

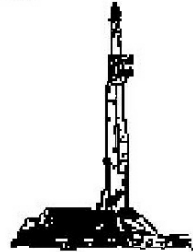
**G**OOLSBY BROTHERS  
and associates, inc.

575 Union Blvd, Suite 208  
Lakewood, CO 80228  
303-945-2860 Office



Geological Wellsite  
Supervision

[www.goolsbybrothers.com](http://www.goolsbybrothers.com)



Scale 1:240 (5"=100') Imperial  
Measured Depth Log

Well Name: Sparboe 26C-26HZ

Location: Section 35, T2N, R65W, Weld County, CO.

License Number: API: 05-123-36248, AFE: 2069365.DRL

Spud Date: February 19, 2013

Surface Coordinates: 399' FSL & 859' FEL Sec 35, T2N, R65W

Lat: 40.088610 N Long: 104.624546 W

Bottom Hole Coordinates: 1050.17' FNL & 391.91' FEL Sec 26, T2N, R65W

Ground Elevation (ft): 4946

K.B. Elevation (ft): 4971

Logged Interval (ft): 6,823'

To: 16,270'

Total Depth (ft): 16,270'

Formation: Pierre shales / sands, Niobrara, Codell Target.

Type of Drilling Fluid: LSND (Polymer-Water) to Landing Pt.; Synthetic Mineral Oil Based Mud7456' to TD.

Printed by HORIZONTAL.LOG from WellSight Systems 1-800-447-1534 [www.WellSight.com](http://www.WellSight.com)

Region: Wattenberg

Drilling Completed: March 30, 2013

**OPERATOR**

Company: Anadarko/Kerr-McGee Oil & Gas Onshore LP

Address: Granite Tower - 1099 18th St, Ste 1800

Denver, CO 80202

CO Geologist: Tom Birmingham.

**GEOLOGIST**

Name: Mike Dodge/Steven Schindler/Alan Seeling

Company: Goolsby Brothers & Assoc. (GBA), Inc. ([www.goolsbybrothers.com](http://www.goolsbybrothers.com))

Address: 575 Union Blvd.

Suite 208,

Lakewood CO. 80228

## E-logs

MWD GAMMA RAY: Surface Casing to TD.  
MWD RESISTIVITY: Intermediate Casing to TD.



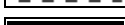
## Casing

9 5/8" Surface Casing (IPSCO 36# J55) set @ 1852'  
7" Intermediate Casing (IPSCO 26# P110) set @ 7441'.  
4 1/2" Production Liner set from ' '

## Comments

- 1) Drilling Contractor: H&P 311  
Rig Manager: James Baggett, Jack Truett  
Drillers: Michael Munroe, Christopher Moore, Kenneth Jones, Christopher Beckstead.
- 2) Company Man: Kaleb Ford, Rick Oman, Scott Allred, Jerry Barnes. Doug Blair, David Wells
- 3) Mud Company: Water Base- Halliburton, Justin Hessenthaler, Chance Galey, Zen Allred.  
Oil Base: AES Drilling Fluids, Harrell Wilson, Eric Deshotel, Todd Lewis
- 4) Directional Drilling: Scientific Drilling  
Drillers: John Noakes, Steve Schlamp  
MWD: Josh Denning, Shane Park, Jeff Smith, Mark Smith, James Whitley.
- 5) Gas Equipment: Mudlogging Systems Inc.  
by Terra Services  
Redbox # ML-419

## ROCK TYPES

	Bent		Anhydrite		Ss		Mrlst		Arg limestone
	Brec		Shale		Arg ss		Mrlst/sh (intbdd)		Chalk
	Cht		Sh (col)		Ss (f gr+)		Dol		Arg chalk
	Clyst		Slty sh		Slst		Lmst		
	Coal		Carb sh		Congl		Marly limestone		

## ACCESSORIES

### MINERAL

- Anhy
- Arggrn
- Arg
- Bent
- Bit
- Brecfrag
- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Feldspar
- Ferrpel
- Ferr
- Glau

- Gyp
- Hvymin
- Kaol
- Marl
- Minxl
- Nodule
- Phos
- Pyr
- Salt
- Sandy
- Silt
- Sil
- Sulphur
- Tuff

### FOSSIL

- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram
- Fossil
- Gastro
- Oolite

- Ostra
- Pelec
- Pellet
- Pisolite
- Plant
- Strom

- Mrst
- Ssstrg
- Sltst strg

### STRINGER

- Chlkstg
- Anhy
- Arg
- Bent
- Coal
- Dol
- Gyp
- Ls

### TEXTURE

- Boundst
- Chalky
- Cryxln
- Earthy
- Finexln
- Grainst
- Lithogr
- Microxln
- Mudst
- Packst
- Wackst

## OTHER SYMBOLS

### SAMPLE SHOWS

- Even
- Spotted
- Ques
- Dead
- Vspotty

- near even

### POROSITY TYPE

- Earthy
- Fenest
- Fracture

- Inter
- Moldic
- Organic
- Pinpoint
- Vuggy

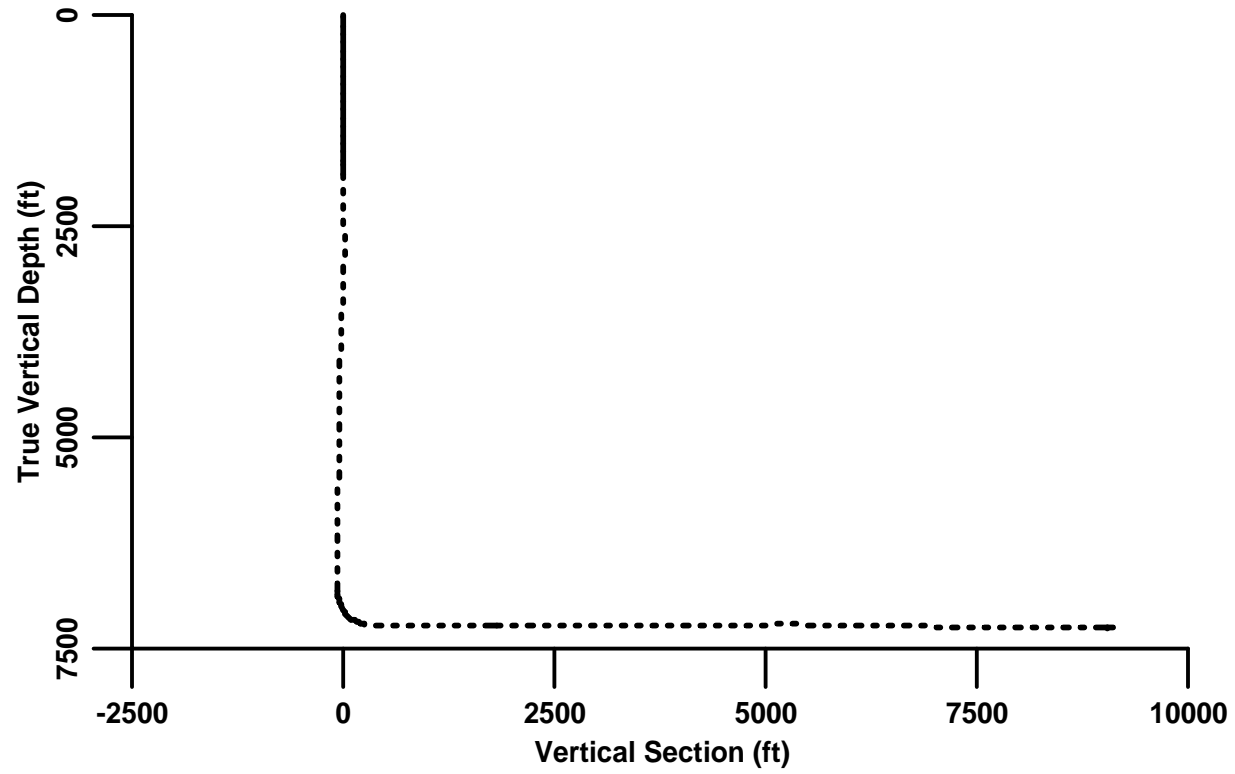
### ROUNDING

- Rounded
- Subrnd
- Subang
- Angular

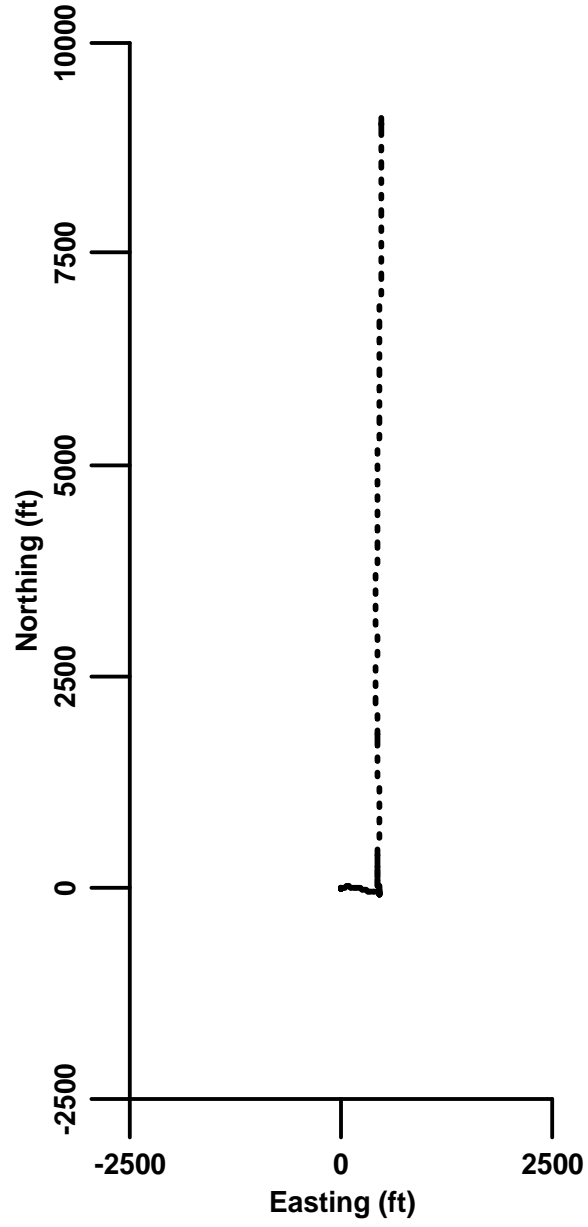
### SORTING

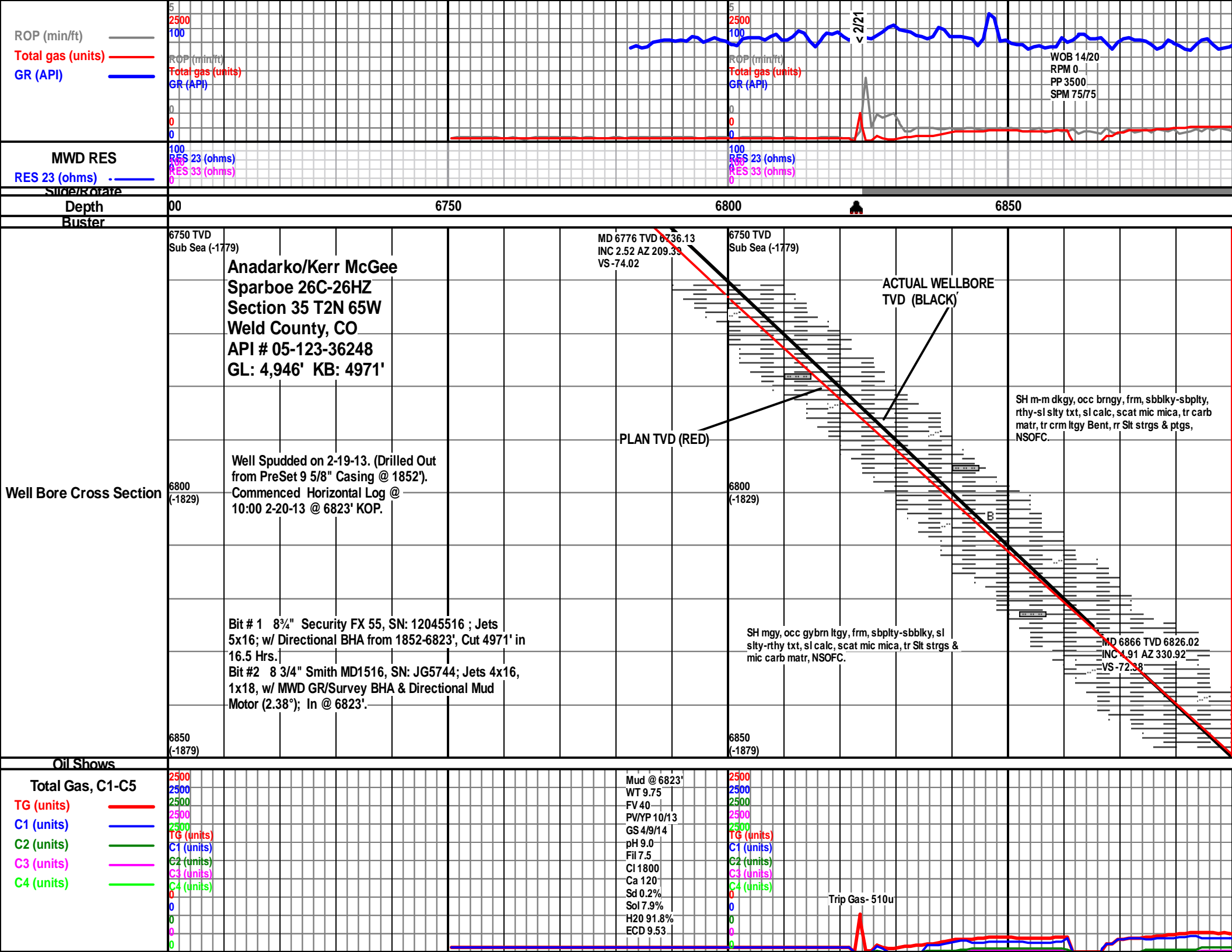
- Well
- Moderate
- Poor

# Elevation



# Plan





ROP (min/ft) —  
 Total gas (units) —  
 GR (API) —

ROP (min/ft)  
 Total gas (units)  
 GR (API)

ROP (min/ft)  
 Total gas (units)  
 GR (API)

WOB 14/20  
 RPM 0  
 PP 3500  
 SPM 7575

MWD RES  
 RES 23 (ohms) —

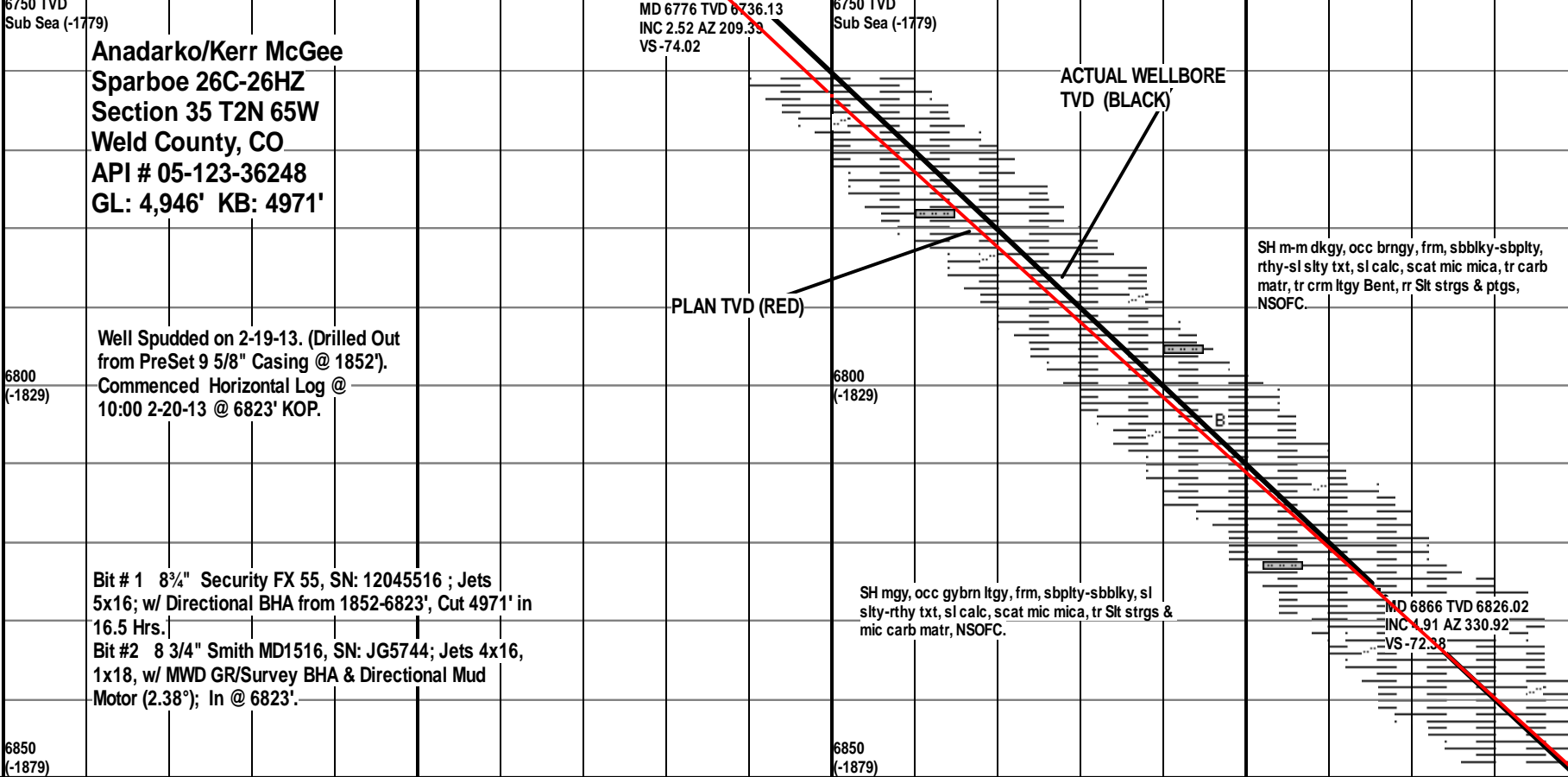
RES 23 (ohms)  
 RES 33 (ohms)

RES 23 (ohms)  
 RES 33 (ohms)

Side/Rotate  
 Depth  
 Buster

00 6750 6800 6850

Well Bore Cross Section



Oil Shows

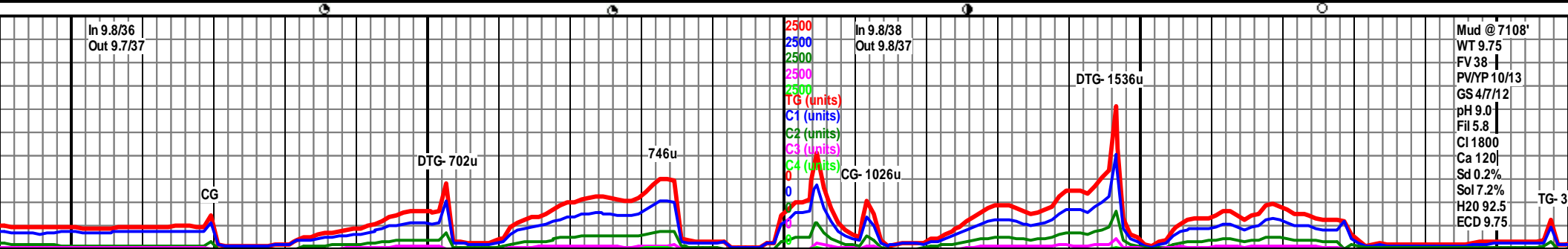
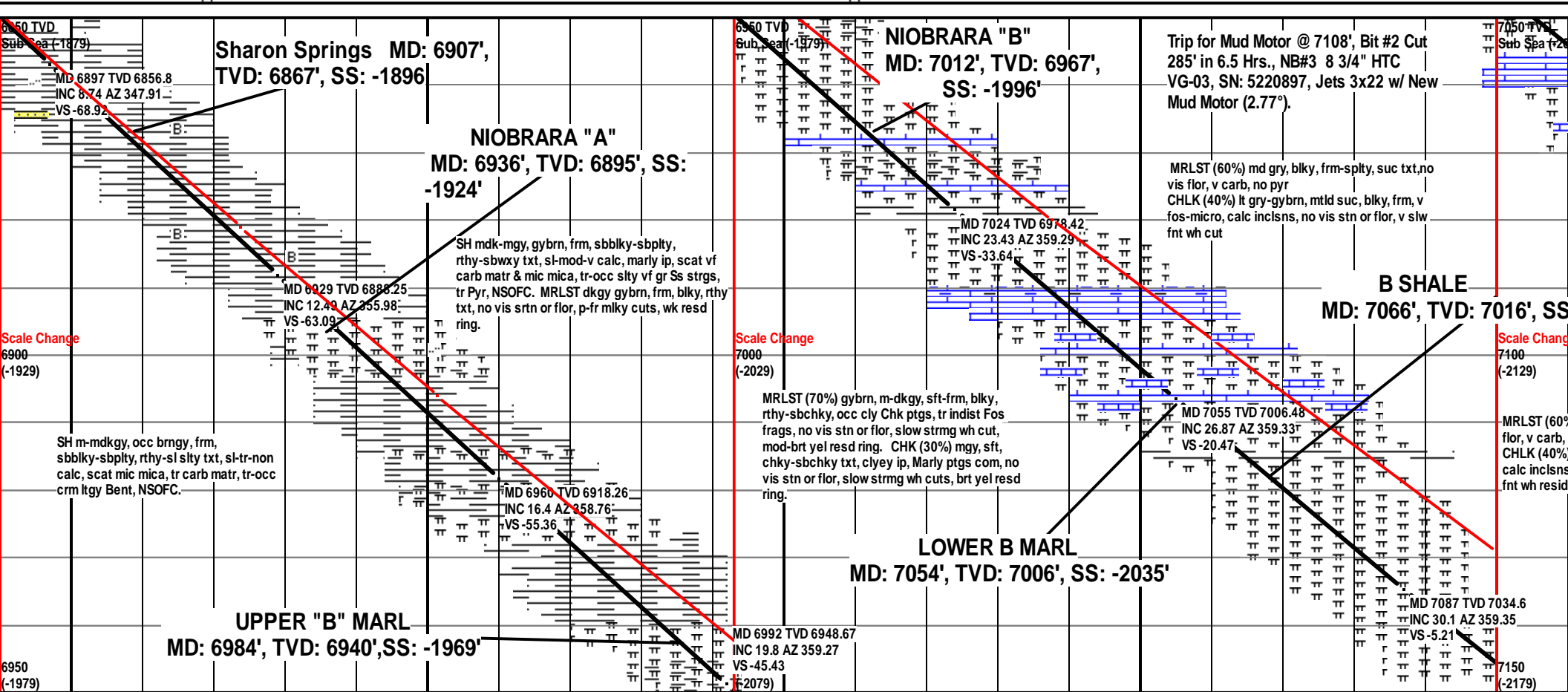
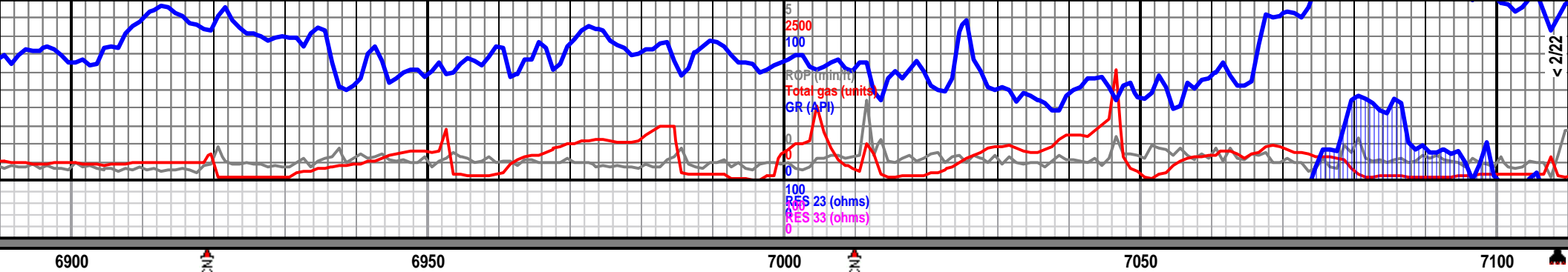
Total Gas, C1-C5  
 TG (units) —  
 C1 (units) —  
 C2 (units) —  
 C3 (units) —  
 C4 (units) —

