Company	**K3 OIL & GAS OPERATING COMPANY**
Well	**EATON #3-18**
Field	**WILDCAT**
County	**LANE**
State	**KANSAS**

RECON

BHC SONIC
GAMMA RAY
X-Y CALIPER

SEC	TWP	RGE	
18	16S	28W	

Location 879' FNL & 1966' FWL — NE/SW/NE/NW
SURF. SAME — API#. 015-101-22560-00-00

Permanent Datum . Ground Level — Elev 2649
Log Measured From . Kelly Bushing
Drilling Measured From Kelly Bushing

OTHER SERVICES:
DILT
CNL

ELEVATIONS K.B. 2657
G.L. 2649
D.F. N/A

Date		07-AUG-2015						
Run No.		ONE						
TD Driller		4540	ft.				ft.	
TD RECON		4540	ft.				ft.	
Bot Logged Interval		4539	ft.		2100		ft.	
Top Logged Interval		3500	ft.		2000		ft.	
Casing Depth Driller		8 5/8	in.	@ 305			in.	@
Casing Depth RECON		8 5/8	in.	@ 304			in.	@
Bit Size		7 7/8	in.				in.	
Drilling Fluid Type		WBM						
Density	Viscosity	9.3		49				
Fluid Loss	PH	9.6		8.0				
Source Of Sample		Flowline						
RM @ Measured Temp		3.37	Ohmm	@ 75			Ohmm	@
RMF @ Measured Temp		2.53	Ohmm	@ 75			Ohmm	@
RMC @ Measured Temp		3.01	Ohmm	@ 75			Ohmm	@
RM @ MRT		1.91	Ohmm	@ 131			Ohmm	@
Max Recorded Temp		131	DegF				DegF	
Time Drilling Stopped		07-AUG-2015		02:00				
Time Circulation Stopped		07-AUG-2015		04:45				
Time Logger On Bottom		07-AUG-2015		17:17				
Unit Num	Location	S406		OKLAHOMA CITY, OK				
Recorded By		K.HELDERMON						
Witnessed By		T.WILLIAMS						

RIG INFORMATION

Drill Contr/Rig# DUKE DRILLING #4

GENERAL REMARKS SECTION

FIRST RUN IN THE HOLE
CNL AND LDT LOGGED IN A LIMESTONE MATRIX
TOP MARK - 283, BOTTOM MARK - 4387.5
CNL/LDT LOGGED MATRIX: 2.71 g/cc.

CHLORIDES: 3800
LCM: TRACE

AHV CALCULATED ON 5.5" PROD. CASING

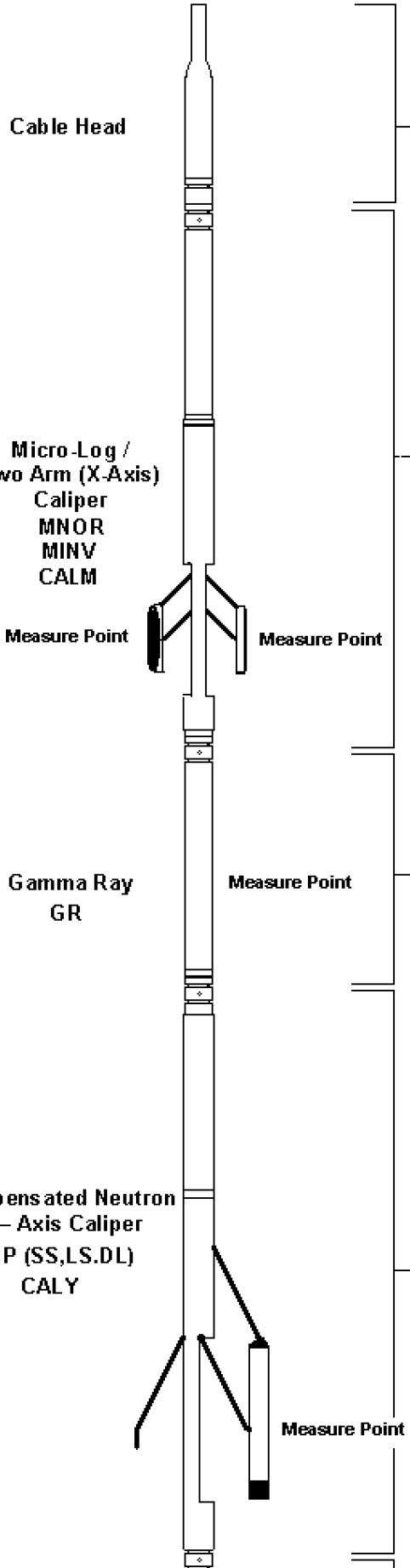
MICROLOG PAD APPEARS TO HAVE RIPPED AT ABOUT 4225' ON HDD REPEAT (FIRST PASS).

BRIEFLY LOST COMMS AT ABOUT 1630' (FLAT SPOTS)

CREW: M.CALLENTINE

THANK YOU FOR USING RECON PETROTECHNOLOGIES LTD.

DUAL INDUCTION – SP / BHC SONIC / GAMMA RAY / LITHO-DENSITY / X CALIPER COMPENSATED NEUTRON / Y-CALIPER MICRO - LOG / M-CALIPER



Cable Head

Cable head Dimensions
3.5" x 1.48'

Micro-Log /
Two Arm (X-Axis)
Caliper
MNOR
MINV
CALM

Measure Point

Measure Point

Micro-Log /
Two Arm (X-Axis) Caliper
Dimensions
3.86" x 8.66'

CALM – 65.09 ' From Tool Zero
MNOR – 65.09 ' From Tool Zero
MINV – 65.08 ' From Tool Zero

Gamma Ray
GR

Measure Point

Gamma Ray Tool
Dimensions
3.5" x 4'

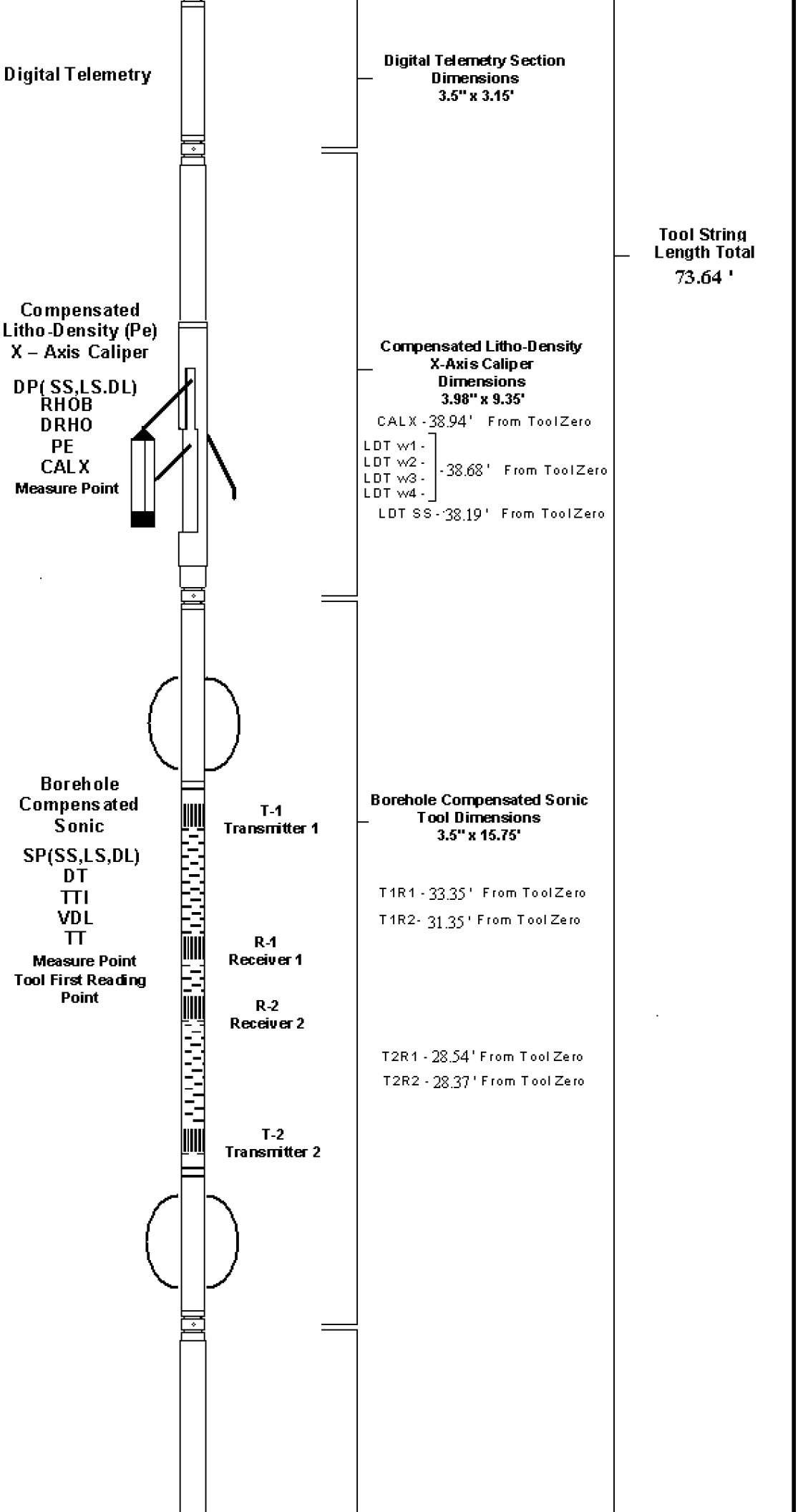
GR - 61.22 ' From Tool Zero

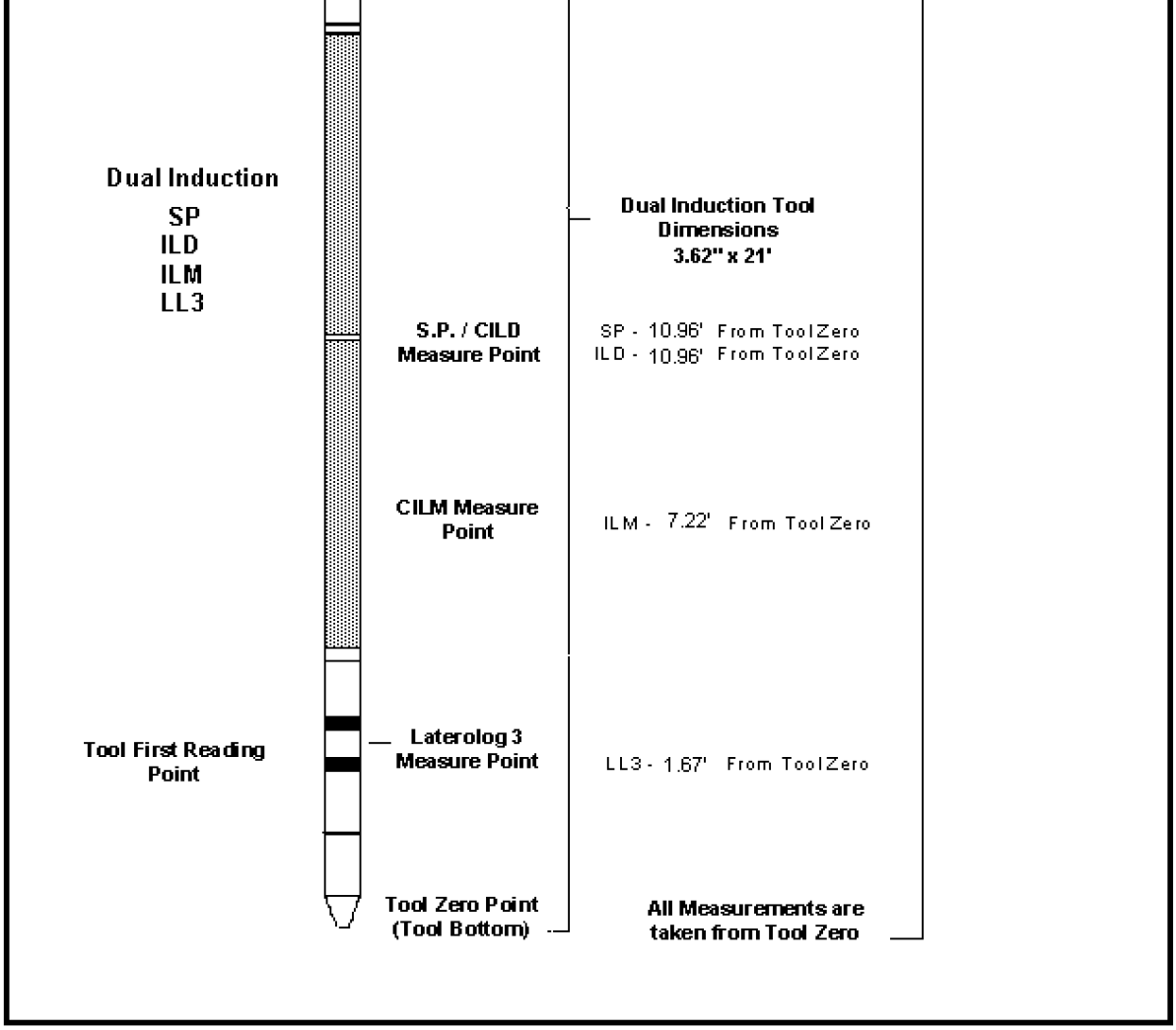
Compensated Neutron
Y – Axis Caliper
NP (SS,LS.DL)
CALY

Measure Point

Compensated Neutron
Y-Axis Caliper
Dimensions
3.98" x 10.25'

CALY - 52.89 ' From Tool Zero
CNL LS - 52.07 ' From Tool Zero
CNL SS - 51.48 ' From Tool Zero


Digital Telemetry
Digital Telemetry Section
Dimensions
3.5" x 3.15'
Tool String
Length Total
73.64 '
Compensated
Litho-Density (Pe)
X – Axis Caliper
DP(SS,LS.DL)
RHOB
DRHO
PE
CALX
Measure Point
Compensated Litho-Density
X-Axis Caliper
Dimensions
3.98" x 9.35'
CALX - 38.94 ' From ToolZero
LDT w1 -
LDT w2 -
LDT w3 -
LDT w4 -
- 38.68 ' From ToolZero
LDT SS - 38.19 ' From ToolZero
Borehole
Compensated
Sonic
SP(SS,LS,DL)
DT
TTI
VDL
TT
Measure Point
Tool First Reading
Point
T-1
Transmitter 1
R-1
Receiver 1
R-2
Receiver 2
T-2
Transmitter 2
Borehole Compensated Sonic
Tool Dimensions
3.5" x 15.75'
T1R1 - 33.35 ' From ToolZero
T1R2- 31.35 ' From ToolZero
T2R1 - 28.54 ' From ToolZero
T2R2 - 28.37 ' From ToolZero



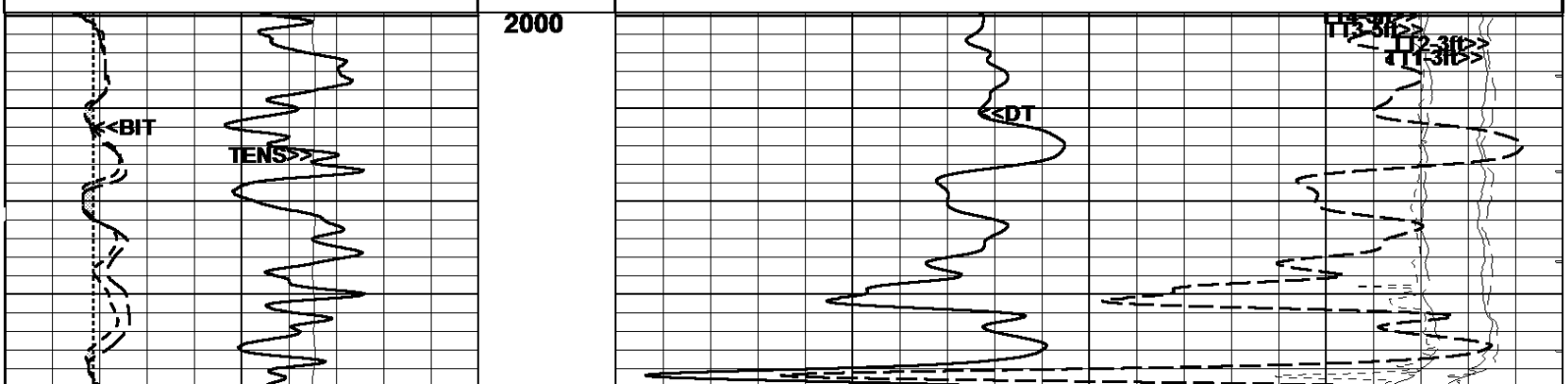
08/07/2015
20:05:19 => End Time

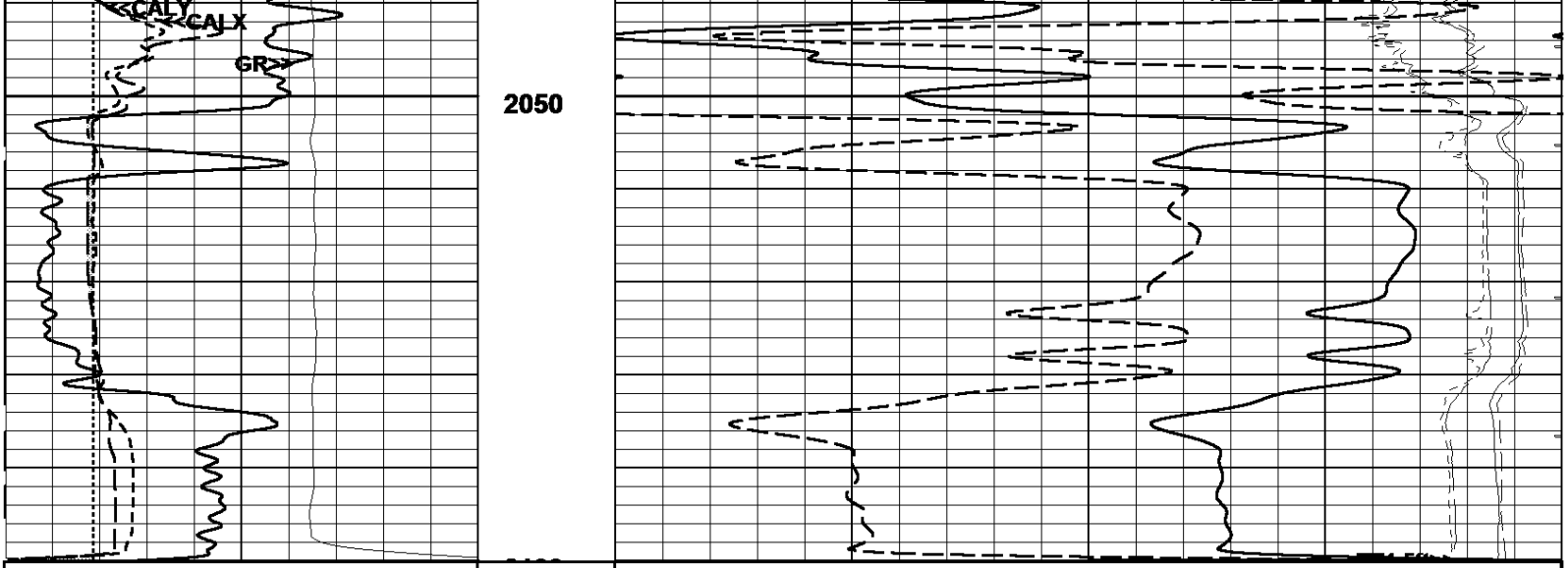
ANHYDRITE MARKER (5"/100Ft)

Log UP - (VER 11.19)
End Depth=> 1999.90 Feet

TT (TT4-5ft)	1500. usecs	0.
TT (TT3-5ft)	1500. usecs	0.
TT (TT2-3ft)	1500. usecs	0.
TT (TT1-3ft)	1500. usecs	0.
Bit Size (BIT)	6. Ref in	16.
Tension (TENS)	5000. Lbs	0.
Y-Caliper (CALY)	6. in	16.
X-Caliper (CALX)	6. in	16.
Sonic-Porosity (SPHI)	30. Percent	-10.
Gamma Ray (GR)	0. API	150.
Delta T (DT)	140. usecs/ft	40.

2000





Gamma Ray (GR)		
0.	API	150.
X-Caliper (CALX)		
6.	in	16.
Y-Caliper (CALY)		
6.	in	16.
Tension (TENS)		
5000.	Lbs	0.
Bit Size (BIT)		
6.	Ref in	16.

Delta T (DT)		
140.	usecs/ft	40.
Sonic-Porosity (SPHI)		
30.	Percent	-10.

TT (TT1-3ft)		
1500.	usecs	0.
TT (TT2-3ft)		
1500.	usecs	0.
TT (TT3-5ft)		
1500.	usecs	0.
TT (TT4-5ft)		
1500.	usecs	0.

08/07/2015
18:28:37 => Start Time

ANHYDRITE MARKER (5"/100Ft)

Log UP - (VER 11.19)
Start Depth=> 2099.90 Feet

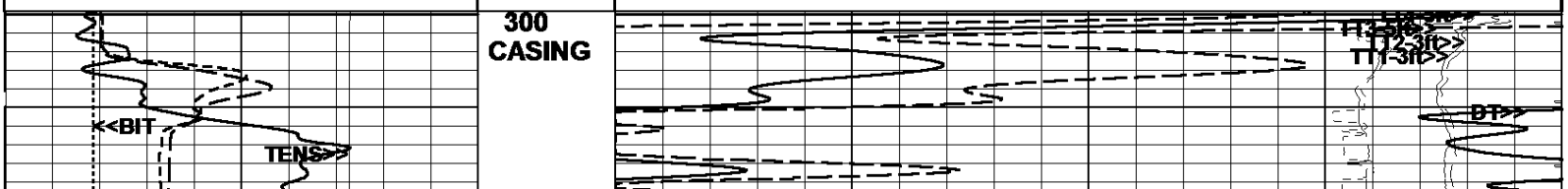
08/07/2015
20:05:19 => End Time

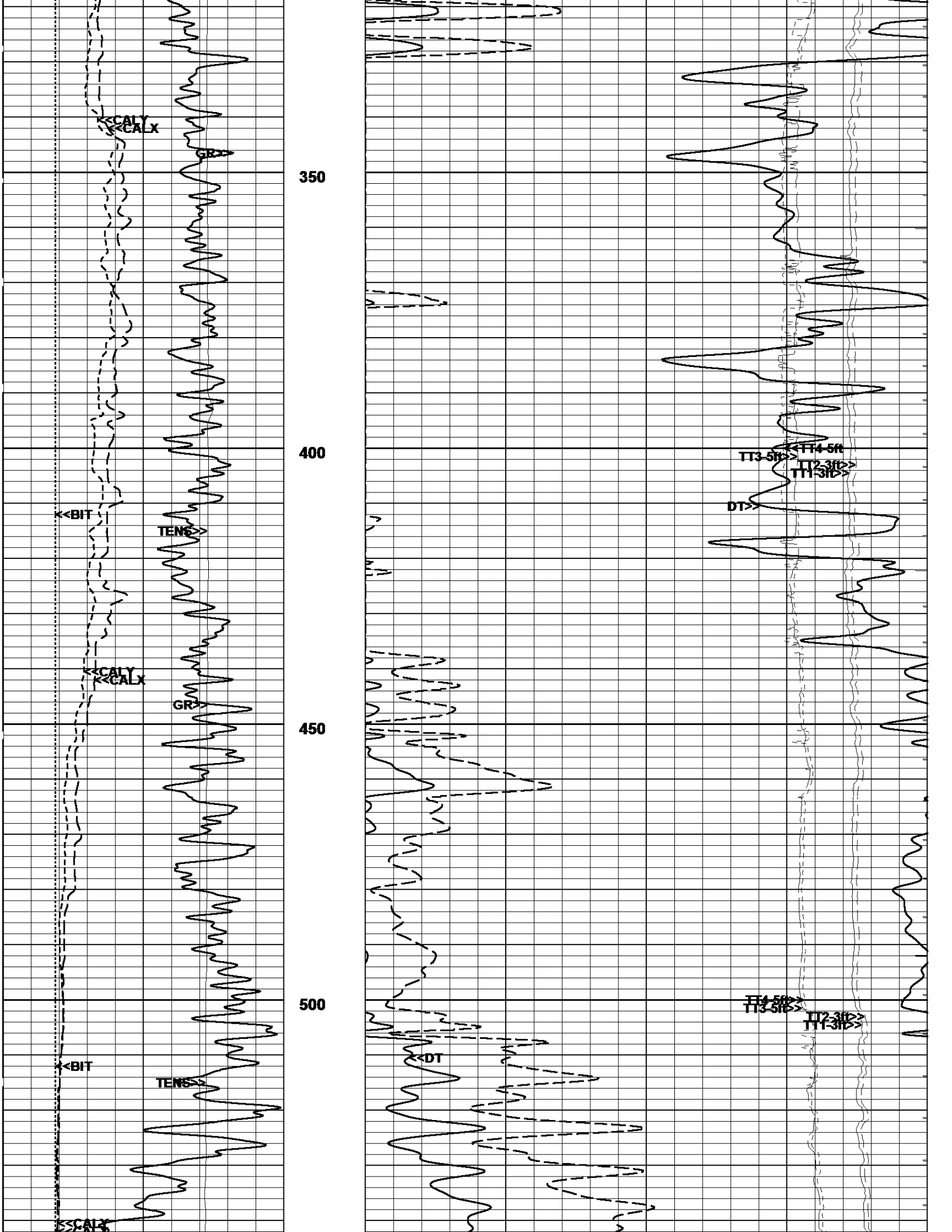
MAIN PASS - LIMESTONE (5"/100Ft)

Log UP - (VER 11.19)
End Depth=> 299.90 Feet

TT (TT4-5ft)		
1500.	usecs	0.
TT (TT3-5ft)		
1500.	usecs	0.
TT (TT2-3ft)		
1500.	usecs	0.
TT (TT1-3ft)		
1500.	usecs	0.
Bit Size (BIT)		
6.	Ref in	16.
Tension (TENS)		
5000.	Lbs	0.
Y-Caliper (CALY)		
6.	in	16.
X-Caliper (CALX)		
6.	in	16.
Gamma Ray (GR)		
0.	API	150.

