



# 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: Converse Family 6-1H (HORZ. SEC./LATERAL)  
Location: NE/SE Sec. 06 T4S-R63W, Arapahoe County, CO  
License Number: API- 05-005-07204-01  
Spud Date: 4/24/2013  
Surface Coordinates: 1980' FSL & 260' FEL of NE/SE Sec. 06, T4S-R63W,  
Arapahoe County, CO.  
Bottom Hole Coordinates: From Surf.= Proposed Lateral 1980' FSL & 620' FWL of W/SW Sec. 06 T4S-R63W,  
Arapahoe County, CO.  
Ground Elevation (ft): 5602' K.B. Elevation (ft): 5626'  
Logged Interval (ft): 7550' To: 11354' Total Depth (ft): 11354'  
Formation: NIOBRARA  
Type of Drilling Fluid: INVERT(OBM) & WATER BASE

Region: DJ BASIN

Drilling Completed: 5/9/2013

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

## OPERATOR

Company: CONOCOPHILLIPS  
Address: 550 Westlake Park Blvd. WL3-3026  
P.O. Box 2197  
Houston, Texas 77252

## GEOLOGIST

Name: TODD THIESSE, GABRIEL GENITEMPO  
Company: WEATHERFORD SLS/TOOKE ROCKIES  
Address: PO BOX 435  
CASPER, WY 82602  
307.265.2124


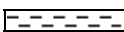

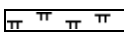
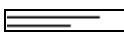
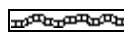


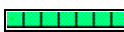

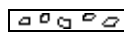


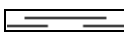

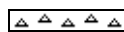




## Supervision

Project Geologist: John Ostergren- Conoco/Phillips  
 Drilling Engineer: Gary Hamilton- Conoco/Phillips  
 Drilling Sup: Bob Strickler- Conoco/Phillips  
 Company Rep: Richard Perez, Wes Evans(Day Leads)  
 Company Rep: Frank Holubec, Casey Burns(Night Leads)  
 Well Site Safety: Rainey Schexnider, James  
 Contact Geologist: Abby Tomkiewicz-Conoco/Phillips

## Other Information
















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







## ROCK TYPES

	Anhy		Clyst		Gyp		Mrlst		Shgy
	Bent		Coal		Igne		Salt		Sltst
	Brec		Congl		Lmst		Shale		Ss
	Cht		Dol		Meta		Shcol		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
	Hvymn
	Kaol
	Marl
	Minxl
	Nodule
	Phos
	Pyr
	Salt












	Sandy
	Silt
	Sil
	Sulphur
	Tuff
























### STRINGER

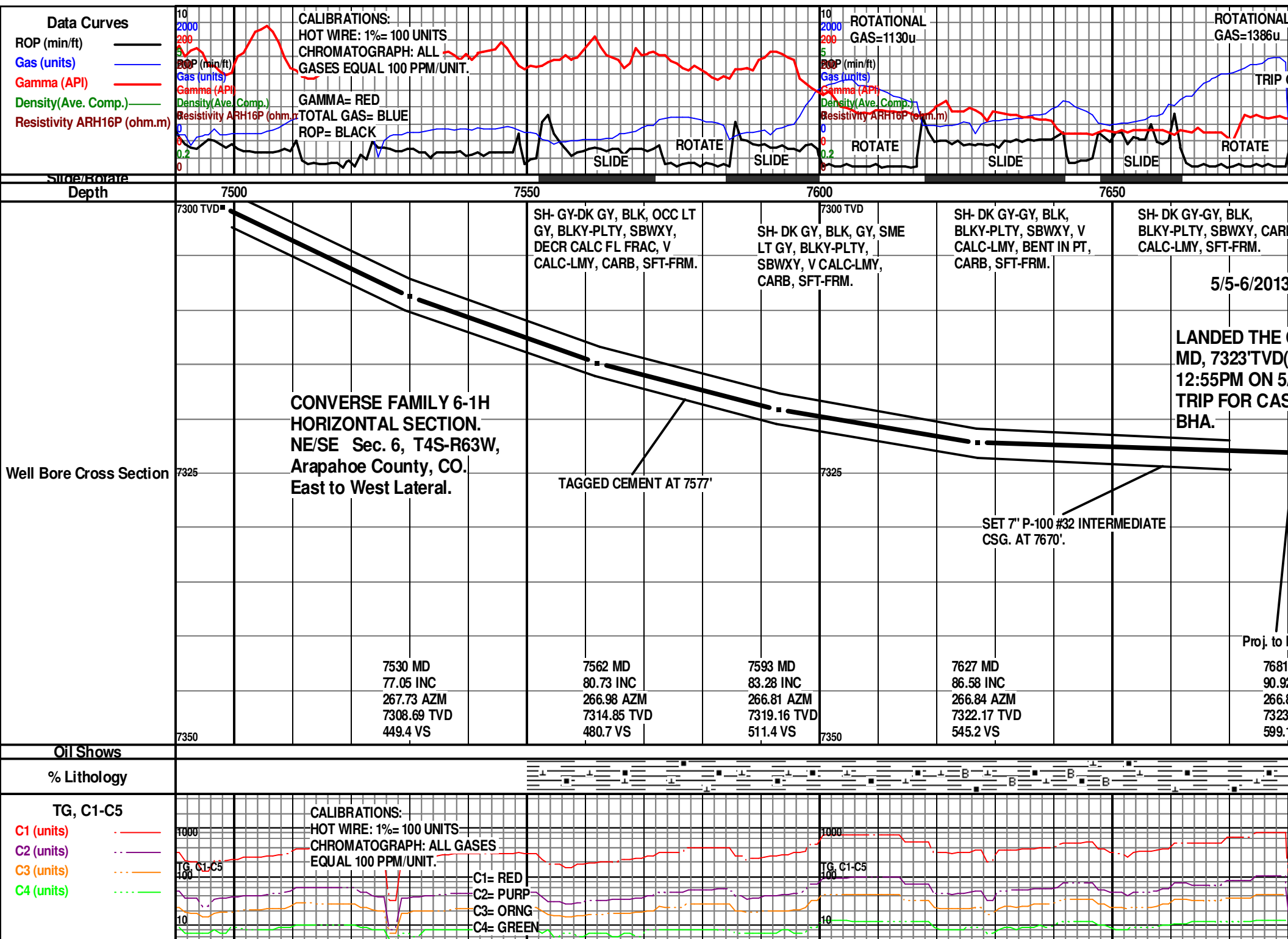
	Anhy
	Arg
	Bent
	Coal
	Dol
	Gyp
	Ls
	Mrst
	Sltstrg

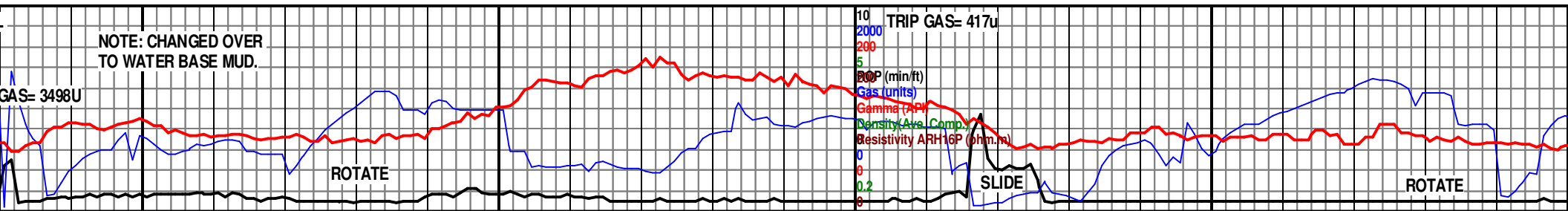
	Ssstrg
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### TEXTURE

