

McElvain Energy  
 1050 17th St Ste 2500 Denver  
 Colorado 80265

Well & No. Pargin Ranch #11 Lat-2 ST-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
- Glau
- Gyp
- Hvymin
- Kaol
- Marl

- 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

te: 11/11/2014  
 11/15/2014  
 7" 26# Casing  
 Depth: 2351' - 2362'  
 3135'

4247'  
 2567.85  
 1692.5  
 275.5

Depths: 3114' - 4247'  
 Logged: 11/14/14 - 11/15/14

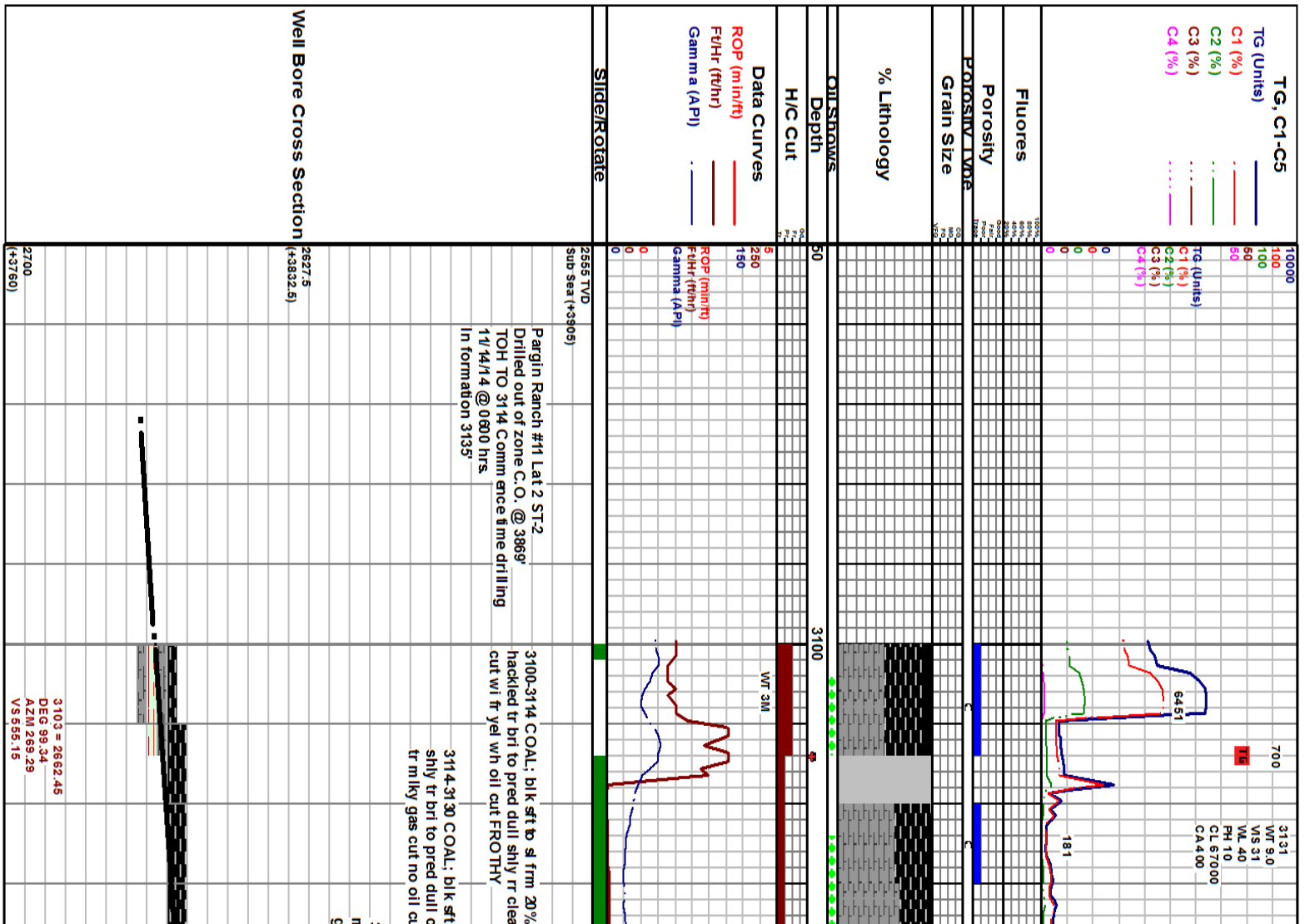
Rod Moore Debbie Moore

- Coaly sh
- Vcol sh
- Slst
- Ss

- Till
- Cl'y ss
- Cement
- No sample

- Gyp
- Ls
- Mst
- Slstrg
- Claystone
- Shale
- Siltstone
- Limestone
- Coal
- Carby shale
- Sandstone
- Ssstrg