Sonic-Porosity (SPHI)		
30.	Percent	-10.
Delta T (DT)		
140.	usecs/ft	40.

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<<CALX
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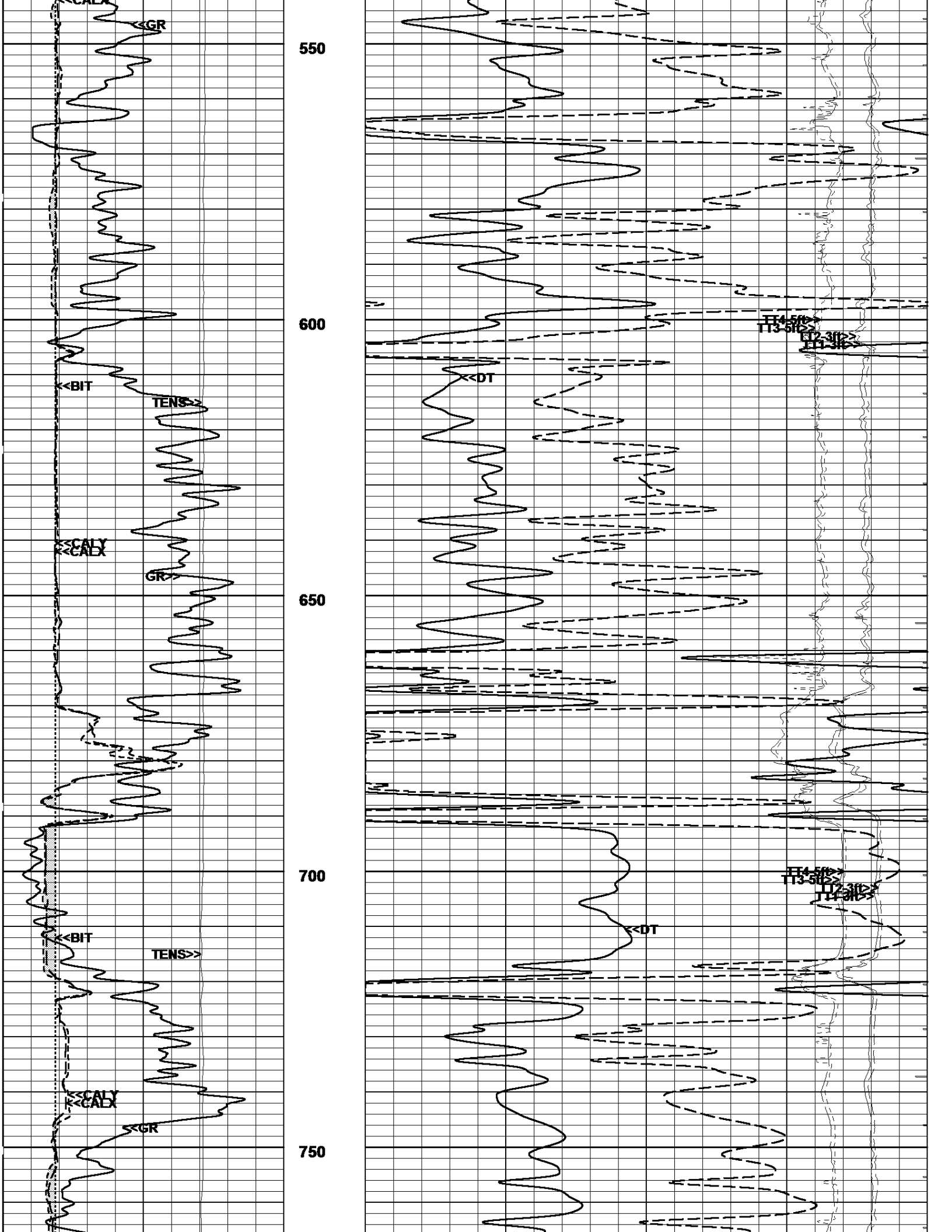
TT4-5ft>>
TT3-5ft>>
TT2-3ft>>
TT1-3ft>>
DT>>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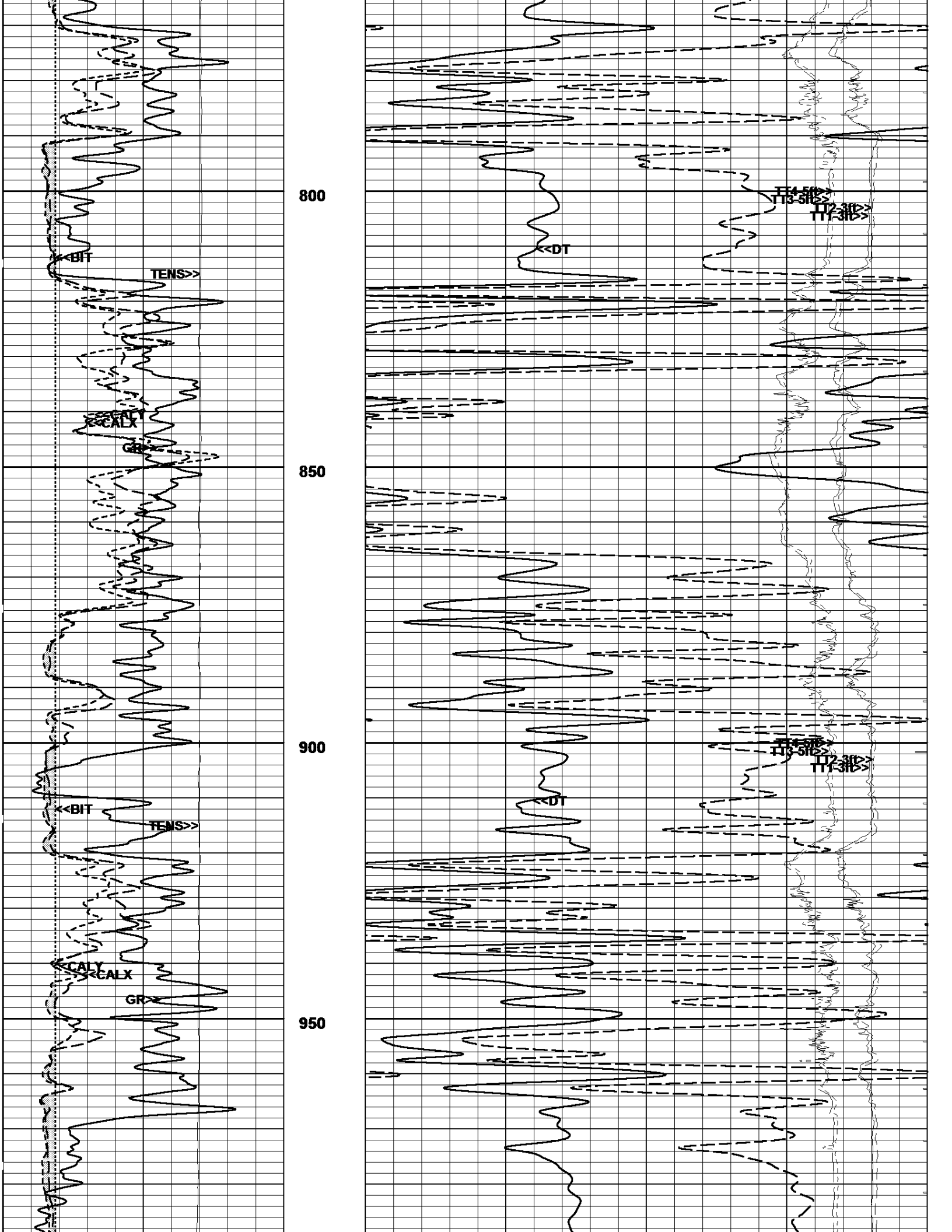
TT3-5(f>>
TT2-3(f>>
TT1-3(f>>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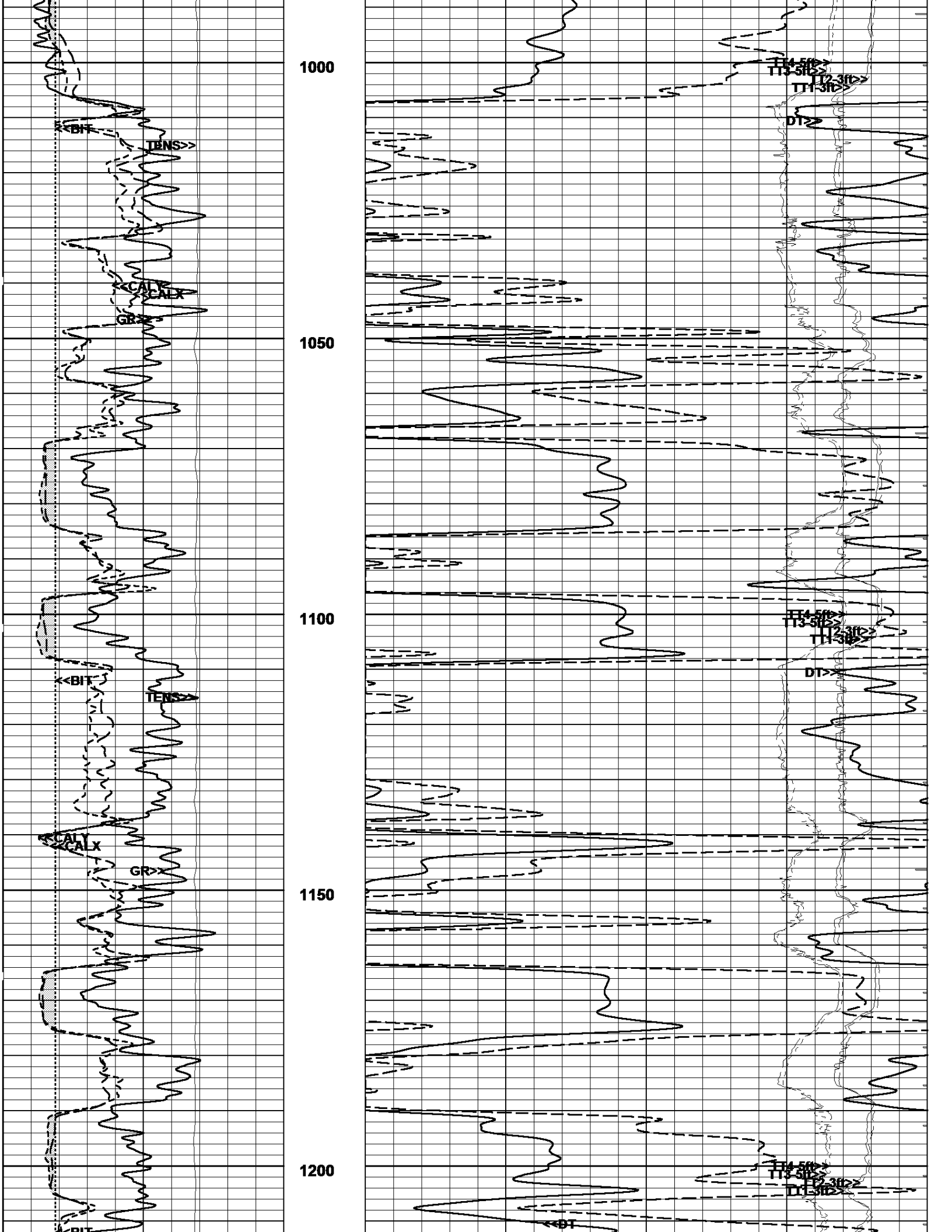
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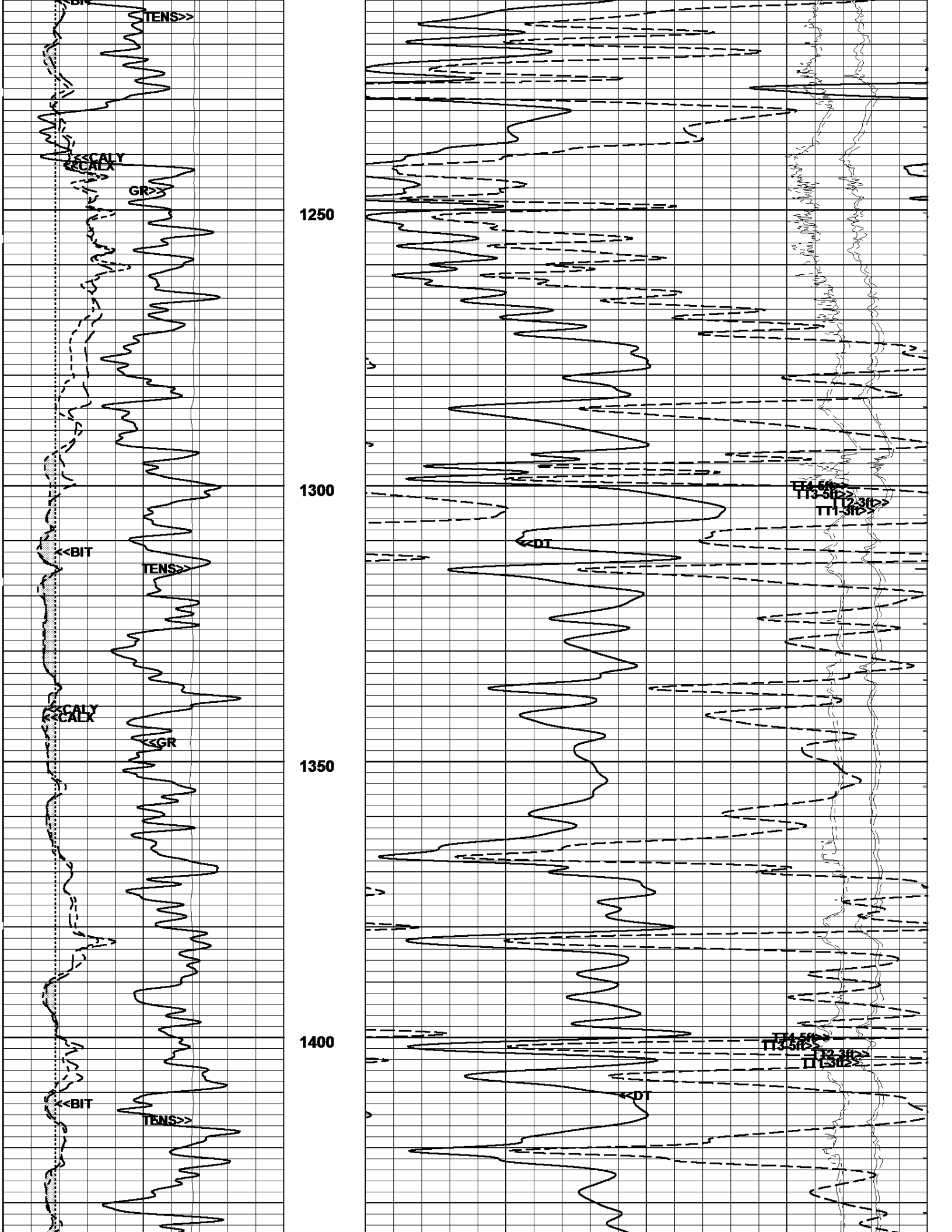
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TT3-5ft>
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TT1-3ft>
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TT1-3ft>
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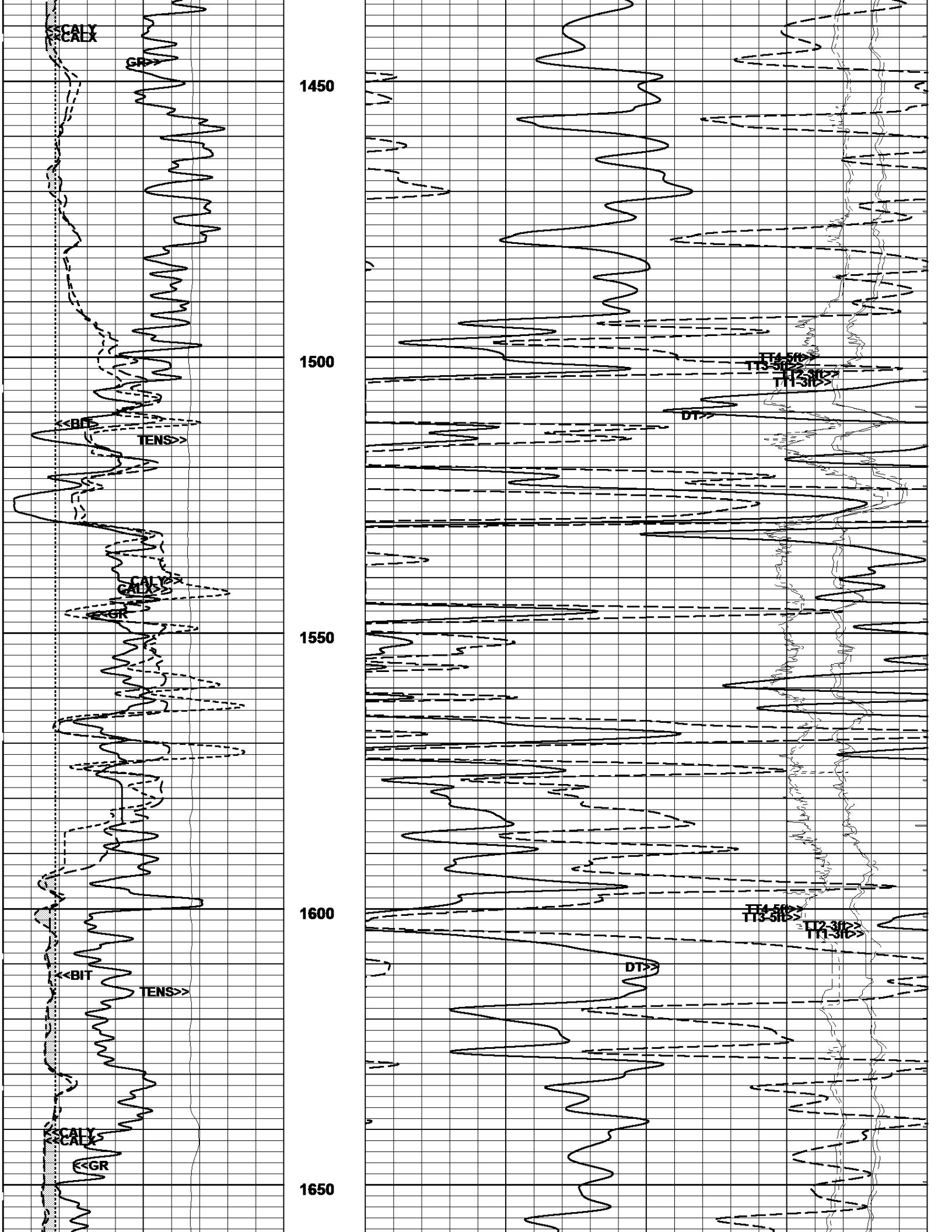
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TT1-3f(>>
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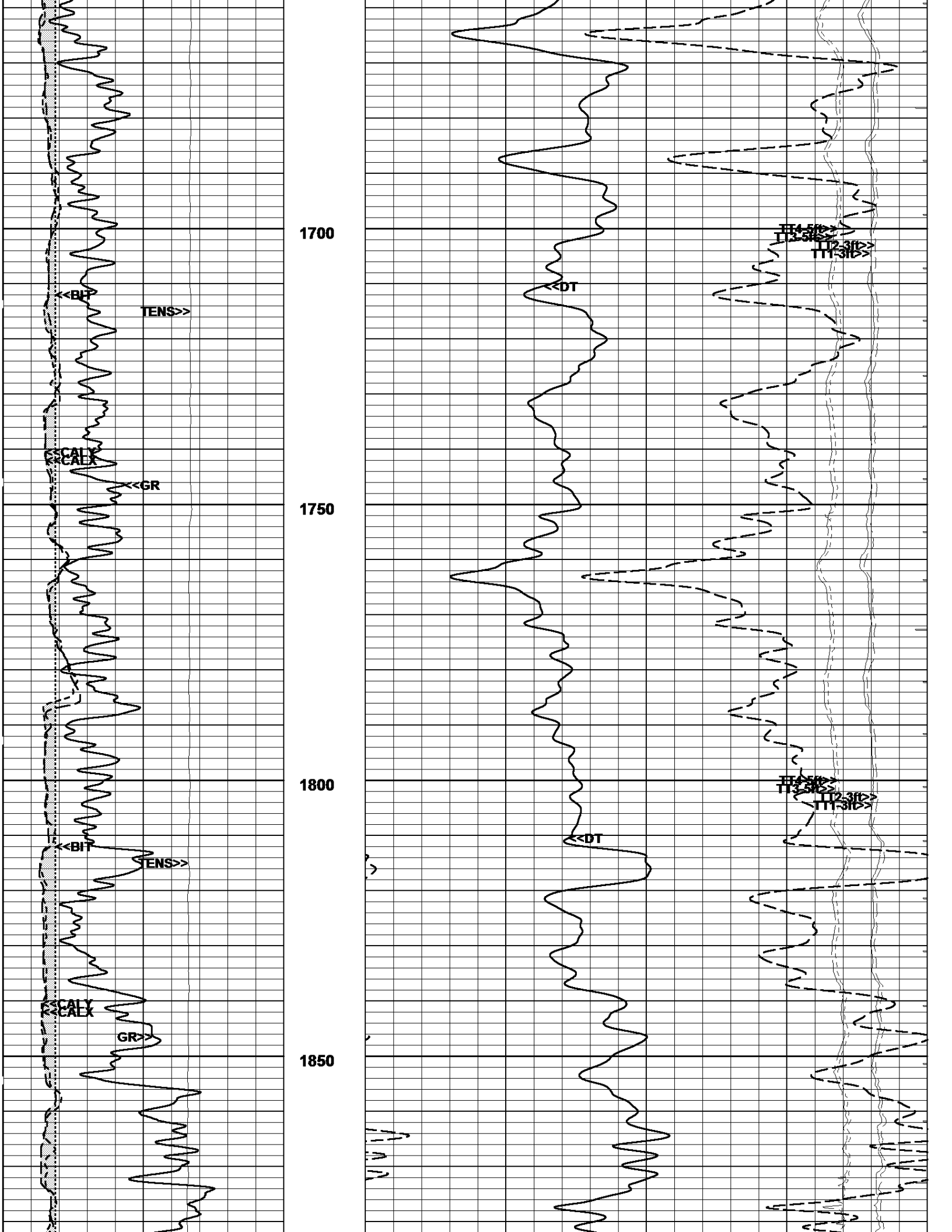
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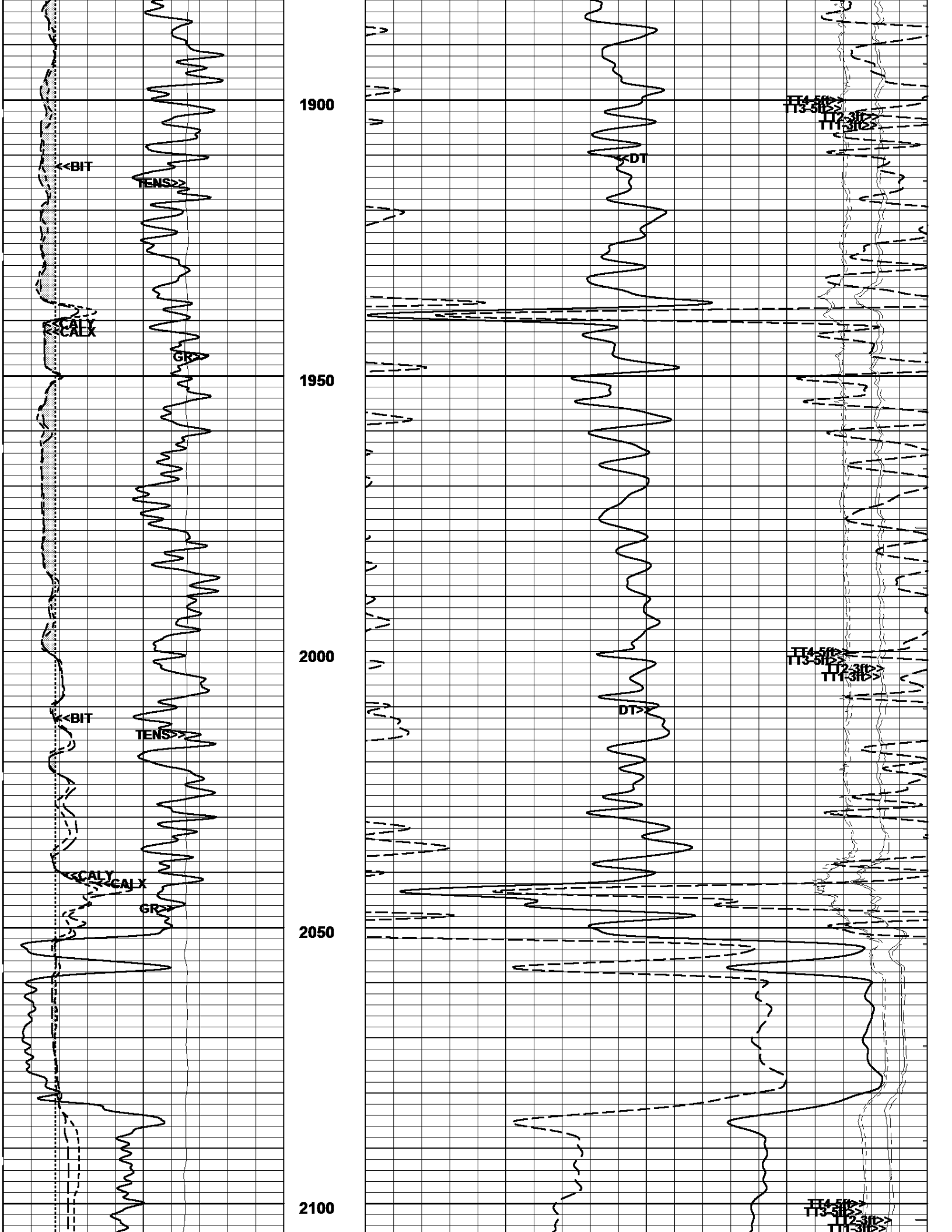
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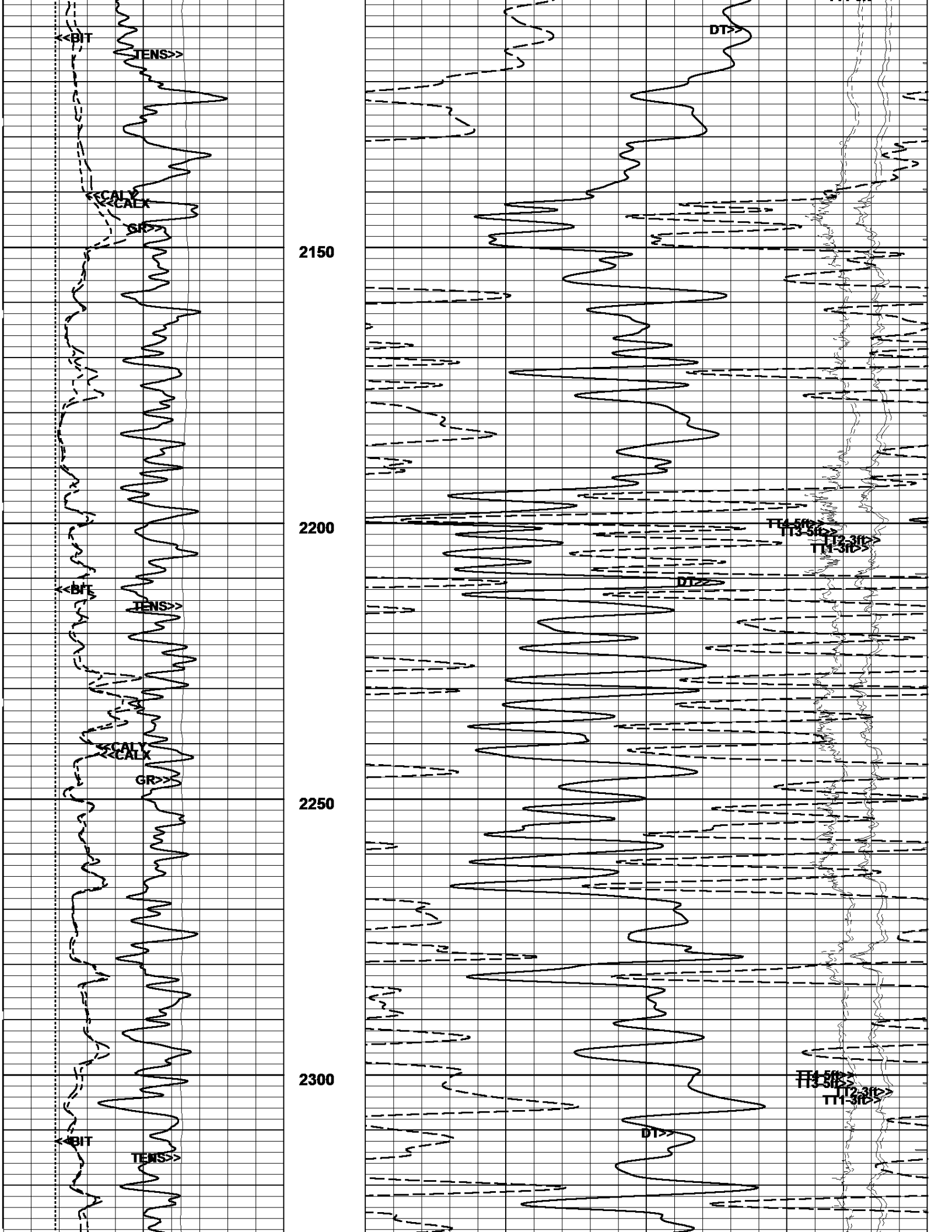
