

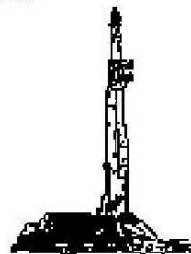
GOOLSBY BROTHERS
and associates, inc.

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



Geological Wellsite
Supervision

www.goolsbybrothers.com



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

Well Name: NRC 2N-8HZ
API: 051233909500
Location: SWSE Sec. 8 T1N R67W
License Number: AFE: Region: Wattenberg
Spud Date: May 18, 2014 Drilling Completed: May 24, 2014
Surface Coordinates: 350' FSL, 1810' FEL
Lat. 40.0592720 Long. --104.9115600, Sec.8, T1N R67W
Bottom Hole
Coordinates:
Ground Elevation (ft): 5,063' K.B. Elevation (ft): 5,076'
Logged Interval (ft): 6904' To: 12701' Total Depth (ft): 12701'
Formation: Niobrara 'B' Chalk
Type of Drilling Fluid: LSND (Polymer-Water)

Printed by HORIZONTAL.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: Anadarko Petroleum Corporation
Address: Granite Tower - 1099 18th St, Ste 1800
Denver, CO 80202
CO Geologist, Tom Birmingham.

GEOLOGIST

Name: Hank McCroskey, Marek Ciesnik
Company: Goolsby Brothers & Assoc. (GBA), Inc. (www.goolsbybrothers.com)
Address: 575 Union Blvd.
Suite 208,
Lakewood CO. 80228

E-logs

Casing

Intermediate casing: 7", 26#, HTC 110 LTC, set at 8246'
Liner: 4 1/2", packer and assembly, 11.5#, HCP 110, LTC & D2X, set at 12987'

Comments

1) Drilling Contractor: H&P 311

Pumps 1 & 2: Gardner Denver PZ 11 6" x 11" (.0914 bbl/stk)

Rig Manager: Christopher Moore, James Baggett.

Drillers: Michael Munroe, Christopher Moore, Kenneth

Jones, Christopher Beckstead.

2) Company Man: Doug Blair, Ruben Hernandez

3) Mud Company: Halliburton, Steven McNeil

4) Directional Drilling: Scientific Drilling

Directional Drillers: Arin Hatfield


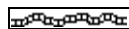
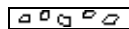
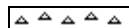
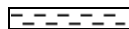

MWD: Mohamed Sharker.






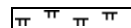
5) Gas Equipment: Mudlogging Systems Inc.

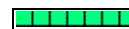
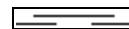
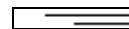



by Terra Services



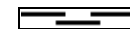

Redbox # ML-055

ROCK TYPES

 Anhy
 Bent
 Brec
 Cht
 Clyst
 Coal

 Oil sat.
 Congl
 Dol
 Gyp
 Lmst
 Mrlst

 Salt
 Shale
 Shcol
 Shgy
 Ss
 Slst

 Ss
 Chalk
 Carb sh
 Slty sh

ACCESSORIES

MINERAL

	Anhy
	Arggrn
	Arg
	Bent
	Bit
	Brecfrag
	Calc
	Carb
	Chtdk
	Chtl
	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

STRINGER

	Chlkstg
	Anhy
	Arg
	Bent
	Coal

	Dol
	Gyp
	Ls
	Mrst
	Sltstrg
	Ssstrg

TEXTURE

	Boundst
	Chalky
	Cryxln
	Earthy
	Finexln
	Grainst
	Lithogr
	Microxln
	Mudst
	Packst
	Wackest

OTHER SYMBOLS

OIL SHOWS

	Even
	Spotted
	Ques
	Dead
	Vspotty
	near even

POROSITY TYPE

	Earthy
	Fenest
	Fracture
	Inter
	Moldic
	Organic

	Pinpoint
	Vuggy

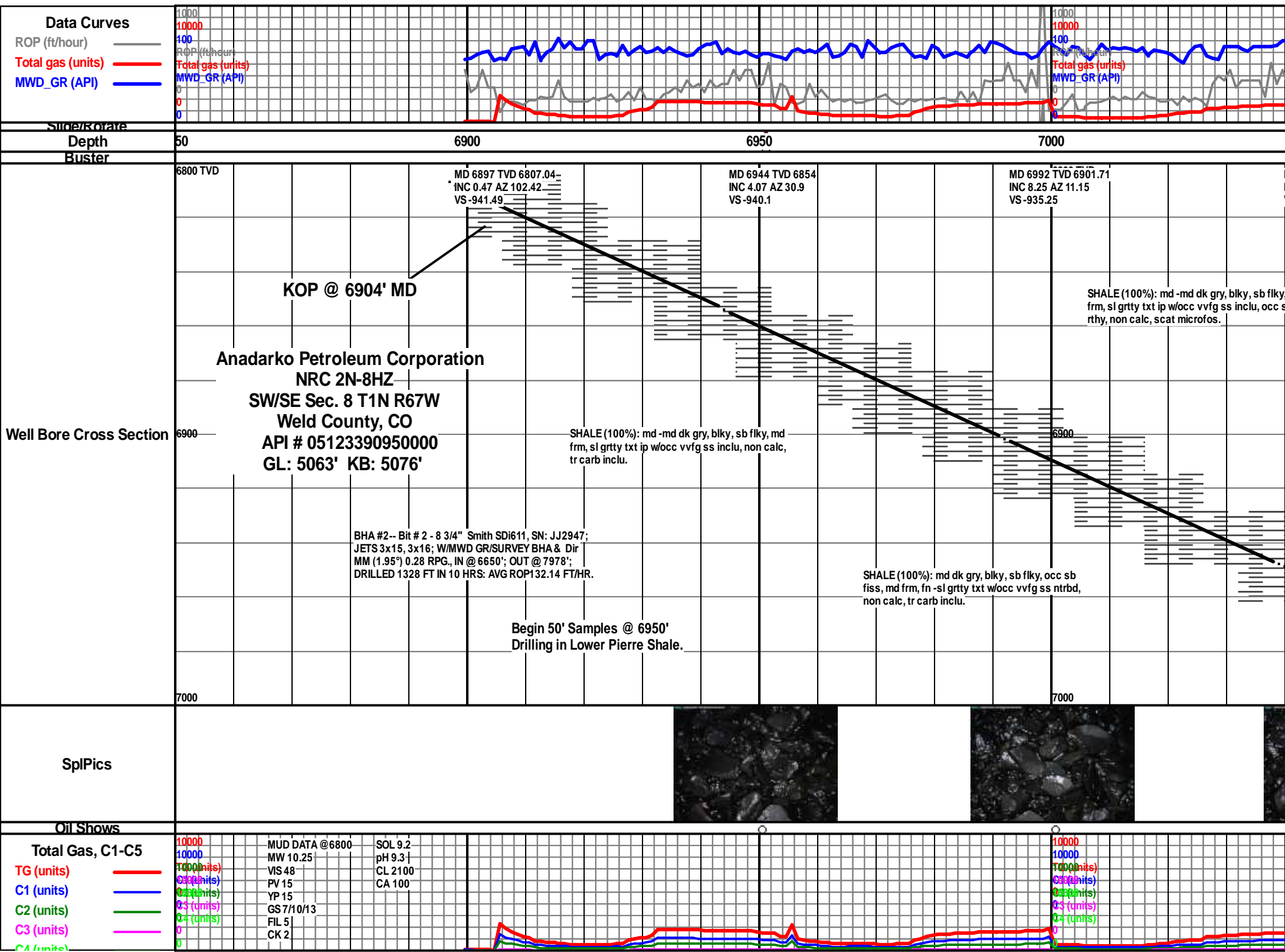
ROUNDING

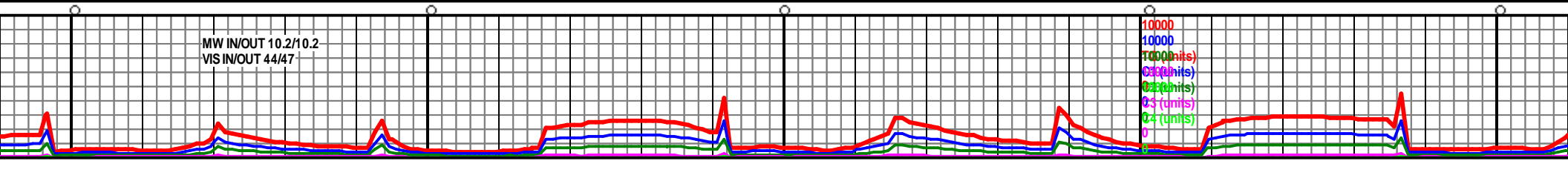
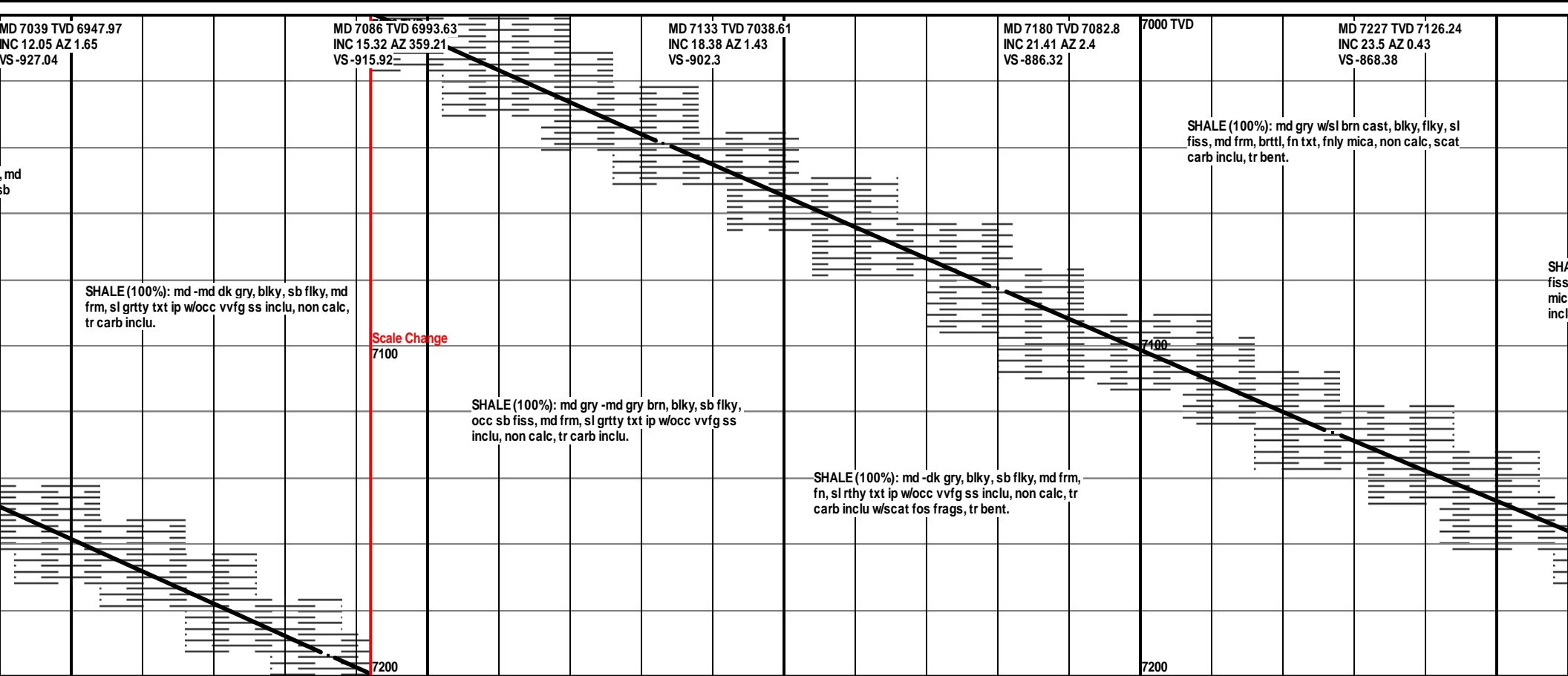
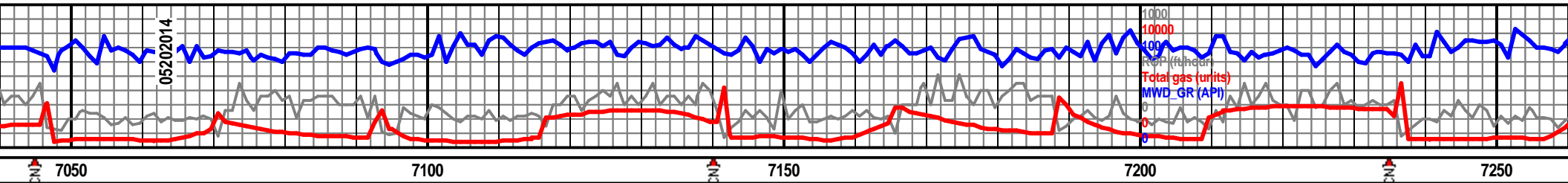
	Rounded
	Subrnd
	Subang