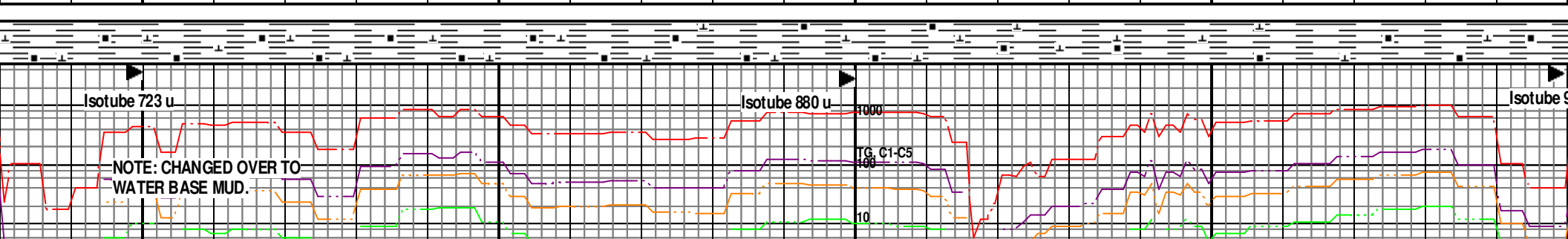
	Boundst
	Chalky
	Cryxln
	Earthy
	Finexln
	Grainst
	Lithogr
	Microxln
	Mudst
	Packst
	Wackest

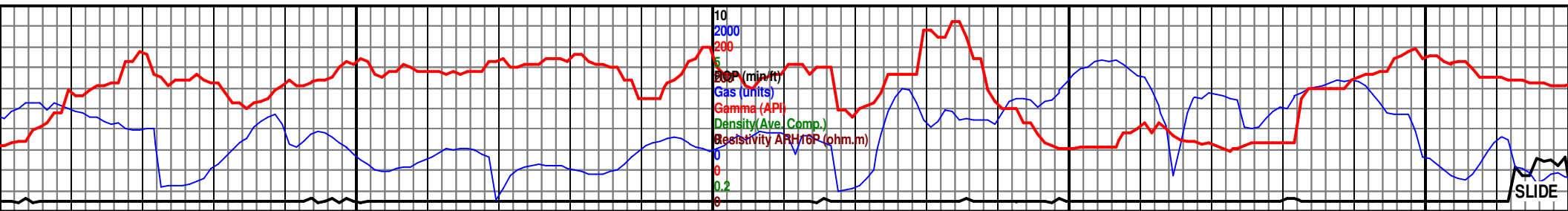
OTHER SYMBOLS					
INTERVALS		OIL SHOWS		POROSITY TYPE	
	Core		Even		Earthy
	Dst		Spotted		Fenest
<b>EVENTS</b>			Ques		Fracture
	Rft		Dead		Inter
	Sidewall				Moldic
					Organic
					Pinpoint
					Vuggy
				ROUNDING	
					Rounded
					Subrnd
					Subang
					Angular
				SORTING	
					Well
					Moderate
					Poor



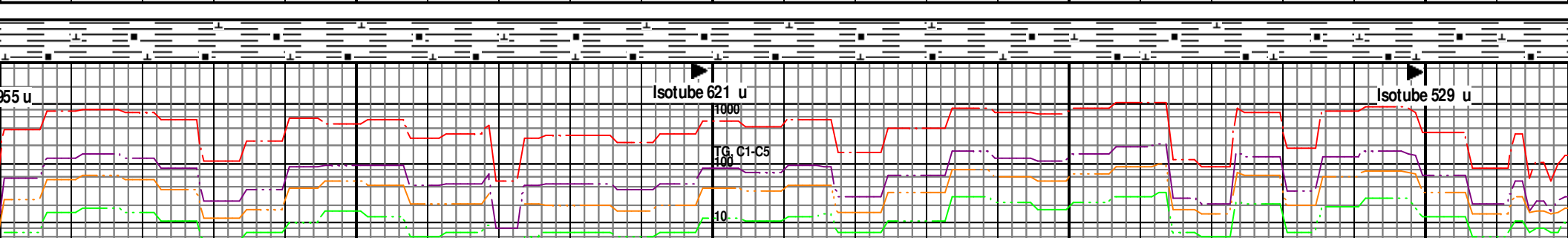


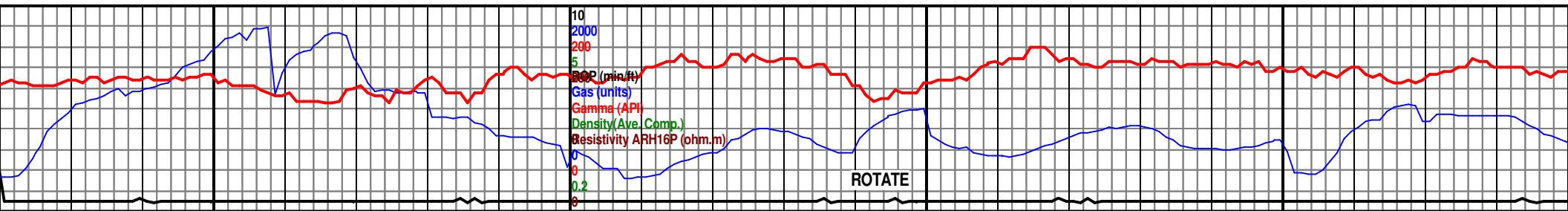
7700		7750		7800		7850		7900
SH- DK GY-GY, BLK, SM LT GY, BLKY-PLTY, SBWXY, CARB, V CALC-LMY, SFT-FRM, TR CMT.		SH- DK GY-GY, BLK, SM LT GY, BLKY-PLTY, SBWXY, CARB, V CALC-LMY, SFT-FRM.		SH- DK GY-GY, BLK, SM LT GY, BLKY-PLTY, SBWXY, CARB, V CALC-LMY, CALC, SFT-FRM.		SH- GY-LT GY, SME DK GY, BLKY-PLTY, SBWXY, OCC CALC FL FRAC, CARB IN PT, V CALC-LMY, SFT-FRM.		SH- GY-LT GY, SME DK GY, BLKY-PLTY, SBWXY, INCR IN CALC FL FRAC, CARB IN PT, V CALC-LMY, SFT-FRM.
NOTE: CHANGED OVER TO WATER BASE MUD.				5/7/2013				
CURVE AT 7681' PROJ.) AT 4/2013. SING AND NEW		WOB. 6-8K RPM. 46 PP. 2116 SPM. 50 GPM. 253		WT. IN 9.1+, OUT 9.1+ VIS. IN 46, OUT 44		TRIP FOR DIR.TOOLS AT 7816'.		WT. IN 9.3, OUT 9.2 VIS. IN 43, OUT 42
NEW BIT#5, SECURITY, FX54, 6", PDC, 5X16 JETS, IN AT 7681'.				7325		NEW BIT#6, RR #5, SECURITY, FX54, 6", PDC, 5X16 JETS, IN AT 7681'.		
MUD MOTOR IS 1.5°.						MOTOR IS 1.5°. GAMMA IS 52' BEHIND BIT. SURVEY IS 63' BEHIND BIT.		
GAMMA IS 40' BEHIND BIT.						WT. 9.2, VIS. 44, PV, 13, YP. 13, WL. 3.7, FC. 2/32, CORR SLDS. 3.7, pH. 7.8, CI. 2100, LGS/HGS. 0.6/3.1%.		
Bit Survey		7753 MD 91.42 INC 270.85 AZM 7324.37 TVD 671.1 VS		7765 MD 91.36 INC 270.74 AZM 7324.08 TVD 683.1 VS		7828 MD 90.43 INC 270.25 AZM 7323.09 TVD 746.1 VS		7860 MD 90.25 INC 270.01 AZM 7322.90 TVD 778.1 VS



