PML

Exploration Services LLC

www.pmles.com

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

Well Name:	Garlow 3406 2-16H		
Location:	16-34S-6W	Harper County	
Licence Number:	15-077-21904-01-00	Region:	Kansas
Spud Date:	2/16/13	Drilling Completed:	
Surface Coordinates:	225' FNL & 660' FWL of Section 16, T34S, R6W		
Bottom Hole Coordinates:	330' FSL & 660' FWL of Section 16, T34S, R6W		
Ground Elevation (ft):	1,303'	K.B. Elevation (ft):	1,321' (+18 EST)
Logged Interval (ft):	3,150' To:	Total Depth (ft):	
Formation:	Mississippi Limestone		
Type of Drilling Fluid:	WATER BASE MUD		

Printed by MUD.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: Sandridge Energy, Inc.
Address: 123 Robert S. Kerr Avenue
Oklahoma City, OK 73102
405-429-5720

GEOLOGIST

Name: Tammy Alcorn
Company: Sandridge Energy, Inc.
Address: 123 Robert S. Kerr Avenue
Oklahoma City, OK 73102
405-429-5720

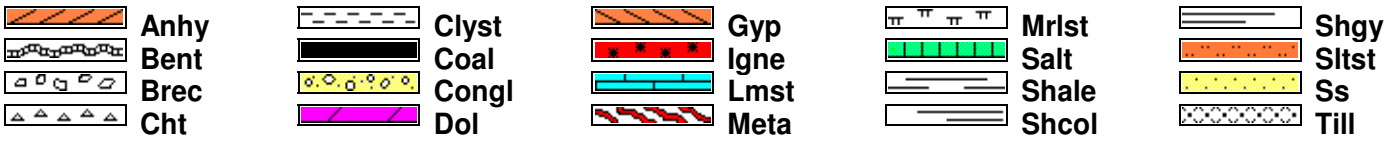
MUD LOG

PML Exploration Services LLC
5601 NW 72nd St., Suite 354
Oklahoma City, OK 73132
UNIT # 34
MUDLOGGERS: John McKinley / Brad Baram

