

DISCLAIMER

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OTHER SERVICES1

OS1:

OS2:

OS3:

OS4:

OS5:

OTHER SERVICES2

OS1:

OS2:

OS3:

OS4:

OS5:

REMARKS: RUN NUMBER 1

REMARKS: RUN NUMBER 2

SERVICE: VERTICAL MEMORY LOG BIT DEPTH: 8208' LOGGED TO: 4300'

ALL PRESENTATIONS AND SCALES PER CLIENT REQUEST

LIMESTONE MATRIX, 2.71 G/CC USED FOR POROSITY MEASUREMENTS

TBHV REPRESENTS TOTAL BOREHOLE VOLUME, FT3

ABHV REPRESENTS ANNULAR HOLE, CALCULATED FOR 5.5" CASING, FT3

DEPTH REFERENCE: PIPE TALLY

RIG: SAVANNA 650

CREW: J. SHEETS, R. BUCKENDORF

RUN 1

SERVICE ORDER #:
PROGRAM VERSION:
FLUID LEVEL:

19C2-270
0 ft

LOGGED INTERVAL

START

STOP

RUN 2

SERVICE ORDER #:
PROGRAM VERSION:
FLUID LEVEL:

LOGGED INTERVAL

START

STOP

[illegible]

RUN 1

RUN 2

SURFACE EQUIPMENT

WITM (ThruBit)

DOWNHOLE EQUIPMENT

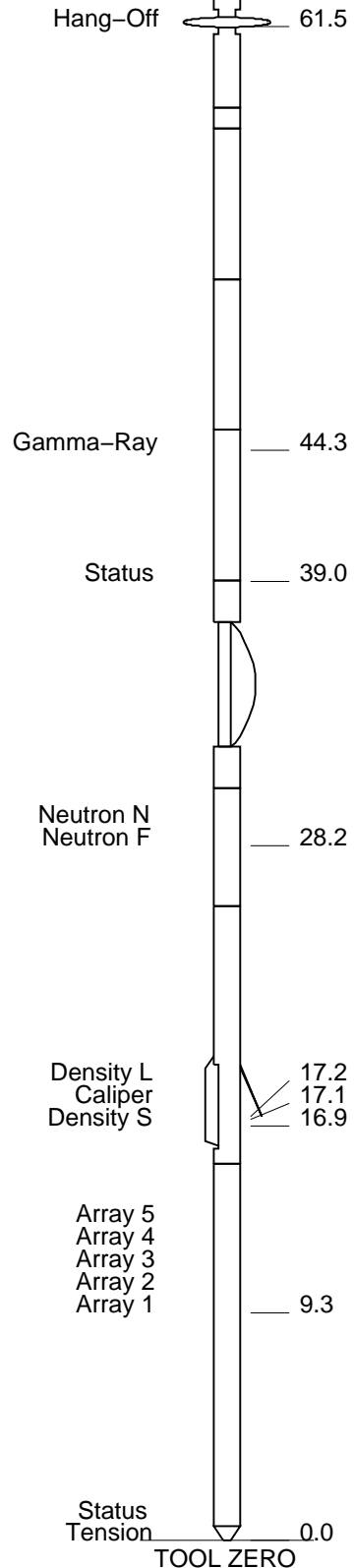
TBT-A
THEAD
CCL
BDOT-B
THOT
T10_1
TBAT1
TBAT2

CCL

68.1

71.1

TMG-A 33
TILE-B
TBN-A 9
NNLS-EWA
TBD-A 36
GGLS-FZ
TBI-A 28



MAXIMUM STRING DIAMETER 2.13 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN FEET



MAIN PASS

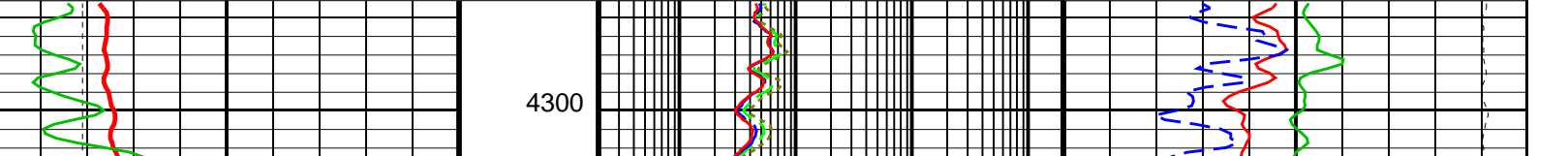
MAXIS Field Log

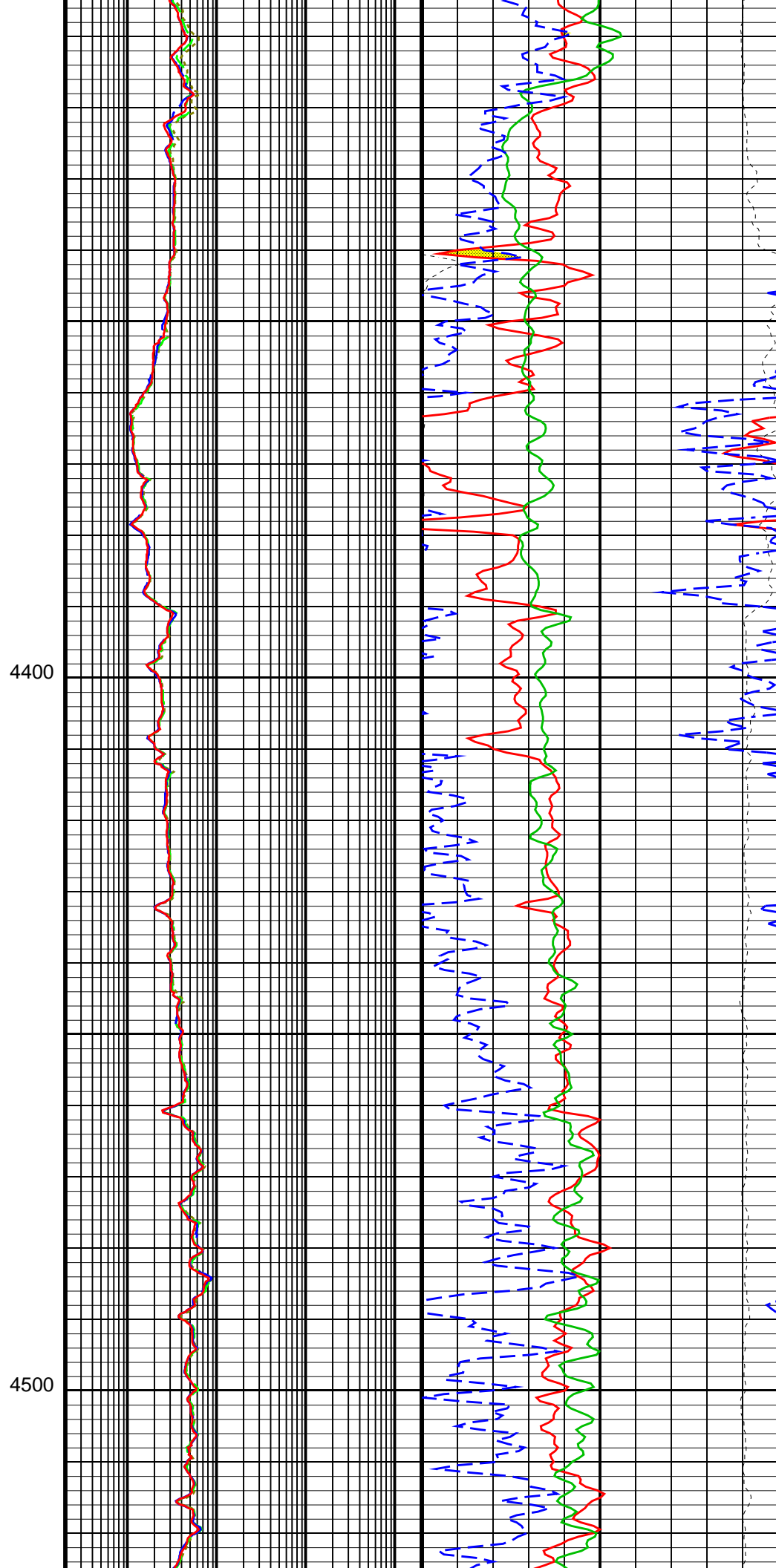
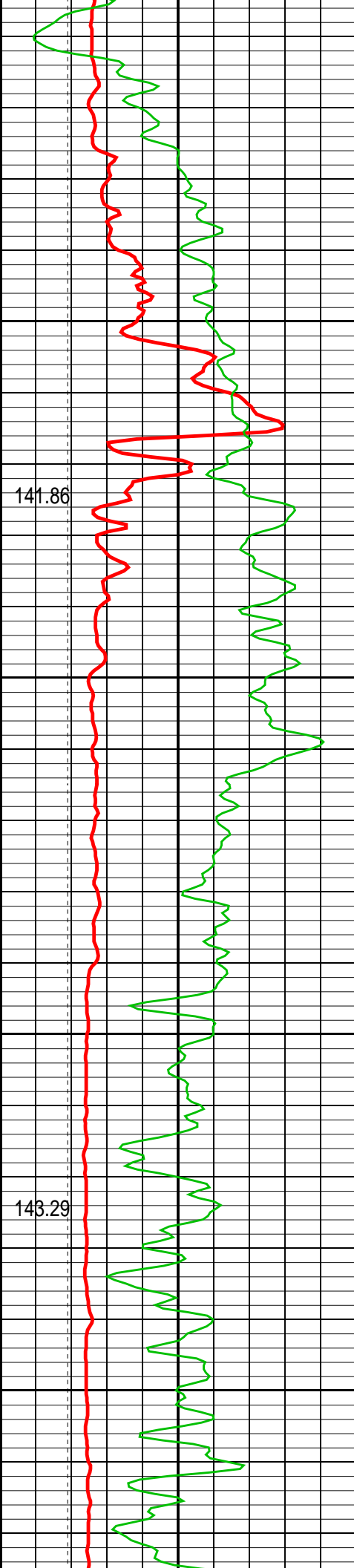
Company: CASCADE PETROLEUM, LLC Well: GAEDE A9S-55W-05-4

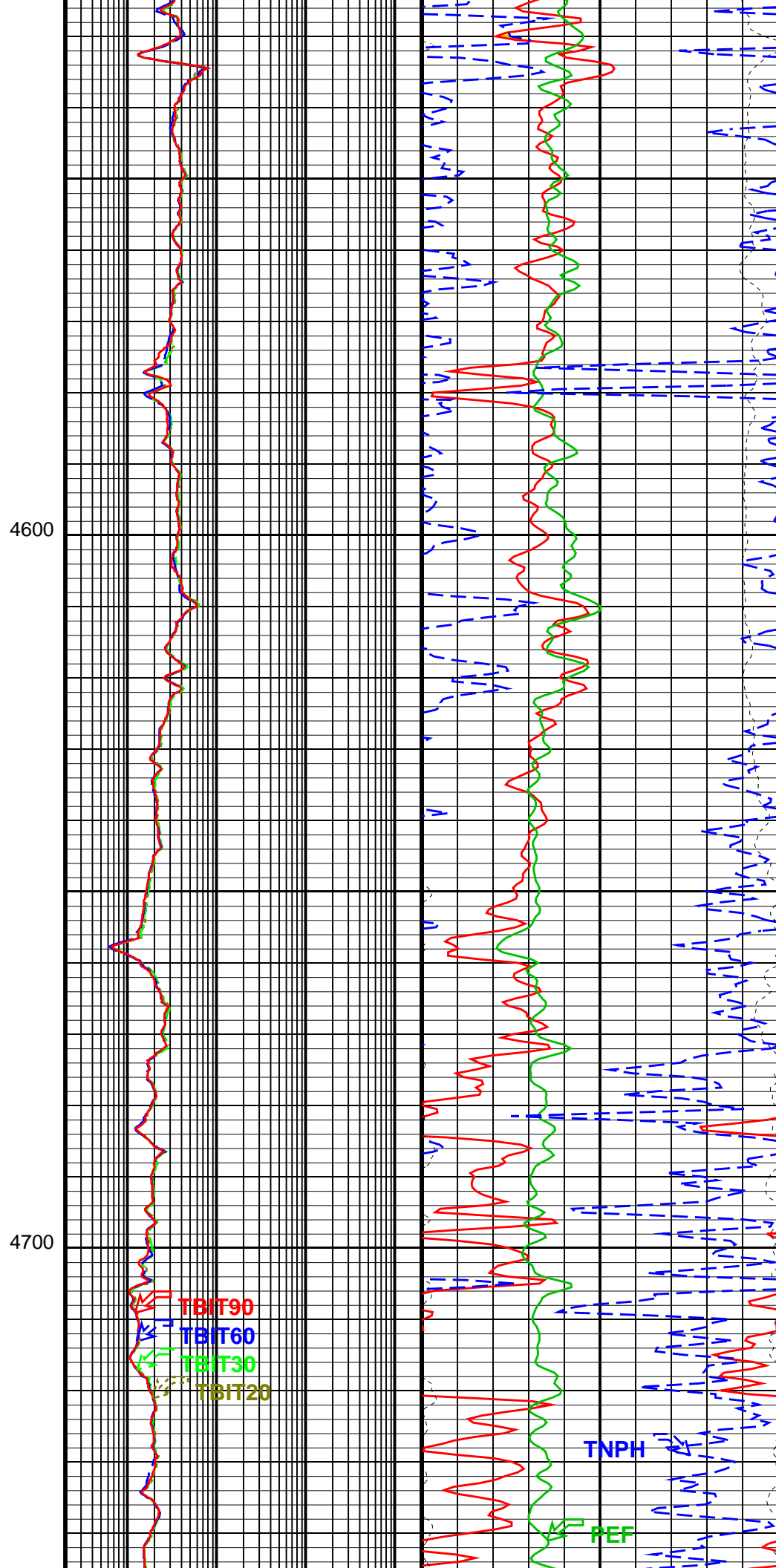
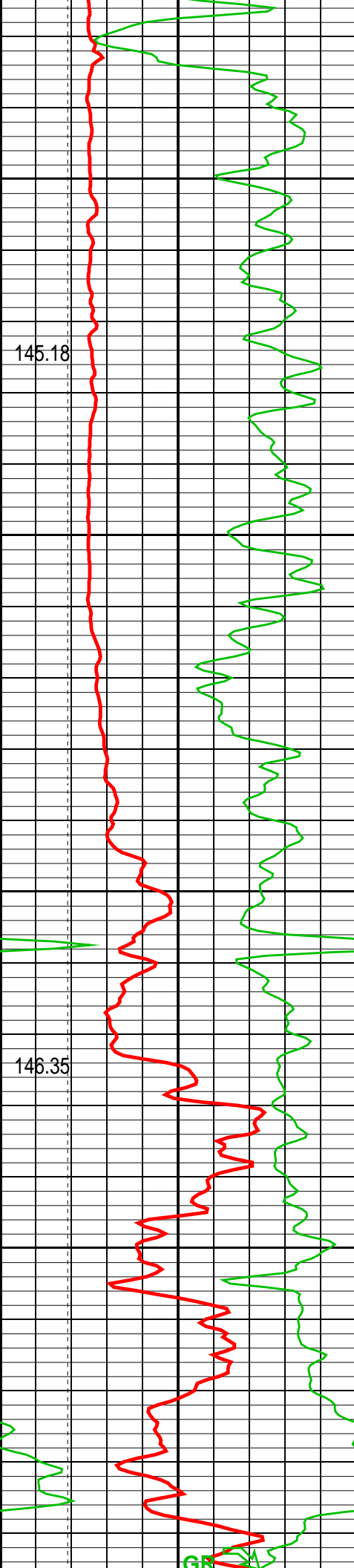
Input DLIS Files						
DEFAULT	ThruBit_005PUP	FN:4	PRODUCER	22-Jun-2014 05:23	8278.4 FT	4187.9 FT

