



Exploration Services LLC

www.pmls.com

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

Well Name: Lanie 3408 1-32H
Location: 32-34S-8W Harper County
Licence Number: 15-077-21893-01-00 Region: Kansas
Spud Date: 11/20/2012 Drilling Completed:
Surface Coordinates: 200'FSL & 1,980'FWL OF SECTION 32-34S-8W

Bottom Hole 330' FNL & 1,980' FWL OF SECTION 32-34S-8W
Coordinates:
Ground Elevation (ft): 1,241" K.B. Elevation (ft): 1,261' (+20' EST)
Logged Interval (ft): 3,400' 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: Devonia Horton / Kevin Thomas

CONTRACTOR

Unit Rig 310

ROCK TYPES

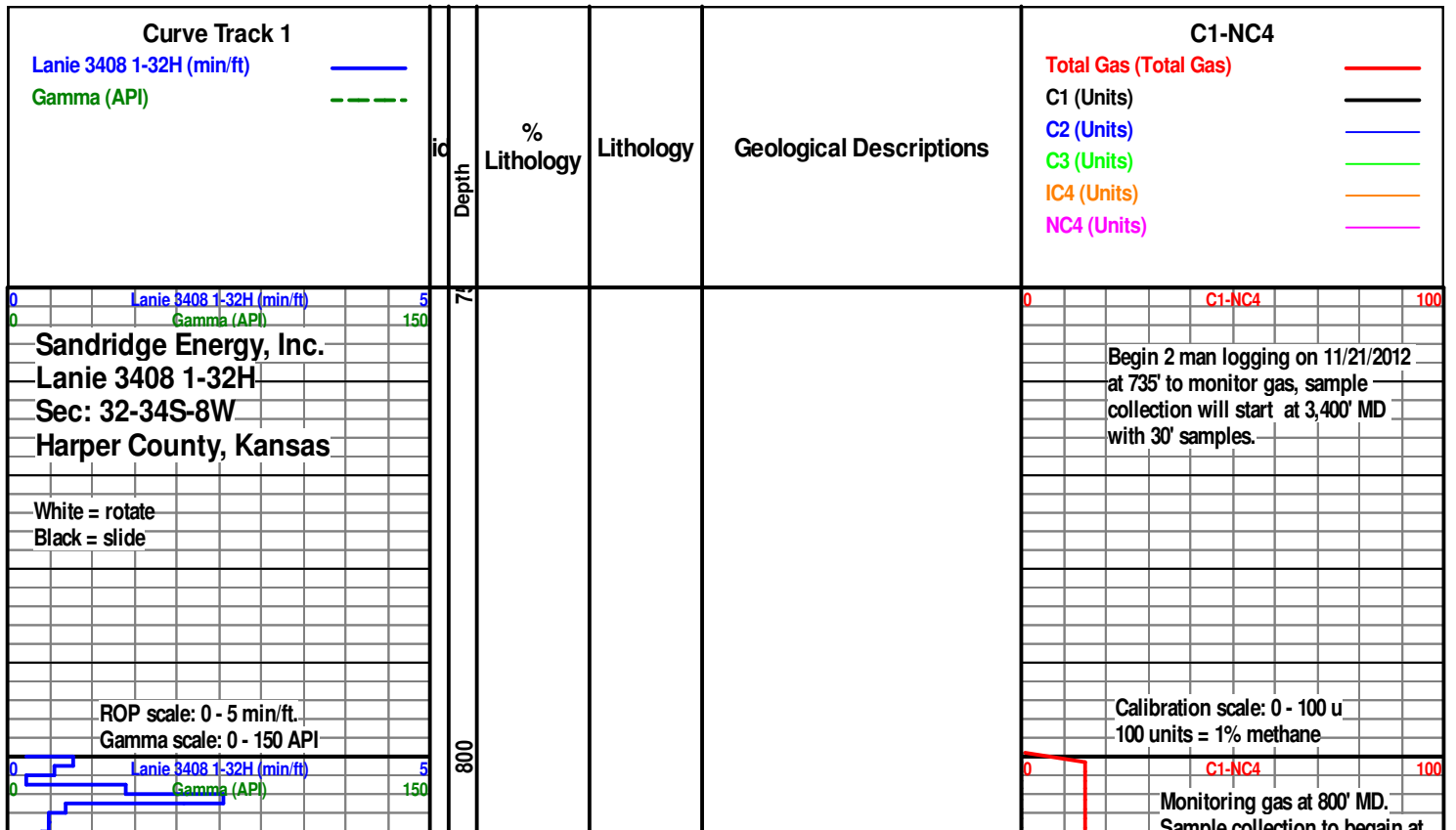
Anhy	Clyst	Gyp	Mrlst	Shgy
Bent	Coal	Igne	Salt	Sltst
Brec	Congl	Lmst	Shale	Ss
Cht	Dol	Meta	Shcol	Till

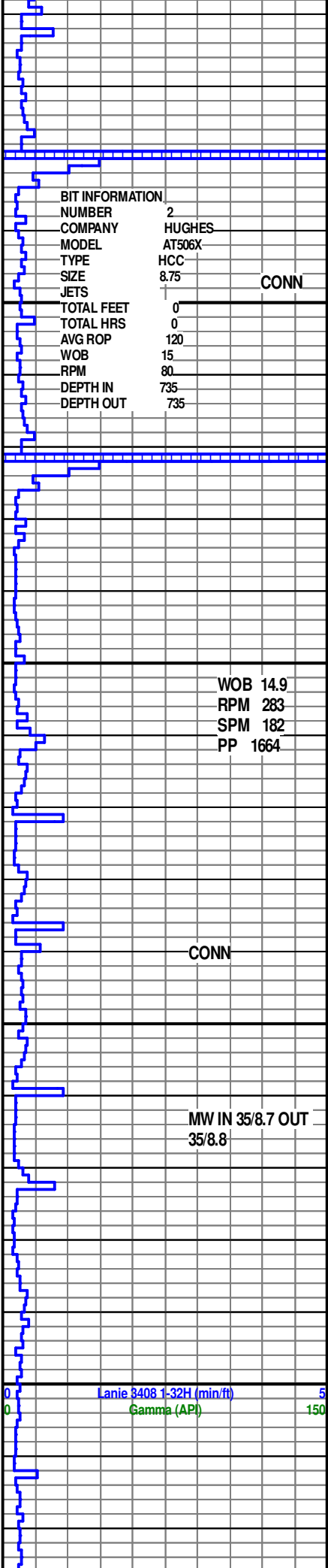
ACCESSORIES

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

OTHER SYMBOLS

POROSITY TYPE	Vuggy	ROUNDING	Spotted	EVENTS
Earthy	SORTING	Rounded	Ques	Rft
Fenest	Well	Subrnd	Dead	Sidewall
Fracture	Moderate	Subang	INTERVALS	
Inter	Poor	Angular	Core	
Moldic		OIL SHOWS	Dst	
Organic		Even	Slide	
Pinpoint				



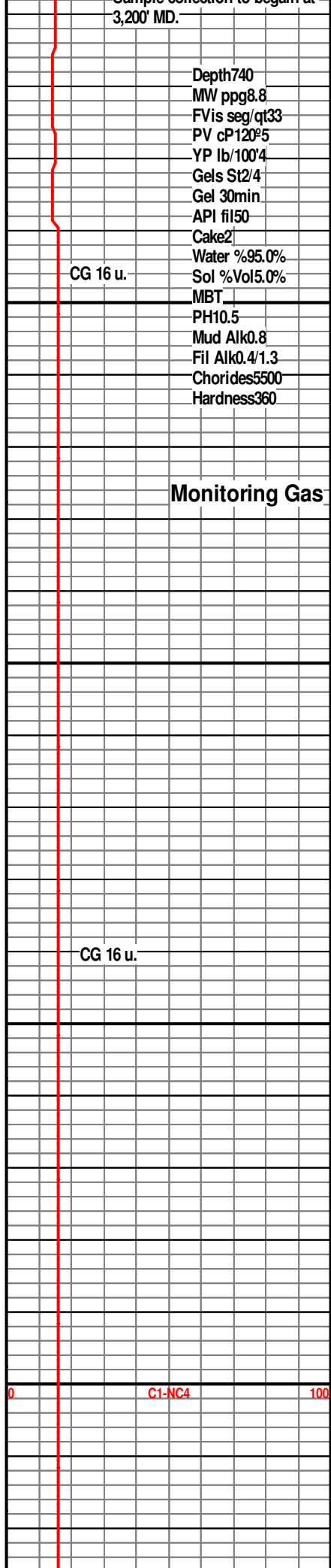


850
900
950
1000

Sample collection to begin at 3,400' MD.

Sample collection to begin at 3,400' MD.

1001.00
Inc: 0.24
Azi: 314.10
TVD: 1000.74
VS: -15.00



Sample collection to begin at 3,200' MD.
Depth 740
MW ppg 8.8
FVis seg/qt 33
PV cP 120^{0.5}
YP lb/100⁴
Gels St 2/4
Gel 30min
API fil 50
Cake 2
Water % 95.0%
Sol % Vol 5.0%
MBT
PH 10.5
Mud Alk 0.8
Fil Alk 0.4/1.3
Chorides 5500
Hardness 360

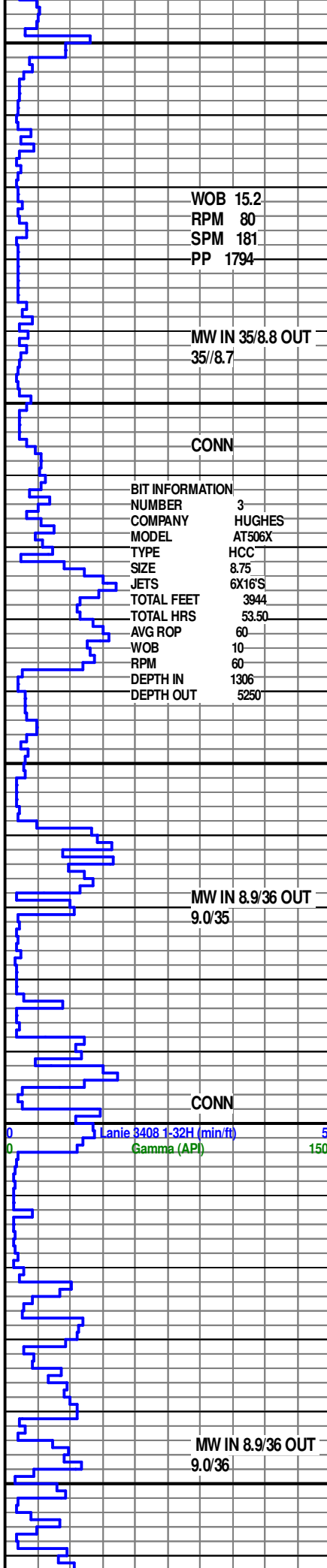
CG 16 u.

Monitoring Gas

CG 16 u.

C1-NC4

100

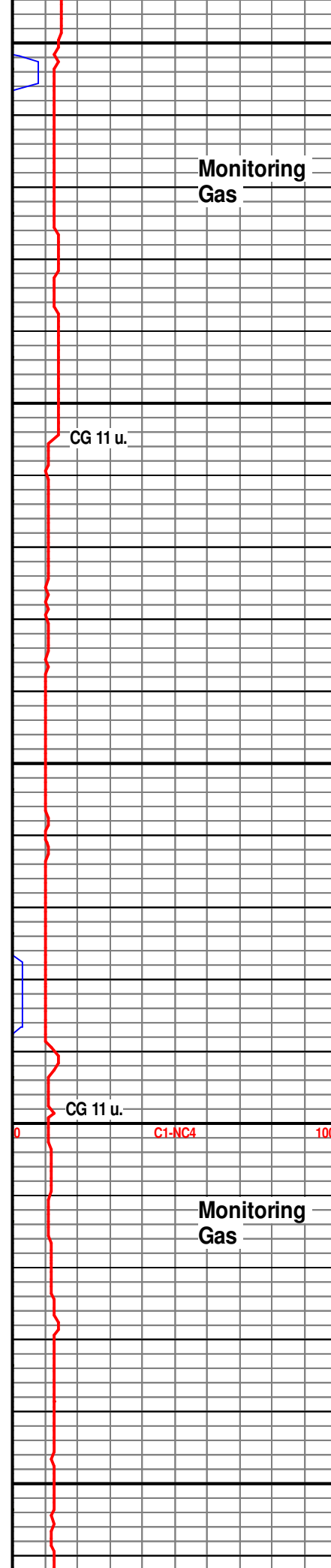


1250
1300
1350
1400
1450

TOOH @ 1,305' MD for auto track

Sample collection to begin at 3,400' MD.

Sample collection to begin at 3,400' MD.



Inc: 2.15
Azi: 319.10
TVD: 1458.75
VS: 8.19

WOB 20.9
RPM 80
SPM 176
PP 1982

CONN

1500

1550

CONN

1600

Lanie 3408 1-32H (min/ft) 5
Gamma (API) 150

WOB 21.2
RPM 79
SPM 180
PP 2173

CONN

1650

Sample collection to begin at 3,400' MD.

Sample collection to begin at 3,400' MD.

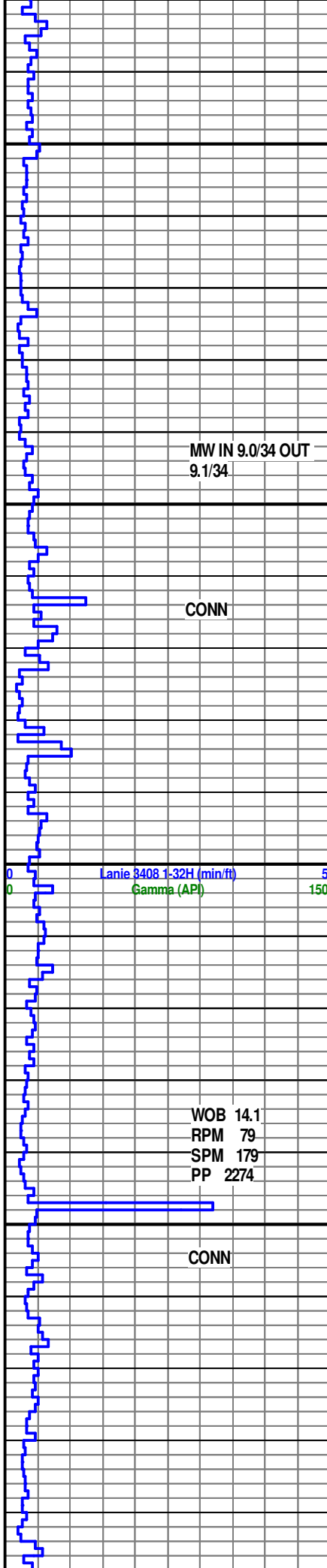
CG 14 u.

CG 15 u.

C1-NC4

Monitoring Gas

CG 16 u.



1700

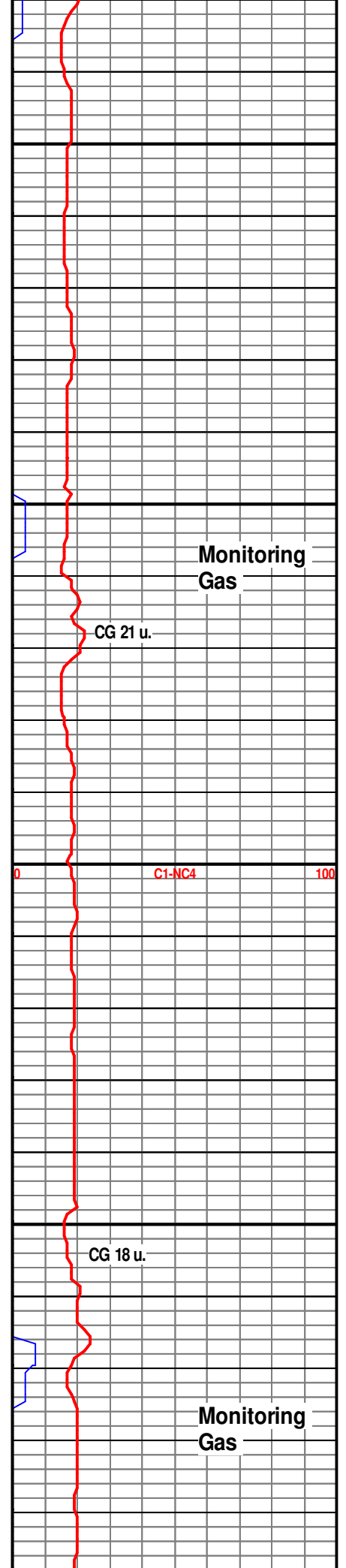
1750

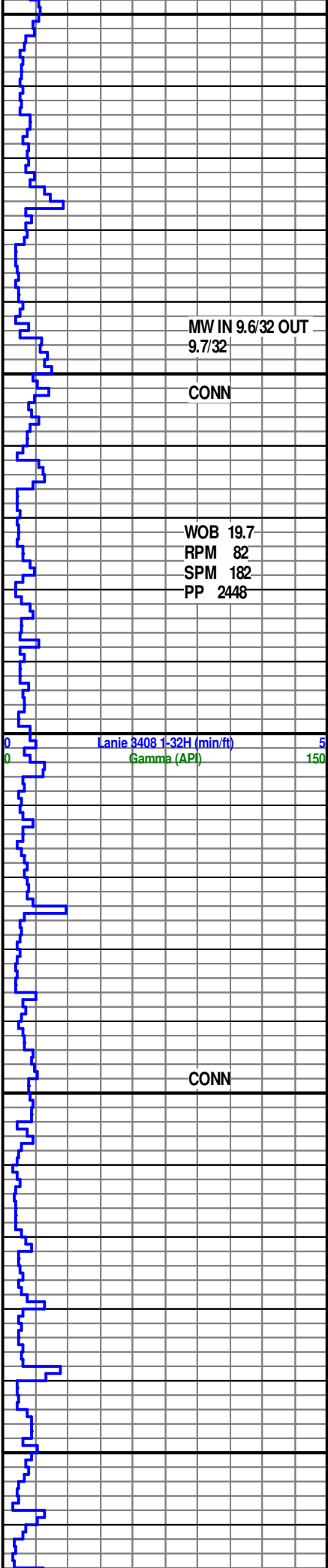
1800

1850

Sample collection to begin at 3,400' MD.

Sample collection to begin at 3,400' MD.





1900
1950
2000
2050
2100

MW IN 9.6/32 OUT
9.7/32

CONN

WOB 19.7
RPM 82
SPM 182
PP 2448

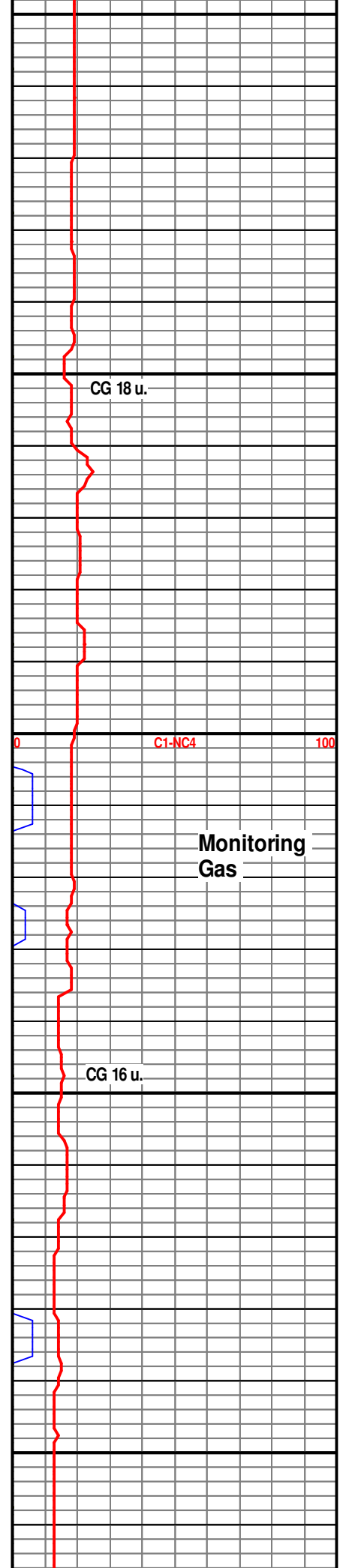
Lanie 3408 1-32H (min/ft)
Gamma (API)

5
150

CONN

1460.00
Inc: 0.18
Azi: 171.64
TVD: 1921.86

Sample collection to
begin at 3,400' MD.