CONTRACTOR

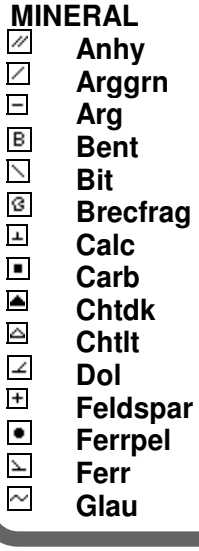
Unit Rig 310

ROCK TYPES

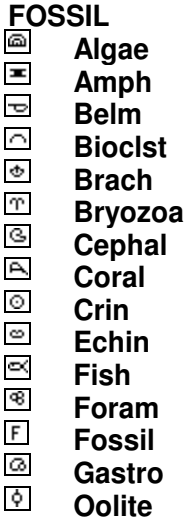


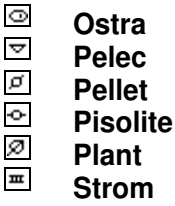
ACCESSORIES

MINERAL

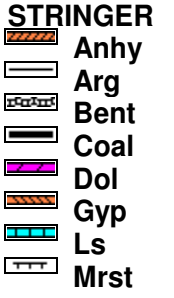


FOSSIL

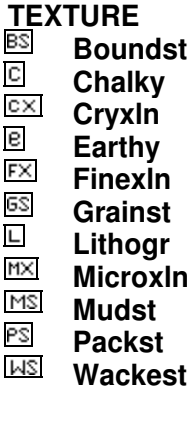




STRINGER

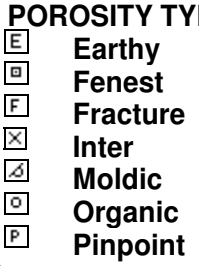


TEXTURE

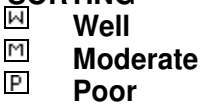


OTHER SYMBOLS

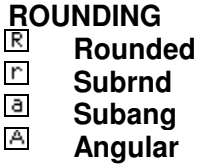
POROSITY TYPE



SORTING

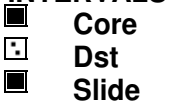


ROUNDING

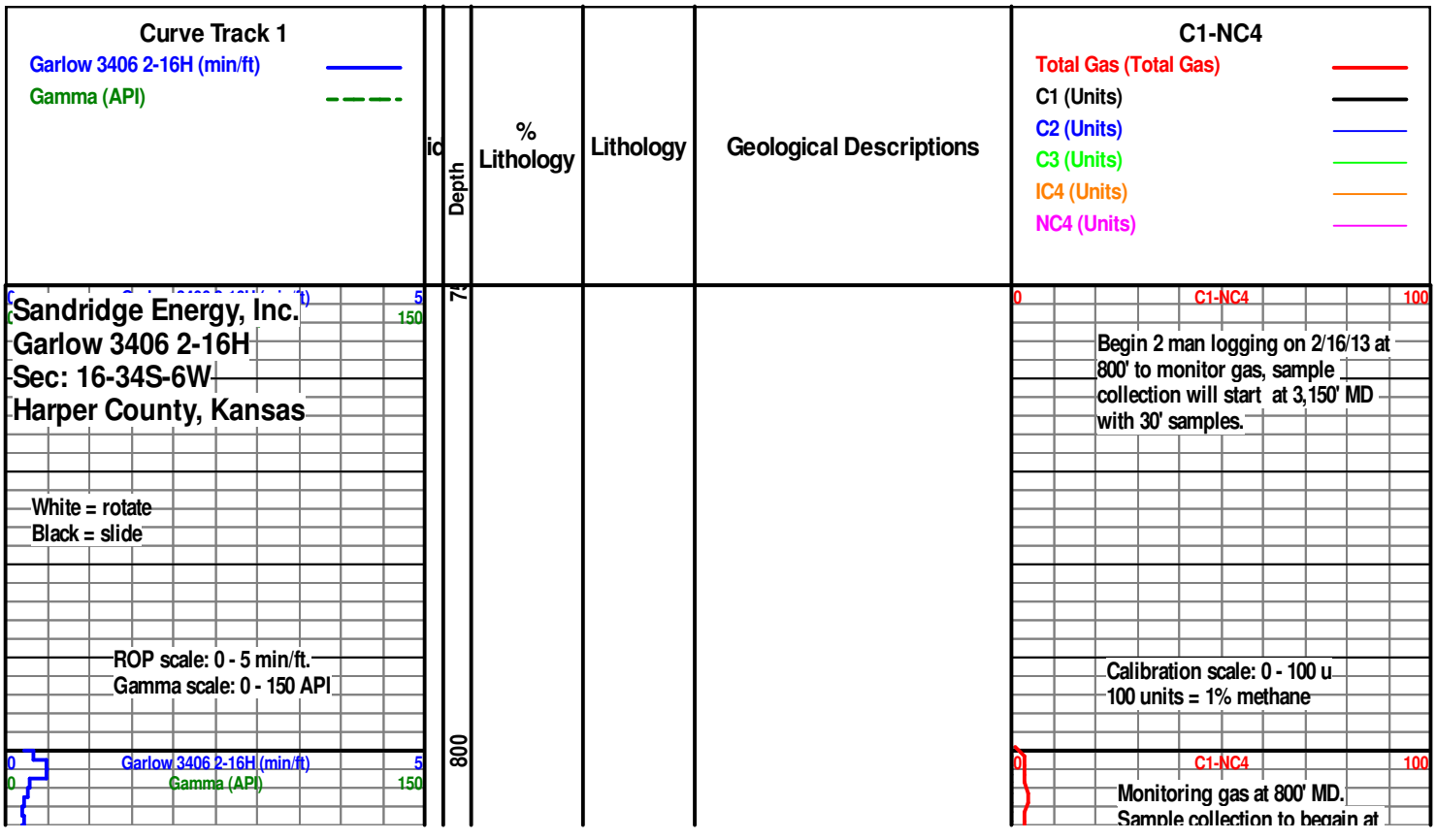


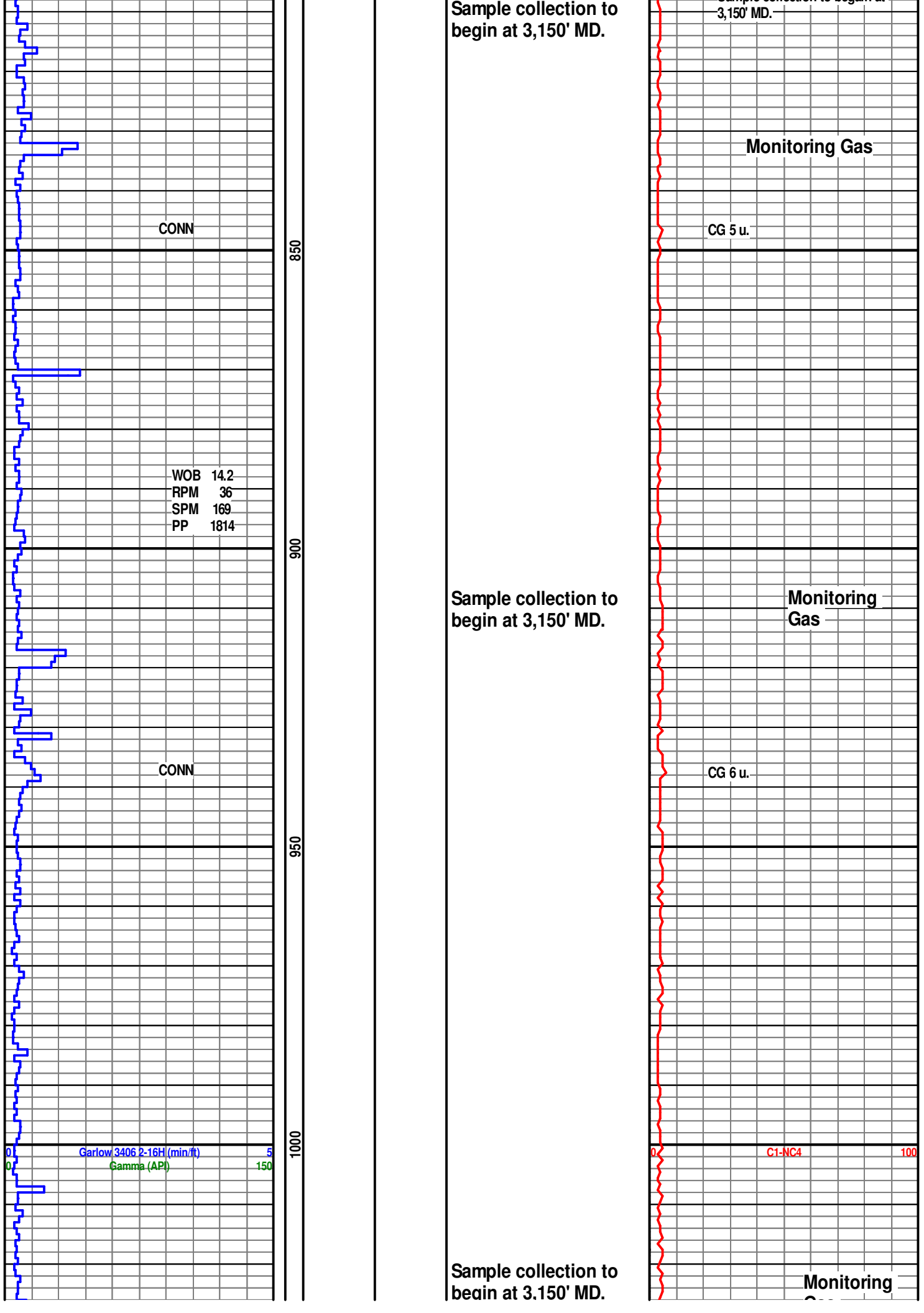
OIL SHOWS

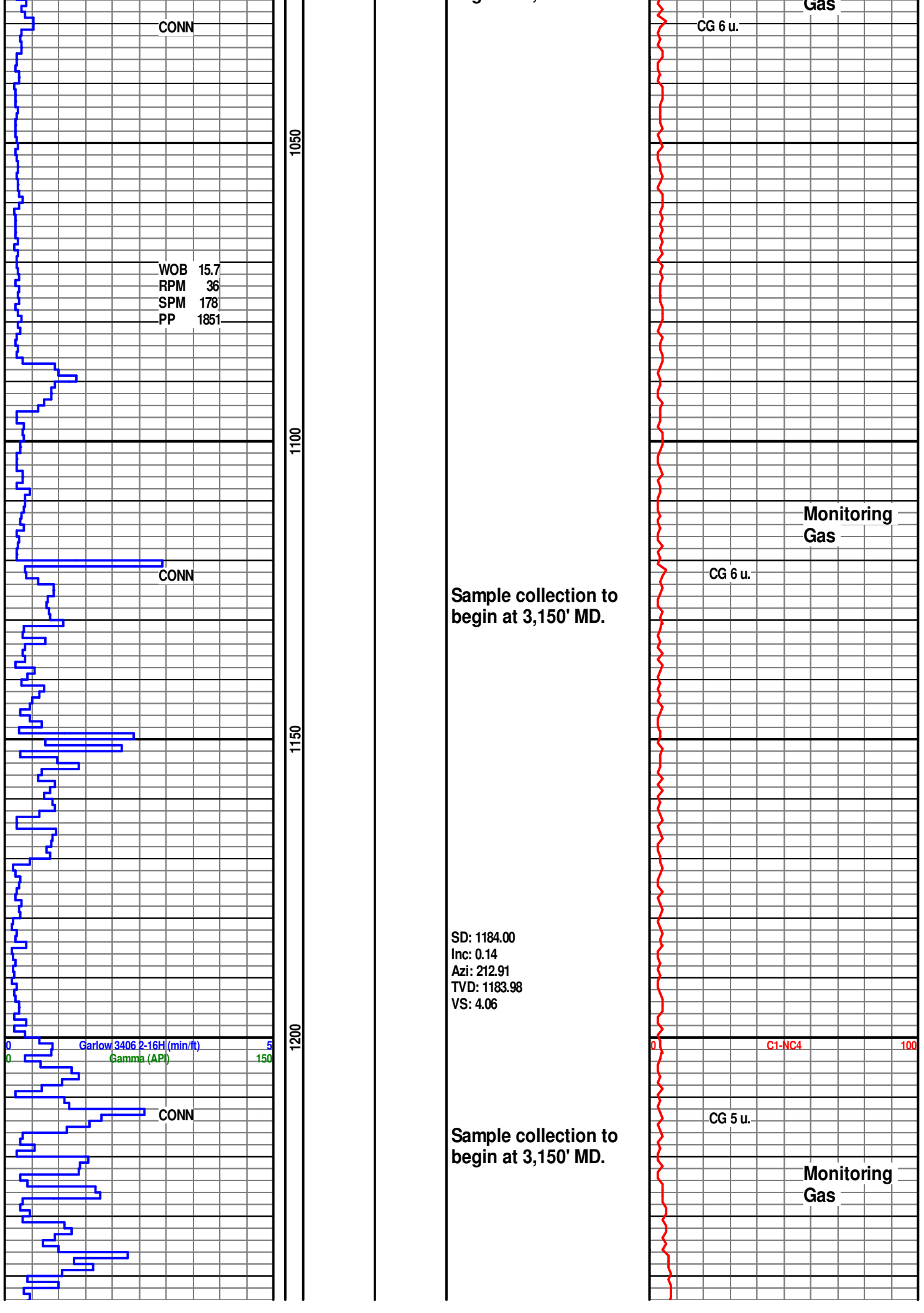
INTERVALS

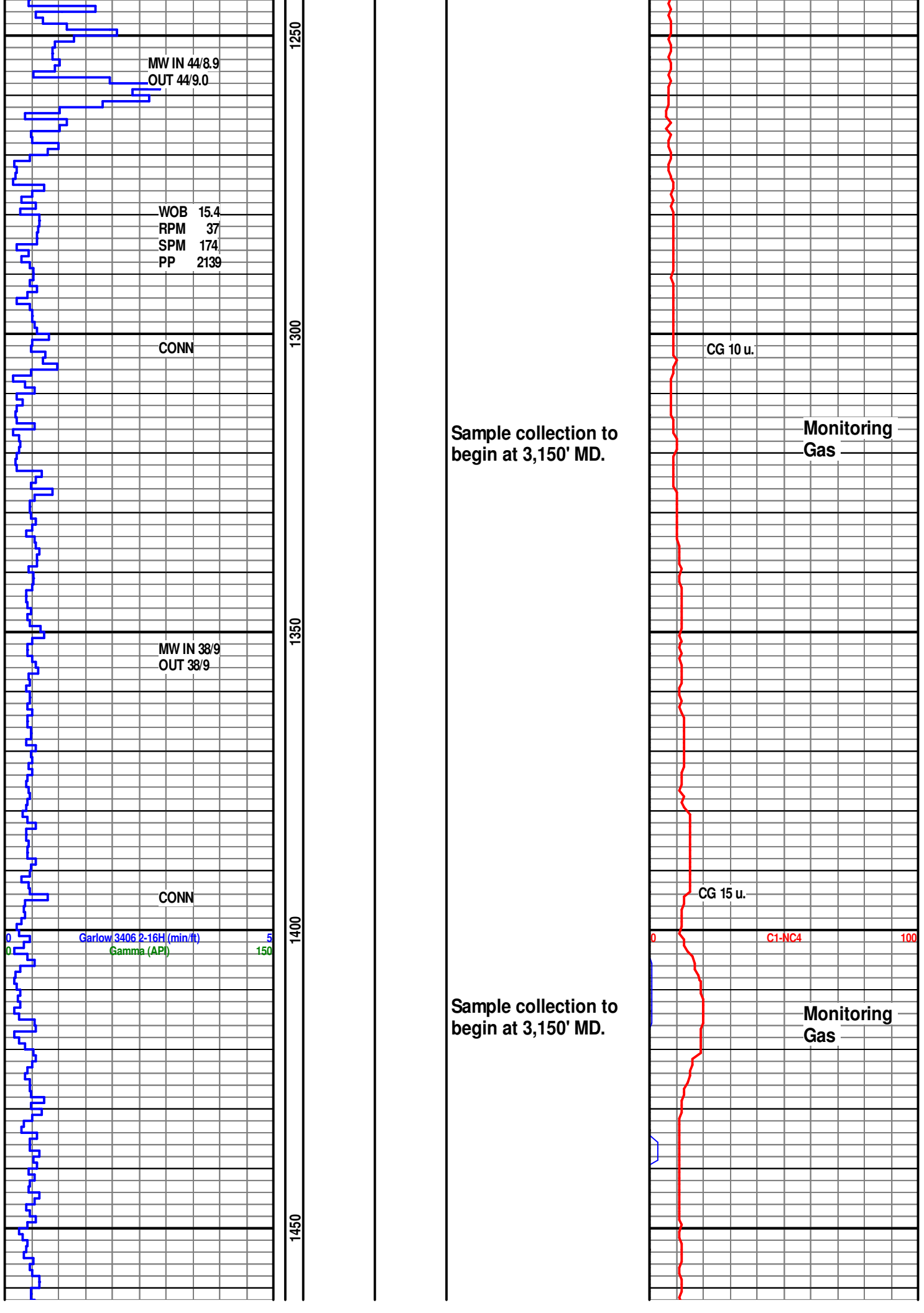


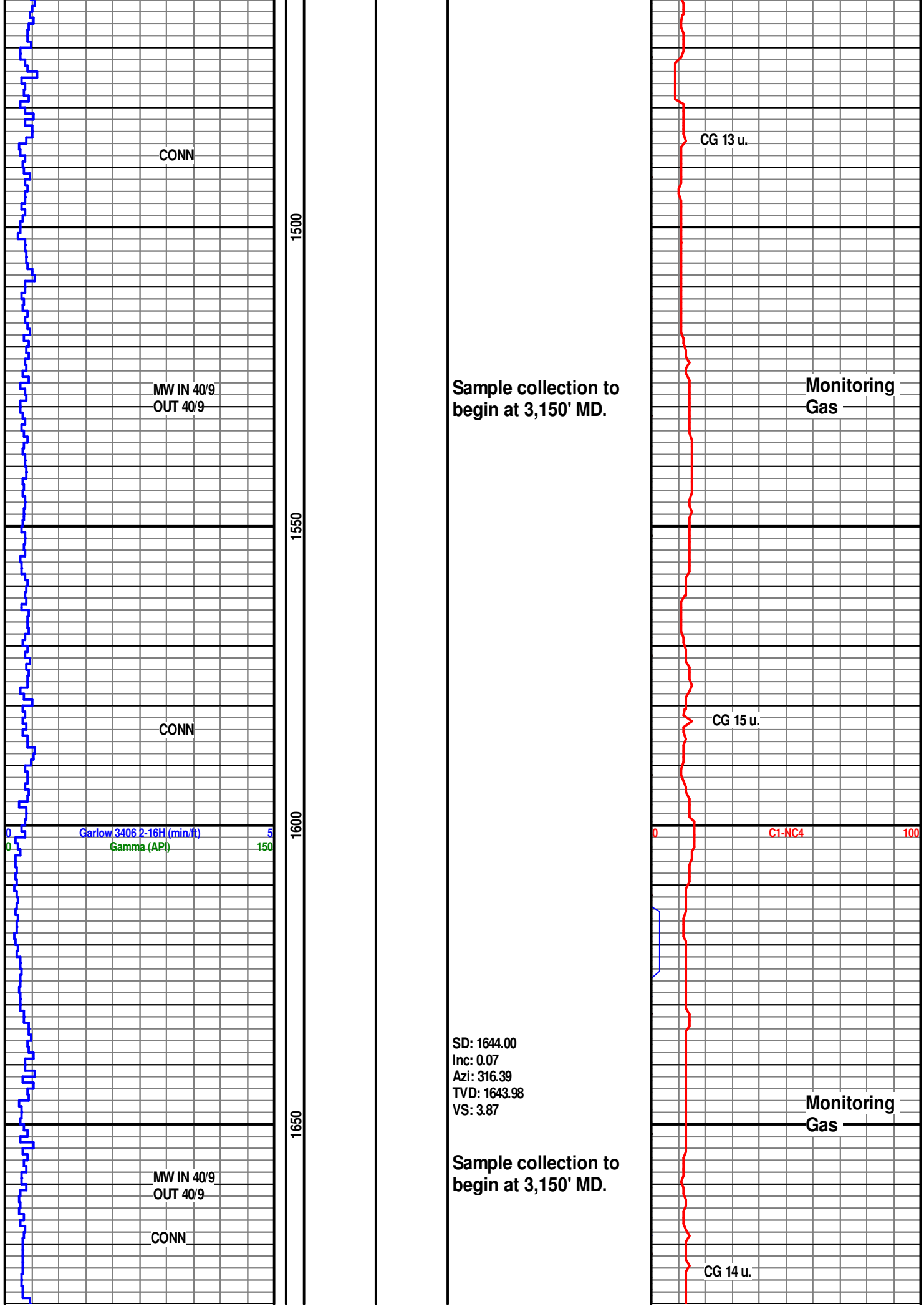
EVENTS

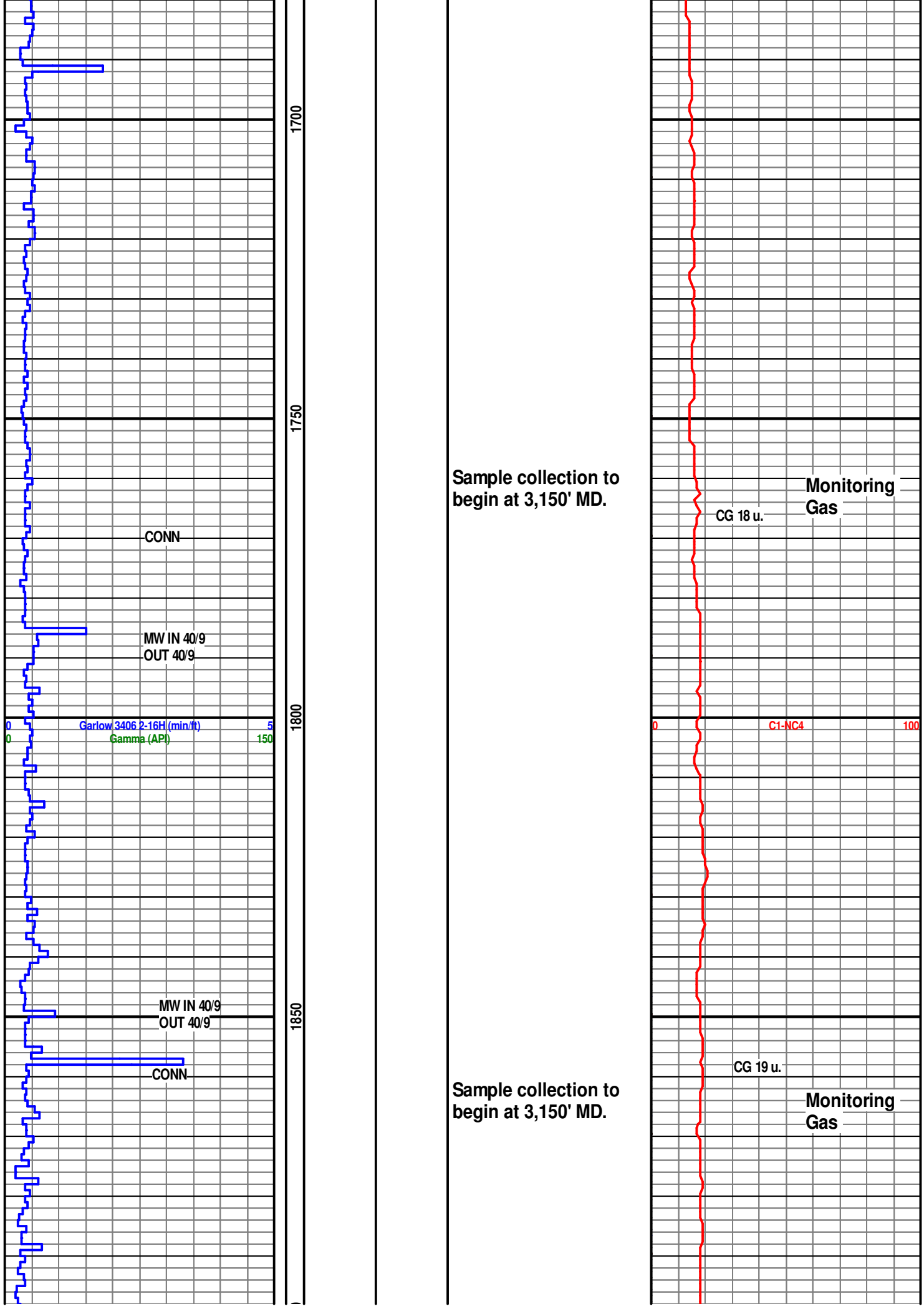


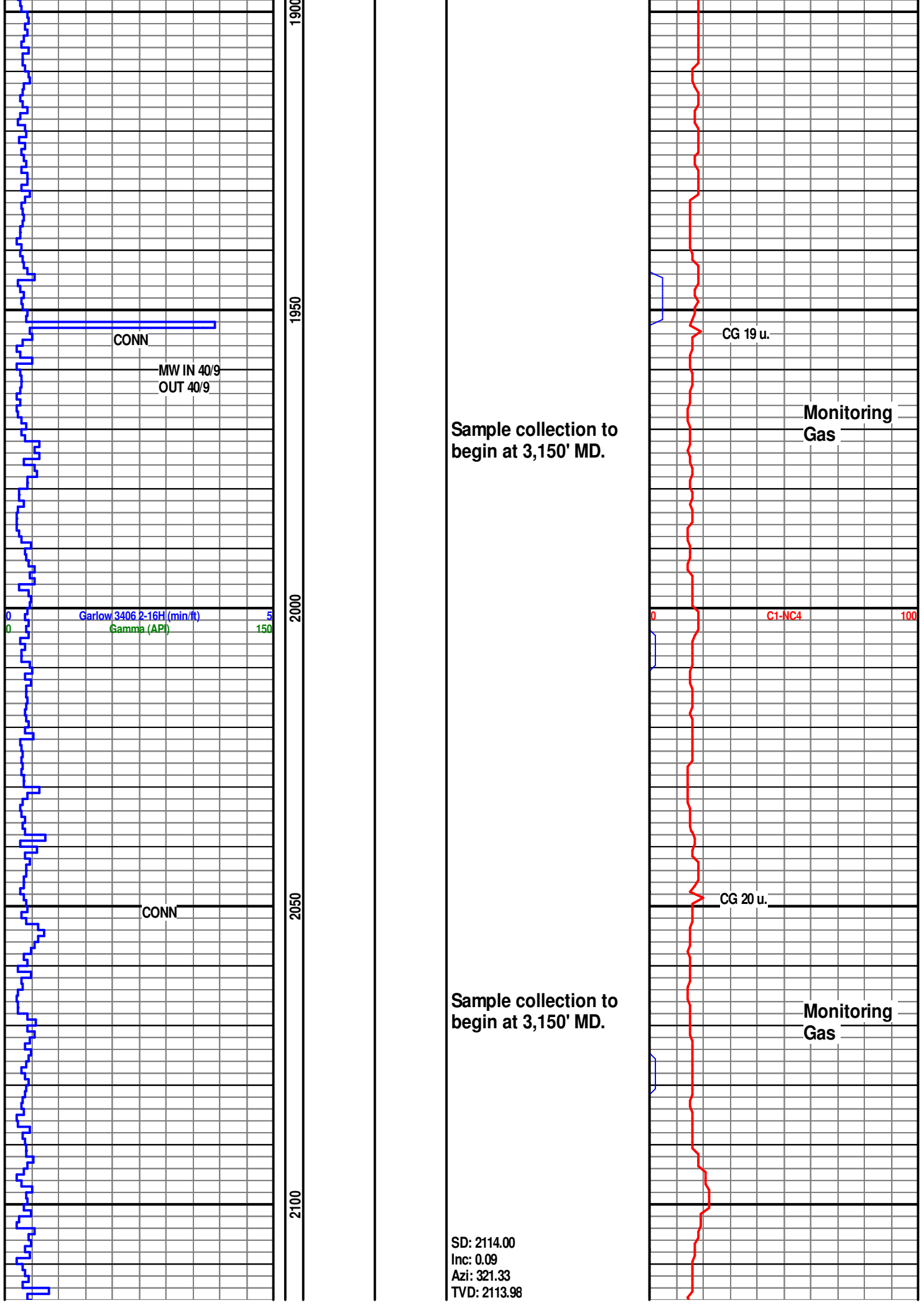

Sample collection to begin at 3,150' MD.
3,150' MD.
Monitoring Gas
CG 5 u.
CONN
WOB 14.2
RPM 36
SPM 169
PP 1814
850
900
Sample collection to begin at 3,150' MD.
Monitoring Gas
CG 6 u.
CONN
950
0
Garlow 3406 2-16H (min/ft)
5
0
Gamma (API)
150
1000
0
C1-NC4
100
Sample collection to begin at 3,150' MD.
Monitoring

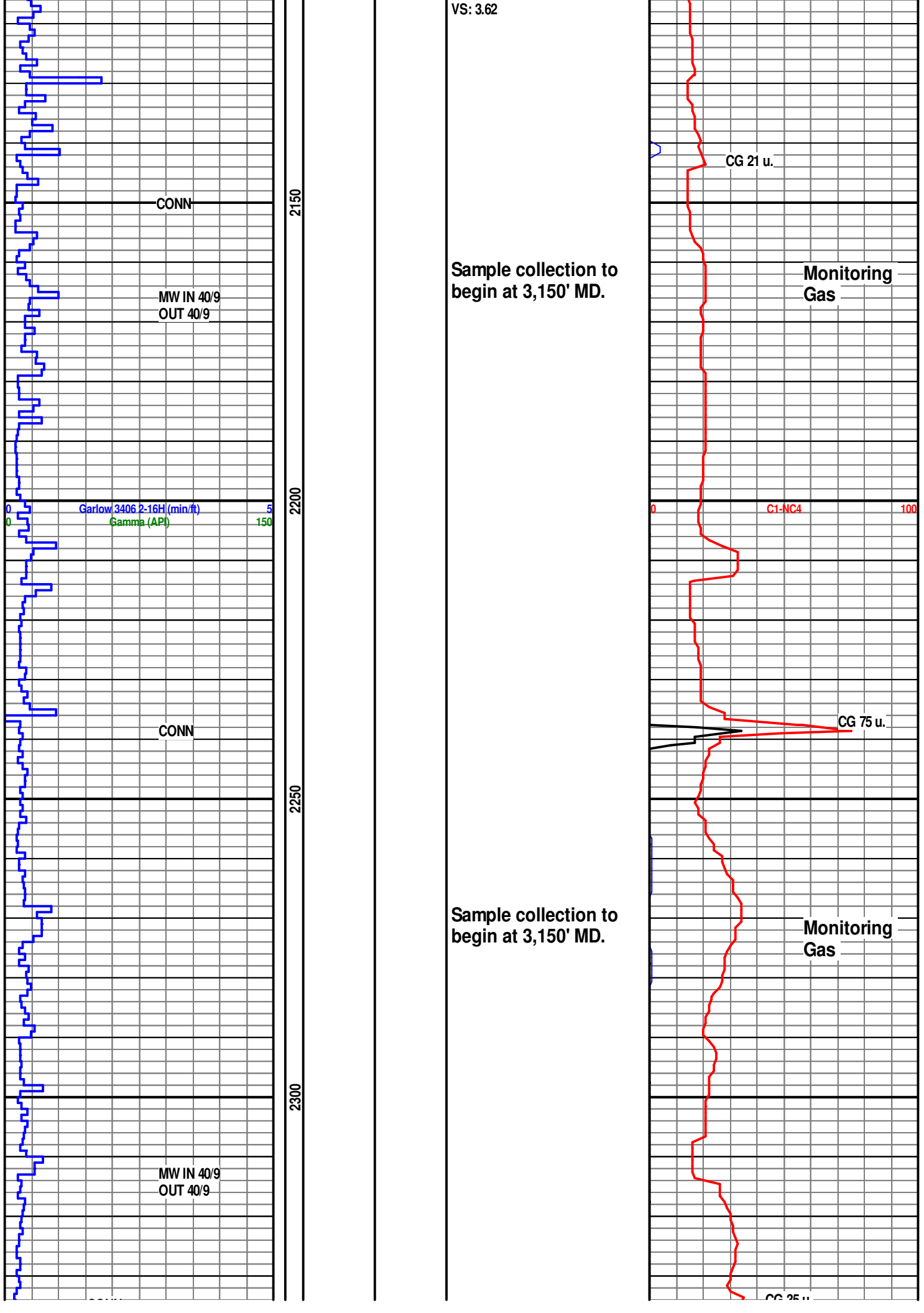

CONN
WOB 15.7
RPM 36
SPM 178
PP 1851
CONN
CONN
1050
1100
1150
1200
0 Garlow 3406 2-16H (min/ft) 5
0 Gamma (API) 150
CG 6 u.
Monitoring Gas
CG 6 u.
Sample collection to begin at 3,150' MD.
SD: 1184.00
Inc: 0.14
Azi: 212.91
TVD: 1183.98
VS: 4.06
0 C1-NC4 100
CG 5 u.
Sample collection to begin at 3,150' MD.
Monitoring Gas

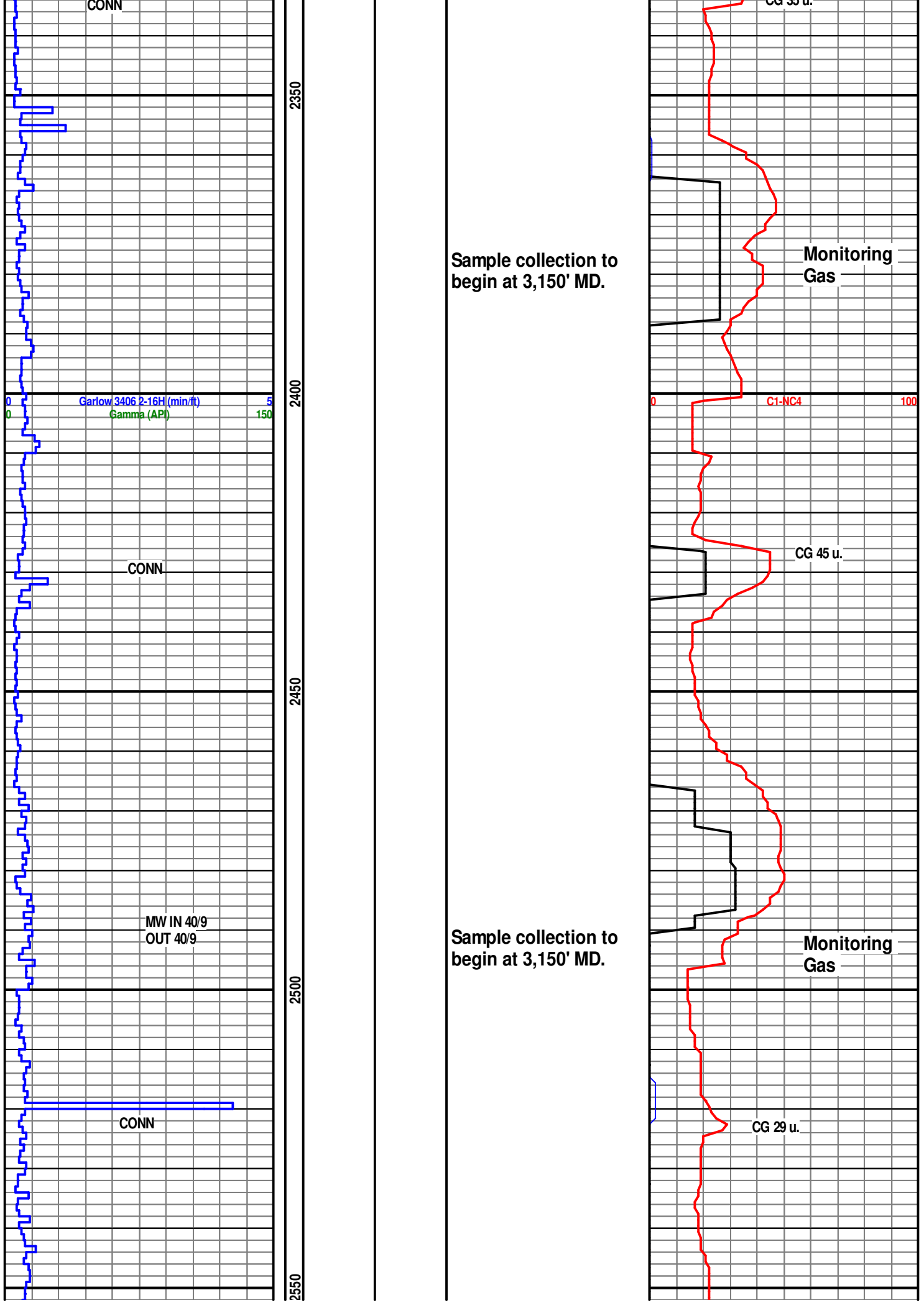

MW IN 44/8.9
OUT 44/9.0
WOB 15.4
RPM 37
SPM 174
PP 2139
CONN
MW IN 38/9
OUT 38/9
CONN
0
Garlow 3406 2-16H (min/ft)
5
0
Gamma (API)
150
1250
1300
1350
1400
1450
Sample collection to begin at 3,150' MD.
CG 10 u.
Monitoring Gas
CG 15 u.
0
C1-NC4
100
Sample collection to begin at 3,150' MD.
Monitoring Gas

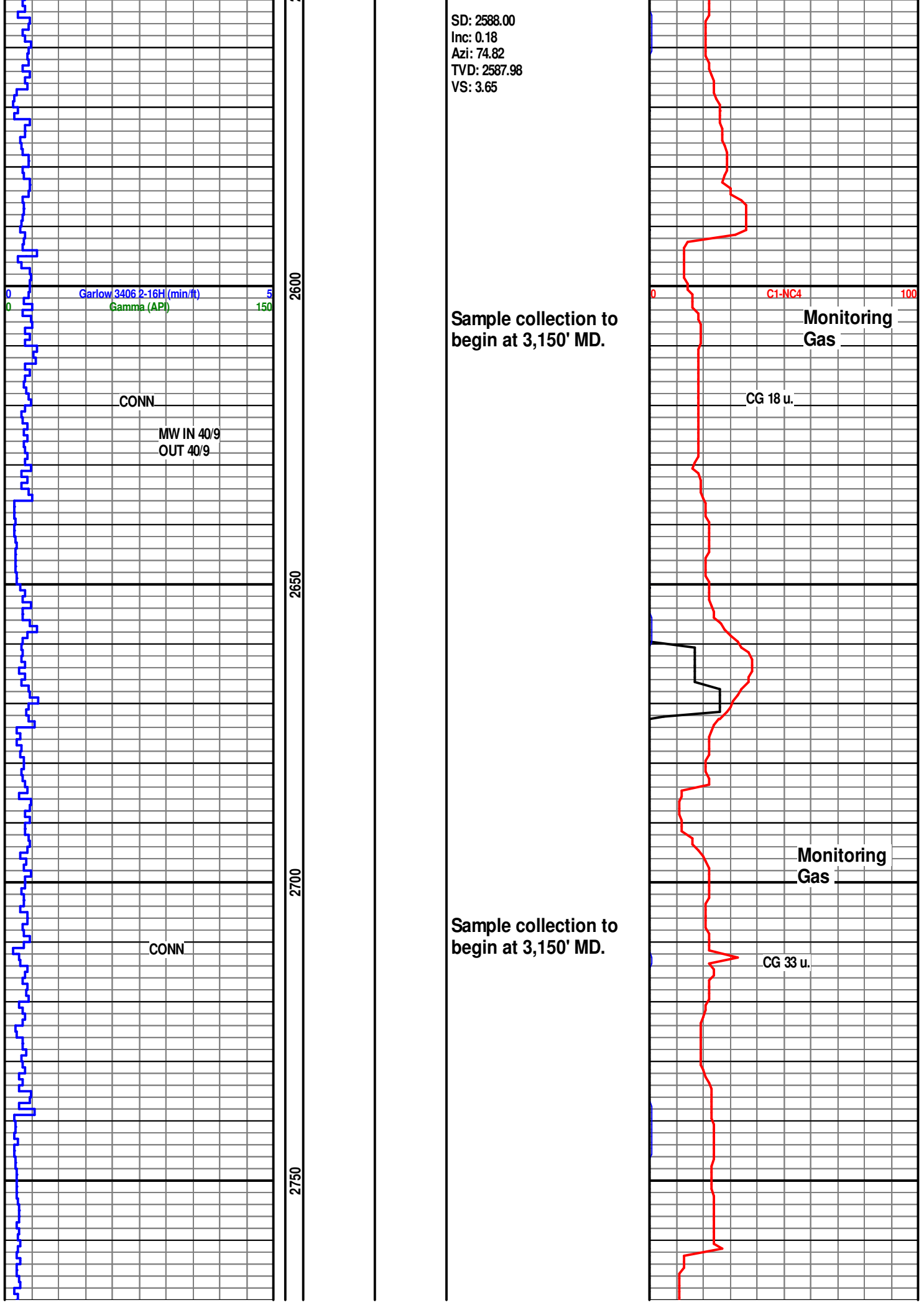

CONN
MW IN 40/9
OUT 40/9
CONN
0
Garlow 3406 2-16H (min/ft)
5
0
Gamma (API)
150
MW IN 40/9
OUT 40/9
CONN
1500
1550
1600
1650
Sample collection to
begin at 3,150' MD.
SD: 1644.00
Inc: 0.07
Azi: 316.39
TVD: 1643.98
VS: 3.87
Sample collection to
begin at 3,150' MD.
CG 13 u.
Monitoring
Gas
CG 15 u.
0
C1-NC4
100
Monitoring
Gas
CG 14 u.

