



Company : Apache

Well : Coelacanth-1

Interval : 126.00 - 2702.37 meters

Created : 21/Mar/2008 5:32:12 AM

INTEQ

### FORMATION EVALUATION LOG

Drilling Rate ROP (m/hr)		MD meters 1:500	TVDRT meters	Cuttings Lithology	Oil Show P F G	Visual Inferred Porosity P F G	Gas Data		Chromatograph Data		Calcmetry CaCO3 % MgCO3 %	Interpreted Lithology	Lithology Description	
ROP (m/hr)							Gas Hydrocarbon Avg %	Methane ppm						
200	20	130					0.01	0.1	1	10	1	Ethane ppm	100000	
180	40						0.001	Resistivity Shall	10	1	Propane ppm	100000		
160	60	140					OHMM	1	100000	1	iso-Butane ppm	100000		
140	80						0.001	Resistivity Deep	10	1	n-Butane ppm	100000		
120	100	150					OHMM	1	100000	1	iso-Pentane ppm	100000		
100	120						1	n-Pentane ppm	100000					
80	140	160												
60	160													
40	180	170												
20	200													
200	20	180												
180	40													
160	60	190												
140	80													
120	100	200												
100	120													
80	140	210												
60	160													
40	180	220												
20	200													

1RR 660 mm (26")  
 Smith  
 Type: XR+C  
 Jets: 4x18  
 Depth In: 127.5 mMDRT  
 Depth Out: 279.0 mMDRT  
 Drilled 151.0 m in 119 hrs  
 Grade:  
 1-1-WT-A-E-I-NO-TD

RT - AHD: 38.0 mMDRT  
 Water Depth: 90.0 mMDRT  
 RT - Seabed: 128.0 mMDRT

Spud Coelacanth-1 @  
 1300hrs on 10/03/2008

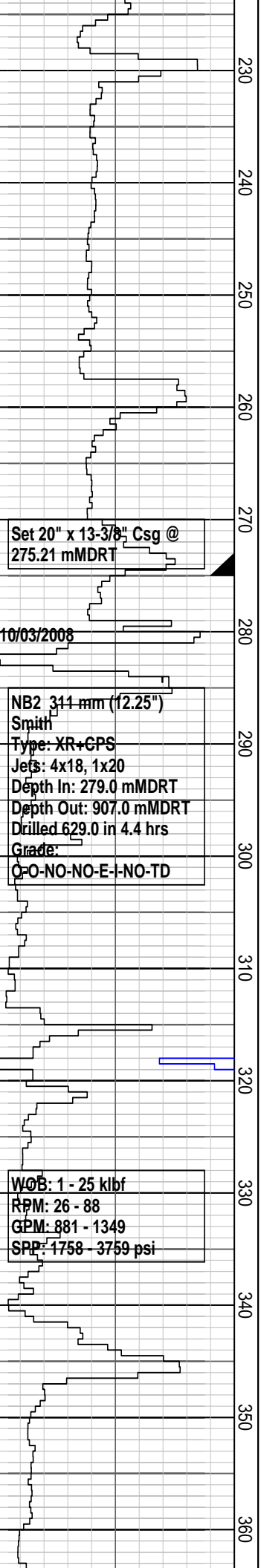
Drill with sea water and hi-vis pills, returns to sea bed from 128.0 m to 279.0 mMDRT

Drill with sea water and hi-vis pills, returns to sea bed from

128.0 m to 279.0 mMDRT

MW: 1.06 sg FV: 140  
PV : 13 YP: 56  
Gels: 44/48/- pH: 9.15

660 mm (26") Section TD @  
279.0 mMDRT on 10/03/2008

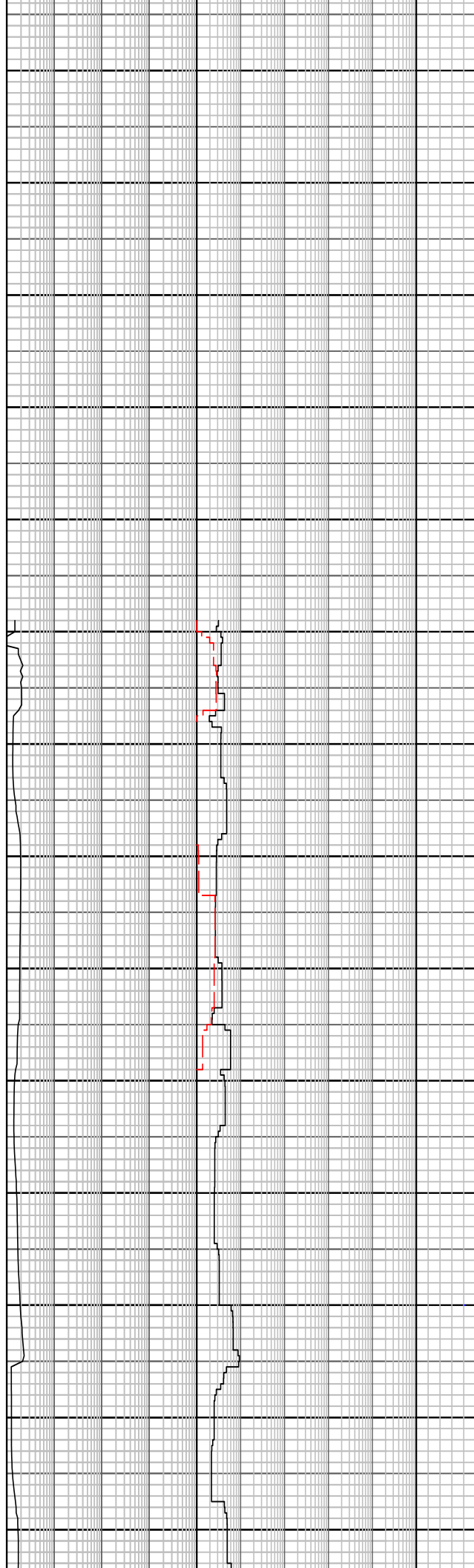
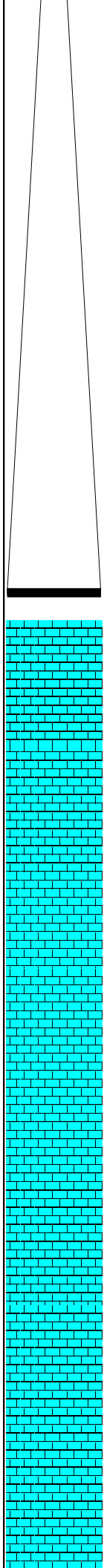


Set 20" x 13-3/8" Csg @  
275.21 mMDRT

10/03/2008

NB2 311 mm (12.25")  
Smith  
Type: XR+GPS  
Jets: 4x18, 1x20  
Depth In: 279.0 mMDRT  
Depth Out: 907.0 mMDRT  
Drilled 629.0 in 4.4 hrs  
Grade:  
O-O-NO-NO-E-I-NO-TD

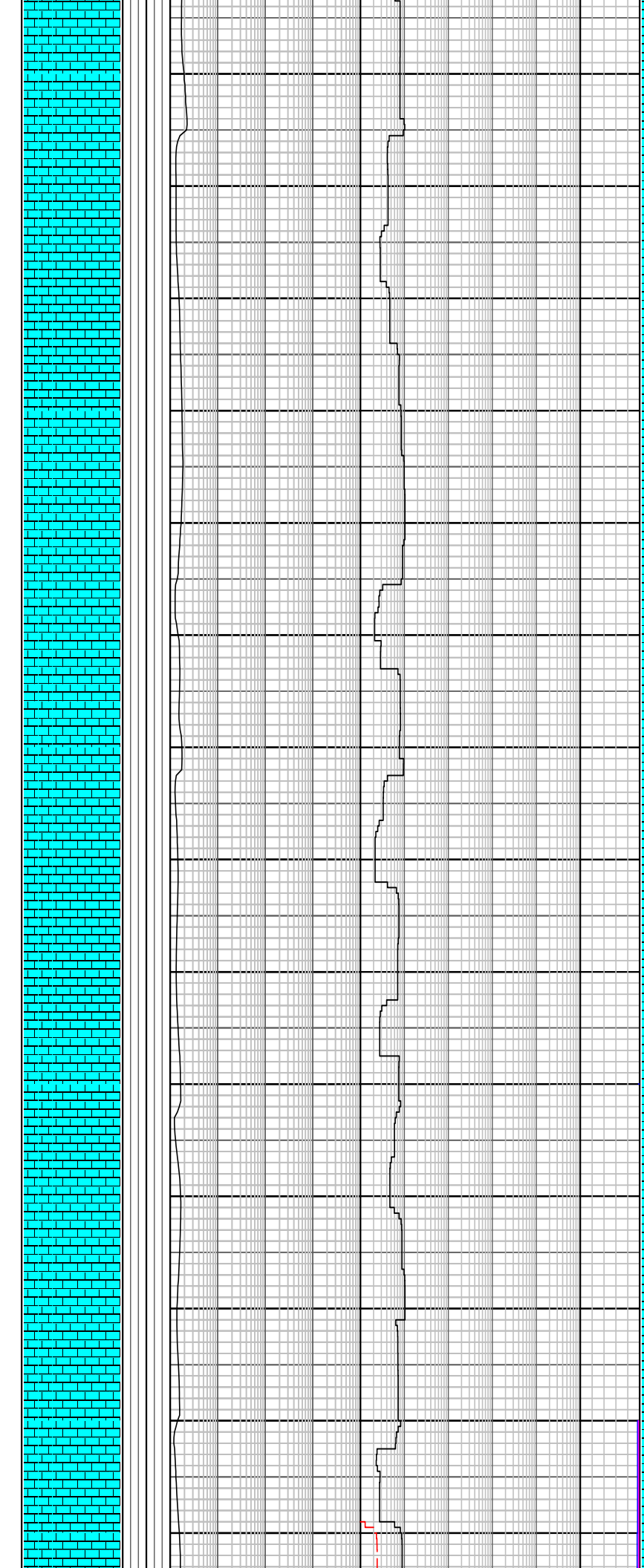
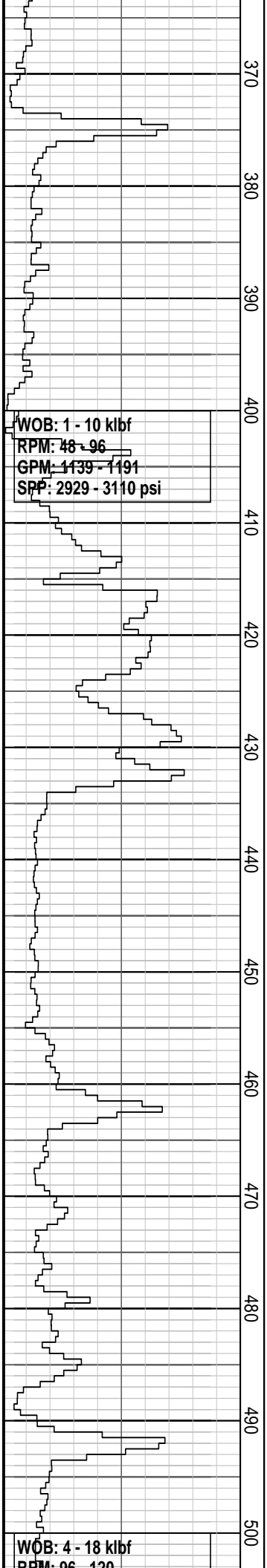
WOB: 1 - 25 klf  
RPM: 26 - 88  
GPM: 881 - 1349  
SPP: 1758 - 3759 psi