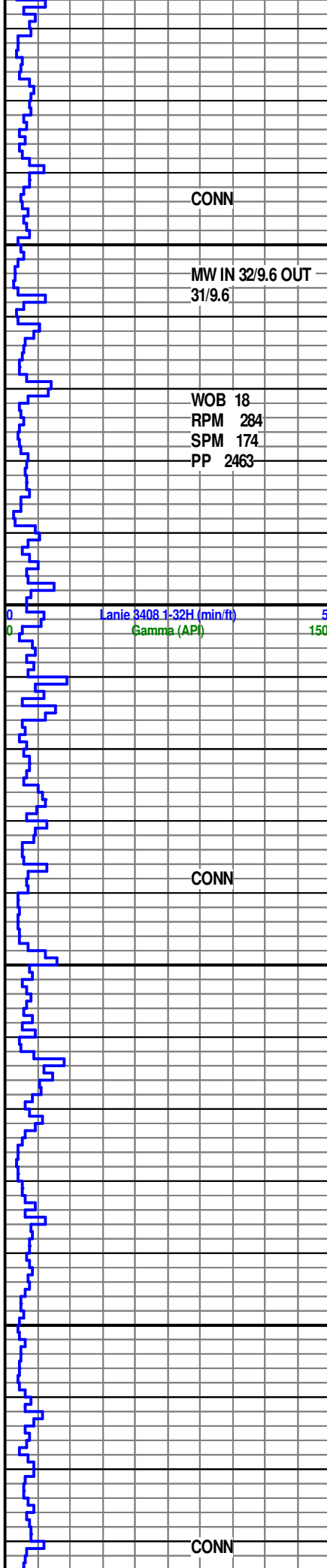
CG 18 u.

C1-NC4

100

Monitoring
Gas

CG 16 u.



CONN

MW IN 32/9.6 OUT
31/9.6

WOB 18
RPM 284
SPM 174
PP 2463

Lanie 3408 1-32H (min/ft)
Gamma (API)

CONN

CONN

2150

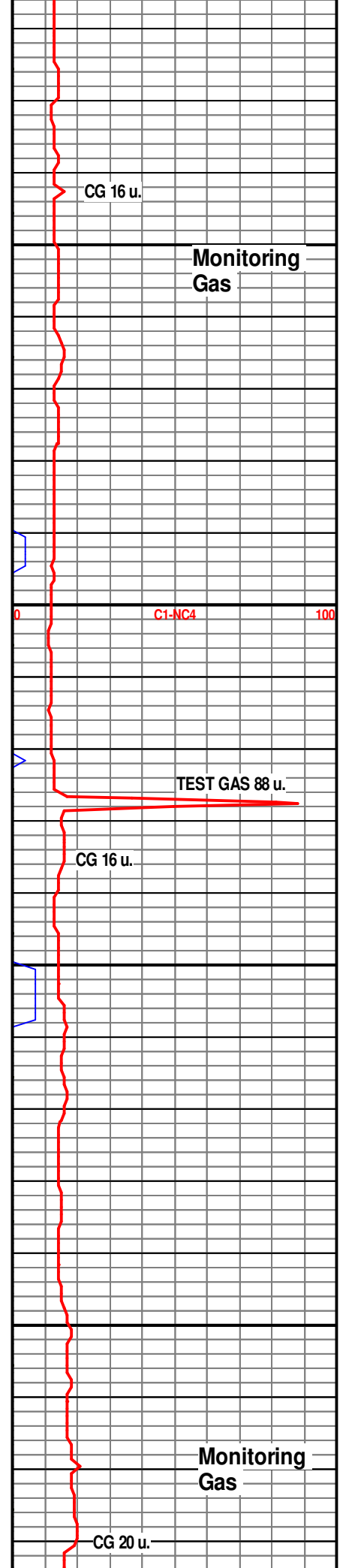
2200

2250

2300

Sample collection to
begin at 3,400' MD.

2303.00
Inc: 0.22
Azi: 215.26
TVD: 2301.86
VS: 6.63



CG 16 u.

Monitoring
Gas

C1-NC4

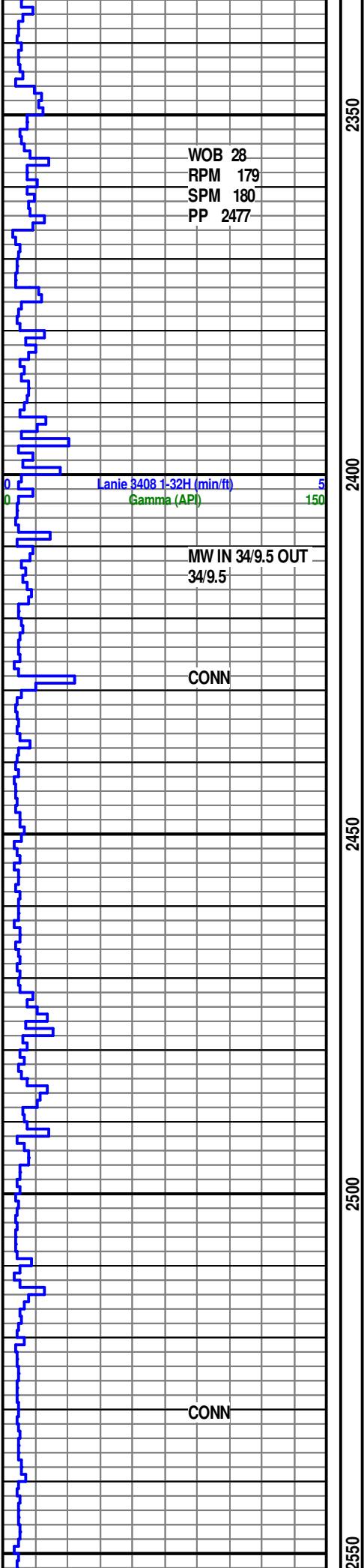
100

TEST GAS 88 u.

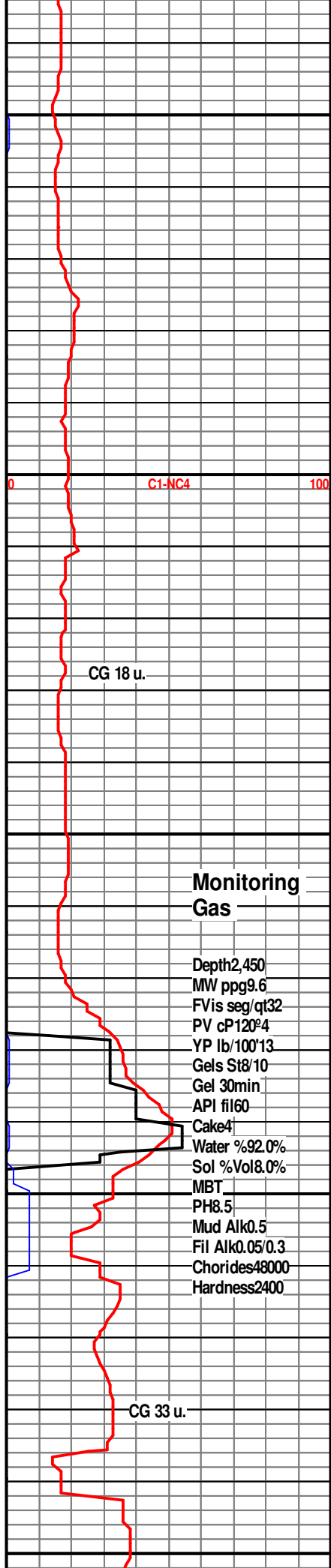
CG 16 u.

Monitoring
Gas

CG 20 u.



Sample collection to begin at 3,400' MD.



Sample collection to begin at 3,400' MD.

WOB 24
RPM 299
SPM 174
PP 2495

Lanie 3408 1-32H (min/ft) 5
Gamma (API) 150

CONN

2600

2650

2700

CONN

2750

WOB 13
RPM 213
SPM 178
PP 2711

Sample collection to begin at 3,400' MD.

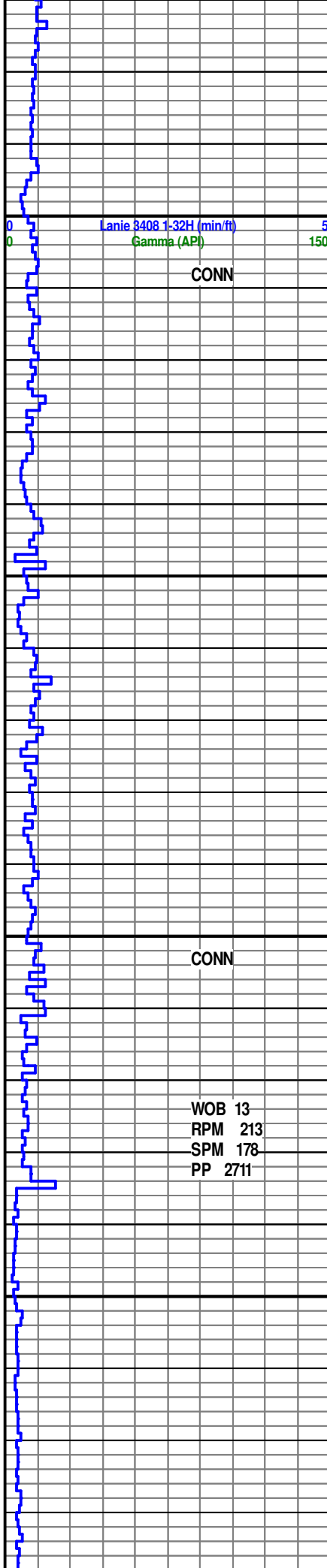
C1-NC4 100

CG 73 u.

Monitoring Gas

MAX GAS 98 u.

CG 30 u.



2800

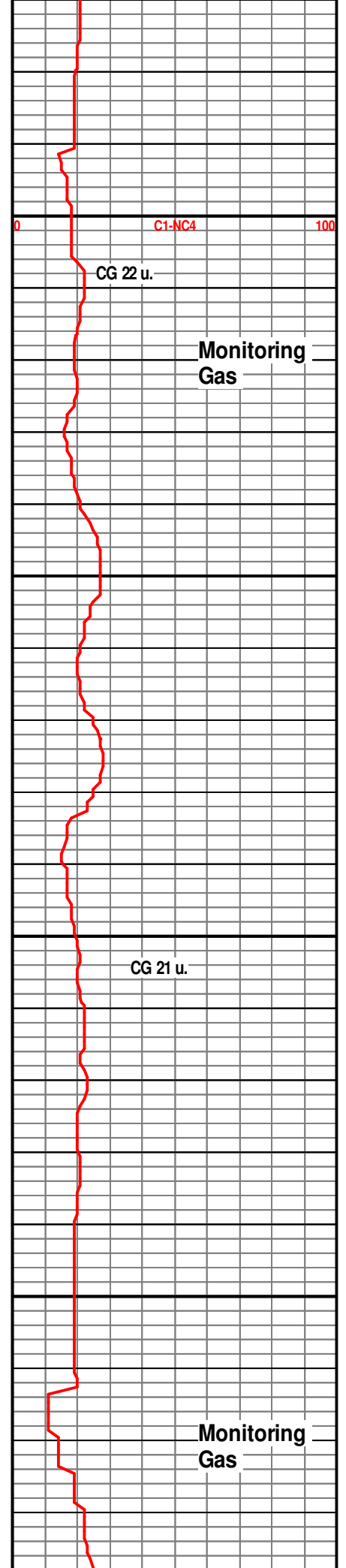
2850

2900

2950

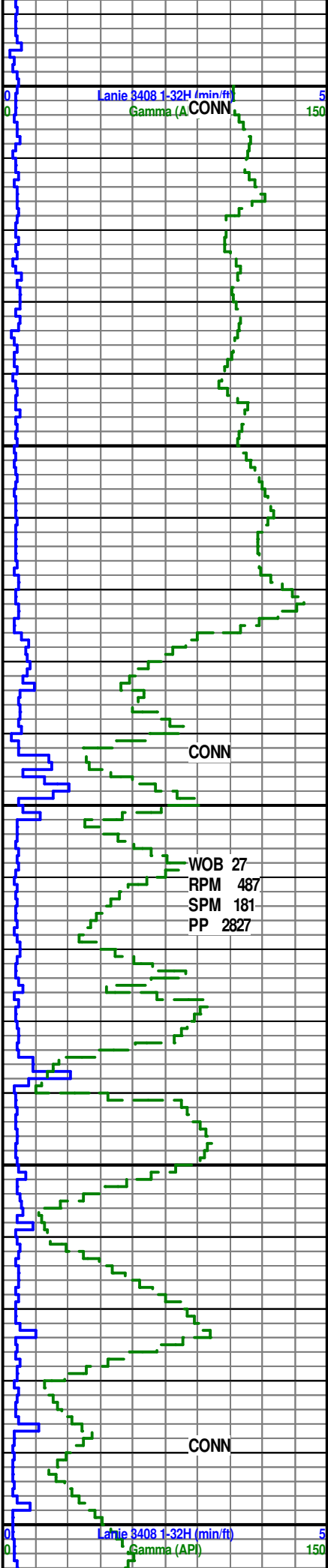
Sample collection to begin at 3,400' MD.

SD: 2967.00
Inc: 0.38
Azi: 346.69
TVD: 2965.85
VS: 8.30



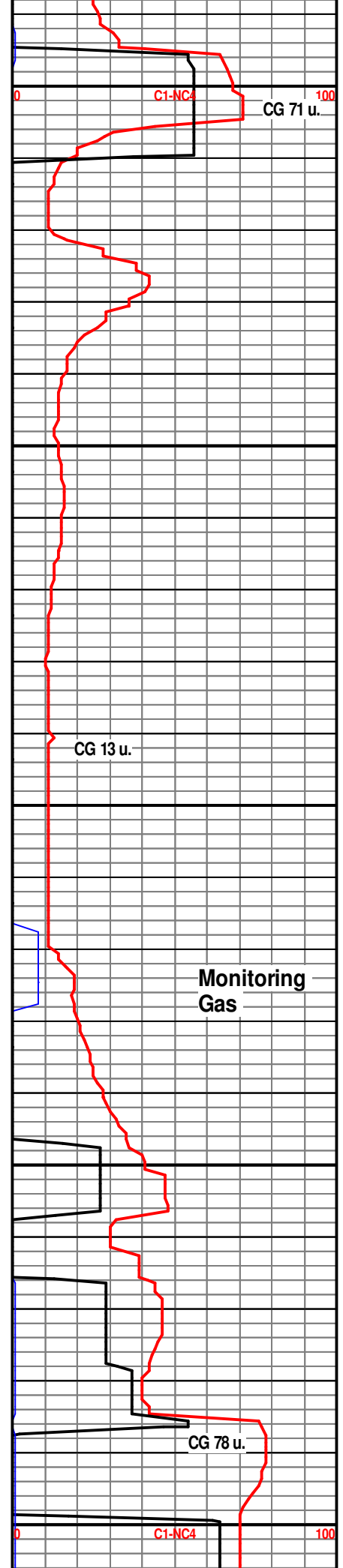
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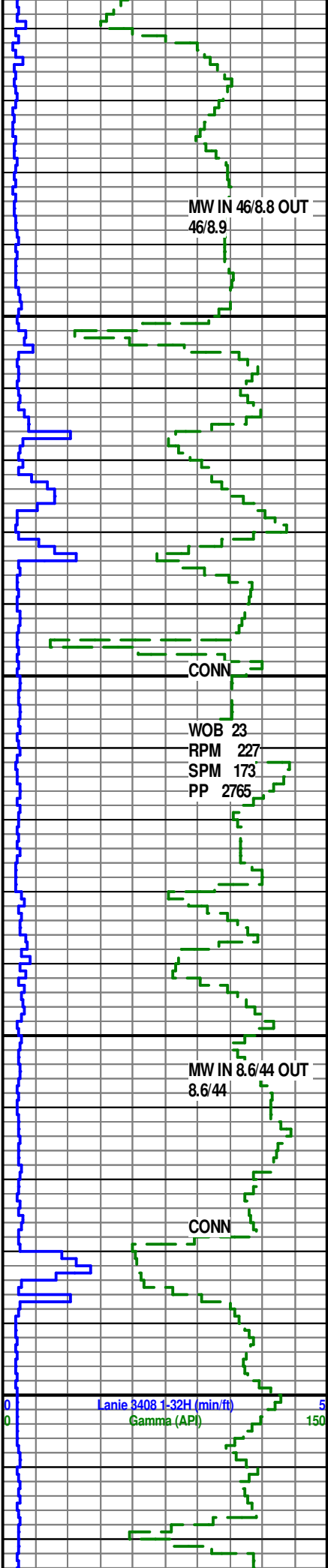
100



3000
3050
3100
3150
3200

Sample collection to begin at 3,400' MD.





3250

3300

3350

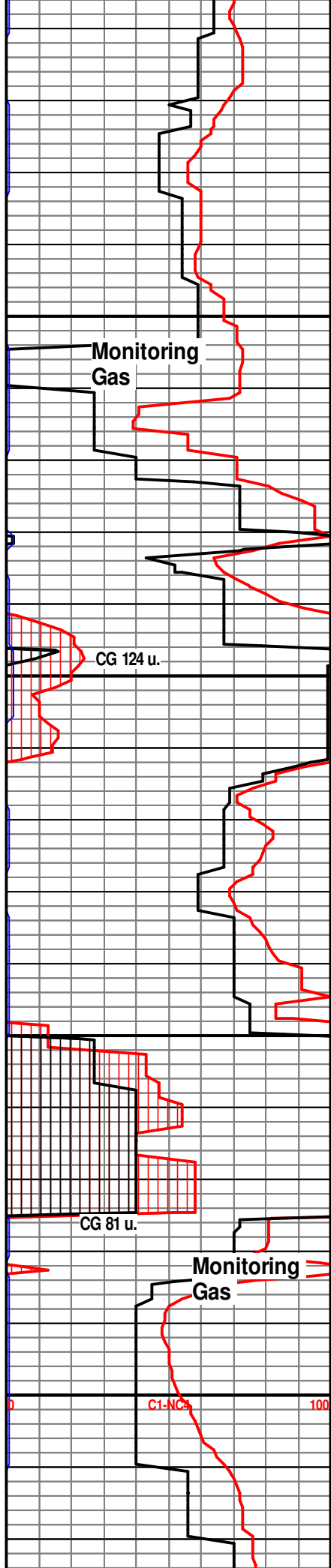
3400

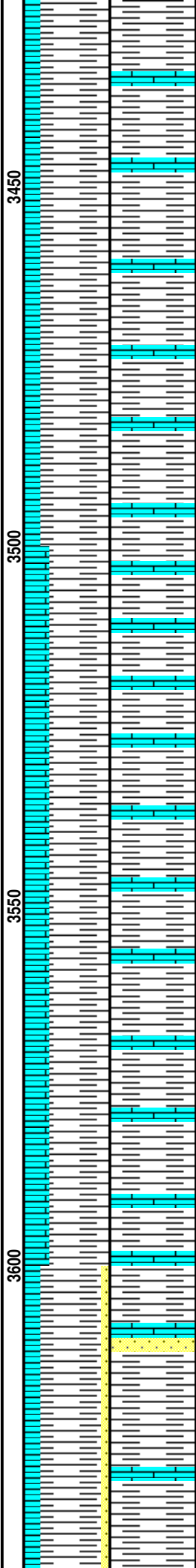
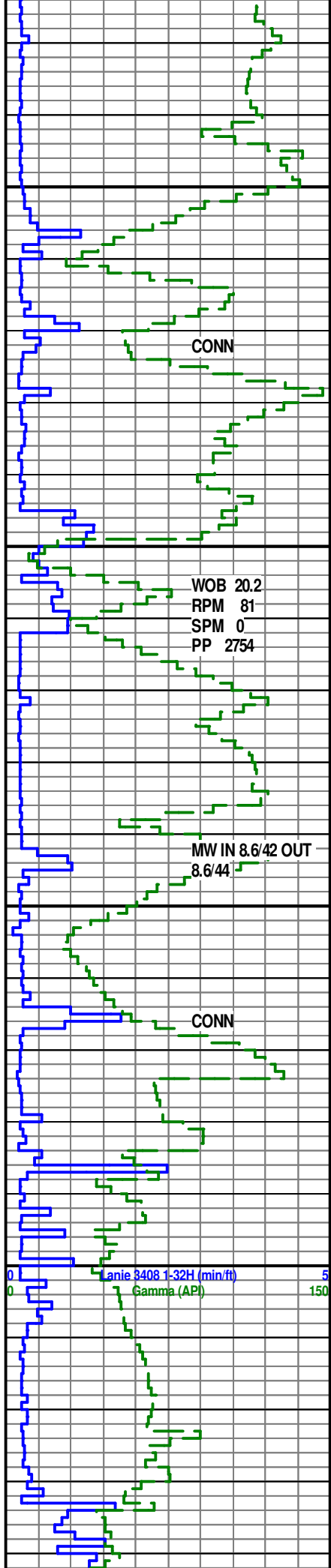
Sample collection to begin at 3,400' MD.

