

McElvain Energy
 1050 17th St Ste 2500 Denver
 Colorado 80265

Well & No. Pargin Ranch #11 Lateral #2 Sidetrack #1
 County Laplata
 State Colorado
 Api/Afe 05-067-098600

Location: Sec 36 Twp 33N Rng 07W
 Survey: 680' FNL & 2488' FWL
 Field: Ignacio Blanco

Contractor : Aztec Well Service #507
 Directional: Scientific
 Formation: Fruitland Coal
 Elevations: GGL 6450' K.B. 6460'



Whipstock Horizontal
 Horizontal Mudlog @ Scale of 5" = 100'

RO

Entry Da
 TD Date
 Vertical
 Window
 KOP
 TD. Dep
 TVD Dep
 V. Sect:
 Azmuth

Logged
 Dates Lc
 On site
 Loggers

- Anhy
- Bent
- Brec
- Cht

- Clyst
- Bright coal
- Dull coal
- Congl

- Dol
- Igne
- Marlstone
- Lmst

- Meta
- Siderite
- Salt
- Shale

ROCK TYPES

- POROSITY Earthy
- Fenest
- Fracture
- Inter
- Moldic
- Cleat
- Organic
- Pinpoint
- Uncons
- Vuggy

- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram
- Fossil
- Gastro
- Oolite
- Ostra
- Pelec
- Pellet
- Pisolite
- Plant
- Strom

- MINERAL Anhy
- Bent
- Brecfrag
- Calc
- Carb
- Chtdk
- Chttt
- Dol
- Feldspar
- Ferrpel
- Ferr
- Fusinite
- Glaw
- Gyp
- Hvymin
- Kaol
- Marl

Legend

- Mica
- Minxl
- Nodule
- Phos
- Pyr
- Salt
- Sandy
- Silt
- Sll
- Vitrinite
- Tuff

- STRINGER
- Anhy
- Arg
- Bent
- Coal
- Dol

OIL

-
-
-
-
-
-
-
-

Rocky Mountain Mudlogging

mudloggers@hughes.net

3300 N. Butler Ste. 100 Farmington NM 87401

Date: 11/11/2014
 11/19/14
 7" 26# Casing
 Depth: 2351' - 2362'
 2768'

4121
 2608.86
 1565.0
 266.52

Depths: 2768' - 4121'
 Logged: 11/17/14 - 11/19/14

Rod Moore Debbie Moore

Coaly sh
 Vcol sh
 Slstst
 Ss

Till
 Clay'y ss
 Cement
 No sample

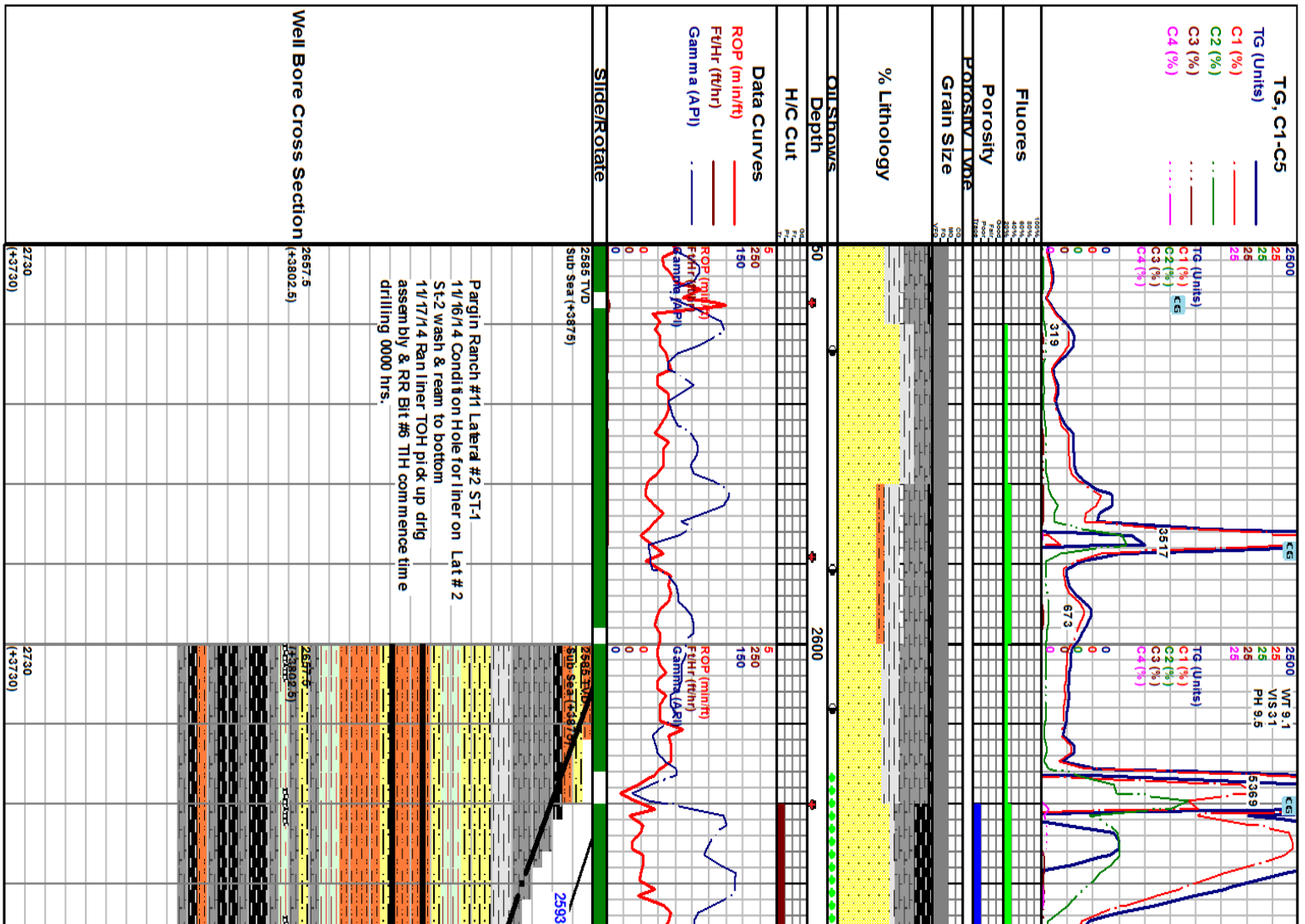
Gyp
 Ls
 Mrst
 Slstrng
 Claystone
 Shale
 Siltstone
 Limestone
 Coal
 Carby shale
 Sandstone
 Ssstrng