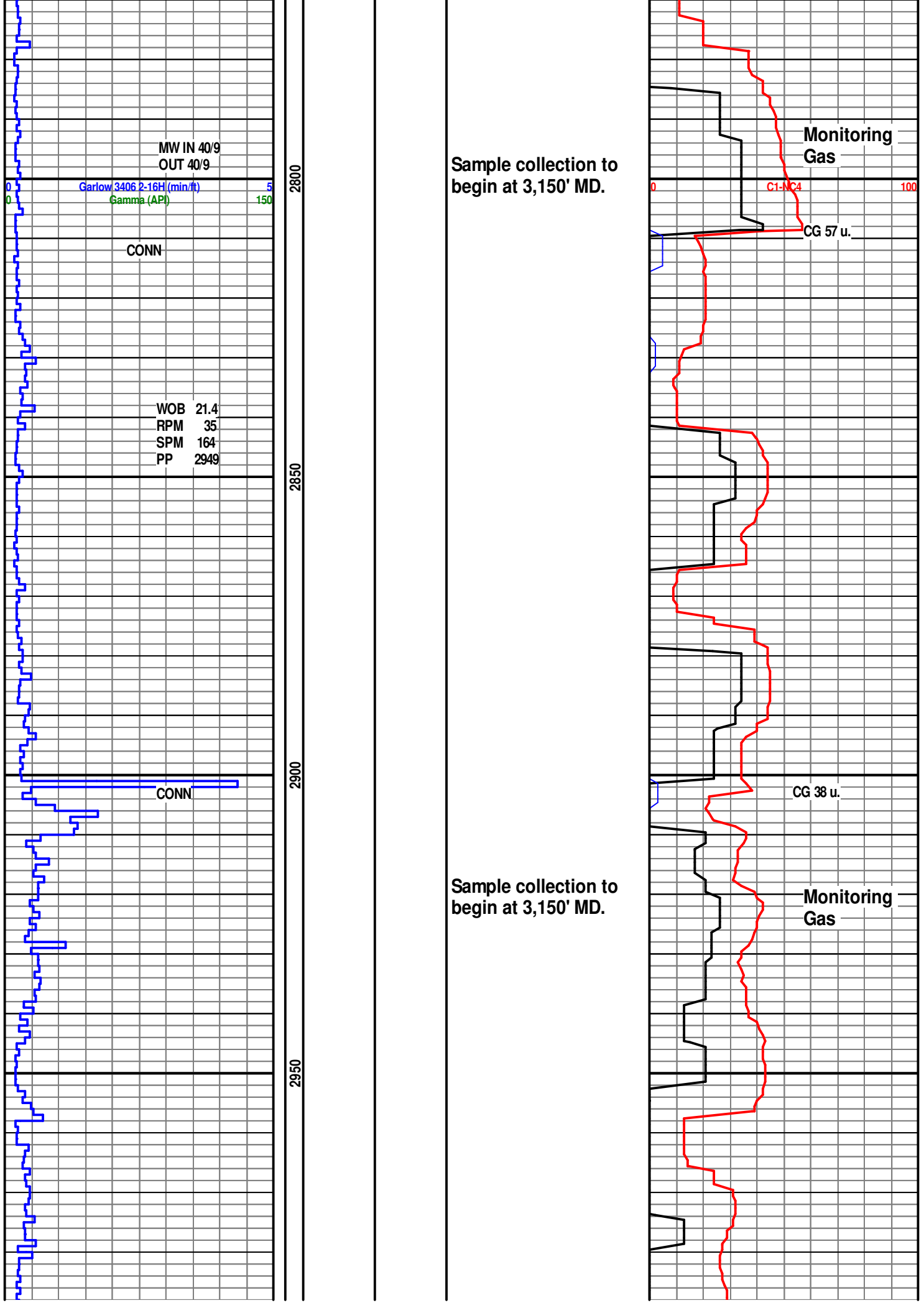

1700
1750
1800
1850
CONN
MW IN 40/9
OUT 40/9
0
Garlow 3406 2-16H (min/ft)
5
0
Gamma (API)
150
MW IN 40/9
OUT 40/9
CONN
Sample collection to
begin at 3,150' MD.
Monitoring
Gas
CG 18 u.
0
C1-NC4
100
CG 19 u.
Sample collection to
begin at 3,150' MD.
Monitoring
Gas

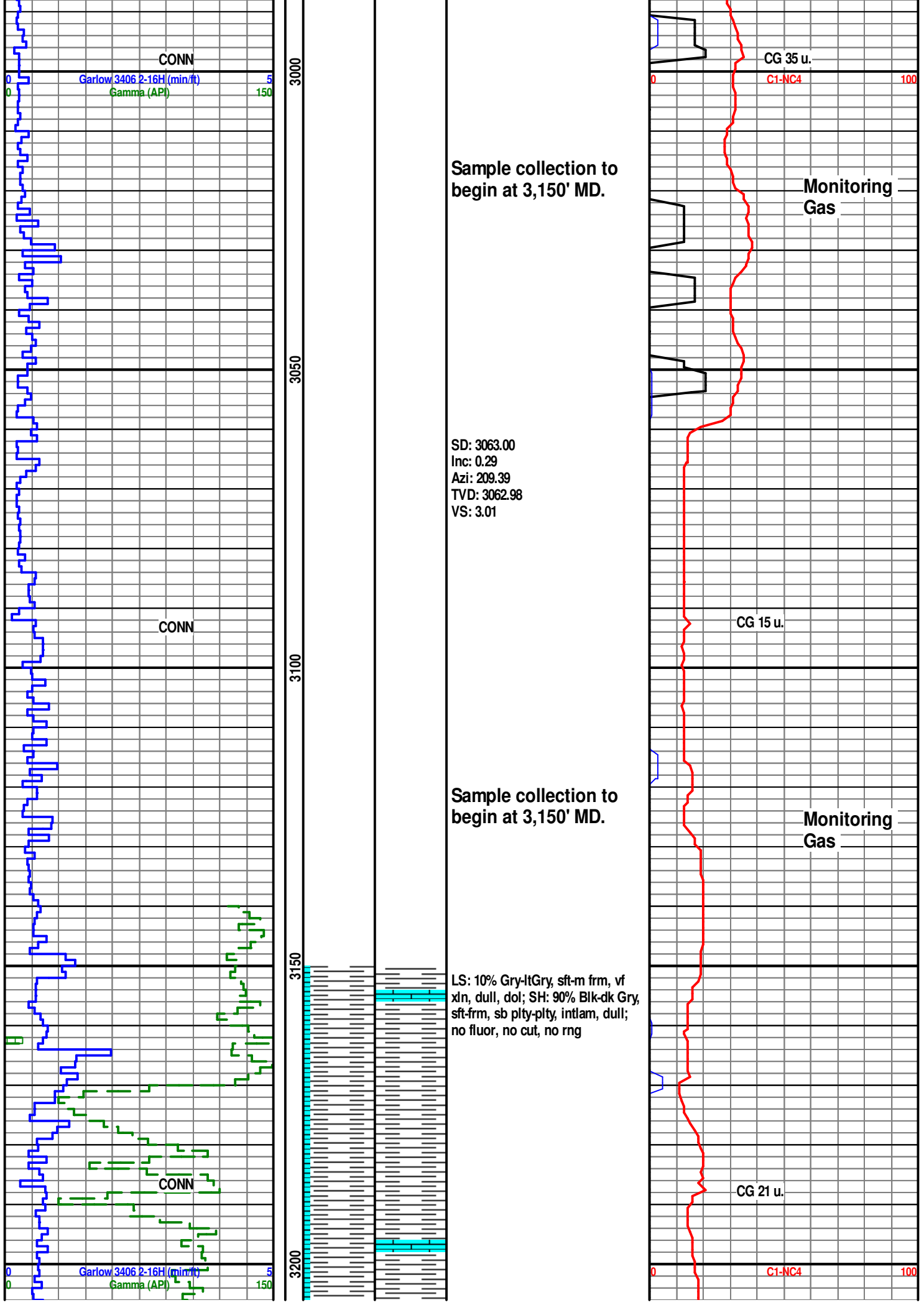

1900
1950
2000
2050
2100
CONN
MW IN 40/9
OUT 40/9
0
Garlow 3406 2-16H (min/ft)
5
0
Gamma (API)
150
CONN
Sample collection to begin at 3,150' MD.
CG 19 u.
Monitoring Gas
0
C1-NC4
100
CG 20 u.
Sample collection to begin at 3,150' MD.
Monitoring Gas
SD: 2114.00
Inc: 0.09
Azi: 321.33
TVD: 2113.98

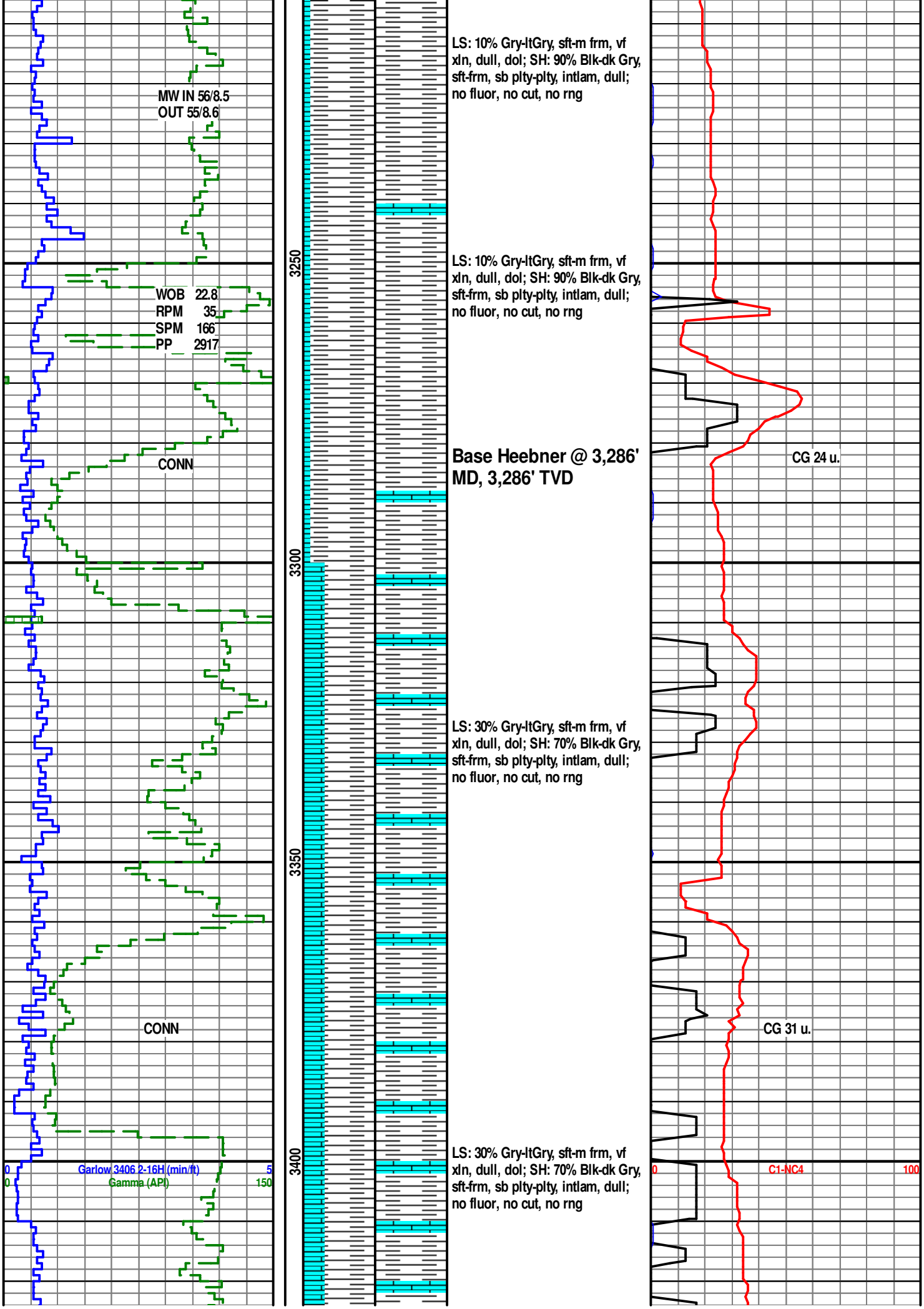

VS: 3.62
CONN
MW IN 40/9
OUT 40/9
0
Garlow 3406 2-16H (min/ft)
5
0
Gamma (API)
150
CONN
MW IN 40/9
OUT 40/9
2150
2200
2250
2300
Sample collection to begin at 3,150' MD.
Sample collection to begin at 3,150' MD.
CG 21 u.
Monitoring Gas
0
C1-NC4
100
CG 75 u.
Monitoring Gas
CG 25 u.

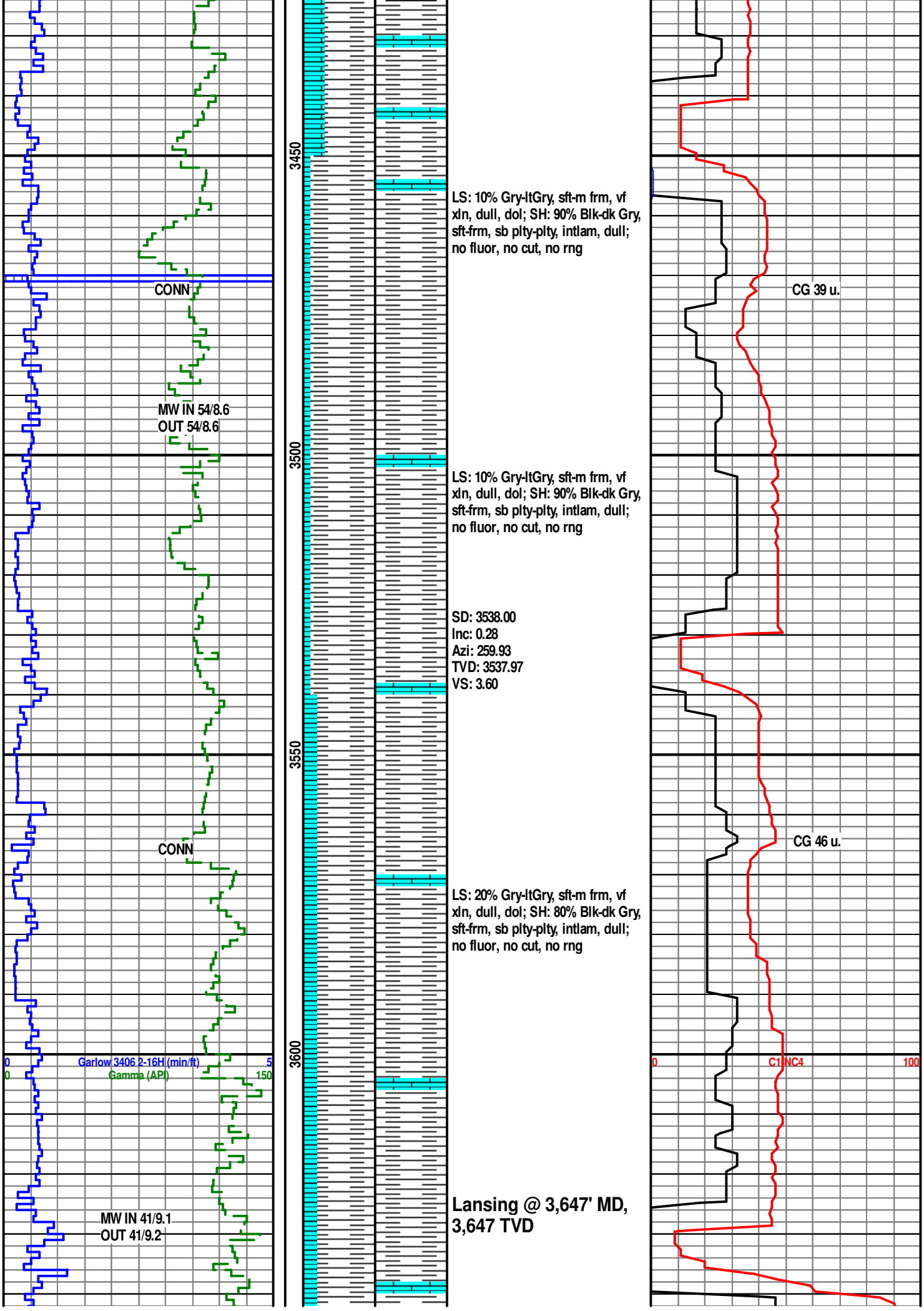

CONN
2350
0
Garlow 3406 2-16H (min/ft)
5
0
Gamma (API)
150
2400
CONN
2450
MW IN 40/9
OUT 40/9
2500
CONN
2550
Sample collection to begin at 3,150' MD.
CG 35 u.
Monitoring Gas
0
C1-NC4
100
CG 45 u.
Sample collection to begin at 3,150' MD.
Monitoring Gas
CG 29 u.

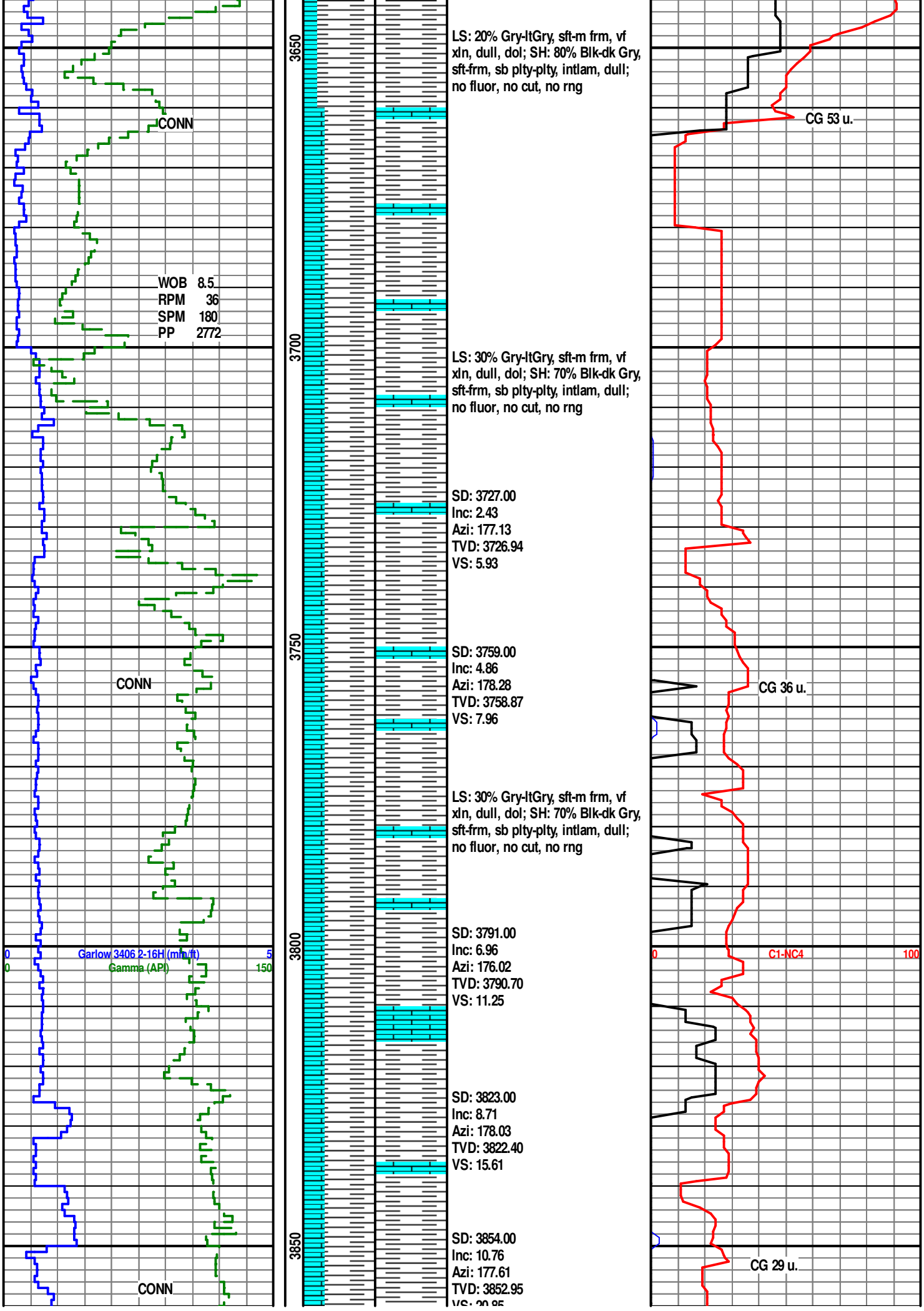

SD: 2588.00
Inc: 0.18
Azi: 74.82
TVD: 2587.98
VS: 3.65
0
Garlow 3406 2-16H (min/ft)
5
0
Gamma (API)
150
0
C1-NC4
100
2600
2650
2700
2750
Sample collection to begin at 3,150' MD.
Monitoring Gas
CG 18 u.
CONN
MW IN 40/9
OUT 40/9
Monitoring Gas
Sample collection to begin at 3,150' MD.
CG 33 u.
CONN

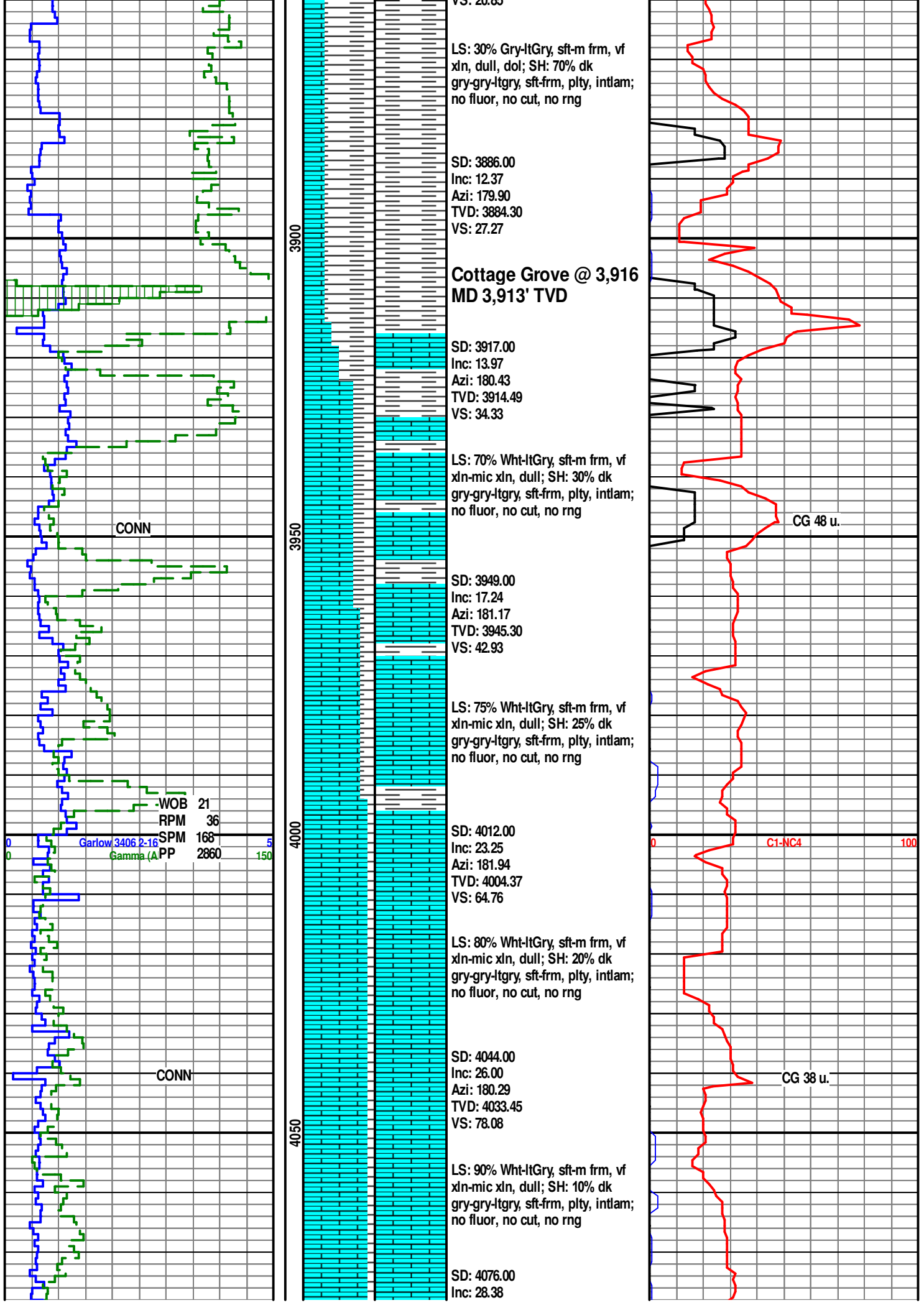

MW IN 40/9
OUT 40/9
0
Garlow 3406 2-16H (min/ft)
5
0
Gamma (API)
150
CONN
WOB 21.4
RPM 35
SPM 164
PP 2949
CONN
2800
2850
2900
2950
Sample collection to begin at 3,150' MD.
Monitoring Gas
0
C1-NC4
100
CG 57 u.
CG 38 u.
Sample collection to begin at 3,150' MD.
Monitoring Gas

