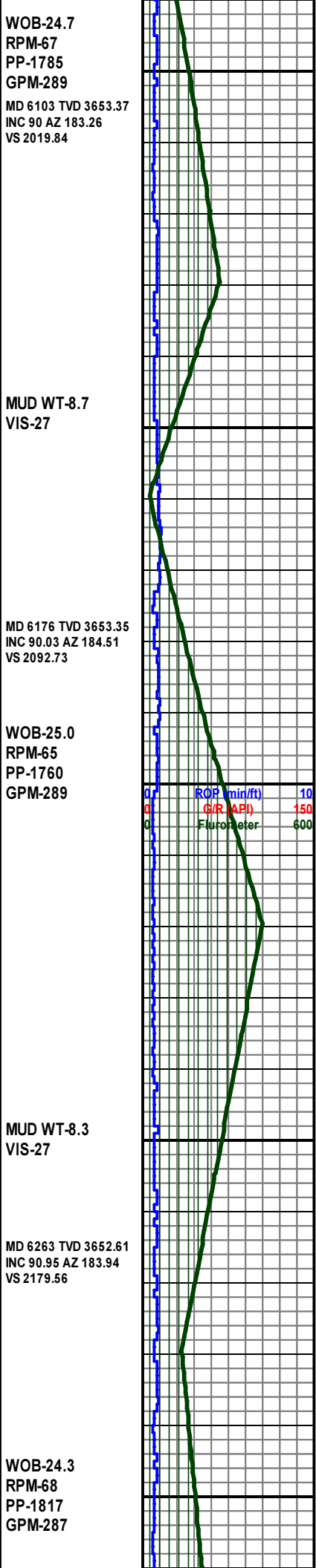
FG 71u

FG 86u

CG 72u

CG 72u

CG 107u

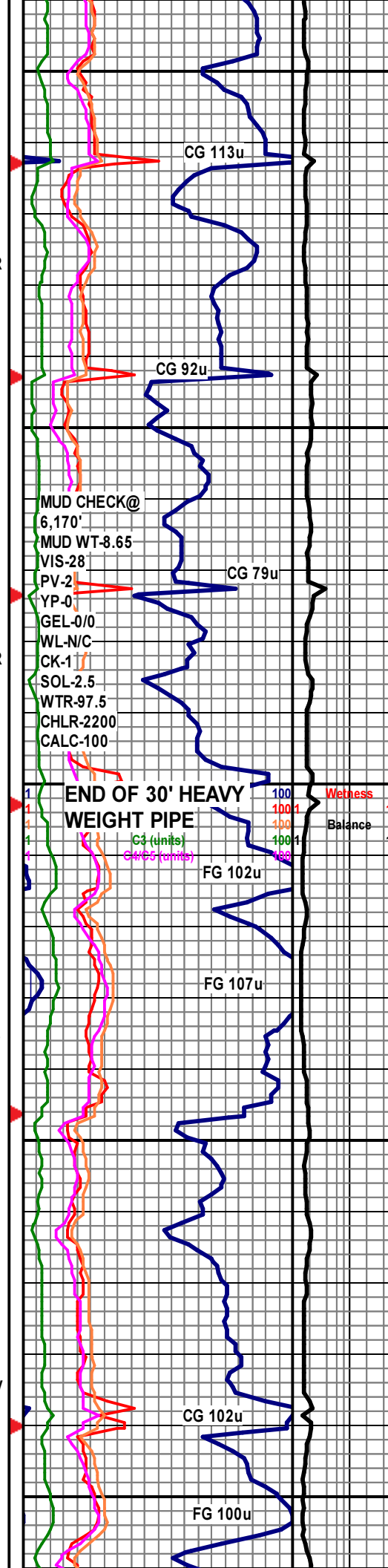


DOL: LT TAN- TAN, HD-V FRM, V FN- FN XLN, CHNKY, SME BLKY, SUB RND- SUB ANG, SUC TXT, W/ CHT: TAN SME LT TAN, HD- V HD, V FN XLN, CHNKY, SME PLTY, SUB ANG-SUB RND, PR PP POR, TR HL FRAC POR, TR BRI YEL FLOR, SLW CUT, FR YEL RES RING

DOL: LT TAN, SME TAN, HD- V FRM, V FN- FN XLN, CHNKY-BLKY, SUB RND- SUB ANG, SUC TXT, W/ CHT: TAN SME LT TAN, HD- V HD, V FN XLN, CHNKY, SME PLTY, SUB ANG-SUB RND, PR PP POR, TR HL FRAC POR, TR DUL YEL FLOR, SLW CUT, GD BLU-GRN RES RING

DOL: LT TAN-TAN, V FRM-HD, FN-V FN XLN, CHNKY-BLKY, SUB RND, SUC TXT, W/ CHT: TRNSL-OPQ, SME CLR, V HD-HD, V FN XLN, CHNKY, SUB ANG- ANG, PR PP POR, TR FRAC POR, V DUL YEL FLOR, FLSH CUT, GD BLU-GRN RES RING

DOL: LT TAN-TAN HD-V FRM, V FN-FN XLN, CHNKY, SUB RND, SUC TXT, W/ CHT: TRNSL, HD-V HD, V FN XLN, CHNKY, SME PLTY, SUB ANG-SUB RND, PR PP POR, TR HL FRAC POR, TR DUL YEL FLOR, BRI SLW CUT, BLU-GRN RES RING



MUD WT-8.3  
 VIS-26  
 MD 6349 TVD 3651.2  
 INC 90.92 AZ 182.52  
 VS 2265.46

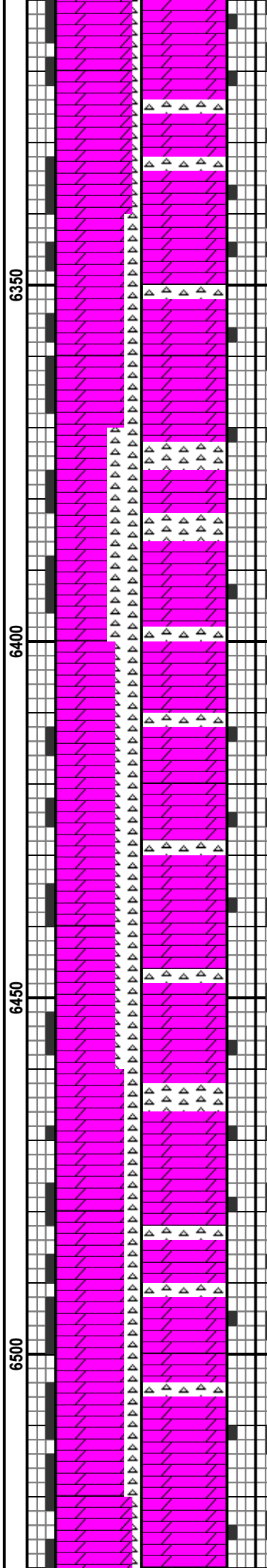
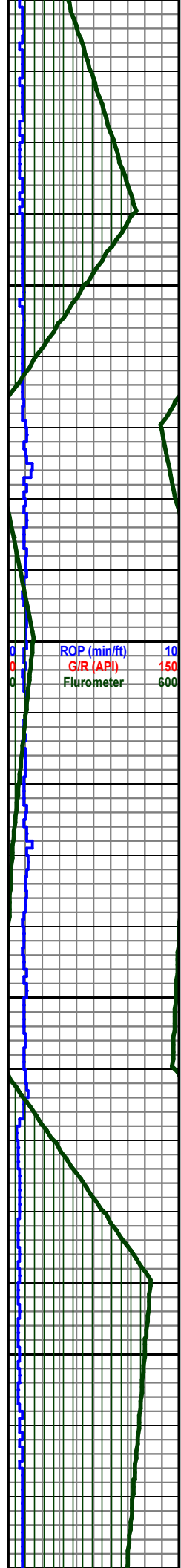
WOB-24.8  
 RPM-66  
 PP-1805  
 GPM-289