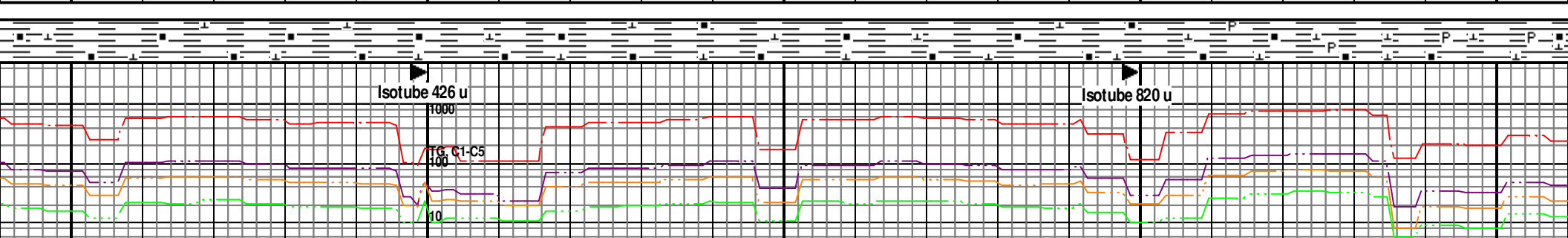
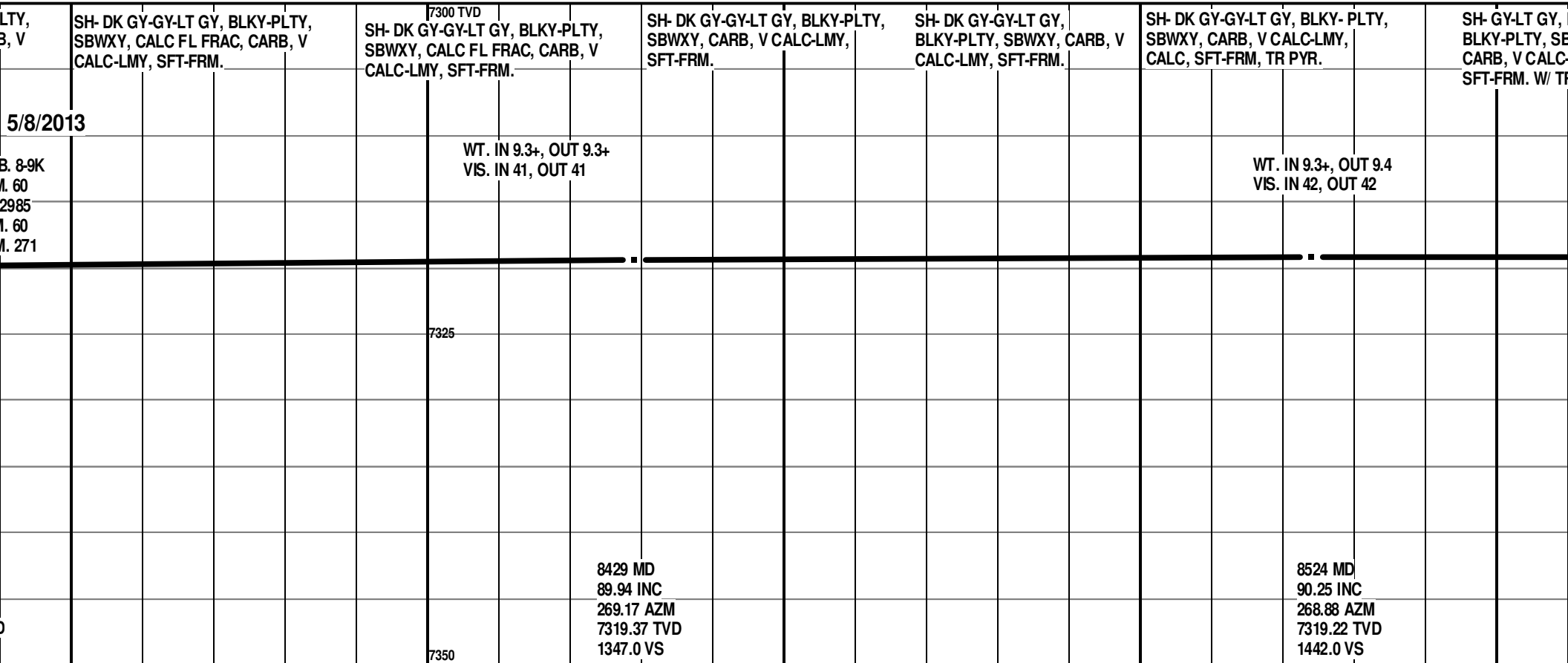


7950		8000		8050		8100	
GY-GY-LT GY, PLTY, SBWXY, CALC C, CARB, V LMY, SFT-FRM.	SH- DK GY-GY-LT GY, BLKY-PLTY, SBWXY, CALC FL FRAC, CARB, V CALC-LMY, SFT-FRM.	SH- DK GY-GY-LT GY, BLKY-PLTY, SBWXY, CALC FL FRAC, CARB, V CALC-LMY, SFT-FRM.	SH- DK GY-GY-LT GY, BLKY-PLTY, SBWXY, CALC FL FRAC, CARB, V CALC-LMY, SFT-FRM.	SH- DK GY-GY-LT GY, BLKY-PLTY, SBWXY, CALC FL FRAC, CARB, V CALC-LMY, SFT-FRM.	SH- DK GY-GY-LT GY, BLKY-PLTY, SBWXY, CALC FL FRAC, CARB, V CALC-LMY, SFT-FRM.	SH- DK GY-GY-LT GY, BLKY-PLTY, SBWXY, CALC FL FRAC, CARB, V CALC-LMY, SFT-FRM.	SH- DK GY-GY-LT GY, BLKY-PLTY, SBWXY, CALC FL FRAC, CARB, V CALC-LMY, SFT-FRM.
		WT. IN 9.3, OUT 9.1 VIS. IN 42, OUT 42					
		7325					
		7350					
7955 MD 90.31 INC 269.97 AZM 7322.44 TVD 873.1 VS				8049 MD 90.86 INC 269.16 AZM 7321.48 TVD 967.0 VS			