Dead
 Oil show
 Gas show

INTERVAL
 Core
 Dst

EVENT
 Rft
 Lost circulation
 Connection
 New bit
 Sidewall

SHOW
 Shut in well
 Even
 Spotted
 Ques



2661 WT 9.1
VS 30
WL 38
PH 9.5
CL 74000
CA 400

2760 WT 9.1
VS 28
WL 40
PH 9.5
CL 76000
CA 560

2760 MIDNIGHT
DEPTH 11/17/14
TRAP TEST

2772 MIDNIGHT DEPTH
11/18/14

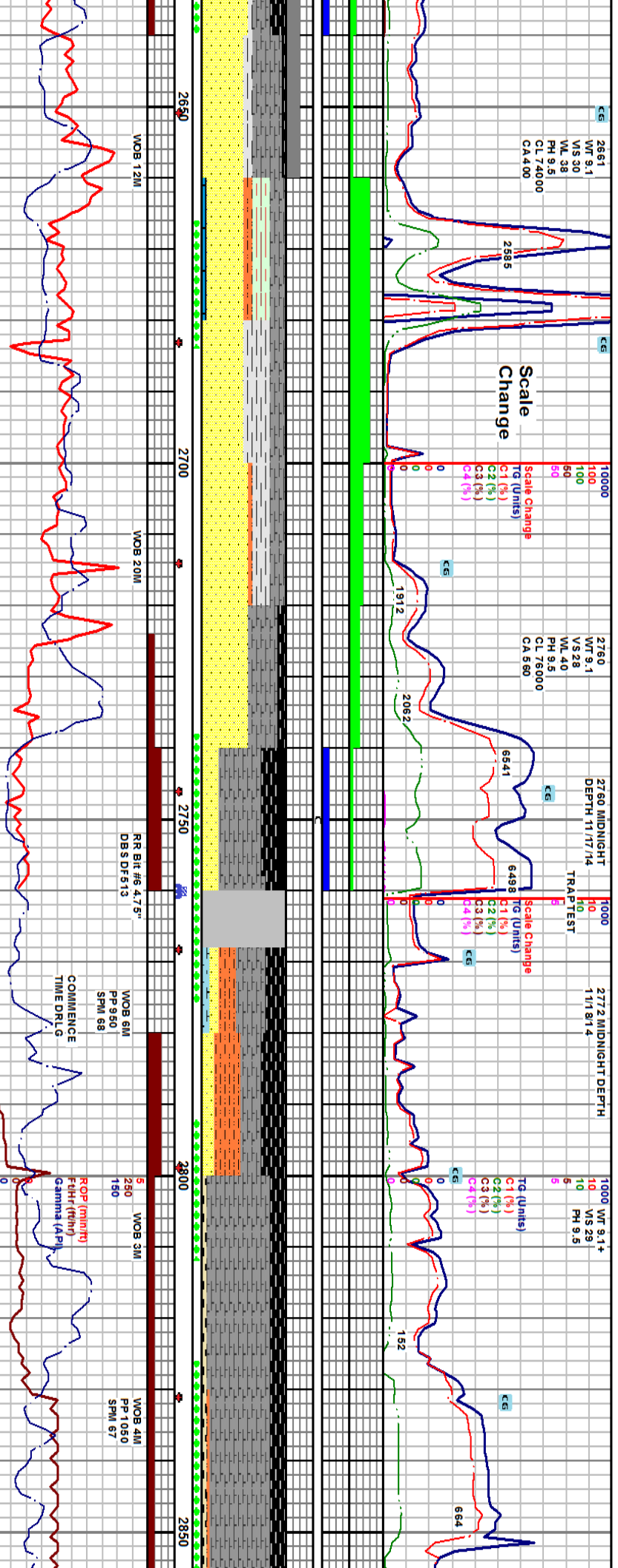
1000 WT 9.1+
VS 29
PH 9.5

Scale Change

TG (Units)
C1 (%)
C2 (%)
C3 (%)
C4 (%)

TG (Units)
C1 (%)
C2 (%)
C3 (%)
C4 (%)

TG (Units)
C1 (%)
C2 (%)
C3 (%)
C4 (%)



2700-2720 CSH/SH: blk to gry blk to brn to gry brn to gry sl frm to pred frm occ calc w/ smth tx sbblky to spblky

