



Weatherford®

Surface Logging Systems

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

Tooke Rockies, Inc.
(A Weatherford Company)

884 Implement Dr.
Dickinson, ND 58601
701-227-4408

717 West Platte
PO BOX 435
Casper, WY 82601
307-265-2124

Well Name: **Murphy Family 4-64-36-1H (HORZ. SEC./LATERAL)**
Location: **NE/SE Sec. 36, T4S, R64W. Arapahoe County, CO**
License Number: **API 05-005-07214-01**
Spud Date: **11/28/2013**
Surface Coordinates: **1620' FSL & 250' FEL of NE/SE, Sec. 36,T4S-R64W,
Arapahoe County, CO.**
Bottom Hole Coordinates: **From SHL= 424.67'N, 4536.64'W, Sec. 36, T4S-R64W,
Arapahoe County, CO.**
Ground Elevation (ft): **5913'**
Logged Interval (ft): **8027'** To: **12059'**
Formation: **NIOBRARA**
Type of Drilling Fluid: **WATER BASE**

Region: **DJ BASIN**
Drilling Completed: **12/16/2013**

K.B. Elevation (ft): **5937'**
Total Depth (ft): **12059'**

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

OPERATOR

Company: **CONOCO/PHILLIPS Attn: Abby Tomkiewicz**
Address: **600 N Dairy Ashford
ATR- 3086B
Houston, TX 77079**

GEOLOGIST

Name: **TODD THIESSE, JENNIFER ANDERSON**
Company: **WEATHERFORD SLS/TOOKE ROCKIES**
Address: **PO BOX 435
CASPER, WY 82602
307.265.2124**

Supervision

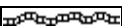
Project Geologist: John Ostergren- Conoco/Phillips
Drilling Engineer: Gary Hamilton- Conoco/Phillips, Ben Tolman- Conoco/Phillips, John Benge- Conoco/Phillips
Drilling & Comp. Sup: Bob Strickler- Conoco/Phillips
Company Rep: Richard Perez, Wes Evans(Day Leads)
Company Rep: Frank Holubec, Clint Goins, Wayne Morgan, Clint Valentine, Mike Johnson, Mike Weatherly.(Night Leads & Others)
Well Site Safety: Rainey Schexnider, Jeff Frantz
Contact Geologist: Abby Tomkiewicz- Conoco/Phillips
Drilling & Comp. Mgr: Derly Gonzalez-Conoco/Phillips

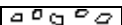
Comments


Drilling Co.--H & P, Rig #280
Toolpusher- , Mike Stevens, Josh Coleman
Dir. Co.- Sperry
Mud Co.- Baroid/Haliburton, Dave Howell, Chase Putnam