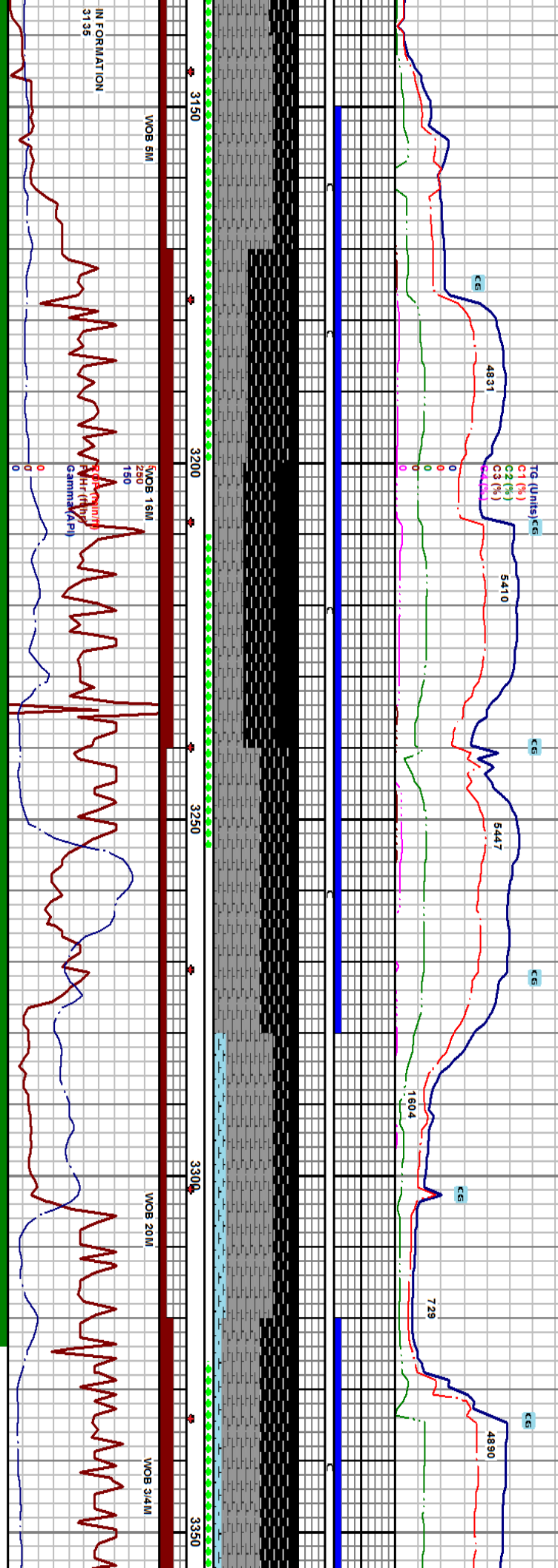
- Dead
  - Oil show
  - Gas show
- INTERVAL**
- Core
  - Dst
- EVENT**
- Rft
  - Lost circulation
  - Connection
  - New bit
  - Sidewall



3103 = 2662.45  
 DEG 99.34  
 AZM 269.29  
 VS 556.15

10000  
100  
50  
50

Td (Units) CG  
C1 (%)  
C2 (%)  
C3 (%)



PLEASE NOTE ABNT  
CAVINGS

floating coal dust conch  
it tr bidg gas tr milky gas

to sl frm 15% coal dust v f cigs  
ouch tr face cleat tr bidg gas wi  
it

3130-3140 C.S.H: gry brn to brn to gry blk sl frm to  
nica wi smth tx sbily to sbply wi abnt caving tr milky  
gas cut wi tr yel wh oil cut

3140-3170 COAL: blk pred sft to sl frm tr vis face cleat mic  
bnd pred dull wi 10% coal dust hackled tr bidg gas pr  
milky gas cut wi tr yel oil cut

2627.5  
(+3832.6)

3200-3240 COAL: blk sft to sl frm to occ brit bri to dull 20%  
floating coal hackled mic bnd grsy pr bidg gas fr milky gas  
cut wi tr yel oil cut FROTHY