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

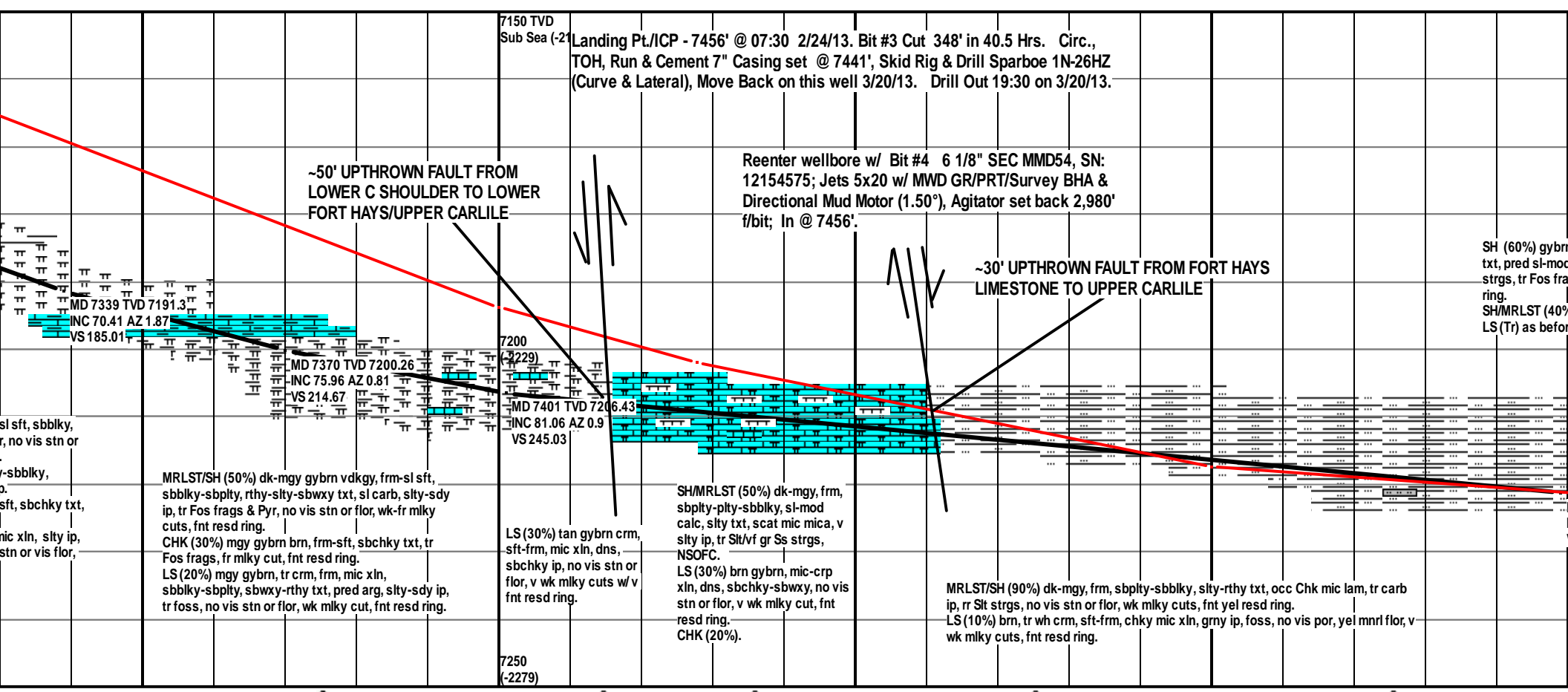
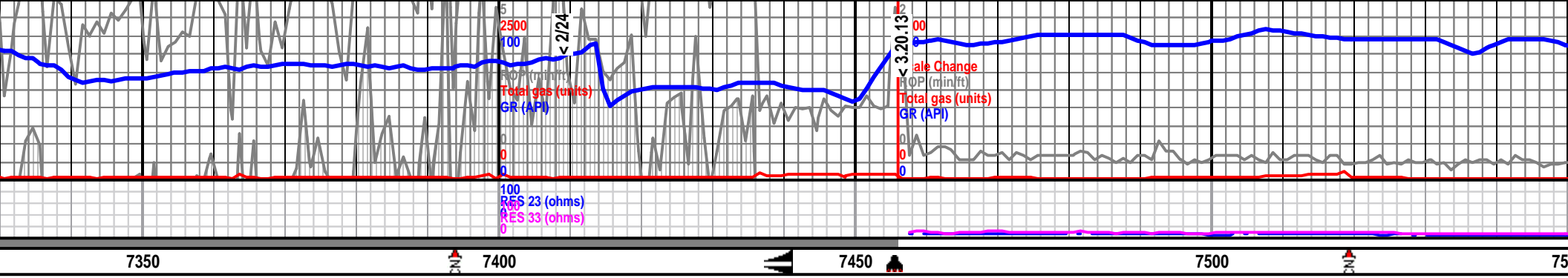
TG (units)  
 C1 (units)  
 C2 (units)  
 C3 (units)  
 C4 (units)

Mud @ 6823'  
 WT 9.75  
 FV 40  
 PVYP 10/13  
 GS 4/9/14  
 pH 9.0  
 Fil 7.5  
 Cl 1800  
 Ca 120  
 Sd 0.2%  
 Sol 7.9%  
 H2O 91.8%  
 ECD 9.53

Trip Gas- 510u







Mud @ 7332'	In 9.738	Mud @ 7390'	2500	In 9.940	Mud @ 7430'	Mud @ 7.433'
WT 9.7	Out 9.637	WT 9.8	2500	Out 9.8+39	WT 9.9	WT 9.4
FV 37		FV 39	2500		FV 40	FV 107
PV/YP 10/13		PV/YP 11/12	2500		PV/YP 11/12	PV/YP 20/14
GS 4/7/12		GS 5/8/15	2500		GS 5/9/16	GS 11/14/17
pH 9.0		pH 9.0	TG (units)		pH 9.0	Fil 20
Fil 5.6		Fil 5.4	C1 (units)		Fil 5.2	CI 49000
CI 1600		CI 1600	C2 (units)		Ca 120	Ca 1.6
Ca 80		Ca 80	C3 (units)		Sd 0.25%	Sol 9.2%
Sd 0.25%		Sd 0.25%	C4 (units)		H2O/Oil 69/31	H2O/Oil 69/31
Sol 7.2%		Sol 7.5%	0		ECD 9.9	ECD 9.9
H2O 92.5		H2O 92.3	0		ECD 9.9	ECD 10.53
ECD 9.90		ECD 9.99	0			
Trap Test			0			CG

WOB 12/20  
RPM 50/0  
SPM 60/72  
PP 2700/3400

ROP (min/ft)  
Total gas (units)  
GR (API)  
RES 23 (ohms)  
RES 33 (ohms)

50 7600 7650 7700 7750

7175 TVD  
Sub Sea (-2204)

SH (70%) gybrn, m-dkgy, frm-sft, sbply-sbply, rthy-slty txt, sl-mod calc, v slty ip / Slit strgs & ptgs, tr Fos frags & dism Pyr, no vis stn/flor, wk mlky cuts, fnt resd ring.  
SLTST (30%) brn, sft-frm, sl-mod calc, sl sdy ip, no vis por, slow strmg blu wh cuts, mod resd ring.

SH (60%) gybrn, m-dkgy, frm-sft, sbply-sbply, rthy-slty strgs & ptgs, tr Fos frags & dism Pyr, no vis stn/flor, wk mlky cuts, mod resd ring. occ vsdy grd-SS (10%) gybrn, frm, slty arg vf gr, sl-mod calc, mod-p por, no vis flor, fst mlky cut, mod yelwh resd ring.

n, m-dkgy, sft-frm, blk-sbply, rthy-sl slty  
i calc, marly ip, sl carb ip, sl-v slty ip w/ Slit  
gs & dism Pyr, wk-fr mlky cuts w/ fnt resd

o) as before.  
e.

Scale Change  
7225  
(-2254)

MD 7738 TVD 7223.95  
INC 90.98 AZ 1.58  
VS 581.06

CARLILE SHALE/SILTSTONE

MD 7549 TVD 7221.29  
INC 87.41 AZ 1.43  
VS 392.18

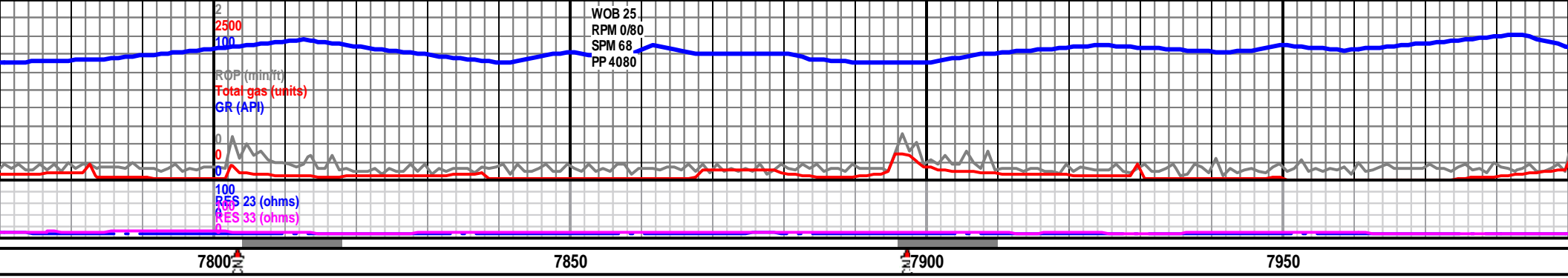
7275  
(-2304)

2500  
2500  
2500  
2500  
2500  
TG (units)  
C1 (units)  
C2 (units)  
C3 (units)  
C4 (units)  
0  
0  
0  
0

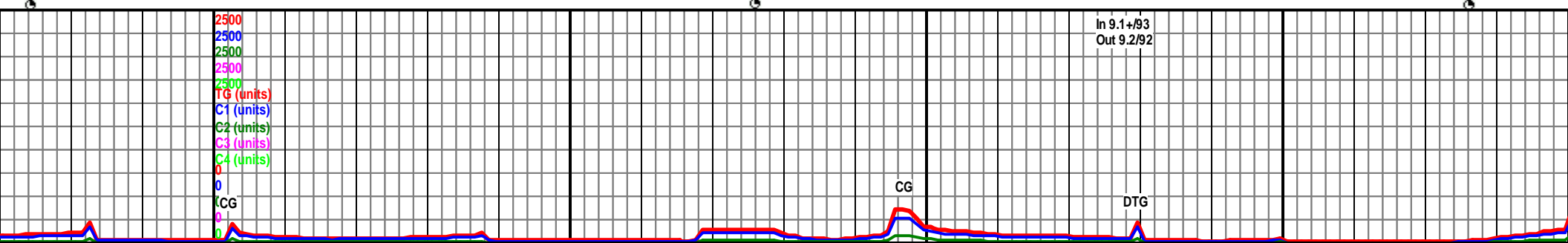
CG

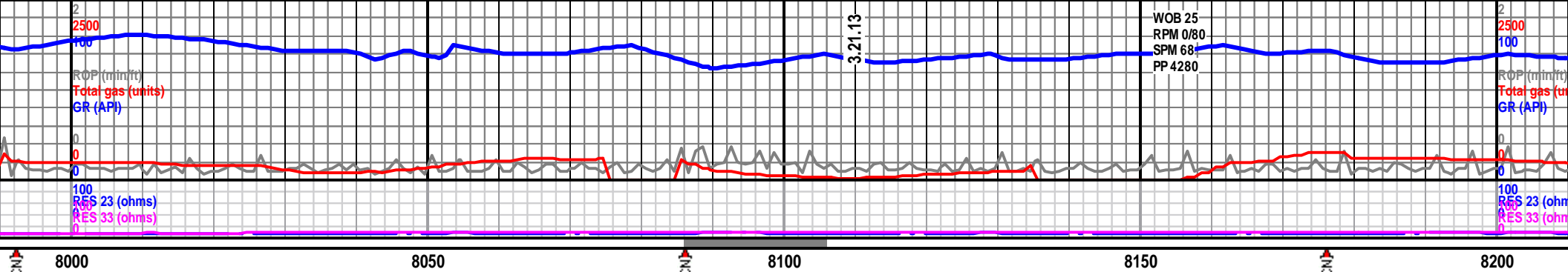
CG

In 9.3/106  
Out 9.3/104

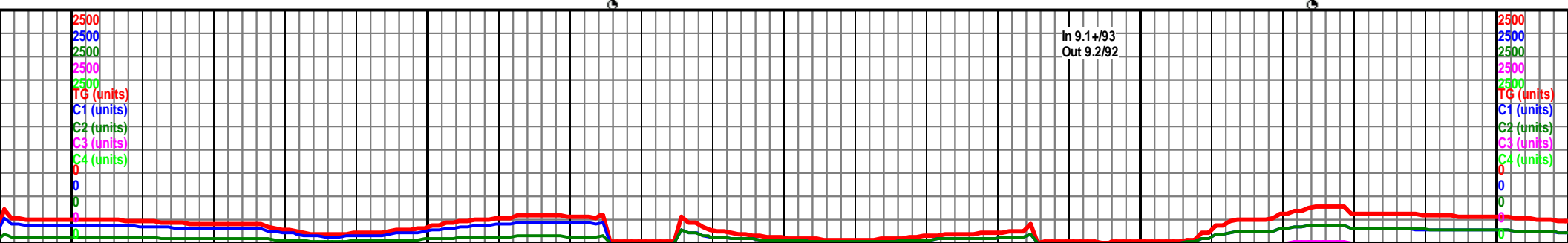


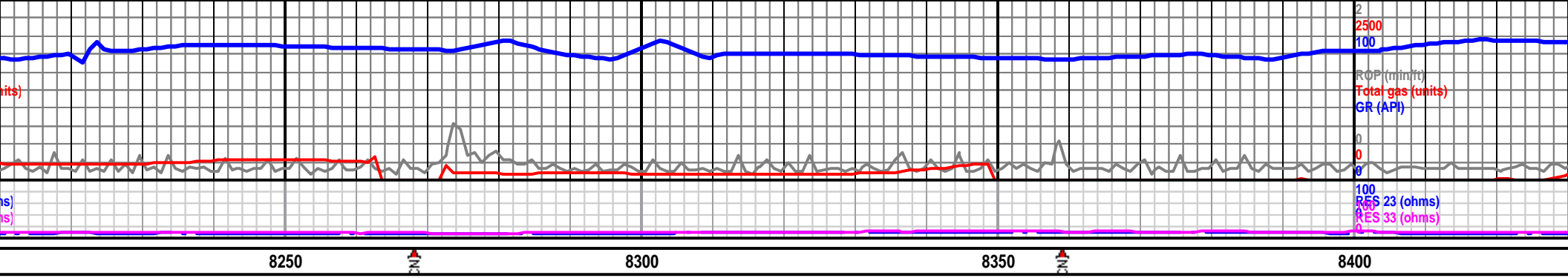
<p>ty txt, sl-mod calc, v slty ip / Slk          mlky cuts, fnt resd ring.          no vis por, slow strmg blu wh</p>	<p>7175 TVD          Sub Sea (-2204)</p>	<p>SH (70%) gybrn, m-dkgy, frm-sft, sbply-sbblky, rthy-slty txt, sl-mod calc, tr          v calc, v slty ip / Slk strgs &amp; ptgs, occ scat carb matr, tr Fos frags &amp; dism          Pyr, no vis stn/flor, wk mlky cuts, fnt resd ring.          SLTST (30%) brn, gybrn, sft-frm, sl-mod calc, sl sdy ip, tr vsdy grd-g-slty arg          vf gr Ss, occ scat carb matr/plnt remn, slow strmg-fr cldy blu wh cuts, mod          resd ring.</p>	<p>SH (70%) gybrn, m-dkgy, frm-sft, sbply-sbblky, rthy-slty txt, sl-mod calc, tr v calc, v slty ip / Slk strgs &amp; ptgs, occ scat carb          matr, tr Fos frags &amp; dism Pyr, no vis stn/flor, wk mlky cuts, fnt          resd ring.          SLTST (30%) brn, gybrn, sft-frm, sl-mod calc, sl sdy ip, tr vsdy          grd-g-slty arg vf gr Ss, occ scat carb matr/plnt remn, slow strmg          cldy blu wh cuts, mod resd ring.</p>
<p>7275          (-2304)</p>		<p>MD 7927 TVD 7223.67 ..          INC 89.19 AZ 1.25          VS 769.99</p>	





7175 TVD Sub Sea (-2204)	<p>SH/SLTY SH: gy-dkgy, mod sft-mod frm, sbbky-blky, v slty w 10% brn-gybrn SLTST, occ carb mat, sl mic lam, tr dism mic pyr, rr vf ss lam/intbd, rthy. No flor, wk mlky cut, dull gn/yel resid rng.</p>										7175 TVD Sub Sea (-2204)
7225 (-2254)	<p>MD 8111 TVD 7227.78 INC 88.25 AZ 359.61 VS 953.93</p>										7225 (-2254)
7275 (-2304)											7275 (-2304)





8250

8300

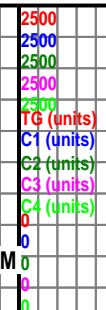
8350

8400

		<p>SH/SLTY SH: gy-dkgy, mod sft-mod frm, sbblky-blky, v sity w 10% brn-gybrn SLTST, occ carb mat, sl mic lam, tr dism mic pyr, rr vf ss lam/intbd, rthy. No flor, wk mlky cut, dull gn/yel resid rng.</p>	<p>SH/SLTY SH: gy-dkgy, mod sft-mod frm, sbblky-blky, v sity w 5% brn-gybrn SLTST, occ carb mat, sl mic lam, tr dism mic pyr, rr vf ss lam/intbd, rthy. No flor, wk mlky cut, dull gn/yel resid rng.</p>		<p>7175 TVD Sub Sea (-2204)</p>	
<p>CARLILE SHALE</p>			<p>MD 8294 TVD 7231.53 INC 89.39 AZ 357.68 VS 1136.83</p>		<p>7225 (-2254)</p>	
					<p>7275 (-2304)</p>	

Mud @ 8,294'  
WT 9.3  
FV 83  
PV/YP 20/16  
GS 11/15/17  
Fil 19.6  
Cl 51000  
Ca 1.6  
Sol 8.6%  
H2O/Oil 68/32  
ES 268  
ECD 11.02

GAS TRAP PLUGGED/POSSUM  
BELLY FULL OF CUTTINGS



WOB 28  
RPM 70  
SPM 68  
PP 4150

2  
2500  
100  
ROP (min/ft)  
Total gas (units)  
GR (API)  
100  
RES 23 (ohms)  
RES 33 (ohms)

8450

8500

8550

8600

8650

SH/SLTY SH: gy-dkgy, mod sft-mod frm, sbbiky-blky, v sity w  
5% brn-gybrn SLTST, occ carb mat, sl mic lam, tr dism mic  
pyr, r r vf ss lam/intbd, rthy. No flor, wk mlky cut, dull gn/yel  
resid mg.

SH/SLTY SH: gy-dkgy, mod sft-mod frm, sbbiky-blky, v sity w  
5% brn-gybrn SLTST, occ carb mat, sl mic lam, tr dism mic  
pyr, r r vf ss lam/intbd, rthy. No flor, wk mlky cut, dull gn/yel  
resid mg.

SH/SLTY SH: gy-  
10% brn-gybrn S  
r r vf ss lam/intbd

7175 TVD  
Sub Sea (-2204)

CODELL SANDSTONE  
~8,620' MD, 7,227' TVD, -2,253' SS

7225  
(-2254)

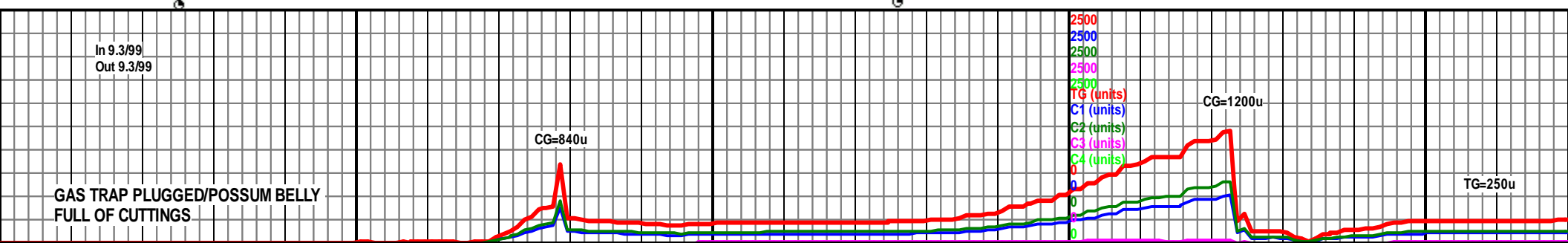
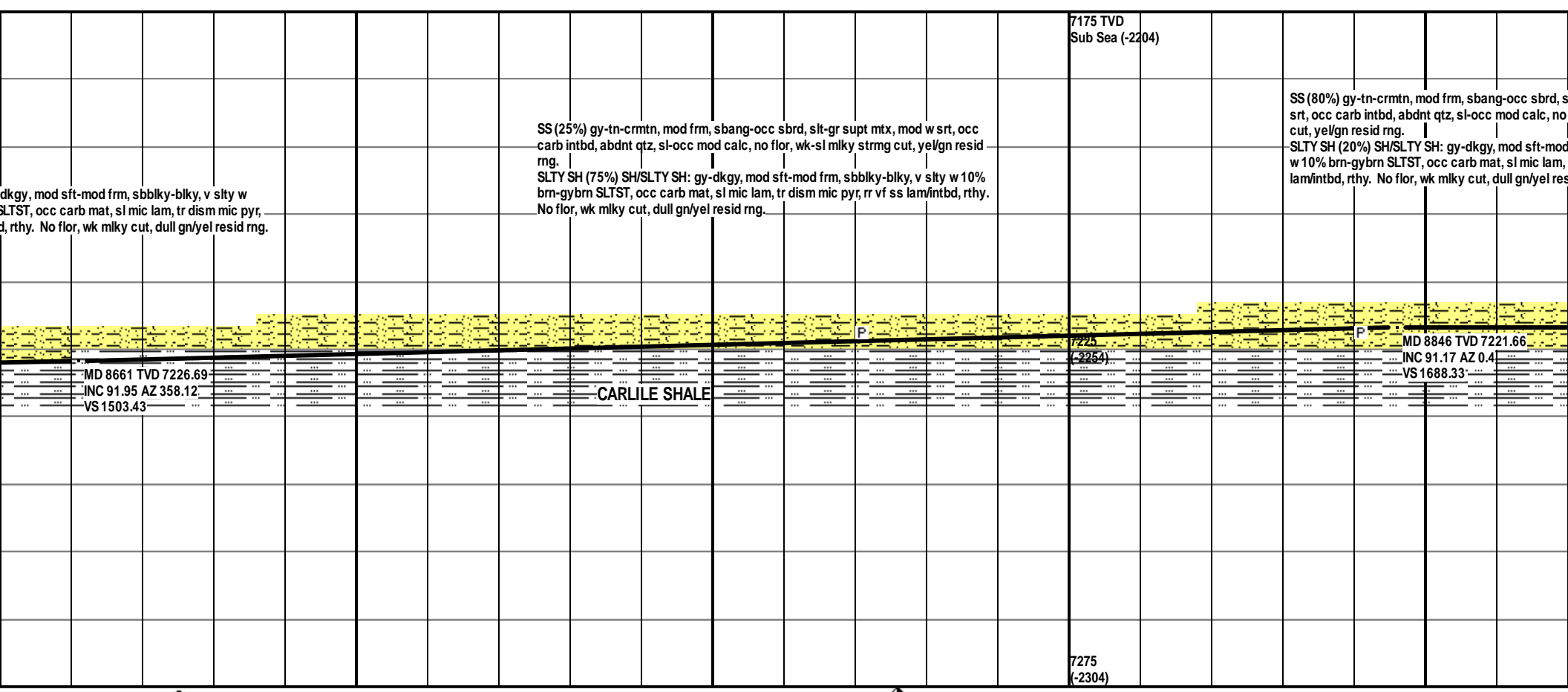
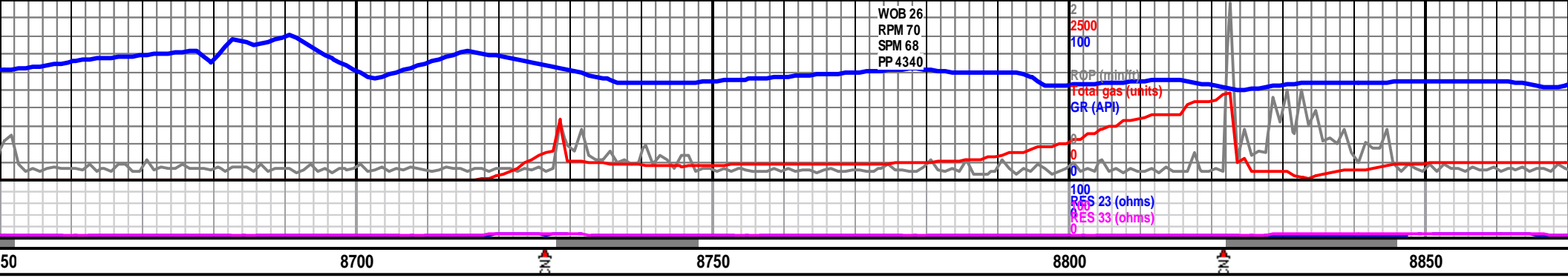
MD 8477 TVD 7231.16  
INC 90.84 AZ 357.12  
VS 1319.64

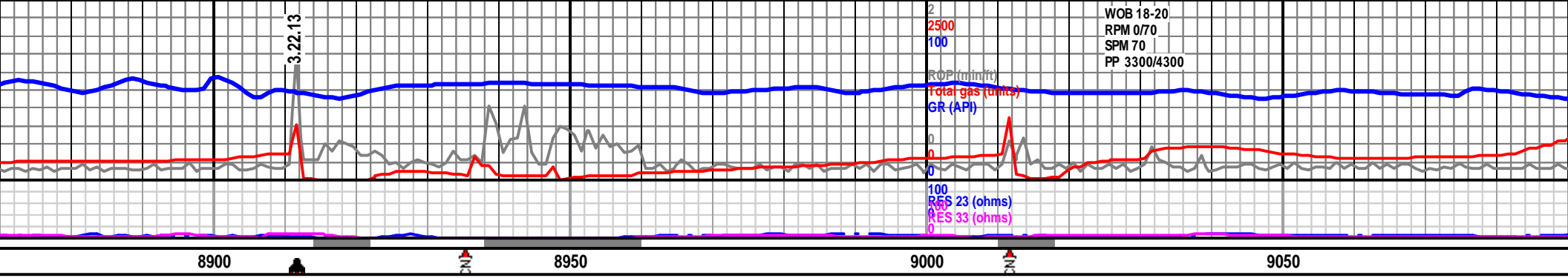
7275  
(-2304)