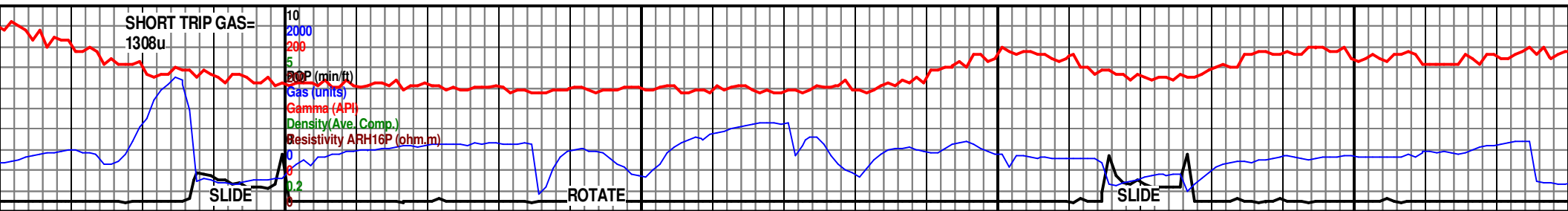




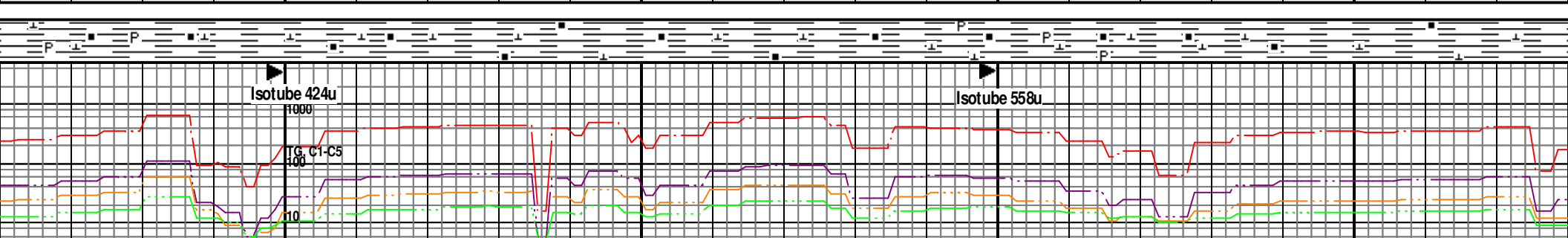
8150				8200				8250				8300			
Y-GY-LT GY, BLKY-PLTY, CARB, V CALC-LMY, CALC, SFT-FRM.				SH- DK GY-GY-LT GY, BLKY-PLTY, SBWXY, CARB, V CALC-LMY, CALC, SFT-FRM.				SH- DK GY-GY-LT GY, BLKY-PLTY, SBWXY, CALC FL FRAC, CARB, V CALC-LMY, SFT-FRM.				SH- DK GY-GY-LT GY, BLKY-PLTY, SBWXY, CALC FL FRAC, CARB, V CALC-LMY, SFT-FRM.			



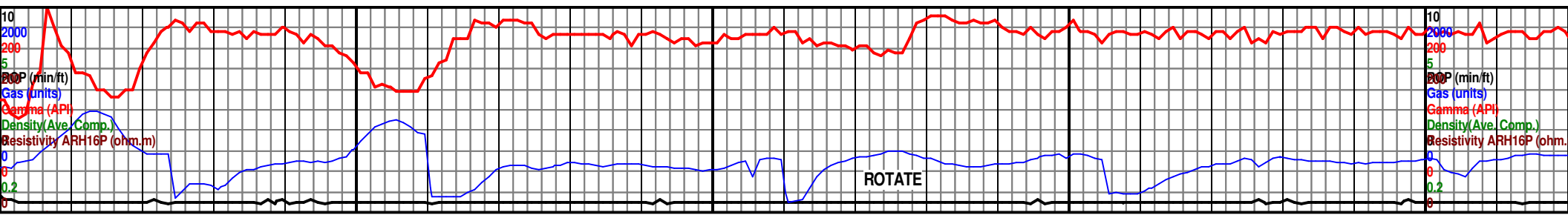




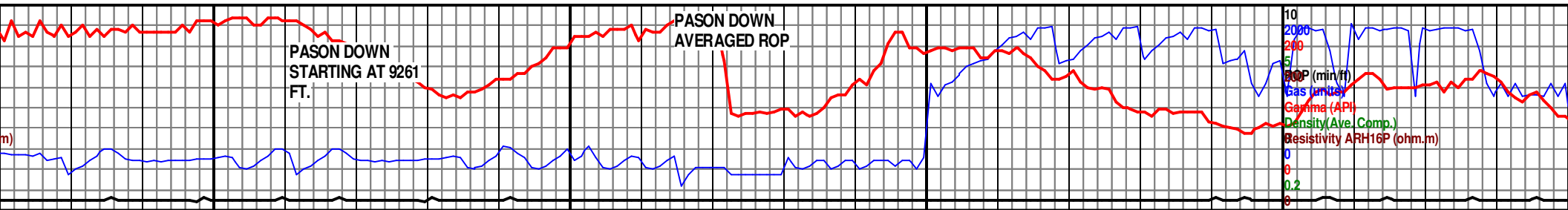
8600		8650		8700		8750	
DK GY, BWXY, LMY, R PYR.	SH- GY-LT GY, DK GY, BLKY-PLTY, SBWXY, CARB, V CALC-LMY, SFT-FRM. W/ TR PYR.	SH- GY-LT GY, SME DK GY, BLKY-PLTY, SBWXY, V CALC-LMY, CARB, SFT-FRM.	SH- GY-LT GY, SME DK GY, BLKY-PLTY, SBWXY, V CALC-LMY, CARB, SFT-FRM.		SH- GY-LT GY, DK GY, BLKY-PLTY, SBWXY, CARB, V CALC-LMY, SFT-FRM. W/ TR PYR.	SH- GY-LT GY, SME DK GY, BLKY-PLTY, SBWXY, V CALC-LMY, CARB, SFT-FRM.	SH- GY-LT GY, SME DK GY, BLKY-PLTY, SBWXY, V CALC-LMY, CARB, SFT-FRM.
TRIPPED OUT TO SHOE FOR RIG REPAIR AT 8587'.					WT. IN 9.3, OUT 9.3 VIS. IN 42, OUT 41		
7300 TVD		7325		7350			
WT. 9.4, VIS. 43, PV. 13, YP. 12, WL. 3.8, FC. 2/32, CORR SLDS. 5.2, pH. 8.3, Cl. 2500, LGS/HGS. 2.2/3.0%.		WOB. 2-4K RPM. 60 PP. 3023 SPM. 60 GPM. 271					
8587 MD 89.81 INC 269.58 AZM 7319.18 TVD 1504.9 VS		8619 MD 89.63 INC 270.23 AZM 7319.34 TVD 1536.9 VS		8650 MD 89.20 INC 269.98 AZM 7319.66 TVD 1567.9 VS		8714 MD 90.00 INC 270.53 AZM 7320.10 TVD 1631.9 VS	