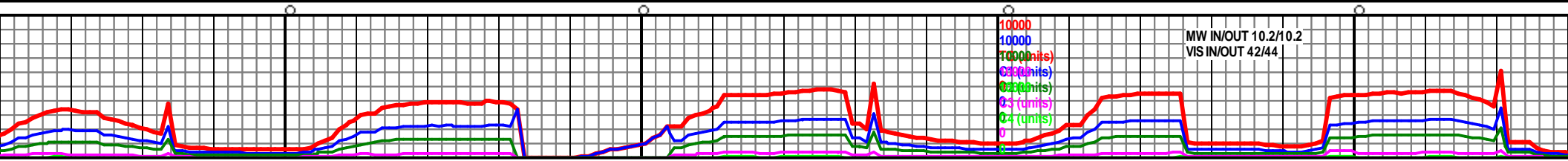
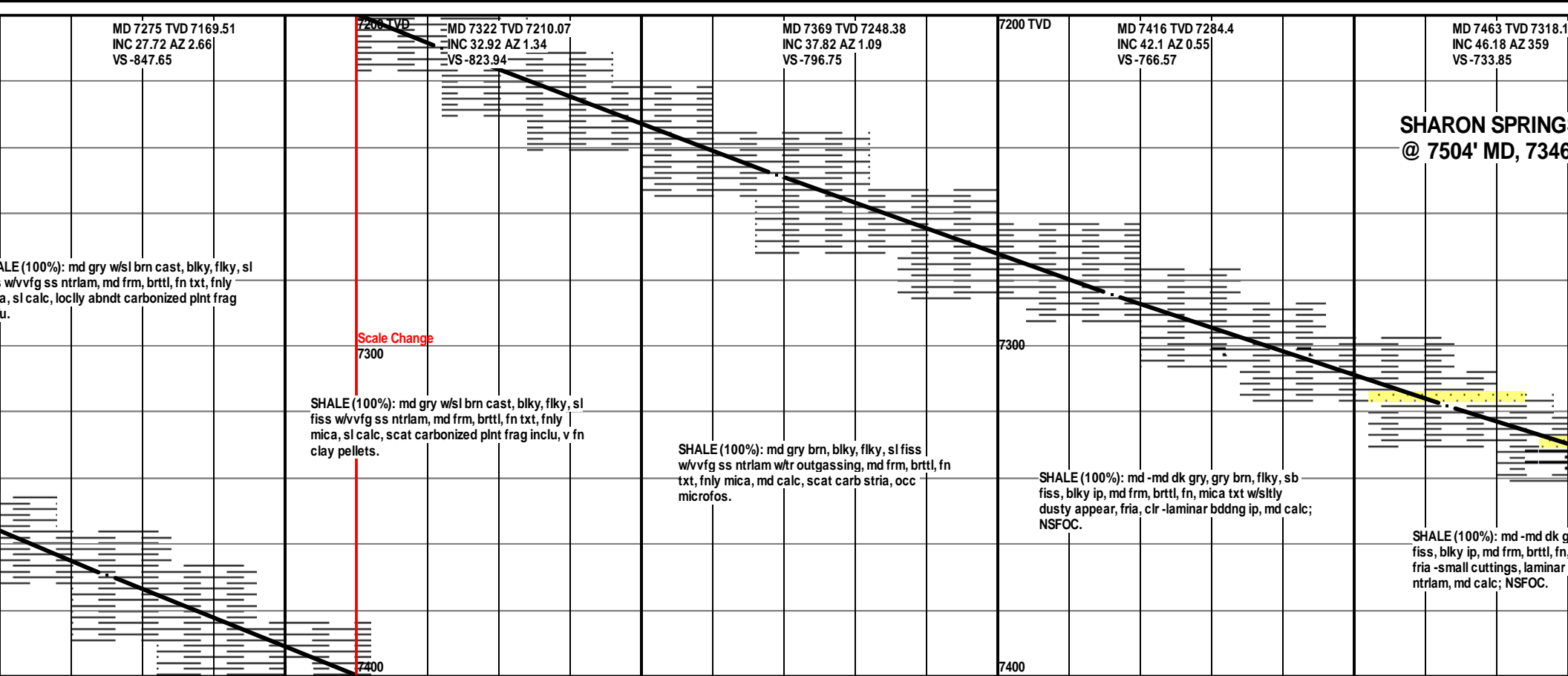
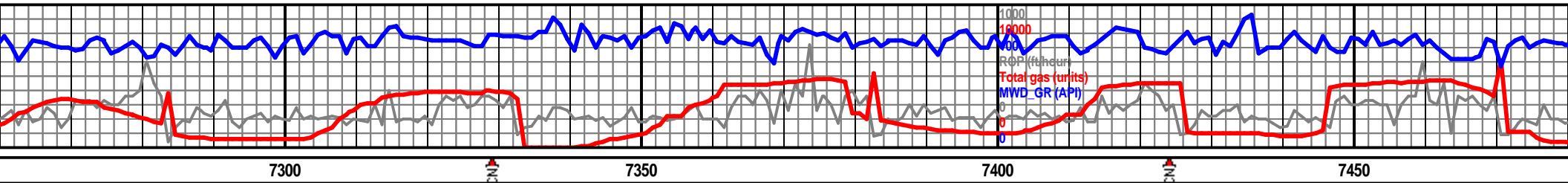
	Angular
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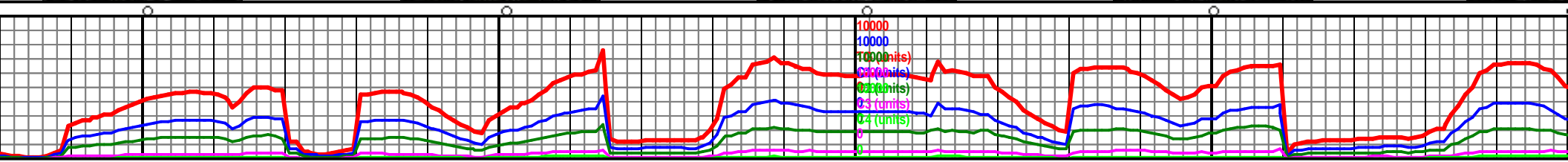
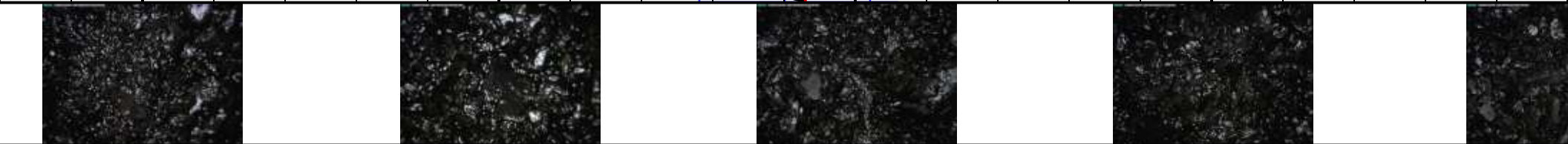
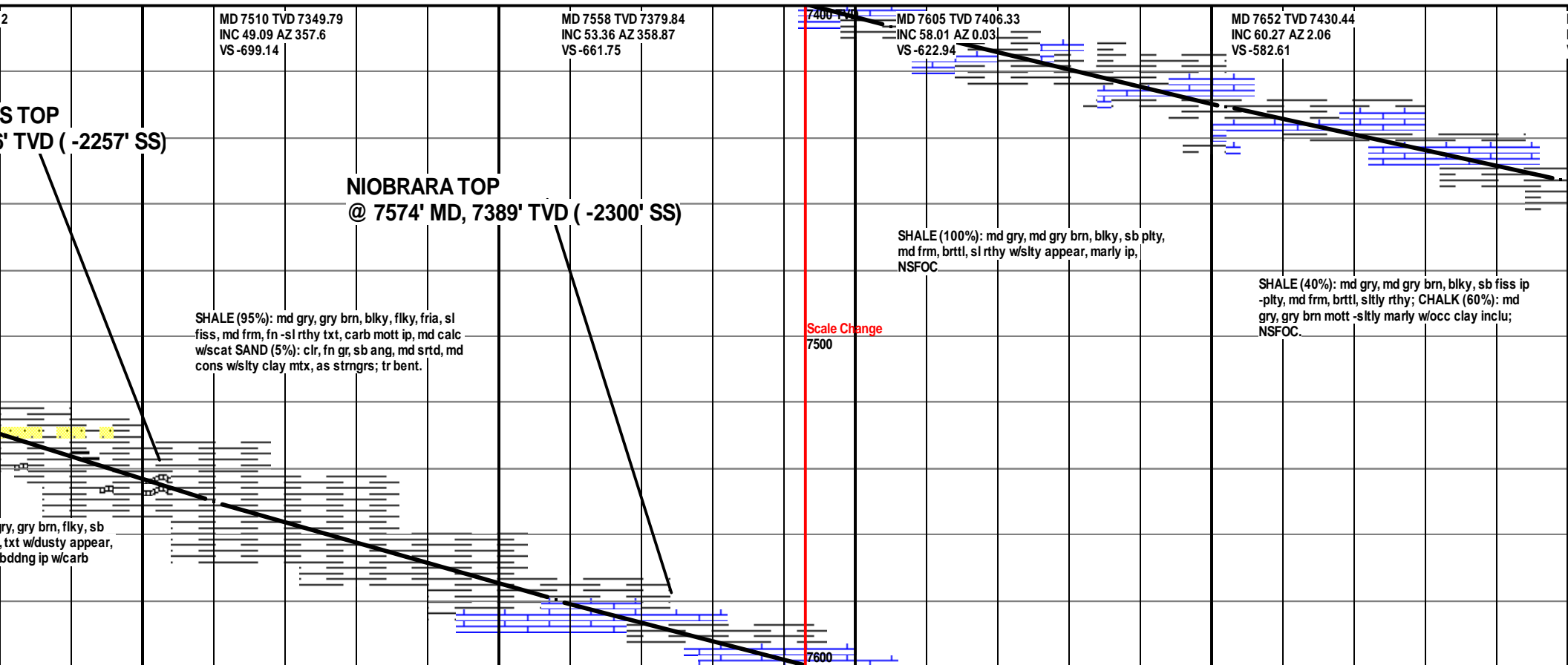
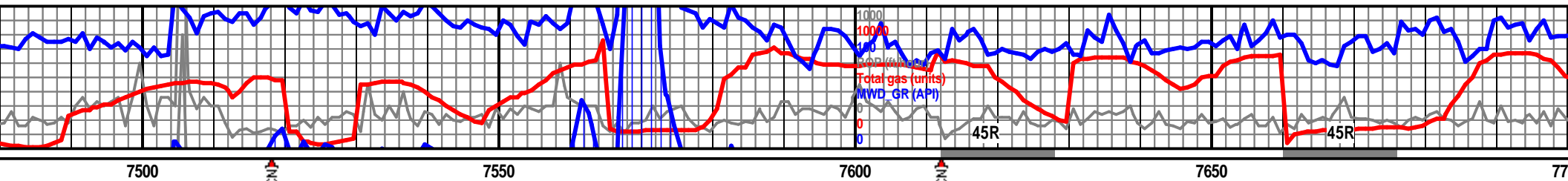
SORTING

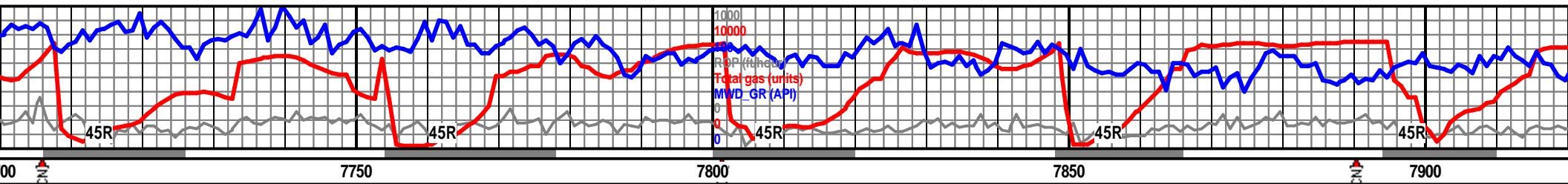
	Well
	Moderate
	Poor











MD 7699 TVD 7452.73 INC 63.11 AZ 2.22 VS -541.26	MD 7747 TVD 7472.54 INC 68.12 AZ 0.19 VS -497.57	MD 7794 TVD 7488.72 INC 71.59 AZ 359.48 VS -453.45	MD 7841 TVD 7501.64 INC 76.5 AZ 359.38 VS -408.28	MD 7888 TVD 7510.9 INC 80.77 AZ 0.55 VS -362.21
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**NIOBRARA 'B' CHALK
@ 7846' MD, 7503' TVD (-2414' SS)**

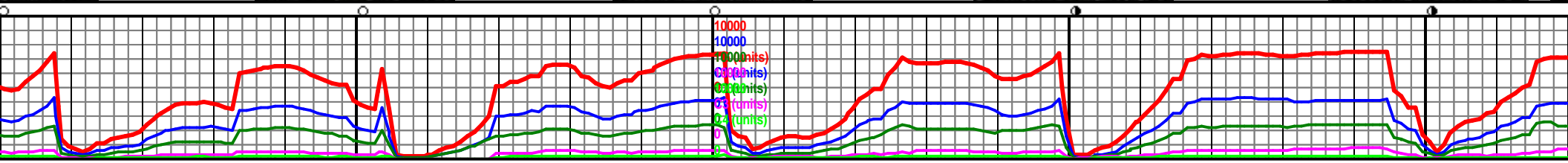
SHALE (20%): md gry, md gry brn, blk, sb fiss
-plty, md frm, rthy; MARL (80%): lt -md dk brn gry
mott w/clay nod inclu, md frm, carb ip w/scat plnt
frag inclu; NSFOC.