In 9.3/99  
Out 9.2+/100

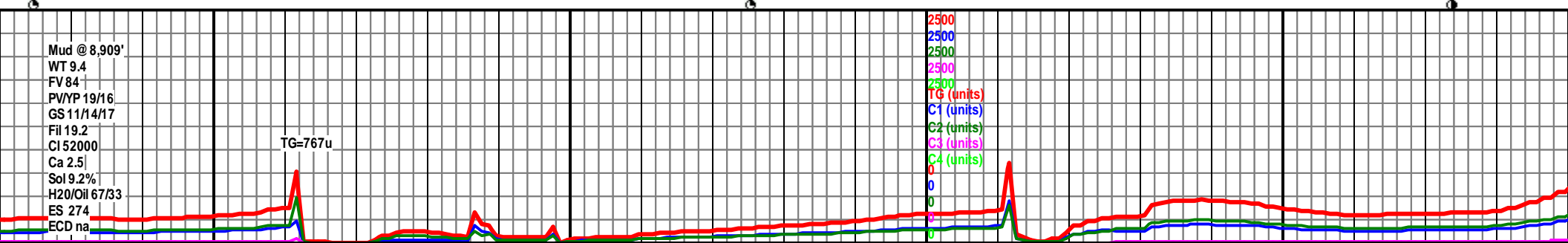
GAS TRAP PLUGGED/POSSUM BELLY FULL  
OF CUTTINGS

2500  
2300  
2500  
2500  
2500  
2500  
TG (units)  
C1 (units)  
C2 (units)  
C3 (units)  
C4 (units)  
0  
0  
0  
0



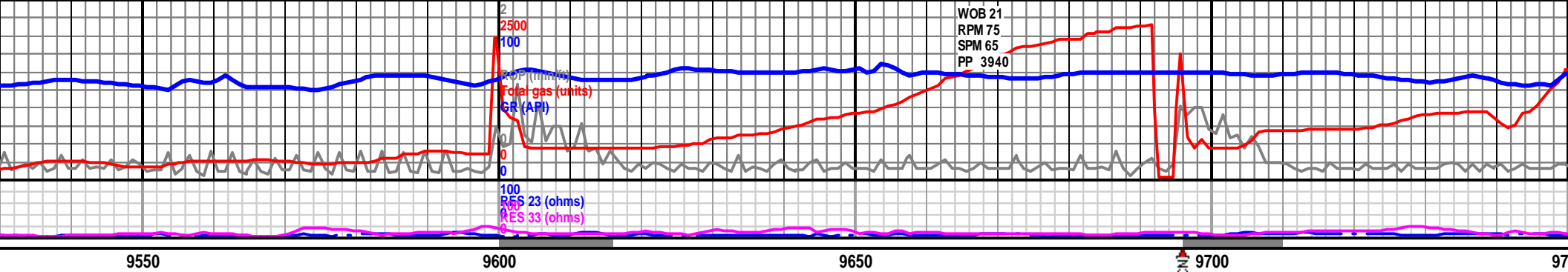


<p>06:00, 8911' TOH, failed MWD tool. LD Bit/motor/MWD tool/PRT Collar. Bit #4 DRLD 1,455' in 10 hrs. Bit #5 6 1/8" SEC PDC, FXD54, SN: 1209610. Jets 5x16 w/ MWD GR/PRT/Survey BHA &amp; Directional Mud Motor (1.50°), Agitator set back 2,980' f/bit; In @ 8911'</p> <p>lt-gr supt flor, wk-sl mlky strmg</p> <p>frm, sbblky-blky, v slty tr dism mic pyr, rr vf ss id rng.</p>	<p>SS (75%) gy-tn-crmtn, mod frm, uvf-f-lmgr, sbang-occ sbrd, slt supt mtx, v slty, mod w srt, occ carb intbd, abdnt qtz, sl-occ mod calc, no flor, wk-sl mlky strmg cut, yel/gn resid rng.</p> <p>SLTY SH (25%) SH/SLTY SH: gy-dkgy, mod sft-mod frm, sbblky-blky, v slty w 10% brn-gybrn SLTST, occ carb mat, sl mic lam, tr dism mic pyr, rr vf ss lam/intbd, rthy. No flor, wk mlky cut, dull gn/yel resid rng.</p>	<p>7175 TVD Sub Sea (-2204)</p> <p>SS: gy-tngy, mod sft-frm, uvf-f-lmgr, sbang-occ sbrd, slt supt mtx, v slty, mod w srt, occ carb intbd, abdnt qtz, sl-occ mod calc, no flor, wk-sl mlky strmg cut, yel/gn resid rng.</p>
<p>MD 8966 TVD 7221.76 INC 88.72 AZ 358.88 VS 1808.32</p>		
<p>7225 (-2254)</p>		
<p>7275 (-2304)</p>		









9550

9600

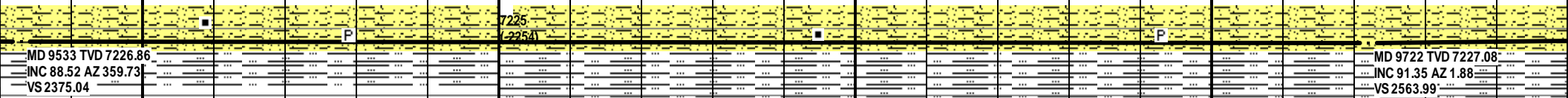
9650

9700

9750

SS: gy-tngy-tn, mod sft-mod frm, uf-lf-fgr, sbrd, mod srt, slt-calc  
supt mtx, v slty, mod calc, carb/dism pyr intbd, qtz xtl, o stn, est vis  
por ~10%. dull yel flor, sl strmg/mlky cut w dull yel/gn resid rng.

SS: gy-tngy-tn, mod sft-mod frm, uf-lf-fgr, sbrd, mod srt, slt-calc  
supt mtx, v slty, mod calc, carb/dism pyr intbd, qtz xtl, o stn, est  
vis por ~10%. dull yel flor, sl strmg/mlky cut w dull yel/gn resid  
mg.



7175 TVD  
Sub Sea (-2204)

7225  
(-2254)

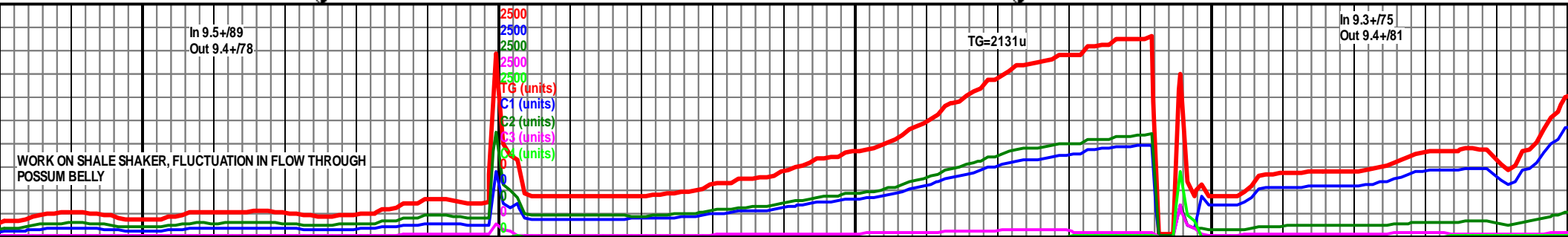
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INC 91.35 AZ 1.88  
VS 2563.99

7275  
(-2304)

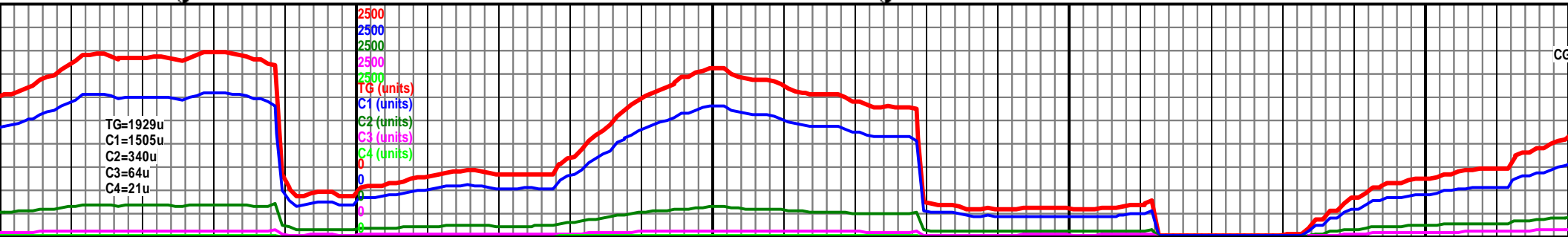
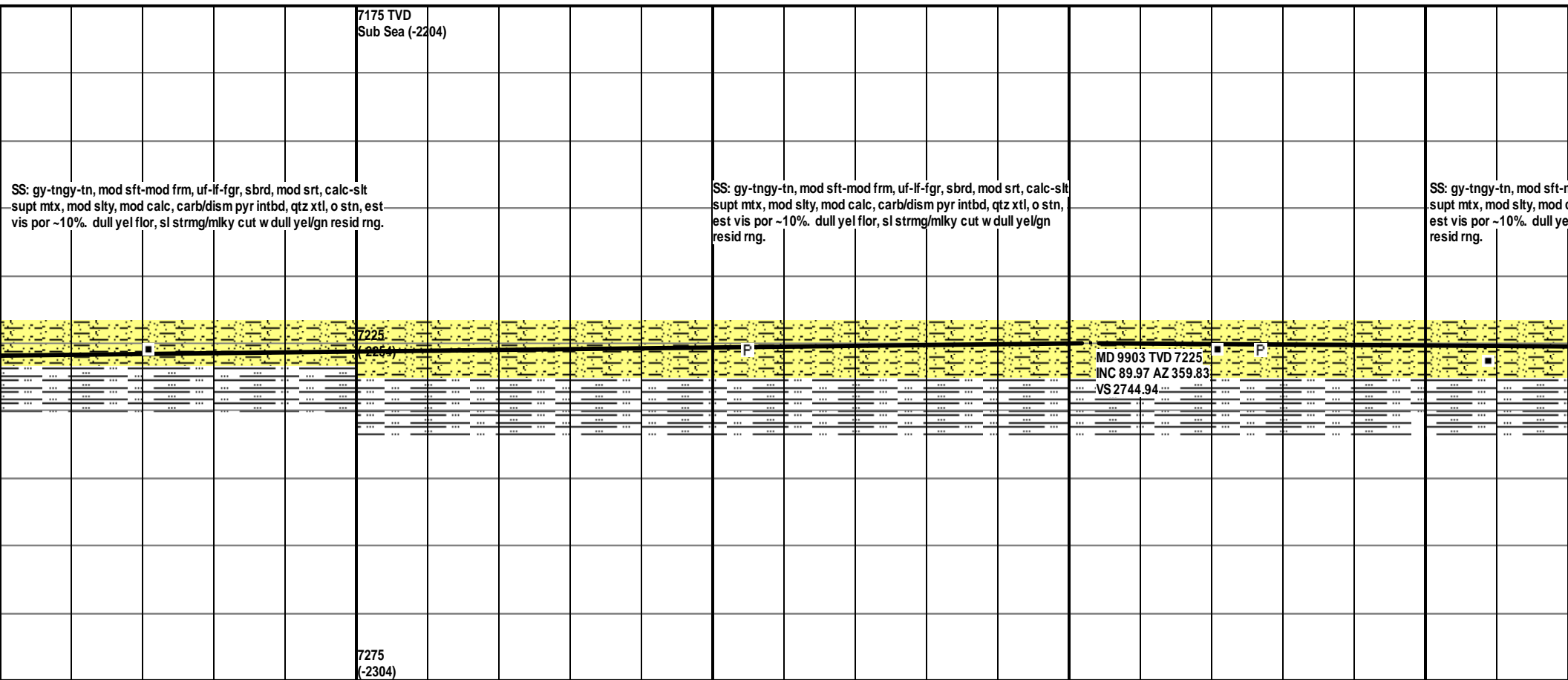
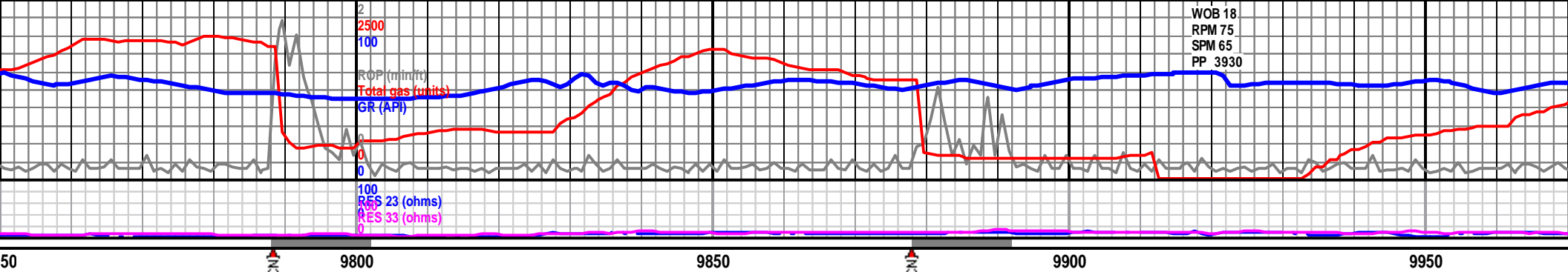
In 9.5+/89  
Out 9.4+/78

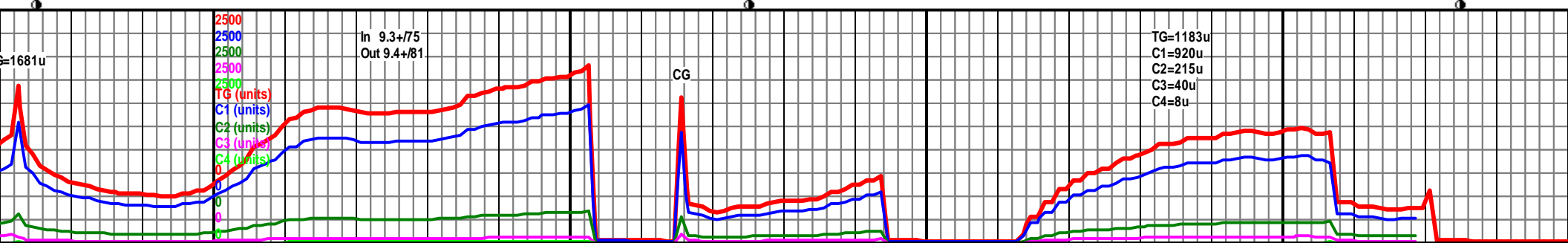
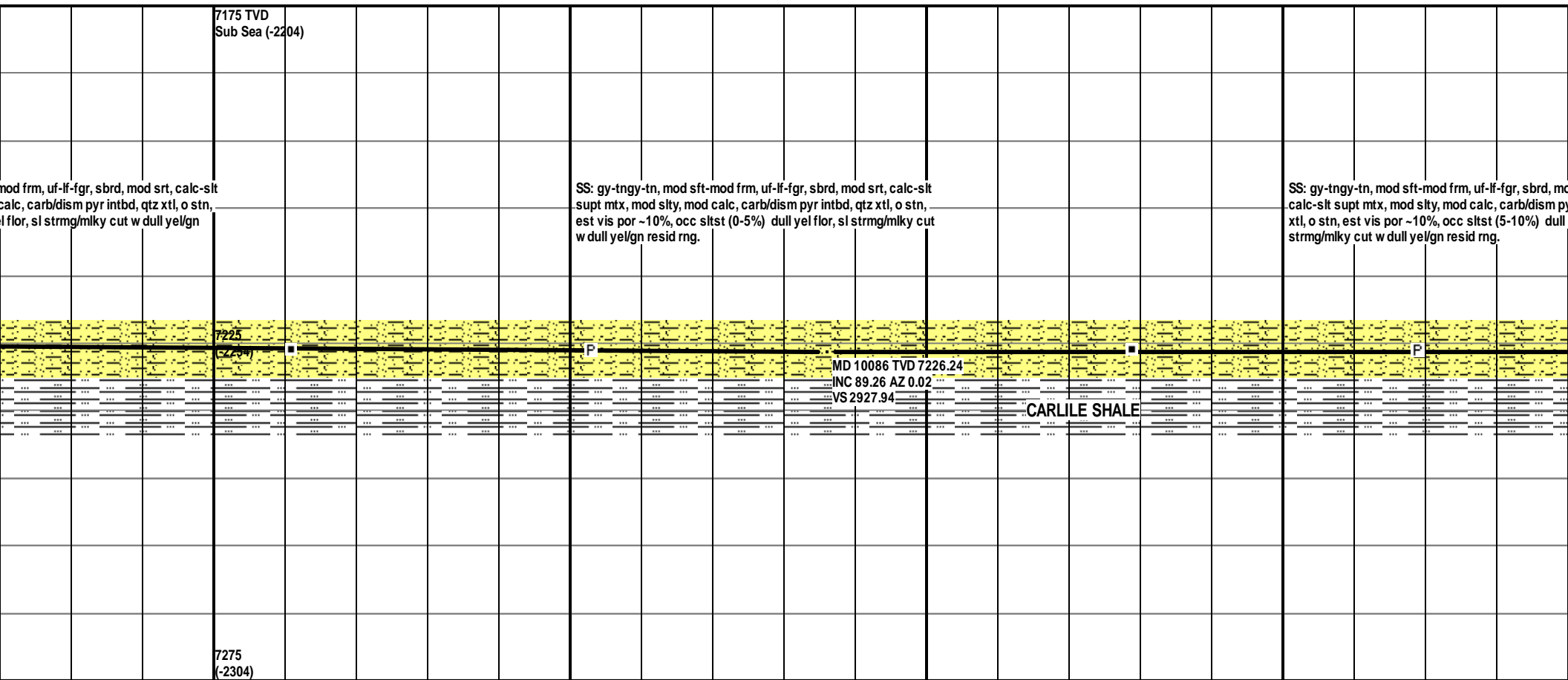
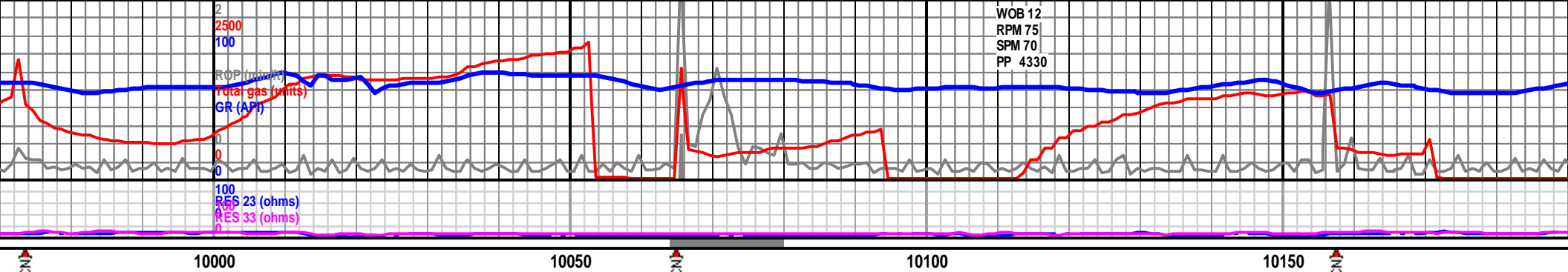
TG=2131u

In 9.3+/75  
Out 9.4+/81

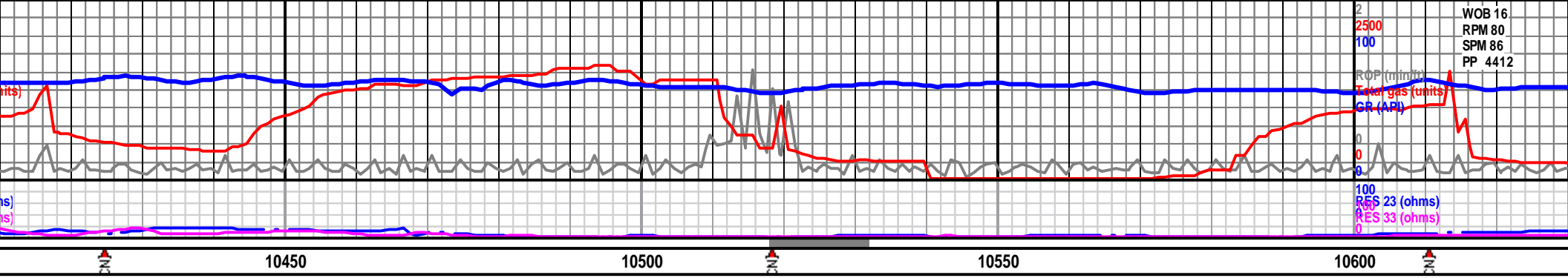


WORK ON SHALE SHAKER, FLUCTUATION IN FLOW THROUGH  
POSSUM BELLY

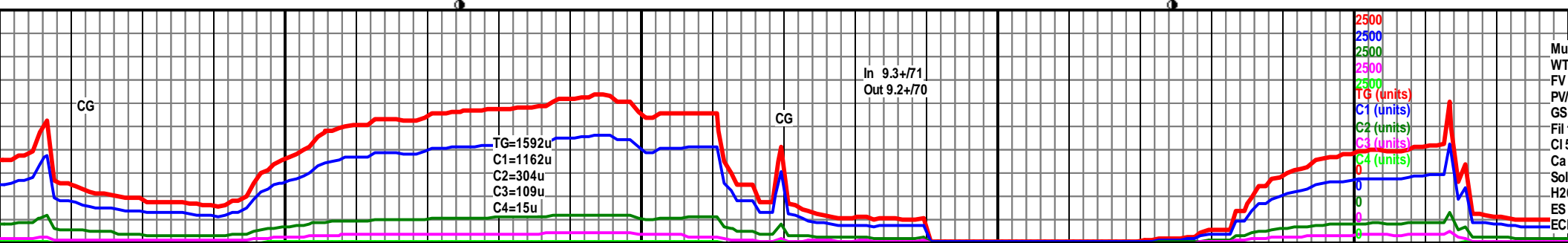


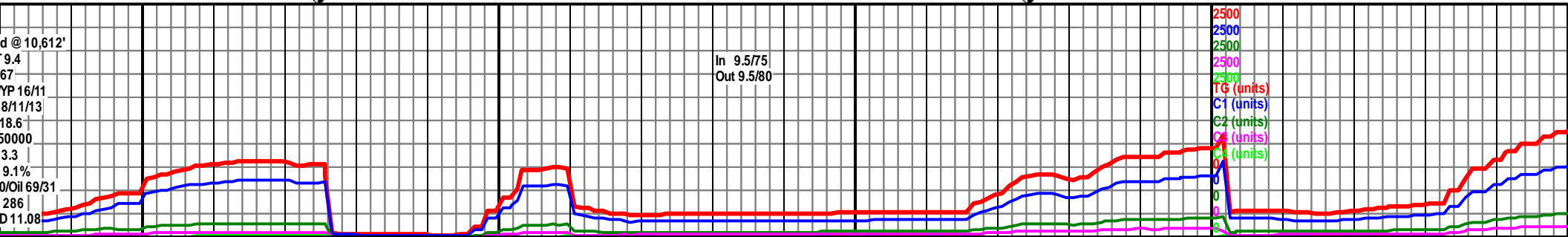
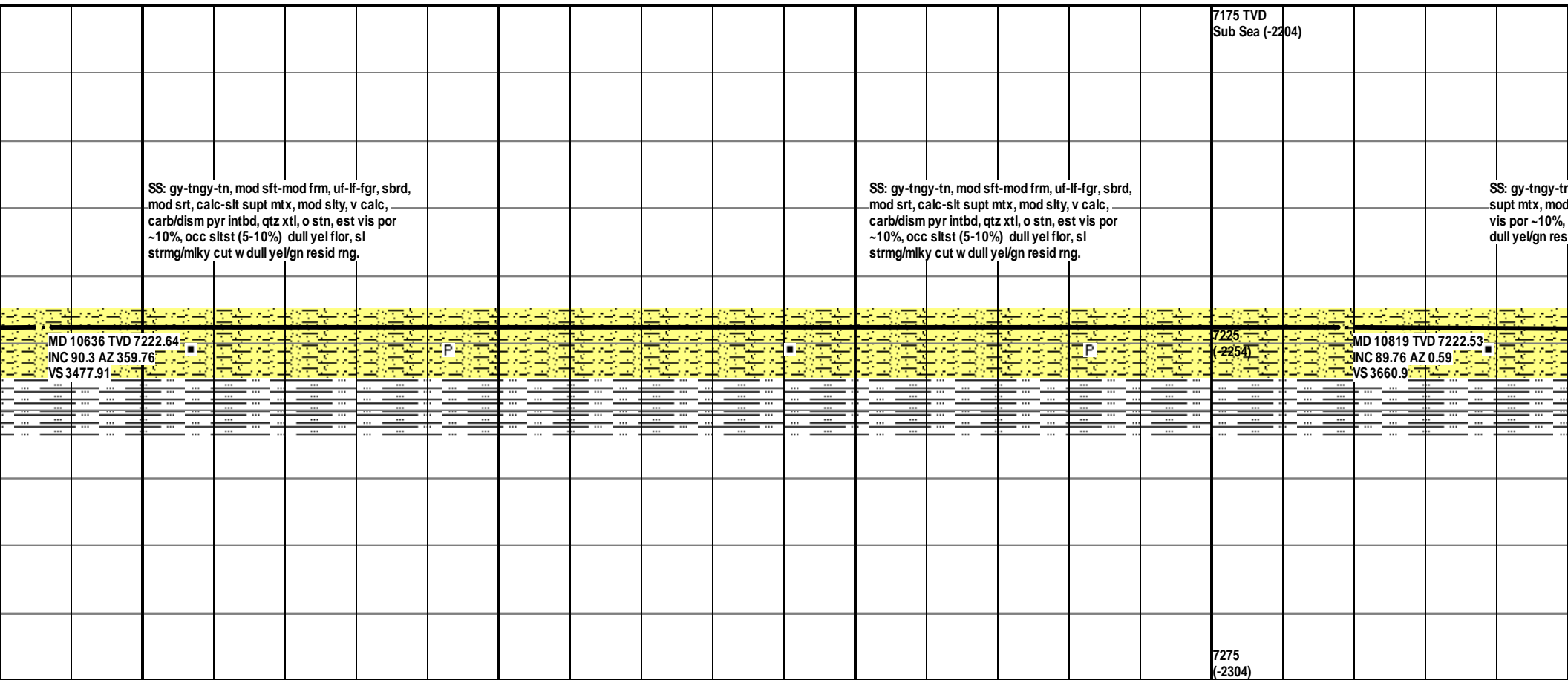
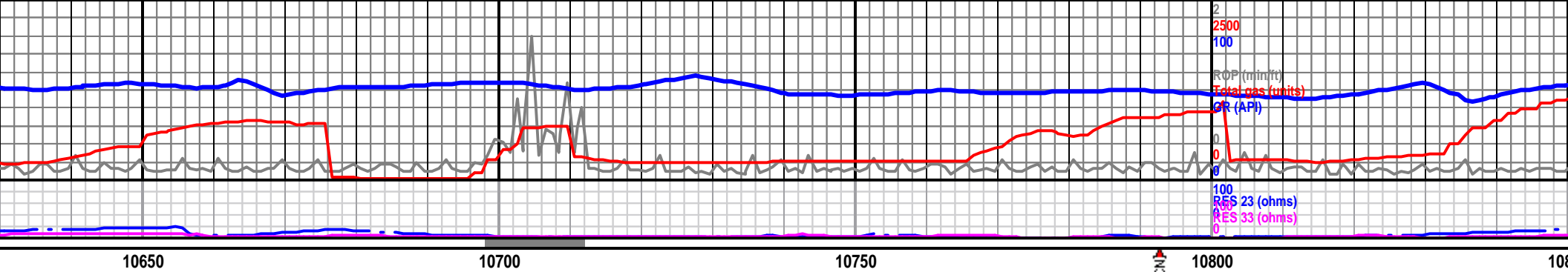