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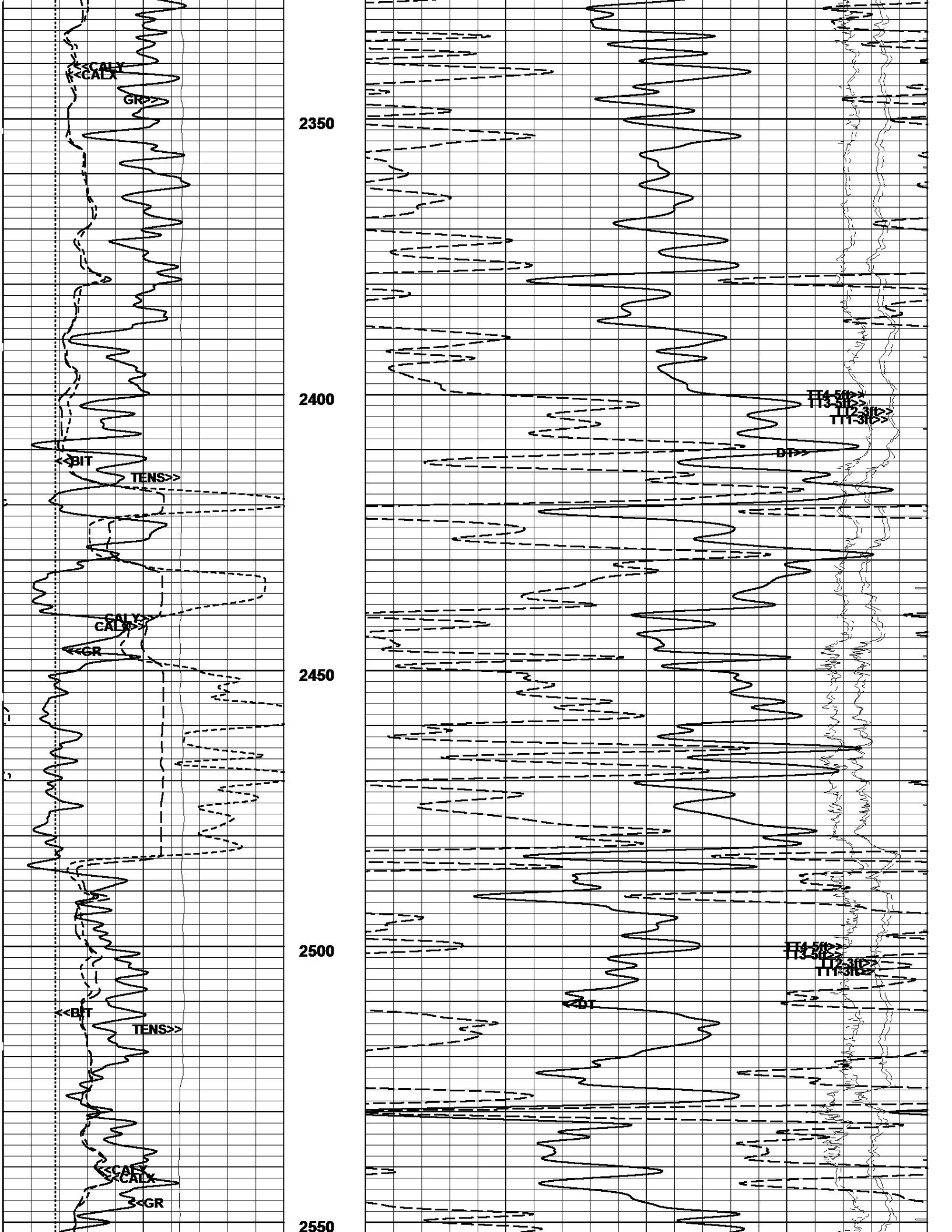
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TT1-3ft>>
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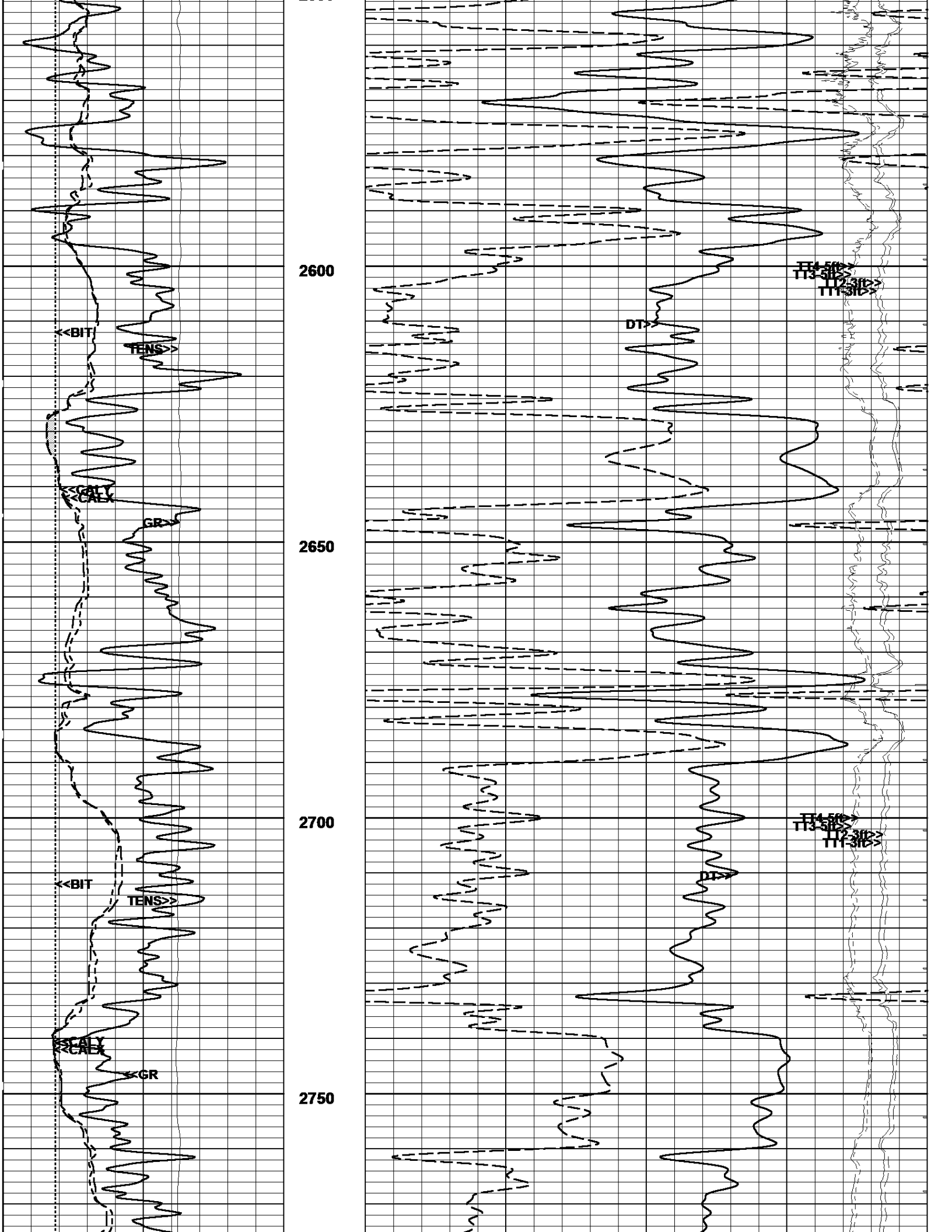
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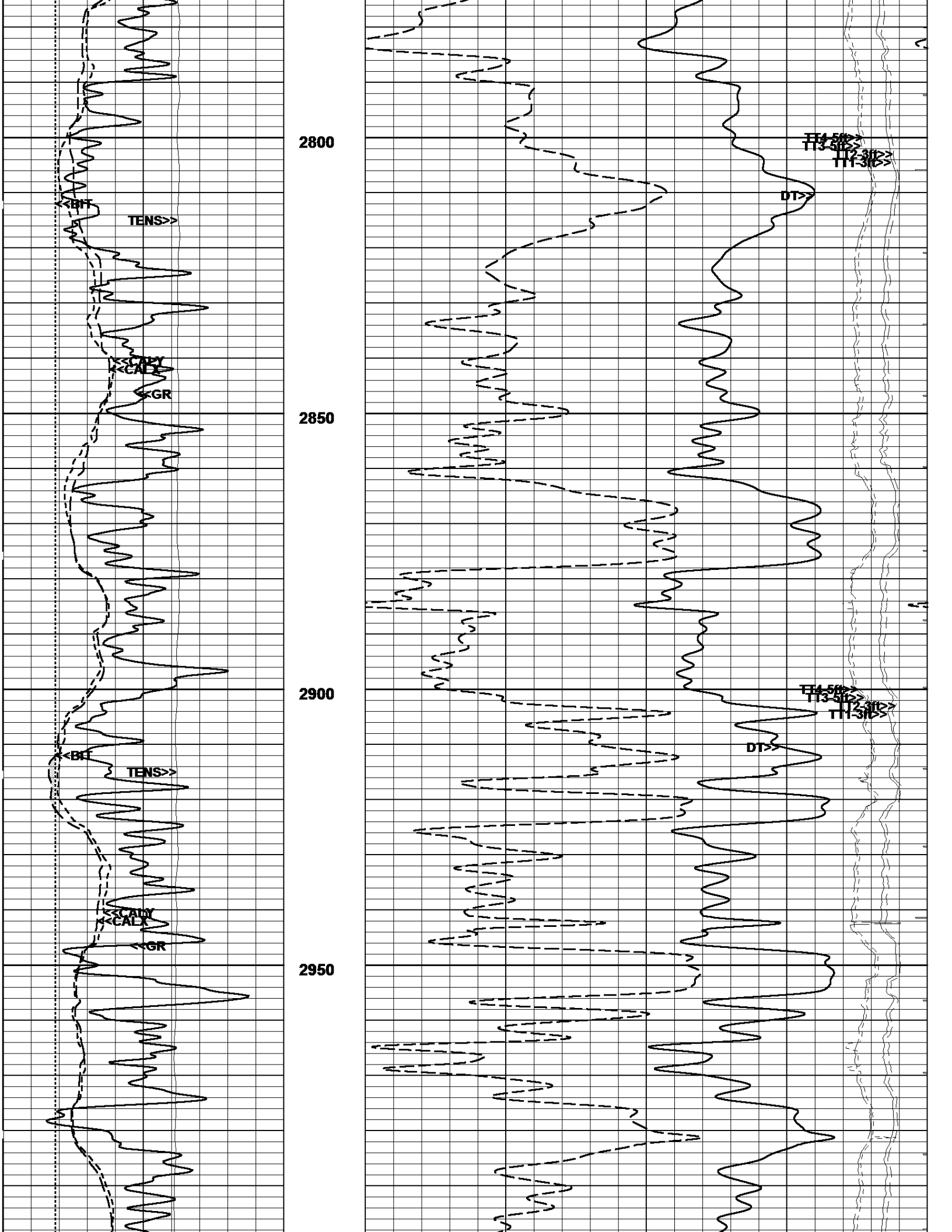
TT1-3ft>>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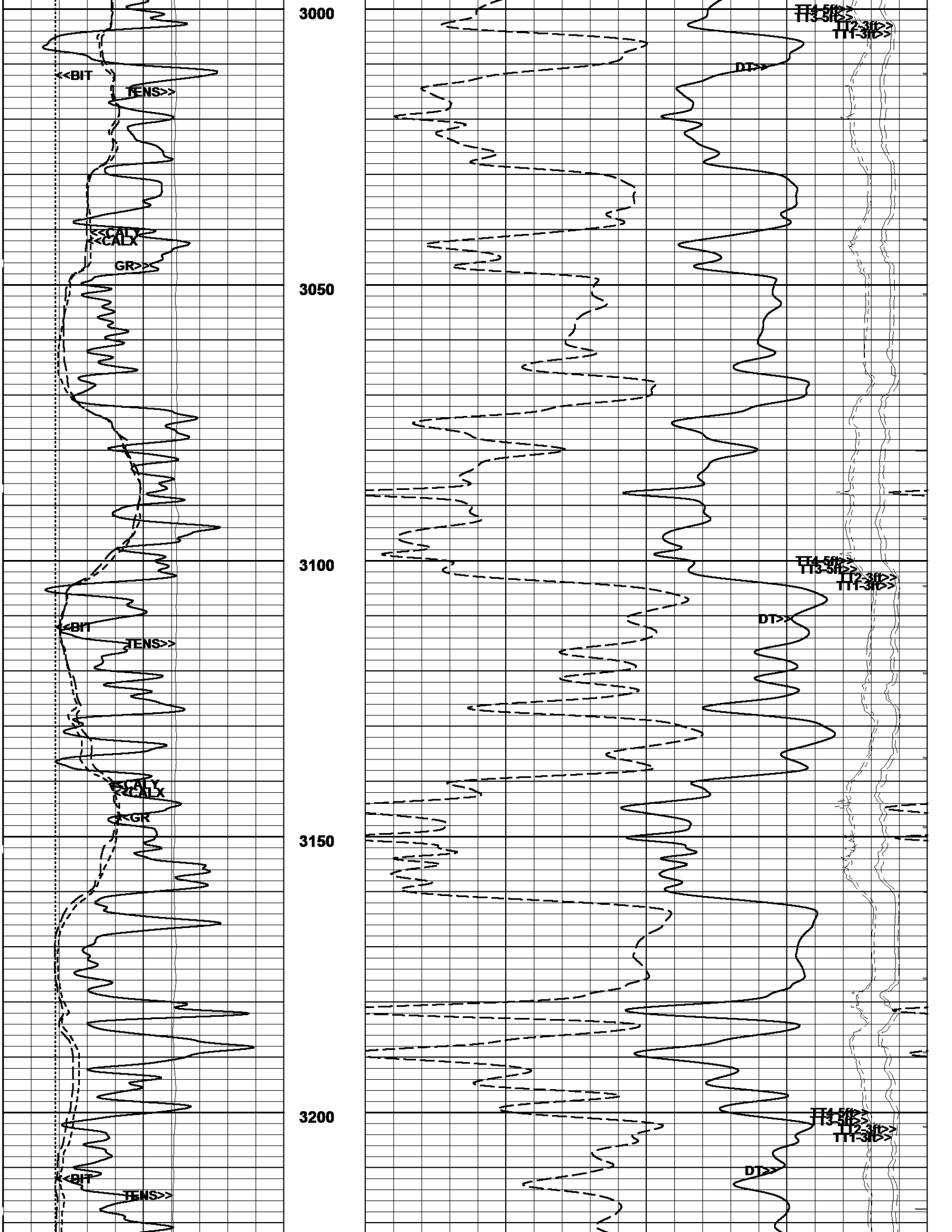
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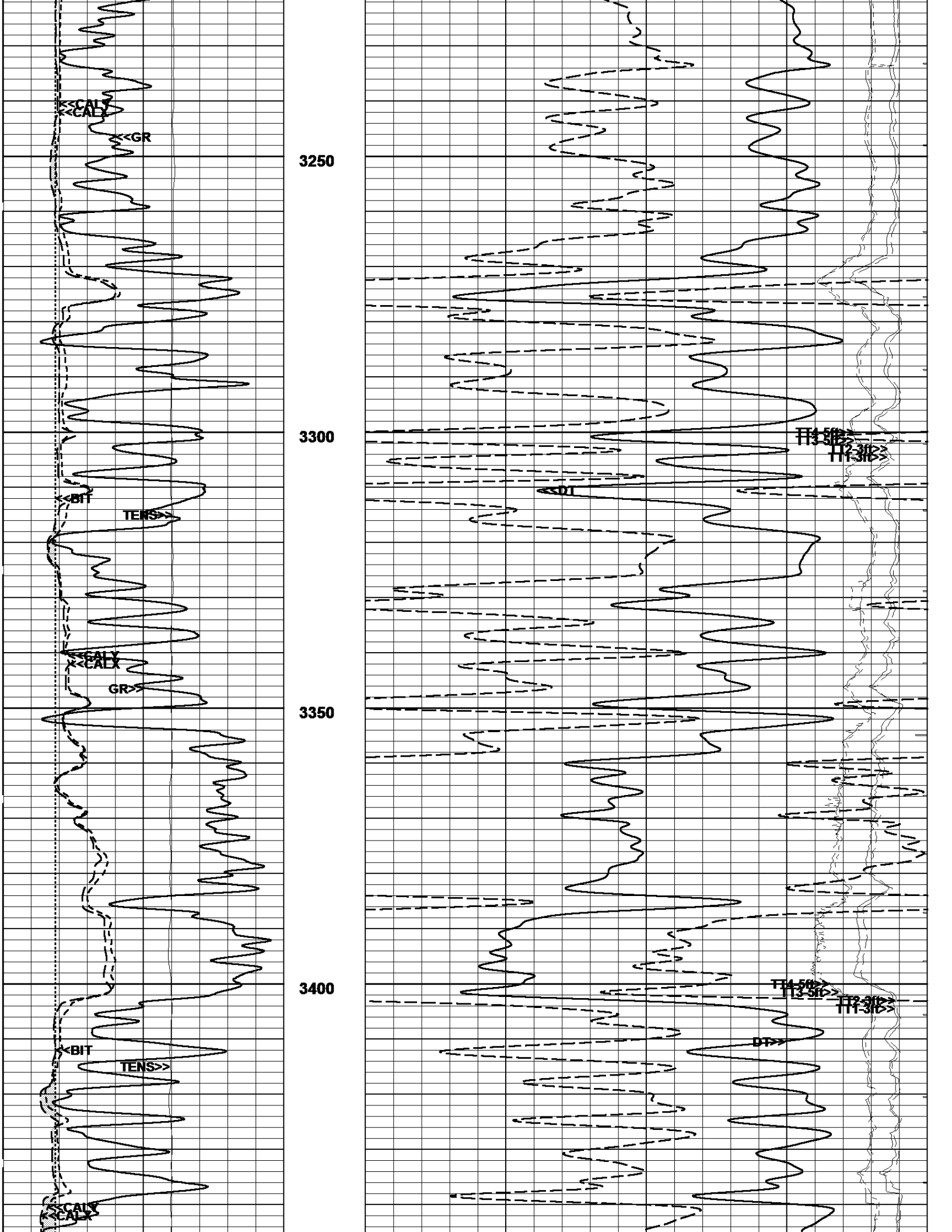
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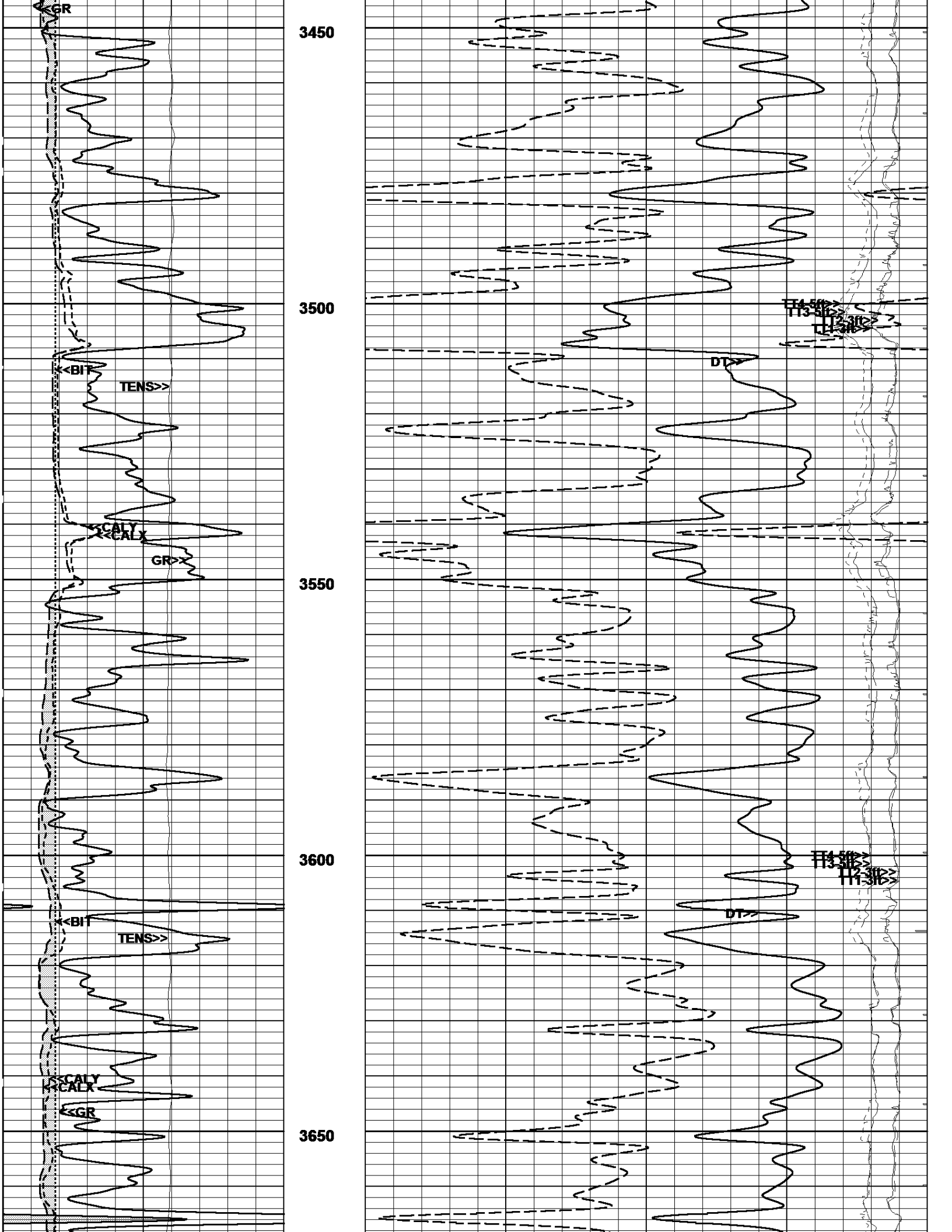
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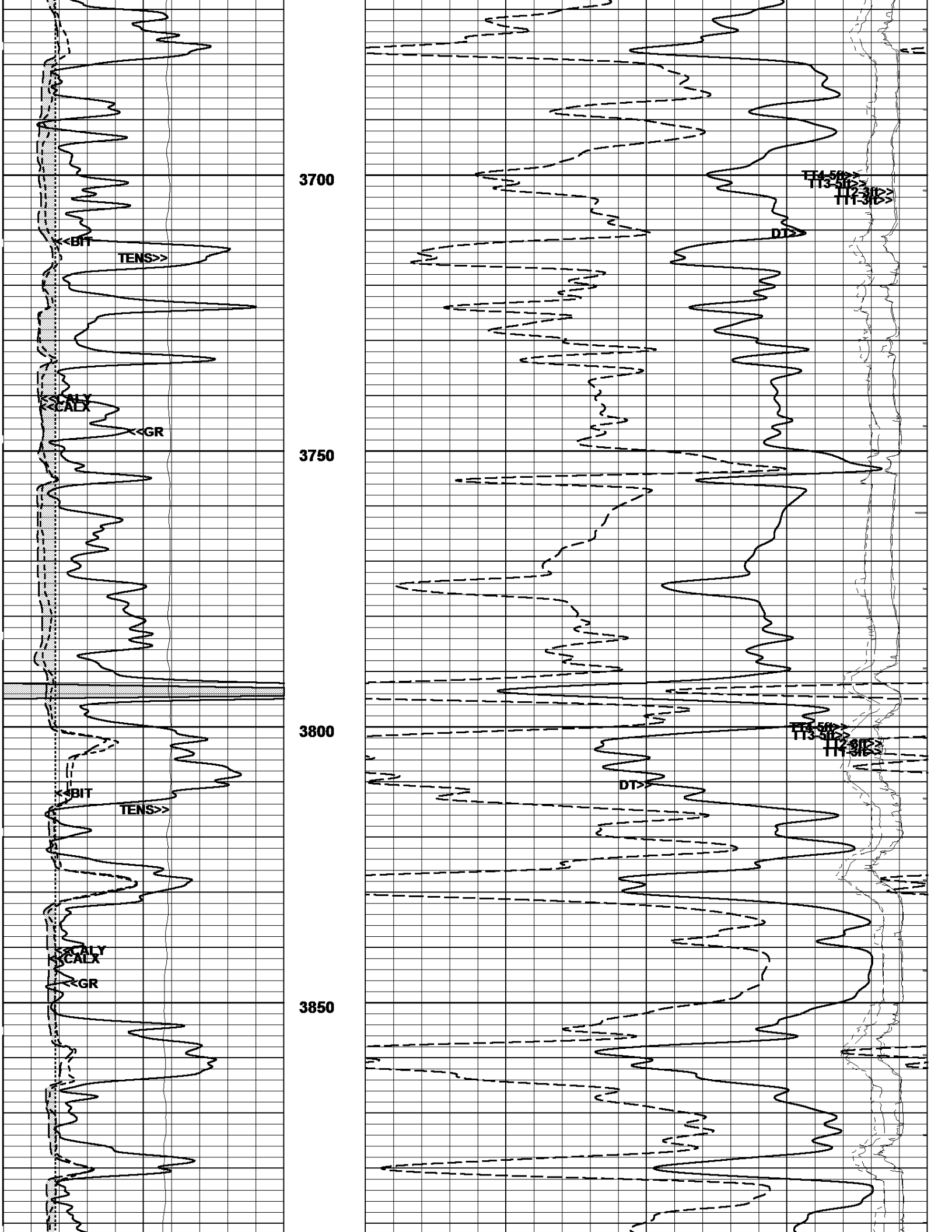
TT3-3ft>>
TT2-3ft>>
TT1-3ft>>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TT3-5(b>>
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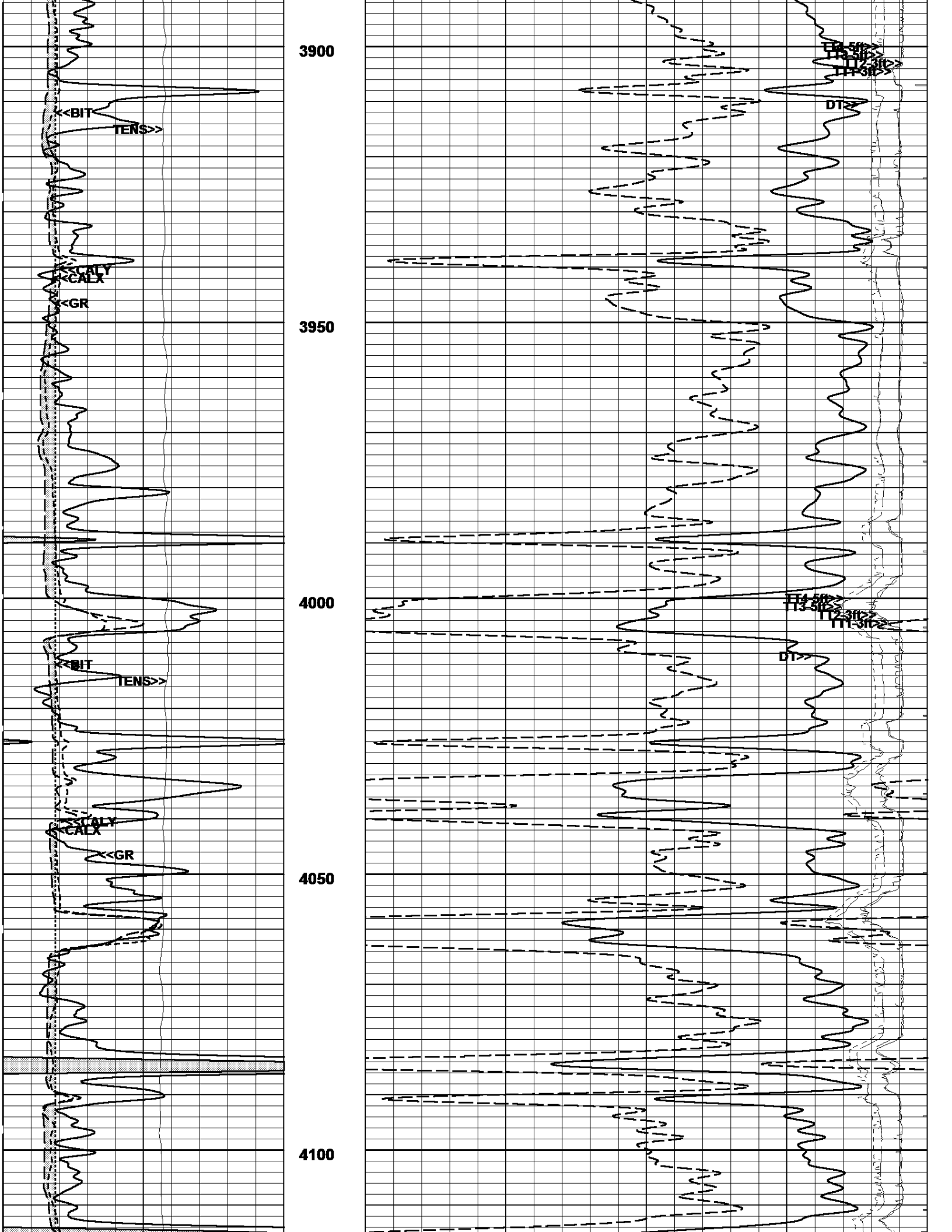
DT>>
TT4-5(b>>
TT3-5(b>>
TT2-3(b>>
TT1-3(b>>
DT>>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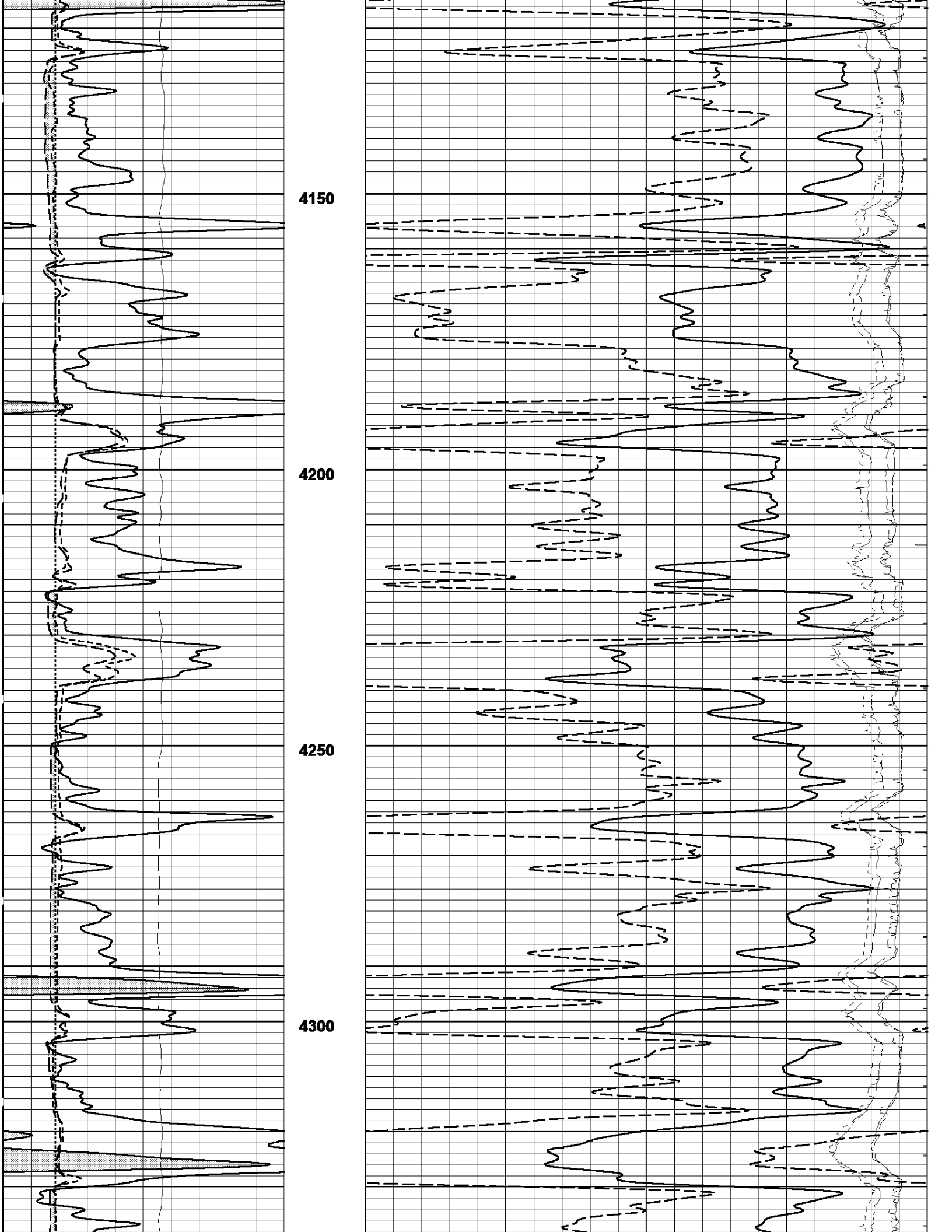
TT1-3ft>>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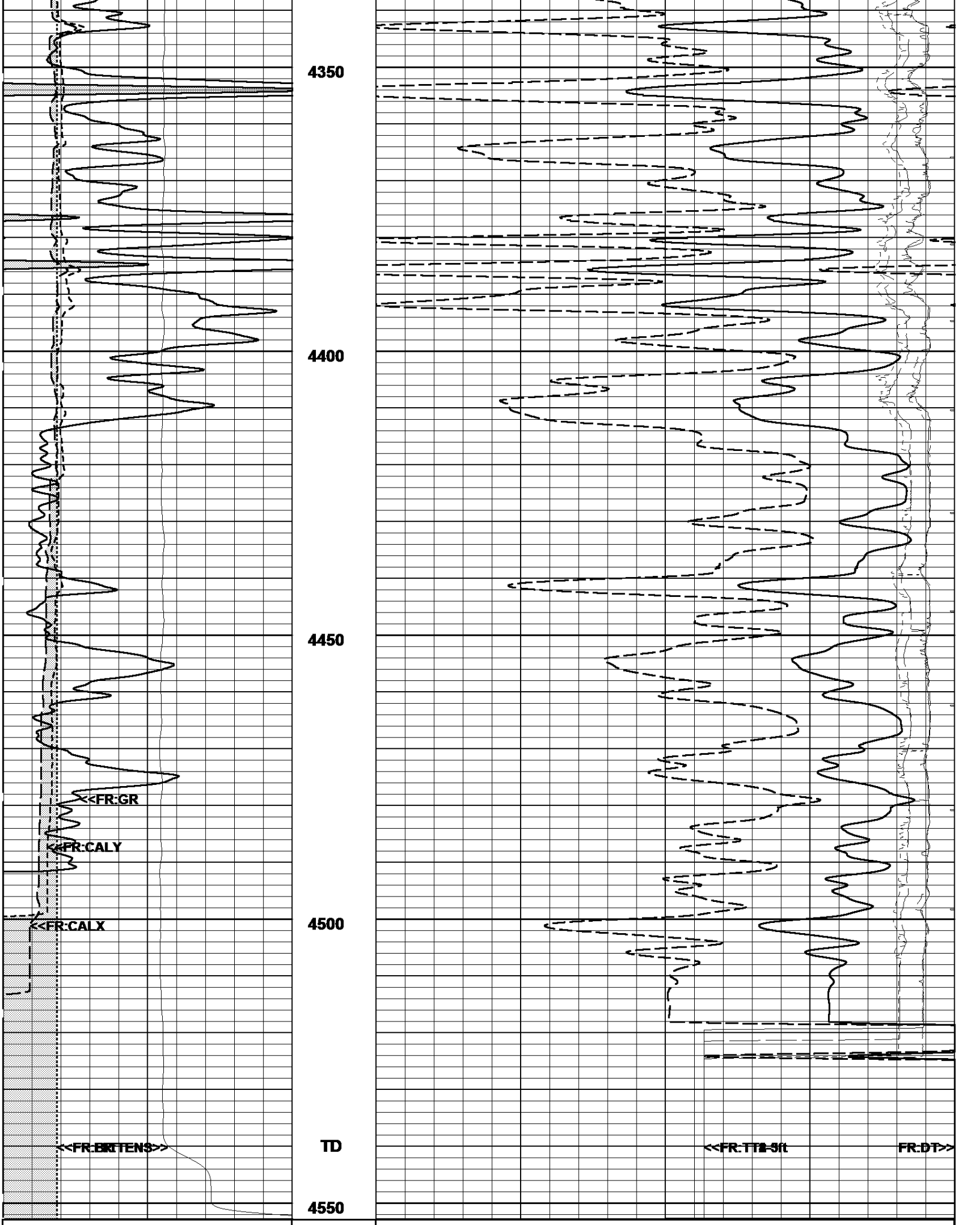