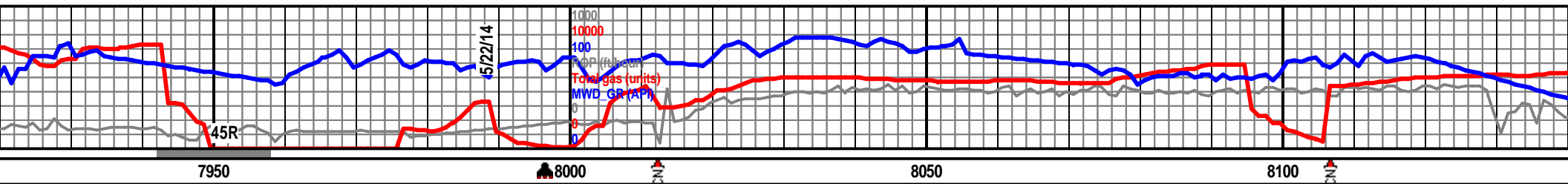
SHALE (60%): md -dk gry brn, blk, sb plty -fiss
ip, rthy -dusty txt w/scat carb inclu; MARL
(40%): lt -md dk brn gry mott w/clay nod inclu,
md frm, carb ip w/scat plnt frag inclu; NSFOC.

SHALE (20%): md gry brn, md gry, blk, sb flky
-fiss -plty ip, md frm -frm, brttl, rthy -fn txt;
CHALK (80%): md gry, gry brn, md frm -sft, marly
ip, no fluor, v sl diffuse grn gold cut w/yel resid
ring.

CHALK (90%): lt -md gry brn, gry mott, blk
w/fnly laminar bddng ip & occ carb ntrlam, scat
dull fluor w/solv, sl diffuse grn gold cut w/brt yel
resid; SHALE (10%): md gry brn, blk -sb
plty/fiss w/carbonate ntrbd, rthy txt, sltly marly.

CHALK (100%): lt -m
w/fnly laminar bddng
dull fluor w/solv, sl di
resid; tr shale.





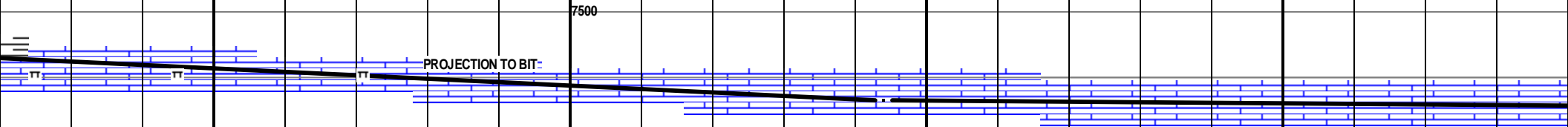
TD ICP @ 7978' MD

SET UP THE INTERMEDIATE
CASING AT 7798'

RESUMED DRILLING
ON 5/22/14 AT 3AM

BHA #3-- Bit # 3 - 6 1/8" Varel VS513D, SN:
4006989; JETS 3x16, 2x18; W/MWD GR/SURVEY
BHA & Dir MM (1.25") 0.81 RPG., IN @ 7978';
OUT @ 7978'; DRILLED 9750 FT IN 7 HRS: AVG
ROP 251.94 FT/HR.

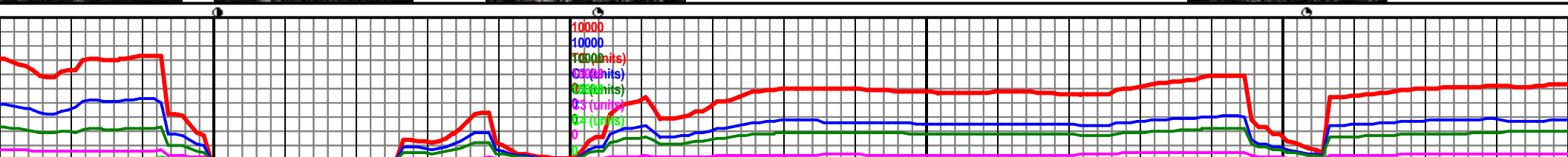
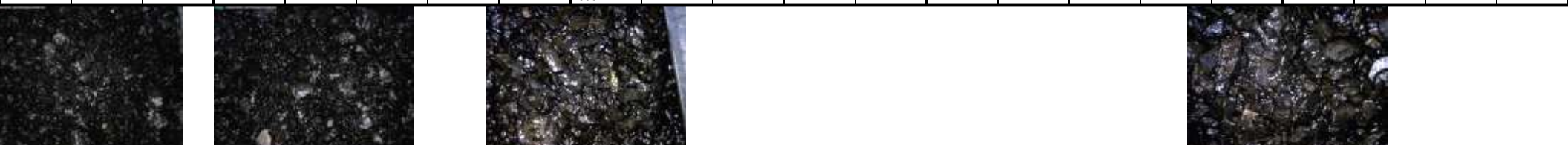
MD 8044 TVD 7526.72
INC 87.59 AZ 359.24
VS-207.12

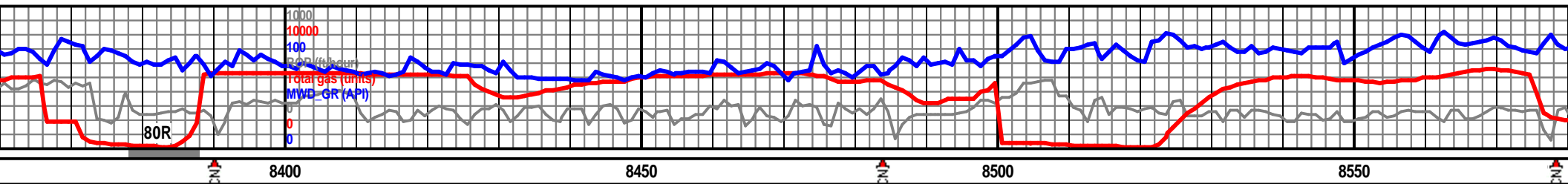


md gry brn, gry mott, blk
ip & occ carb ntrlam, scat
ffuse grn gold cut w/brt yel

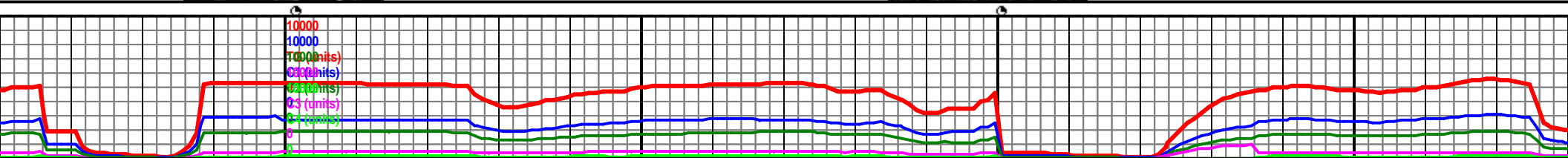
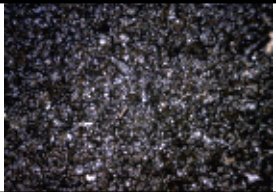
CHALK (90%): lt-md gry brn, gry mott, blk w/fnly laminar bddng ip & occ
carb ntrlam, scat dull fluor w/solv, sl diffuse grn gold cut w/brt yel resid;
SHALE (10%): md gry brn, blk -sb ply/fiss w/carbonate ntrbd, rthy txt,
sltly marly.

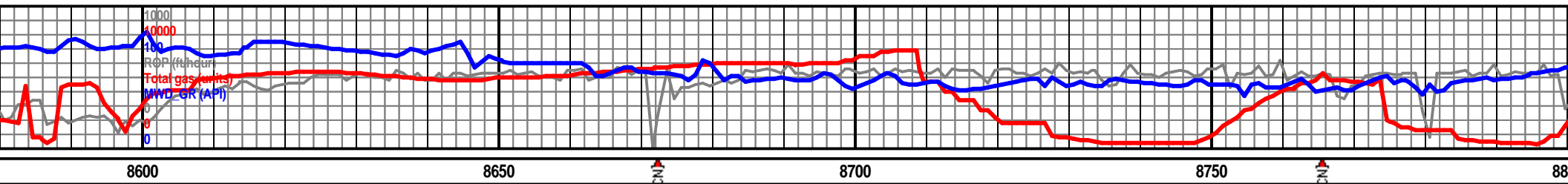
CHK (85%) ltgy-brngy, m sft, sbblky, lams intbd lt
& dk carb mat, shly, tr wh calc foss frags ind, dull
yel min, fnt slow blu resid rng. MRLST (15%)
dkgy-gy, sbblky-sbply, mod-v frm & hd, carb,
calc, sl strng cut w bri grn/bl re



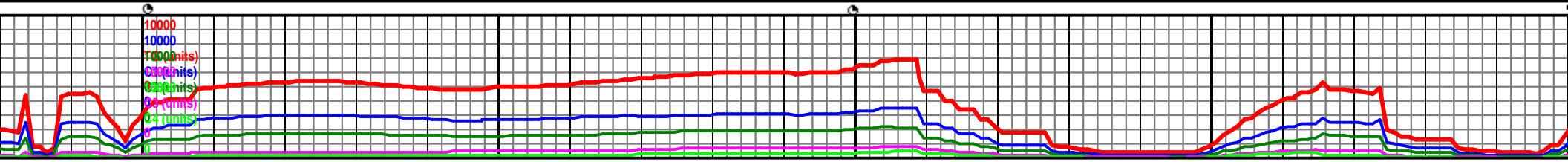


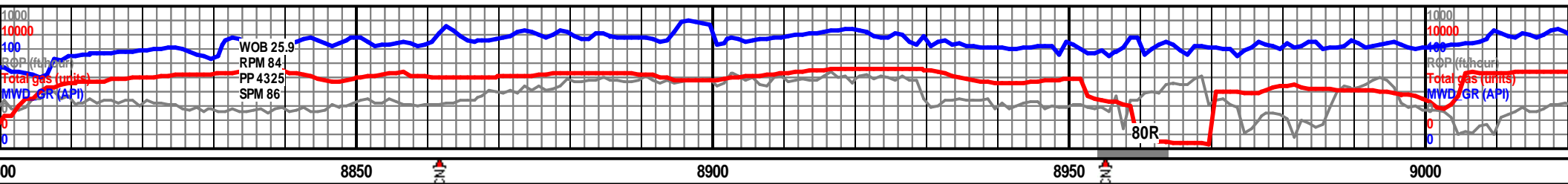
	7400 TVD	MD 8421 TVD 7531.12 INC 89.9 AZ 3.16 VS 169.5							
	7500								
CHK (85%) ltgy-brngy, m sft, sbblky, lams intbd lt & dk carb mat, shly, tr wh calc foss frags ind, tr BENT, dull yel min, fnt slow blu resid rng. MRLST (15%) dkgy-gy, sbblky-sbplty, mod-v frm & hd, carb, calc, sl strmg cut w bri gn/bl resid rng.					CHK (100%) ltgy-brngy, sbblky, lams intbd lt & dk carb mat, shly & marly, occ scat pel mat, scat wh specs, mod consol, fri, dull yel min, fnt slow blu resid rng. MRLST				CHK (90%) ltgy-l pel mat, scat wh MRLST (10%) dk bri gn/bl resid rng
	7600								