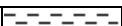
ROCK TYPES

 Anhy


 Bent

 Brec


 Cht

 Clyst

 Coal


 Congl

 Dol


 Gyp

 Igne


 Lmst

 Meta


 Mrlst

 Salt

 Shale

 Shcol

 Shgy

 Sltst

 Ss

 Till

ACCESSORIES

FOSSIL

 Algae

 Amph

 Belm

 Bioclst

 Brach

 Bryozoa

 Cephal

 Coral

 Crin

 Echin

 Fish

 Foram

 Fossil

 Gastro

 Oolite

 Ostra

 Pelec

 Pellet

 Pisolite

 Plant

 Strom

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

STRINGER

 Anhy

 Arg

 Bent

 Coal

 Dol

 Gyp

 Ls

 Mrst

 Sltstrg

 Ssstrg

TEXTURE

 Boundst

 Chalky

 Cryxln

 Earthy

 Finexln

 Grainst

 Lithogr

 Microxln


 Mudst


 Packst

 Wackest


OTHER SYMBOLS


INTERVALS

 Core


 Dst


EVENTS


 Rft


 Sidewall

OIL SHOWS


 Even


 Spotted


 Ques


 Dead


POROSITY TYPE


 Earthy


 Fenest


 Fracture

 Inter


 Moldic


 Organic


 Pinpoint


 Vuggy

ROUNDING


 Rounded


 Subrnd


 Subang

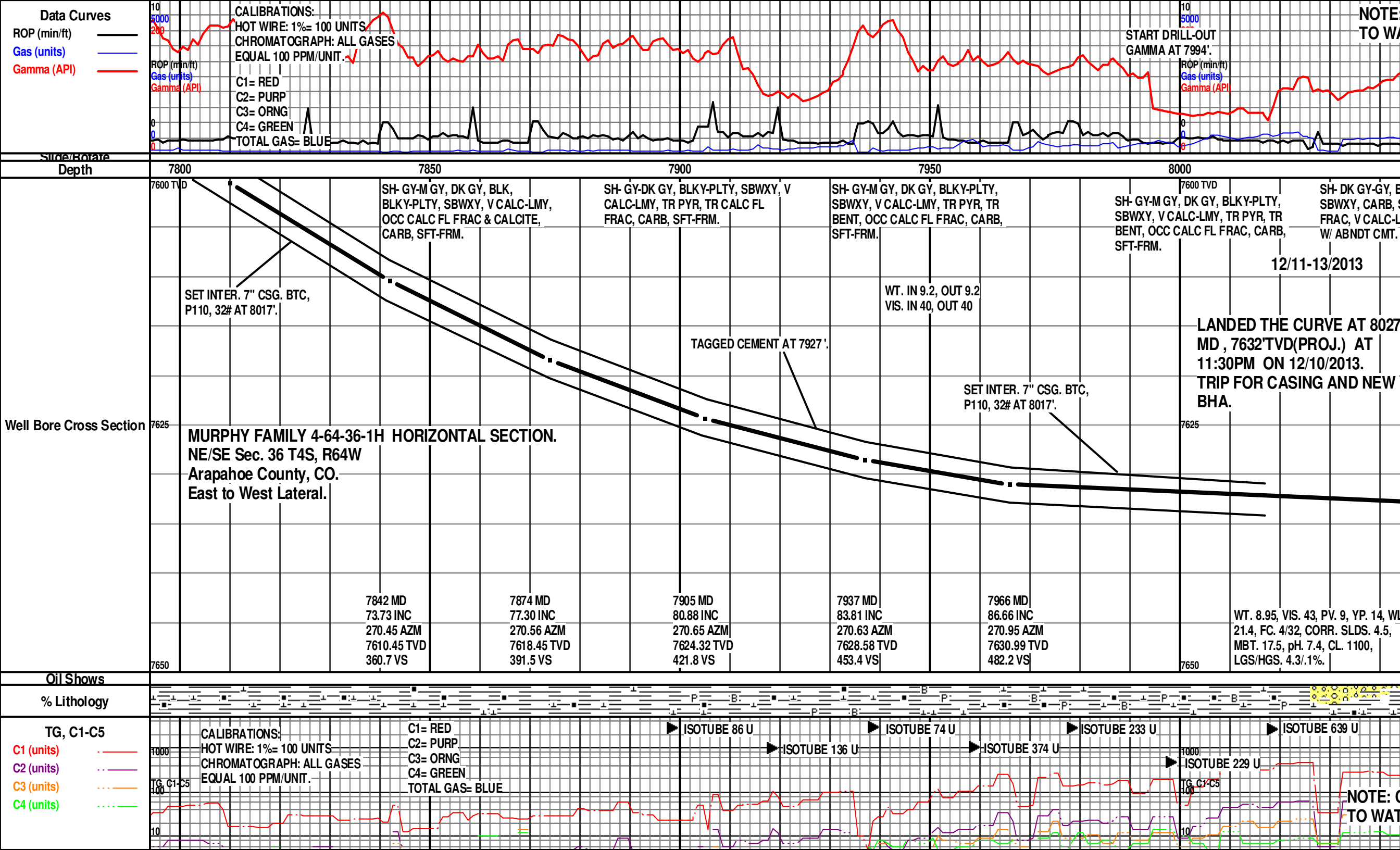
 Angular

