

McElvain Energy  
 1050 17th St Ste 2500 Denver  
 Colorado 80265

Well & No. Pargin Ranch #11 Lateral #2  
 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 Date  
 TD Date  
 Vertical Window  
 KOP  
 TD. Dep  
 TVD Dep  
 V. Sect:  
 Azimuth

Logged Dates  
 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

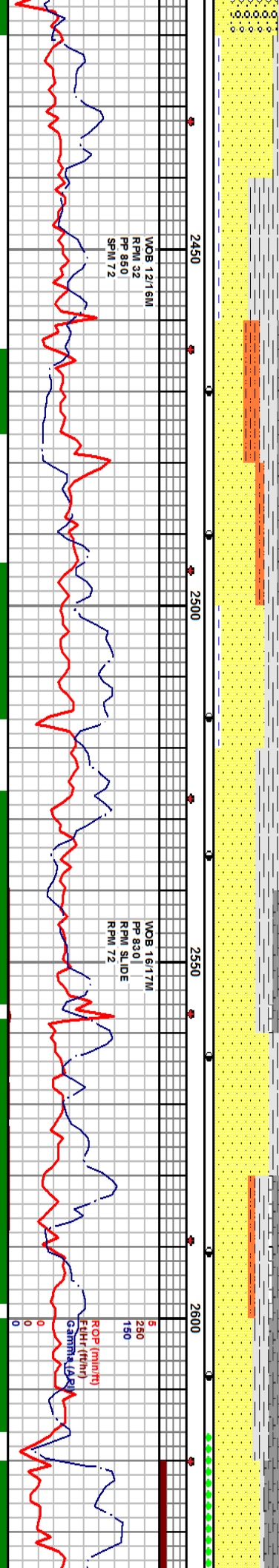
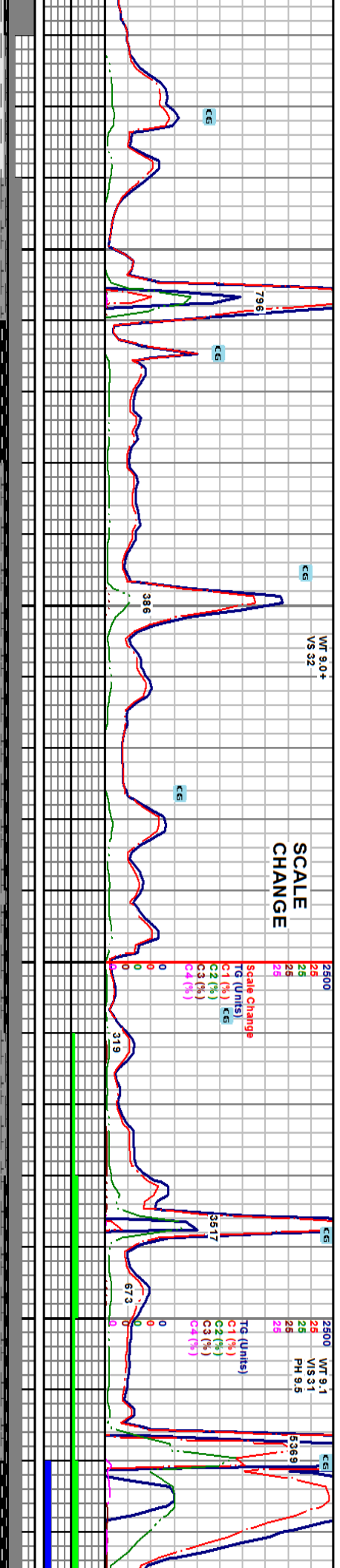
- MINERAL
- Anhy
- Bent
- Breccfrag
- Calc
- Carb
- Chtdk
- Chitt
- Dol
- Feldspar
- Ferrpel
- Ferr
- Fusinite
- Glaue
- Gyp
- Hvymin
- Kaol
- Marl

