Toledo Mudlogging, Inc.
866-463-5600 ★ Many, LA
www.toledomudlogging.com

P. O. Box 1209
MANY LA, 71449
(318)-590-9755
FAX (318)590-9754

5 INCHES PER 100 FT

COMPANY: SandRidge Energy Inc.
WELL: Peters 0781 16-12 H13
FIELD: North Park **COUNTY:** Jackson **STATE:** CO
LOCATION: Surface: 710' FNL & 4' FWL of section 7, T7N, R80W
Bottom: 300' FSL & 330' FEL of section 13, T7N, R81W
Interval Logged: 2103 **To:** 16160 **G.L.:** 8,130' **K.B:** 8,155'
Date Logged: 04-06-2018 **To:** 4-14-18 **Spud Date:** 04-04-2018
Rig: Patterson UTI Energy Inc. **Unit No.:** 338
Loggers: Rick Berton/ Santiago Duran/Ricky Jr. Berton
Api No.: 05-057-06597
Filename: peters_0780_16-12_h13.mlw
Geologist: Simon Anzaldua

Created By MainLog

Abbreviations:

NB...New Bit	DST...Drill Stem Test
CO...Circ Out	DS...Directional Survey
NR...No Returns	CG...Connection gas
TG...Trip Gas	LAT...Logged After Trip
WOB...Wt on Bit	PP...Pump Pressure
RPM...Rev/Min	SPM...Strokes/Min
SG...Survey Gas	DTG...Down Time Gas

Mud Data

WT..Weight	V..Viscosity
PH..Acidity	F..Filtrate
CHL..Chlorides	SC..Solids Content

Lithology Symbols:

Anhydrite	Salt	Granite
Siltstone	Chert	Sandstone
Dolomite	Conglomerate	Limestone
Coal	Shale	Bentonite
Carb Shale	Granite Wash	Quartz Wash
Red Sh	Org Sh	Green Sh
Cust Sh1	Cust Sh2	Cust Sh3
Cust Sh4	Cust Sh5	Cust Sh6

Accessories

Glauconite, Pyrite, Fossils, Oolites, Fractures, Cement

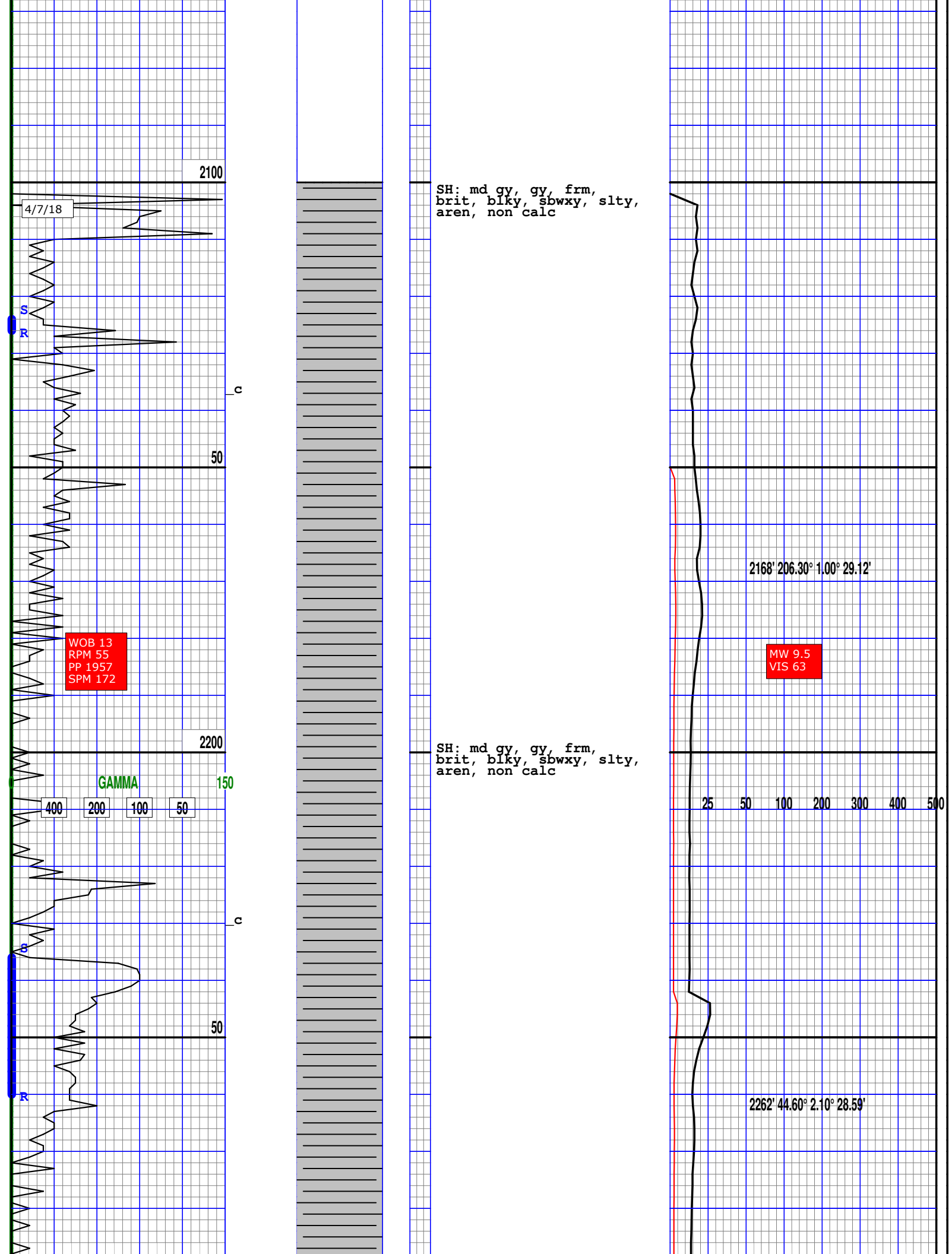
Gas Chromatograph Analysis:

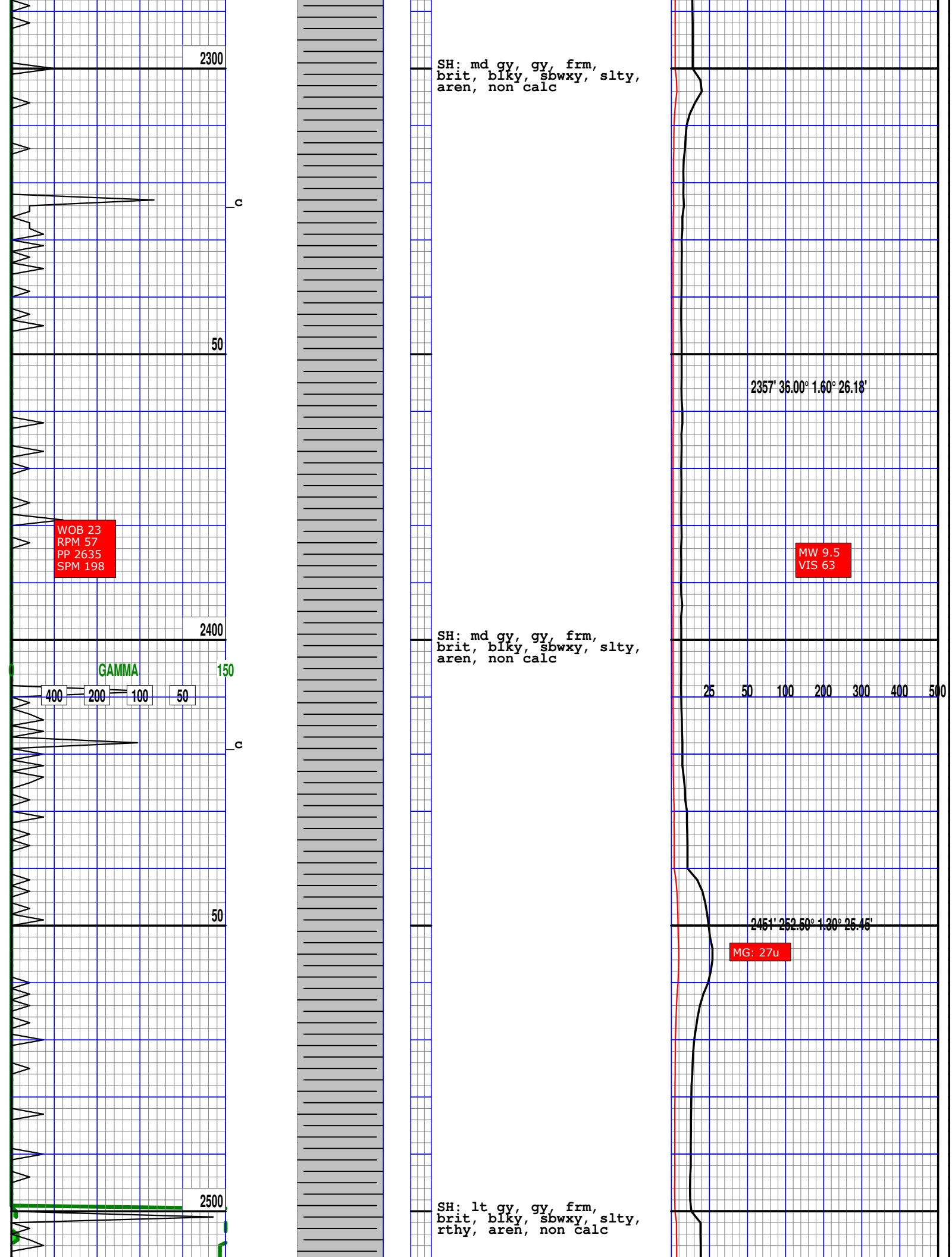
TG, C1, C2, C3, IC4, NC4, IC5, NC5

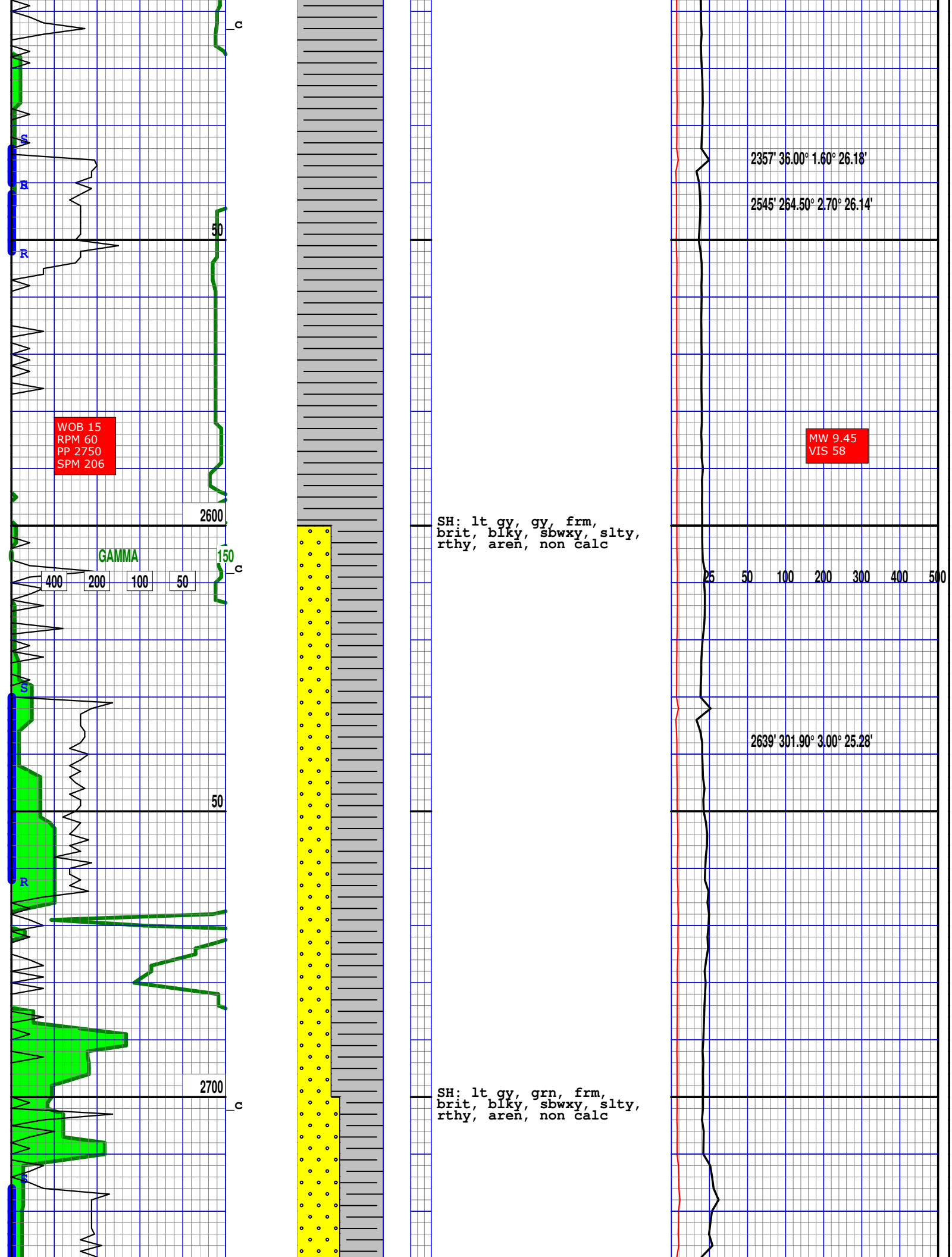
0 GAMMA API 150	Vis Por Tr / p f g	Lithology	% Oil Flu Tr / p f g	Cut Tr / pfg	Descriptions/Remarks	Total Gas/Chromatograph
Drilling Rate FT/HR						

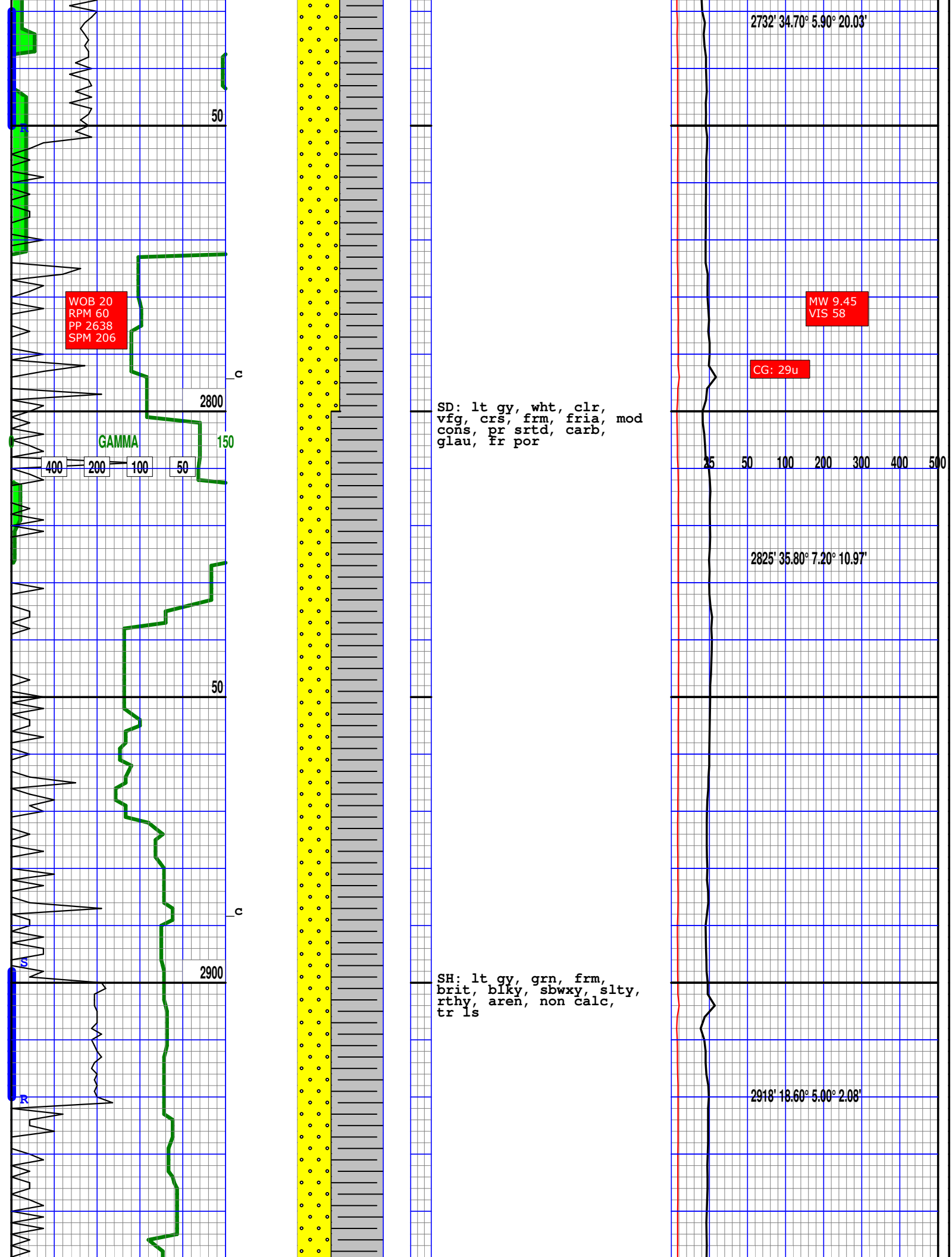
GAMMA 0 150 | 400 200 100 50 | 25 50 100 200 200 400 500

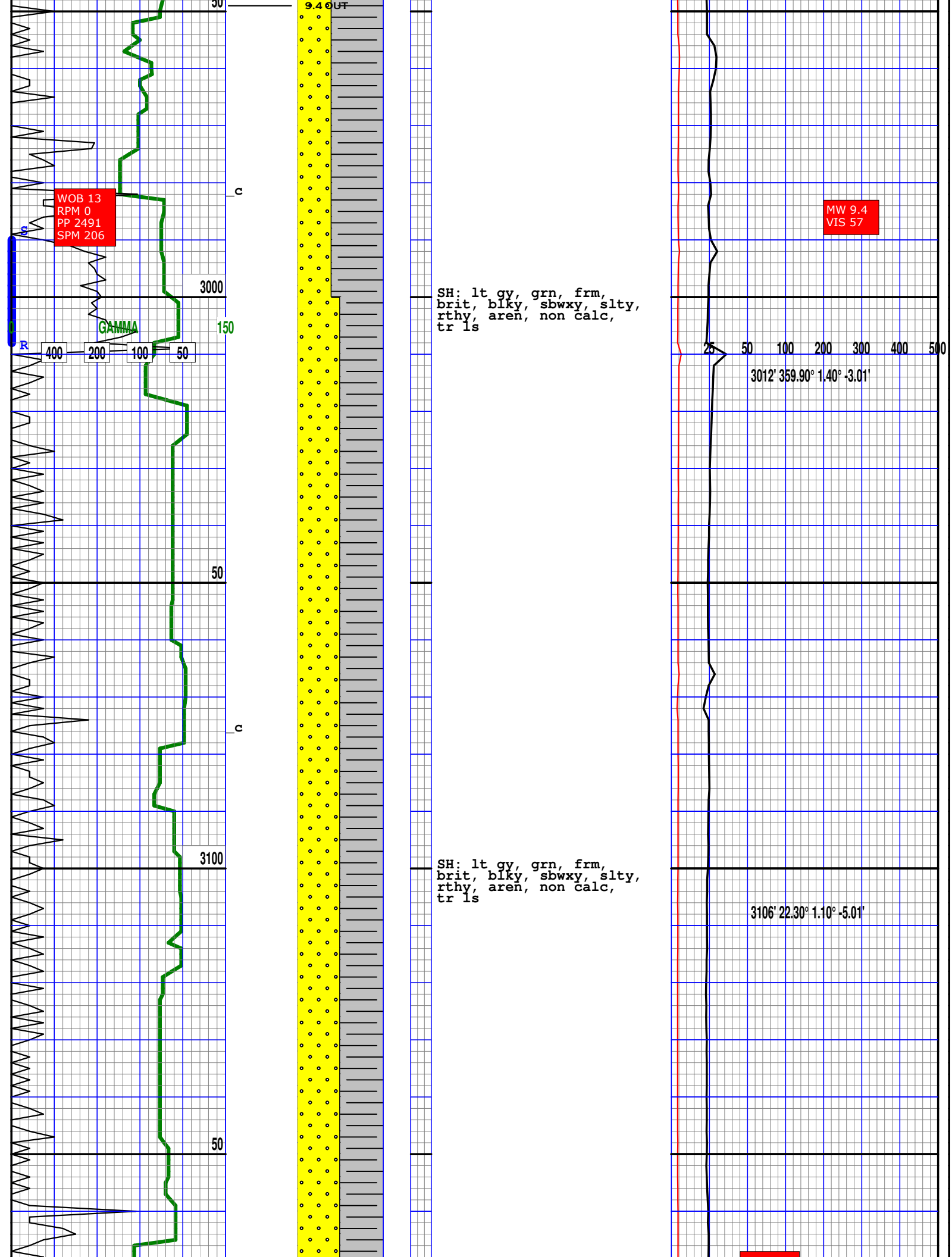
Gas atten. set at 1X
All depth corresponds from drillers pipe tally

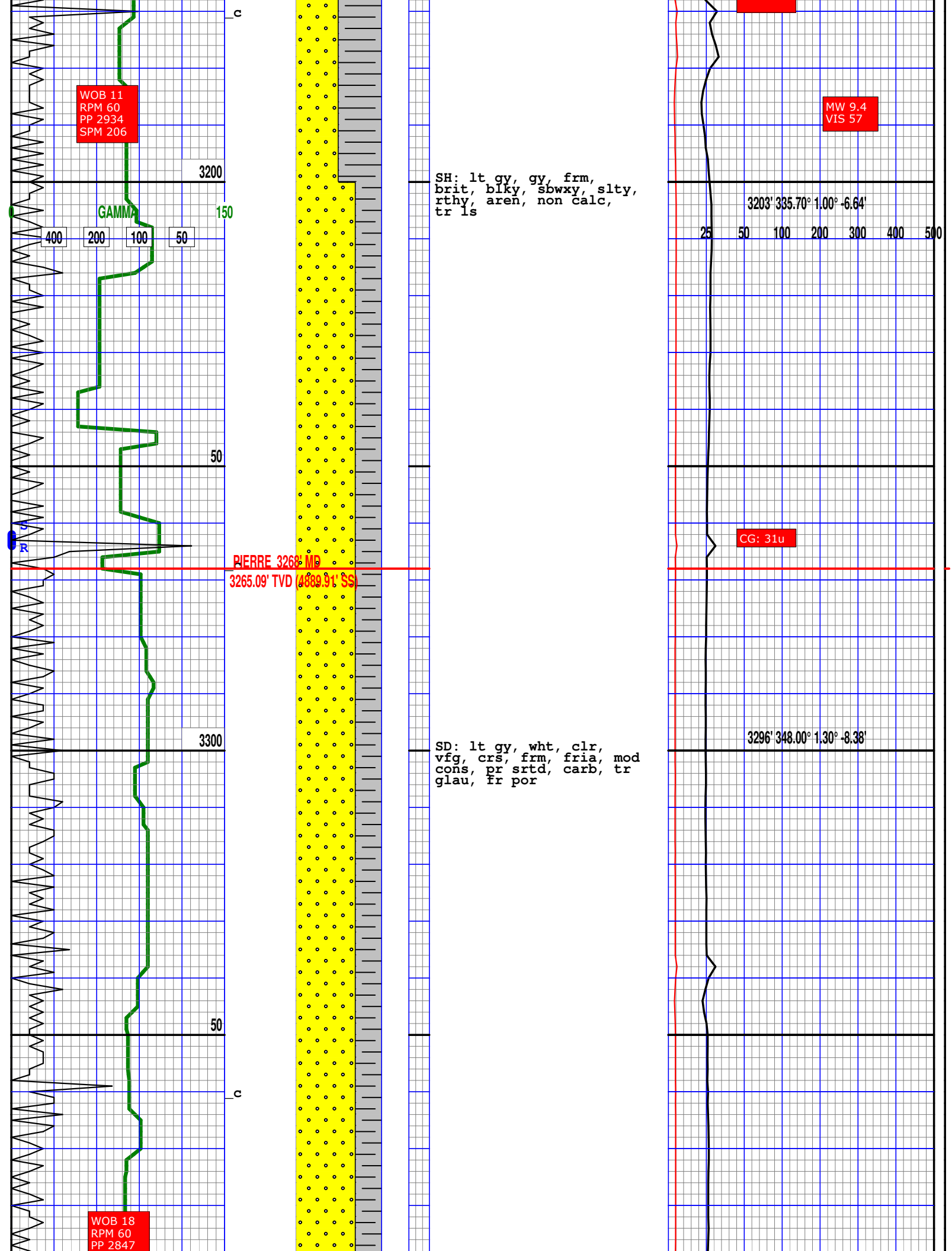

2100
4/7/18
S
R
c
50
WOB 13
RPM 55
PP 1957
SPM 172
2200
GAMMA
0
150
400
200
100
50
c
S
50
R
SH: md gy, gy, frm, brit, blky, sbwxy, slty, aren, non calc
SH: md gy, gy, frm, brit, blky, sbwxy, slty, aren, non calc
2168' 206.30° 1.00° 29.12'
MW 9.5
VIS 63
25
50
100
200
300
400
500
2262' 44.60° 2.10° 28.59'

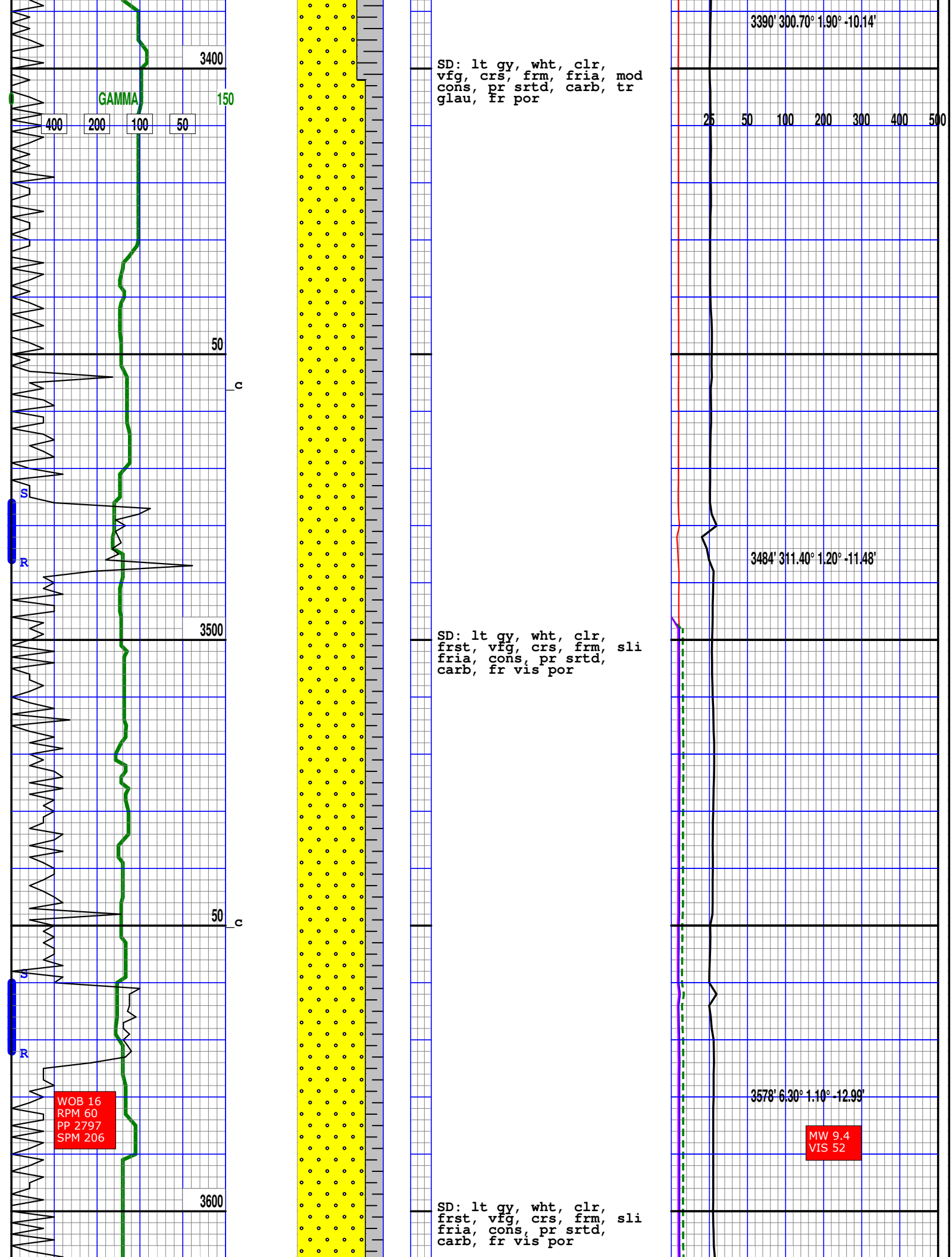

2300
50
c
WOB 23
RPM 57
PP 2635
SPM 198
2400
GAMMA
150
400
200
100
50
c
50
2500
SH: md gy, gy, frm, brit, blky, sbwxy, slty, aren, non calc
SH: md gy, gy, frm, brit, blky, sbwxy, slty, aren, non calc
SH: lt gy, gy, frm, brit, blky, sbwxy, slty, rthy, aren, non calc
2357' 36.00° 1.60° 26.18'
MW 9.5
VIS 63
25
50
100
200
300
400
500
2451' 252.50° 1.30° 25.45'
MG: 27u

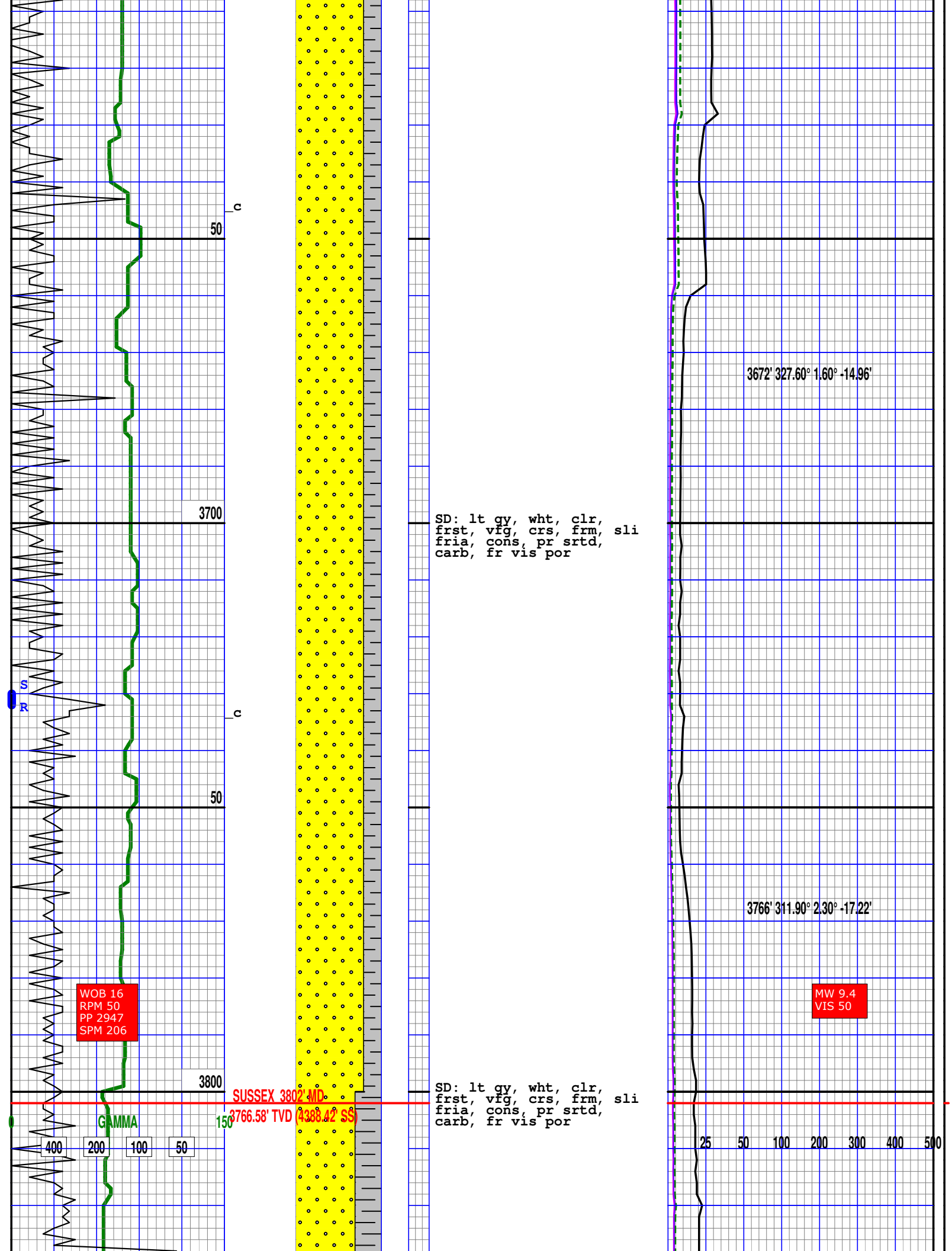

c
S
R
50
WOB 15
RPM 60
PP 2750
SPM 206
2600
GAMMA
150
400
200
100
50
c
S
50
R
2700
c
2357' 36.00° 1.60° 26.18'
2545' 264.50° 2.70° 26.14'
MW 9.45
VIS 58
SH: lt gy, gy, frm, brit, blky, sbwxy, slty, rthy, aren, non calc
25
50
100
200
300
400
500
2639' 301.90° 3.00° 25.28'
SH: lt gy, grn, frm, brit, blky, sbwxy, slty, rthy, aren, non calc