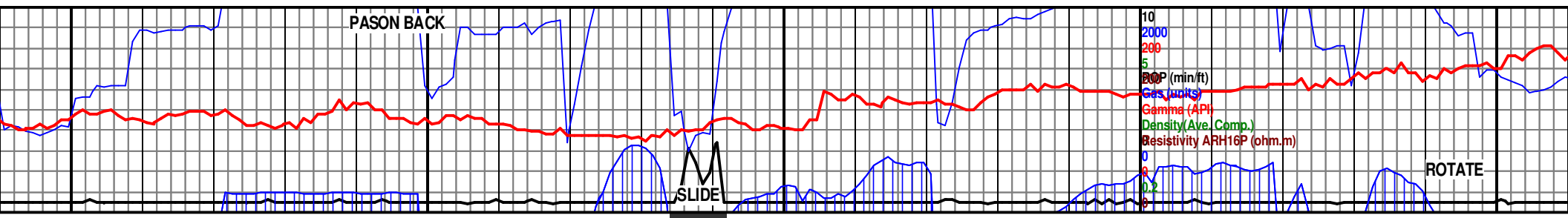




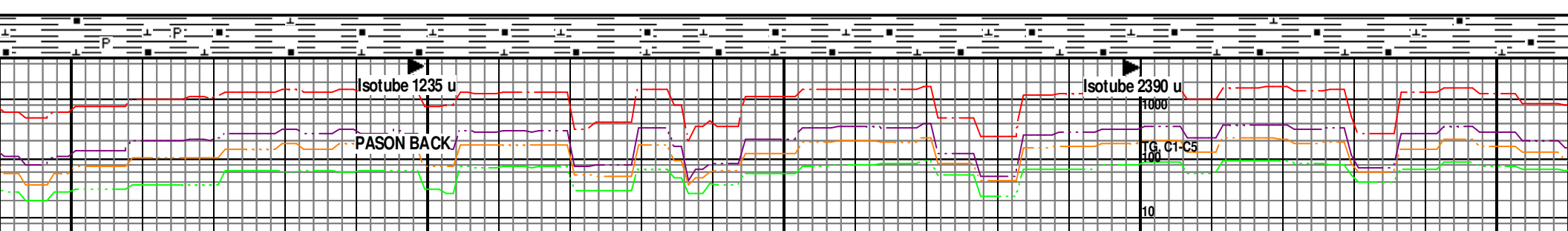
900				9050				9100				9150				9200							
7300 TVD																7300 TVD							
SH- GY-DK GY, SME LT GY, BLKY-PLTY, SBWXY, DECR IN CALC & FRAC, V CALC-LMY, CARB, FRM.				SH- GY-DK GY, SME LT GY, BLKY-PLTY, SBWXY, SME CALC & FRAC, V CALC-LMY, CARB, FRM.				SH- GY-DK GY, OCC LT GY, BLKY-PLTY, SBWXY, CARB, TR CALC & FRAC, V CALC-LMY, SFT-FRM.				SH- DK GY-GY, BLKY-PLTY, BLKY-PLTY, SBWXY, SLTY IN PT, CARB, V CALC-LMY, SFT-FRM.				SH- DK GY-GY, BLKY-PLTY, SBWXY, SLTY IN PT, CARB, V CALC-LMY, SFT-FRM.				SH- GY-DK GY, BLKY-PLTY, SBWXY, CARB, V CALC-LMY, SFT-FRM. W/ TR PY			

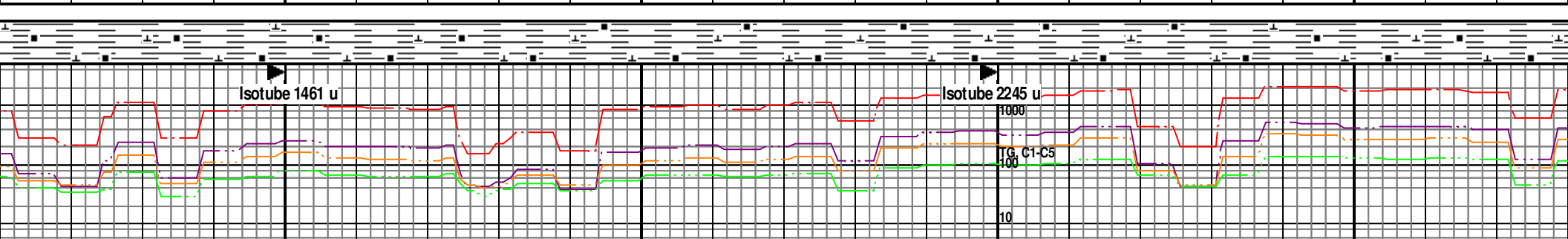
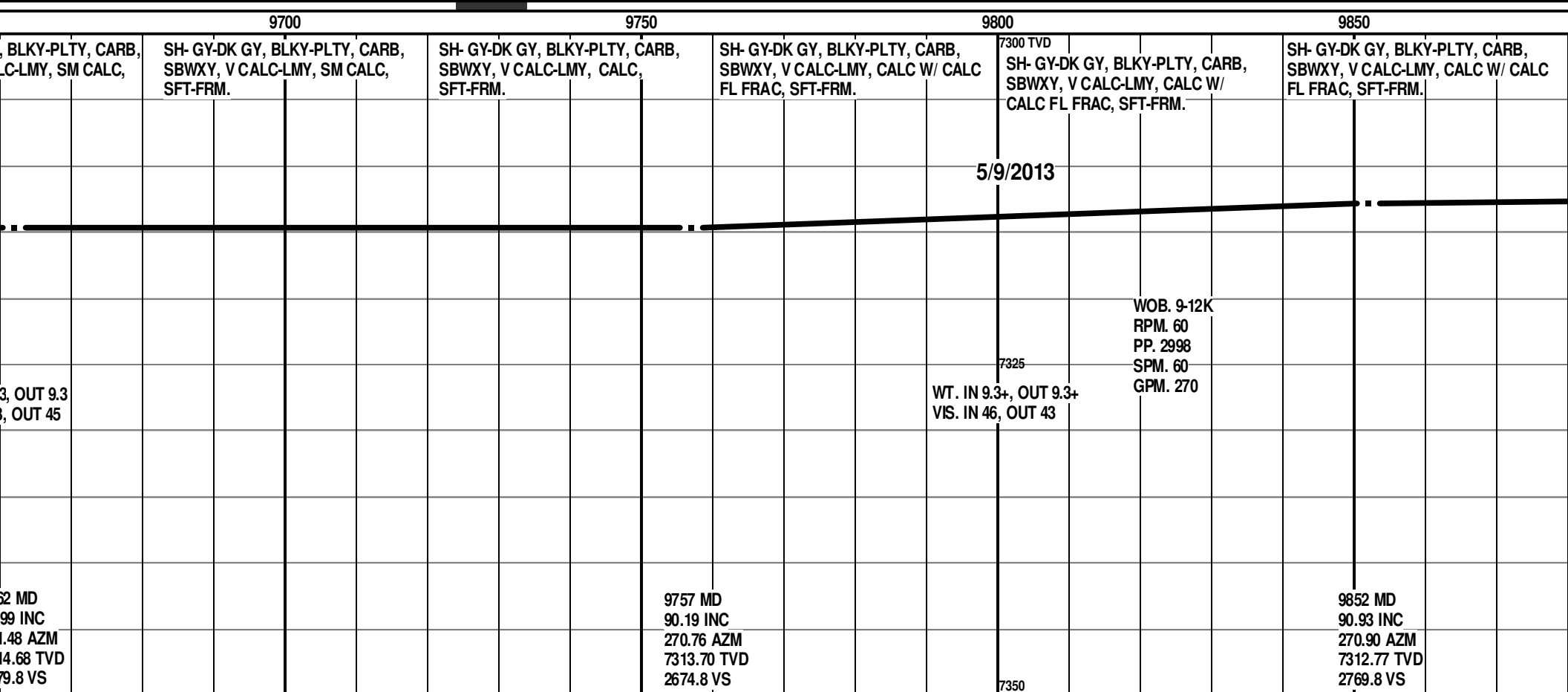