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

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

- OIL
- Arg
- Bent
- Coal
- Dol





ff wh to v pale grm fri to v sft vf gr ang w srt fr to pr cmt m tx grdg to sdy clyst pred grnd mass In app no vis por bnt free conglc deb	2440-2460 SH: dk gy to brn gy to dk brt to mod frm sply to sblply pred smth tx to wxy tx bente: In app occ sft sily v carb	2443 = 2435.61 DEG 16.78 AZM 268.2 VS 158.79	2474 = 2465.07 DEG 17.92 AZM 268.99 VS 168.79	2506 = 2494.09 DEG 21.21 AZM 267.17 VS 179.13	2537 = 2823.47 DEG 27.11 AZM 270.04 VS 192.22	2568 = 2555.71 DEG 34.05 AZM 273.54 VS 69.07	2599 = 2580.27 DEG 41.06 AZM 274.70 VS 97.90	2630 AZM VS 10
2420-2440 S.S.: off wh to crm frm to v sft pred vf gr ang to shang w srt pred w cmt calc cmt wli mod to mas cly fill m tx mod instst deb occ v sft wli mas cly m tx grdg to sdy clyst no vis por nsoc	2460-2480 SL TST: choc brn sft to sl fri mas sdy v carb wli vf carb filks sl calc		2480-2500 S.S.: off wh to vlt gy sgp fri to v fri occ sft pred vf occ fig wli dism c gr ang to bcm g rdd w srt w cmt calc cmt wli mod to mas cly fill m tx occ wli abnt dk mica in mod lse gr occ wli bit cmt to carb incl no vis poor sply res sht no flor or cut	2520-2540 S.S.: pale grm to wh to off wh to gry sl frm to pred frm to uncons rdd to shrdld lVg to vfg to fg fr srt w cmt lmy to dolc occ mod calc cly m tx no vis por tr free coal wli carb sht no vis por no cut	2540-2560 CSH/SH: blk to gry to gry brn to brn sl frm to pred frm occ sl calc occ carb wli tr free coal sblply to thn ply bente In app	2560-2580: fros to wh to off wh to m lky to gry sl frm to frm to uncons rdd to shrdld lVg to vfg to fg fr srt w cmt lmy to calc wli mod calc cly m tx carb incl Inrbdd carb sht wli 10% dull gid flor no cut	2580-2600 CSH/SH: blk to gry blk to gry brn to gry to grn gry tr sft wxy bente to pred frm to hd occ sl calc occ carb thn ply to pred bly to sl blkly	
2600-2620 S.S.: wh to off wh to gry to s rdd to shrdld to shang lVg to vfg to f sht rthy 10% dull gid flor wli carb pas	2620-2640 COAL bri tr face cleat yel wh sil oil c							

