

HALLIBURTON

TRIPLE COMBO
HR/MSDL/DSN

5"-100'

COMPANY NORTHWEST NATURAL GAS
WELL IW 23ADH-3-65
FIELD MIST (FLORA POOL STORAGE)
COUNTY COLUMBIA STATE OR

COMPANY NORTHWEST NATURAL GAS
WELL IW 23ADH-3-65
FIELD MIST (FLORA POOL STORAGE)
COUNTY COLUMBIA STATE OR

API No. 38-008-00365
Location 1409.41' S 98.28' W 2' E
1966.04' N 03.21' 24'
FROM THE SOUTHWEST 1/4
OF SECTION 9, T8N
R. 12E, S. 21E
T. 8N, R. 12E, S. 21E
Sec. 3 Twp. 8N Rge. 8W

Other Services
EMIT-B

Permeant Datum GL Elev. 1076.5'
Log measured from K.B. 14.0' above perm. datum
Drilling measured from K.B. Elev. 1089.5'
GL D.F. 1075.5'

Date	APR-29-2007
Run No.	ONE
Depth - Driller	2691'
Depth - Logger	2694'
Bottom - Logged Interval	9476'
Top - Logged Interval	685'
Casing - Driller	13.975' @ 685'
Casing - Logger	985'
Bit Size	R790'
Type Fluid in Hole	GEL
Dens. / Visc.	R2 : 1.480 R4 : 1.50
Ph. / Fluid Loss	:-
Source of Sample	ROYALINE
Rm @ Meas. Temp.	2.280 @ 66 F
Rmf @ Meas. Temp.	2.320 @ 48 F
Rmc @ Meas. Temp.	1.740 @ 50 F
Source Rmf / Rmc	MEAS : MEAS
Rm @ BHT	1.918 @ 100 F
Rmf @ BHT	1.190 @ 100 F
Rmc @ BHT	0.825 @ 100 F
Time on Bottom	04-28 02:00
Whe. Pac. Temp.	100 F @ 9476'
Equip. / Location	4898 : WFLD
Recorded By	G. FOLLESAU
Witnessed By	J. NEYER

Fold Here

Service Ticket No.: 5048743 API Serial No.: 38-008-00365 PGM Version:

CHANGE IN MUD TYPE OR ADDITIONAL SAMPLES				RESISTIVITY SCALE CHANGES			
Date / Sample No.			Type Log	Depth	Scale Up Hole	Scale Down Hole	
Depth - Driller							
Type Fluid							
In Hole							
Dens. / Visc.							
Ph. / Fluid Loss							

RESISTIVITY EQUIPMENT DATA				
Run No.	Tool Type & No.	Pad Type	Tool Pos.	Other
ONE	HRIT #211_132	NA	1.50' SO	NA

EQUIPMENT DATA							
GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	ONE	Run No.		Run No.	ONE	Run No.	ONE
Serial No.	A-180	Serial No.		Serial No.	1714M74-1	Serial No.	D6
Model No.	NGRT	Model No.		Model No.	SDLT-DA	Model No.	DSNT-X
Diameter	3.636"	No. of Cent.		Diameter	6.800"	Diameter	3.636"
Detector Model No.	432	Spacing		Log Type	GAM-GAM	Log Type	NELJ-NELJ
Type	SCINT.			Source Type	CS-137	Source Type	AME41BE
Length	4.03'	LSA [Y / N]		Serial No.	2694GW	Serial No.	DSN-307
Distance to Source	11.0'	PWDA [Y / N]		Strength	1.5 CI	Strength	15.0 CI

LOGGING DATA															
GENERAL			GAMMA		ACOUSTIC			DENSITY			NEUTRON				
Run	Depth		Scale		Scale			Scale			Scale				
No.	From	To	Ft / Min		L	R	L	R	Matrix	L	R	Matrix	L	R	Matrix
ONE	9476'	685'	25		0	160				1.65	2.65	2.65	90	0	SAND

DIRECTIONAL INFORMATION

Maximum Deviation 88.4 deg @ 3437' KOP 702'

Remarks:

MAGNETIC DECLINATION 19.1 DEGREES.
 HRID-EMIT-SDLT-DSNT-NGRT-DTD RUN IN COMBINATION.
 DIGITAL SPICE AT 2910'

CREW: D. ROSENSTEEL, G. AGUILARA.

RIG: TD DRILLING NO. 101.

HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR RECOMMENDATIONS AGREES THAT HALLIBURTON IS NOT RESPONSIBLE EXCEPT WHERE DUE TO GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, FOR ANY LOSS, DAMAGES, OR EXPENSES RESULTING FROM THE USE THEREOF.