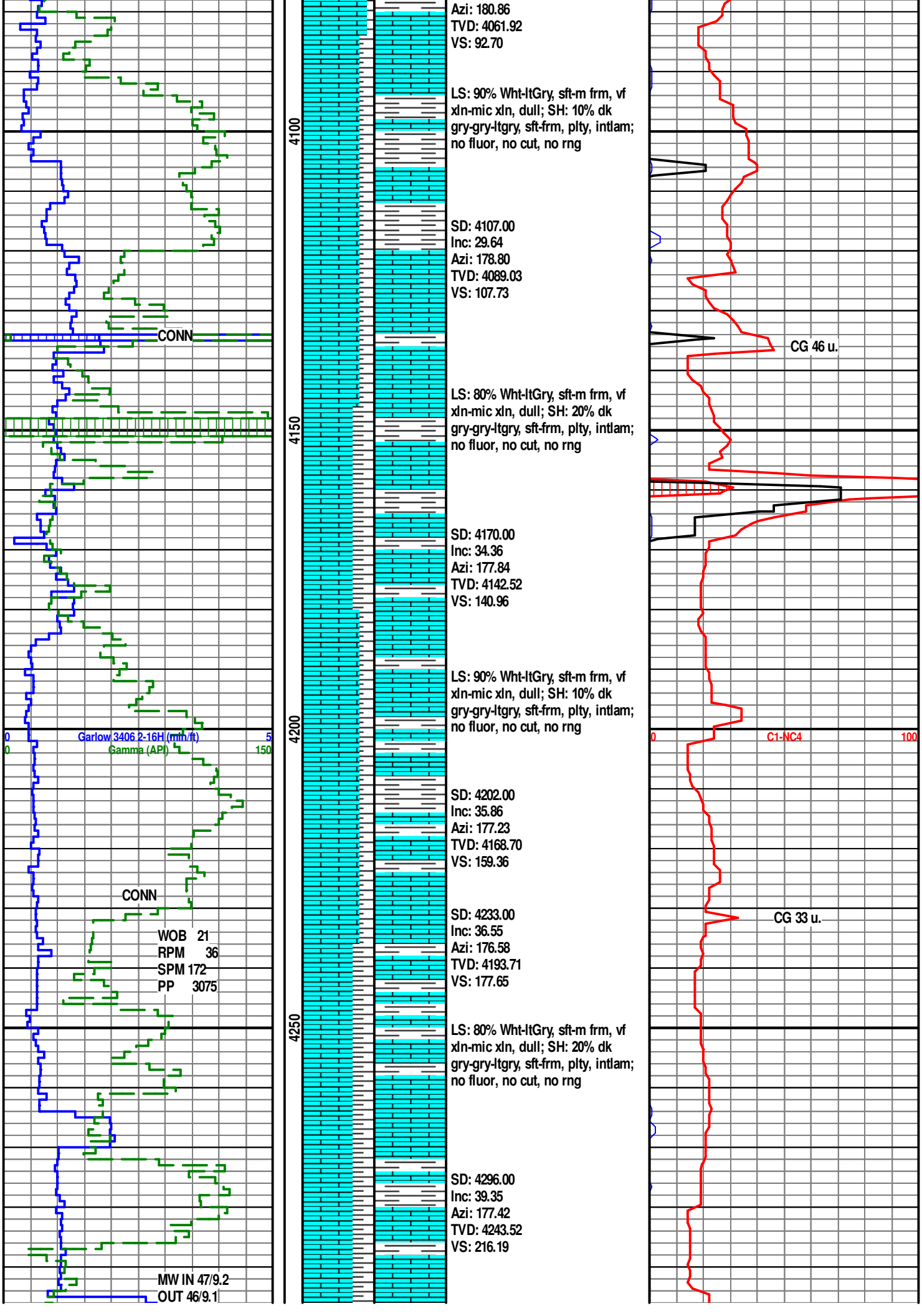

CONN
0 Garlow 3406 2-16H (min/ft) 5
0 Gamma (API) 150
CONN
CONN
0 Garlow 3406 2-16H (min/ft) 5
0 Gamma (API) 150
3000
3050
3100
3150
3200
Sample collection to begin at 3,150' MD.
SD: 3063.00
Inc: 0.29
Azi: 209.39
TVD: 3062.98
VS: 3.01
Sample collection to begin at 3,150' MD.
LS: 10% Gry-ltGry, sft-m frm, vf xln, dull, dol; SH: 90% Blk-dk Gry, sft-frm, sb plty-plty, intlam, dull; no fluor, no cut, no rng
CG 35 u.
0 C1-NC4 100
Monitoring Gas
CG 15 u.
Monitoring Gas
CG 21 u.
0 C1-NC4 100

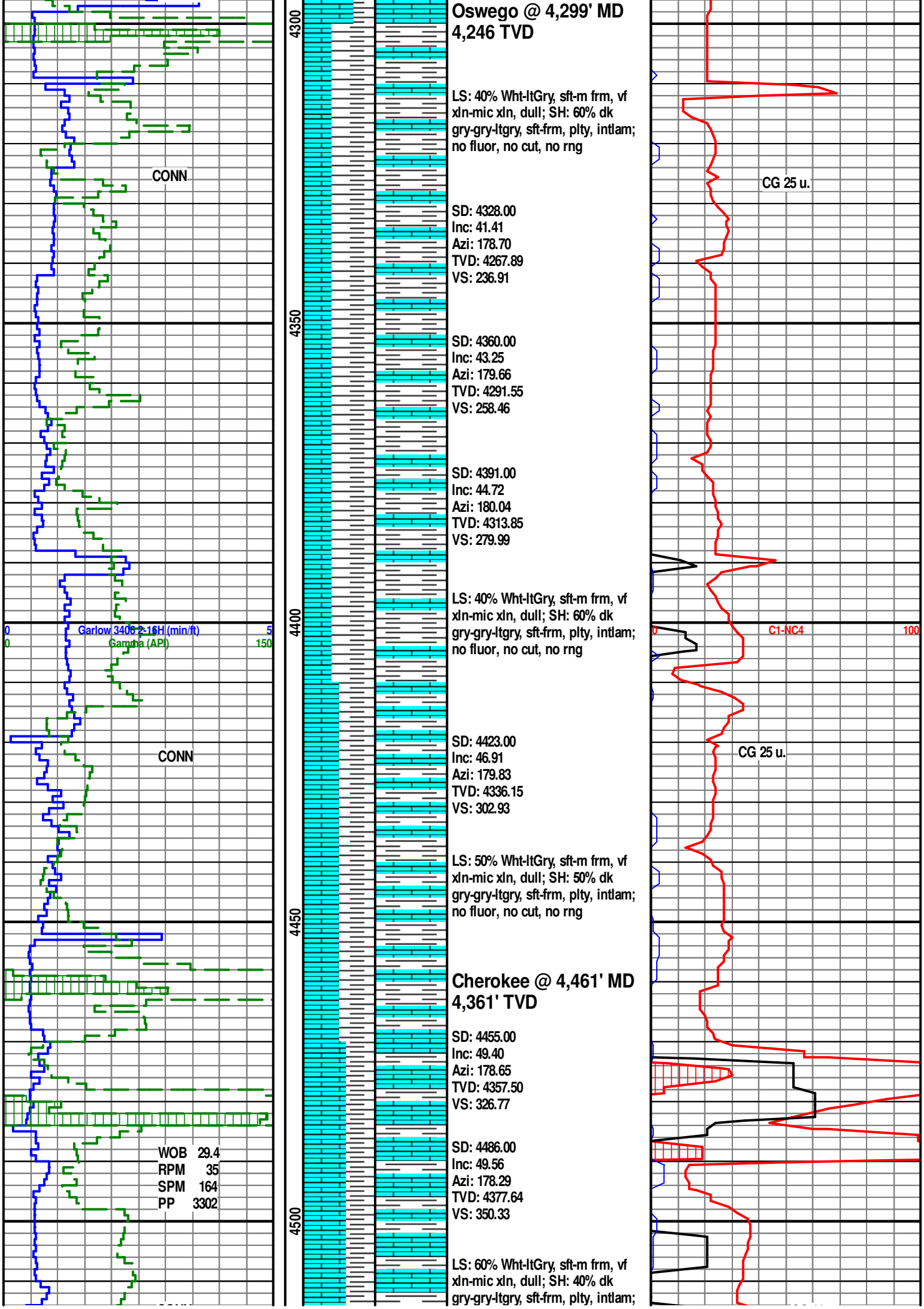

MW IN 56/8.5
OUT 55/8.6
WOB 22.8
RPM 35
SPM 166
PP 2917
CONN
CONN
3250
3300
3350
3400
LS: 10% Gry-ltGry, sft-m frm, vf xln, dull, dol; SH: 90% Blk-dk Gry, sft-frm, sb plty-plty, intlam, dull; no fluor, no cut, no rng
LS: 10% Gry-ltGry, sft-m frm, vf xln, dull, dol; SH: 90% Blk-dk Gry, sft-frm, sb plty-plty, intlam, dull; no fluor, no cut, no rng
Base Heebner @ 3,286' MD, 3,286' TVD
LS: 30% Gry-ltGry, sft-m frm, vf xln, dull, dol; SH: 70% Blk-dk Gry, sft-frm, sb plty-plty, intlam, dull; no fluor, no cut, no rng
LS: 30% Gry-ltGry, sft-m frm, vf xln, dull, dol; SH: 70% Blk-dk Gry, sft-frm, sb plty-plty, intlam, dull; no fluor, no cut, no rng
CG 24 u.
CG 31 u.
0
Garlow 3406 2-16H (min/ft)
5
0
Gamma (API)
150
0
C1-NC4
100

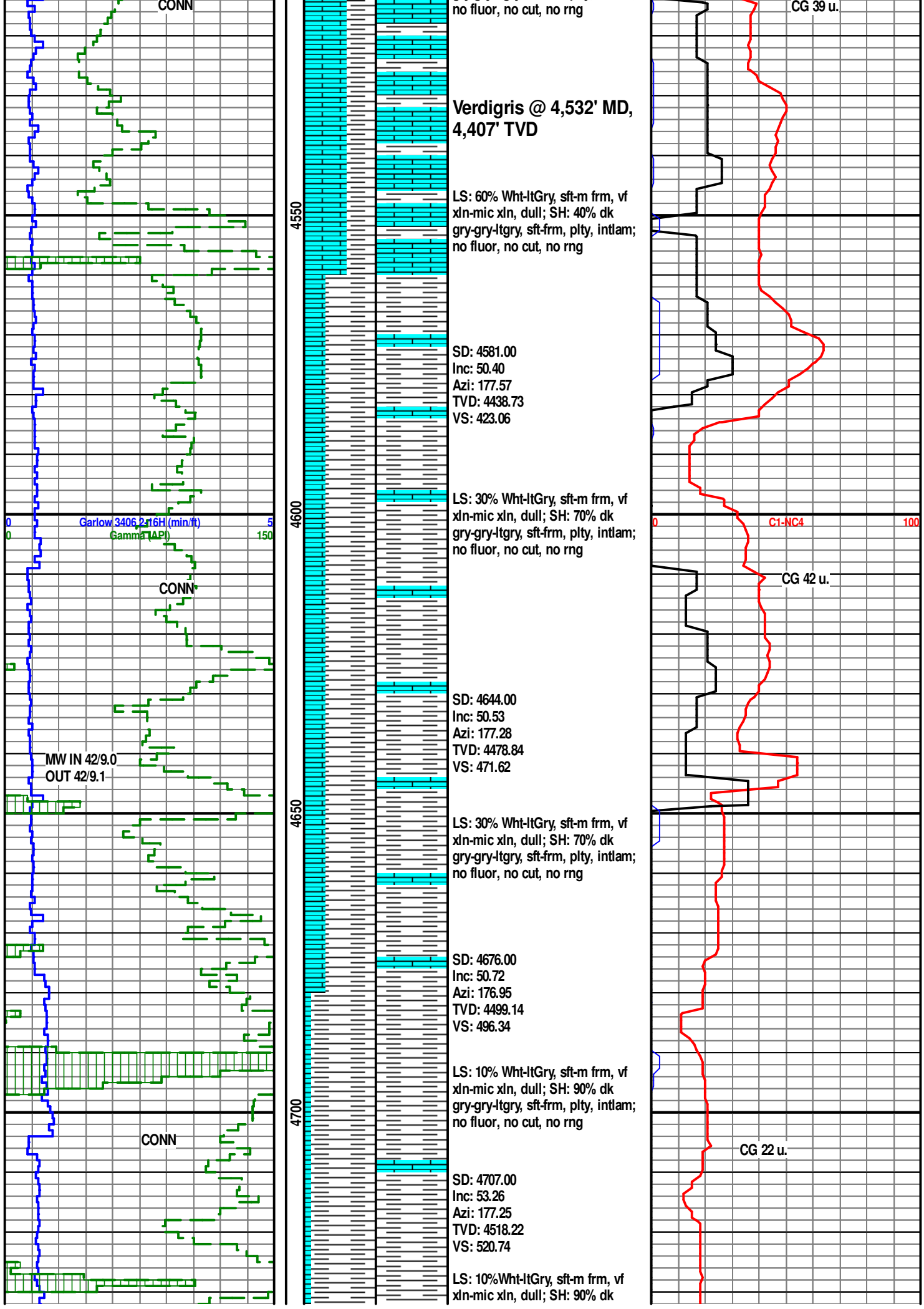

3450
3500
3550
3600
LS: 10% Gry-ltGry, sft-m frm, vf xln, dull, dol; SH: 90% Blk-dk Gry, sft-frm, sb plty-plty, intlam, dull; no fluor, no cut, no rng
CONN
MW IN 54/8.6
OUT 54/8.6
CG 39 u.
LS: 10% Gry-ltGry, sft-m frm, vf xln, dull, dol; SH: 90% Blk-dk Gry, sft-frm, sb plty-plty, intlam, dull; no fluor, no cut, no rng
SD: 3538.00
Inc: 0.28
Azi: 259.93
TVD: 3537.97
VS: 3.60
CONN
CG 46 u.
LS: 20% Gry-ltGry, sft-m frm, vf xln, dull, dol; SH: 80% Blk-dk Gry, sft-frm, sb plty-plty, intlam, dull; no fluor, no cut, no rng
0
Garlow 3406 2-16H (min/ft)
5
0
Gamma (API)
150
0
C1/NC4
100
MW IN 41/9.1
OUT 41/9.2
Lansing @ 3,647' MD, 3,647 TVD

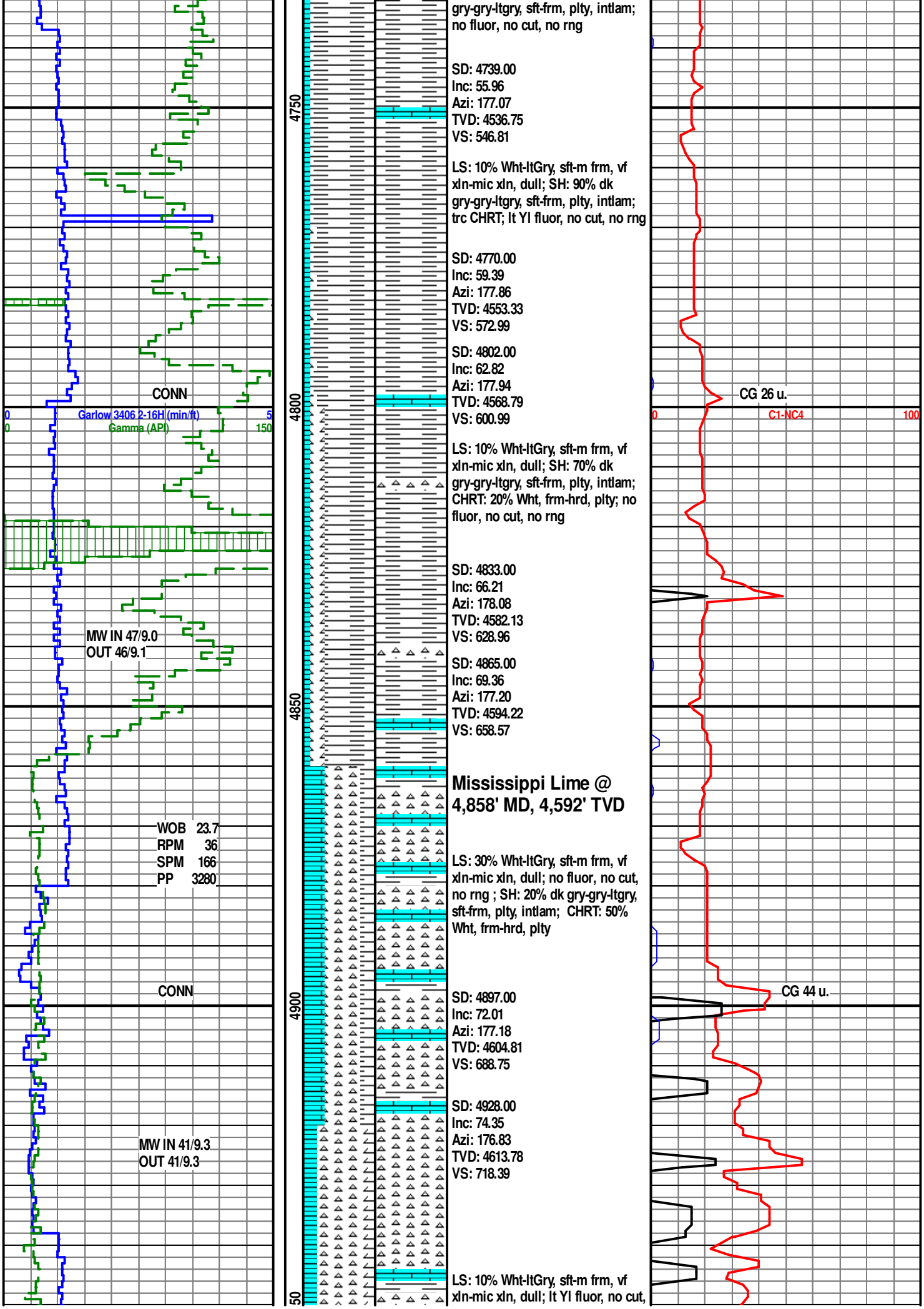

CONN
WOB 8.5
RPM 36
SPM 180
PP 2772
CONN
CONN
0
Garlow 3406 2-16H (min/ft)
5
0
Gamma (API)
150
3650
3700
3750
3800
3850
LS: 20% Gry-ltGry, sft-m frm, vf xln, dull, dol; SH: 80% Blk-dk Gry, sft-frm, sb plty-plty, intlam, dull; no fluor, no cut, no rng
LS: 30% Gry-ltGry, sft-m frm, vf xln, dull, dol; SH: 70% Blk-dk Gry, sft-frm, sb plty-plty, intlam, dull; no fluor, no cut, no rng
SD: 3727.00
Inc: 2.43
Azi: 177.13
TVD: 3726.94
VS: 5.93
SD: 3759.00
Inc: 4.86
Azi: 178.28
TVD: 3758.87
VS: 7.96
LS: 30% Gry-ltGry, sft-m frm, vf xln, dull, dol; SH: 70% Blk-dk Gry, sft-frm, sb plty-plty, intlam, dull; no fluor, no cut, no rng
SD: 3791.00
Inc: 6.96
Azi: 176.02
TVD: 3790.70
VS: 11.25
SD: 3823.00
Inc: 8.71
Azi: 178.03
TVD: 3822.40
VS: 15.61
SD: 3854.00
Inc: 10.76
Azi: 177.61
TVD: 3852.95
CG 53 u.
CG 36 u.
0
C1-NC4
100
CG 29 u.

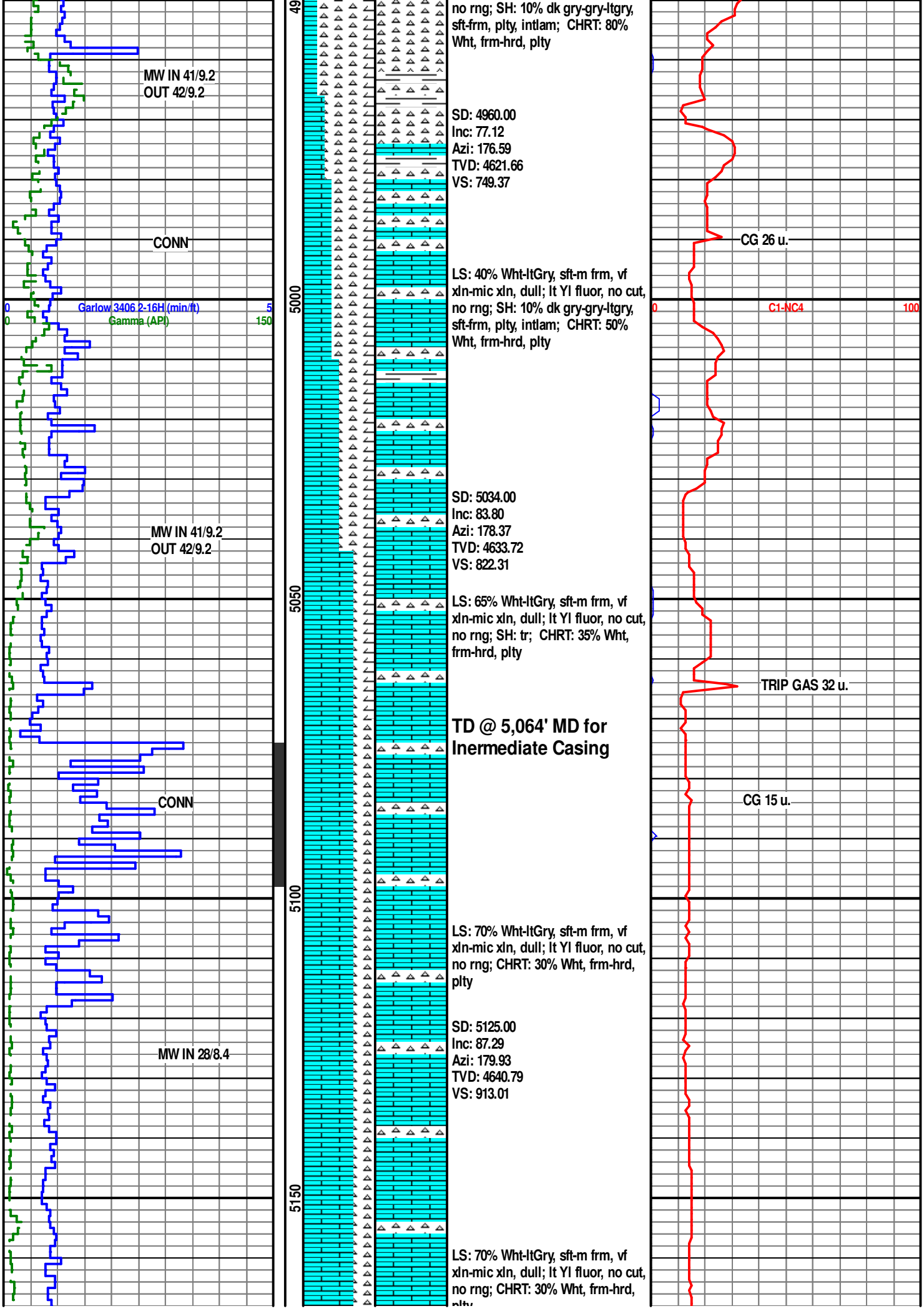

LS: 30% Gry-ltGry, sft-m frm, vf xln, dull, dol; SH: 70% dk gry-gry-ltgry, sft-frm, plty, intlam; no fluor, no cut, no rng
SD: 3886.00
Inc: 12.37
Azi: 179.90
TVD: 3884.30
VS: 27.27
Cottage Grove @ 3,916 MD 3,913' TVD
SD: 3917.00
Inc: 13.97
Azi: 180.43
TVD: 3914.49
VS: 34.33
LS: 70% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; SH: 30% dk gry-gry-ltgry, sft-frm, plty, intlam; no fluor, no cut, no rng
CG 48 u.
CONN
SD: 3949.00
Inc: 17.24
Azi: 181.17
TVD: 3945.30
VS: 42.93
LS: 75% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; SH: 25% dk gry-gry-ltgry, sft-frm, plty, intlam; no fluor, no cut, no rng
WOB 21
RPM 36
SPM 168
PP 2860
0
Garlow 3406 2-16
0
Gamma (A
5
150
0
C1-NC4
100
SD: 4012.00
Inc: 23.25
Azi: 181.94
TVD: 4004.37
VS: 64.76
LS: 80% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; SH: 20% dk gry-gry-ltgry, sft-frm, plty, intlam; no fluor, no cut, no rng
SD: 4044.00
Inc: 26.00
Azi: 180.29
TVD: 4033.45
VS: 78.08
CG 38 u.
CONN
LS: 90% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; SH: 10% dk gry-gry-ltgry, sft-frm, plty, intlam; no fluor, no cut, no rng
SD: 4076.00
Inc: 28.38
3900
3950
4000
4050