SD: 3251.00
Inc: 1.23
Azi: 8.97
TVD: 3249.84
VS: 10.54

Sample collection started at 3,400' - TD.

LS: 20% wht-crm, frm, mic xln, dull, arg; SH: 80% dk gry-gry, sft-frm, plty





LS: 20% wht-crm, frm, mic xln,
dull, arg; SH: 80% dk gry-gry,
sft-frm, plty

LS: 20% wht-crm, frm, mic xln,
dull, arg; SH: 80% dk gry-gry,
sft-frm, plty

LS: 30% wht-crm, frm, mic xln,
dull, arg; SH: 70% dk gry-gry,
sft-frm, plty

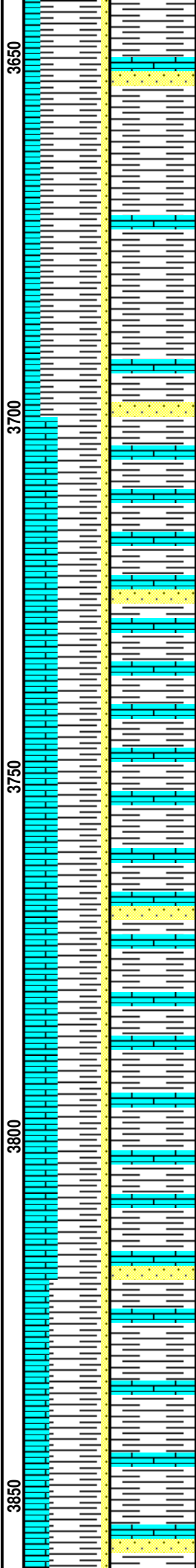
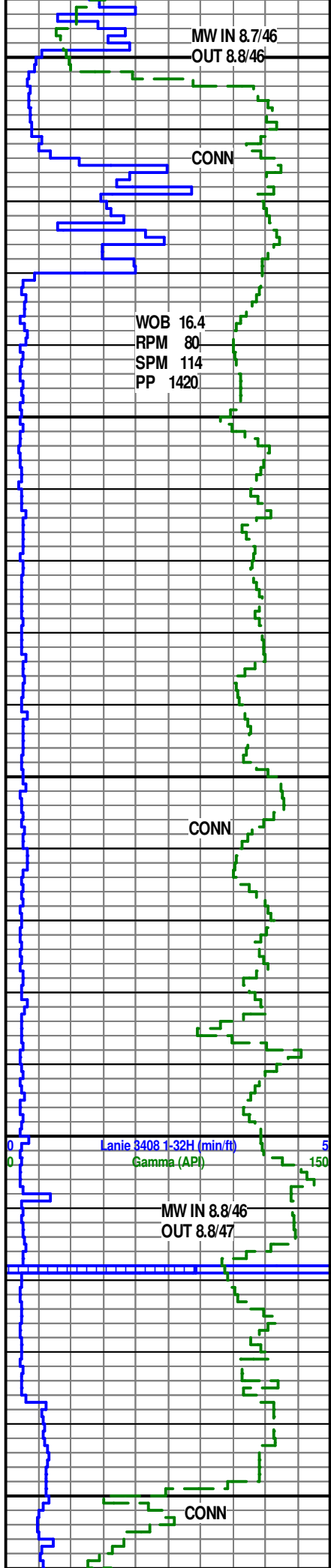
Base Heebner @ 3,544'
MD, 3,542' TVD,

LS: 30% wht-crm, frm, mic xln,
dull, arg; SH: 70% dk gry-gry,
sft-frm, plty

LS: 30% wht-crm, frm, mic xln,
dull, arg; SH: 70% dk gry-gry,
sft-frm, plty

LS: 20% wht-crm, frm, mic xln,
dull, arg; SH: 70% dk gry-gry,
sft-frm, plty, SS: 10% wht-off wht,
consol, m grain, sb rnd, vit, srt,
arg, slky





LS: 20% wht-frm, frm, mic xln, dull, arg; SH: 70% dk gry-gry, sft-frm, plty, SS: 10% wht-off wht, consol, m grain, sb rnd, vit, srt, arg, slky

LS: 40% wht-frm, frm, mic xln, dull, arg; SH: 50% lt gry-gry, sft-frm, plty, SS: 10% wht-off wht, consol, m grain, sb rnd, vit, srt, arg, slky

SD: 3726.00
Inc: 0.22
Azi: 126.41
TVD: 3724.82
VS: 12.10

LS: 40% wht-frm, frm, mic xln, dull, arg; SH: 50% lt gry-gry, sft-frm, plty, SS: 10% wht-off wht, consol, m grain, sb rnd, vit, srt, arg, slky

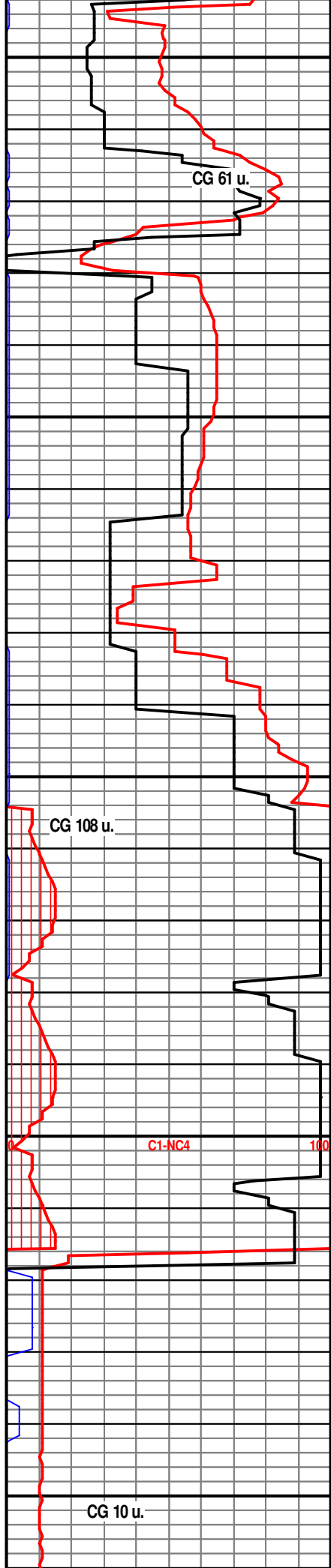
LS: 40% wht-frm, frm, mic xln, dull, arg; SH: 50% lt gry-gry, sft-frm, plty, SS: 10% wht-off wht, consol, m grain, sb rnd, vit, srt, arg, slky

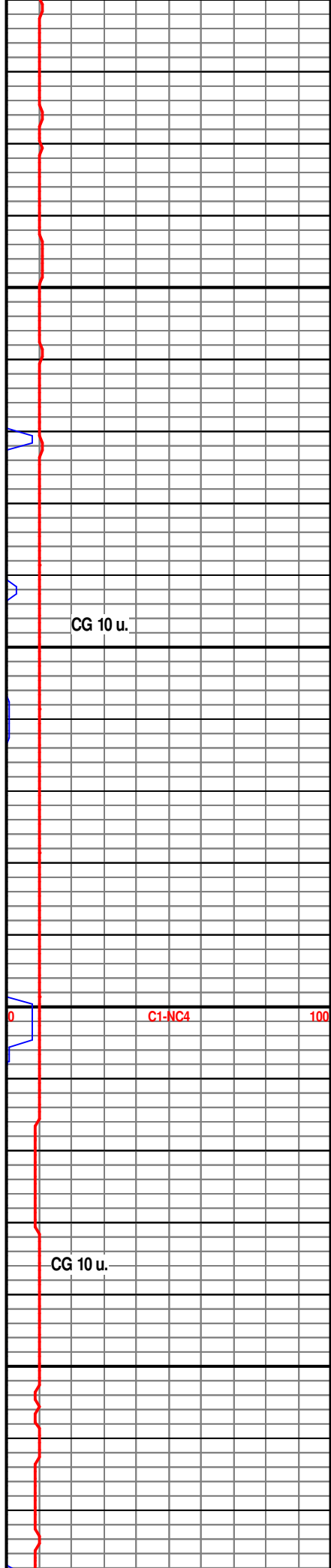
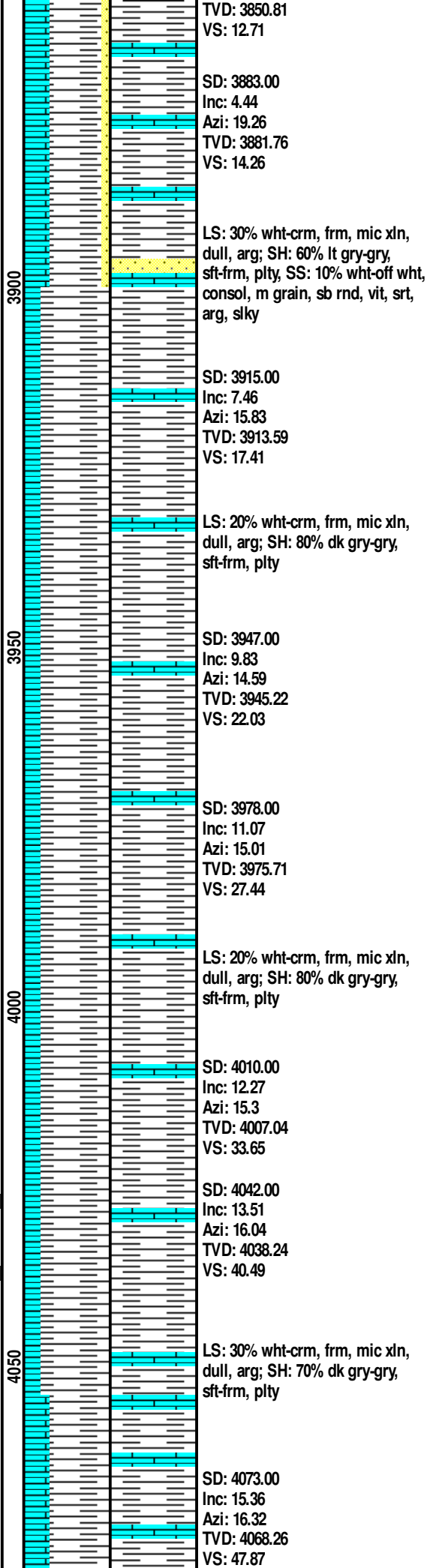
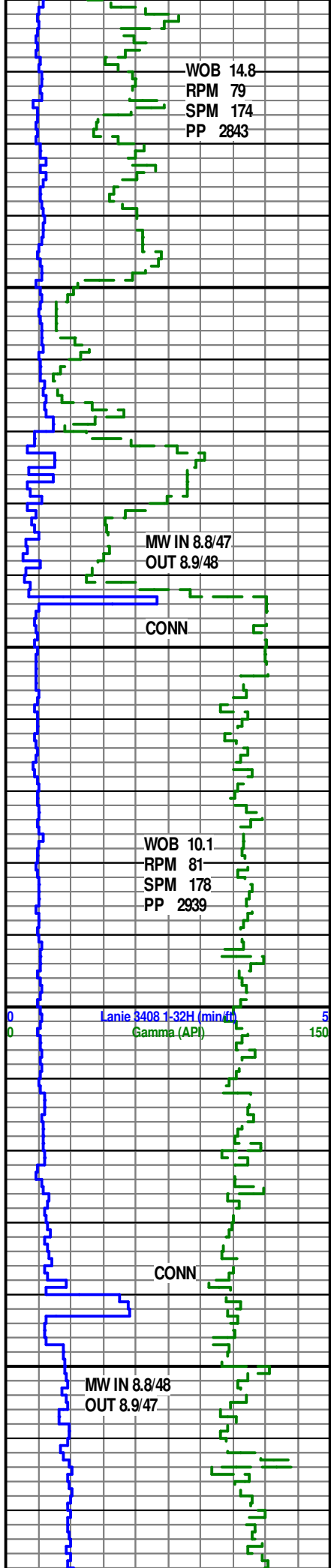
SD: 3820.00
Inc: 0.69
Azi: 66.27
TVD: 3818.82
VS: 12.21

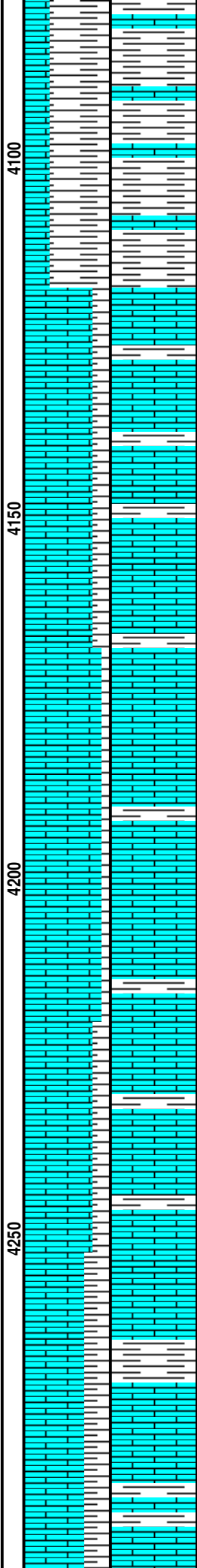
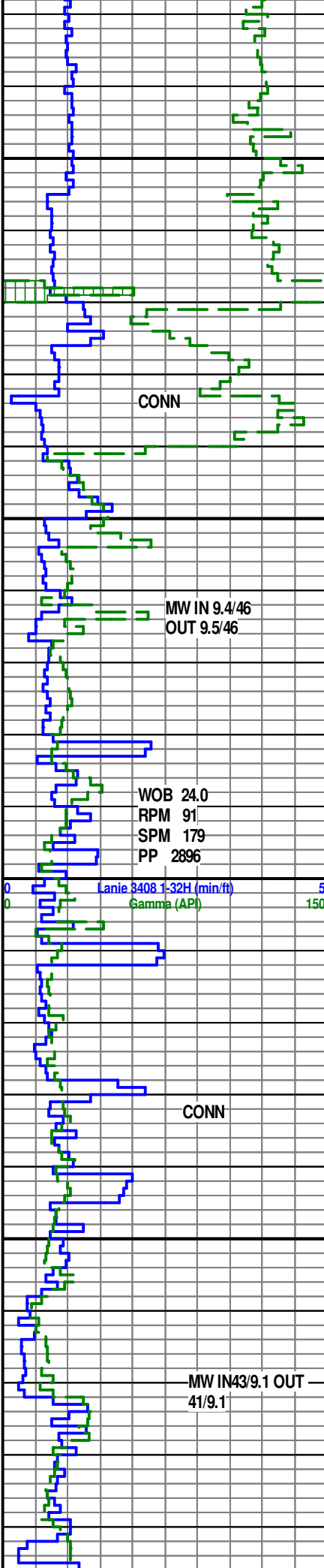
LS: 30% wht-frm, frm, mic xln, dull, arg; SH: 60% lt gry-gry, sft-frm, plty, SS: 10% wht-off wht, consol, m grain, sb rnd, vit, srt, arg, slky

Tonkawa @ 3,848' MD, 3,846 TVD,

SD: 3852.00
Inc: 1.77
Azi: 28.01







LS: 30% wht-frm, frm, mic xln, dull, arg; SH: 70% dk gry-gry, sft-frm, plty

SD: 4105.00
Inc: 17.28
Azi: 16.03
TVD: 4098.97
VS: 56.46

**Cottage Grove @ 4,119'
MD 4,112' TVD**

SD: 4137.00
Inc: 19.69
Azi: 16.00
TVD: 4129.31
VS: 66.16

LS: 80% Crm-Buff, lt Gy, off Wh, frm, f xln, dull-chky, sli frm-frm, arg, SH: 20% lt-med Gy, frm, blk, lam, rthy, no flor, no ring/cut

SD: 4168.00
Inc: 22.71
Azi: 16.23
TVD: 4158.21
VS: 76.87

LS: 90% Crm-Buff, lt Gy, off Wh, frm, f xln, dull-chky, sli frm-frm, arg, SH: 10% lt-med Gy, frm, blk, lam, rthy, no flor, no ring/cut

SD: 4200.00
Inc: 25.97
Azi: 14.97
TVD: 4187.36
VS: 89.50

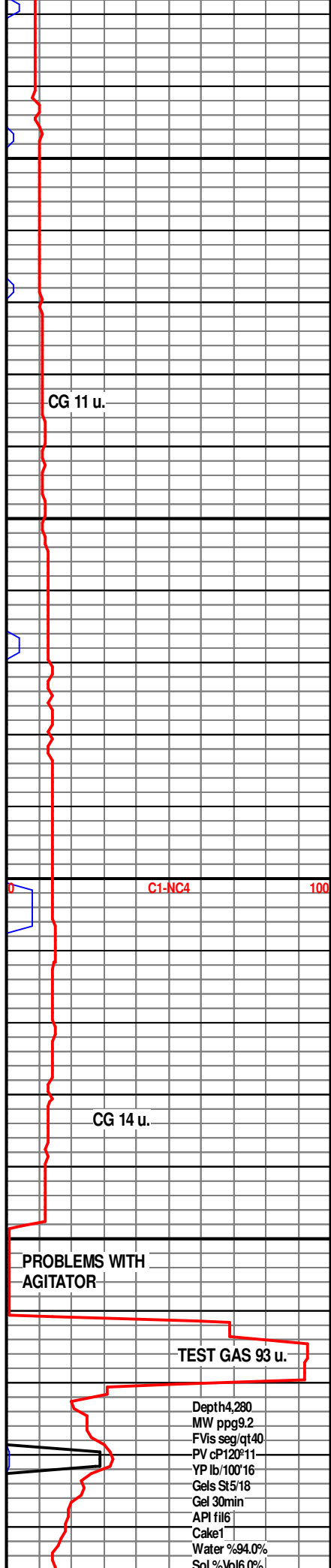
SD: 4232.00
Inc: 29.35
Azi: 12.69
TVD: 4215.70
VS: 103.86