2720-2740 S S: wh to off wh to brn to tan to gry to gry brn stf to sl fri to fri to frm rdd to sbang lvg to vlg to fg fr srt w cnt lmy to calc carb incl mod dk sh rthy 20% gid fltr tr vs por no cut

2740-2760 COAL: blk stf to v sl fri sply to thin ply bri to dull lust pred silky tr vis cleat pred hacked pred float cigs pr vs bldg gs w/ pr mlky gs & o

2780-2800 COAL: blk stf v/ cigs pred grsy to wxy lust sply to thin ply hacked trac rr vs bldg gs w/ pr mlky gs & o cut

2800-2830 CSH: dk choc brn to stf to v stf sply to sbblky sl lligc in app n to sl calc w/ tr free in bent

2830-2860 CSH: brn blk to lligc in app lp to grdy to dk bent dk brn stf ply wxy w

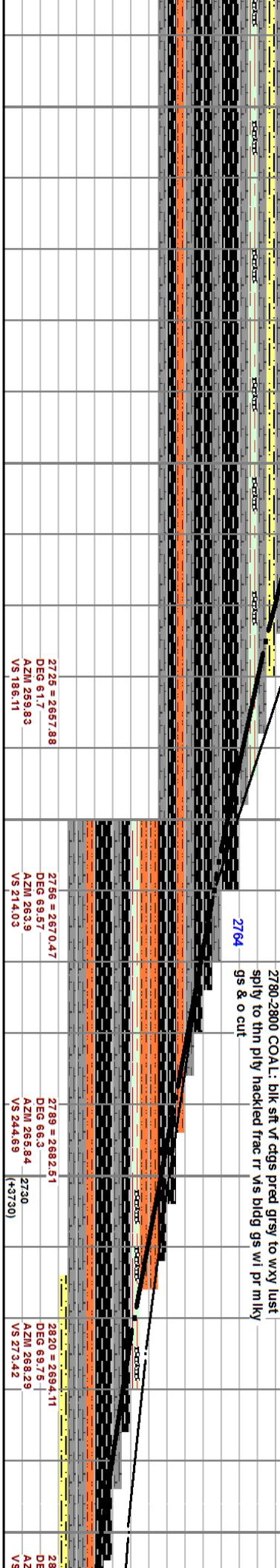
2725 = 2657.88
DEG 61.7
AZM 259.83
VS 186.11

2766 = 2670.47
DEG 61.7
AZM 263.9
VS 214.03

2789 = 2682.51
DEG 66.3
AZM 265.84
VS 244.69

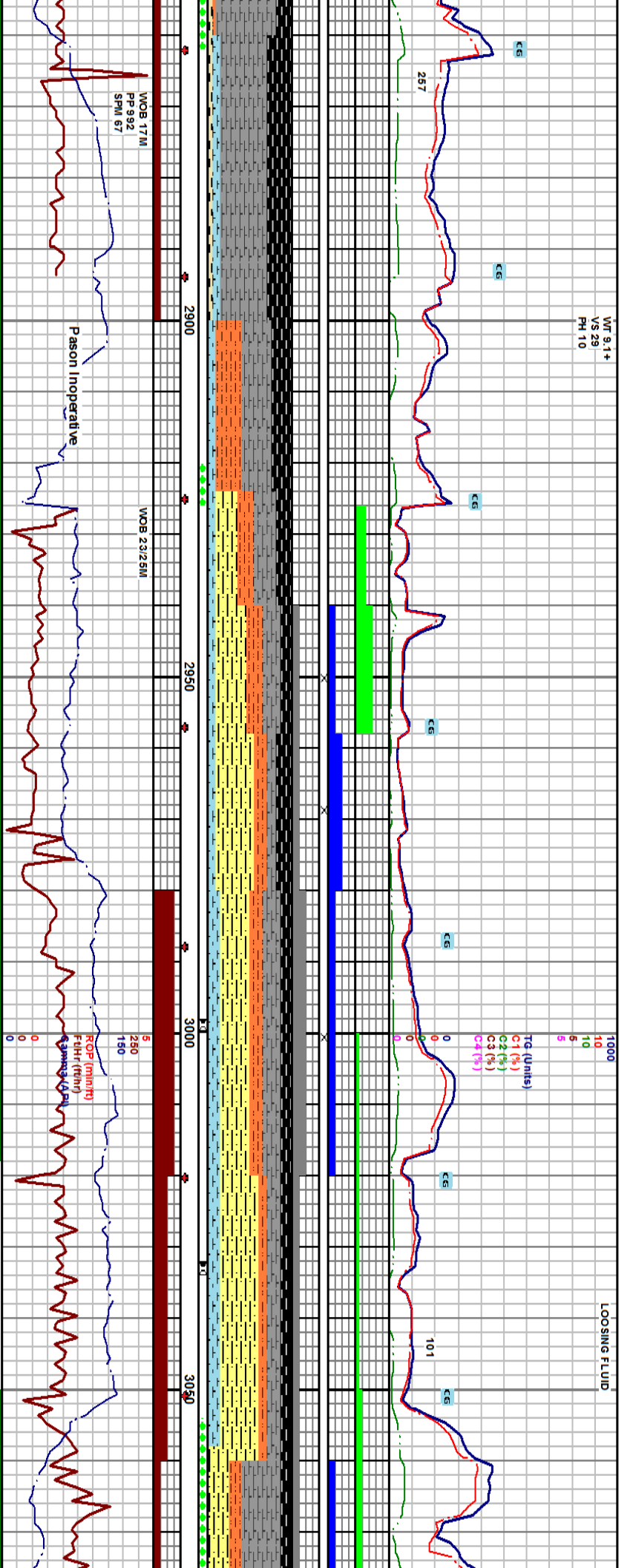
2820 = 2694.11
DEG 69.75
AZM 268.29
VS 273.42