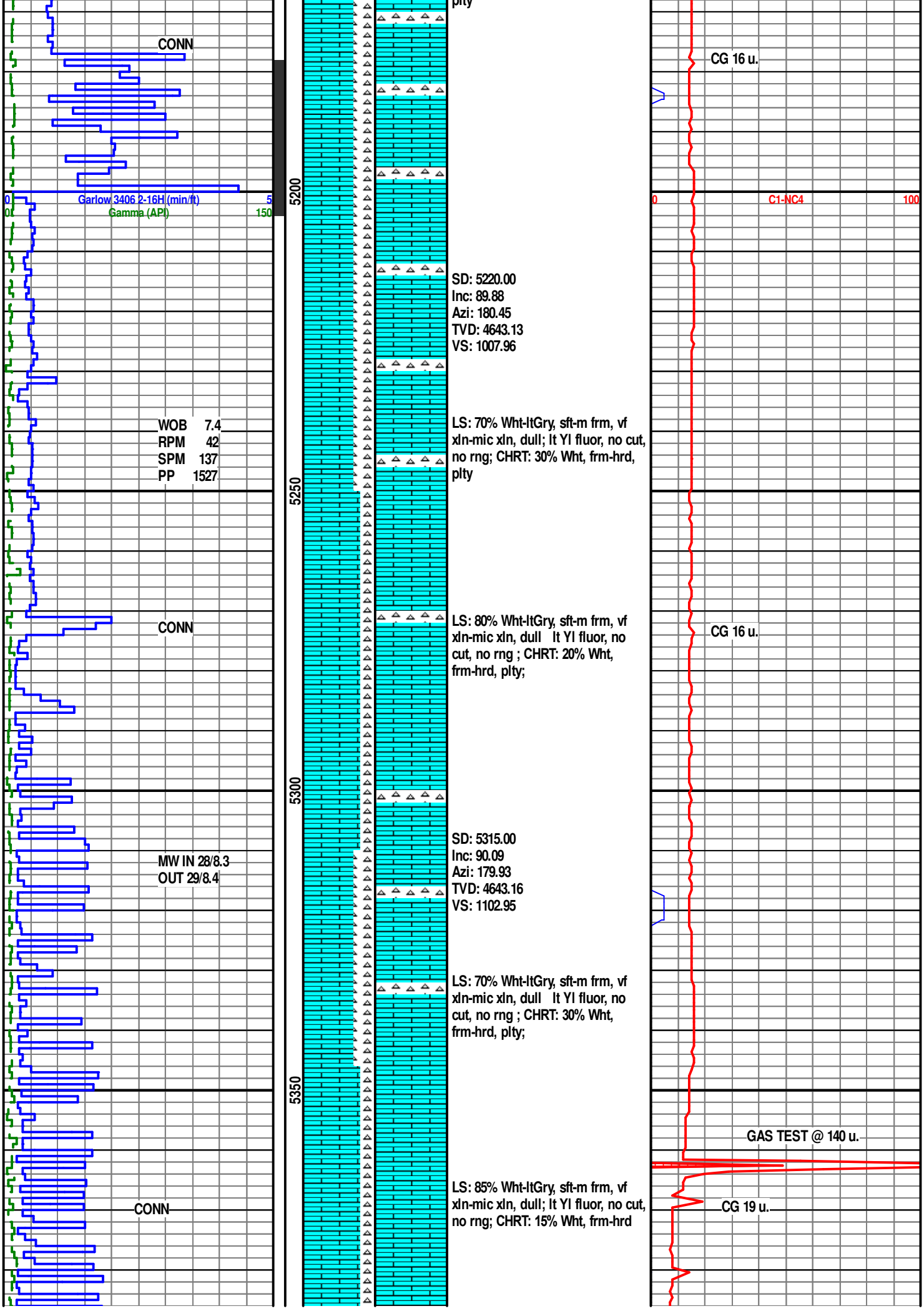

Azi: 180.86
TVD: 4061.92
VS: 92.70
LS: 90% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; SH: 10% dk gry-gry-ltgry, sft-frm, plty, intlam; no fluor, no cut, no rng
4100
SD: 4107.00
Inc: 29.64
Azi: 178.80
TVD: 4089.03
VS: 107.73
CONN
CG 46 u.
4150
LS: 80% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; SH: 20% dk gry-gry-ltgry, sft-frm, plty, intlam; no fluor, no cut, no rng
SD: 4170.00
Inc: 34.36
Azi: 177.84
TVD: 4142.52
VS: 140.96
LS: 90% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; SH: 10% dk gry-gry-ltgry, sft-frm, plty, intlam; no fluor, no cut, no rng
4200
0
Garlow 3406 2-16H (min/ft)
5
0
Gamma (API)
150
0
C1-NC4
100
SD: 4202.00
Inc: 35.86
Azi: 177.23
TVD: 4168.70
VS: 159.36
CONN
SD: 4233.00
Inc: 36.55
Azi: 176.58
TVD: 4193.71
VS: 177.65
CG 33 u.
WOB 21
RPM 36
SPM 172
PP 3075
4250
LS: 80% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; SH: 20% dk gry-gry-ltgry, sft-frm, plty, intlam; no fluor, no cut, no rng
SD: 4296.00
Inc: 39.35
Azi: 177.42
TVD: 4243.52
VS: 216.19
MW IN 47/9.2
OUT 46/9.1

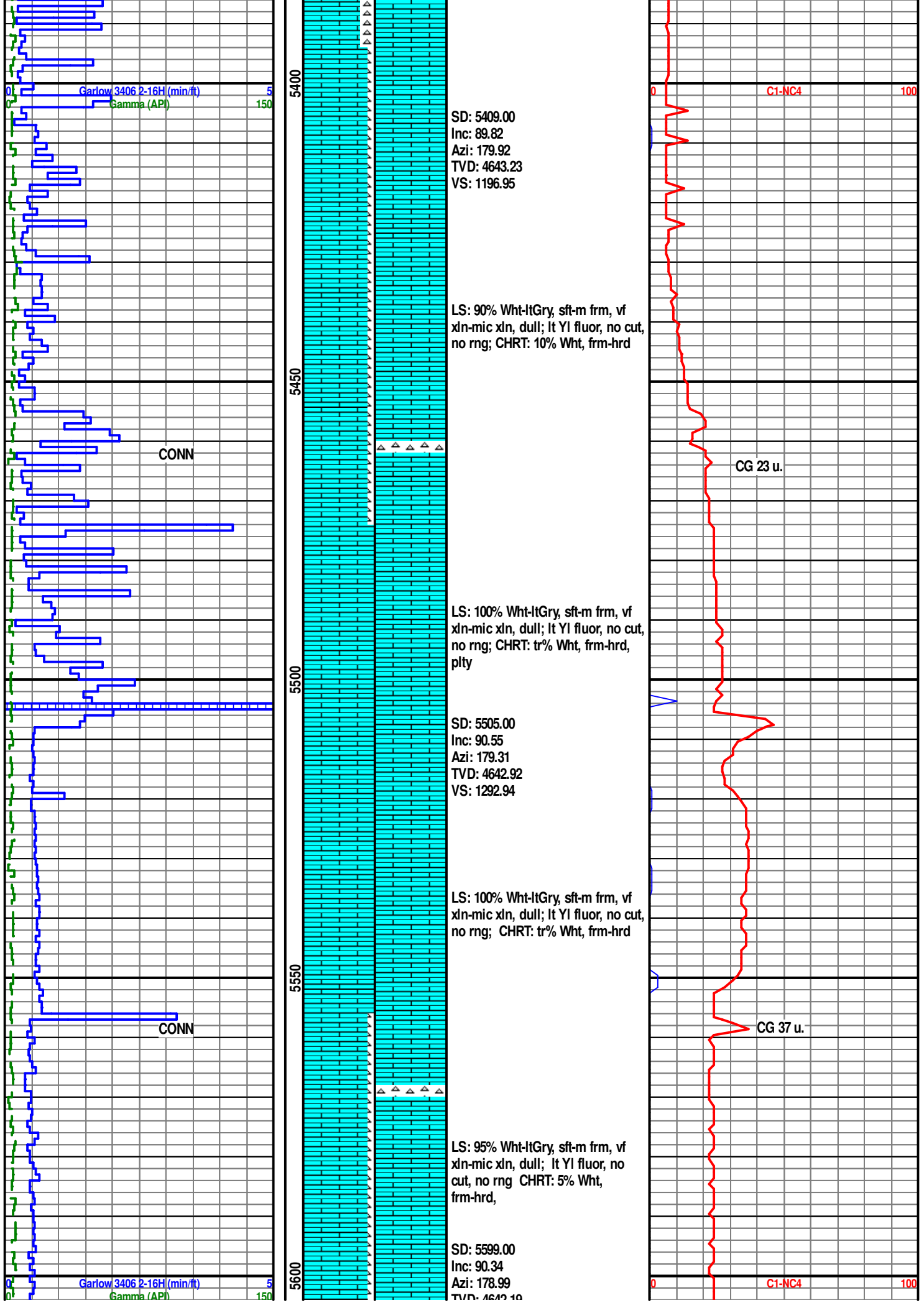

Oswego @ 4,299' MD
4,246 TVD
LS: 40% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; SH: 60% dk gry-gry-ltgry, sft-frm, plty, intlam; no fluor, no cut, no rng
SD: 4328.00
Inc: 41.41
Azi: 178.70
TVD: 4267.89
VS: 236.91
SD: 4360.00
Inc: 43.25
Azi: 179.66
TVD: 4291.55
VS: 258.46
SD: 4391.00
Inc: 44.72
Azi: 180.04
TVD: 4313.85
VS: 279.99
LS: 40% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; SH: 60% dk gry-gry-ltgry, sft-frm, plty, intlam; no fluor, no cut, no rng
SD: 4423.00
Inc: 46.91
Azi: 179.83
TVD: 4336.15
VS: 302.93
LS: 50% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; SH: 50% dk gry-gry-ltgry, sft-frm, plty, intlam; no fluor, no cut, no rng
Cherokee @ 4,461' MD
4,361' TVD
SD: 4455.00
Inc: 49.40
Azi: 178.65
TVD: 4357.50
VS: 326.77
SD: 4486.00
Inc: 49.56
Azi: 178.29
TVD: 4377.64
VS: 350.33
LS: 60% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; SH: 40% dk gry-gry-ltgry, sft-frm, plty, intlam;
4300
4350
4400
4450
4500
CONN
CONN
CG 25 u.
CG 25 u.
0
Garlow 3406 2-16H (min/ft)
5
0
Gamma (API)
150
0
C1-NC4
100
WOB 29.4
RPM 35
SPM 164
PP 3302

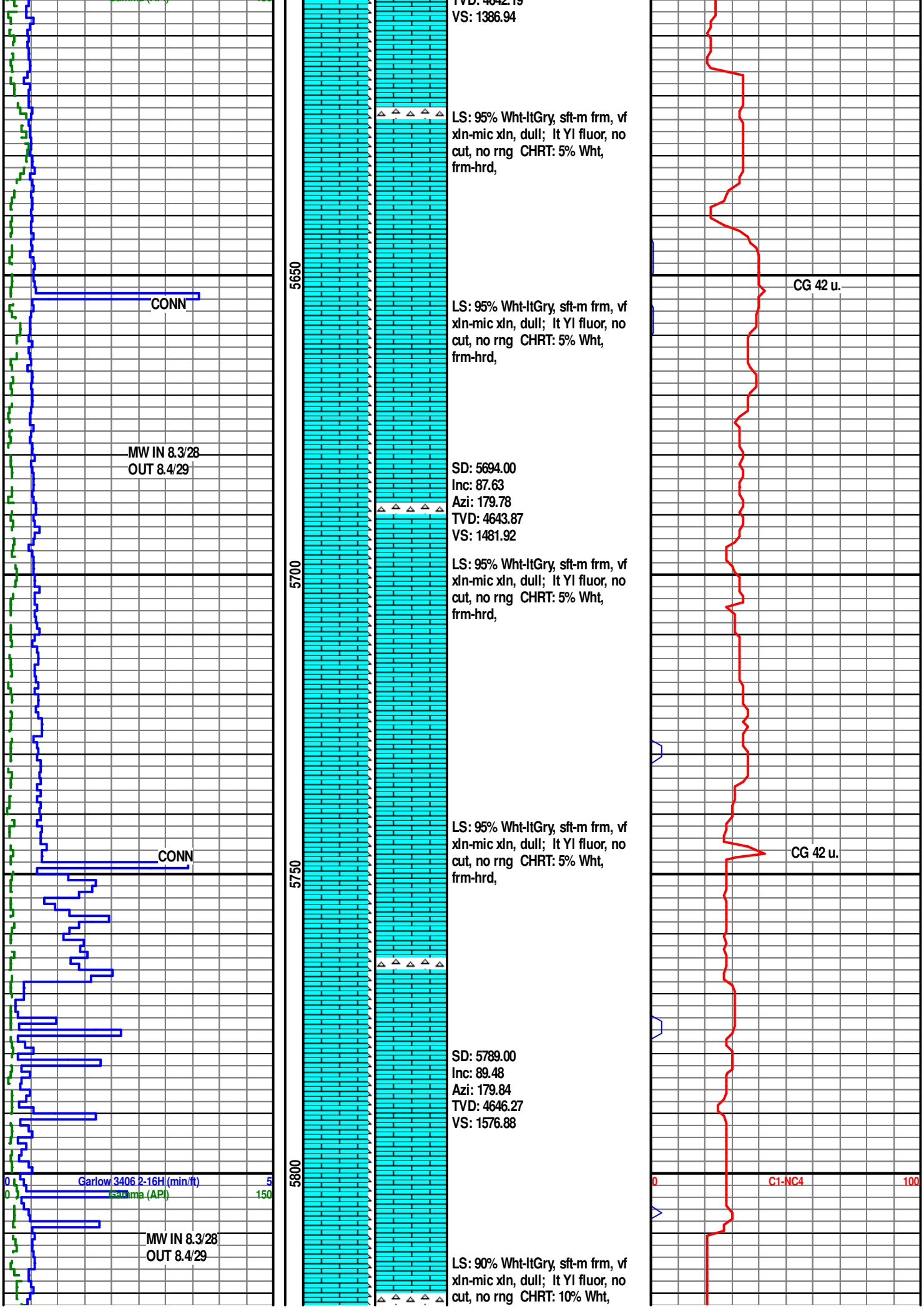

CONN
no fluor, no cut, no rng
CG 39 u.
Verdigris @ 4,532' MD, 4,407' TVD
LS: 60% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; SH: 40% dk gry-gry-ltgry, sft-frm, plty, intlam; no fluor, no cut, no rng
4550
SD: 4581.00
Inc: 50.40
Azi: 177.57
TVD: 4438.73
VS: 423.06
LS: 30% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; SH: 70% dk gry-gry-ltgry, sft-frm, plty, intlam; no fluor, no cut, no rng
0
Garlow 3406 2-16H (min/ft)
5
0
Gamma (API)
150
0
C1-NC4
100
CONN
CG 42 u.
4600
SD: 4644.00
Inc: 50.53
Azi: 177.28
TVD: 4478.84
VS: 471.62
MW IN 42/9.0
OUT 42/9.1
LS: 30% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; SH: 70% dk gry-gry-ltgry, sft-frm, plty, intlam; no fluor, no cut, no rng
4650
SD: 4676.00
Inc: 50.72
Azi: 176.95
TVD: 4499.14
VS: 496.34
LS: 10% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; SH: 90% dk gry-gry-ltgry, sft-frm, plty, intlam; no fluor, no cut, no rng
4700
CONN
CG 22 u.
SD: 4707.00
Inc: 53.26
Azi: 177.25
TVD: 4518.22
VS: 520.74
LS: 10%Wht-ltGry, sft-m frm, vf xln-mic xln, dull; SH: 90% dk

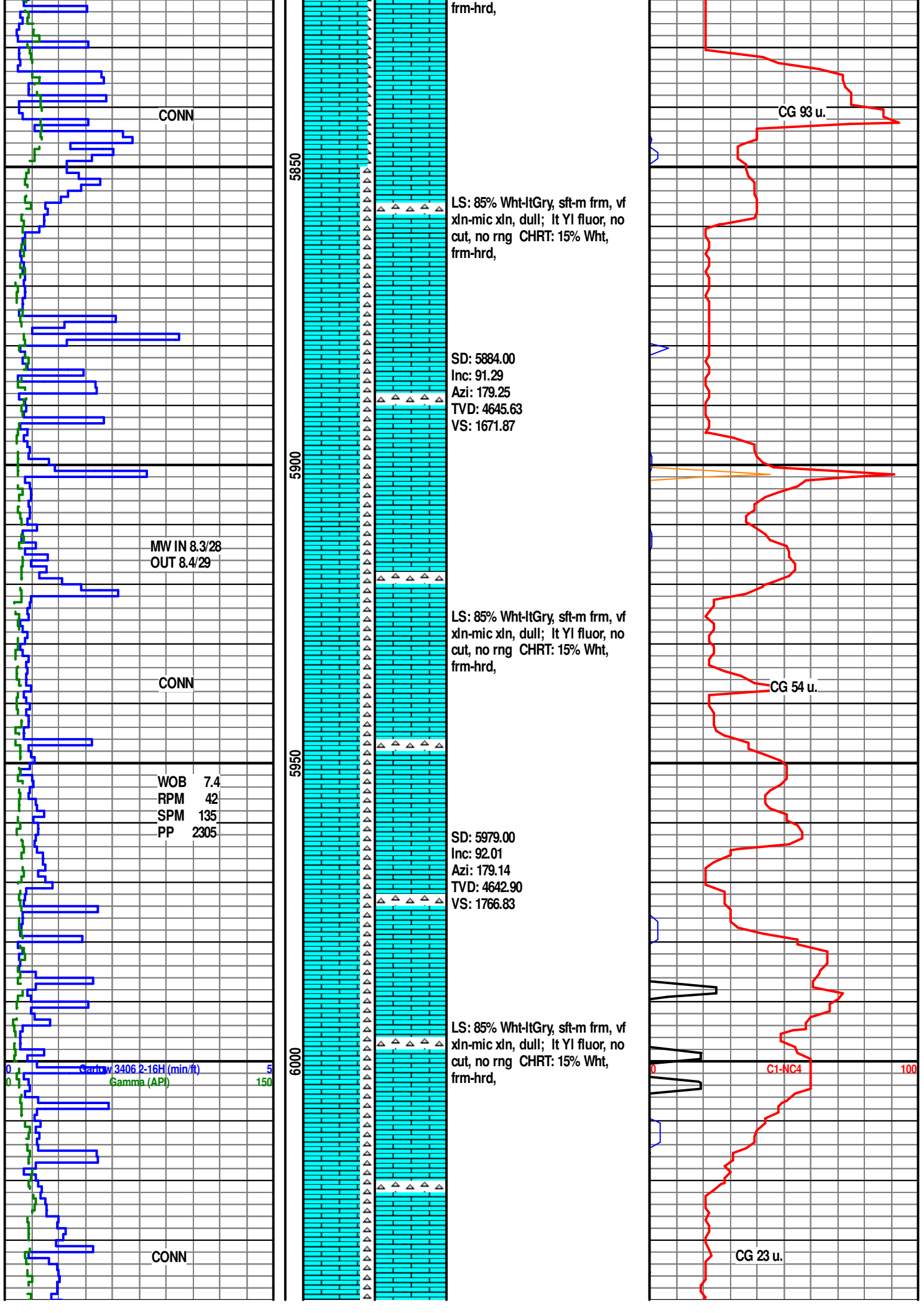

gry-gry-ltgry, sft-frm, plty, intlam; no fluor, no cut, no rng
SD: 4739.00
Inc: 55.96
Azi: 177.07
TVD: 4536.75
VS: 546.81
LS: 10% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; SH: 90% dk gry-gry-ltgry, sft-frm, plty, intlam; trc CHRT; lt Yl fluor, no cut, no rng
SD: 4770.00
Inc: 59.39
Azi: 177.86
TVD: 4553.33
VS: 572.99
SD: 4802.00
Inc: 62.82
Azi: 177.94
TVD: 4568.79
VS: 600.99
LS: 10% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; SH: 70% dk gry-gry-ltgry, sft-frm, plty, intlam; CHRT: 20% Wht, frm-hrd, plty; no fluor, no cut, no rng
SD: 4833.00
Inc: 66.21
Azi: 178.08
TVD: 4582.13
VS: 628.96
SD: 4865.00
Inc: 69.36
Azi: 177.20
TVD: 4594.22
VS: 658.57
Mississippi Lime @ 4,858' MD, 4,592' TVD
LS: 30% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; no fluor, no cut, no rng ; SH: 20% dk gry-gry-ltgry, sft-frm, plty, intlam; CHRT: 50% Wht, frm-hrd, plty
SD: 4897.00
Inc: 72.01
Azi: 177.18
TVD: 4604.81
VS: 688.75
SD: 4928.00
Inc: 74.35
Azi: 176.83
TVD: 4613.78
VS: 718.39
LS: 10% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut,
4750
4800
4850
4900
50
CONN
0
Garlow 3406 2-16H (min/ft)
5
0
Gamma (API)
150
MW IN 47/9.0
OUT 46/9.1
WOB 23.7
RPM 36
SPM 166
PP 3280
CONN
MW IN 41/9.3
OUT 41/9.3
CG 26 u.
0
C1-NC4
100
CG 44 u.