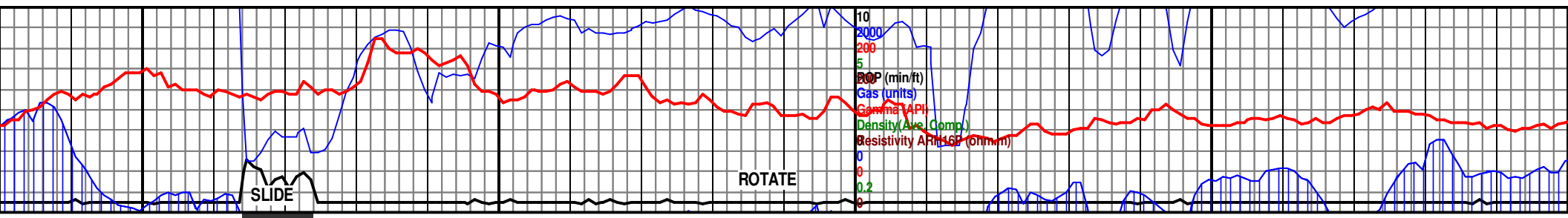
9250				9300				9350				9400			
SH- GY-DK GY, BLKY-PLTY, SBWXY, CARB, V CALC-LMY, SFT-FRM. W/ TR PYR.				SH- GY-DK GY, BLKY-PLTY, CARB, SBWXY, V CALC-LMY, SFT-FRM.				SH- GY-DK GY, BLKY-PLTY, CARB, SBWXY, V CALC-LMY, SFT-FRM.				SH- GY-DK GY, BLKY-PLTY, CARB, SBWXY, V CALC-LMY, SFT-FRM.			
								FAULT AREA 2230'VS							



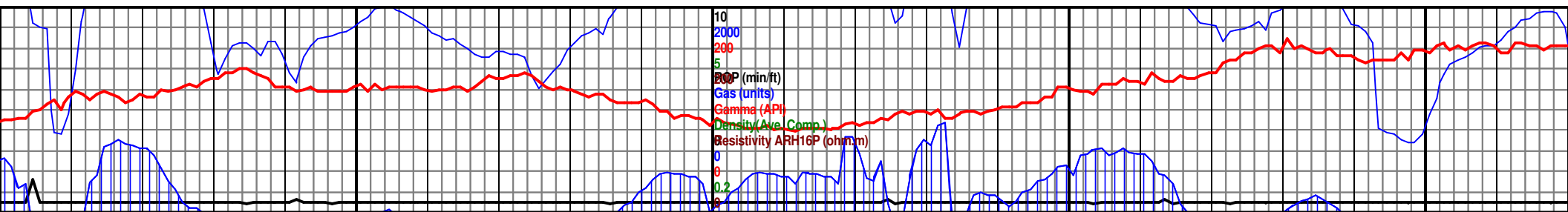
9450	9500	9550	9600	9650
, CARB, CALC, SH- GY-DK GY, BLKY-PLTY, CARB, SBWXY, V CALC-LMY, CALC, SFT-FRM, TR PYR.	SH- GY-DK GY, BLKY-PLTY, CARB, SBWXY, V CALC-LMY, CALC, SFT-FRM.	SH- GY-DK GY, BLKY-PLTY, CARB, SBWXY, V CALC-LMY, CALC, SFT-FRM.	SH- GY-DK GY, BLKY-PLTY, CARB, SBWXY, V CALC-LMY, CALC, SFT-FRM.	SH- GY-DK GY, BLKY-PLTY, CARB, SBWXY, V CALC-LMY, CALC, SFT-FRM.
9472 MD 89.20 INC 270.62 AZM 7315.75 TVD 2389.9 VS			9567 MD 90.55 INC 271.17 AZM 7315.95 TVD 2484.8 VS	9667 MD 90.55 INC 271.17 AZM 7315.95 TVD 2484.8 VS



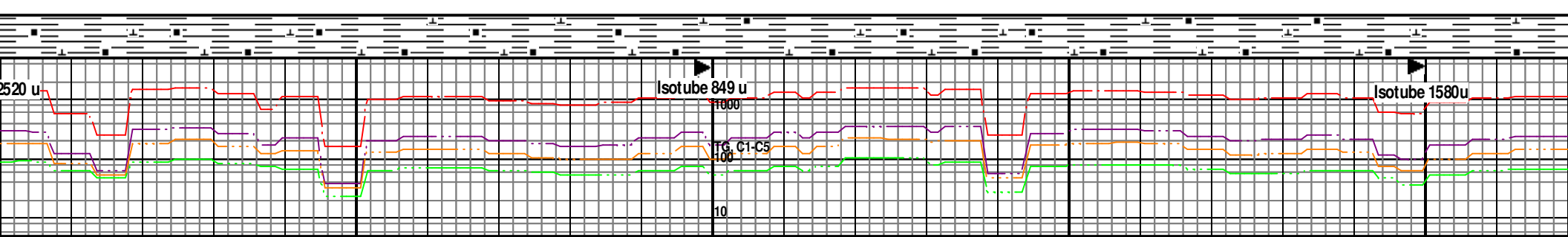




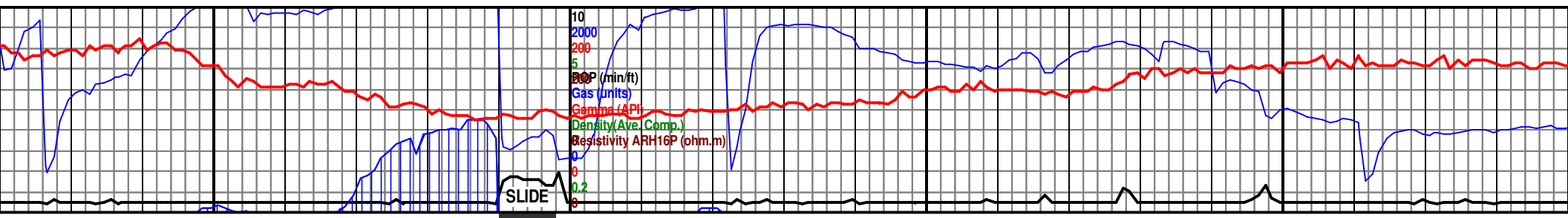
9900					9950					10000					10050					10100				
SH- GY-DK GY, BLKY-PLTY, CARB, SBWXY, V CALC-LMY, CALC W/ CALC FL FRAC, SFT-FRM.					SH- GY-DK GY, BLKY-PLTY, CARB, SBWXY, V CALC-LMY, CALC W/ CALC FL FRAC, SFT-FRM.					SH- GY-DK GY, BLKY-PLTY, CARB, SBWXY, V CALC-LMY, CALC W/ CALC FL FRAC, SFT-FRM.					SH- GY-DK GY, BLKY-PLTY, CARB, SBWXY, V CALC-LMY, CALC W/ CALC FL FRAC, SFT-FRM.					SH- GY-DK GY, BLKY-PLTY, CARB, SBWXY, V CALC-LMY, CALC W/ CALC FL FRAC, SFT-FRM.				