MD 6436 TVD 3649.52  
 INC 91.29 AZ 181.73  
 VS 2352.42

MUD WT-8.3  
 VIS-26

WOB-27.1  
 RPM-286  
 PP-1883  
 GPM-286

MD 6522 TVD 3648.11  
 INC 90.59 AZ 181.21  
 VS 2438.4

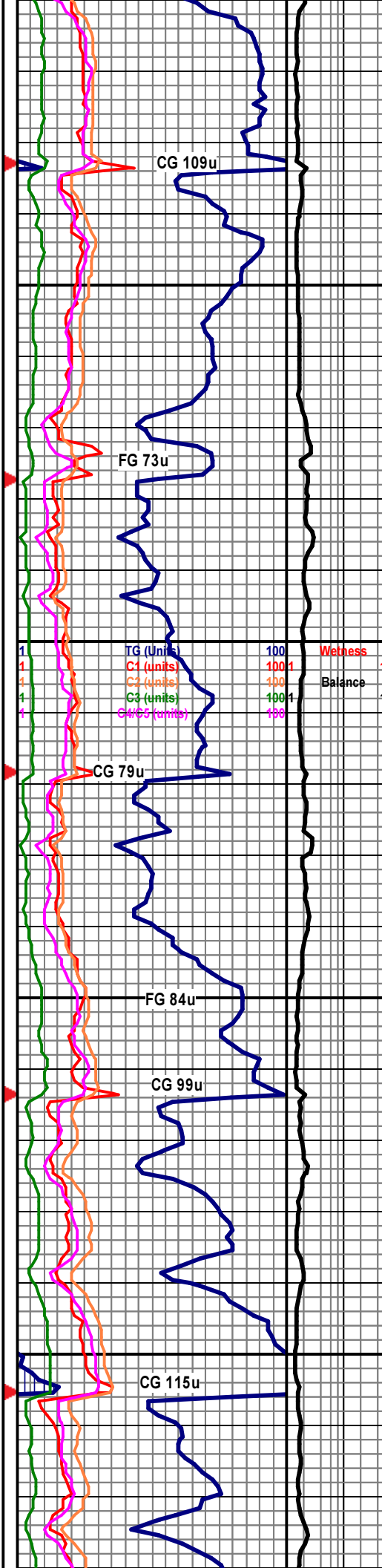


DOL: LT TAN-TAN, HD- V FRM, V FN- FN XLN, CHNKY-BLKY, SUB RND- SUB ANG, SUC TXT, W/ CHT: TAN SME LT TAN, HD- V HD, V FN XLN, CHNKY, SME PLTY, SUB ANG-SUB RND, PR PP POR, TR HL FRAC POR, TR DUL YEL FLOR, FLSH CUT, GD BLU-GRN RES RING

DOL: TAN-LT TAN, HD-V FRM, V FN-FN XLN, CHNKY-BLKY, SUB RND- SUB ANG, SUC TXT, W/ CHT: TAN SME LT TAN, HD- V HD, V FN XLN, CHNKY, SME PLTY, SUB ANG-SUB RND, PR PP POR, TR HL FRAC POR, TR DUL YEL FLOR, SLW CUT, GD BLU-GRN RES RING

DOL: TAN-LT TAN, HD-V FRM, V FN-FN XLN, CHNKY-BLKY, SUB RND-SUB ANG, SUC TXT, W/ CHT: LT TAN, HD-V HD, V FN XLN, CHNKY, SUB ANG-SUB RND, PR PP POR, TR HL FRAC POR, TR DUL YEL FLOR, FLSH CUT, GD BLU-GRN RES RING

DOL: LT TAN-TAN, HD- V FRM, V FN- FN XLN, CHNKY-BLKY, SUB RND- SUB ANG, SUC TXT, W/ CHT: TAN SME LT TAN, HD- V HD, V FN XLN, CHNKY, SME PLTY, SUB ANG-SUB RND, PR PP POR, TR HL FRAC POR, TR DUL YEL FLOR, FLSH CUT, GD BLU-GRN RES RING



MUD WT-8.4  
VIS-27

WOB-27.3  
RPM-66  
PP-1815  
GPM-288

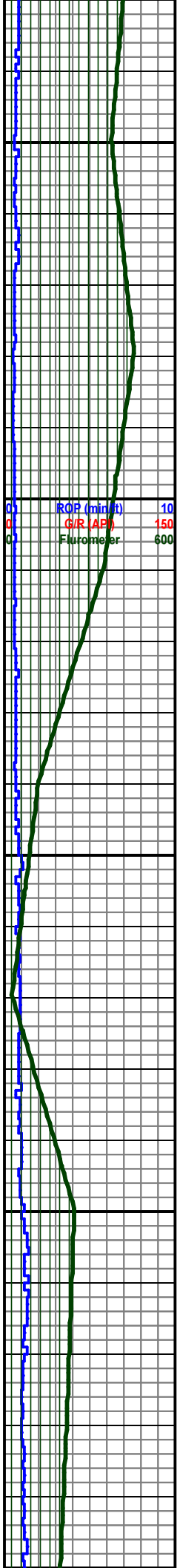
MD 6609 TVD 3647.17  
INC 90.65 AZ 180.31  
VS 2525.39

MUD WT-8.3  
VIS-26

MD 6695 TVD 3646.22  
INC 90.62 AZ 180.02  
VS 2611.38

WOB-28.4  
RPM-68  
PP-1728  
GPM-289

MUD WT-8.3



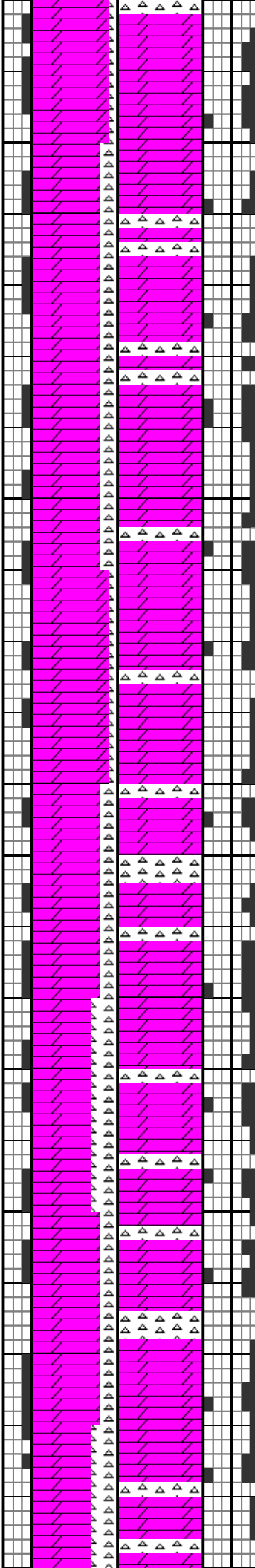
6550

6600

6650

6700

50

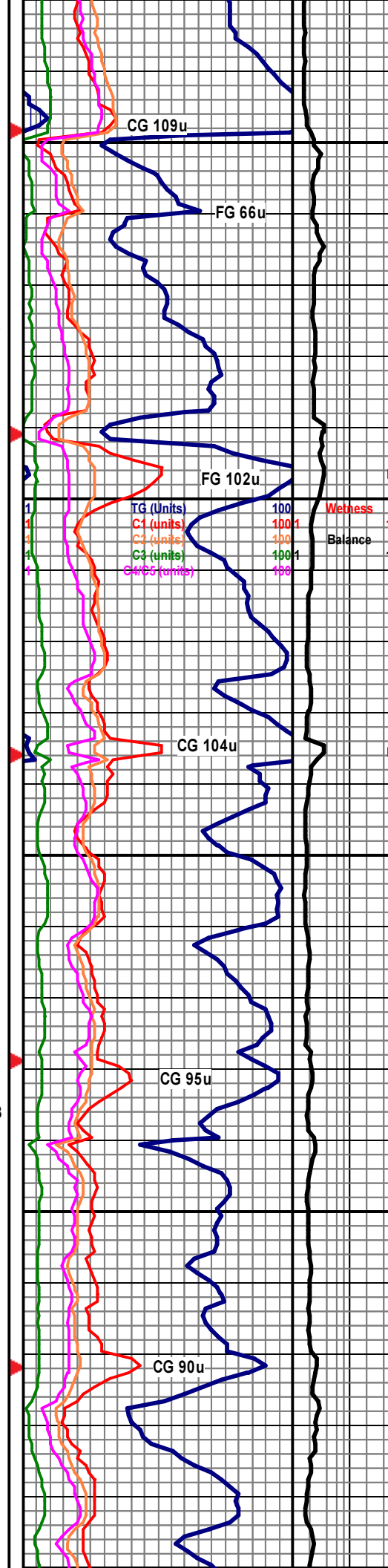


DOL: LT TAN-TAN, V FRM-HD, FN-V FN XLN, CHNKY-BLKY, SUB RND, SUC TXT, W/ CHT: TRNSL-OPQ, SME CLR, V HD-HD, V FN XLN, CHNKY, SUB ANG- ANG, PR PP POR, TR FRAC POR, V DUL YEL FLOR, FLSH CUT, GD BLU-GRN RES RING