4350
4400
4450
4500
TD
4550
<<FR:GR
<<FR:CALY
<<FR:CALX
<<FR:BRITENS>>
<<FR:TT3-3ft
FR:DT>>
Gamma Ray (GR)
0.
API
150.
Delta T (DT)
140.
usecs/ft
40.

X-Caliper (CALX)
6. in 16.

Y-Caliper (CALY)
6. in 16.

Tension (TENS)
5000. Lbs 0.

Bit Size (BIT)
6. Ref in 16.

Sonic-Porosity (SPHI)
30. Percent -10.

TT (TT1-3ft)
1500. usecs 0.

TT (TT2-3ft)
1500. usecs 0.

TT (TT3-5ft)
1500. usecs 0.

TT (TT4-5ft)
1500. usecs 0.

08/07/2015
18:28:37 => Start Time

MAIN PASS - LIMESTONE (5"/100Ft)

Log UP - (VER 11.19)
Start Depth=> 4552.70 Feet

08/07/2015
18:21:25 => End Time

REPEAT PASS - LIMESTONE (5"/100Ft)

Log UP - (VER 11.19)
End Depth=> 3489.90 Feet

TT (TT4-5ft)
1500. usecs 0.

TT (TT3-5ft)
1500. usecs 0.

TT (TT2-3ft)
1500. usecs 0.

TT (TT1-3ft)
1500. usecs 0.

Bit Size (BIT)
6. Ref in 16.

Tension (TENS)
5000. Lbs 0.

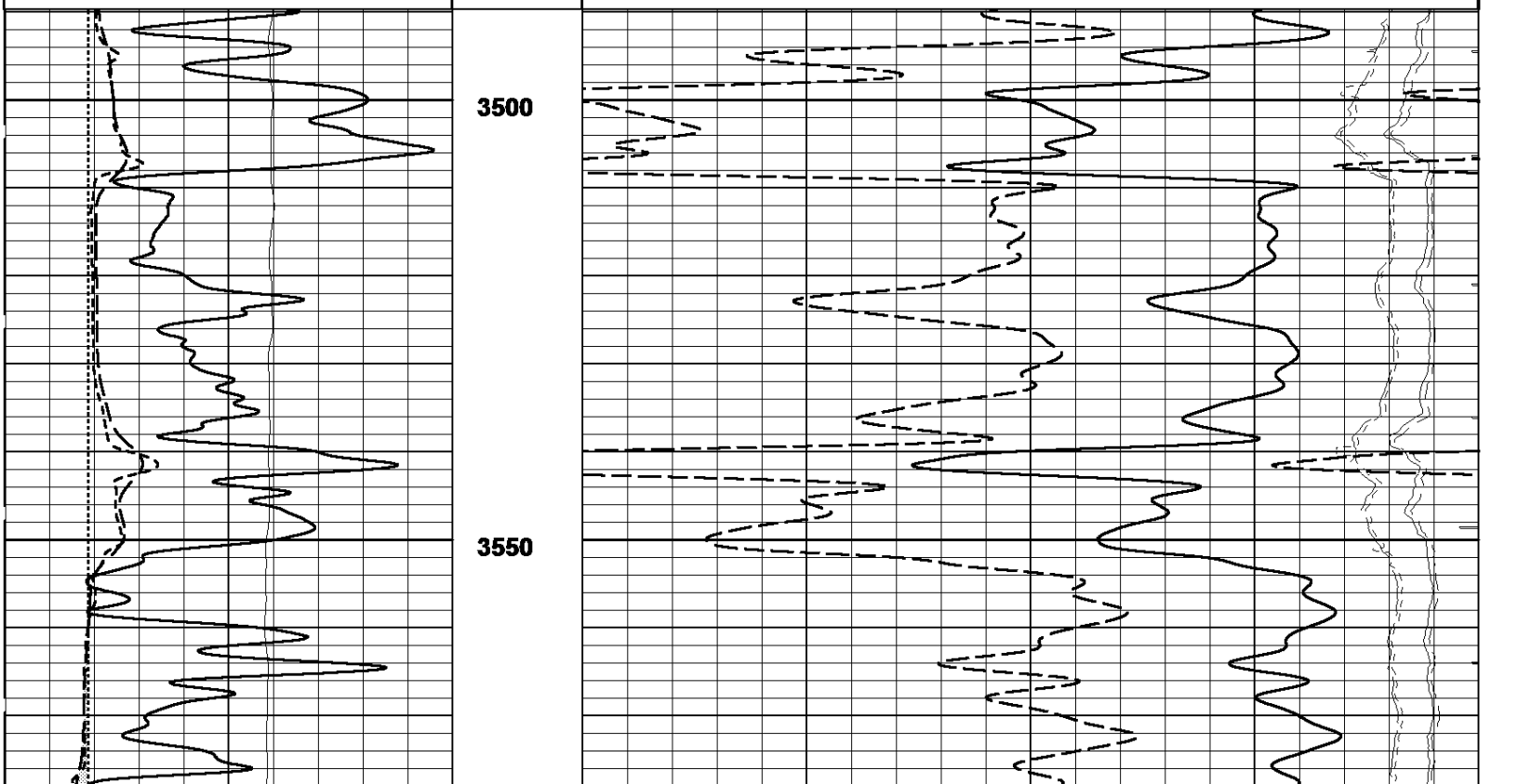
Y-Caliper (CALY)
6. in 16.