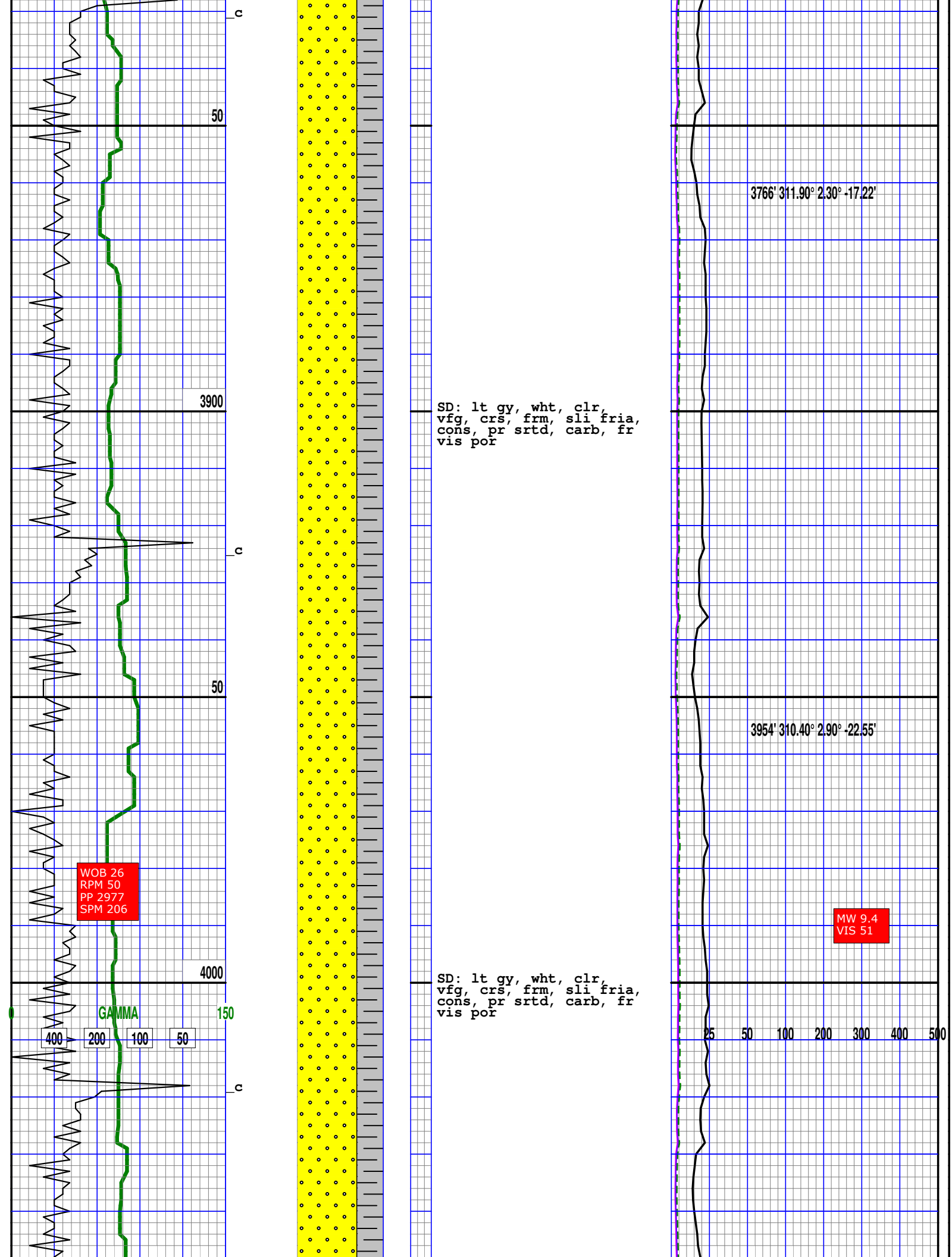

50
WOB 20
RPM 60
PP 2638
SPM 206
2800
GAMMA
150
400
200
100
50
50
2900
SD: lt gy, wht, clr, vfg, crs, frm, fria, mod cons, pr srtd, carb, glau, fr por
SH: lt gy, grn, frm, brit, blky, sbwxy, slty, rthy, aren, non calc, tr ls
2732' 34.70° 5.90° 20.03'
MW 9.45
VIS 58
CG: 29u
25
50
100
200
300
400
500
2825' 35.80° 7.20° 10.97'
2918' 18.60° 5.00° 2.08'

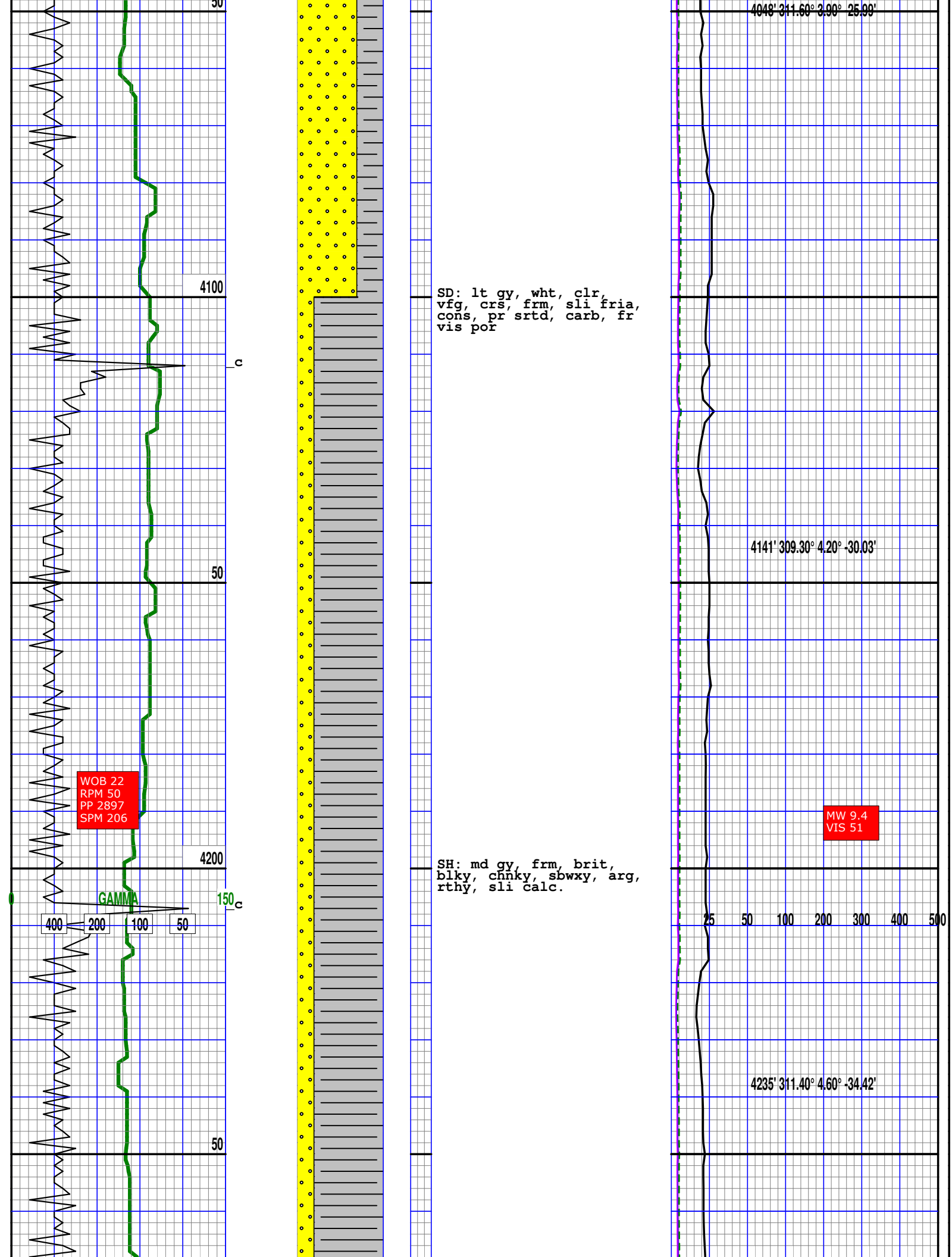

50
9.4 OUT
WOB 13
RPM 0
PP 2491
SPM 206
c
3000
GAMMA
150
R
400
200
100
50
SH: lt gy, grn, frm, brit, blky, sbwxy, slty, rthy, aren, non calc, tr ls
MW 9.4
VIS 57
25
50
100
200
300
400
500
3012' 359.90° 1.40° -3.01'
50
c
3100
SH: lt gy, grn, frm, brit, blky, sbwxy, slty, rthy, aren, non calc, tr ls
3106' 22.30° 1.10° -5.01'
50

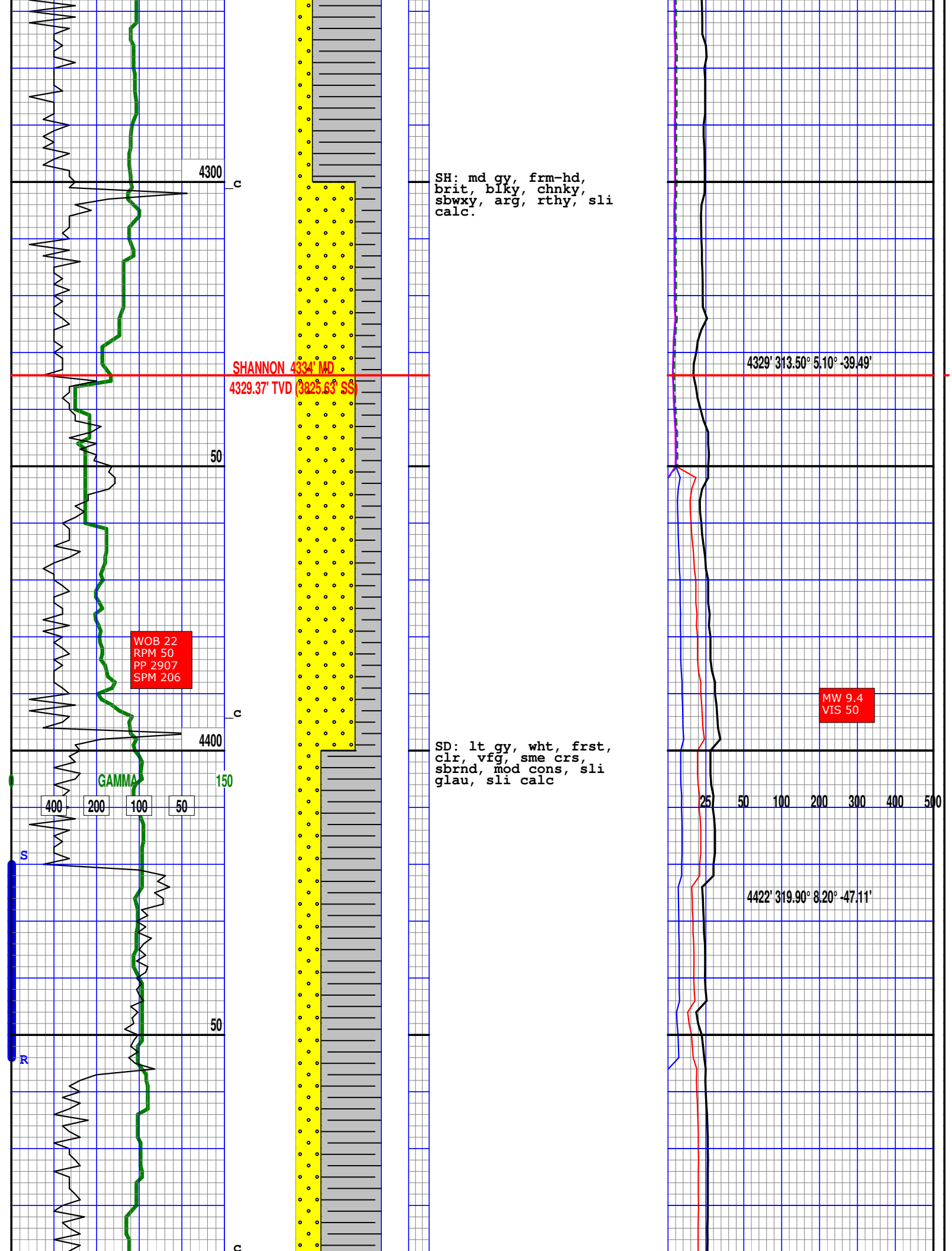

WOB 11
RPM 60
PP 2934
SPM 206
3200
GAMMA
150
400
200
100
50
50
PIERRE 3268' MD
3265.09' TVD (4889.91' SS)
SH: lt gy, gy, frm, brit, blky, sbwxy, slty, rthy, aren, non calc, tr ls
MW 9.4
VIS 57
3203' 335.70° 1.00° -6.64'
25
50
100
200
300
400
500
CG: 31u
3300
SD: lt gy, wht, clr, vfg, crs, frm, fria, mod cons, pr srtd, carb, tr glau, fr por
3296' 348.00° 1.30° -8.38'
50
WOB 18
RPM 60
PP 2847

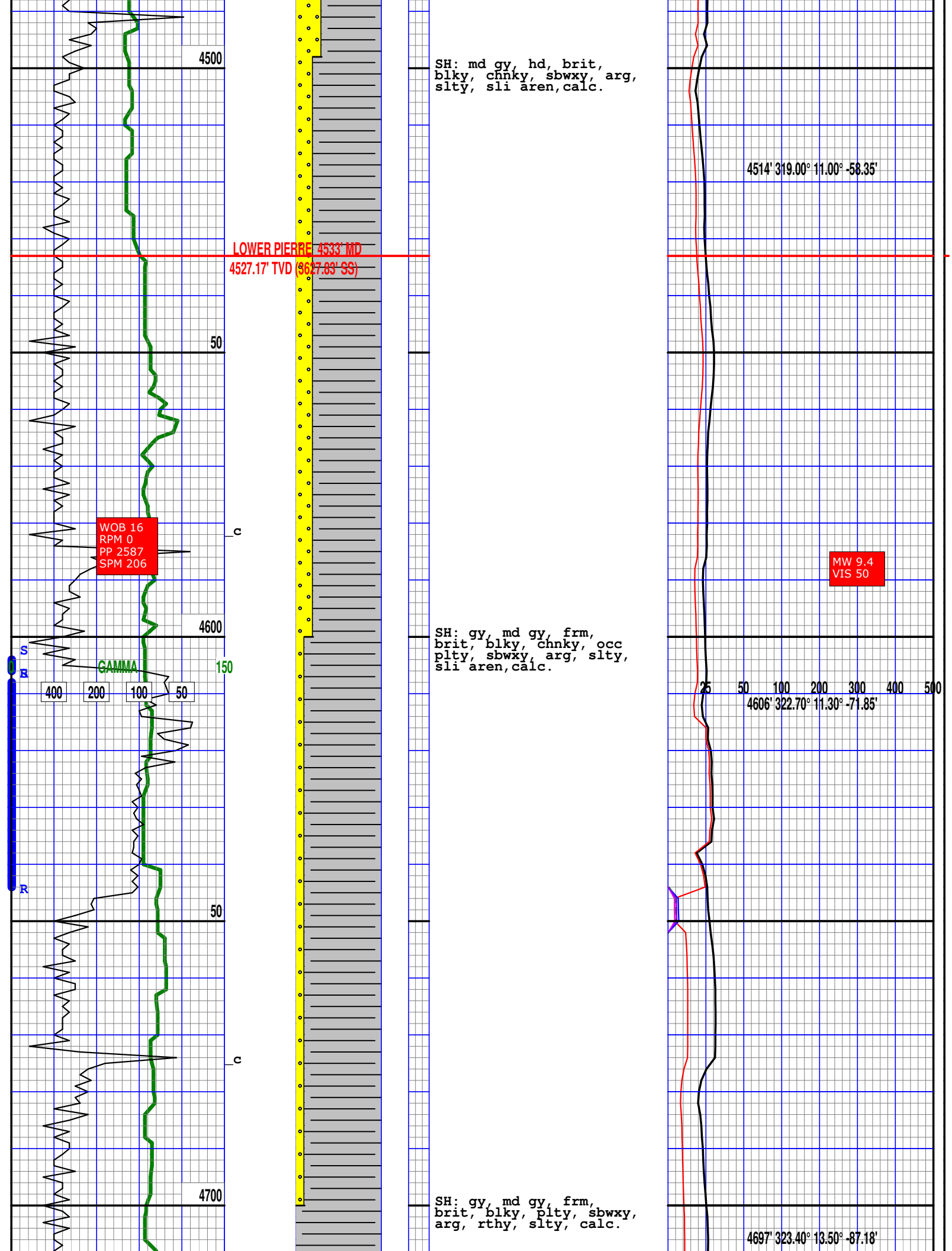

3400
GAMMA
0
150
400
200
100
50
50
C
S
R
3500
50
C
S
R
WOB 16
RPM 60
PP 2797
SPM 206
3600
SD: lt gy, wht, clr, vfg, crs, frm, fria, mod cons, pr srtd, carb, tr glau, fr por
SD: lt gy, wht, clr, frst, vfg, crs, frm, sli fria, cons, pr srtd, carb, fr vis por
SD: lt gy, wht, clr, frst, vfg, crs, frm, sli fria, cons, pr srtd, carb, fr vis por
3390' 300.70° 1.90° -10.14'
25
50
100
200
300
400
500
3484' 311.40° 1.20° -11.48'
3578' 6.30° 1.10° -12.99'
MW 9.4
VIS 52

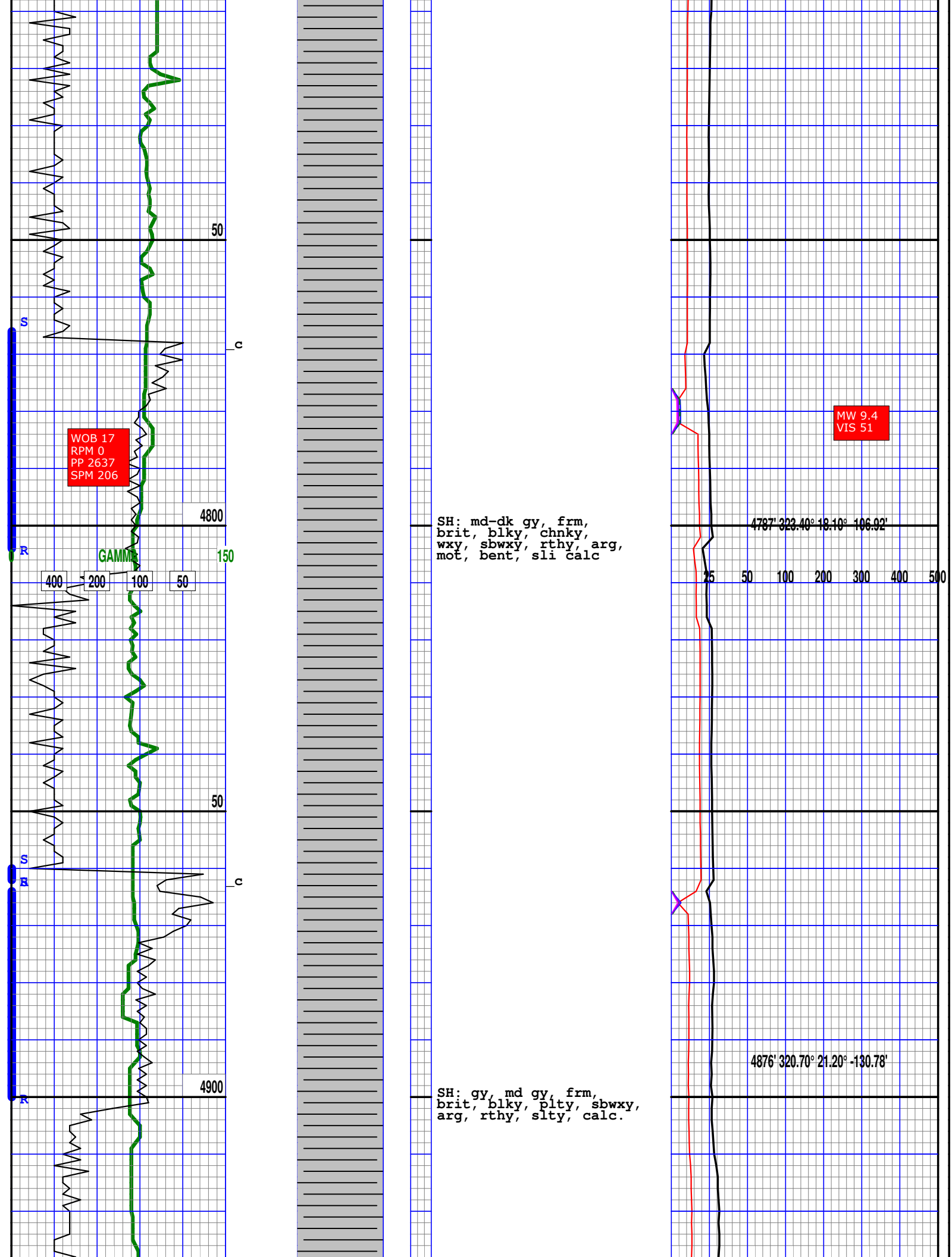

50
3700
50
3800
SUSSEX 3802' MD
3766.58' TVD (4388.42' SS)
SD: lt gy, wht, clr, frst, vfg, crs, frm, sli fria, cons, pr srtd, carb, fr vis por
SD: lt gy, wht, clr, frst, vfg, crs, frm, sli fria, cons, pr srtd, carb, fr vis por
3672' 327.60° 1.60° -14.96'
3766' 311.90° 2.30° -17.22'
WOB 16
RPM 50
PP 2947
SPM 206
MW 9.4
VIS 50
GAMMA
400
200
100
50
150
25
50
100
200
300
400
500

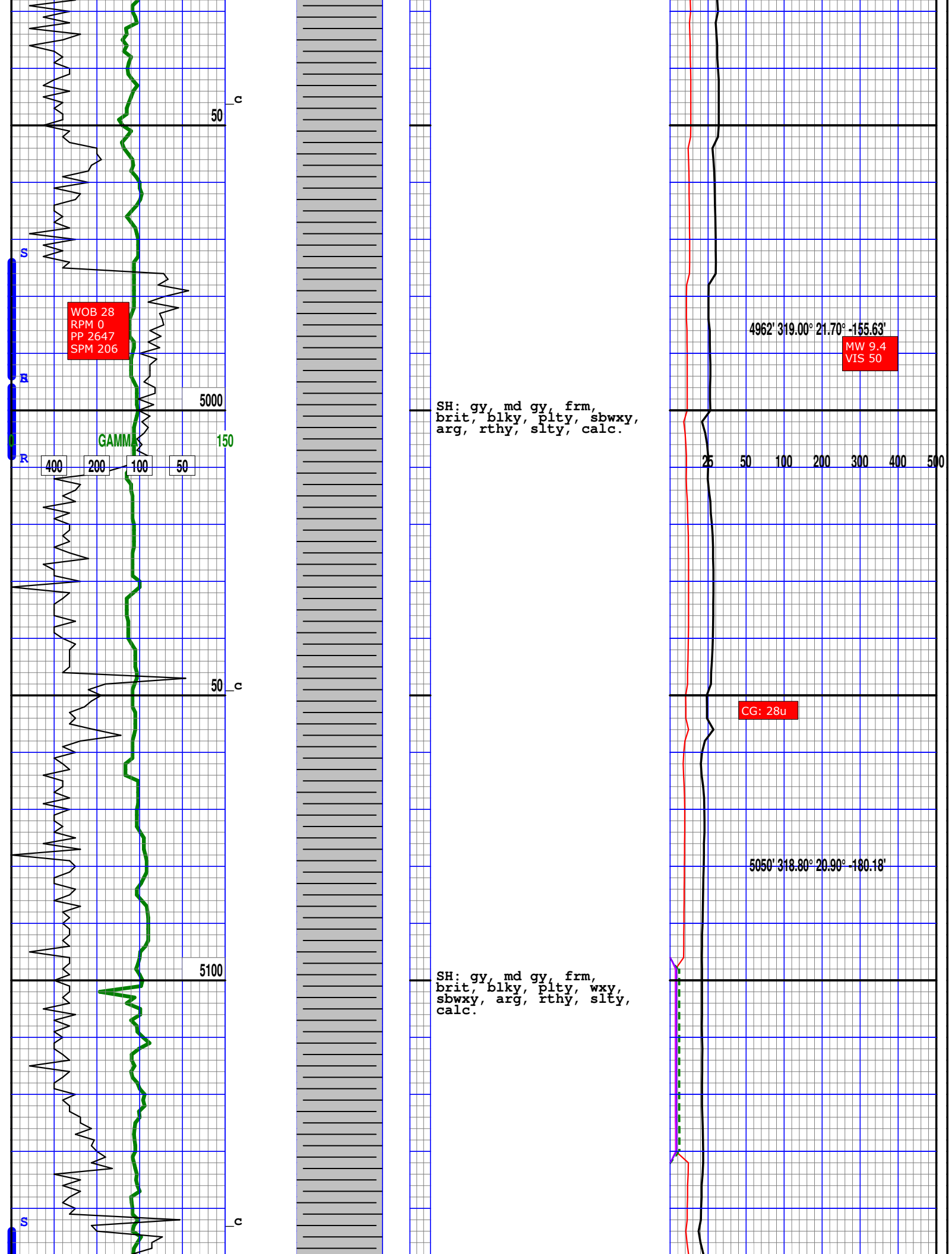

c
50
3900
c
50
4000
c
0
GAMMA
150
400
200
100
50
WOB 26
RPM 50
PP 2977
SPM 206
SD: lt gy, wht, clr, vfg, crs, frm, sli fria, cons, pr srtd, carb, fr vis por
SD: lt gy, wht, clr, vfg, crs, frm, sli fria, cons, pr srtd, carb, fr vis por
3766' 311.90° 2.30° -17.22'
3954' 310.40° 2.90° -22.55'
MW 9.4
VIS 51
25
50
100
200
300
400
500

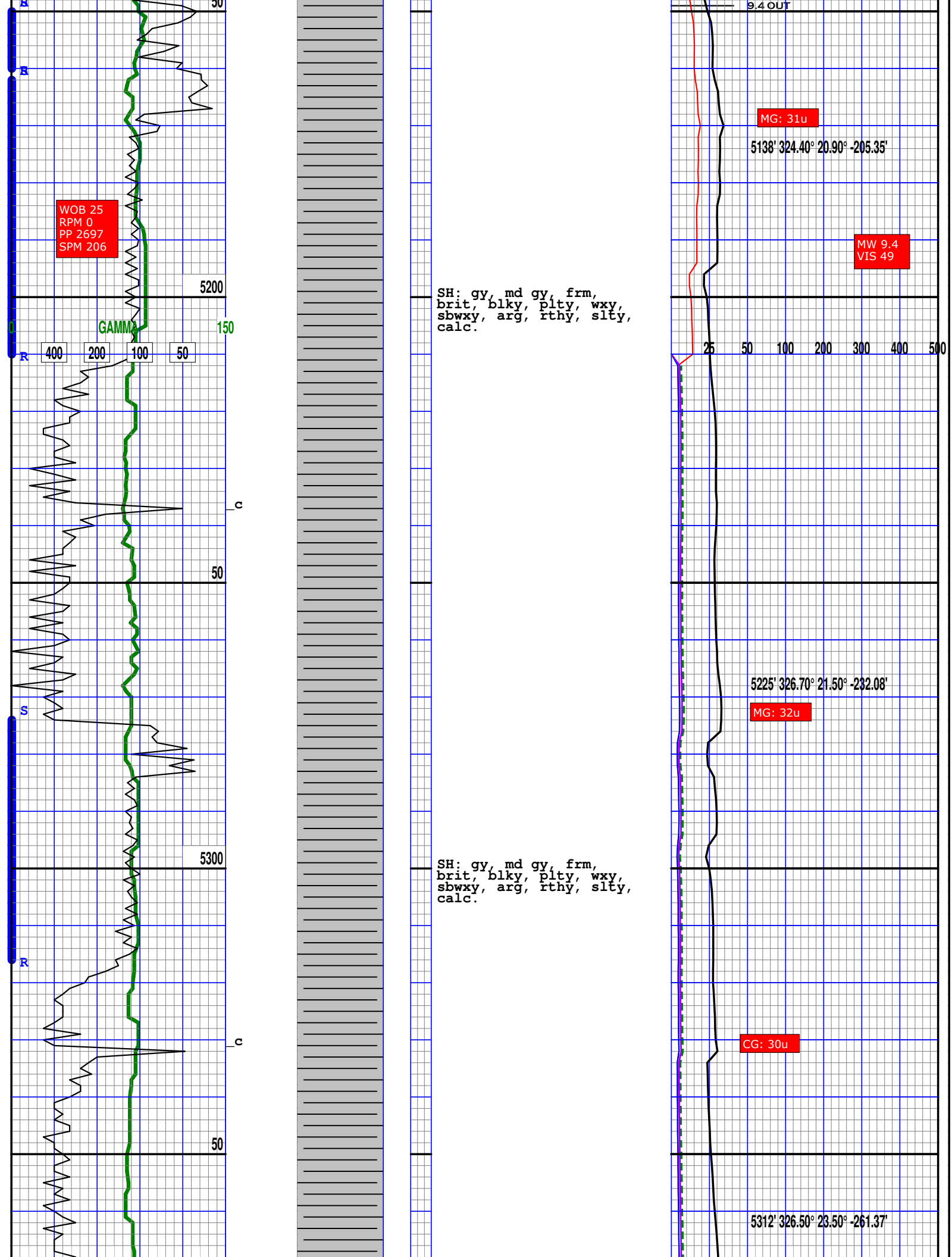

50
4100
c
50
WOB 22
RPM 50
PP 2897
SPM 206
4200
0
GAMMA
150
c
400
200
100
50
50
SD: lt gy, wht, clr, vfg, crs, frm, sli fria, cons, pr srtd, carb, fr vis por
SH: md gy, frm, brit, blky, chnky, sbwxy, arg, rthy, sli calc.
4048' 311.60° 3.00° -25.99'
4141' 309.30° 4.20° -30.03'
MW 9.4
VIS 51
25
50
100
200
300
400
500
4235' 311.40° 4.60° -34.42'

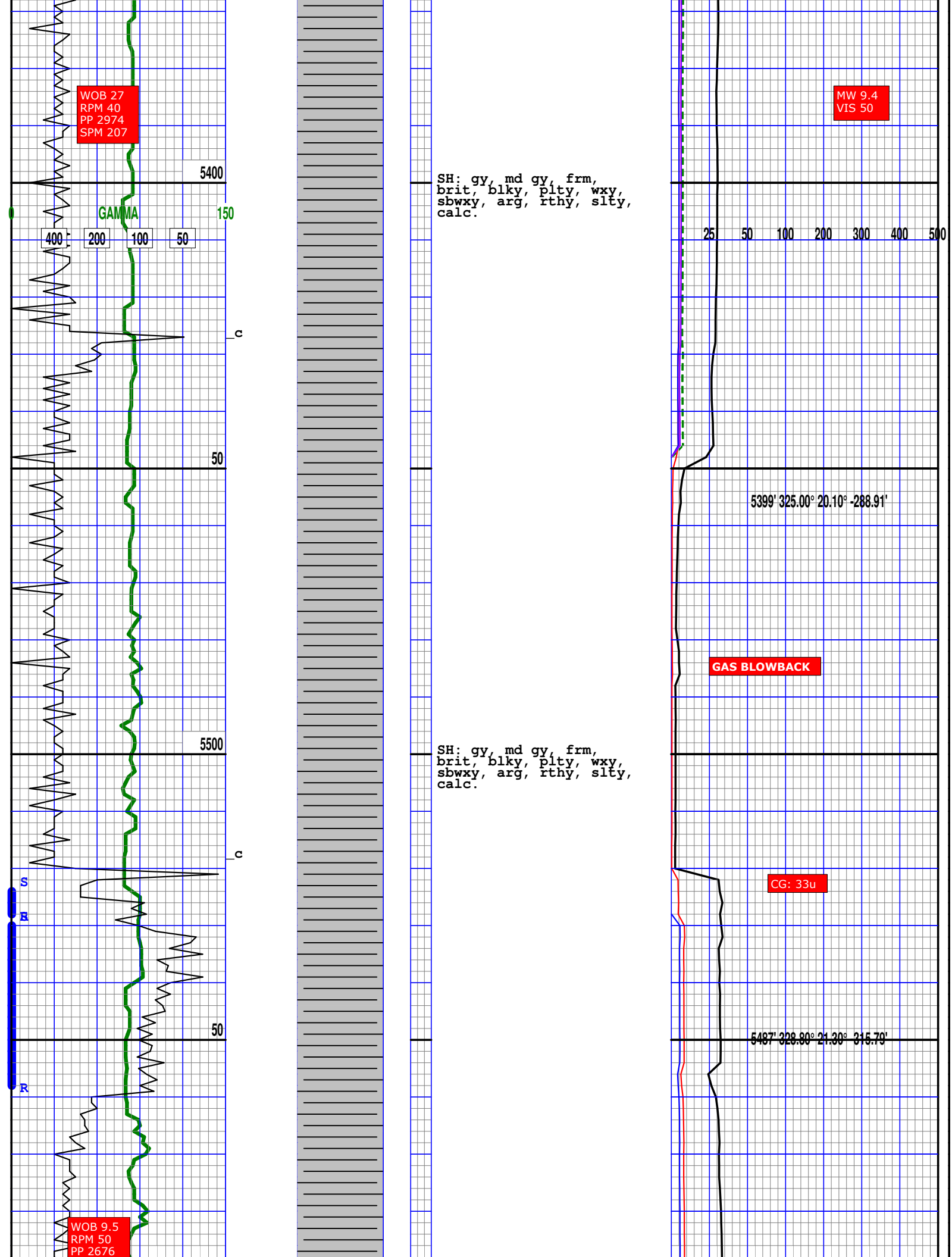

4300
c
50
SHANNON 4334' MD
4329.37' TVD (3825.63' SS)
SH: md gy, frm-hd, brit, blky, chnky, sbwxy, arg, rthy, sli calc.
4329' 313.50° 5.10° -39.49'
WOB 22
RPM 50
PP 2907
SPM 206
MW 9.4
VIS 50
4400
c
SD: lt gy, wht, frst, clr, vfg, sme crs, sbrnd, mod cons, sli glau, sli calc
0
GAMMA
150
400
200
100
50
25
50
100
200
300
400
500
S
R
4422' 319.90° 8.20° -47.11'
50
c

