

McElvain Energy
1050 17th St Ste 2500 Denver
Colorado 80265

RO



Contractor :
Directional:
Aztec Well Service #507
Scientific

Whipstock Horizontal

Horizontal Mudlog @ Scale of 5" = 100'

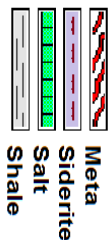
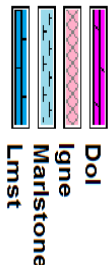
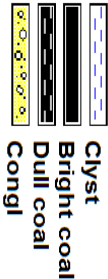
Well & No. Pargin Ranch #11 Lateral #1
County LaPlata
State Colorado
Ap/I/Afe 05-067-098600

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

Formation: Fruitland Coal
Elevations: GGL 6450' K.B. 6460'

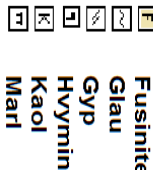
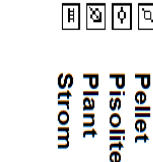
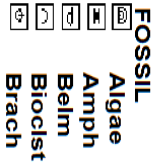
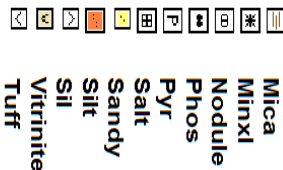
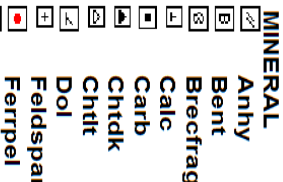
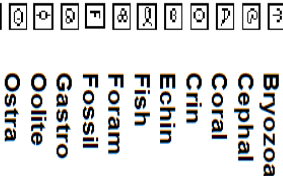
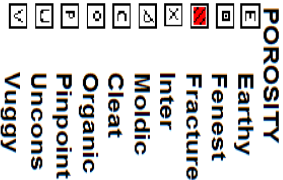
Entry Da
T.D Date:
Vertical
Window
T.D. Dept
TVD Dep
V. Sect:
Azimuth
Logged
Dates Lc

On site
Loggers



ROCK TYPES

Legend



Rocky Mountain Mudlogging

mudloggers@hughes.net

3300 N. Butler Ste. 100 Farmington NM 87401

Date: 10/23/2014

10/27/2014

7" 26# Casing

2400'-2401'

Depth:

4677'

2770.57

2103.36

92.0

2411' - 4677'

Logged: 10/24 - 10/27/2014

Depths:

Rod Moore Debbie Moore

Coaly sh

Vcol sh

Silst

Ss

Till

Cl'y ss

Cement

No sample

Dead

Oil show

Gas show

Interval

Core

Dst

Event

Rft

Lost circulation

Connection

New bit

Sidewall

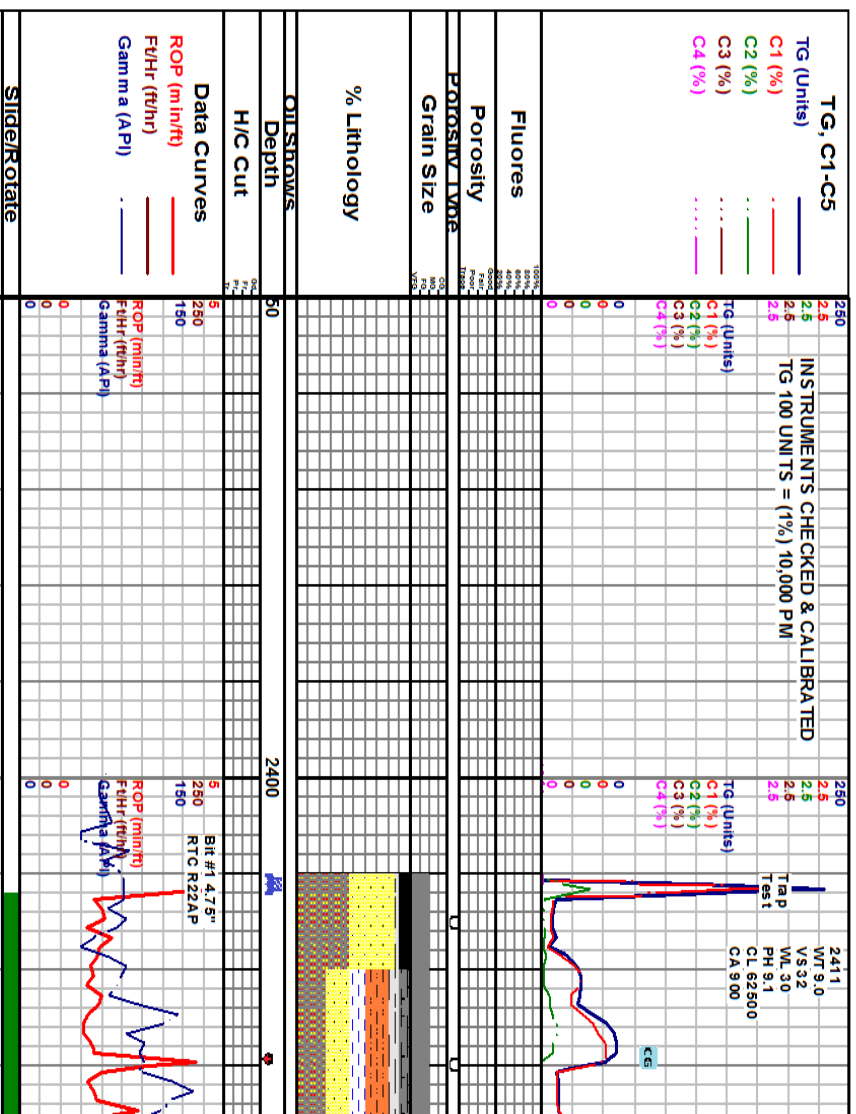
Show

Shut in well

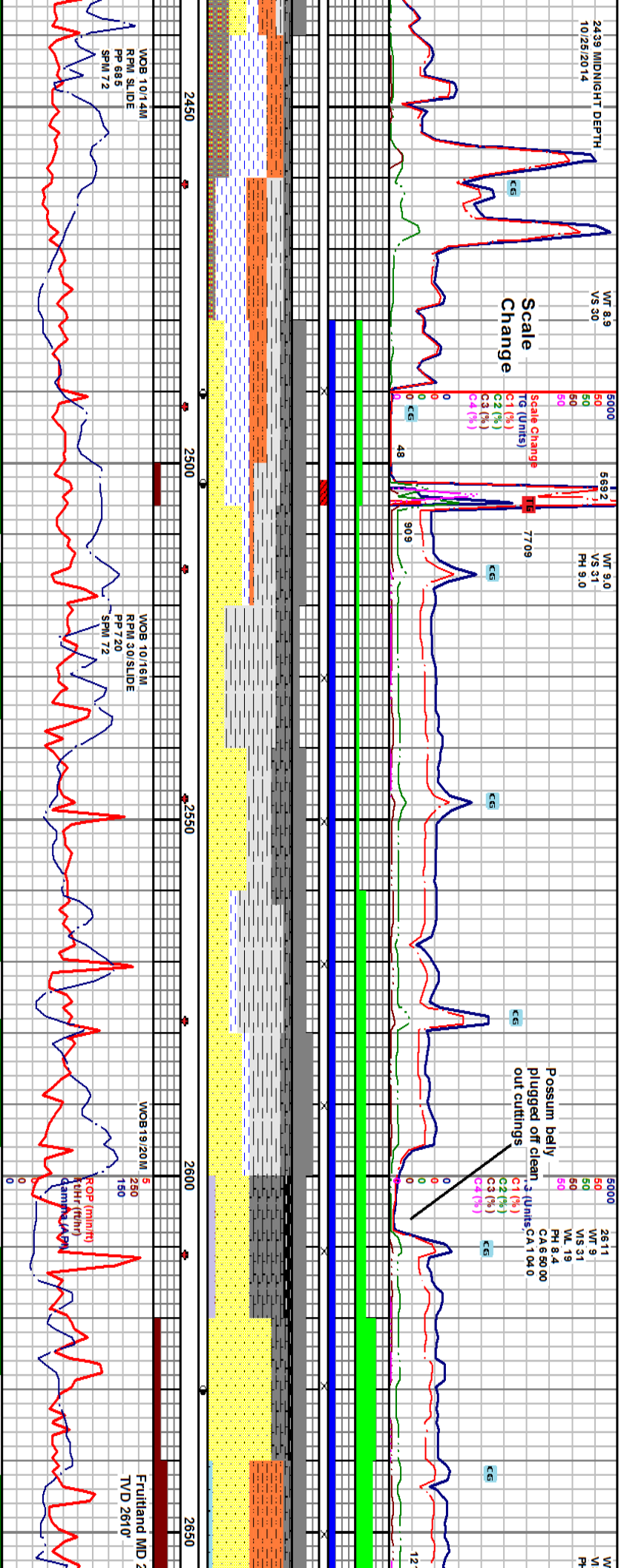
Even

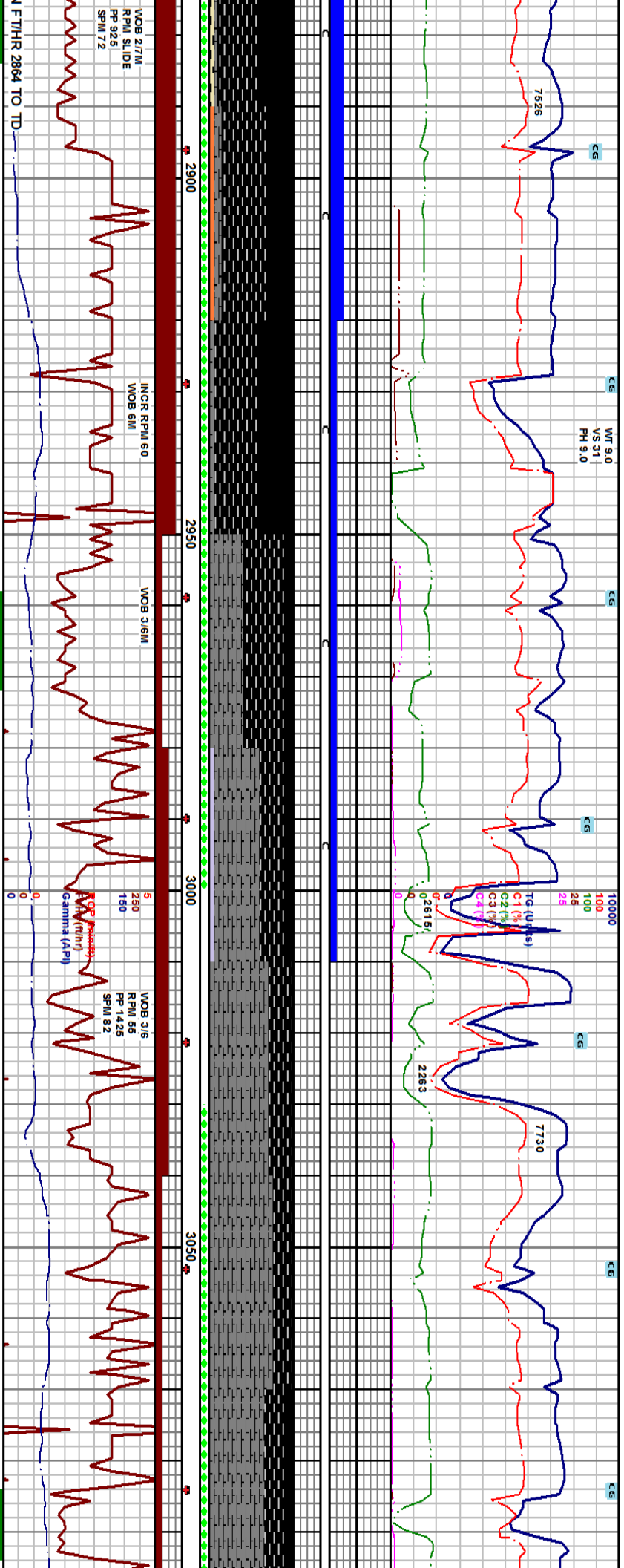
Spotted

Ques



Well Bore Cross Section

[illegible]