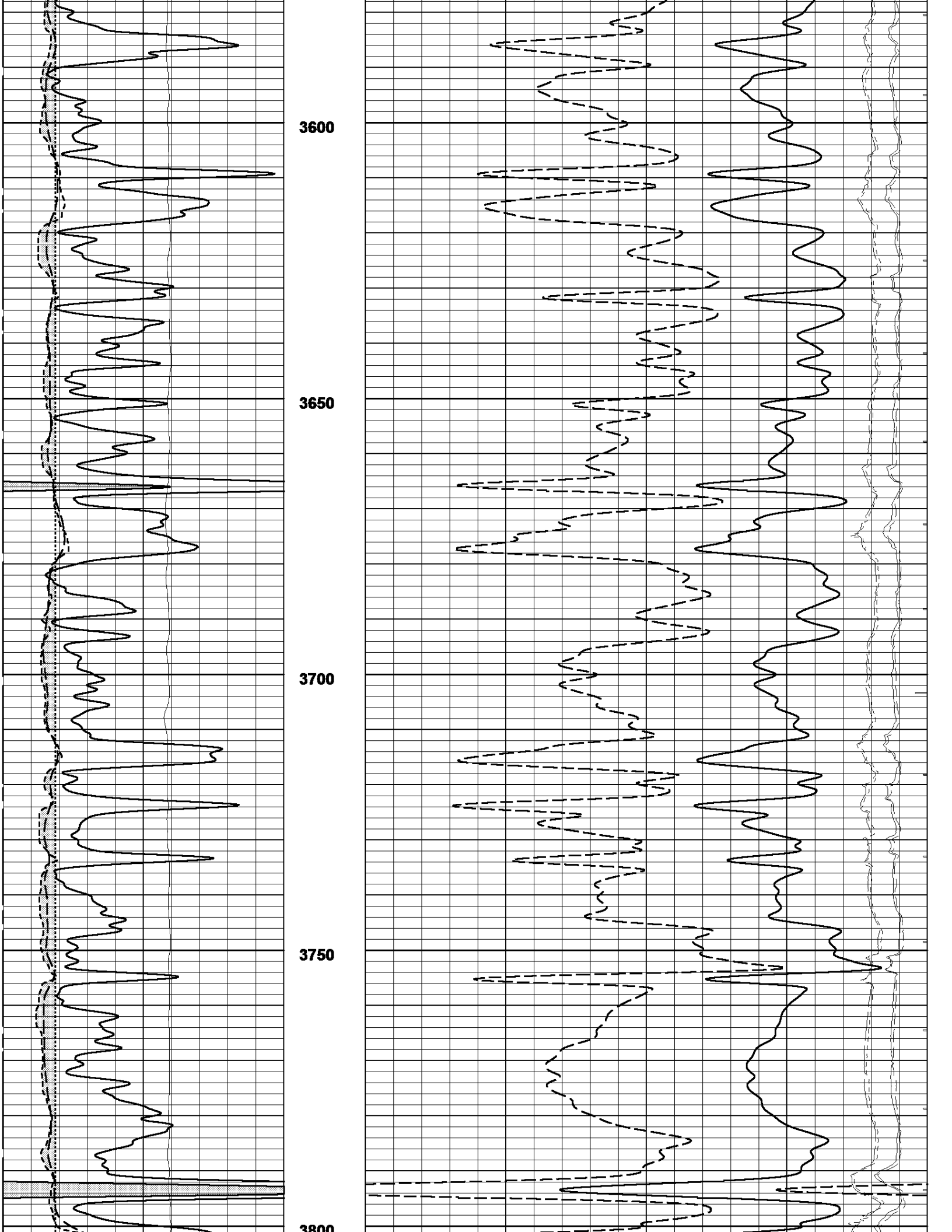
X-Caliper (CALX)
6. in 16.

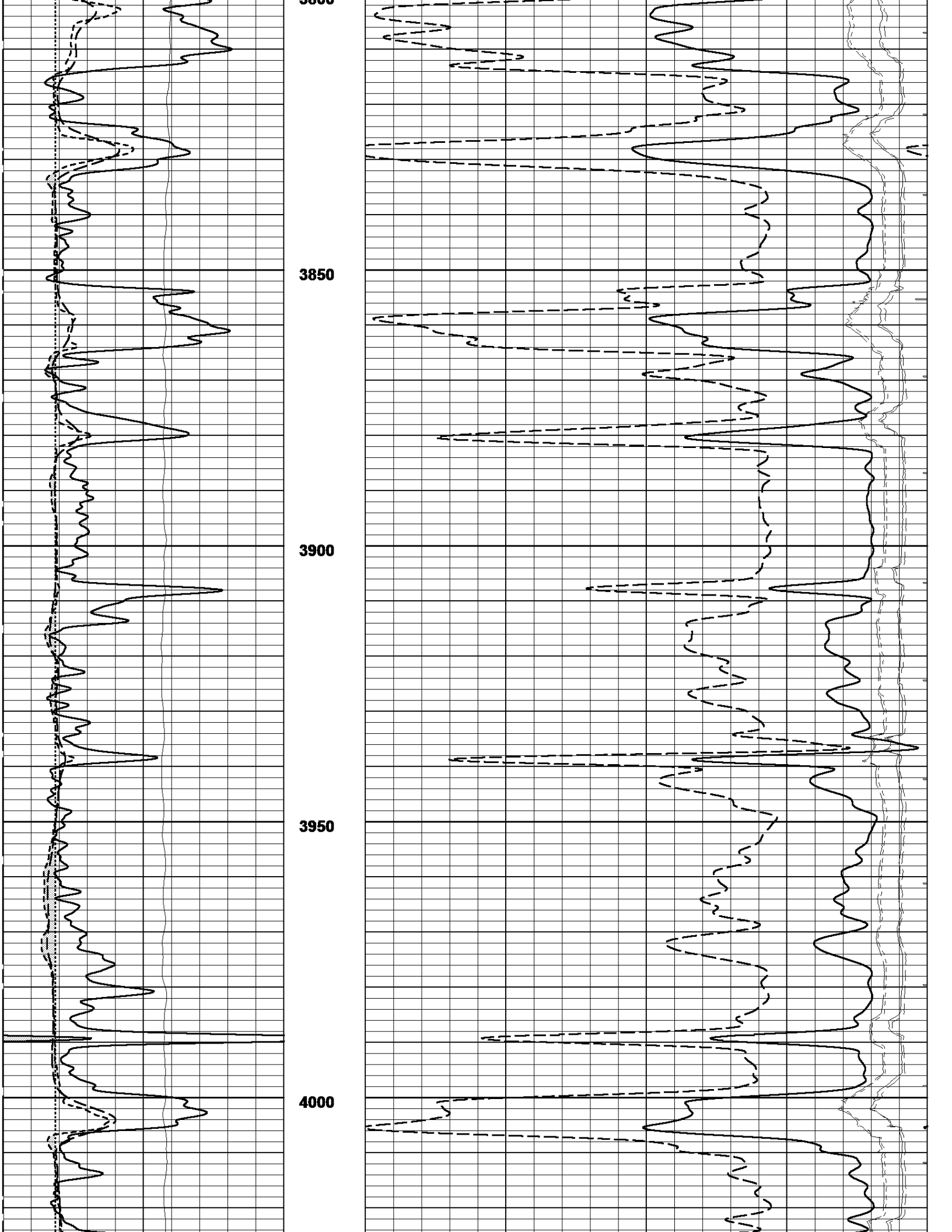
Sonic-Porosity (SPHI)
30. Percent -10.

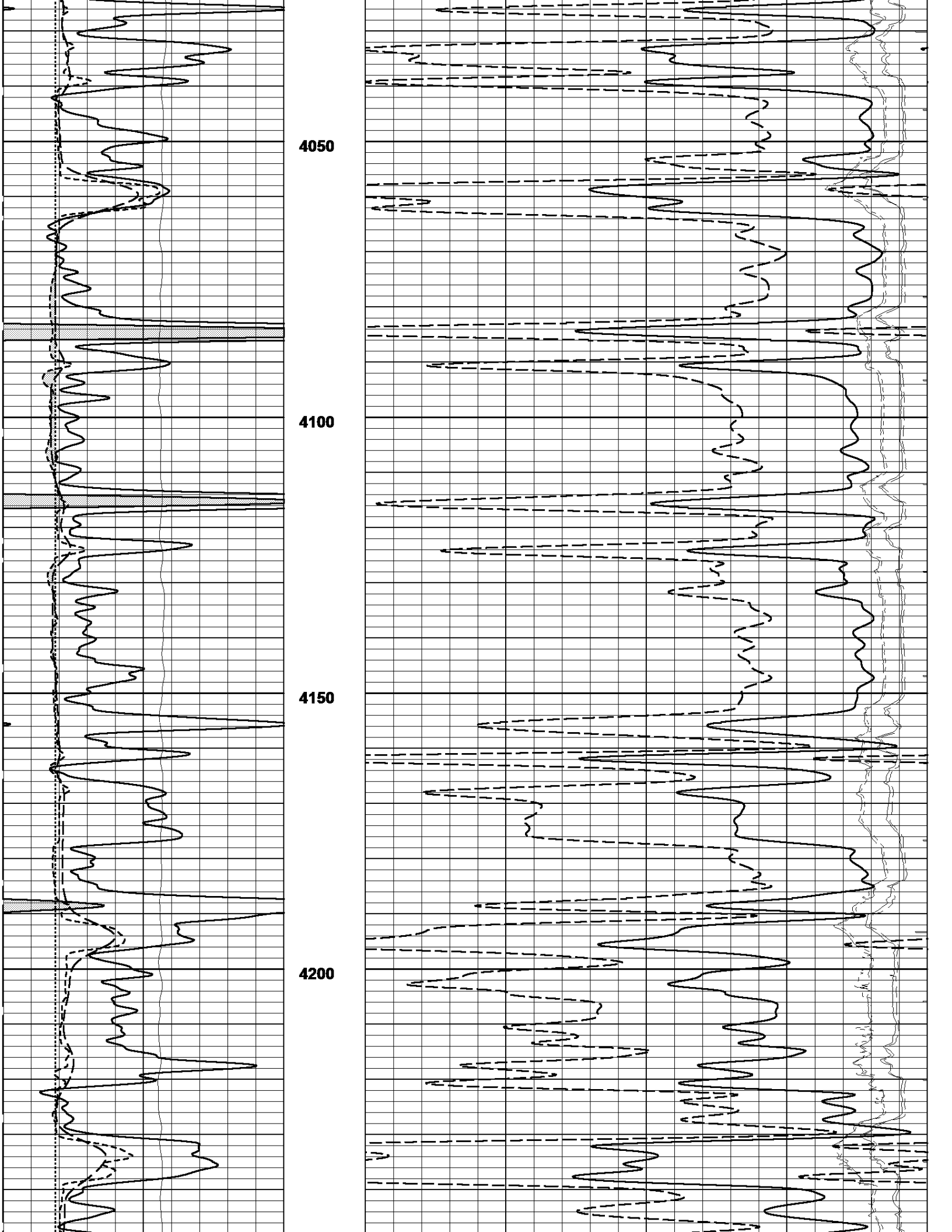
Gamma Ray (GR)
0. API 150.

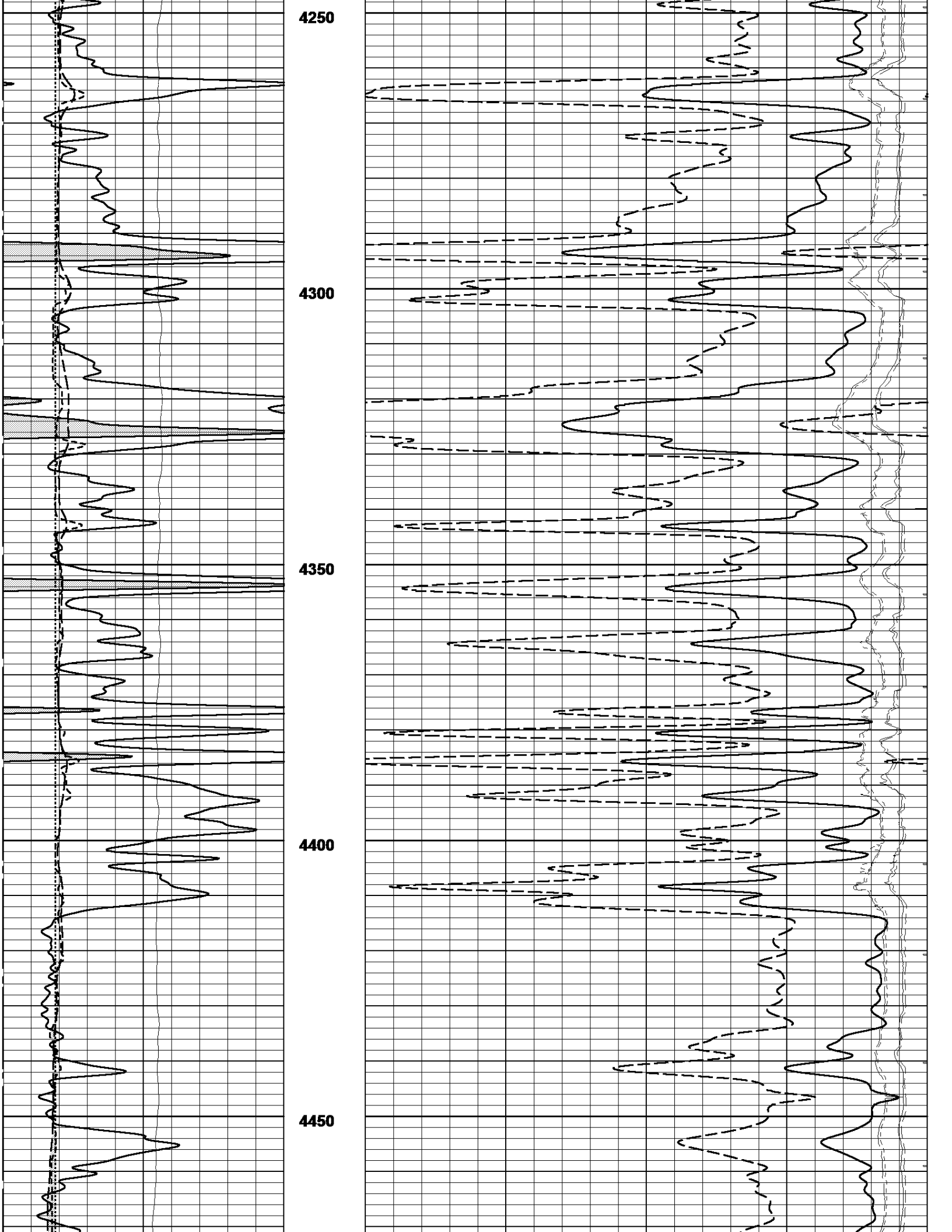
Delta T (DT)
140. usecs/ft 40.

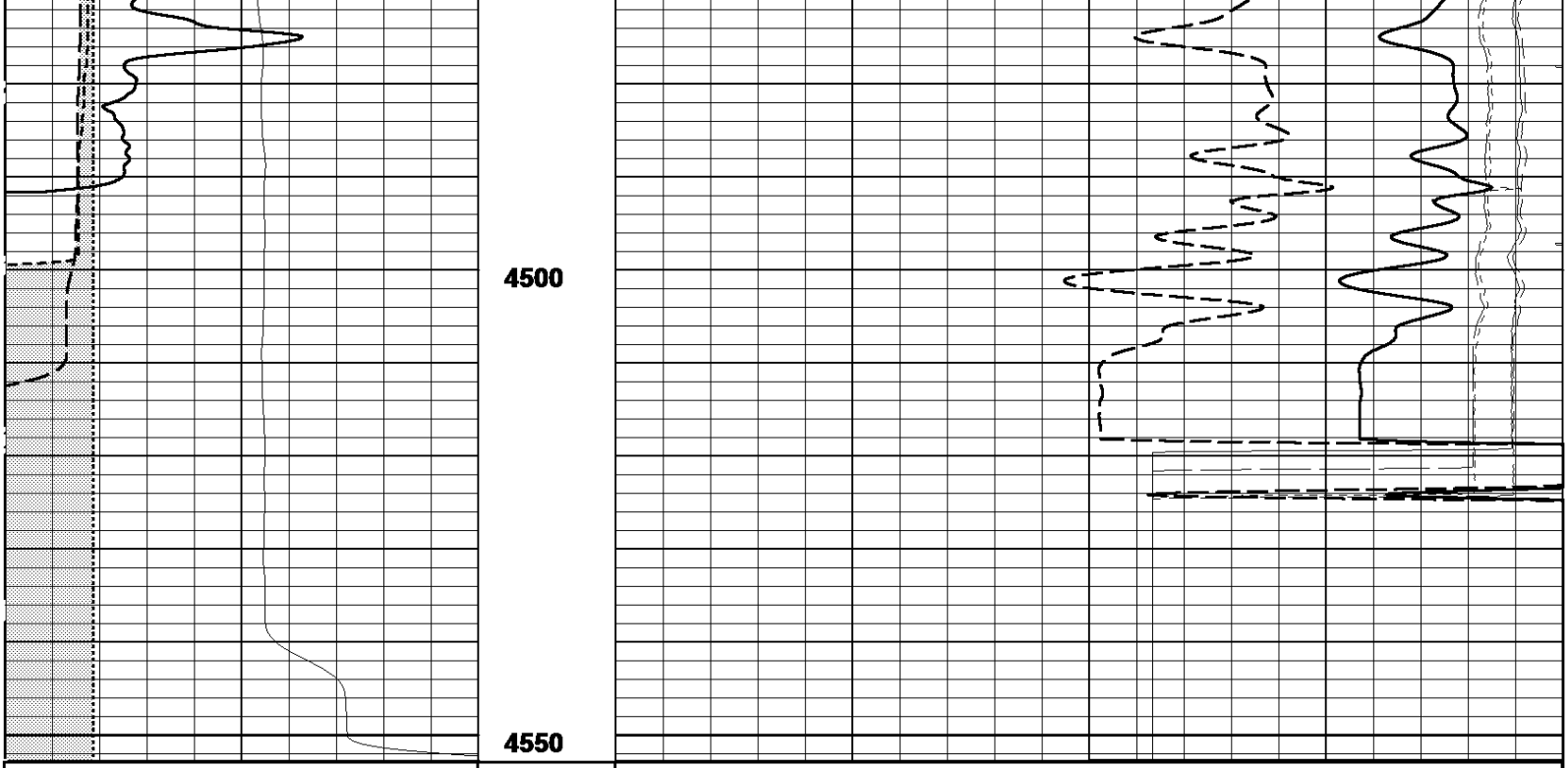



3600
3650
3700
3750
3800


3850
3900
3950
4000


4050
4100
4150
4200


4250
4300
4350
4400
4450



Gamma Ray (GR)		
0.	API	150.
X-Caliper (CALX)		
6.	in	16.
Y-Caliper (CALY)		
6.	in	16.
Tension (TENS)		
5000.	Lbs	0.
Bit Size (BIT)		
6.	Ref in	16.

Delta T (DT)		
140.	usecs/ft	40.
Sonic-Porosity (SPHI)		
30.	Percent	-10.

TT (TT1-3ft)		
1500.	usecs	0.
TT (TT2-3ft)		
1500.	usecs	0.
TT (TT3-5ft)		
1500.	usecs	0.
TT (TT4-5ft)		
1500.	usecs	0.