2555 TVD  
Sub Sea (+3905)

3240-3280 C.S.H: blk to brn blk sft to sl brit sply to  
sbply v carb grdg to durite pr vis bidg gs wi fnt gs & o  
cut FROTHY

3280-3320 CAL/MRLS F: wh to off wh sft chily thn ply wi sply  
brn shn frac fill in app wi tr free bent: dk brn f cigs wxy wi dull  
orng flr csh: wi slow milky gs & o cut

3320-3360 COAL: blk sft to occ sl frm  
hackled tr to fr bidg gas shly bri to pr  
tr yel oil cut FROTHY

3135 = 2657.97  
DEG 97.37  
AZM 268.43  
VS 587.48

3166 = 2655.11  
DEG 97.23  
AZM 264.98  
VS 618.31

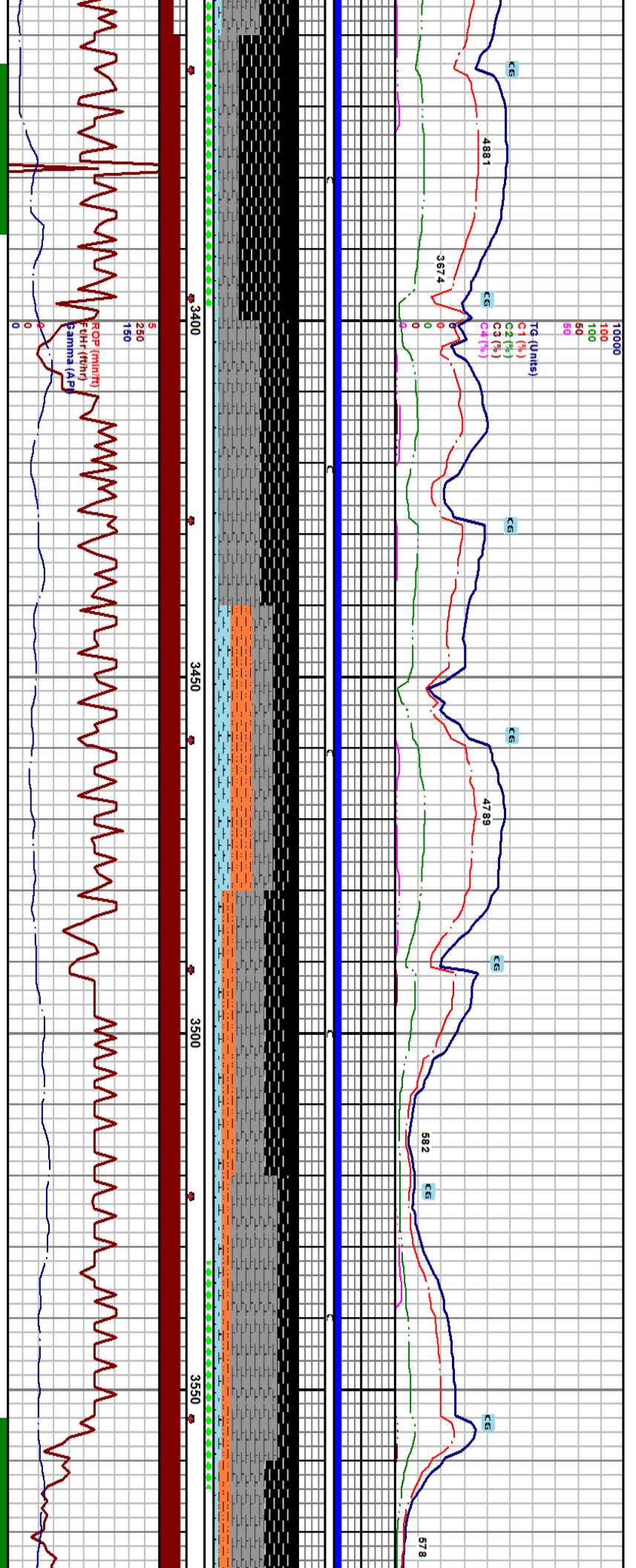
3198 = 2653.49  
DEG 92.55  
AZM 260.54  
VS 640.09