2820 = 2694.11
DEG 69.75
AZM 268.29
VS 273.42



WT 9.1+
VS 29
PH 10

LOSSING FLUID



2850-2900 COAL: blk to gy blk brt to sft sply to sbply pred dull
 gry v blk brt durite hackled grdg to coaly sh pr vis bldg gs
 wi v int mky gs no o cut

2900-2925 S.L.T.S.T. gy brn to brn brt to sft sply to thin
 ply v calc grdg to mrist

2925-2940 Fild SS: It to dk brn mot fri to v fri vf to f gr sbrrd to rdd to sbang w srt
 w cnt calc cnt wi m od to mas sit & cly m tx rthy mry mxt ip tt to no vis por abnt
 dk res stn v dull gld flr wi no cut wi siltst: m gy brn sft to sl brt thin sply rthy lmy
 grdg to mrist occ v sdy tr free pyr nod

2940-2957 S.L.T.S.T. dk to m brn sft to sl brt sply to thin ply mry wi free thin
 ply m rist m of brn sft chly wi tr frac fill calc intric wi siltst abnt sply blk res
 stn dull gld flr no cut

2957-2980 Fild SS: pred dk occ m brn fri to v fri occ sft f to
 vf gr wi dism m gr rdd to sbang w to fr srt w to fr cnt pred
 calc cnt wi mod to mas sit & cly mxt abnt dk res stn to bit
 m tx tr to pr vis por tr sply dull gld flr w/!

2980-3020 Fild SS: wh to off wh to gry to gry brn sft to sl fri to occ frm rdd tt
 to lse lvfg to vfg to fr srt w cnt calc cnt to occ lmy to dolc rthy dry silty car
 m od dk sn tt to tr vis por fr mly gas cut wi tr yel wh oil cut dull gld flr

3020-3060 C.S.H: brn blk to brn to gry blk frm t
 durite sbily to sbply to ply

3060-3100 Fild SS: mot to brn
 sbrrd to tr sbang lvfg to vfg w
 mass dk stn tt to tr vis por tr

2883 = 2710.44
 DEG 80.98
 AZM 268.86
 VS 344.15

2915 = 2714.14
 DEG 85.73
 AZM 267.75
 VS 385.92

2945 = 2714.65
 DEG 92.38
 AZM 268.86
 VS 395.88

2978 = 2711.69
 DEG 98.57
 AZM 268.47
 VS 428.71

3009 = 2708.97
 DEG 100.81
 AZM 287.42
 VS 453.11

3041 = 2700.01
 DEG 102.13
 AZM 268.99
 VS 490.6

3073 = 2700.01
 DEG 102.13
 AZM 268.99
 VS 490.6

53 = 2703.89
 G 74.82
 M 270.88
 303.87

WOB 9.1
VIS 29
PH 10

3145
WT 9.1
VIS 29
PH 40
PH 10
CL 75000
CA 560

DELAYED RETURNS
ON CONNECTION
LOSING FLUID

1000
10
10
5
5

587

CG

CG

874

754

CG

CG

CG

CG

CG

CG

CG

CG

CG

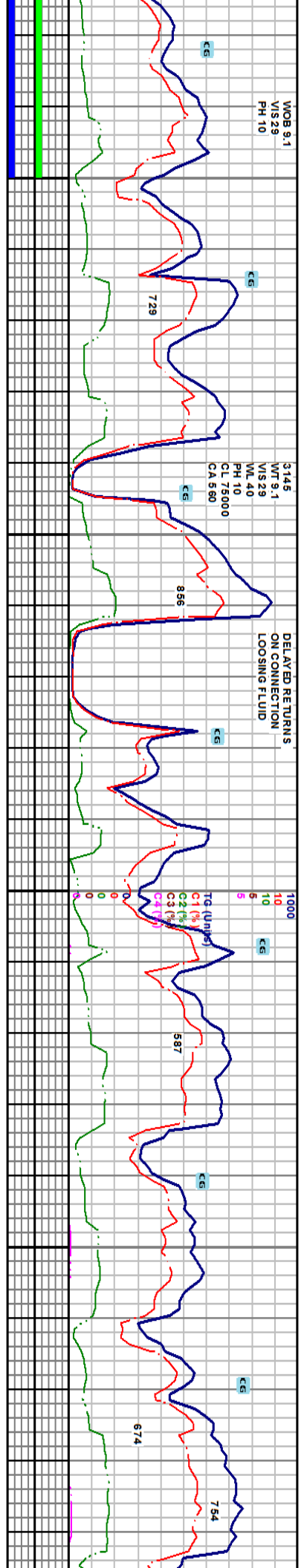
729

856

587

874

754



WOB 8.12M



3100-3140 COAL: blk sft to sl frm conch 10% floating coal
dull shly fr mlky gas cut wi tr yel wh oil cut