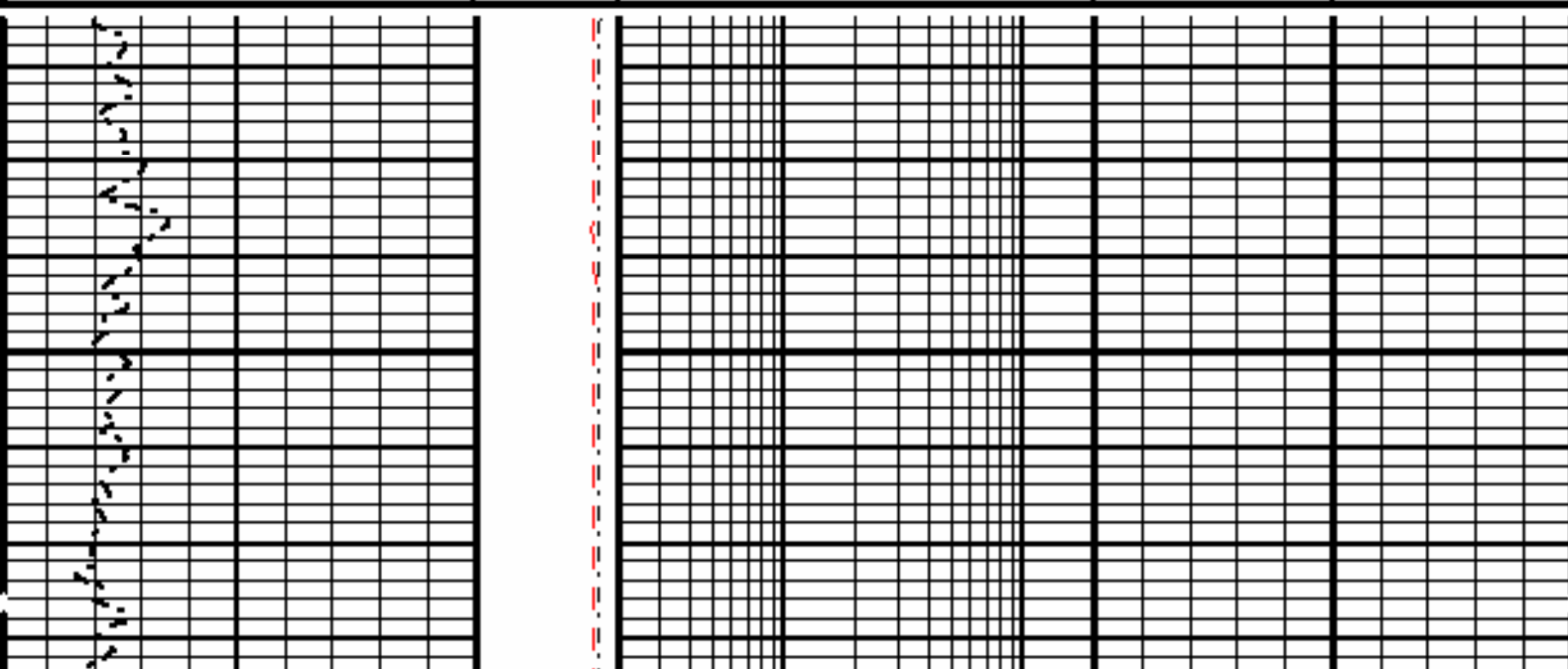
HALLIBURTON

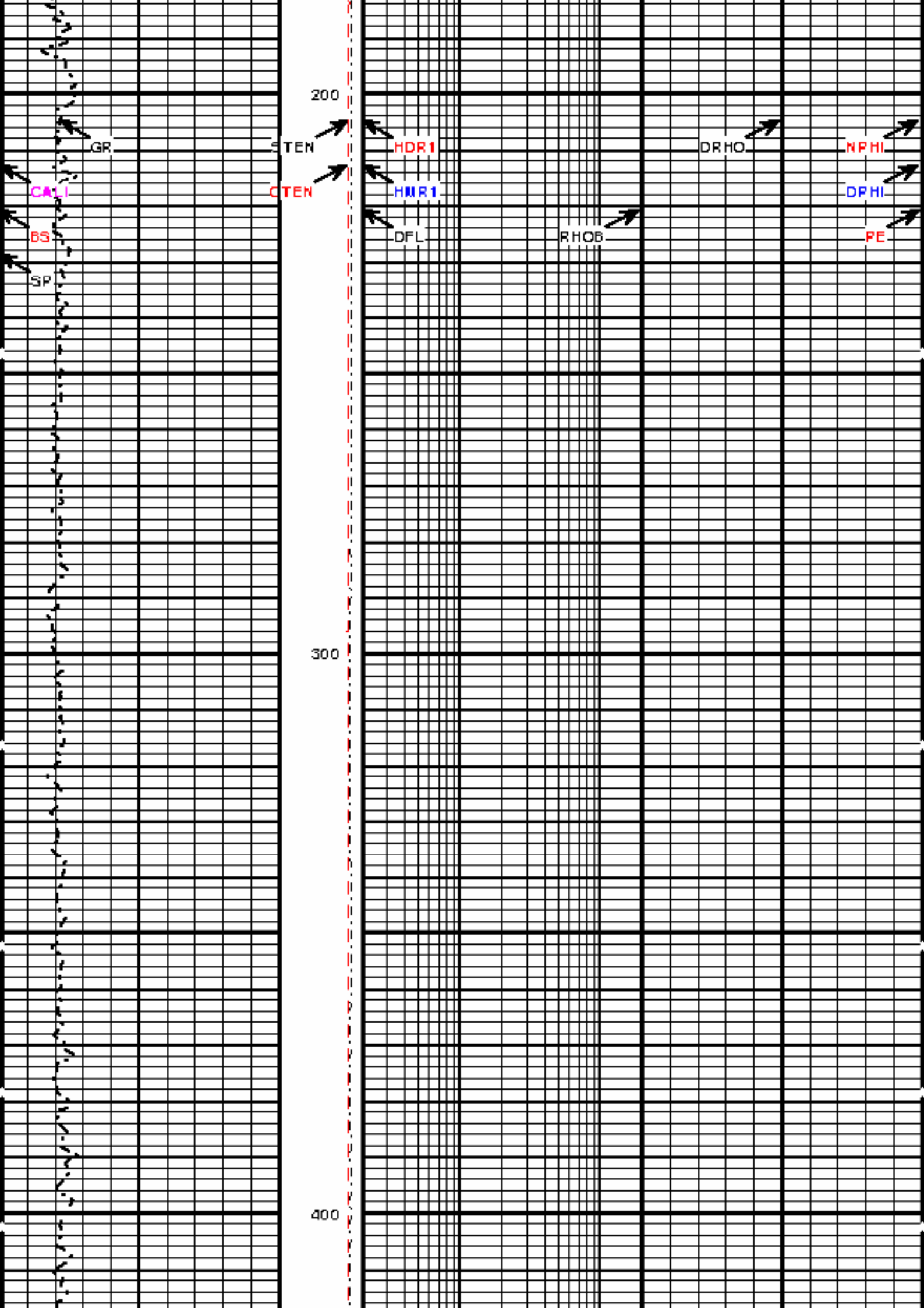


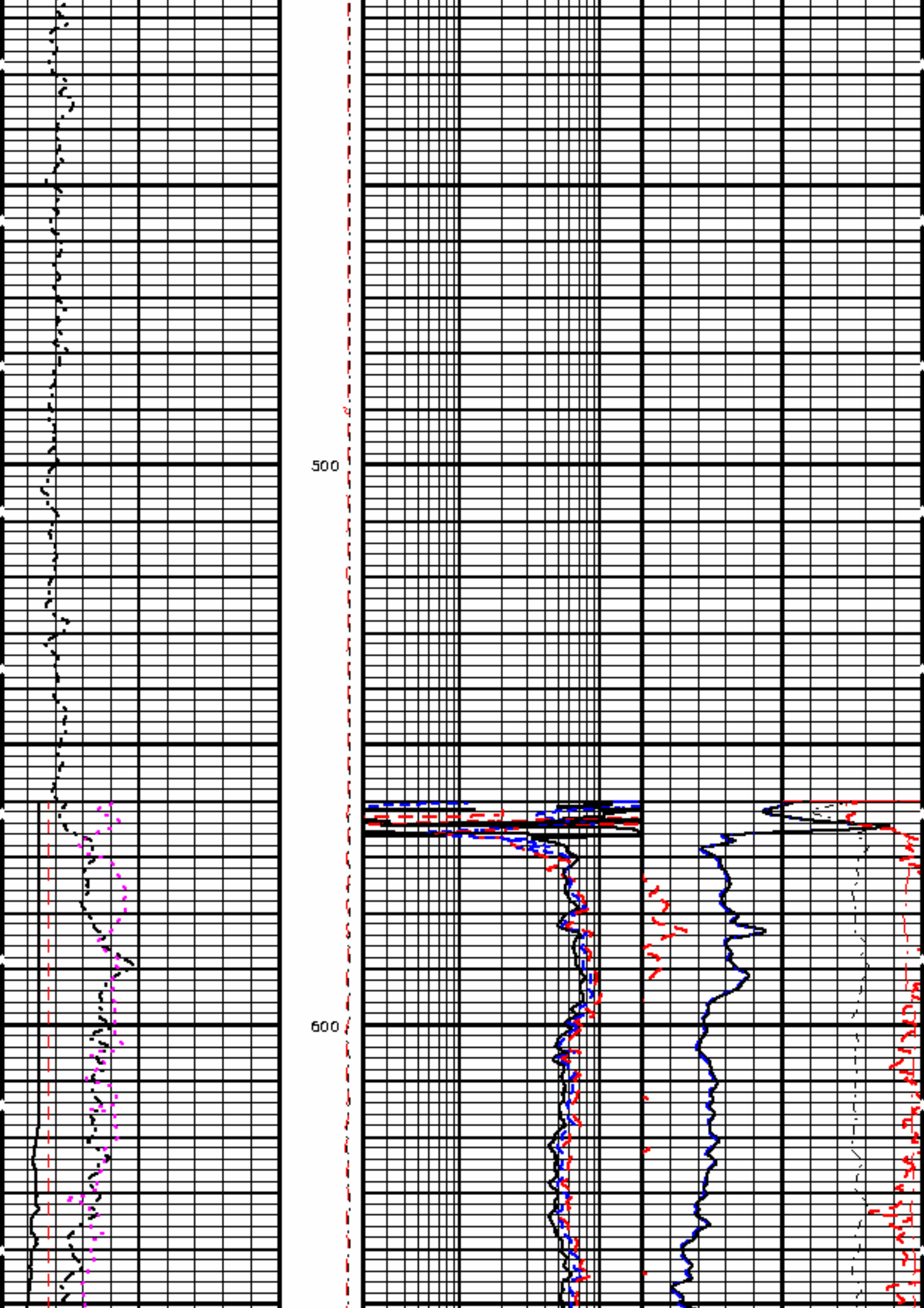
Version No: |hc:3.0
 Data File: RUN1.RUN2.MER1.cls
 Format File: 5.TRIP.TIF.spc
 Plot Time: 2007-04-23 19:16:09
 Database Time: 17:54:04