DOL: LT TAN-TAN, HD- V FRM, V FN- FN XLN, CHNKY-BLKY, SUB RND- SUB ANG, SUC TXT, W/ CHT: TAN SME LT TAN, HD- V HD, V FN XLN, CHNKY, SME PLTY, SUB ANG-SUB RND, PR PP POR, TR HL FRAC POR, TR DUL YEL FLOR, FLSH CUT, GD BLU-GRN RES RING

DOL: LT TAN-TAN, HD-V FRM, V FN- FN XLN, CHNKY-BLKY, SUB RND- SUB ANG, SUC TXT, W/ CHT: TAN SME LT TAN, HD- V HD, V FN XLN, CHNKY, SME PLTY, SUB ANG-SUB RND, PR PP POR, TR HL FRAC POR, TR DUL YEL FLOR, FLSH CUT, GD BLU-GRN RES RING

DOL: TAN-LT TAN, HD-V FRM, V FN-FN XLN, CHNKY-BLKY, SUB



CG 109u

FG 66u

FG 102u

TG (Units)	100	Wellbore
C1 (units)	100.1	Balance
C2 (units)	100	
C3 (units)	100.1	
C4/C5 (units)	100	

CG 104u

CG 95u

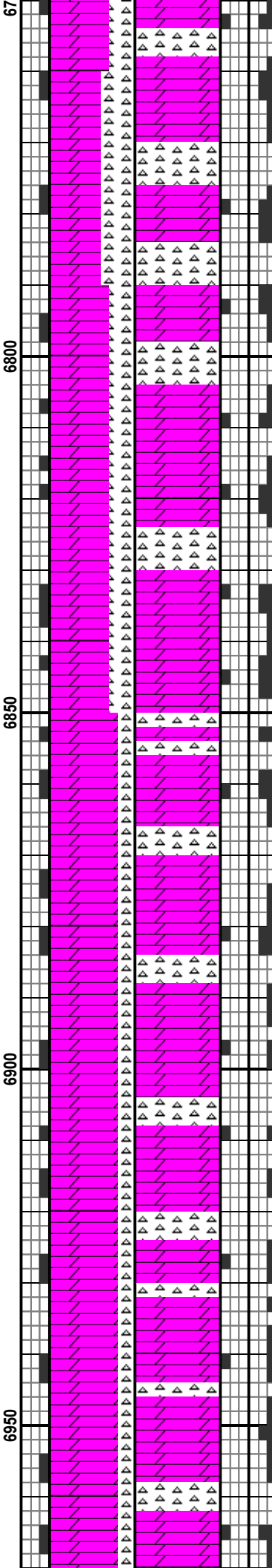
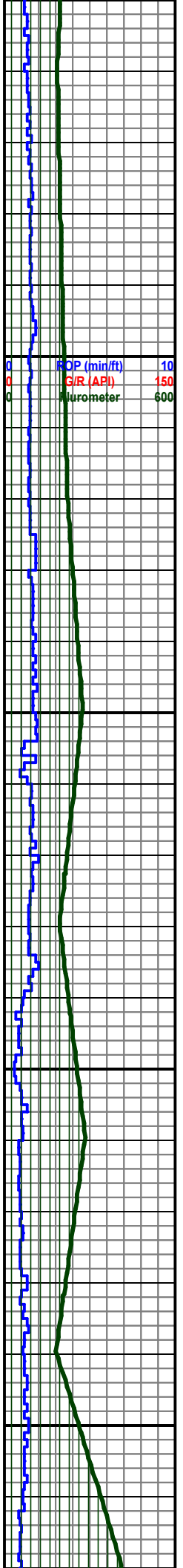
CG 90u



VIS-26

MD 6785 TVD 3645.3  
INC 90.55 AZ 179.15  
VS 2701.36

WOB-29.1  
RPM-66  
PP-2285  
GPM-376



RND-SUB ANG, SUC TXT, W/  
CHT: TAN SME LT TAN, HD-V  
HD, V FN XLN, CHNKY, SME  
PLTY, SUB ANG-SUB RND, PR  
PP POR, TR DUL YEL FLOR,  
SLW CUT, GD BLU-GRN RES  
RING

DOL: LT TAN-TAN, SME CRM, V  
FRM-HD, FN-V FN XLN CHNKY,  
SME BLKY, SUB RND- SUB  
ANG, SM TXT, SME SUC TXT,  
W/ CHT: LT TAN, SME TRNSL,  
SCAT CLR, HD-V HD, CHNKY,  
SUB ANG-SUB RND, SME RND,  
PR PP POR, SCAT DUL YEL  
FLOR, GD BLU-GRN RES RING

DOL: LT TAN-TAN, HD-V FRM, V  
FN-FN XLN, CHNKY-BLKY, SUB  
RND-SUB ANG, SUC TXT, W/  
CHT: TAN SME LT TAN, HD-V  
HD, V FN XLN, CHNKY, SUB  
ANG-SUB RND, PR PP POR, TR  
DUL YEL FLOR, FLSH CUT, GD  
BLU-GRN RES RING

**TOOH @ 6,884' FOR  
NEW BIT  
TIH W/ BIT #5 6 1/8"  
HUGHES DPD406X  
6x12'S**

DOL: TAN-LT TAN, HD-V FRM, V  
FN-FN XLN, CHNKY-BLKY, SUB  
RND-SUB ANG, SUC TXT, W/  
CHT: TAN SME LT TAN, HD-V  
HD, V FN XLN, CHNKY, SME  
PLTY, SUB ANG-SUB RND, PR  
PP POR, TR DUL YEL FLOR,  
SLW CUT, GD BLU-GRN RES  
RING

MD 6861 TVD 3644.84  
INC 90.15 AZ 180.5  
VS 2777.35

WOB-19.8  
RPM-72  
PP-1839  
GPM-299

MD 6952 TVD 3644.22  
INC 90.62 AZ 181.4  
VS 2868.35

MUD WT-8.3  
VIS-26

**START 30' OF  
HEAVY WEIGHT  
PIPE**

CG 82u

BOTTOMS UP  
GAS 131u

CG 204u

**PUMPED SWEEP**

FG 165u

CG 174u

CG 157u

FG 77u

TRIP GAS 3965u

TRIP GAS 3754u

CG 121u

CG 271u

Wetness  
Balance

WOB-23.4  
RPM-73  
PP-1810  
GPM-293

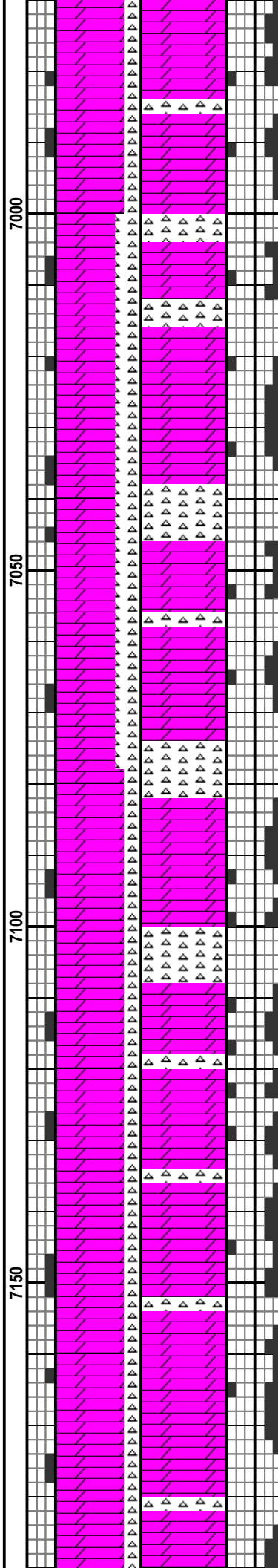
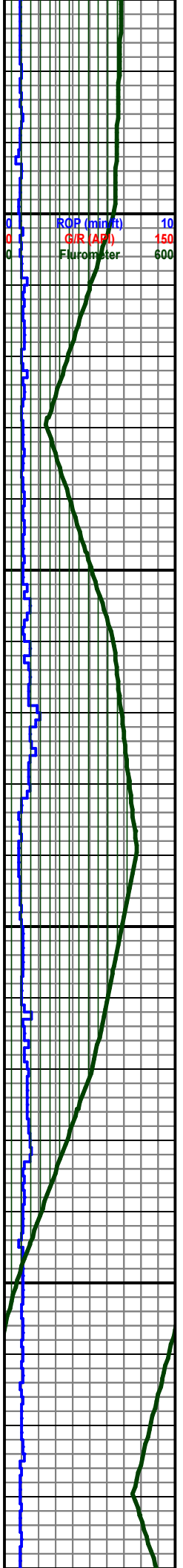
MD 7043 TVD 3643.14  
INC 90.74 AZ 180.31  
VS 2959.34