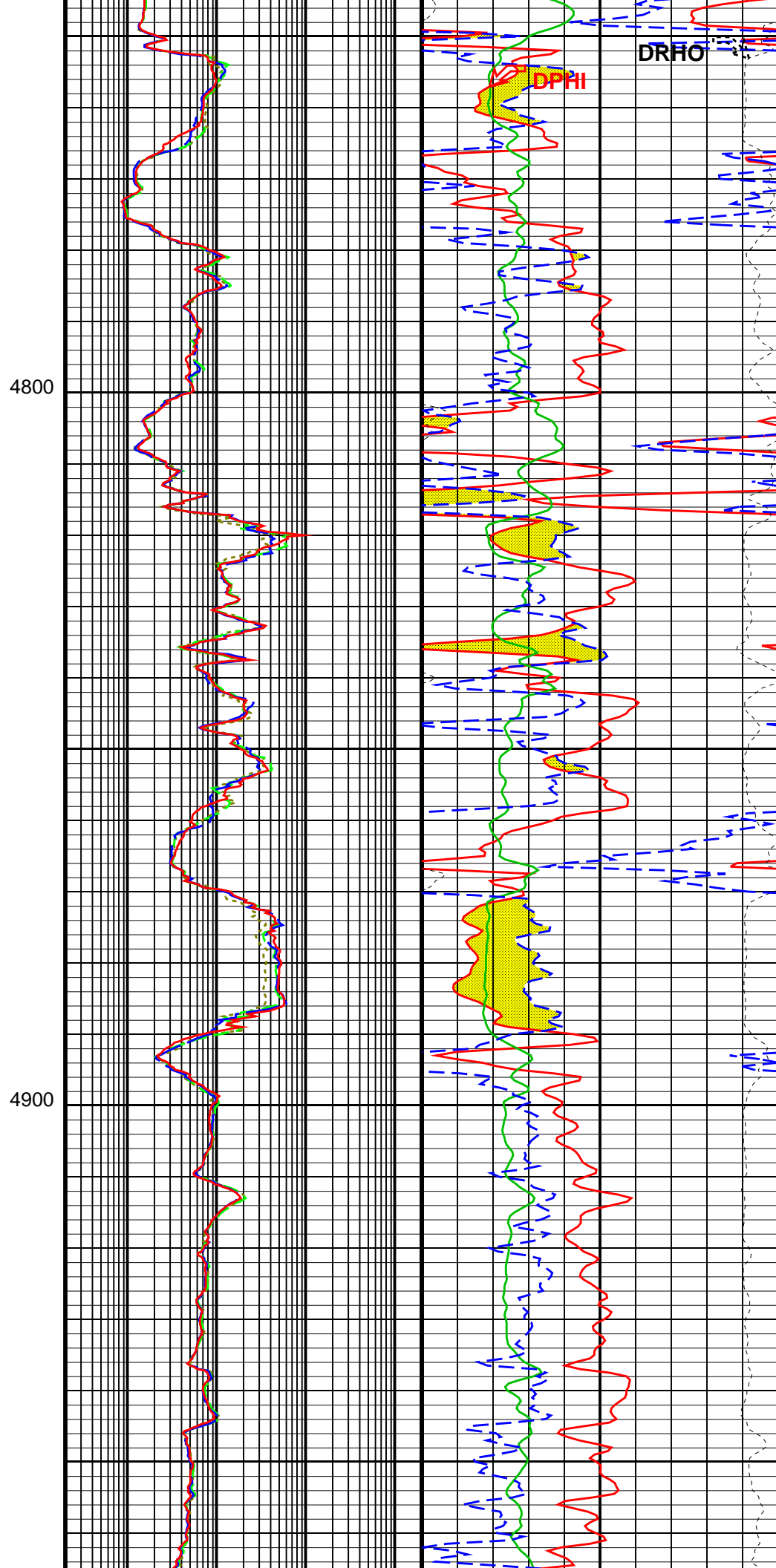
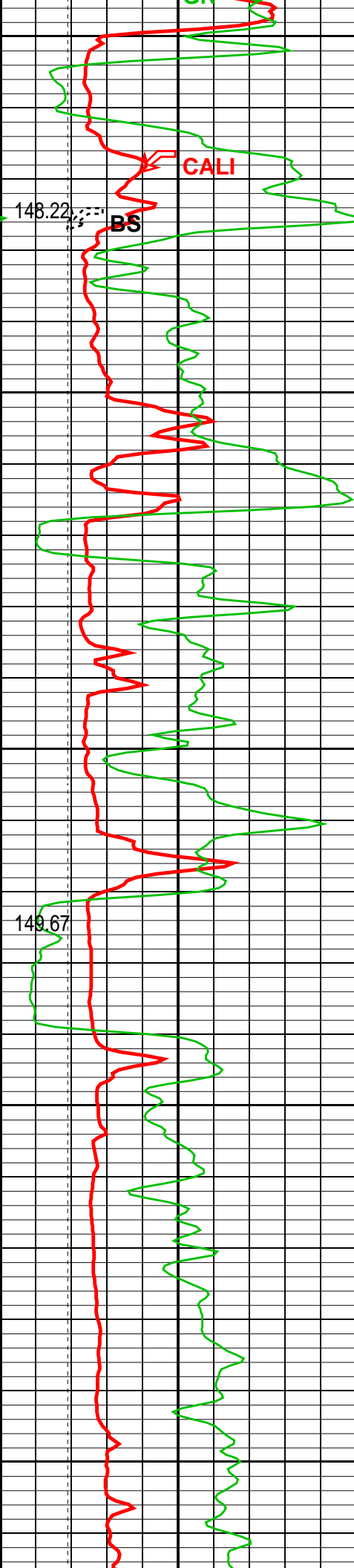
OP System Version: 19C2-270						
TBT	SRPC-5298-ThruBit					

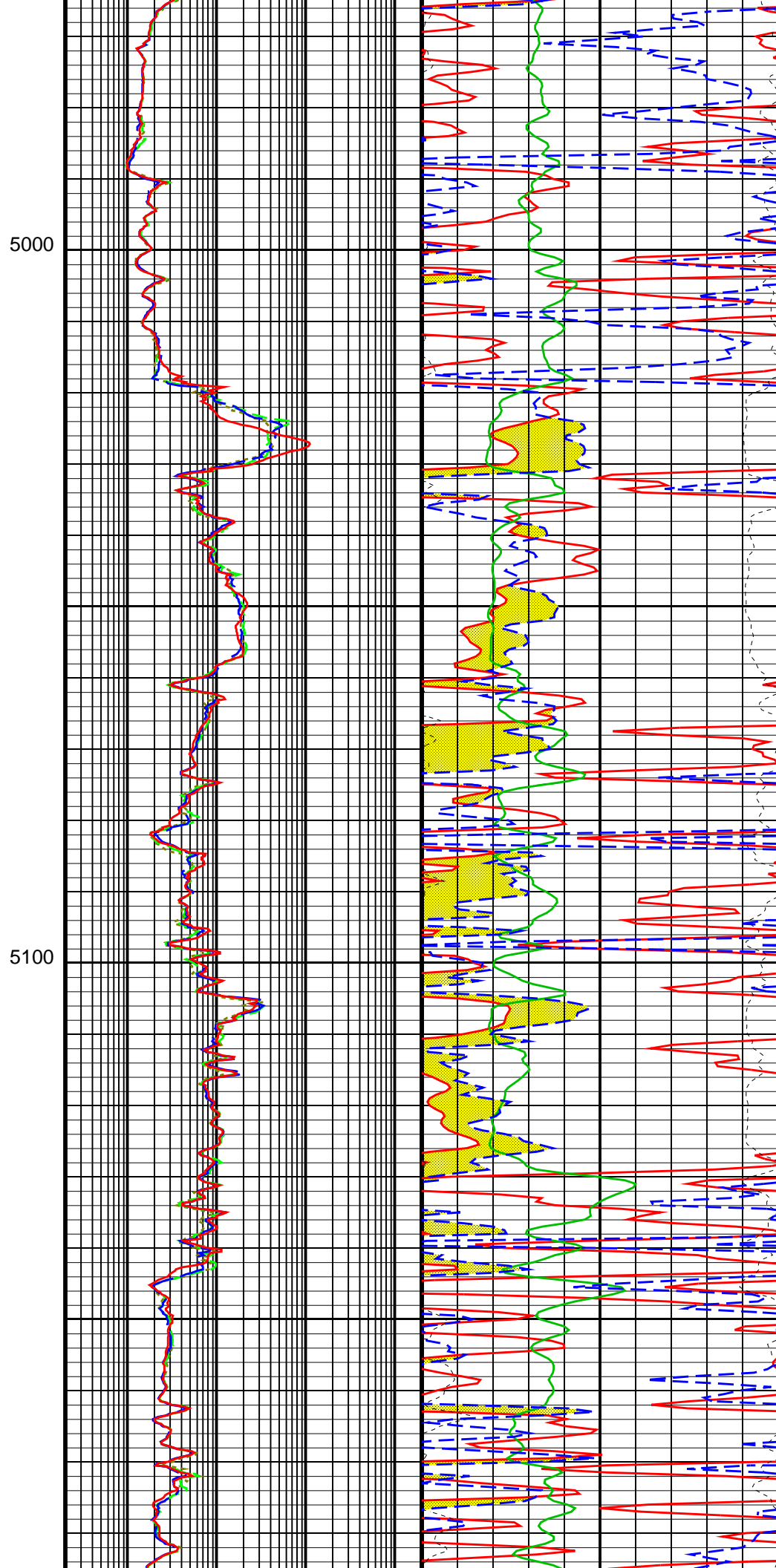
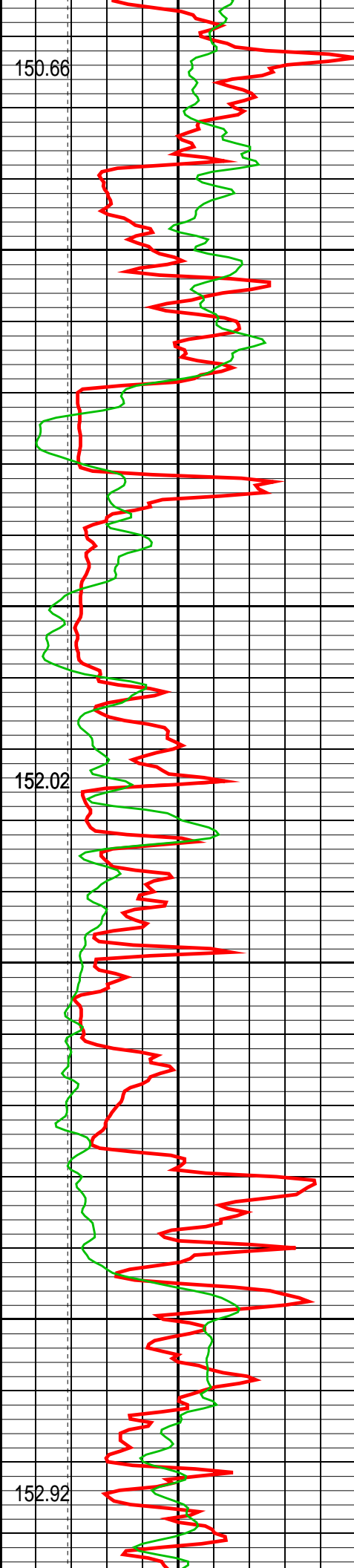
Caliper (CALI) (IN)		TBI 90 Inch Investigation (TBIT90) (OHMM)		TNPH (TNPH) (V/V)	
6	16	0.2	2000	0.3	-0.1
Gamma Ray (GR) (GAPI)		TBI 60 Inch Investigation (TBIT60) (OHMM)		PEF (PEF) (-----)	
0	150	0.2	2000	0	10
Bit Size (BS) (IN)		TBI 30 Inch Investigation (TBIT30) (OHMM)		DRHO (DRHO) (G/C3)	
6	16	0.2	2000	-1.8	0.2
Well Temp (WTEP) (DEGF)		TBI 20 Inch Investigation (TBIT20) (OHMM)		DPHI (DPHI) (V/V)	
		0.2	2000	0.3	-0.1