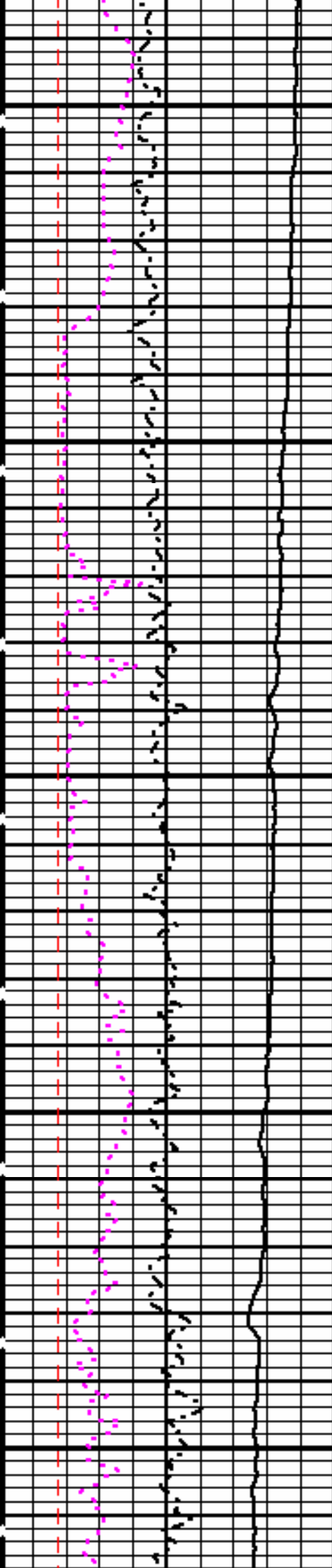
Top Depth: 115.01
 Bottom Depth: 3484.00

GR API	150	STEN 10500500	0.2	HDR1 OHMM	20	60.	NPHI %	0
CALI INCH	17	CTEN 10000 0	0.2	HMR1 OHMM	20	60.	DPHI %	0
BS INCH	17	1:240 FT.	0.2	DFL OHM	20	1.65	RHOB G/CC	2.65
SP -]10[DRHO G/CC	0.5
							PE	12 2