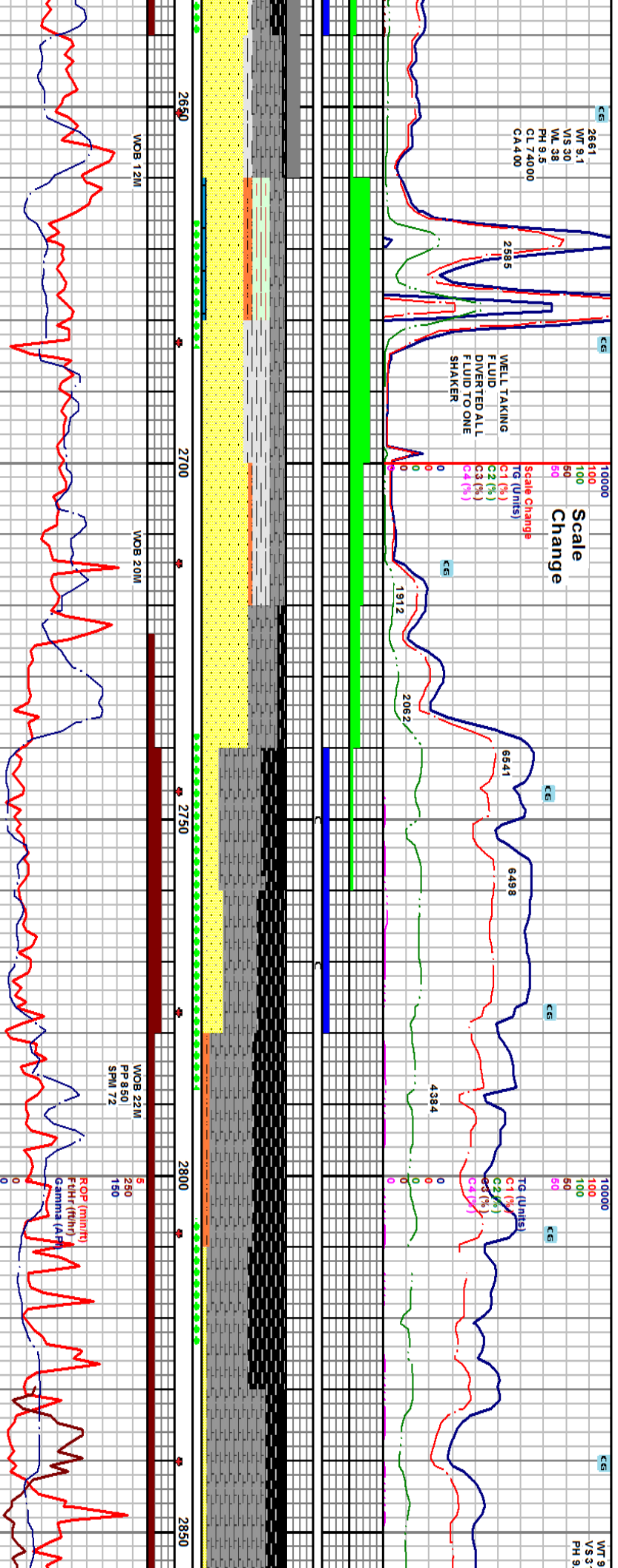
WT 9  
VS 3  
PH 9

2661  
WT 9.1  
WS 30  
WL 38  
PH 9.5  
CL 7.4000  
CA 4.00

WELL TAKING  
FLUID  
DIVERSED ALL  
FLUID TO ONE  
SHAKER

Scale Change  
TG (units)  
C1 (%)  
C2 (%)  
C3 (%)  
C4 (%)

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



WOB 12M

WOB 20M

WOB 22M  
PP 8.50  
SPM 72

ROP (min/hr)  
F-4H (min)  
Gamma (API)

gry brn sft to sl fri to fri to frm to lse to uncons  
g fr srt w cmt calc cmt w/ tr to mod cly mtk carb  
trt occ intrdd ls xls carb incl no vis por no cut

blk sft to sl frm dull shly hackled tr  
rr vis bldg gas tr frt m lky gas cut w/ tr  
cut

2640-2660 S.S: s&p to wh to off wh to gry to gry brn sl fri to occ frm to lse to uncons  
rdd to sbrrd l vlg to vlg to fg fr srt w cmt lmy to dolc w/ mod calc cly mtk carb incl tr dk  
shn no vis por 10% dull gld flr no cut

2660-2680 S.S: It to m to dk brn mot ip fri to frm fto v fcc m gr sbrrd to shang w  
srt w to vw cmt calc cmt to lmy mtk grd to sdy ls occ intrst deb ttry tt to rr vis  
por spy res shn gd dull gld flr w/ no cut

2680-2700 S.S: wh to off wh to s&p to fros to clr sl fri to fri to frm to lse  
to uncons rdd to sbrrd occ shang l vlg to vlg to fg fr srt w cmt lmy to  
dolc carb incl rthy occ stly intrdd ls xls mod dk shn tt to tr vis por 40%  
gld flr no cut

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 sbply to sbply

2720-2740 S.S: wh to off wh to brn to tan to gry to gry brn sft to sl fri  
to fri to frm rdd to shang l vlg to vlg to fg fr srt w cmt lmy to calc  
carb incl mod dk shn rthy 20% gld flr tr vis por no cut

2740-2760 COAL: blk sft to v sl fri sply to thn ply bri to dull ljust pred silky  
tr vis cleat pred hackled pred float ctgs pr vis bldg gs w/ pr m lky gs & o  
cut

2760-2780 COAL blk sft to v sft tr fri sply to thn ply pred dull wxy rr  
bri ljust hackled to occ conch frac rr vis face cleat pr vis bldg gs w/ pr  
m lky gs & o cut FROTHY