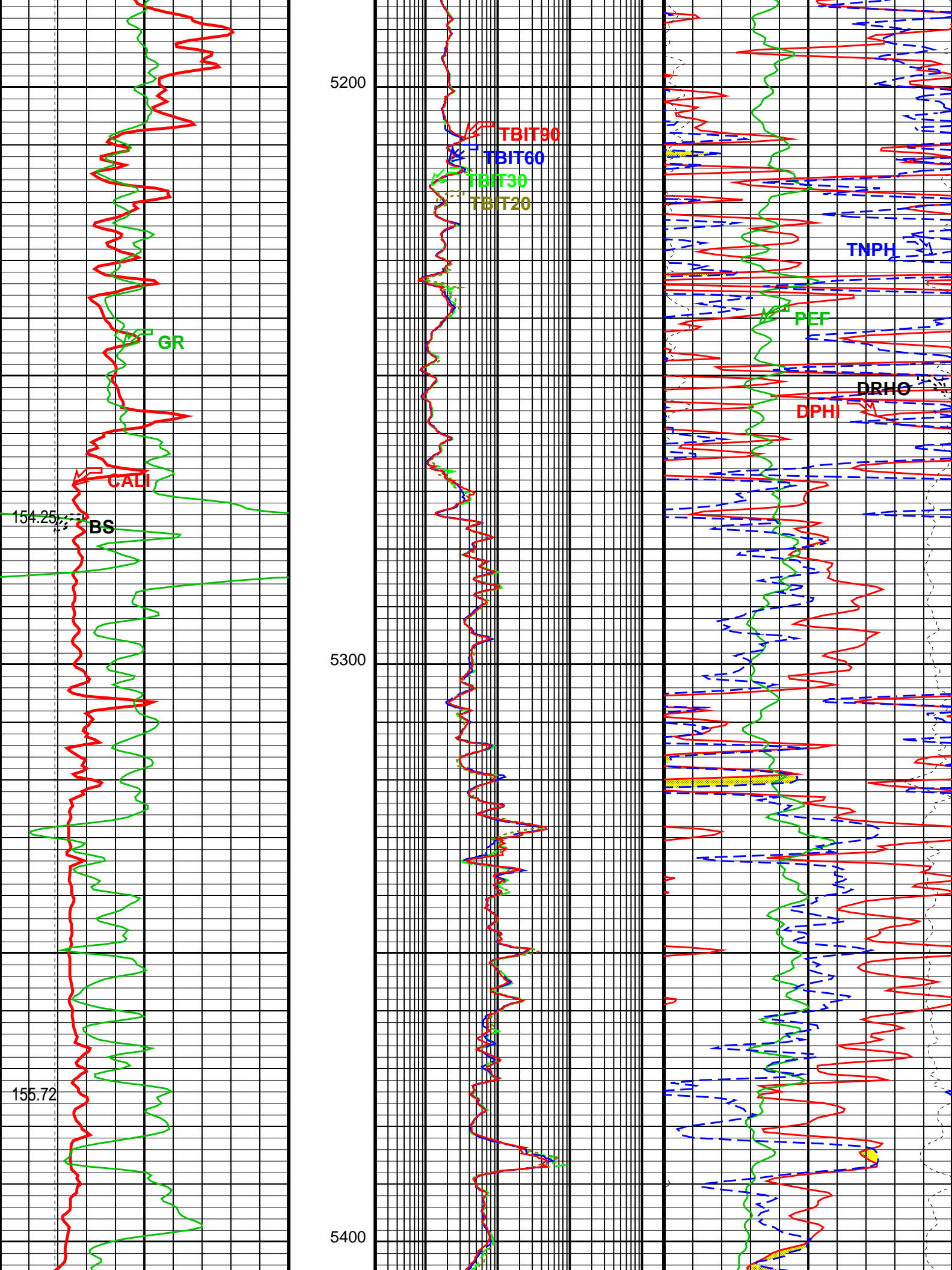


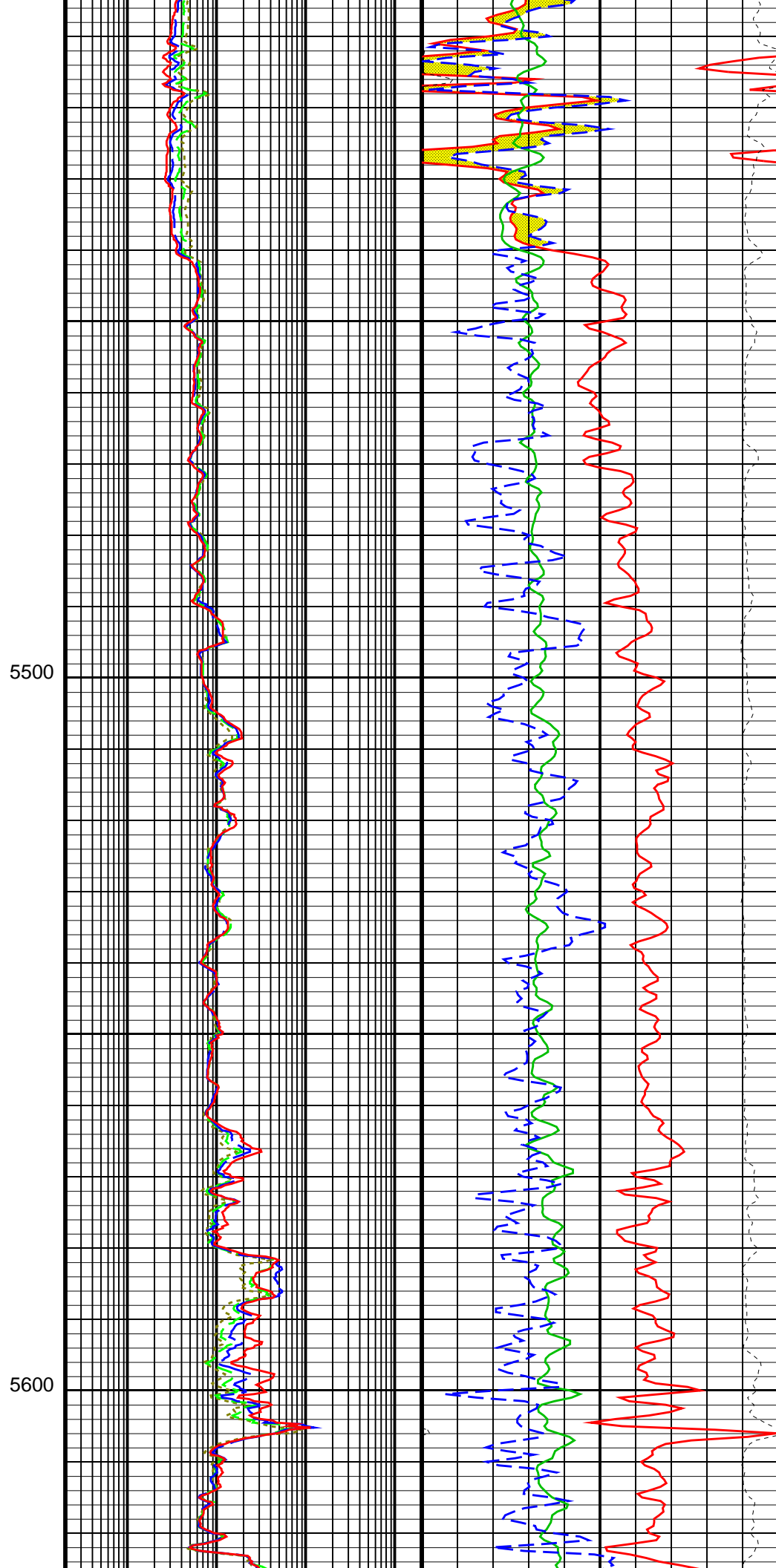
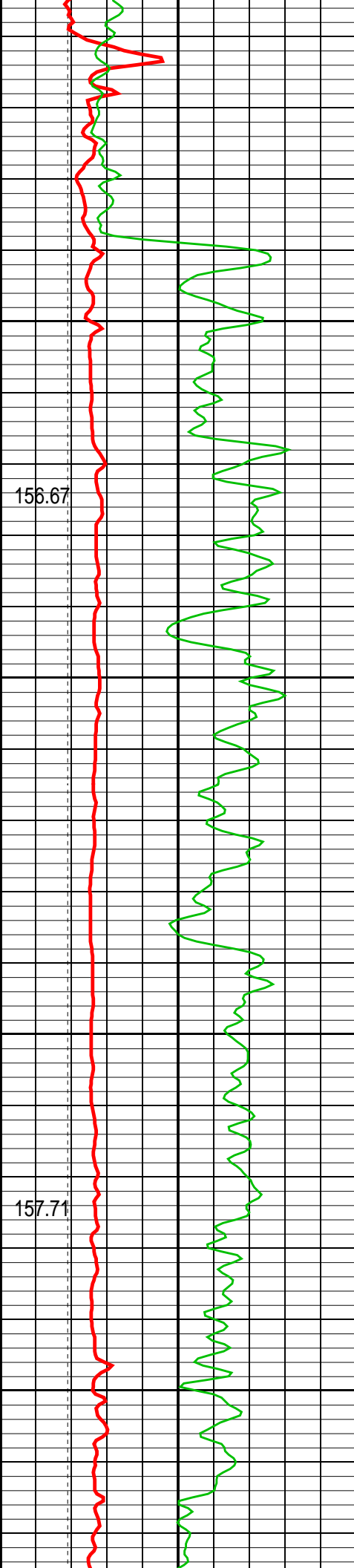


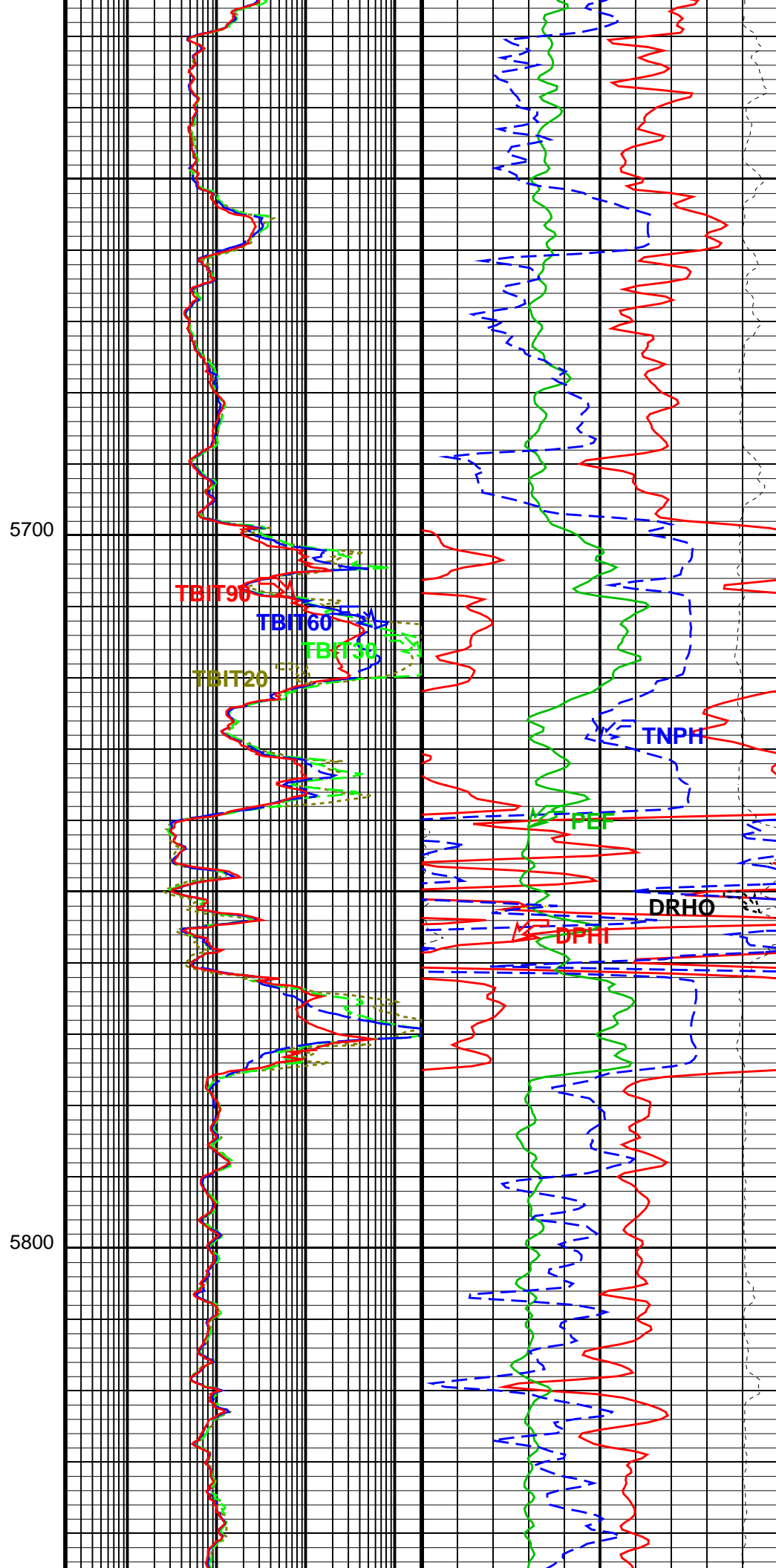
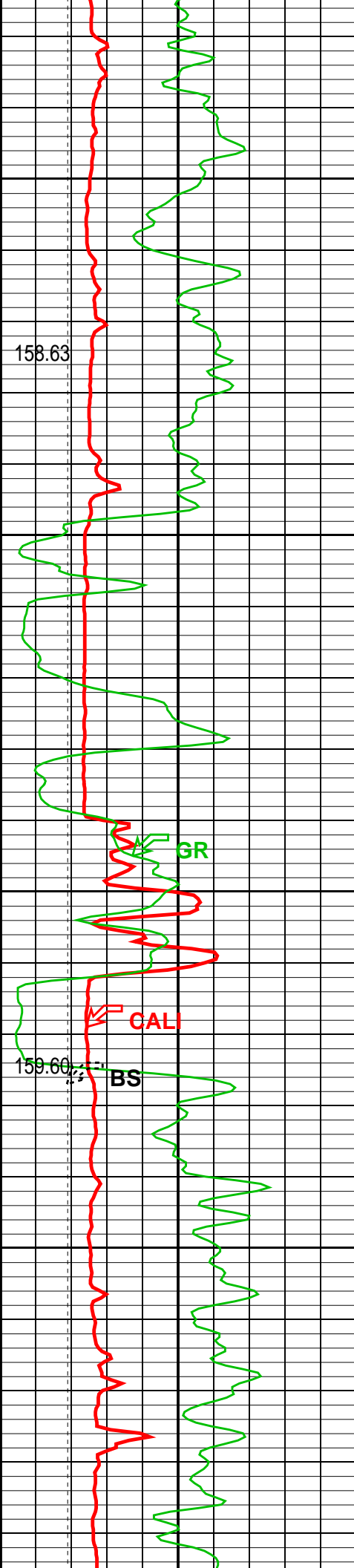


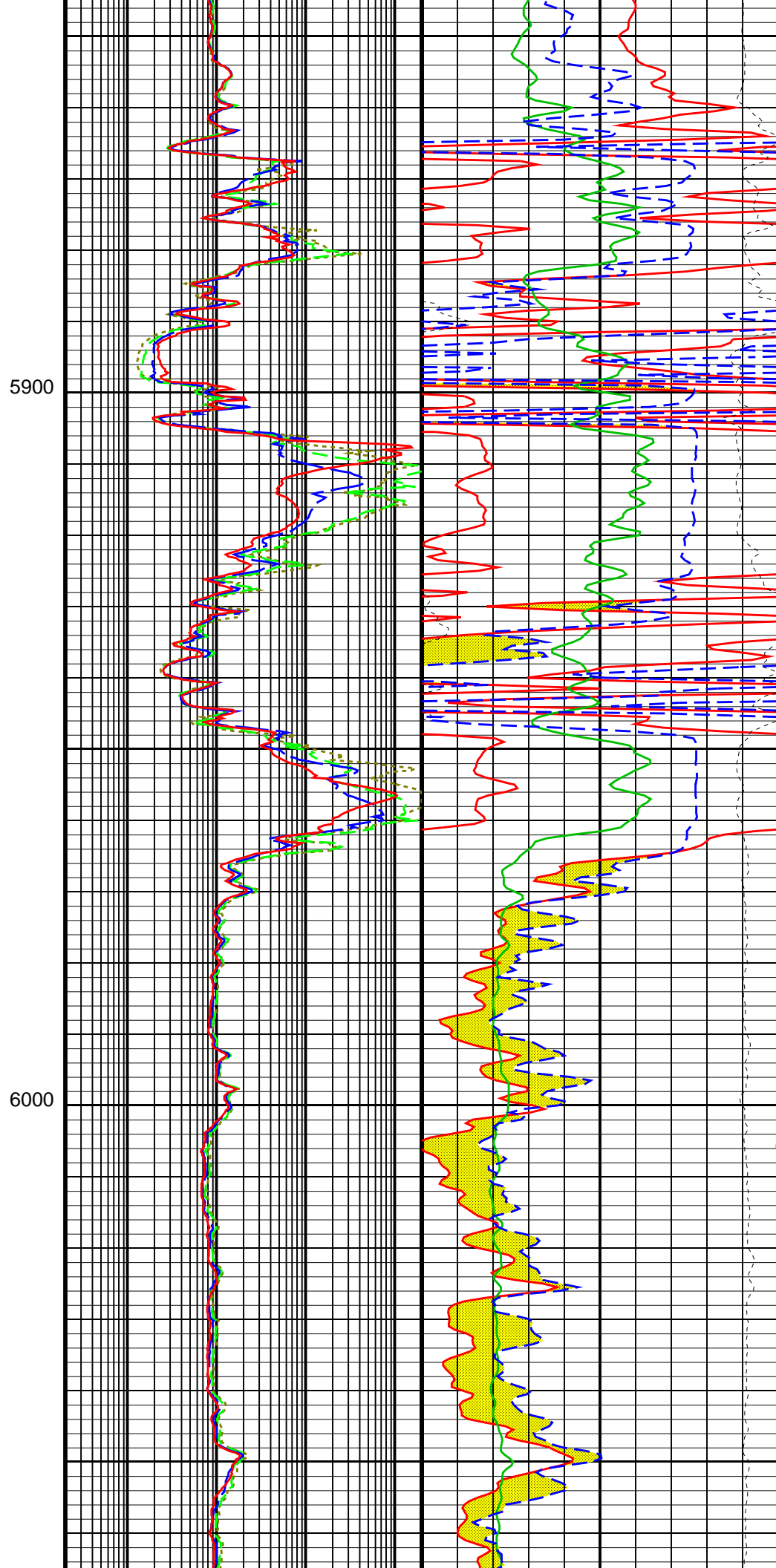
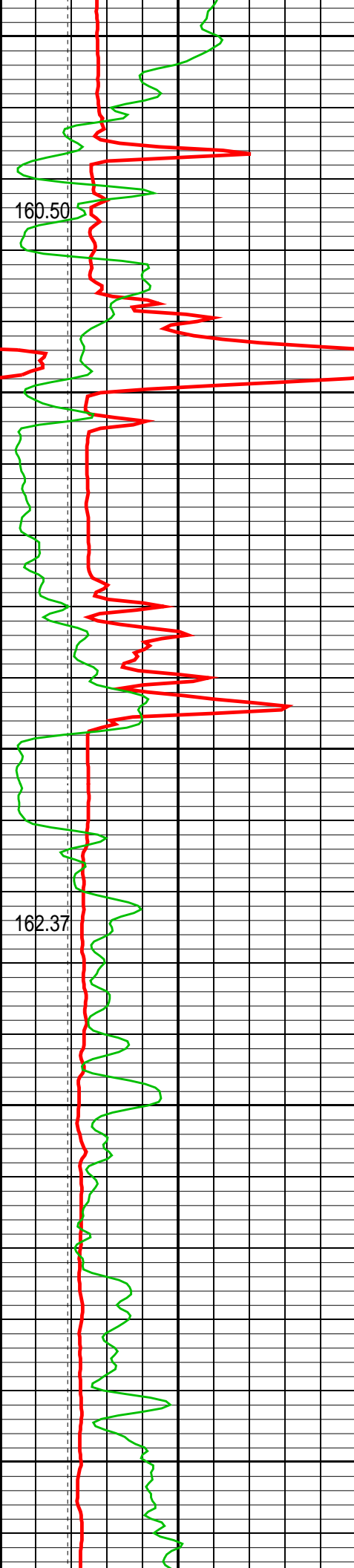