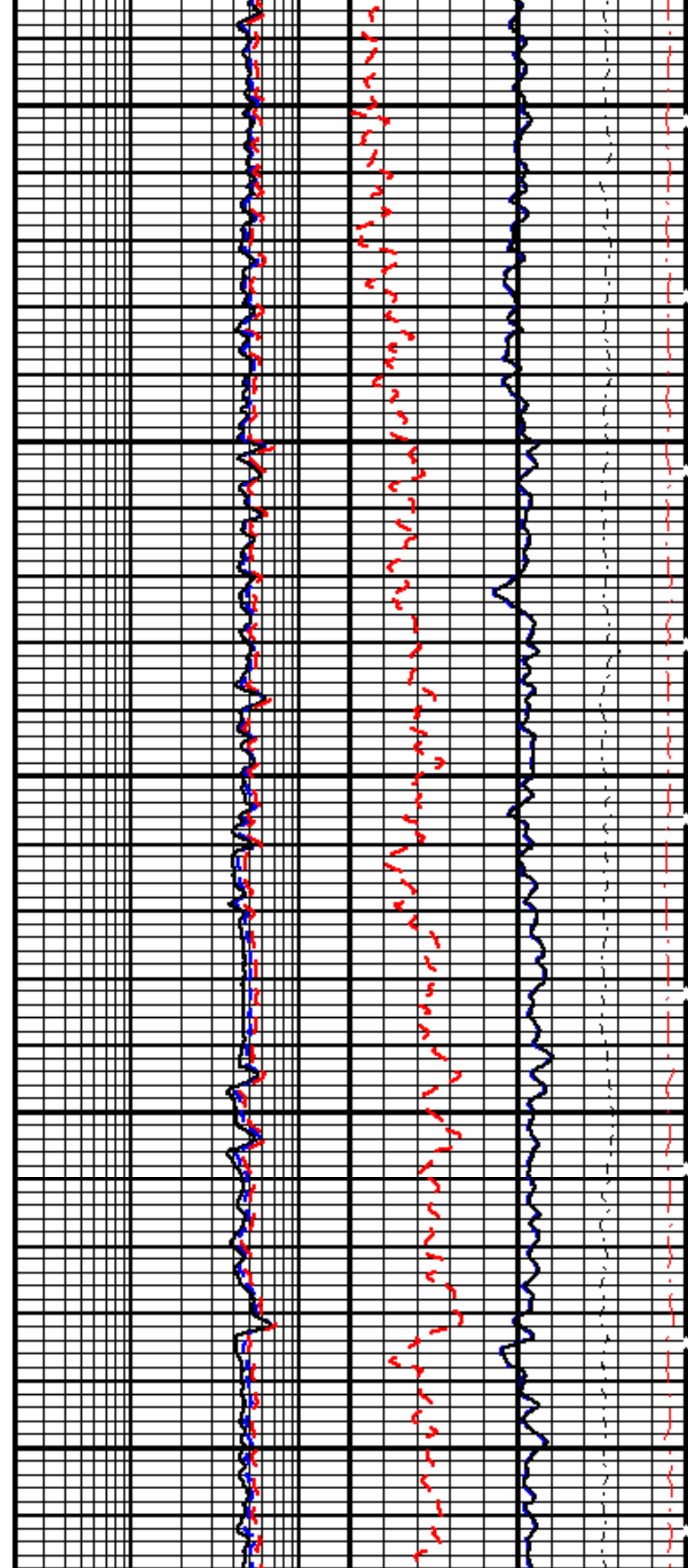


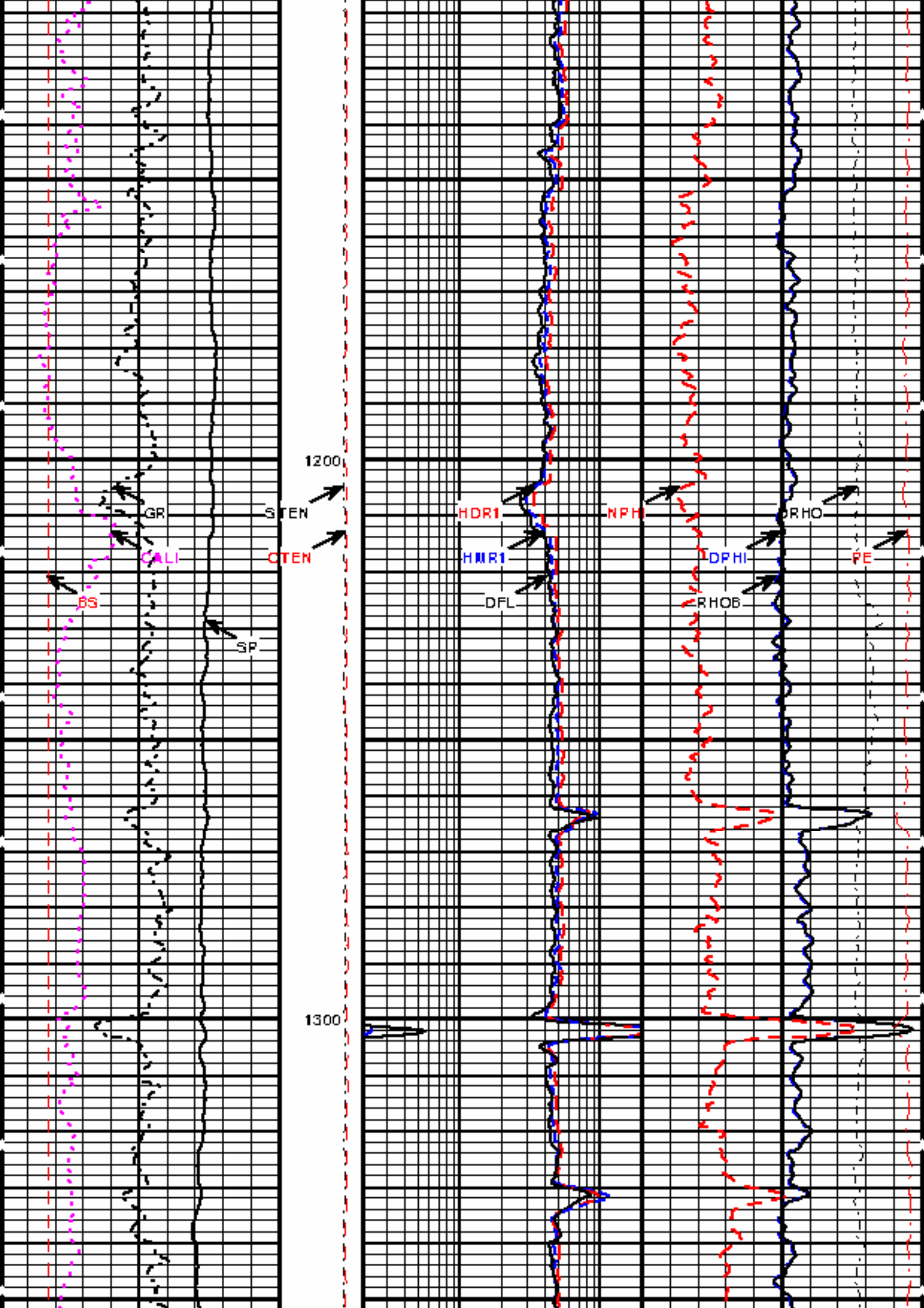


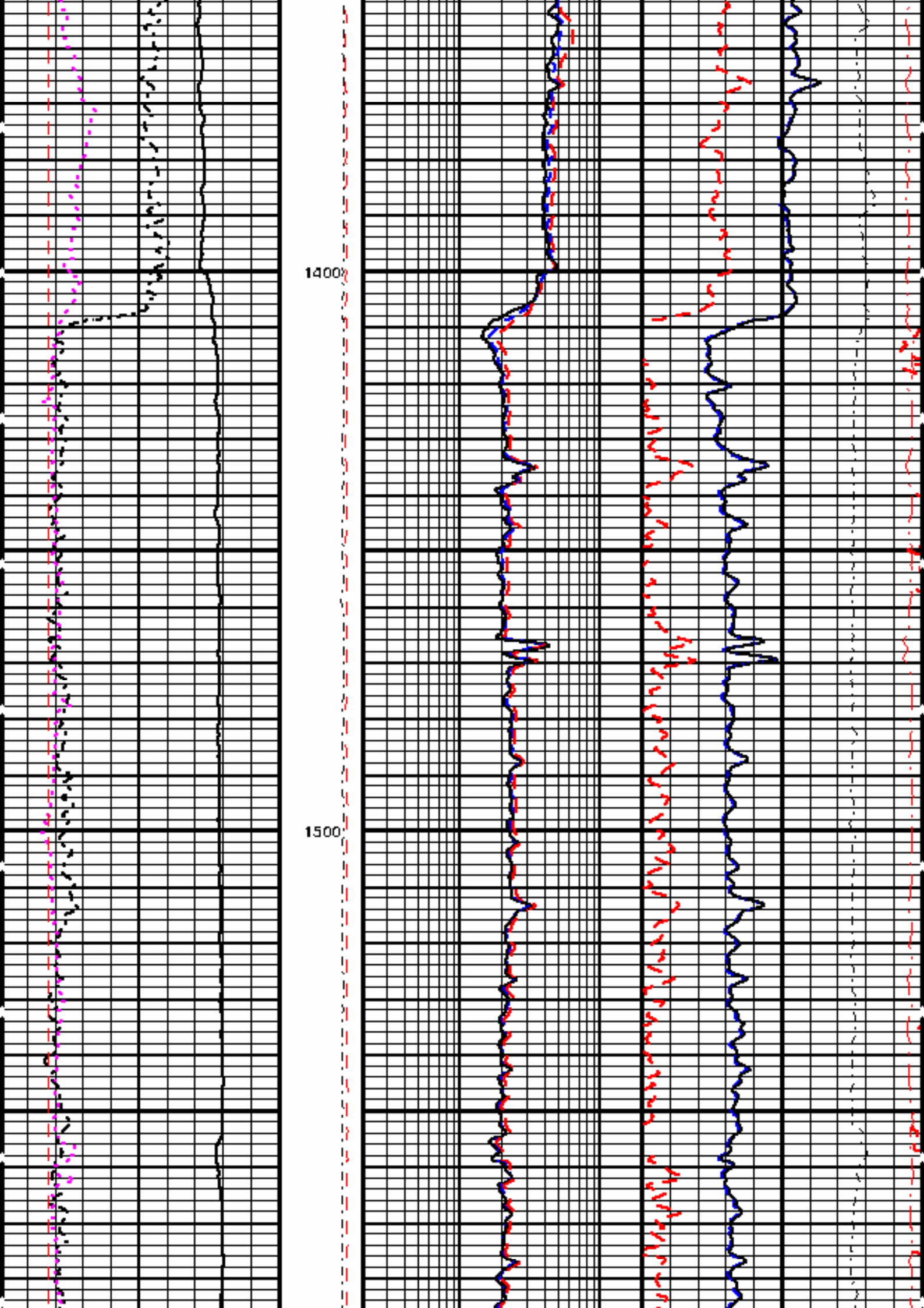
900

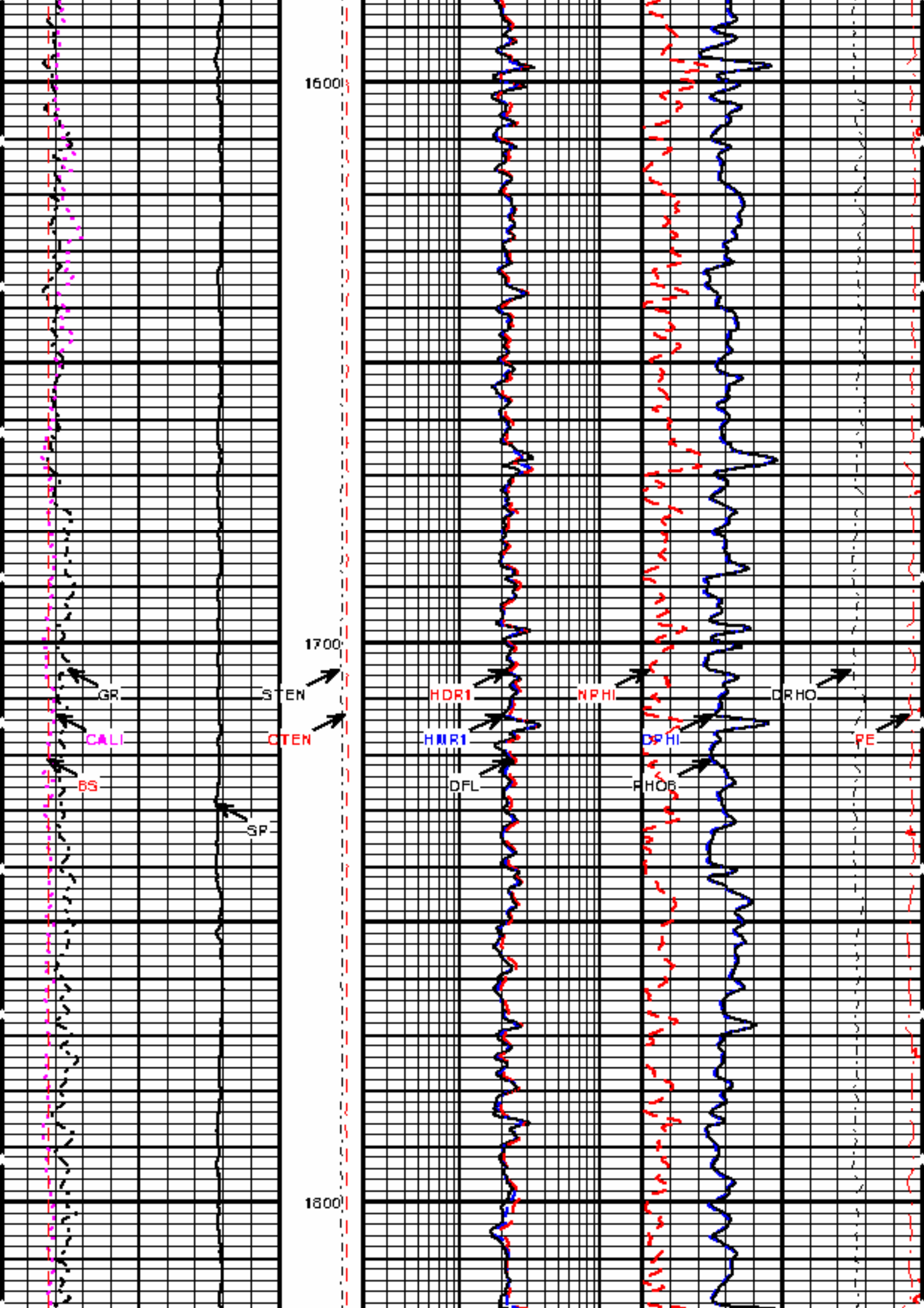
1000

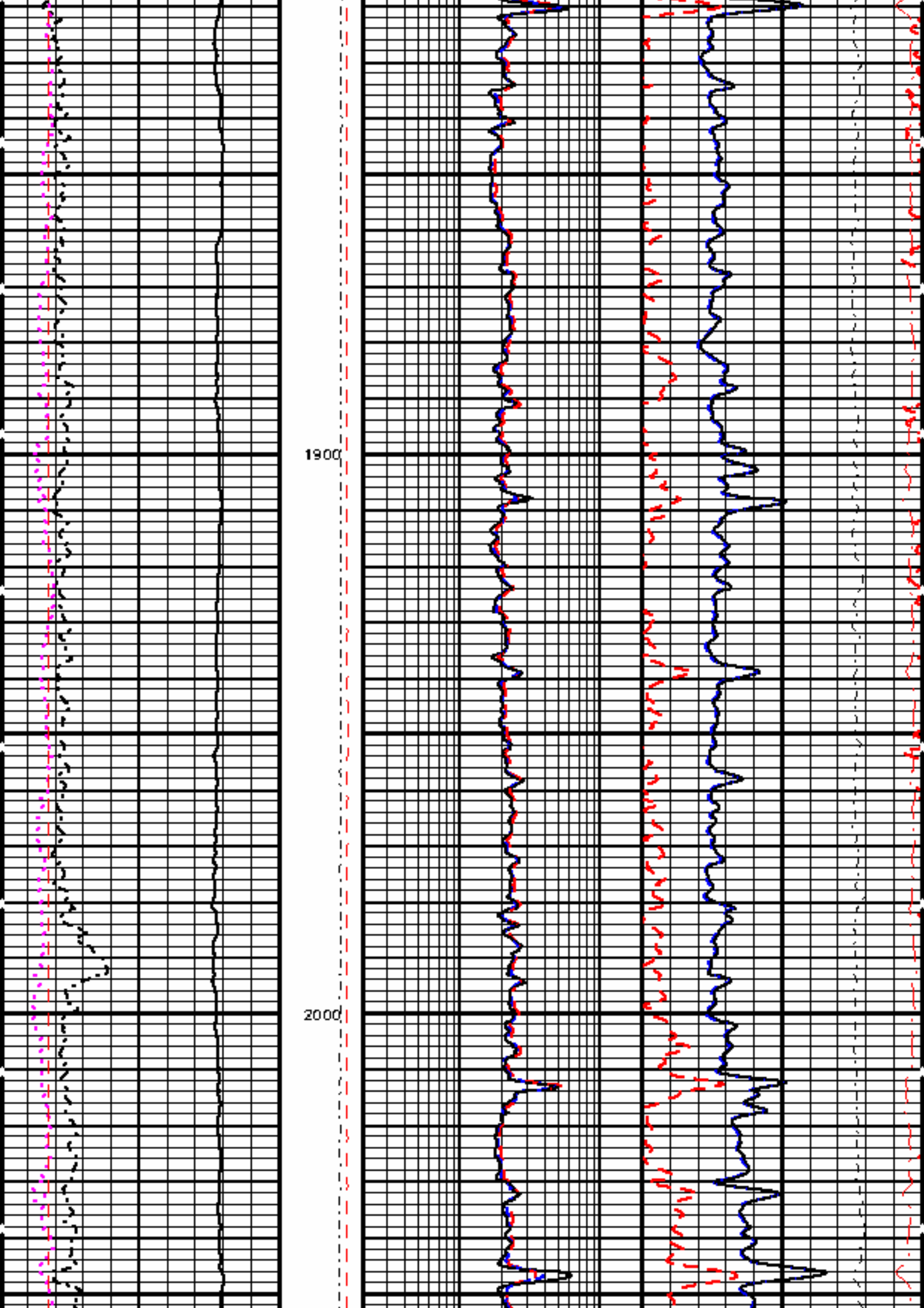
1100