CALCARENITE: lt-m gy, lt-m  
bl gy, lt olv gy, tr carb spks,  
com foss frag, tr v f qtz grs,  
mod hd-hd, sbbly-blky

CALCISILITE: wh-lt gy, com  
lt-m gry, com foss, mod  
hd-hd, sbbly-blky

CALCILUTITE: v lt gy-lt gy, lt  
bl gy, off wh, mnr lt-m gy, lt  
brn gy, com foss, tr-rr f qtz  
grs, frm-mod hd, sbbly-blky



**CALCARENITE:** lt-m gy, lt olv gy, mnr m gy, comfos frag, mod hd-hd, sbblky-blky

**CALCILUTITE:** v lt gy-lt gy, lt bl gy, off wh, mnr lt-m gy, lt brn gy, com foss, tr-r f qtz grs, frm-mod hd, sbblky-blky

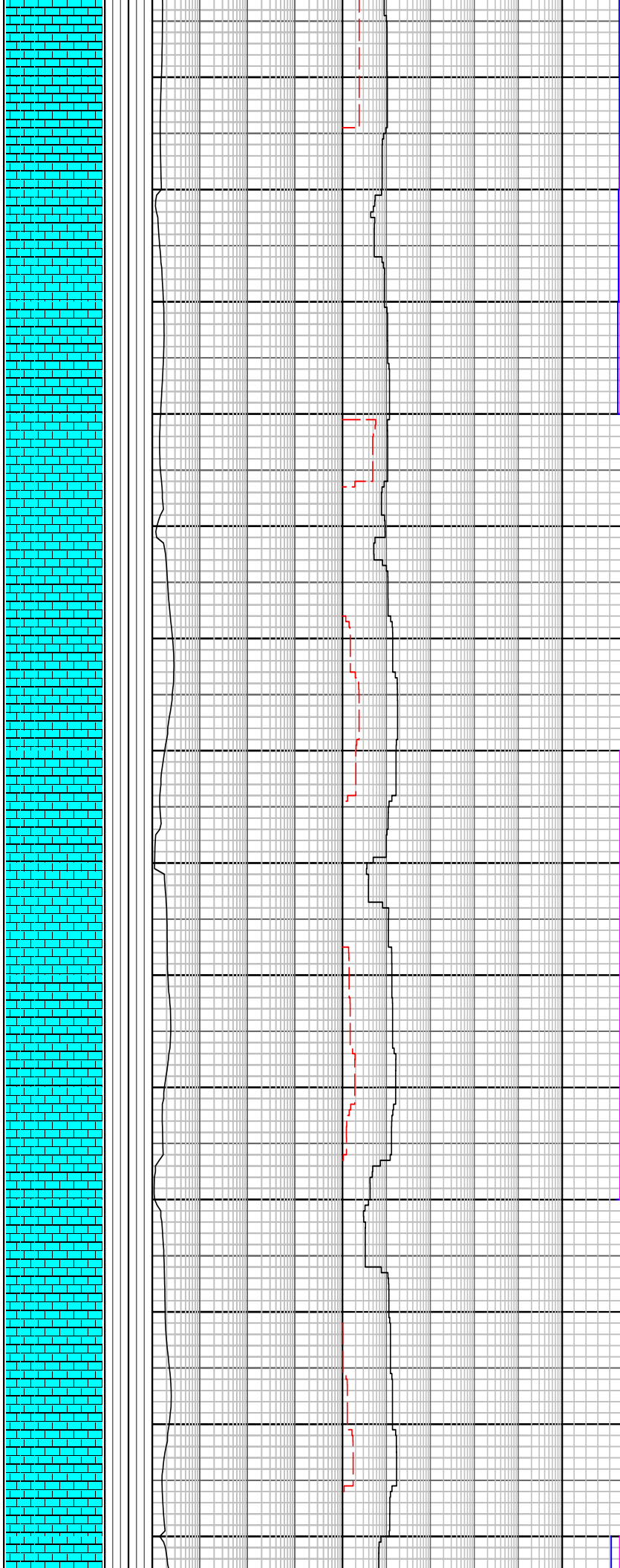
**CALCARENITE:** lt-m gy, lt olv gy, mnr m gy, comfos frag, mod hd-hd, sbblky-blky

**CALCARENITE:** lt-m gy, lt olv gy, mnr m gy, comfos frag

RPM: 96 - 120  
GPM: 1163 - 1191  
SPP: 3041 - 3599 psi

WOB: 7 - 28 kbf  
RPM: 112 - 121  
GPM: 1166 - 1168  
SPP: 2885 - 3737 psi

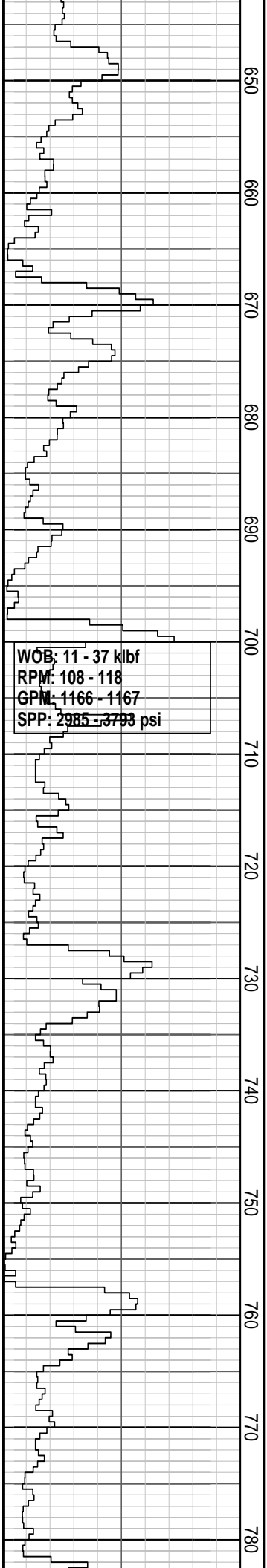
510  
520  
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630  
640



gy, mnr m gy, comfos frag,  
mod hd-hd, sbblky-blky

**CALCARENITE:** lt-m gy, lt olv  
gy, mnr m gy, comfos frag,  
mod hd-hd, sbblky-blky

**CALCARENITE:** lt-m gy, lt-m  
olv gy, lt brn gy, tr comfos  
frag, com fn-m qtz grs, mod  
hd, sbblky-blky

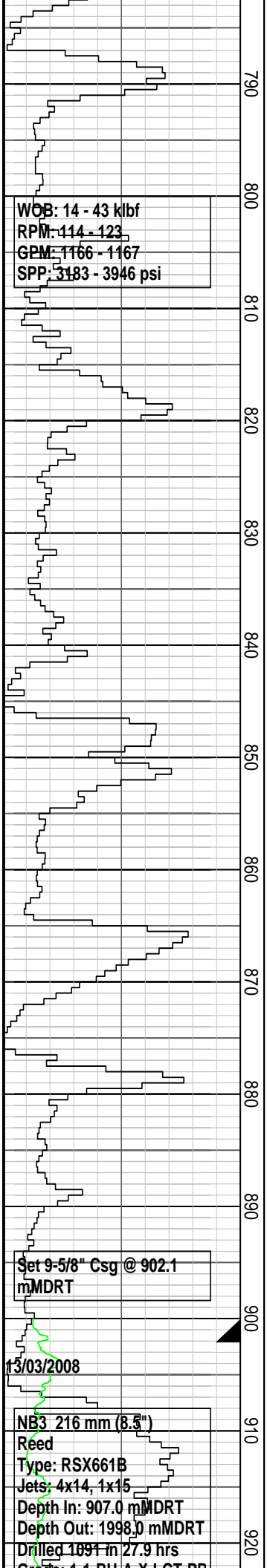


WOB: 11 - 37 kilbf  
RPM: 108 - 118  
GPM: 1166 - 1167  
SPP: 2985 - 3793 psi

**CALCARENITE** : lt-m gy, lt-m olv, lt brn gy, tr comfos frag, com f-m qtz grs, mod hd, sbbiky-blky

**CALCARENITE** : lt-m gy, lt bl gy ,mnr m dk gy, com v f-f qtz grs, com foss frags, mod hd-hd, sbbiky-blky

**CALCARENITE** : lt-m gy, pred m gy, lt bl gy, mnr m dk gy, com v f-f qtz grs, com foss frags, mod hd-hd, sbbiky-blky

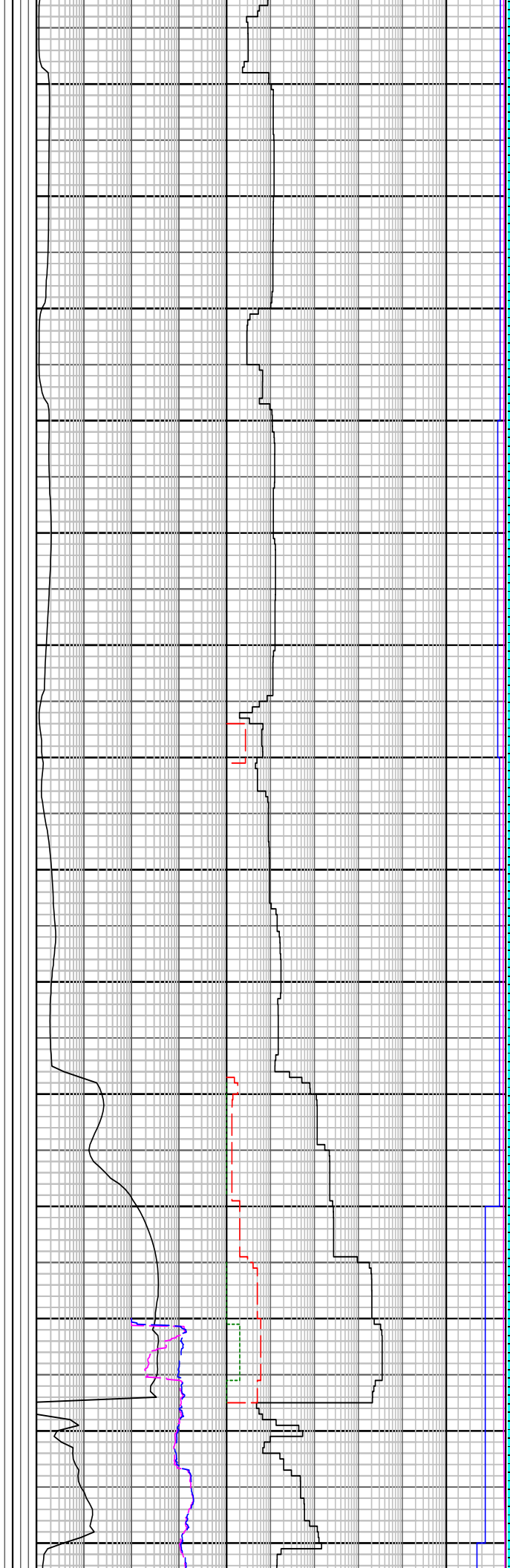


WOB: 14 - 43 kilbf  
 RPM: 114 - 123  
 GPM: 1166 - 1167  
 SPP: 3183 - 3946 psi

Set 9-5/8" Csg @ 902.1 mMDRT

13/03/2008

NB3 216 mm (8.5")  
 Reed  
 Type: RSX661B  
 Jets: 4x14, 1x15  
 Depth In: 907.0 mMDRT  
 Depth Out: 1998.0 mMDRT  
 Drilled 1091 m in 27.9 hrs