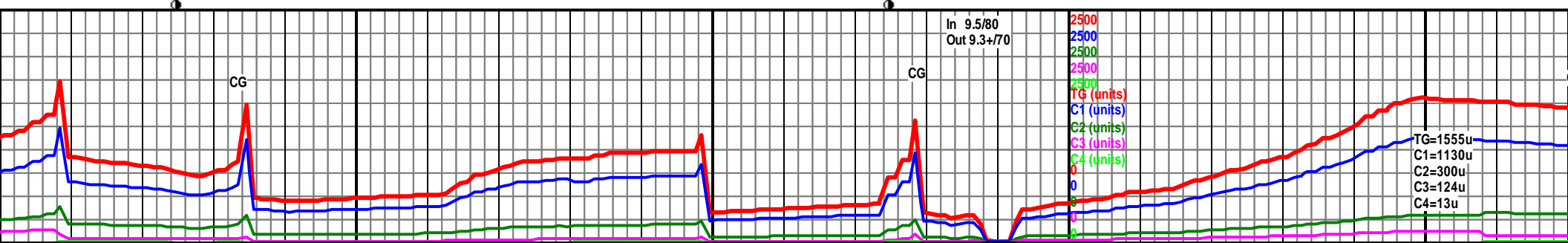
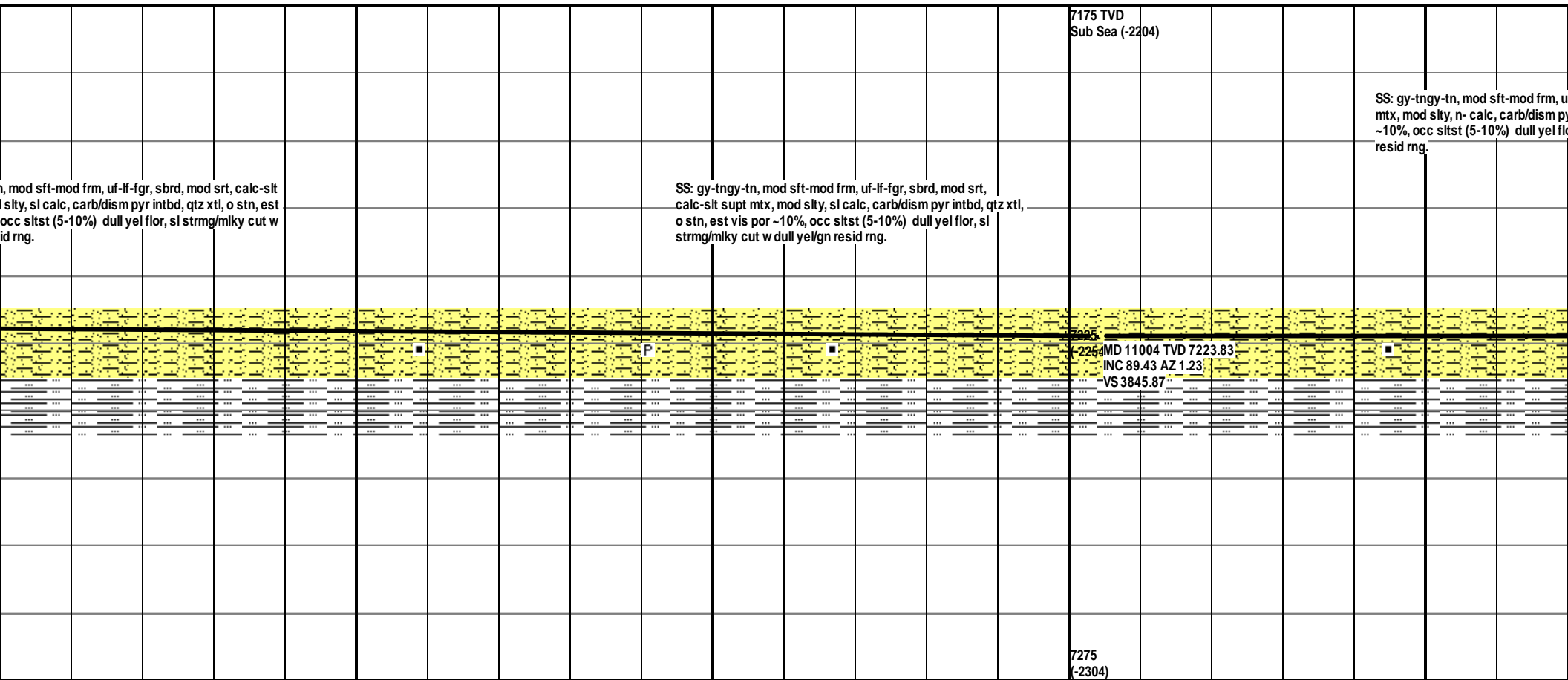
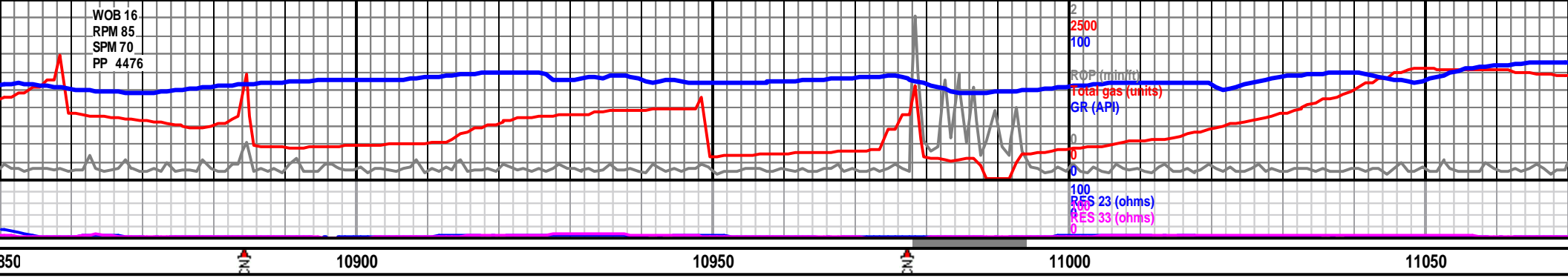
	<p>SS: gy-tngy-tn, mod sft-mod frm, uf-lf-fgr, sbrd, mod srt, calc-slt supt mtx, mod slty, v calc, carb/dism pyr intbd, qtz xtl, o stn, est vis por ~10%, occ sltst (5-10%) dull yel flor, sl strmg/mlky cut w dull ye/lgn resid rng.</p>	<p>SS: gy-tngy-tn, mod sft-mod frm, uf-lf-fgr, sbrd, mod srt, calc-slt supt mtx, mod slty, v calc, carb/dism pyr intbd, qtz xtl, o stn, est vis por ~10%, occ sltst (5-10%) dull yel flor, sl strmg/mlky cut w dull ye/lgn resid rng.</p>	<p>7175 TVD Sub Sea (-2204)</p> <p>7225 C2P4</p> <p>7275 (-2304)</p>
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WOB 16  
RPM 85  
SPM 70  
PP 4476

2500  
100  
ROP (min/ft)  
Total gas (units)  
GR (API)  
100  
RES 23 (ohms)  
RES 33 (ohms)



WOB 16  
RPM 85  
SPM 70  
PP 4600

2500  
100  
ROP (min)  
Total gas (units)  
GR (A7)

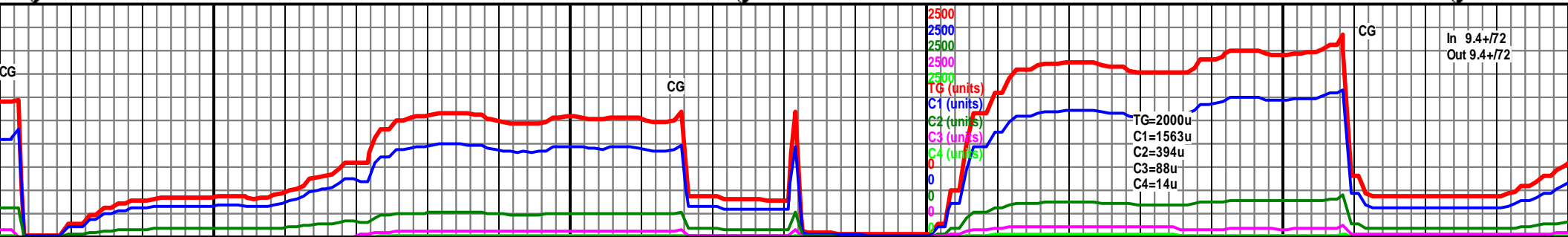
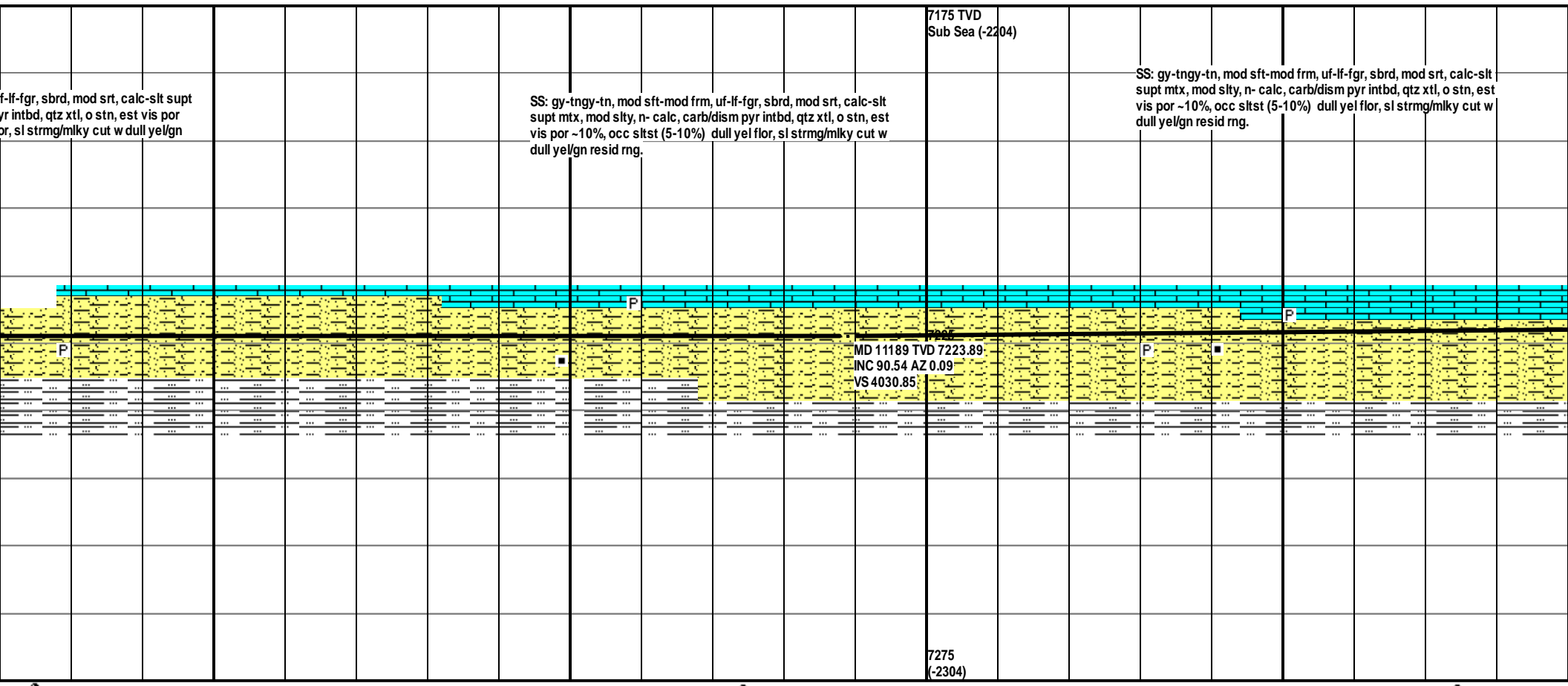
100  
RES 23 (ohms)  
RES 33 (ohms)

11100

11150

11200

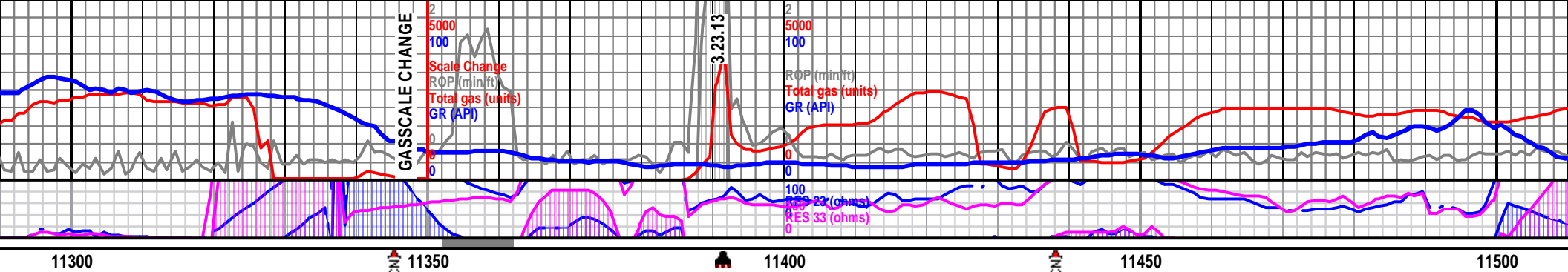
11250



2500  
2500  
2500  
2500  
2500  
TG (units)  
C1 (units)  
C2 (units)  
C3 (units)  
C4 (units)

TG=2000u  
C1=1563u  
C2=394u  
C3=88u  
C4=14u

In 9.4+/72  
Out 9.4+/72

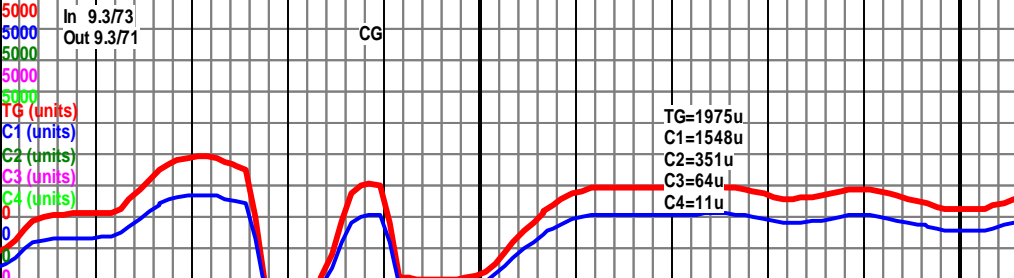
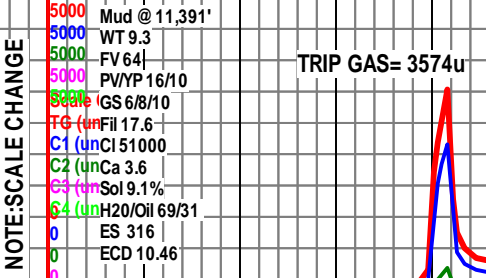
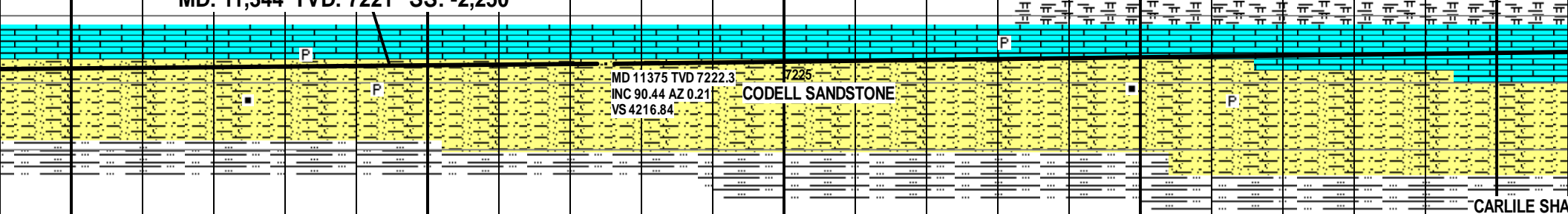


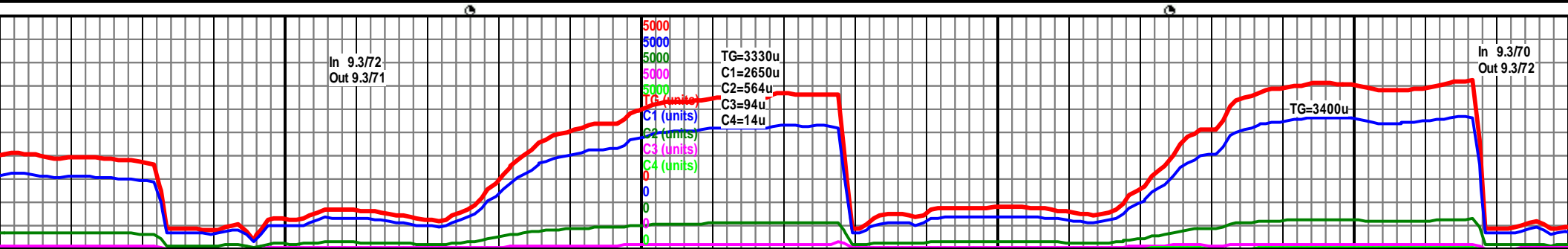
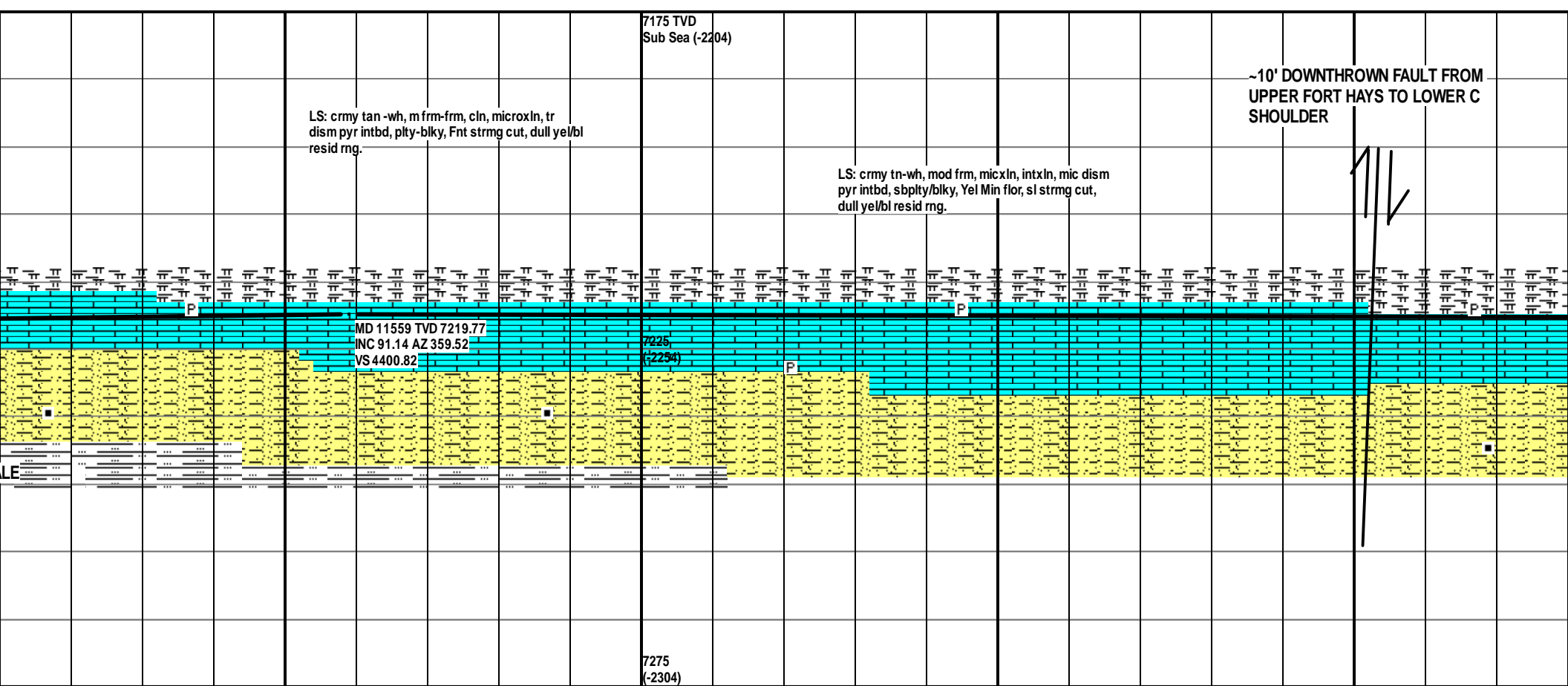
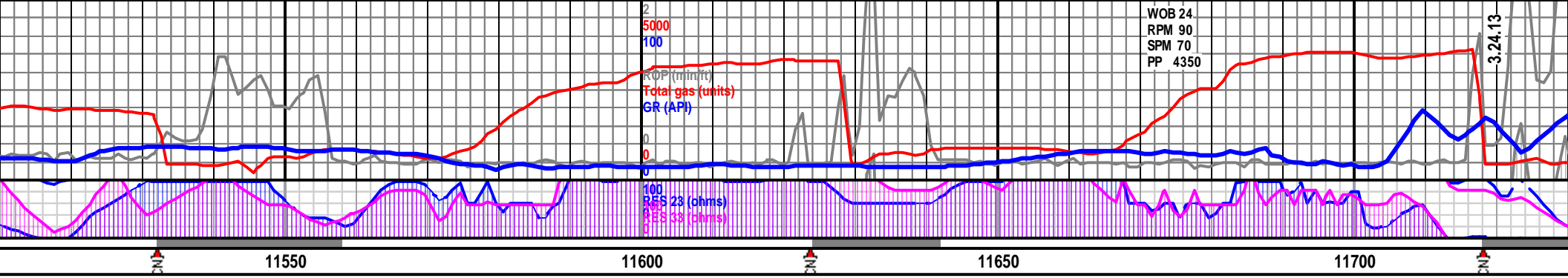
SS: gy-tngy-tn, mod sft-mod frm, uf-lf-fgr, sbrd, mod srt, calc-slt  
 supt mtx, mod slty, n- calc, carb/dism pyr intbd, qtz xtl, o stn, est  
 vis por -10%, occ sltst (5-10%) dull yel flor, sl strmg/mlky cut w  
 dull yel/gn resid rng.

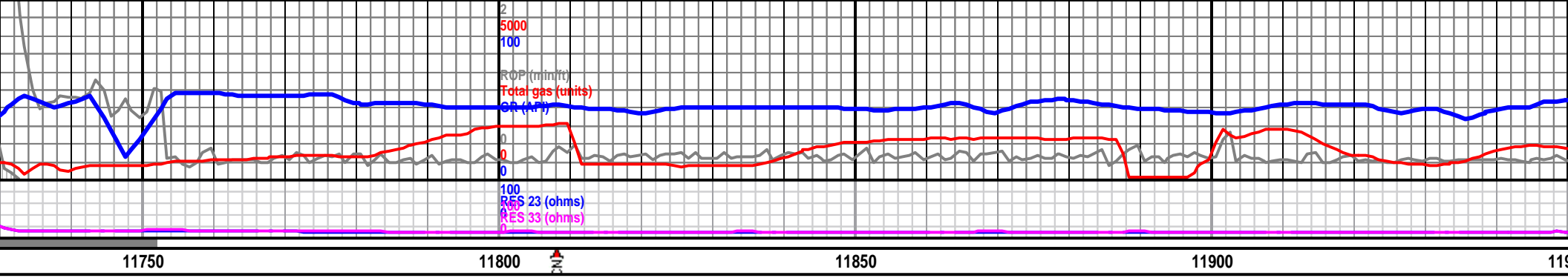
11,391' MD TOH DUE TO LOSS IN PUMP PRESSURE. BIT #5 DRLD 2,480' IN  
 17.5 HRS. LD BIT, MOTOR, CLEATED P.R.T. COLLAR. TBIH, Bit #6 6 1/8"  
 SMITH PDC, MDI513, SN: JG5926. Jets 5x16 w/ MWD GR/PRT/Survey BHA &  
 Directional Mud Motor (1.50°), Agitator set back 2980' f/bit; In @ 11,391'

LS: crmy tan -wh, m frm- frm, cln, microIn,  
 pty-blky, Fnt strmg cut, dull yel/bl resid rng.