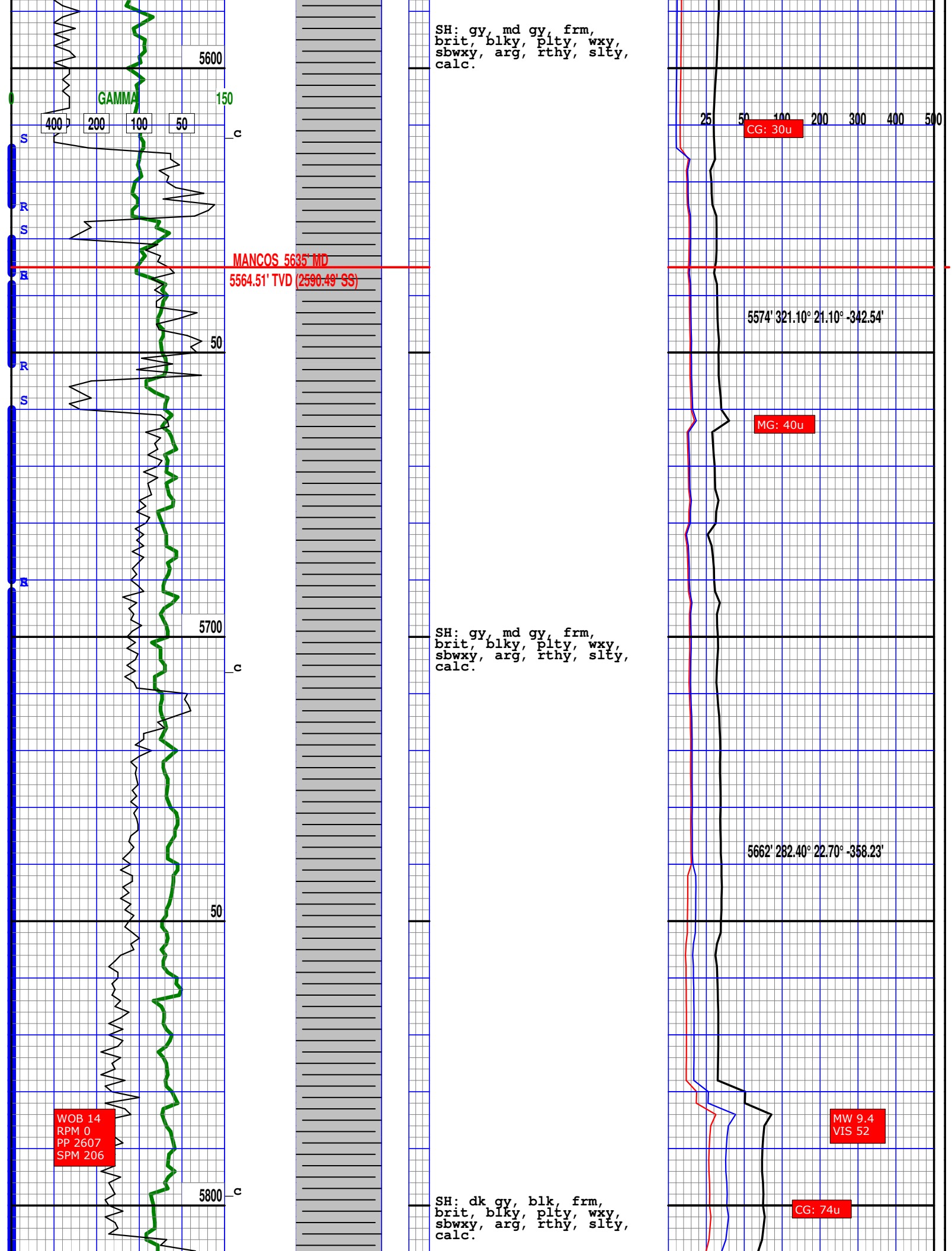

4500
LOWER PIERRE 4533' MD
4527.17' TVD (-3627.83' SS)
50
WOB 16
RPM 0
PP 2587
SPM 206
C
4600
S
E
R
GAMMA
150
400
200
100
50
50
C
4700
SH: md gy, hd, brit, blky, chnky, sbwxy, arg, slty, sli aren,calc.
4514' 319.00° 11.00° -58.35'
MW 9.4
VIS 50
SH: gy, md gy, frm, brit, blky, chnky, occ plty, sbwxy, arg, slty, sli aren,calc.
25
50
100
200
300
400
500
4606' 322.70° 11.30° -71.85'
SH: gy, md gy, frm, brit, blky, plty, sbwxy, arg, rthy, slty, calc.
4697' 323.40° 13.50° -87.18'

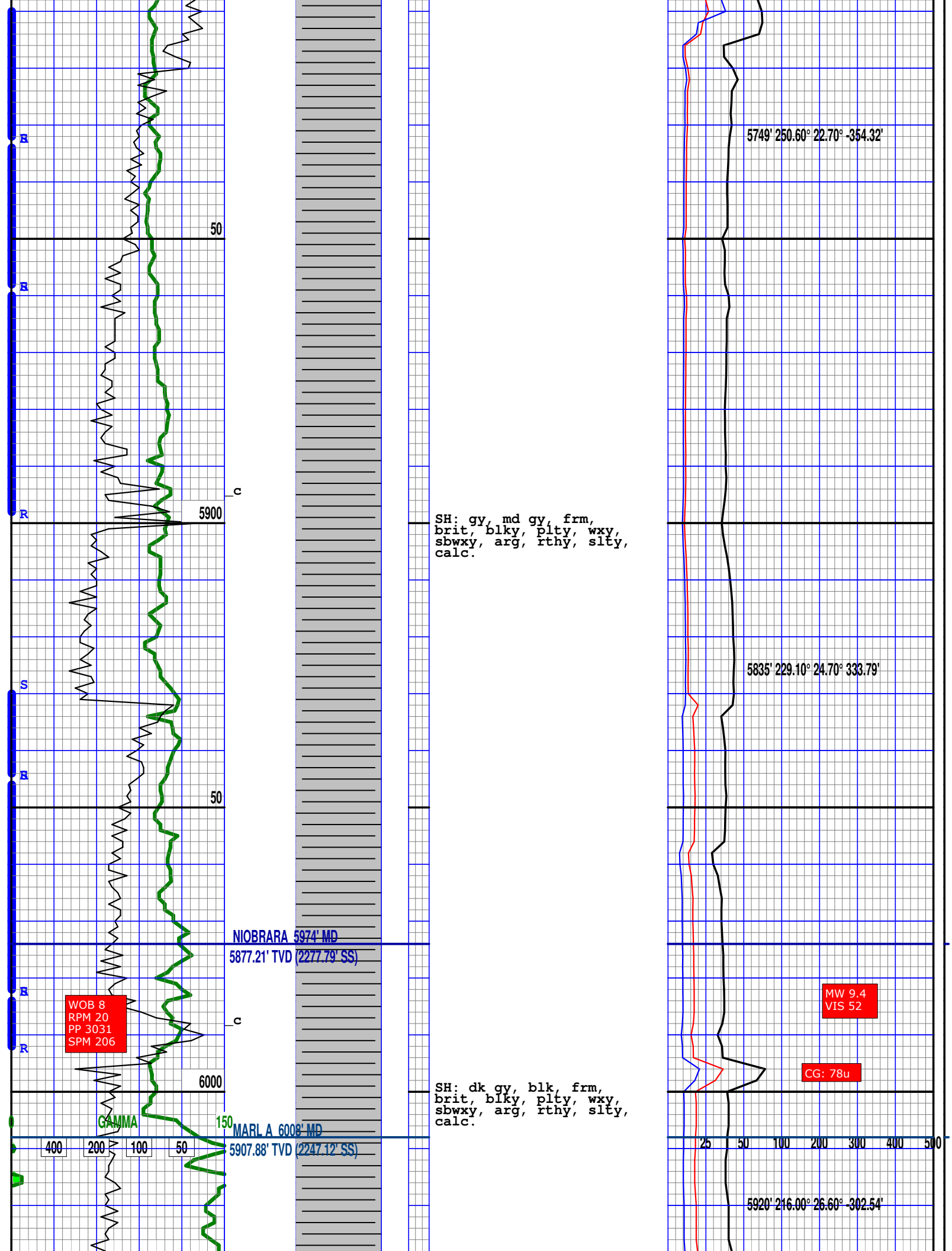

50
S
C
WOB 17
RPM 0
PP 2637
SPM 206
4800
R
GAMMA
150
400
200
100
50
SH: md-dk gy, frm, brit, blky, chnky, wxy, sbwxy, rthy, arg, mot, bent, sli calc
MW 9.4
VIS 51
4797' 323.40° 18.10° 106.92'
25
50
100
200
300
400
500
50
S
R
C
4900
R
SH: gy, md gy, frm, brit, blky, plty, sbwxy, arg, rthy, slty, calc.
4876' 320.70° 21.20° -130.78'

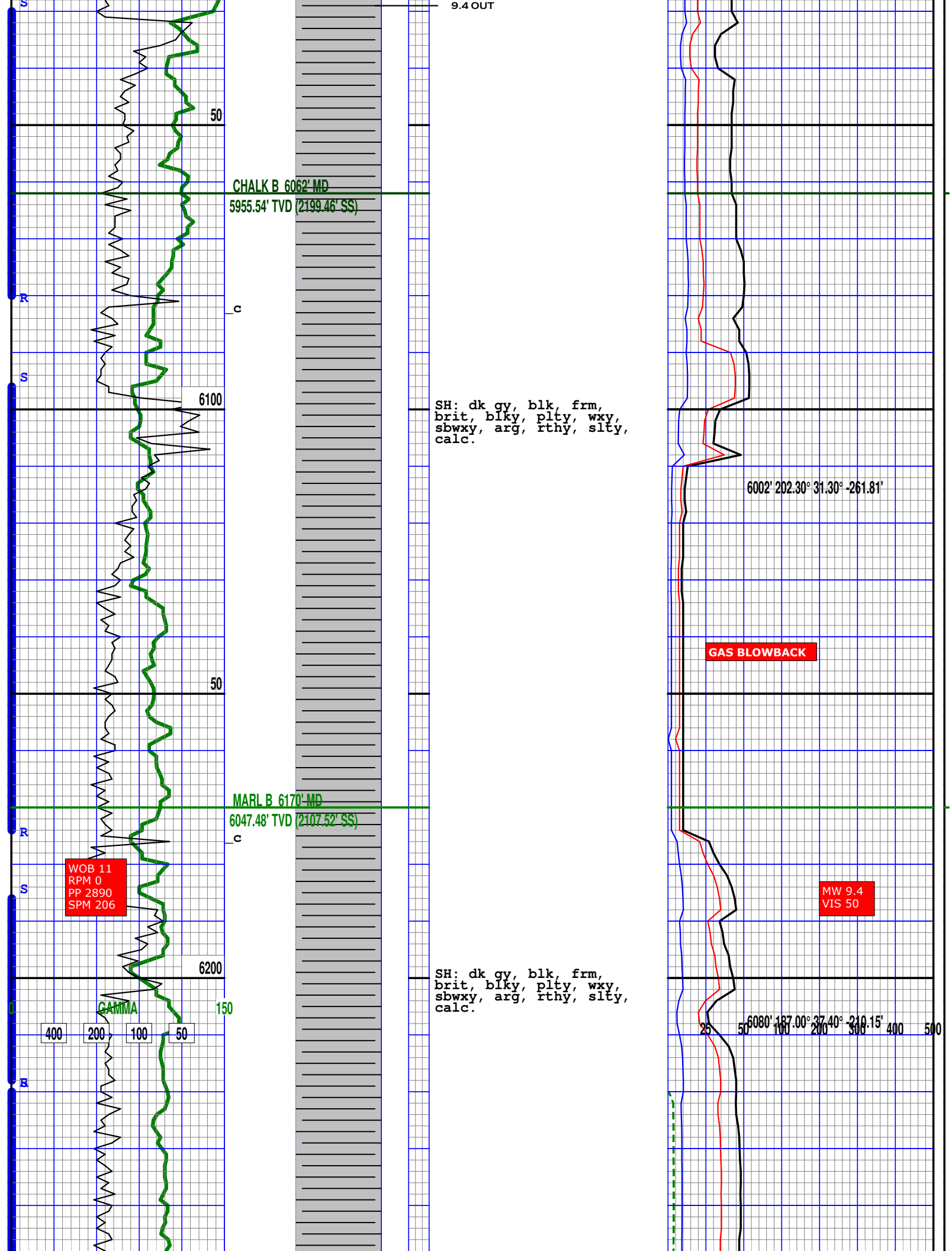

50
c
S
WOB 28
RPM 0
PP 2647
SPM 206
5000
GAMMA
150
R
400
200
100
50
SH: gy, md gy, frm, brit, blky, plty, sbwxy, arg, rthy, slty, calc.
4962' 319.00° 21.70° -155.63'
MW 9.4
VIS 50
25
50
100
200
300
400
500
50
c
CG: 28u
5050' 318.80° 20.90° -180.18'
5100
SH: gy, md gy, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, slty, calc.
S
c

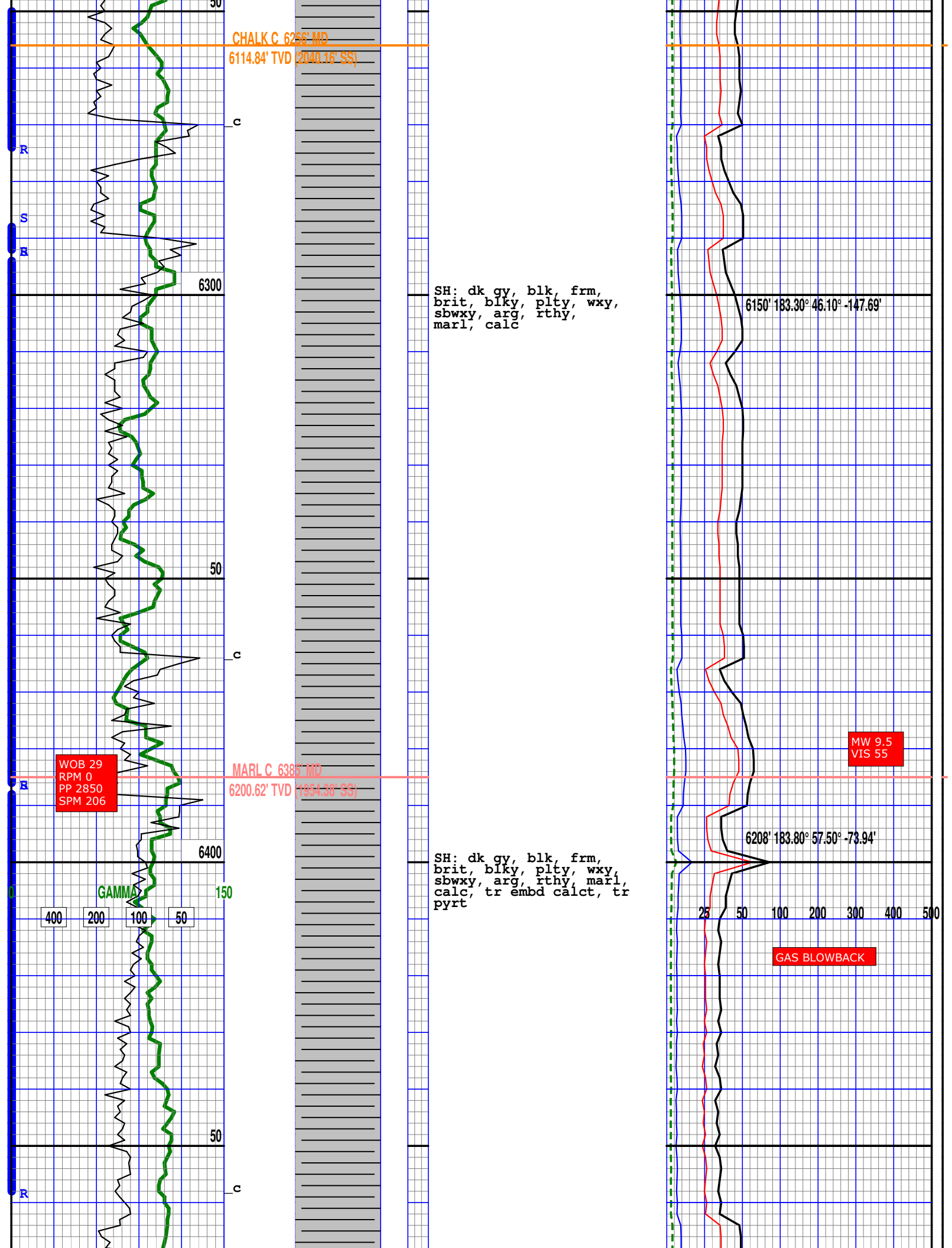

9.4 OUT
MG: 31u
5138' 324.40° 20.90° -205.35'
WOB 25
RPM 0
PP 2697
SPM 206
MW 9.4
VIS 49
5200
GAMMA
0
150
400
200
100
50
25
50
100
200
300
400
500
SH: gy, md gy, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, slty, calc.
50
5225' 326.70° 21.50° -232.08'
MG: 32u
5300
SH: gy, md gy, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, slty, calc.
CG: 30u
50
5312' 326.50° 23.50° -261.37'

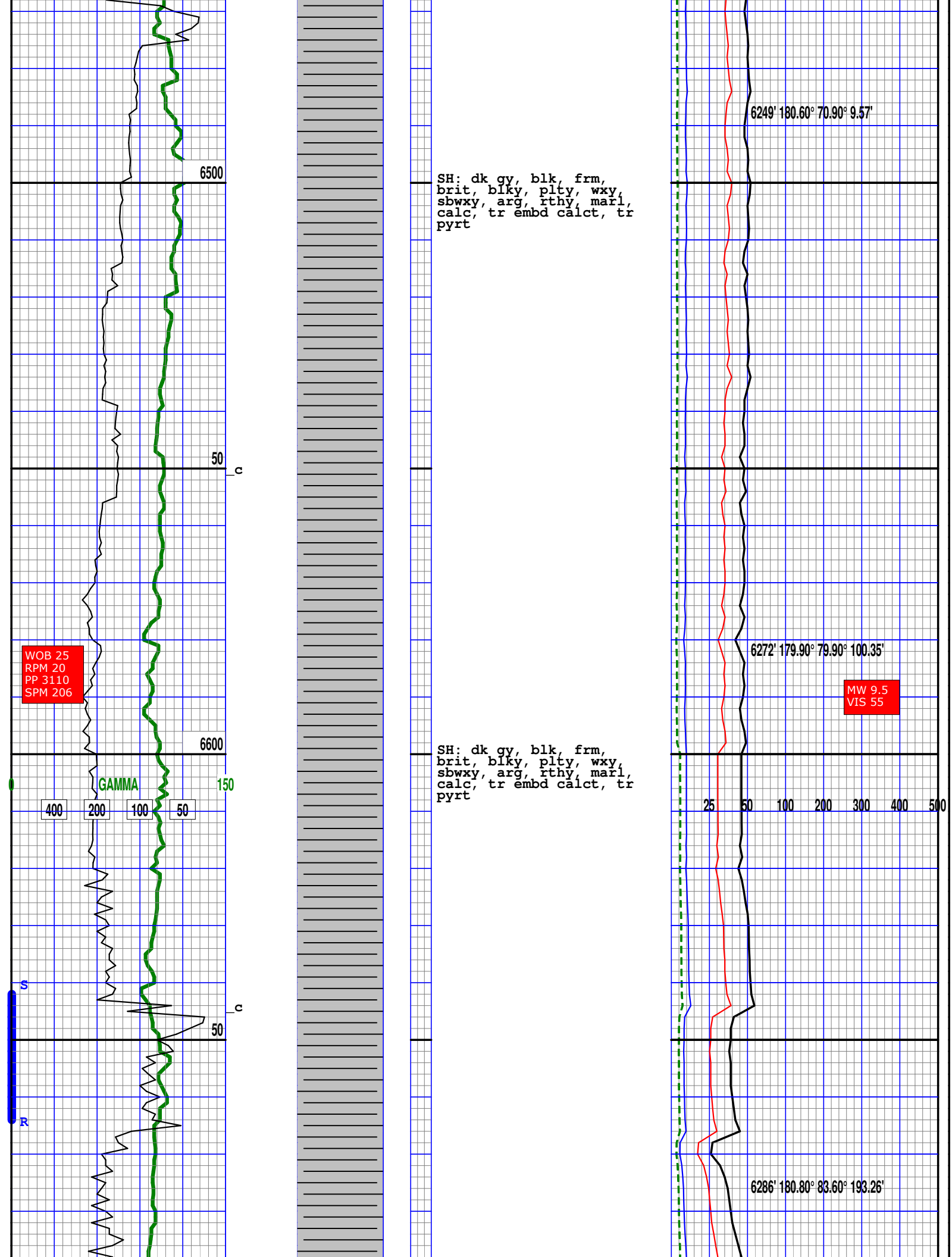

WOB 27
RPM 40
PP 2974
SPM 207
5400
0
GAMMA
150
400
200
100
50
c
50
SH: gy, md gy, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, slty, calc.
MW 9.4
VIS 50
25
50
100
200
300
400
500
5399' 325.00° 20.10° -288.91'
GAS BLOWBACK
5500
SH: gy, md gy, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, slty, calc.
c
S
R
CG: 33u
50
5487' 328.80° 21.30° -315.70'
R
WOB 9.5
RPM 50
PP 2676

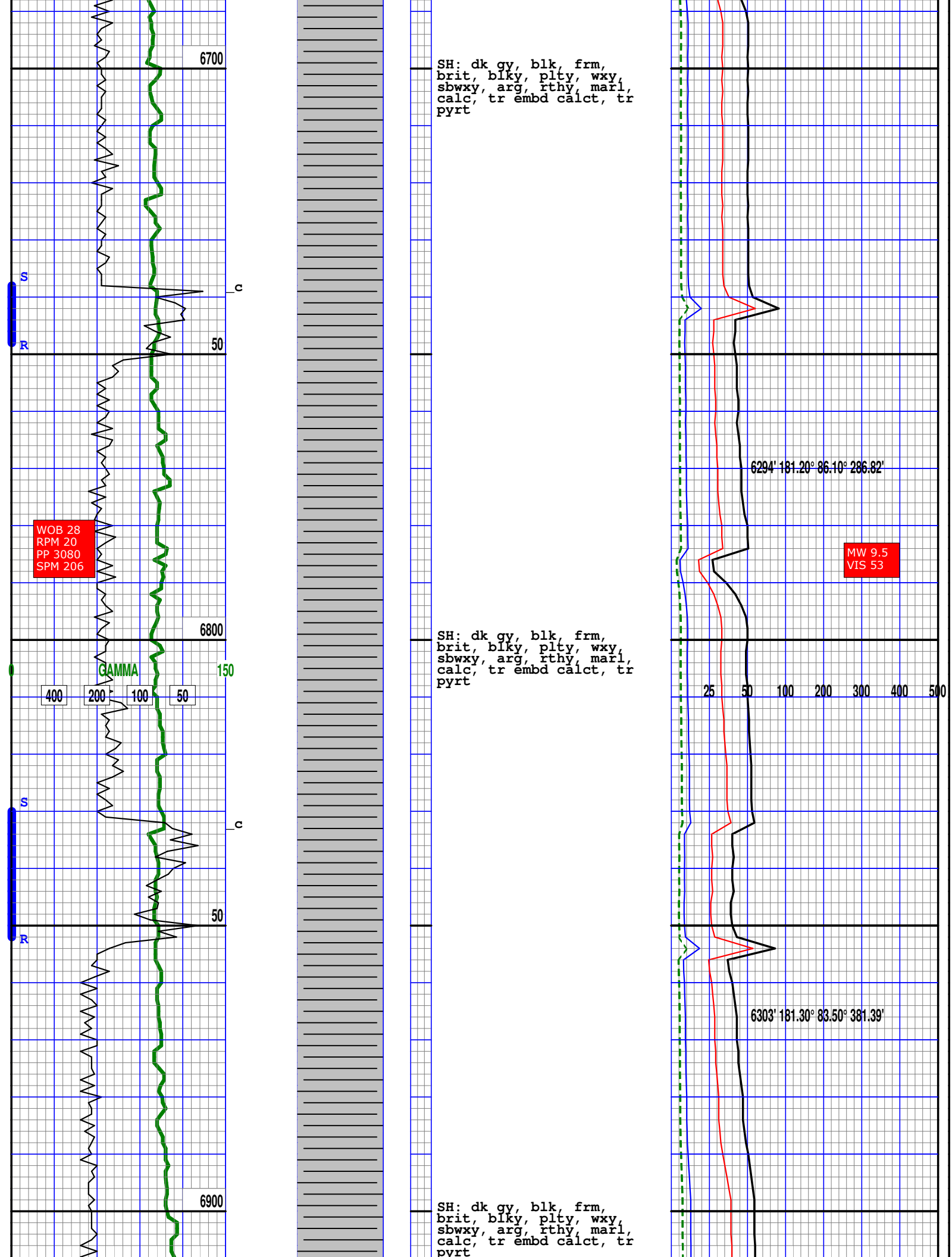

5600
GAMMA
0
150
400
200
100
50
S
R
S
MANCOS 5635' MD
5564.51' TVD (2590.49' SS)
50
R
S
5700
50
WOB 14
RPM 0
PP 2607
SPM 206
5800
SH: gy, md gy, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, slty, calc.
SH: gy, md gy, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, slty, calc.
SH: dk gy, blk, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, slty, calc.
25
50
100
200
300
400
500
CG: 30u
5574' 321.10° 21.10° -342.54'
MG: 40u
5662' 282.40° 22.70° -358.23'
MW 9.4
VIS 52
CG: 74u

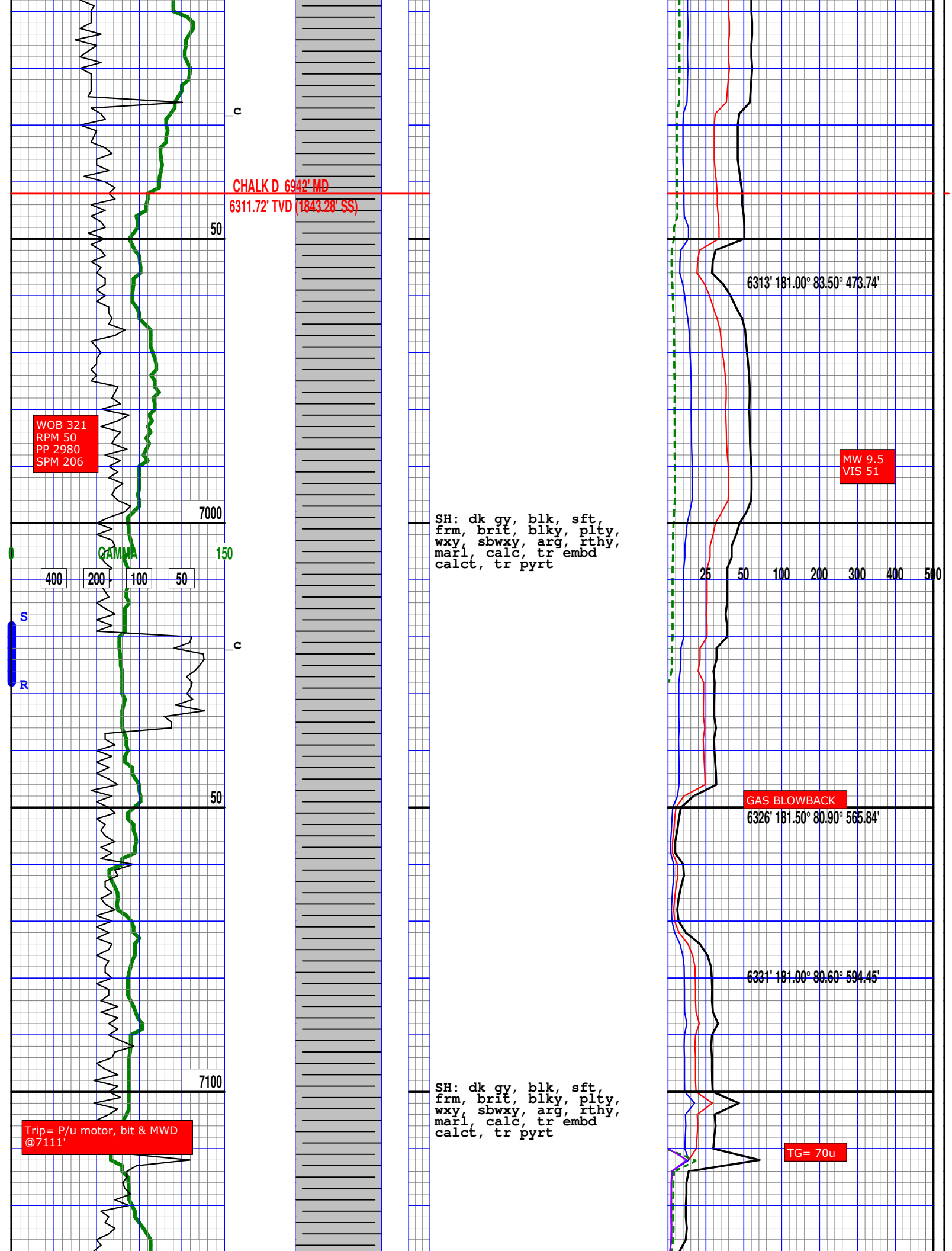

50
5900
50
6000
NIOBRARA 5974' MD
5877.21' TVD (2277.79' SS)
WOB 8
RPM 20
PP 3031
SPM 206
GAMMA
0
150
400
200
100
50
MARL A 6008' MD
5907.88' TVD (2247.12' SS)
SH: gy, md gy, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, slty, calc.
SH: dk gy, blk, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, slty, calc.
5749' 250.60° 22.70° -354.32'
5835' 229.10° 24.70° 333.79'
MW 9.4
VIS 52
CG: 78u
25
50
100
200
300
400
500
5920' 216.00° 26.60° -302.54'

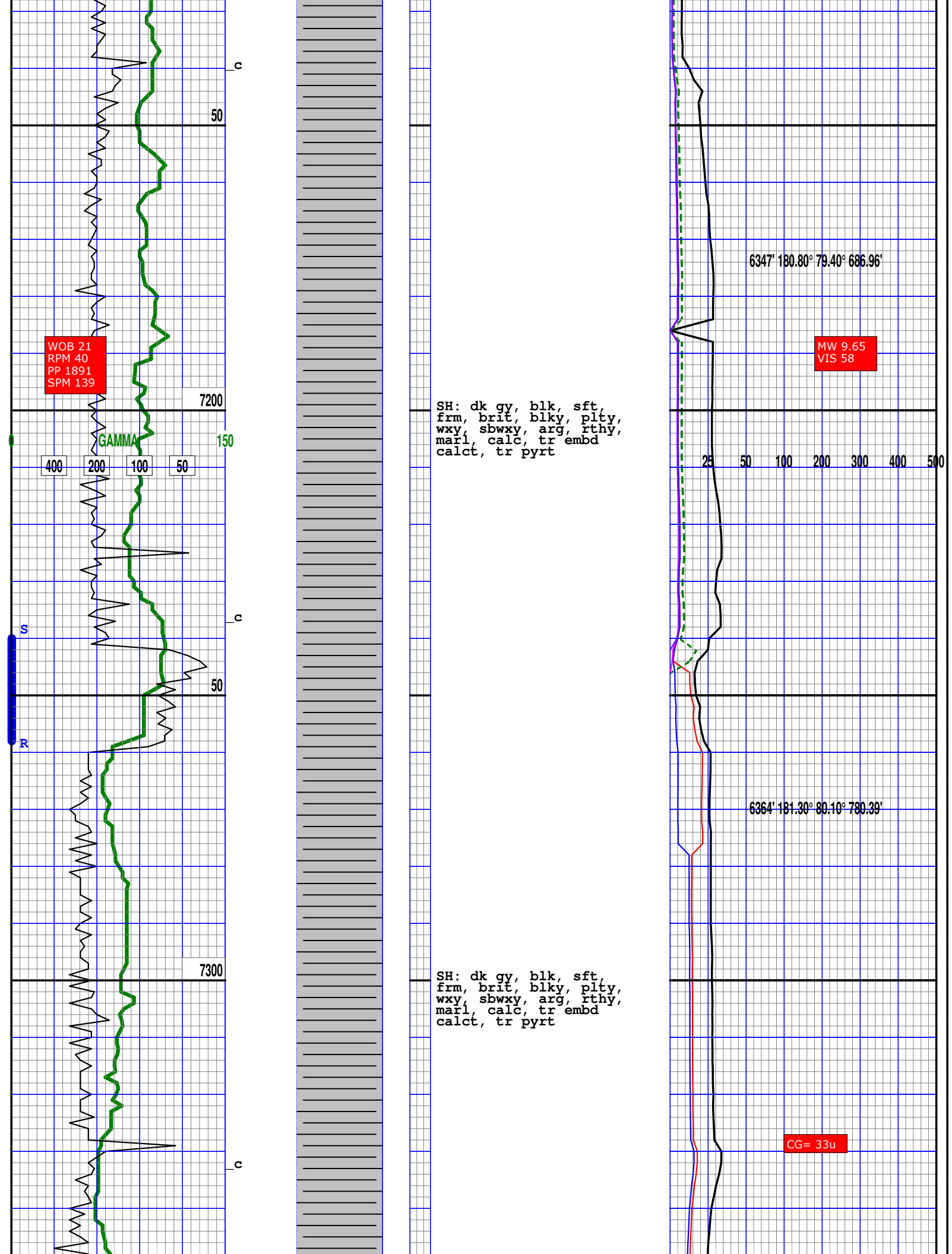

9.4 OUT
50
CHALK B 6062' MD
5955.54' TVD (2199.46' SS)
6100
SH: dk gy, blk, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, slty, calc.
6002' 202.30° 31.30° -261.81'
GAS BLOWBACK
50
MARL B 6170' MD
6047.48' TVD (2107.52' SS)
WOB 11
RPM 0
PP 2890
SPM 206
MW 9.4
VIS 50
6200
SH: dk gy, blk, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, slty, calc.
GAMMA
150
400
200
100
50
6080' 187.00° 37.40° -210.15'
25
50
100
200
300
400
500