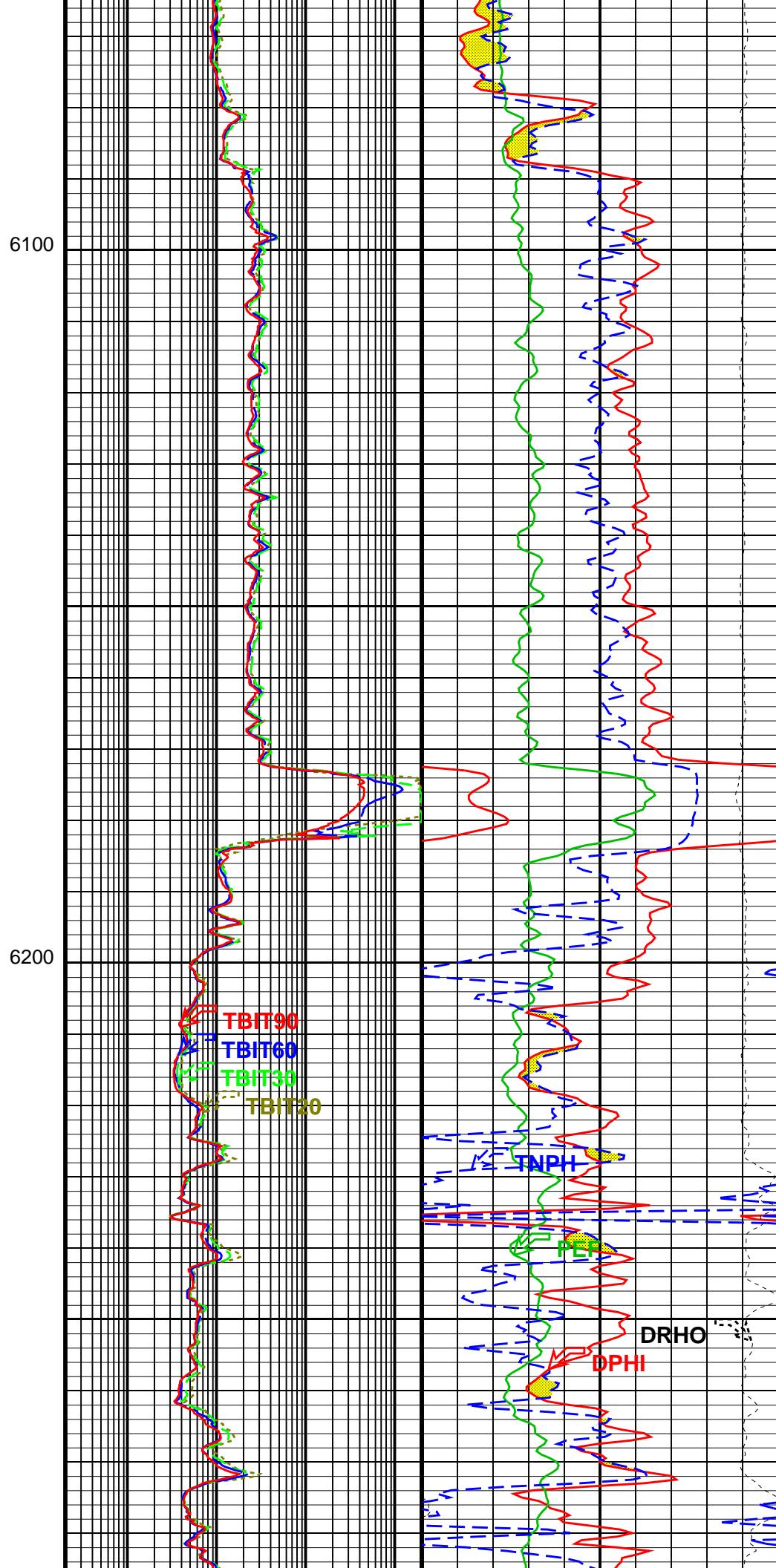


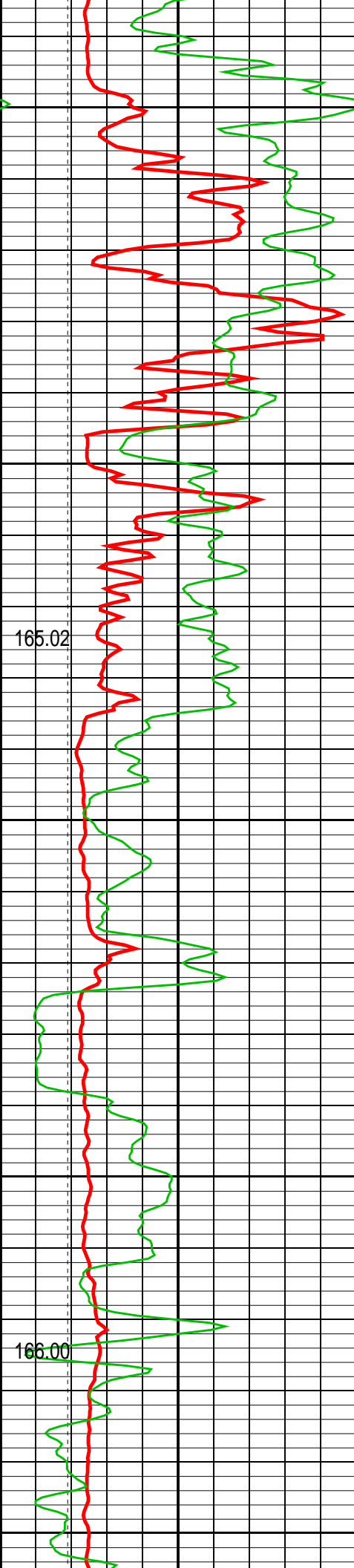








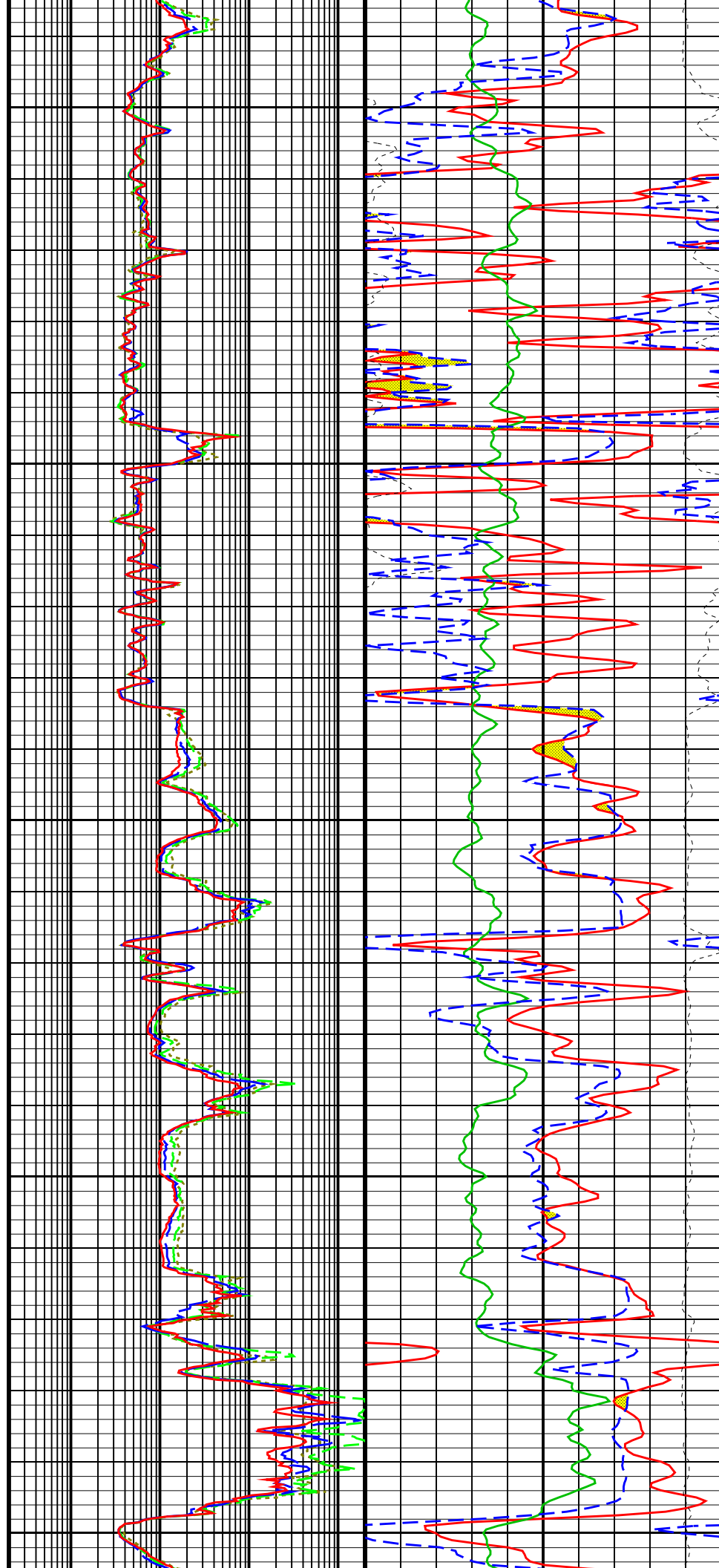


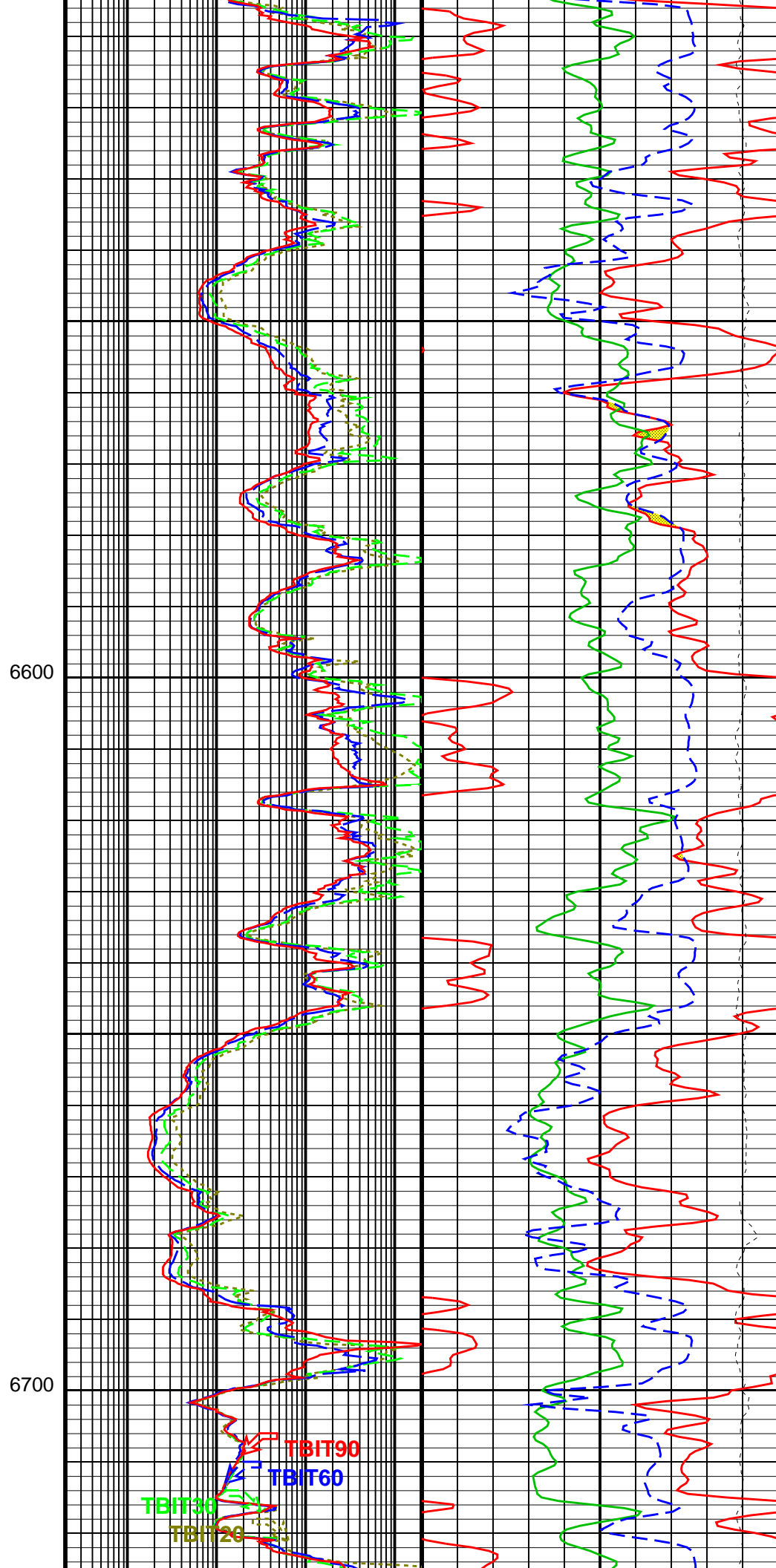
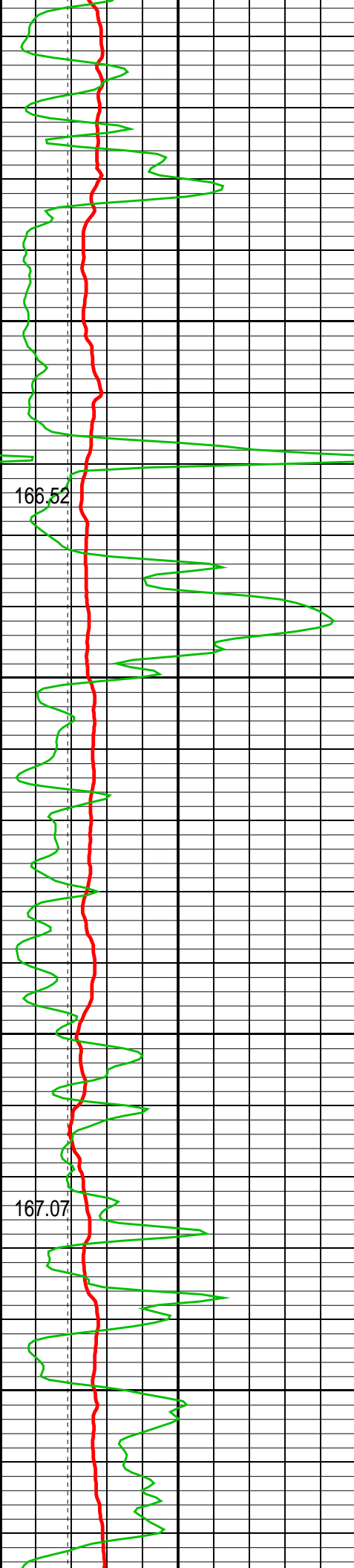