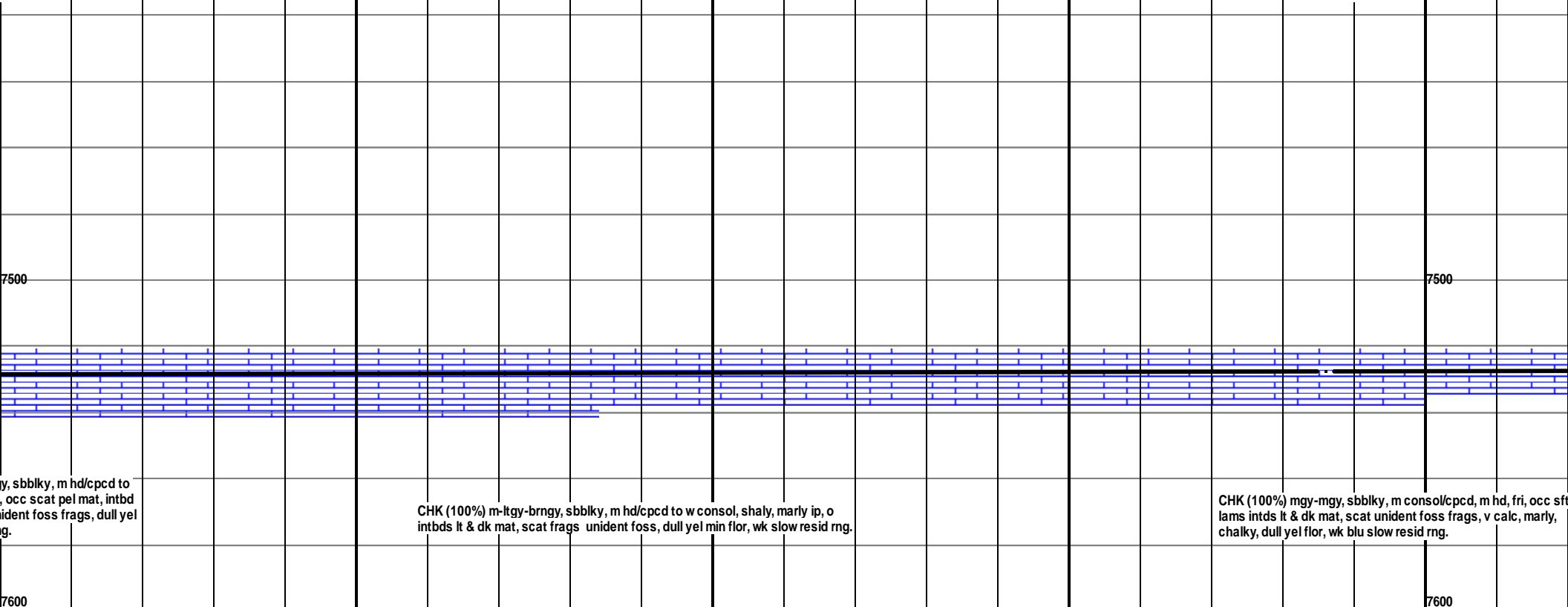
	7400 TVD MD 8609 TVD 7529.74 INC 90.94 AZ 2.48 VS 357.27					MD 8703 TVD 7528.87 INC 90.13 AZ 0.88 VS 451.22				
brngy, sbblky, lams intbd lt & dk carb mat, shly & marly, occ scat specs, mod consol, fri, dull yel min, fnt slow blu resid rng. gy-gy, sbblky-sbply, mod-v frm & hd, carb, calc, sl strmg cut w										
				CHK (100%) m-ltgy-brngy, sbblky, m hd/cpcd to w consol, shaly, marly ip, occ scat pel mat, intbd dk mat, scat wh spec unident foss frags, dull yel min flor, wk slow resid rng.						CHK (100%) m-ltgy-brngy w consol, shaly, marly ip dk mat, scat wh spec un min flor, wk slow resid m





ID 8798 TVD 7528.28
IC 90.57 AZ 1.61
S546.19

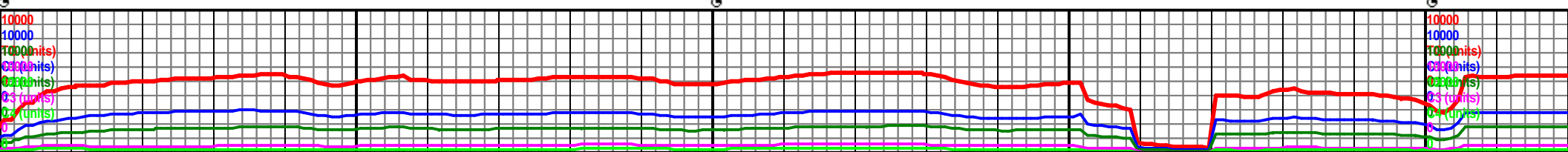
MD 8986 TVD 7527.46
INC 89.93 AZ 0.74
VS 734.15

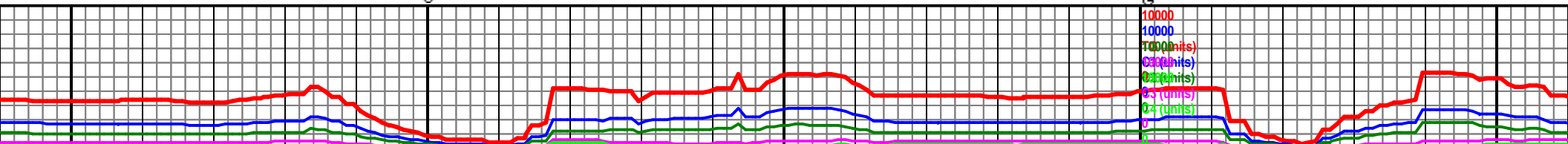
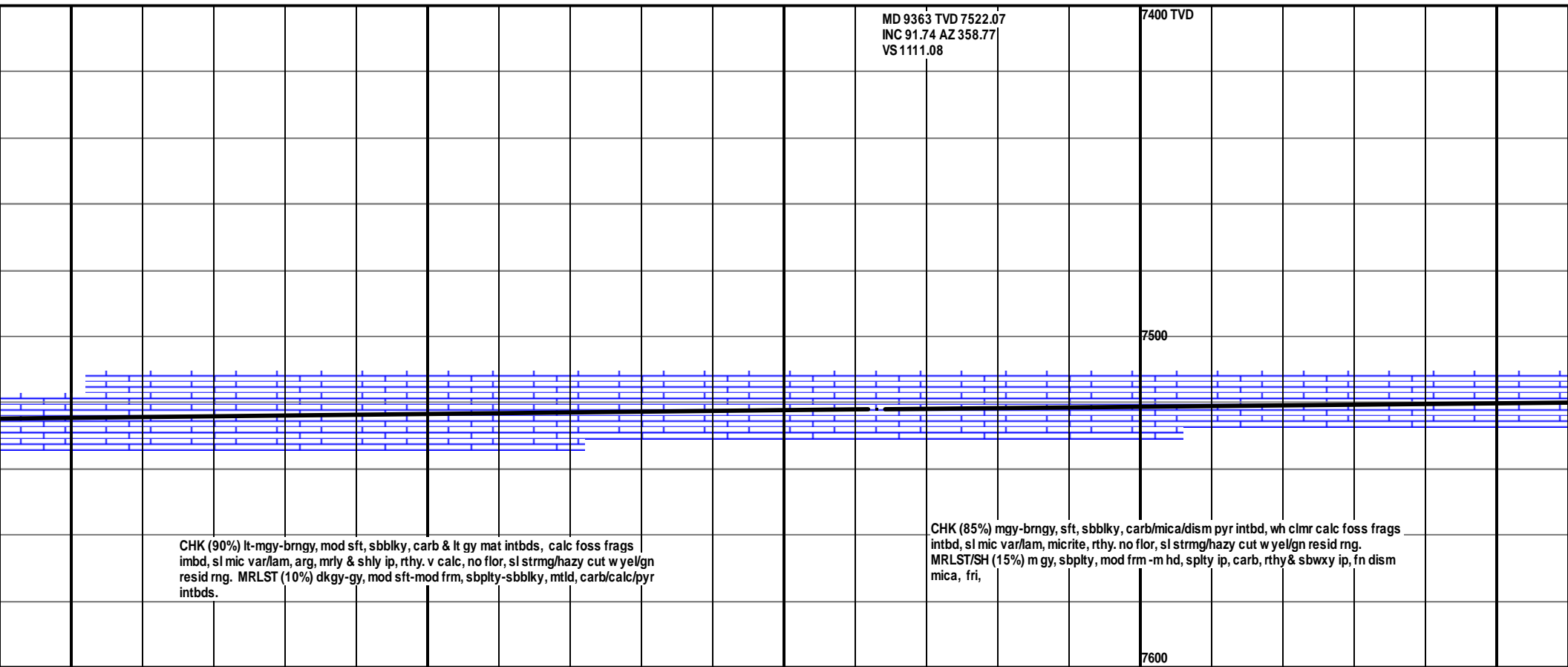


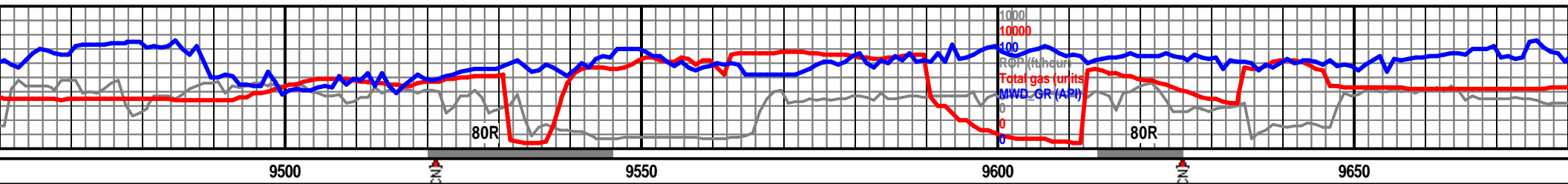
ly, sbbly, m hd/cpcd to
occ scat pel mat, intbd
ident foss frags, dull yel
ng.

CHK (100%) m-ltgy-brngy, sbbly, m hd/cpcd to w consol, shaly, marly ip, o
intbds lt & dk mat, scat frags unident foss, dull yel min flor, wk slow resid rng.

CHK (100%) mgy-mgy, sbbly, m consol/cpcd, m hd, fri, occ sft
lams intds lt & dk mat, scat unident foss frags, v calc, marly,
chalky, dull yel flor, wk blu slow resid rng.







MD 9552 TVD 7518.26
INC 90.57 AZ 358.2
VS 1299.97

7400 TVD

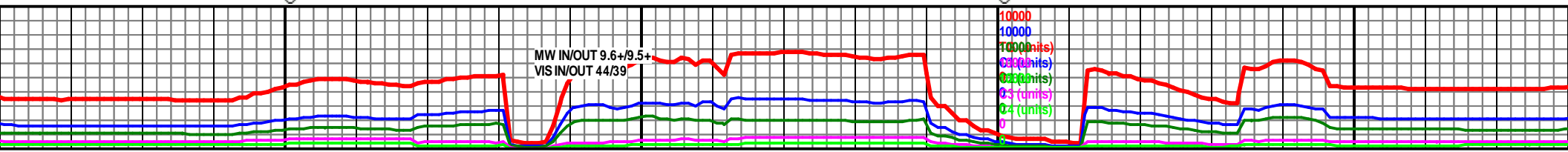
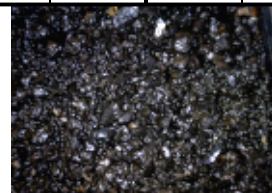
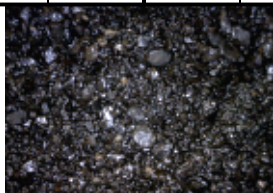
7500

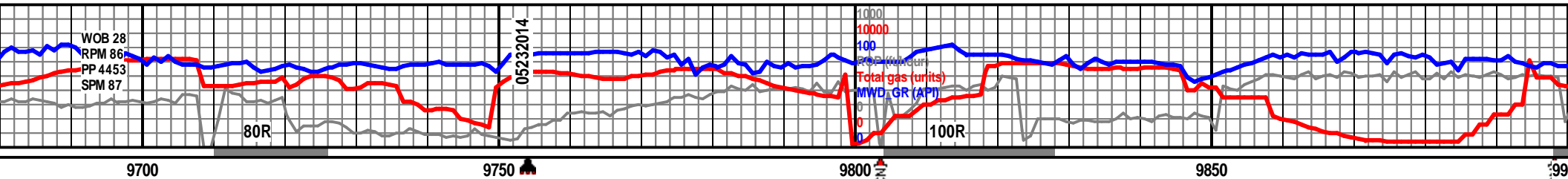
7600

CHK (90%) mgy-brngy, sbbly, moderately w cpd to m sft, fri, occ lam intbds lt mat/carb, dism pyr min ip, wh foss frags, tr BENT, no flor, sl strmg/hazy cut w yel/gn resid rng. MRLST/SH (10%) m gy, sbply, mod frm -m hd, sply ip, carb, rthy& sbwxy ip, fn dism mica,

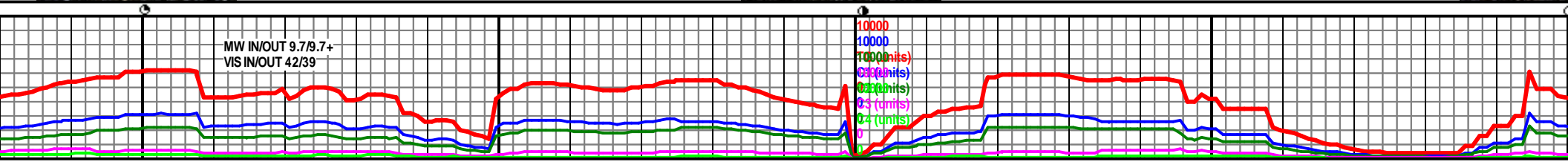
CHK (90%) mgy-brngy, sbbly, moderately w cpd to m sft, fri, occ lam intbds lt mat/carb, dism pyr min ip, wh foss frags, tr BENT, no flor, sl strmg/hazy cut w yel/gn resid rng.