3229 = 2650.64  
DEG 98.00  
AZM 253.51  
VS 680.51

3260 = 2646.2  
DEG 98.5  
AZM 260.65  
VS 710.77

3292 = 2641.86  
DEG 97.04  
AZM 265.91 VS 742.31

3323 = 2638.48  
DEG 95.48  
AZM 270.57  
VS 773.11



Interval	Description	ROP (min/hr)	F-oh (min/hr)	Gamma (API)
3360-3400	COAL: blk sft to v sl fri sply to sbilky to sply pred hackled frac tr vis face cleat bri cdgs pred float to dull wxy to shly tx occ v mic bnd tr vis bldg gs pr mly gs & fr yel wh o cut FROTHY	3386 = 2632.85	DEG 93.22 AZM 272.45 VS 895.8	2700 (+3760)
3400-3440	MA RL: wh to off wh sft to v sft tr surface shn thin ply wi calcite dull org flor wi free coal blk sft to sl frm 5% floating coal tr bri to pred dull tr bldg gas tr face cleat fr mly gas cut wi tr yel oil cut	2555 TVD Sub sea (+3905)		
3440-3480	MRL S T: tn to cm to brn brit thin ply to sply pred classic tx silty grdg to silst to sdy lp dns mod free cal off wh sft dnly thin ply wi dull orgng flor silst gy brn to brn fri to brit thin ply to sply v lim y grdg to mrist	3449 = 2629.43	DEG 92.92 AZM 270.73 VS 898.65	
3480-3520	SL TST: lt to dk brn sl frm calc sbilky to sply pred classic tx silty coal sft to sl frm to occ brit hackled wi tr face cleat tr vis bldg gas fr mly gas cut wi tr yel oil cut	3481 = 2627.77	DEG 93.02 AZM 262.77 VS 930.60	
3520-3560	COAL: blk sl frm to brit tr bri to pred dull hackle to mic bnd tr face cleat 5% floating coal wi no bldg gas fr v mly gas cut tr yel oil cut frothy	3512 = 2626.18	DEG 92.86 AZM 268.15 VS 961.55	
3560-3600	COAL: brt wxy to silky bldg gs wi fr m	3544 = 2624.21	DEG 94.21 AZM 268.78 VS 993.49	

10% floating coal tr face cleat  
ed dull fr vis mly gs cut wi

2627.5  
(+3832.9)

3355 = 2635.31  
DEG 95.88  
AZM 270.93  
VS 804.94

3386 = 2632.85  
DEG 93.22  
AZM 272.45  
VS 895.8

3417 = 2631.13  
DEG 93.16  
AZM 271.56  
VS 866.71

3449 = 2629.43  
DEG 92.92  
AZM 270.73  
VS 898.65

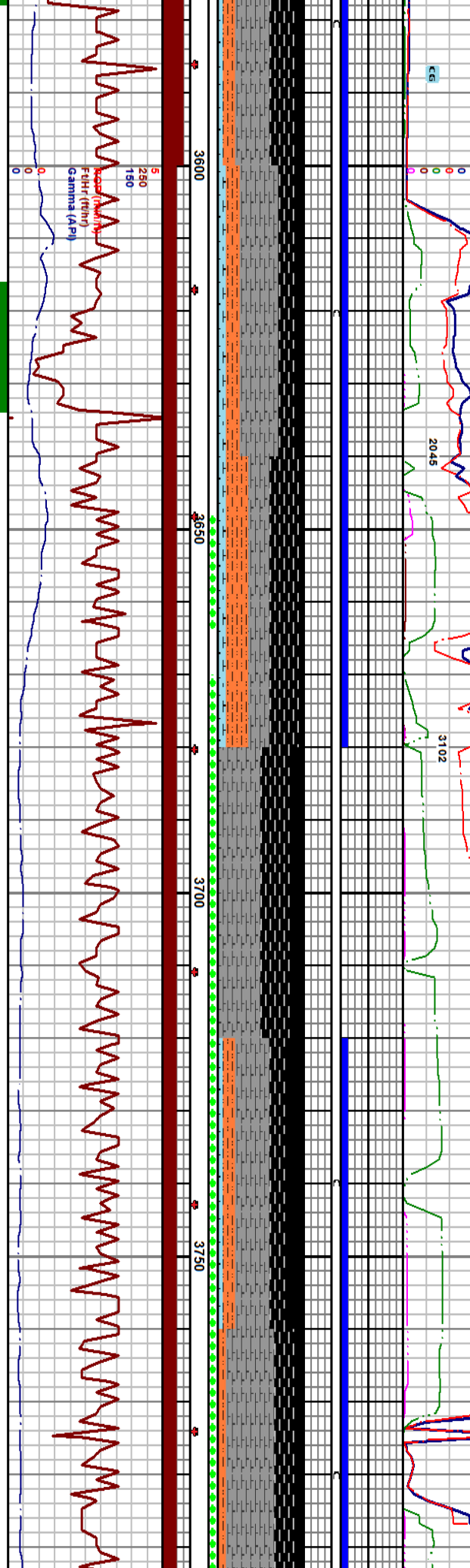
3481 = 2627.77  
DEG 93.02  
AZM 262.77  
VS 930.60