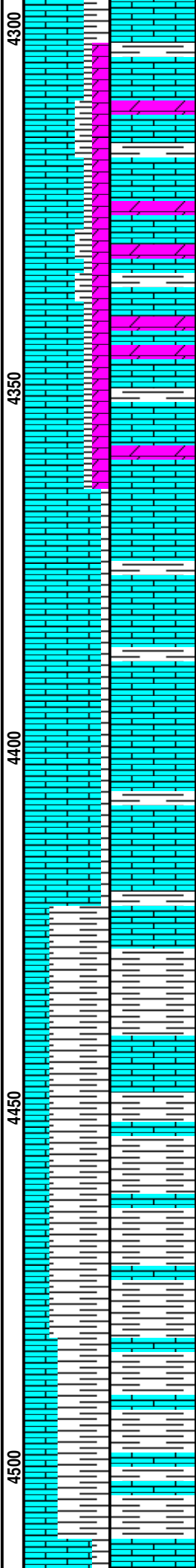
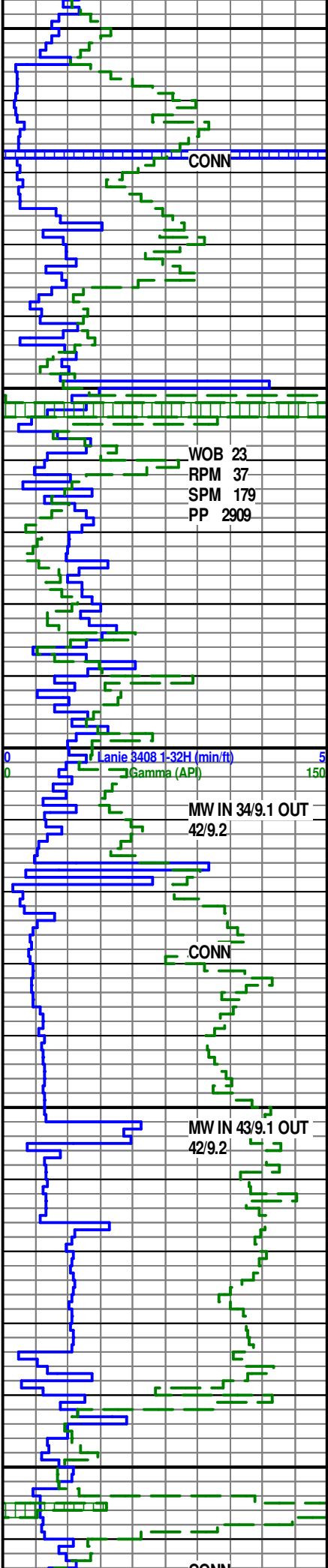
LS: 80% Crm-Wht, lt Gy, frm, f xln, dull, arg, SH: 20% lt-med Gy, frm, blk, lam, rthy, no flor, no ring/cut

SD: 4263.00
Inc: 31.22
Azi: 10.73
TVD: 4242.47
VS: 119.11

LS: 70% Crm-Wht, lt Gy, frm, f xln, dull, arg, SH: 30% lt-med Gy, frm, blk, lam, rthy, no flor, no ring/cut

SD: 4295.00
Inc: 32.50





Azi: 9.75
TVD: 4269.65
VS: 135.67

LS: 70% Crm-Wht, lt Gy, frm, f xln, dull, arg, SH: 10% lt-med Gy, frm, blk, lam, rthy, DOL: 20% Wht, hrd, blk; no flor, no ring/cut

SD: 4327.00
Inc: 31.92
Azi: 8.14
TVD: 4296.73
VS: 152.47

LS: 70% Crm-Wht, lt Gy, frm, f xln, dull, arg, SH: 10% lt-med Gy, frm, blk, lam, rthy, DOL: 20% Wht, hrd, blk; no flor, no ring/cut

SD: 4359.00
Inc: 32.22
Azi: 5.82
TVD: 4323.84
VS: 169.29

LS: 90% Crm-Wht, lt Gy, frm, f xln, dull, arg, SH: 10% lt-med Gy, frm, blk, lam, rthy, no flor, no ring/cut

SD: 4390.00
Inc: 33.99
Azi: 3.17
TVD: 4349.81
VS: 186.14

LS: 90% Crm-Wht, lt Gy, frm, f xln, dull, arg, SH: 10% lt-med Gy, frm, blk, lam, rthy, no flor, no ring/cut

SD: 4422.00
Inc: 35.83
Azi: 1.06
TVD: 4376.05
VS: 204.42

LS: 30% Crm-Wht, lt Gy, frm, f xln, dull, arg, SH: 70% lt-med Gy, frm, blk, lam, rthy, no flor, no ring/cut

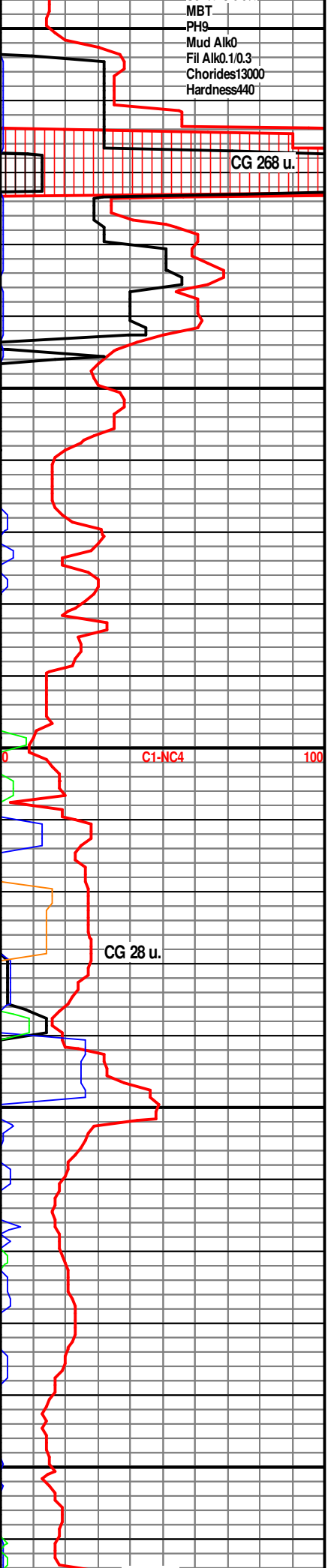
SD: 4454.00
Inc: 37.38
Azi: 359.16
TVD: 4401.74
VS: 223.50

LS: 30% Crm-Wht, lt Gy, frm, f xln, dull, arg, SH: 70% lt-med Gy, frm, blk, lam, rthy, no flor, no ring/cut

SD: 4485.00
Inc: 39.45
Azi: 357.42
TVD: 4426.03
VS: 242.75

LS: 30% Crm-Wht, lt Gy, frm, f xln, dull, arg, SH: 70% lt-med Gy, frm, blk, lam, rthy, lt Yl flor, lt Yl rng, no cut

Oswego @ 4,508' MD,



4,443' TVD

SD: 4517.00
Inc: 42.47
Azi: 355.81
TVD: 4450.19
VS: 263.71

LS: 80% Crm-Wht, lt Gy, frm, f xln, dull, arg, SH: 20% lt-med Gy, frm, blk, lam, rthy, lt YI flor, lt YI rng, no cut

SD: 4549.00
Inc: 45.07
Azi: 355.00
TVD: 4473.30
VS: 285.80

LS: 80% Crm-Wht, lt Gy, frm, f xln, dull, arg, SH: 20% lt-med Gy, frm, blk, lam, rthy, lt YI flor, lt YI rng, no cut

SD: 4580.00
Inc: 47.68
Azi: 354.90
TVD: 4494.69
VS: 308.18

LS: 80% Crm-Wht, lt Gy, frm, f xln, dull, arg, SH: 20% lt-med Gy, frm, blk, lam, rthy, bri YI flor, lt YI rng, bri YI cut

SD: 4612.00
Inc: 49.75
Azi: 354.51
TVD: 4515.80
VS: 332.16

LS: 80% Crm-Wht, lt Gy, frm, f xln, dull, arg, SH: 20% lt-med Gy, frm, blk, lam, rthy, bri YI flor, lt YI rng, bri YI cut

LS: 80% Crm-Wht, lt Gy, frm, f xln, dull, arg, SH: 20% lt-med Gy, frm, blk, lam, rthy, bri YI flor, lt YI rng, bri YI cut

Cherokee @ 4,655' MD, 4,544' TVD

SD: 4676.00
Inc: 50.55
Azi: 354.08
TVD: 4556.81
VS: 381.13

LS: 70% Crm-Wht, lt Gy, frm, f xln, dull, arg, SH: 30% lt-med Gy, frm, blk, lam, rthy, bri YI flor, lt YI rng, bri YI cut

LS: 70% Crm-Wht, lt Gy, frm, f xln, dull, arg, SH: 30% lt-med Gy, frm, blk, lam, rthy, bri YI flor, lt YI rng, bri YI cut

SD: 4771.00

CONN
WOB 25
RPM 46
SPM 179
PP 3021

MW IN 42/9.1 OUT 42/9.2

Lamie 3408 1-32H (min/ft)
Gamma (A) CONN

MW IN 42/9.2 OUT 41/9.2

CONN

Down linking MWD tool

CG 33 u.

NOTICE SCALE CHANGE
0-100 TO 0-1000

Scale Change C1-NC4 1000

MAX GAS 291 u.

CG 103 u. C1-NC4 1000

MAX GAS 1,192 u.

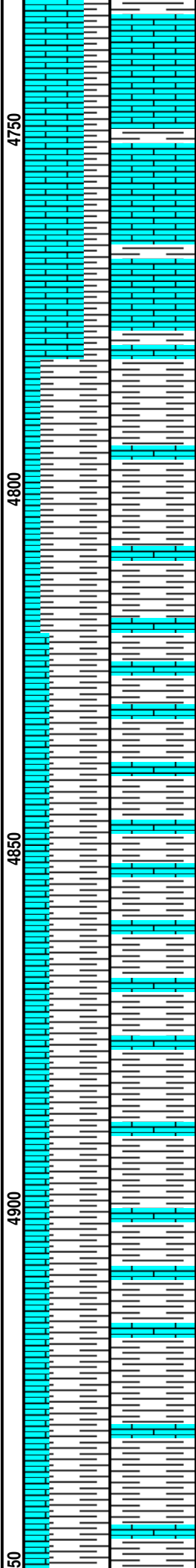
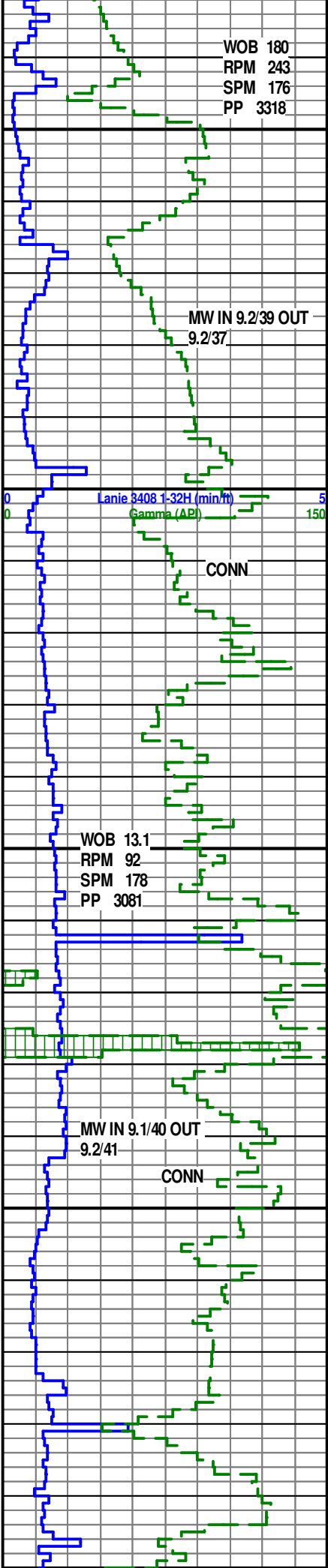
CG 711 u.

4550

4600

4650

4700



Inc: 50.74
Azi: 353.50
TVD: 4617.05
VS: 454.29

**Verdigris @ 4,757' MD,
4,608 TVD**

LS: 70% Crm-Wht, lt Gy, frm, f xln, dull, arg, SH: 30% lt-med Gy, frm, blk, lam, rthy, bri Yl flor, lt Yl rng, bri Yl cut

SD: 4802.00
Inc: 50.70
Azi: 353.94
TVD: 4636.68
VS: 478.19

LS: 20% Crm-off Wh, lt Gy, frm, f xln, sft-frm, arg, dull-chky-sub blk, SH: 80% lt-med Gy-dk Gy, frm, blk, rthy, lt Yel flor, lt Yl rng, lt Wht cut

SD: 4834.00
Inc: 52.60
Azi: 354.49
TVD: 4656.53
VS: 503.19

SD: 4865.00
Inc: 55.04
Azi: 355.26
TVD: 4674.83
VS: 528.15

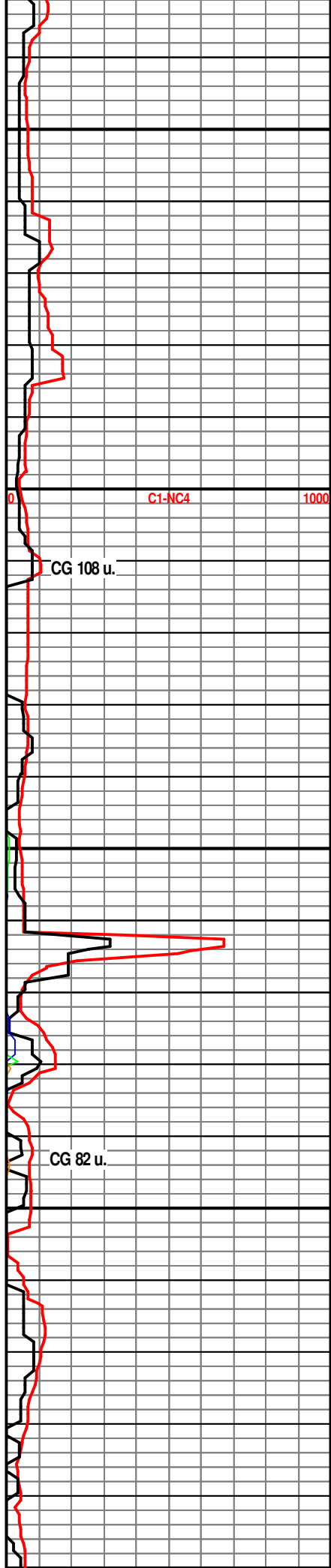
LS: 30% Crm-off Wh, lt Gy, frm, f xln, sft-frm, arg, dull-chky-sub blk, SH: 70% lt-med Gy-dk Gy, frm, blk, rthy, lt Yel flor, lt Yl rng, lt Wht cut

SD: 4897.00
Inc: 58.47
Azi: 356.37
TVD: 4692.37
VS: 554.87

LS: 30% Crm-off Wh, lt Gy, frm, f xln, sft-frm, arg, dull-chky-sub blk, SH: 70% lt-med Gy-dk Gy, frm, blk, rthy, lt Yel flor, no rng, no cut

SD: 4929.00
Inc: 61.84
Azi: 357.17
TVD: 4708.29
VS: 582.60

SD: 4961.00
Inc: 65.05



Azi: 358.06
TVD: 4722.60
VS: 611.21

**Mississippi @ 4,953'
MD, 4,719' TVD**

LS: 30% Crm-off Wh, lt Gy, frm, f
xln, sft-frm, arg, dull-chky-sub
blky, SH: 60% lt-med Gy-dk Gy,
frm, blk, rthy, DOL: 10% Wht, hrd,
blk; lt Yel flr, lt Yl rng, lt Wht cut

SD: 4992.00
Inc: 68.84
Azi: 358.73
TVD: 4734.74
VS: 639.73

LS: 50% Crm-off Wh, lt Gy, frm, f
xln, sft-frm, arg, dull-chky-sub
blky, SH: 40% lt-med Gy-dk Gy,
frm, blk, rthy, DOL: 10% Wht, hrd,
blk; lt Yel flr, lt Yl rng, lt Wht cut

SD: 5024.00
Inc: 71.90
Azi: 357.92
TVD: 4745.49
VS: 669.86

SD: 5055.00
Inc: 74.70
Azi: 358.08
TVD: 4754.39
VS: 699.55

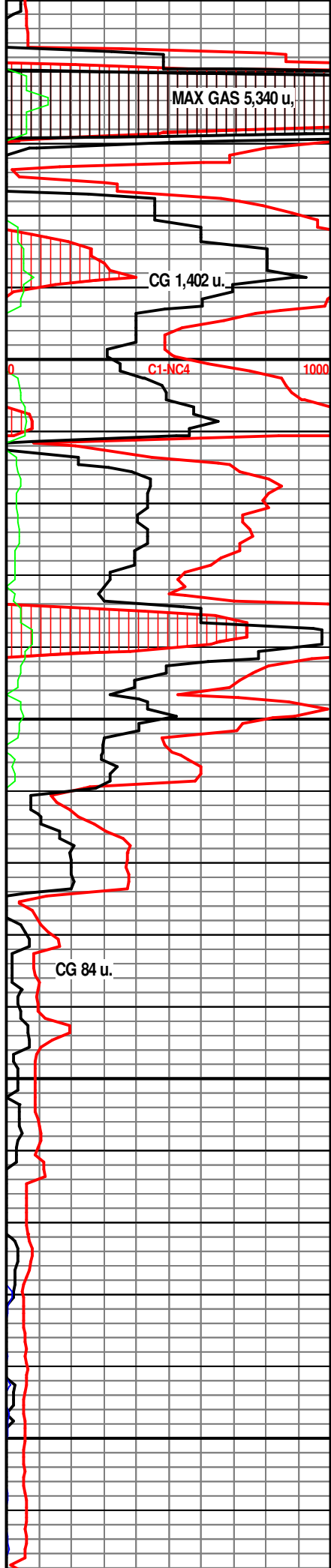
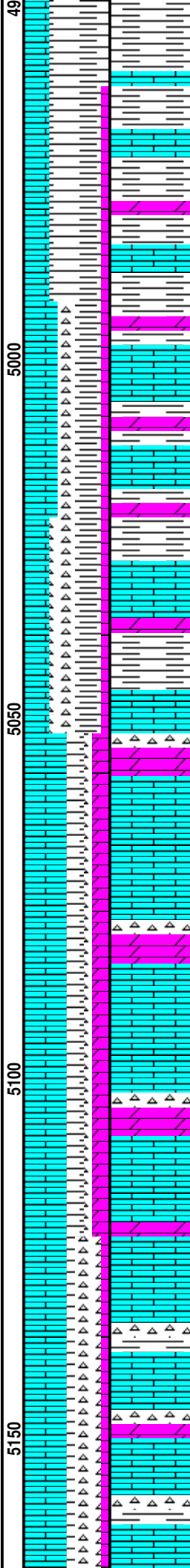
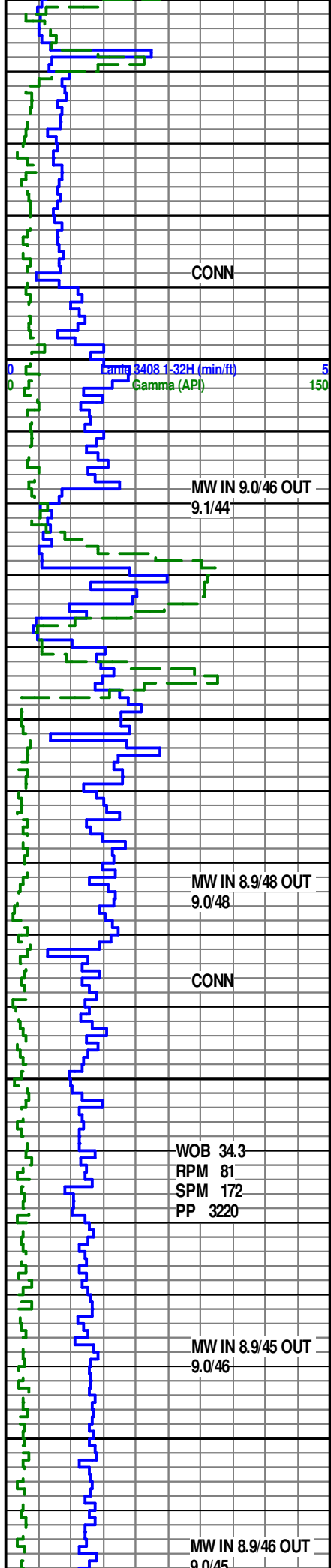
LS: 60% Crm-off Wh, lt Gy, frm, f
xln, sft-frm, arg, dull-chky-sub
blky, DOL: 20% Crm-off Wht, frm,
arg, blk; SH: 10% lt-med Gy-dk
Gy, frm, blk, rthy, lt Yel flr, lt Yl
rng, lt Wht cut; CHRT: 10% Wht,
hrd, blk