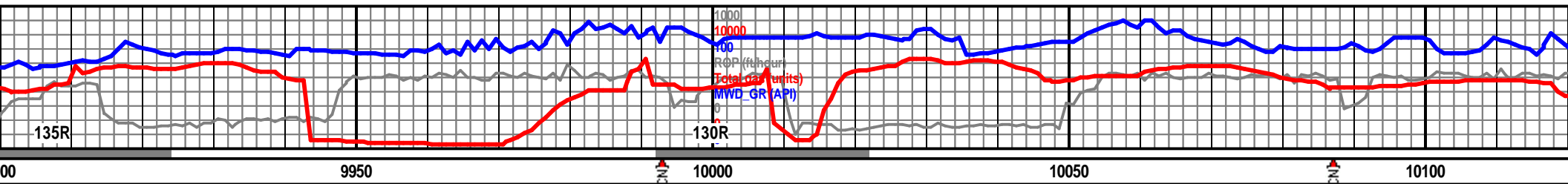
CHK (70%) intbds lt ma slow strmg/ frm -m hd, s



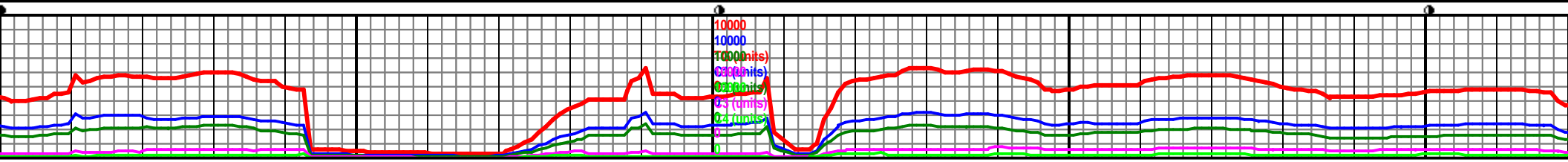


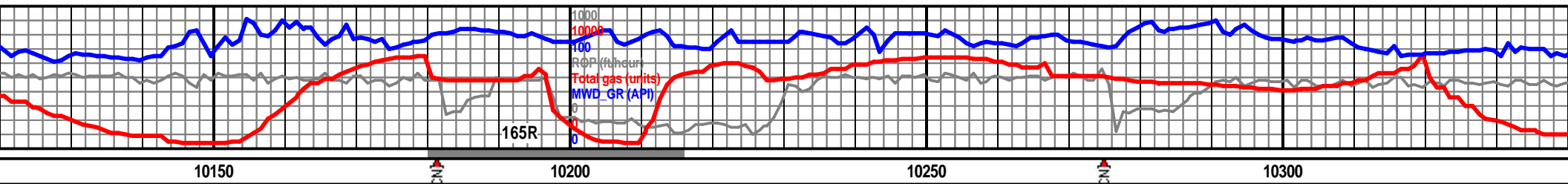
<p>MD 9690 TVD 7517.59 INC 90.23 AZ 357.42 VS 1394.9</p> <p>Trip for bit, 9753' MD</p>	<p>BHA #4-- Bit # 4 - 6 1/8' Ultera U513S, SN: 24714; JETS 3x18, 2x20; W/MWD GR/SURVEY BHA & Dir MM (1.25") 0.81 RPG, IN @ 9750'; OUT @ 12068'; DRILLED 2318 FT IN 26.75 HRS; AVG ROP 277.60 FT/HR.</p>	<p>7400 TVD</p> <p>7500</p>	<p>7600</p> <p>CHK (90%) mgy-brngy, sbblky, moderately w cpd to m sft, fri, occ lam intbds lt mat/carb, dism pyr min ip, wh foss frags, tr BENT, no flor, sl strmg/hazy cut w yel/gn resid mg. MRLST/SH (10%) m gy, sbplty, mod frm -m hd, splty ip, carb, rthy & sbwxy ip, fn dism mica,</p> <p>CHK (90%) mgy-brngy, sbblky, moderately w cpd to m sft, fri, occ lam intbds lt mat/carb, dism pyr min ip, wh foss frags, tr BENT, no flor, sl strmg/hazy cut w yel/gn resid mg. MRLST/SH (10%) m gy, sbplty, mod frm -m hd, splty ip, carb, rthy & sbwxy ip, fn dism mica,</p>
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	MD 9929 TVD 7516.77 INC 90.1 AZ 358.15 VS 1676.68		7400 TVD 7500	MD 10024 TVD 7516.99 INC 89.63 AZ 0.09 VS 1771.67		MD INC VS
ately w cpd to m sft, fri, lam intbds flr, slow strmg/hazy cut w yel/gn y/sbbiky, mod frm-m hd, splty ip,			CHK (60%) m-ltgy gybrn brn, frm-sft, mrlly, occ sed lams w/ par dk sh mat, wk mlky cut, fnt resd ring. MRLST (40%) gybrn, m-dkgy, sft-frm, blkly, rthy-sbchky, carb,			CHK (60%) m-ltgy gybrn brn, frm-sft, mrlly, lams w/ par dk sh mat, wk mlky cut, fnt resd MRLST (40%) gybrn, m-dkgy, sft-frm, blkly, rthy-sbchky, carb,
			7600			





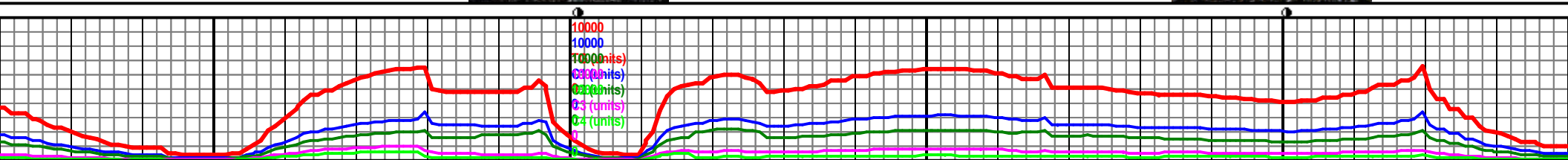
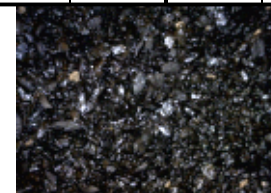
10117 TVD 7516.81
C 90.37 AZ 1.69
1864.65

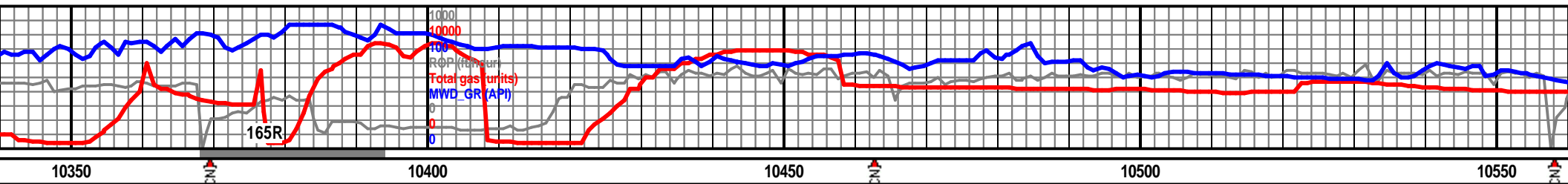
7400 TVD
MD 10212 TVD 7516.67
INC 89.8 AZ 1.82
VS 1959.61

occ sed
d ring.

CHK (60%) mgy-brngy, sbblky, m cpcd to m sft, splty ip, fri, occ
lam intbds lt mat/carb, mrlly, dism pyr min ip, no flr, slow
strmg/hazy cut w yel/gn resid rng. MRLST/SH (40%) m gy, sbplty,
mod frm-m hd, carb, rthy& sbwxy ip, fn dism mica,

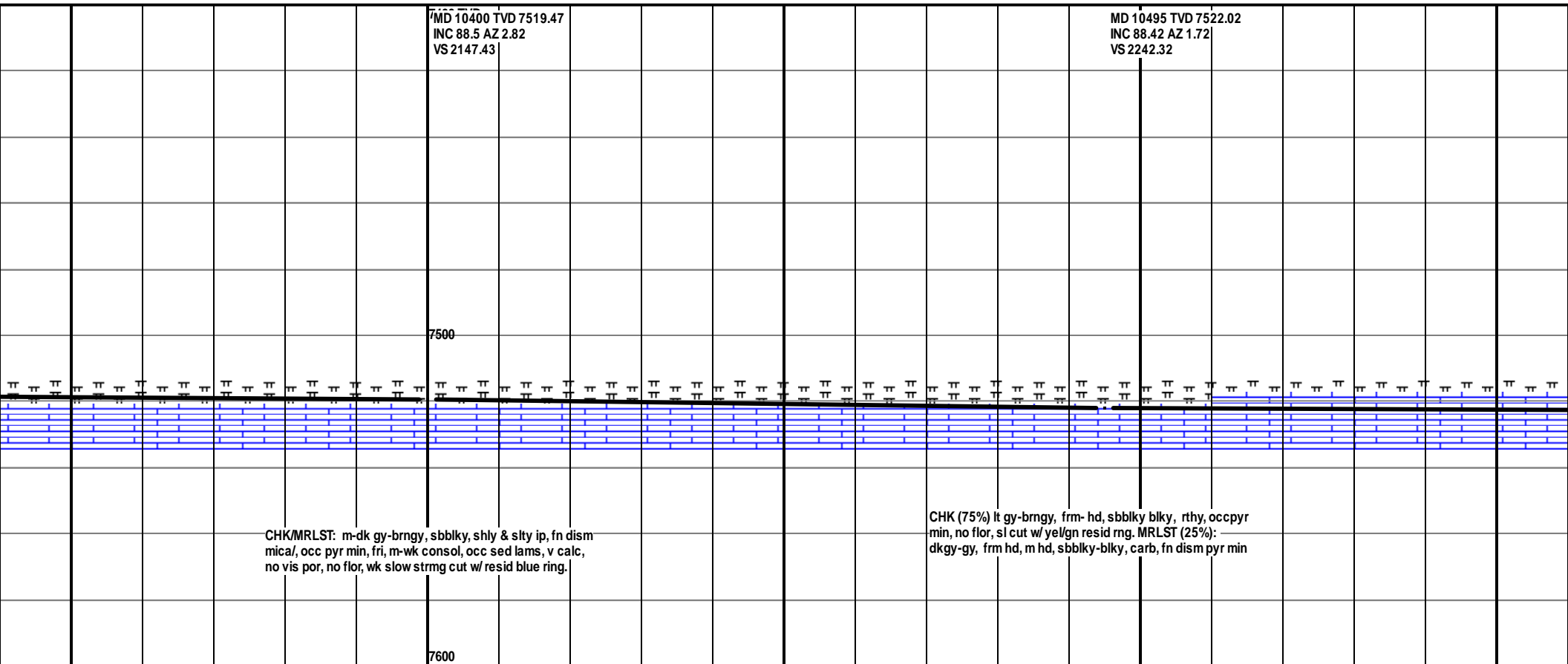
MRLST/SH (50%) m gy, sbblky-sbplty, mod frm-m hd, carb,
rthy& sbwxy ip, fn dism mica, CHK (50%) mgy-brngy, sbblky,
m cpcd to m sft, splty ip, fri, occ lam intbds lt mat/carb, mrlly,
dism pyr min ip, no flr, slow strmg/hazy cut w yel/gn resid
rng.





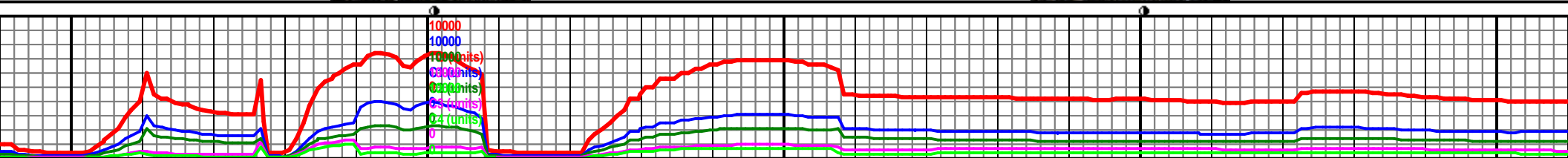
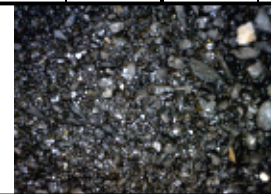
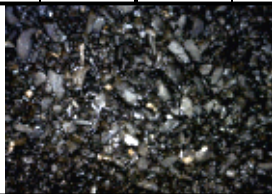
MD 10400 TVD 7519.47
INC 88.5 AZ 2.82
VS 2147.43