3512 = 2626.18  
DEG 92.86  
AZM 268.15  
VS 961.55

3544 = 2624.21  
DEG 94.21  
AZM 268.78  
VS 993.49

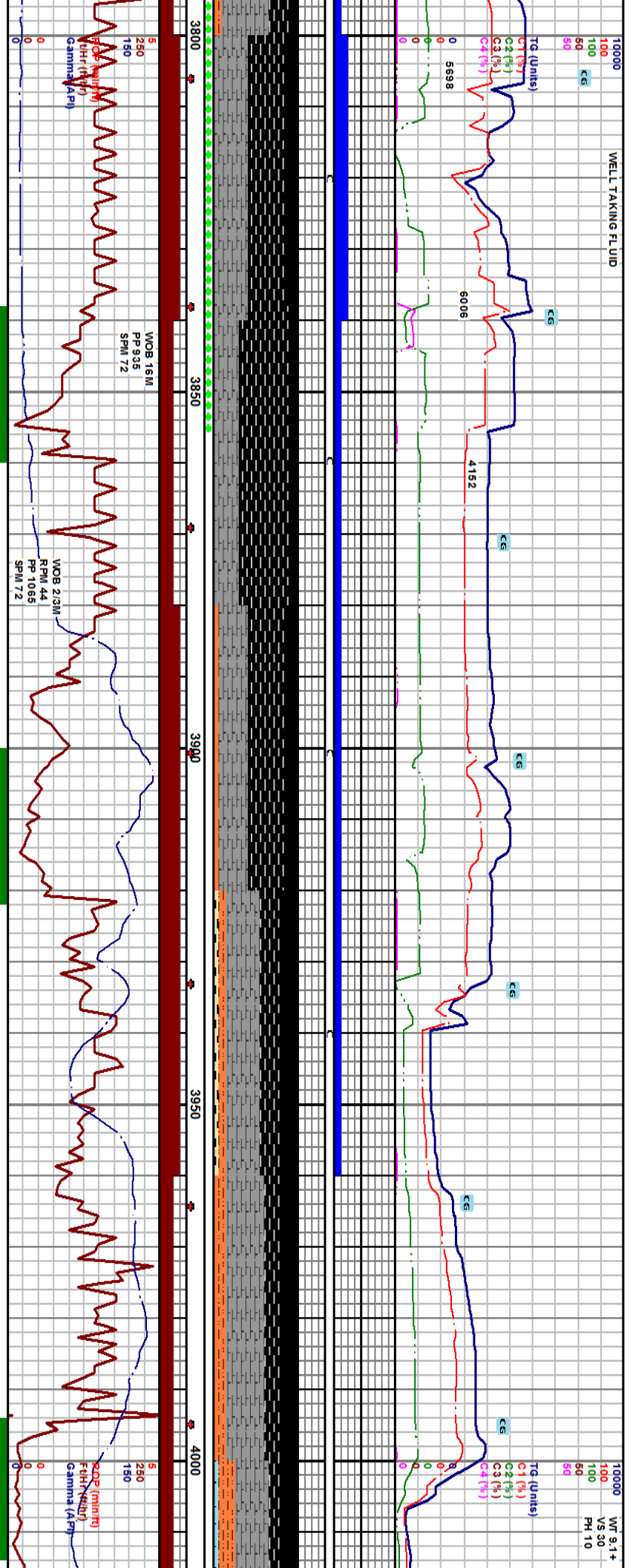
10000 3618 MIDNIGHT DEPTH WT 9.1  
 100 VS 31  
 50 PH 10  
 WELL TAKING FLUID SLOW RETURNS ON CONNECTIONS  
 SLOW RETURNS ON CONNECTION