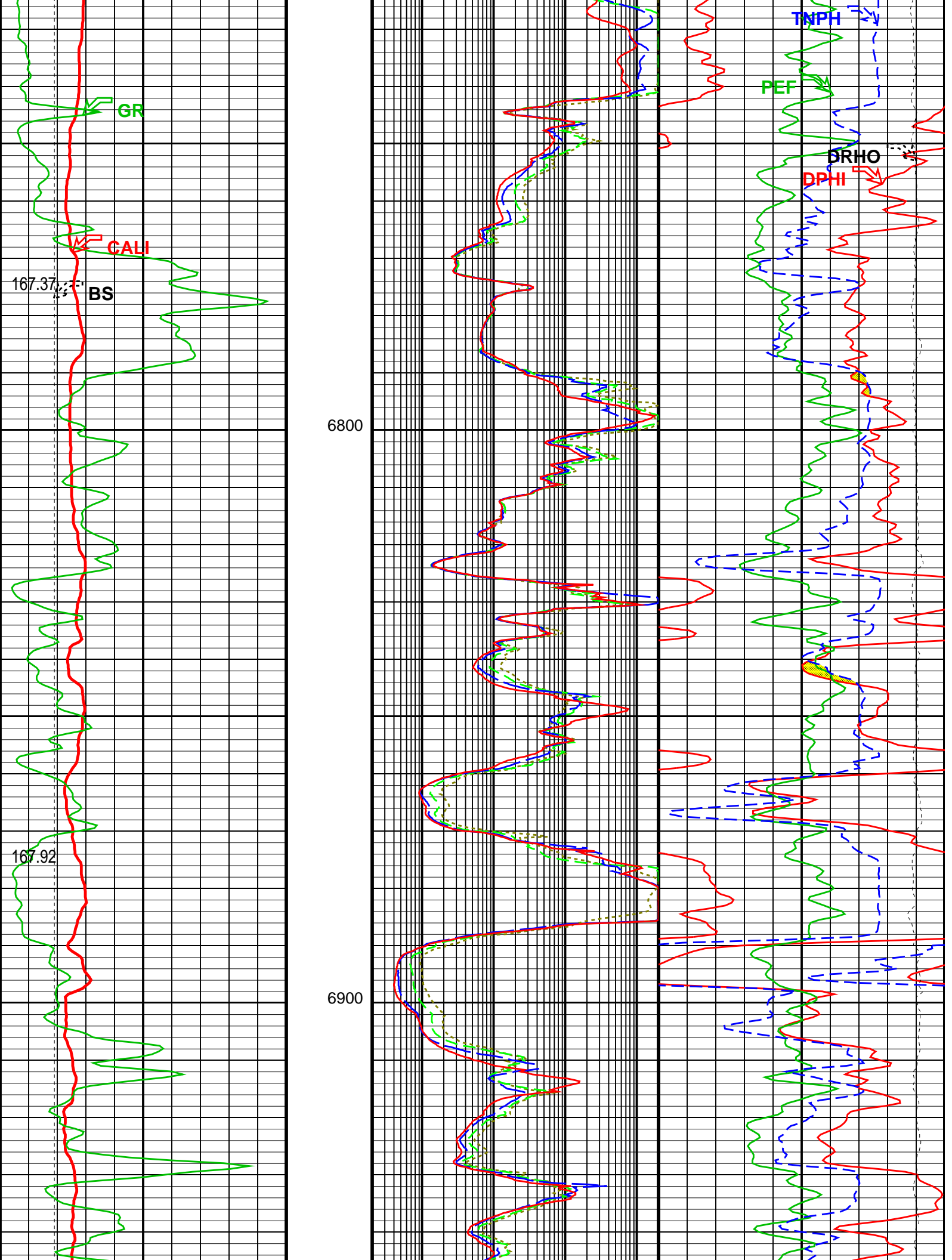
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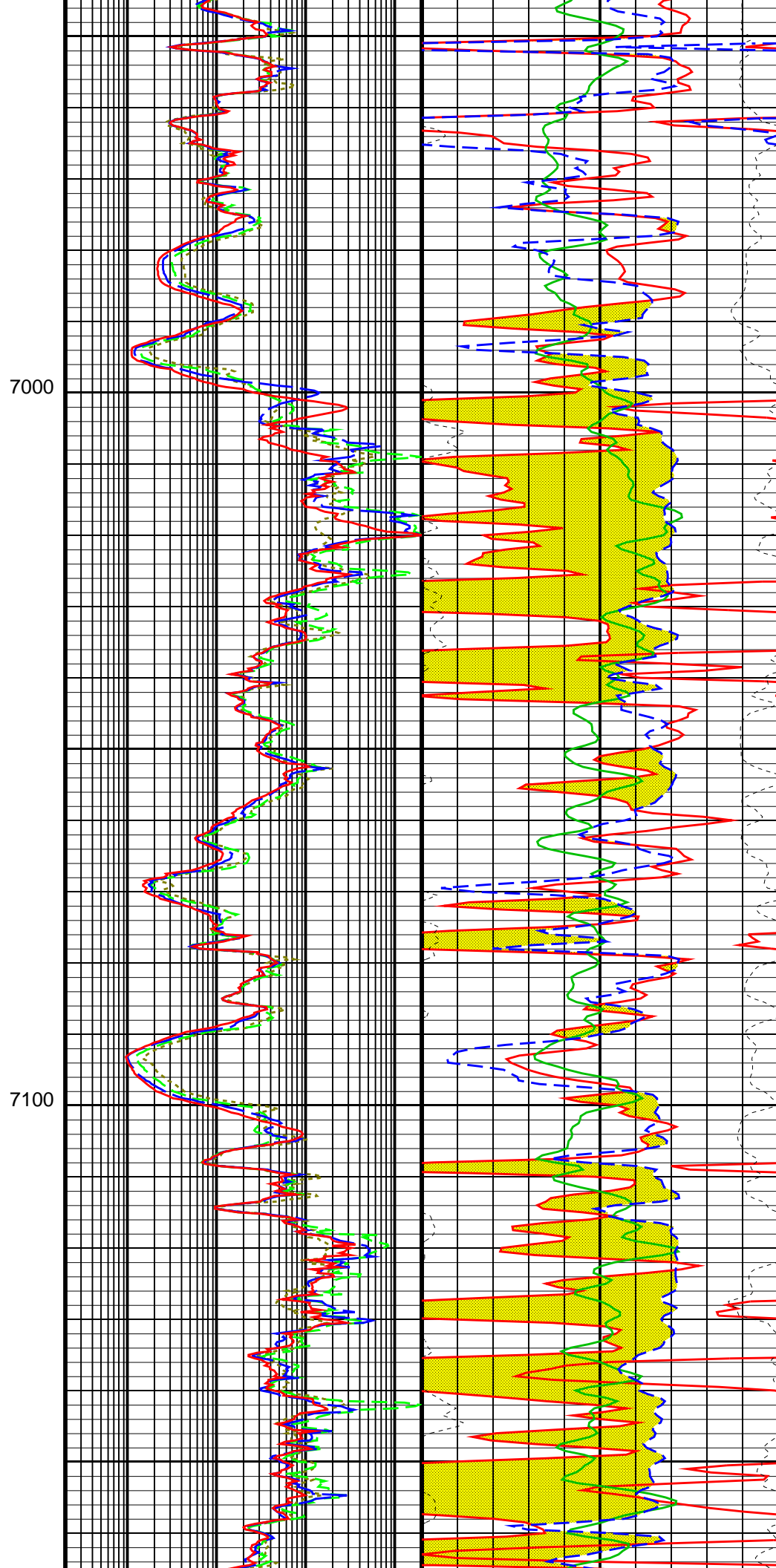
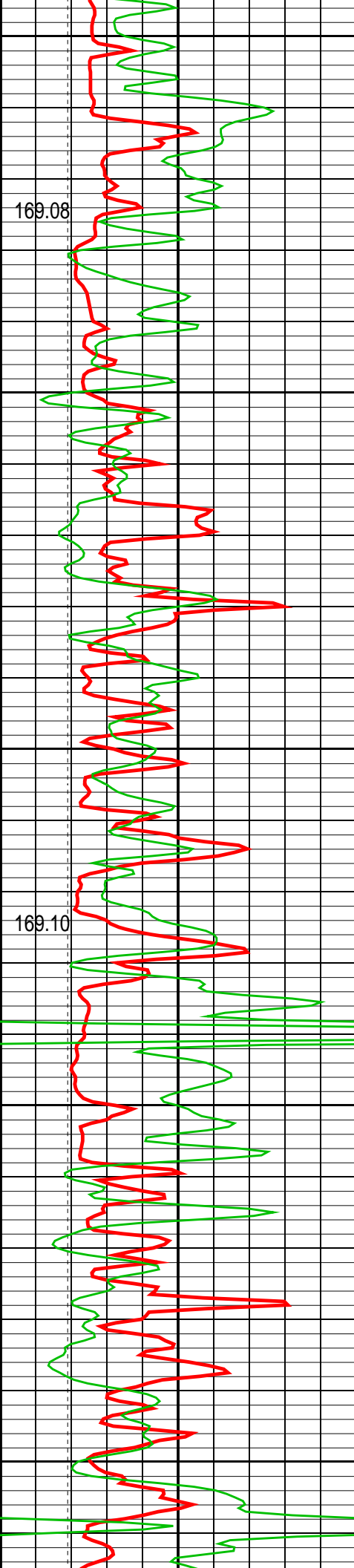
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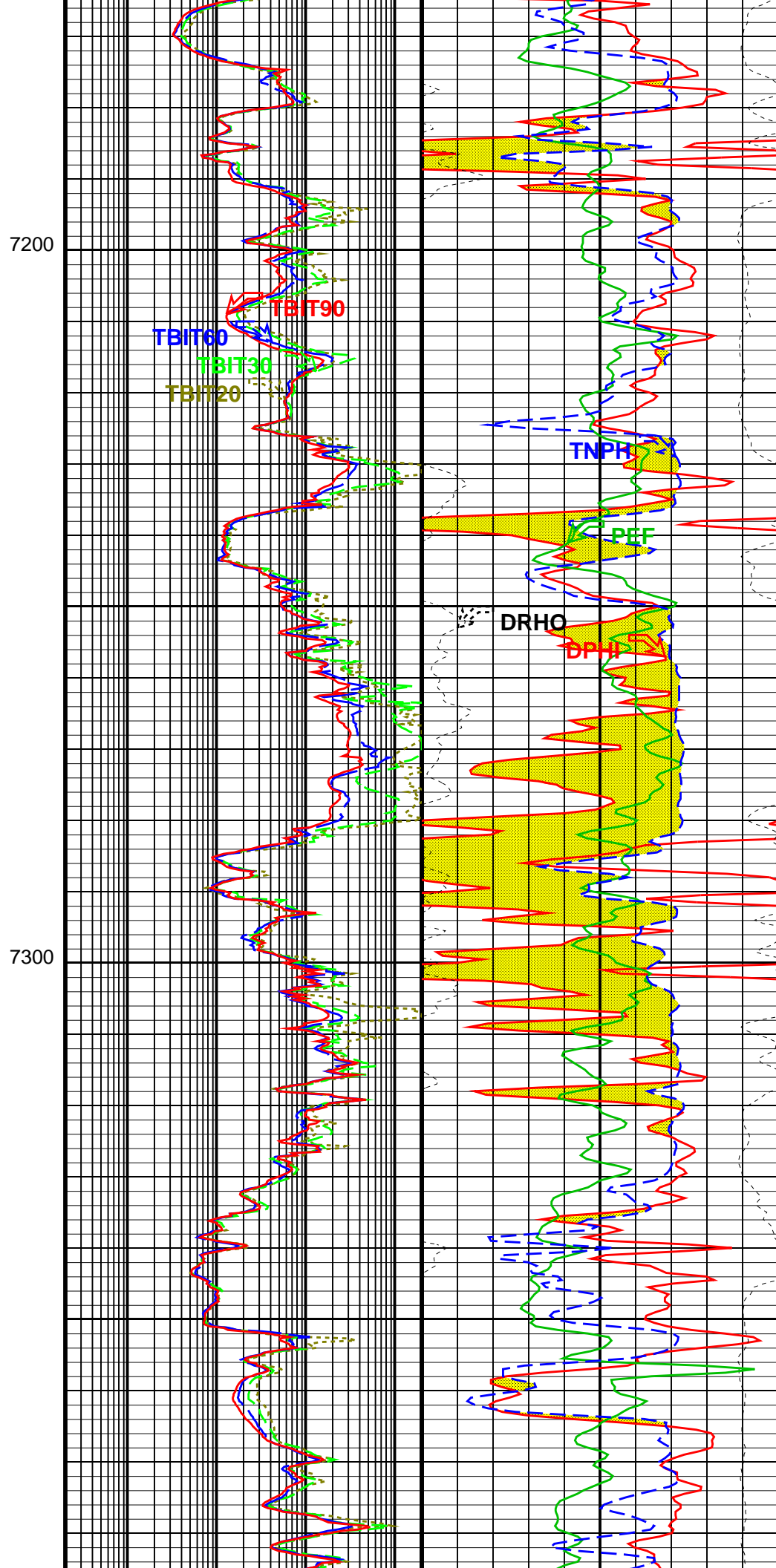
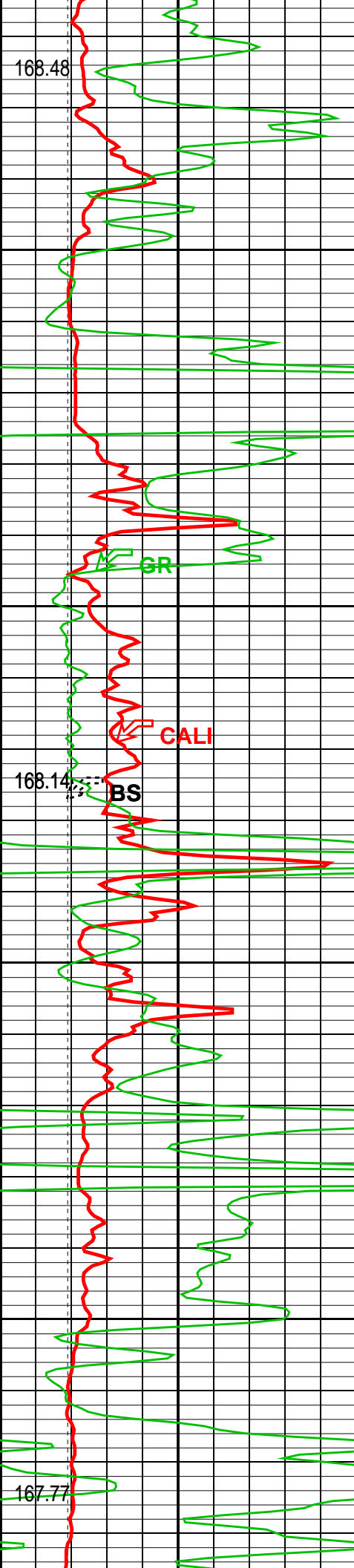
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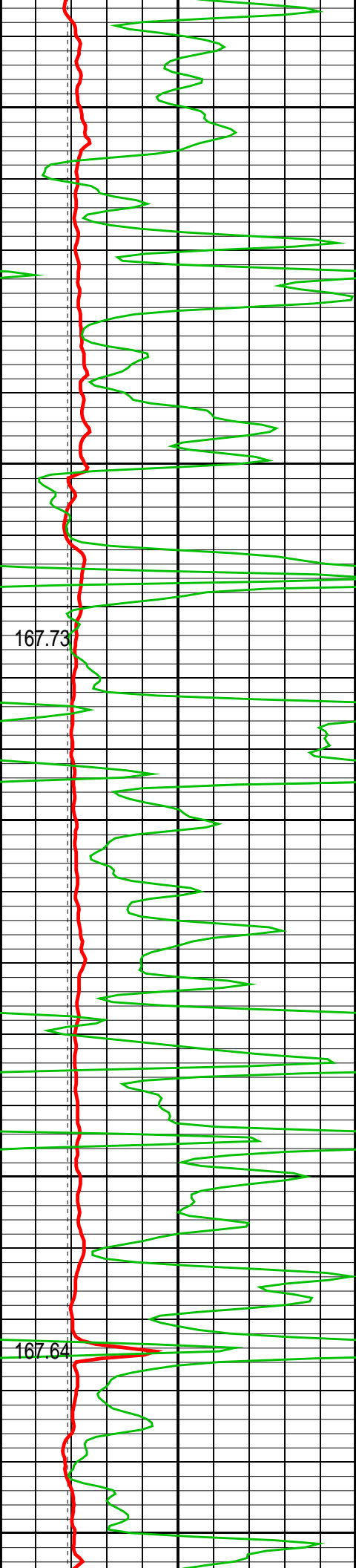