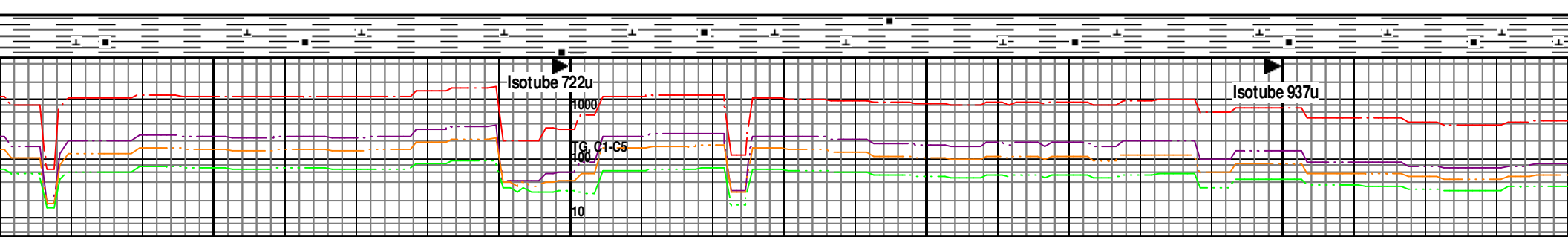
100	10150	10200	10250	10300
-PLTY, CARB, , CALC W/ CALC	SH- GY-DK GY, BLKY-PLTY, CARB, SBWXY, V CALC-LMY, CALC W/ CALC FL FRAC, SFT-FRM.	SH- GY-DK GY, BLKY-PLTY, CARB, SBWXY, V CALC-LMY, CALC W/ CALC FL FRAC, SFT-FRM.	SH- GY-DK GY, BLKY-PLTY, CARB, SBWXY, V CALC-LMY, CALC W/ CALC FL FRAC, SFT-FRM.	SH- GY-DK GY, BLKY-PLTY, CARB, SBWXY, V CALC-LMY, CALC W/ CALC FL FRAC, SFT-FRM.
	<p>WT. IN 9.3+, OUT 9.2+ VIS. IN 46, OUT 48</p> <p>10137 MD 90.37 INC 270.76 AZM 7311.59 TVD 3054.8 VS</p>	<p>7300 TVD</p> <p>WT. 9.4, VIS. 46, PV, 16, YP. 15, WL. 3.8, FC. 2/32, CORR SLDS. 5.7, pH. 8.8, Cl. 2750, LGS/HGS. 3.2/2.5%.</p> <p>7325</p> <p>7350</p>	<p>10232 MD 90.56 INC 270.57 AZM 7310.82 TVD 3149.8 VS</p>	

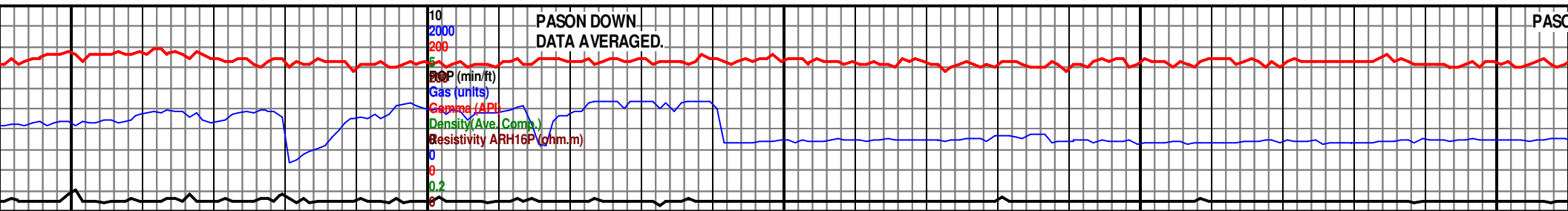




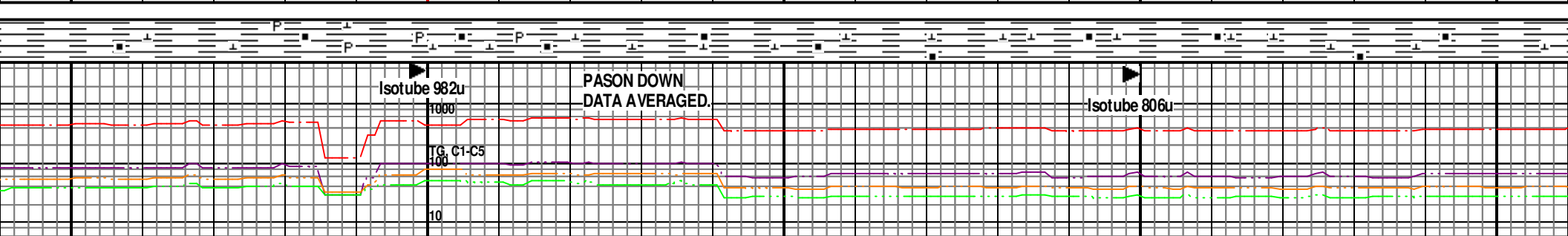


10350				10400				10450				10500			
ELT BWXY, FRAC LMY,				SH- GY-LT GY, DK GY, BLKY-PLTY, SBWXY, CARB, TR CALC FL FRAC & CALC, V CALC-LMY CMT, SFT-FRM.				SH- GY-LT GY, SME DK GY, BLKY-PLTY, SBWXY, CARB, V CALC-LMY CMT, SFT-FRM.				SH- GY-LT GY, SME DK GY, BLKY-PLTY, SBWXY, TR CALC FRAC & CALC, CARB, V CALC-LMY CMT, SFT-FRM.			
WT. IN 9.2+, OUT 9.2 VIS. IN 52, OUT 50															
10327 MD 90.80 INC 270.61 AZM 7309.69 TVD 3244.8 VS				7300 TVD 7325 7350				10422 MD 89.75 INC 270.43 AZM 7309.24 TVD 3339.7 VS				10516 MD 90.49 INC 270.76 AZM 7309.04 TVD 3433.7 VS			



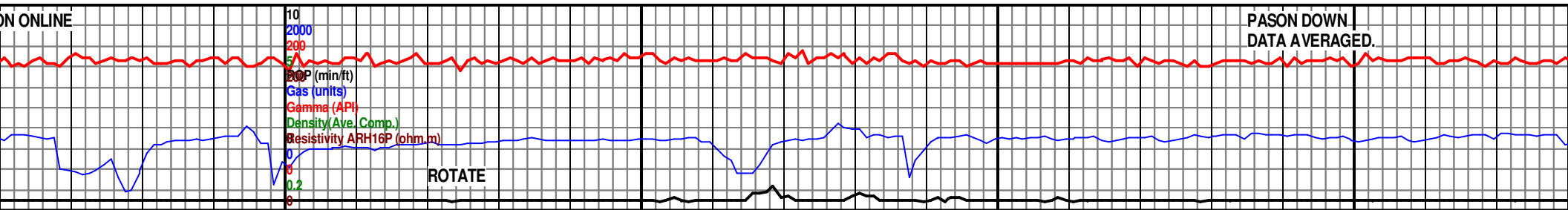


10550				10600				10650				10700				10750			
SH- GY-LT GY, SME DK GY, BLKY-PLTY, SBWXY, TR CALC FRAC & CALC, CARB, V CALC-LMY CMT, SFT-FRM.				SH- GY-LT GY, SME DK GY, BLKY-PLTY, SBWXY, SME CALC FRAC & CALC, CARB, V CALC-LMY CMT, SFT-FRM. W/TR PYR.				SH- GY-LT GY, SME DK GY, BLKY-PLTY, SBWXY, SME CALC FRAC & CALC, CARB, V CALC-LMY CMT, SFT-FRM.				SH- GY-LT GY, SME DK GY, BLKY-PLTY, SBWXY, SME CALC FRAC & CALC, CARB, V CALC-LMY CMT, SFT-FRM.				SH- LT GY-GY, DK GY, BLKY- SBWXY, OCC CALC FL FRAC CALCITE, CARB, V CALC-LMY CMT, SFT-FRM.			