CALCARENITE : lt-m gy, pred m gy, lt bl gy, mn r m dk gy, com v f-f Qtz grs, com foss frags, mod hd-hd, sbbkly-blky

MW: 1.15 sg FV: 43  
 PV : 9 YP: 11  
 Gels: 4/9/- pH: 8.00

CALCARENITE : lt-m gy, pred m gy, lt bl gy, mn r m dk gy, com v f-f Qtz grs, com foss frags, mod hd-hd, sbbkly-blky

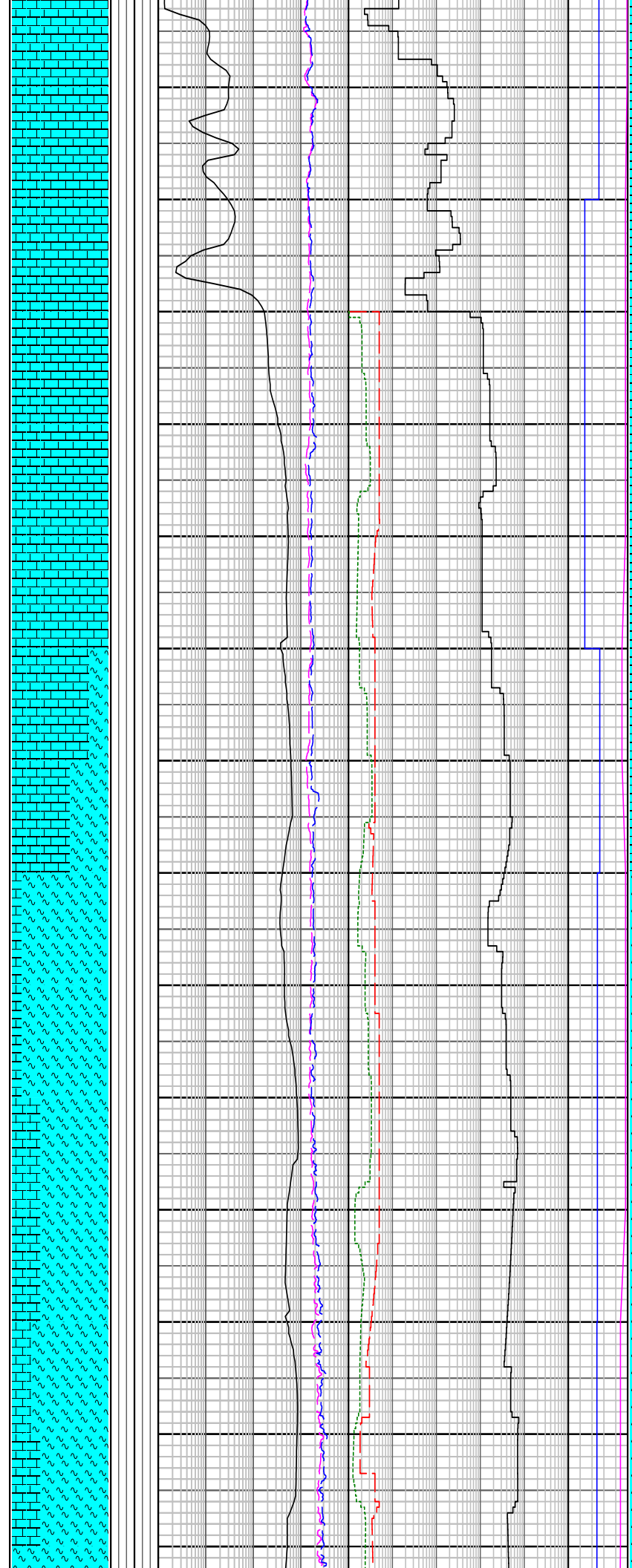
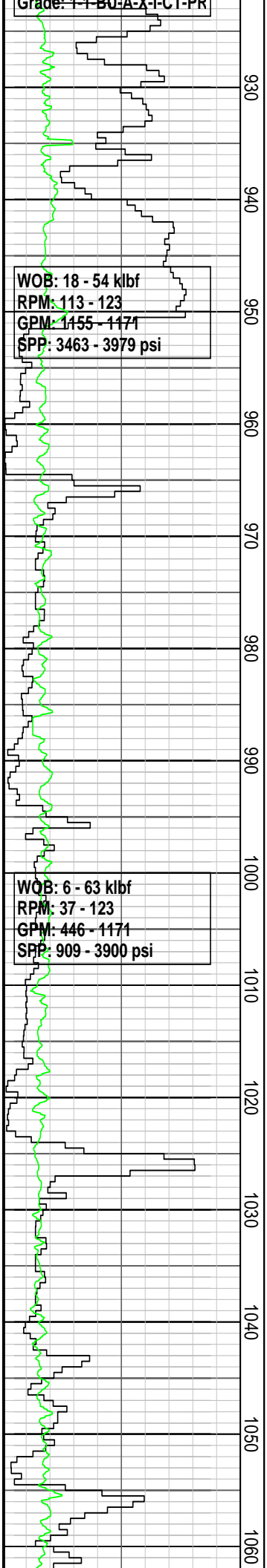
CALCARENITE : lt-m gy, pred m gy, lt bl gy, mn r m dk gy, com v f-f Qtz grs, com foss frags, mod hd-hd, sbbkly-blky

311 mm (12.25") Section TD @ 907.0 mMDRT on 13/03/2008

Grade: 1-1-BU-A-A-1-C-1-PR

WOB: 18 - 54 klb  
RPM: 113 - 123  
GPM: 1155 - 1171  
SPP: 3463 - 3979 psi

WOB: 6 - 63 klb  
RPM: 37 - 123  
GPM: 446 - 1171  
SPP: 909 - 3900 psi



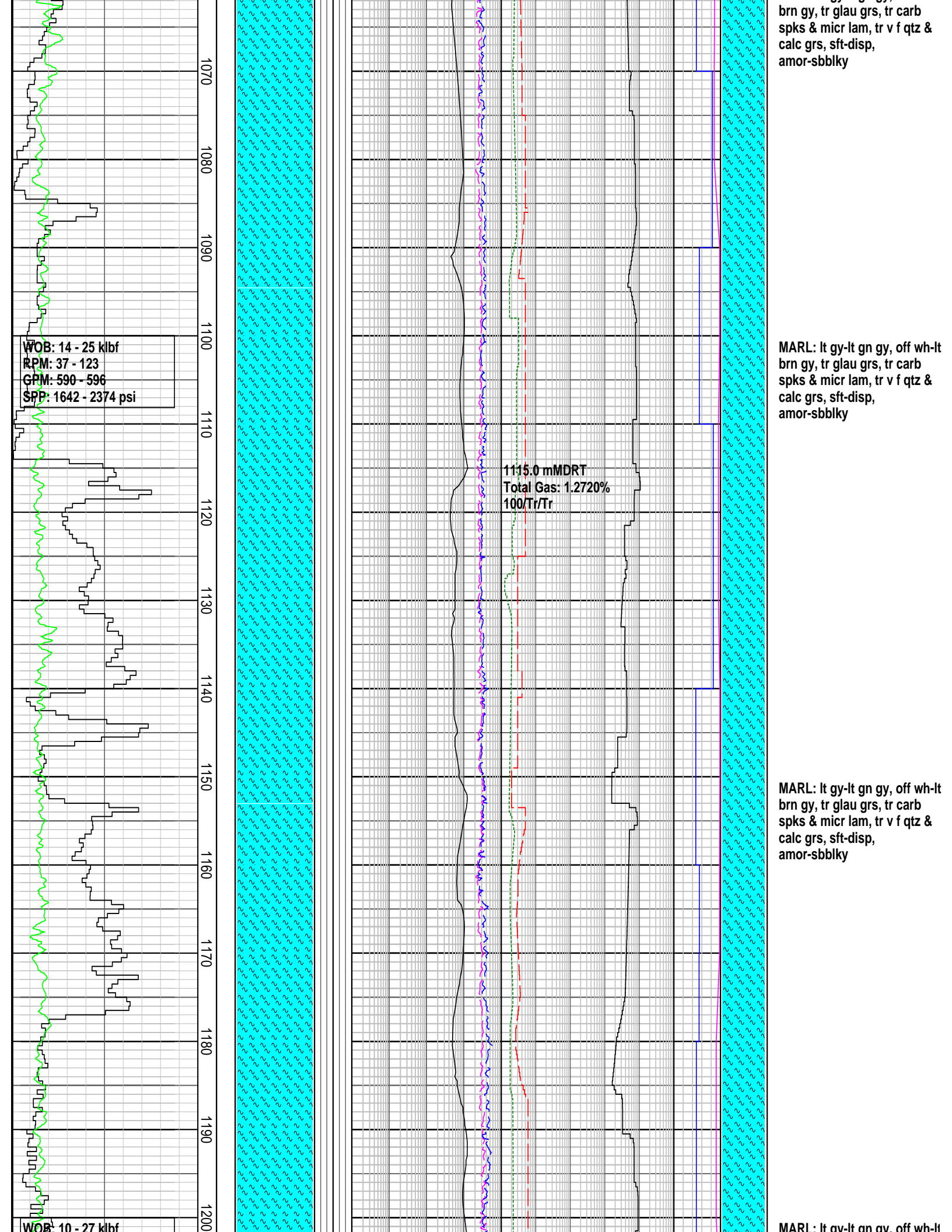
**CALCARENITE** : lt-m gy, pred m gy, lt bl gy, mnr m dk gy, com v f-f qtz grs, com foss frags, mod hd-hd, sbbly-blky

**MARL** : lt gy-lt gn gy, off wh-lt brn gy, tr glau grs, tr carb spks & micr lam, tr v fn qtz & calc grs, sft-disp, amor-sbbly

**CALCARENITE** : lt-m gy, pred m gy, lt bl gy, mnr m dk gy, com v f-f qtz grs, comfos frag, mod hd-hd, sbbly-blky

**MARL** : lt gy-lt an gy, off wh-lt





WOB: 14 - 25 kilbf  
 RPM: 37 - 123  
 GPM: 590 - 596  
 SPP: 1642 - 2374 psi

1115.0 mMDRT  
 Total Gas: 1.2720%  
 100/Tr/Tr

brn gy, tr glau grs, tr carb  
 spks & micr lam, tr v f qtz &  
 calc grs, sft-disp,  
 amor-sbblyk

MARL: lt gy-lt gn gy, off wh-lt  
 brn gy, tr glau grs, tr carb  
 spks & micr lam, tr v f qtz &  
 calc grs, sft-disp,  
 amor-sbblyk

MARL: lt gy-lt gn gy, off wh-lt  
 brn gy, tr glau grs, tr carb  
 spks & micr lam, tr v f qtz &  
 calc grs, sft-disp,  
 amor-sbblyk

MARL : lt av-lt an av. off wh-l

WOB: 10 - 27 kilbf



RPM: 99 - 144  
GPM: 440 - 674  
SPP: 4389 - 2575 psi

WOB: 15 - 49 kilbf  
RPM: 105 - 144  
GPM: 576 - 696  
SPP: 1464 - 3880 psi

1210  
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1240  
1250  
1260  
1270  
1280  
1290  
1300  
1310  
1320  
1330  
1340