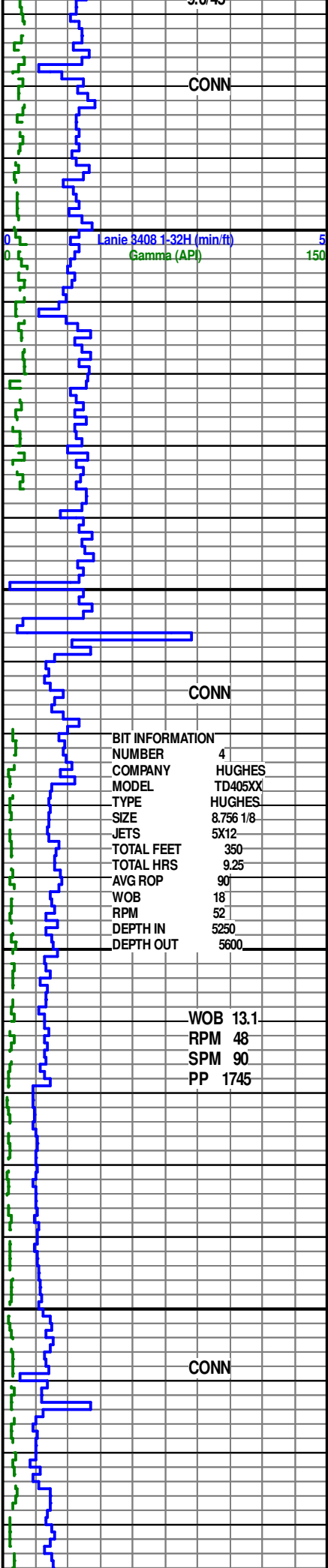
SD: 5087.00
Inc: 78.19
Azi: 357.93
TVD: 4761.89
VS: 730.65

SD: 5119.00
Inc: 81.13
Azi: 357.56
TVD: 4767.63
VS: 762.12

LS: 60% Crm-off Wh, lt Gy, frm, f
xln, sft-frm, arg, dull-chky-sub
blky, DOL: 10% Crm-off Wht, frm,
arg, blk; SH: 10% lt-med Gy-dk
Gy, frm, blk, rthy, CHRT: 20%
Wht, hrd, blk, lt Yel flr, flash cut,
brt rng stn

SD: 5150.00
Inc: 83.83
Azi: 357.69



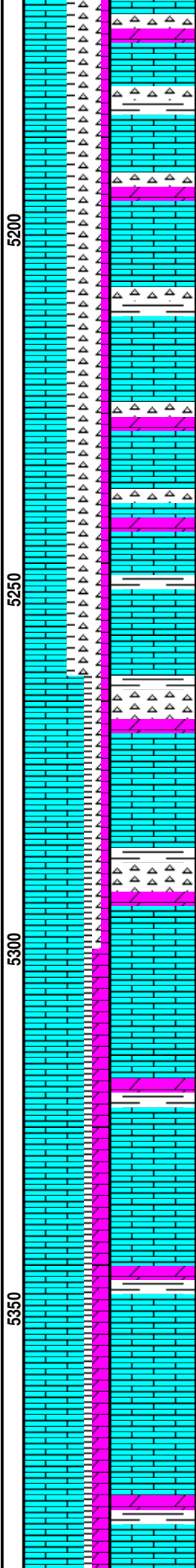


Lanie 3408 1-32H (min/ft) 5
Gamma (API) 150

CONN

BIT INFORMATION	
NUMBER	4
COMPANY	HUGHES
MODEL	TD405XX
TYPE	HUGHES
SIZE	8.756 1/8
JETS	5X12
TOTAL FEET	350
TOTAL HRS	9.25
AVG ROP	90
WOB	18
RPM	52
DEPTH IN	5250
DEPTH OUT	5600

WOB 13.1
RPM 48
SPM 90
PP 1745



VS: 792.84
SD: 5182.00
Inc: 86.71
Azi: 357.74
TVD: 4774.33
VS: 824.72

LS: 60% Crm-off Wh, lt Gy, frm, f xln, sft-frm, arg, dull-chky-sub blk, DOL: 10% Crm-off Wht, frm, arg, blk; SH: 10% lt-med Gy-dk Gy, frm, blk, rthy, CHRT: 20% Wht, hrd, blk, lt Yel flor, flash cut, brt rng stn

LS: 60% Crm-off Wh, lt Gy, frm, f xln, sft-frm, arg, dull-chky-sub blk, DOL: 10% Crm-off Wht, frm, arg, blk; SH: 10% lt-med Gy-dk Gy, frm, blk, rthy, CHRT: 20% Wht, hrd, blk, lt Yel flor, flash cut, brt rng stn

TD @ 5,250' MD for Intermediate Casing

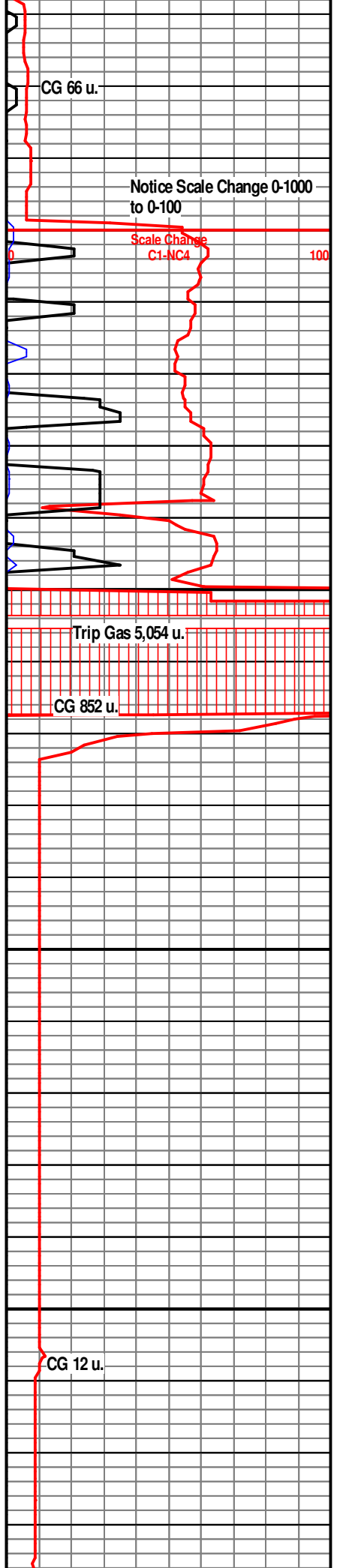
LS: 70% Crm-off Wh, lt Gy, frm, f xln, sft-frm, arg, dull-chky-sub blk, DOL: 10% Crm-off Wht, frm, arg, blk; SH: 10% lt-med Gy-dk Gy, frm, blk, rthy, CHRT: 10% Wht, hrd, blk, lt Yel flor, flash cut, brt rng stn

SD: 5271.00
Inc: 90.89
Azi: 358.14
TVD: 4774.81
VS: 913.70

SD: 5317.00
Inc: 90.87
Azi: 358.19
TVD: 4774.10
VS: 959.69

LS: 70% Crm-off Wh, lt Gy, frm, f xln, sft-frm, arg, dull-chky-sub blk, DOL: 20% Crm-off Wht, frm, arg, blk; SH: 10% lt-med Gy-dk Gy, frm, blk, rthy, lt Yl flor, lt Grn cut, bri Yl rng

LS: 70% Crm-off Wh, lt Gy, frm, f xln, sft-frm, arg, dull-chky-sub blk, DOL: 20% Crm-off Wht, frm, arg, blk; SH: 10% lt-med Gy-dk Gy, frm, blk, rthy, lt Yl flor, lt Grn cut, bri Yl rng



CG 66 u.

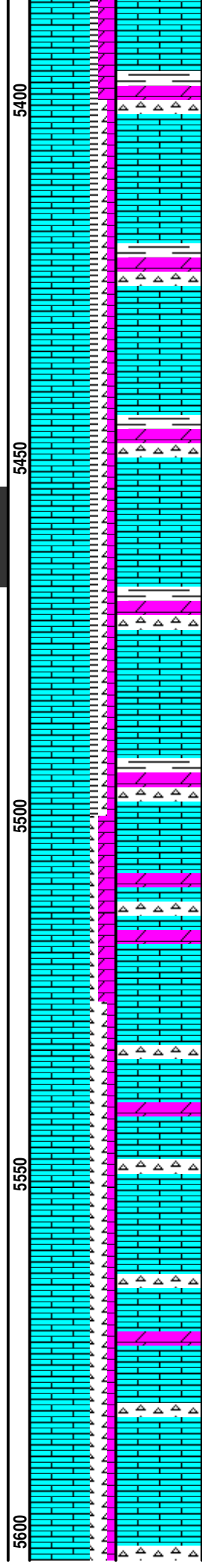
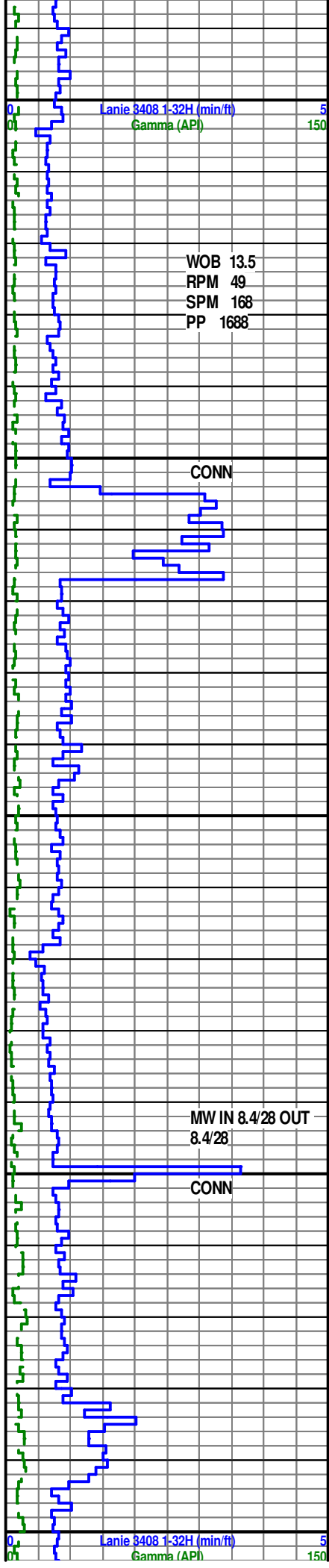
Notice Scale Change 0-1000 to 0-100

Scale Change C1-NC4

Trip Gas 5,054 u.

CG 852 u.

CG 12 u.



SD: 5413.00
Inc: 90.68
Azi: 357.51
TVD: 4772.80
VS: 1055.66

LS: 70% Crm-off Wh, lt Gy, frm, f xln, sft-frm, arg, dull-chky-sub blk, DOL: 10% Crm-off Wht, frm, arg, blk; SH: 10% lt-med Gy-dk Gy, frm, blk, rthy, CHRT: 10% Wht, hrd, blk, lt Yel flor, flash cut, brt rng stn

LS: 70% Crm-off Wh, lt Gy, frm, f xln, sft-frm, arg, dull-chky-sub blk, DOL: 10% Crm-off Wht, frm, arg, blk; SH: 10% lt-med Gy-dk Gy, frm, blk, rthy, CHRT: 10% Wht, hrd, blk, lt Yel flor, flash cut, brt rng stn

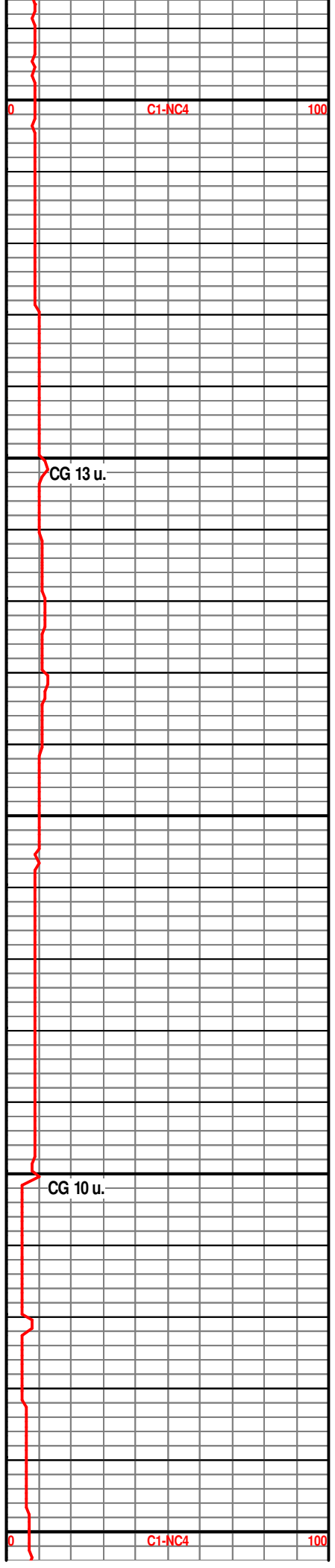
SD: 5508.00
Inc: 91.48
Azi: 358.57
TVD: 4771.01
VS: 1150.63

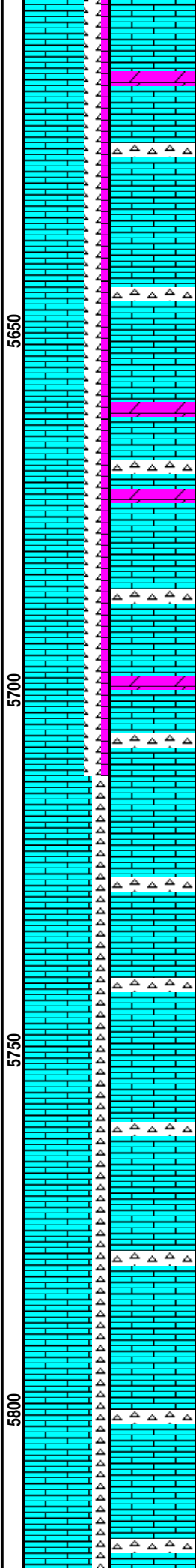
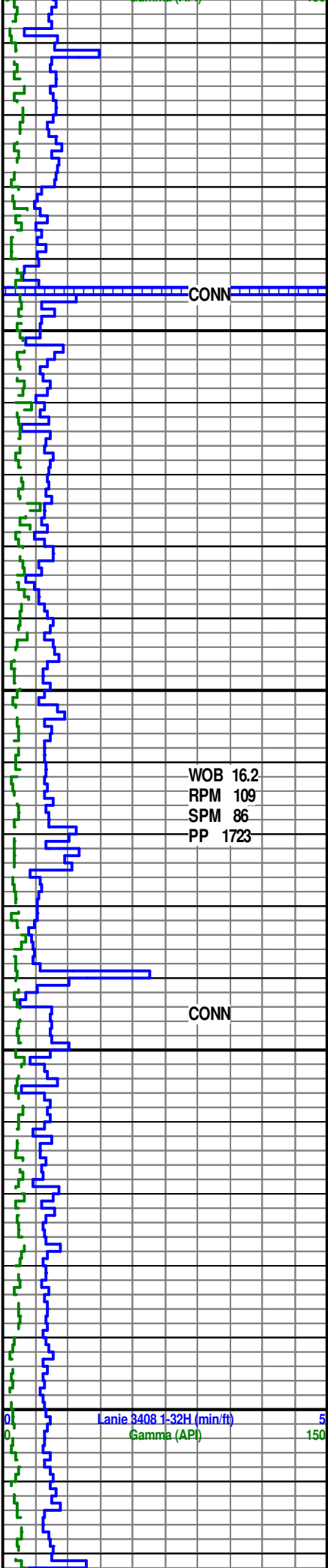
LS: 70% Crm-off Wh, lt Gy, frm, f xln, sft-frm, arg, dull-chky-sub blk, DOL: 20% Crm-off Wht, frm, arg, blk; CHRT: 10% Wht, hrd, blk,

LS: 70% Crm-off Wh, lt Gy, frm, f xln, sft-frm, arg, dull-chky-sub blk, DOL: 10% Crm-off Wht, frm, arg, blk; CHRT: 20% Wht, hrd, blk,

LS: 70% Crm-off Wh, lt Gy, frm, f xln, sft-frm, arg, dull-chky-sub blk, DOL: 10% Crm-off Wht, frm, arg, blk; CHRT: 20% Wht, hrd, blk,

LS: 70% Crm-off Wh, lt Gy, frm, f xln, sft-frm, arg, dull-chky-sub





blk, DOL: 10% Crm-off Wht, frm, arg, blk; CHRT: 20% Wht, hrd, blk,

SD: 5603.00
Inc: 91.83
Azi: 358.58
TVD: 4768.27
VS: 1245.59

LS: 70% Crm-off Wh, It Gy, frm, f xln, sft-frm, arg, dull-chky-sub blk, DOL: 10% Crm-off Wht, frm, arg, blk; CHRT: 20% Wht, hrd, blk,

SD: 5698.00
Inc: 91.51
Azi: 358.34
TVD: 4765.50
VS: 1340.54

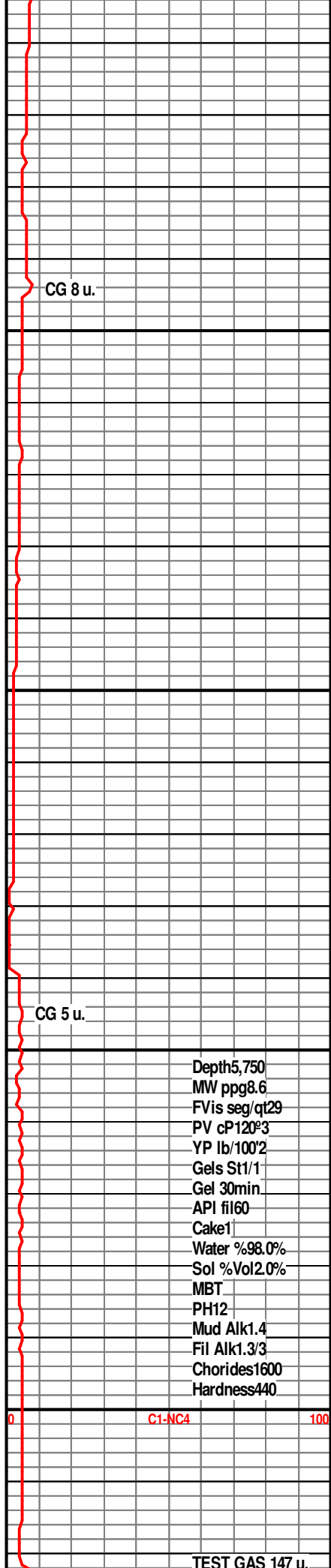
LS: 70% Crm-off Wh, It Gy, frm, f xln, sft-frm, arg, dull-chky-sub blk, DOL: 10% Crm-off Wht, frm, arg, blk; CHRT: 20% Wht, hrd, blk,

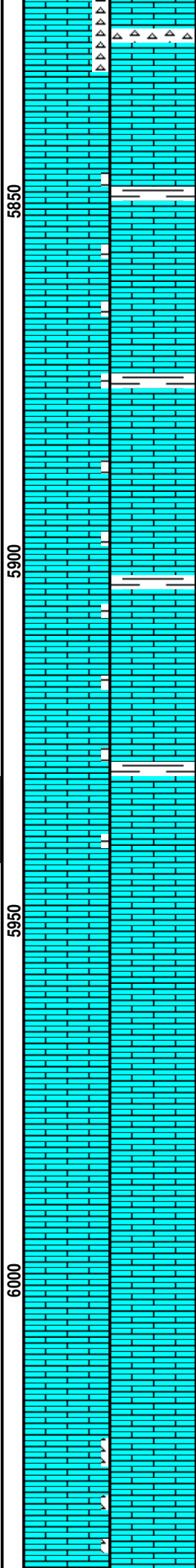
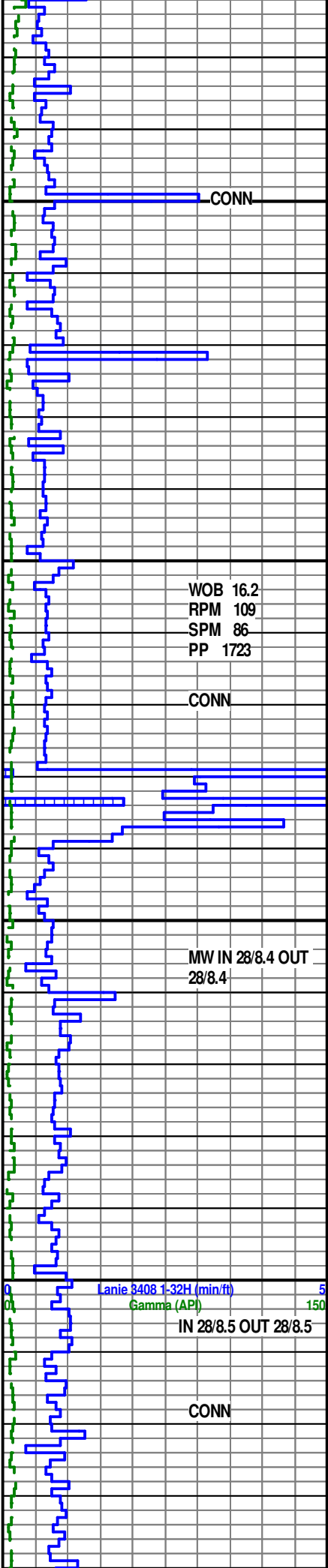
LS: 80% Crm-off Wh, It Gy, frm, f xln, sft-frm, arg, dull-chky-sub blk, CHRT: 20% Wht, hrd, blk, It YI flor, v It YI rng, It Wht cut