**FORT HAYS**  
 MD: 11,344' TVD: 7221' SS: -2,250'







11750

11800

11850

11900

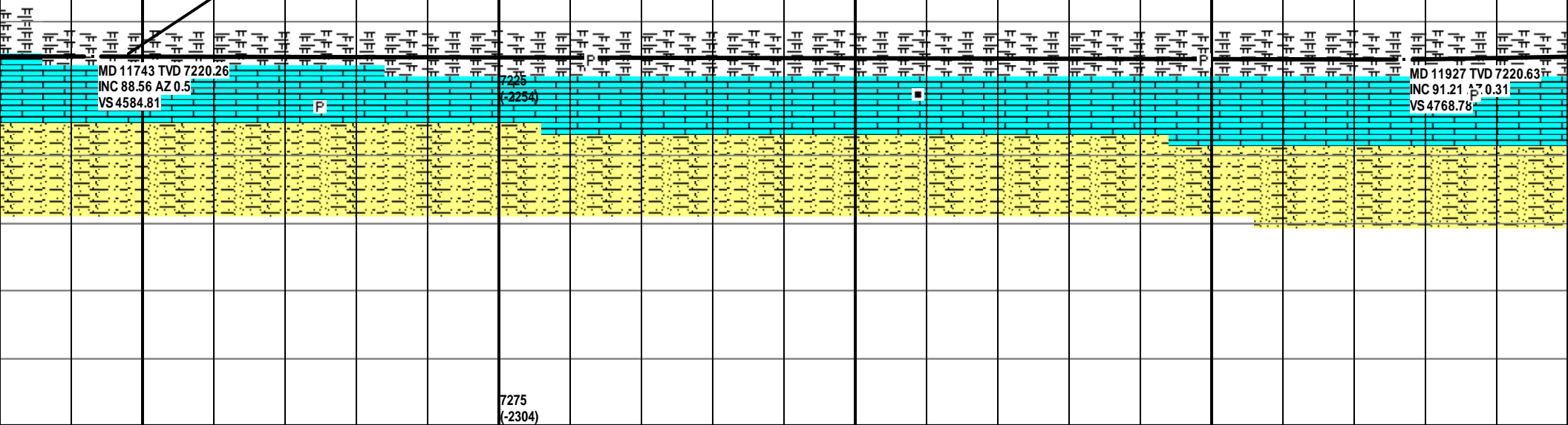
11950

LS (95%) crmy tn-wh, mod frm, micxn, intxn, mic dism pyr intbd, cht intbd, sbpty/blky, occ (5%) silty ss. Yel Min flor, sl strmg cut, dull ye/bl resid rng.

LS (65%) crmy tn-wh, mod frm, micxn, intxn, mic dism pyr intbd, cht intbd, sbpty/blky, Yel Min flor, sl strmg cut, dull ye/bl resid rng. SS/SLTY SS (35%) dkgy-gy, mod frm-frm, uvfgr, slt supt mtx, sl-mod calc, p srt, carb/dism pyr intbd, no flor, sl strmg cut, dull bl/gn resid rng.

LS (50%) crmy tn-w sbpty/blky, Yel Min dkgy-gy, mod frm-f intbd, no flor, sl str

**LOWER C SHOULDER**  
 MD 11,740', TVD 7,220' SS -2,249'



7275

(-2304)

5000

5000

5000

5000

TG (units)

C1 (units)

C2 (units)

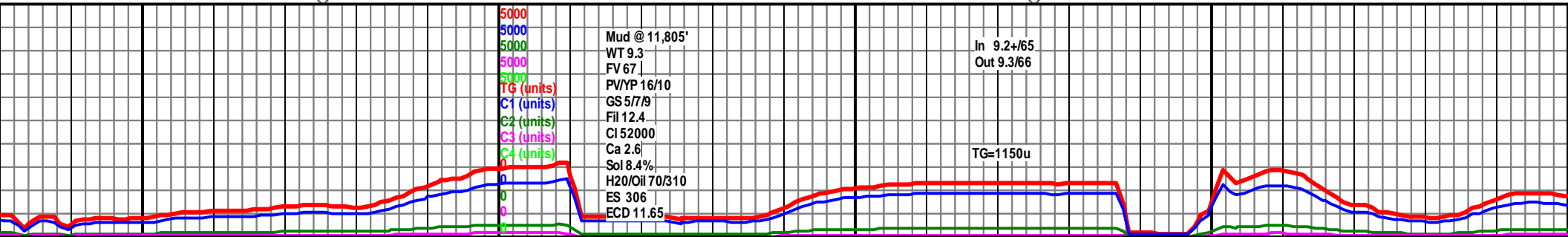
C3 (units)

C4 (units)

Mud @ 11,805'  
 WT 9.3  
 FV 67  
 PV/YP 16/10  
 GS 57/9  
 Fil 12.4  
 CI 52000  
 Ca 2.6  
 Sol 8.4%  
 H2O/Oil 70/310  
 ES 306  
 ECD 11.65

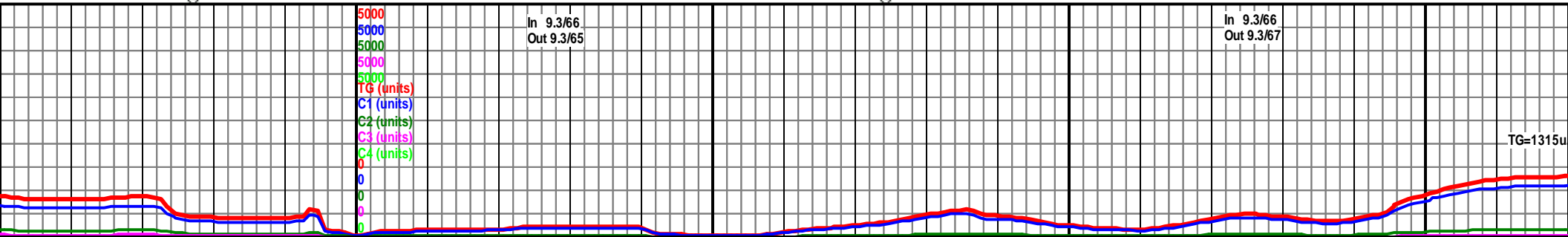
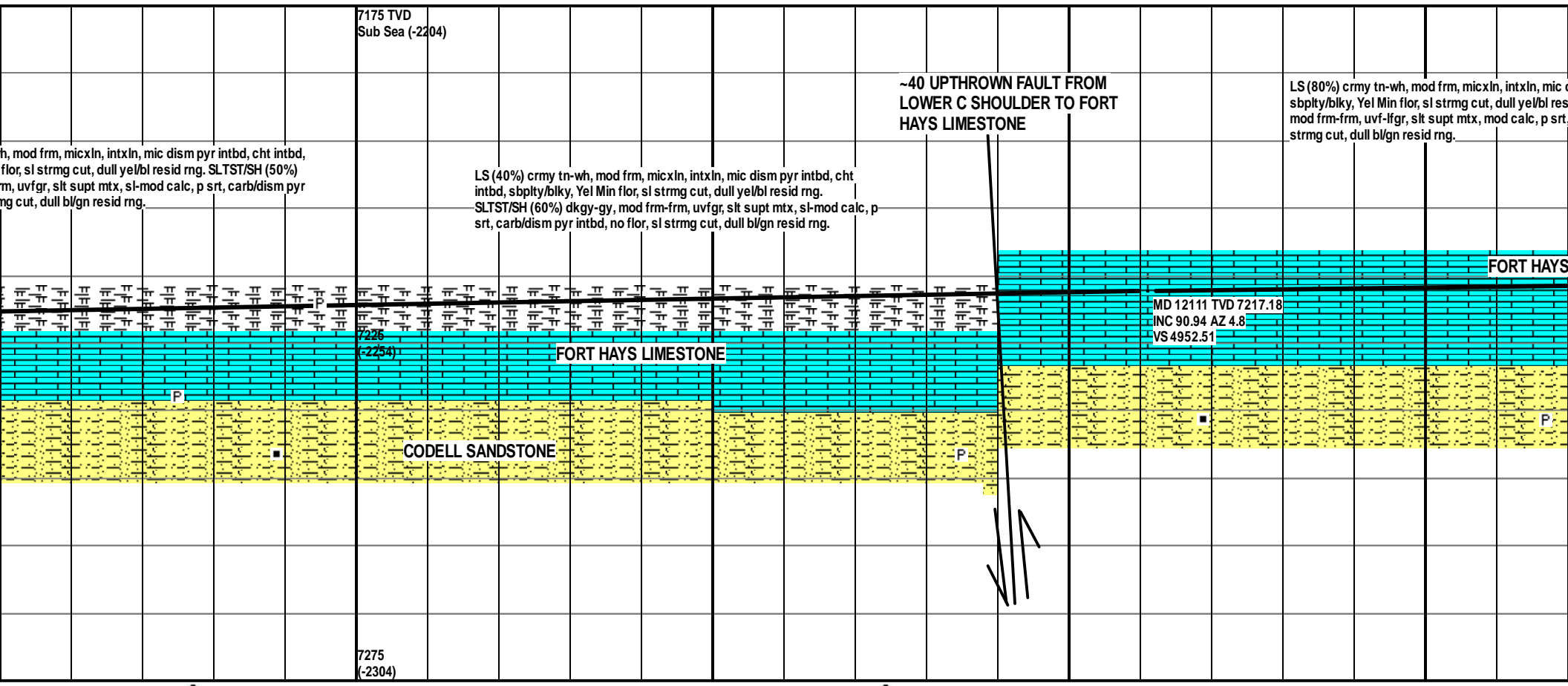
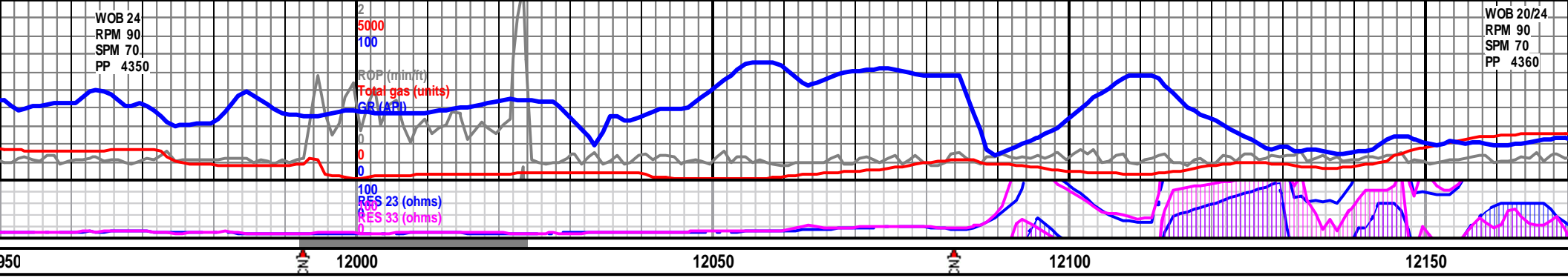
In 9.2+/65  
 Out 9.3/66

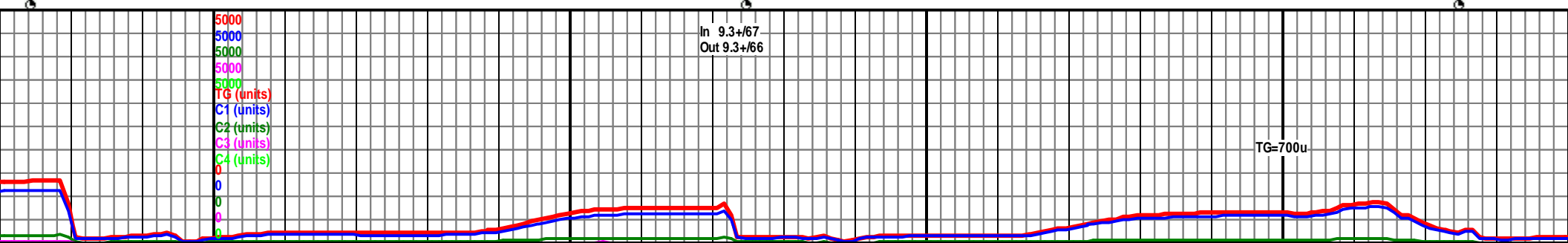
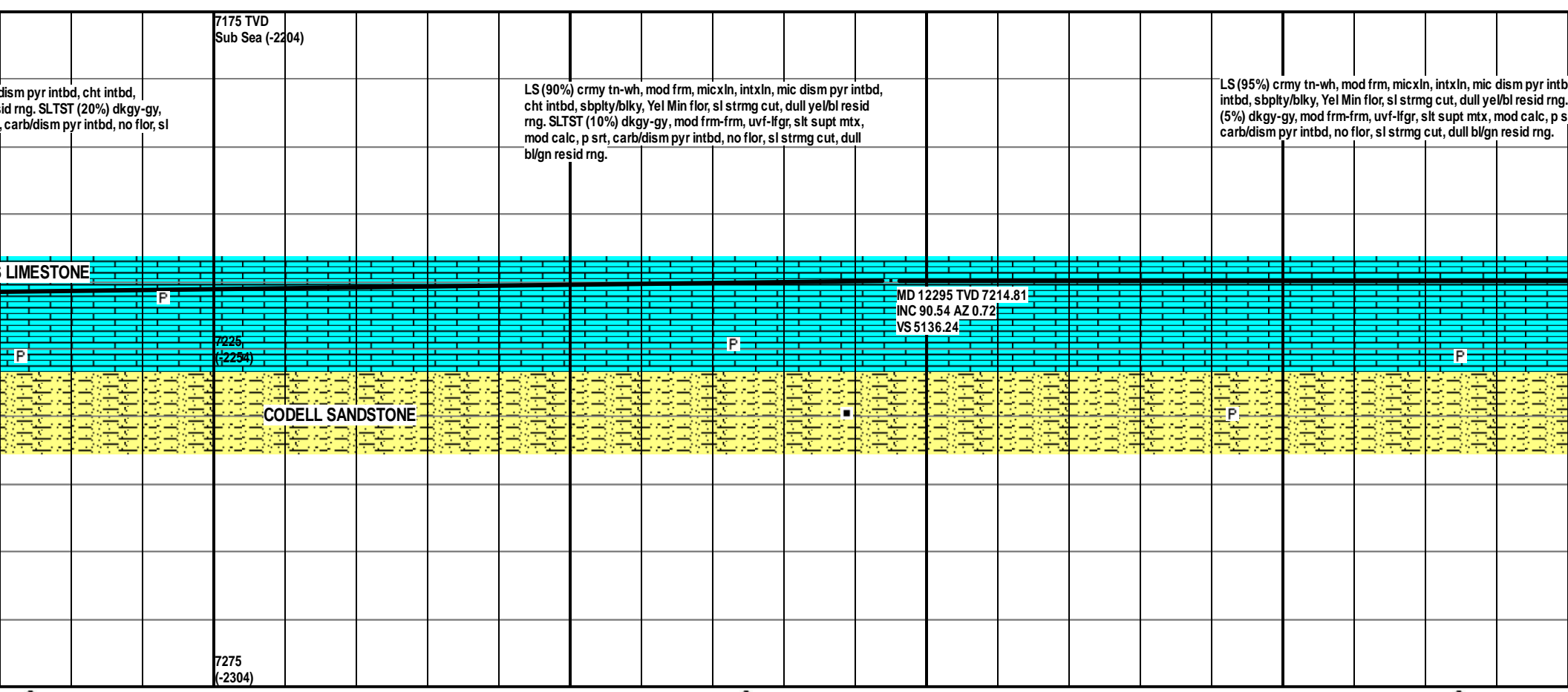
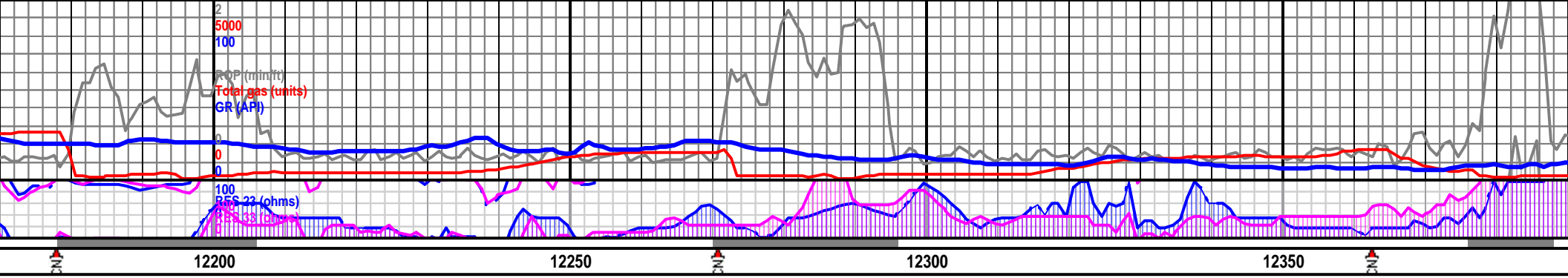
TG=1150u

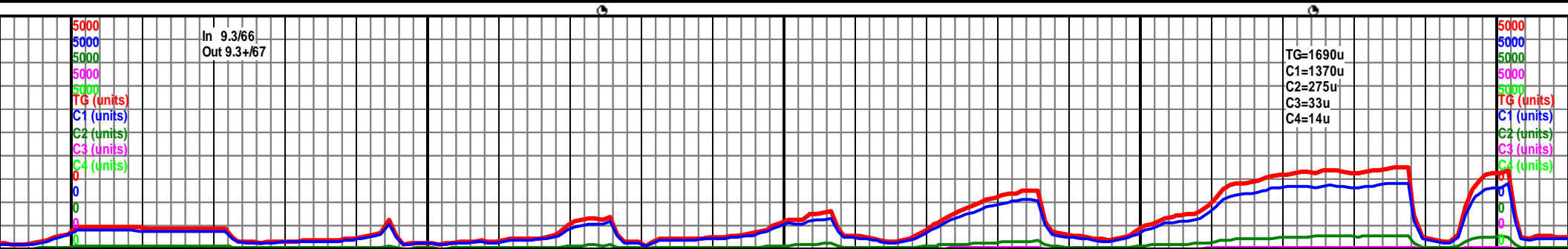
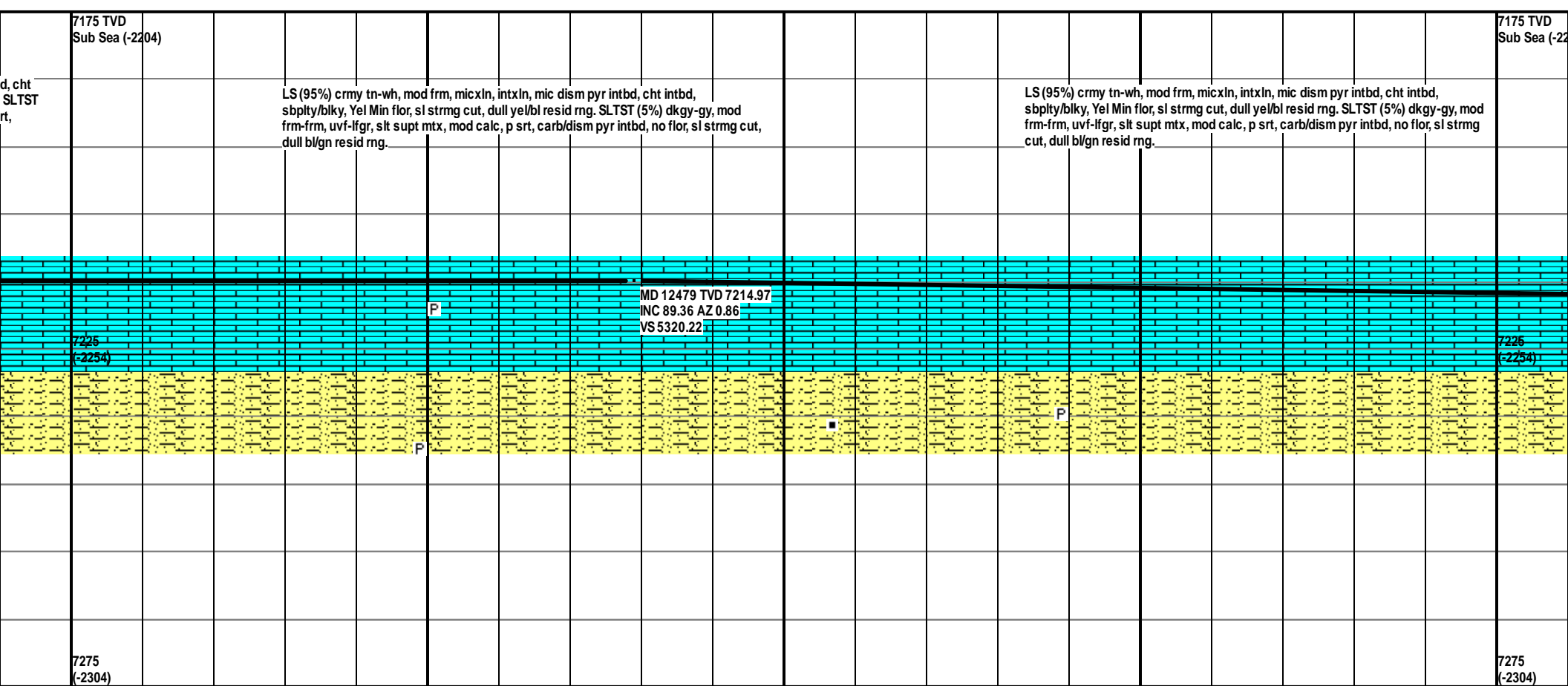
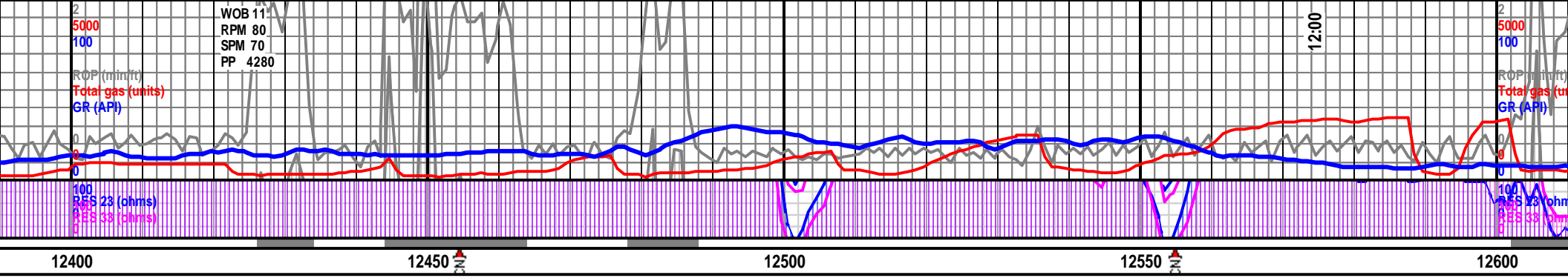


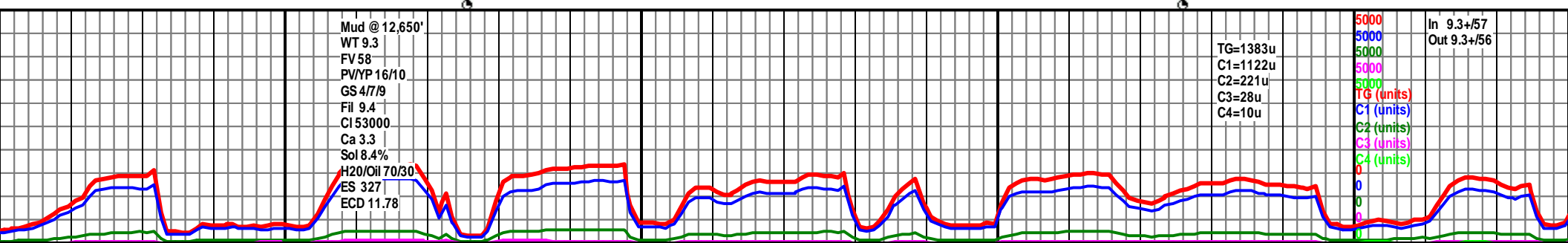
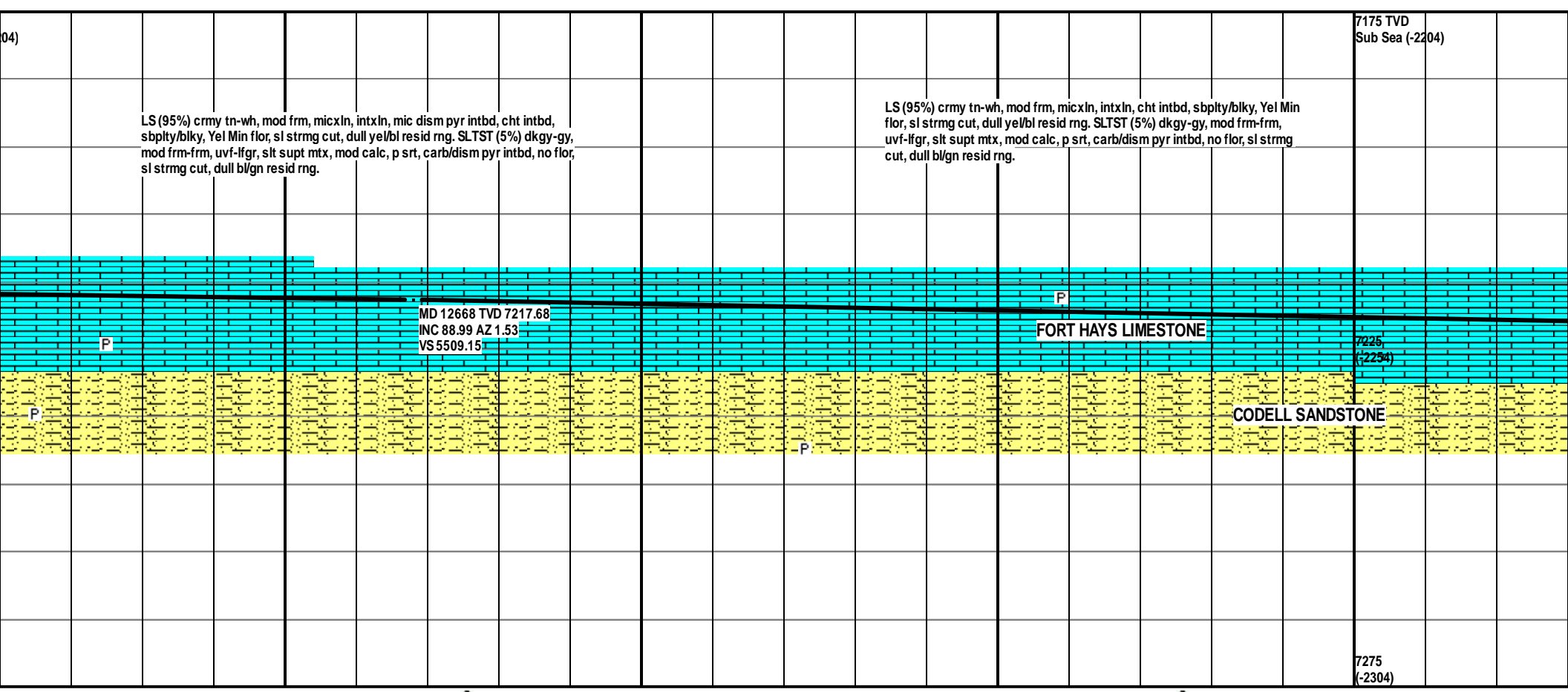
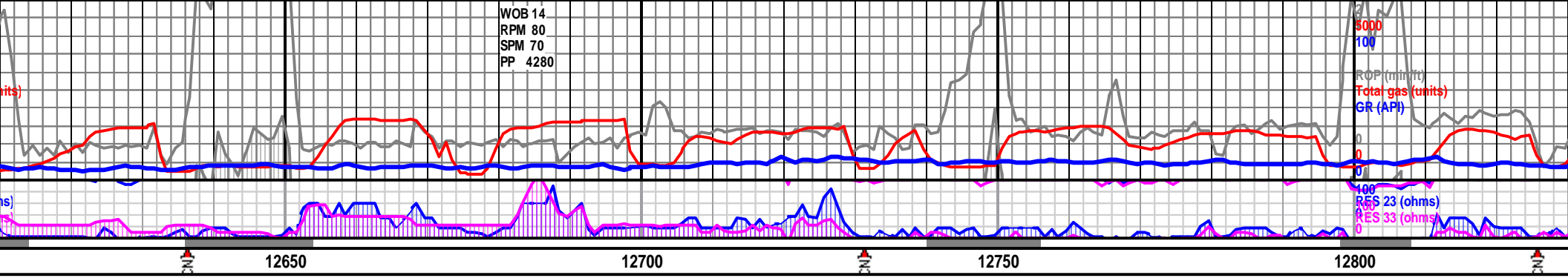
WOB 24  
RPM 90  
SPM 70  
PP 4350