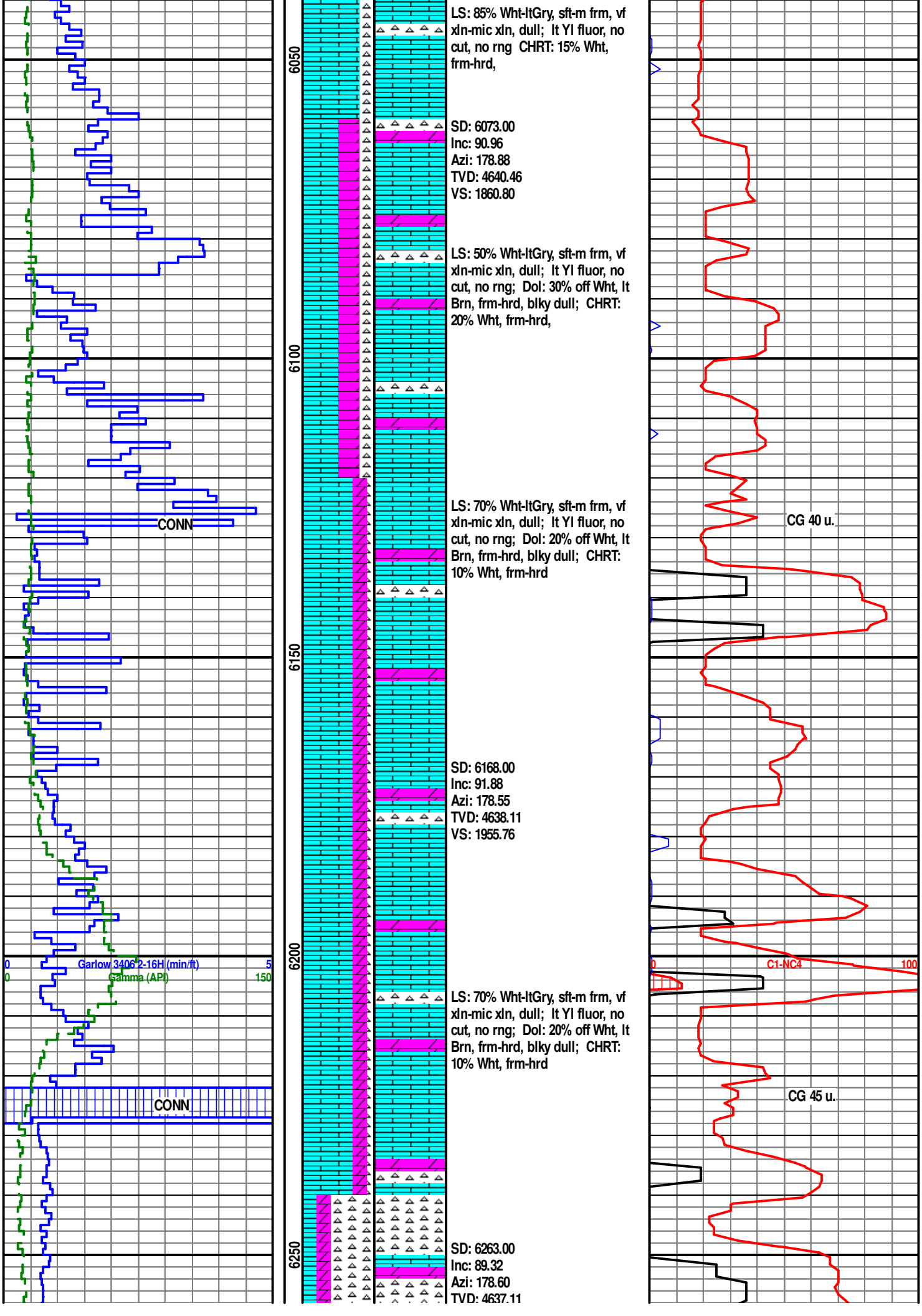

MW IN 41/9.2
OUT 42/9.2
CONN
Garlow 3406 2-16H (min/ft)
Gamma (API)
0
0
5
150
MW IN 41/9.2
OUT 42/9.2
CONN
MW IN 28/8.4
4950
5000
5050
5100
5150
no rng; SH: 10% dk gry-gry-ltgry, sft-frm, plty, intlam; CHRT: 80% Wht, frm-hrd, plty
SD: 4960.00
Inc: 77.12
Azi: 176.59
TVD: 4621.66
VS: 749.37
LS: 40% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; SH: 10% dk gry-gry-ltgry, sft-frm, plty, intlam; CHRT: 50% Wht, frm-hrd, plty
SD: 5034.00
Inc: 83.80
Azi: 178.37
TVD: 4633.72
VS: 822.31
LS: 65% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; SH: tr; CHRT: 35% Wht, frm-hrd, plty
TD @ 5,064' MD for Inermediate Casing
LS: 70% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 30% Wht, frm-hrd, plty
SD: 5125.00
Inc: 87.29
Azi: 179.93
TVD: 4640.79
VS: 913.01
LS: 70% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 30% Wht, frm-hrd,
CG 26 u.
0
C1-NC4
100
TRIP GAS 32 u.
CG 15 u.

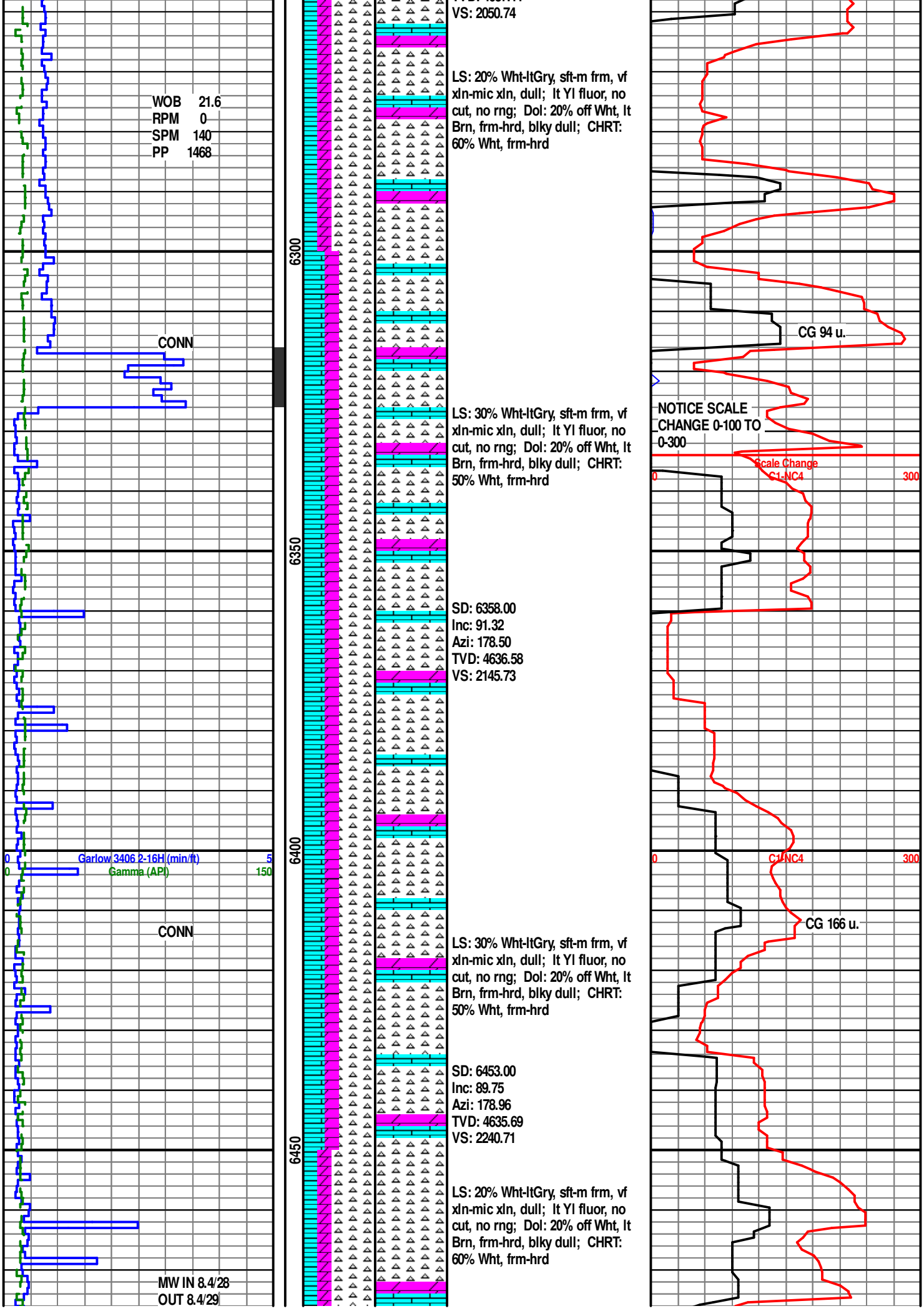

plty
CONN
CG 16 u.
0
Garlow 3406 2-16H (min/ft)
5
0
Gamma (API)
150
0
C1-NC4
100
5200
SD: 5220.00
Inc: 89.88
Azi: 180.45
TVD: 4643.13
VS: 1007.96
WOB 7.4
RPM 42
SPM 137
PP 1527
LS: 70% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 30% Wht, frm-hrd, plty
5250
CONN
LS: 80% Wht-ltGry, sft-m frm, vf xln-mic xln, dull lt Yl fluor, no cut, no rng ; CHRT: 20% Wht, frm-hrd, plty;
CG 16 u.
5300
SD: 5315.00
Inc: 90.09
Azi: 179.93
TVD: 4643.16
VS: 1102.95
MW IN 28/8.3
OUT 29/8.4
LS: 70% Wht-ltGry, sft-m frm, vf xln-mic xln, dull lt Yl fluor, no cut, no rng ; CHRT: 30% Wht, frm-hrd, plty;
5350
GAS TEST @ 140 u.
LS: 85% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 15% Wht, frm-hrd
CONN
CG 19 u.

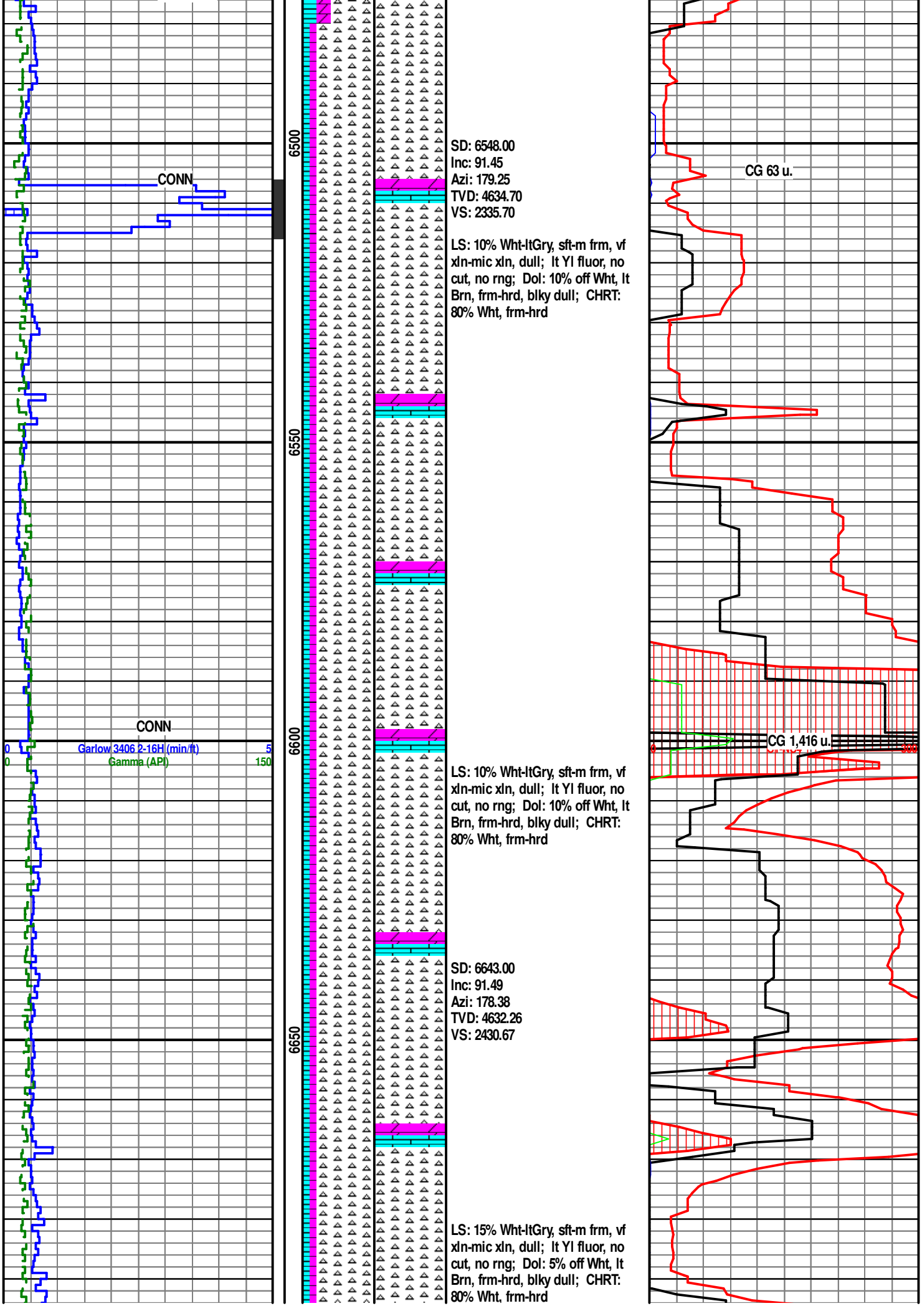

0
Garlow 3406 2-16H (min/ft)
5
Gamma (API)
150
CONN
CONN
5400
5450
5500
5550
5600
SD: 5409.00
Inc: 89.82
Azi: 179.92
TVD: 4643.23
VS: 1196.95
LS: 90% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 10% Wht, frm-hrd
LS: 100% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: tr% Wht, frm-hrd, plty
SD: 5505.00
Inc: 90.55
Azi: 179.31
TVD: 4642.92
VS: 1292.94
LS: 100% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: tr% Wht, frm-hrd
LS: 95% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng CHRT: 5% Wht, frm-hrd,
SD: 5599.00
Inc: 90.34
Azi: 178.99
0
C1-NC4
100
CG 23 u.
CG 37 u.
0
Garlow 3406 2-16H (min/ft)
5
Gamma (API)
150
0
C1-NC4
100

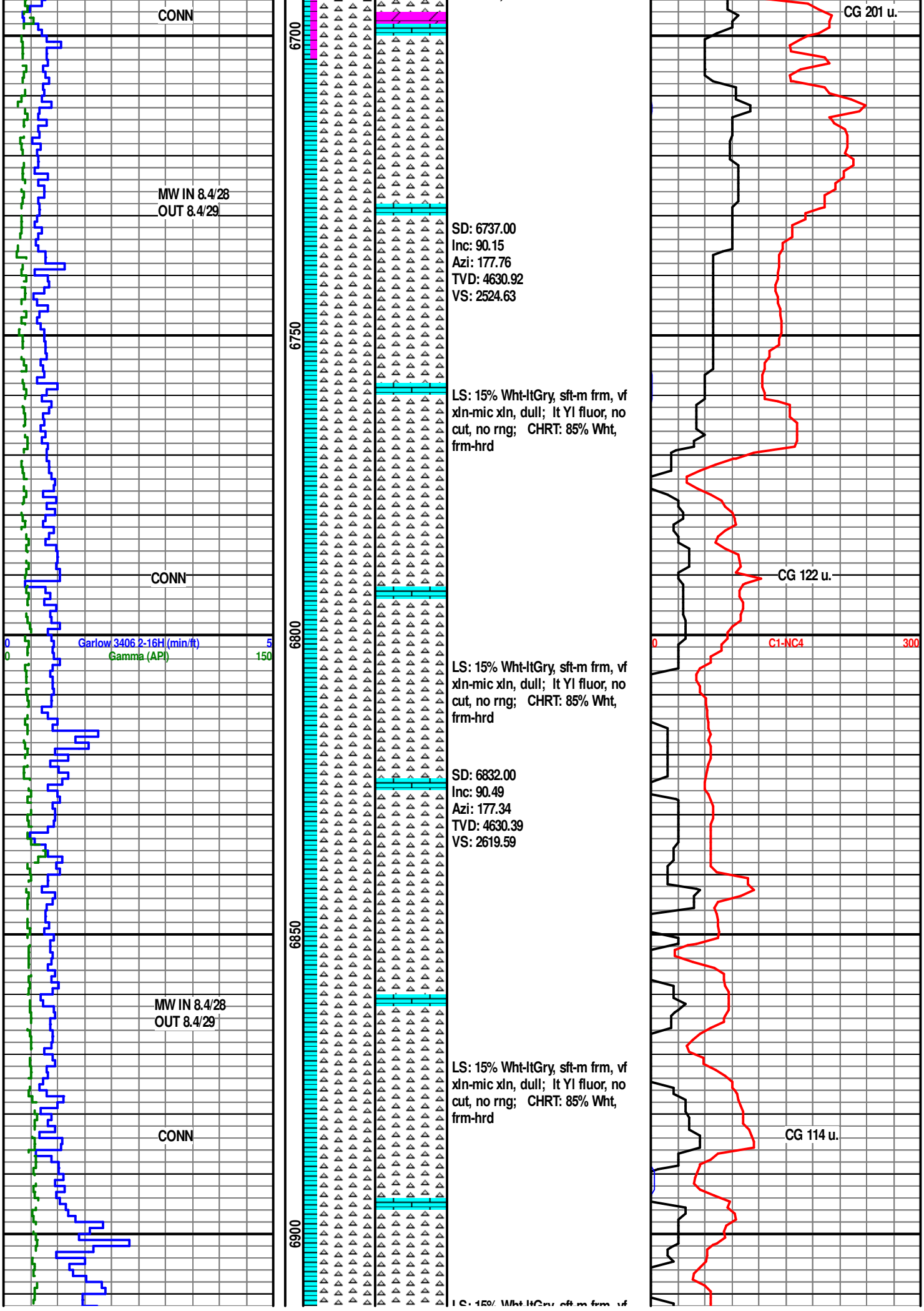

TVD: 4642.19
VS: 1386.94
LS: 95% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng CHRT: 5% Wht, frm-hrd,
CONN
CG 42 u.
LS: 95% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng CHRT: 5% Wht, frm-hrd,
MW IN 8.3/28
OUT 8.4/29
SD: 5694.00
Inc: 87.63
Azi: 179.78
TVD: 4643.87
VS: 1481.92
LS: 95% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng CHRT: 5% Wht, frm-hrd,
CONN
CG 42 u.
LS: 95% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng CHRT: 5% Wht, frm-hrd,
SD: 5789.00
Inc: 89.48
Azi: 179.84
TVD: 4646.27
VS: 1576.88
0
Garlow 3406 2-16H (min/ft)
5
0
Gamma (API)
150
0
C1-NC4
100
MW IN 8.3/28
OUT 8.4/29
LS: 90% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng CHRT: 10% Wht,
5650
5700
5750
5800

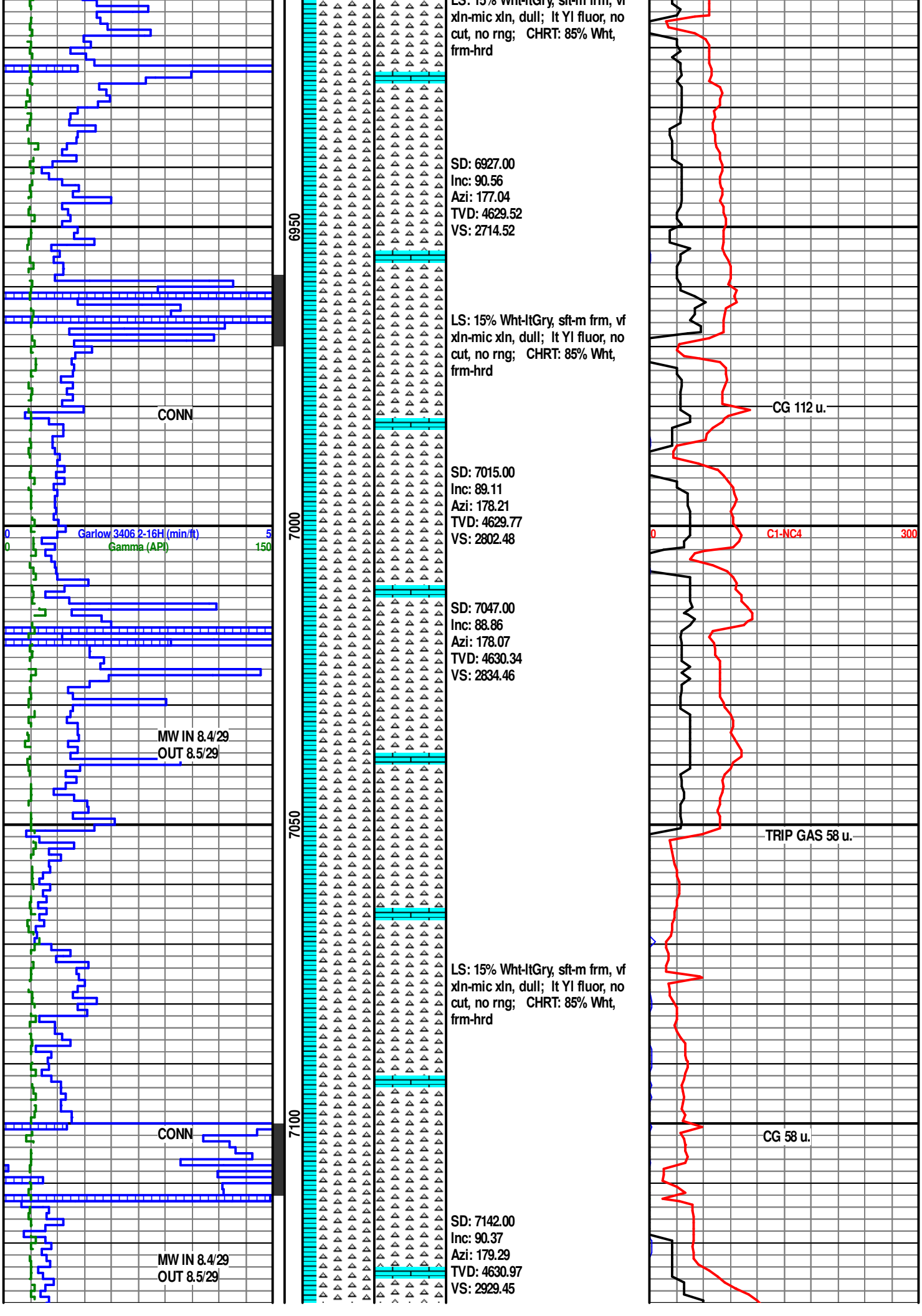

frm-hrd,
CONN
5850
LS: 85% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng CHRT: 15% Wht, frm-hrd,
SD: 5884.00
Inc: 91.29
Azi: 179.25
TVD: 4645.63
VS: 1671.87
5900
MW IN 8.3/28
OUT 8.4/29
LS: 85% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng CHRT: 15% Wht, frm-hrd,
CONN
5950
WOB 7.4
RPM 42
SPM 135
PP 2305
SD: 5979.00
Inc: 92.01
Azi: 179.14
TVD: 4642.90
VS: 1766.83
LS: 85% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng CHRT: 15% Wht, frm-hrd,
6000
0 Gardow 3406 2-16H (min/ft) 5
0 Gamma (API) 150
CONN
CG 93 u.
CG 54 u.
0 C1-NC4 100
CG 23 u.