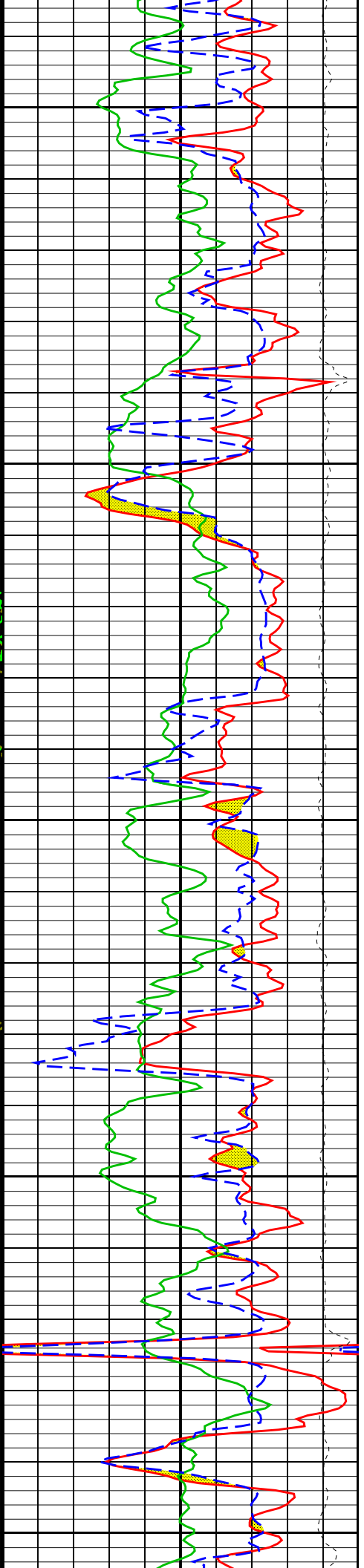
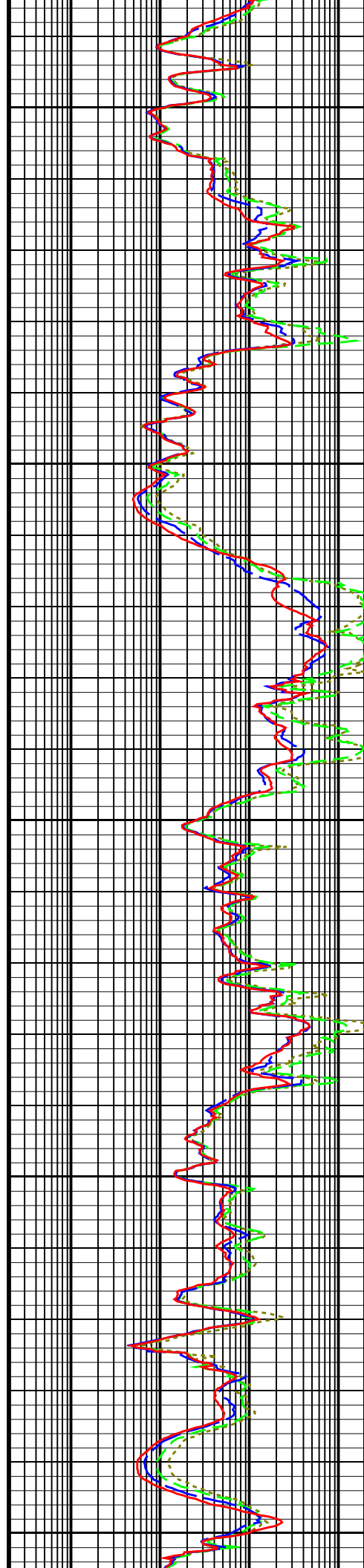


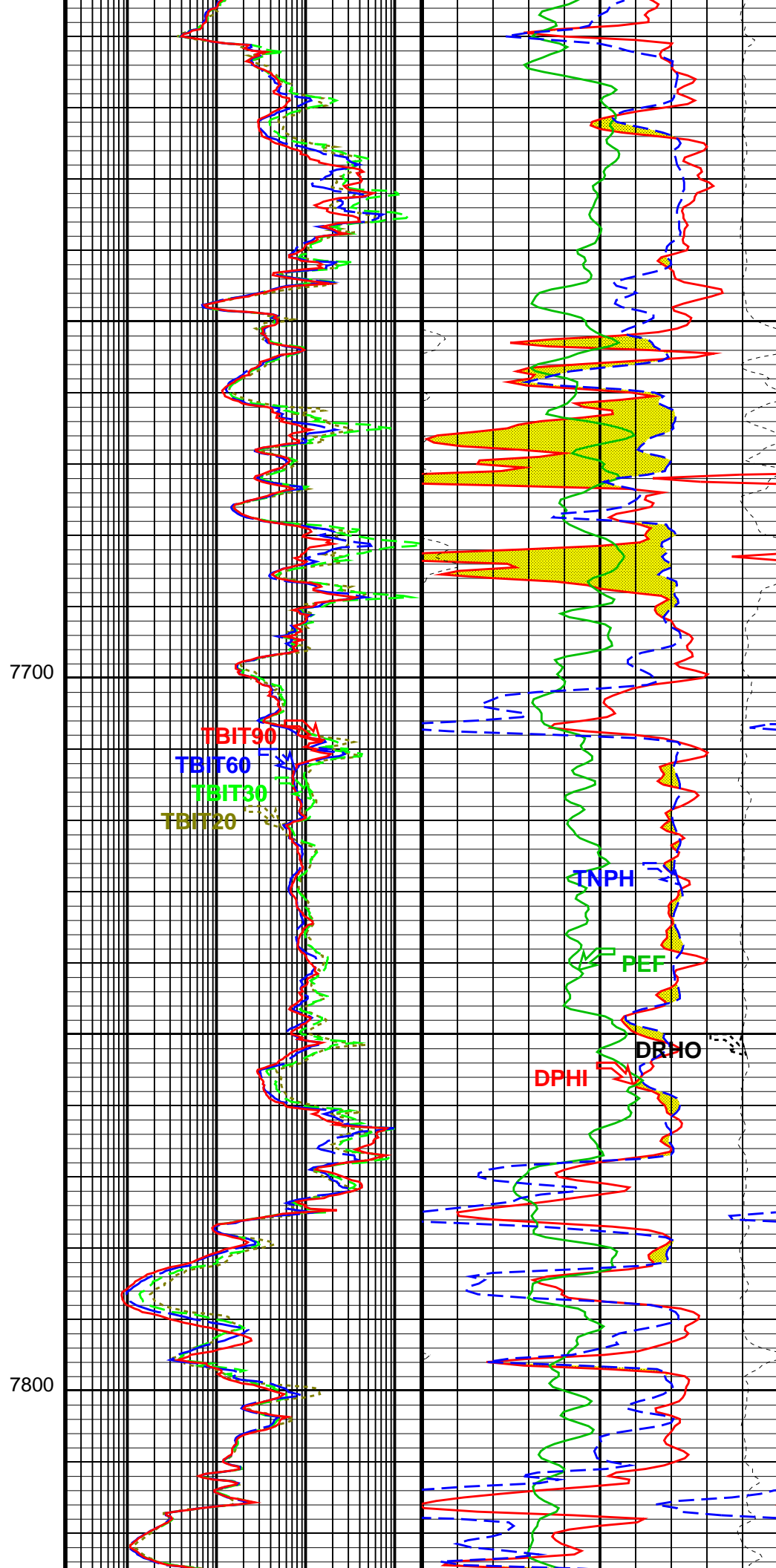
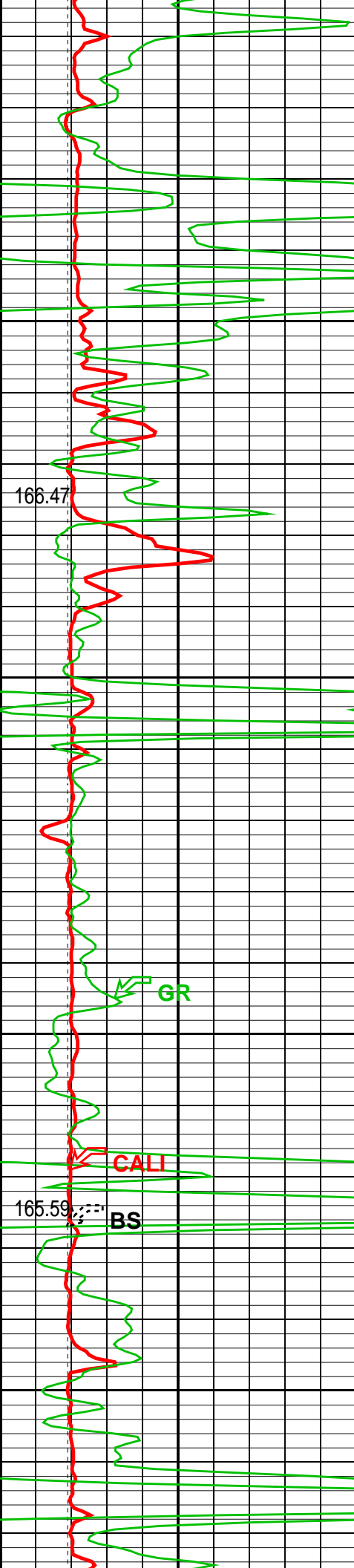


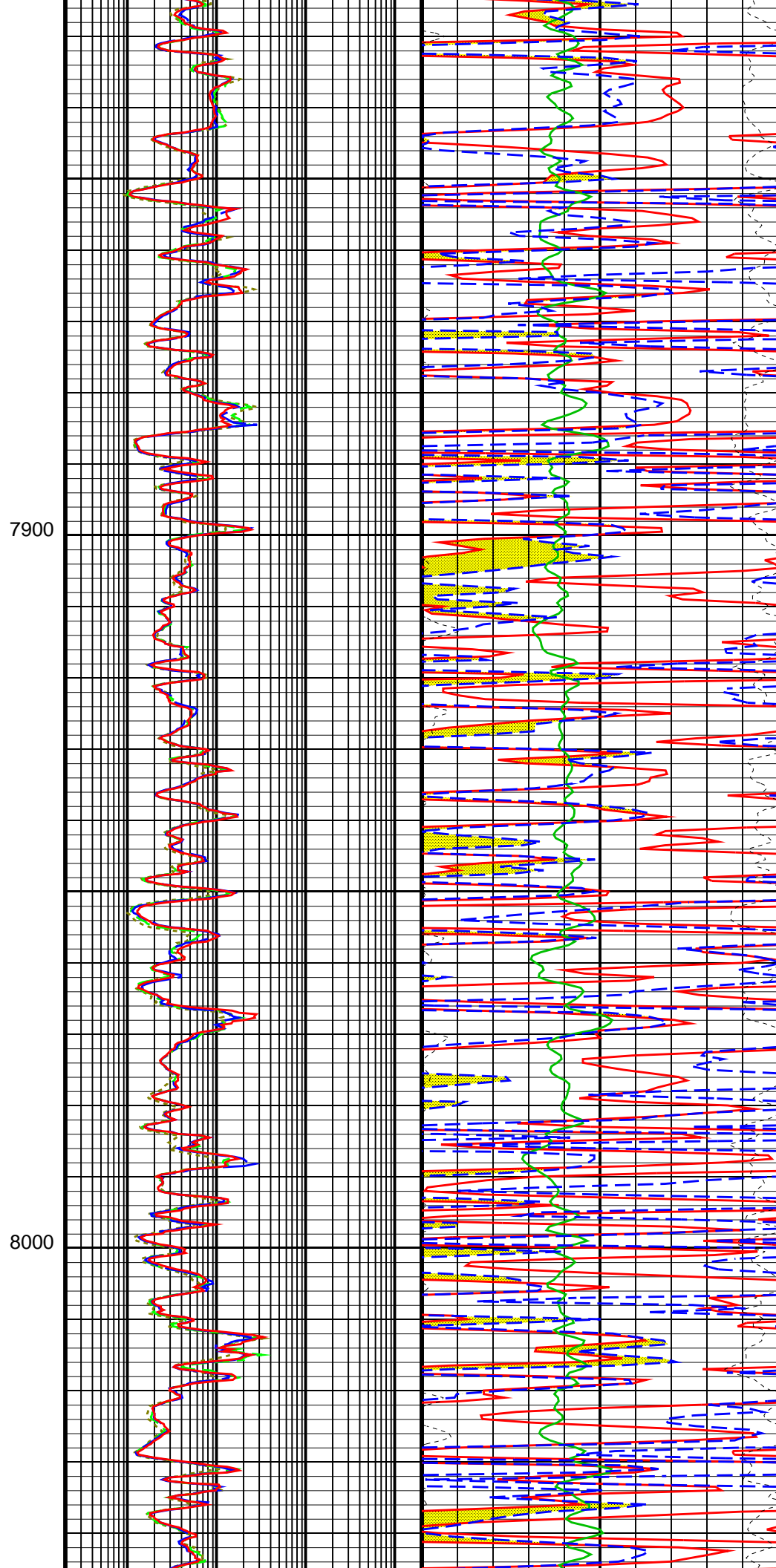
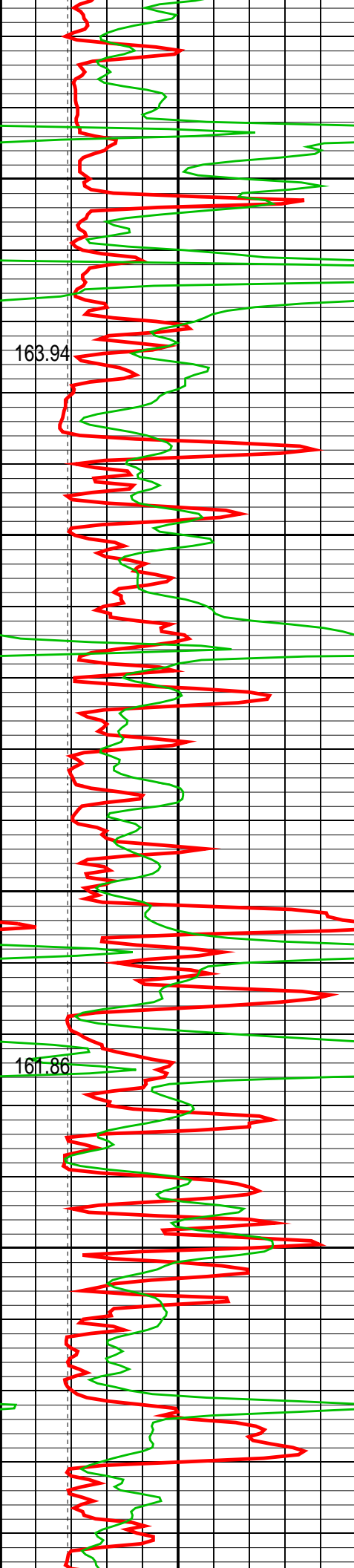
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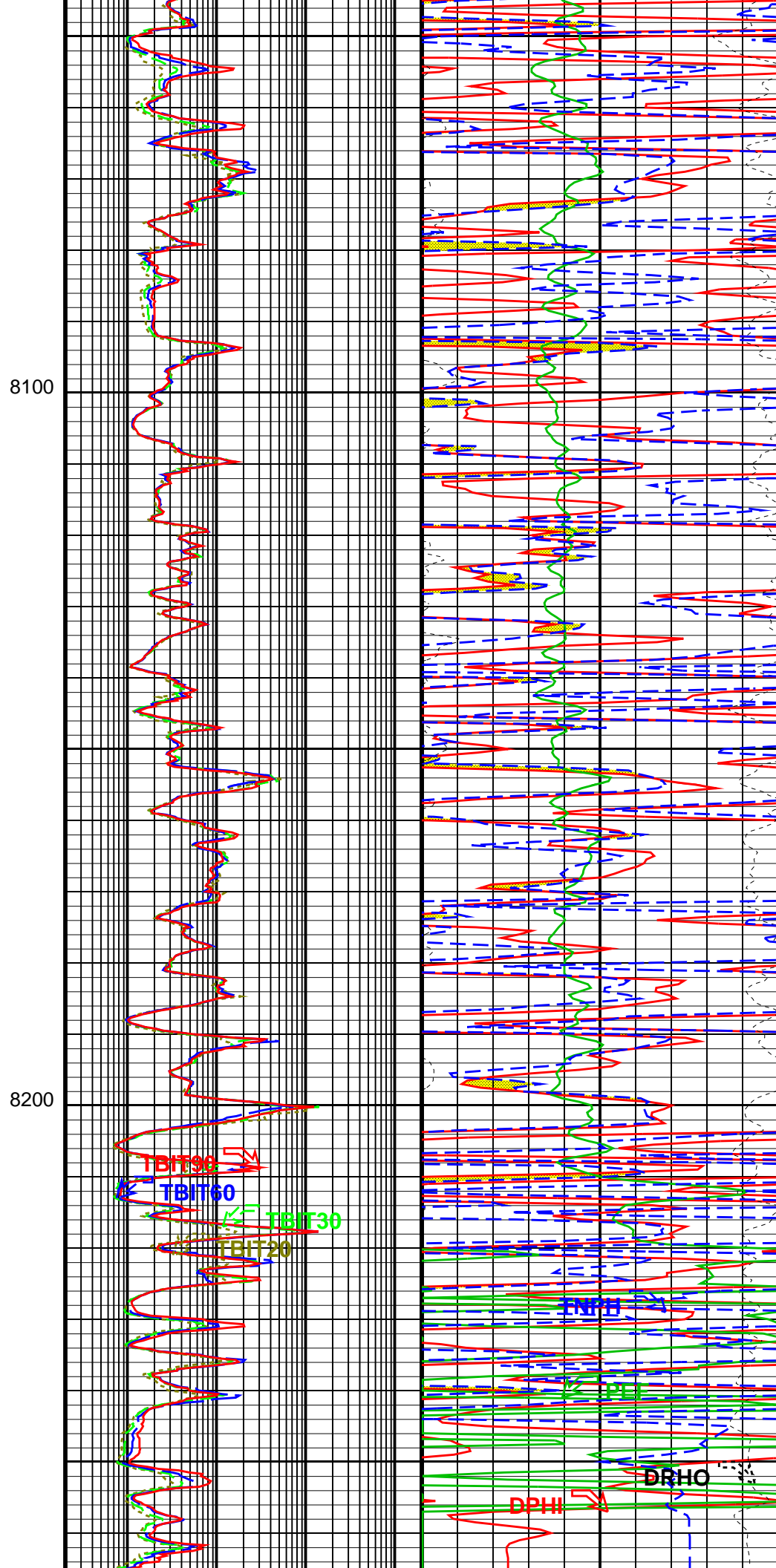
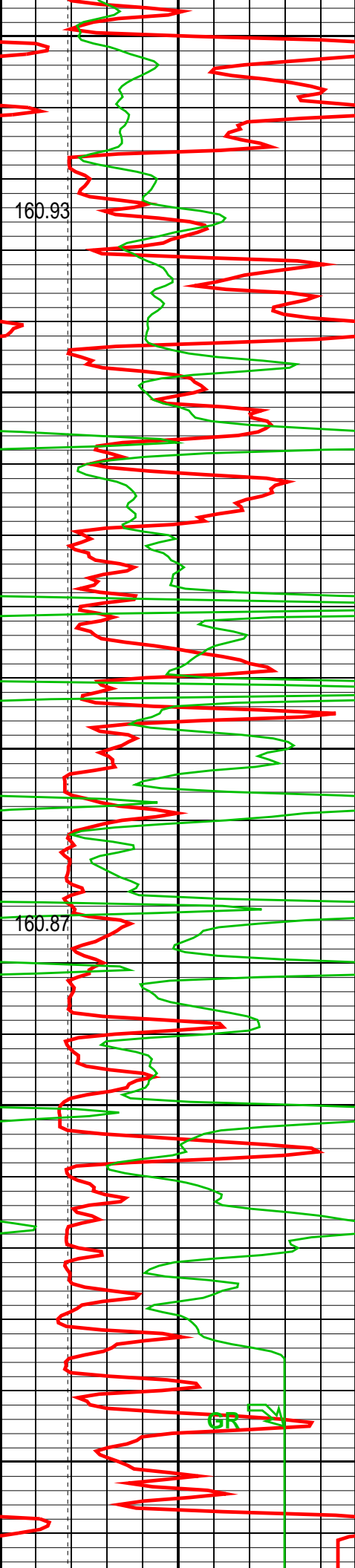
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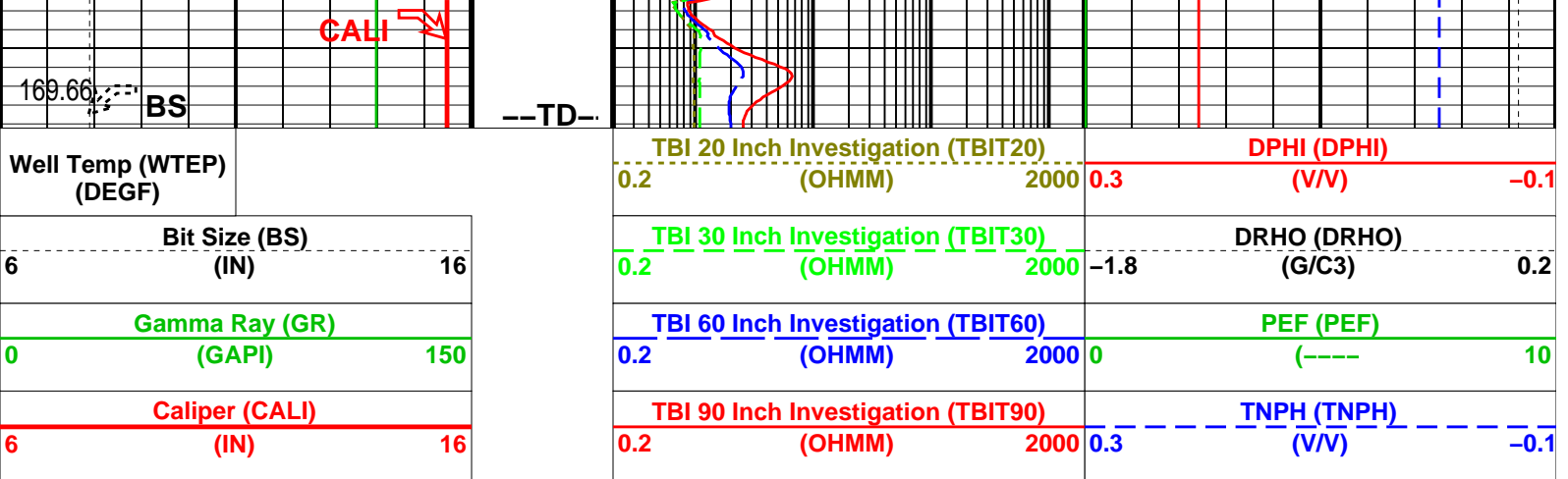
7600