A & NB #2 BIT #1 MADE 359' IN 17 HRS

ri				
----	--	--	--	--

0% vit fri to v fri sbblky
s cleat pr vis bldg gs wi

ply to sbilky to sbply rr conch frac pred dull lust occ
kled frac pr vis cleat pr vis bldg gs w/ pr slow mly gs
w/ free fusinite dust tr free paraffin

AL:	blk	sft	to	sl	fri	to	fri	sply	to	shply	rr	conch	bri	to	dull
pr	vis	cleat	pred	hacked	gd	vis	blldg	gs	fr	vis	mlky	gs	&	sl	

2890-2920 SH: dk brn to gy brn brit to frm splty to sbply slty
tx mod to v carb ligc in app sl calc COAL: FROTHY

[illegible]

2687.5
(+3772.5)

ed float bri vit to dull fusinite rr vis
cut tr SID: dk brn hd drs conch

3040-3070 S.H: dk brn to brn blk st to sl
brit to brit splty to sb lam slty tx v carb
illic in app grgd to durite

3070-3100 COAL: al/a & tr fr
fill cal & paraffin

2886 = 2694.48
DEG 86.3
AZM 89.63
VS315.57

2918 = 2696.95	
DEG 84.86	
AZM 90.96	
VS 347.04	

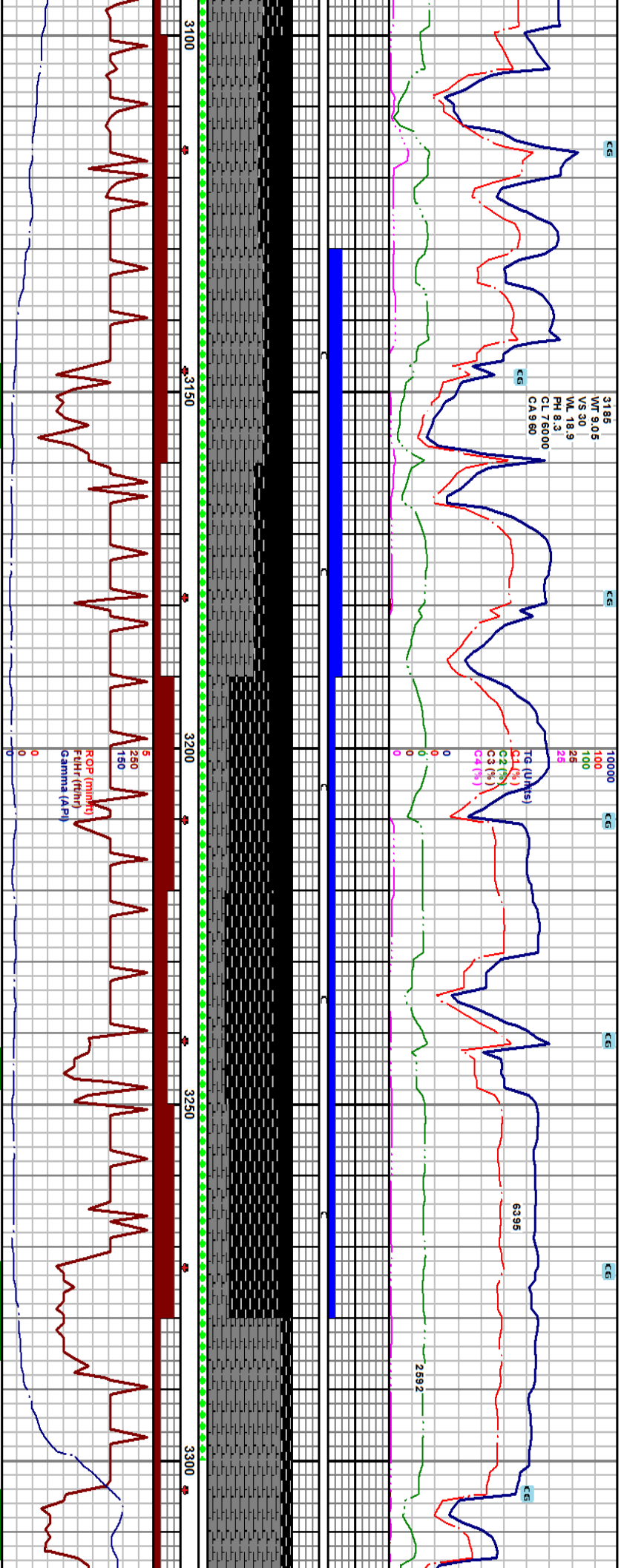
2949 = 2699.67	
DEG 85.09	
AZIM 90.10	
VS 378.36	