3140-3180 Fld SS/SLT gry to gry brn to brn sl frm to frm calc v sdy grdd to ss sbblky
to sbply WI SS; wh to mot to gry brn sl fri to pred frm rdd to shrdld lvg to vfg w
srt w cnt calc to dolc mod dk shn no vis por fr mlky gas cut wi fr slo yel wh oil cut

3180-3220 COAL: blk pred sft to occ brit wi 30% floating coal tr
bidg gas haddled no vis face cleat tr mlky gas cut wi tr wh yel
oil cut FROTHY

3220-3260 COAL: blk pred sft to sl fri to occ brit occ shly to
haddled conch tr face cleat fr bidg gas fr mlky gas cut wi tr yel
wh oil cut FROTHY

3260-3300 COAL: blk sft to sl frm bri
fr ws bidg gas occ shly no vis cleat
wh oil cut FROTHY

072 = 2694.25
DEG 99.31
AZM 283.99
VS 521.03

3103 = 2690.2
DEG 95.69
AZM 266.15
VS 561.49

3135 = 2686.95
DEG 95.98
AZM 266.34
VS 563.26

3166 = 2685.01
DEG 91.18
AZM 267.8
VS 614.42

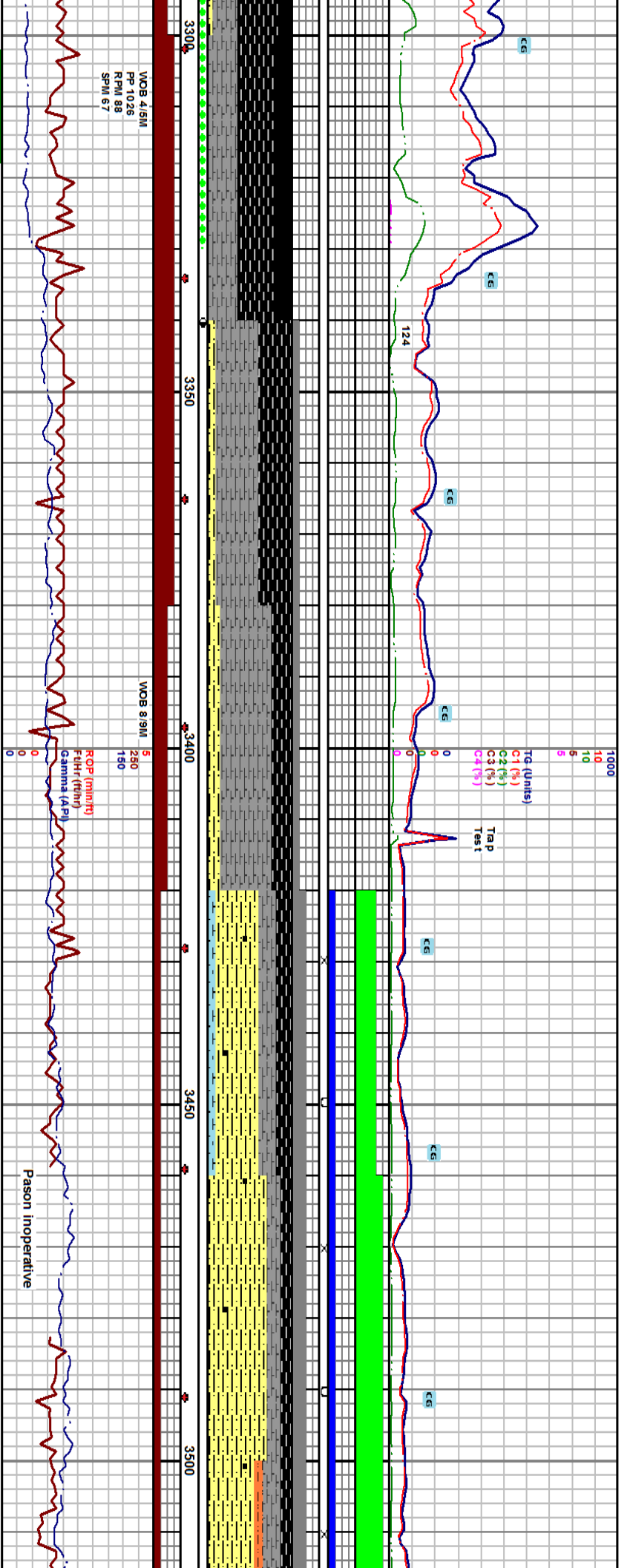
3198 = 2684.2
DEG 91.75
AZM 268.18
VS 646.41
(+37.30)

3229 = 2683.32
DEG 91.51
AZM 266.74
VS 677.38

3260 = 2682.61
DEG 91.11
AZM 264.97
VS 708.32

329
DEG
AZM
VS

o sply grdd to
to gry brn to wh to off wh sl fri to pred frm rdd to
srt w cnt calc to dolc v rthy carb incl mod to
mlky gas cut wi tr oil cut



3300-3340 COAL: blk sft to sl frm to occ brit occ shly grdg to durte
 bri to dull fr vis bldg gas 40% floating coal dust m lca hacle frac fr
 milky gas cut w/ tr yel w/ oil cut

3340-3380 CSH: brn to gry blk to blk sft to sl frm to occ brit sbply
 to sbply w/ coal blk 30% floating coal dust tr milky gas cut w/ tr yel
 w/ oil cut