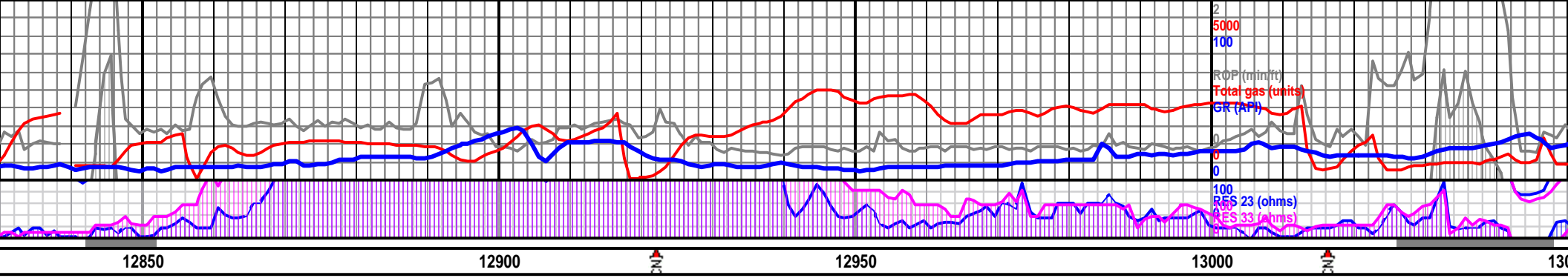
WOB 20/24  
RPM 90  
SPM 70  
PP 4360





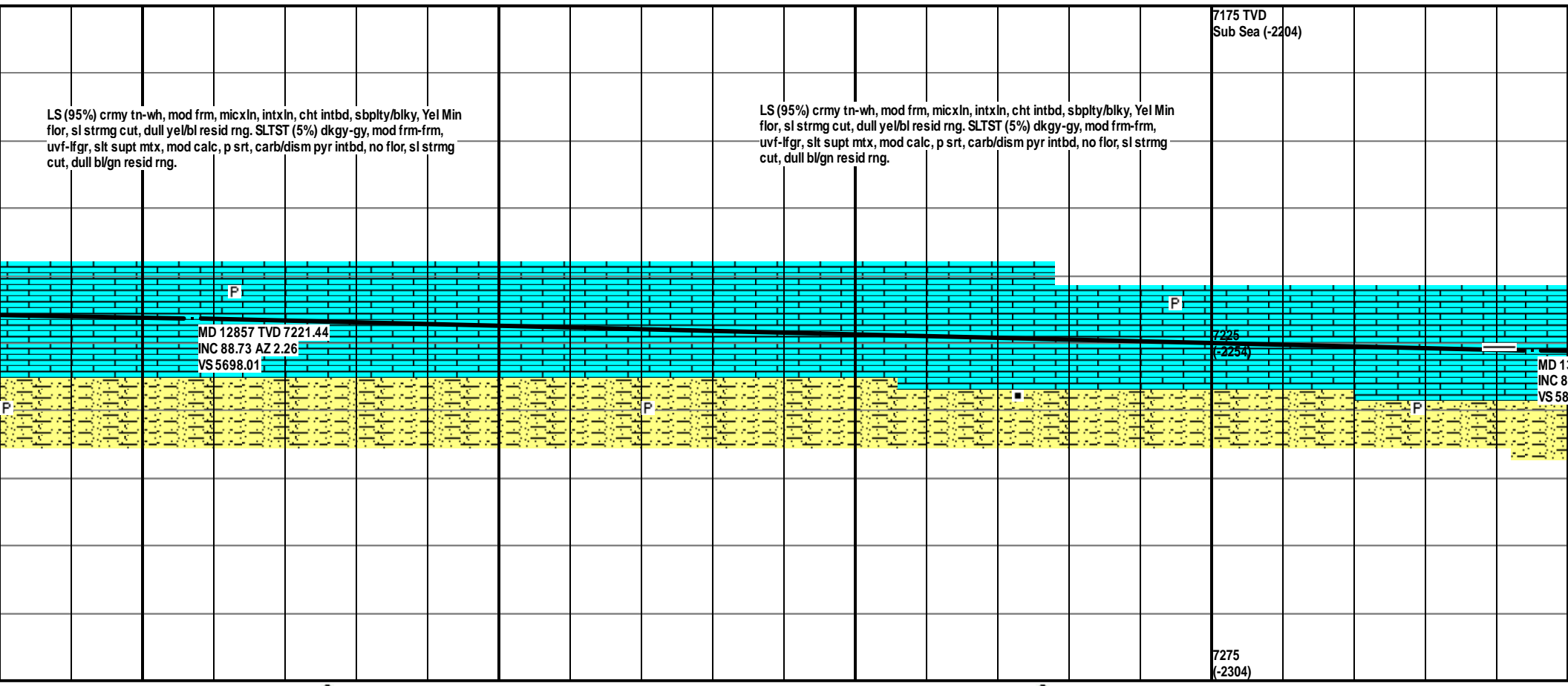






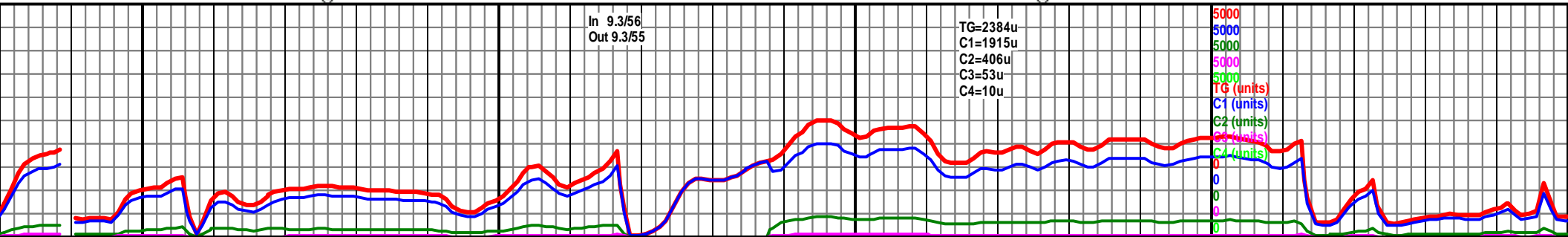
LS (95%) crmy tn-wh, mod frm, micxn, intxn, cht intbd, sbpty/blky, Yel Min flr, sl strmg cut, dull ye/bl resid rng. SLTST (5%) dkgy-gy, mod frm-frm, uvf-lfgr, slt supt mtx, mod calc, p srt, carb/dism pyr intbd, no flr, sl strmg cut, dull bl/gn resid rng.

LS (95%) crmy tn-wh, mod frm, micxn, intxn, cht intbd, sbpty/blky, Yel Min flr, sl strmg cut, dull ye/bl resid rng. SLTST (5%) dkgy-gy, mod frm-frm, uvf-lfgr, slt supt mtx, mod calc, p srt, carb/dism pyr intbd, no flr, sl strmg cut, dull bl/gn resid rng.



In 9.3/56  
Out 9.3/55

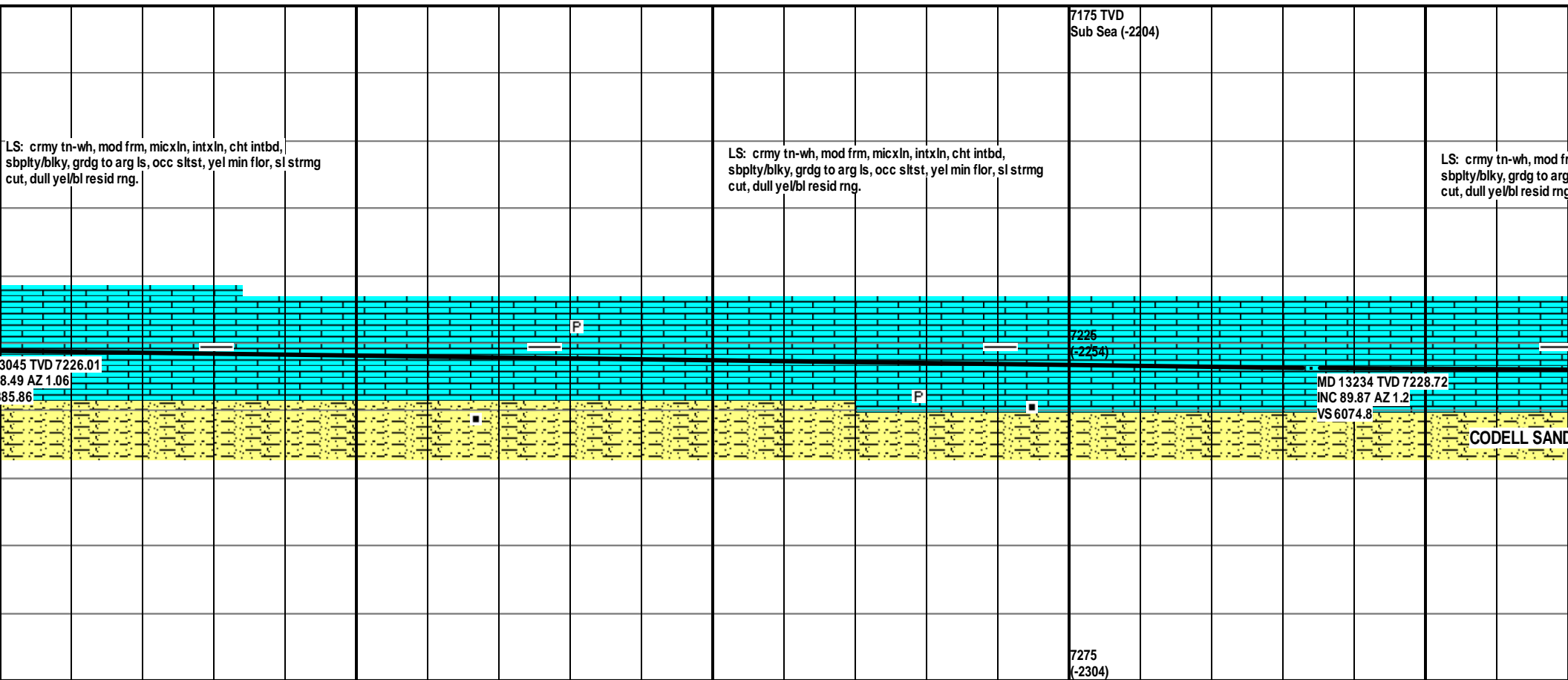
TG=2384u  
C1=1915u  
C2=406u  
C3=53u  
C4=10u



WOB 30  
RPM 90  
SPM 70  
PP 4220

2  
5000  
100  
ROP (min/ft)  
Total gas (units)  
GR (API)  
RES 28 (ohms)  
RES 33 (ohms)

13100 13150 13200 13250

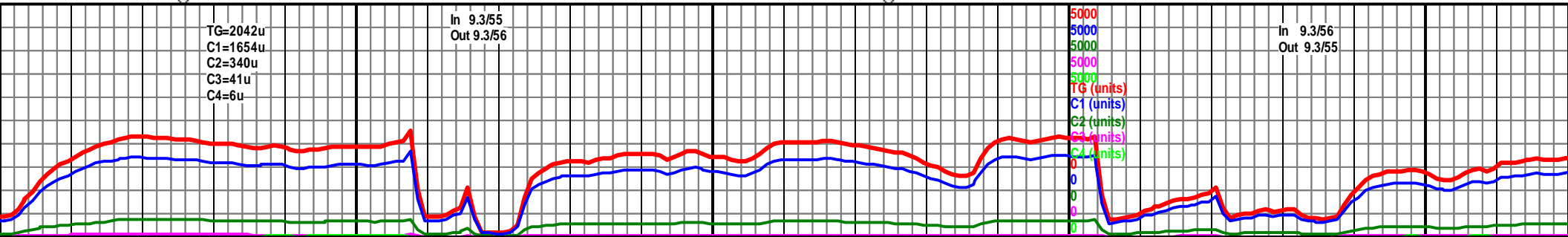


TG=2042u  
C1=1654u  
C2=340u  
C3=41u  
C4=6u

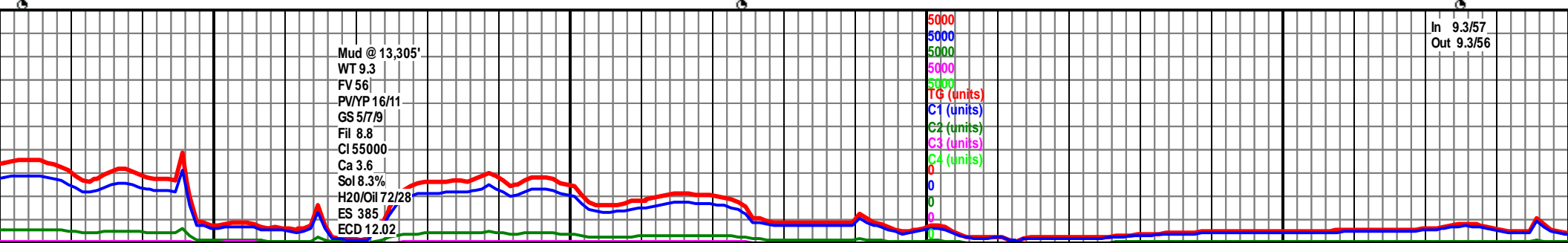
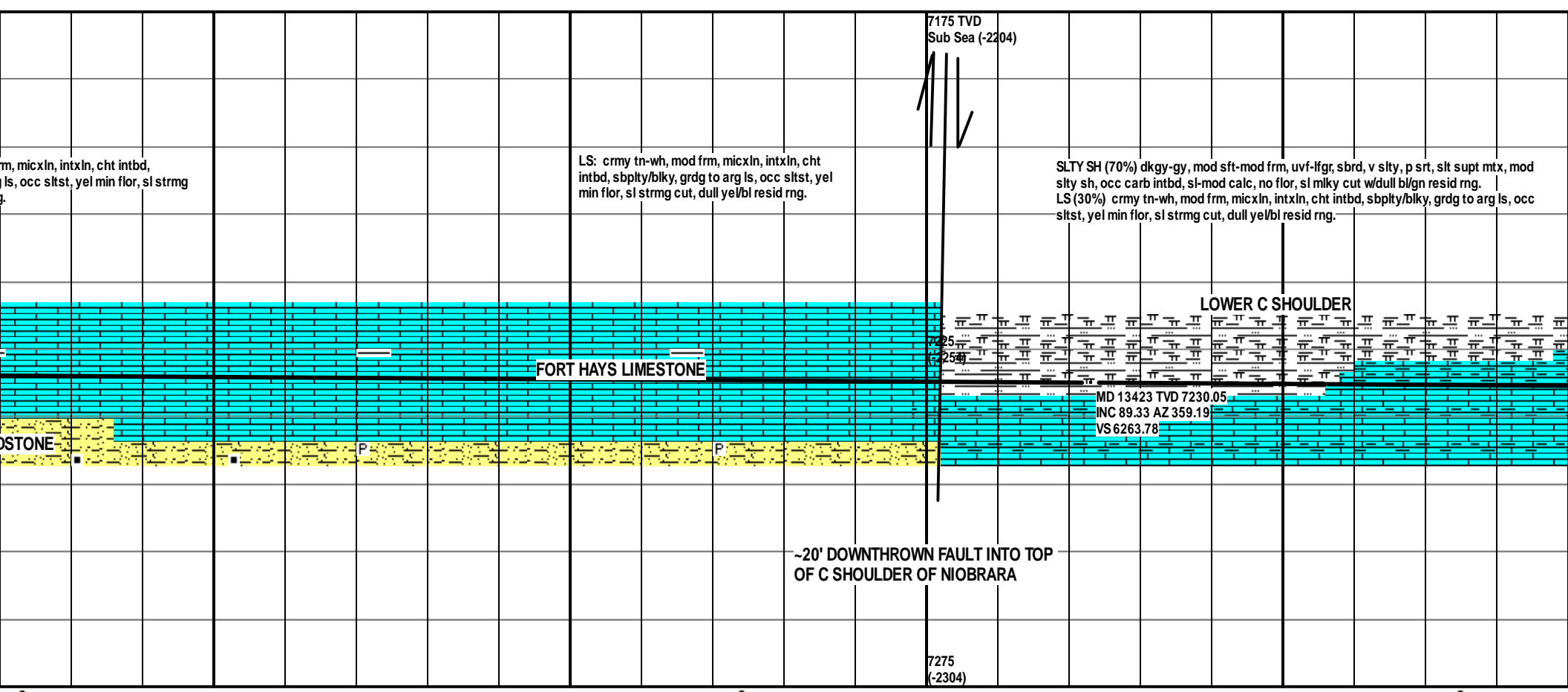
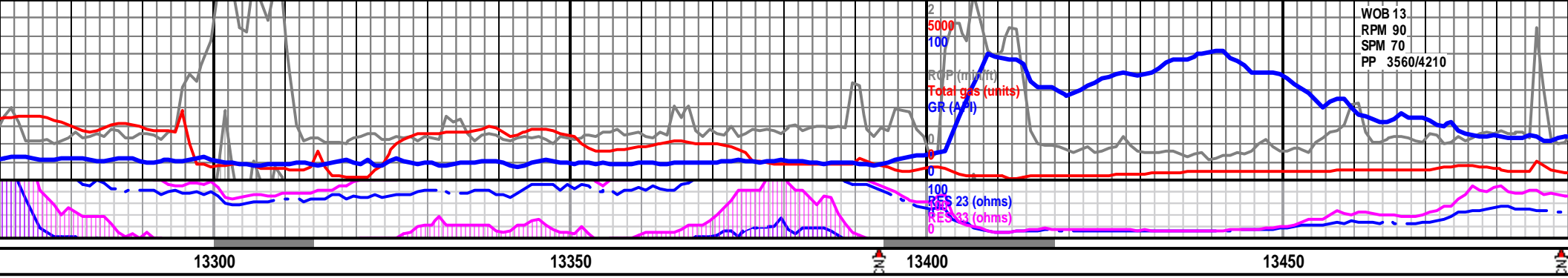
In 9.3/55  
Out 9.3/56

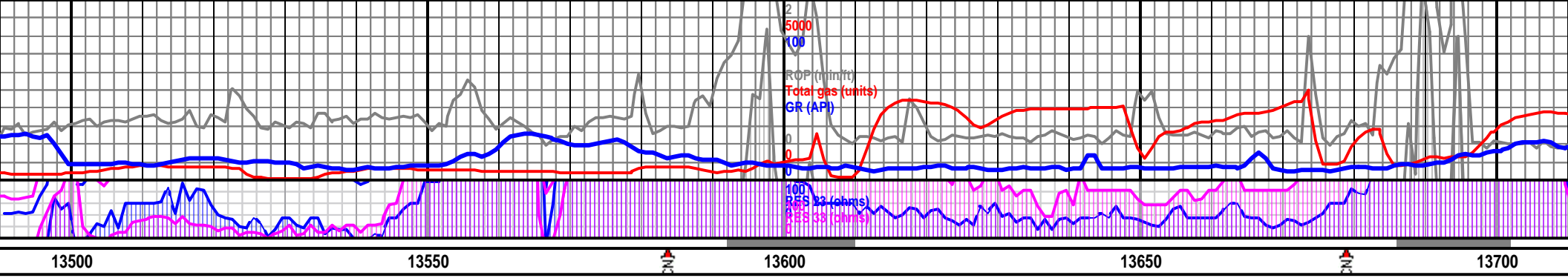
In 9.3/56  
Out 9.3/55

5000  
5000  
5000  
5000  
5000  
5000  
TG (units)  
C1 (units)  
C2 (units)  
C3 (units)  
C4 (units)

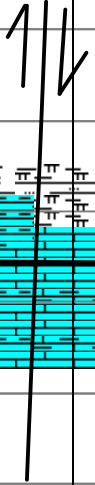


WOB 13  
RPM 90  
SPM 70  
PP 3560/4210





~10' DOWNTHROWN FAULT FROM C SHOULDER TO FORT HAYS LIMESTONE



LS: crmy tn-wh, mod frm, micxn, intxn, cht intbd, sbply/blky, grdg to arg ls, occ sltst, yel min flor, sl strmg cut, dull yel/bl resid mg.

LS: crmy tn-wh, mod frm, micxn, intxn, cht intbd, sbply/blky, grdg to arg ls, occ sltst, blk shly lam, yel min flor, sl strmg cut, dull yel/bl resid mg.