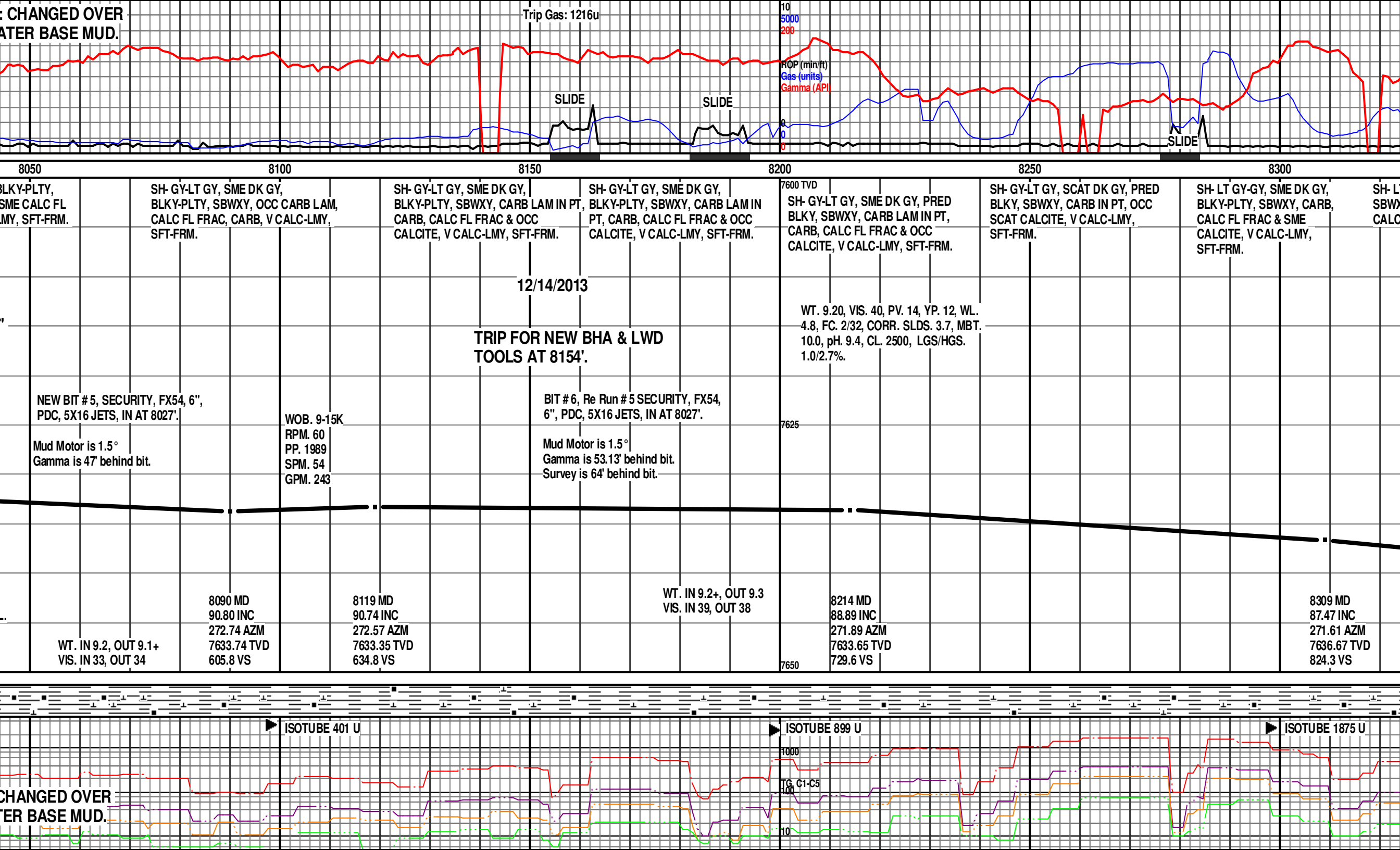
SORTING

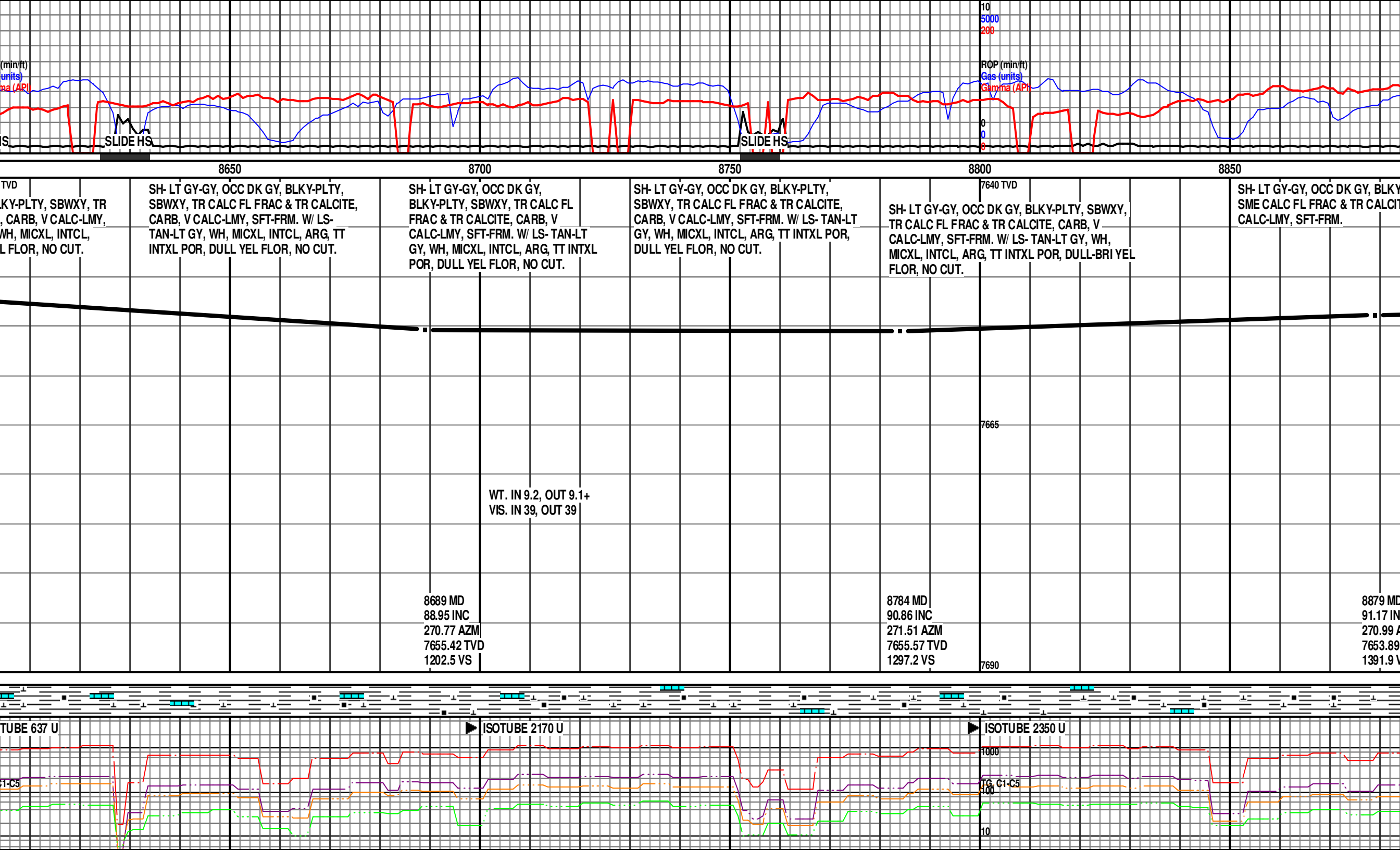
 Well

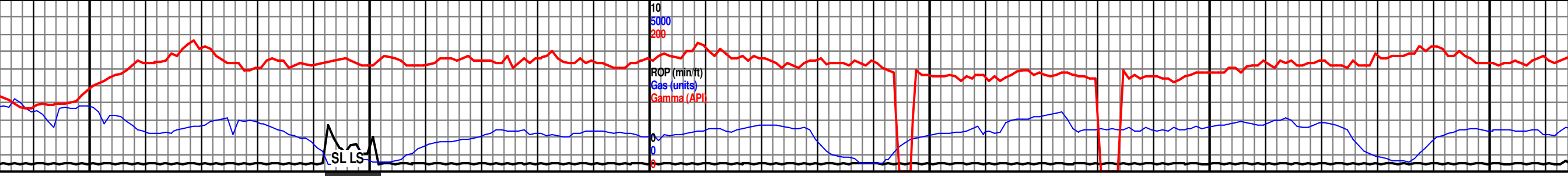
 Moderate

 Poor

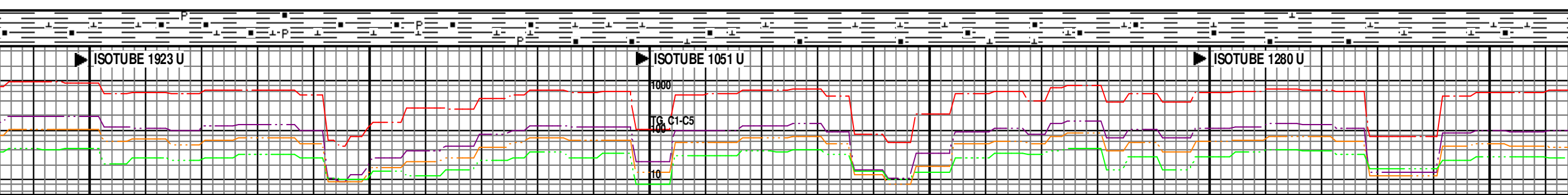


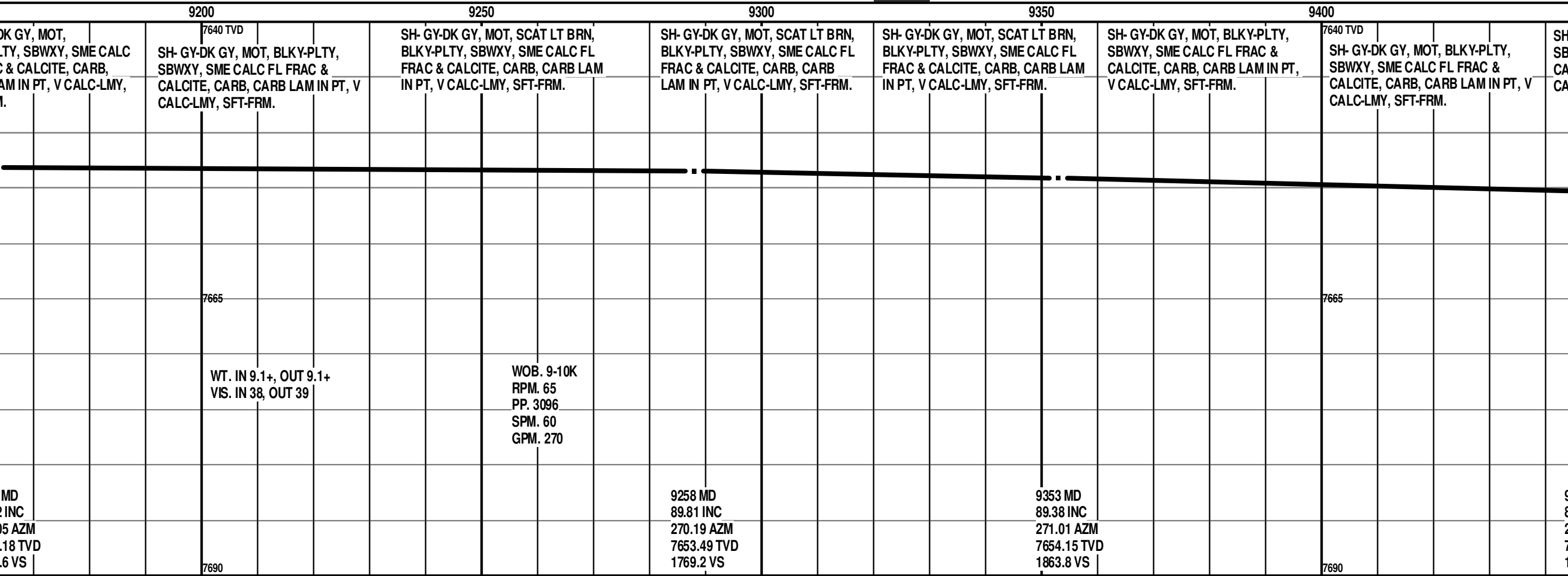


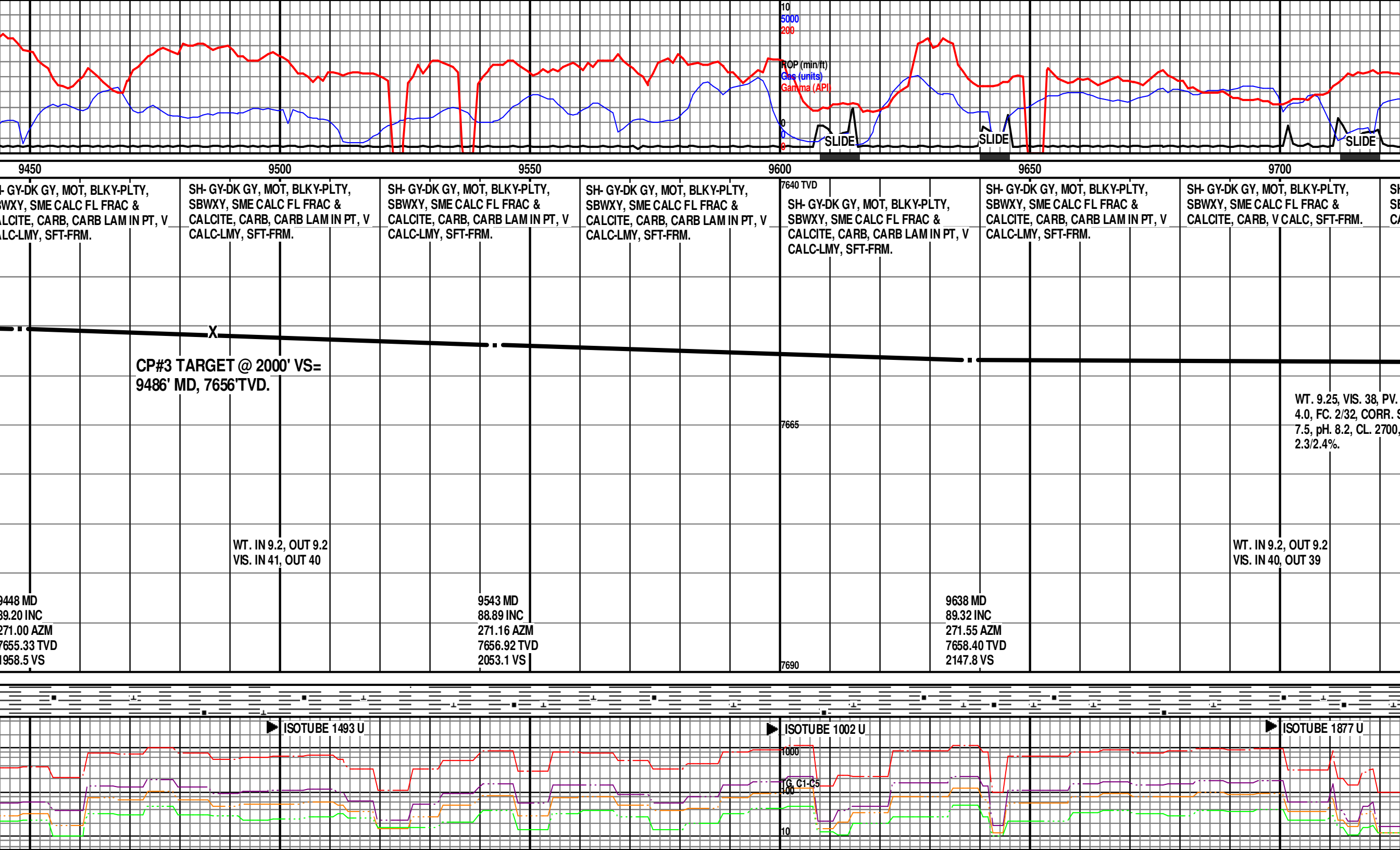


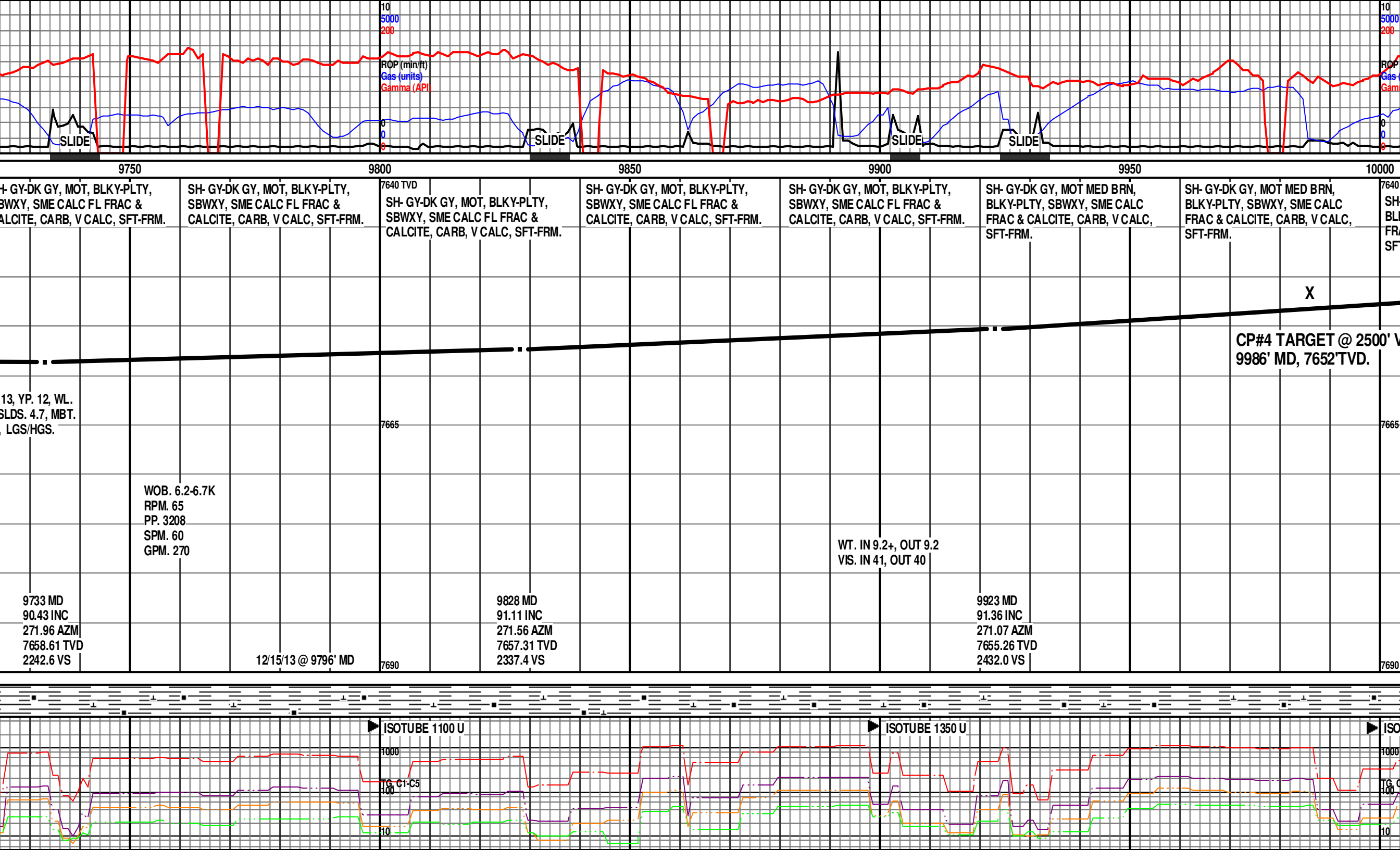


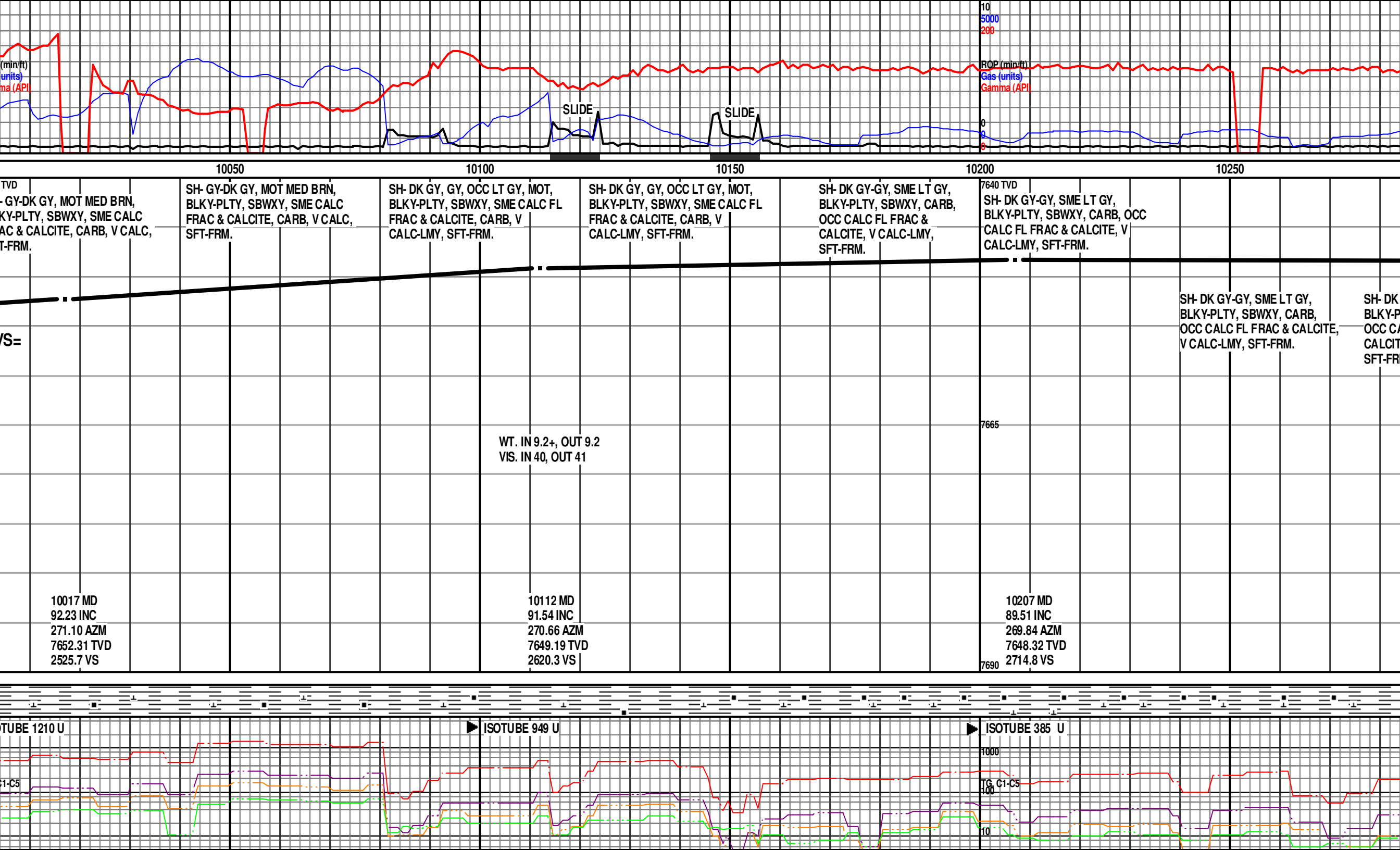
SH- GY-DK GY, SME LT GY, BLKY-PLTY, SBWXY, TR CALC FL FRAC & TR CALCITE, CARB-CARB LAM, V CALC-LMY, SFT-FRM. W/ TR PYR.	