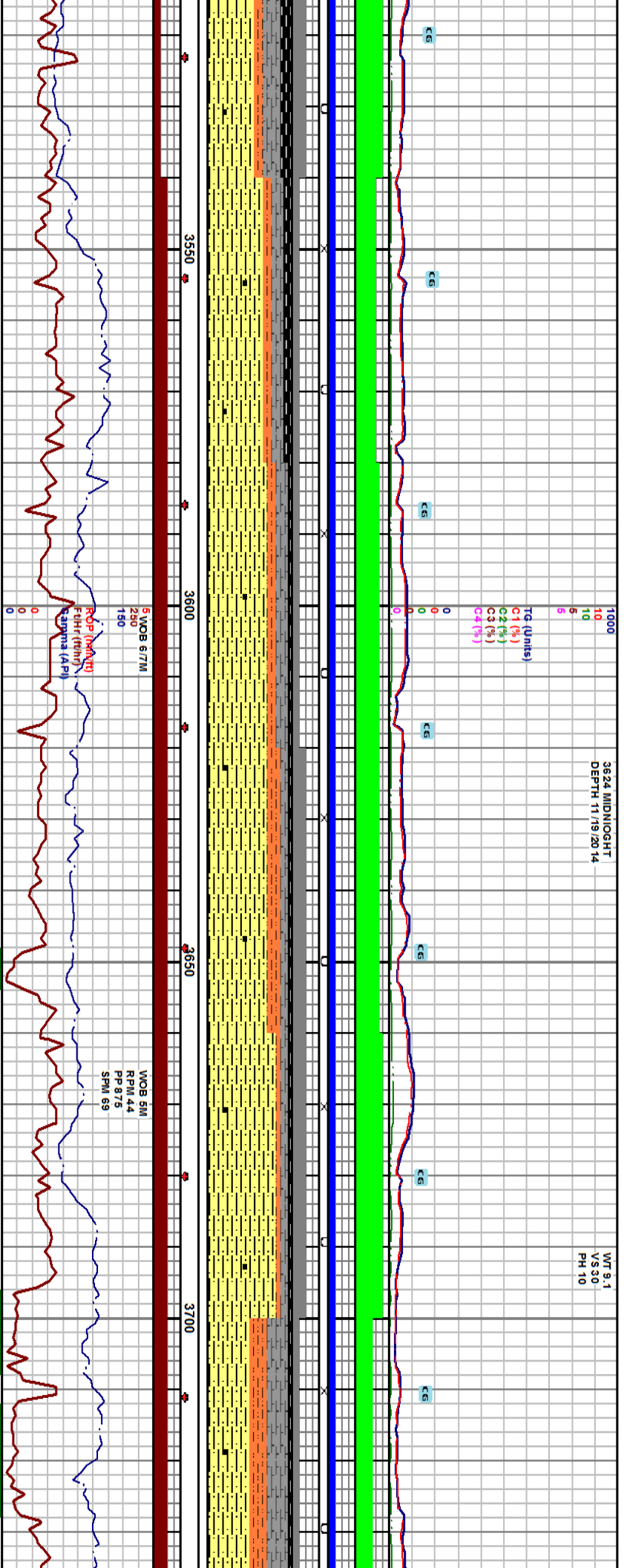
3380-3420 CSH: blk to brn blk sft to sl frm to occ brit sbply
 grdg to durte to slty tx ilgc in app n calc

3420-3460 Fld S.S.: fros to clr uncons to lse gr f to w/ gr ang to rdd rr vis cons ss lt
 brn to clr frt to v frt fr to w srt pr calc cnt cin tr vis intrgr por w/ abnt sbply blk bit to
 brn res stn gd dull orng flwr w/ slow milky gs & o cut

3500-3540 Fld S
 to shang vfg to
 yel w/ oil cut

2 = 2681.71	3323 = 2680.47	3355 = 2679.1	3386 = 2677.76	3417 = 2676.37	3449 = 2674.67	3481 = 2672.61
92.12	DEG 92.45	DEG 92.45	DEG 92.45	DEG 92.56	DEG 93.46	DEG 93.94
1 265.52	AZM 269.7	AZM 269.43	AZM 270.29	AZM 269.86	AZM 269.64	AZM 268.61
40.24	VS 77.12	VS 803.17	VS 834.14	VS 865.1	VS 897.05	VS 928.98

to dull 20% floating coal
 tr milky gas cut w/ tr yel



S: wh to off wh to tan to gry to cir uncons to lse rdd to sbrdd
fg to occ mg wi 80% dull org fr srt wi frnt mlky gas cut & tr