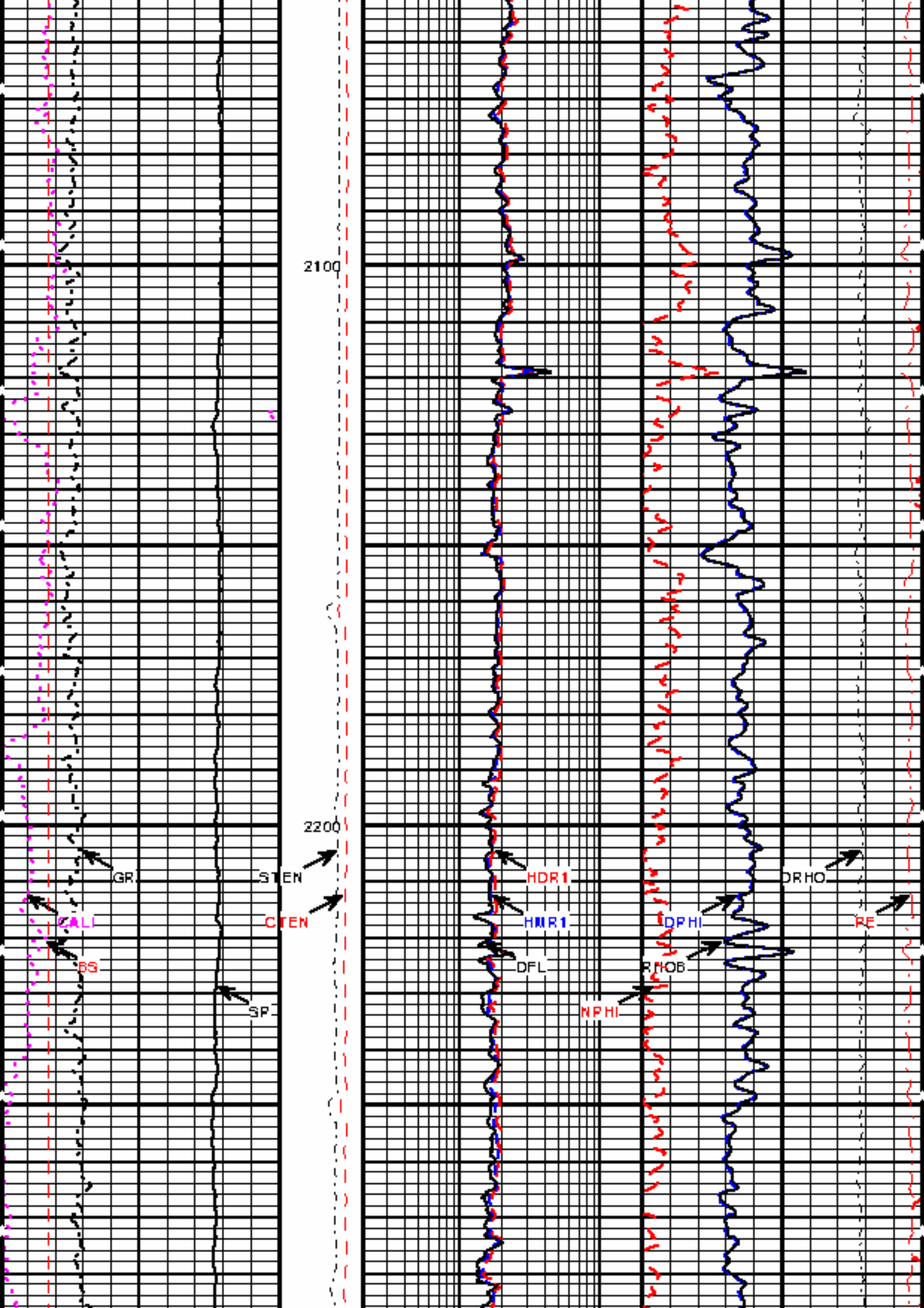












2100

2200

GR

STEN

CTEN

BS

SP

HDR1

HMR1

DFL

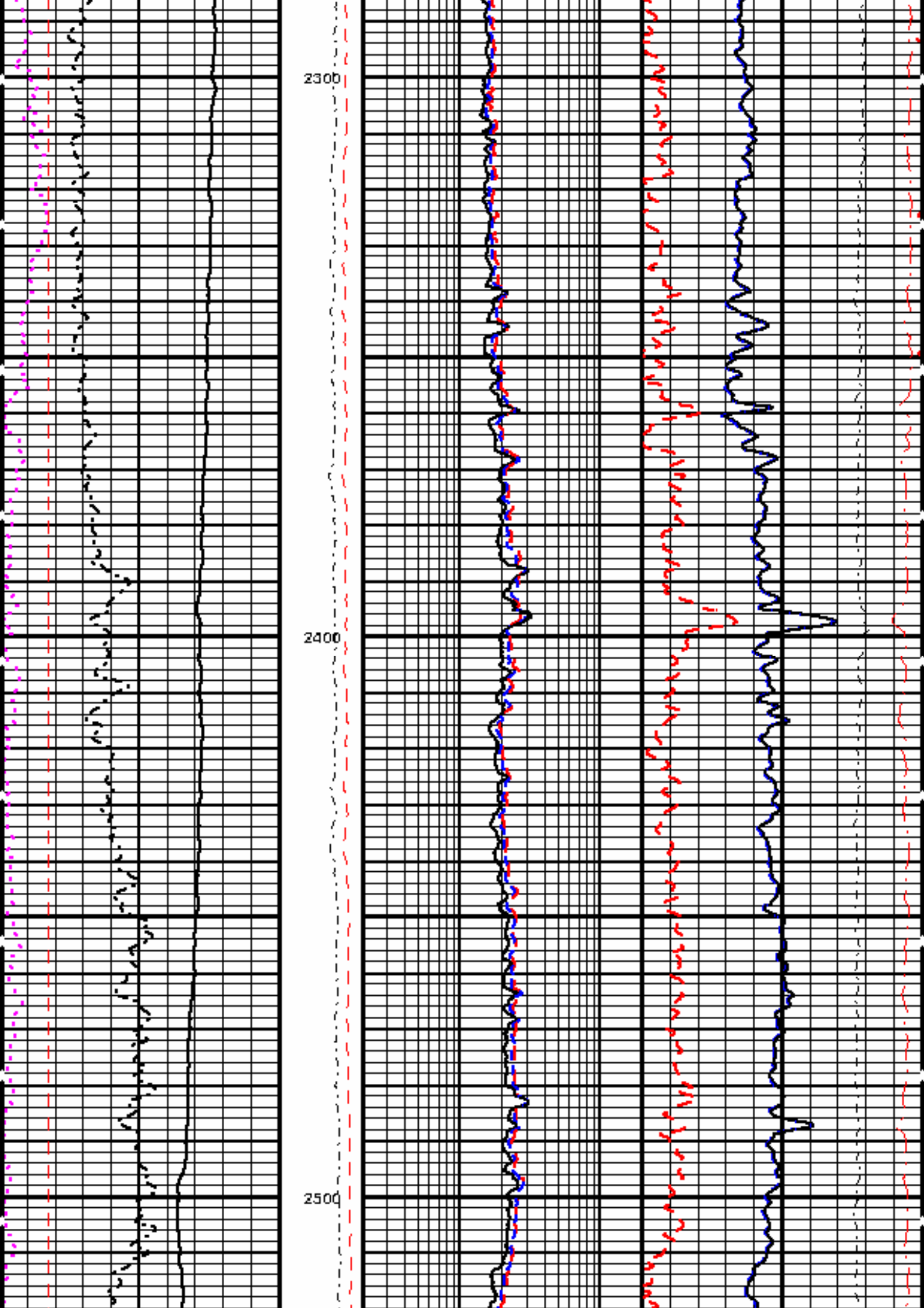
NPFI

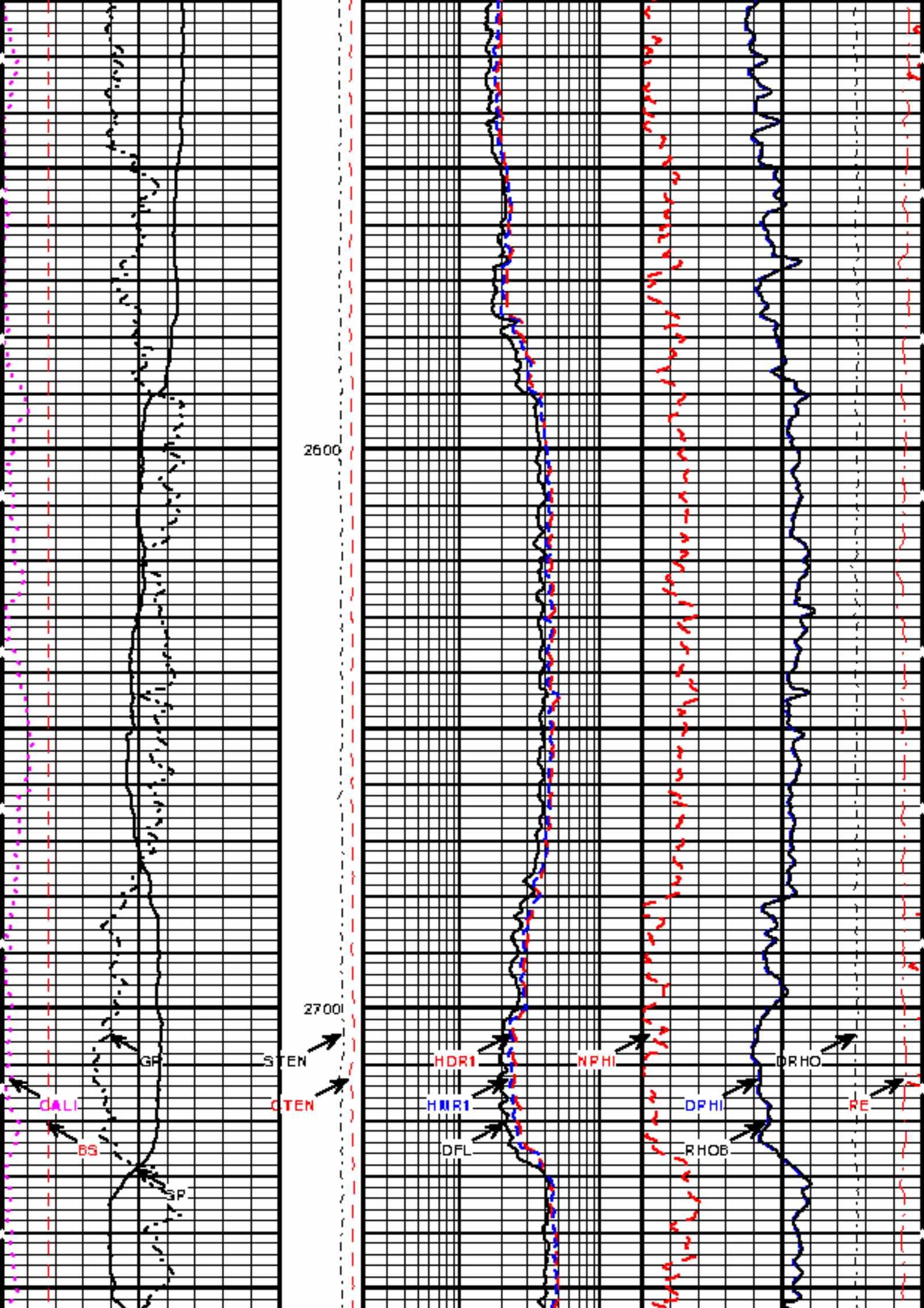
RHO6

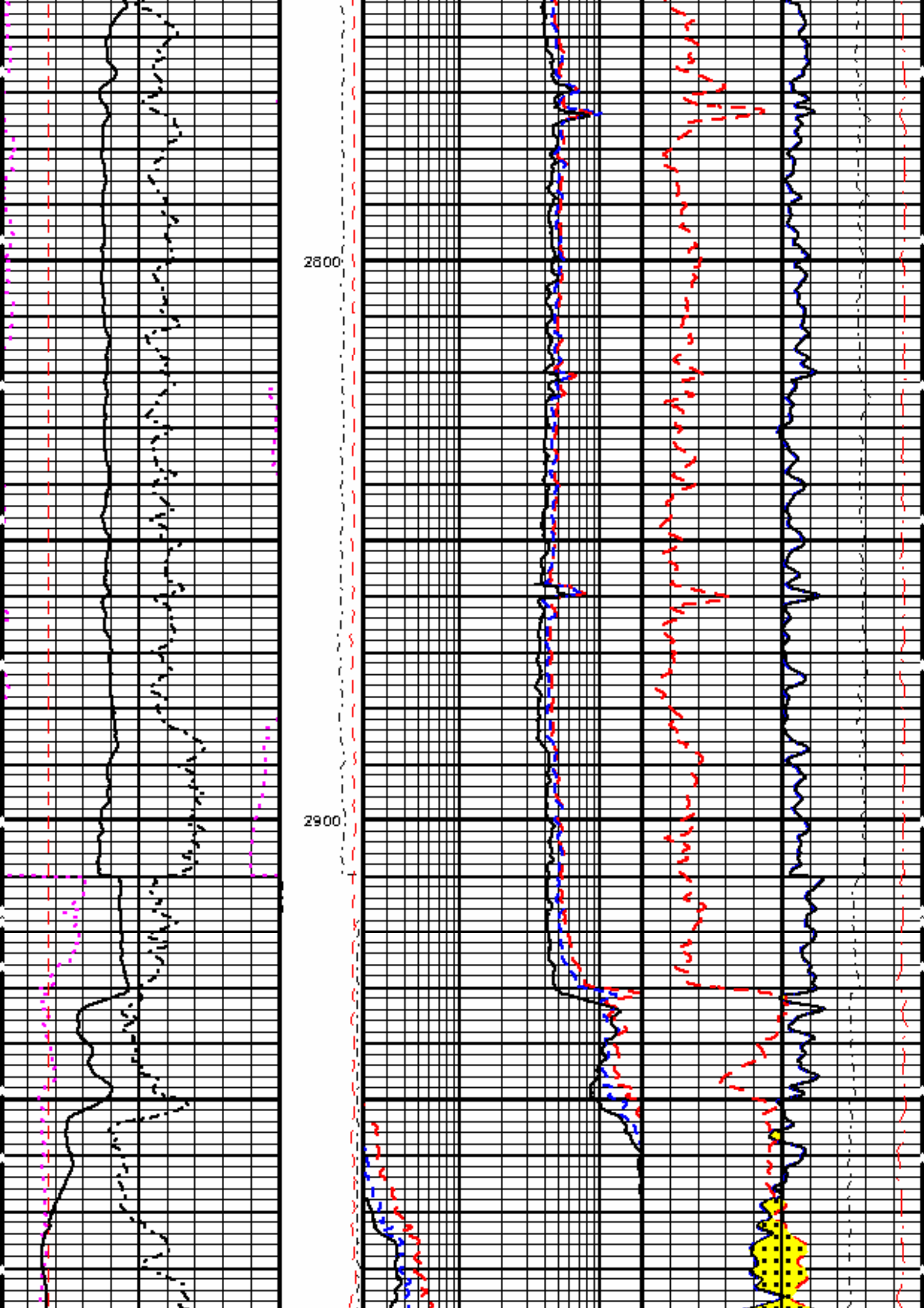
DPHI