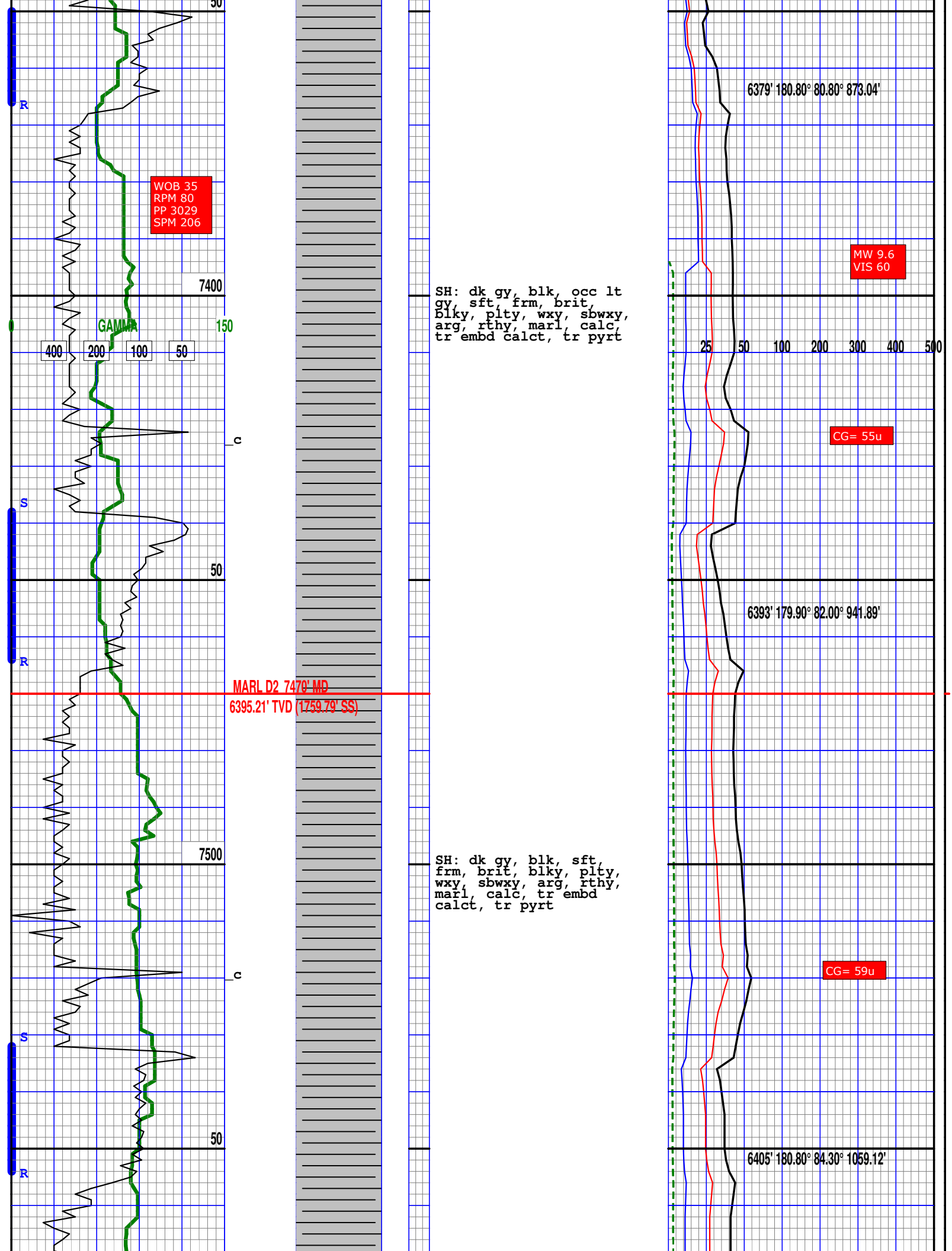

CHALK C 6256' MD
6114.84' TVD (2040.16' SS)
6300
50
MARL C 6385' MD
6200.62' TVD (1954.38' SS)
6400
50
WOB 29
RPM 0
PP 2850
SPM 206
GAMMA
0
150
400
200
100
50
SH: dk gy, blk, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc
SH: dk gy, blk, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr embd calct, tr pyrt
6150' 183.30° 46.10° -147.69'
6208' 183.80° 57.50° -73.94'
MW 9.5
VIS 55
25
50
100
200
300
400
500
GAS BLOWBACK

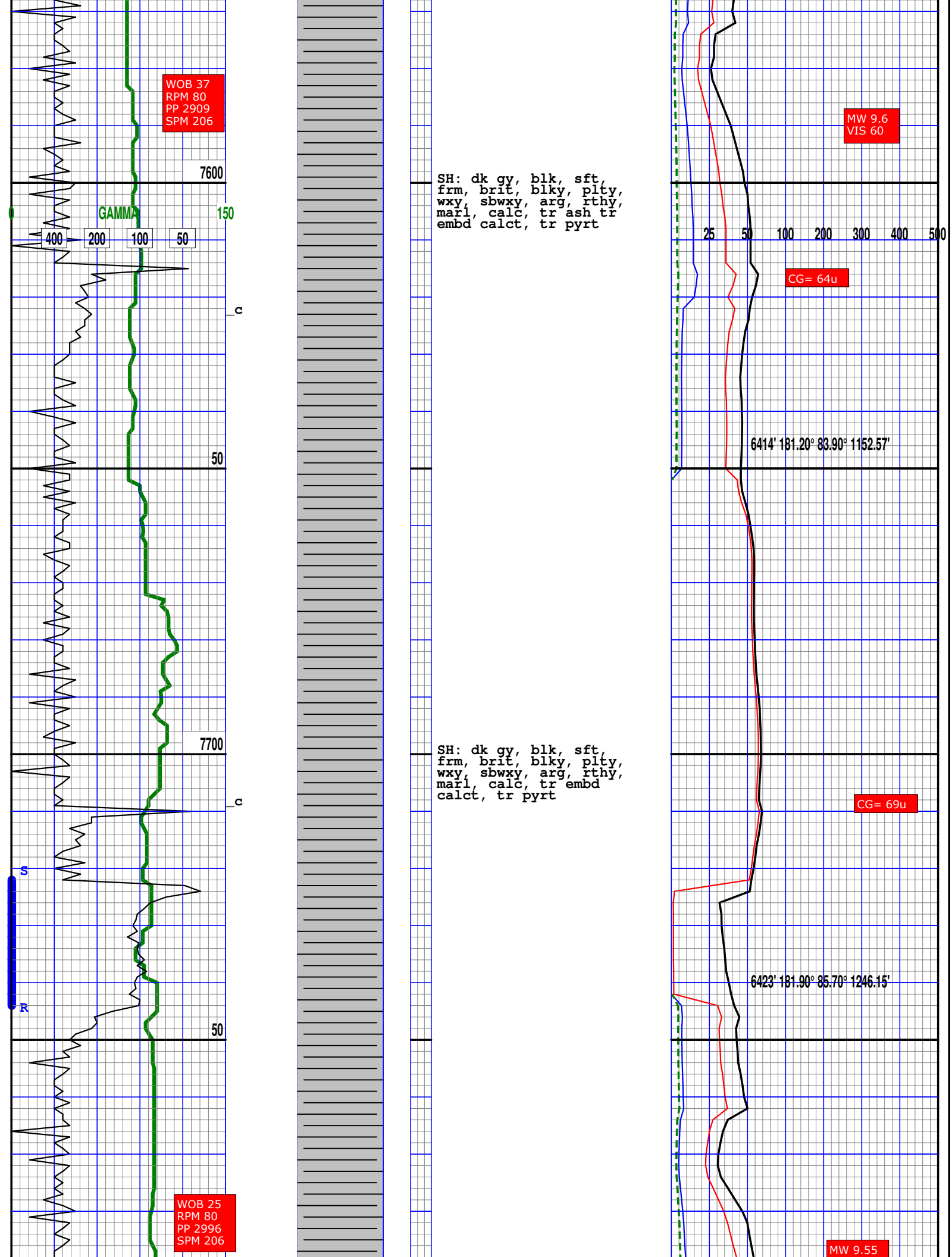

6500
50
c
WOB 25
RPM 20
PP 3110
SPM 206
6600
0
GAMMA
150
400
200
100
50
S
R
c
50
SH: dk gy, blk, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr embd calct, tr pyrt
SH: dk gy, blk, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr embd calct, tr pyrt
6249' 180.60° 70.90° 9.57'
6272' 179.90° 79.90° 100.35'
MW 9.5
VIS 55
25
50
100
200
300
400
500
6286' 180.80° 83.60° 193.26'

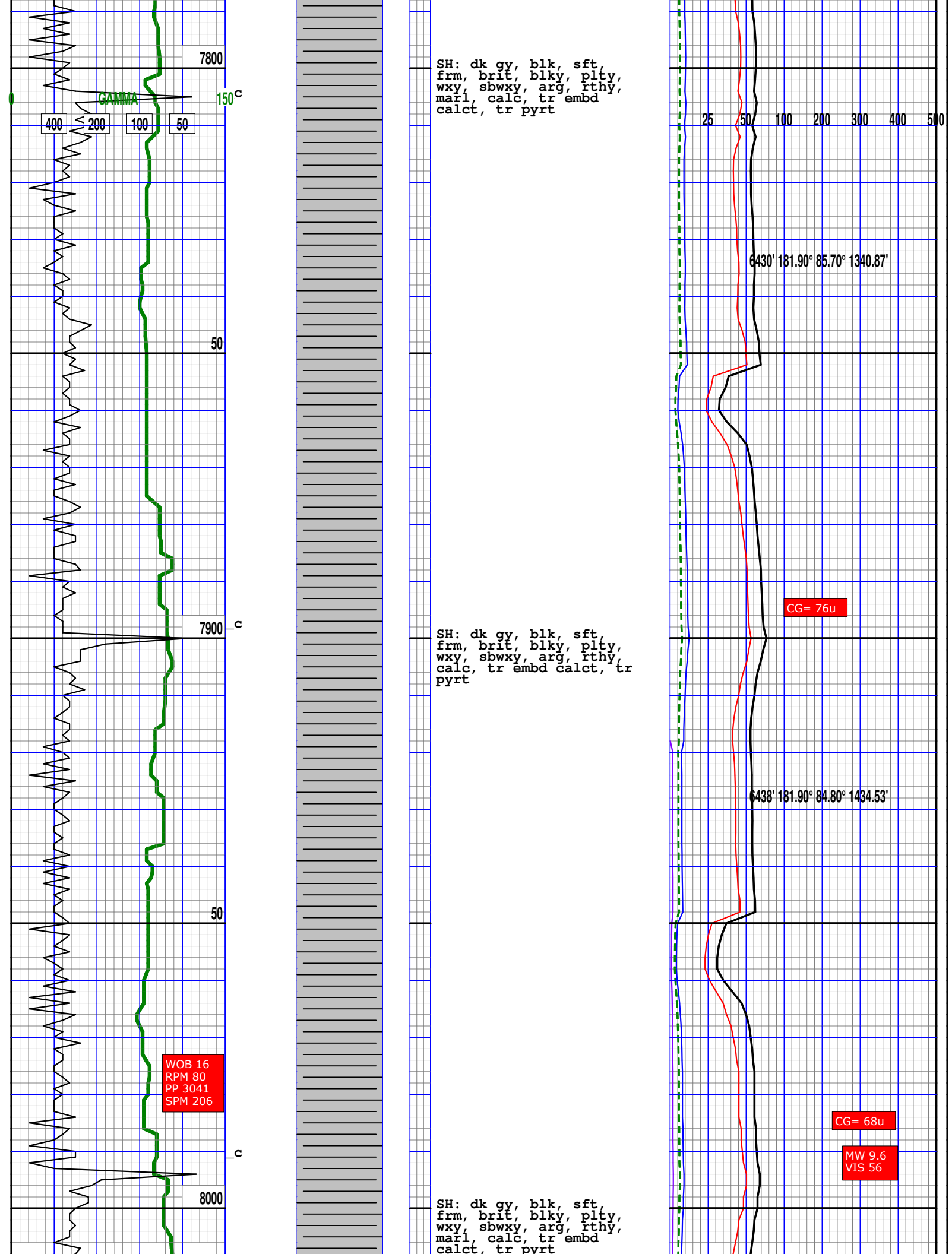

6700
6800
6900
S
R
C
50
WOB 28
RPM 20
PP 3080
SPM 206
0
GAMMA
150
400
200
100
50
SH: dk gy, blk, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr embd calct, tr pyrt
6294' 181.20° 86.10° 286.82'
MW 9.5
VIS 53
25
50
100
200
300
400
500
6303' 181.30° 83.50° 381.39'

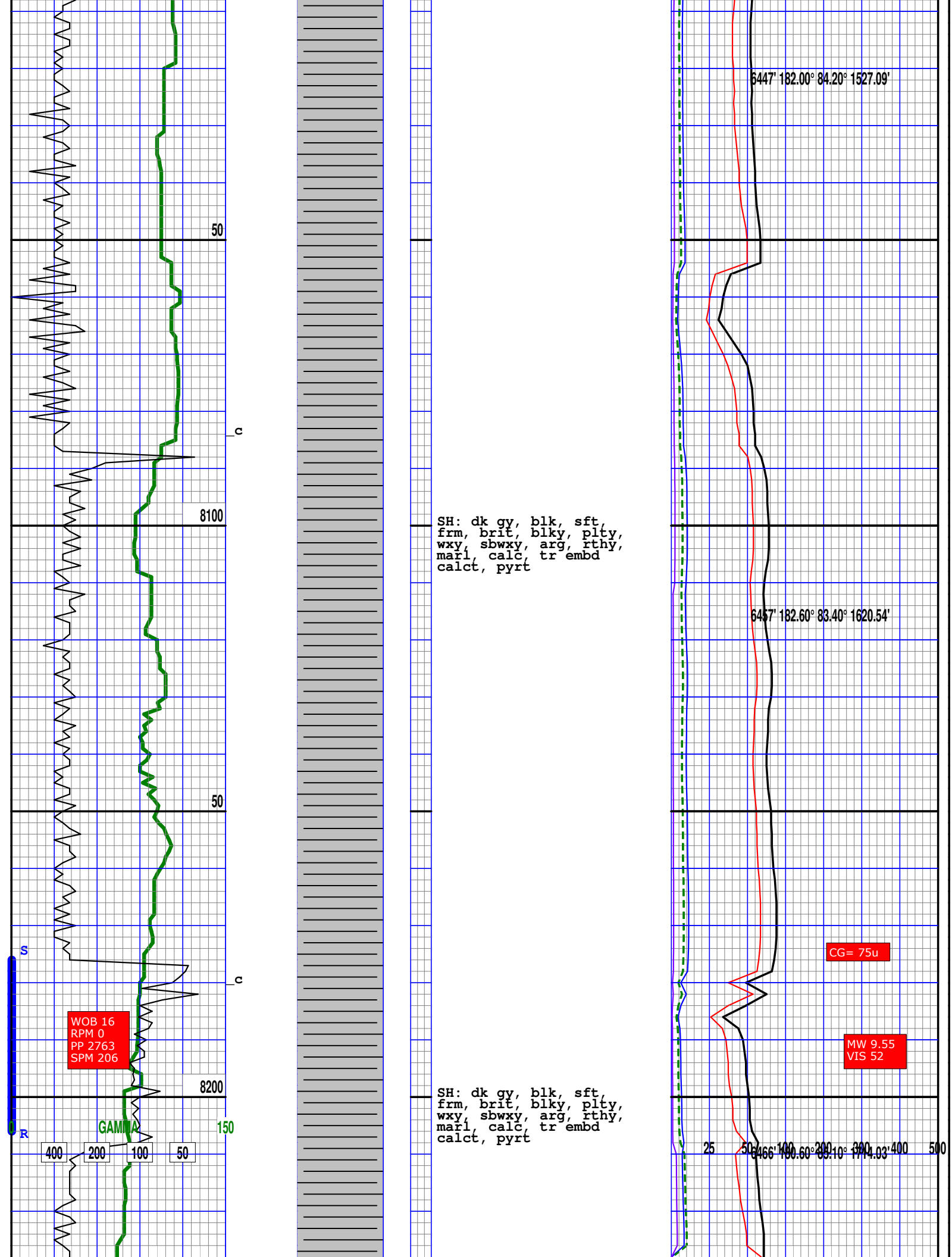

CHALK D 6942' MD
6311.72' TVD (1843.28' SS)
50
7000
WOB 321
RPM 50
PP 2980
SPM 206
0
GAMMA
150
400
200
100
50
S
R
50
7100
Trip= P/u motor, bit & MWD @7111'
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr embd calct, tr pyrt
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr embd calct, tr pyrt
6313' 181.00° 83.50° 473.74'
MW 9.5
VIS 51
25
50
100
200
300
400
500
GAS BLOWBACK
6326' 181.50° 80.90° 565.84'
6331' 181.00° 80.60° 594.45'
TG= 70u

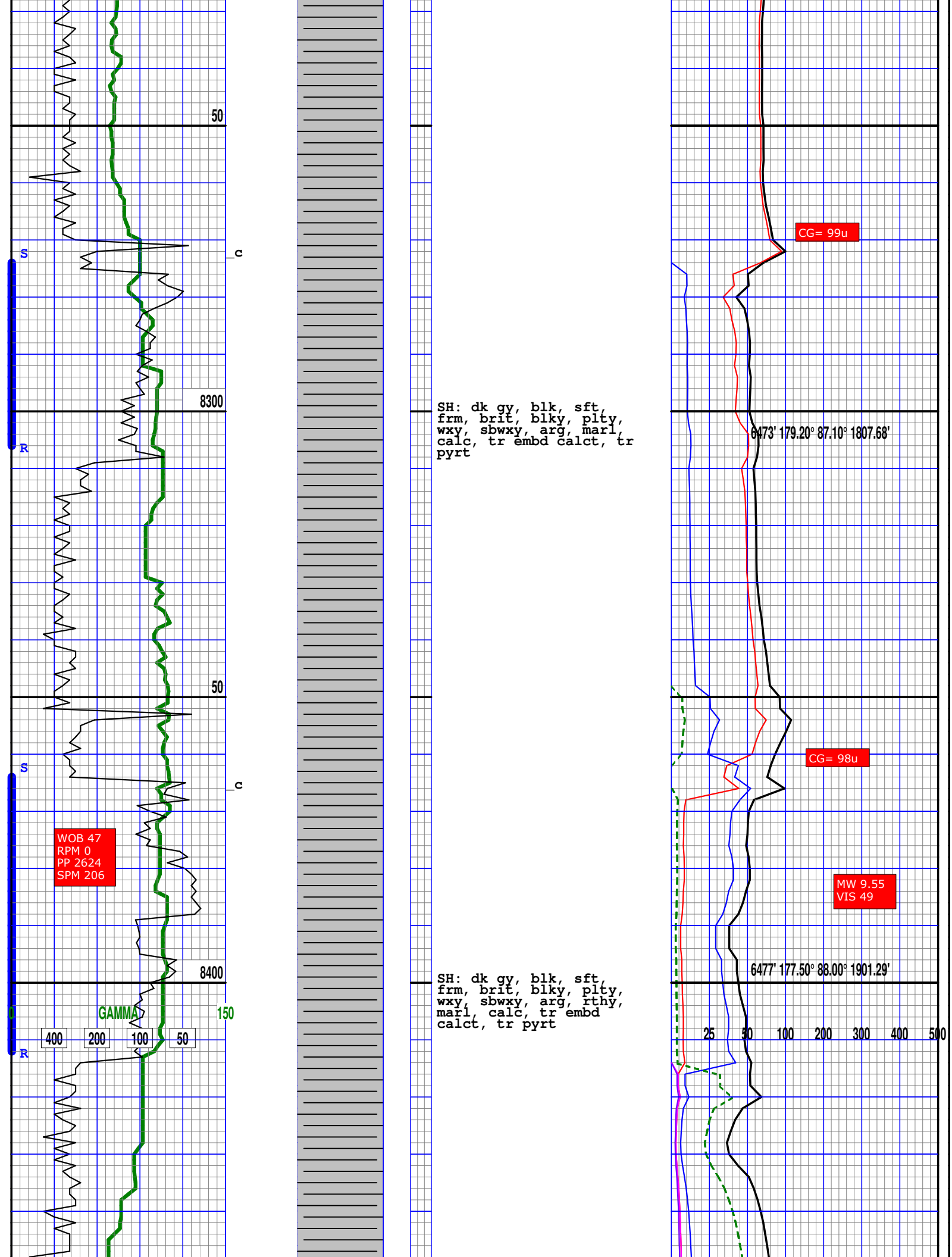

c
50
WOB 21
RPM 40
PP 1891
SPM 139
7200
0
GAMMA
150
400
200
100
50
c
S
50
R
7300
c
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr embd calcit, tr pyrt
6347' 180.80° 79.40° 686.96'
MW 9.65
VIS 58
25
50
100
200
300
400
500
6364' 181.30° 80.10° 780.39'
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr embd calcit, tr pyrt
CG= 33u

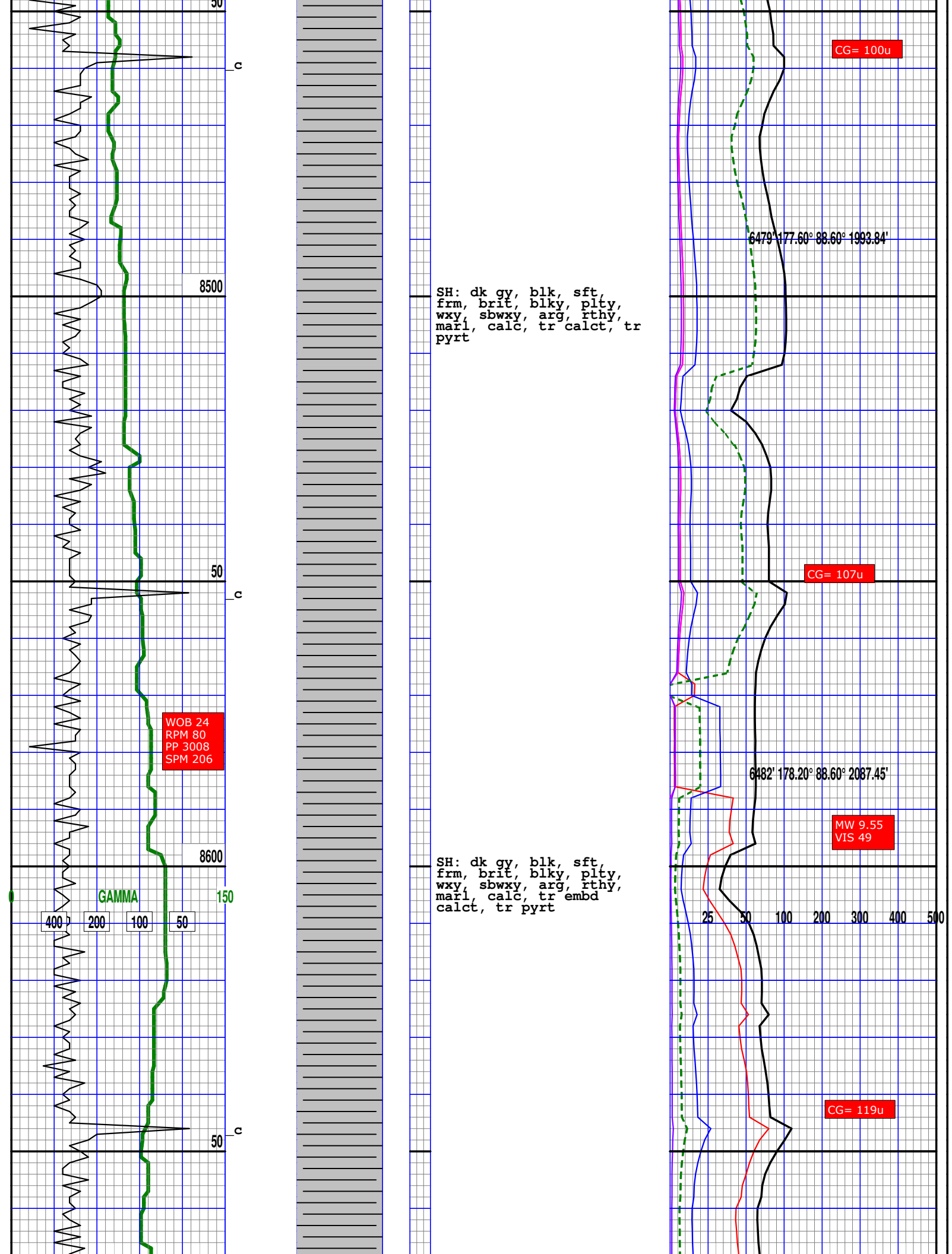

WOB 35
RPM 80
PP 3029
SPM 206
MW 9.6
VIS 60
GAMMA
0
150
400
200
100
50
7400
7500
50
R
S
_c
SH: dk gy, blk, occ lt gy, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr embd calct, tr pyrt
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr embd calct, tr pyrt
MARL D2 7470' MD
6395.21' TVD (1759.79' SS)
6379' 180.80° 80.80° 873.04'
6393' 179.90° 82.00° 941.89'
6405' 180.80° 84.30° 1059.12'
25
50
100
200
300
400
500
CG= 55u
CG= 59u

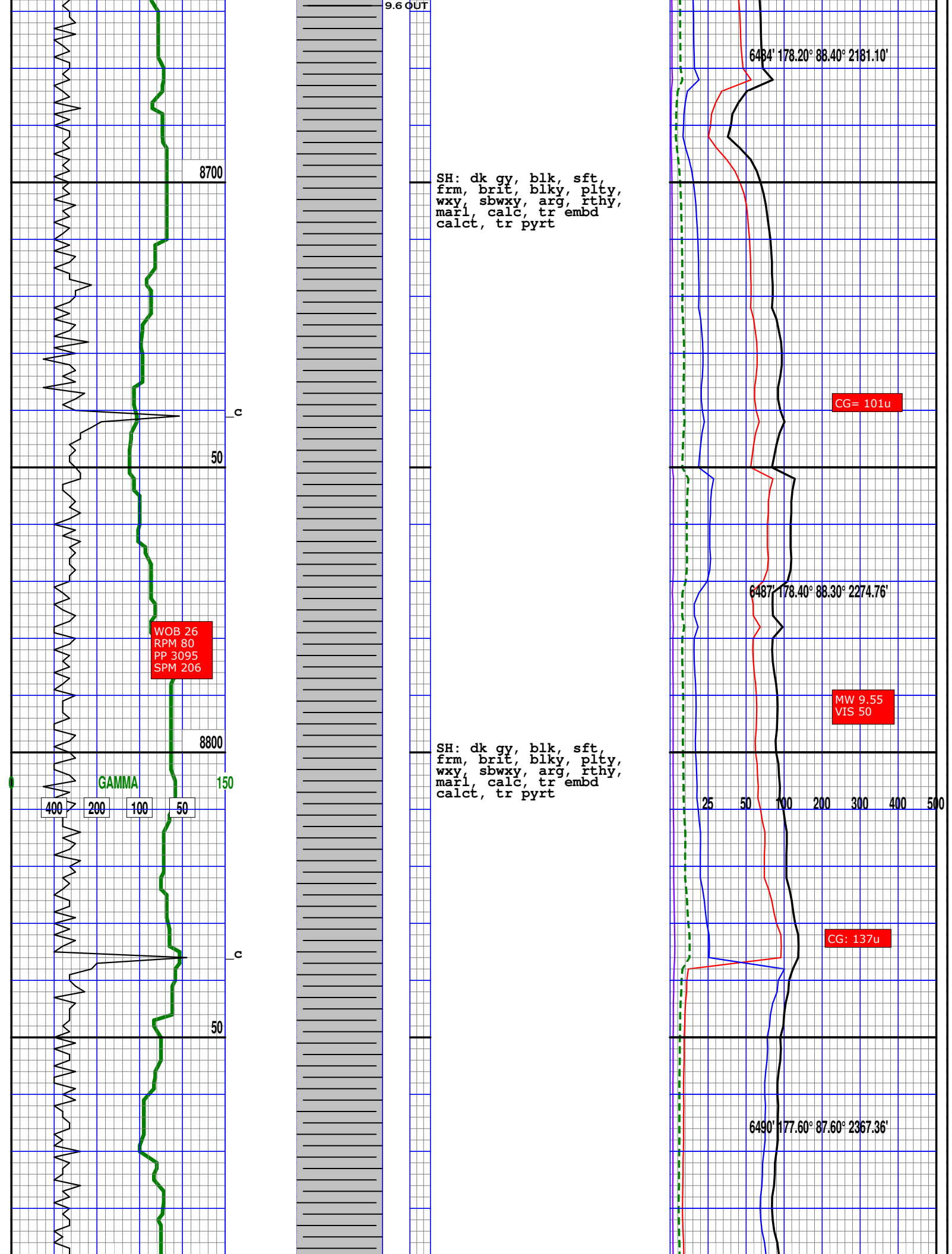

WOB 37
RPM 80
PP 2909
SPM 206
7600
0
GAMMA
150
400
200
100
50
C
50
7700
C
S
R
50
WOB 25
RPM 80
PP 2996
SPM 206
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr ash tr embd calct, tr pyrt
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr embd calct, tr pyrt
MW 9.6
VIS 60
25
50
100
200
300
400
500
CG= 64u
6414' 181.20° 83.90° 1152.57'
CG= 69u
6423' 181.90° 85.70° 1246.15'
MW 9.55

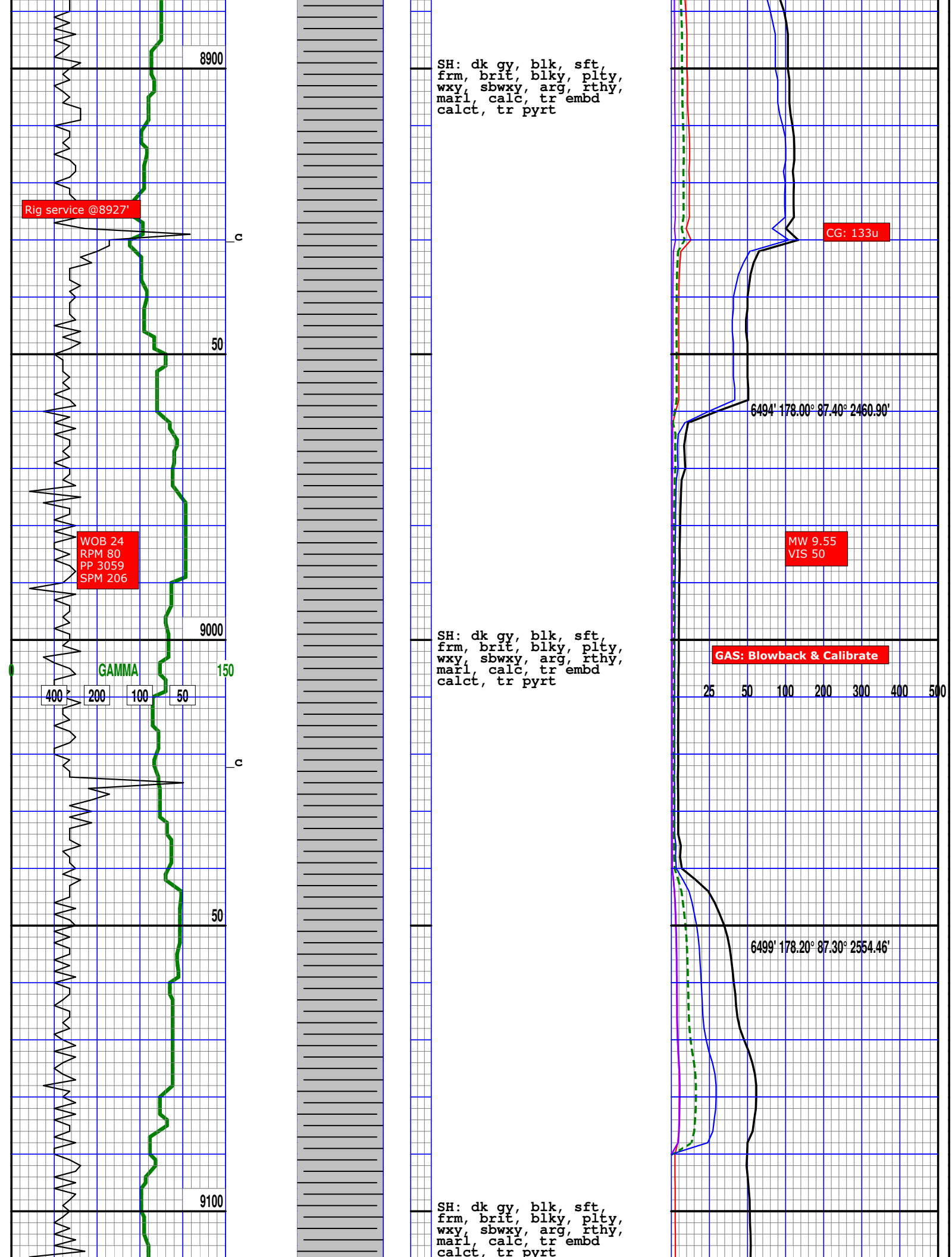

7800
0
GAMMA
150
400
200
100
50
50
7900
50
WOB 16
RPM 80
PP 3041
SPM 206
8000
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr embd calct, tr pyrt
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, calc, tr embd calct, tr pyrt
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr embd calct, tr pyrt
25
50
100
200
300
400
500
6430' 181.90° 85.70° 1340.87'
CG= 76u
6438' 181.90° 84.80° 1434.53'
CG= 68u
MW 9.6
VIS 56

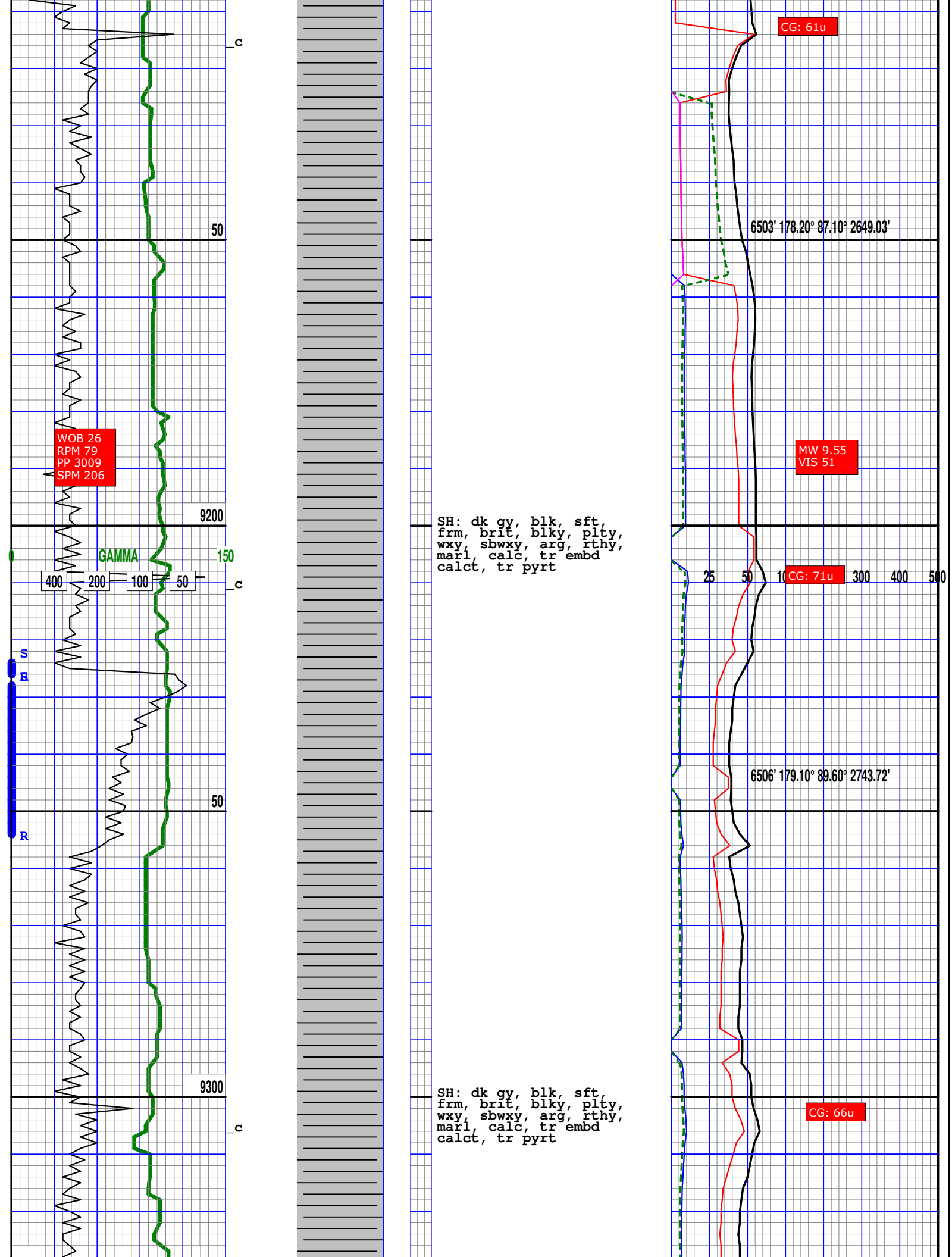

50
8100
50
8200
S
R
WOB 16
RPM 0
PP 2763
SPM 206
GAMMA
400
200
100
50
150
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr embd calct, pyrt
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr embd calct, pyrt
6447' 182.00° 84.20° 1527.09'
6457' 182.60° 83.40° 1620.54'
CG= 75u
MW 9.55
VIS 52
25
50
100
200
300
400
500