2778 = 2679.68  
DEG 76.94  
AZM 267.03  
VS 244.56

2555 TVD  
Sub Sea (+3395)

2819 = 2684.61  
DEG 84.75  
AZM 265.7  
VS 27.508

2860  
DEG 84.75  
AZM 265.7  
VS

2602.64  
DEG 52.07  
AZM 271.43  
VS 133.67

2662 = 2623.3  
DEG 52.07  
AZM 271.43  
VS 133.67

2693 = 2641.33  
DEG 56.84  
AZM 265.43  
VS 158.86

2725 = 2657.88  
DEG 61.7  
AZM 259.83  
VS 186.11

2756 = 2670.47  
DEG 69.57  
AZM 253.9  
VS 214.03

2700  
(+3760)

2664

2627.5  
(+3832.6)

2810-2830 CSH: pred choc brn occ brn blk sft to  
sbply llyc in app w/ abnt free brn cly & fus dust  
m lky gs & o cut FROTHY



3072 = 2666.71  
 DEG 96.44  
 AZM 267.37  
 VS 524.46

3103 = 2662.45  
 DEG 99.34  
 AZM 269.29  
 VS 556.15

3105 = 2656.99  
 DEG 100.33  
 AZM 268.99  
 VS 556.67

3166 = 2662.39  
 DEG 96.71  
 AZM 271.18  
 VS 617.32

3198 = 2649.83  
 DEG 92.49  
 AZM 271.5  
 VS 649.2760

3229 = 2648.56  
 DEG 92.22  
 AZM 271.91  
 VS 680.17

3260 = 2647.26  
 DEG 92.59  
 AZM 272.34  
 VS 711.12

3281 = 2647.26  
 DEG 92.59  
 AZM 272.34  
 VS 711.12

gry blk to brn blk to brn dull w/ 5% floating  
 nd w/ coal g/ry sft to v sft tr bldg gas cut tr  
 tr yel oil cut

3100-3140 COAL: blk sft to sl frm 20% floating coal dust conch  
 hackled tr bri to pred dull shly rr cleat tr bldg gas tr m/ky gas  
 cut w/ tr yel wh oil cut FROTHY

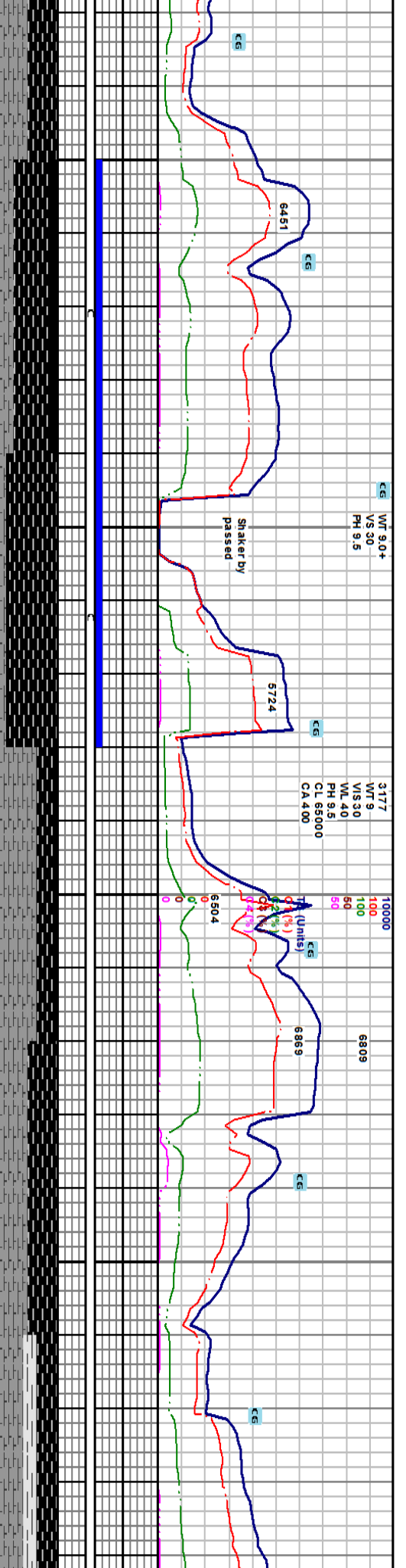
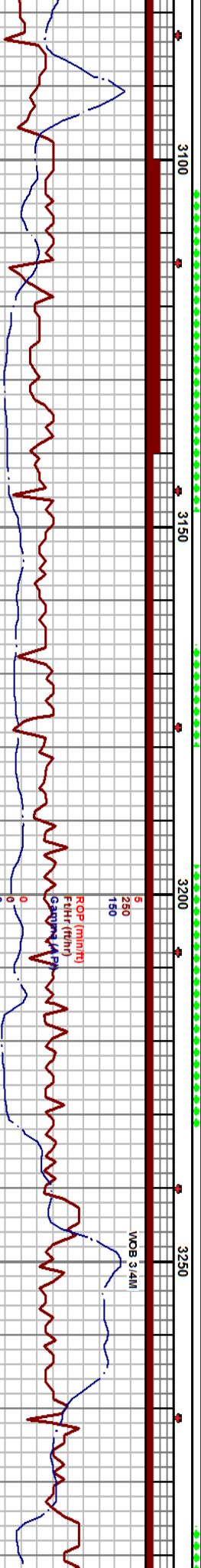
3140-3180 COAL: blk sft to sl frm to brit shly tr bri to pred dull 15% coal  
 dust mic bond hackled tr face cleat tr bldg gas tr m/ky gas cut w/ tr yel wh  
 oil cut FROTHY