08/07/2015
17:27:20 => Start Time

REPEAT PASS - LIMESTONE (5"/100Ft)

Log UP - (VER 11.19)
Start Depth=> 4552.70 Feet

08/07/2015
18:21:25 => End Time

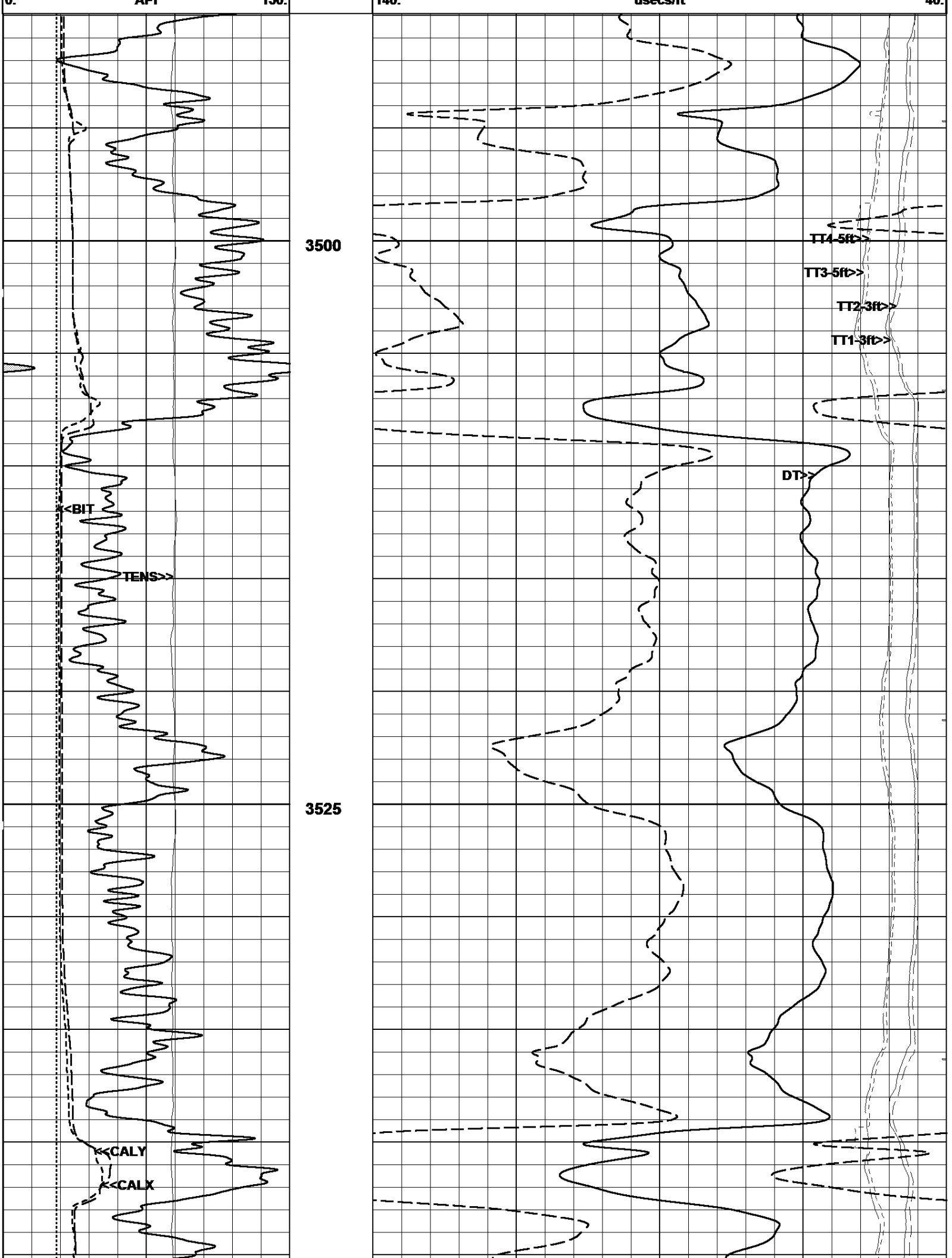
HIGH DEFINITION PASS - LIMESTONE (20"/100Ft)

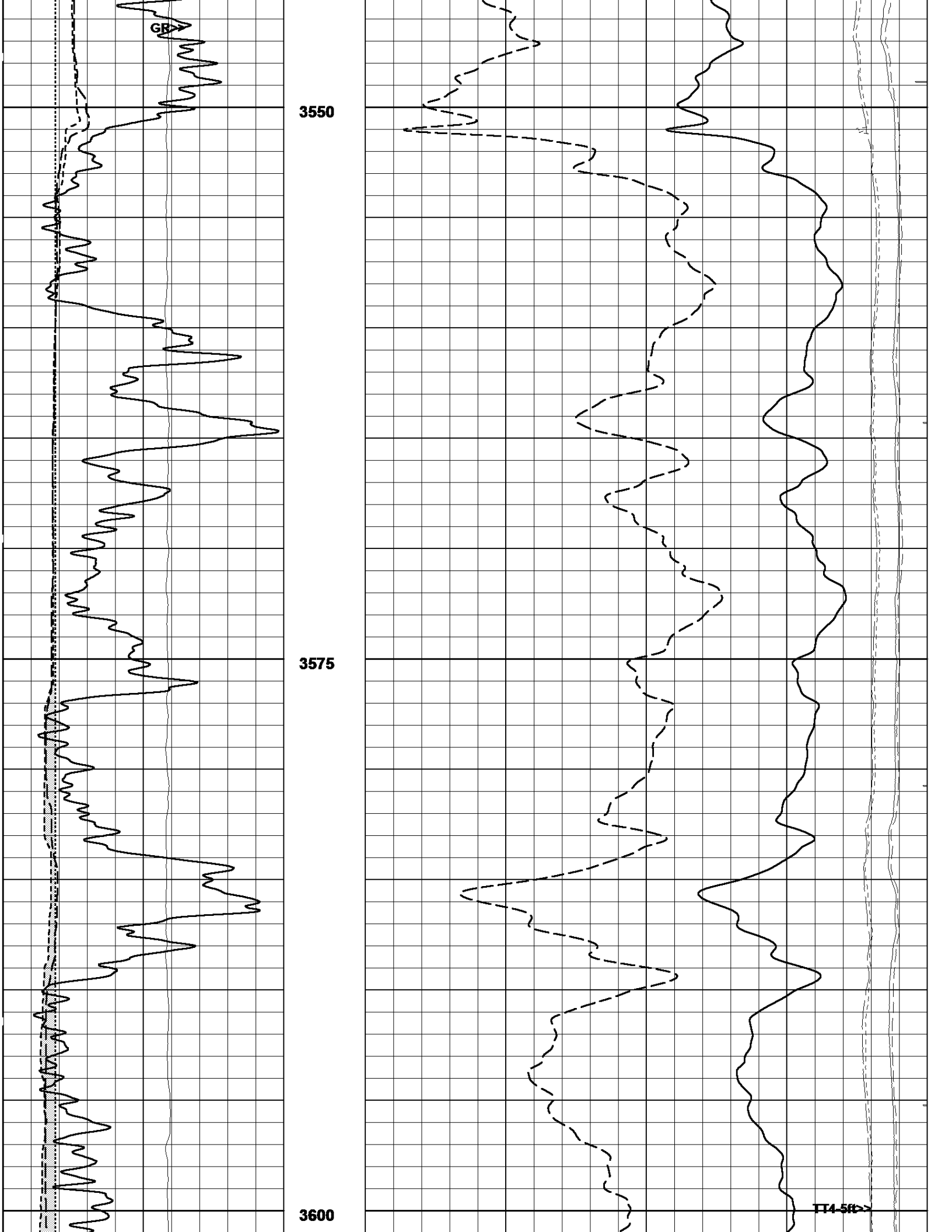
Log UP - (VER 11.19)
End Depth=> 3489.97 Feet

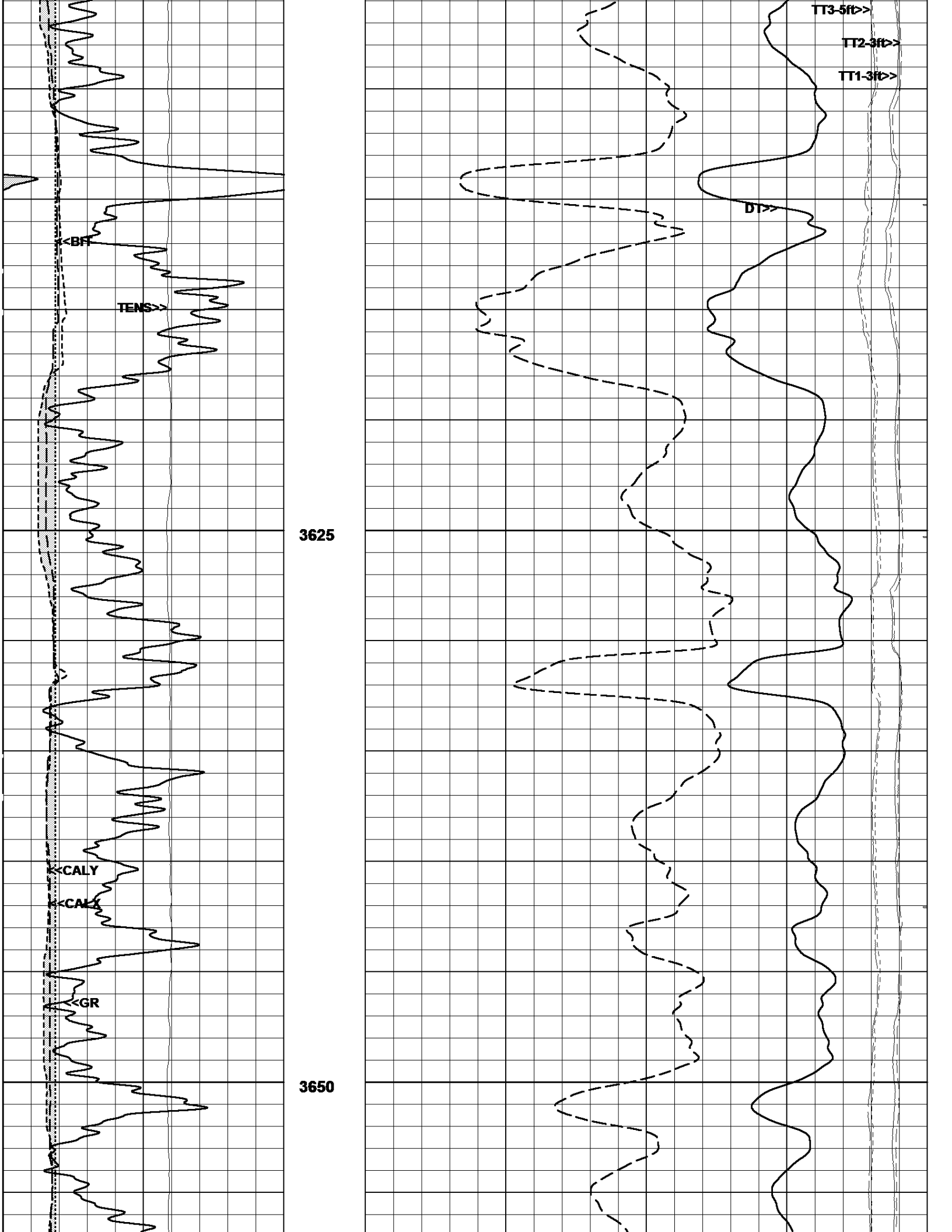
TT (TT4-5ft)		
1500.	usecs	0.
TT (TT3-5ft)		
1500.	usecs	0.
TT (TT2-3ft)		
1500.	usecs	0.
TT (TT1-3ft)		
1500.	usecs	0.

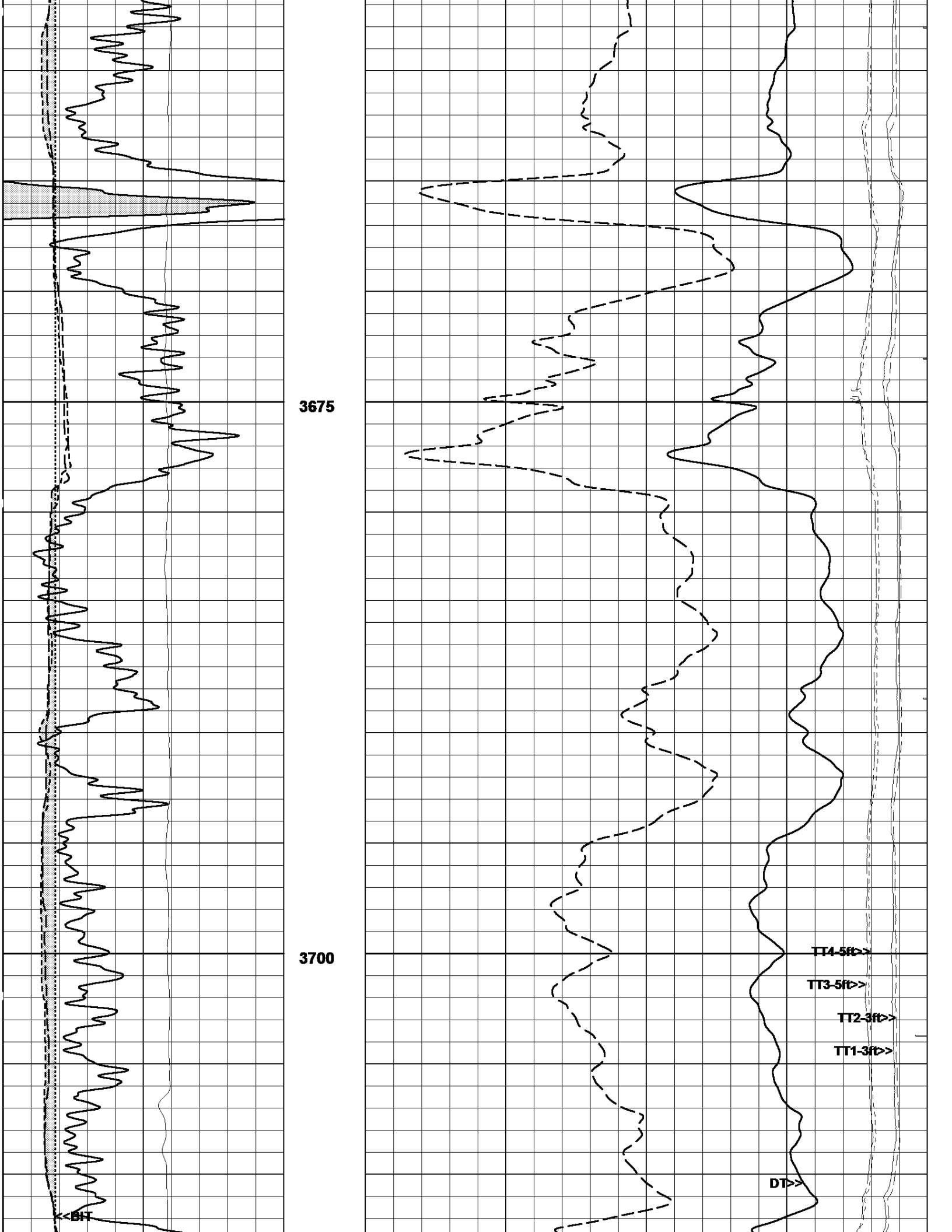
Bit Size (BIT)		
6.	Ref in	16.
Tension (TENS)		
5000.	Lbs	0.
Y-Caliper (CALY)		
6.	in	16.
X-Caliper (CALX)		
6.	in	16.
Gamma Ray (GR)		
0.	API	150.

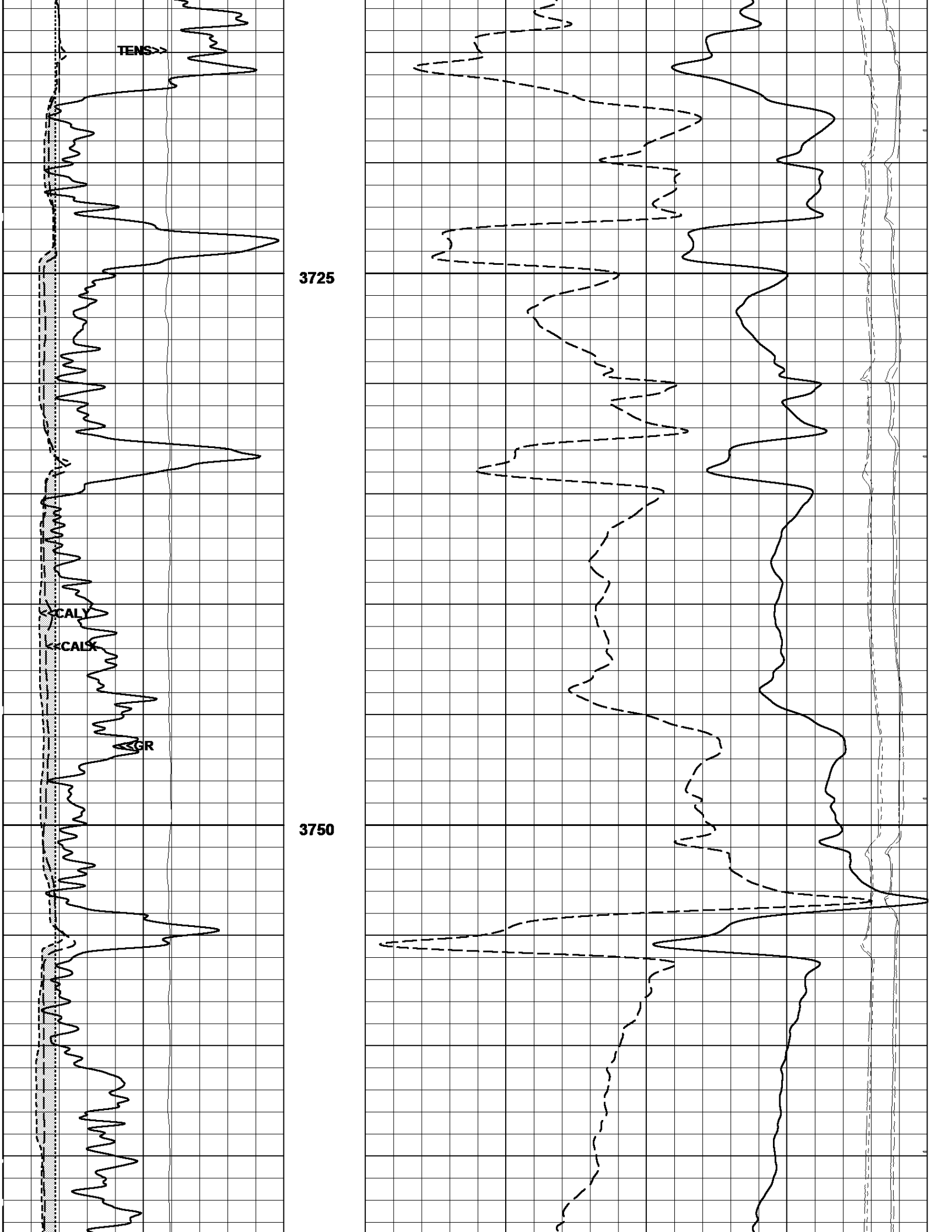
Sonic-Porosity (SPHI)		
30.	Percent	-10.
Delta T (DT)		
140.	usecs/ft	40.