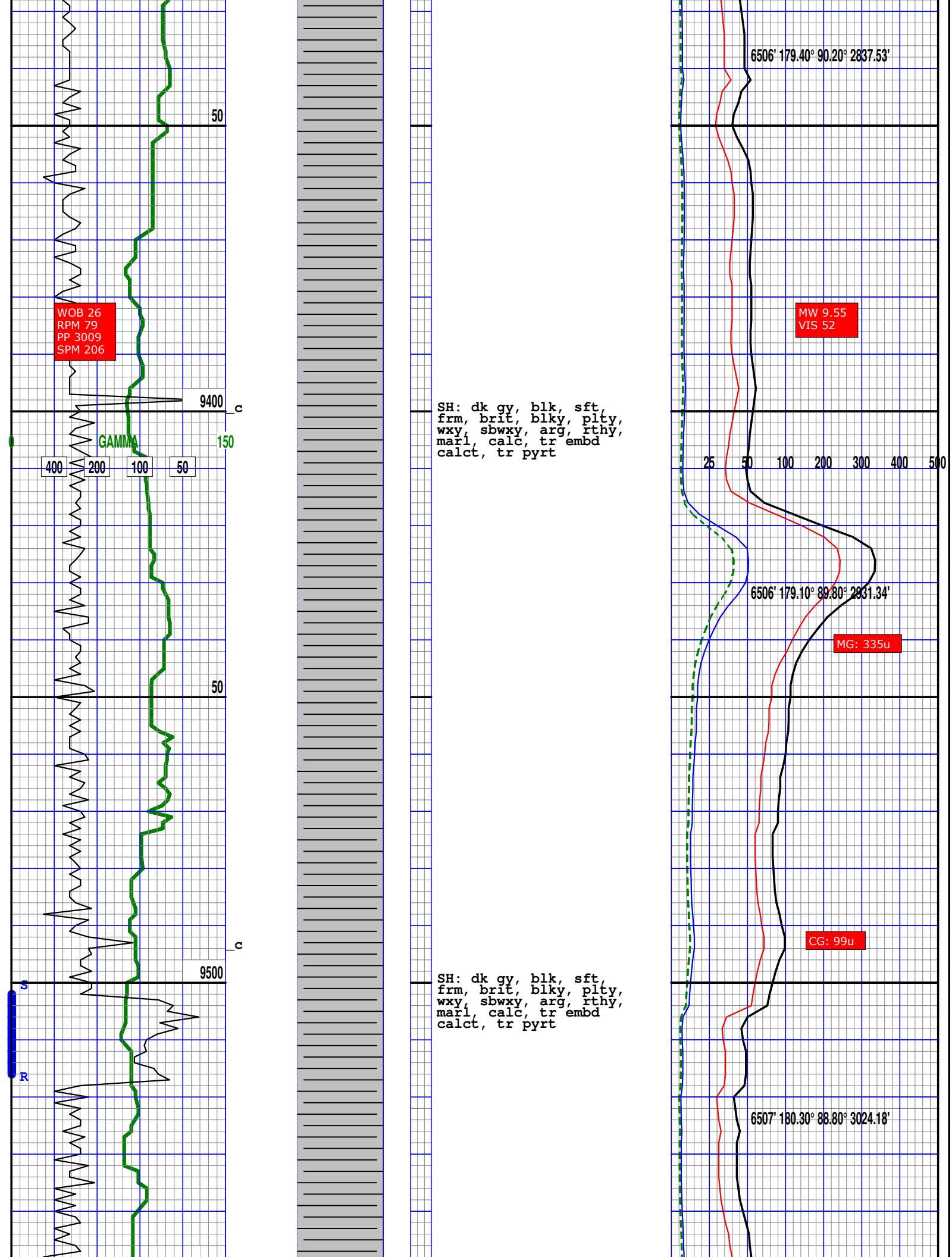

50
S
C
8300
R
50
S
C
WOB 47
RPM 0
PP 2624
SPM 206
8400
0
GAMMA
150
400
200
100
50
R
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, marl, calc, tr embd calct, tr pyrt
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr embd calct, tr pyrt
CG= 99u
6473' 179.20° 87.10° 1807.68'
CG= 98u
MW 9.55
VIS 49
6477' 177.50° 88.00° 1901.29'
25
50
100
200
300
400
500

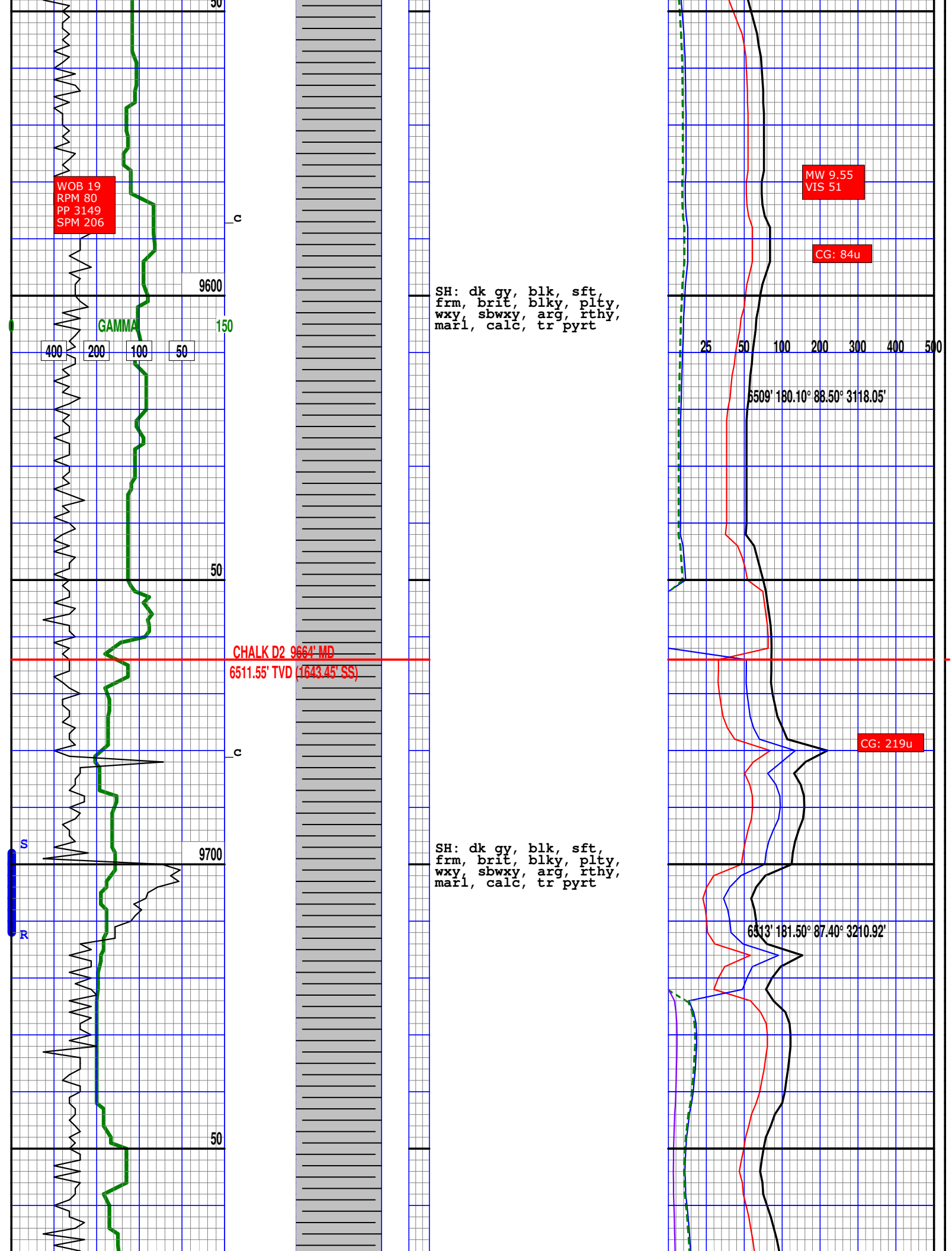

50
c
8500
50
c
WOB 24
RPM 80
PP 3008
SPM 206
8600
0
GAMMA
150
400
200
100
50
50
c
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr calct, tr pyrt
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr embd calct, tr pyrt
CG= 100u
6479' 177.60° 88.60° 1993.84'
CG= 107u
6482' 178.20° 88.60° 2087.45'
MW 9.55
VIS 49
25
50
100
200
300
400
500
CG= 119u

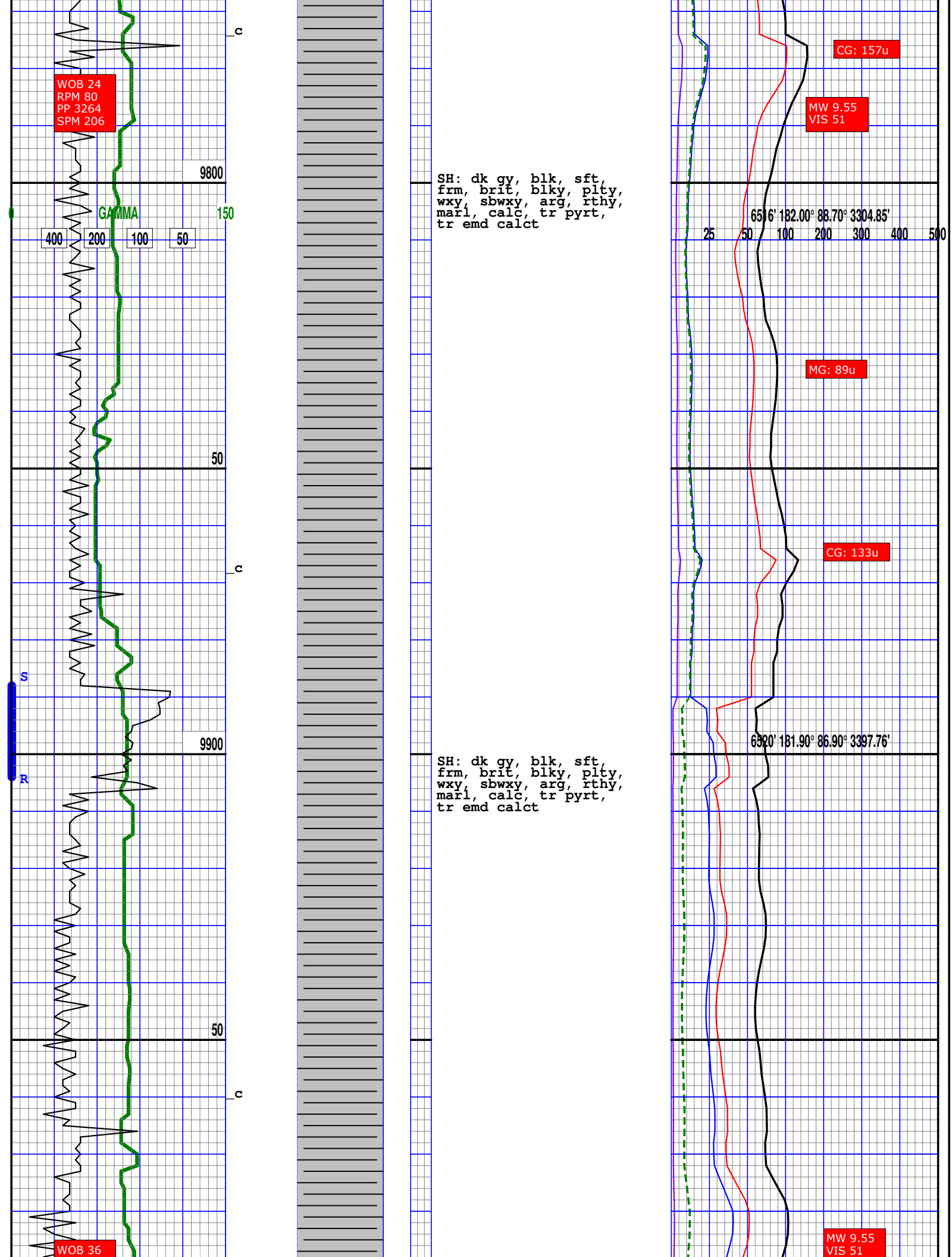

9.6 OUT
6484' 178.20° 88.40° 2181.10'
8700
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr embd calct, tr pyrt
_c
50
CG= 101u
6487' 178.40° 88.30° 2274.76'
WOB 26
RPM 80
PP 3095
SPM 206
MW 9.55
VIS 50
8800
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr embd calct, tr pyrt
0
GAMMA
150
400
200
100
50
25
50
100
200
300
400
500
CG: 137u
_c
50
6490' 177.60° 87.60° 2367.36'

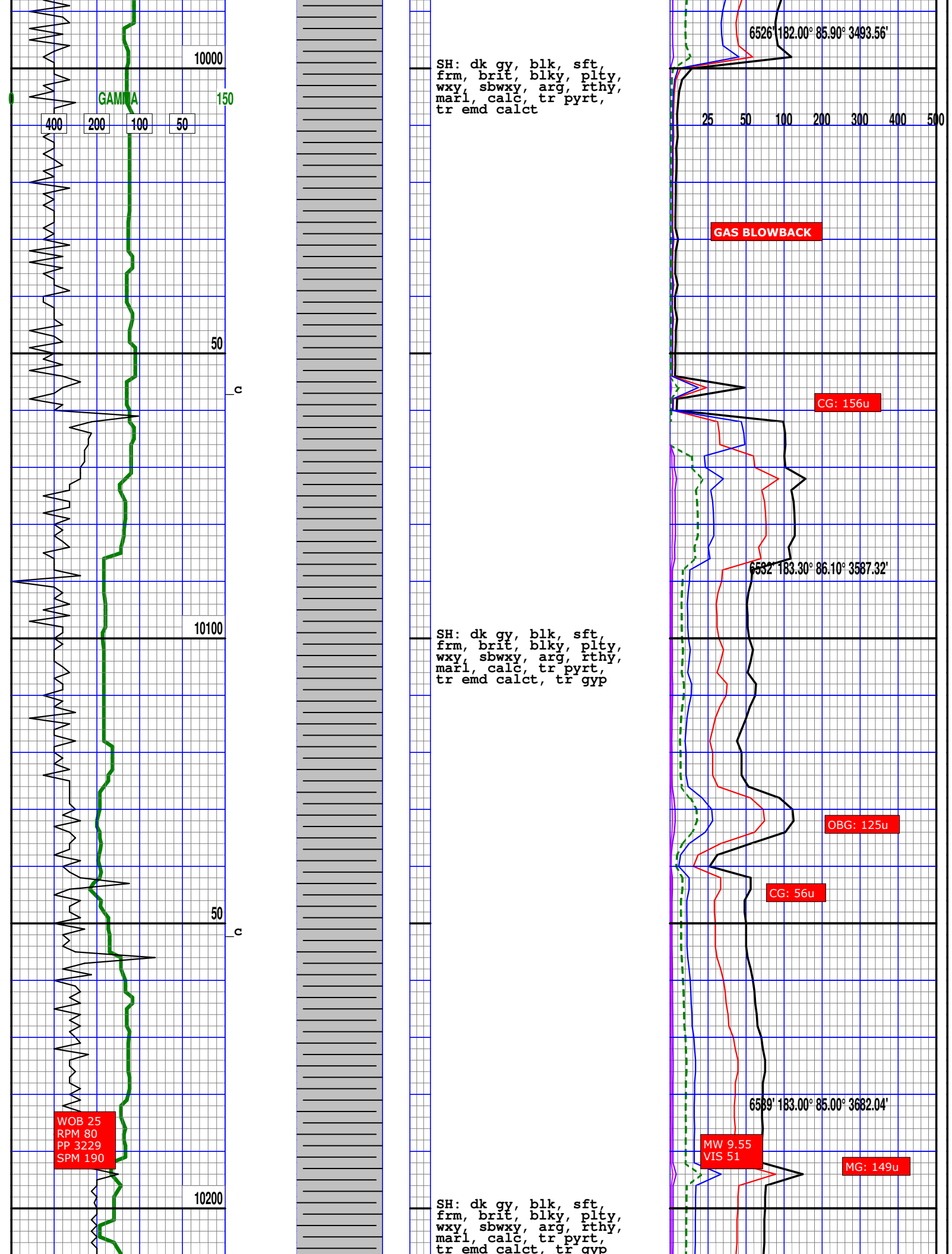

8900
Rig service @8927'
c
50
WOB 24
RPM 80
PP 3059
SPM 206
9000
0
GAMMA
150
400
200
100
50
c
50
9100
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr embd calct, tr pyrt
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr embd calct, tr pyrt
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr embd calct, tr pyrt
CG: 133u
6494' 178.00° 87.40° 2460.90'
MW 9.55
VIS 50
GAS: Blowback & Calibrate
25
50
100
200
300
400
500
6499' 178.20° 87.30° 2554.46'

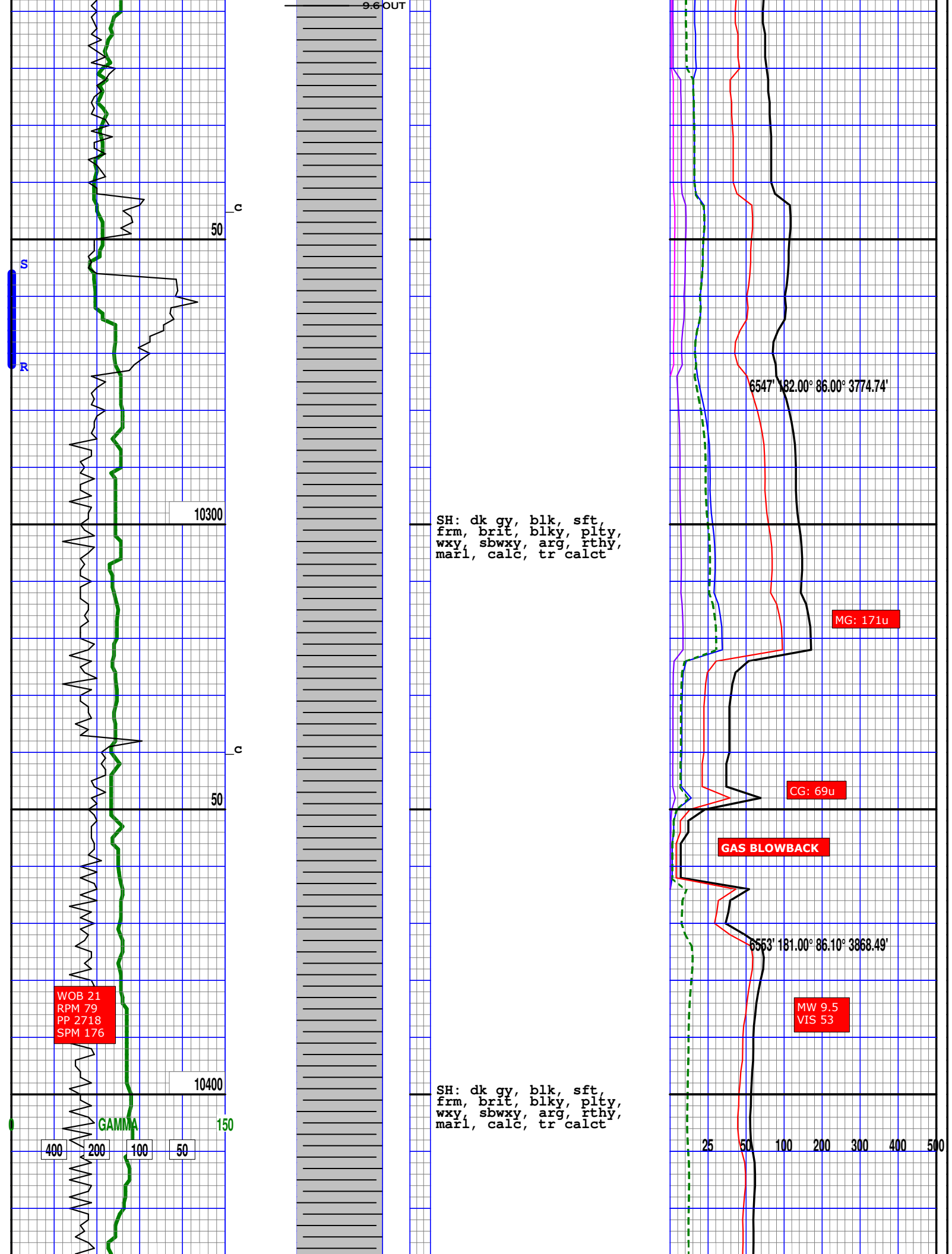

CG: 61u
6503' 178.20° 87.10° 2649.03'
WOB 26
RPM 79
PP 3009
SPM 206
MW 9.55
VIS 51
9200
GAMMA
0
150
400
200
100
50
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr embd calct, tr pyrt
CG: 71u
25
50
300
400
500
S
R
6506' 179.10° 89.60° 2743.72'
50
9300
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr embd calct, tr pyrt
CG: 66u

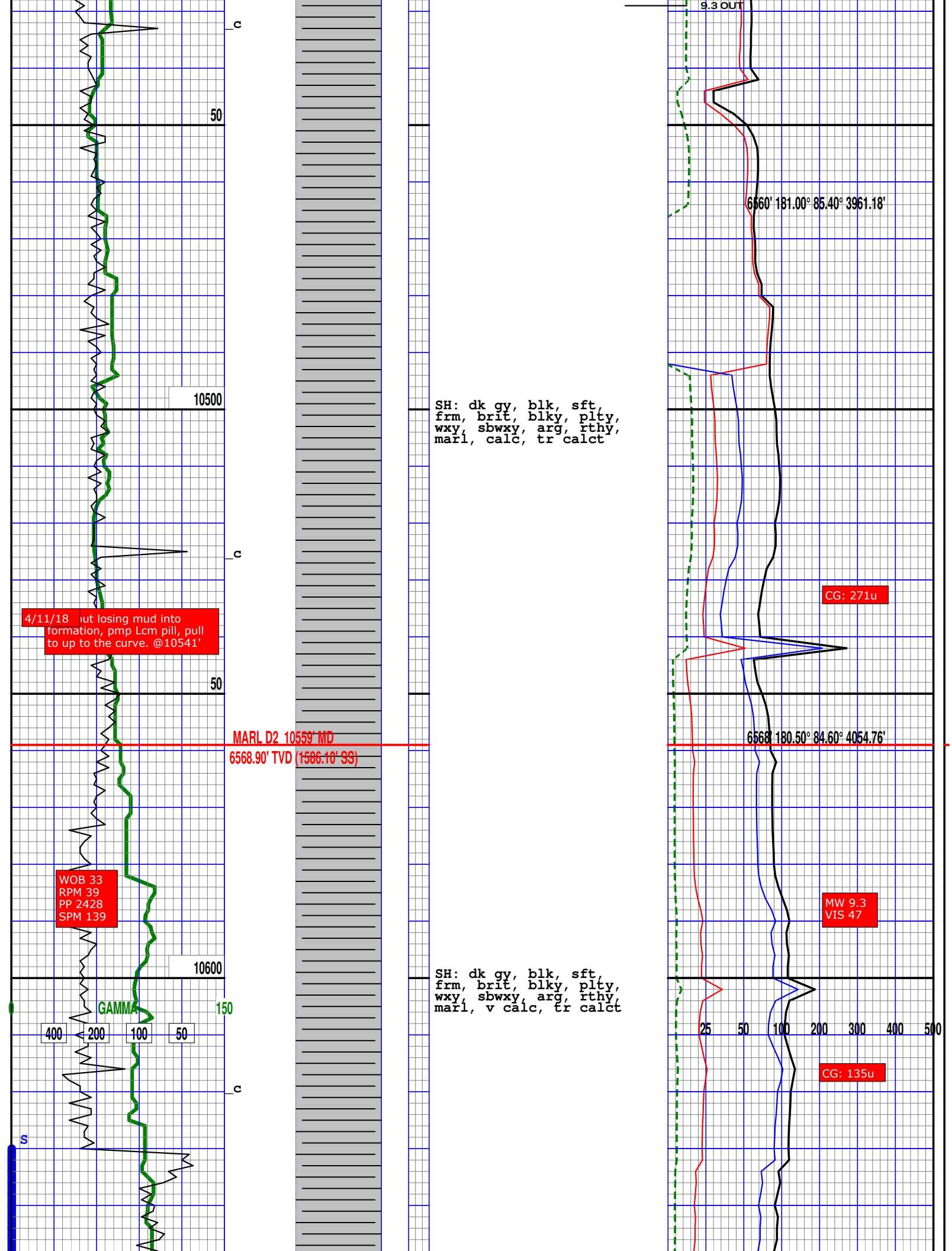

50
WOB 26
RPM 79
PP 3009
SPM 206
9400
c
0
GAMMA
150
400
200
100
50
50
c
9500
S
R
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr embd calcit, tr pyrt
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr embd calcit, tr pyrt
6506' 179.40° 90.20° 2837.53'
MW 9.55
VIS 52
25
50
100
200
300
400
500
6506' 179.10° 89.80° 2831.34'
MG: 335u
CG: 99u
6507' 180.30° 88.80° 3024.18'

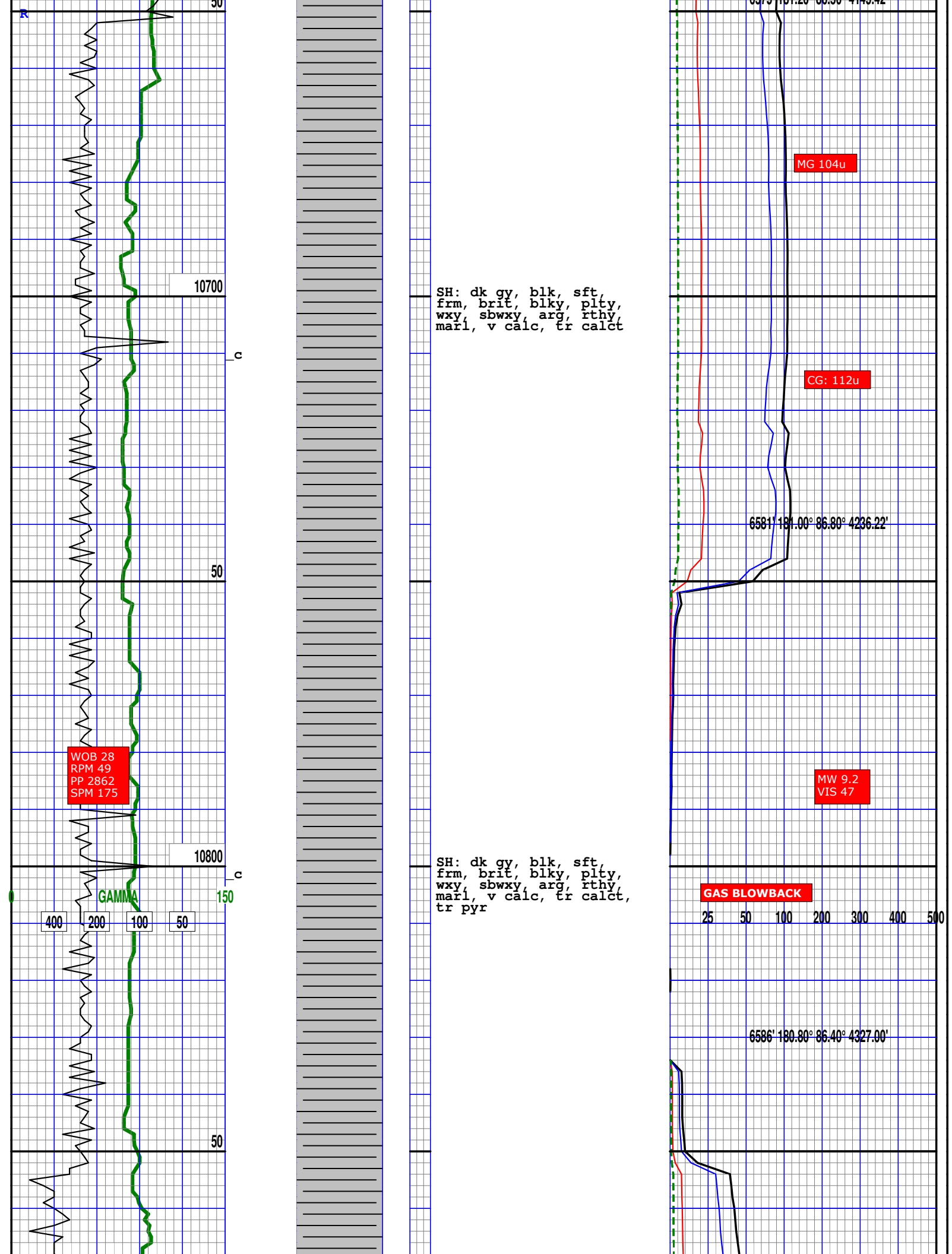

WOB 19
RPM 80
PP 3149
SPM 206
MW 9.55
VIS 51
CG: 84u
CG: 219u
GAMMA
0
150
400
200
100
50
25
50
100
200
300
400
500
9600
9700
50
50
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr pyrt
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr pyrt
CHALK D2 9664' MD
6511.55' TVD (1643.45' SS)
6509' 180.10° 88.50° 3118.05'
6513' 181.50° 87.40° 3210.92'
S
R

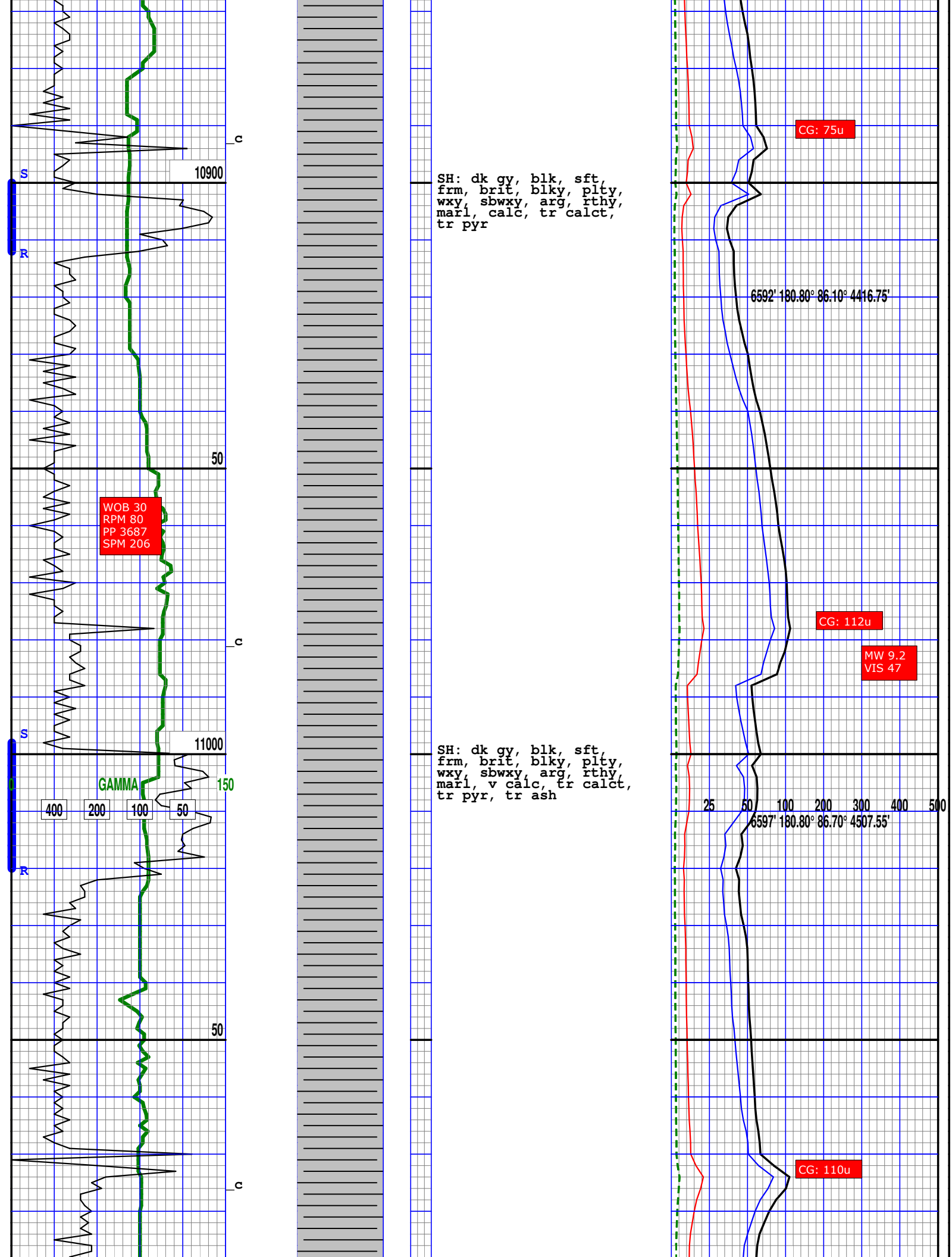

WOB 24
RPM 80
PP 3264
SPM 206
9800
GAMMA
0
150
400
200
100
50
50
c
S
9900
R
50
c
WOB 36
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr pyrt, tr emd calct
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr pyrt, tr emd calct
CG: 157u
MW 9.55
VIS 51
6516' 182.00° 88.70° 3304.85'
25
50
100
200
300
400
500
MG: 89u
CG: 133u
6820' 181.90° 86.90° 3397.76'
MW 9.55
VIS 51