3180-3220 CSH: gry brn to gry blk to brn sl frm to frm carb  
 pred sm th kx sb/ky to sp/ly to occ ply w/ tr bent grn sft  
 wxy dent FROTHY

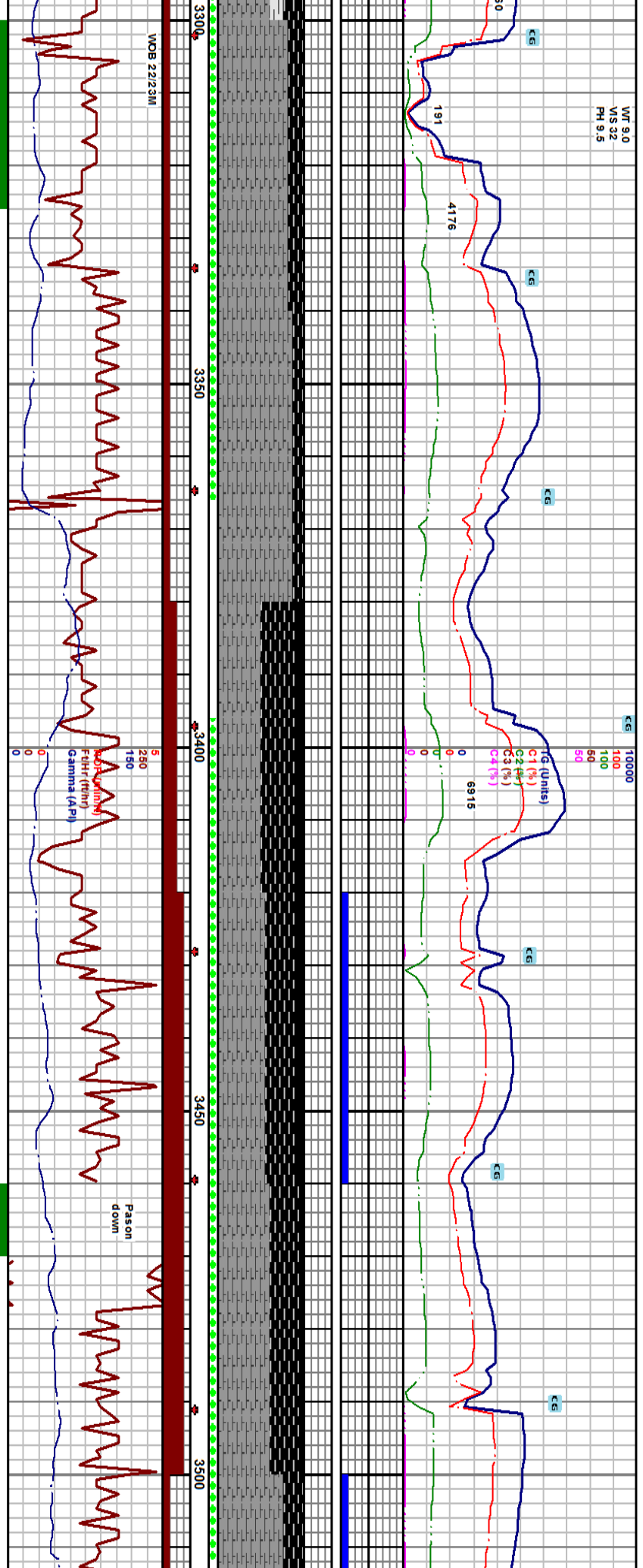
3220-3260 COAL: blk dull sl frm to brit w/ 25% coal dust hackled shly  
 lam no v/s cleat tr v/s bldg gas frt m/ky gas cut tr yel wh oil cut  
 FROTHY