SH- GY-DK GY, SME LT GY, BLKY-PLTY, SBWXY, TR CALC FL FRAC & TR CALCITE, CARB-CARB LAM, V CALC-LMY, SFT-FRM. W/ TR PYR.	SH- DK GY-GY, BLKY-PLTY, SBWXY, CALC FL FRAC & CALCITE, CARB, V CALC-LMY, SFT-FRM.	SH- DK GY-GY, BLKY-PLTY, SBWXY, CALC FL FRAC & CALCITE, CARB, V CALC-LMY, SFT-FRM.	SH- DK GY, GY, OCC LT GY, MOT, BLKY-PLTY, SBWXY, SME CALC FL FRAC & CALCITE, CARB, V CALC-LMY, SFT-FRM.	SH- DK GY, GY, OCC LT GY, MOT, BLKY-PLTY, SBWXY, SME CALC FL FRAC & CALCITE, CARB, V CALC-LMY, SFT-FRM.	SH- GY-DK GY, BLKY-PLTY, SBWXY, TR CALC FL FRAC & TR CALCITE, CARB-CARB LAM, V CALC-LMY, SFT-FRM.
X						
CP#2, TARGET @ 1500' VS= 8986' MD, 7656'TVD.						
7640 TVD						
7665						
WOB. 8-9K RPM. 65 PP. 3170 SPM. 60 GPM. 270						
WT. IN 9.2, OUT 9.1+ VIS. IN 38, OUT 38						
8974 MD 90.12 INC 270.78 AZM 7652.82 TVD 1486.5 VS						
7690						
9069 MD 89.81 INC 270.11 AZM 7652.88 TVD 1581.1 VS						
9163 MD 89.82 INC 270.01 AZM 7653.18 TVD 1674.1 VS						