2980 = 2701.75	
DEG 87.21	
AZM 90.03	
VS 409.28	

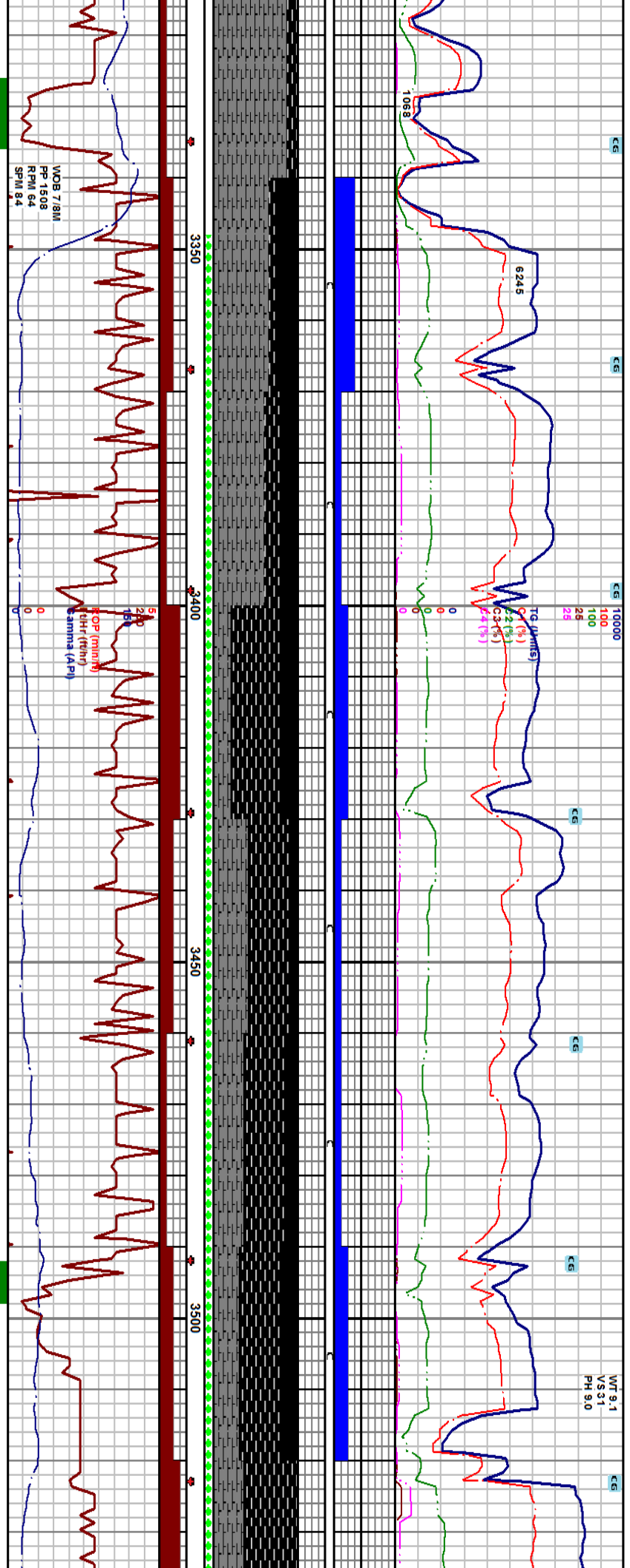
3012 = 2703.21
DEG 87.54
AZM 88.78
VS441.24

3043 = 2704.05
DEG 87.68
AZM 87.8
VS472.18

3075 = 2705.42
DEG 89.06
AZM 88.00
VS 504.13



3100-3130 COAL: pred bri float vt cdfs fri to v fri sibly to sibly bri to dull lust rr vis cleat fr vis bldg gs wi frt mky gs & sl o cut	3130-3160 COAL: blk brng cse cdfs sply to sibly pred bri lust wi fr vis cleat face fr vis bldg gs wi pr mky gs & sl o cut	3160-3190 COAL: blk pred f cdfs pred bri float <10% vit pr vis face cleat gd vis bldg gs wi slo frt mky gs	3190-3220 COAL: 20% blk sft to fri 20% bri float coal pred dull lust to shly tx sply to sibly pred hackled frac tr vis face cleat fr vis bldg gs wi fr slow mky gs & sl o cut	3220-3250 COAL: blk sl fri to sft to fri 20% bri float pred dull wxy to shly tx sply to sibly pred hackled frac <10% face cleat gd vis bldg gs wi slow mky gs & o cut FROTHY	3250-3280 COAL: blk sft to fri sply to sibly decr float brng pred dull lust to dull lust grdy to durite pred hackled frac rr vis face cleat pr to vis bldg gs wi fr slow gs & o cut	3280-3310 SH: dk brn to gy brn to brn sibly occ sb lam wi thin carb pgs sft vis bldg gs v frt gs cut	3310-3340 SH: dk brn to gy brn to brn sibly occ sb lam wi thin carb pgs sft vis bldg gs v frt gs cut
3106 = 2705.90 DEG 89.16 AZM 88.73 VS 536.09	3138 = 2706.24 DEG 89.60 AZM 88.9 VS 567.07	3169 = 2706.7 DEG 88.72 AZM 91.14 VS 598.06	3201 = 2707.35 DEG 88.96 AZM 91.58 VS 630.05 (+3700)	3232 = 2707.66 DEG 89.87 AZM 90.84 VS 661.05	3263 = 2707.73 DEG 89.9 AZM 90.93 VS 692.05	3294 = 2708.16 DEG 88.52 AZM 92.16 VS 723.05	