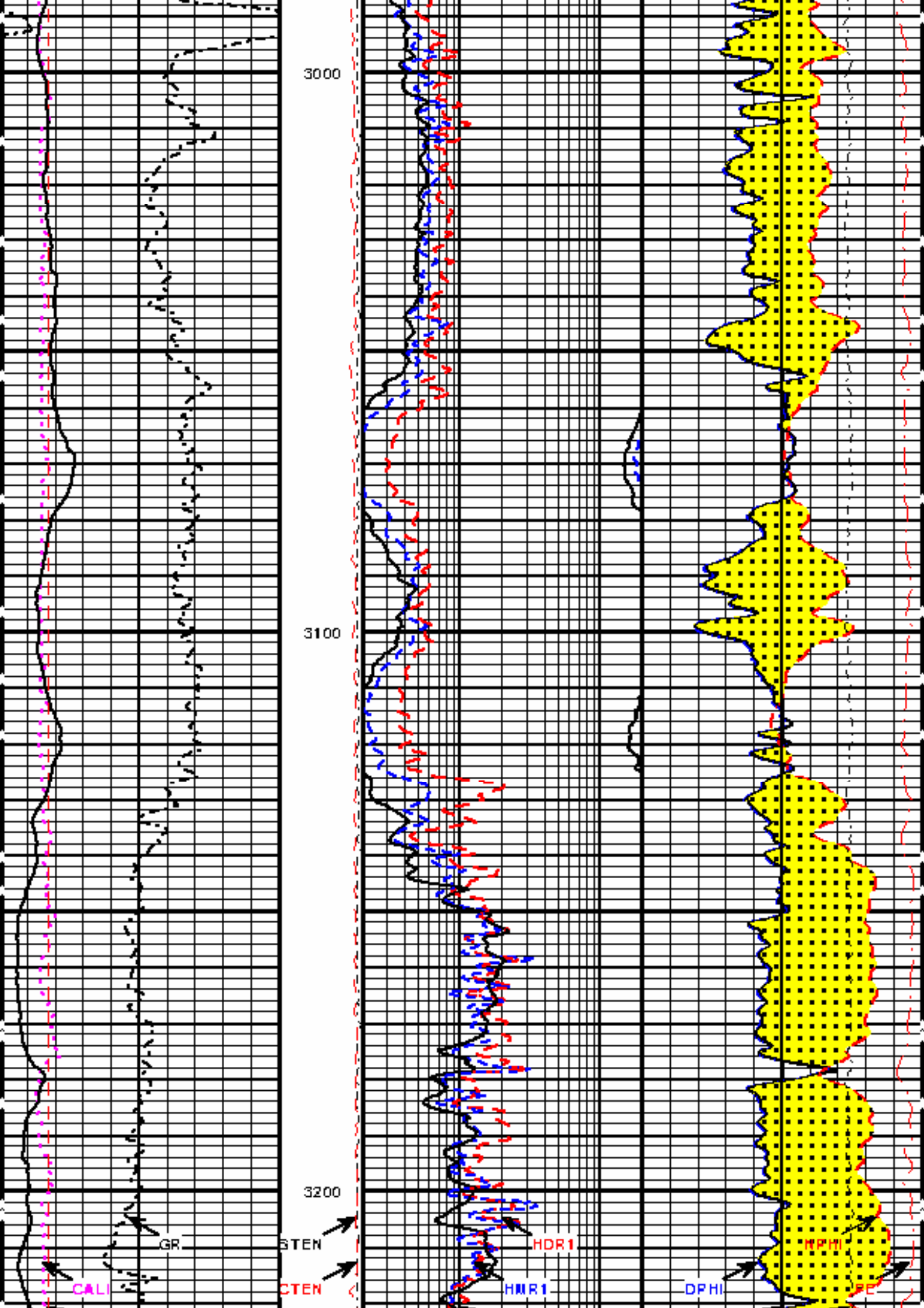
DRHO

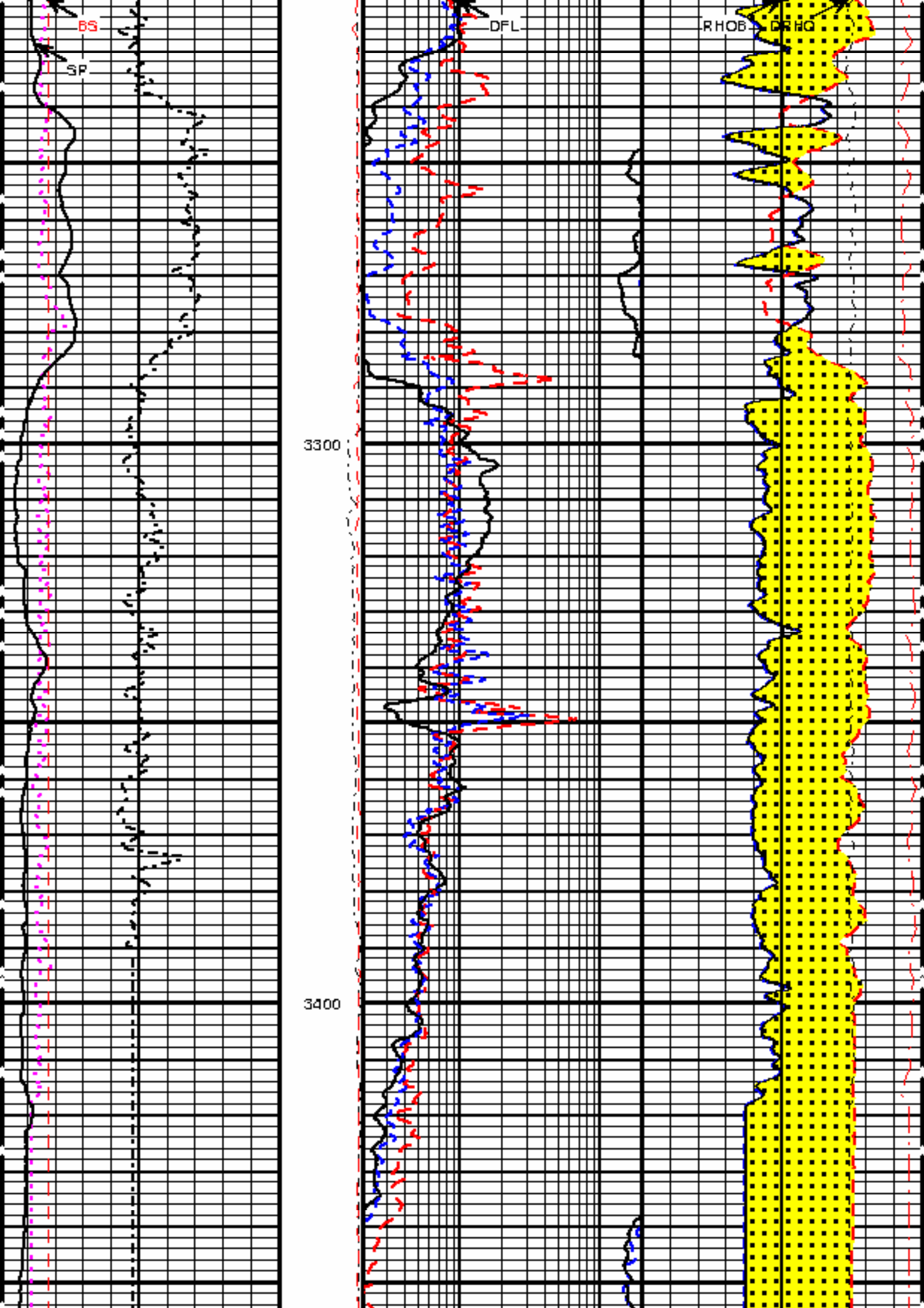
RE

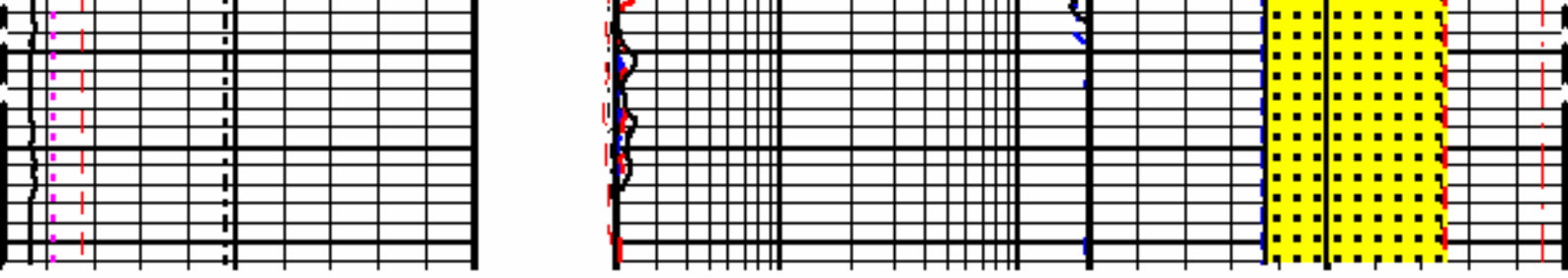












SP							PE	12	2
-]10[DRHO	-0.5	0.5
BS	1:240			DFL			RHOB		
INCH	FT.	0.2		OHM	20	1.65	GIC	2.65	
CALI	CTEN			HMR1			DPHI		
INCH	10000 0	0.2		OHMM	20	60.	%	0	0
GR	STEN			HDR1			NPHI		
API	10500600	0.2		OHMM	20	60.	%	0	0

Version No: | hc:3.0
 Data File: RUN1.RUN2.MER1.cls
 Format File: 5.TRIP.TIF.spc
 Plot Time: 2007-04-23 19:16:16
 Database Time: 17:54:04

HALLIBURTON

Top Depth: 115.01
 Bottom Depth: 3484.00

COMPANY NORTHWEST NATURAL GAS
 WELL W 23ADH-3-65
 FIELD MIST (FLORA POOL STORAGE)
 COUNTY COLUMBIA STATE OR

HALLIBURTON

TRIPLE COMBO
 HRI/SDL/DSN
 5"=100'