LS: 80% Crm-off Wh, It Gy, frm, f xln, sft-frm, arg, dull-chky-sub blk, CHRT: 20% Wht, hrd, blk, It YI flor, v It YI rng, It Wht cut

SD: 5793.00
Inc: 91.08
Azi: 357.42
TVD: 4763.35
VS: 1435.50

LS: 80% Crm-off Wh, It Gy, frm, f xln, sft-frm, arg, dull-chky-sub blk, CHRT: 20% Wht, hrd, blk, It YI flor, v It YI rng, It Wht cut





LS: 80% Crm-off Wh, lt Gy, frm, f xln, sft-frm, arg, dull-chky-sub blk, CHRT: 20% Wht, hrd, blk, lt YI flor, v lt YI rng, lt Wht cut

LS: 100% Crm-off Wh, lt Gy, frm, f xln, sft-frm, arg, dull-chky-sub blk, lt YI flor, v lt YI rng, lt Wht cut; trc SH

SD: 5888.00
Inc: 90.92
Azi: 357.27
TVD: 4761.69
VS: 1530.45

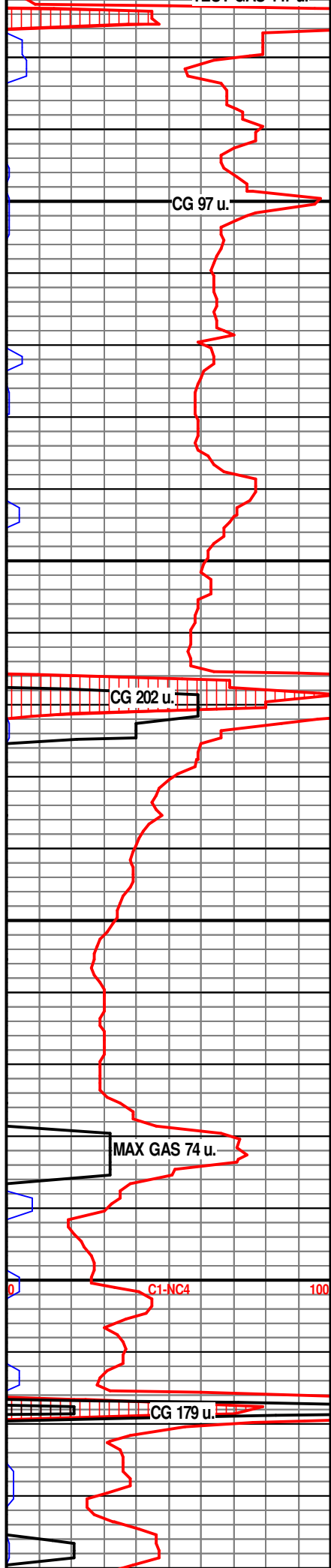
LS: 100% Crm-off Wh, lt Gy, frm, f xln, sft-frm, arg, dull-chky-sub blk, lt YI flor, v lt YI rng, lt Wht cut; trc SH

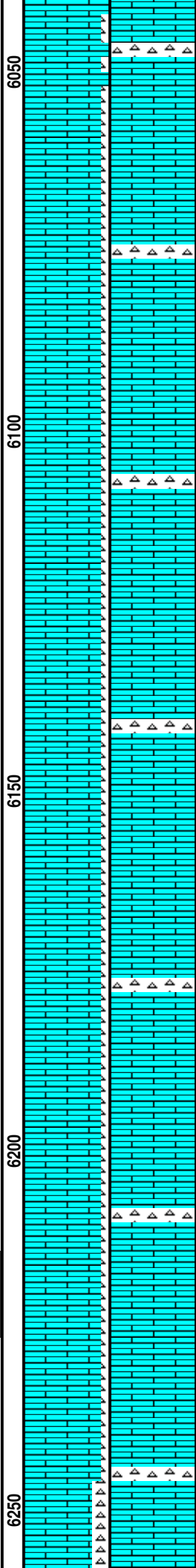
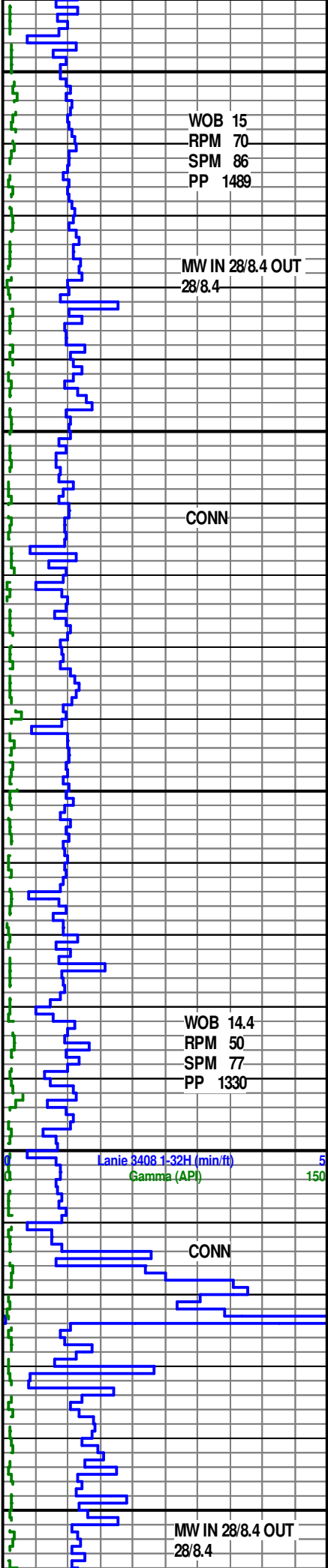
LS: 100% Crm-off Wh, lt Gy, frm, f xln, sft-frm, arg, dull-chky-sub blk, lt YI flor, v lt YI rng, lt Wht cut; trc SH

LS: 100% Crm-off Wh, lt Gy, frm, f xln, sft-frm, arg, dull-chky-sub blk, lt YI flor, v lt YI rng, lt Wht cut;

SD: 5984.00
Inc: 91.68
Azi: 358.51
TVD: 4759.52
VS: 1626.40

LS: 100% Crm-off Wh, lt Gy, frm, f xln, sft-frm, arg, dull-chky-sub blk, lt YI flor, v lt YI rng, lt Wht cut;





LS: 100% Crm-off Wh, lt Gy, frm, f xln, sft-frm, arg, dull-chky-sub blk, lt Yl flor, v lt Yl rng, lt Wht cut; trc CHRT

SD: 6078.00
Inc: 91.08
Azi: 358.93
TVD: 4757.25
VS: 1720.37

LS: 90% Crm-off Wh, lt Gy, frm, f xln, sft-frm, arg, dull-chky-sub blk, lt Yl flor, v lt Yl rng, lt Wht cut; CHRT: 10% Wht, hrd, blk

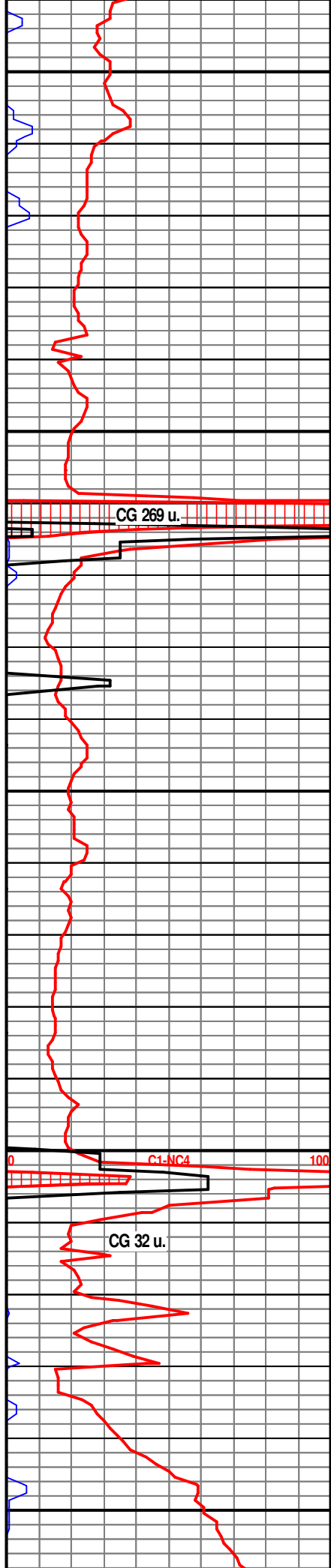
LS: 90% Crm-off Wh, lt Gy, frm, f xln, sft-frm, arg, dull-chky-sub blk, lt Yl flor, v lt Yl rng, lt Wht cut; CHRT: 10% Wht, hrd, blk

SD: 6173.00
Inc: 90.80
Azi: 359.00
TVD: 4755.69
VS: 1815.36

LS: 90% Crm-off Wh, lt Gy, frm, f xln, sft-frm, arg, dull-chky-sub blk, lt Yl flor, v lt Yl rng, lt Wht cut; CHRT: 10% Wht, hrd, blk

LS: 90% Crm-off Wh, lt Gy, frm, f xln, sft-frm, arg, dull-chky-sub blk, lt Yl flor, v lt Yl rng, lt Wht cut; CHRT: 10% Wht, hrd, blk

SD: 6268.00
Inc: 91.32



Azi: 359.00
TVD: 4753.94
VS: 1910.35

LS: 80% Crm-off Wh, lt Gy, frm, f
xln, sft-frm, arg, dull-chky-sub
blky, lt Yl flor, v lt Yl rng, lt Wht
cut; CHRT: 20% Wht, hrd, blk

LS: 70% Crm-off Wh, lt Gy, frm, f
xln, sft-frm, arg, dull-chky-sub
blky, DOL: 10% Crm-off Wht, frm,
arg, blk; CHRT: 20% Wht, hrd,
blk, lt Yel flor, flash cut, brt rng
stn

LS: 70% Crm-off Wh, lt Gy, frm, f
xln, sft-frm, arg, dull-chky-sub
blky, DOL: 10% Crm-off Wht, frm,
arg, blk; CHRT: 20% Wht, hrd,
blk, lt Yel flor, flash cut, brt rng
stn

SD: 6363.00
Inc: 91.39
Azi: 359.54
TVD: 4751.69
VS: 2005.32

LS: 70% Crm-off Wh, lt Gy, frm, f
xln, sft-frm, arg, dull-chky-sub
blky, DOL: 10% Crm-off Wht, frm,
arg, blk; CHRT: 20% Wht, hrd,
blk, lt Yel flor, flash cut, brt rng
stn

LS: 80% Crm-off Wh, lt Gy, frm, f
xln, sft-frm, arg, dull-chky-sub
blky, CHRT: 20% Wht, hrd, blk, lt
Yel flor, flash cut, brt rng stn

LS: 80% Crm-off Wh, lt Gy, frm, f
xln, sft-frm, arg, dull-chky-sub
blky, CHRT: 20% Wht, hrd, blk, lt
Yel flor, flash cut, brt rng stn

SD: 6458.00
Inc: 90.74
Azi: 359.98
TVD: 4749.92
VS: 2100.29

CONN

WOB 20.0
RPM 63
SPM 86
PP 1655

MW IN 28/8.4 OUT
28/8.4

CONN

Lanie 3408 1-32H (min/ft) 5
Gamma (API) 150

WOB 20.8
RPM 0
SPM 92
PP 1232

6300

6350

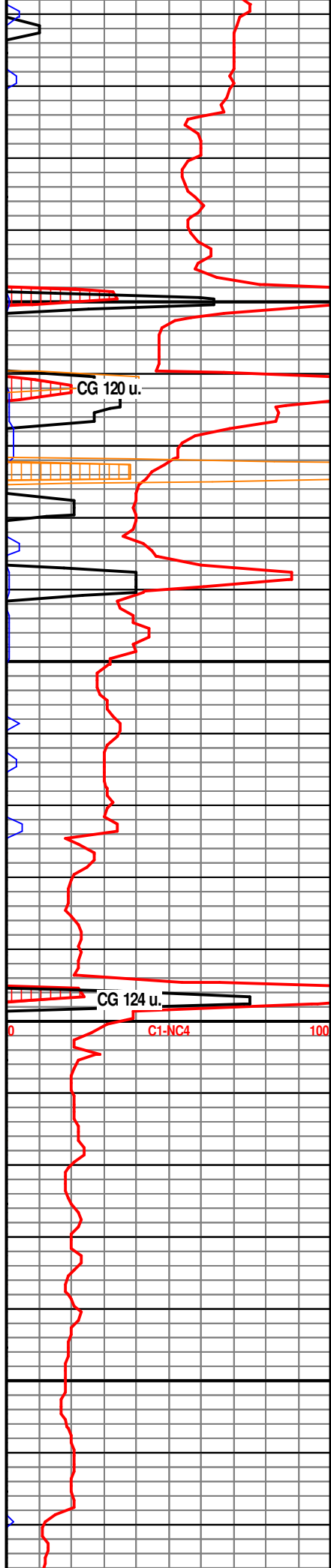
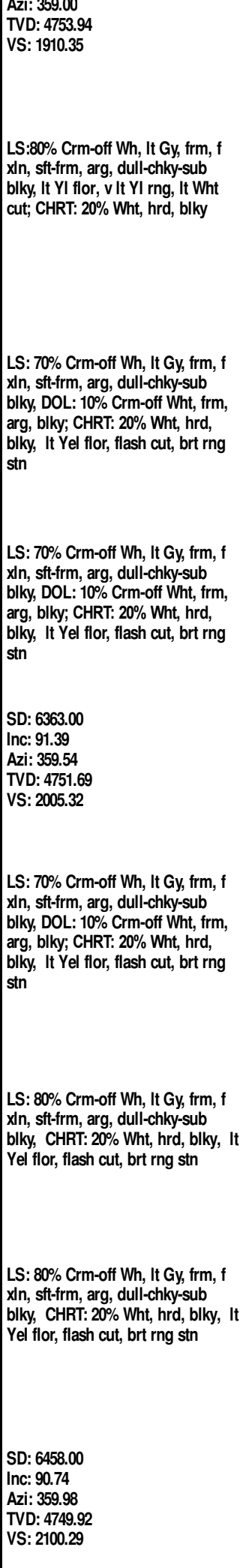
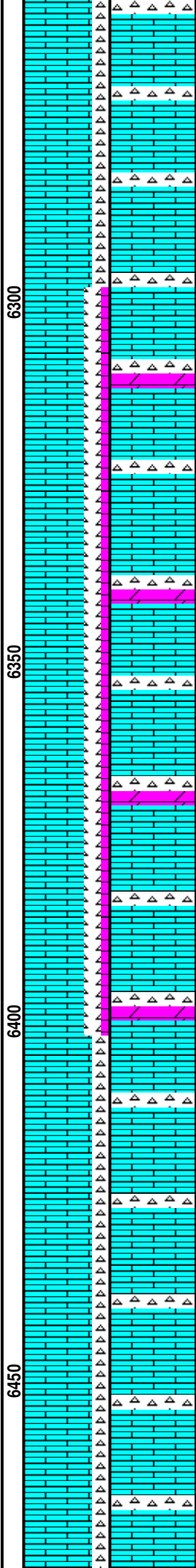
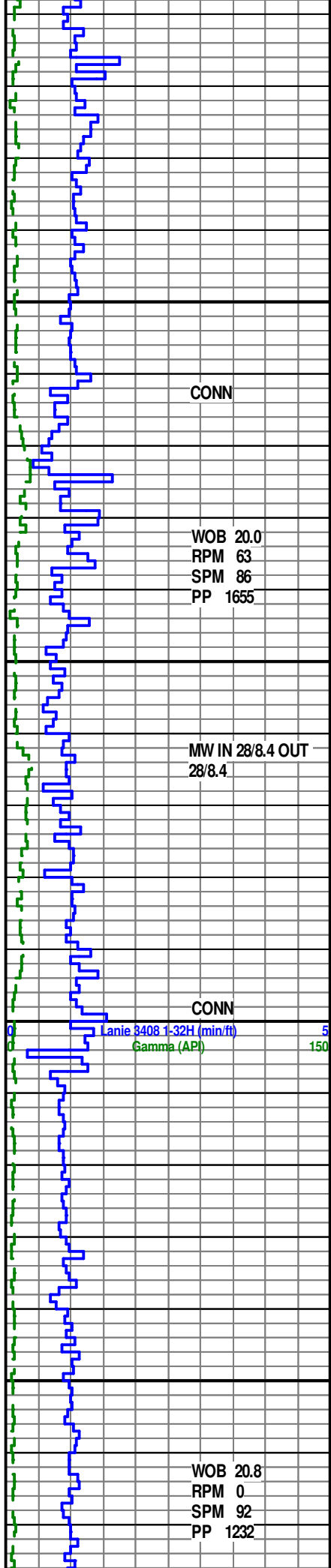
6400

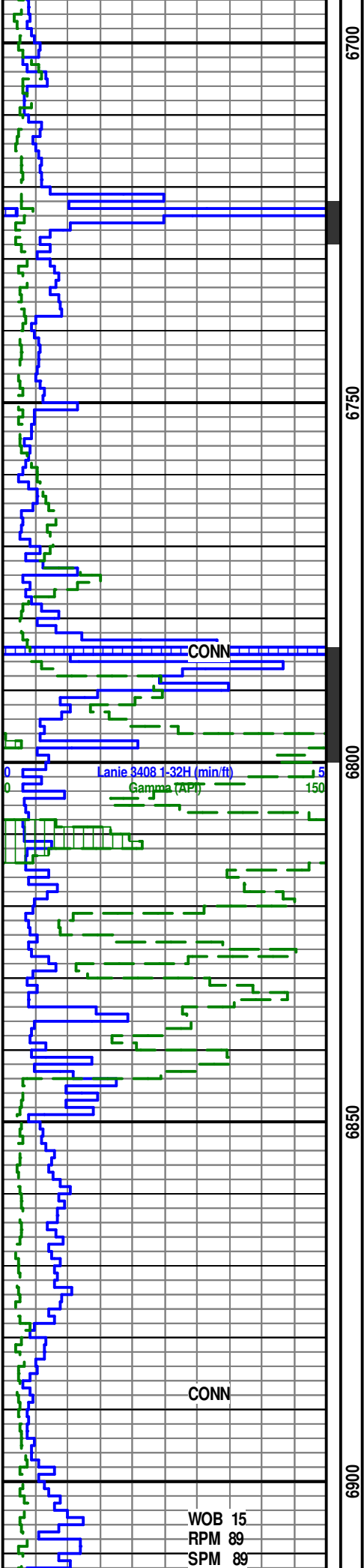
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CG 120 u.

CG 124 u.