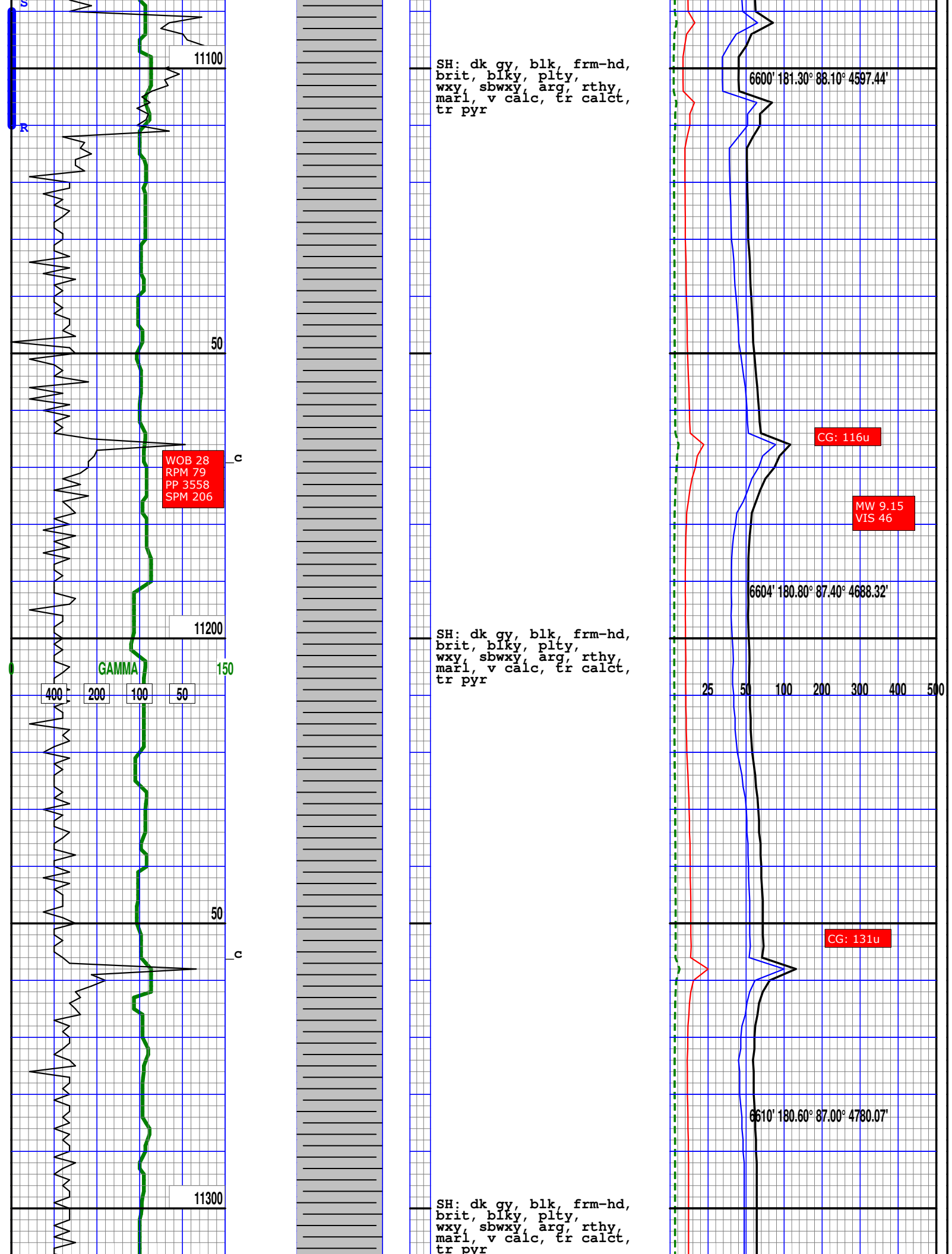

10000
GAMMA
0
150
400
200
100
50
50
c
10100
50
c
10200
WOB 25
RPM 80
PP 3229
SPM 190
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr pyrt, tr emd calct
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr pyrt, tr emd calct, tr gyp
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr pyrt, tr emd calct, tr gyp
6526' 182.00° 85.90° 3493.56'
25
50
100
200
300
400
500
GAS BLOWBACK
CG: 156u
6582' 183.30° 86.10° 3587.32'
OBG: 125u
CG: 56u
6589' 183.00° 85.00° 3682.04'
MW 9.55
VIS 51
MG: 149u

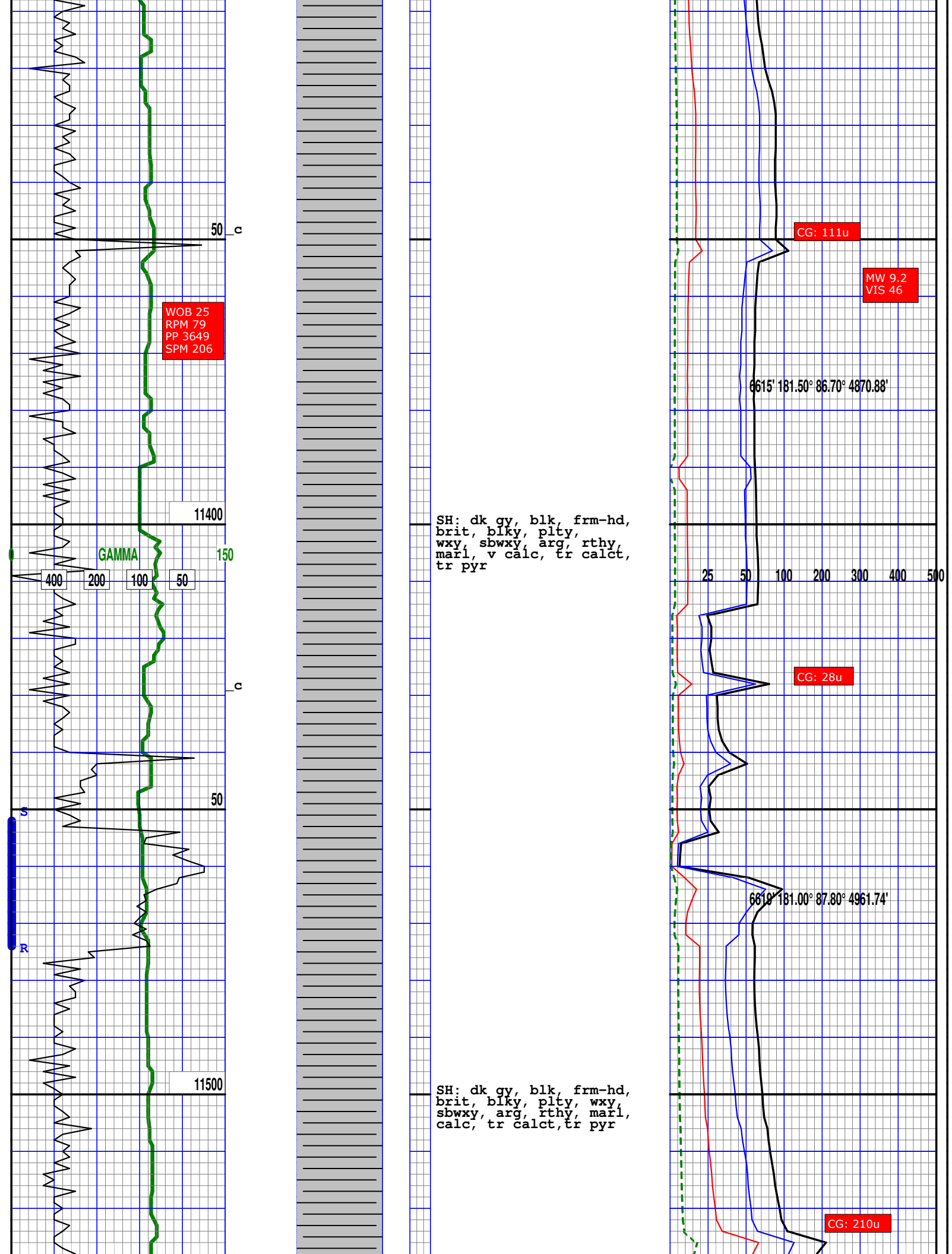

9.6 OUT
C
50
S
R
10300
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr calct
6547' 182.00° 86.00° 3774.74'
MG: 171u
C
50
CG: 69u
GAS BLOWBACK
6563' 181.00° 86.10° 3868.49'
WOB 21
RPM 79
PP 2718
SPM 176
MW 9.5
VIS 53
10400
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr calct
0
GAMMA
150
400
200
100
50
25
50
100
200
300
400
500

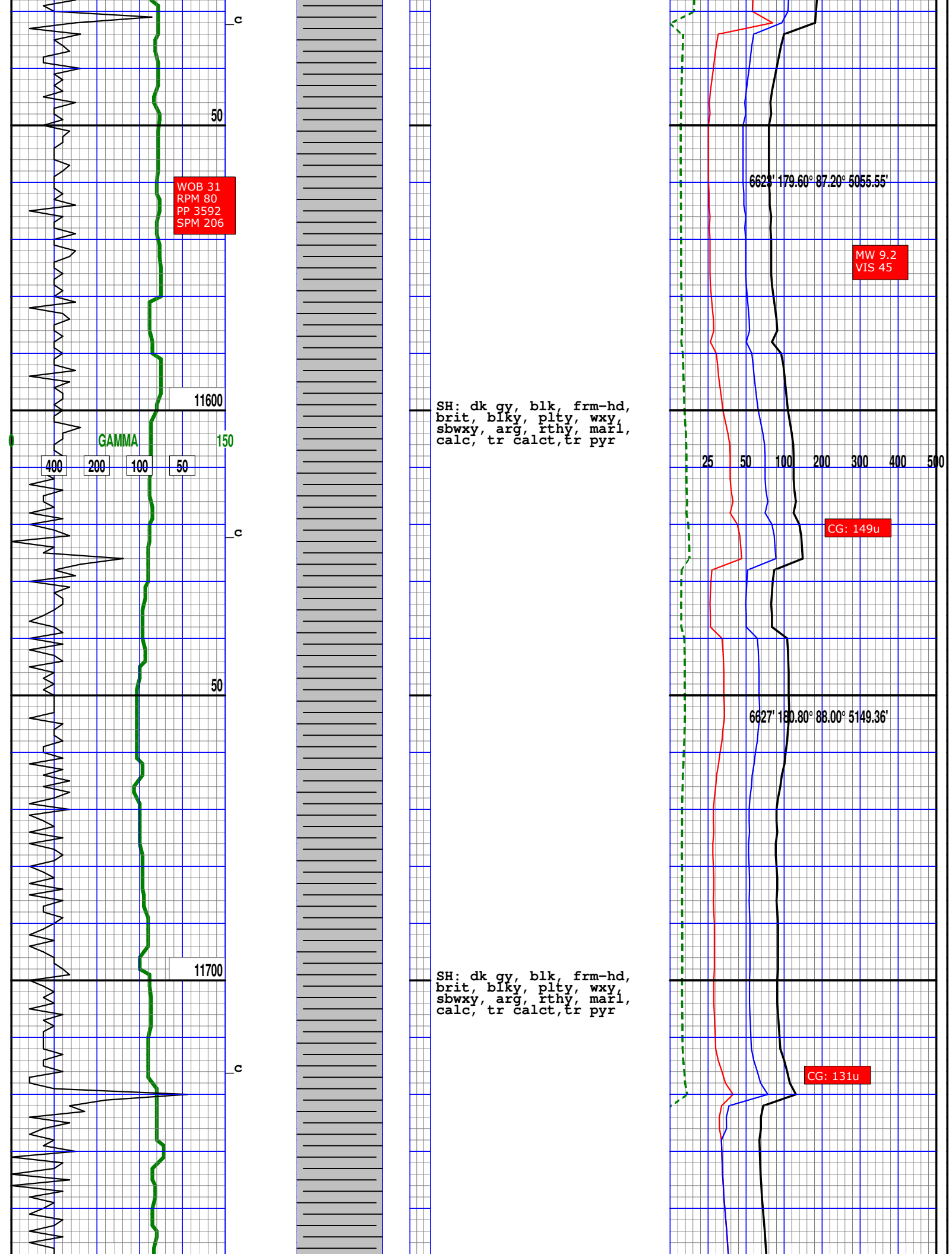

9.3 OUT
6560' 181.00° 85.40° 3961.18'
c
50
10500
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr calct
c
CG: 271u
4/11/18 ut losing mud into formation, pmp Lcm pill, pull to up to the curve. @10541'
50
MARL D2 10559' MD
6568.90' TVD (1586.10' SS)
6568' 180.50° 84.60° 4054.76'
WOB 33
RPM 39
PP 2428
SPM 139
MW 9.3
VIS 47
10600
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, v calc, tr calct
0
GAMMA
150
400
200
100
50
25
50
100
200
300
400
500
CG: 135u
c
S

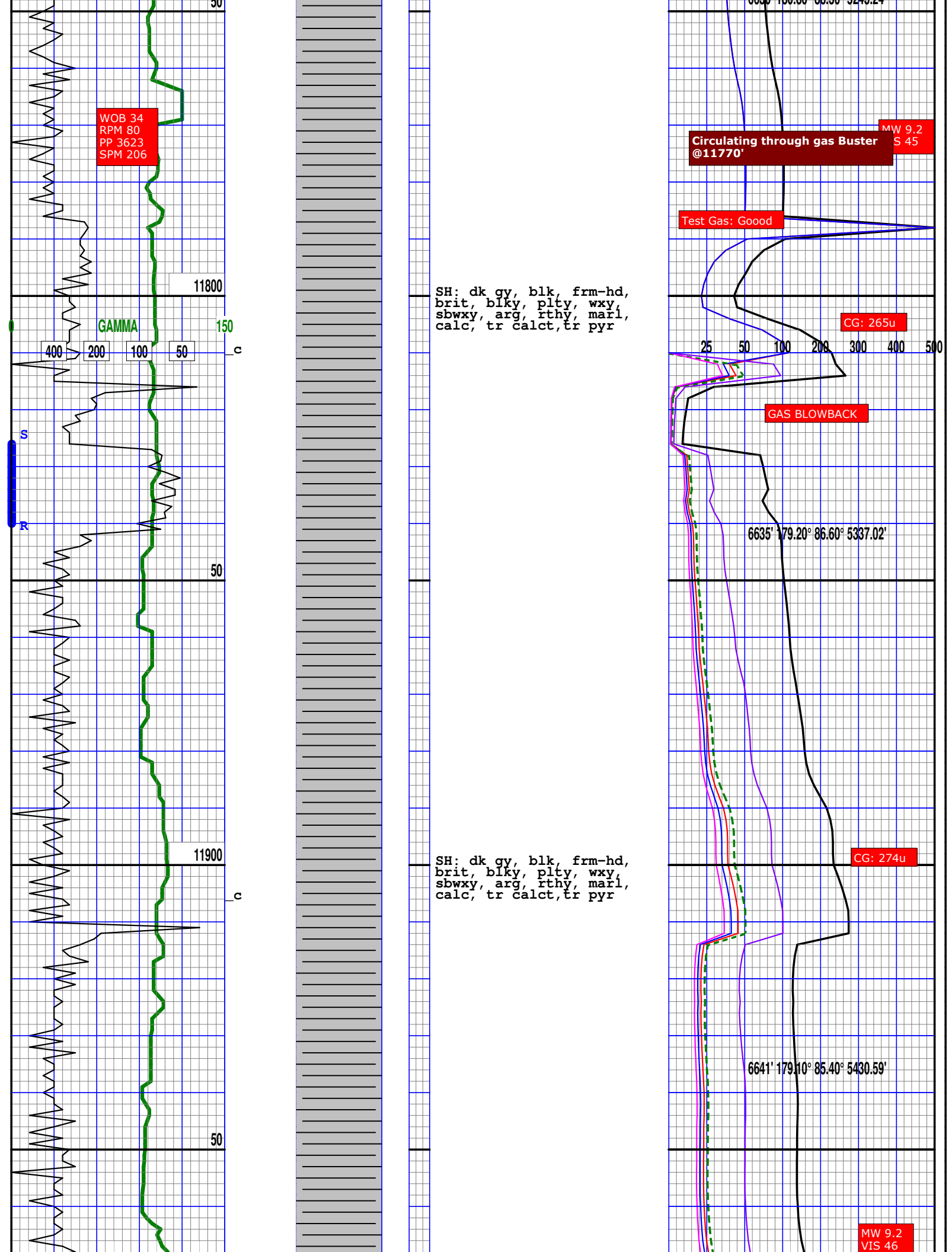

R
50
10700
c
50
WOB 28
RPM 49
PP 2862
SPM 175
10800
c
0
GAMMA
150
400
200
100
50
50
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, v calc, tr calct
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, v calc, tr calct, tr pyr
MG 104u
CG: 112u
6581' 181.00° 86.80° 4236.22'
MW 9.2
VIS 47
GAS BLOWBACK
25
50
100
200
300
400
500
6586' 180.80° 86.40° 4327.00'

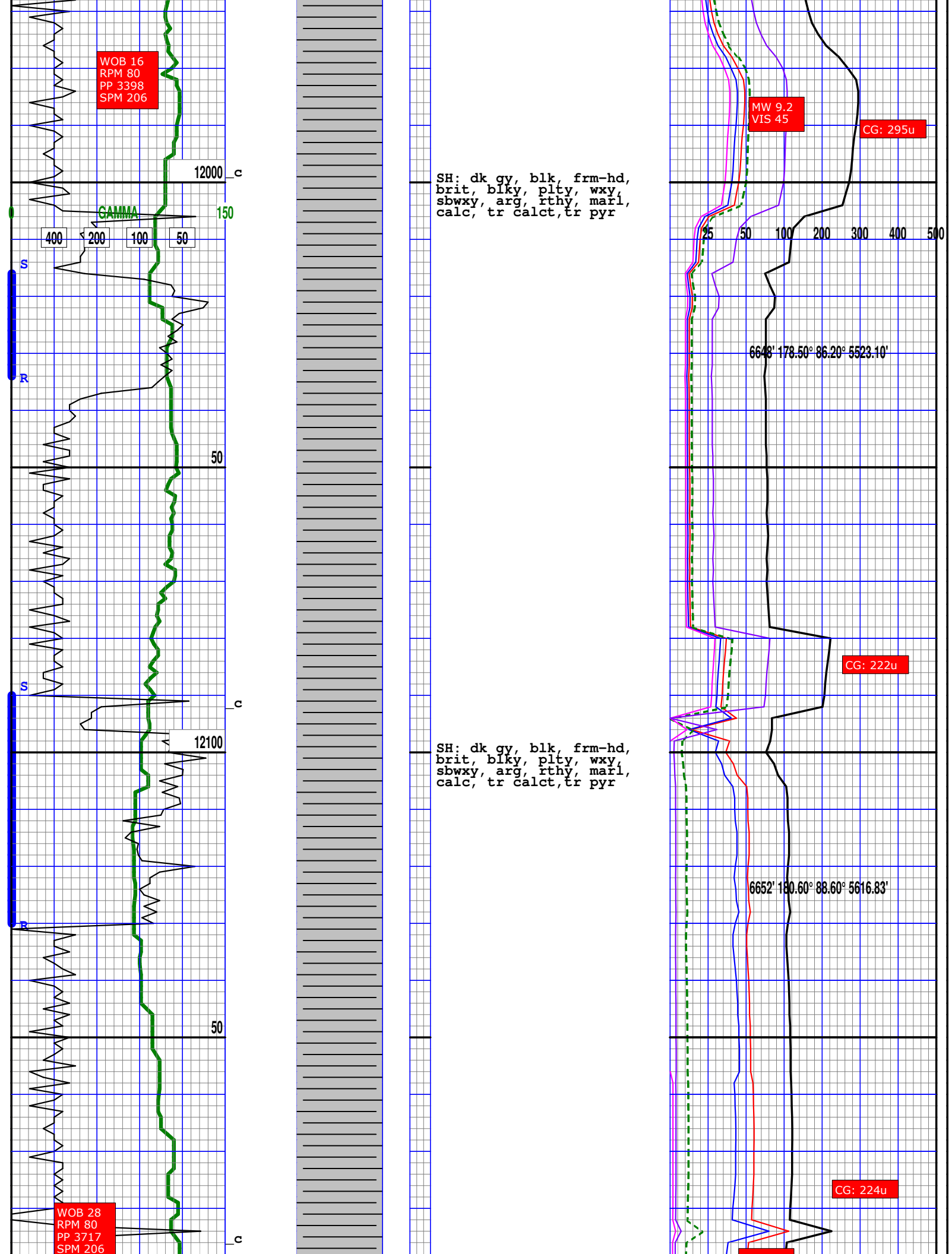

10900
50
11000
50
GAMMA
150
400
200
100
50
WOB 30
RPM 80
PP 3687
SPM 206
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr calct, tr pyr
SH: dk gy, blk, sft, frm, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, v calc, tr calct, tr pyr, tr ash
CG: 75u
6592' 180.80° 86.10° 4416.75'
CG: 112u
MW 9.2
VIS 47
25
50
100
200
300
400
500
6597' 180.80° 86.70° 4507.55'
CG: 110u

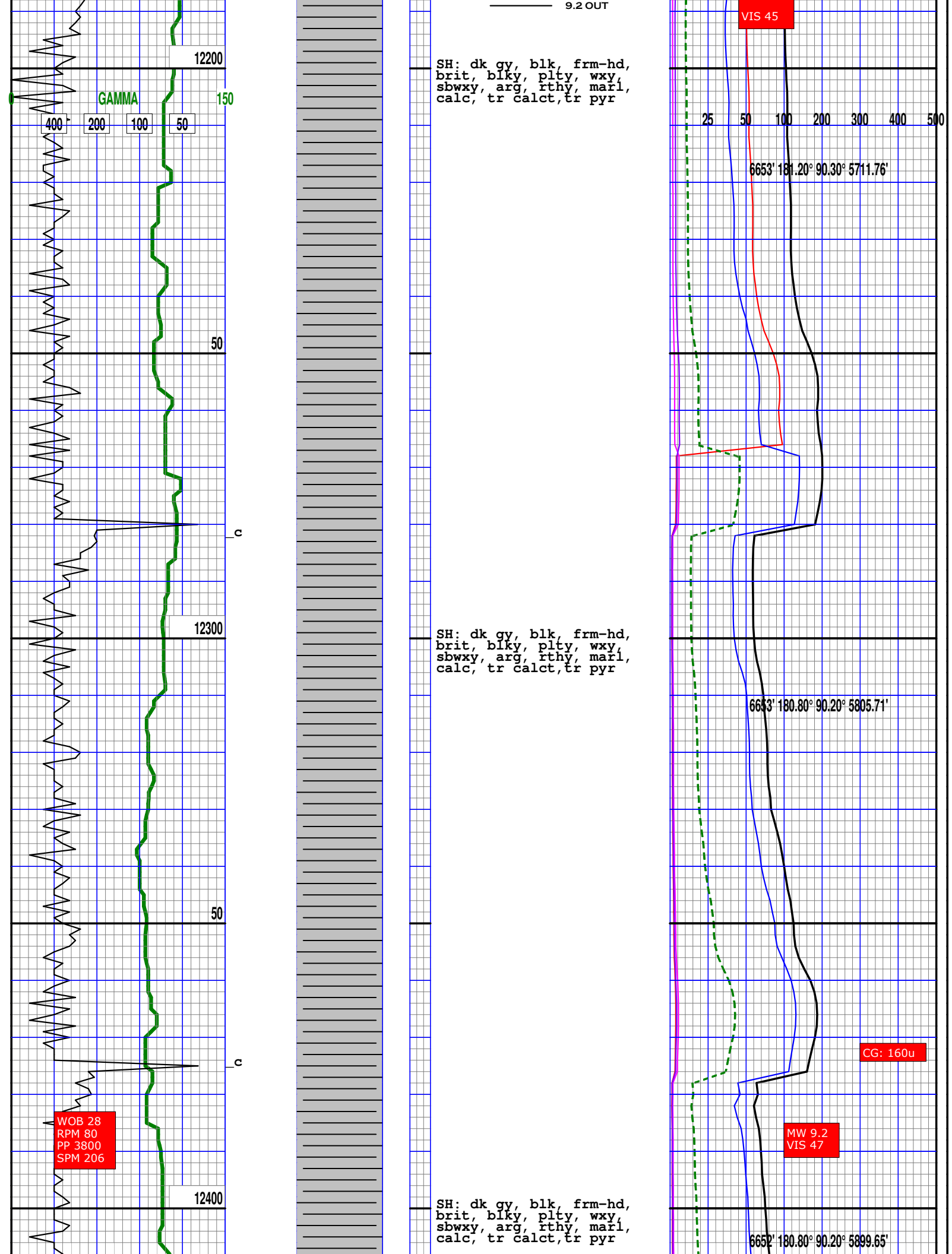

11100
50
WOB 28
RPM 79
PP 3558
SPM 206
C
11200
GAMMA
0
150
400
200
100
50
50
C
11300
SH: dk gy, blk, frm-hd, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, v calc, tr calct, tr pyr
SH: dk gy, blk, frm-hd, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, v calc, tr calct, tr pyr
SH: dk gy, blk, frm-hd, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, v calc, tr calct, tr pyr
6600' 181.30° 88.10° 4597.44'
CG: 116u
MW 9.15
VIS 46
6604' 180.80° 87.40° 4688.32'
25
50
100
200
300
400
500
CG: 131u
6610' 180.60° 87.00° 4780.07'

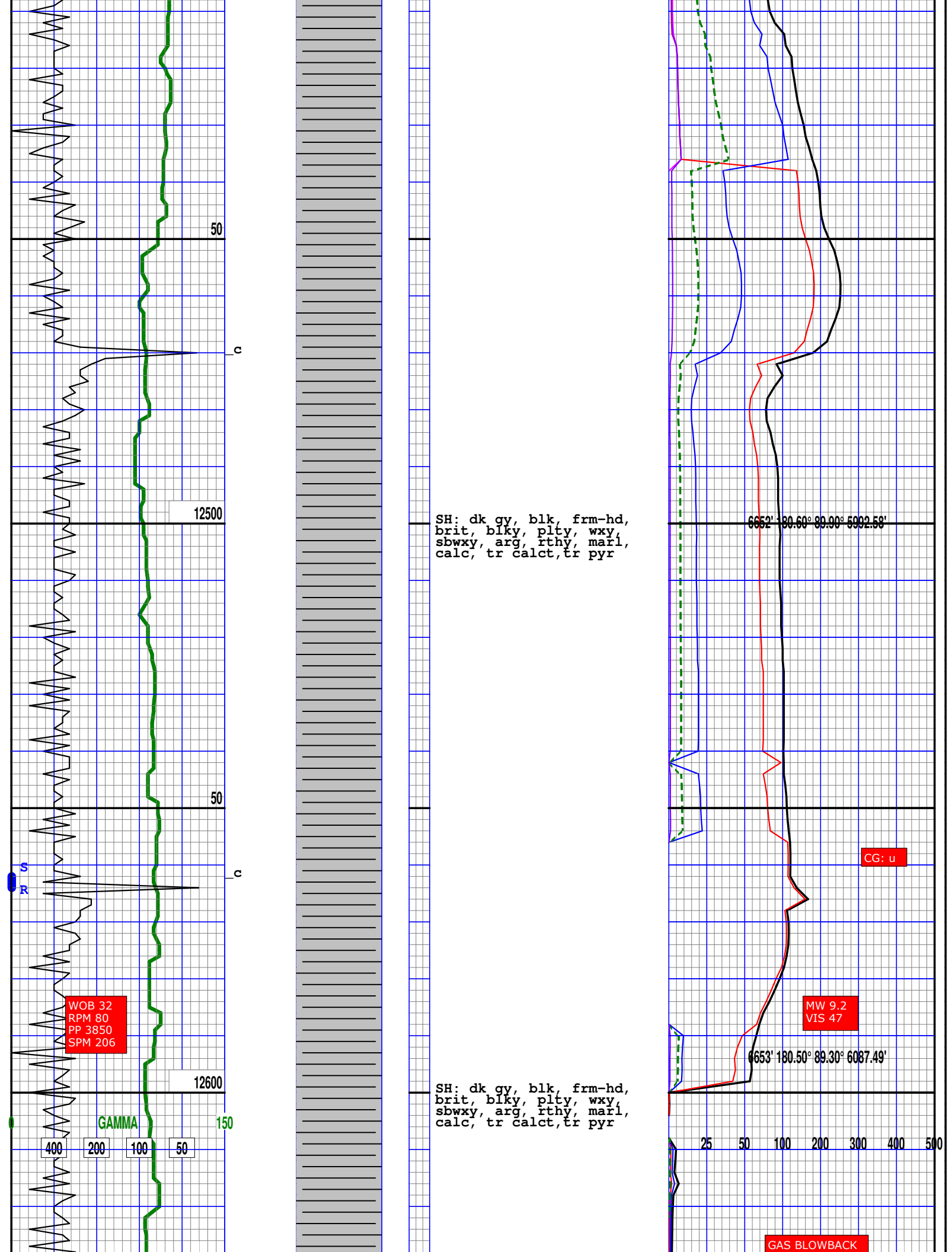

50
c
WOB 25
RPM 79
PP 3649
SPM 206
11400
GAMMA
0
150
400
200
100
50
c
50
S
R
11500
SH: dk gy, blk, frm-hd, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, v calc, tr calct, tr pyr
SH: dk gy, blk, frm-hd, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr calct,tr pyr
CG: 111u
MW 9.2
VIS 46
6615' 181.50° 86.70° 4870.88'
25
50
100
200
300
400
500
CG: 28u
6619' 181.00° 87.80° 4961.74'
CG: 210u

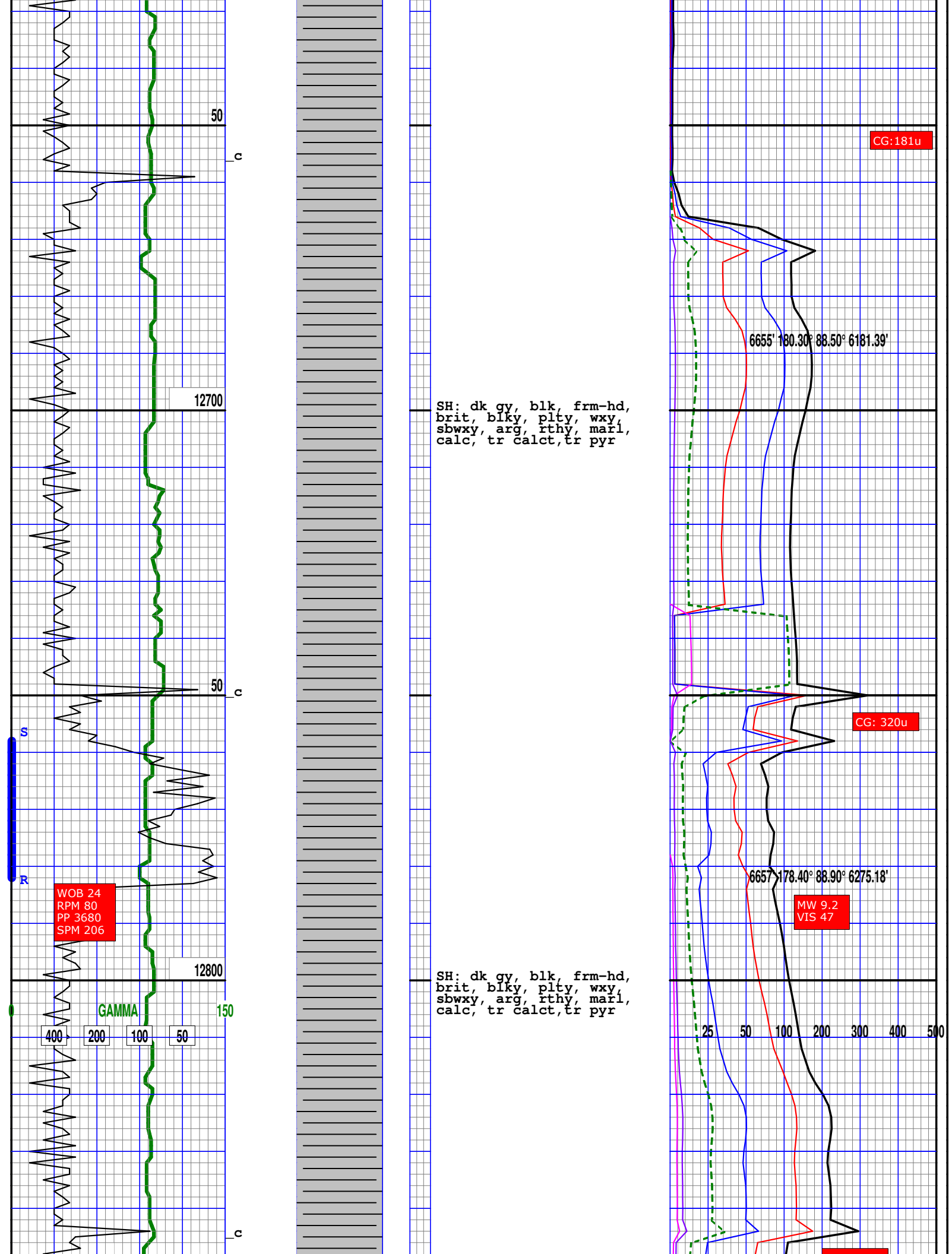

c
50
WOB 31
RPM 80
PP 3592
SPM 206
11600
GAMMA
0
150
400
200
100
50
c
50
11700
c
SH: dk gy, blk, frm-hd, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr calct,tr pyr
SH: dk gy, blk, frm-hd, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr calct,tr pyr
6623' 179.60° 87.20° 5055.55'
MW 9.2
VIS 45
25
50
100
200
300
400
500
CG: 149u
6627' 180.80° 88.00° 5149.36'
CG: 131u