1207.0 mMDRT  
Total Gas: 1.4516%  
100/Tr/Tr

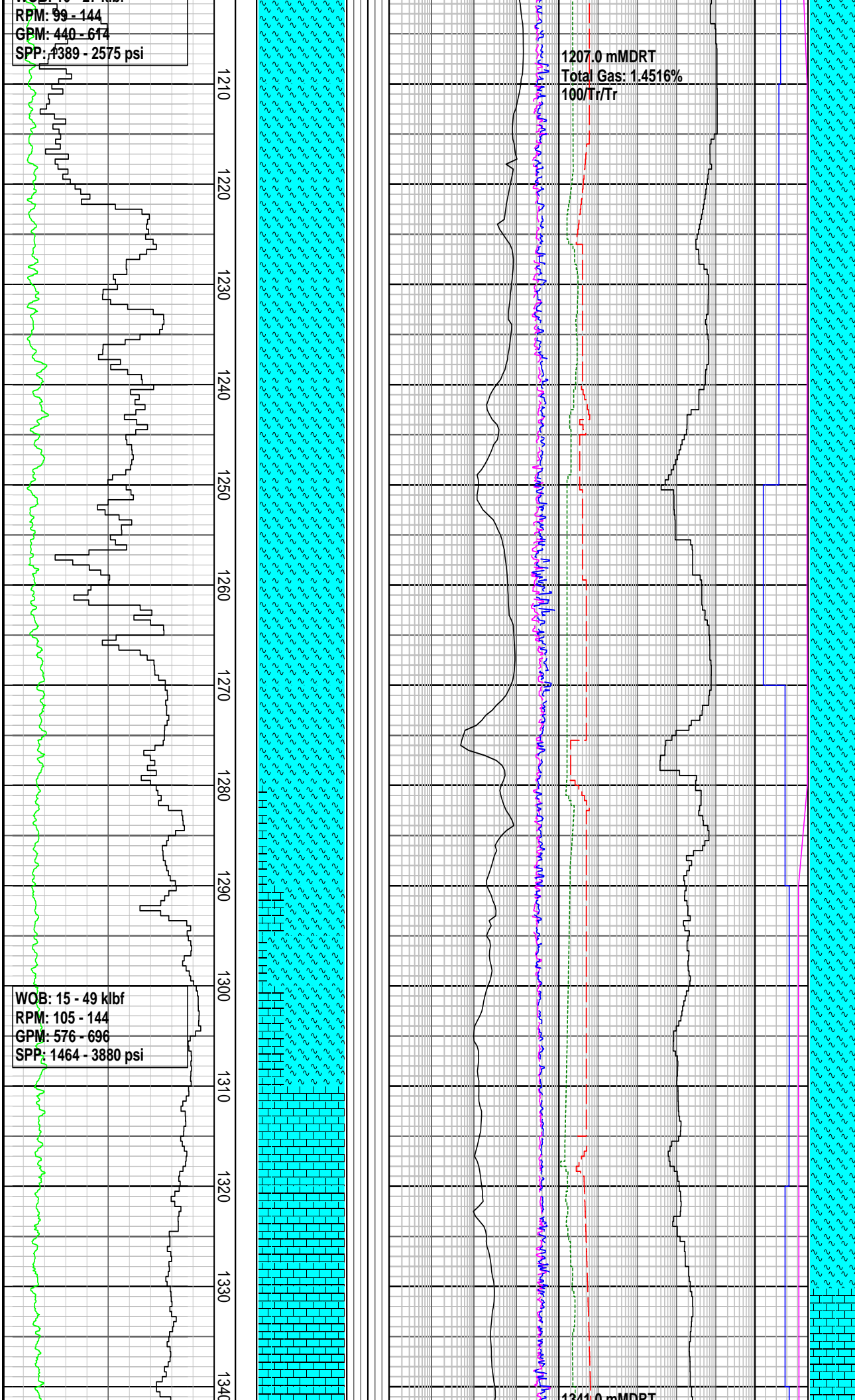
1211.0 mMDRT

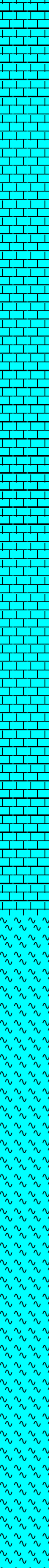
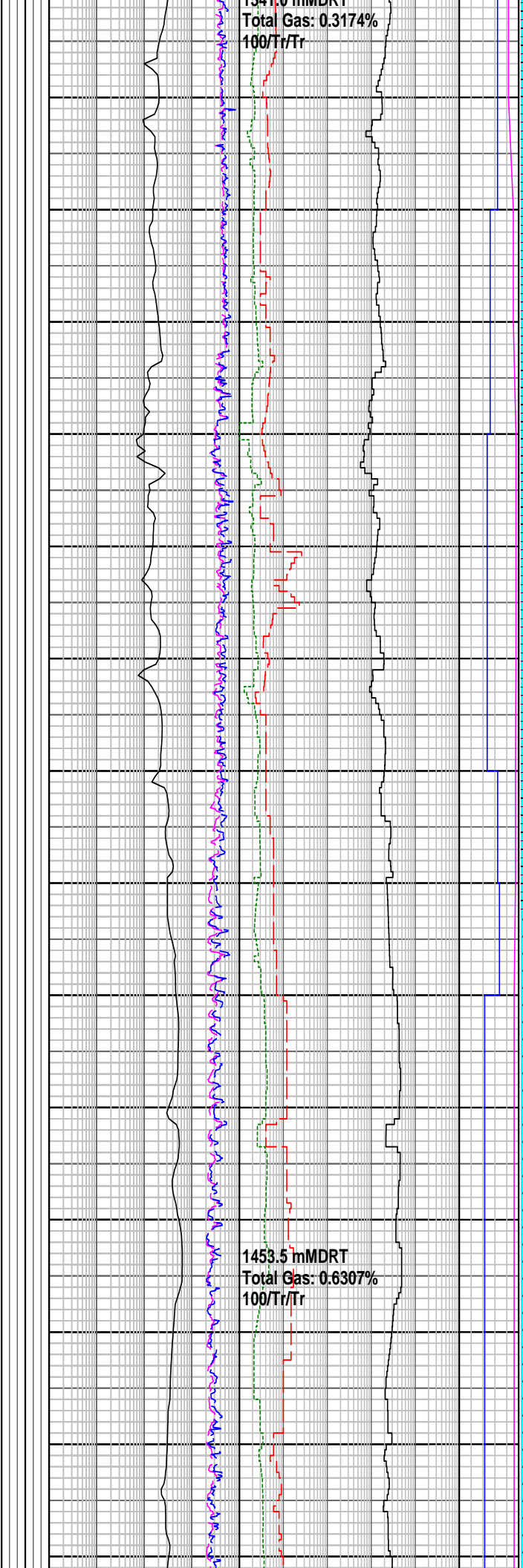
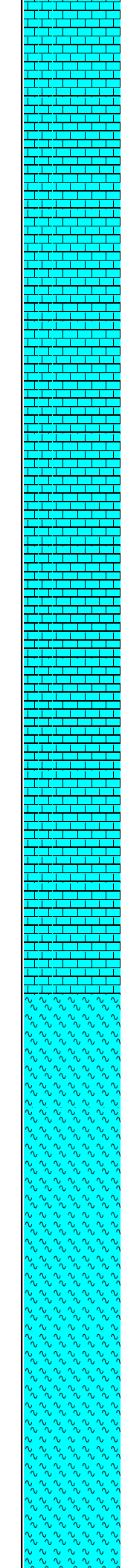
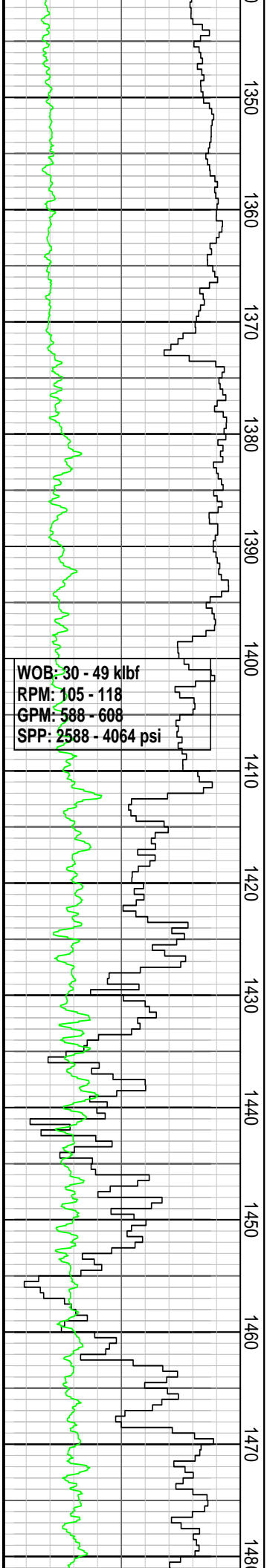
brn gy, tr glau grs, tr carb  
spks & micr lam, tr v f qtz &  
calc grs, sft-disp,  
amor-sbblky

MARL: lt gy-lt gn gy, lt brn  
gy-off wh, tr glau grs, tr carb  
spks & micr lam, tr v f qtz &  
calc grs, sft-disp,  
amor-sbblky

MARL: lt gy-lt gn gy, lt brn  
gy-off wh, tr glau grs, tr carb  
spks & micr lam, tr v f qtz &  
calc grs, sft-disp,  
amor-sbblky