3260-3300 CSH/SH: gry brn to brn to  
 to frm occ sl calic sb/ky to sp/ly to

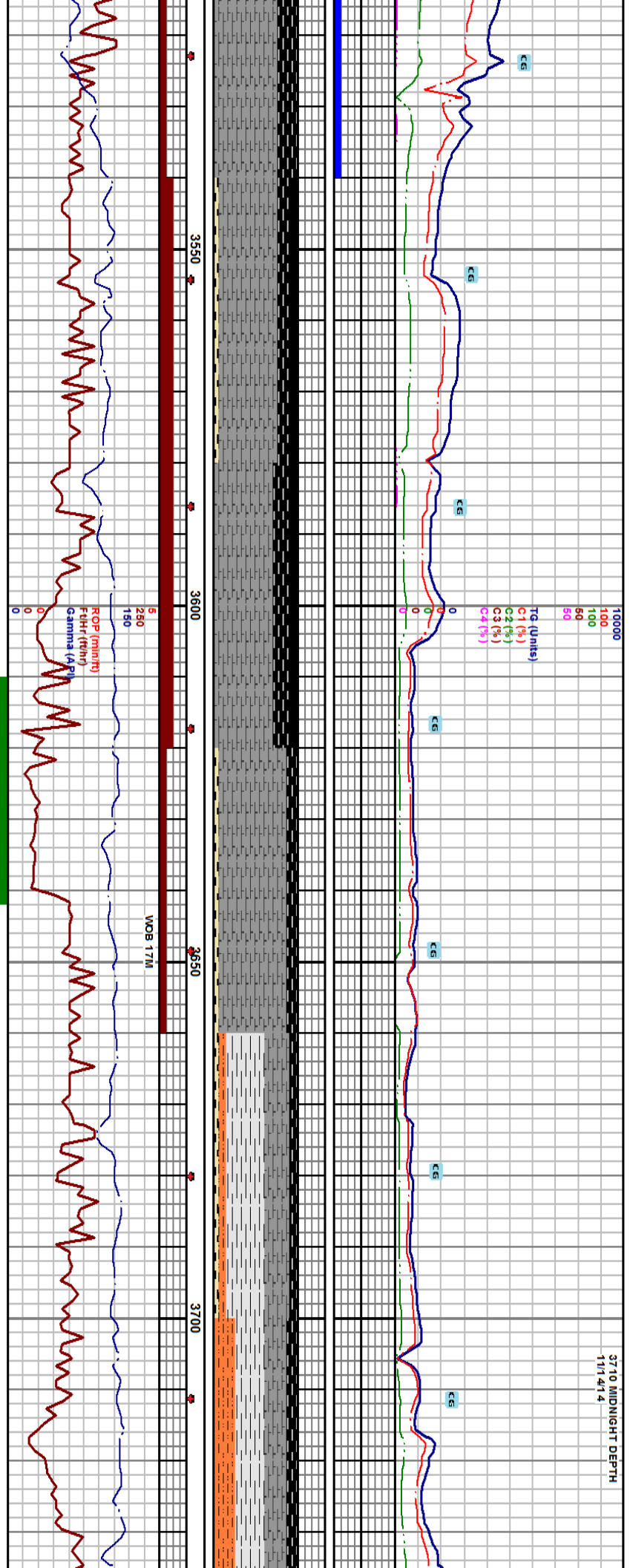
2555 TVD  
 Sub Sea (+3505)