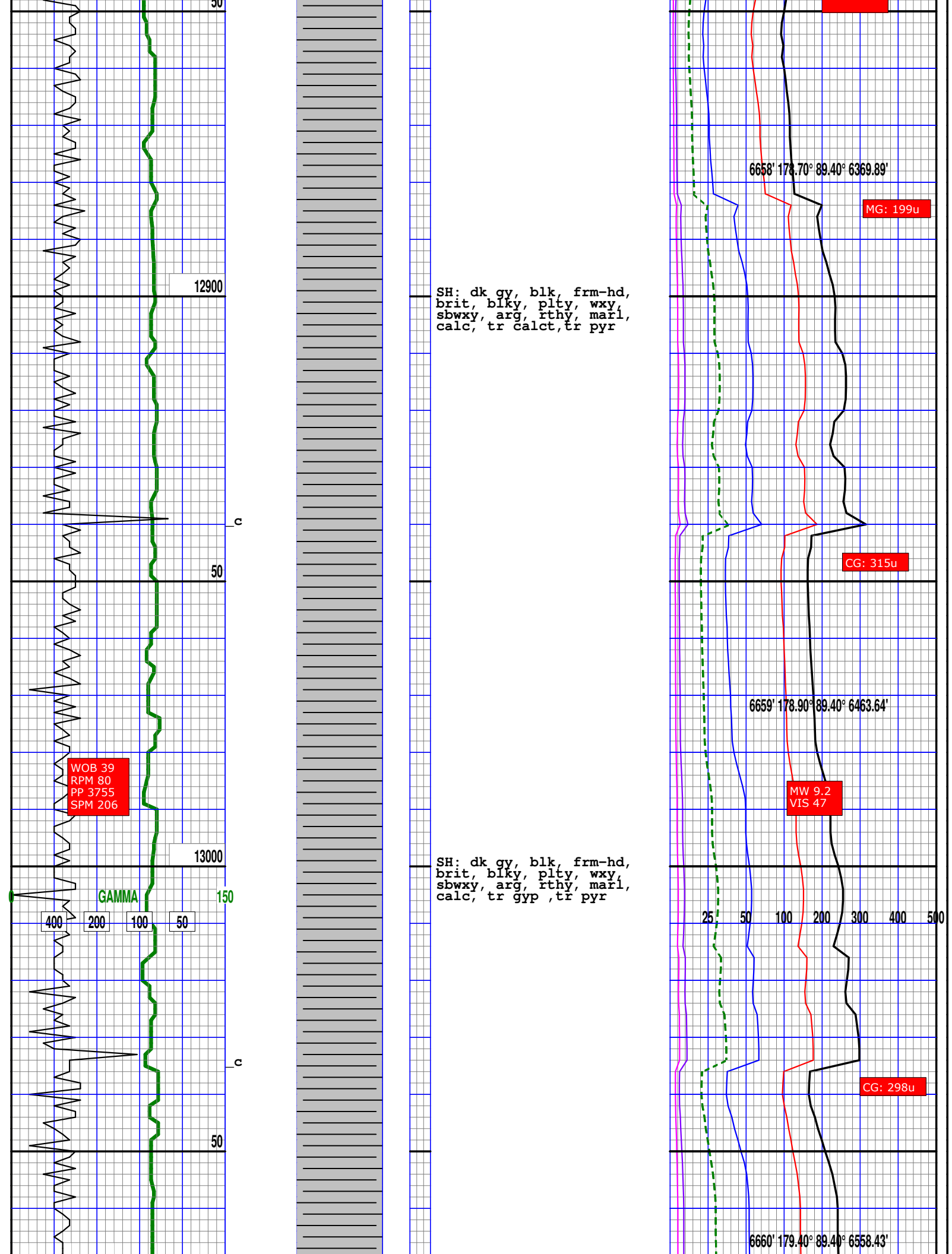

WOB 34
RPM 80
PP 3623
SPM 206
50
11800
GAMMA
0
150
400
200
100
50
C
S
R
50
11900
C
50
SH: dk gy, blk, frm-hd, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr calct,tr pyr
SH: dk gy, blk, frm-hd, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr calct,tr pyr
MW 9.2
S 45
Circulating through gas Buster @11770'
Test Gas: Goood
CG: 265u
25
50
100
200
300
400
500
GAS BLOWBACK
6635' 179.20° 86.60° 5337.02'
CG: 274u
6641' 179.10° 85.40° 5430.59'
MW 9.2
VIS 46

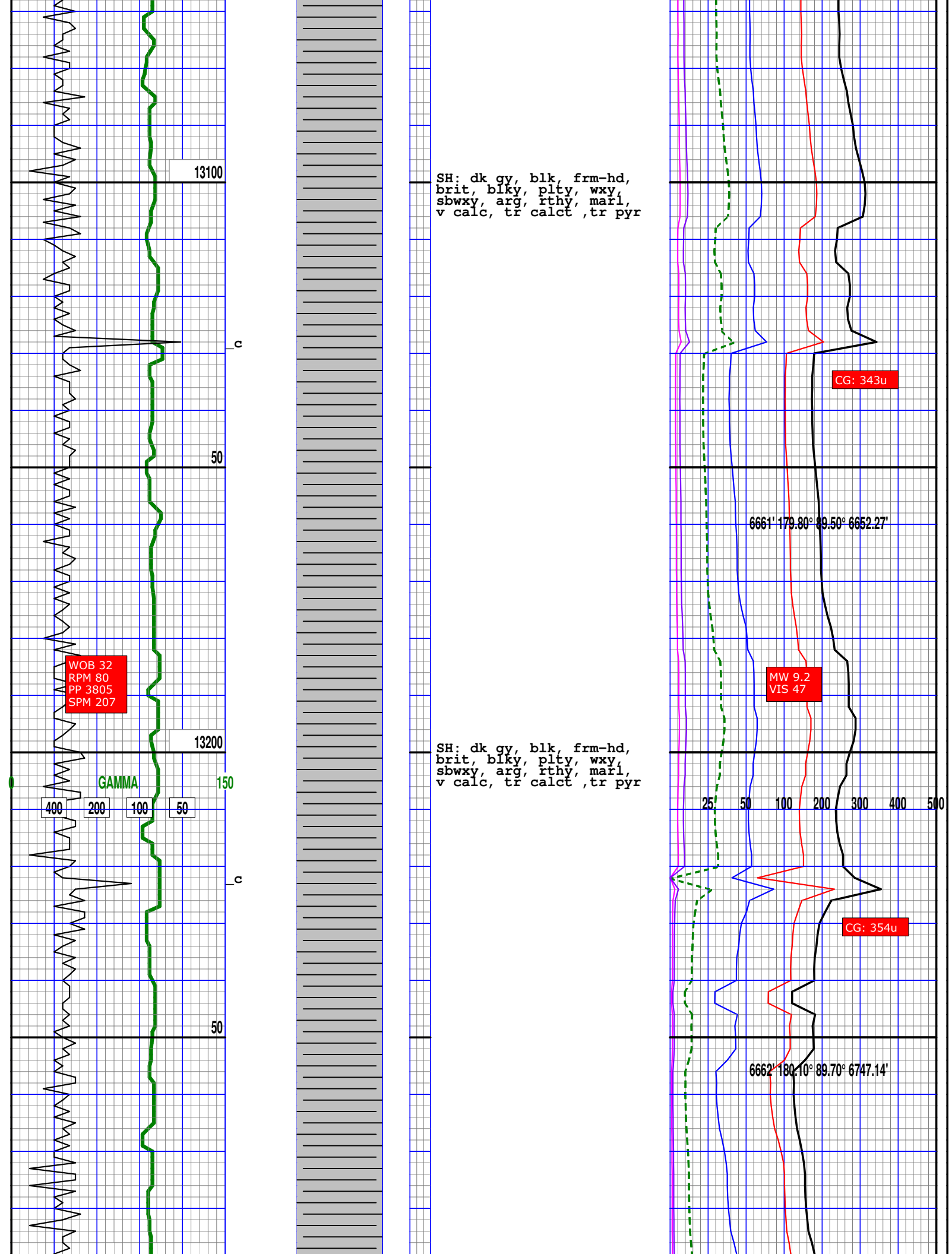

WOB 16
RPM 80
PP 3398
SPM 206
12000
c
0
GAMMA
150
400
200
100
50
S
R
50
S
c
12100
R
50
WOB 28
RPM 80
PP 3717
SPM 206
c
SH: dk gy, blk, frm-hd, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr calct,tr pyr
SH: dk gy, blk, frm-hd, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr calct,tr pyr
MW 9.2
VIS 45
CG: 295u
25
50
100
200
300
400
500
6648' 178.50° 86.20° 5523.10'
CG: 222u
6652' 180.60° 88.60° 5616.83'
CG: 224u

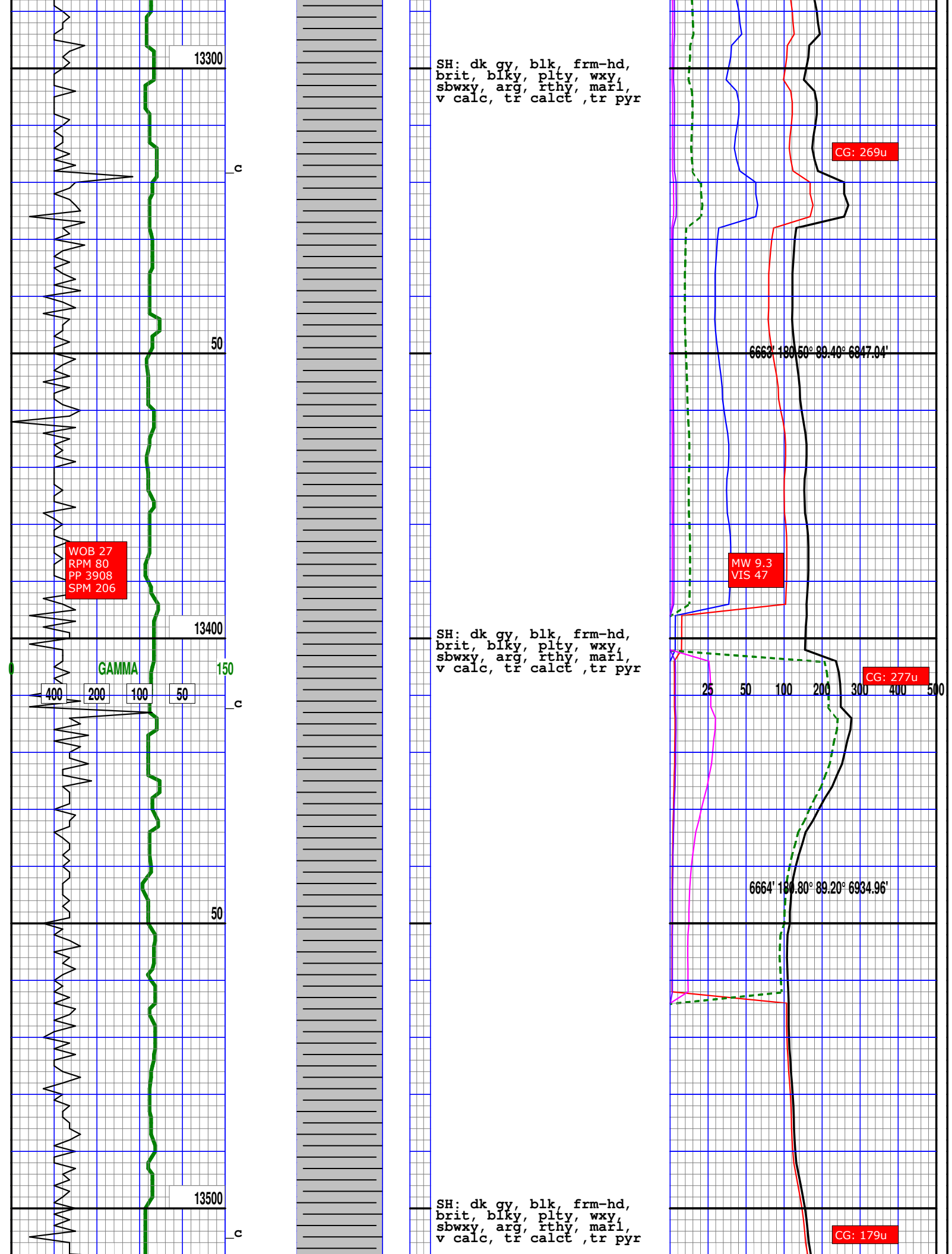

9.2 OUT
VIS 45
12200
GAMMA
0
150
400
200
100
50
25
50
100
200
300
400
500
SH: dk gy, blk, frm-hd, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr calct,tr pyr
6653' 181.20° 90.30° 5711.76'
50
c
12300
SH: dk gy, blk, frm-hd, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr calct,tr pyr
6653' 180.80° 90.20° 5805.71'
50
c
CG: 160u
WOB 28
RPM 80
PP 3800
SPM 206
MW 9.2
VIS 47
12400
SH: dk gy, blk, frm-hd, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr calct,tr pyr
6652' 180.80° 90.20° 5899.65'

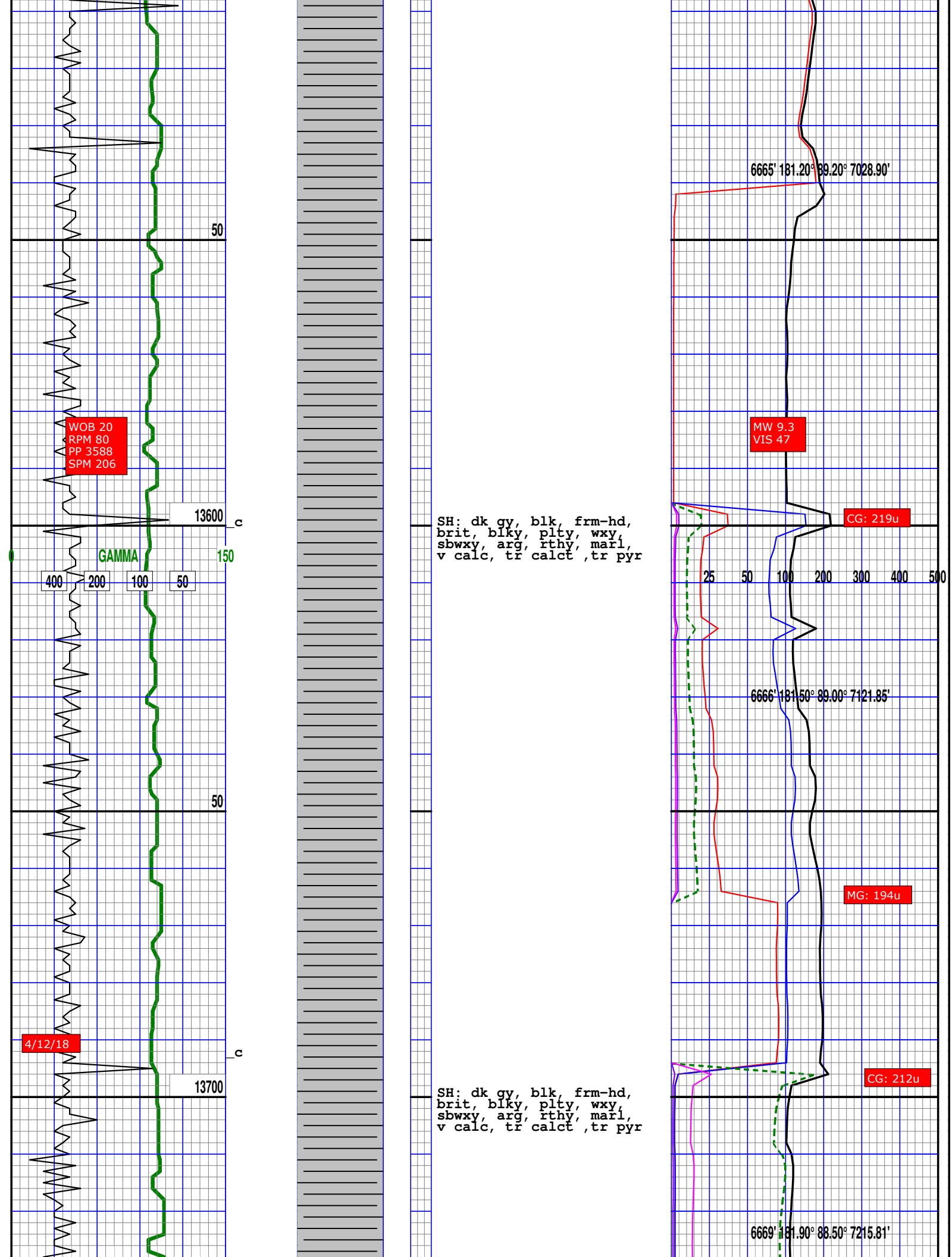

50
12500
50
12600
S
R
WOB 32
RPM 80
PP 3850
SPM 206
0
GAMMA
150
400
200
100
50
SH: dk gy, blk, frm-hd, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr calct,tr pyr
6652' 180.60° 89.90° 5992.58'
CG: u
MW 9.2
VIS 47
6653' 180.50° 89.30° 6087.49'
SH: dk gy, blk, frm-hd, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr calct,tr pyr
25
50
100
200
300
400
500
GAS BLOWBACK

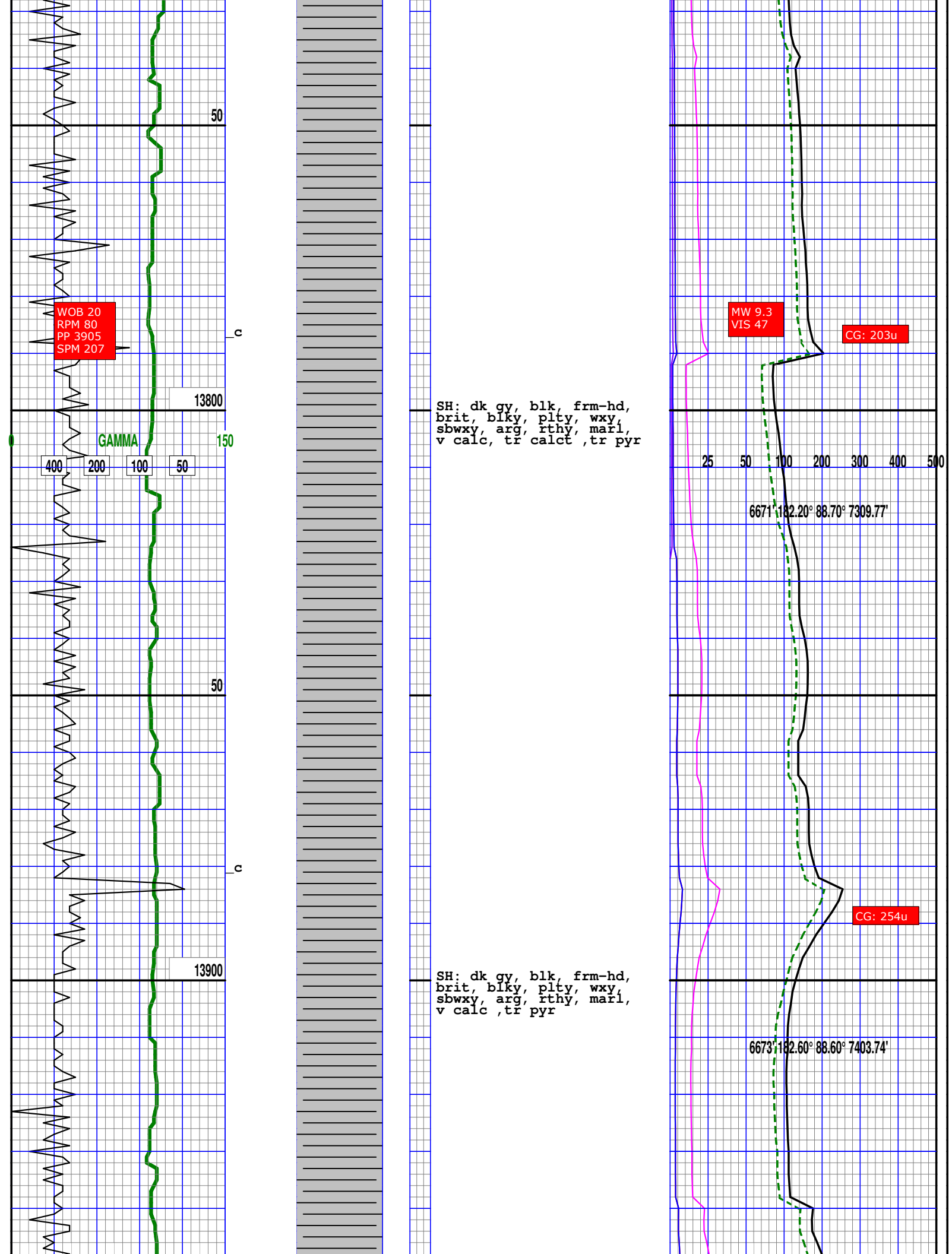

50
C
12700
50
C
S
R
WOB 24
RPM 80
PP 3680
SPM 206
12800
0
GAMMA
150
400
200
100
50
C
SH: dk gy, blk, frm-hd, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr calct,tr pyr
SH: dk gy, blk, frm-hd, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr calct,tr pyr
CG:181u
6655' 180.30° 88.50° 6181.39'
CG: 320u
6657' 178.40° 88.90° 6275.18'
MW 9.2
VIS 47
25
50
100
200
300
400
500

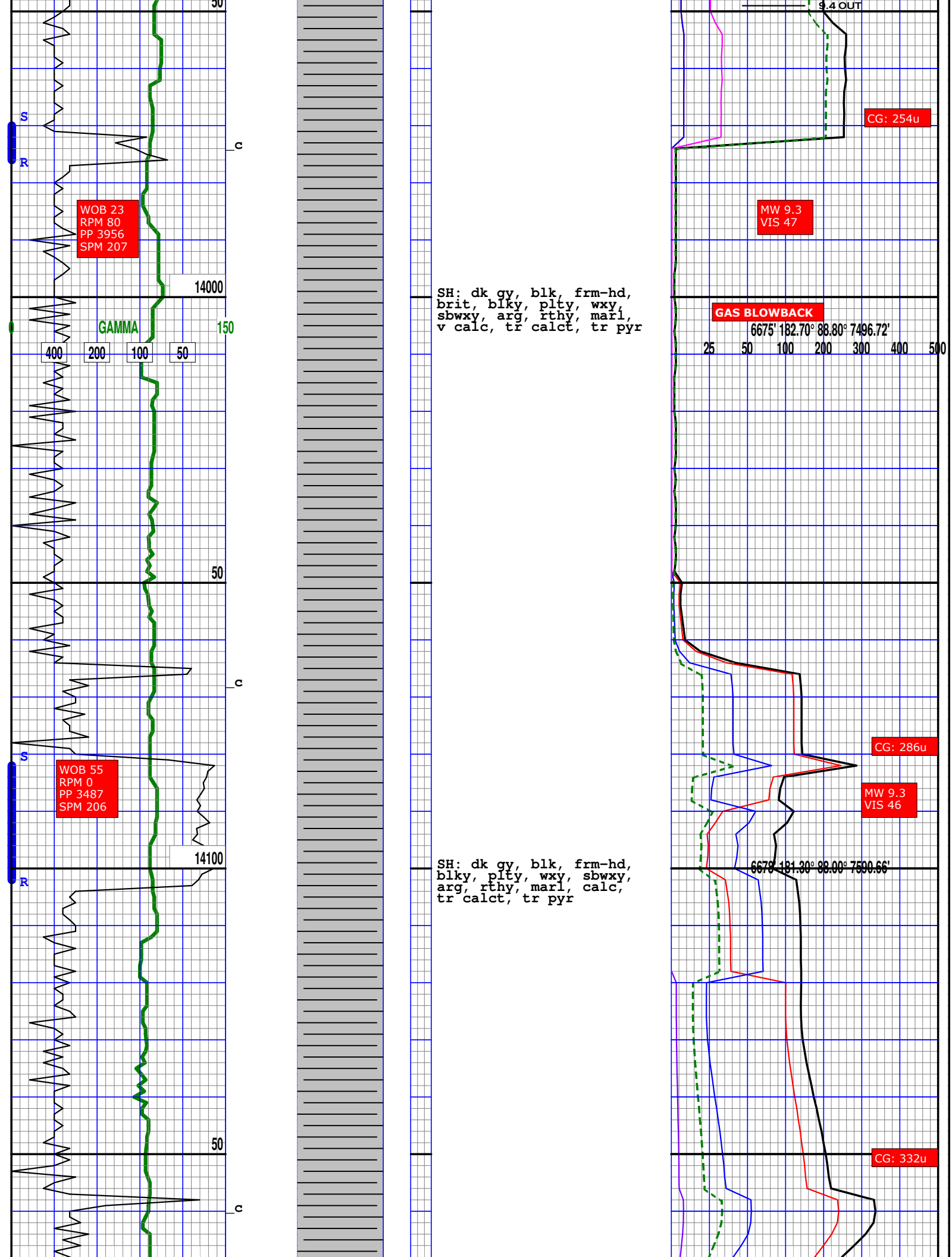

50
12900
c
50
WOB 39
RPM 80
PP 3755
SPM 206
13000
0
GAMMA
150
400
200
100
50
c
50
SH: dk gy, blk, frm-hd, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr calct,tr pyr
SH: dk gy, blk, frm-hd, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr gyp ,tr pyr
6658' 178.70° 89.40° 6369.89'
MG: 199u
CG: 315u
6659' 178.90° 89.40° 6463.64'
MW 9.2
VIS 47
25
50
100
200
300
400
500
CG: 298u
6660' 179.40° 89.40° 6558.43'

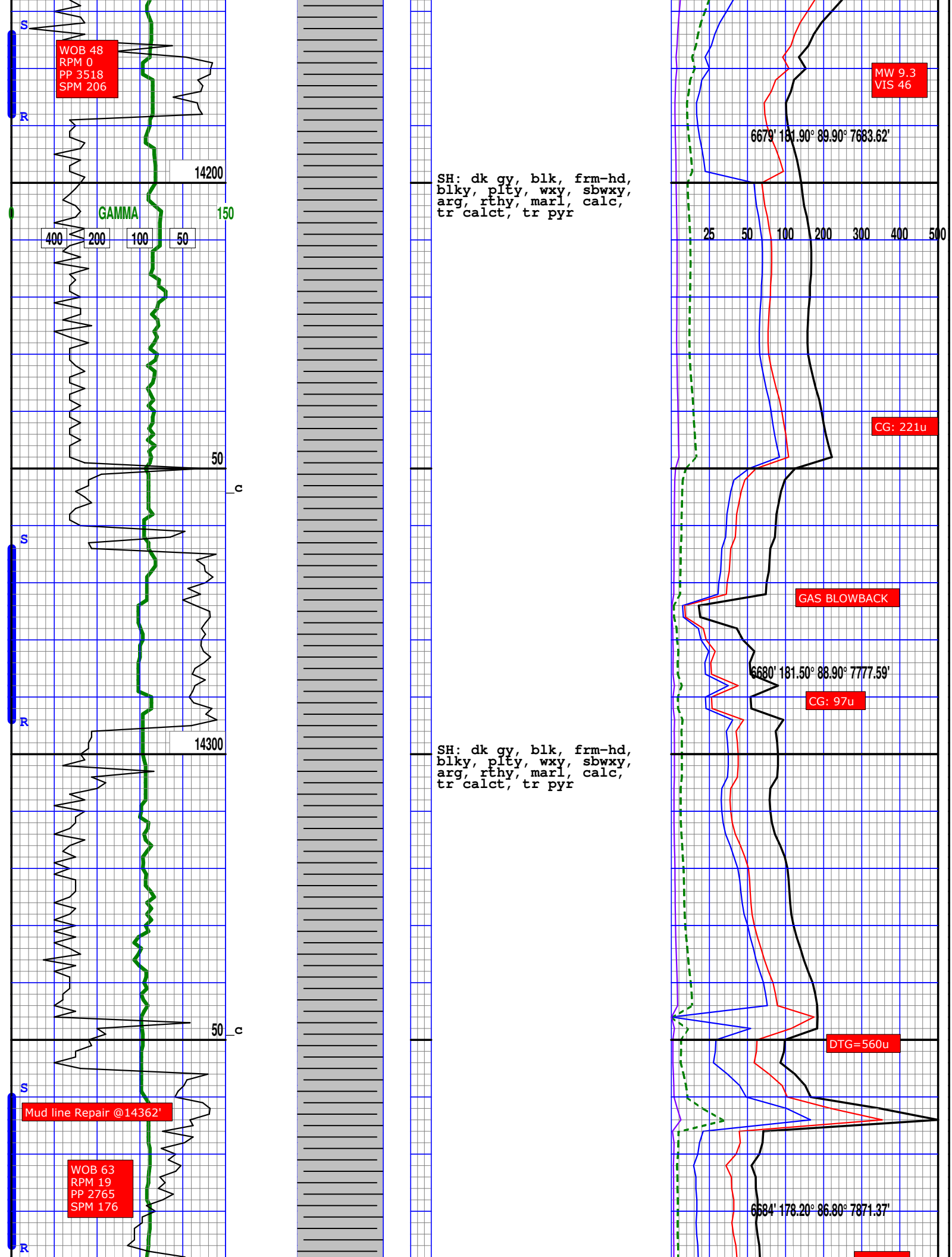

13100
50
13200
50
GAMMA
0
150
400
200
100
50
WOB 32
RPM 80
PP 3805
SPM 207
SH: dk gy, blk, frm-hd, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, v calc, tr calct ,tr pyr
SH: dk gy, blk, frm-hd, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, v calc, tr calct ,tr pyr
CG: 343u
6661' 179.80° 89.50° 6652.27'
MW 9.2
VIS 47
25
50
100
200
300
400
500
CG: 354u
6662' 180.10° 89.70° 6747.14'

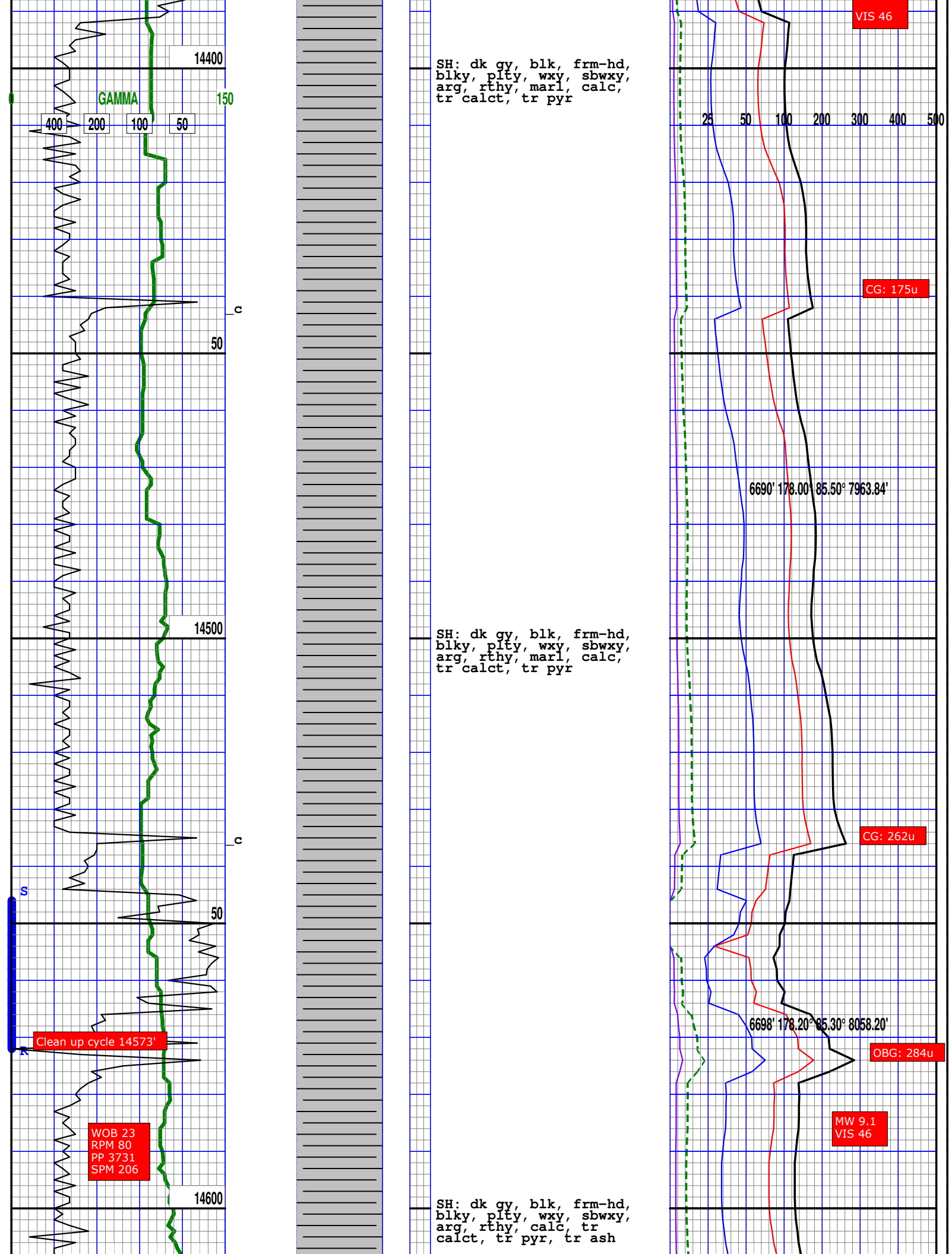

13300
50
13400
50
13500
GAMMA
0
150
400
200
100
50
WOB 27
RPM 80
PP 3908
SPM 206
SH: dk gy, blk, frm-hd, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, v calc, tr calct ,tr pyr
SH: dk gy, blk, frm-hd, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, v calc, tr calct ,tr pyr
SH: dk gy, blk, frm-hd, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, v calc, tr calct ,tr pyr
CG: 269u
6663' 180.50° 89.40° 6847.04'
MW 9.3
VIS 47
CG: 277u
25
50
100
200
300
400
500
6664' 180.80° 89.20° 6934.96'
CG: 179u