MW: 1.14 sg FV: 58  
PV : 17 YP: 25  
Gels: 10/12/15 pH: 8.90



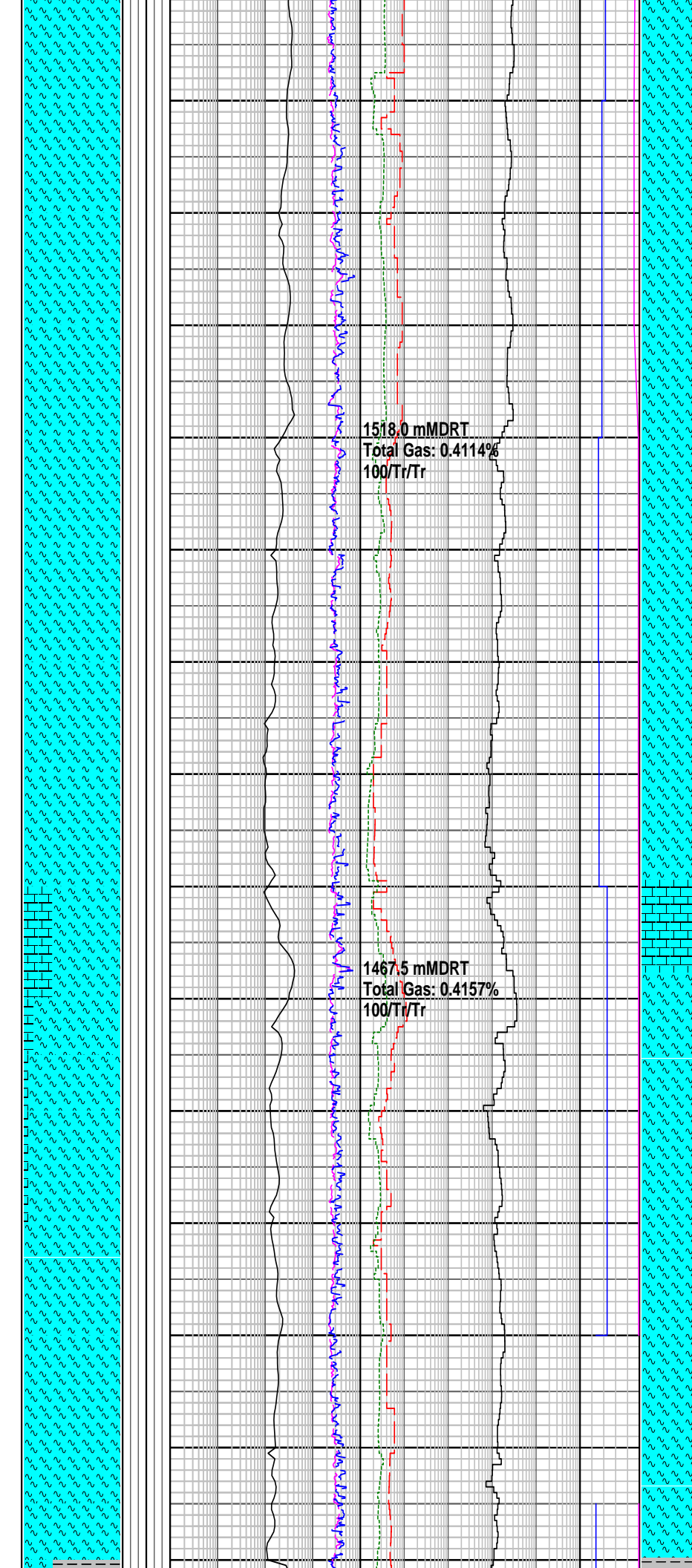
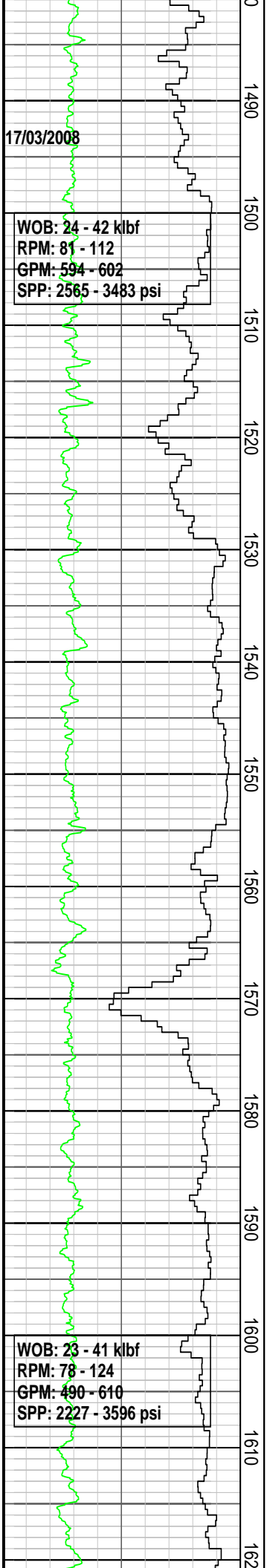


**CALCILUTITE:** pl gy, off wh-pl gy, lt-m brn gy, com carb spks, abd arg, mod hd-disp, sbbkly

**Carbide Run @ 1381mMDRT**  
 Theo: 2070stks.  
 Actual: 2380stks  
 Hole washout = 15.0%

**CALCARENITE :** pl gy, off wh-pl gy, lt-m brn gy, com f-crs rnd qtz grs, abd arg, com carb spks, mod hd, disp, sbbkly

**CALCILUTITE:** pl-m gy, off wh-pl gy, lt-m brn gy, com carb lam & spks, abd arg, mnr sph qtz grs, mod hd-hd, disp i/p, sbbkly



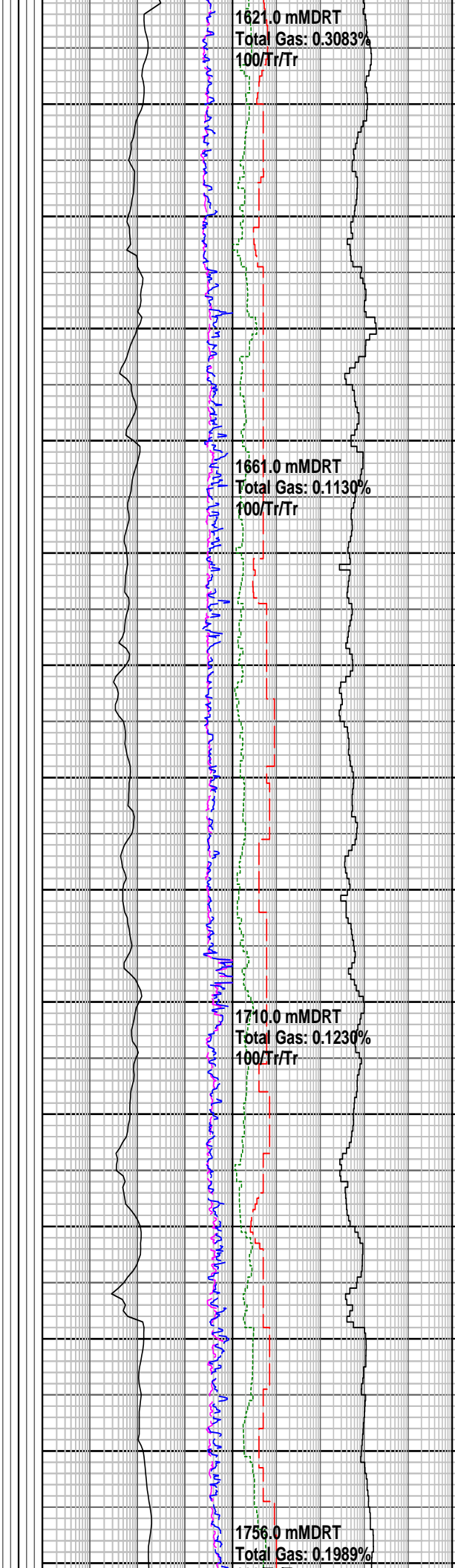
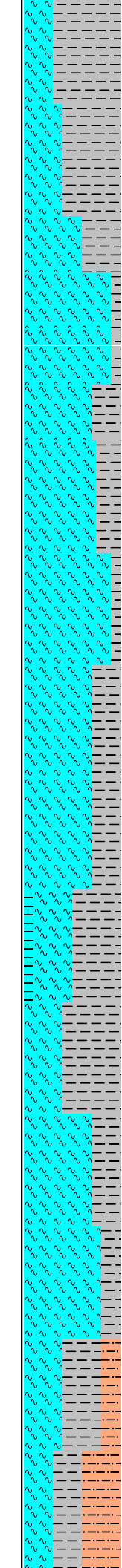
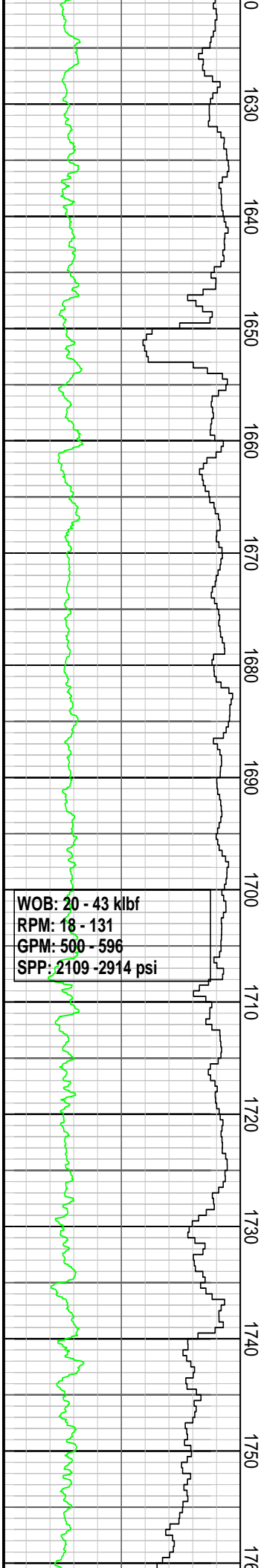
MARL: lt-m gy, m brnsh gy, off wh, abd arg mat, com carb lam & spks, occ lit, mnr f-m sph qtz grs, loc slt lam & grd to CALCISILTITE, mod hd-hd, sbbkly-blky, disp i/p

MARL: pl-m gy, lt brn gy, trnsl i/p, com f-crs ang-sph qtz grs, com microfos, abd arg mat, mnr-loc com carb lam & spks, mnr nod pyr, frm-hd, sbbkly

MARL: pl-m gy, m brn gy, com ool, com microfos, mnr carb spks, occ nod & dissem pyr, frm-mod hd, sbbkly

Carbide Run @ 1619mMDRT  
 Theo: 2400stks.  
 Actual: 2750stks

Hole washout = 14.6%



1621.0 mMDRT  
Total Gas: 0.3083%  
100/Tr/Tr

1661.0 mMDRT  
Total Gas: 0.1130%  
100/Tr/Tr

1710.0 mMDRT  
Total Gas: 0.1230%  
100/Tr/Tr

1756.0 mMDRT  
Total Gas: 0.1989%  
100/Tr/Tr

**CALCAREOUS CLAYSTONE:**  
lt gy-lt gn gy, lt olv gy, i/p grd to MARL, tr glauc, r dissempyr, tr carb spks & miclams, sft frm, sbbly