C1-NC4





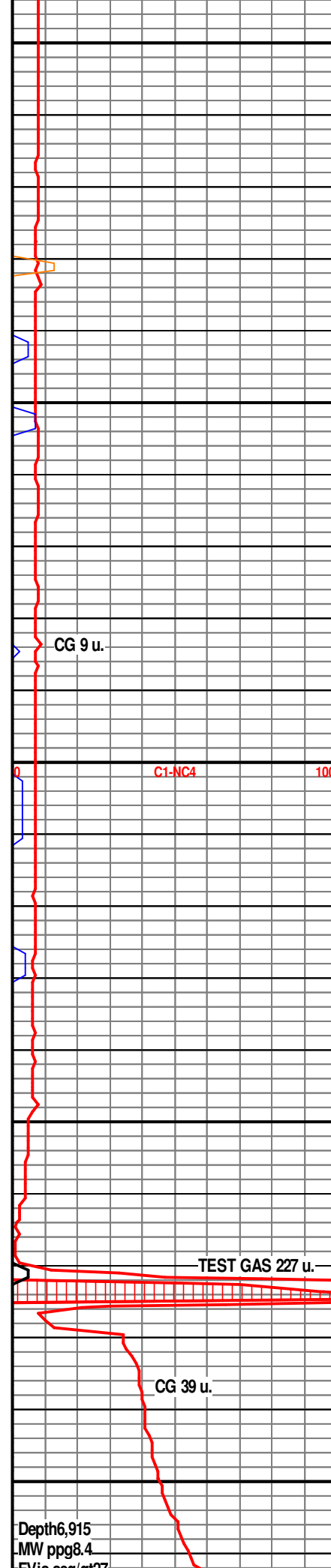
LOST CIRCULATION

SD: 6742.00
 Inc: 93.03
 Azi: 359.42
 TVD: 4737.84
 VS: 2384.00

LOST CIRCULATION

SD: 6869.00
 Inc: 89.52
 Azi: 359.56
 TVD: 4735.90
 VS: 2510.95

LOST CIRCULATION



PP 1757

SD: 6932.00
Inc: 89.04
Azi: 358.37
TVD: 4736.69
VS: 2573.95

FVis seg/qz/
PV cP120°1
YP lb/100°1
Gels St1/1
Gel 30min
API fil60
Cake1
Water %99.5%
Sol %Vol0.5%
MBT
-PH7
Mud Alk0
Fil Alk0
Chorides1300
Hardness160

6950

CONN

LOST CIRCULATION

CG 60 u.

7000

Lania #408 1-32H (min/ft) 5
Gamma (API) 150

0 C1-NC4 100

WOB 14
RPM 56
SPM 9
PP 1613

SD: 7027.00
Inc: 90.15
Azi: 356.16
TVD: 4737.36
VS: 2668.90

7050

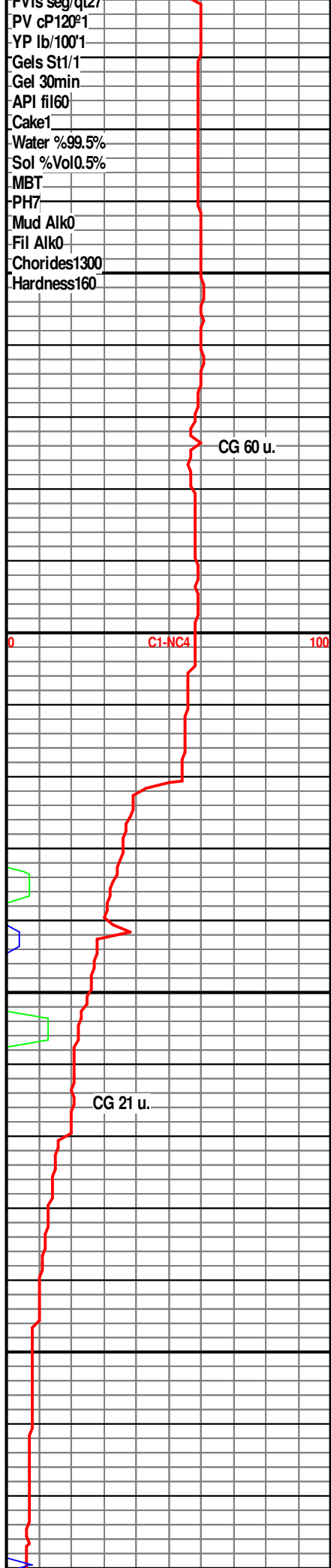
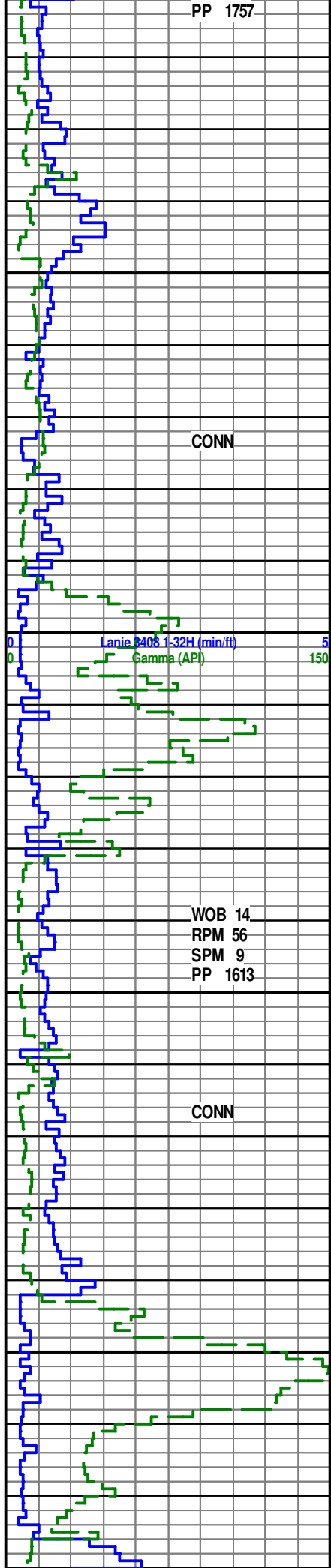
CONN

LOST CIRCULATION

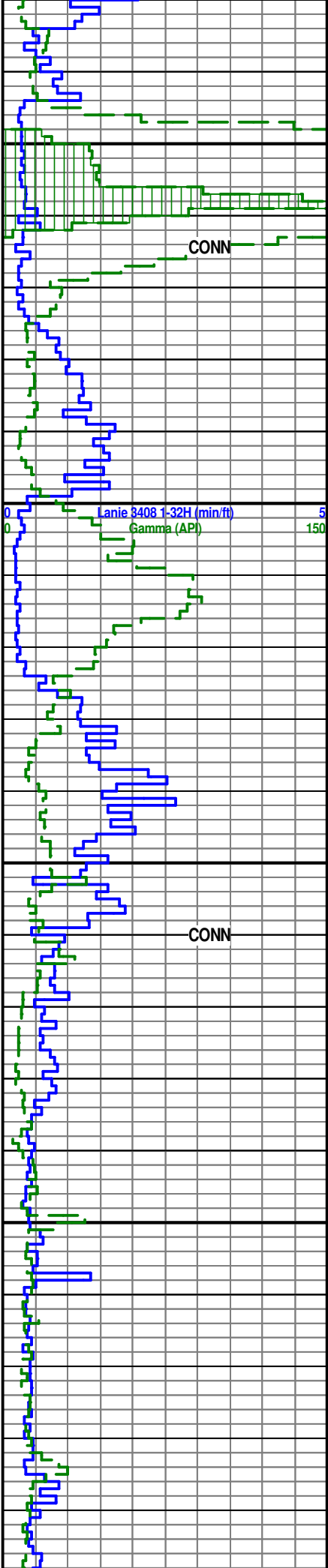
CG 21 u.

7100

SD: 7122.00
Inc: 91.32
Azi: 356.94
TVD: 4736.14
VS: 2722.00



VS: 2763.80



7150

7200

7250

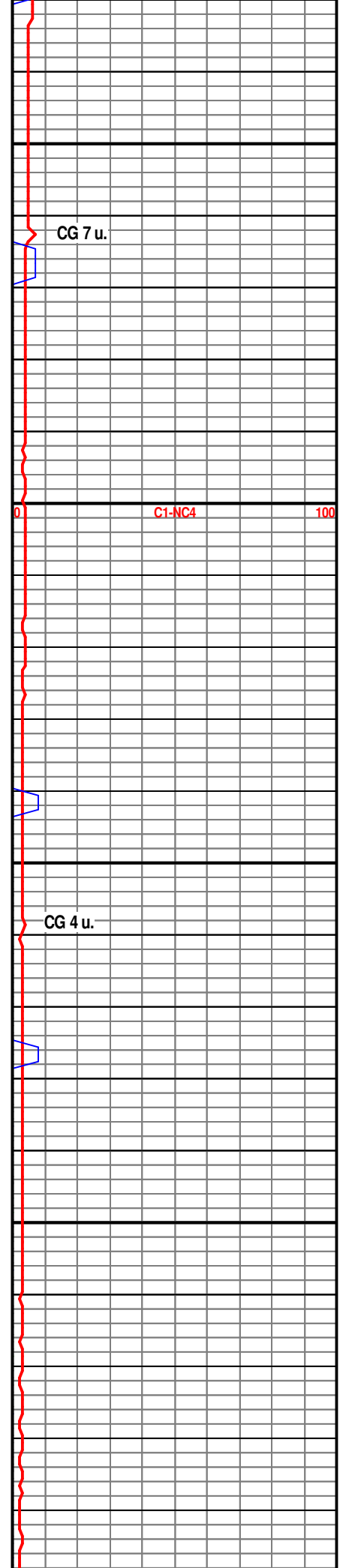
7300

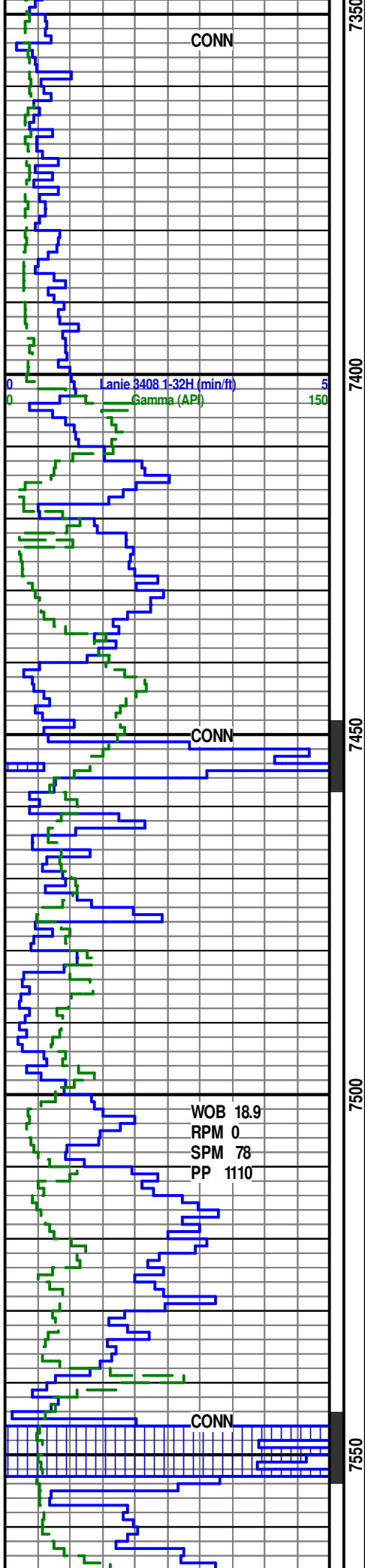
LOST CIRCULATION

SD: 7217.00
 Inc: 90.84
 Azi: 0.01
 TVD: 4734.35
 VS: 2858.77

LOST CIRCULATION

SD: 7312.00
 Inc: 90.74
 Azi: 357.64
 TVD: 4733.04
 VS: 2953.75





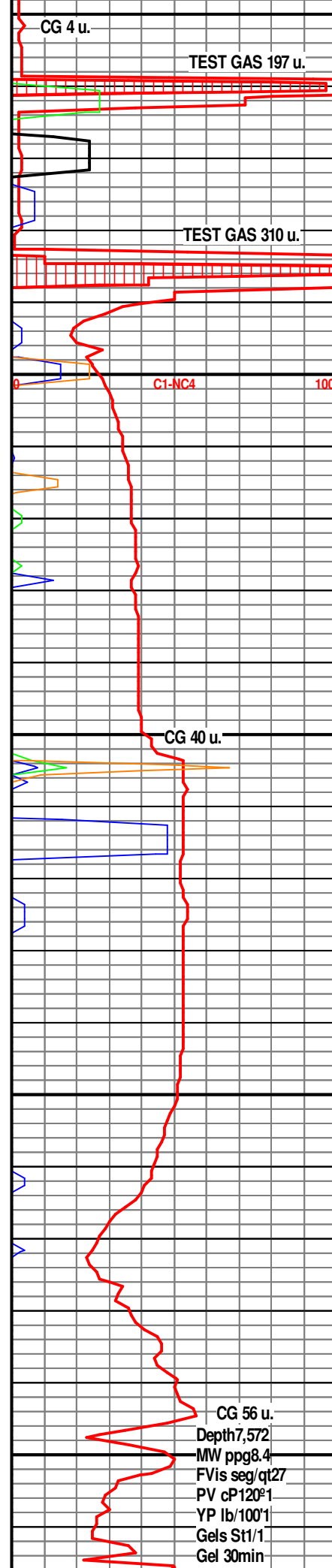
7350
7400
7450
7500
7550

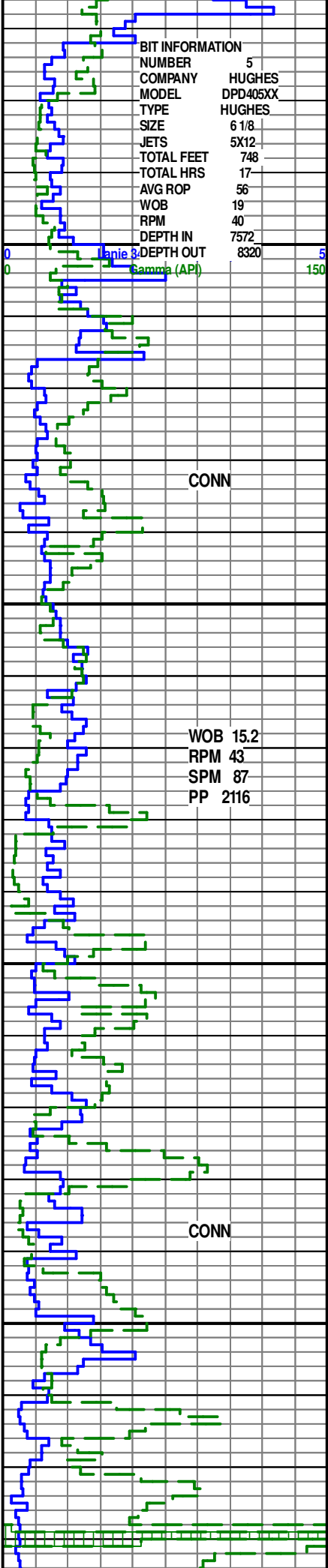
LOST CIRCULATION

SD: 7407.00
Inc: 90.03
Azi: 356.59
TVD: 4732.40
VS: 3048.70

LOST CIRCULATION

SD: 7502.00
Inc: 90.00
Azi: 356.76
TVD: 4732.38
VS: 3143.62





BIT INFORMATION
 NUMBER 5
 COMPANY HUGHES
 MODEL DPD405XX
 TYPE HUGHES
 SIZE 6 1/8
 JETS 5X12
 TOTAL FEET 748
 TOTAL HRS 17
 AVG ROP 56
 WOB 19
 RPM 40
 DEPTH IN 7572
 DEPTH OUT 8320

CONN

WOB 15.2
 RPM 43
 SPM 87
 PP 2116

CONN

TOOH @ 7,572' MD for new bit

LOST CIRCULATION

SD: 7622.00
 Inc: 90.28
 Azi: 358.60
 TVD: 4732.02
 VS: 3263.57
 DLS: 2.78

LOST CIRCULATION

SD: 7716.00
 Inc: 90.00
 Azi: 357.38
 TVD: 4731.79
 VS: 3357.55

API fil80
 Cake0
 Water %99.8%
 Sol %Vol0.2%
 MBT
 PH7
 Mud Alk0
 Fil Alk0.15
 Chorides700
 Hardness120

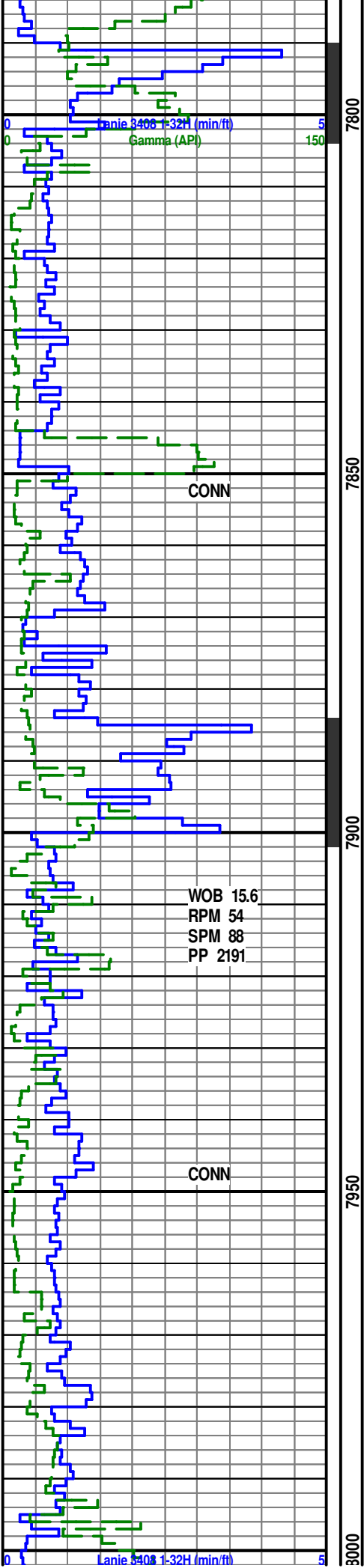
TRIP GAS 91 u.

CG 64 u.

NOTICE SCALE
 CHANGE 0-100 TO
 0-1000

Scale Chan C1-NC4
 MAX GAS 246 u.

CG 106 u.