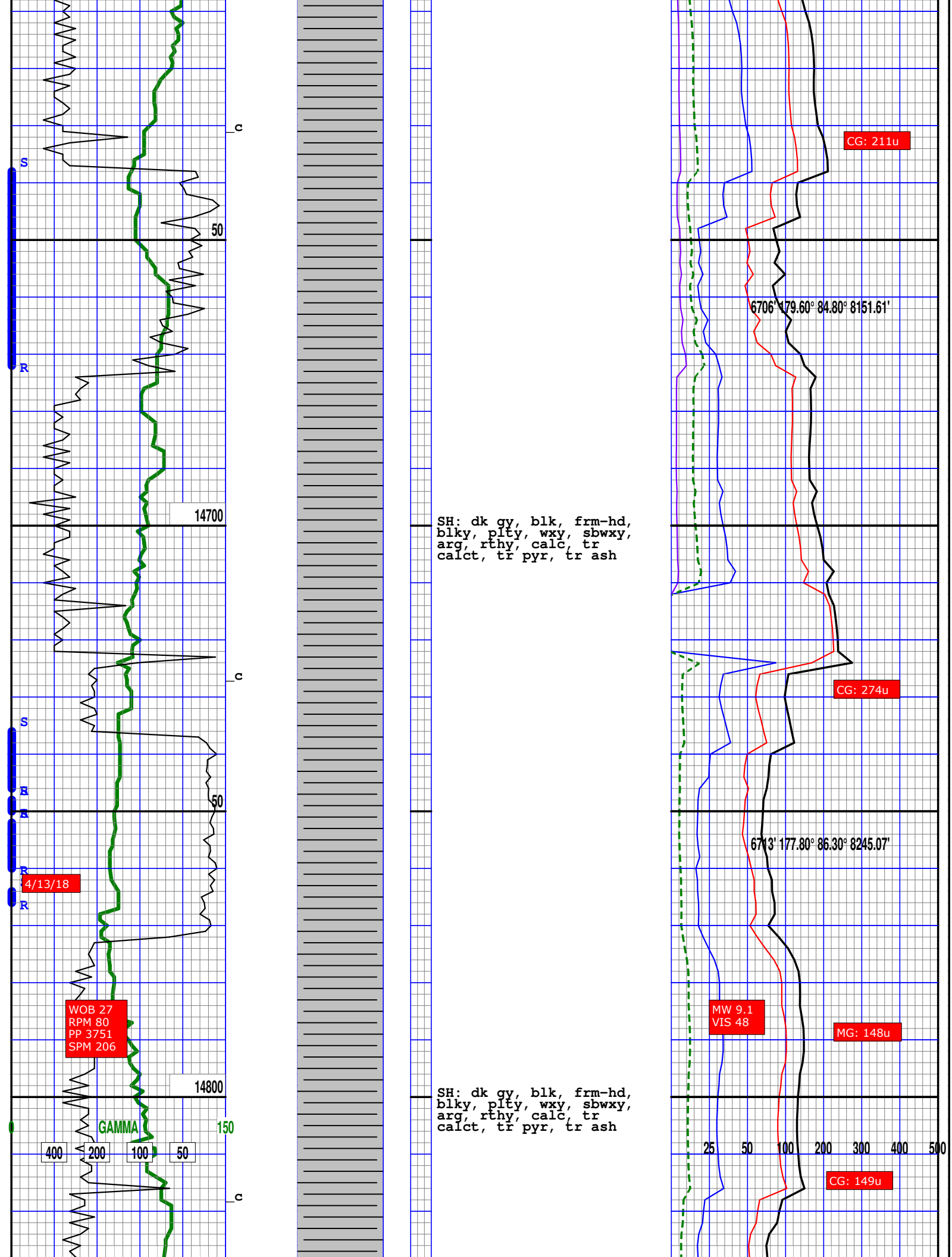

50
WOB 20
RPM 80
PP 3588
SPM 206
13600
c
0
GAMMA
150
400
200
100
50
SH: dk gy, blk, frm-hd, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, v calc, tr calct ,tr pyr
6665' 181.20° 89.20° 7028.90'
MW 9.3
VIS 47
CG: 219u
25
50
100
200
300
400
500
6666' 181.50° 89.00° 7121.85'
50
MG: 194u
4/12/18
c
13700
SH: dk gy, blk, frm-hd, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, v calc, tr calct ,tr pyr
CG: 212u
6669' 181.90° 88.50° 7215.81'

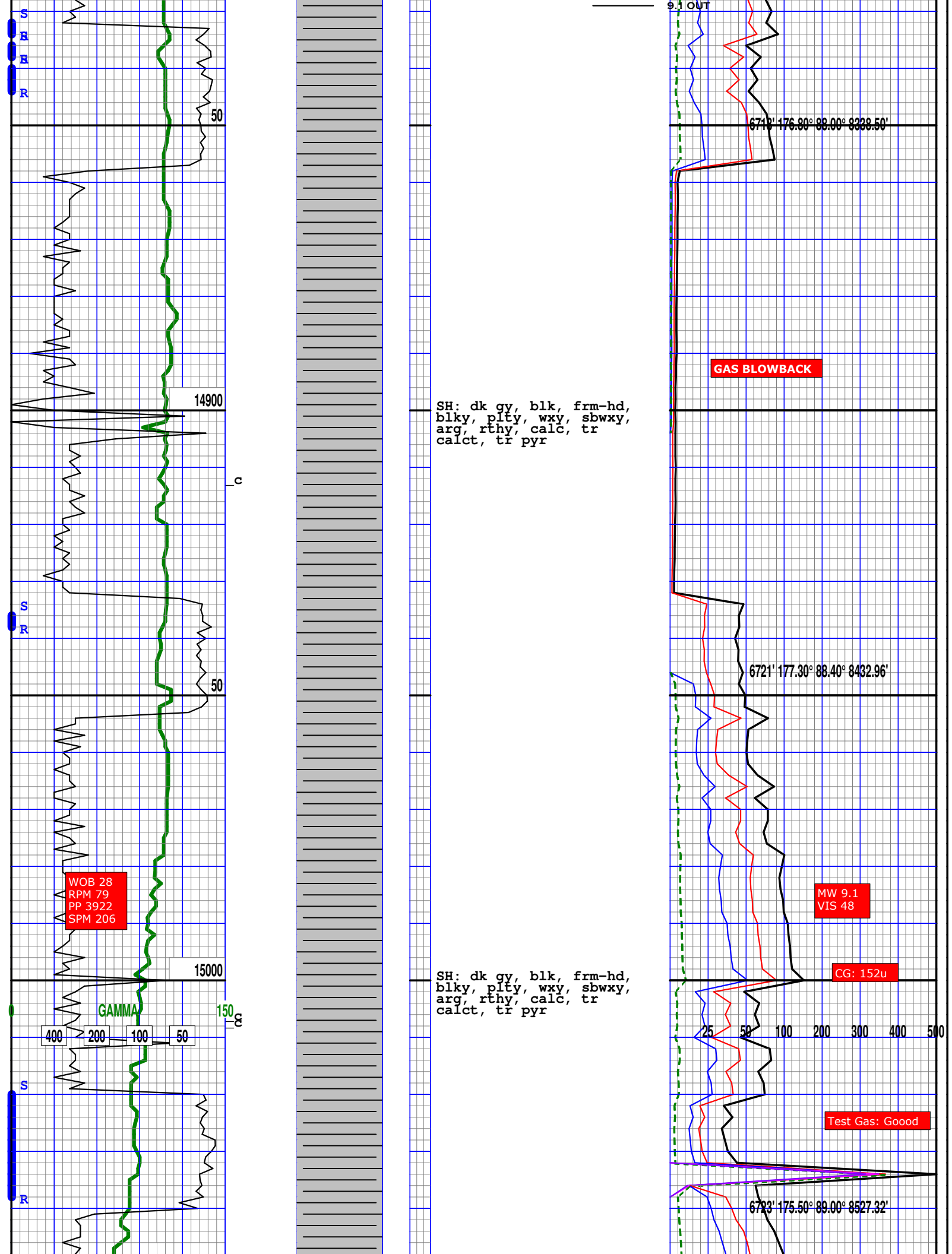

50
WOB 20
RPM 80
PP 3905
SPM 207
c
13800
0
GAMMA
150
400
200
100
50
SH: dk gy, blk, frm-hd, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, v calc, tr calct ,tr pyr
MW 9.3
VIS 47
CG: 203u
25
50
100
200
300
400
500
6671' 182.20° 88.70° 7309.77'
50
c
CG: 254u
13900
SH: dk gy, blk, frm-hd, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, v calc ,tr pyr
6673' 182.60° 88.60° 7403.74'

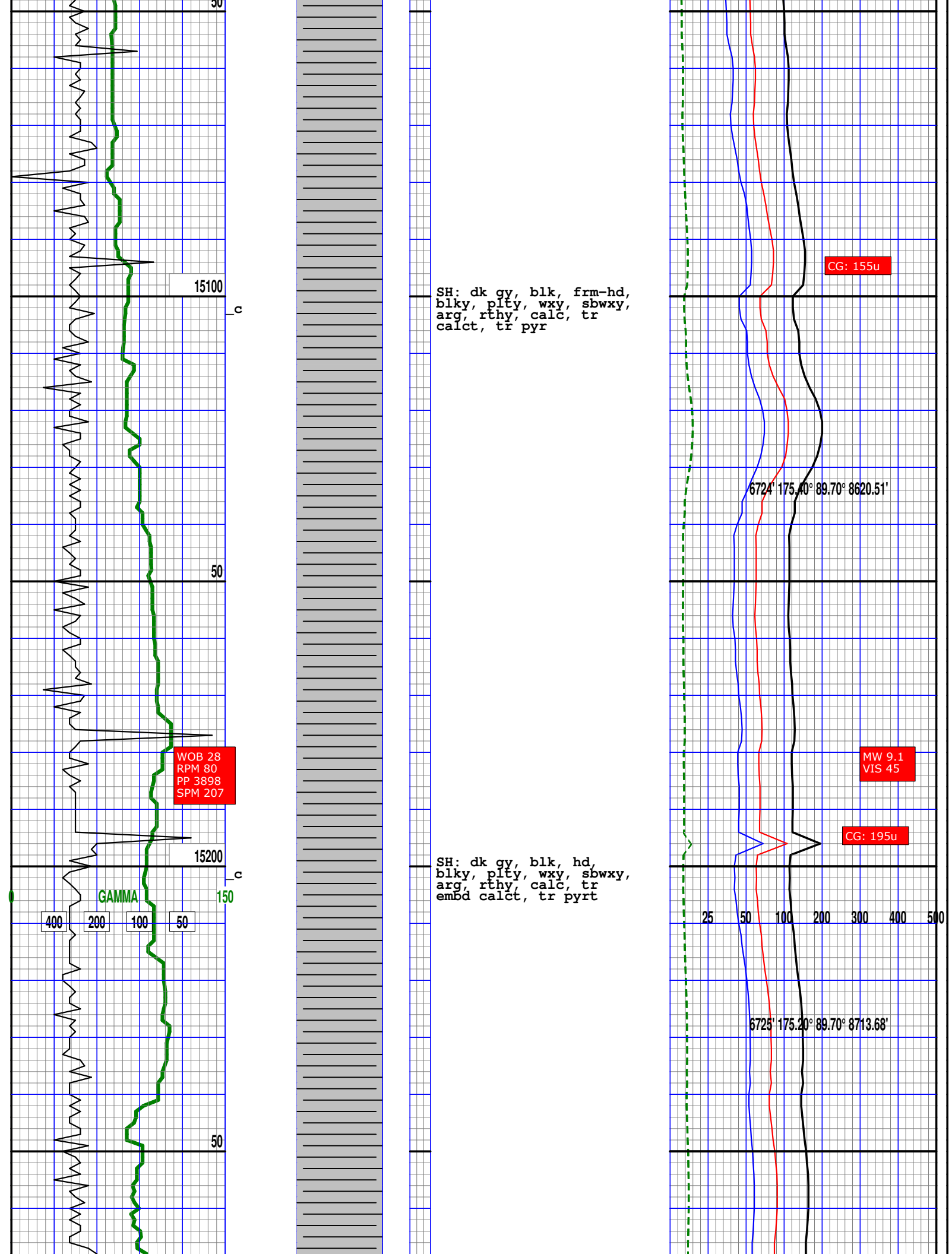

50
S
R
c
WOB 23
RPM 80
PP 3956
SPM 207
14000
0
GAMMA
150
400
200
100
50
50
c
S
WOB 55
RPM 0
PP 3487
SPM 206
14100
R
50
c
SH: dk gy, blk, frm-hd, brit, blky, plty, wxy, sbwxy, arg, rthy, marl, v calc, tr calct, tr pyr
SH: dk gy, blk, frm-hd, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr calct, tr pyr
9.4 OUT
CG: 254u
MW 9.3
VIS 47
GAS BLOWBACK
6675' 182.70° 88.80° 7496.72'
25
50
100
200
300
400
500
CG: 286u
MW 9.3
VIS 46
6678' 181.30° 88.00° 7500.66'
CG: 332u

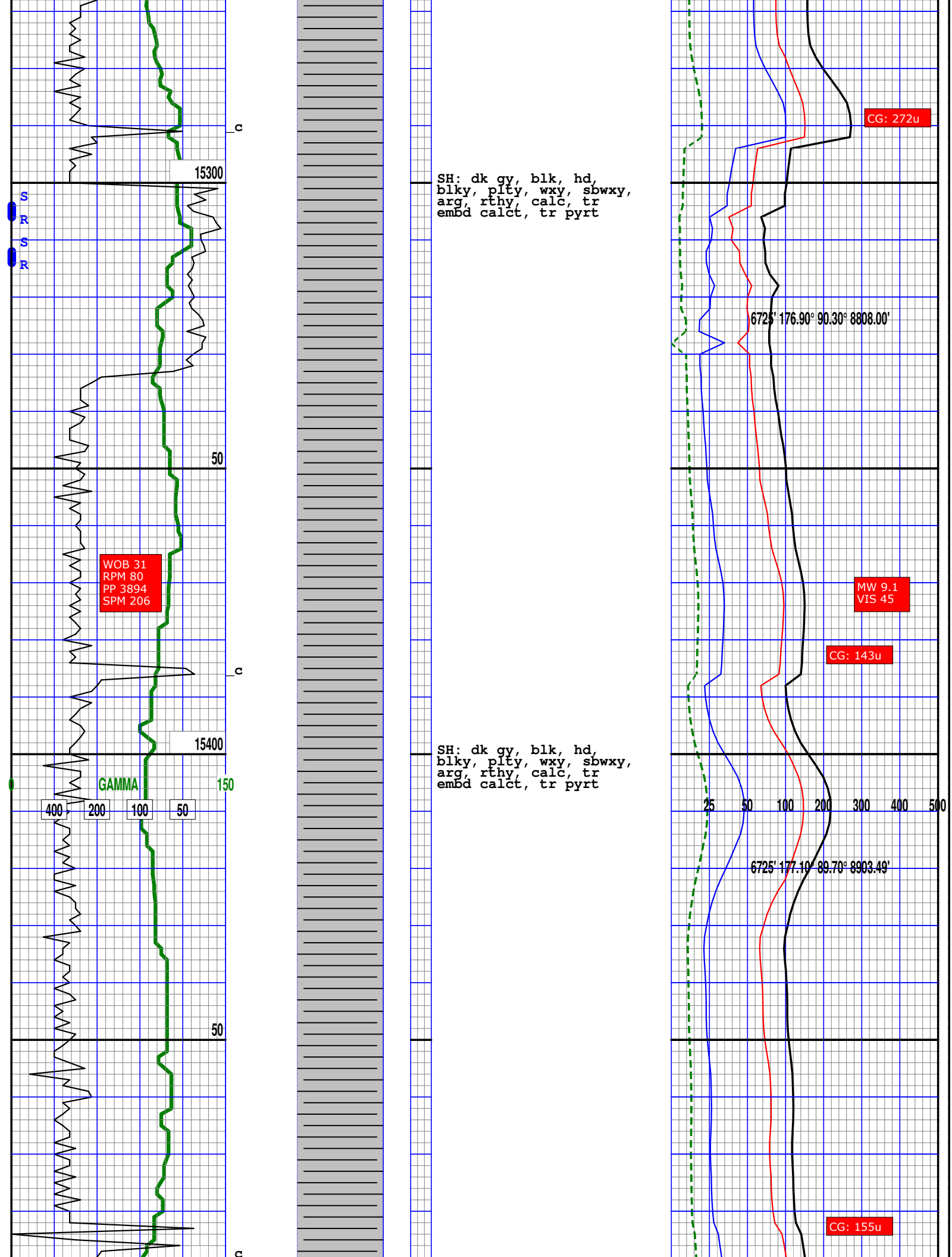

S
WOB 48
RPM 0
PP 3518
SPM 206
R
14200
0
GAMMA
150
400
200
100
50
50
_c
S
R
14300
SH: dk gy, blk, frm-hd, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr calct, tr pyr
50
_c
S
Mud line Repair @14362'
WOB 63
RPM 19
PP 2765
SPM 176
R
MW 9.3
VIS 46
6679' 181.90° 89.90° 7683.62'
25
50
100
200
300
400
500
CG: 221u
GAS BLOWBACK
6680' 181.50° 88.90° 7777.59'
CG: 97u
SH: dk gy, blk, frm-hd, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr calct, tr pyr
DTG=560u
6684' 178.20° 86.80° 7871.37'

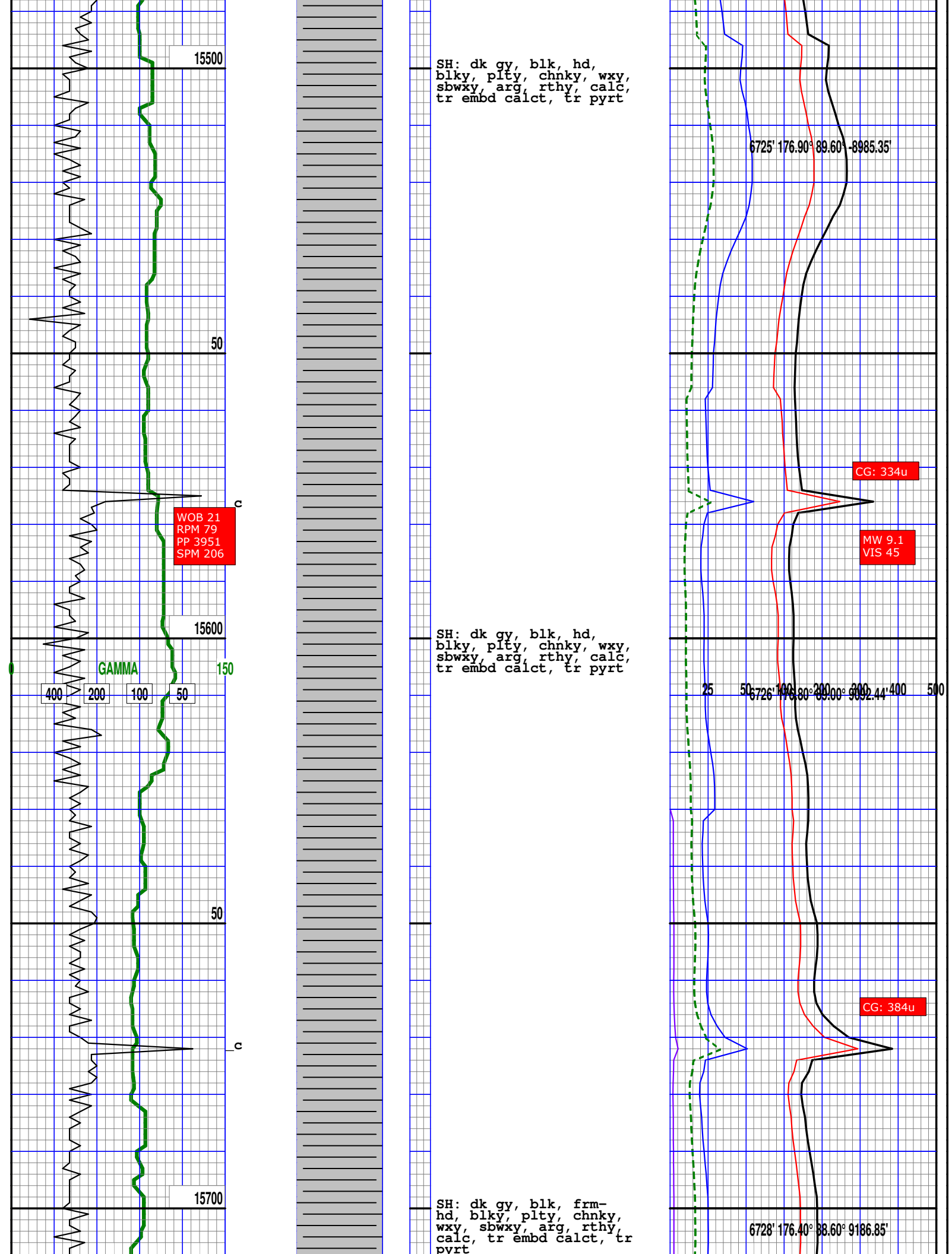

14400
GAMMA
0
150
400
200
100
50
c
50
14500
c
50
S
Clean up cycle 14573'
R
WOB 23
RPM 80
PP 3731
SPM 206
14600
SH: dk gy, blk, frm-hd, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr calct, tr pyr
SH: dk gy, blk, frm-hd, blky, plty, wxy, sbwxy, arg, rthy, marl, calc, tr calct, tr pyr
SH: dk gy, blk, frm-hd, blky, plty, wxy, sbwxy, arg, rthy, calc, tr calct, tr pyr, tr ash
VIS 46
25
50
100
200
300
400
500
CG: 175u
6690' 178.00° 85.50° 7963.84'
CG: 262u
6698' 178.20° 85.30° 8058.20'
OBG: 284u
MW 9.1
VIS 46


c
S
50
R
14700
SH: dk gy, blk, frm-hd, blky, plty, wxy, sbwxy, arg, rthy, calc, tr calct, tr pyr, tr ash
CG: 211u
6706' 179.60° 84.80° 8151.61'
c
S
R
A
50
R
4/13/18
R
CG: 274u
6713' 177.80° 86.30° 8245.07'
WOB 27
RPM 80
PP 3751
SPM 206
MW 9.1
VIS 48
MG: 148u
14800
SH: dk gy, blk, frm-hd, blky, plty, wxy, sbwxy, arg, rthy, calc, tr calct, tr pyr, tr ash
0
GAMMA
150
400
200
100
50
25
50
100
200
300
400
500
CG: 149u
c


9.1 OUT
50
6710' 176.80° 88.00° 8388.50'
GAS BLOWBACK
14900
SH: dk gy, blk, frm-hd, blky, plty, wxy, sbwxy, arg, rthy, calc, tr calct, tr pyr
50
6721' 177.30° 88.40° 8432.96'
WOB 28
RPM 79
PP 3922
SPM 206
MW 9.1
VIS 48
15000
SH: dk gy, blk, frm-hd, blky, plty, wxy, sbwxy, arg, rthy, calc, tr calct, tr pyr
CG: 152u
GAMMA
0
150
400
200
100
50
25
50
100
200
300
400
500
Test Gas: Goood
6723' 175.50° 89.00° 8527.32'


50
15100
c
50
WOB 28
RPM 80
PP 3898
SPM 207
15200
c
0
GAMMA
150
400
200
100
50
50
SH: dk gy, blk, frm-hd, blky, plty, wxy, sbwxy, arg, rthy, calc, tr calct, tr pyr
SH: dk gy, blk, hd, blky, plty, wxy, sbwxy, arg, rthy, calc, tr embd calct, tr pyrt
CG: 155u
6724' 175.40° 89.70° 8620.51'
MW 9.1
VIS 45
CG: 195u
25
50
100
200
300
400
500
6725' 175.20° 89.70° 8713.68'


15300
S
R
S
R
50
WOB 31
RPM 80
PP 3894
SPM 206
15400
GAMMA
0
150
400
200
100
50
50
SH: dk gy, blk, hd, blky, plty, wxy, sbwxy, arg, rthy, calc, tr embd calct, tr pyrt
SH: dk gy, blk, hd, blky, plty, wxy, sbwxy, arg, rthy, calc, tr embd calct, tr pyrt
CG: 272u
6725' 176.90° 90.30° 8808.00'
MW 9.1
VIS 45
CG: 143u
25
50
100
200
300
400
500
6725' 177.10° 89.70° 8903.49'
CG: 155u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100
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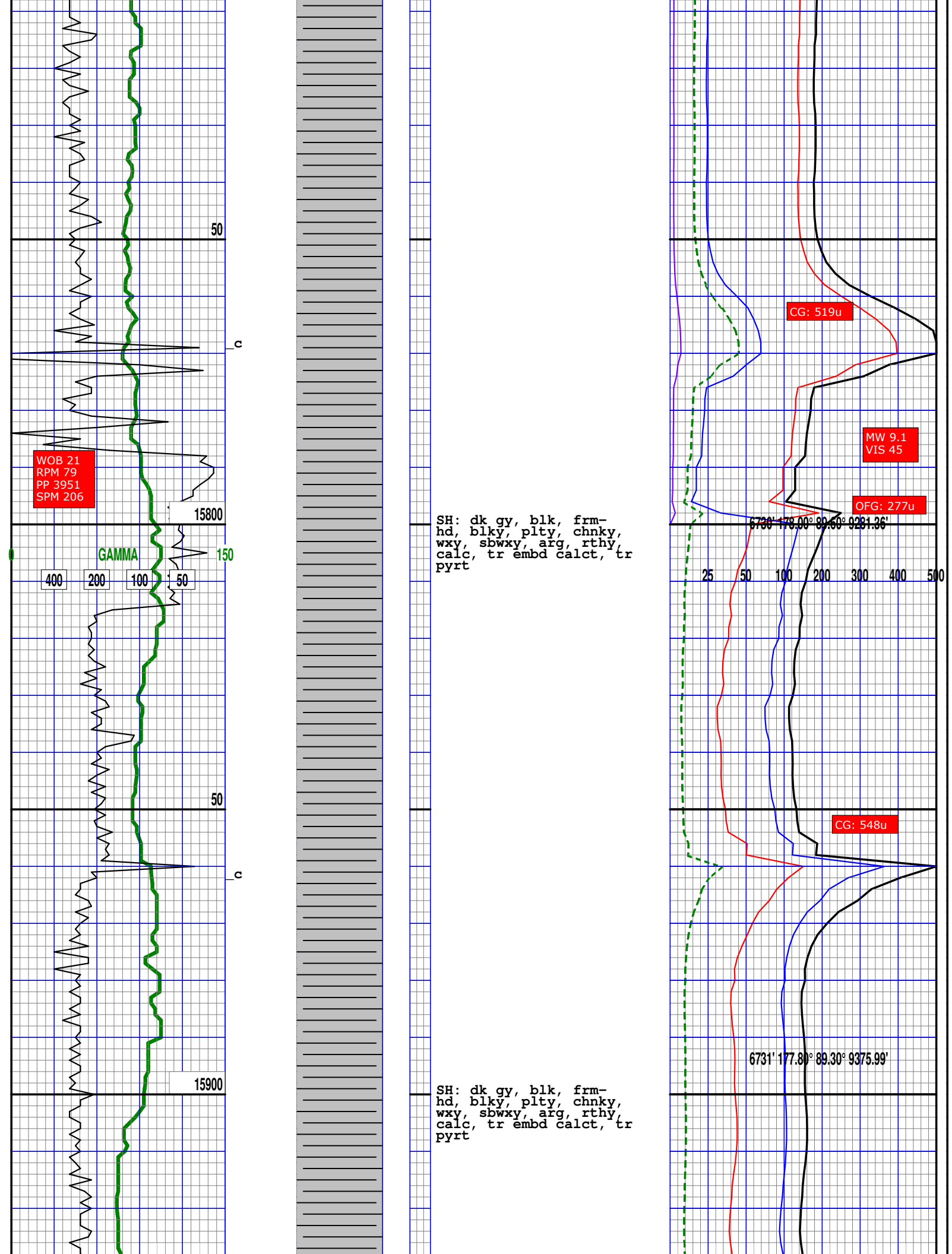
SH: dk gy, blk, hd, blky, plty, chnky, wxy, sbwxy, arg, rthy, calc, tr embd calct, tr pyrt
6725' 176.90° 89.60° -8985.35'
CG: 334u
MW 9.1
VIS 45
SH: dk gy, blk, hd, blky, plty, chnky, wxy, sbwxy, arg, rthy, calc, tr embd calct, tr pyrt
25
50
100
200
300
400
500
6726' 176.80° 89.00° 9052.44'
CG: 384u
SH: dk gy, blk, frm-hd, blky, plty, chnky, wxy, sbwxy, arg, rthy, calc, tr embd calct, tr pyrt
6728' 176.40° 88.60° 9186.85'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c
WOB 21
RPM 79
PP 3951
SPM 206
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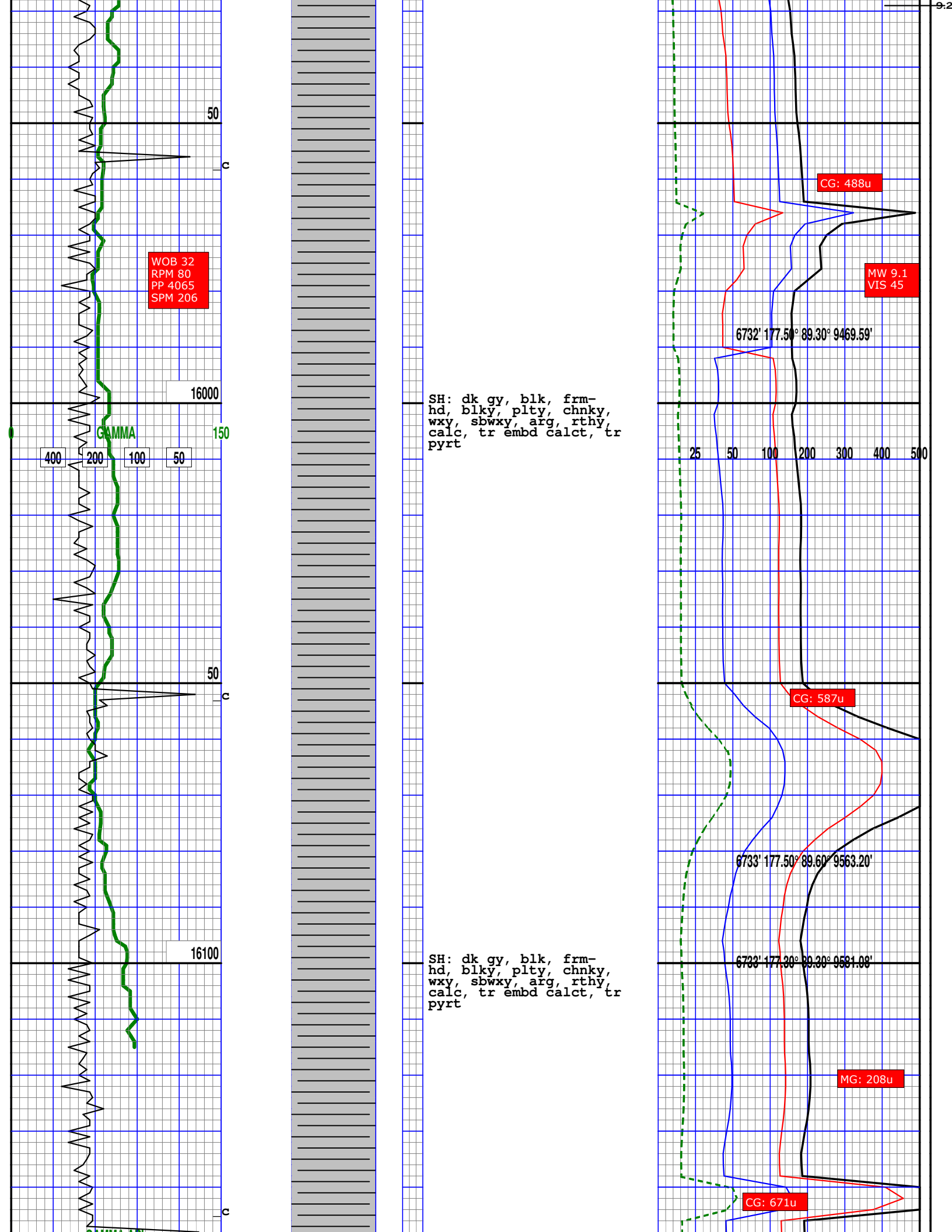
0
GAMMA
150
400
200
100
50
SH: dk gy, blk, frm-hd, blky, plty, chnky, wxy, sbwxy, arg, rthy, calc, tr embd calct, tr pyrt
CG: 519u
MW 9.1
VIS 45
OFG: 277u
6730' 178.00° 89.60° 9281.36'
25
50
100
200
300
400
500
50
c
CG: 548u
6731' 177.80° 89.30° 9375.99'
15900
SH: dk gy, blk, frm-hd, blky, plty, chnky, wxy, sbwxy, arg, rthy, calc, tr embd calct, tr pyrt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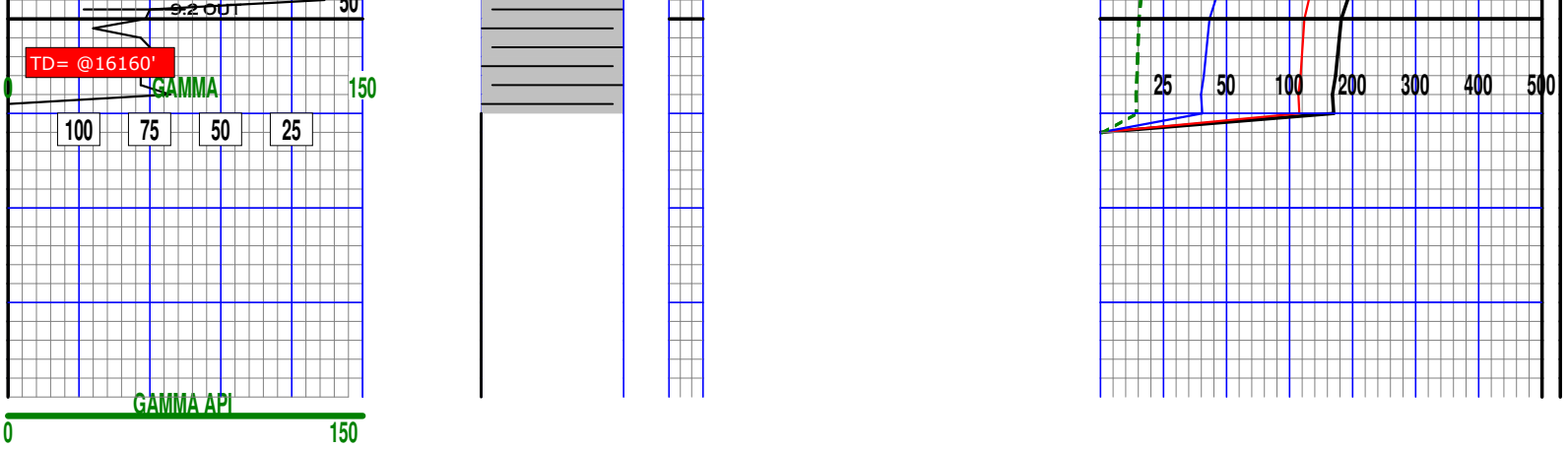
c
WOB 32
RPM 80
PP 4065
SPM 206
16000
0
GAMMA
150
400
200
100
50
50
c
16100
c
SH: dk gy, blk, frm-hd, blky, plty, chnky, wxy, sbwxy, arg, rthy, calc, tr embd calct, tr pyrt
SH: dk gy, blk, frm-hd, blky, plty, chnky, wxy, sbwxy, arg, rthy, calc, tr embd calct, tr pyrt
9.2
CG: 488u
MW 9.1
VIS 45
6732' 177.50° 89.30° 9469.59'
25
50
100
200
300
400
500
CG: 587u
6733' 177.50° 89.60° 9563.20'
6733' 177.30° 89.30° 9581.08'
MG: 208u
CG: 671u



GAMMA API

0 150