WT 9.0  
 VS 92  
 PH 9.5

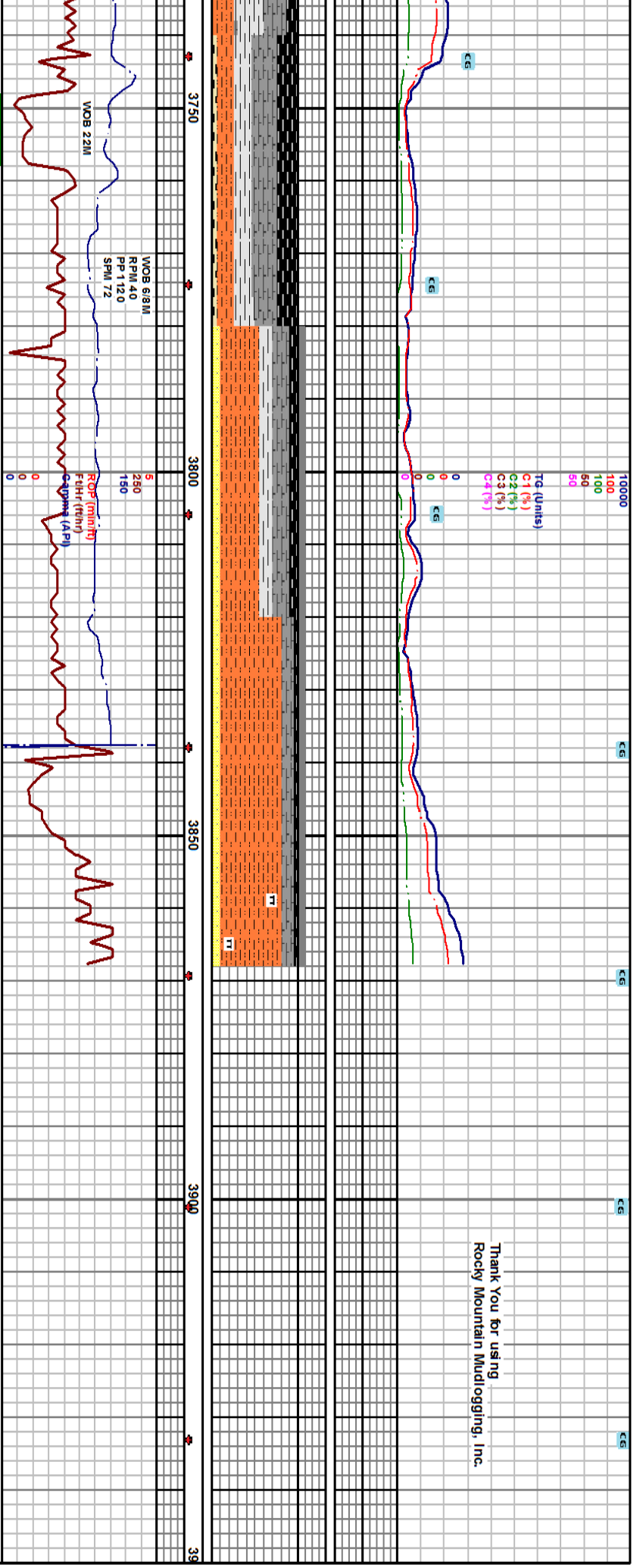


3300-3340 COAL: blk sl frm to brit occ sft conch tr bri to pred dull w/ 10% coal dust tr face cleat hackled tr m lky gas cut	2555 TVD Sub Sea (+3305)	3300-3340 COAL: blk sl frm to brit occ sft conch tr bri to pred dull w/ 10% coal dust tr face cleat hackled tr m lky gas cut	3323 = 2644.69 DEG 89.73 AZM 270.46 VS 774.02
3340-3380 CSH: brn blk to gry blk frm to hd occ grdg to durie occ lam mic bnd mica sbblky to sbply tr slow m lky gas cut FROTHY		3340-3380 CSH: brn blk to gry blk frm to hd occ grdg to durie occ lam mic bnd mica sbblky to sbply tr slow m lky gas cut FROTHY	3355 = 2644.9 DEG 89.5 AZM 269.71 VS 806.02
3380-3420 COAL: blk sft to v sl fri sbply to sbply to sbblky pred float cigs wxy to bri wxy to grsy luv tr vis face cleat pred hackled pr vis bldg gs w/ pr m lky gs & o cut FROTHY		3380-3420 COAL: blk sft to v sl fri sbply to sbply to sbblky pred float cigs wxy to bri wxy to grsy luv tr vis face cleat pred hackled pr vis bldg gs w/ pr m lky gs & o cut FROTHY	3386 = 2645.23 DEG 89.30 AZM 263.83 VS 837.01
3420-3460 COAL: blk sl frm to brit bri to dull tr face cleat hackled mic bnd 10% pred bri coal dust occ grsy tr bldg gas w/ fr m lky gas cut and tr yel oil cut FROTHY		3420-3460 COAL: blk sl frm to brit bri to dull tr face cleat hackled mic bnd 10% pred bri coal dust occ grsy tr bldg gas w/ fr m lky gas cut and tr yel oil cut FROTHY	3417 = 2645.53 DEG 89.6 AZM 268.42 VS 868.00
3460-3500 CSH: gry brn to brn to brn blk to gry blk sl frm to frm occ carb mic bnd sbblky to sbply to occ ply tr m lky gas cut w/ tr yel wh oil cut		3460-3500 CSH: gry brn to brn to brn blk to gry blk sl frm to frm occ carb mic bnd sbblky to sbply to occ ply tr m lky gas cut w/ tr yel wh oil cut	3449 = 2645.7 DEG 89.8 AZM 267.65 VS 899.98
3500-3540 COAL wxy to grsy to b bldg gs w/ fr		3500-3540 COAL wxy to grsy to b bldg gs w/ fr	3481 = 2646.44 DEG 87.54 AZM 267.80 VS 931.95