MUD WT-8.3  
VIS-26

WOB-23.9  
RPM-74  
PP-1523  
GPM-297

MD 7134 TVD 3642.46  
INC 90.12 AZ 180.64  
VS 3050.33

MUD WT-8.3  
VIS-27

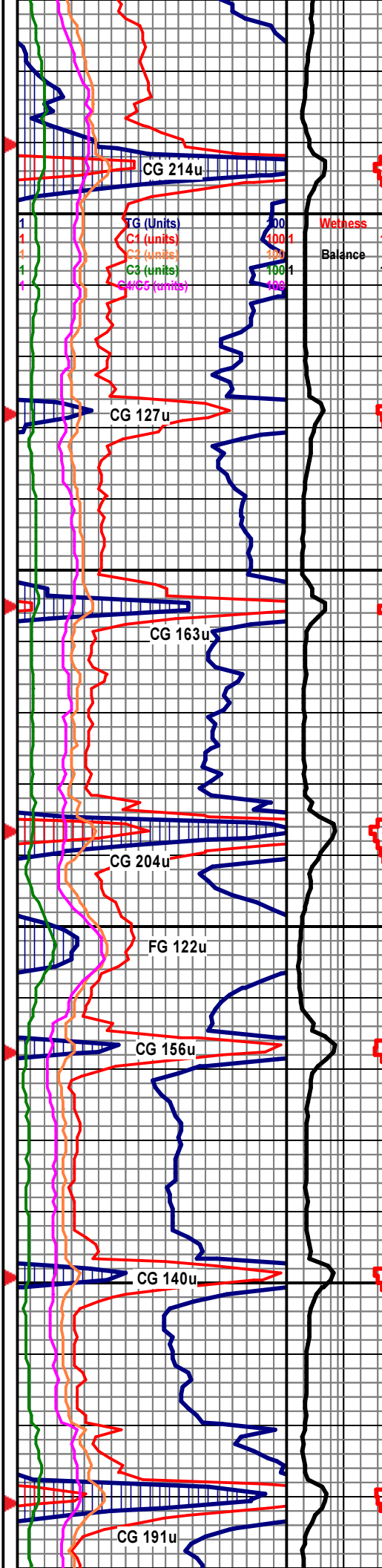


DOL: LT TAN-TAN, HD-V FRM, V FN-FN XLN, CHNKY-BLKY, SUB RND- SUB ANG, SUC TXT, W/ CHT: TAN SME LT TAN, HD-V HD, V FN XLN, CHNKY, SME PLTY, SUB ANG-SUB RND, PR PP POR, TR DUL YEL FLOR, FLSH CUT, GD BLU-GRN RES RING

DOL: TAN-LT TAN, HD-V FRM, V FN-FN XLN, CHNKY-BLKY, SUB RND-SUB ANG, SUC TXT, W/ CHT: TAN SME LT TAN, HD-V HD, V FN XLN, CHNKY, SME PLTY, SUB ANG-SUB RND, PR PP POR, TR DUL YEL FLOR, SLW CUT, GD BLU-GRN RES RING

DOL: LT TAN-TAN, SME CRM, V FRM-HD, FN-V FN XLN CHNKY, SME BLKY, SUB RND- SUB ANG, SM TXT, SME SUC TXT, W/ CHT: LT TAN, SME TRNSL, SCAT CLR, HD-V HD, CHNKY, SUB ANG-SUB RND, SME RND, PR PP POR, SCAT DUL YEL FLOR, GD BLU-GRN RES RING

DOL: LT TAN-CRM, SME OFF WHT, V FRM- FRM, V FN- FN XLN, CHNKY, SUB RND, SUC TXT, TR SM TXT, W/ CHT: TRNSL, SME CLR, HD- V HD, CHNKY, SME BLKY, SUB ANG-SUB RND, PR PP POR, PR HL FRAC POR, TR DUL YEL FLOR, SLW CUT, BRI THK BLU-GRN RES RING