FORT HAYS LIMESTONE

7175 TVD  
Sub Sea (-2204)

7225  
(-2254)

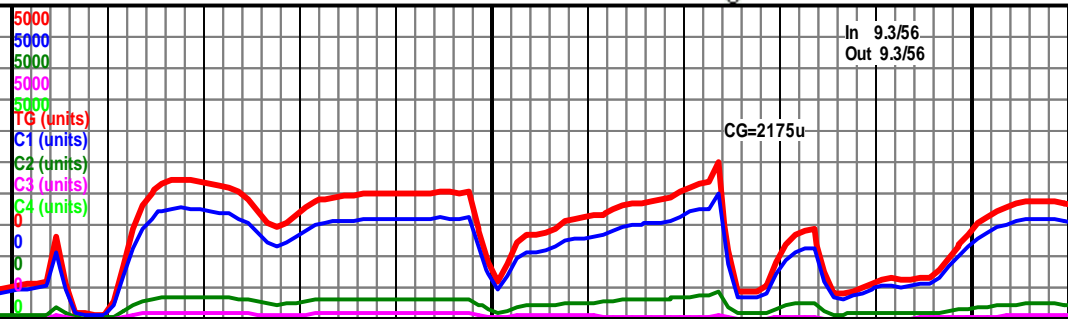
MD 13612 TVD 7231.16  
INC 90 AZ 359.78  
VS 6452.77

7275  
(-2304)

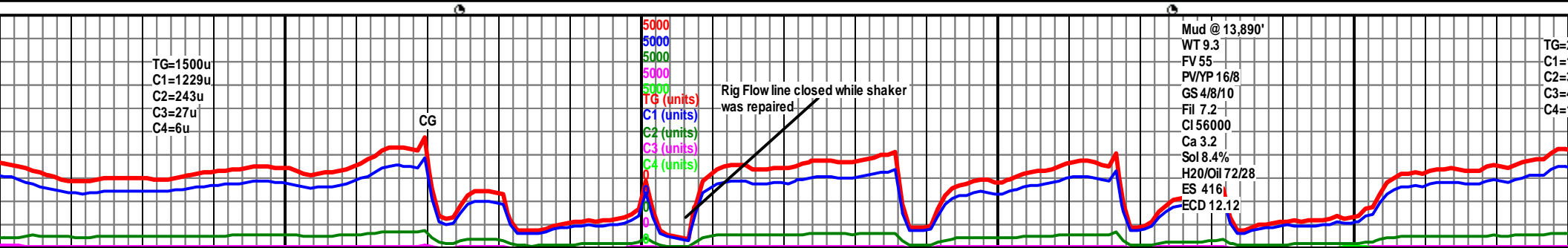
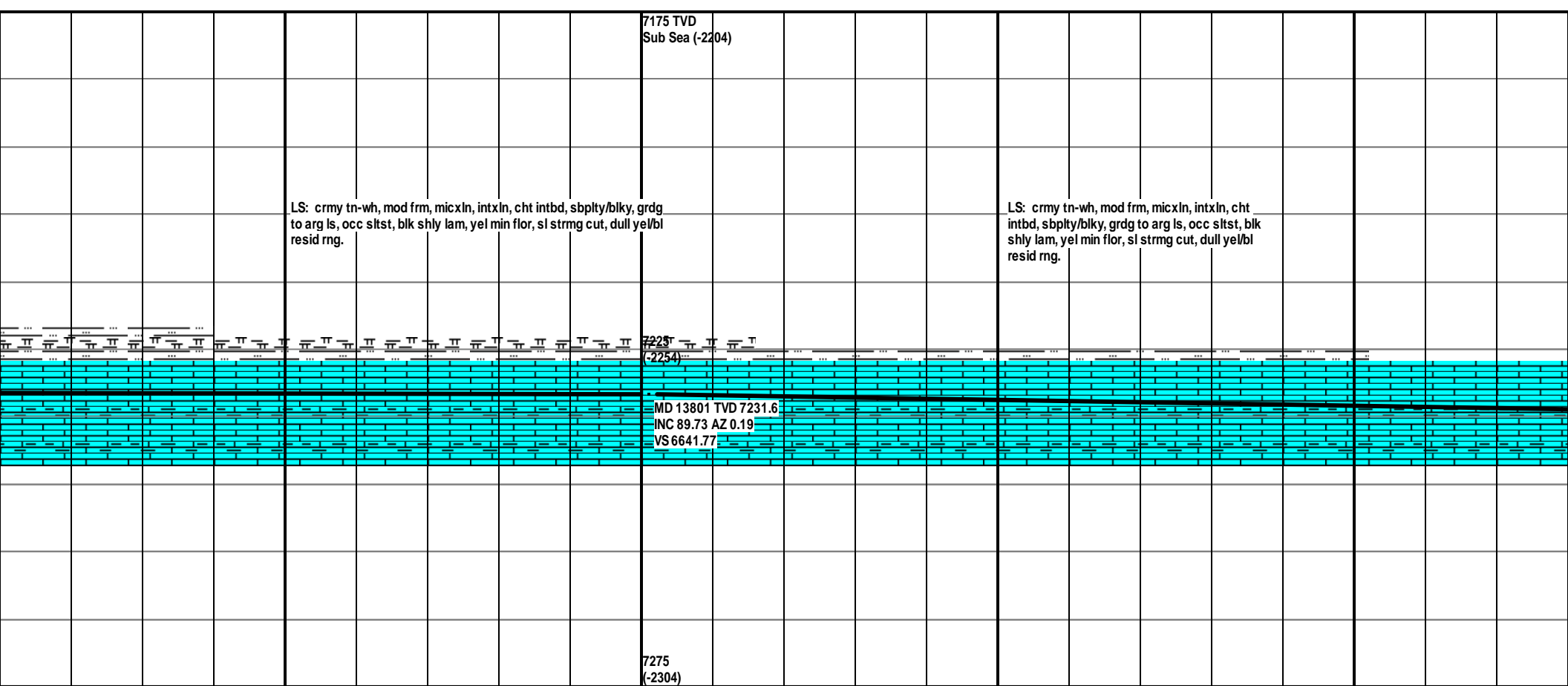
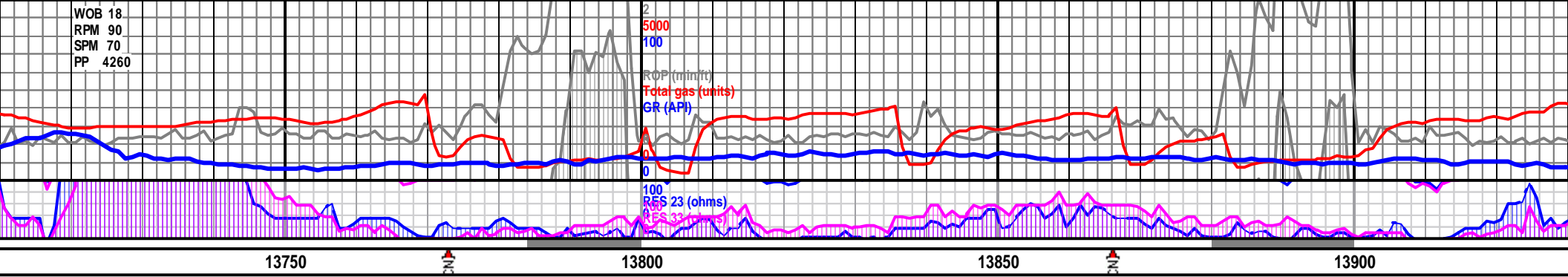
In 9.3+/58  
Out 9.3+/56

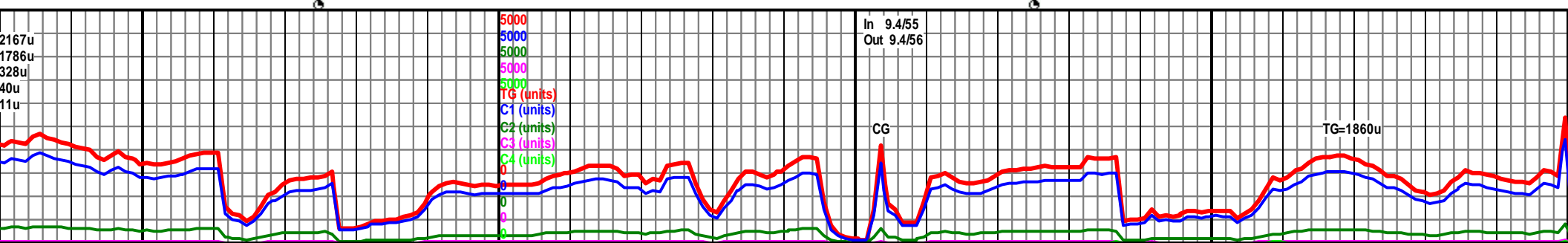
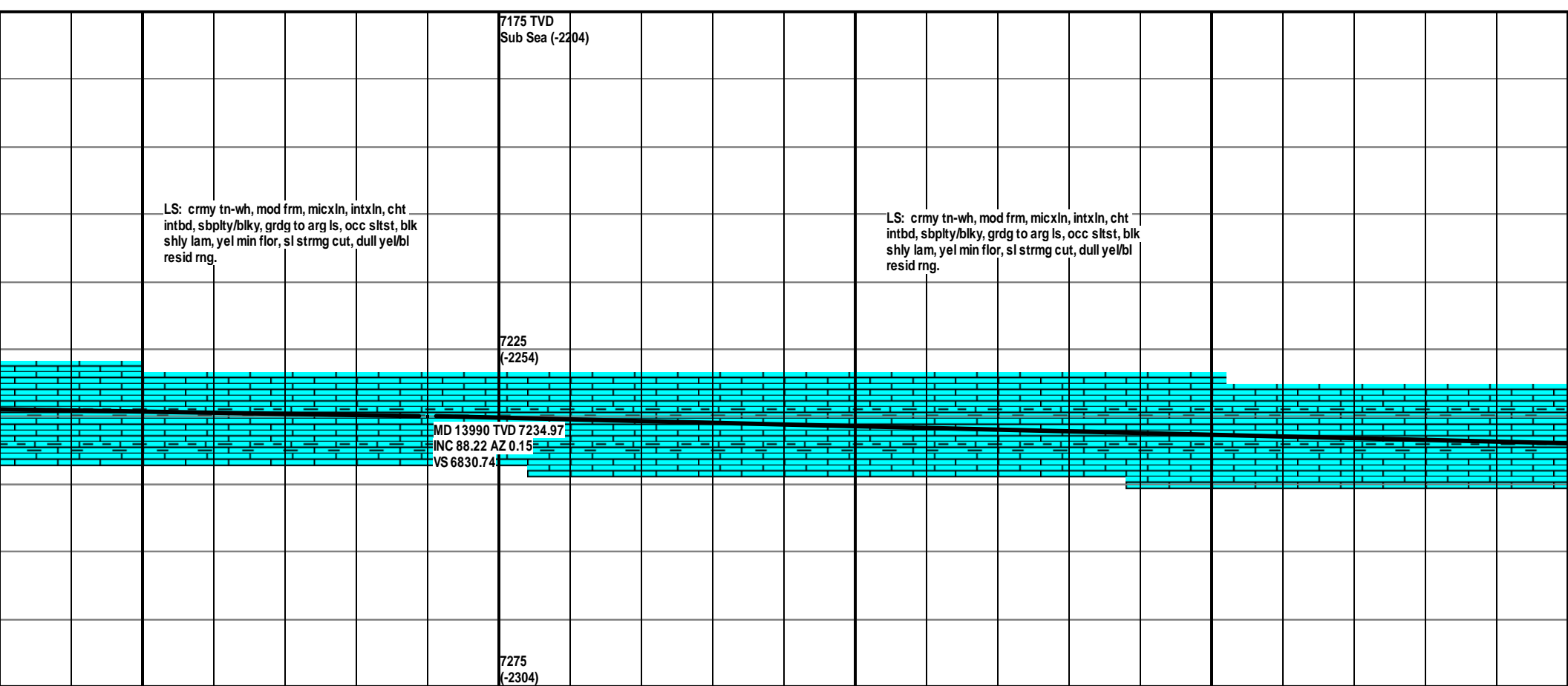
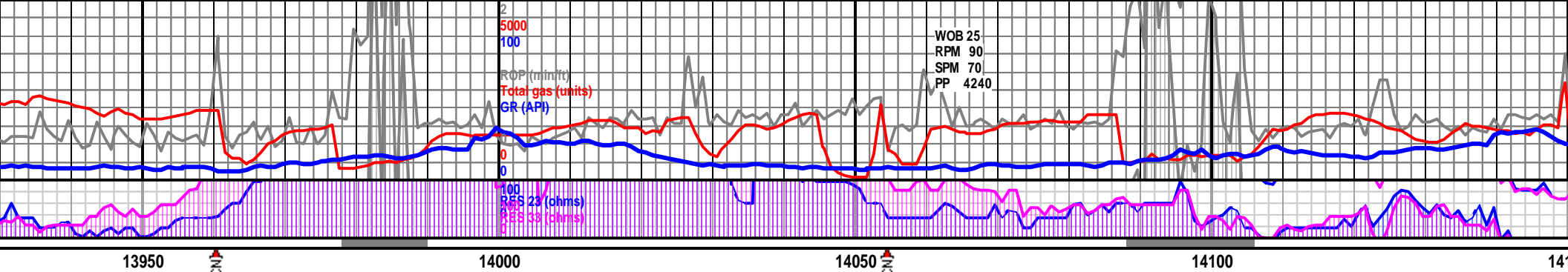
In 9.3/56  
Out 9.3/56

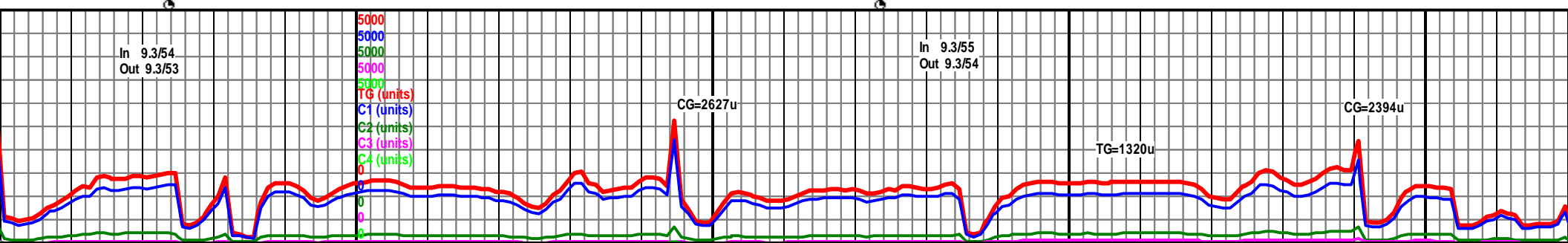
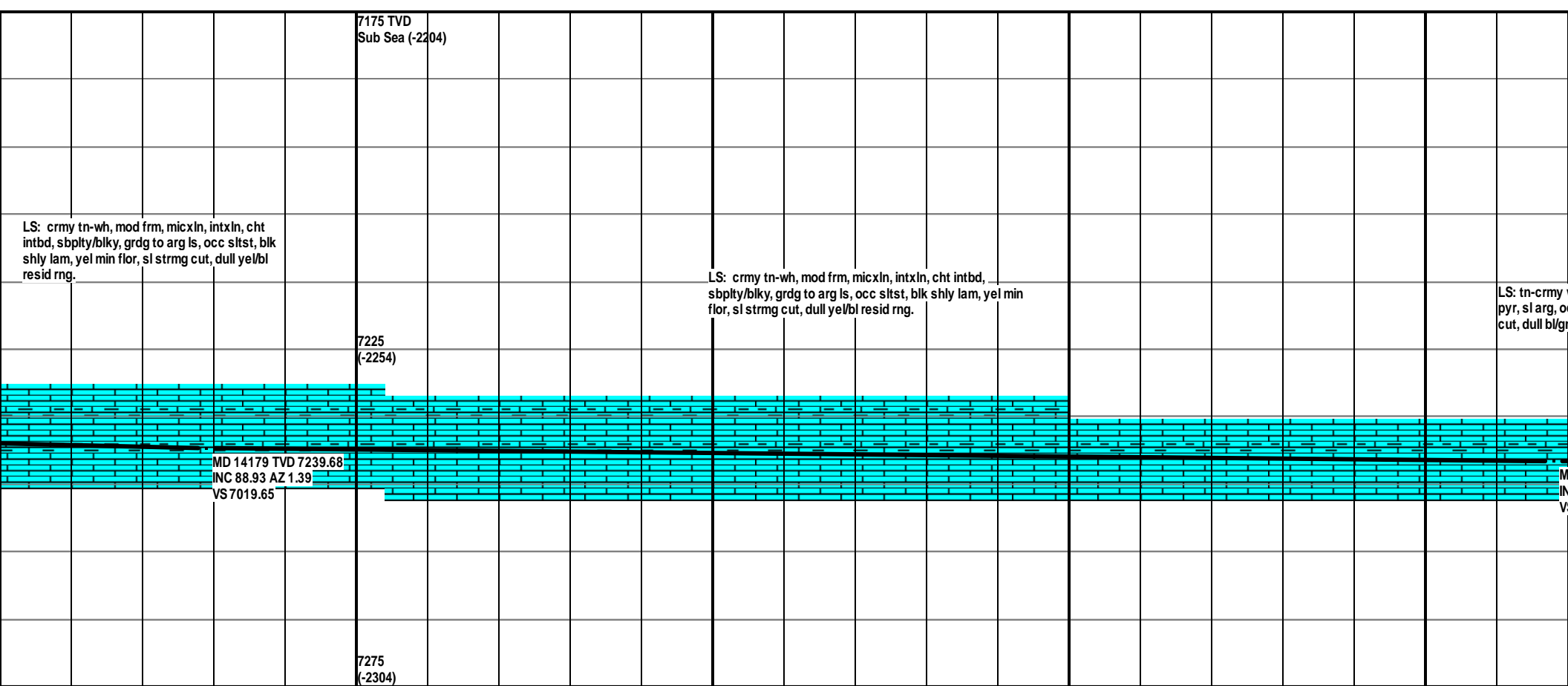
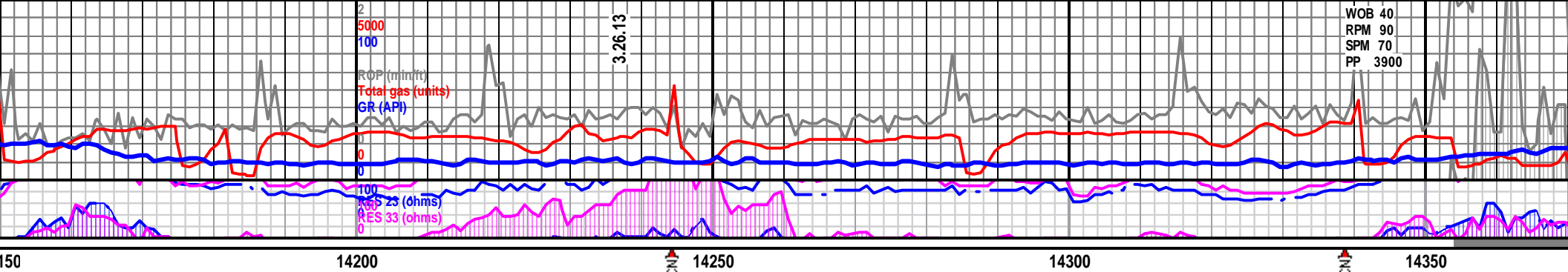
WORK ON POLYFLOW LINES FROM TRAILER TO TRAP.  
UNFREEZE/REPLACE FROZEN SECTIONS OF LINES.

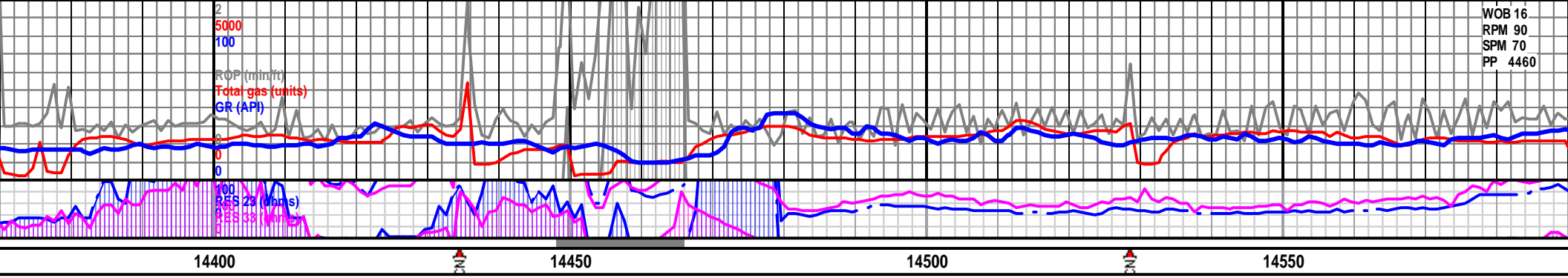


WOB 18  
RPM 90  
SPM 70  
PP 4260

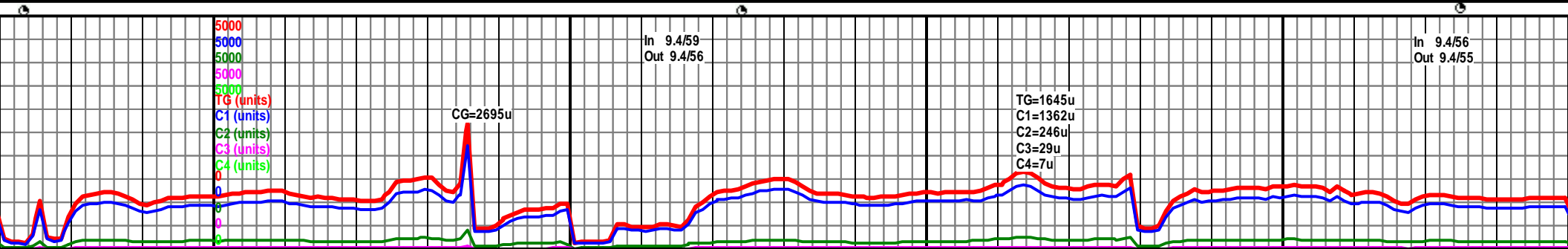




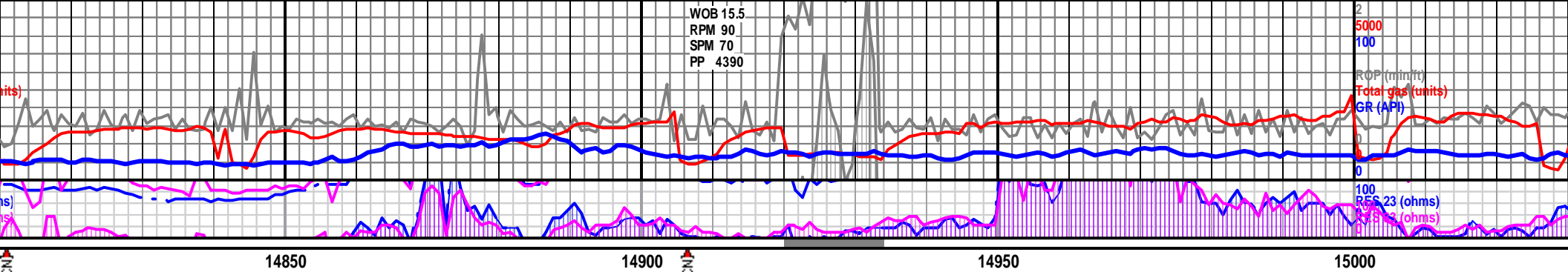




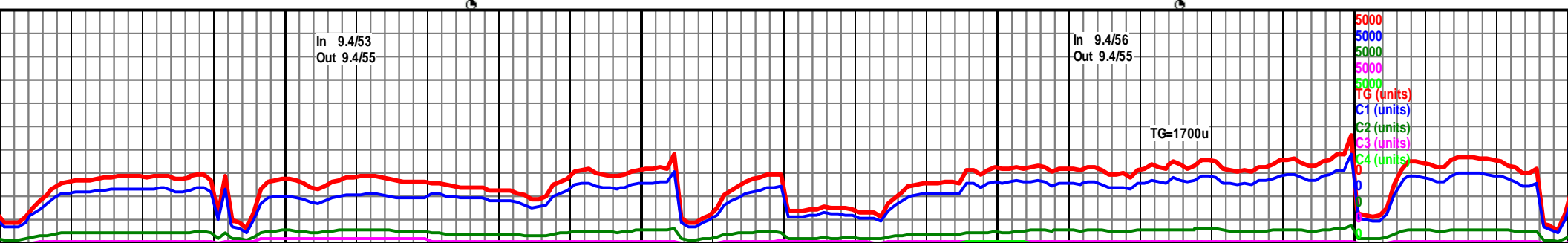
	<p>7175 TVD Sub Sea (-2204)</p>			
<p>wh, mod frm, micIn, intbd cht/dism ccc blk shly lam, yel min flor, sl strmg 1 resid rng.</p>	<p>7225 (-2254)</p>	<p>LS: tn-crmy wh, mod frm, micIn, intbd cht/dism pyr, sl arg, 5% blk shly lam, yel min flor, sl strmg cut, dull bl/gn resid rng.</p>		<p>LS: tn-crmy wh, mod frm, micIn, intbd pyr, sl arg, 1-5% blk shly lam, yel min f strmg cut, dull bl/gn resid rng.</p>
<p>ID 14368 TVD 7241.51 INC 89.97 AZ 0.29 S7208.62</p>				<p>MD 14557 TVD 7242.28 INC 89.56 AZ 0.4 VS7397.61</p>
	<p>7275 (-2304)</p>			

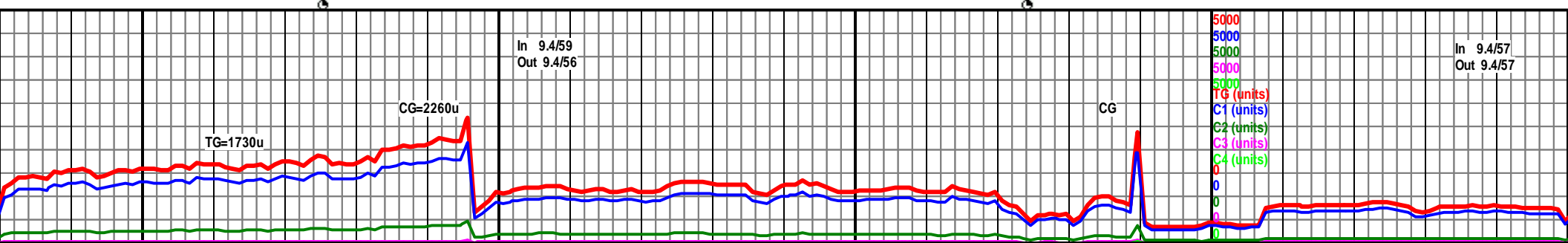
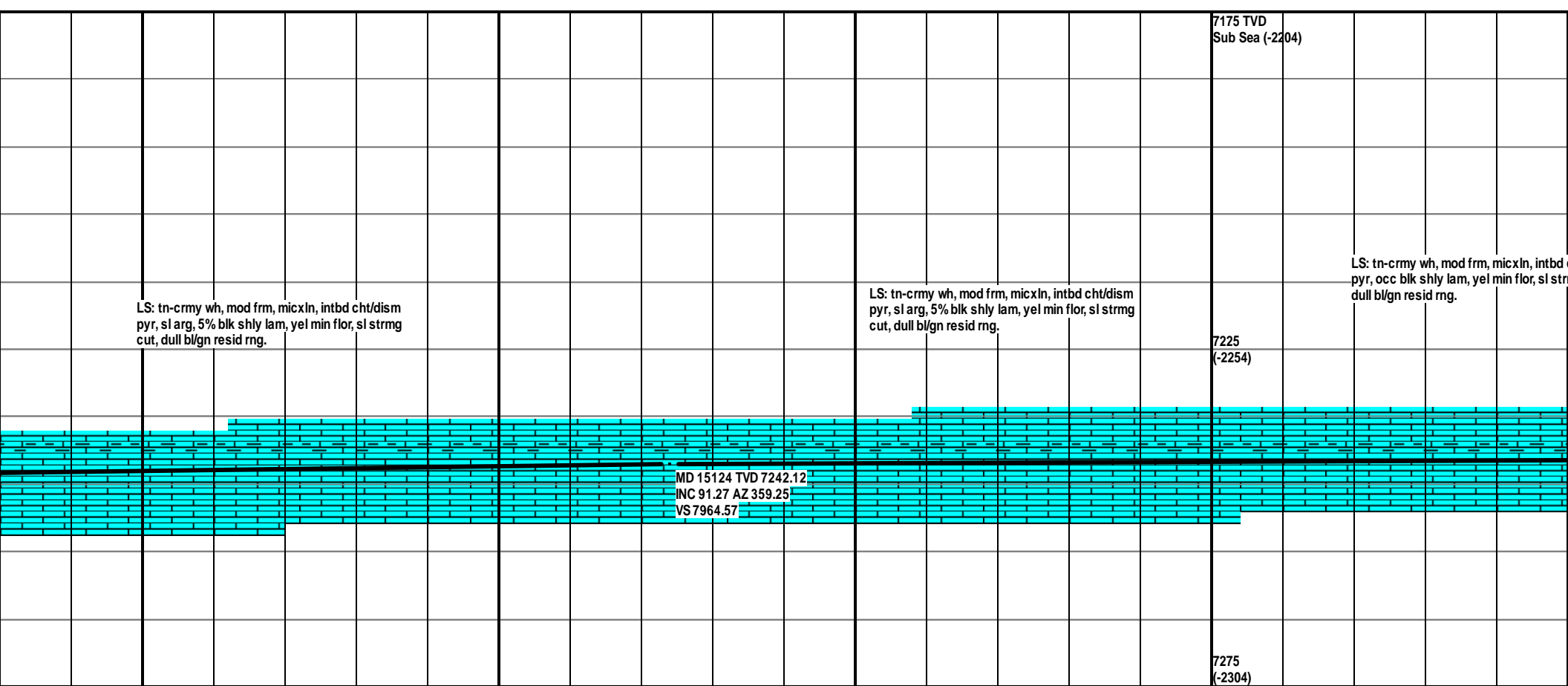
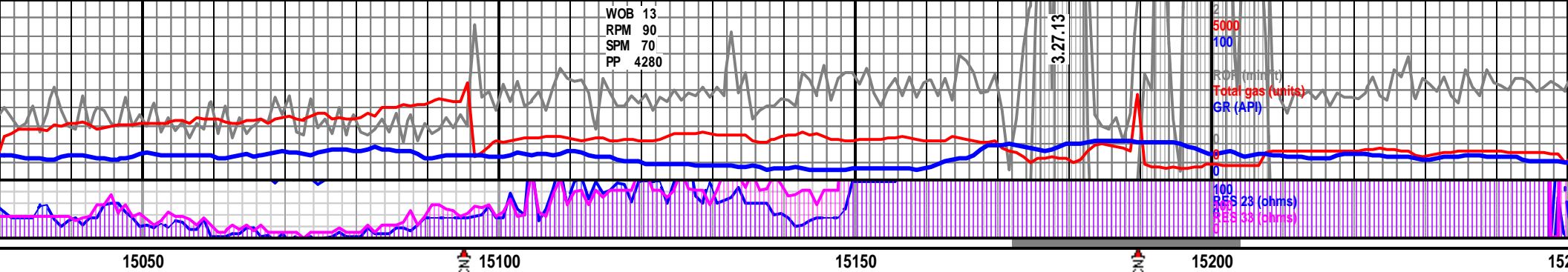