3540-3580 CSH: blk to brn blk sft to brit sply to sbply sily tx v carb pred grdig to durite tr vis bldg gs wi pr mly gs & o cut	3544 = 2648.68 DEG 88.76 AZM 267.82 VS 994.86	3575 = 2649.2 DEG 88.93 AZM 267.17 VS 1025.82	3606 = 2649.74 DEG 89.09 AZM 266.40 VS 1056.77	3638 = 2649.04 DEG 93.43 AZM 269.76 VS 1088.73	3669 = 2648.96 DEG 94.27 AZM 270.52 VS 1119.66	3701 = 2644.47 DEG 94.63 AZM 271.51 VS 1151.56	37 DEG AZM VS
3580-3620 COAL: blk sft to ooc brit brit to pred dull wi 5% floating coal dust hackled lam pyr inhbdd tr bldg gas fr mly gas cut wi tr yel oil cut		2627.5 (+3832.6)					
3620-3660 SH: pred dk brn to brn blk ooc lk gy brn sft to sl brit sply to sbply sily tx ligc in app sl calc ooc bonng sl calc wi tr free bent abnt m ud contamination							
3660-3700 SH: bonng pred gy brn to brn brit to sft ooc frm sply to sbply sily tx n sl calc mod carb wi SLTST gy to brn gy tr to sft ooc brit sply to sbply sl to m o calc mod carb tr free bent							
2555 TWD Sub Sea (+3905)							
3700-3740 SLTST: dk brn to gy brn to app sl sdy lp mod calc carb ooc wi v							

Thank You for using  
Rocky Mountain Mudlogging, Inc.



3740-3780 COAL: blk brit to fri spily to spbly no vis bri pred dull shly tx  
pred durite no vis cleat hackled tr vis bldg gs v int gs cut wi free bent dk  
brn f cigs wxy wi dull orng flr

3780-3820 S.S: m to dk brn fri to v fri vf to lv gr sbang to sbord w srt w cmt wi  
mas ls to lmy cly mtx rthy tt to no vis por dull m nrl flr abnt sply to even res sth  
no cut acid or crush silst: ala & brng m rly

3820-3869 SL TST: m to dk brn to gy brn sft to fri spily  
to mas mod carb to v carb v calc to m rly v sdy lp wi  
free off w thn ply m rlst

Projected to T.D.  
3869 = 2624.71  
DEG 97.98  
AZM 272.01  
VS 1316.9

Please note 3869' pick up & circulate out,  
wait on orders, TOH to 3114 comm ence  
kick off  
T.D. 11/14/14 @ 0245 hrs.

3764 = 2638.66  
DEG 96.9  
AZM 271.76  
VS 1214.26

3796 = 2634.58  
DEG 97.38  
AZM 271.64  
VS 1246.00

2627.5  
(+3832.5)

3827 = 2630.54  
DEG 97.98  
AZM 272.01  
VS 1276.71

3900