Parameters

DLIS Name	Description	Value
TBT-A: ThruBit String		
BHS	Borehole Status	OPEN
CSAL	Cement Salinity	0.000 ppm
CSID	Casing Size I.D.	8.900 in
DHC	Density Hole Correction	CALIPER
FD	Fluid Density	1.000 g/cm3
FSAL	Formation Salinity	0.000 ppm
FSCO	Formation Salinity Correction Enabled? (for TBN)	NO
MATR	Rock Matrix for Neutron Porosity Corrections	LIME
MDEN	Matrix Density	2.710 g/cm3
MT	Mud Type (for TBN and TBI correction)	WBM
MWCO	Mud-Weight Correction Enabled? (for TBN)	NO
SOCO	Stand-Off Correction Enabled? (for TBN)	NO
SOFF	TBN Standoff	0.000 in
TBD_CAL_BLOCK	TBD Calibration Block Type	THRUBIT
TBD_SPIKE_REJECT	TBD Spike Detection Option	DETECT
TBD_SPIKE_THRESHOLD	TBD Attenuation Change Threshold for Spike Detection	5.000 %
TBI_ALGO	TBI Algorithm Selection	AIT
TBI_BHC_OP	Borehole Correction Option (for TBI)	CALIPER
TBI_CALTYP	TBI Mastercal Type	THRUBIT
TBI_REPL_ARRAY_DEST	TBI: Replace This Array	NONE
TBI_REPL_ARRAY_SOURCE	TBI: With This Array	NONE
TBI_TC_OP	Induction Temperature Correction Option	LOWER
TBN_BHC_OP	Borehole Correction Option (for TBN)	CALIPER
TBN_CAL_TANK	TBN Calibration Tank Type	THRUBIT
TBN_PRES_OP	Pressure Correction Enabled? (for TBN)	NO
TBN_TEMP_OP	Temperature Correction Enabled? (for TBN)	NO
TBN_WPRE	Well Pressure (for TBN)	14.696 psi
WMUD	Mud Weight	9.100 lbm/gal
HOLEV: Integrated Hole/Cement Volume		
BHS	Borehole Status	OPEN
MATR	Rock Matrix for Neutron Porosity Corrections	LIME
System and Miscellaneous		
BS	Bit Size	7.875 in
BSAL	Borehole Salinity	1100.0 ppm
CSIZ	Current Casing Size	9.625 in

Format: TB_TCOM Vertical Scale: 5" per 100' Graphics File Created: 22-Jun-2014 05:32

OP System Version: 19C2-270

TBT SRPC-5298-ThruBit

Input DLIS Files

DEFAULT ThruBit_005PUP FN:4 PRODUCER 22-Jun-2014 05:23 8278.4 FT 4187.9 FT

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
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ThruBit String Master Calibration - TBI Master Calibration - Condo Errors

Master: 17-Jun-2014 7:35

Freq 1, A1, R	-457.000	-456.898	--	--	--	--
Freq 1, A1, X	300.000	-98.3795	--	--	--	--
Freq 1, A2, R	-141.000	-148.961	--	--	--	--
Freq 1, A2, X	320.000	11.8015	--	--	--	--
Freq 1, A3, R	-28.0000	-28.4668	--	--	--	--
Freq 1, A3, X	50.0000	-78.4892	--	--	--	--
Freq 1, A4, R	-16.0000	-15.3238	--	--	--	--
Freq 1, A4, X	300.000	231.406	--	--	--	--
Freq 1, A5, R	-14.0000	-13.5560	--	--	--	--
Freq 1, A5, X	150.000	115.891	--	--	--	--
Freq 2, A1, R	-237.000	-235.364	--	--	--	--
Freq 2, A1, X	150.000	-102.418	--	--	--	--
Freq 2, A2, R	-92.0000	-96.1500	--	--	--	--
Freq 2, A2, X	160.000	-21.6378	--	--	--	--
Freq 2, A3, R	-21.0000	-20.7695	--	--	--	--
Freq 2, A3, X	-20.0000	-104.294	--	--	--	--
Freq 2, A4, R	-20.0000	-18.5844	--	--	--	--
Freq 2, A4, X	100.000	66.1898	--	--	--	--
Freq 2, A5, R	-20.0000	-18.6638	--	--	--	--
Freq 2, A5, X	-25.0000	-18.4877	--	--	--	--
Freq 3, A1, R	-149.000	-145.653	--	--	--	--
Freq 3, A1, X	25.0000	-152.283	--	--	--	--
Freq 3, A2, R	-70.0000	-72.5751	--	--	--	--
Freq 3, A2, X	70.0000	-58.5200	--	--	--	--
Freq 3, A3, R	-17.0000	-17.0791	--	--	--	--
Freq 3, A3, X	-90.0000	-136.128	--	--	--	--
Freq 3, A4, R	-22.0000	-20.5310	--	--	--	--
Freq 3, A4, X	-50.0000	-44.3374	--	--	--	--
Freq 3, A5, R	-22.0000	-21.4762	--	--	--	--
Freq 3, A5, X	-110.000	-117.307	--	--	--	--
Freq 4, A1, R	-80.0000	-78.3716	--	--	--	--
Freq 4, A1, X	-190.000	-266.391	--	--	--	--
Freq 4, A2, R	-50.0000	-52.1732	--	--	--	--
Freq 4, A2, X	-75.0000	-125.718	--	--	--	--
Freq 4, A3, R	-14.0000	-13.6750	--	--	--	--
Freq 4, A3, X	-190.000	-200.702	--	--	--	--
Freq 4, A4, R	-25.0000	-23.5566	--	--	--	--
Freq 4, A4, X	-235.000	-209.711	--	--	--	--
Freq 4, A5, R	-28.0000	-27.1384	--	--	--	--
Freq 4, A5, X	-300.000	-284.972	--	--	--	--

ThruBit String Master Calibration - TBI Master Calibration COMPLEX GAINS

Master: 17-Jun-2014 7:35

Freq 1, R - 0	1.000	0.9971	--	--	--	--
Freq 1, R - 1	1.000	0.9916	--	--	--	--
Freq 1, R - 2	1.000	0.9985	--	--	--	--
Freq 1, R - 3	1.000	0.9860	--	--	--	--
Freq 1, R - 4	1.000	0.9951	--	--	--	--
Freq 1, X - 0	0	-0.005077	--	--	--	--
Freq 1, X - 1	0	-0.0001806	--	--	--	--
Freq 1, X - 2	0	-0.006362	--	--	--	--
Freq 1, X - 3	0	0.01510	--	--	--	--
Freq 1, X - 4	0	0.0004968	--	--	--	--
Freq 2, R - 0	1.000	0.9914	--	--	--	--
Freq 2, R - 1	1.000	0.9856	--	--	--	--
Freq 2, R - 2	1.000	0.9868	--	--	--	--
Freq 2, R - 3	1.000	0.9817	--	--	--	--
Freq 2, R - 4	1.000	0.9923	--	--	--	--
Freq 2, X - 0	0	-0.01297	--	--	--	--
Freq 2, X - 1	0	-0.009472	--	--	--	--
Freq 2, X - 2	0	-0.008611	--	--	--	--
Freq 2, X - 3	0	0.001065	--	--	--	--
Freq 2, X - 4	0	-0.01000	--	--	--	--
Freq 3, R - 0	1.000	0.9970	--	--	--	--
Freq 3, R - 1	1.000	0.9917	--	--	--	--
Freq 3, R - 2	1.000	0.9926	--	--	--	--
Freq 3, R - 3	1.000	0.9863	--	--	--	--
Freq 3, R - 4	1.000	0.9989	--	--	--	--
Freq 3, X - 0	0	-0.001220	--	--	--	--
Freq 3, X - 1	0	0.001593	--	--	--	--
Freq 3, X - 2	0	0.002038	--	--	--	--
Freq 3, X - 3	0	0.009428	--	--	--	--
Freq 3, X - 4	0	0.0009417	--	--	--	--
Freq 4, R - 0	1.000	0.9888	--	--	--	--
Freq 4, R - 1	1.000	0.9830	--	--	--	--
Freq 4, R - 2	1.000	0.9855	--	--	--	--
Freq 4, R - 3	1.000	0.9777	--	--	--	--
Freq 4, R - 4	1.000	0.9996	--	--	--	--
Freq 4, X - 0	0	-0.005971	--	--	--	--
Freq 4, X - 1	0	-0.003925	--	--	--	--

Freq 4, X - 2	0	-0.005729	--	--	--	--
Freq 4, X - 3	0	0.001326	--	--	--	--
Freq 4, X - 4	0	-0.008338	--	--	--	--
ThruBit String Master Calibration – TBD Caliper Master Calibration						
Master: 8-May-2014 8:50						
Caliper 12in Ring	1949.8	1860.1	--	--	--	IN
Caliper 9in Ring	2096.7	2029.8	--	--	--	IN
Caliper 6in Ring	2285.7	2196.4	--	--	--	IN
ThruBit String Master Calibration – TBD Density Master Calibration. PEEK Window, ThruBit blocks						
Master: 1-Jun-2014 15:30						
Aluminium Density	2.607	2.607	--	--	--	G/C3
Magnesium Density	1.752	1.752	--	--	--	G/C3
LS1 Background	140.00	126.82	--	--	--	CPS
SS1 Background	140.00	128.38	--	--	--	CPS
LS4 Background	29.00	27.26	--	--	--	CPS
SS1 Aluminium	4850.00	4679.36	--	--	--	CPS
LS1 Aluminium	870.00	805.39	--	--	--	CPS
SS1 Magnesium	8000.00	7845.45	--	--	--	CPS
LS4 Aluminium	955.00	917.82	--	--	--	CPS
SS Slope	1.645	1.601	--	--	--	
LS1 Al + Sleeve	725.00	665.92	--	--	--	CPS
LS Slope	0.4150	0.4139	--	--	--	
LS4 Al + Sleeve	426.50	408.76	--	--	--	CPS
Pef K Factor	4.840	4.865	--	--	--	
LS1 Magnesium	5800.00	5399.95	--	--	--	CPS
Pef B Factor	-0.5550	-0.6012	--	--	--	
ThruBit String Master Calibration – TBD Density Master Calibration						
Master: Calibration not done						
SS1 Background	140.00	128.38	--	--	--	CPS
SS2 Background	0	33.3920	--	--	--	CPS
SS3 Background	0	20.1204	--	--	--	CPS
SS4 Background	0	28.1154	--	--	--	CPS
LS1 Background	140.00	126.82	--	--	--	CPS
LS2 Background	0	31.7362	--	--	--	CPS
LS3 Background	0	19.4275	--	--	--	CPS
LS4 Background	29.00	27.26	--	--	--	CPS
SS1 Aluminium	4850.00	4679.36	--	--	--	CPS
SS2 Aluminium	0	2470.55	--	--	--	CPS
SS3 Aluminium	0	2074.72	--	--	--	CPS
SS4 Aluminium	0	2027.6948	--	--	--	CPS
LS1 Aluminium	870.00	805.39	--	--	--	CPS
LS2 Aluminium	0	794.762	--	--	--	CPS
LS3 Aluminium	0	867.124	--	--	--	CPS
LS4 Aluminium	955.00	917.82	--	--	--	CPS
SS1 Al + Sleeve	0	N/A	--	--	--	CPS
SS2 Al + Sleeve	0	N/A	--	--	--	CPS
SS3 Al + Sleeve	0	N/A	--	--	--	CPS
SS4 Al + Sleeve	0	N/A	--	--	--	CPS
LS1 Al + Sleeve	725.00	665.92	--	--	--	CPS
LS2 Al + Sleeve	0	600.802	--	--	--	CPS
LS3 Al + Sleeve	0	539.142	--	--	--	CPS
LS4 Al + Sleeve	426.50	408.76	--	--	--	CPS
SS1 Magnesium	8000.00	7845.45	--	--	--	CPS
SS2 Magnesium	0	4181.19	--	--	--	CPS
SS3 Magnesium	0	3423.82	--	--	--	CPS
SS4 Magnesium	0	3412.51	--	--	--	CPS
LS1 Magnesium	5800.00	5399.95	--	--	--	CPS
LS2 Magnesium	0	5595.04	--	--	--	CPS
LS3 Magnesium	0	6039.02	--	--	--	CPS
LS4 Magnesium	0	6465.56	--	--	--	CPS
ThruBit String Master Calibration – Thermal Neutron Master Calibration						
Master: 30-May-2014 16:05						
TNF, Background	1.0	0.28	--	--	--	CPS
TNN, Background	1.0	0.13	--	--	--	CPS
TNF, Tank	96.00	56.89	--	--	--	CPS
TNN, Tank	2860.0	1746.1	--	--	--	CPS
TNF, Tank + Al Sleeve	3040.0	1843.9	--	--	--	CPS
TNN, Tank + Al Sleeve	32350.0	19764.5	--	--	--	CPS
Tank + Al Sleeve Ratio	10.797	10.811	--	--	--	
Tank + Al Sleeve Porosity	14.40	14.46	--	--	--	PU
Tank, Ratio	30.958	30.694	--	--	--	
Tank, Temperature	70.0	0	--	--	--	DEGF
ThruBit String Master Calibration – TMG Accelerometer Calibration						
Master: Calibration not done						
Minimum Ax, m/s2	-9.810	N/A	--	--	--	
Maximum Ax, m/s2	9.810	N/A	--	--	--	
Minimum Ay, m/s2	-9.810	N/A	--	--	--	