Wetness  
Balance

WOB-27.3  
RPM-69  
PP-1580  
GPM-292

ROP (mid/ft)	10
G/R (API)	150
Flurometer	600

MD 7224 TVD 3641.76  
INC 90.77 AZ 179.91  
VS 3140.33

MUD WT-8.3  
VIS-27

WOB-27.5  
RPM-69  
PP-1758  
GPM-287

MD 7316 TVD 3640.87  
INC 90.34 AZ 178.56  
VS 3232.29

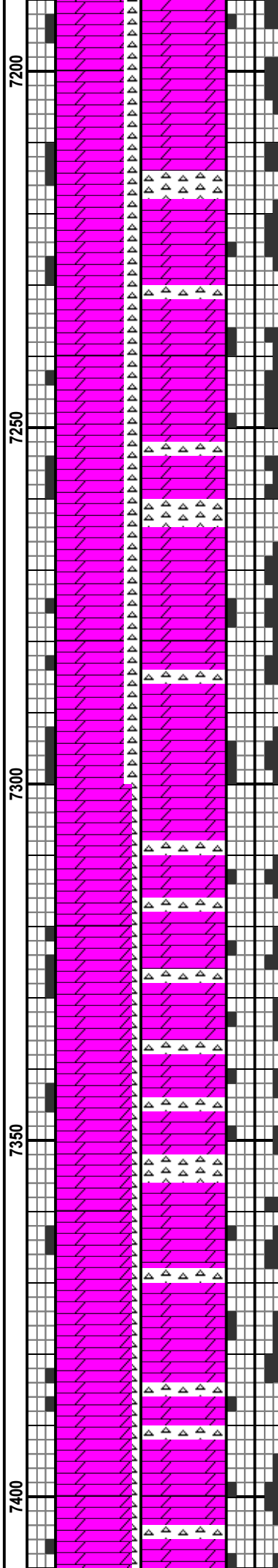
MUD WT-8.3  
VIS-27

7/17/2013

WOB-26.3  
RPM-67  
PP-1955  
GPM-287

ROP (mid/ft)	10
G/R (API)	150
Flurometer	600

MD 7407 TVD 3640.92

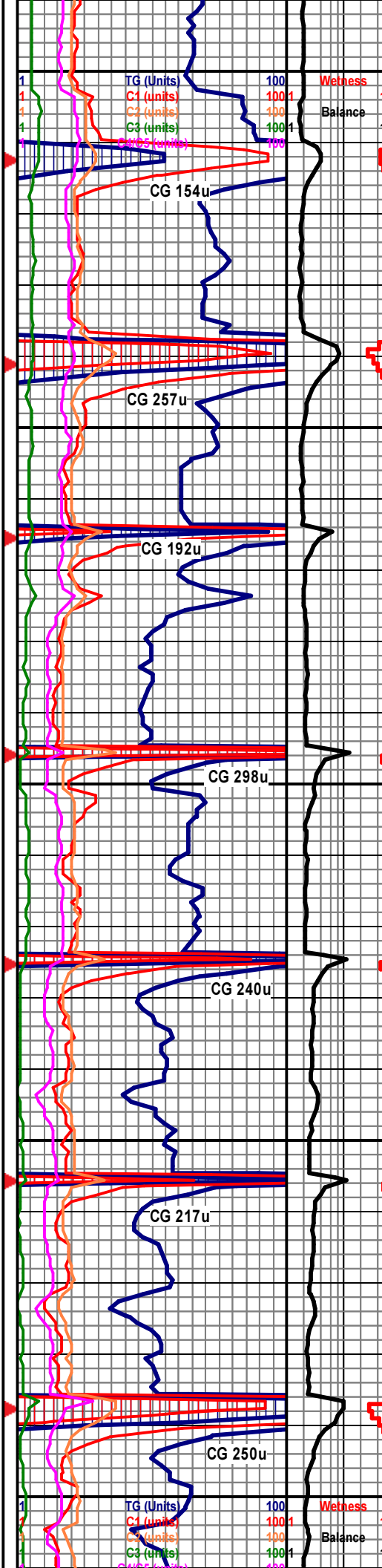


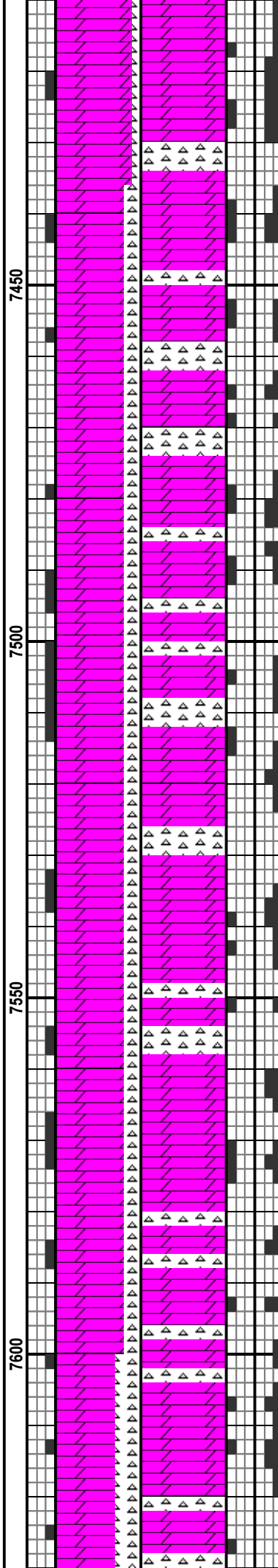
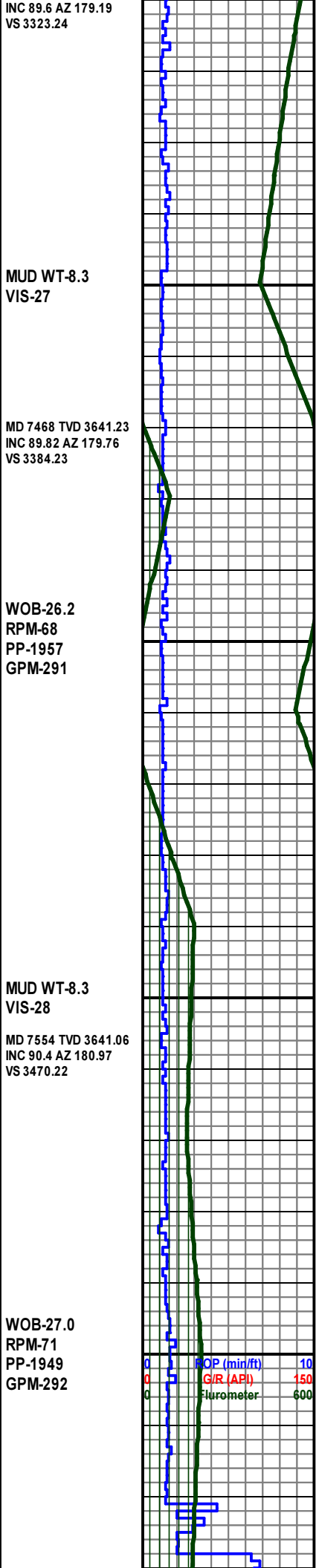
DOL: CRM- OFF WHT, SME LT TAN, HD V- FRM, V FN XLN, CHNKY-BLKY, SUB RND- SUB ANG, SUC TXT, W/ CHT: TRNSL-OPQ, SME CLR, V HD-HD, V FN XLN, BLKY-CHNKY, SUB ANG- SUB RND, PP POR, SCAT DUL YEL FLOR, BRI SLW CUT, THK DUL BLU RES RING

DOL: TAN-LT TAN, HD-V FRM, V FN-FN XLN, CHNKY-BLKY, SUB RND-SUB ANG, SUC TXT, W/ CHT: TAN SME LT TAN, HD- V HD, V FN XLN, CHNKY, SME PLTY, SUB ANG-SUB RND, PR PP POR, TR DUL YEL FLOR, SLW BRI CUT, THK DUL BLU RES RING

DOL: LT TAN- CRM, SME OFF WHT, V FRM- HD, V FN XLN, CHNKY- BLKY, SUB ANG- SUB RND, SUC TXT, W/ CHT: TRNSL-CLR, SME OPQ, V HD-HD, V FN XLN, CHNKY, SUB ANG, PR-FR PP POR, TR DUL YEL FLOR, SLW DUL CUT, THN SPOTTY BLU-GRN RES RING

DOL: CRM-LT TAN, HD V- FRM, V FN XLN, CHNKY-BLKY, SUB RND- SUB ANG, SUC TXT, W/ CHT: TRNSL-OPQ, SME CLR, V HD-HD, V FN XLN, BLKY-CHNKY, SUB ANG- SUB RND,





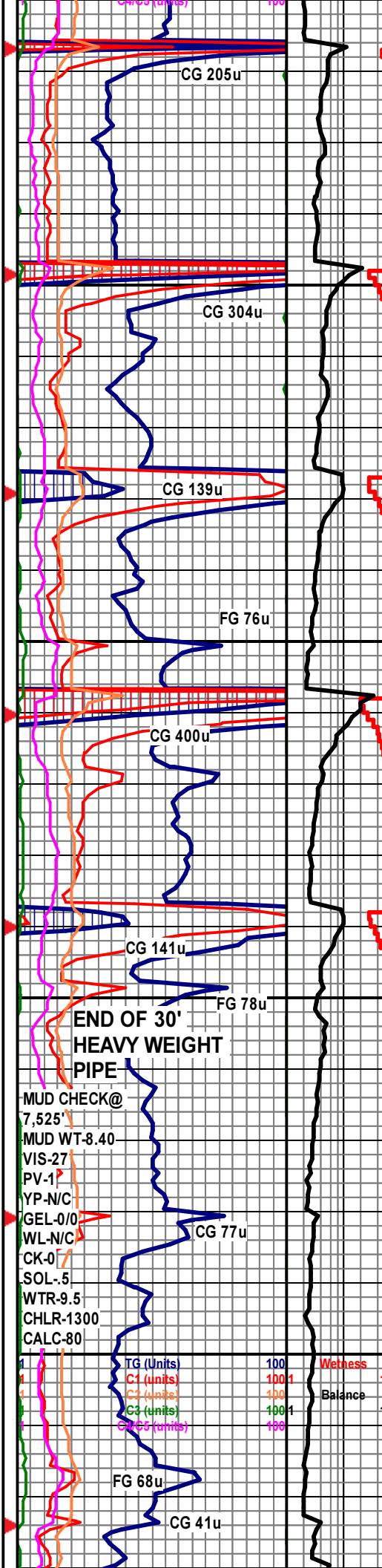
PP POR, TR DUL YEL FLOR, SLW DUL CUT, THN SPOTTY BLU-GRN RES RING

DOL: LT TAN-CRM, SME OFF WHT, HD-V FRM, V FN-FN XLN, CHNKY-BLKY, SUB RND-SUB ANG, SUC TXT, W/ CHT: TRNSL, SME CLR HD-V HD, V FN XLN, CHNKY, SME PLTY, SUB ANG-SUB RND, PR PP POR, TR DUL YEL FLOR, SLW BRI CUT, THN GRN RES RING

DOL: LT TAN-CRM, SME OFF WHT, V FRM, SME HD, FN-V FN XLN, BLKY-CHNKY, SUB RND-SUB ANG, SUC TXT, W/ CHT: OPQ-TRNSL, TR CLR, V HD-HD, V FN XLN, BLKY, SUB ANG-SUB RND, PR PP POR, SCAT DUL YEL FLOR, SLW BRI CUT, DUL THN BLU-GRN RES RING

DOL: TAN-LT TAN, HD-V FRM, V FN-FN XLN, CHNKY-BLKY, SUB RND-SUB ANG, SUC TXT, W/ CHT: TAN SME LT TAN, HD-V HD, V FN XLN, CHNKY, SME PLTY, SUB ANG-SUB RND, PR PP POR, TR DUL YEL FLOR, SLW BRI CUT, THK DUL BLU RES RING