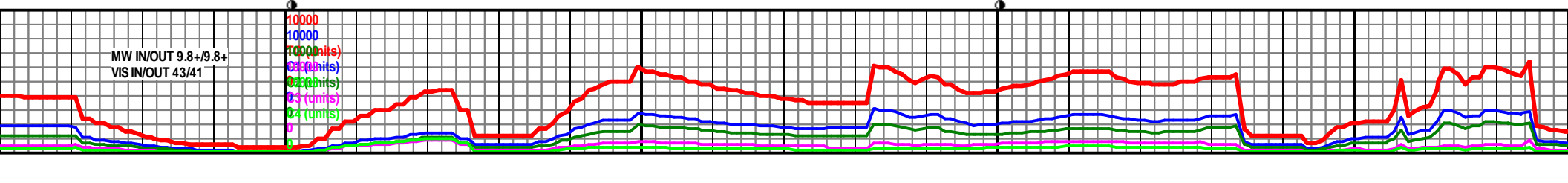
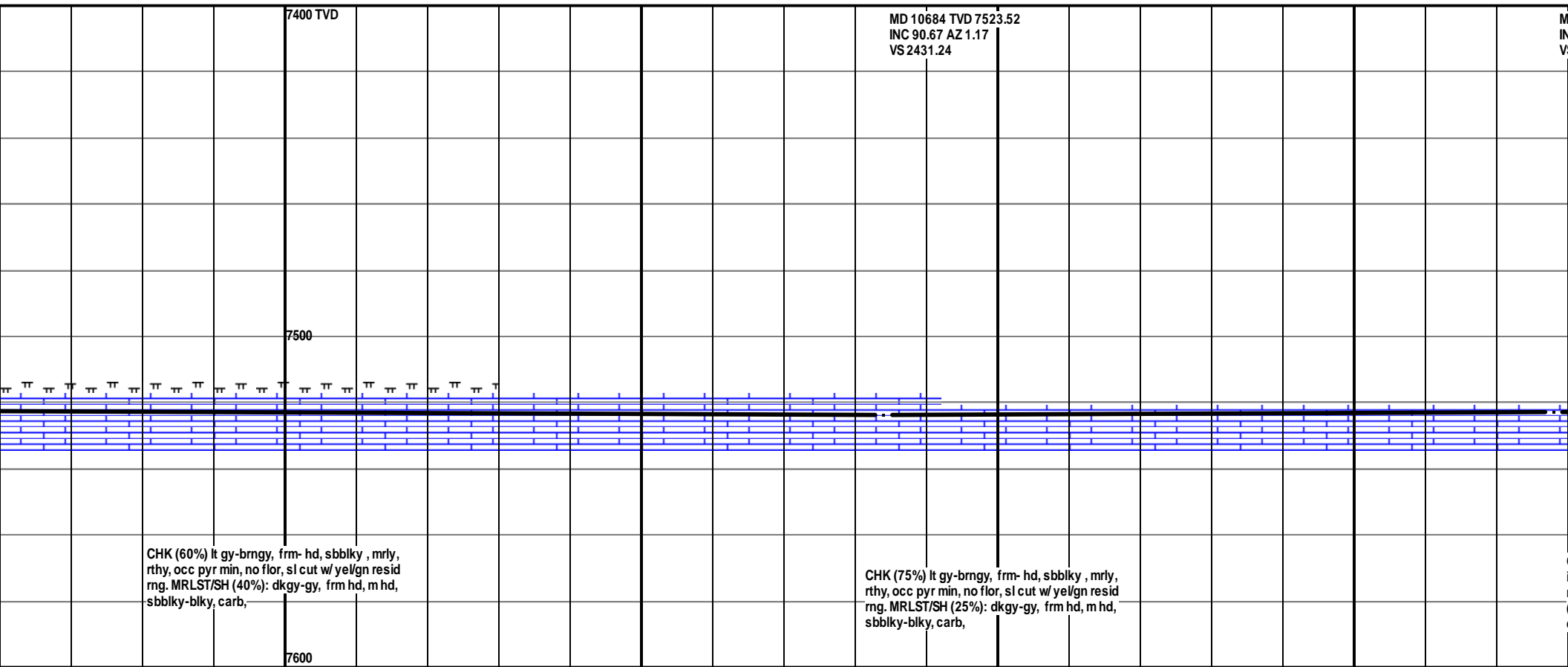
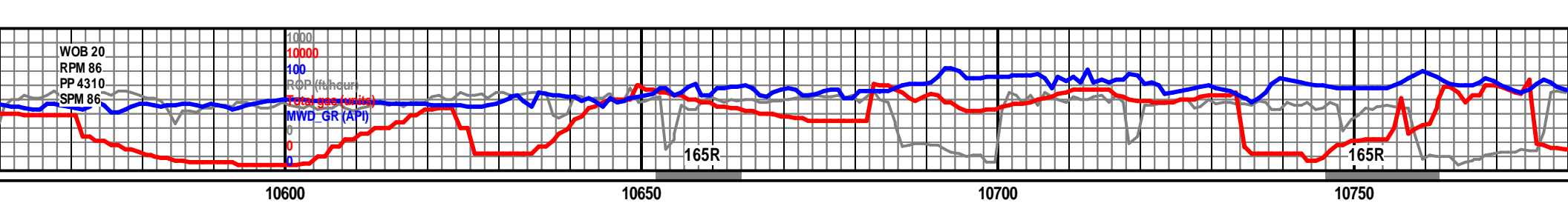
MD 10495 TVD 7522.02
INC 88.42 AZ 1.72
VS 2242.32

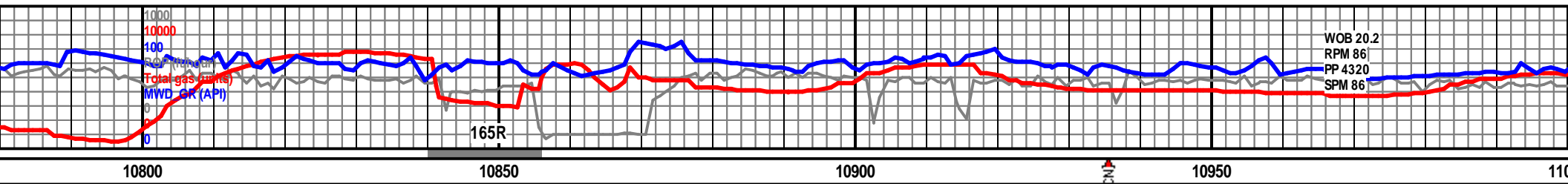


CHK/MRLST: m-dk gy-brngy, sbbiky, shly & slty ip, fn dis mica/, occ pyr min, fri, m-wk consol, occ sed lams, v calc, no vis por, no flor, wk slow strmg cut w/ resid blue ring.

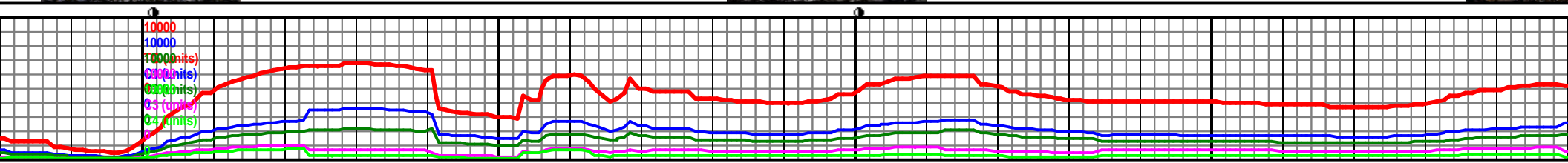
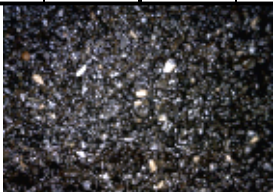
CHK (75%) lt gy-brngy, frm- hd, sbbiky blkly, rthy, occpyr min, no flor, sl cut w/ ye/ign resid rng. MRLST (25%): dkgy-gy, frm hd, m hd, sbbiky-blky, carb, fn dism pyr min

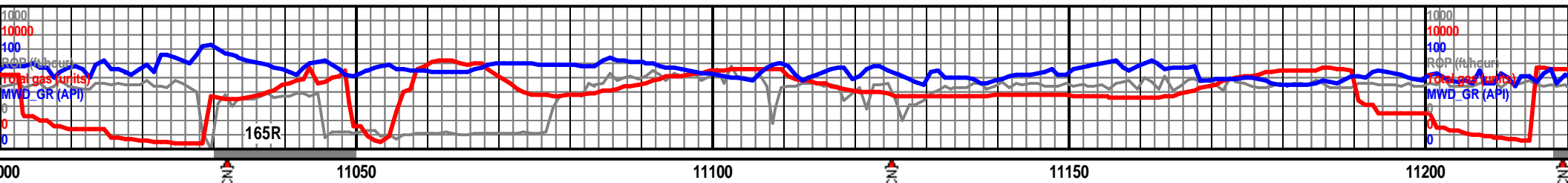




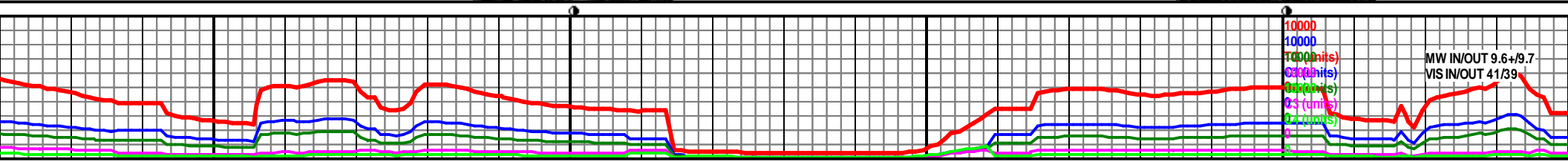
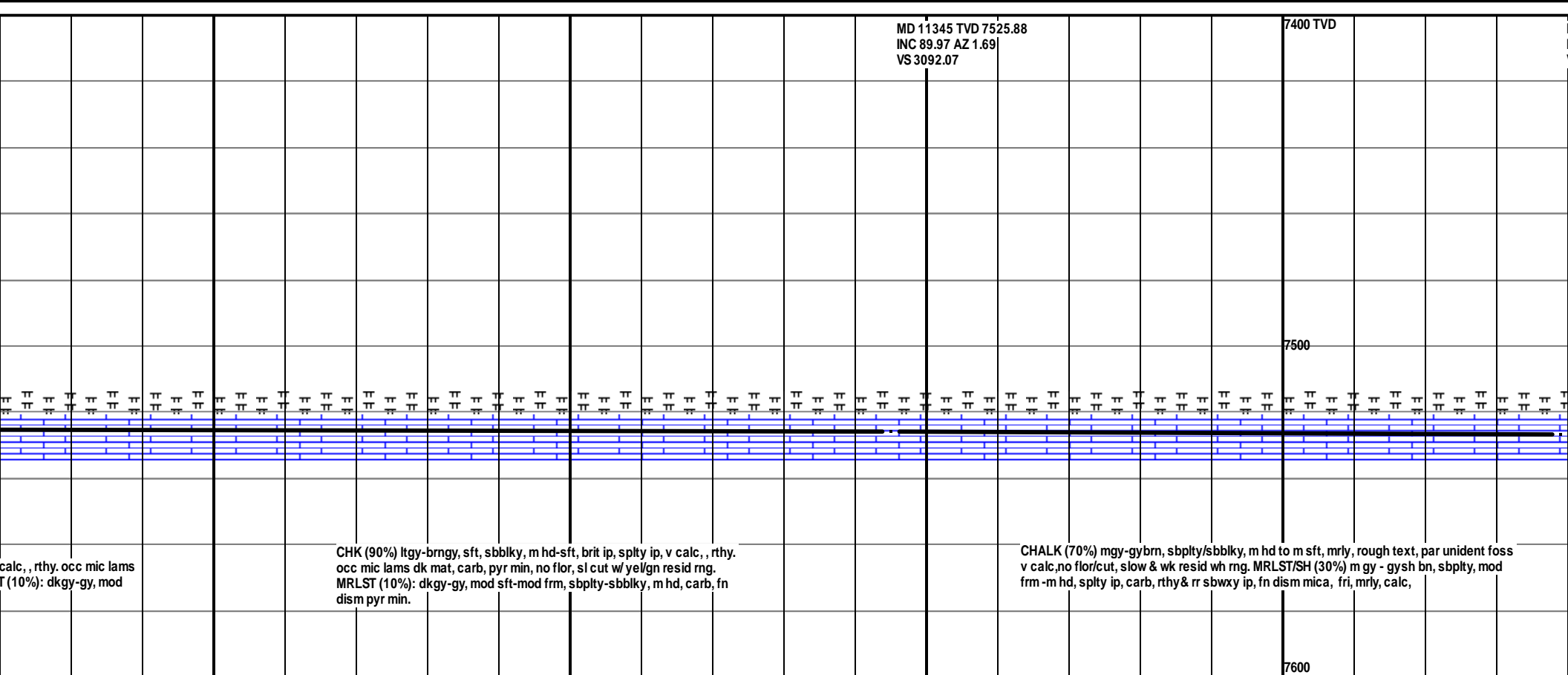
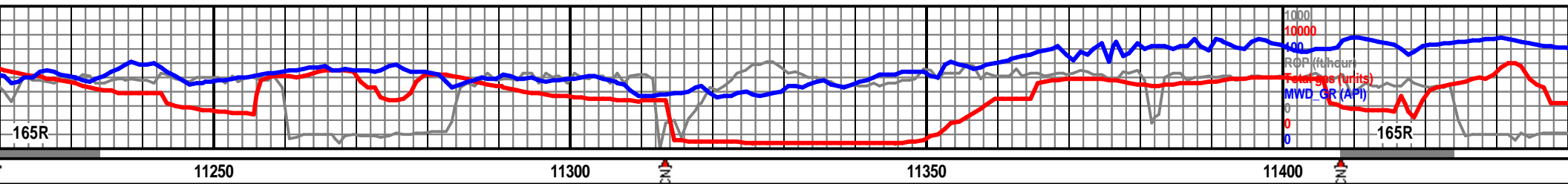