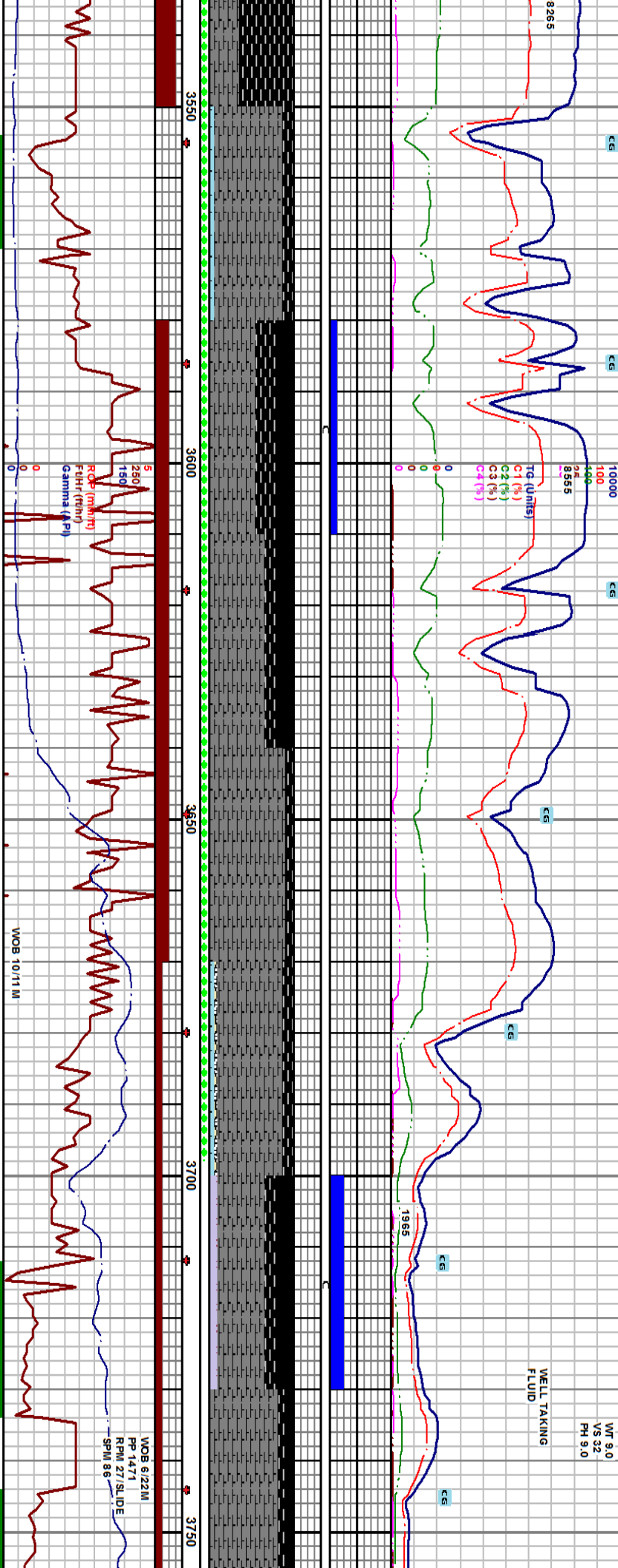
WCB 7.8M
FP 1508
RPM 64
SPM 84

fr	blk brit to sft sply to y tx mod to v carb calc no	2615 TVD Sub Sea (+3845)	ABNT FROTHY FINES IN BUCKET	3400-3430 COAL: blk fri to v fri to sft note abnt free float dull to bri vf cigs sbblky to sply pred hacked frac fr vis face cleat fr vis bldg gs wi fr slow milky gs & o cut frothy	3430-3460 SH: choc brn sft to sl brit sply to sbply silty tx ilgc in app v carb grdy to durite Coal: bom g pred dull lust to shly tx pred durite in app rr vis cleat pr vis bldg gs wi v fnt gs & sl o cut	3460-3490 COAL: blk sft to v sft sply to sbply pred dull lust to sooty tx abnt free float pred dull occ vit pred hacked frac tr vis face cleat fr vis bldg gs wi sl milky gs & o cut	3490-3520 SH: choc brn to brn blk sft to sl brit s v silty lp v carb grdy to durite fr vis bldg gs pr sl	3520-3550 COAL lust oily tx no v contamination
3340 SH: ala & tr free bent crm dk brn to gy sft sply silty tx brt yet mnt flr								
3340-3370 COAL: blk sft to sl fri pred bri lust wi mod free vit thn ply wi pr to fr vis face cleat fr vis bldg gs wi pr milky gs & sl o cut		2687.5 (+3772.5)						

3326 = 2709.69 DEG 86.99 AZM 92.29 VS 755.00	3367 = 2712.08 DEG 86.16 AZM 91.3 VS 795.9	3388 = 2714.52 DEG 86.82 AZM 91.49 VS 816.80 (+3700)	3420 = 2716.61 DEG 86.67 AZM 90.96 VS 848.73	3461 = 2718.25 DEG 87.27 AZM 91.87 VS 879.69	3482 = 2719.6 DEG 87.72 AZM 91.42 VS 910.65	3514 = 2720.82 DEG 87.92 AZM 91.19 VS 942.63
3370-3400 COAL: blk sft to v sl fri pred float bri to vit wi dull to sooty tx occ shly rr vis cleat pr vis bldg gs wi pr milky gs & o cut frothy						