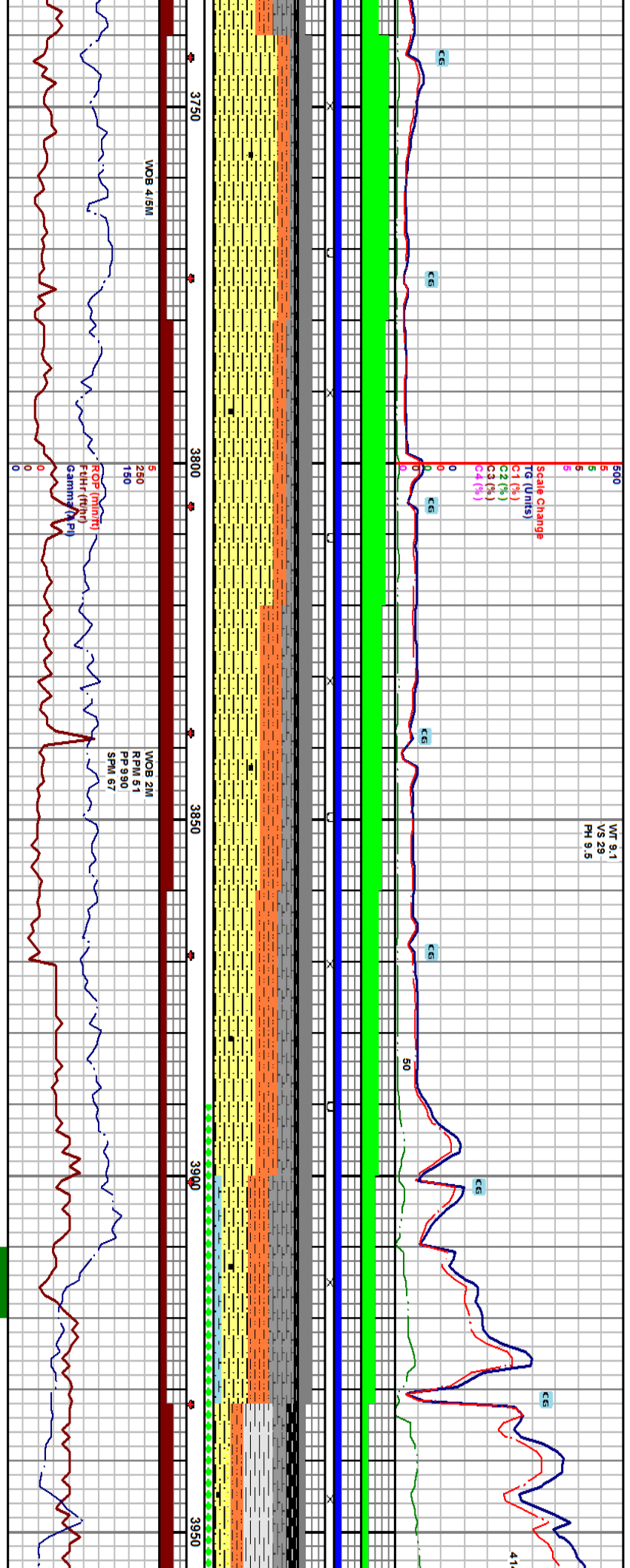
3540-3580 SH: gry blk to brn blk sft to sl frm mic brnd wi sm th bk sbbiky to
ply wi S.S: uncons rdd to shang vlg to fg w srt 60% dull org flr fr mlky gas
cut wi tr yel oil cut

3580-3620 Ftd S.S: crm to dk brn to fros to cir fri to v sl fri vt to f gr rdd to ang w srt
pr calc cm dln to mod calc cly mix tr vis intrgr por about sply blk bit to brn res sh
gd dull org flr wi frnt mlky gs & pr yel wh o cut

3620-3660 SL TST: dk brn sft to v sl fri mas sdy v carb calc
to m rly

3660-3700 Ftd S.S: tan to crm to lt brn to wh to off wh to fros to mlky sl fri to
fri to uncons to lse rdd to sbrdd occ shang lvg vlg to fg fr srt w cm lmy to
dole tr dk shn to bit shn no vis por fr mlky gas cut 80% dull flr tr yel oil
cut

3512 = 2670.35 DEG 94.4 AZM 268.79 VS 959.9	3544 = 2667.71 DEG 95.08 AZM 268.18 VS 991.79	3578 = 2664.94 DEG 95.18 AZM 267.67 VS 1022.66	3606 = 2662.05 DEG 95.52 AZM 265.59 VS 1053.49	3638 = 2658.71 DEG 96.43 AZM 267.04 VS 1095.28	3669 = 255.08 DEG 97.03 AZM 264.32 VS 116.18	3701 = 2651.12 DEG 97.17 AZM 266.15 VS 1147.99	3729 DEG AZM VS
--	--	---	---	---	---	---	--------------------------



3740-3780 Fld S.S.: off wh to crm to brn occ dk brn fri to v fri f to vf gr ang to rdd
fr srt pr to w cmt pred calc ant sl to m od cly fill mxt tr to tr vis por pl sply blk to
brn bit to o res stn gd bri to dull orng to orng yel flwr wl v mt acid gs cut

2585 TVD
Sub Sea (+3875)

MOB 21M
RPM 51
PP 990
SPM 67

3900-3932 CSH: pred dk brn to gy brn sft to sl brt sply to s
sily tx mod to v carb sl calc tr free sid: dk brn hd conch frac
crm to dk brn mot sft chly thn ply wl abnt dk res stn fr vis
mily gs & o cut

3780-3820 S.L.T.S.T: dk brn gy to dk brn sft to frm occ frm sply to sbply to
mas occ v sdy v carb llgc in app ip wl vf carb flks v calc to mrlly
(+3802.5)

3820-3860 S.H: dk gy to dk brn to brn blk sft to sl brt sply to sbply
sily to sm th tx mod to v carb occ grdg to durite n to sl calc

3860-3900 S.L.T.S.T: dk brn to gy brn sft to sl fri pred mas sdy
calc to mrlly v carb llgc in app

3932-3960 S.H: gy brn to dk
sbply to sbply sily tx sly
to durite slow mily gs & c

2 = 2647.86
3 94.91
M 268.61
1179.71

3764 = 2644.84
DEG 95.92
AZM 267.69
VS 1210.56

3796 = 2641.33
DEG 98.67
AZM 288.5
VS 1242.37
(+3730)