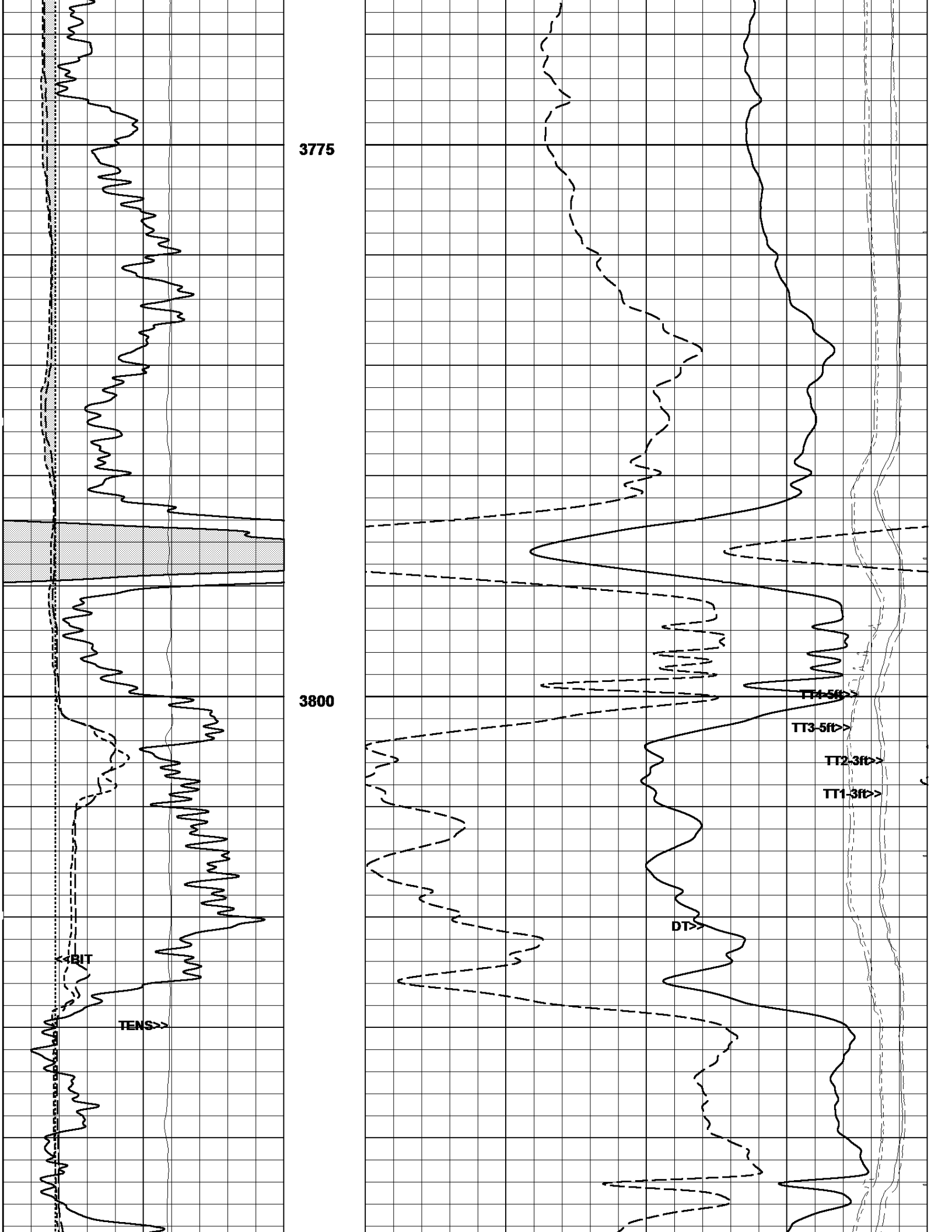

0.
API
150.
140.
usecs/ft
40.
3500
3525
TT4-5ft>>
TT3-5ft>>
TT2-3ft>>
TT1-3ft>>
DT>>
<BIT
TENS>>
<CALY
<CALX

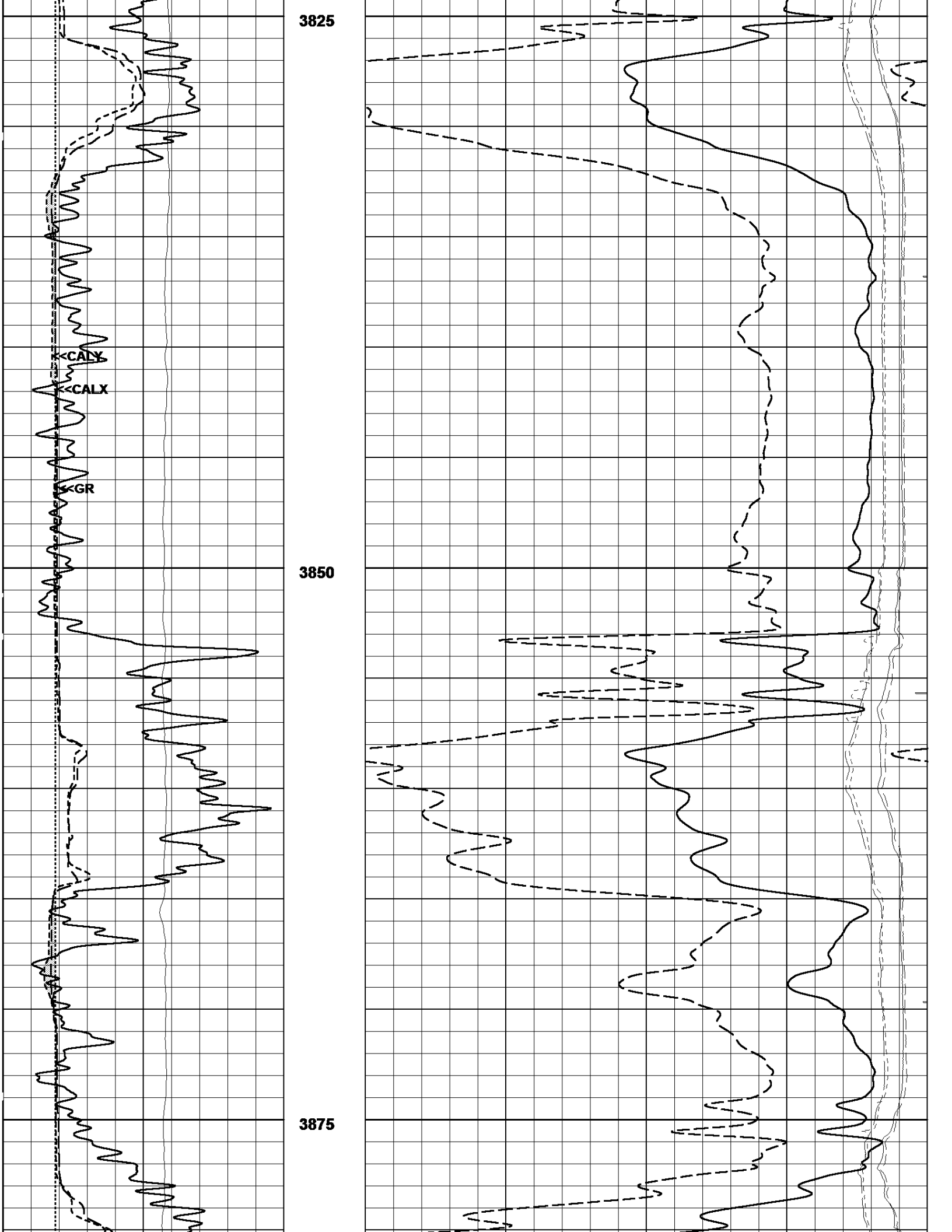

GR
3550
3575
3600
TT4-5ft>>

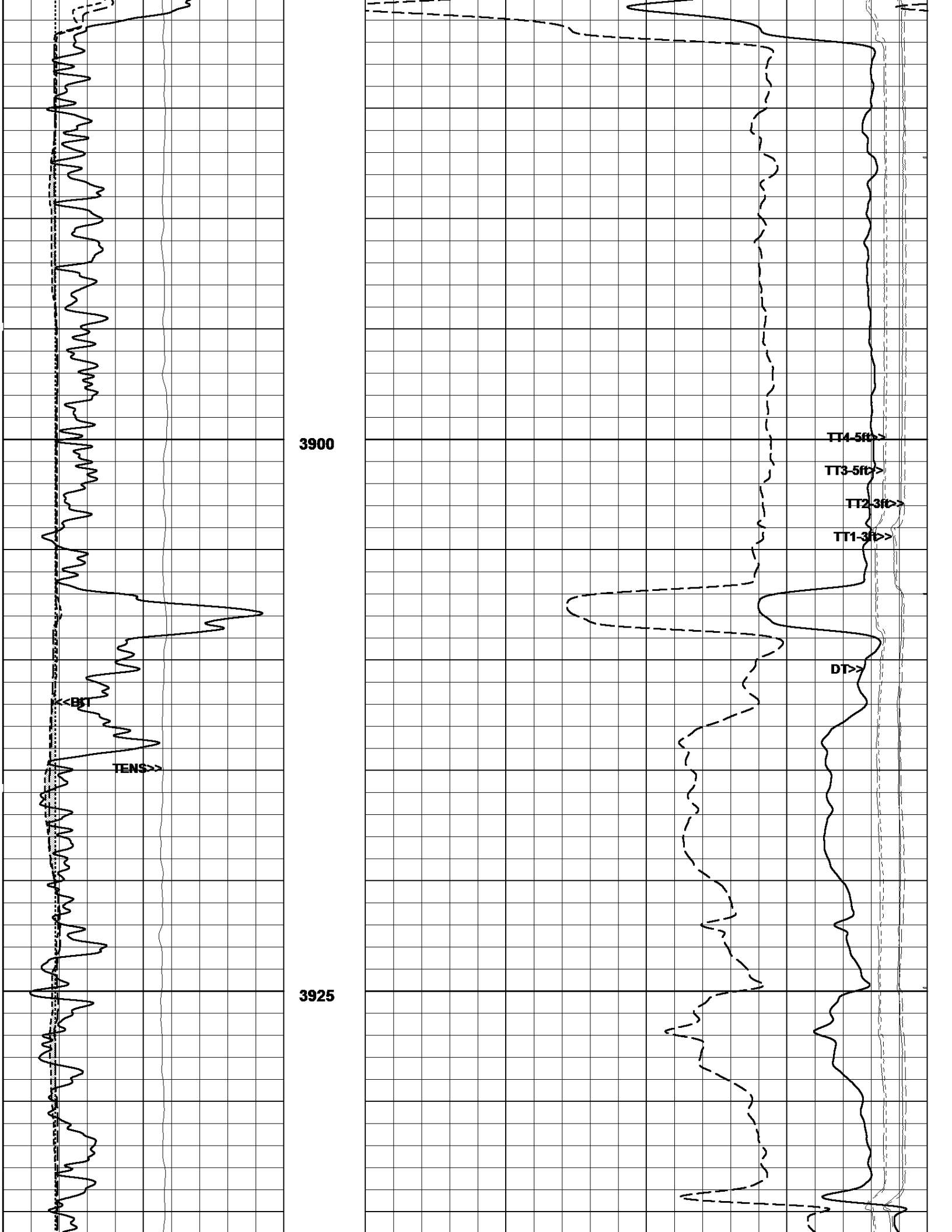

TT3-5ft>>
TT2-3ft>>
TT1-3ft>>
DT>>
<BFF
TENS>>
3625
<<CALY
<CALX
<GR
3650

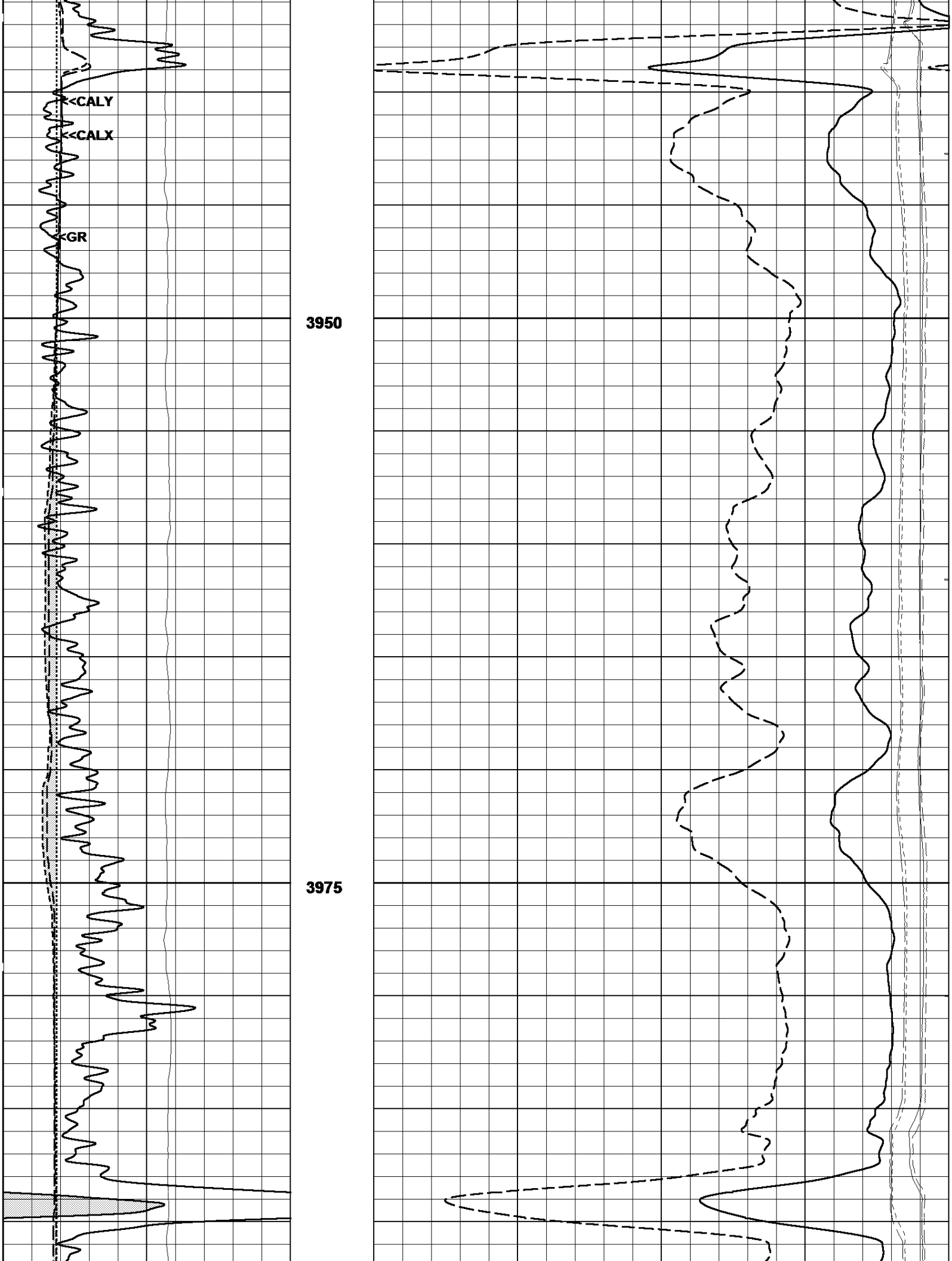

3675
3700
<<BIT
TT4-5ft>>
TT3-5ft>>
TT2-3ft>>
TT1-3ft>>
DT>>

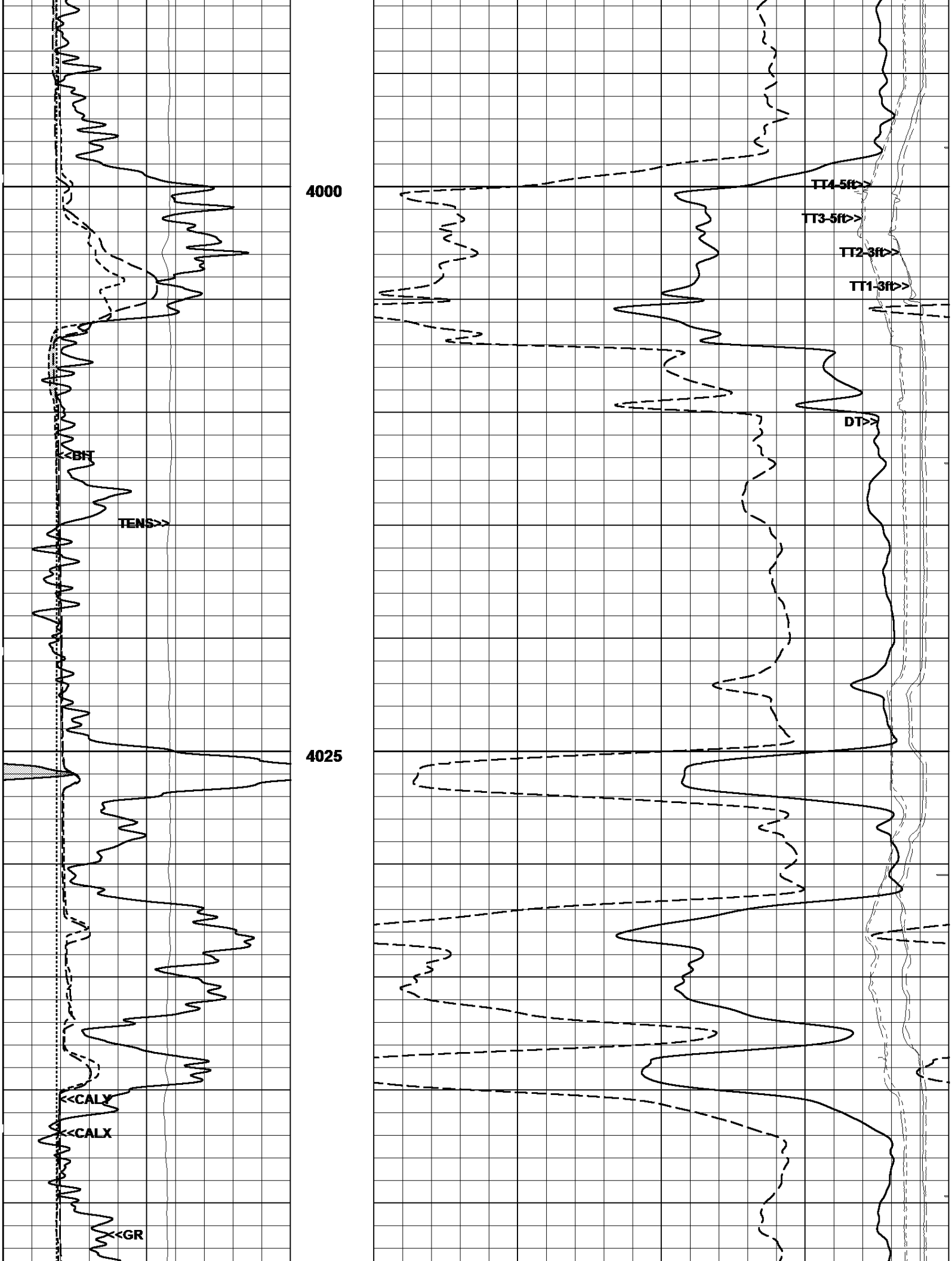

TENS>>
3725
<CALY
<CALX
<GR
3750

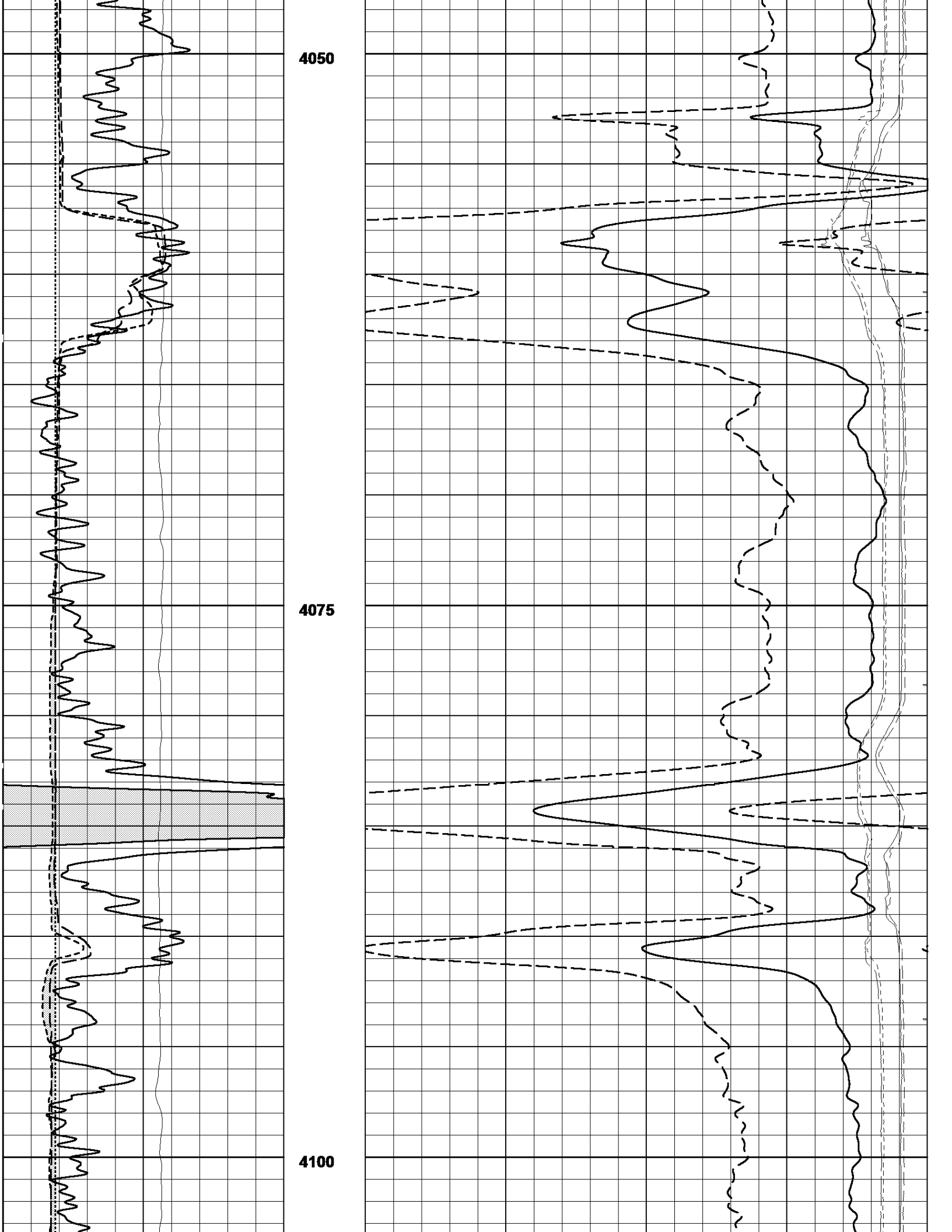

3775
3800
<<BIT
TENS>>
TT4-5ft>>
TT3-5ft>>
TT2-3ft>>
TT1-3ft>>
DT>>

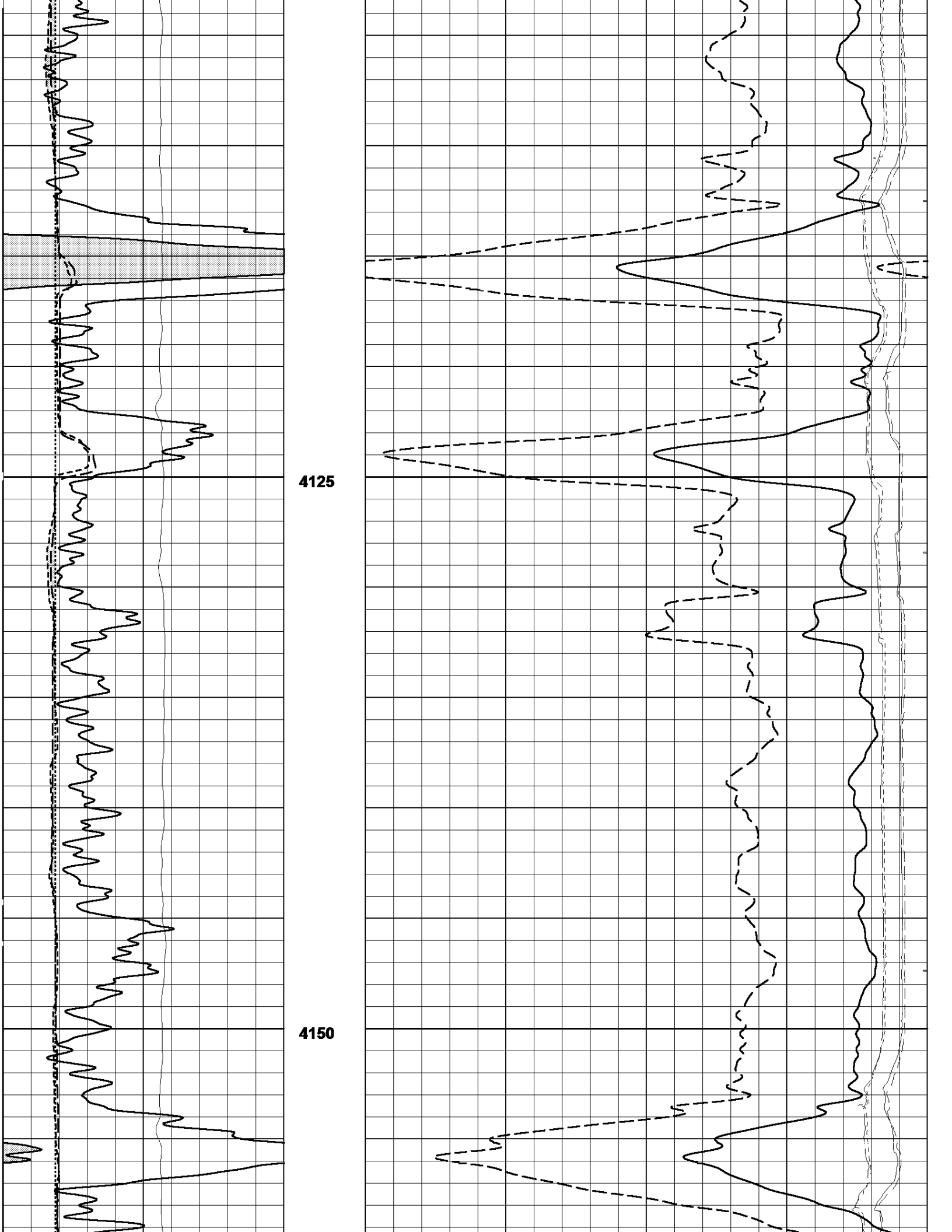

3825
CALY
CALX
GR
3850
3875


3900
TT4-5ft>>
TT3-5ft>>
TT2-3ft>>
TT1-3ft>>
DT>>
<<BIT
TENS>>
3925


<<CALY
<<CALX
<GR
3950
3975


4000
4025
TT4-5ft>>
TT3-5ft>>
TT2-3ft>>
TT1-3ft>>
DT>>
<<BIT
TENS>>
<<CALY
<<CALX
<<GR