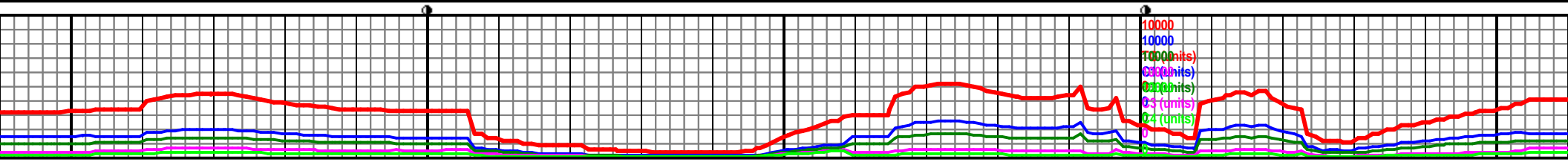
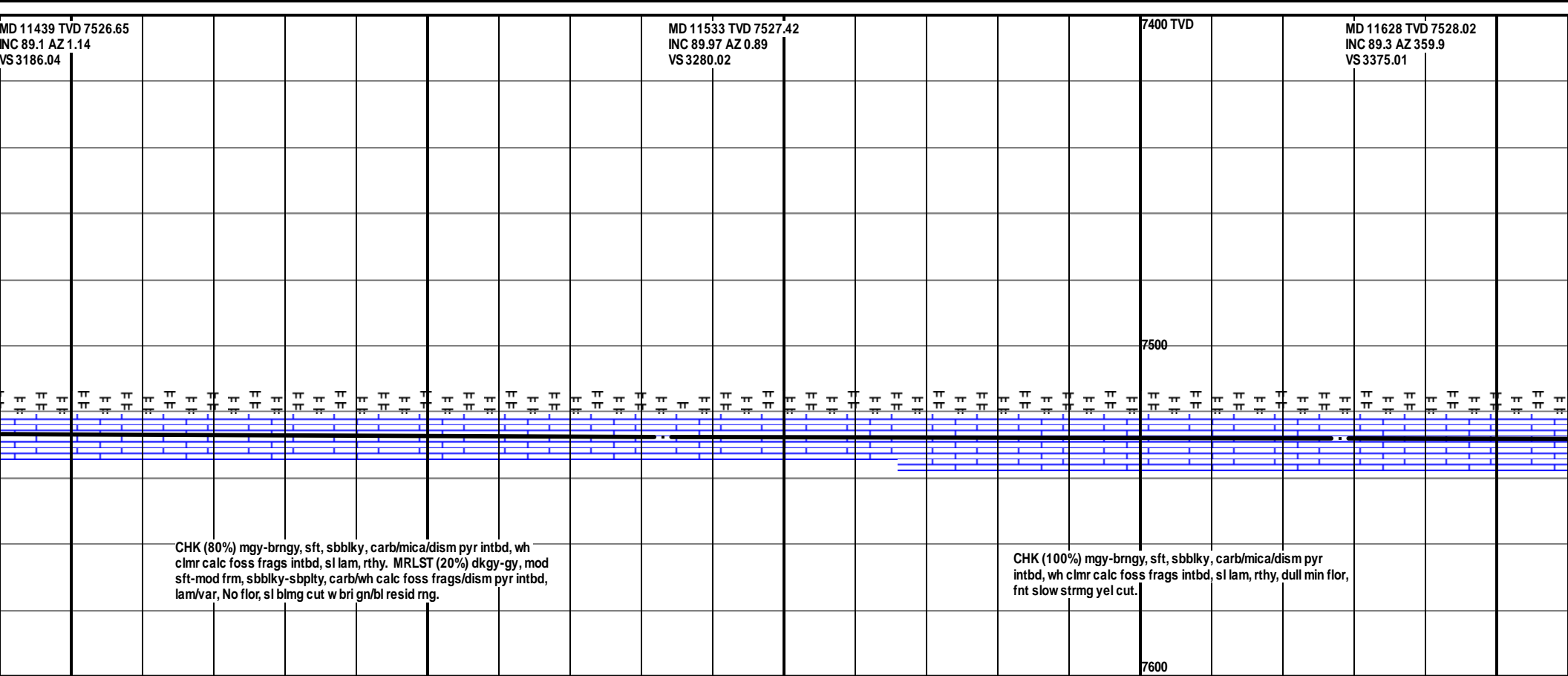
MD 10778 TVD 7522.66 INC 90.37 AZ 2.15 VS 2525.19	7400 TVD																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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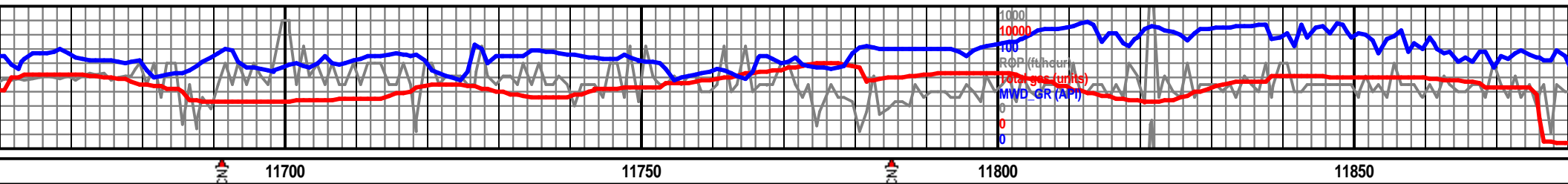




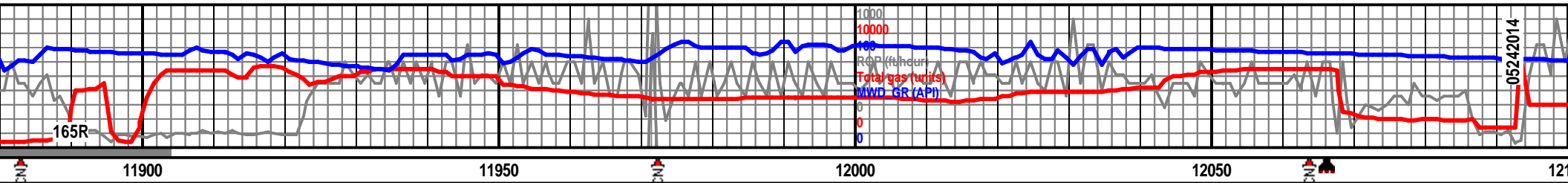
7400 TVD											MD 11061 TVD 7524.49 INC 89.7 AZ 0.67 VS 2808.13											MD 11156 TVD 7525.1 INC 89.56 AZ 0.82 VS 2903.12											7400 TVD







										MD 11722 TVD 7528.57 INC 90.03 AZ 359.23 VS 3469.01																				7400 TVD										MD 11816 TVD 7527.39 INC 91.4 AZ 359.46 VS 3562.99																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											



MD 11910 TVD 7526.19
INC 90.07 AZ 359.29
VS 3656.98

7400 T MD 12005 TVD 7526.36
INC 89.73 AZ 359.36
VS 3751.97

BHA #5-- Bit # 5 - 6 1/8' Ultera U513S, SN: 25234; JETS 3x18, 2x20; W/MWD GR/SURVEY
BHA & Dir MM (1.25") 0.87 RPG., IN @ 12068';
OUT @ 12701'; DRILLED 633 FT IN 13.5 HRS:
AVG ROP 391.43 FT/HR.

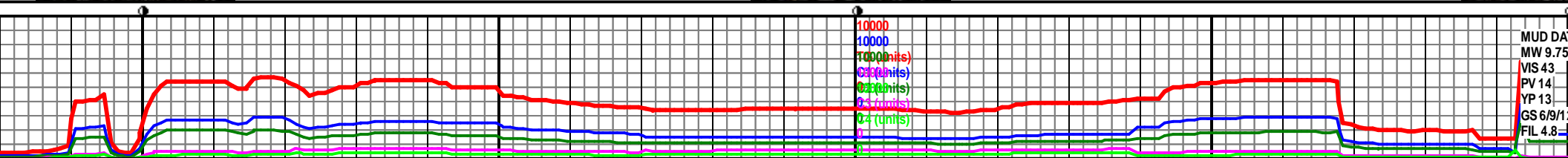
Trip for bit, 12068' md



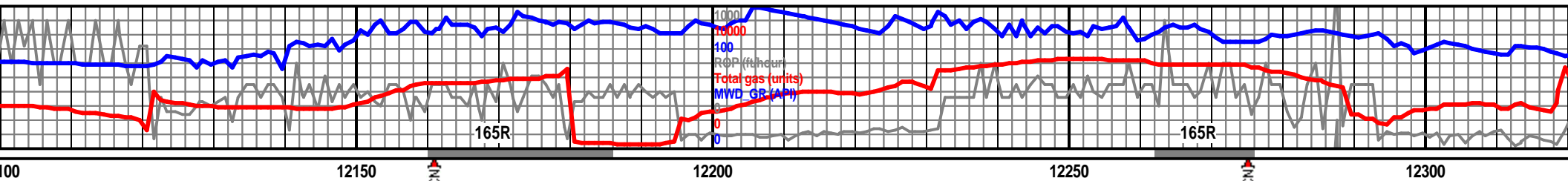
CHK (95%) ltgy-brngy, m hd to sft, sbblky, fri, splty, v calc, rthy.
c lams dk mat, carb, scat foss frags, mrlly, occ pyr min, no
cut w/ ye/gn resid rng. MRLST (25%): dkgy-gy, mod
d frm, sbply-sbblky, m hd, carb, v calc, fn dism pyr min.

CHK (95%) ltgy-brngy, sbblky, m-v w consol, lams
intbds lt & darker mat, scat unident foss frags, chlky &
m sft, splty, v calc, dull min flr, slow strmg res blu rng.

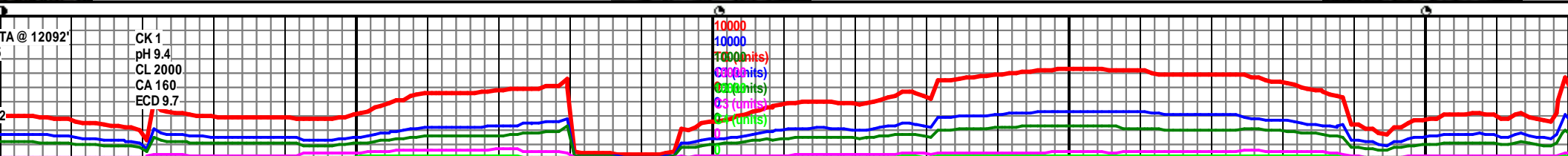
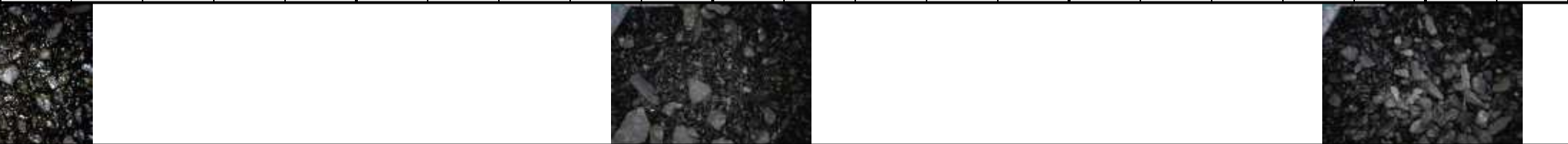
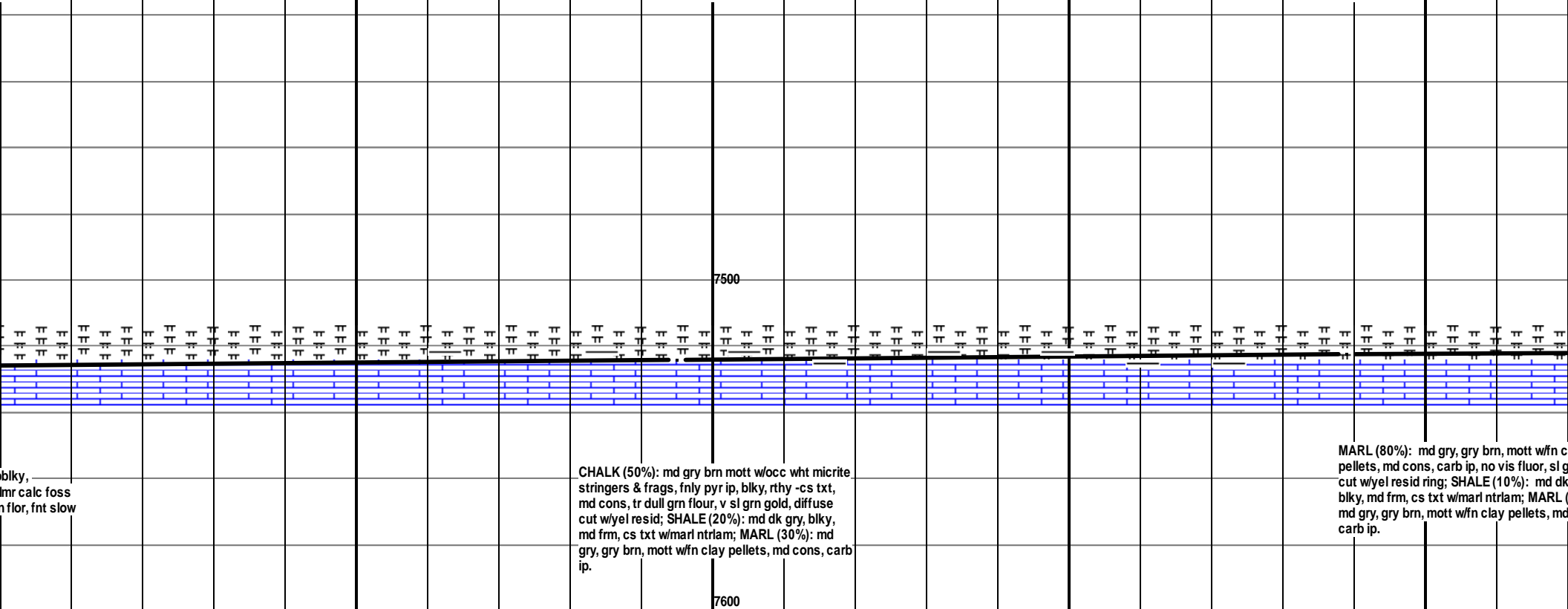
CHK (100%) mgy-brngy, sft, sb
carb/mica/dism pyr intbd, wh cl
frags intbd, sl lam, rthy, dull min
strmg yel cut. As above.