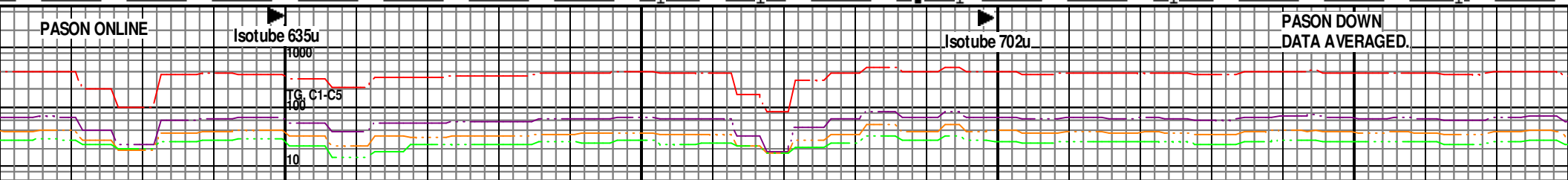


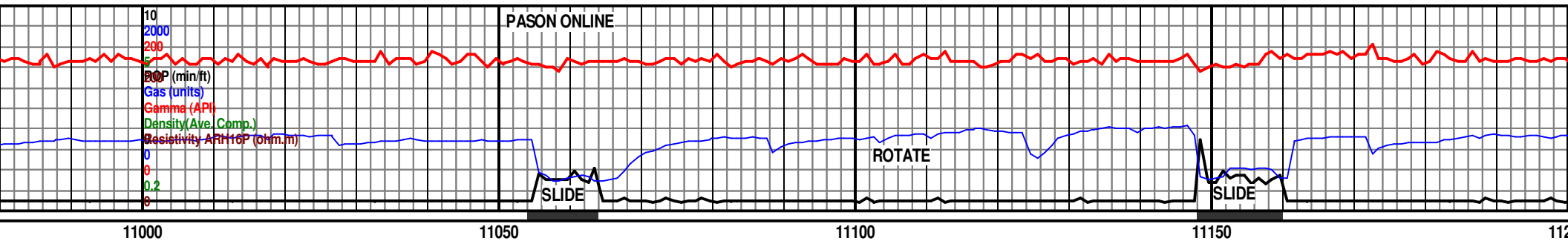
PASON ONLINE

PASON DOWN  
DATA AVERAGED.

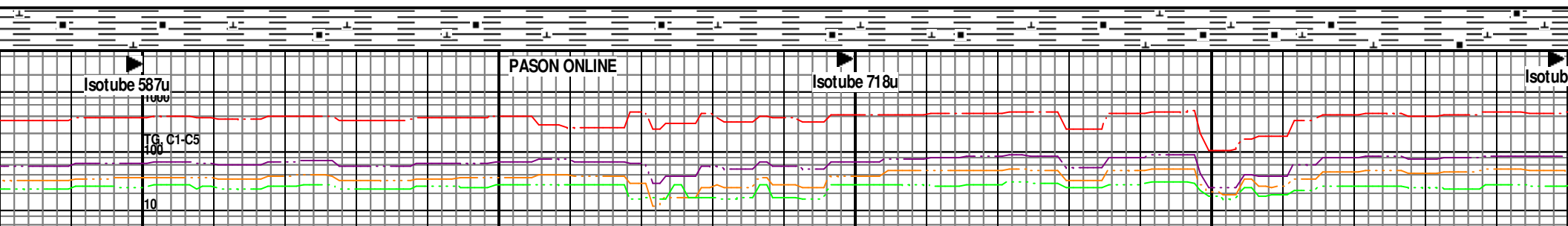


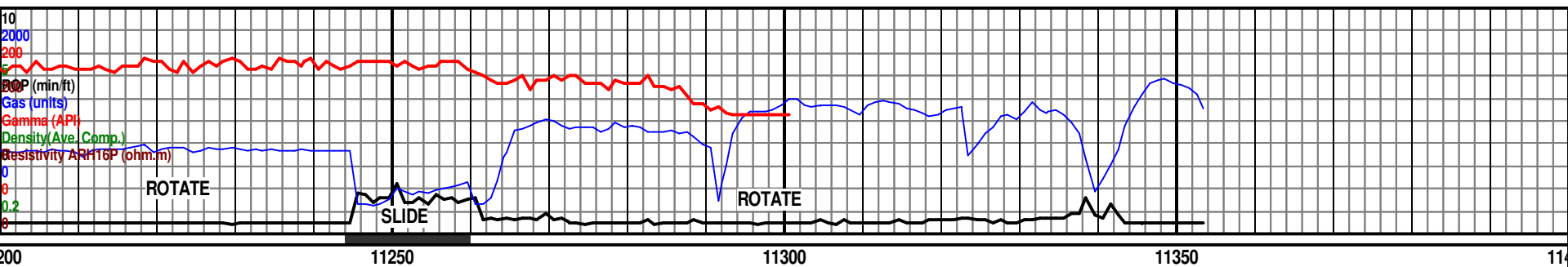
10800		10850		10900		10950	
PLTY, & Y,		SH- LT GY-GY, DK GY, BLKY-PLTY, SBWXY, OCC CALC FL FRAC & CALCITE, CARB, V CALC-LMY, SFT-FRM.		SH- LT GY-GY, DK GY, BLKY-PLTY, SBWXY, OCC CALC FL FRAC & CALCITE, CARB, V CALC-LMY, SFT-FRM.		SH- DK GY-GY, LT GY, BLKY-PLTY, SBWXY, SME CALC FL FRAC & CALCITE, CARB, V CALC-LMY, SFT-FRM.	
IN 9.2+, OUT 9.2 IN 54, OUT 51							
7270 TVD							
7295							
10801 MD 90.56 INC 269.73 AZM 7308.05 TVD 3718.7 VS				10896 MD 90.80 INC 269.32 AZM 7306.93 TVD 3813.7 VS			
7320							





11000	11050	11100	11150	11200
7270 TVD SH- DK GY-GY, LT GY, BLKY-PLTY, SBWXY, SME CALC FL FRAC & CALCITE, CARB, V CALC-LMY, SFT-FRM.	SH- DK GY-GY, LT GY, BLKY-PLTY, SBWXY, SME CALC FL FRAC & CALCITE, CARB, V CALC-LMY, SFT-FRM.	SH- DK GY-GY, LT GY, BLKY-PLTY, SBWXY, SME CALC FL FRAC & CALCITE, CARB, V CALC-LMY, SFT-FRM.	SH- DK GY-GY, BLKY-PLTY, SBWXY, TR CALC FL FRAC & CALCITE, CARB, V CALC-LMY, SFT-FRM.	SH- DK GY-GY, BLKY-PLTY, SBWXY, TR CALC FL FRAC & CALCITE, CARB, V CALC-LMY, SFT-FRM.
7295				
10992 MD 90.80 INC 268.55 AZM 7305.59 TVD 3909.7 VS		11086 MD 90.62 INC 269.07 AZM 7304.42 TVD 4003.7 VS		11182 MD 90.12 INC 269.37 AZM 7303.80 TVD 4099.6 VS
7320				



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