Minimum Ay, m/s2	-9.810	N/A	--	--	--	--
Maximum Ay, m/s2	9.810	N/A	--	--	--	--
Minimum Az, m/s2	0	N/A	--	--	--	--
Maximum Az, m/s2	9.810	N/A	--	--	--	--
RB Offset, degrees	0	N/A	--	--	--	--

ThruBit String Master Calibration – TMG Gamma-Ray Calibration

Master: Calibration not done





















GR Background	30.00	N/A	--	--	--	--	GAPI
GR Jig-Background	152.0	N/A	--	--	--	--	GAPI





















ThruBit String / Equipment Identification





















Primary Equipment:





















Induction Resistivity	TBI – A	28
Density	TBD – A	36
Gamma-Ray Logging Source	GGLS – FZ	
Thermal Neutron	TBN – A	9
Neutron Logging Source	NNLS – EWA	
Telemetry Memory GR	TMG – A	33
Battery	TBAT –	
Battery	TBAT –	




Auxiliary Equipment:







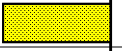


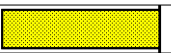

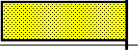
ThruBit String Master Calibration					
TBI Master Calibration Sonde Errors					
Freq 1, A1, R	Value	Nominal	Freq 1, A1, X	Value	Nominal
	-456.898	-457.000		-98.3795	300.000
-536.000 (Minimum)	-387.000 (Maximum)		-500.000 (Minimum)	1100.00 (Maximum)	
Freq 1, A2, R	Value	Nominal	Freq 1, A2, X	Value	Nominal
	-148.961	-141.000		11.8015	320.000
-162.000 (Minimum)	-120.000 (Maximum)		-75.0000 (Minimum)	700.000 (Maximum)	
Freq 1, A3, R	Value	Nominal	Freq 1, A3, X	Value	Nominal
	-28.4668	-28.0000		-78.4892	50.0000
-38.0000 (Minimum)	-18.0000 (Maximum)		-375.000 (Minimum)	475.000 (Maximum)	
Freq 1, A4, R	Value	Nominal	Freq 1, A4, X	Value	Nominal
	-15.3238	-16.0000		231.406	300.000
-24.0000 (Minimum)	-8.00000 (Maximum)		25.0000 (Minimum)	575.000 (Maximum)	
Freq 1, A5, R	Value	Nominal	Freq 1, A5, X	Value	Nominal
	-13.5560	-14.0000		115.891	150.000
-21.0000 (Minimum)	-7.00000 (Maximum)		25.0000 (Minimum)	275.000 (Maximum)	
Freq 2, A1, R	Value	Nominal	Freq 2, A1, X	Value	Nominal
	-235.364	-237.000		-102.418	150.000
-293.000 (Minimum)	-186.000 (Maximum)		-375.000 (Minimum)	675.000 (Maximum)	
Freq 2, A2, R	Value	Nominal	Freq 2, A2, X	Value	Nominal
	-96.1500	-92.0000		-21.6378	160.000
-106.000 (Minimum)	-76.0000 (Maximum)		-100.000 (Minimum)	425.000 (Maximum)	
Freq 2, A3, R	Value	Nominal	Freq 2, A3, X	Value	Nominal
	-20.7695	-21.0000		-104.294	-20.0000
-28.0000 (Minimum)	-13.0000 (Maximum)		-325.000 (Minimum)	250.000 (Maximum)	
Freq 2, A4, R	Value	Nominal	Freq 2, A4, X	Value	Nominal
	-18.5844	-20.0000		66.1898	100.000
-28.0000 (Minimum)	-10.0000 (Maximum)		-75.0000 (Minimum)	275.000 (Maximum)	
Freq 2, A5, R	Value	Nominal	Freq 2, A5, X	Value	Nominal
	-18.6638	-20.0000		-18.4877	-25.0000
-27.0000	-10.0000		-125.000	75.0000	

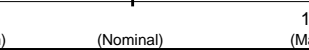
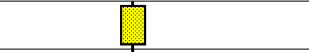
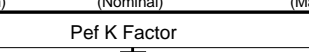

(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
Freq 3, A1, R			Value	Nominal	Freq 3, A1, X	
			-145.653	-149.000		
-193.000 (Minimum)	(Nominal)	-108.000 (Maximum)			-375.000 (Minimum)	425.000 (Maximum)
Freq 3, A2, R			Value	Nominal	Freq 3, A2, X	
			-72.5751	-70.0000		
-81.0000 (Minimum)	(Nominal)	-57.0000 (Maximum)			-125.000 (Minimum)	250.000 (Maximum)
Freq 3, A3, R			Value	Nominal	Freq 3, A3, X	
			-17.0791	-17.0000		
-23.0000 (Minimum)	(Nominal)	-11.0000 (Maximum)			-300.000 (Minimum)	125.000 (Maximum)
Freq 3, A4, R			Value	Nominal	Freq 3, A4, X	
			-20.5310	-22.0000		
-31.0000 (Minimum)	(Nominal)	-11.0000 (Maximum)			-200.000 (Minimum)	100.000 (Maximum)
Freq 3, A5, R			Value	Nominal	Freq 3, A5, X	
			-21.4762	-22.0000		
-32.0000 (Minimum)	(Nominal)	-11.0000 (Maximum)			-250.000 (Minimum)	-25.0000 (Maximum)
Freq 4, A1, R			Value	Nominal	Freq 4, A1, X	
			-78.3716	-80.0000		
-108.000 (Minimum)	(Nominal)	-54.0000 (Maximum)			-450.000 (Minimum)	75.0000 (Maximum)
Freq 4, A2, R			Value	Nominal	Freq 4, A2, X	
			-52.1732	-50.0000		
-60.0000 (Minimum)	(Nominal)	-41.0000 (Maximum)			-200.000 (Minimum)	50.0000 (Maximum)
Freq 4, A3, R			Value	Nominal	Freq 4, A3, X	
			-13.6750	-14.0000		
-19.0000 (Minimum)	(Nominal)	-8.00000 (Maximum)			-350.000 (Minimum)	-25.0000 (Maximum)
Freq 4, A4, R			Value	Nominal	Freq 4, A4, X	
			-23.5566	-25.0000		
-37.0000 (Minimum)	(Nominal)	-11.0000 (Maximum)			-400.000 (Minimum)	-75.0000 (Maximum)
Freq 4, A5, R			Value	Nominal	Freq 4, A5, X	
			-27.1384	-28.0000		
-43.0000 (Minimum)	(Nominal)	-12.0000 (Maximum)			-475.000 (Minimum)	-125.000 (Maximum)
Master: 17-Jun-2014 7:35						

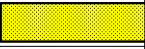
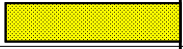








ThruBit String Master Calibration						
TBI Master Calibration COMPLEX GAINS						
Freq 1, R			Value	Nominal	Freq 1, X	
			0.9971	1.000		
			0.9916	1.000		
			0.9985	1.000		
			0.9860	1.000		
			0.9951	1.000		
0.9500 (Minimum)	(Nominal)	1.050 (Maximum)			-0.05000 (Minimum)	0.05000 (Maximum)
Freq 2, R			Value	Nominal	Freq 2, X	
			0.9914	1.000		
			0.9856	1.000		
			0.9868	1.000		
			0.9817	1.000		
			0.9923	1.000		
0.9500 (Minimum)	(Nominal)	1.050 (Maximum)			-0.05000 (Minimum)	0.05000 (Maximum)

Freq 3, R		Value	Nominal	Freq 3, X		Value	Nominal
		0.9970	1.000			-0.001220	0
		0.9917	1.000			0.001593	0
		0.9926	1.000			0.002038	0
		0.9863	1.000			0.009428	0
		0.9989	1.000			0.0009417	0
0.9500 (Minimum)	(Nominal)	1.050 (Maximum)		-0.05000 (Minimum)	(Nominal)	0.05000 (Maximum)	
Freq 4, R		Value	Nominal	Freq 4, X		Value	Nominal
		0.9888	1.000			-0.005971	0
		0.9830	1.000			-0.003925	0
		0.9855	1.000			-0.005729	0
		0.9777	1.000			0.001326	0
		0.9996	1.000			-0.008338	0
0.9300 (Minimum)	(Nominal)	1.070 (Maximum)		-0.05000 (Minimum)	(Nominal)	0.05000 (Maximum)	
Master: 17-Jun-2014 7:35							

ThruBit String Master Calibration								
TBD Caliper Master Calibration								
Caliper 12in Ring IN	Value	Nominal	Caliper 9in Ring IN	Value	Nominal	Caliper 6in Ring IN	Value	Nominal
	1860.1	1949.8		2029.8	2096.7		2196.4	2285.7
1799.8 (Minimum)	(Nominal)	2099.8 (Maximum)	1946.7 (Minimum)	(Nominal)	2246.7 (Maximum)	2135.7 (Minimum)	(Nominal)	2435.7 (Maximum)
Master: 8-May-2014 8:50								

ThruBit String Master Calibration						
TBD Density Master Calibration. PEEK Window, ThruBit blocks						
Aluminium Density G/C3	Value	Nominal	Magnesium Density G/C3	Value	Nominal	
	2.607	2.607		1.752	1.752	
2.557 (Minimum)	(Nominal)	2.657 (Maximum)	1.702 (Minimum)	(Nominal)	1.802 (Maximum)	
LS1 Background CPS	Value	Nominal	SS1 Background CPS	Value	Nominal	
	126.82	140.00		128.38	140.00	
100.00 (Minimum)	(Nominal)	187.00 (Maximum)	100.00 (Minimum)	(Nominal)	185.00 (Maximum)	
LS4 Background CPS	Value	Nominal	SS1 Aluminium CPS	Value	Nominal	
	27.26	29.00		4679.36	4850.00	
20.00 (Minimum)	(Nominal)	38.00 (Maximum)	4076.00 (Minimum)	(Nominal)	5613.00 (Maximum)	
LS1 Aluminium CPS	Value	Nominal	SS1 Magnesium CPS	Value	Nominal	
	805.39	870.00		7845.45	8000.00	
750.00 (Minimum)	(Nominal)	982.00 (Maximum)	6695.00 (Minimum)	(Nominal)	9269.00 (Maximum)	
LS4 Aluminium CPS	Value	Nominal				
	917.82	955.00				
796.00 (Minimum)	(Nominal)	1169.0 (Maximum)				
LS1 Al + Sleeve CPS	Value	Nominal				
	665.92	725.00				
650.00 (Minimum)	(Nominal)	838.00 (Maximum)				
LS4 Al + Sleeve CPS	Value	Nominal				
	408.76	426.50				
382.00 (Minimum)	(Nominal)	638.00 (Maximum)				
LS1 Magnesium CPS	Value	Nominal				
	5399.95	5800.00				
5158.00 (Minimum)	(Nominal)	6486.00 (Maximum)				
SS Slope	Value	Nominal				

		1.601	1.645
1.520 (Minimum)	(Nominal)	1.770 (Maximum)	
LS Slope		Value	Nominal
		0.4139	0.4150
0.3800 (Minimum)	(Nominal)	0.4500 (Maximum)	
Pef K Factor		Value	Nominal
		4.865	4.840
3.510 (Minimum)	(Nominal)	6.170 (Maximum)	
Pef B Factor		Value	Nominal
		-0.6012	-0.5550
-0.7000 (Minimum)	(Nominal)	-0.4100 (Maximum)	

ThruBit String Master Calibration					
Thermal Neutron Master Calibration					
TNF, Background CPS		Value	Nominal	TNN, Background CPS	
		0.28	1.0		
0 (Minimum) (Nominal) 2.0 (Maximum)				0 (Minimum) (Nominal) 2.0 (Maximum)	
TNF, Tank CPS		Value	Nominal	TNN, Tank CPS	
		56.89	96.00		
25.00 (Minimum) (Nominal) 200.0 (Maximum)				750.00 (Minimum) (Nominal) 5700.0 (Maximum)	
TNF, Tank + Al Sleeve CPS		Value	Nominal	TNN, Tank + Al Sleeve CPS	
		1843.9	3040.0		
727.00 (Minimum) (Nominal) 6080.0 (Maximum)				8000.00 (Minimum) (Nominal) 64700.0 (Maximum)	
Tank + Al Sleeve Ratio		Value	Nominal	Tank + Al Sleeve Porosity PU	
		10.811	10.797		
10.300 (Minimum) (Nominal) 11.300 (Maximum)				13.40 (Minimum) (Nominal) 15.40 (Maximum)	
Tank, Ratio		Value	Nominal	Tank, Temperature DEGF	
		30.694	30.958		
28.000 (Minimum) (Nominal) 34.000 (Maximum)				20.0 (Minimum) (Nominal) 120 (Maximum)	

ThruBit String Master Calibration					
TMG Accelerometer Calibration					
Minimum Ax, m/s2		Value	Nominal	Maximum Ax, m/s2	
NOT DONE		N/A	-9.810	NOT DONE	
-10.81 (Minimum)	-8.810 (Nominal)			8.810 (Minimum)	10.81 (Maximum)
Minimum Ay, m/s2		Value	Nominal	Maximum Ay, m/s2	
NOT DONE		N/A	-9.810	NOT DONE	
-10.81 (Minimum)	-8.810 (Nominal)			8.810 (Minimum)	10.81 (Maximum)
Minimum Az, m/s2		Value	Nominal	Maximum Az, m/s2	
NOT DONE		N/A	0	NOT DONE	
-1.000 (Minimum)	1.000 (Maximum)			8.810 (Minimum)	10.81 (Maximum)
RB Offset, degrees		Value	Nominal		
NOT DONE		N/A	0		
-360.0 (Minimum)	360.0 (Maximum)				
Master: Calibration not done					

ThruBit String Master Calibration						
TMG Gamma-Ray Calibration						
GR Background	GAPI	Value	Nominal	GR Jig-Background	GAPI	Value
						Nominal

	NOT DONE	N/A	30.00	NOT DONE	N/A	152.0
0		120.0		121.6	182.4	
(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
Master: Calibration not done						

Company: **CASCADE PETROLEUM, LLC**

Well: **GAEDE A9S-55W-05-43**

Field: **WILDCAT**

County: **LINCOLN**

State: **COLORADO**



ARRAY INDUCTION
DENSITY / NEUTRON
GAMMA RAY