WTF 9.0
VS 32
PH 9.0

WELL TAKING
FLUID

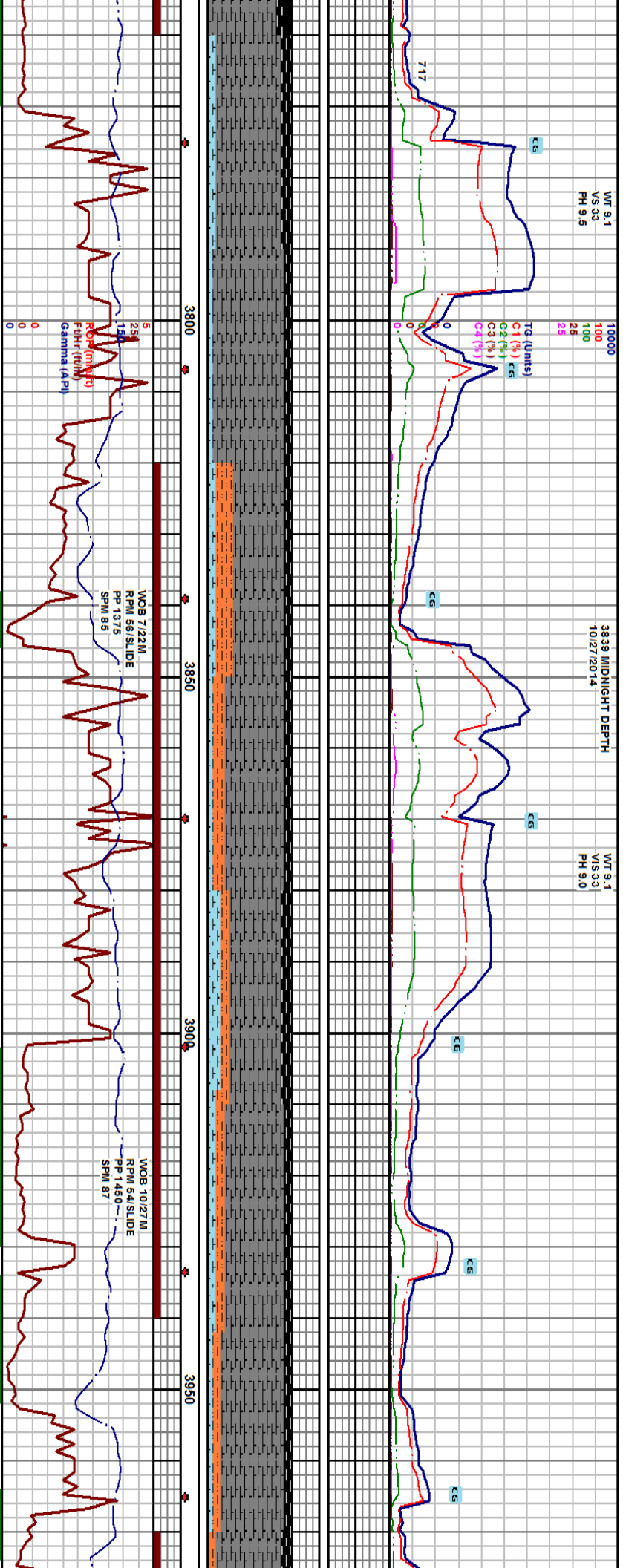


3550-3580 SH: gy brn to brn occ dk brn to choc brn sft to brit sply to sbply mod to v silty calc carb occ v carb wi tr free w/ to off w/ cleat fill cal		2615 TVD Sub Sea (+3845)	Fm DP 88.36		3700-3730 COAL: blk fri to sl fri to sft bri to dull just sply to rr conch pr vis cleat w/ mod free vit dust tr cleat fill cal pr v milky gs & sl o cut tr free SID: dk brn hd dns conch trac	3730-3760 SH: gy brn to dk sl brit sply to thin sply sft gs frnt gs & o cut
3580-3610 COAL: blk sft to sl fri bri v float to dull sply to sooty tx sbply to sply rr vis cleat pr vis bldg gs pr milky gs & slow pr o cut		2687.5 (+3772.5)	3610-3640 SH: choc brn to brn blk sft to sl brit sply to sbply to sbply occ thin lam w/ carb ptygs v carb ilgc in app pr vis bldg gs w/ frnt milky gs & pr o cut		3640-3670 CSH: brn blk to gry blk sft to occ sl frm occ silty to pred thin pty tr vis bldg gas occ sbply int milky gs & pr slow o cut	3670-3700 SH: a/a & free mot tn to brn thin pty calc poss cleat fill tr free bent: crm to gry grm sft w/ no flor
3645 = 2721.83 DEG 88.35 AZM 91.43 VS 973.61		3677 = 2722.21 DEG 90.27 AZM 91.63 VS 1005.6	3698 = 2721.85 DEG 91.08 AZM 91.0 VS 1035.6		3639 = 2721.13 DEG 91.59 AZM 90.5 VS 1067.11	3671 = 2720.37 DEG 91.14 AZM 90.49 VS 1099.58
3703 = 2719.62 DEG 89.76 AZM 88.66 VS 1162.66		3734 = 2719.26 DEG 89.76 AZM 88.66 VS 1162.66				

WT 9.1
VS 3.3
PH 9.5

3839 MIDNIGHT DEPTH
10/27/2014

WT 9.1
VS 3.3
PH 9.0



thin ply to sbbly
is bldg gs frt slow

2615 TWD
Sub Sea (+3845)

3850-3880 SH: dk brn to choc brn to gy brn sft to sl brt sply
to sply to thin ply sily tx mod carb calc ip

3880-3910 MRLST: tn to lt brn f cdis sft chily tx to sily tx
grdg to slst

3910-3940 SH: brn to gry brn to gry blk occ carb sbbly to sply
sft to sl frm occ dent w/ smth wxy tx w/ free coal blk sft to occ brt
no vis cleat no vis bldg gas tr milky gas cut w/ sl tr silo wh yel oil cut

3940-3970 SLT: lt to dk brn sft occ sl frt tr carb
sply tr thin ply chly calc w/ frt milky gas cur
silo yel wh oil cut

3970-4000 COAL: blk sft to sl frt
hacked no to tr vis cleat tr m

3760-3790 CAL: off wh to lt brn mot sft chly poss cleat fill to
lam fill

3790-3820 SH: dk brn to gy brn sft to sl brt sply to sply to
thin ply sily tx sl to mod calc mod carb

3820-3850 SLTST: lt brn to tn sft to sl frt sply calc sl carb w/ free
calc thin ply chly tx poss lam or cleat fill

3766 = 2720.41
DEG 86.14
AZM 87.7
VS 119.45

3798 = 2722.69
DEG 86.03
AZM 88.1760
VS 1226.38700

3829 = 2724.29
DEG 87.68
AZM 87.65
VS 1257.30

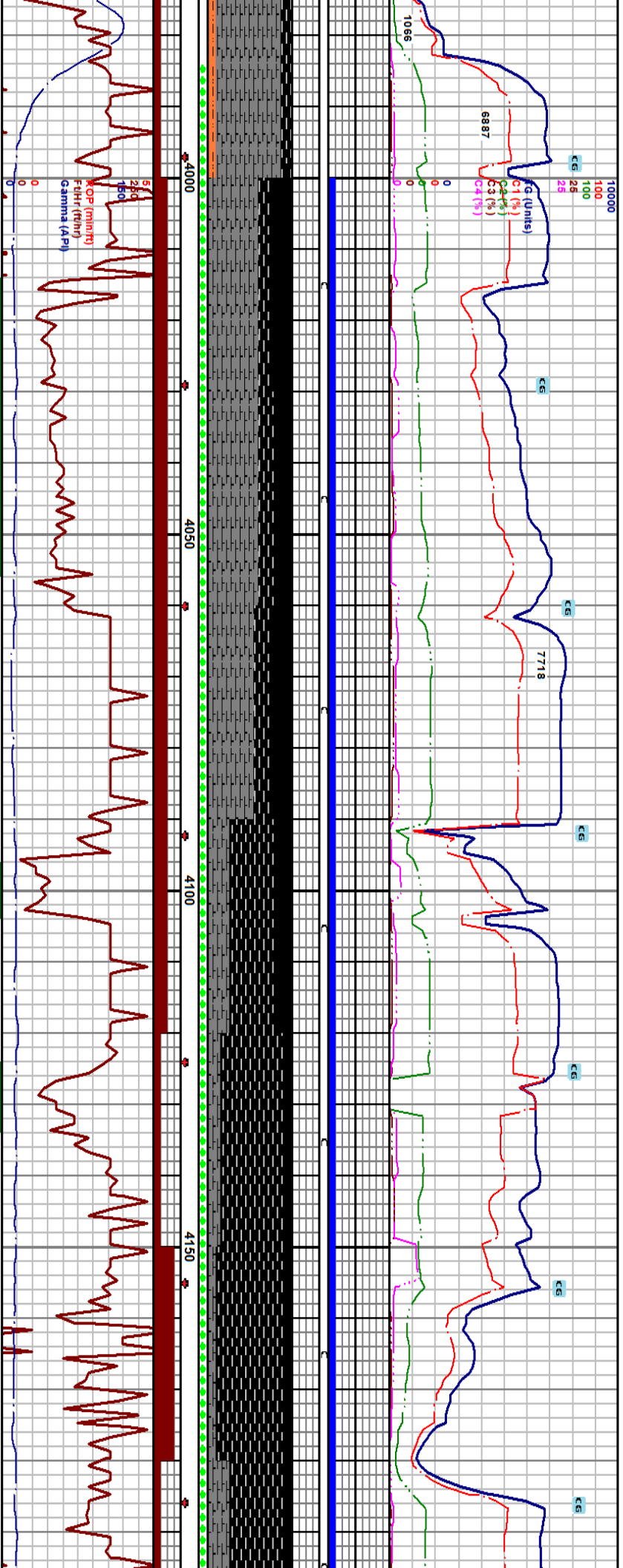
3861 = 2725.66
DEG 87.78
AZM 88.54
VS 1289.23