**MARL:** lt-m gy, lt olv gy, grd to CALC CLST, tr glauc, tr dissempyr, sft frm, sbbly

**CALCAREOUS CLAYSTONE:**  
lt-m gy, m olv gy-m dk gy, grd to MARL, tr carb spks, tr dissempyr, frm, sbbly

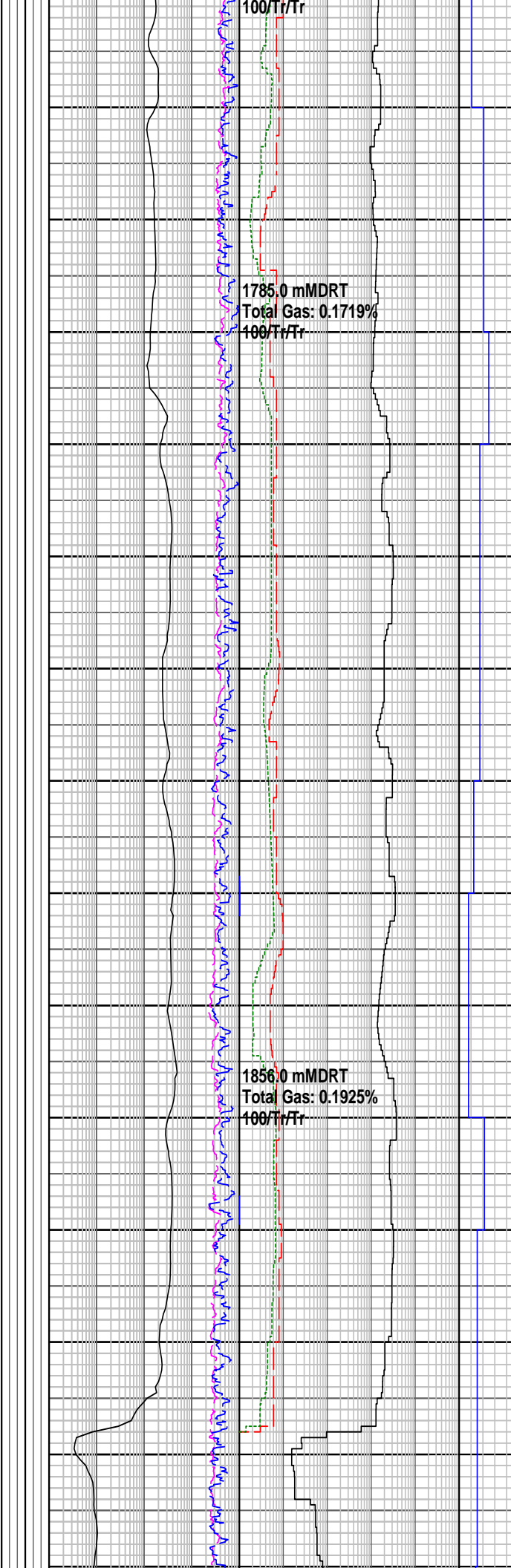
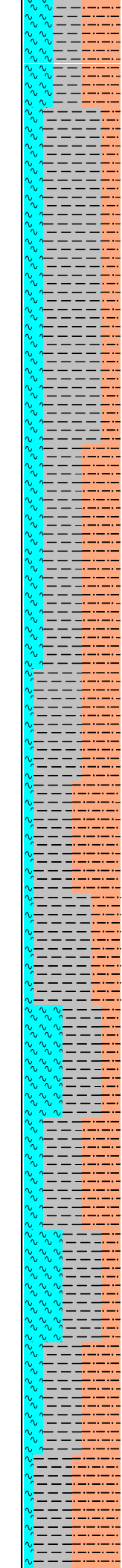
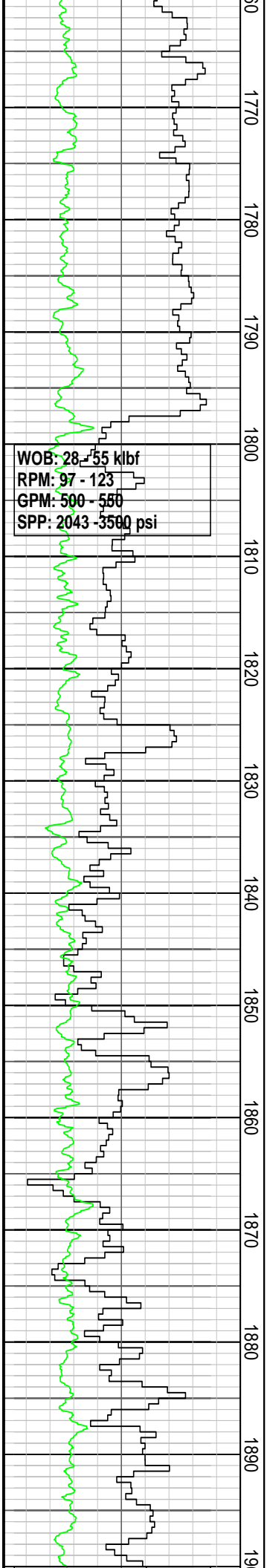
**MARL:** lt-m gy, lt olv gy, grd to CALC CLST, tr glauc, tr dissempyr, sft frm, sbbly

**CALCULUTITE:** wh-v lt gy, tr calc grs, tr foss frags, sft frm, sbbly

**CALCAREOUS CLAYSTONE:**  
lt-m gy, m olv gy-m dk gy, grd to MARL, tr carb spks, tr dissempyr, frm, sbbly

**CALCAREOUS SILTSTONE:**  
wh-lt gy, lt gn gy, sli aren, tr carb spks & mic lam, tr foss frag, sft frm, i/p mod hd, sbbly





**CALCAREOUS SILTSTONE:**  
 m gy-m gn gy, m olv gy, aren  
 grd to CALC SLST, tr carb  
 spks, tr glau, frm-mod hd,  
 sbbly-ly

**CALCAREOUS CLAYSTONE:**  
 lt-m gy, m olv gy-dk gy, grd  
 to MARL i/p, tr carb spks, tr  
 dissem pyr, tr glau, frm-mod  
 hd, sbbly

**CALCAREOUS SILTSTONE:**  
 m-dk gy, m olv gy tr dissem  
 pyr, tr carb spks, mod hd-hd  
 sbbly-ly, i/p sbfis

**CALCAREOUS CLAYSTONE:**  
 lt-m gy, m olv gy-dk gy, grd  
 to MARL i/p, tr carb spks  
 micr lam, tr dissem pyr, tr  
 glauc, frm-mod hd, sbbly

**CALCAREOUS SILTSTONE:**

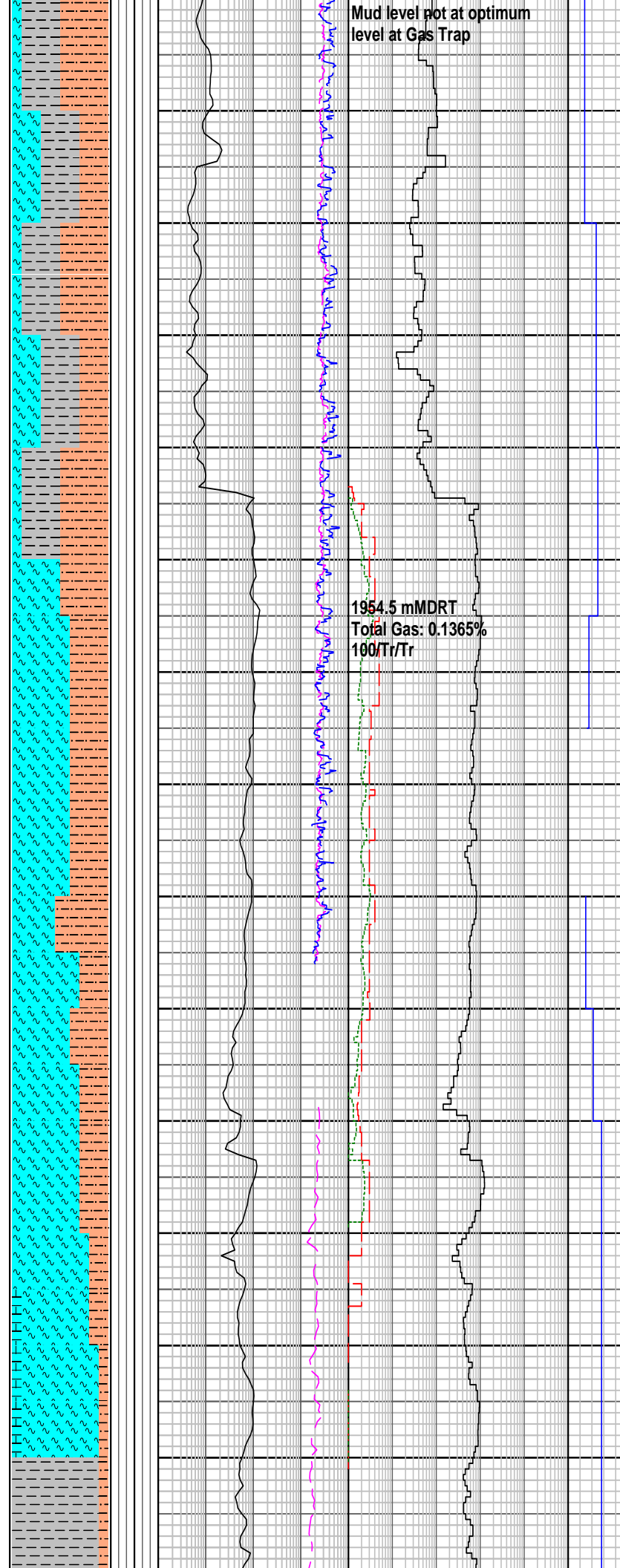
WOB: 27 - 52 klb  
 RPM: 118 - 133  
 GPM: 549 - 551  
 SPP: 2859 - 3907 psi

18/03/2008

4RR 216 mm (8.5")  
 Reed  
 Type: RSX661B  
 Jets: 4x14, 1x15  
 Depth In: 1998.0 mMDRT  
 Depth Out: 2116.0 mMDRT  
 Drilled 118 in 7.9 hrs  
 Grade: 1-1-BU-A-X-I-CT-PR

WOB: 4 - 52 klb  
 RPM: 47 - 123  
 GPM: 501 - 602

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1100  
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1700  
1800  
1900  
2000  
2100  
2200  
2300  
2400



Mud level plot at optimum level at Gas Trap

1954.5 mMDRT  
 Total Gas: 0.1365%  
 100/Tr/Tr

m-m dk gy, m olv gy, tr disse pyr, tr glau, tr carb spks, mod hd, sbbkly

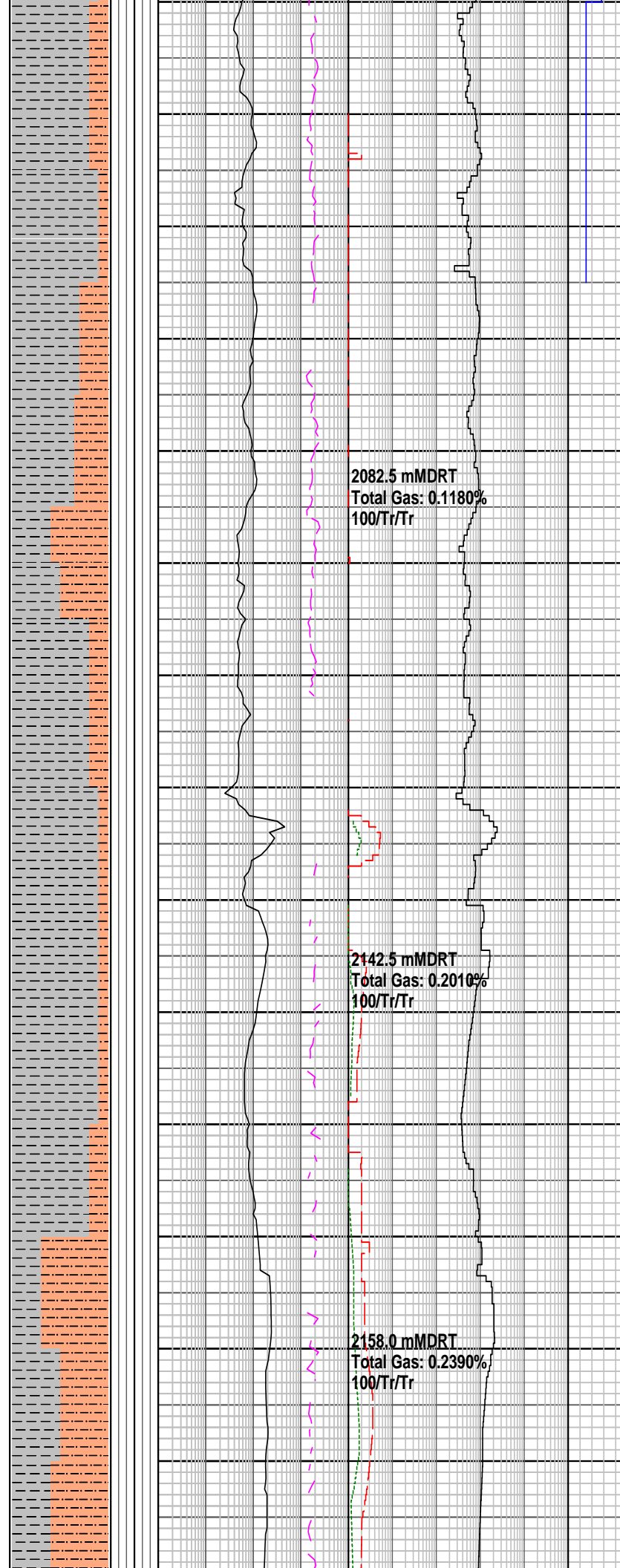
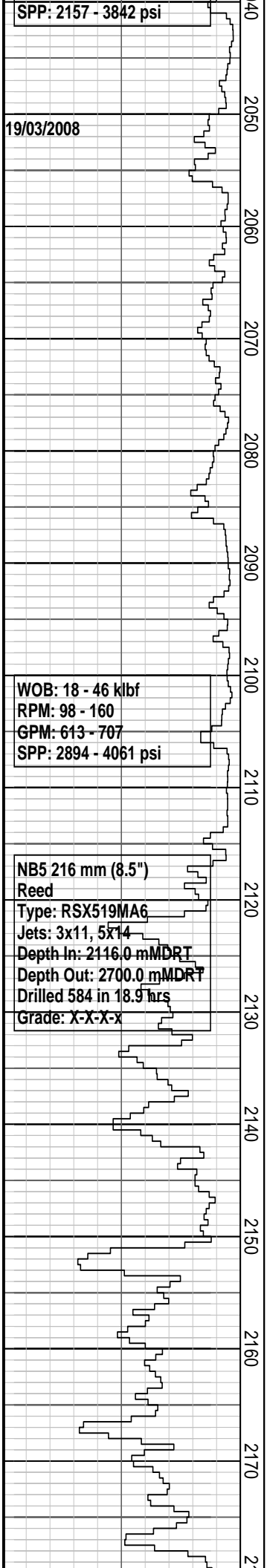
MARL: lt-m gy, lt olv gy, grd to CALC CLST, tr glau, tr disse pyr, sft frm, sbbkly