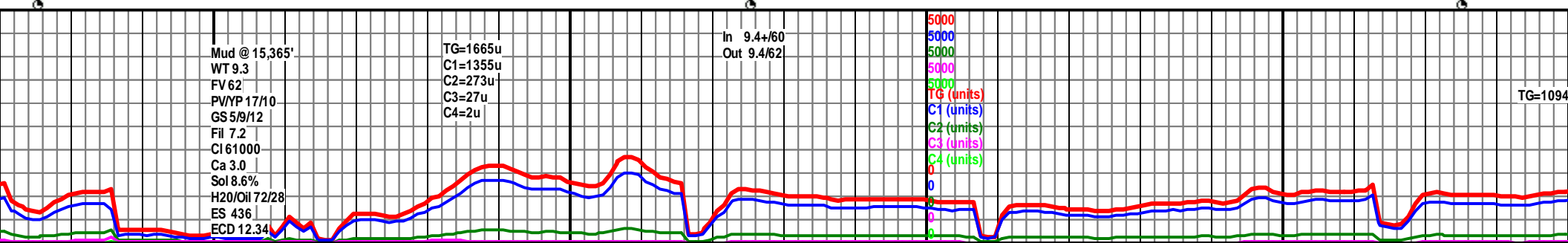
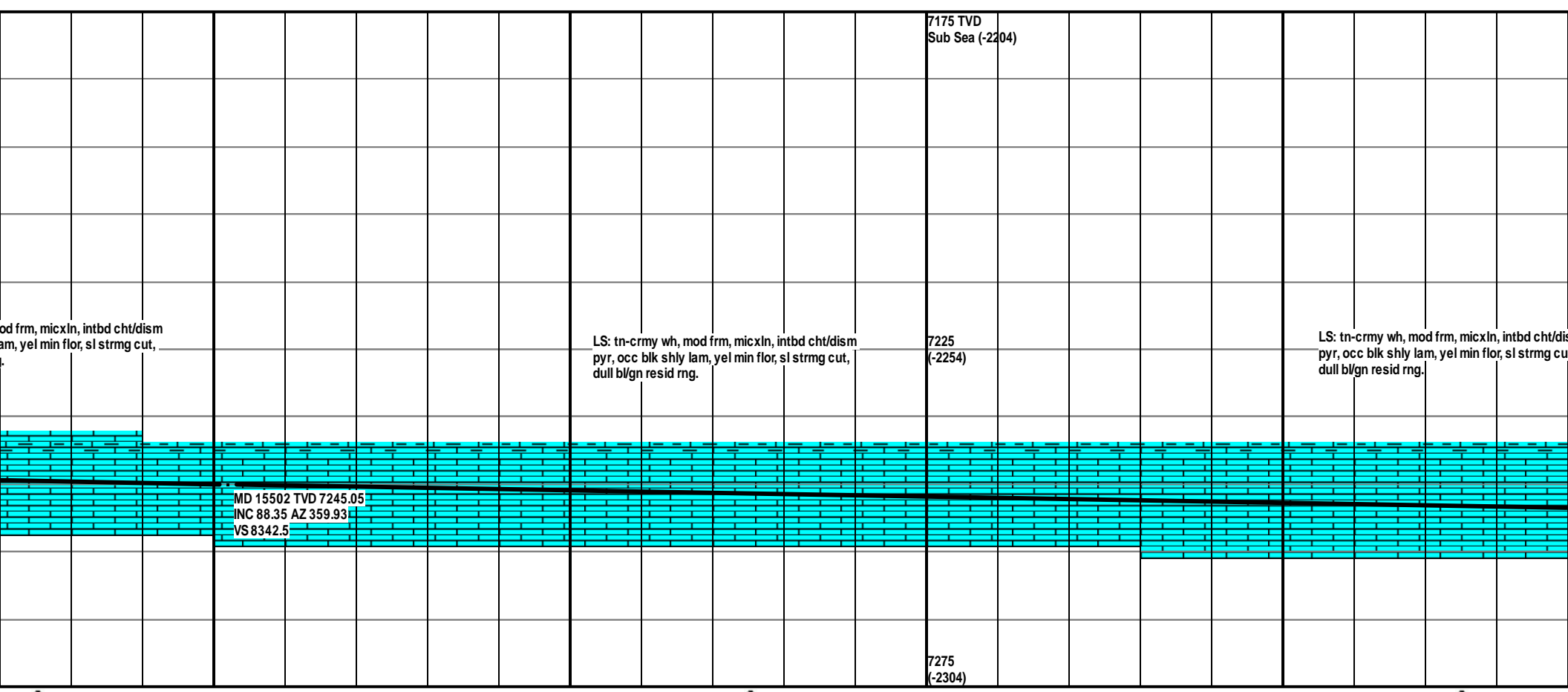
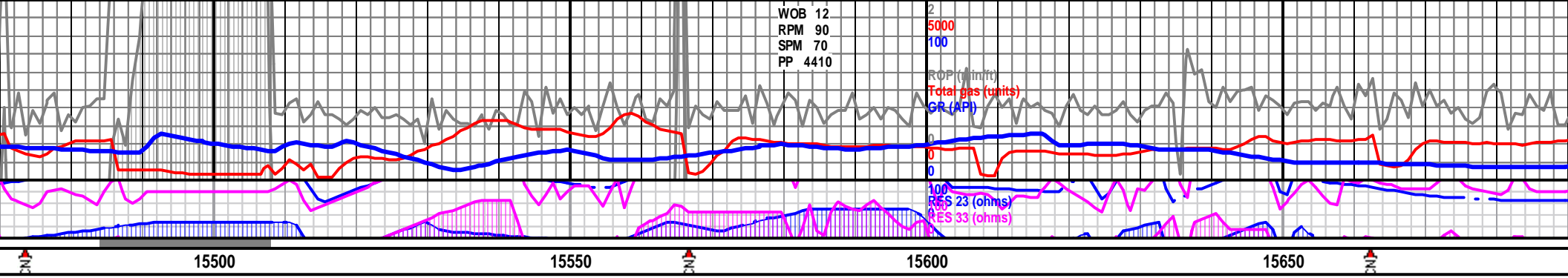


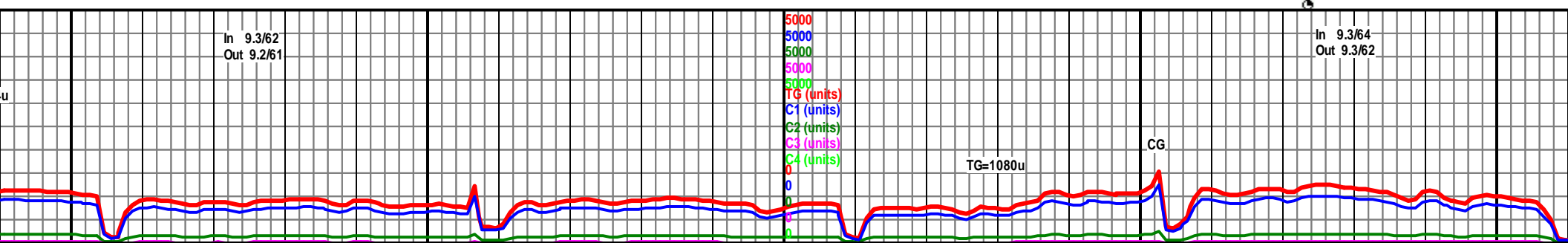
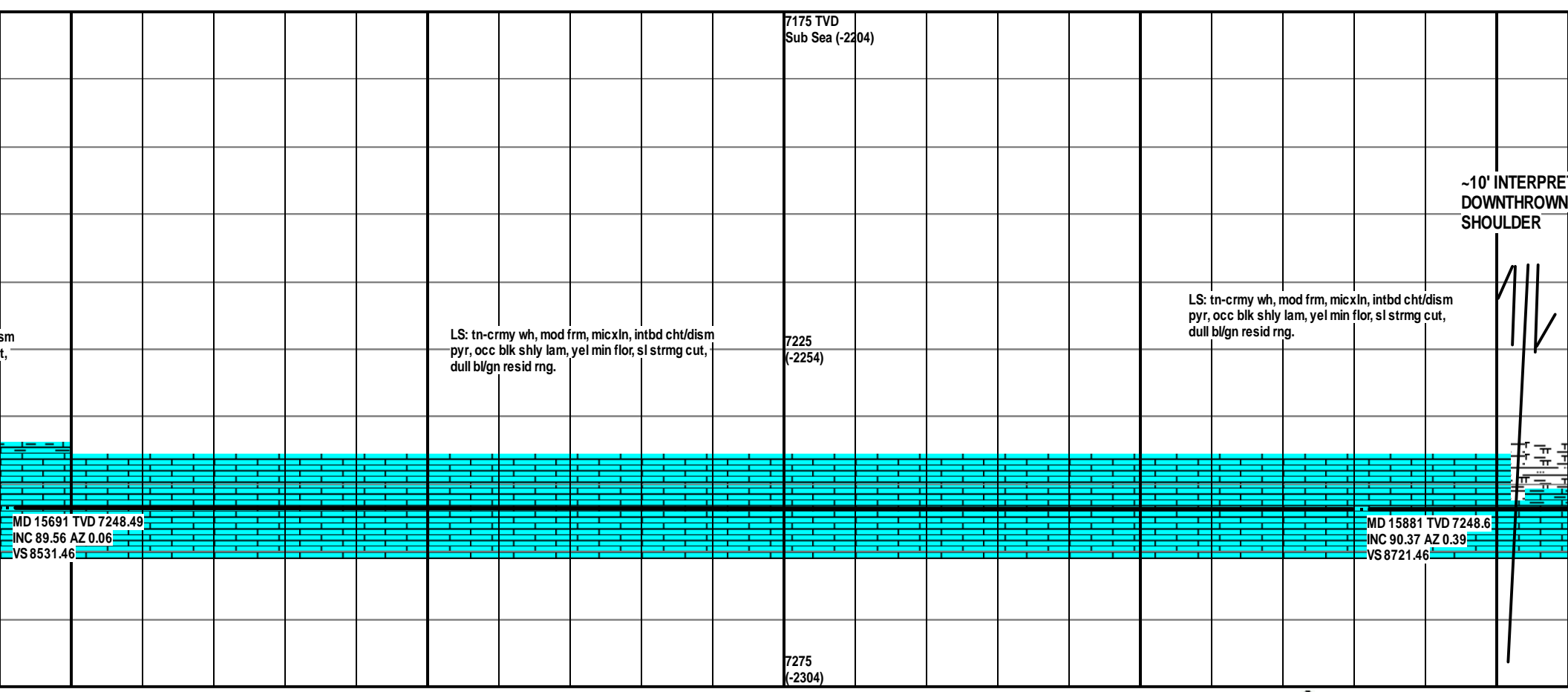
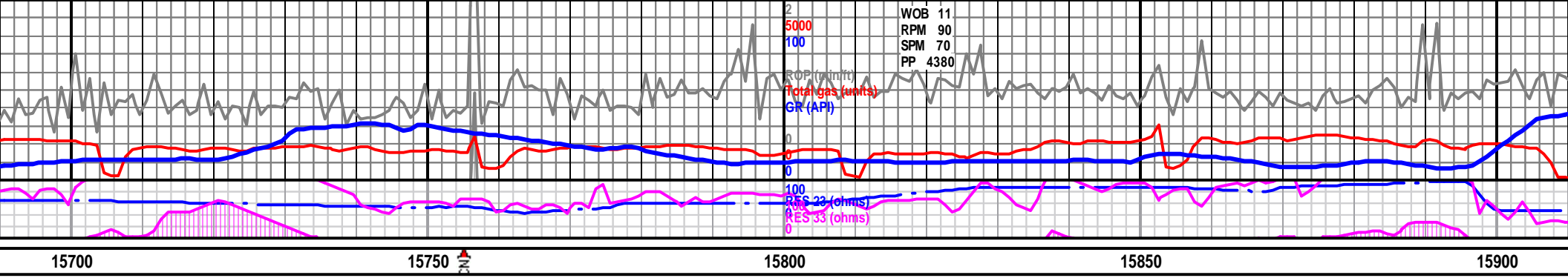
	<p>LS: tn-crmy wh, mod frm, micxln, intbd cht/dism pyr, sl arg, 1-5% blk shly lam, yel min flor, sl strmg cut, dull bl/gn resid rng.</p>	<p>MD 14935 TVD 7244.66 INC 90.27 AZ 359.69 VS 7775.59</p>	<p>LS: tn-crmy wh, mod frm, micxln, intbd cht/dism pyr, sl arg, 1-5% blk shly lam, yel min flor, sl strmg cut, dull bl/gn resid rng.</p>	<p>7175 TVD Sub Sea (-2204)</p> <p>7225 (-2254)</p> <p>7275 (-2304)</p>
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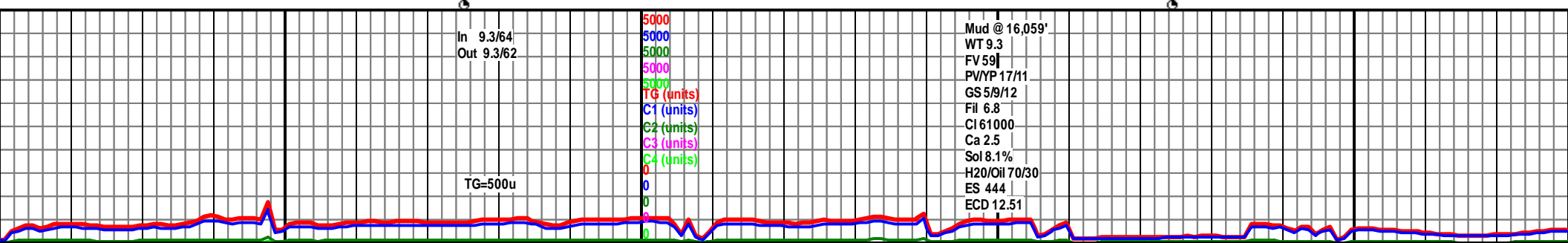
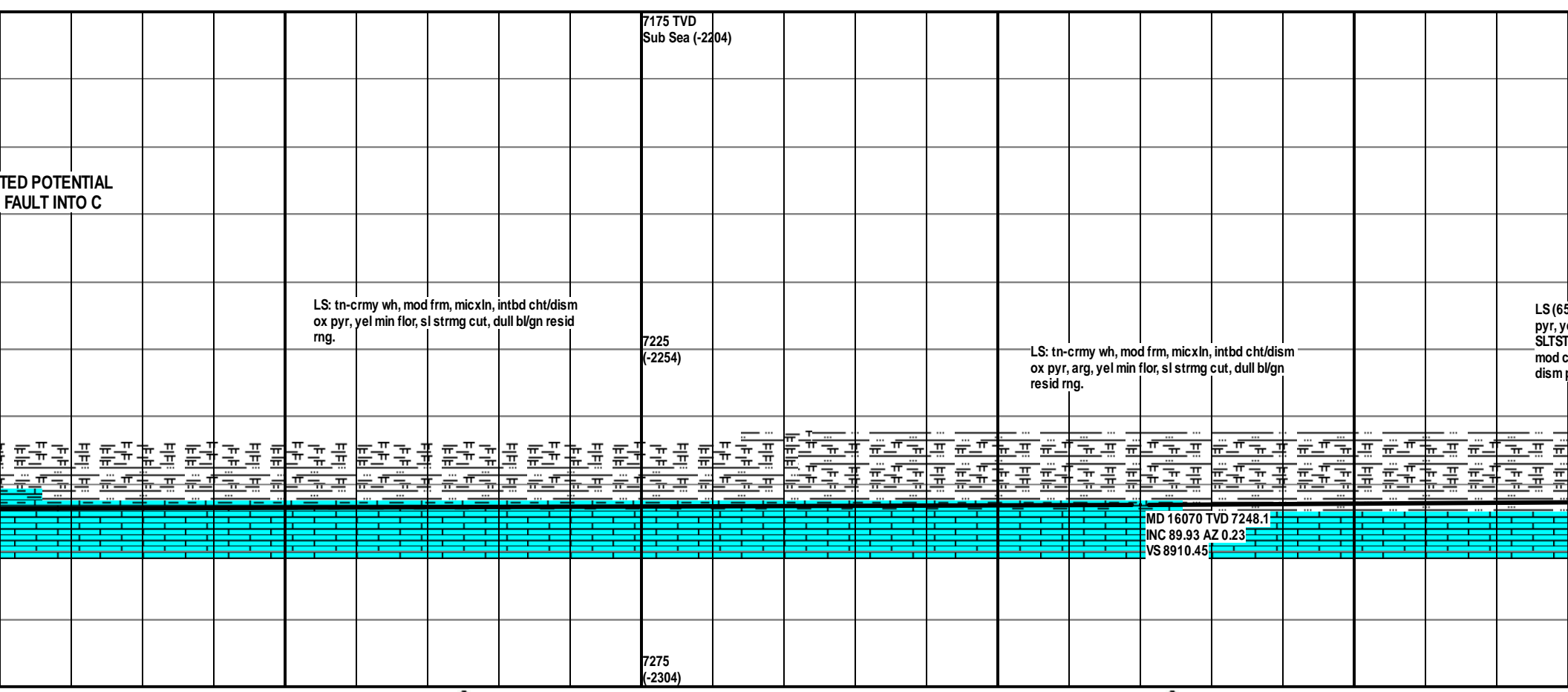
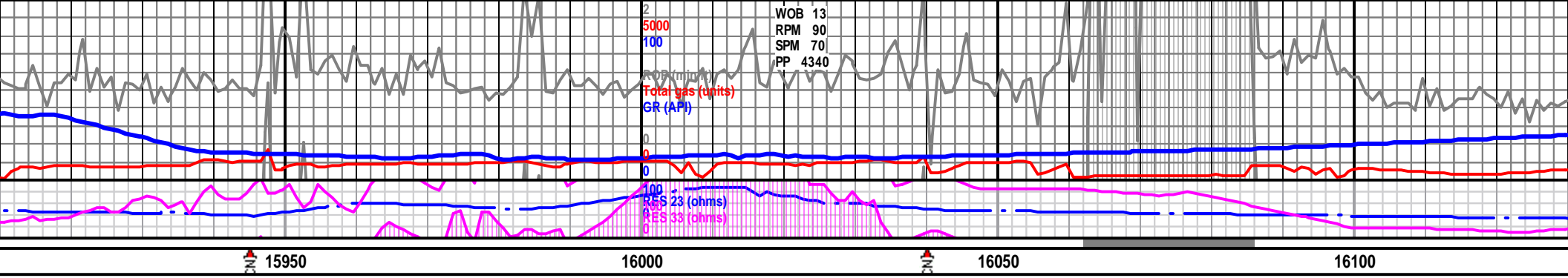


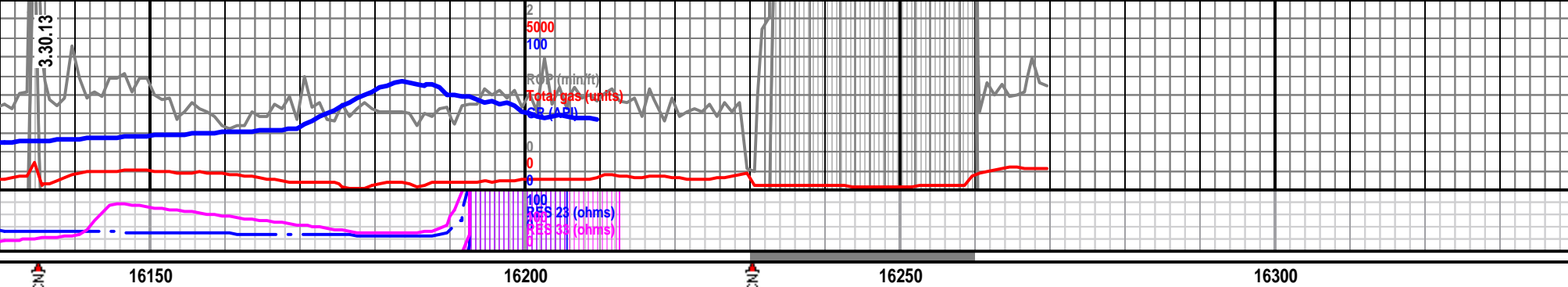




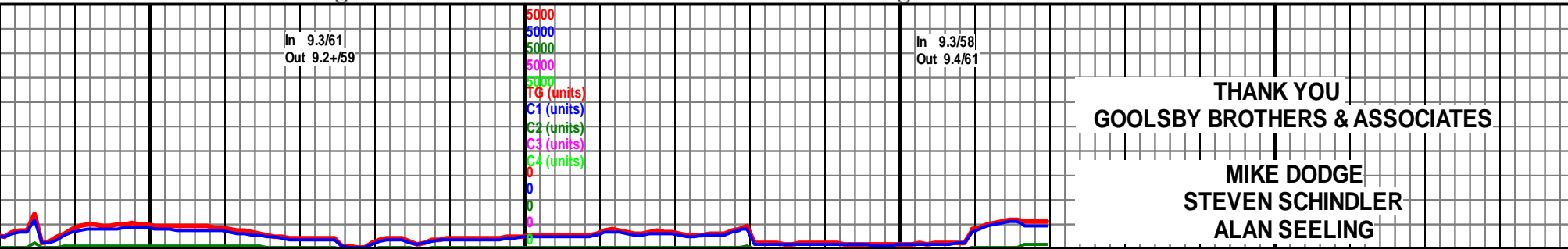








	<p>7175 TVD Sub Sea (-2204)</p>	
<p>5%) tn-crmly wh, mod frm, micxn, intbd cht/dism ox el min flor, sl strmg cut, dull bl/gn resid rng. /SLTY SH (35%) dkgy-gy, mod sft, sbblky-sbplty, alc, carb intbd, occ lvfgr ss strgs-grdg slty ss, tr pyr. No flor, wk strmg cut.</p>	<p>7225 (-2254)</p> <p>SLTST/SLTY SH (70%) dkgy-gy, mod sft, sbblky-sbplty, mod calc, carb intbd, occ lvfgr ss strgs-grdg slty ss, tr dism pyr. No flor, wk strmg cut. LS (30%) tn-crmly wh, mod frm, micxn, intbd cht/dism ox pyr, yel min flor, sl strmg cut, dull bl/gn resid rng.</p>	<p>TD OF 16,270' REACHED ON 3.30.13. @ 08:00. CIRCULATE BOTTOMS UP, BIT #7 DRILLED 935' IN 17 HRS. 4 1/2" LINER SET @ xxxxx'</p>
		<p>BOTTOM HOLE LOCATION Sec 26, T2N_Sec35 1050.17' FNL x 391.91' FEL</p>
	<p>MD 16205 TVD 7247.29 INC 90.77 AZ 358.5 VS 9045.86</p>	<p>PROJECTION TO BIT SURVEY</p> <p>MD 16270 TVD 7246.42 INC 90.77 AZ 358.5 VS 9110.83</p>
	<p>7275 (-2304)</p>	



THANK YOU  
GOOLSBY BROTHERS & ASSOCIATES

MIKE DODGE  
STEVEN SCHINDLER  
ALAN SEELING