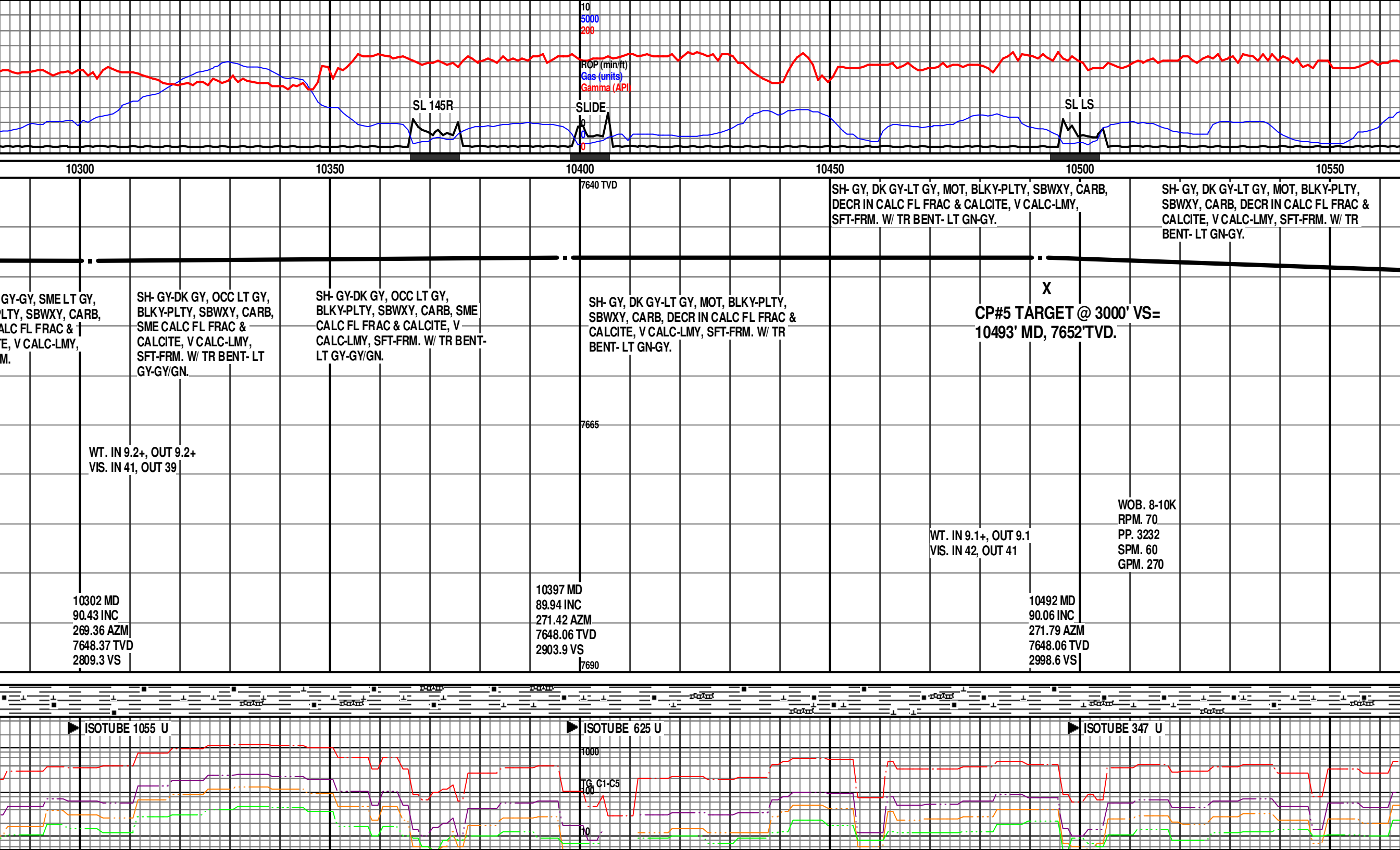


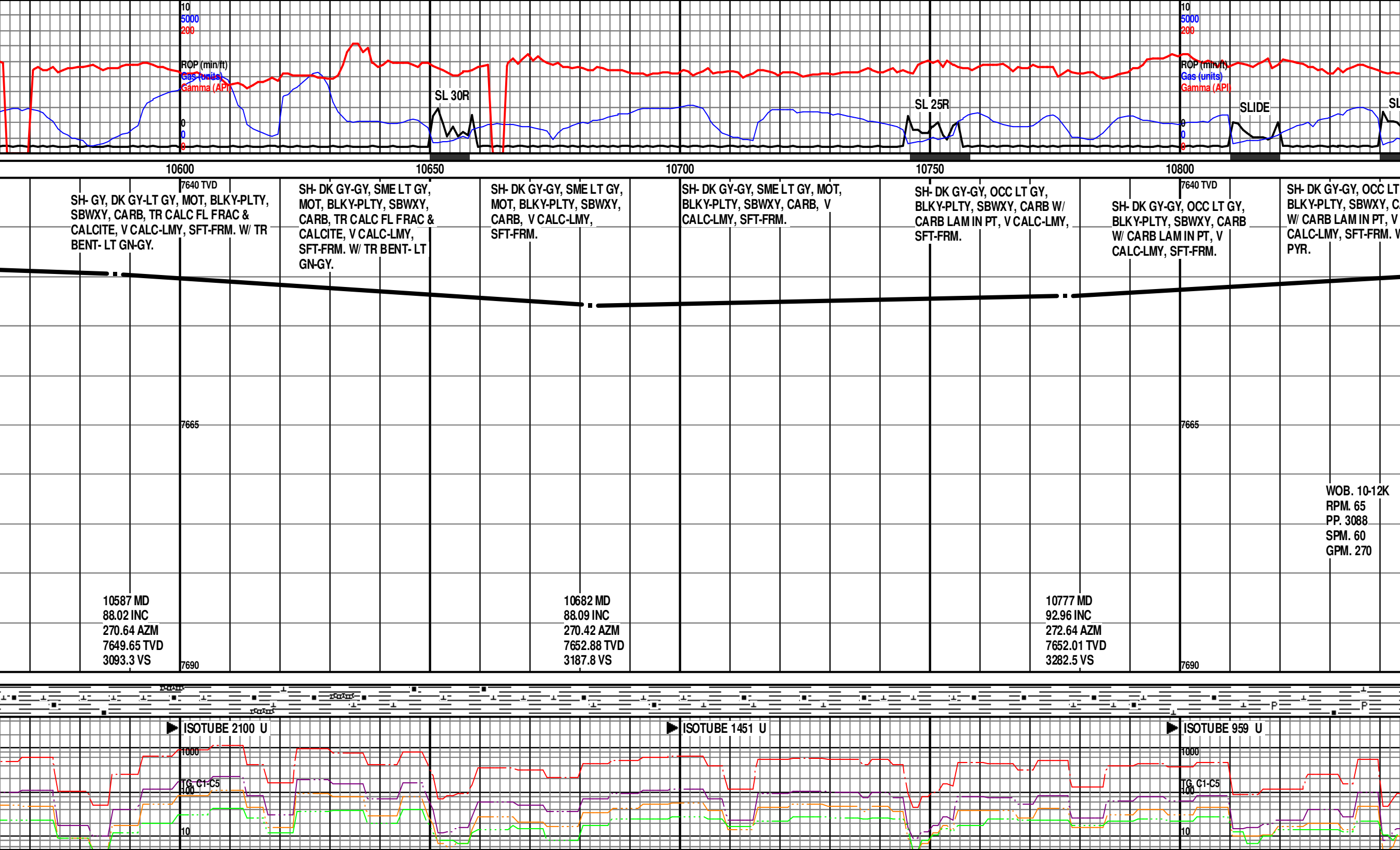


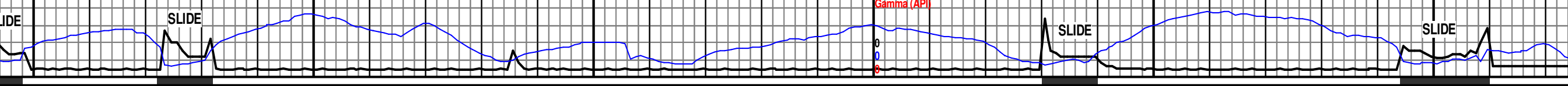
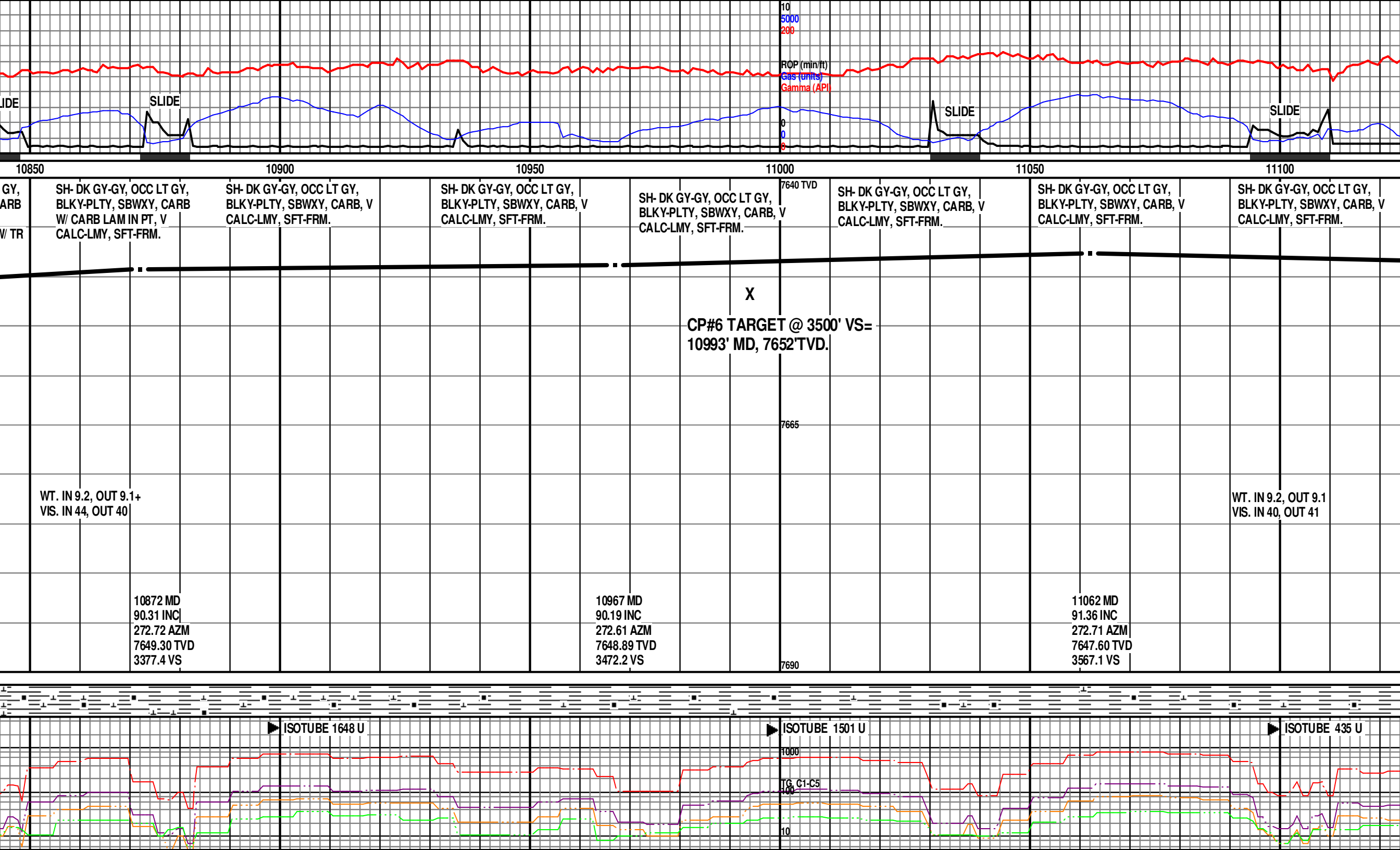












GY, ARB	SH- DK GY-GY, OCC LT GY, BLKY-PLTY, SBWXY, CARB W/ CARB LAM IN PT, V CALC-LMY, SFT-FRM.	SH- DK GY-GY, OCC LT GY, BLKY-PLTY, SBWXY, CARB, V CALC-LMY, SFT-FRM.	SH- DK GY-GY, OCC LT GY, BLKY-PLTY, SBWXY, CARB, V CALC-LMY, SFT-FRM.	SH- DK GY-GY, OCC LT GY, BLKY-PLTY, SBWXY, CARB, V CALC-LMY, SFT-FRM.	SH- DK GY-GY, OCC LT GY, BLKY-PLTY, SBWXY, CARB, V CALC-LMY, SFT-FRM.	SH- DK GY-GY, OCC LT GY, BLKY-PLTY, SBWXY, CARB, V CALC-LMY, SFT-FRM.	SH- DK GY-GY, OCC LT GY, BLKY-PLTY, SBWXY, CARB, V CALC-LMY, SFT-FRM.
V/ TR							