DOL: TAN-LT TAN, HD-V FRM, V



MD 7641 TVD 3640.32  
INC 90.58 AZ 181.78  
VS 3557.21

MUD WT-8.3  
VIS-27

WOB-23.3  
RPM-61  
PP-1998  
GPM-302

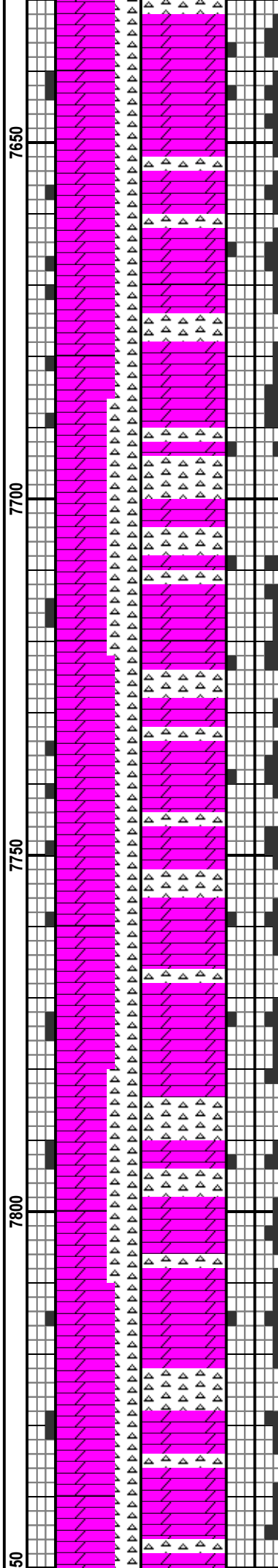
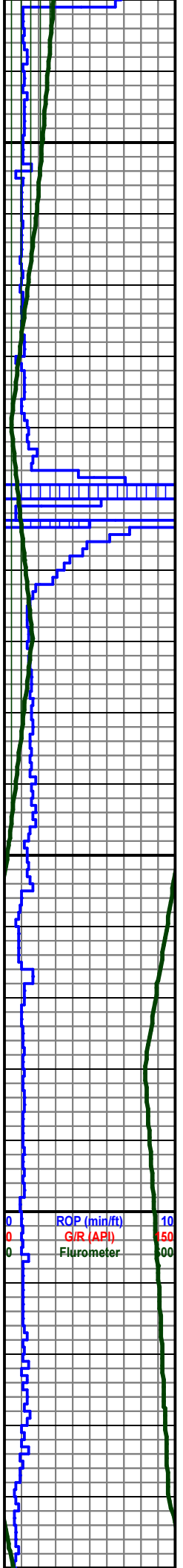
MD 7728 TVD 3639.86  
INC 90.03 AZ 181  
VS 3644.21

MUD WT-8.3  
VIS-27

WOB-20.2  
RPM-74  
PP-1954  
GPM-305

MD 7814 TVD 3639.35  
INC 90.65 AZ 179.92  
VS 3730.2

MUD WT-8.3



DOL: TAN-LT TAN, HD-V FRM, V FN-FN XLN, CHNKY-BLKY, SUB RND-SUB ANG, SUC TXT, W/ CHT: TAN SME LT TAN, HD-V HD, V FN XLN, CHNKY, SME PLTY, PR PP POR, TR DUL YEL FLOR, SLW CUT, THK DUL YEL RING

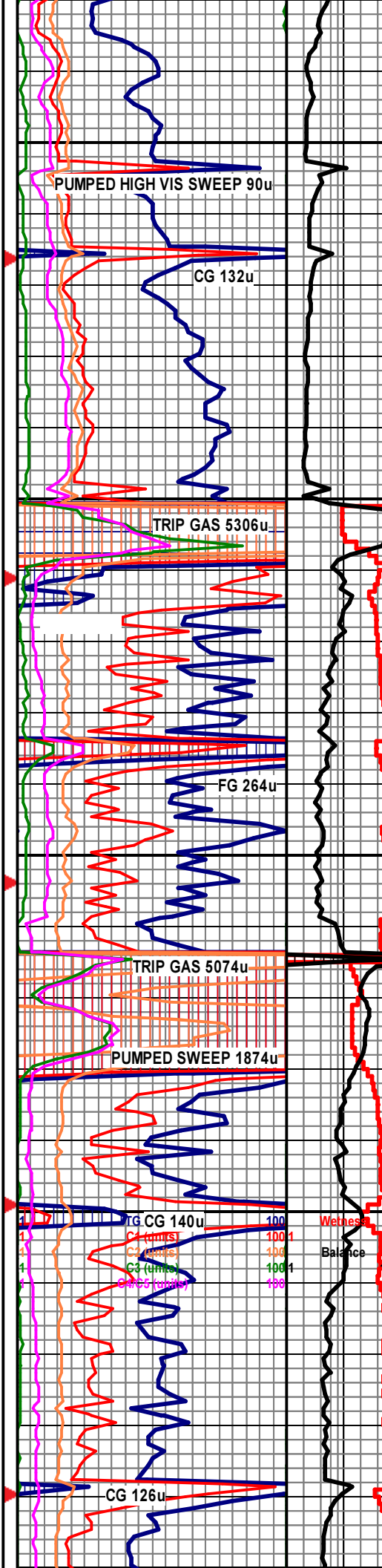
DOL: LT TAN-TAN, HD-V FRM, V FN-FN XLN, CHNKY-BLKY, SUB RND-SUB ANG, SUC TXT, W/ CHT: TRNSL, SME CLR, V HD, V FN XLN, BLKY, PR PP POR, TR DUL YEL FLOR, SLW CUT, THN BLU-GRN RES RING

TOOH DUE TO LOW ROP  
TIH W/ BIT #6 6 1/8"  
HUGHES DPD406X  
6x12's

DOL: TAN-LT TAN, HD-V FRM, V FN-FN XLN, CHNKY-BLKY, SUB RND-SUB ANG, SUC TXT, W/ CHT: OFF WHT-TRNSL, HD-V HD, V FN XLN, CHNKY, SME PLTY, SUB ANG-SUB RND, PR PP POR, TR DUL YEL FLOR, SLW BRI CUT, THK BLU RES RING

TOOH DUE TO MWD  
TOOL FAILURE

DOL: LT TAN-CRM, V FRM, SME HD, FN-V FN XLN, CHNKY, SUB RND-SUB ANG, SUC TXT, W/ CHT: OPQ-TRNSL, TR CLR, V HD-HD, V FN XLN, BLKY, SUB ANG-SUB RND, PR PP POR, SCAT DUL YEL FLOR, SLW CUT, THN BLU-GRN RES RING



VIS-27

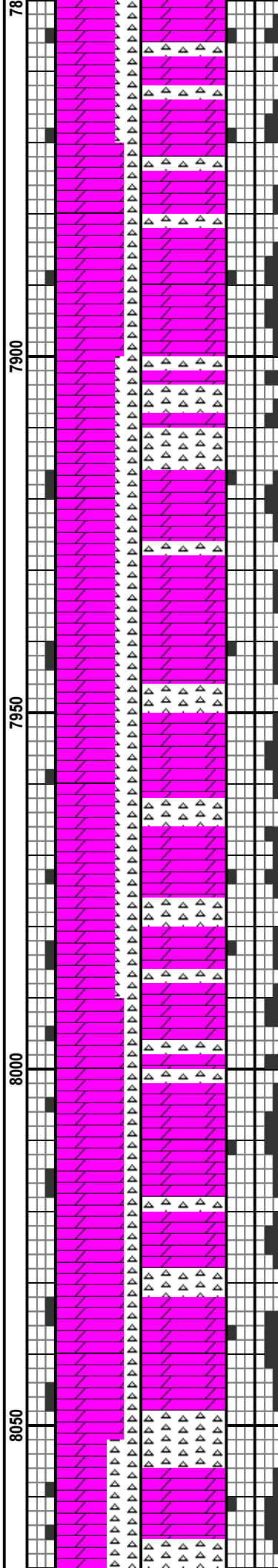
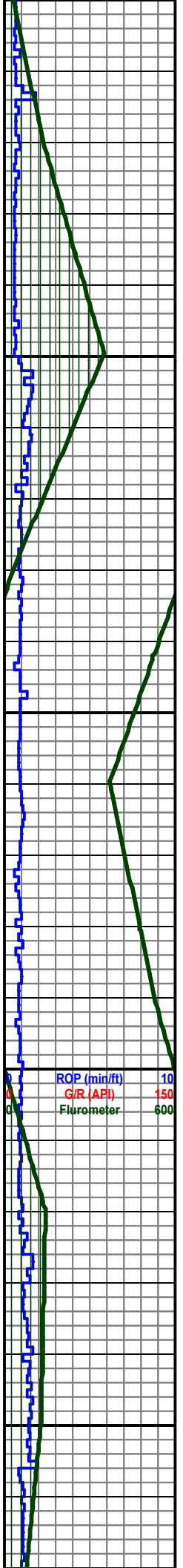
WOB-24.3  
RPM-53  
PP-1655  
GPM-297  
MD 7901 TVD 3638.38  
INC 90.62 AZ 178.25  
VS 3817.16