MW: 1.18 sg FV: 43  
 PV : 8 YP: 20  
 Gels: 8/10/13 pH: 9.00

CALCAREOUS SILTSTONE: pl-m gy, m brn gy, abd calc mat, com microfoss & ool, slt i/p & loc grd to CALC SLST, occ carb mat, frm-hd, disp, sbbkly

MARL: lt-m gy, lt bl gy, m brn gy i/p, abd calc mat, mnr microfoss, slt i/p & loc grd to CALC SLST, occ carb mat, frm-hd, disp, sbbkly

MW: 1.17 sg FV: 58  
 PV : 17 YP: 26  
 Gels: 11/15/22 pH: 9.50



**CALCAREOUS SILTSTONE:**  
 pl-m gy, dk gy i/p, m brn gy,  
 com calc frag, tr microfoss,  
 com arg & grd to CALC  
 CLST, com nod pyr, mod  
 hd-hd, v hd w/- dk gy, sbbiky

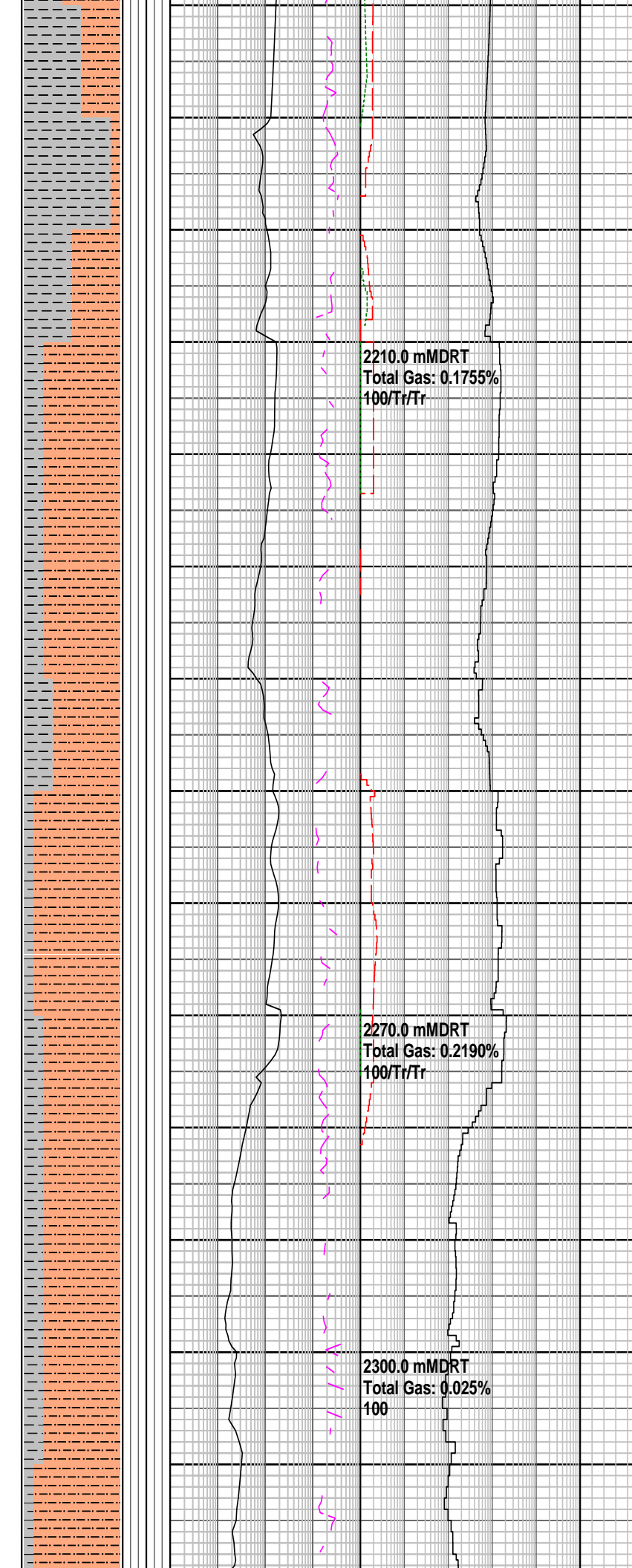
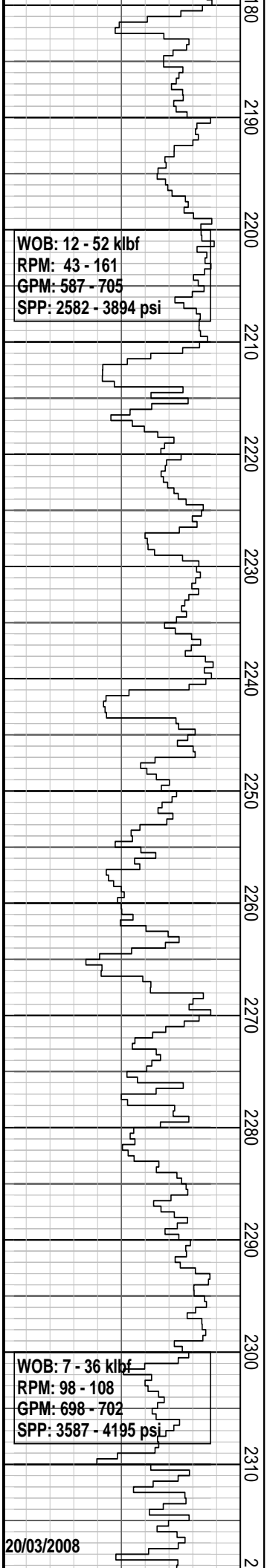
**CALCAREOUS CLAYSTONE:**  
 pl-m gy, pl-m brn gy, com  
 calc frag, com microfoss, mnr  
 nod pyr, occ carb spks, mod  
 hd-hd, disp, sbbiky

**CALCAREOUS SILTSTONE:**  
 pl-m gy, m brn gy, occ dk gy,  
 v arg & com grd to CALC  
 CLST, tr microfoss, com v  
 f-crs trnsl calc frag, com nod  
 & disse pyr, mod hd-hd, v  
 hd w/- dk gy, sbbiky

**CALCAREOUS CLAYSTONE:**  
 pl-lt gy, lt brn gy, occ m brn  
 gy, com-abd calc frag, tr  
 micro foss, occ ool, tr v fn  
 qtz grs, mnr-loc com carbs  
 lam & spks, occ nod &  
 disse  
 pyr, frm-mod hd, sbbiky-blky,  
 disp i/p

**CALCAREOUS CLAYSTONE:**  
 pl-lt gy, lt brn gy, occ m brn  
 gy, com-abd calc frags, tr  
 microfoss, occ ool, tr v f qtz  
 grns, mnr-loc com carb lam  
 & spks, occ nod disse pyr,  
 frm-mod hd, sbbiky-blky,  
 disp i/p





**CALCAREOUS SILTSTONE:**  
 m-dk gy, lt brn gy, arg & loc  
 grd to CALC CLST, com nod  
 & disse pyr, com microfos  
 & ool, com f-m calc frag, occ  
 carb mat, mod hd-hd, v hd  
 i/p, sbfiss-sbblky

**CALCAREOUS CLAYSTONE:**  
 pl-lt gy, lt brn gy, occ m brn  
 gy, com-abdn calc frags, tr  
 microfos, occ ool, tr v f qtz  
 gr, mn-r loc com carbs lam &  
 spks, occ nod disse pyr,  
 frm-mod hd, sbblky-blky i/p