LOST CIRCULATION

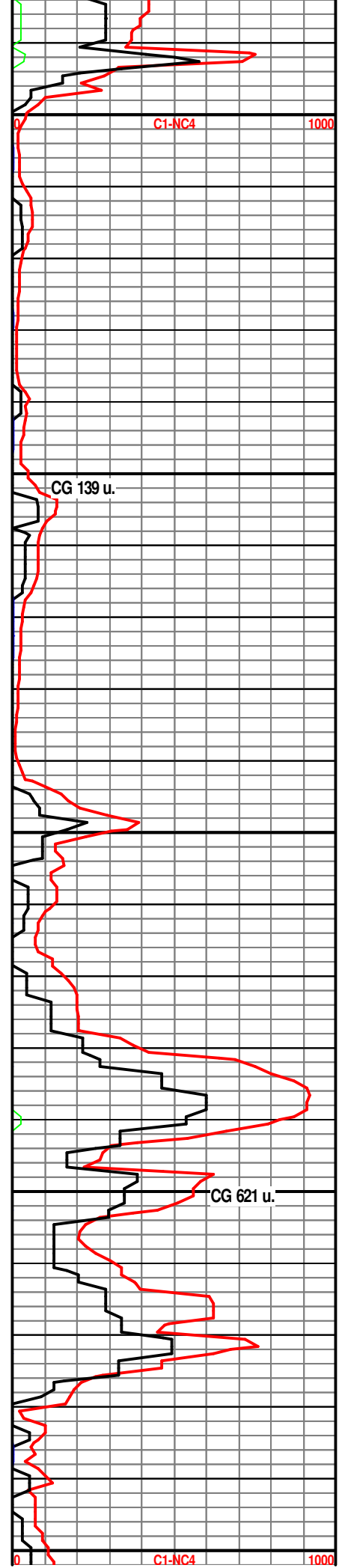
SD: 7811.00
 Inc: 89.97
 Azi: 357.02
 TVD: 4731.82
 VS: 3452.50

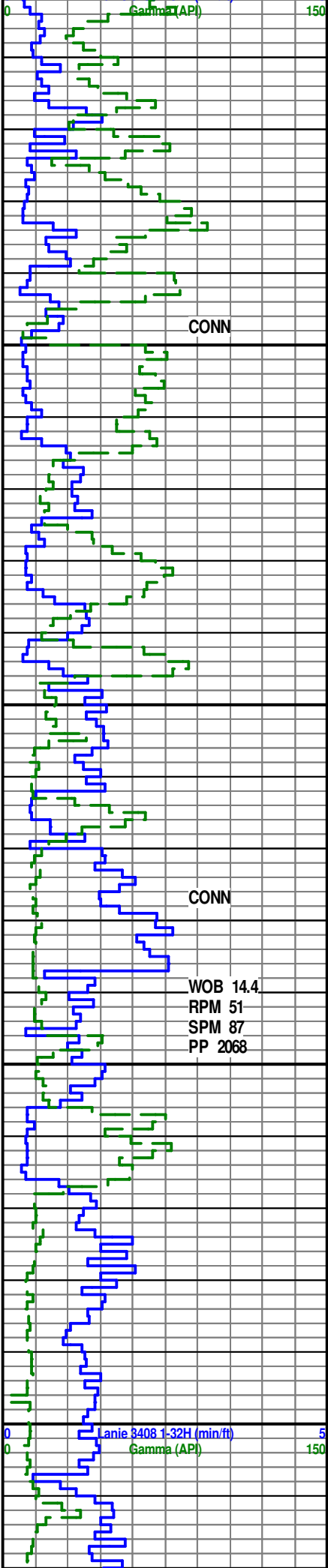
LOST CIRCULATION

SD: 7906.00
 Inc: 91.05
 Azi: 359.17
 TVD: 4730.97
 VS: 3547.48

LOST CIRCULATION

SD: 8001.00



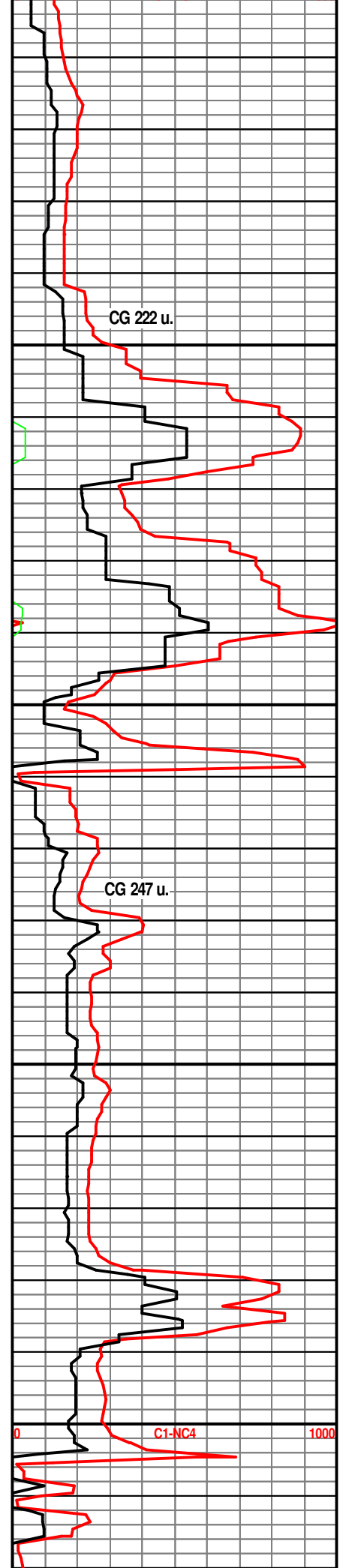


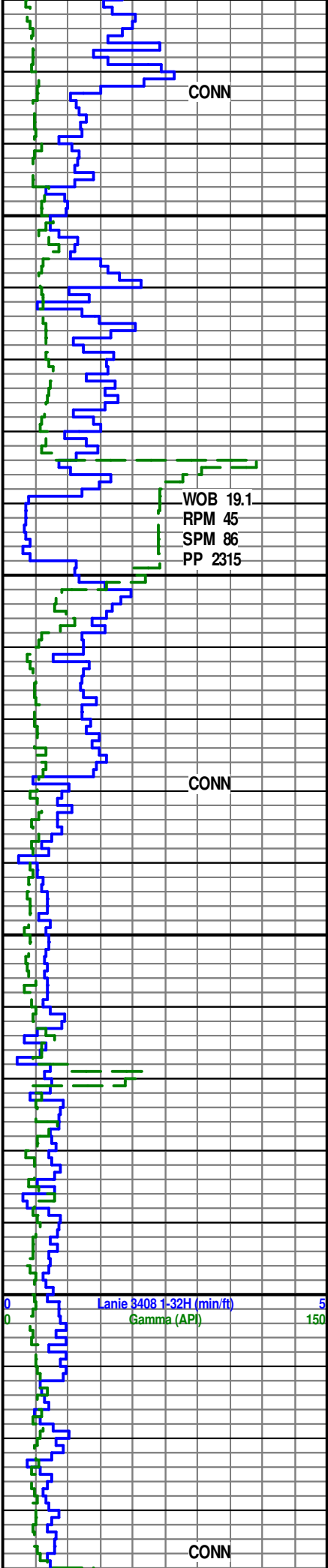
SD: 8091.00
Inc: 91.46
Azi: 358.73
TVD: 4728.89
VS: 3642.46

SD: 8096.00
Inc: 90.77
Azi: 359.15
TVD: 4727.04
VS: 3737.44

LOST CIRCULATION

SD: 8191.00
Inc: 90.68
Azi: 358.39
TVD: 4725.84
VS: 3832.43





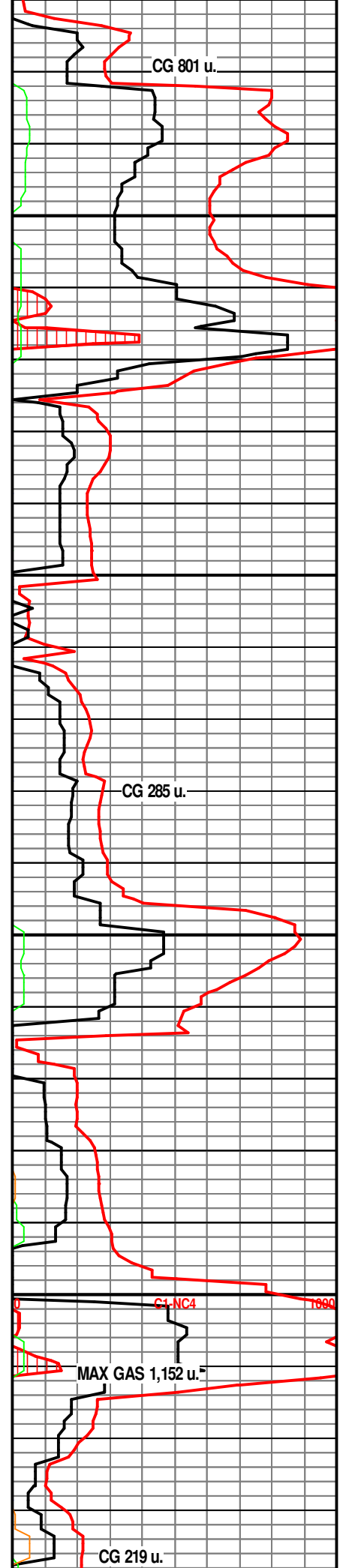
8250
8300
8350
8400

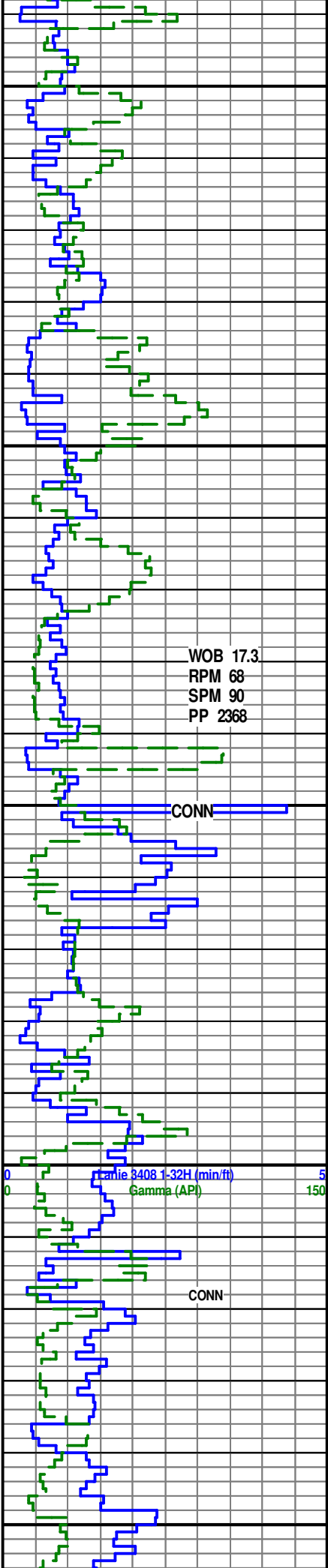
LOST CIRCULATION

SD: 8286.00
Inc: 91.02
Azi: 357.11
TVD: 4724.43
VS: 3927.40

LOST CIRCULATION

SD: 8381.00
Inc: 91.60
Azi: 357.10
TVD: 4722.26
VS: 4022.32





8450
8500
8550
8600
8650

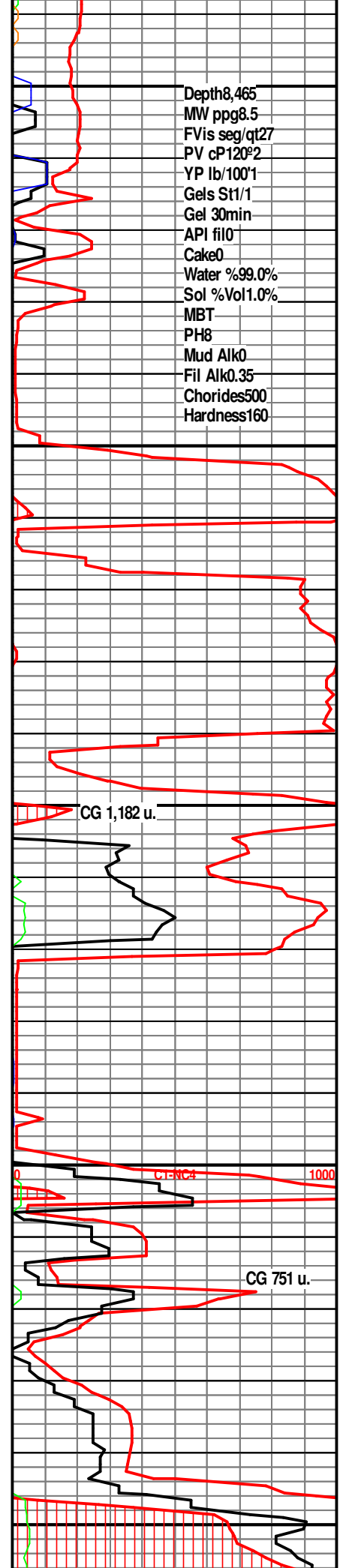
LOST CIRCULATION

SD: 8476.00
Inc: 91.73
Azi: 356.89
TVD: 4719.50
VS: 4117.23

LOST CIRCULATION

SD: 8571.00
Inc: 91.08
Azi: 357.50
TVD: 4717.17
VS: 4212.15

LOST CIRCULATION

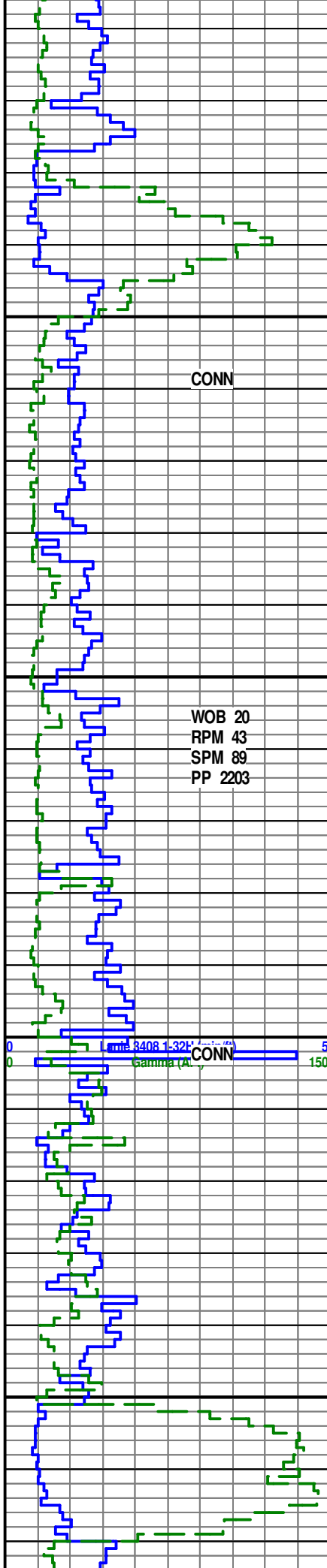


SD: 8666.00
Inc: 90.93
Azi: 356.20
TVD: 4715.50
VS: 4307.07

SD: 8761.00
Inc: 91.33
Azi: 357.22
TVD: 4713.63
VS: 4401.98

LOST CIRCULATION

SD: 8856.00
Inc: 90.74
Azi: 357.30
TVD: 4711.91
VS: 4496.92

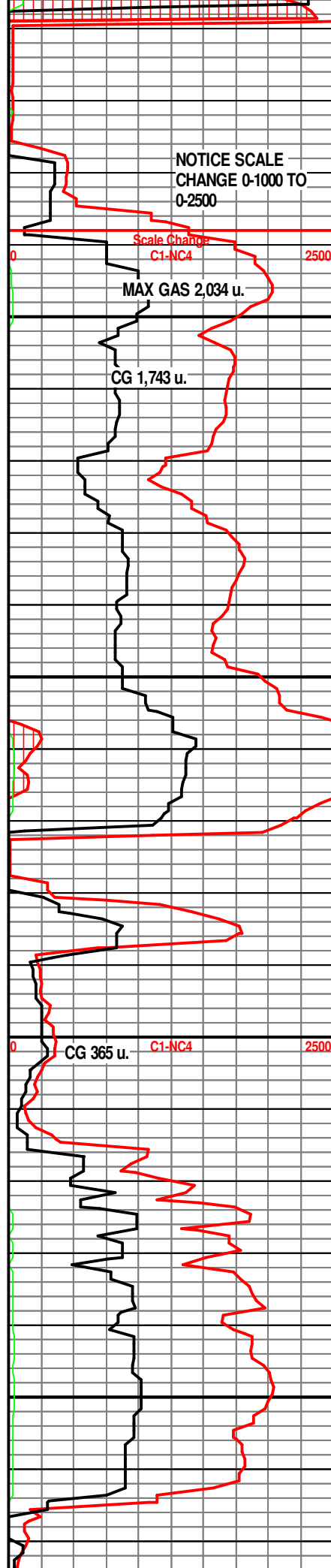


8700

8750

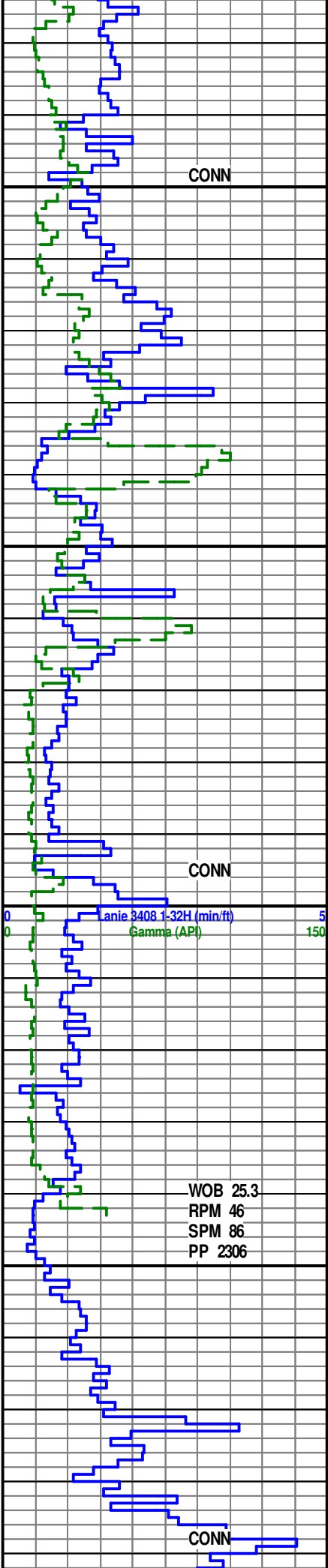
8800

8850



2500

2500



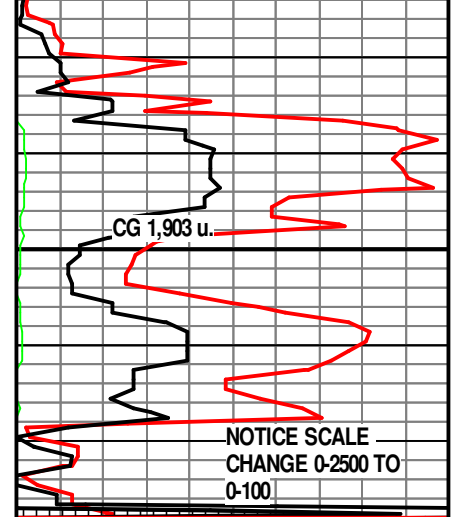
8900

8950

9000

9050

LOST CIRCULATION



CG 1,903 u.

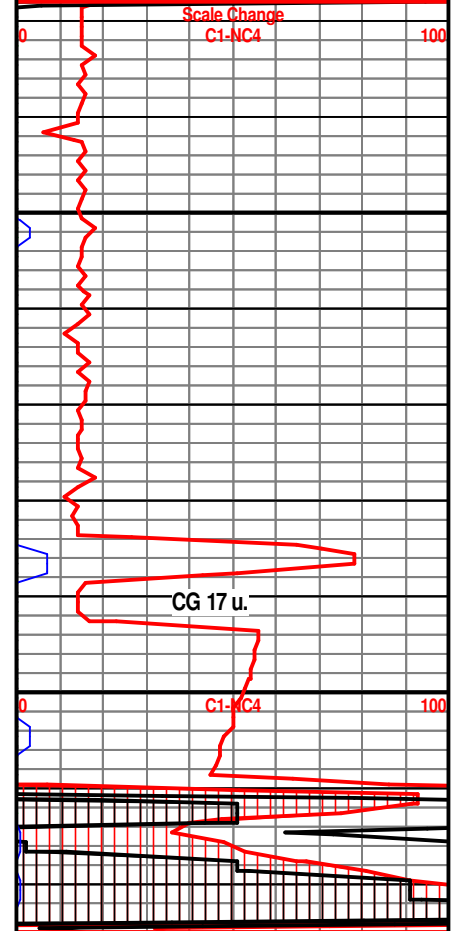
NOTICE SCALE
CHANGE 0-2500 TO
0-100

Scale Change
C1-NC4

100

LOST CIRCULATION

SD: 8951.00
Inc: 90.62
Azi: 356.13
TVD: 4710.79
VS: 4591.84



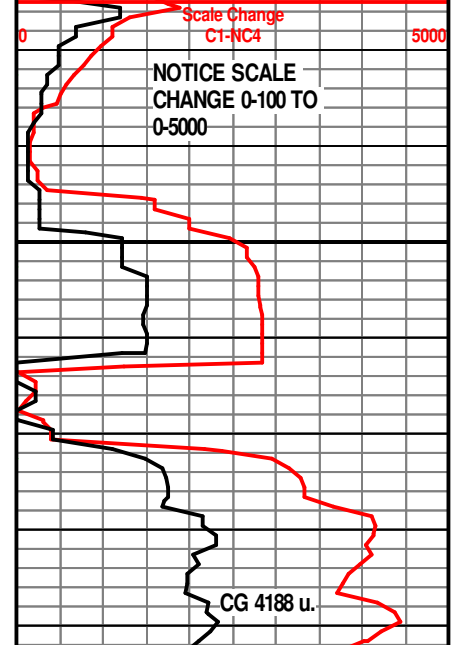
CG 17 u.

Scale Change
C1-NC4

5000

SD: 9046.00
Inc: 88.83
Azi: 357.64
TVD: 4711.24
VS: 4686.77

LOST CIRCULATION



CG 4188 u.

SD: 9087.00
Inc: 89.11
Azi: 356.89
TVD: 4711.98

VS: 4727.74

SD: 9129.00
Inc: 89.11
Azi: 356.89
TVD: 4712.63
VS: 4769.71

TD @ 9129 MD 4712.63
TVD 12/01/12 1:53
A.M.

9100

50

Scale Change
C1-NC4

100

NOTICE SCALE
CHANGE 0-5000 TO
0-100