3892 = 2726.1
DEG 90.24
AZM 89.07
VS 1320.21

3924 = 2726.61
DEG 87.92
AZM 89.75
VS 1352.19

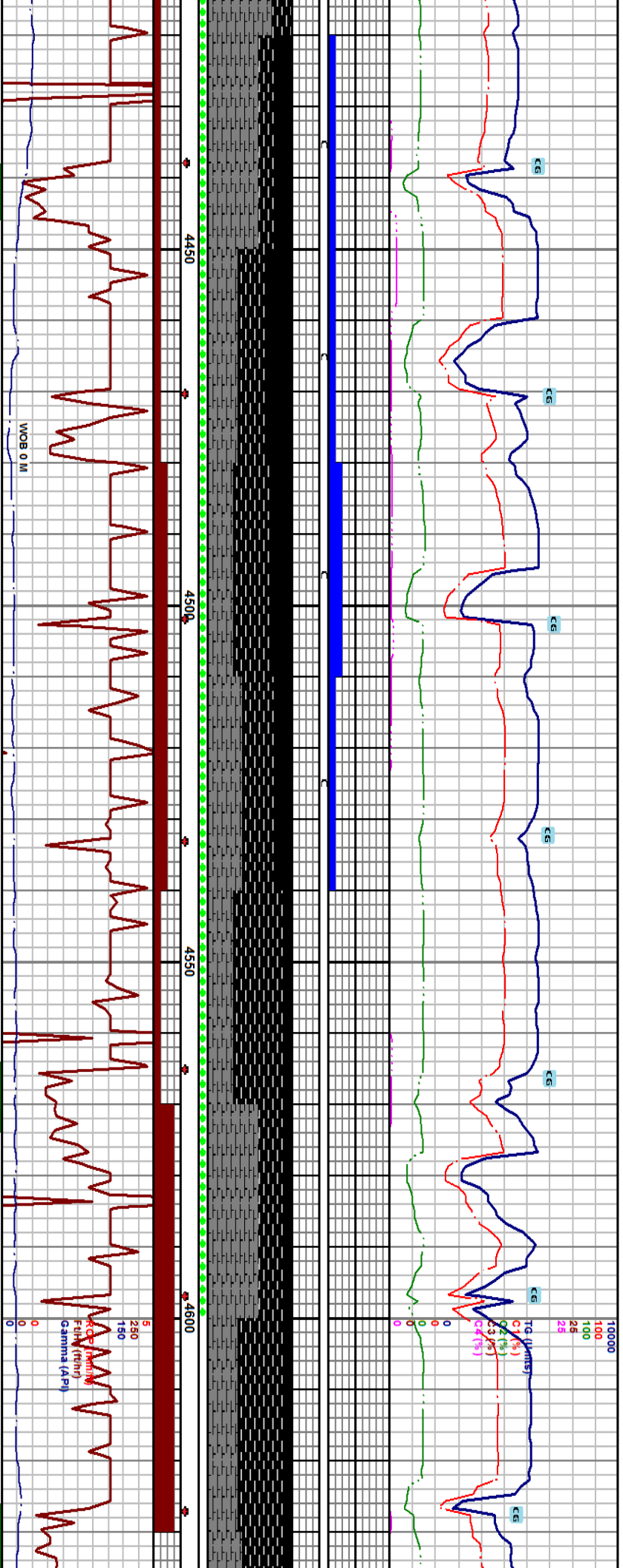
3966 = 2726.99
DEG 83.57
AZM 89.90
VS 1384.9