3827 = 2637.4
DEG 97.88
AZM 265.4
VS 1273.1

3859 = 2632.71
DEG 98.97
AZM 268.4
VS 1304.74

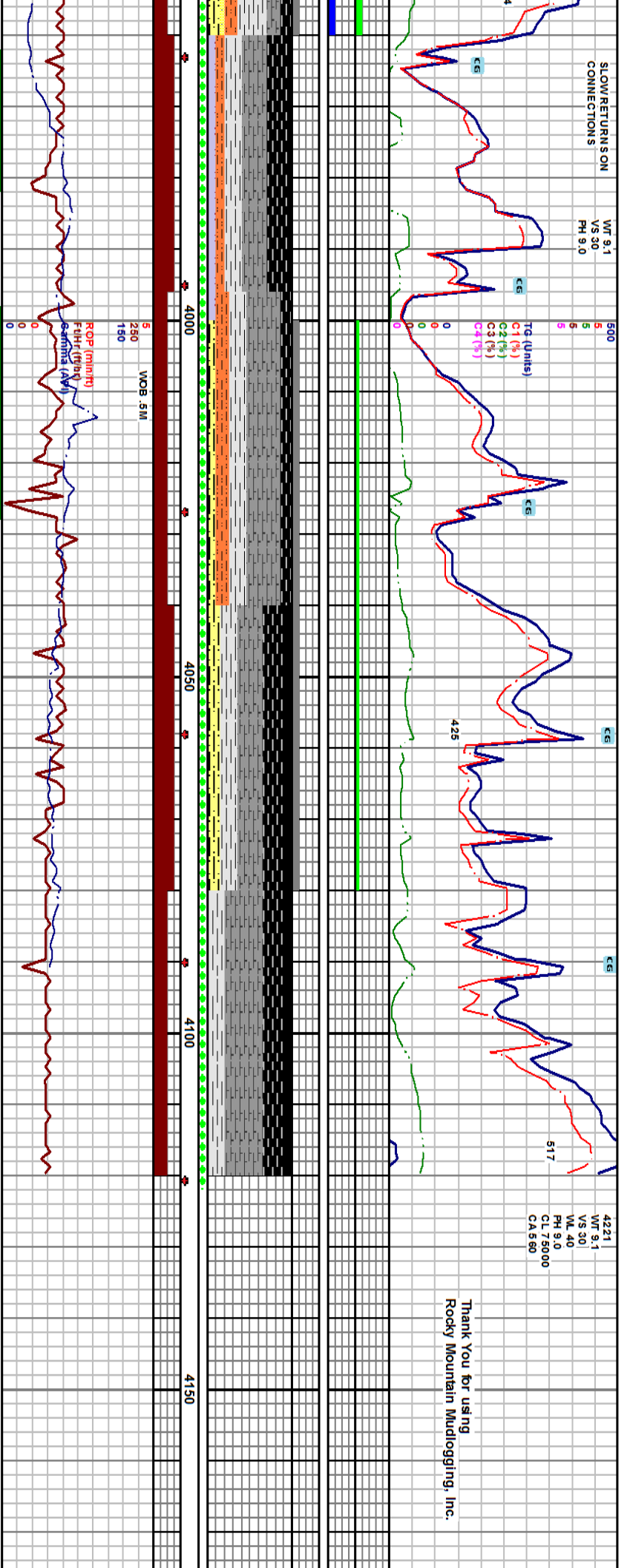
3921 = 2622.87
DEG 99.29
AZM 264.99
VS 1365.92

SLOW RETURN SON CONNECTION S

WT 9.1 VS 30 PH 9.0

4221 WT 9.1 VS 30 VL 40 PH 9.0 CL 75000 CA 5 60

Thank You for using Rocky Mountain Mudlogging, Inc.



3960-3995 COAL: blk sft to v sl fri pred vf float cigs w/ vit & fus occ brit pred gray to wxy just w/ dull to shly tx rr vis cleat pred hacked frac pr vis bldg gs w/ pr m lky gs & fr bri yel wh o cut tr free sid: tn frm to hd dns conch frac

3995-4040 CSH: blk to brn blk sft to v sl brit thin ply to sply sl sily tx pred grdg to durite w/ fr vis bldg gs pr m lky gs & o cut SH: brn gry to brn brit to sft sply to thin ply sily tx sily m rly w/ free sid

4040-4080 COAL: blk sft to v sft vf cigs pred dull just to abnt fus dust no vis cleat pred float cigs w/ pr vis bldg gs w/ fr m lky gs & o cut

4080-4021 SH: brn blk to blk sft to sl brit sply to stoply v carb grdg to durite occ choc brn sft m as sily iligc in app fr vis bldg gs pr m lky gs & yel wh o cut

4121' Circulate out Prepare for casing T.D. 11/19/14 @ 1505 hrs.

3963 = 2617.48
DEG 98.73
AZM 266.0
VS 1397.48

3985 = 2613.86
DEG 95.65
AZM 266.44
VS 1429.21

4016 = 2611.95
DEG 91.41
AZM 266.5
VS 1460.12

4048 = 2611.21
DEG 91.24
AZM 266.47
VS 1492.09

4079 = 2610.33
DEG 92.01
AZM 266.52
VS 1523.06

Projected to TD
4121 = 2608.86
DEG 92.01
AZM 266.52
VS 1565.0