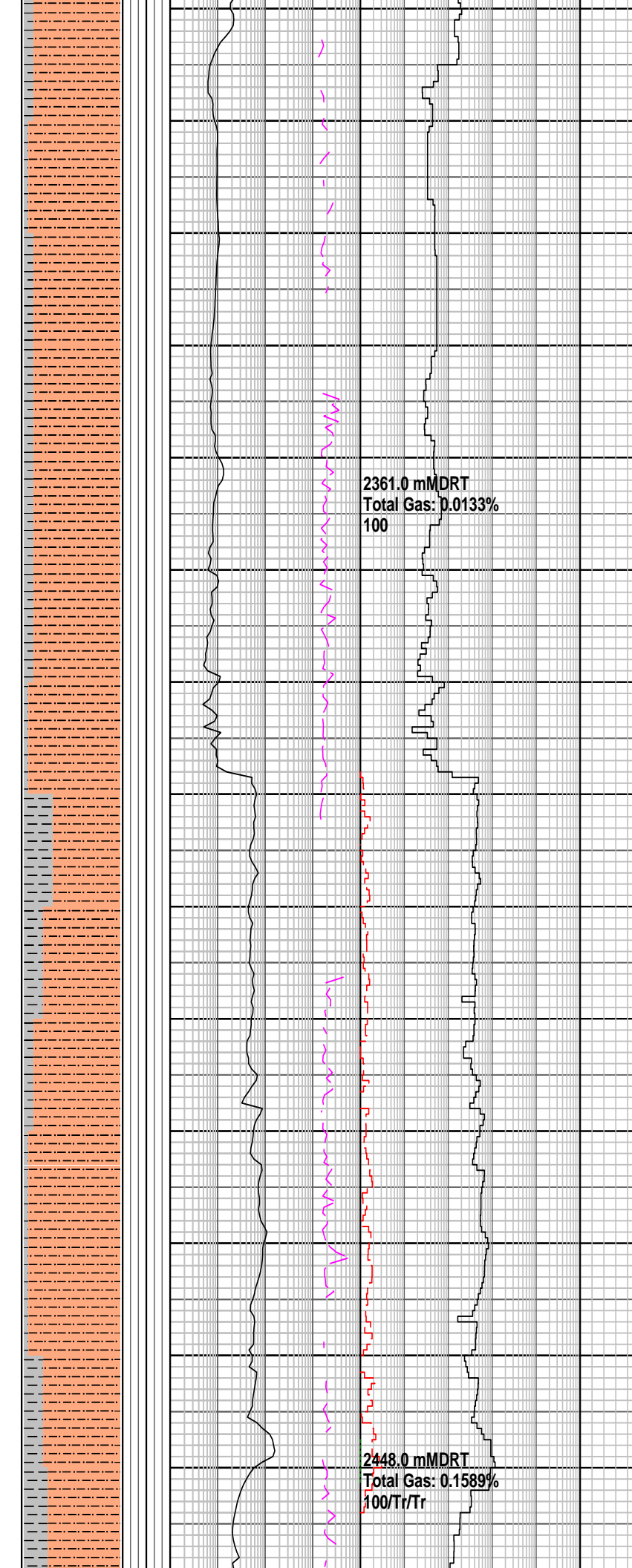
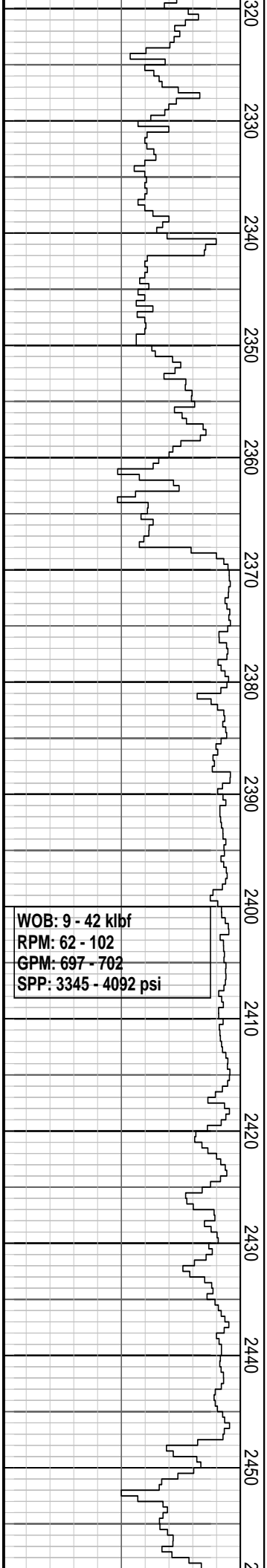
**CALCAREOUS SILTSTONE:**  
 m-dk gy, lt brn gy, arg & loc  
 grd to CALC CLST, com nod  
 & disse pyr, com microfos  
 & ool, com f-m calc frag, occ  
 carb mat, mod hd-hd, v hd  
 i/p, sbfiss-sbblky

**CALCAREOUS CLAYSTONE:**  
 off wh-pl gy, pl-lt gy, lt brn  
 gy, mn-r calc frag, tr microfos,  
 mn-r carb lam & spks, tr nod  
 & disse pyr, com slt lam &  
 loc grd to CALC SLST, frm,  
 sbblky, disp i/p

**CALCAREOUS SILTSTONE:**  
 m-dk gy, dom m gy, tr m bl  
 gy, arg & loc grd to CALC  
 CLST, com nod pyr, tr  
 microfos, occ f-m calc frag, tr  
 carb mat, tr  
 micr mic, mod hd-hd, v hd  
 i/p, fis-sbfiss, sbblky

**Carbide Run @ 2298mMDRT**  
 Theo: 3330stks.  
 Actual: 3770stks  
 Hole washout = 9.3%

**CALCAREOUS CLAYSTONE:**  
 off wh-pl gy, pl-lt gy, lt brn  
 gy, mn-r calc frag, tr microfos,  
 mn-r carb lam & spks, tr nod  
 & disse pyr, com slt lam &  
 loc grd to CLAC SLST. frm.



sbbiky, disp i/p

**CALCAREOUS SILTSTONE:**  
 m dk gy, dom m gy, tr m brn gy, arg & loc grd to CALC CLST, com nod & dissem pyr, com microfos, com-abd f-med trnsl calc frag, tr carb mat, tr micr mic, mod hd-hd, v hd i/p

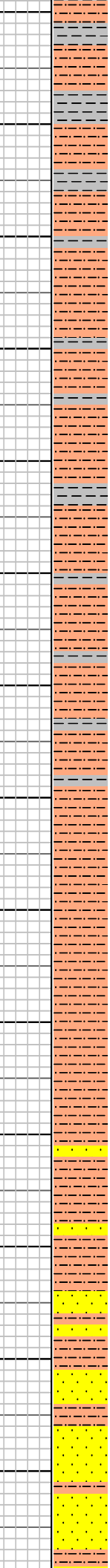
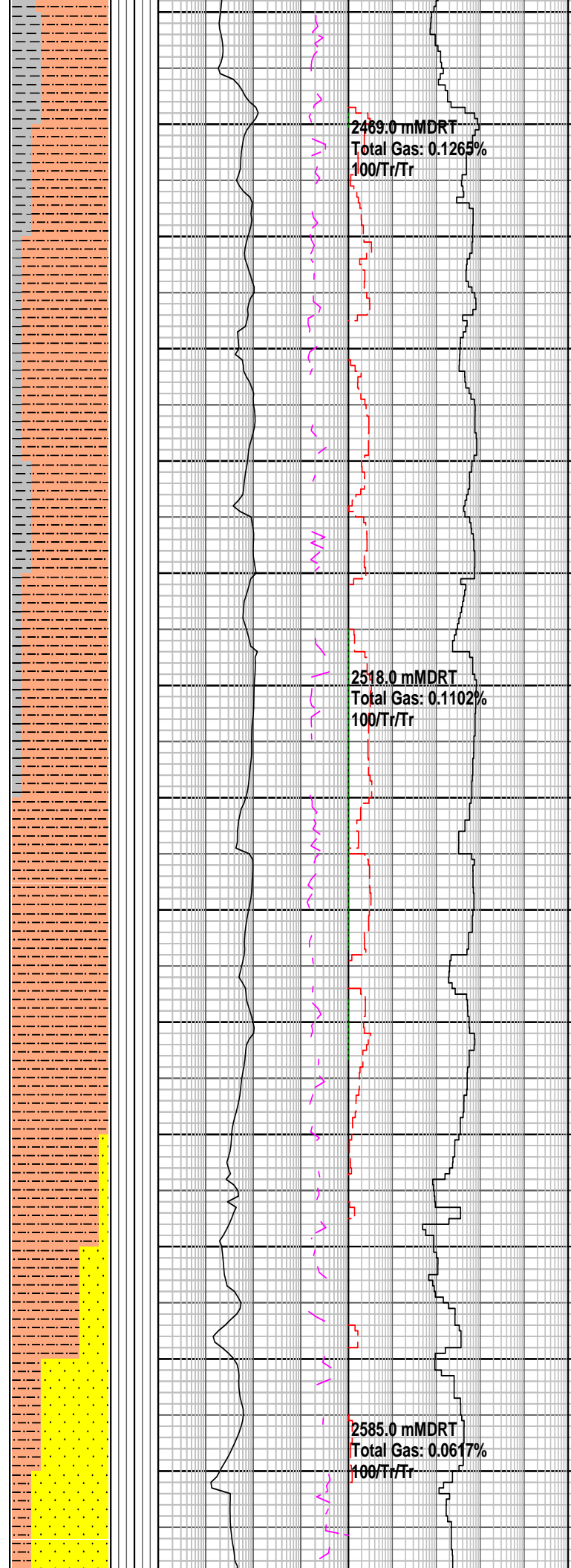
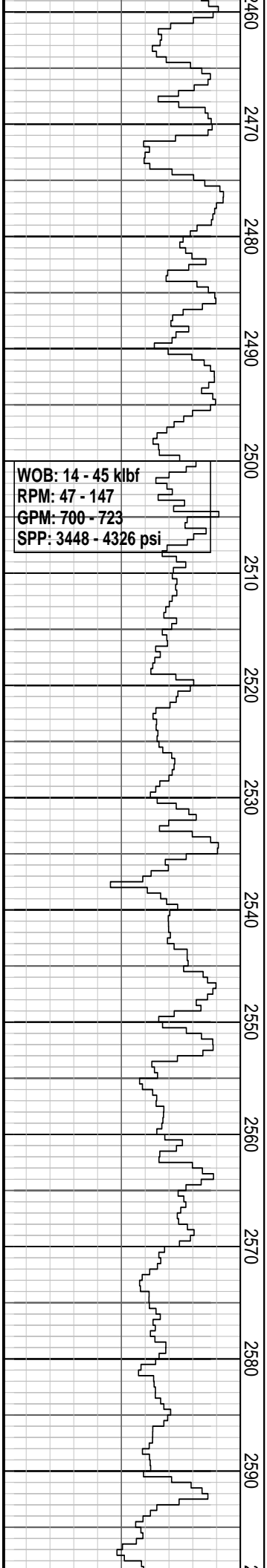
**CALCAREOUS CLAYSTONE:**  
 off wh-pl gy, pl-lt gy, lt brn gy, mnr calc frag, tr microfos, mnr carb lam & spks, tr nod & dissem pyr, com slt lam & grd to CALC SLTST, frm, sbbiky, disp i/p

**CALCAREOUS SILTSTONE:**  
 lt-m gy, m-dk gy, tr m bl gy, com arg & loc grd to CALC CLST, mnr nod & dissem pyr, com microfos, com-abd f-med trnsl calc frag, tr carb mat, tr micr mic, m hd-hd v hd i/p, sbfis-sbbiky, disp i/p

**CALCAREOUS SILTSTONE:**  
 lt-m olv gy, m gy, arg grd to CLST, tr carb spks, tr calc grs, tr micmic, frm-mod hd, sbfis-sbbiky

**CALCAREOUS CLAYSTONE:**  
 lt-m gy, lt olv gy, i/p aren, tr carb spks & mic lam, tr dissem nod pyr, tr micmic, sft-frm, sbbiky

silt-stn, sbblky



2469.0 mMDRT  
 Total Gas: 0.1263%  
 100/Tr/Tr

2518.0 mMDRT  
 Total Gas: 0.1102%  
 100/Tr/Tr

2585.0 mMDRT  
 Total Gas: 0.0617%  
 100/Tr/Tr

**CALCAREOUS SILTSTONE:**  
 off wh-lt gy, m gy-m olv gy,  
 arg i/p & grd to CLST, tr  
 dissem & nod pyr, tr carb  
 spks & mic lam, frm-mod hd,  
 sbblky

**CALCAREOUS SILTSTONE:**  
 lt-m gy, m dk gy-m olv gy, v f  
 qtz grs, tr carb spks, tr  
 dissem pyr, tr calc, frm-mod  
 hd, sbblky-blky

**CALCAREOUS SILTSTONE:**  
 lt-m gy, m dk gy-m olv gy, v f  
 qtz grs, tr carb spks, tr  
 dissem pyr, tr calc, frm-mod  
 hd, sbblky-blky

**SANDSTONE:** lt gn-lt brn, m  
 brn, clr-trnsl, com op grs, vf-f