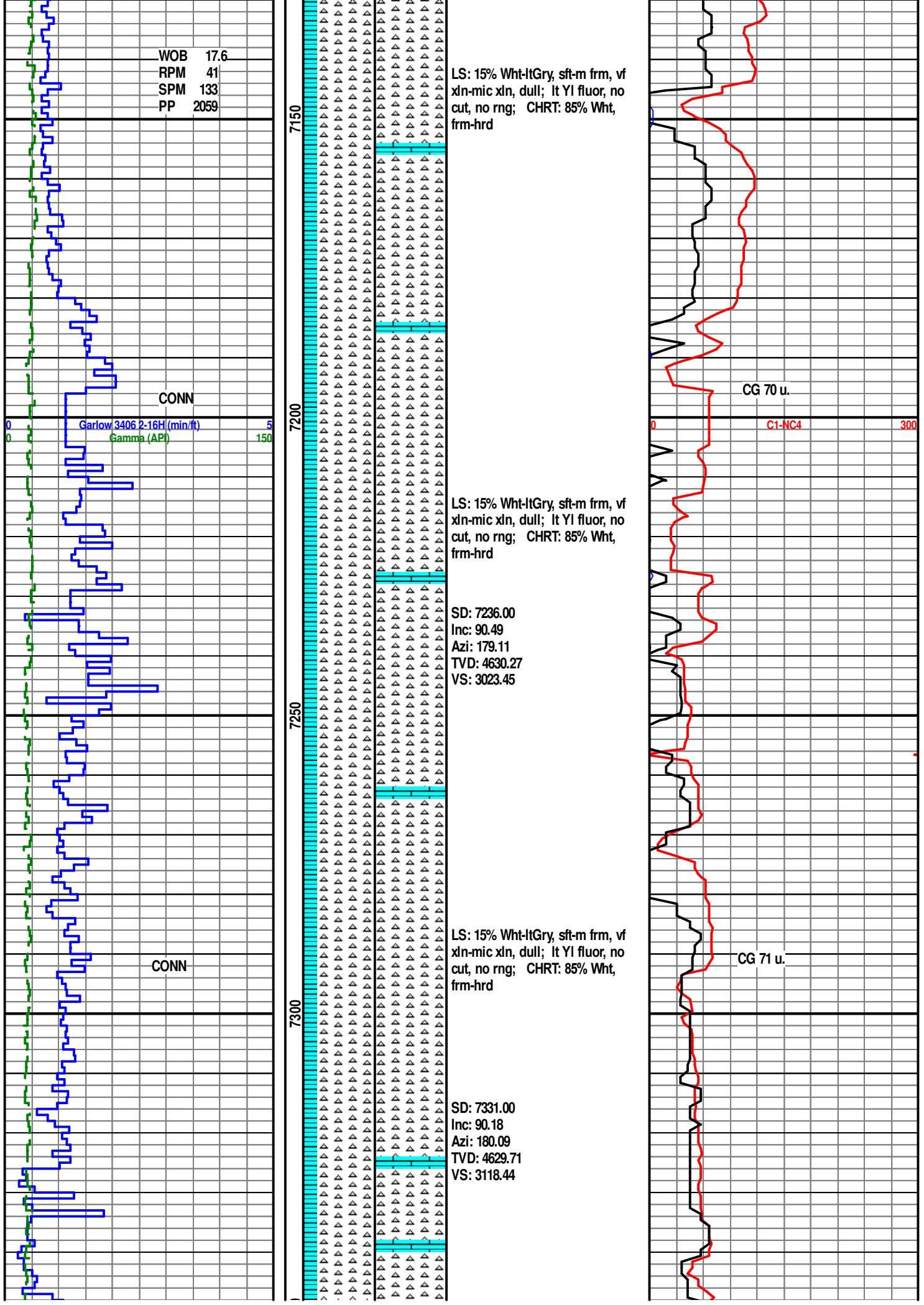

6050
6100
6150
6200
6250
LS: 85% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng CHRT: 15% Wht, frm-hrd,
SD: 6073.00
Inc: 90.96
Azi: 178.88
TVD: 4640.46
VS: 1860.80
LS: 50% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; Dol: 30% off Wht, lt Brn, frm-hrd, blky dull; CHRT: 20% Wht, frm-hrd,
LS: 70% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; Dol: 20% off Wht, lt Brn, frm-hrd, blky dull; CHRT: 10% Wht, frm-hrd
SD: 6168.00
Inc: 91.88
Azi: 178.55
TVD: 4638.11
VS: 1955.76
LS: 70% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; Dol: 20% off Wht, lt Brn, frm-hrd, blky dull; CHRT: 10% Wht, frm-hrd
SD: 6263.00
Inc: 89.32
Azi: 178.60
TVD: 4637.11
CONN
CONN
0
Garlow 3406 2-16H (min/ft)
5
0
Gamma (API)
150
CG 40 u.
0
C1-NC4
100
CG 45 u.

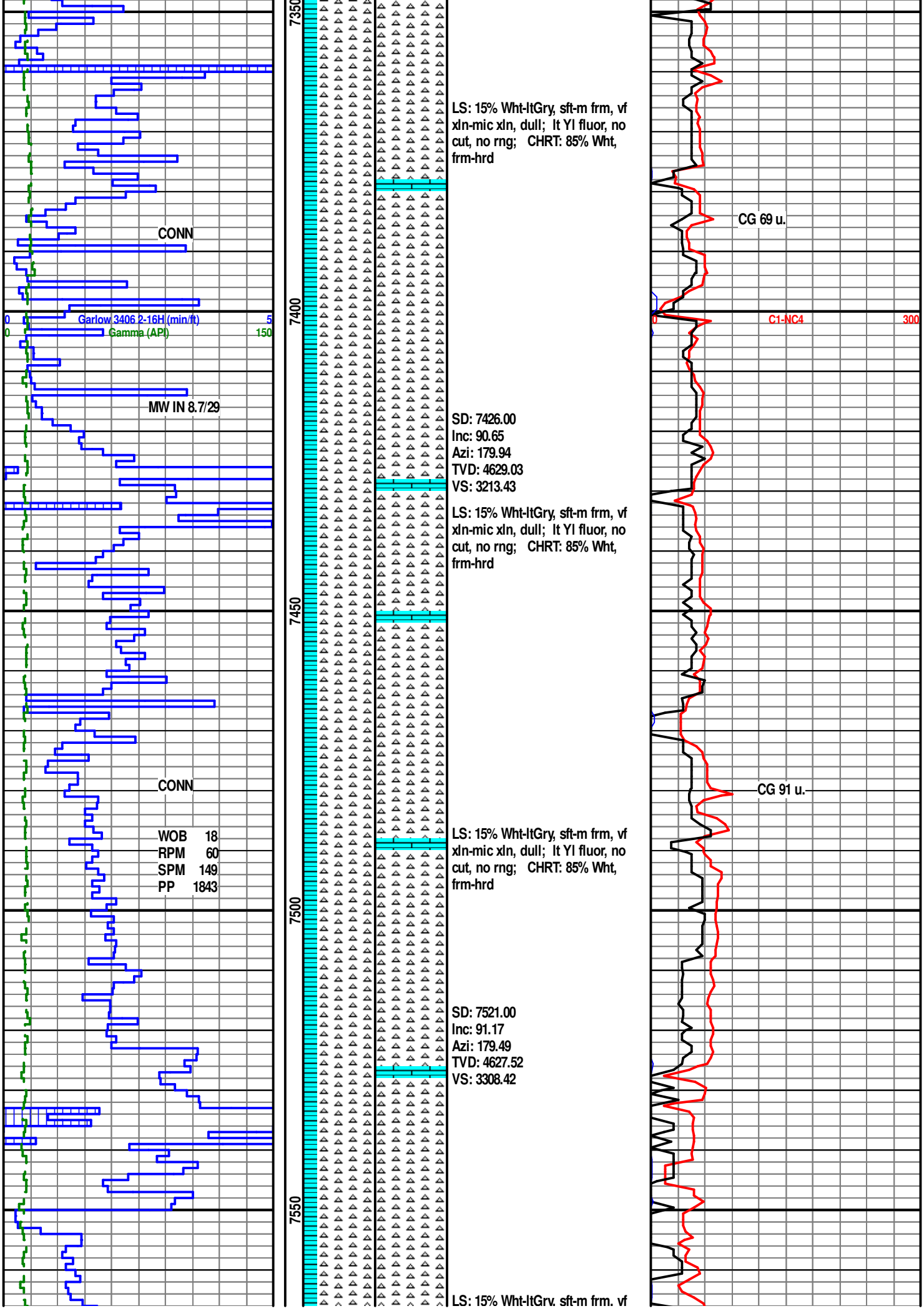

VS: 2050.74
LS: 20% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; Dol: 20% off Wht, lt Brn, frm-hrd, blky dull; CHRT: 60% Wht, frm-hrd
WOB 21.6
RPM 0
SPM 140
PP 1468
6300
CONN
CG 94 u.
NOTICE SCALE CHANGE 0-100 TO 0-300
Scale Change C1-NC4
0
300
LS: 30% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; Dol: 20% off Wht, lt Brn, frm-hrd, blky dull; CHRT: 50% Wht, frm-hrd
6350
SD: 6358.00
Inc: 91.32
Azi: 178.50
TVD: 4636.58
VS: 2145.73
0
Garlow 3406 2-16H (min/ft)
5
0
Gamma (API)
150
6400
C1/NC4
0
300
CONN
CG 166 u.
LS: 30% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; Dol: 20% off Wht, lt Brn, frm-hrd, blky dull; CHRT: 50% Wht, frm-hrd
SD: 6453.00
Inc: 89.75
Azi: 178.96
TVD: 4635.69
VS: 2240.71
6450
LS: 20% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; Dol: 20% off Wht, lt Brn, frm-hrd, blky dull; CHRT: 60% Wht, frm-hrd
MW IN 8.4/28
OUT 8.4/29

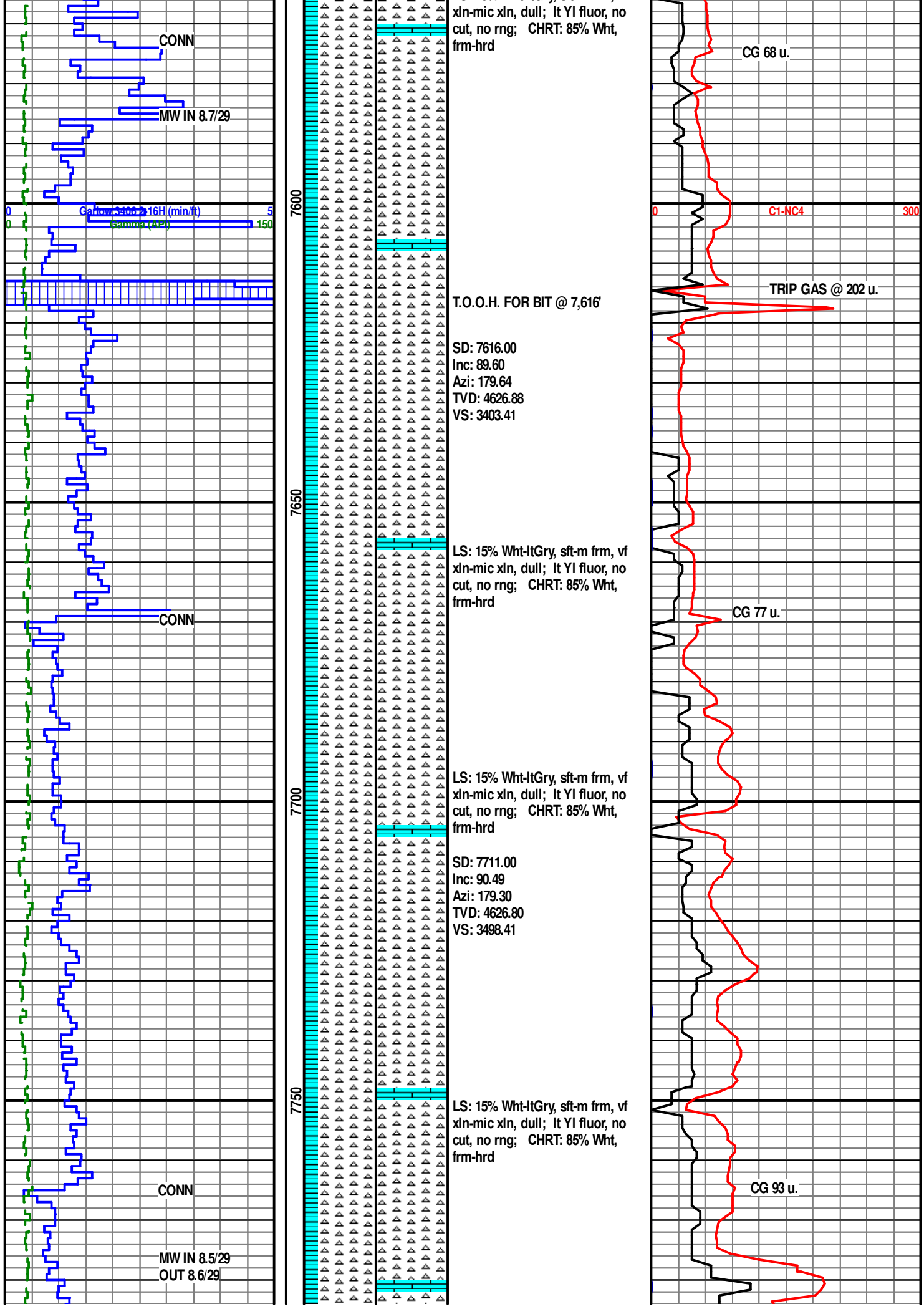

CONN
CONN
0
Garlow 3406 2-16H (min/ft)
5
0
Gamma (API)
150
6500
6550
6600
6650
SD: 6548.00
Inc: 91.45
Azi: 179.25
TVD: 4634.70
VS: 2335.70
LS: 10% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; Dol: 10% off Wht, lt Brn, frm-hrd, blky dull; CHRT: 80% Wht, frm-hrd
LS: 10% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; Dol: 10% off Wht, lt Brn, frm-hrd, blky dull; CHRT: 80% Wht, frm-hrd
SD: 6643.00
Inc: 91.49
Azi: 178.38
TVD: 4632.26
VS: 2430.67
LS: 15% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; Dol: 5% off Wht, lt Brn, frm-hrd, blky dull; CHRT: 80% Wht, frm-hrd
CG 63 u.
CG 1,416 u.

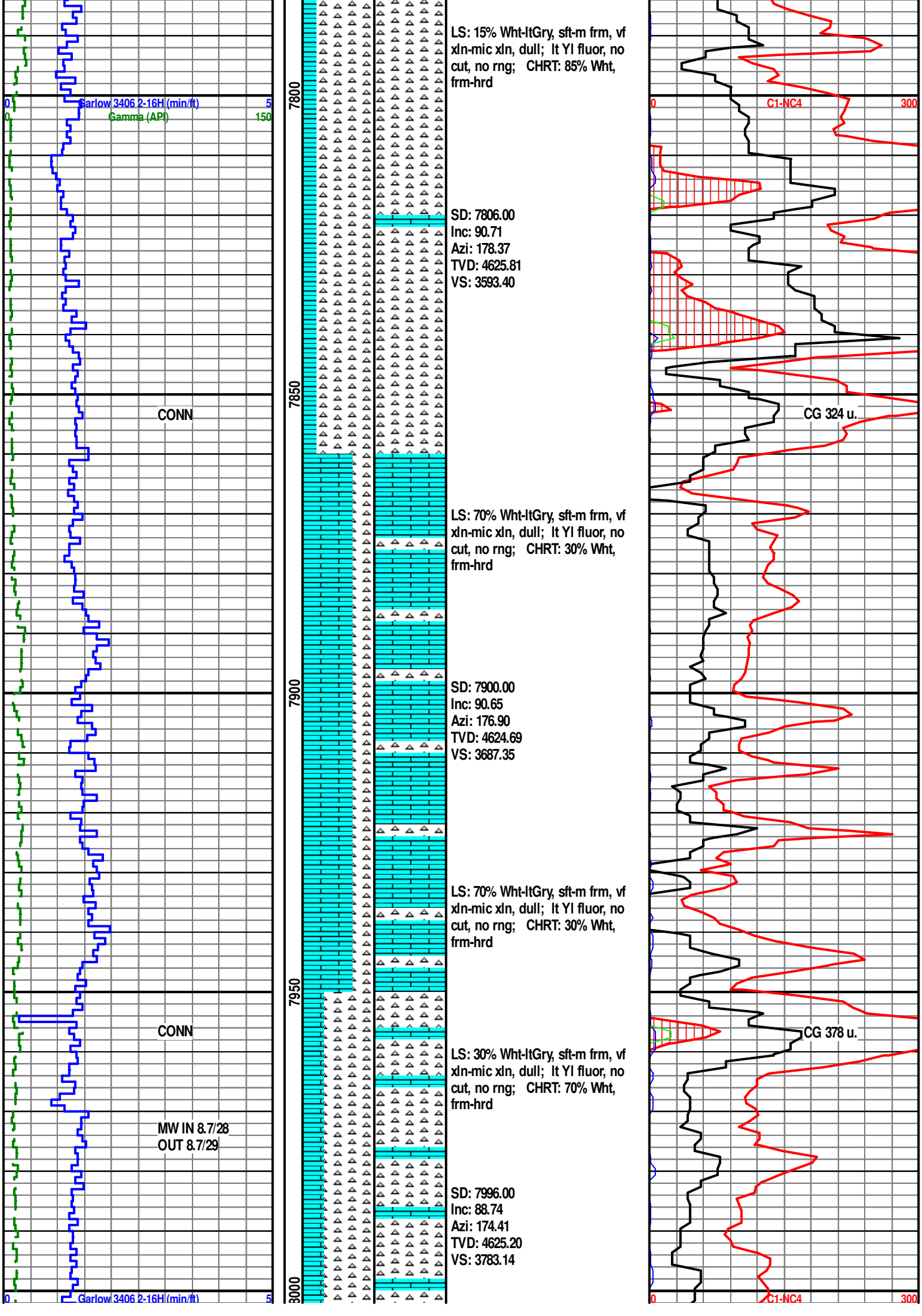

CONN
MW IN 8.4/28
OUT 8.4/29
CONN
0
Garlow 3406 2-16H (min/ft)
5
0
Gamma (API)
150
MW IN 8.4/28
OUT 8.4/29
CONN
6700
6750
6800
6850
6900
SD: 6737.00
Inc: 90.15
Azi: 177.76
TVD: 4630.92
VS: 2524.63
LS: 15% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 85% Wht, frm-hrd
LS: 15% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 85% Wht, frm-hrd
SD: 6832.00
Inc: 90.49
Azi: 177.34
TVD: 4630.39
VS: 2619.59
LS: 15% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 85% Wht, frm-hrd
CG 201 u.
CG 122 u.
0
C1-NC4
300
CG 114 u.

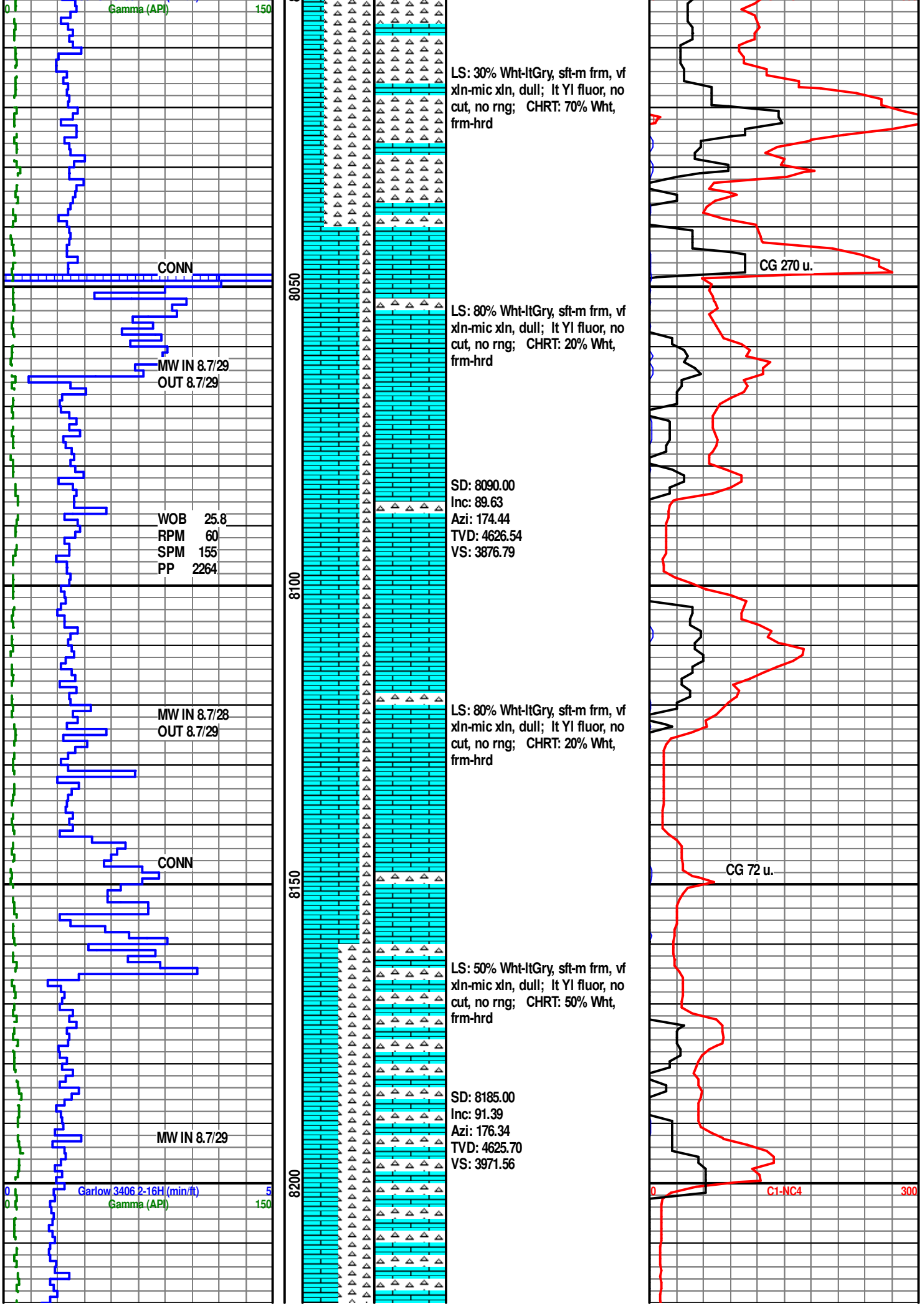

LS: 15% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 85% Wht, frm-hrd
SD: 6927.00
Inc: 90.56
Azi: 177.04
TVD: 4629.52
VS: 2714.52
LS: 15% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 85% Wht, frm-hrd
CONN
CG 112 u.
SD: 7015.00
Inc: 89.11
Azi: 178.21
TVD: 4629.77
VS: 2802.48
0
Garlow 3406 2-16H (min/ft)
5
0
Gamma (API)
150
0
C1-NC4
300
SD: 7047.00
Inc: 88.86
Azi: 178.07
TVD: 4630.34
VS: 2834.46
MW IN 8.4/29
OUT 8.5/29
TRIP GAS 58 u.
6950
7000
7050
7100
LS: 15% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 85% Wht, frm-hrd
CONN
CG 58 u.
SD: 7142.00
Inc: 90.37
Azi: 179.29
TVD: 4630.97
VS: 2929.45
MW IN 8.4/29
OUT 8.5/29