39
DE
AZ
VS



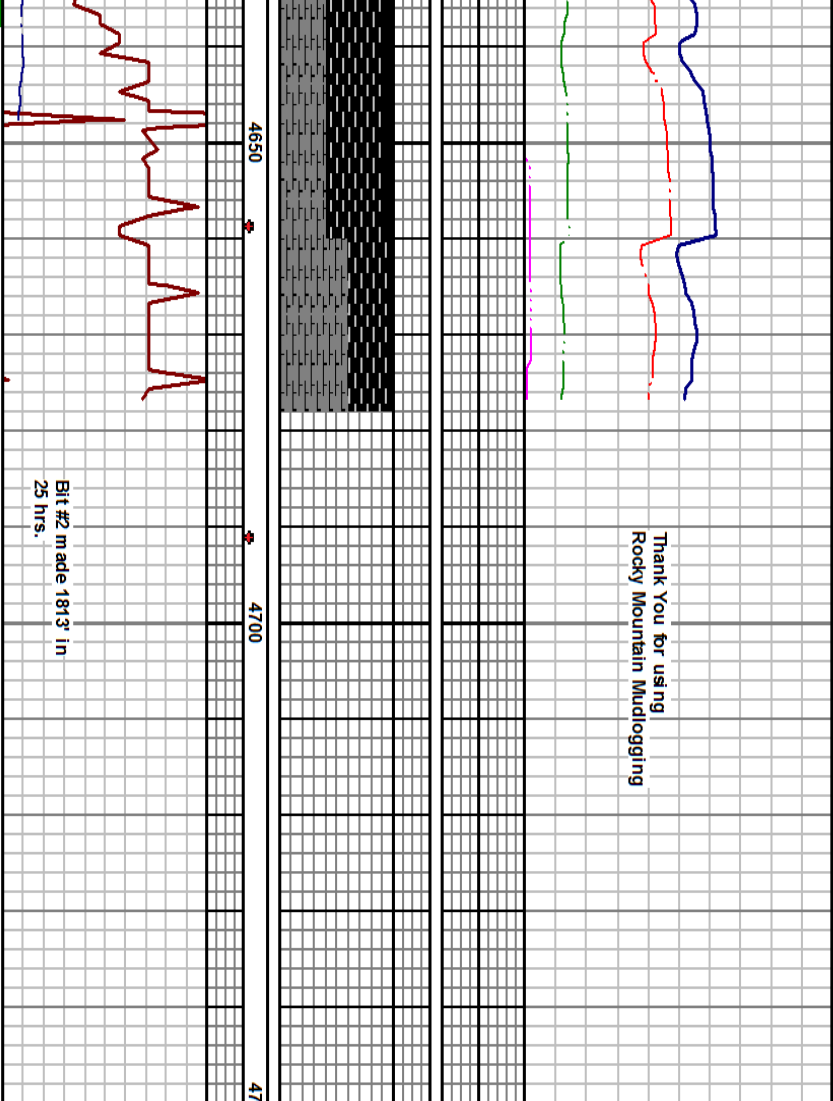
Sub Sea (+3845)		2615 TVD
4000-4030 COAL: blk sl fri to fri to v sft sply to sbblly no vis conch frac pred bri lust occ dull to shly tx pred hackled frac tr vis face cleat pr to fr vis bldg gs w/ frnt gs & sl o cut		
4030-4060 SH: choc brn to brn blk sft to sl brt sply to sbblly v carb ilgc in app occ grdg to durite pr vis bldg gs w/ v frnt gs & sl o cut		
4060-4090 COAL: blk sft to v sft to sl fri sply to sbply to thn ply pred bri lust mod bri float tr vit to dull shly tx grdg to durite tr vis face cleat pr vis bldg gs w/ frnt slow gs & pr dull lime o cut		
4090-4120 COAL: blk sft to v sft to sl fri pred dull to wxy lust to bri rr w/ sply to thn ply pred hackled tr vis face cleat pr to fr vis bldg gs w/ slow frnt gs & o cut		
4120-4150 COAL: blk sft to v sft pred dull occ bri lust shly tx to sooly rthy rr vis cleat pred hackled frac pr to fr vis bldg gs w/ frnt gs & sl o cut FROTHY		
4150-4180 SH: choc brn to brn blk to blk sft to v sbblly sl sity tx v carb ilgc in app grdg to durite fr bri lime yel slow o cut		
4180-4210 COAL: lust occ bri wxy		
73 = 2731.18 G 81.60 M 89.32 1400.94		3988 = 2733.39 DEG 81.47 AZM 89.13 VS 1415.77 (+3700)
4019 = 2737.57 DEG 83.02 AZM 88.43 VS 1446.47		4061 = 2739.97 DEG 88.39 AZM 90.4 VS 1479.36
4083 = 2740.68 DEG 89.06 AZM 90.45 VS 1510.35		4114 = 2741.68 DEG 87.61 AZM 91.16 VS 1541.33
4145 = 2743.13 DEG 86.64 AZM 91.32 VS 1572.29		4177 = 2744.83 DEG 87.28 AZM 91.03 VS 1604.25

Scale
Chan



4450-4480 COAL: blk sft to sl fri bri pred vfr to f cigs pred float conch frac w/ dull shly to sooty tx sply to supply pred hacked frac rr vis face cleat fr vis bldg gs w/		4480-4510 SH: dk brn to brn blk sft to v sft mas sily tx v carb ilgc in app pr vis bldg gs w/ pr slow milky gs & o cut	4510-4540 COAL: blk sft to v sl fri bri pred f float cigs pred conch to hacked frac v face cleat dull pred hacked frac shly to dull wxy lust rr vis face cleat gd vis bldg gs w/ pr milky gs & o cut	4540-4570 COAL: note about free fusinite dust in spl bucket blk sft to v sft float cigs pred fusinite sply dull lust shly tx pred hacked gd vis bldg gs w/ fnt milky gs & fr o cut frothy	4570-4600 SH: dk brn to brn blk sft to sl bri sply to supply occ mas sl tx grdy to silst v carb ilgc in app occ grdy to durite pr vis bldg gs w/ milky gs & fr o cut frothy	4600-4630 COAL: blk sft to v sft sply wxy lust occ brn no vit about free fusin hacked frac pr vis bldg gs w/ fnt gs
4429 2769.66 DEG 88.42 AZM 91.56 VS 1855.74	4461 = 2760.77 DEG 87.68 AZM 92.76 VS 1887.71	4492 = 2762.14 DEG 87.34 AZM 92.36 VS 1918.66	4524 = 2763.41 DEG 88.12 AZM 92.55 VS 1950.62	4556 = 2764.31 DEG 88.65 AZM 93.7 VS 1982.58	4586 = 2765.44 DEG 87.04 AZM 92.67 VS 2012.64	4618 = 2766.93 DEG 87.61 AZM 93.02 VS 2044.48
sl fri sply to supply dull shly to pred dull at pred hacked frac pr to fr vis bldg gs w/ v		4420-4450 COAL: blk sft to sl fri sply to sply to thin ply bri to dull lust pred hacked frac tr face cleat fr to gd vis bldg gs w/ slow milky gs & sl o cut		2272.5 (+3732.5)		4630 sbpl

Thank You for using
Rocky Mountain Mudlogging



Bit #2 made 1813' in
25 hrs.

to sblply pred dull shly to dull
the dust tr ws clear pred
& o cut

4660 S.H: dk choc brn to brn blk sft to v sl brit sply to
y silty tx v carb llgc in app sl calc

4677' P.U Circulate out for casing
10/27/14 @ 1157 hrs

Projected to TD.
4677' = 2770.57
DE G 86.2
AZM 92.0
VS 2103.36

4636 = 2767.90
DE G 86.20
AZM 92.00
VS 2062.45