MUD WT-8.3  
VIS-27

MD 7987 TVD 3637.25  
INC 90.89 AZ 176.54  
VS 3903.01

WOB-25.1  
RPM-54  
PP-1679  
GPM-296

MUD WT-8.3  
VIS-27



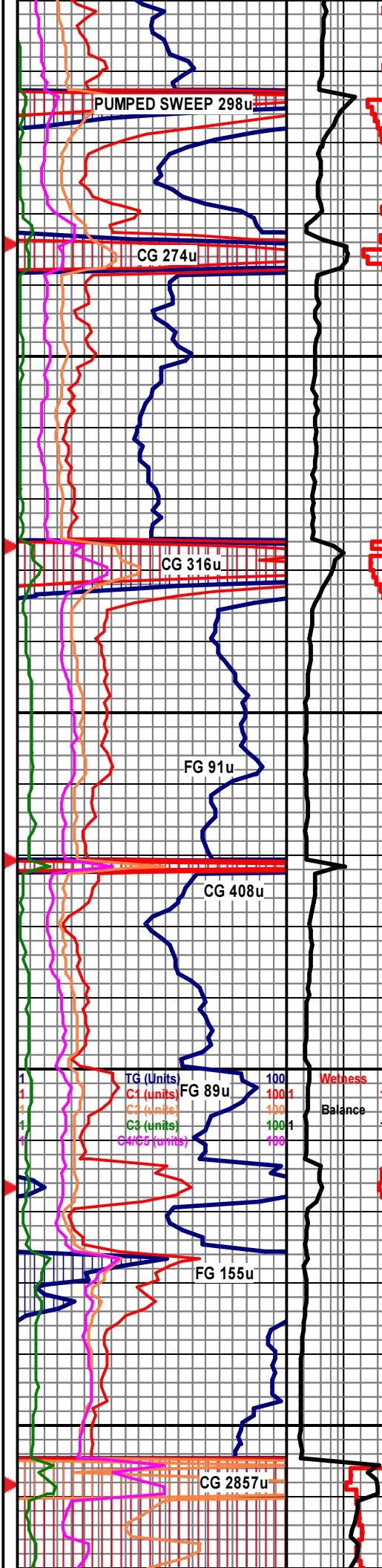
DOL: LT TAN-TAN, SME OFF  
WHT, V FRM, SME HD, FN-V FN  
XLN, CHNKY, SUB RND-SUB  
ANG, SUC TXT, W/ CHT: OFF  
WT-WHT, TRNSL-CLR, V HD-HD,  
V FN XLN, BLKY, SUB  
ANG-SUB RND, PR PP POR,  
SCAT DUL YEL FLOR, SLW BRI  
CUT, THN BLU-GRN RES RING

DOL: TAN-LT TAN, HD-V FRM, V  
FN-FN XLN, CHNKY, SUB  
RND-SUB ANG, SUC TXT, W/  
CHT: WHT-OFF WHT, TRNSL,  
SME CLR, HD-V HD, V FN XLN,  
CHNKY, SME PLTY, SUB  
ANG-SUB RND, PR PP POR, TR  
DUL YEL FLOR, FLSH CUT, THK  
DUL BLU-GRN RES RING

DOL: TAN-LT TAN, HD-V FRM, V  
FN-FN XLN, CHNKY-BLKY, SUB  
RND-SUB ANG, SUC TXT, W/  
CHT: WHT, TRNSL-CLR, HD-V  
HD, V FN XLN, CHNKY, SME  
PLTY, PR PP POR, TR DUL YEL  
FLOR, SLW CUT, DUL  
BLU-GRN RES RING

DOL: LT TAN-CRM, V FRM, SME  
HD, FN-V FN XLN, CHNKY, SUB  
RND-SUB ANG, SUC TXT, W/  
CHT: OPQ-TRNSL, TR CLR, V  
HD-HD, V FN XLN, BLKY, SUB  
ANG-SUB RND, PR PP POR,  
SCAT DUL YEL FLOR, SLW  
CUT, THN BLU-GRN RES RING

TOOH ONE JOINT TO  
CUT AND FIX DRILL  
LINE@ 8,056'



MD 8073 TVD 3636.21  
 INC 90.49 AZ 175.19  
 VS 3988.69

WOB-17.7  
 RPM-50  
 PP-1745  
 GPM-287

MUD WT-8.3  
 VIS-27

MD 8160 TVD 3635.84  
 INC 90 AZ 175.23  
 VS 4075.29

07/20/2013

WOB-24.6  
 RPM-60  
 PP-2018  
 GPM-286

RQP (min/ft)	10
G/R (API)	150
Flurometer	600

MD 8245 TVD 3635.61  
 INC 90.31 AZ 175.09  
 VS 4159.89

MUD WT-8.3  
 VIS-27

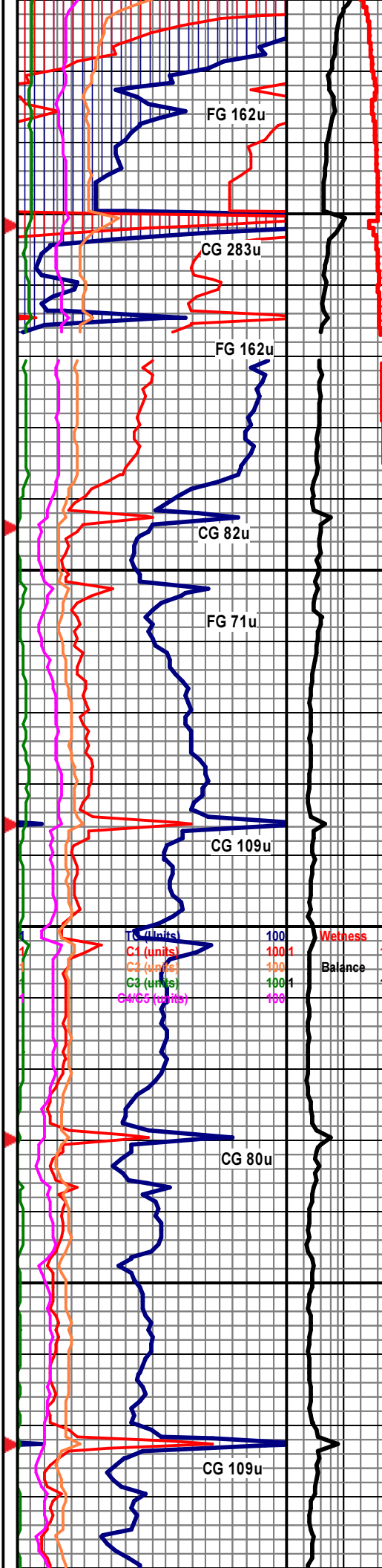
8100  
8150  
8200  
8250

DOL: LT TAN-CRM, HD-V FRM, V FN XLN, CHNKY-BLKY, SUB RND, SME SUB ANG, SUC TXT, W/ CHT: TRNSL-CLR, SME OPQ, V HD-HD, V FN XLN, CHNKY, SME PLTY, PR PP POR, NO VIS FLOR, SLW DUL CUT, THN BRI GRN RES RING

DOL: TAN-LT TAN, SME CRM, HD-V FRM, V FN XLN, CHNKY, SUB RND, SME SUB ANG, CUT TXT, W/ CHT: TRNSL- OPQ, SME CLR, HD- V HD, V FN XLN, CHNKY, SUB RND- SUB ANG, PR PP POR, NO VIS FLOR, SLW DUL CUT, THN BRI GRN-YEL RES RING

DOL: LT TAN-CRM, V FRM, SME HD, FN-V FN XLN, CHNKY, SUB RND-SUB ANG, SUC TXT, W/ CHT: OPQ- TRNSL, TR CLR, V HD-HD, V FN XLN, BLKY, SUB ANG-SUB RND, PR PP POR, NO VIS FLOR, SLW DUL CUT, THK BRI BLU RES RING

DOL: LT TAN-TAN, SME CRM, HD-V FRM, FN-V FN XLN, CHNKY, SME BLKY, SUB RND, SME SUB ANG, SUC TXT, W/ CHT: OPQ- TRNSL, SME CLR, V HD- HD, V FN XLN, BLKY-CHNKY, SUB ANG-SUB RND, PR PP POR, TR DUL YEL FLOR, SLW BRI CUT, THN DUL BLU GRN RES RING