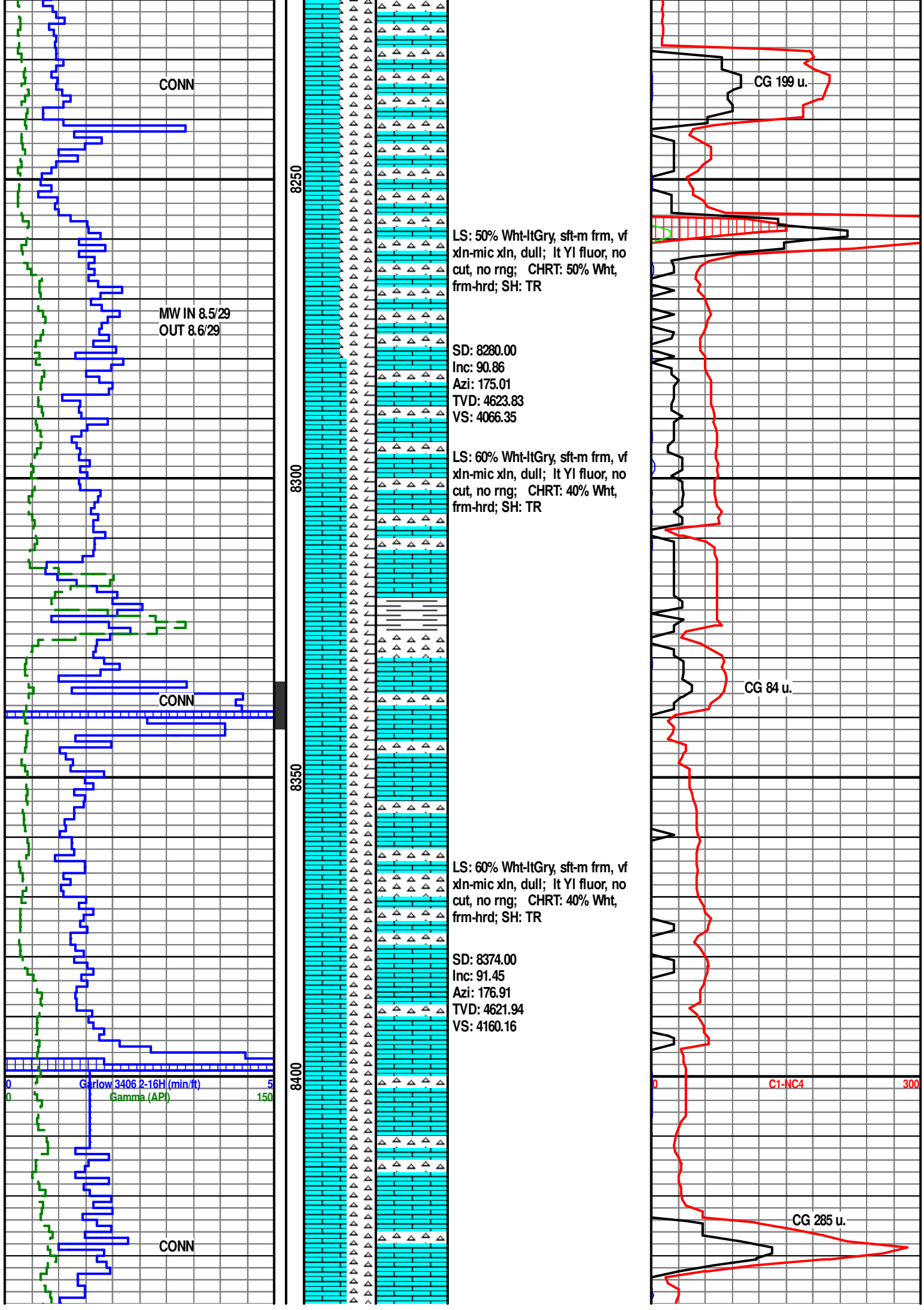

WOB 17.6
RPM 41
SPM 133
PP 2059
CONN
0 Garlow 3406 2-16H (min/ft) 5
0 Gamma (API) 150
CONN
7150
7200
7250
7300
LS: 15% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 85% Wht, frm-hrd
LS: 15% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 85% Wht, frm-hrd
SD: 7236.00
Inc: 90.49
Azi: 179.11
TVD: 4630.27
VS: 3023.45
LS: 15% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 85% Wht, frm-hrd
SD: 7331.00
Inc: 90.18
Azi: 180.09
TVD: 4629.71
VS: 3118.44
CG 70 u.
0 C1-NC4 300
CG 71 u.

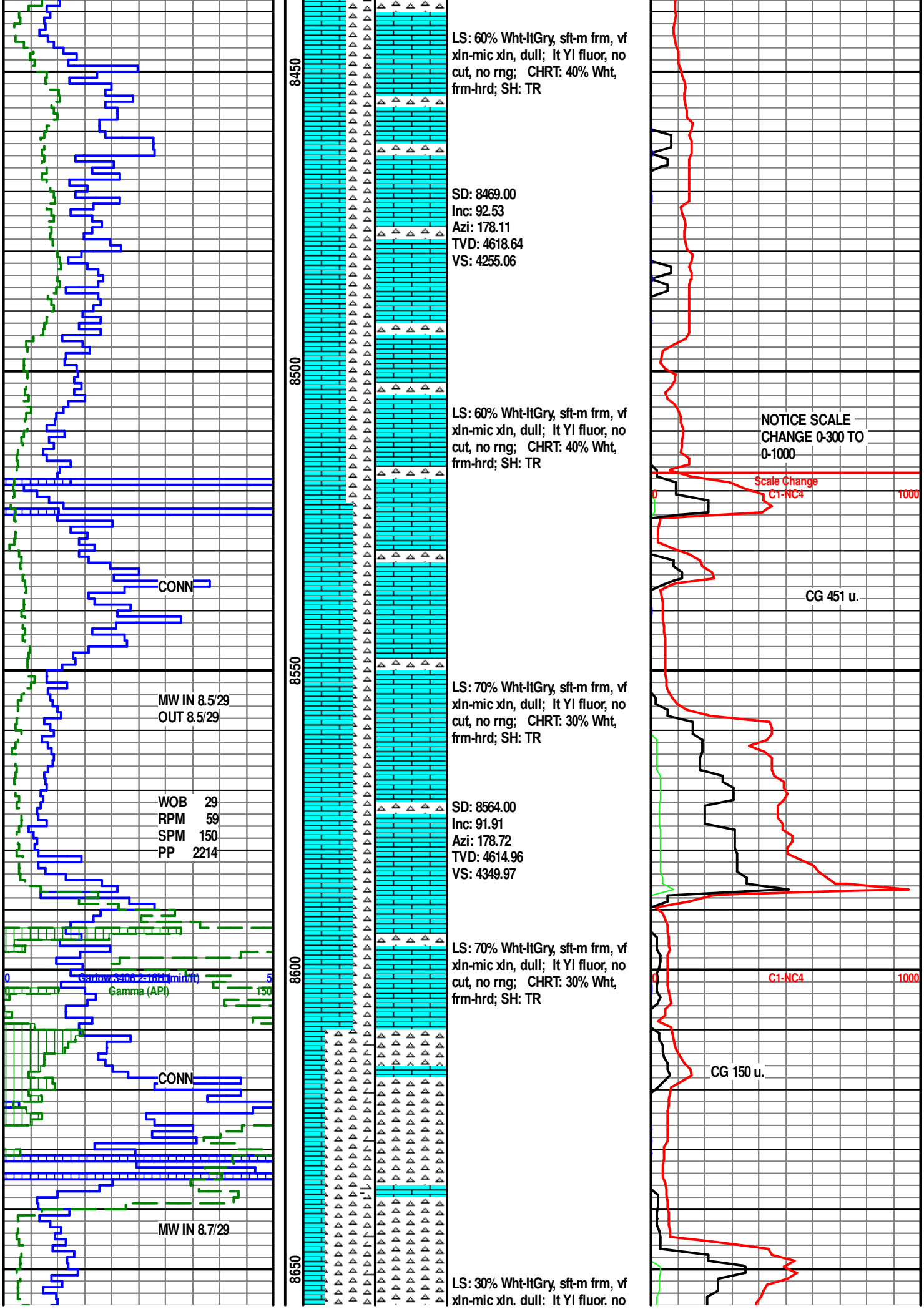

Garlow 3406 2-16H (min/ft)
0
5
Gamma (API)
0
150
CONN
MW IN 8.7/29
CONN
WOB 18
RPM 60
SPM 149
PP 1843
7350
7400
7450
7500
7550
LS: 15% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 85% Wht, frm-hrd
SD: 7426.00
Inc: 90.65
Azi: 179.94
TVD: 4629.03
VS: 3213.43
LS: 15% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 85% Wht, frm-hrd
LS: 15% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 85% Wht, frm-hrd
SD: 7521.00
Inc: 91.17
Azi: 179.49
TVD: 4627.52
VS: 3308.42
LS: 15% Wht-ltGry, sft-m frm, vf
CG 69 u.
0
C1-NC4
300
CG 91 u.

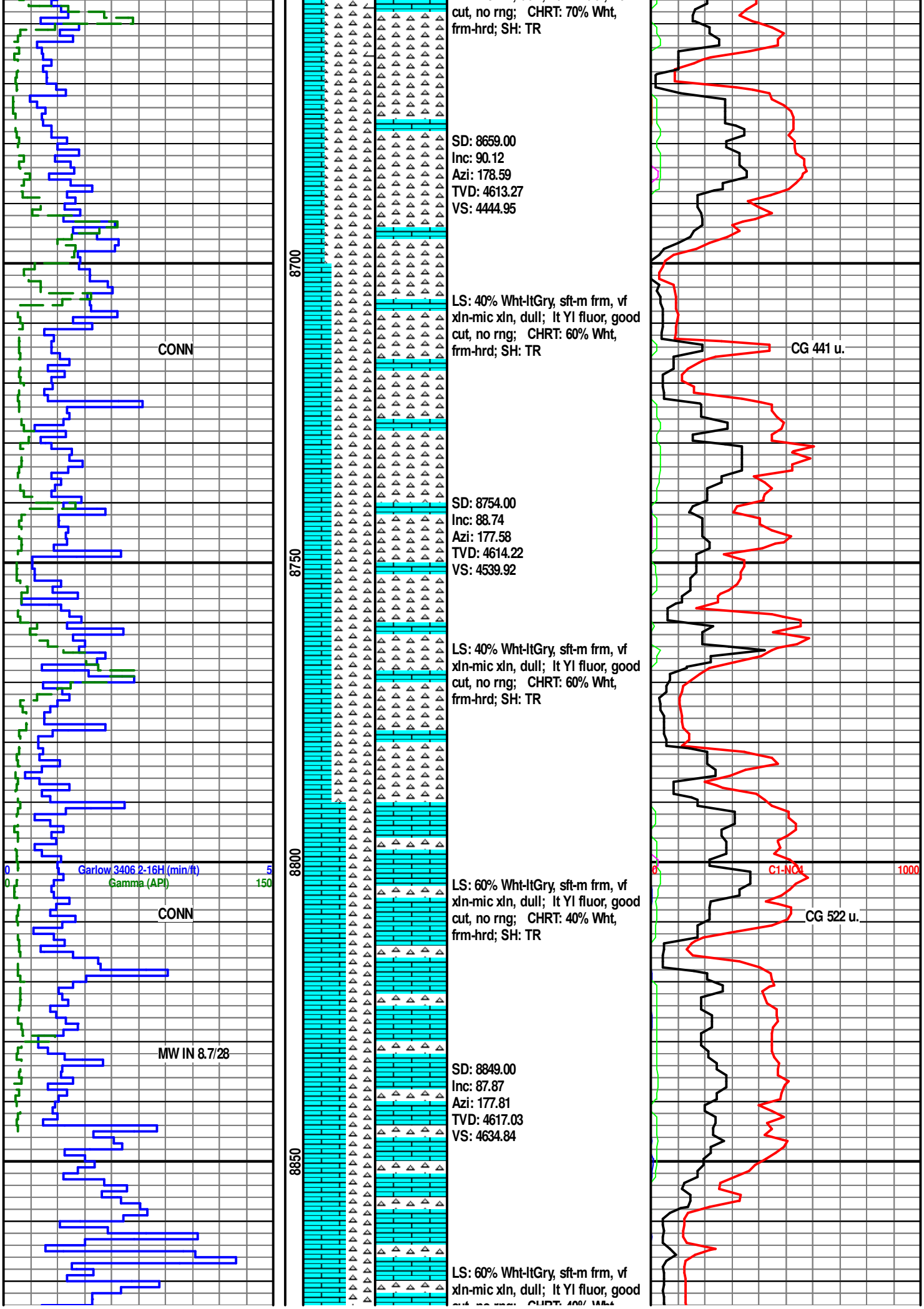

CONN
MW IN 8.7/29
0
Gallow 3400 - 16H (min/ft)
5
0
Gamma (API)
150
CONN
CONN
MW IN 8.5/29
OUT 8.6/29
7600
7650
7700
7750
xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 85% Wht, frm-hrd
T.O.O.H. FOR BIT @ 7,616'
SD: 7616.00
Inc: 89.60
Azi: 179.64
TVD: 4626.88
VS: 3403.41
LS: 15% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 85% Wht, frm-hrd
LS: 15% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 85% Wht, frm-hrd
SD: 7711.00
Inc: 90.49
Azi: 179.30
TVD: 4626.80
VS: 3498.41
LS: 15% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 85% Wht, frm-hrd
CG 68 u.
0
C1-NC4
300
TRIP GAS @ 202 u.
CG 77 u.
CG 93 u.

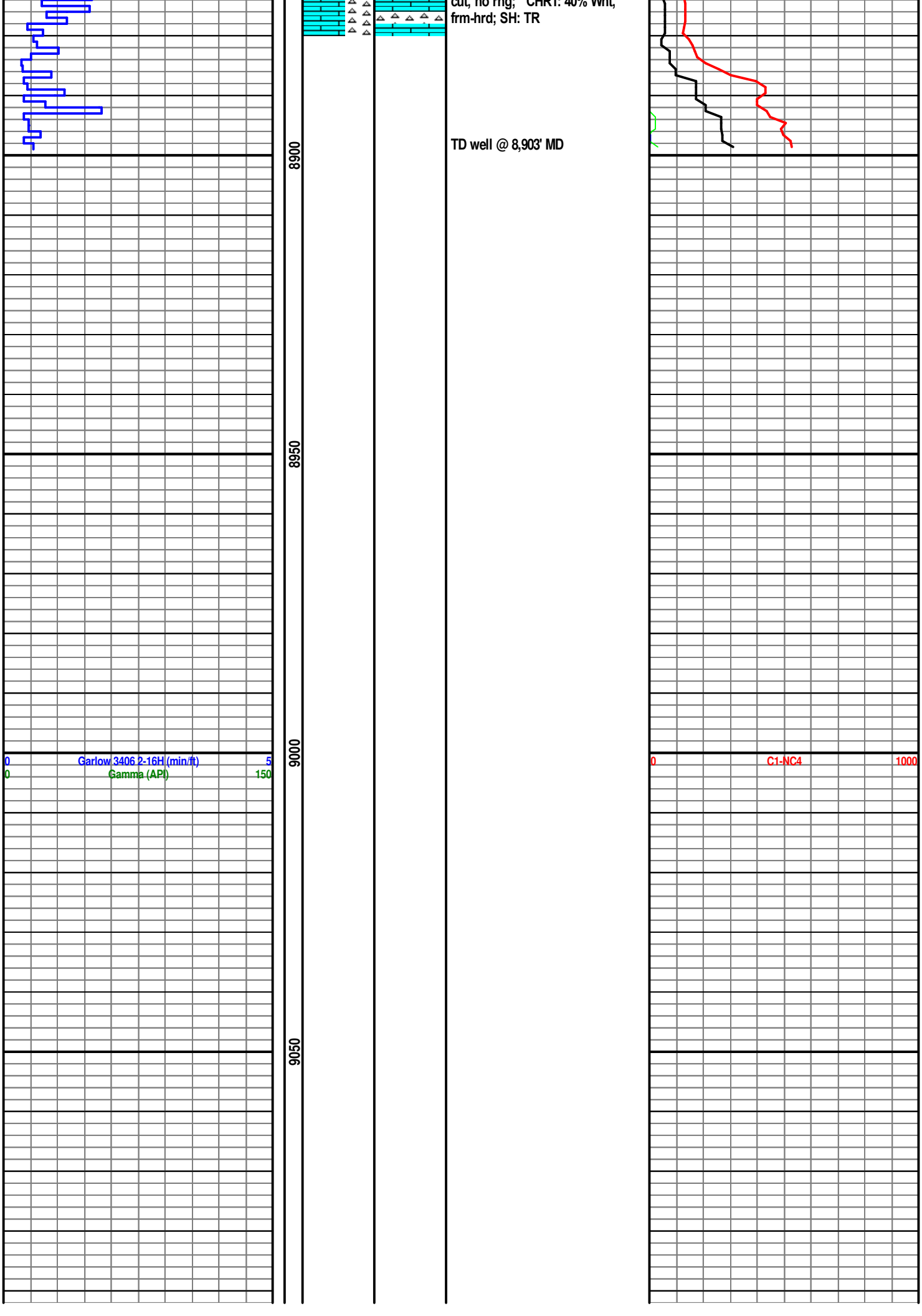

0
Garlow 3406 2-16H (min/ft)
5
0
Gamma (API)
150
CONN
CONN
MW IN 8.7/28
OUT 8.7/29
0
Garlow 3406 2-16H (min/ft)
5
7800
7850
7900
7950
8000
LS: 15% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 85% Wht, frm-hrd
SD: 7806.00
Inc: 90.71
Azi: 178.37
TVD: 4625.81
VS: 3593.40
LS: 70% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 30% Wht, frm-hrd
SD: 7900.00
Inc: 90.65
Azi: 176.90
TVD: 4624.69
VS: 3687.35
LS: 70% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 30% Wht, frm-hrd
LS: 30% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 70% Wht, frm-hrd
SD: 7996.00
Inc: 88.74
Azi: 174.41
TVD: 4625.20
VS: 3783.14
0
C1-NC4
300
CG 324 u.
CG 378 u.
0
C1-NC4
300


0
Gamma (API)
150
CONN
MW IN 8.7/29
OUT 8.7/29
WOB 25.8
RPM 60
SPM 155
PP 2264
MW IN 8.7/28
OUT 8.7/29
CONN
MW IN 8.7/29
0
Garlow 3406 2-16H (min/ft)
5
0
Gamma (API)
150
8050
8100
8150
8200
LS: 30% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 70% Wht, frm-hrd
LS: 80% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 20% Wht, frm-hrd
SD: 8090.00
Inc: 89.63
Azi: 174.44
TVD: 4626.54
VS: 3876.79
LS: 80% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 20% Wht, frm-hrd
LS: 50% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 50% Wht, frm-hrd
SD: 8185.00
Inc: 91.39
Azi: 176.34
TVD: 4625.70
VS: 3971.56
CG 270 u.
CG 72 u.
0
C1-NC4
300


CONN
MW IN 8.5/29
OUT 8.6/29
CONN
CONN
8250
8300
8350
8400
LS: 50% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 50% Wht, frm-hrd; SH: TR
SD: 8280.00
Inc: 90.86
Azi: 175.01
TVD: 4623.83
VS: 4066.35
LS: 60% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 40% Wht, frm-hrd; SH: TR
LS: 60% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 40% Wht, frm-hrd; SH: TR
SD: 8374.00
Inc: 91.45
Azi: 176.91
TVD: 4621.94
VS: 4160.16
CG 199 u.
CG 84 u.
CG 285 u.
0
Garlow 3406 2-16H (min/ft)
5
0
Gamma (API)
150
0
C1-NC4
300


8450
8500
8550
8600
8650
LS: 60% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 40% Wht, frm-hrd; SH: TR
SD: 8469.00
Inc: 92.53
Azi: 178.11
TVD: 4618.64
VS: 4255.06
LS: 60% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 40% Wht, frm-hrd; SH: TR
NOTICE SCALE CHANGE 0-300 TO 0-1000
Scale Change
C1-NC4
0
1000
CONN
CG 451 u.
MW IN 8.5/29
OUT 8.5/29
WOB 29
RPM 59
SPM 150
PP 2214
LS: 70% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 30% Wht, frm-hrd; SH: TR
SD: 8564.00
Inc: 91.91
Azi: 178.72
TVD: 4614.96
VS: 4349.97
LS: 70% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no cut, no rng; CHRT: 30% Wht, frm-hrd; SH: TR
0
Gardow 3406 2-10bl (min/ft)
5
Gamma (API)
150
C1-NC4
0
1000
CONN
CG 150 u.
MW IN 8.7/29
LS: 30% Wht-ltGry, sft-m frm, vf xln-mic xln, dull; lt Yl fluor, no


cut, no rng; CHRT: 70% Wht,
frm-hrd; SH: TR
SD: 8659.00
Inc: 90.12
Azi: 178.59
TVD: 4613.27
VS: 4444.95
8700
LS: 40% Wht-ltGry, sft-m frm, vf
xln-mic xln, dull; lt Yl fluor, good
cut, no rng; CHRT: 60% Wht,
frm-hrd; SH: TR
CONN
CG 441 u.
SD: 8754.00
Inc: 88.74
Azi: 177.58
TVD: 4614.22
VS: 4539.92
8750
LS: 40% Wht-ltGry, sft-m frm, vf
xln-mic xln, dull; lt Yl fluor, good
cut, no rng; CHRT: 60% Wht,
frm-hrd; SH: TR
0
Garlow 3406 2-16H (min/ft)
5
0
Gamma (API)
150
6
C1-NC4
1000
8800
LS: 60% Wht-ltGry, sft-m frm, vf
xln-mic xln, dull; lt Yl fluor, good
cut, no rng; CHRT: 40% Wht,
frm-hrd; SH: TR
CONN
CG 522 u.
MW IN 8.7/28
SD: 8849.00
Inc: 87.87
Azi: 177.81
TVD: 4617.03
VS: 4634.84
8850
LS: 60% Wht-ltGry, sft-m frm, vf
xln-mic xln, dull; lt Yl fluor, good


cut, no frig; CHRT: 40% Wht,
frm-hrd; SH: TR
TD well @ 8,903' MD
8900
8950
9000
9050
0
Garlow 3406 2-16H (min/ft)
5
0
Gamma (API)
150
0
C1-NC4
1000