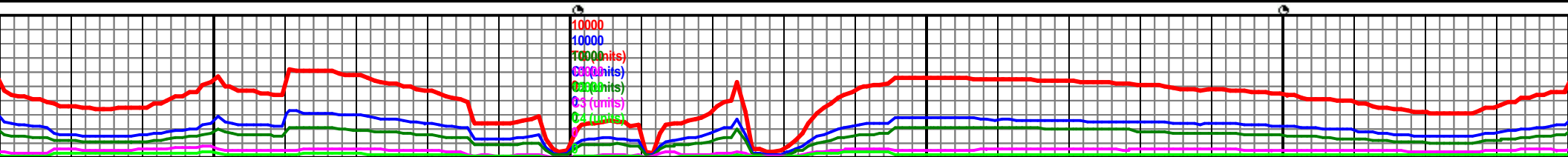
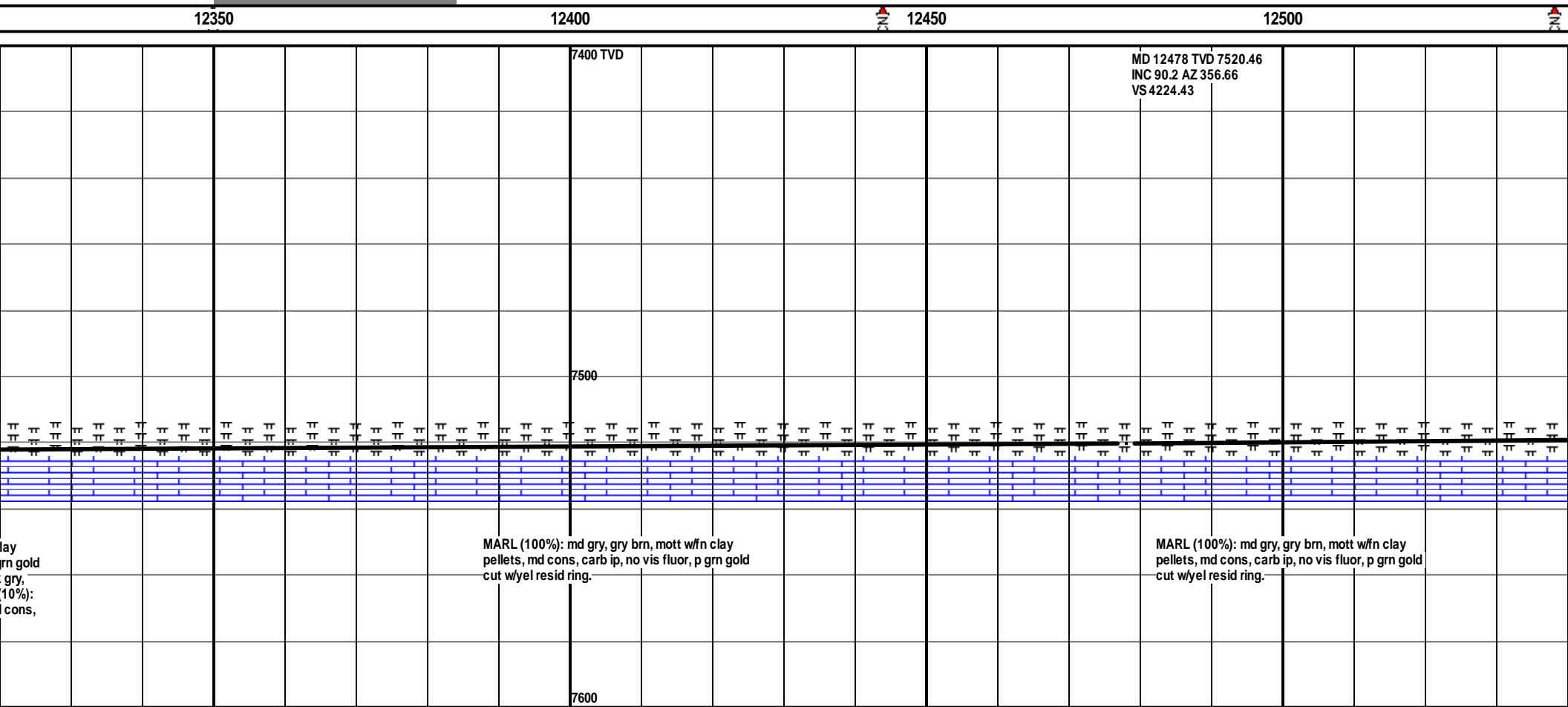
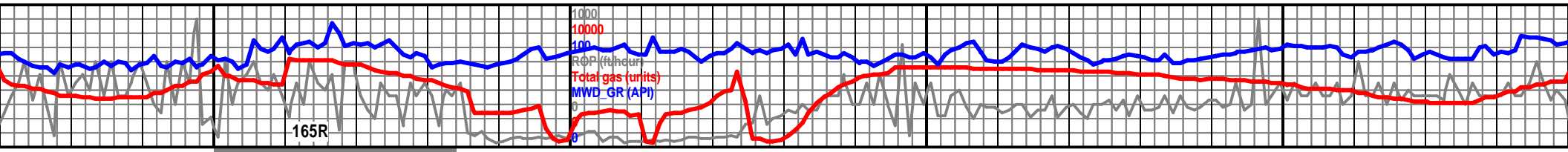


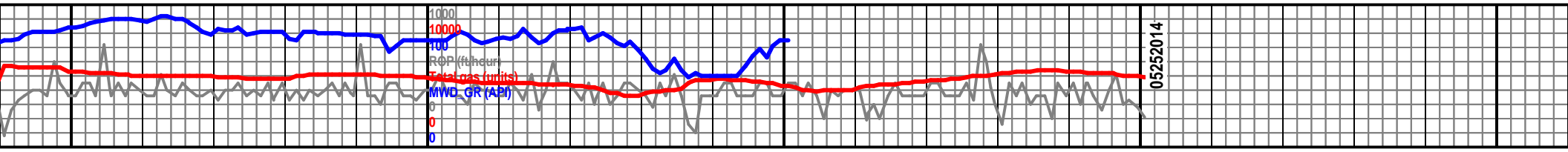
MUD DA
MW 9.75
VIS 43
PV 14
YP 13
GS 6/9/1
FIL 4.8



MD 12098 TVD 7525.79 INC 90.97 AZ 358.18 VS 3844.94	MD 12195 TVD 7524.11 INC 91.01 AZ 357.04 VS 3941.84	MD 12289 TVD 7522.46 INC 91.01 AZ 357.19 VS 4035.71
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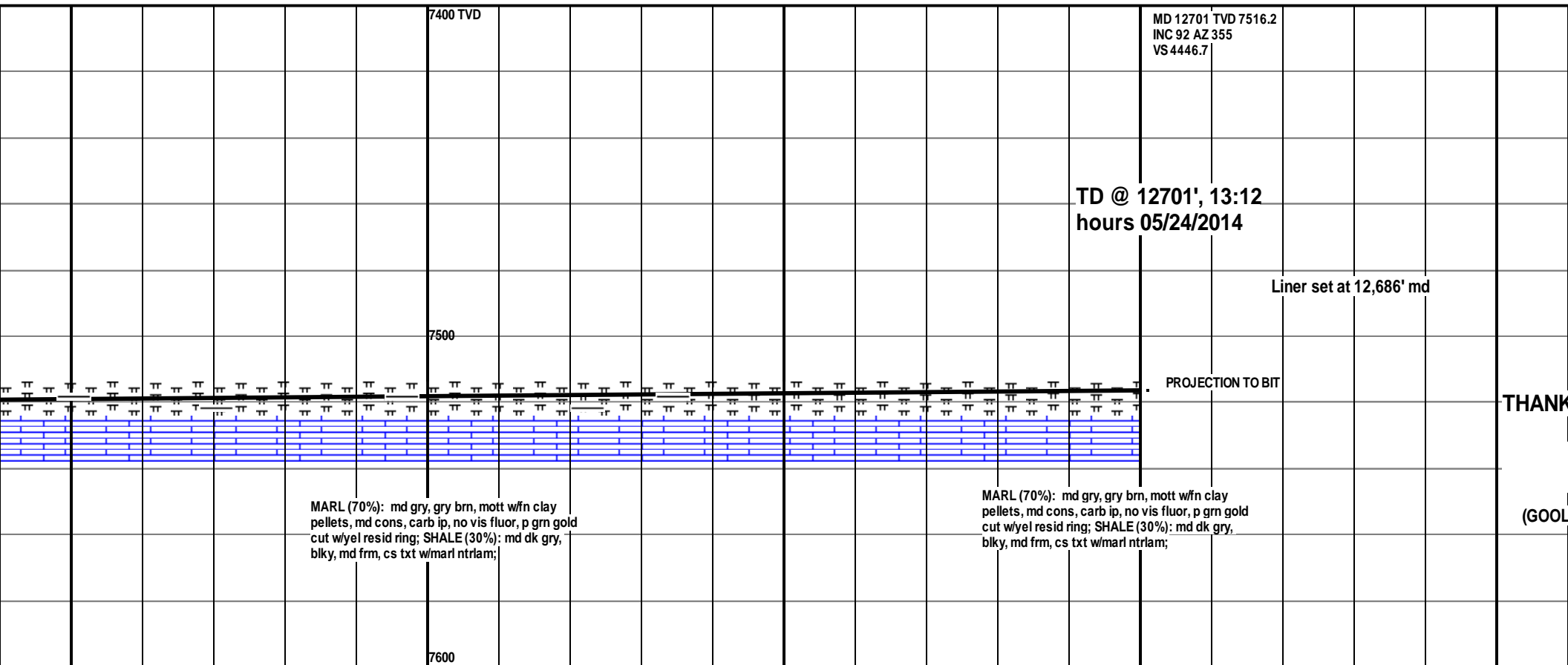
12550

12600

12650

12700

12750



7400 TVD

MD 12701 TVD 7516.2
INC 92 AZ 355
VS 4446.7

TD @ 12701', 13:12
hours 05/24/2014

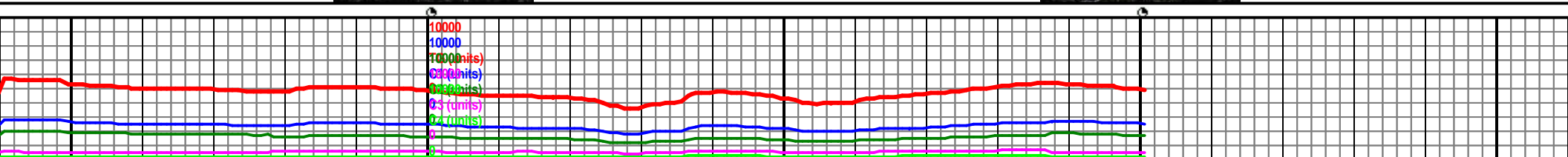
Liner set at 12,686' md

PROJECTION TO BIT

MARL (70%): md gry, gry brn, mott w/fn clay pellets, md cons, carb ip, no vis fluor, p grn gold cut w/yel resid ring; SHALE (30%): md dk gry, blk, md frm, cs txt w/marl ntriam;

MARL (70%): md gry, gry brn, mott w/fn clay pellets, md cons, carb ip, no vis fluor, p grn gold cut w/yel resid ring; SHALE (30%): md dk gry, blk, md frm, cs txt w/marl ntriam;

7600



A large rectangular grid consisting of 20 columns and 10 rows of small squares, intended for drawing a picture.