WOB-26.3  
RPM-60  
PP-1898  
GPM-284

MD 8331 TVD 3634.87  
INC 90.68 AZ 175.39  
VS 4245.5

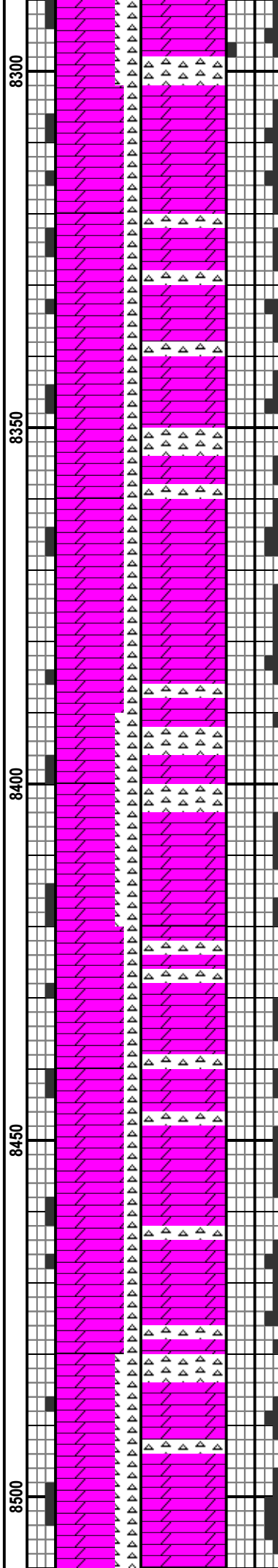
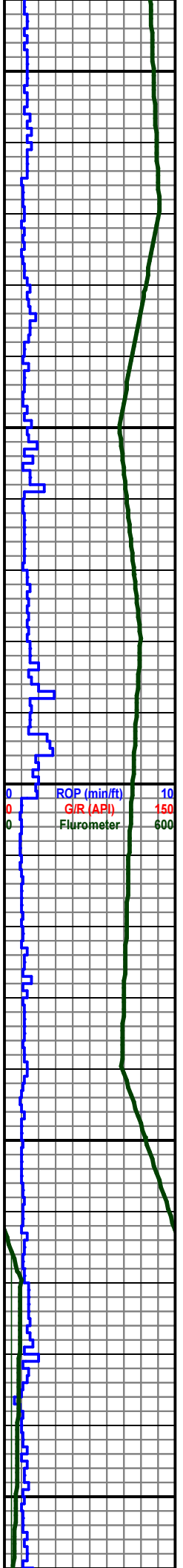
MUD WT-8.3  
VIS-27

WOB-23.8  
RPM-58  
PP-1896  
GPM-283

MD 8418 TVD 3633.96  
INC 90.52 AZ 175.82  
VS 4332.15

MUD WT-8.3  
VIS-27

WOB-25.6  
RPM-61  
PP-2084  
GPM-297

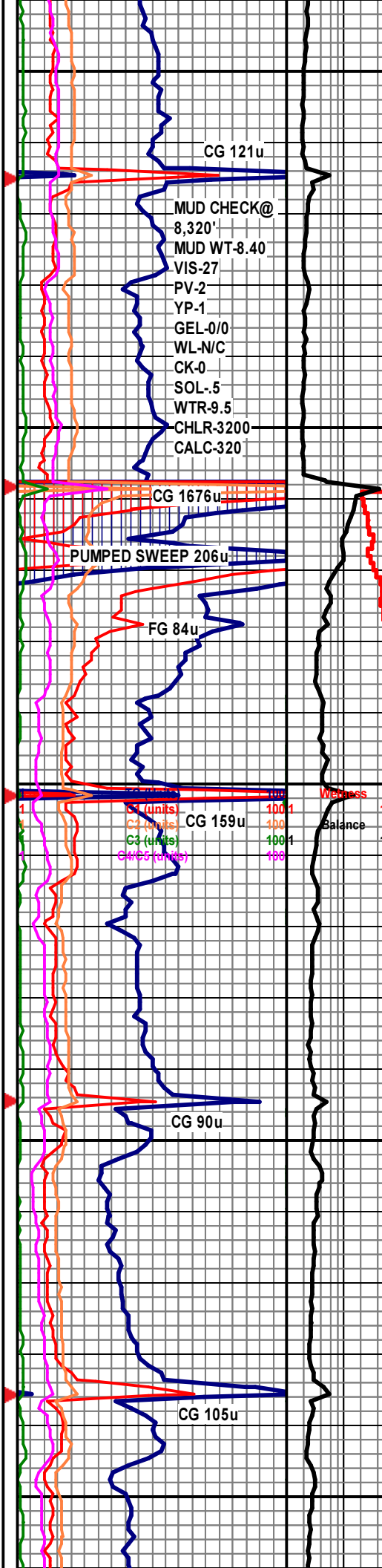


DOL: LT TAN-CRM, HD-V FRM, V FN XLN, CHNKY-BLKY, SUB RND, SME SUB ANG, SUC TXT, W/ CHT: TRNSL-CLR, SME OPQ, V HD-HD, V FN XLN, CHNKY, SME PLTY, PR PP POR, NO VIS FLOR, THK BLU-GRN RES RING

DOL: LT TAN-CRM, V FRM, SME HD, FN-V FN XLN, CHNKY, SUB RND-SUB ANG, SUC TXT, W/ CHT: OPQ-TRNSL, TR CLR, V HD-HD, V FN XLN, BLKY, SUB ANG-SUB RND, PR PP POR, NO VIS FLOR, SLW DUL CUT, THK YEL RES RING

DOL: LT TAN-TAN, SME CRM, HD-V FRM, FN-V FN XLN, CHNKY, SUB RND, SME SUB ANG, SUC TXT, W/ CHT: OPQ-TRNSL, SME CLR, V HD-HD, V FN XLN, BLKY-CHNKY, SUB ANG-SUB RND, PR PP POR, TR DUL YEL FLOR, SLW BRI CUT, THK YEL RES RING

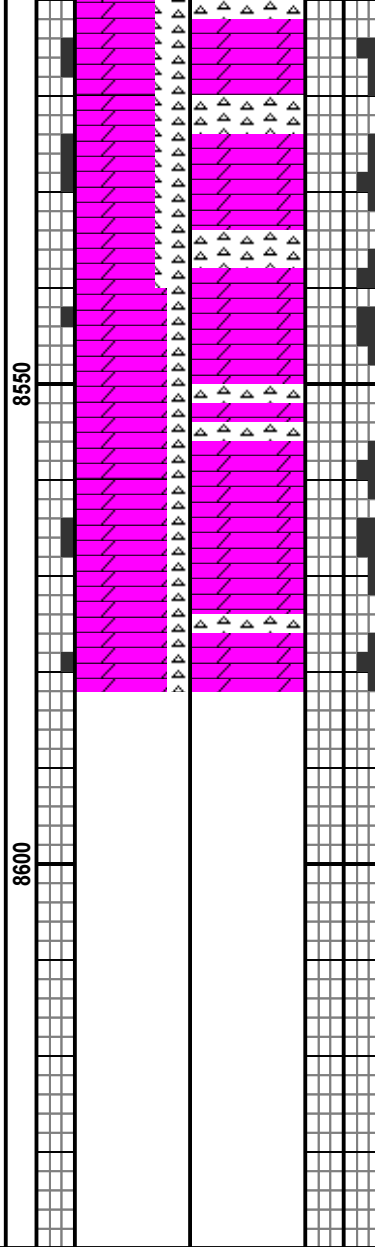
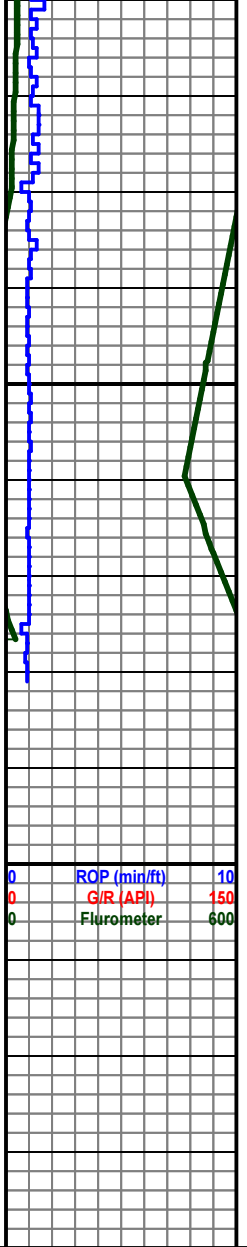
DOL: LT TAN-CRM, HD-V FRM, V FN XLN, CHNKY, SUB RND, SME SUB ANG, SUC TXT, W/ CHT: TRNSL-CLR, SME OPQ, V HD-HD, V FN XLN, CHNKY, PR PP POR, NO VIS FLOR, SLW CUT THK YEL RES RING





MD 8511 TVD 3633.21  
 INC 90.4 AZ 175.33  
 VS 4424.78

MUD WT-8.3  
 VIS-27



CUT, THK YEL RES RING

DOL: LT TAN-CRM, V FRM, SME HD, FN-V FN XLN, CHNKY, SUB RND-SUB ANG, SUC TXT, W/ CHT: OPQ- TRNSL, TR CLR, V HD-HD, V FN XLN, BLKY, SUB ANG-SUB RND, PR PP POR, NO VIS FLOR, SLW DUL CUT, THK YEL RES RING

DRILLER'S TD @  
 8,581' ON 7/20/2013

SOURCE ENERGY  
 MIDCON, LLC NEISES  
 4-11-4-14H SEC  
 4-32S-2E SUMNER  
 CO, KS

GL: 1,228' KB: 1,242'