FLUID RETURNS TO LITTLE TO RUN TWO SHAKERS DVERTALL FLUID TO ONE SHAKER



2555 TVD Sub sea (+3905)	3600-3640 SL TST: tn to brn sft to brit sply to thn ply m rly grdg to m rist w i m rist: tn to crm sft thn ply sily clastic k w i free chily cal	2627.5 (+3832.5)	3608 = 2620.38 DEG 93.26 AZM 271.23 VS 1056.33
	3640-3680 COAL: blk sft to v sl fri sply to sbply bri frst float cigs to pred dull shly to wxy v f cigs pred hacked v f cigs pr vis bldg gs w i pr m lky gs & o cut		3638 = 2617.63 DEG 96.6 AZM 271.47 VS 1087.17
	3680-3720 COAL: blk sft to v sft to fri sply to sbply bri frst float cigs pred dull shly kx to sooly just pred durite no vis cleat hacked frac tr vis bldg gs tr m lky gs & o cut Note sh pred blk brit sply pred grdg to durite		3669 = 2614.07 DEG 96.59 AZM 270.74 VS 1117.95
	3720-3760 COAL: blk fri to sft sply to sbply bri pred float cigs w i dull shly to sooly just rr vis face cleat pred hacked shly tr vis bldg gs w i pr m lky gs & pr yel o cut		3701 = 2610.50 DEG 96.2 AZM 269.85 VS 1145.74
	3760-3800 CSH: brn blk to blk sft to sl brit sply sbply v carb ilgc in app to grdg to durite tr vis m lky gs & o cut		3732 = 2607.25 DEG 95.86 AZM 269.45 VS 1180.57
			3764 = 2604.07 DEG 95.55 AZM 269.8 VS 1212.41
			3796 = DEG 96 AZM 285 VS 1244

3675 = 2622.17  
DEG 93.38  
AZM 271.27  
VS 1024.42



2555 TVD  
Sub Sea (+3505)

3800-3840 COAL: blk sft to sl fri sply to sbply bri wxy to wxy to pred dull shly to sooty pr vis cleat pred hacked frac fr to gd vis bldg gs w/ mlly gs & fr lime yel o cut

3840-3880 CSH: brn blk to blk sft to sl brit sply to sbply occ lam sily to smth tx v carb lligc in app ip to pred prdg to durite tr vis bldg gs w/ mt mlly gs & pr yel wh o cut

3880-3920 COAL: blk sft to sl fri sply to sbply to thn ply bri pred float cigs w/ dull wxy to shly tx pred vr cigs tr vis face cleat predom inately hacked tr vis bldg gs w/ fr mlly gs & o cut

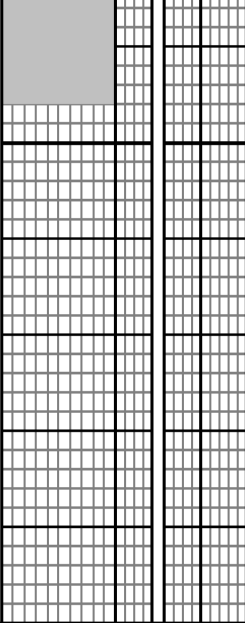
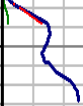
3920-3960 SL.TSF: lt to dk brn brit to tr frm to hd dns sply sl to v calc w/ tr free dk brn bent sft wxy no flor

3960-4000 SH: dk brn to brn blk frm to brit sply to sbply occ lam sily to smth tx mod to v carb sl calc w/ incr frm to hd sitef

2601.01	3827 = 2598.56	3890 = 2592.82	3921 = 2589.54	3953 = 2585.42	3985 = 2581.20
3.32	DEG 94.6	DEG 94.81	DEG 97.38	DEG 97.44	DEG 97.69
9.08	AZM 268.32	AZM 269.87	AZM 271.01	AZM 271.12	AZM 270.55
2700	VS 1275.14	VS 1307.02	VS 1357.9	VS 1400.42	VS 1432.13
(+3760)					(+3760)

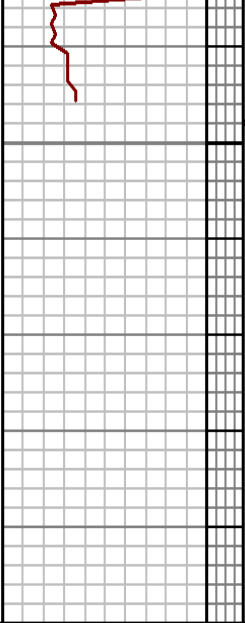


THANK YOU FOR USING  
ROCKY MOUNTAIN MUDLOGGING, INC.



4250

43



split to split silty tx to smth wxy lp  
it occ frm split to split occ lam v  
o cut

Lost circulation on connection condition m ud  
11/15/14 @ 1330 hrs. prepare for wiper trip  
for casing

Projected to TD  
4247 = 2567.85  
DEG 90.27  
AZM 275.48  
V S 1692.5