4050
4075
4100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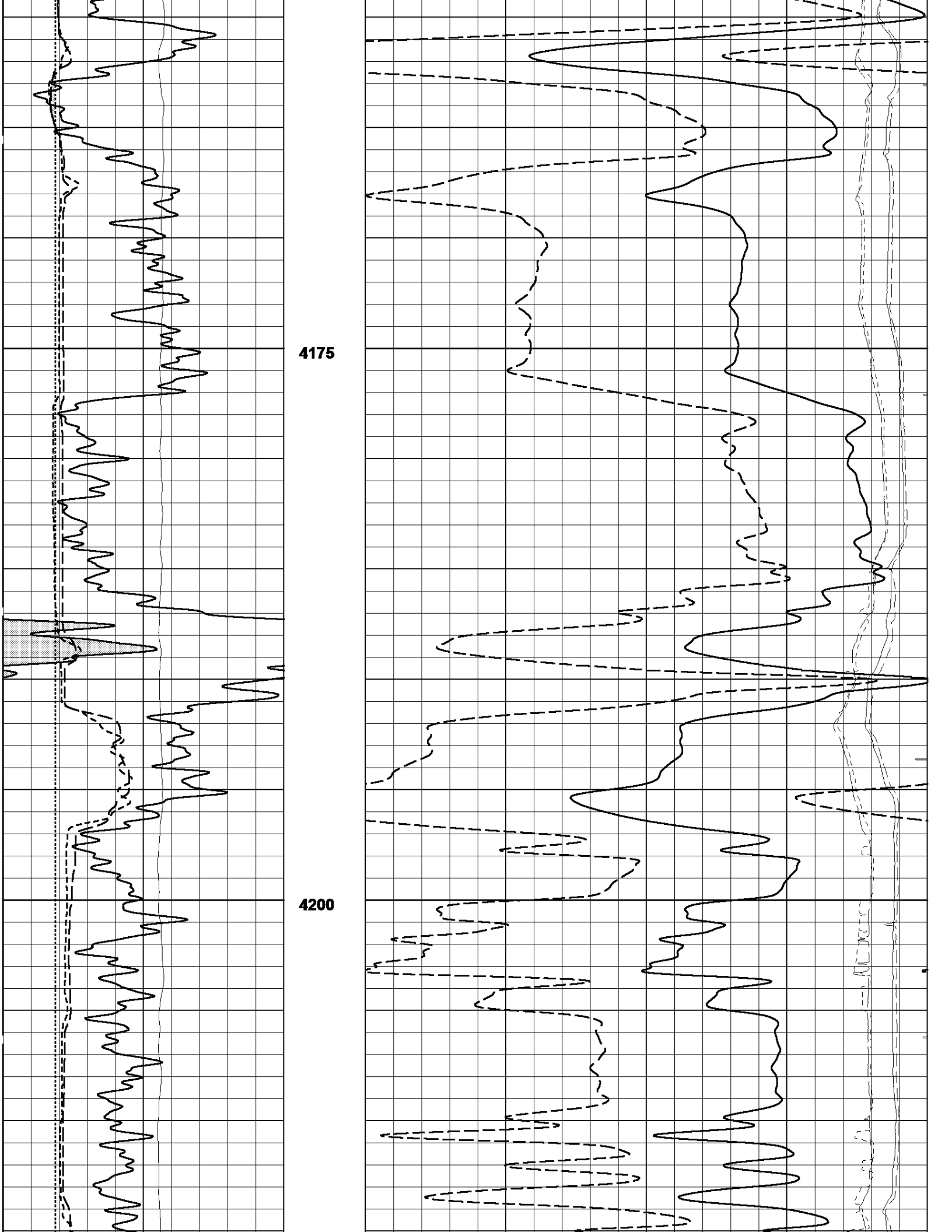
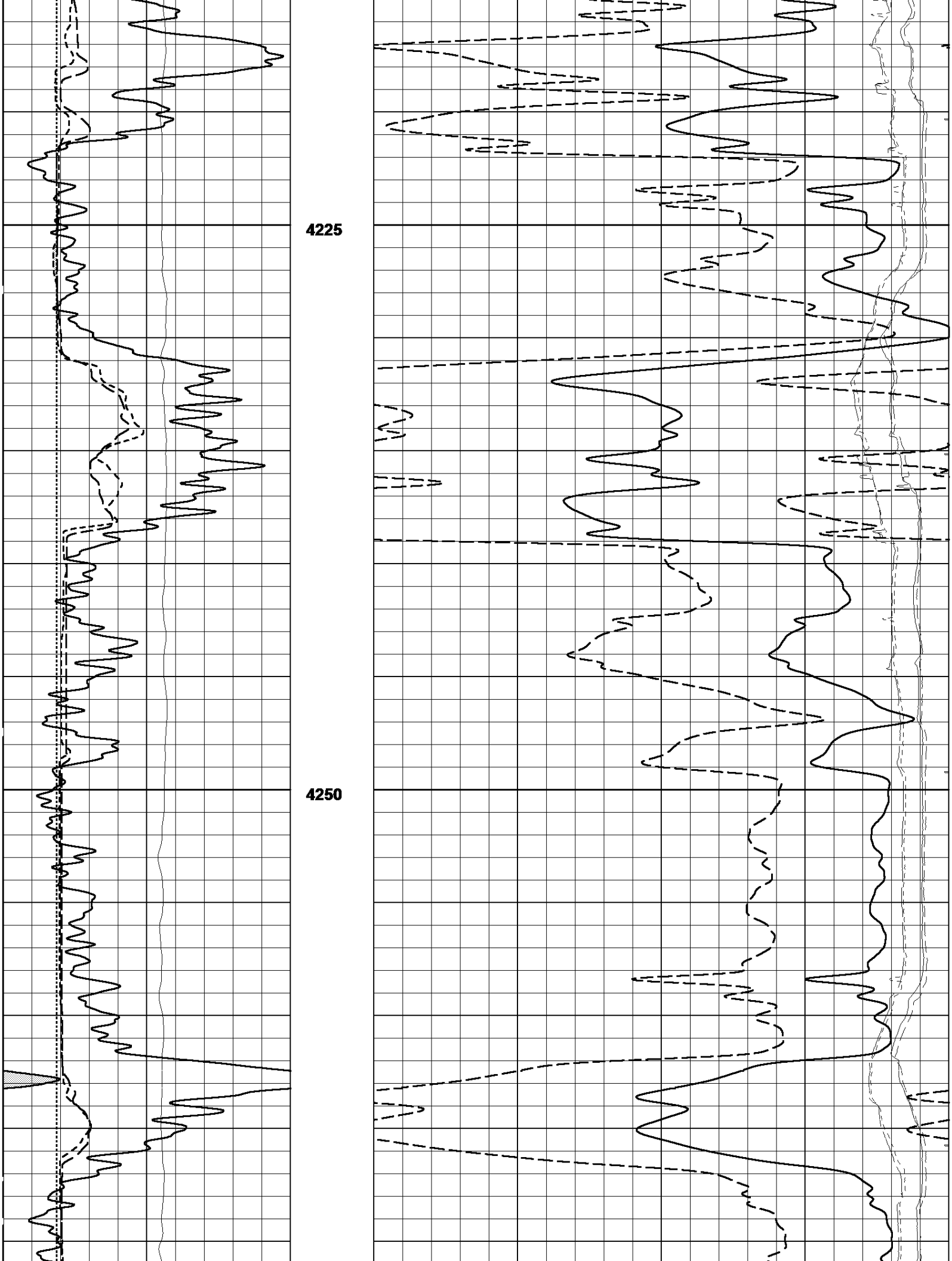
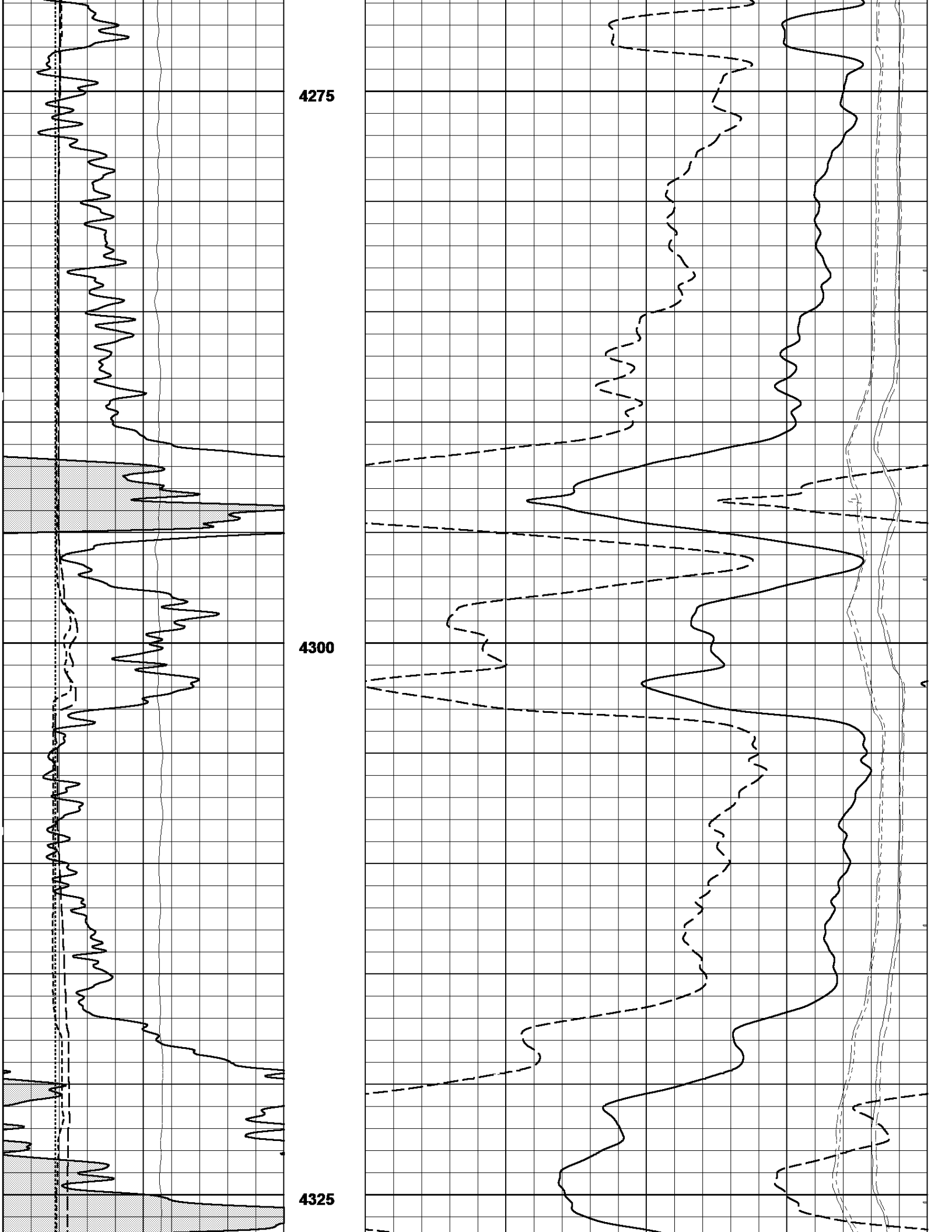
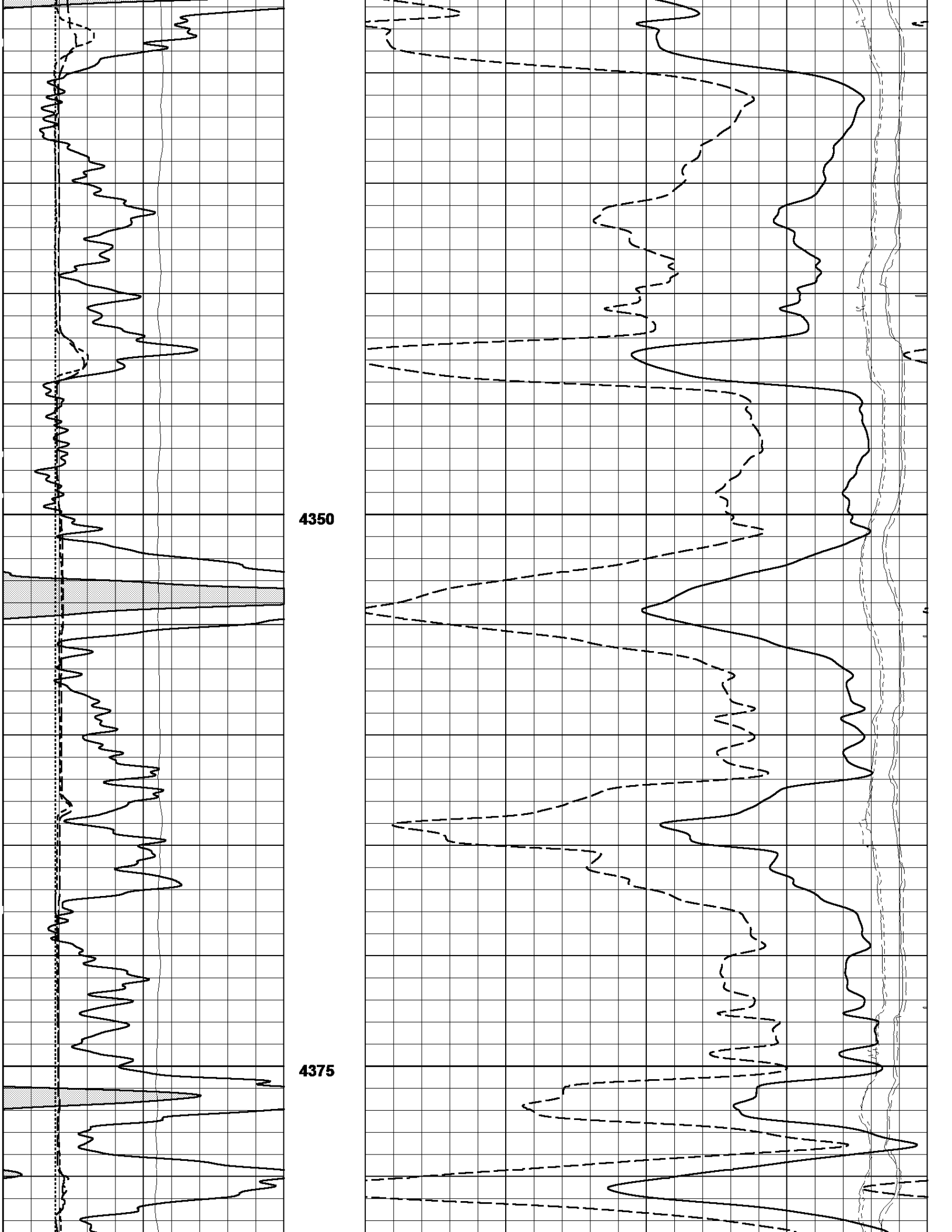
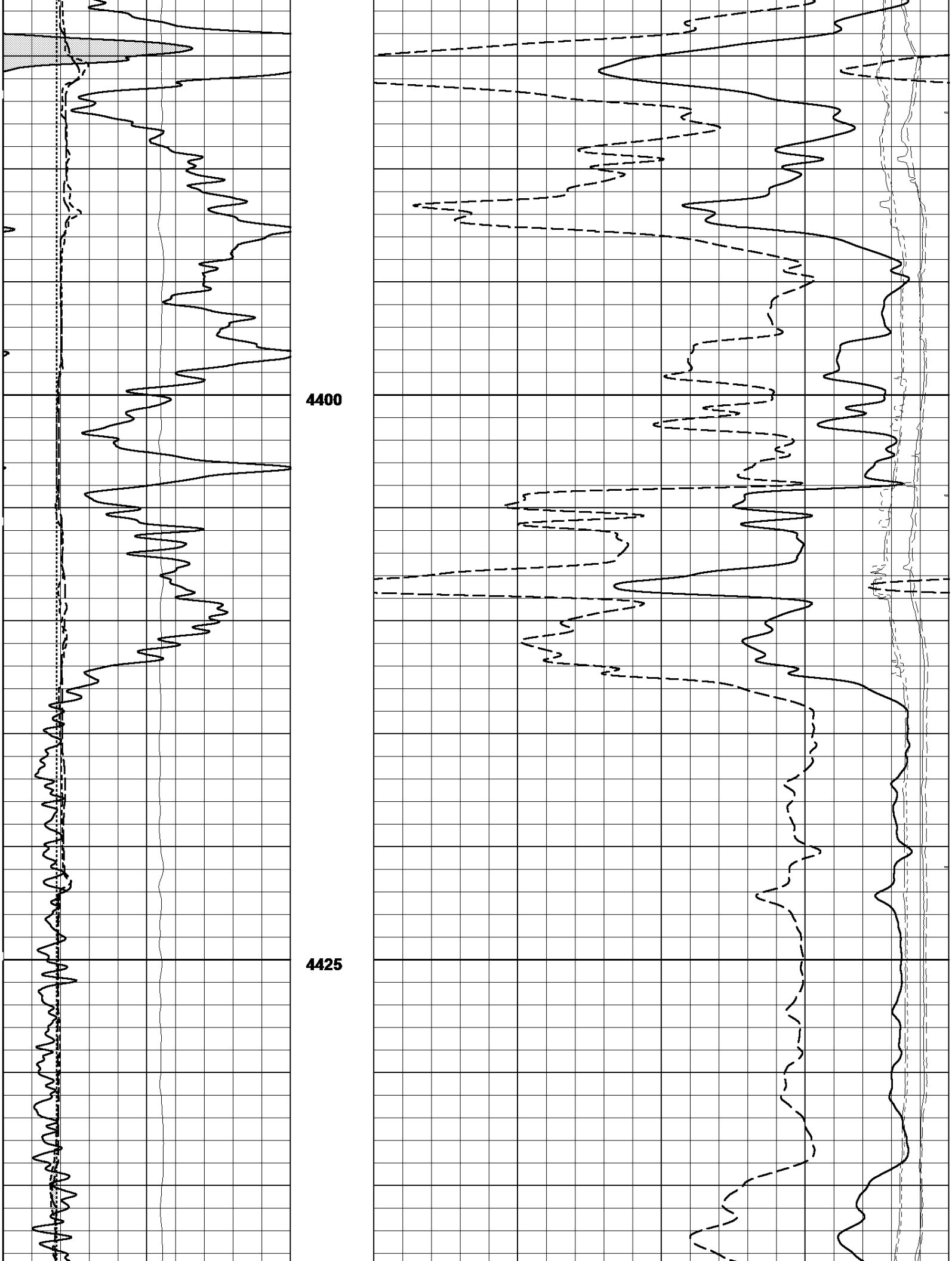
4150

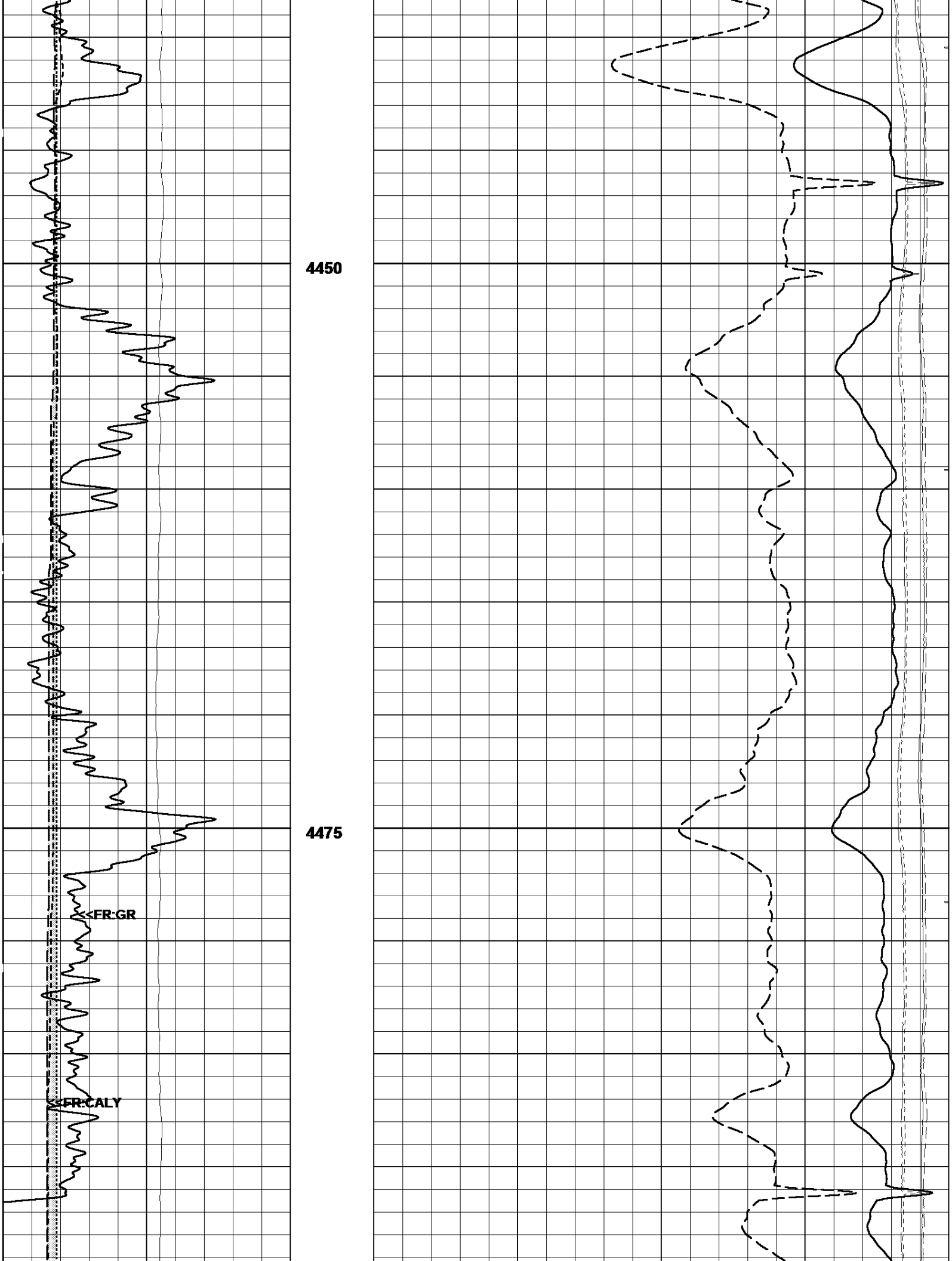

4175
4200

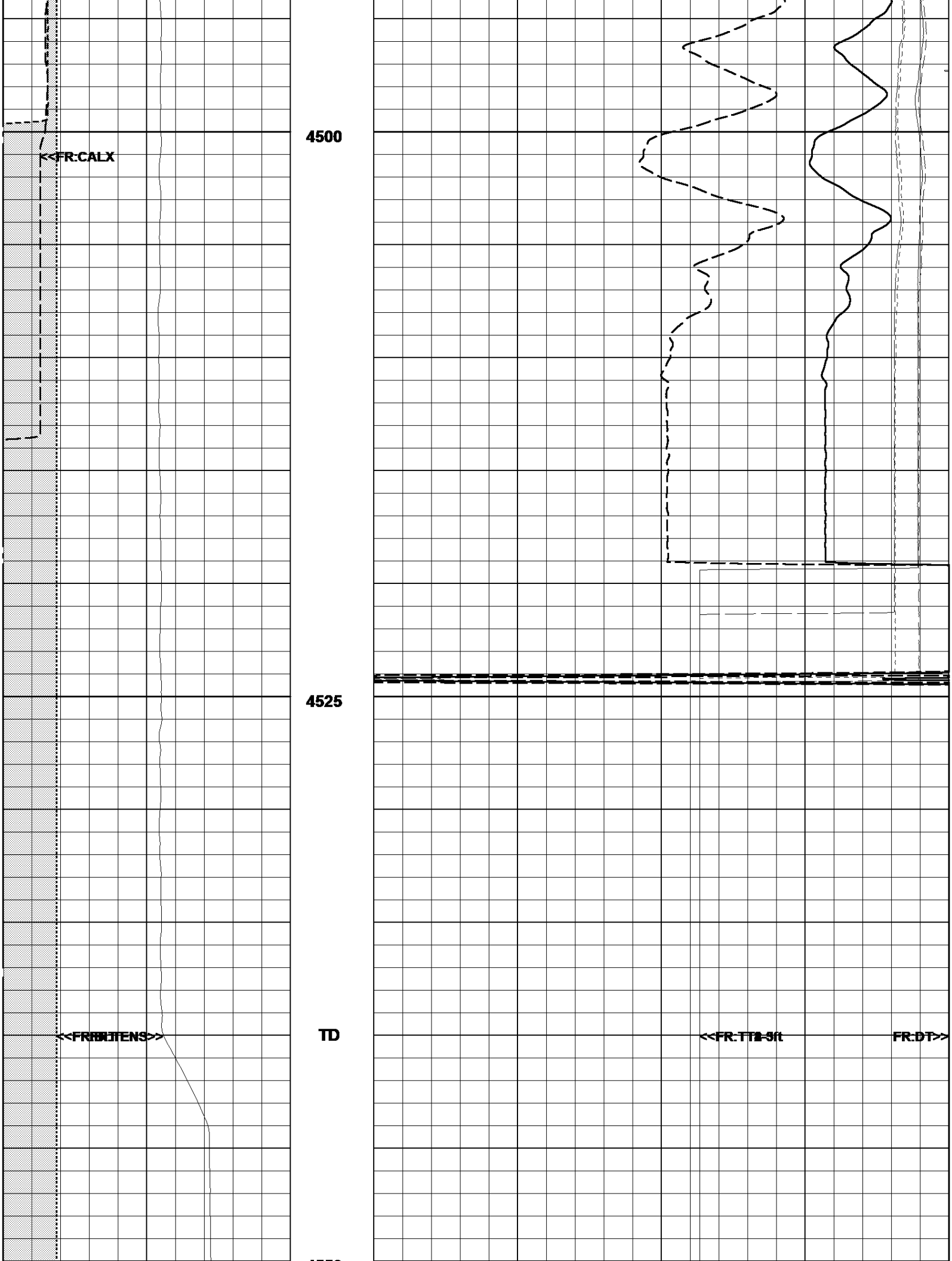

4225
4250

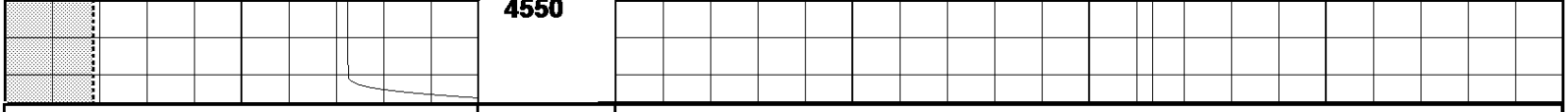

4275
4300
4325


4350
4375


4400
4425


4450
4475
<FR:GR
<FR:CALY


4500
<<FR:CALX
4525
TD
<<FR:TT1-3ft
FR:DT>>



Gamma Ray (GR)		
0.	API	150.
X-Caliper (CALX)		
6.	in	16.
Y-Caliper (CALY)		
6.	in	16.
Tension (TENS)		
5000.	Lbs	0.
Bit Size (BIT)		
6.	Ref in	16.

Delta T (DT)		
140.	usecs/ft	40.
Sonic-Porosity (SPHI)		
30.	Percent	-10.

TT (TT1-3ft)		
1500.	usecs	0.
TT (TT2-3ft)		
1500.	usecs	0.
TT (TT3-5ft)		
1500.	usecs	0.
TT (TT4-5ft)		
1500.	usecs	0.

08/07/2015
17:27:20 => Start Time

HIGH DEFINITION PASS - LIMESTONE (20"/100Ft)

Log UP - (VER 11.19)
Start Depth=> 4552.75 Feet

GAMMA RAY CALIBRATION

SERIAL NUM	RG3007
BLANKET NUM	1A

MASTER CALIBRATIONS

	BackGrnd	CalVal: 175.000 API	Gain/Offset	CALIBRATION DATE	CALIBRATION TIME
BASE CALS	31.235 - raw	207.385 - raw	0.993 - gain 0.000 - off	M/D/Y> 8/6/2015	H:M:S> 12:41:47

X CALIPER

SERIAL NUM	RL4102

MASTER CALIBRATIONS

	ZeroVal: 6.000 in	CalVal: 10.000 in	Gain/Offset	CALIBRATION DATE	CALIBRATION TIME
BASE CALS	1969.329 - raw	4042.166 - raw	0.002 - gain 2.200 - off	M/D/Y> 7/8/2015	H:M:S> 14:25:21

Y CALIPER CALIBRATIONS

SERIAL NUM	RN2016

MASTER CALIBRATIONS

	ZeroVal: 6.000 IN	CalVal: 10.000 IN	Gain/Offset	CALIBRATION DATE	CALIBRATION TIME
BASE CALS	850.111 - raw	1578.062 - raw	0.005 - gain 1.329 - off	M/D/Y> 8/6/2015	H:M:S> 13:25:17

Company	K3 OIL & GAS OPERATING COMPANY

Well	EATON #3-18
Field	WILDCAT
County	LANE
State	KANSAS

RECON

BHC SONIC
GAMMA RAY
X-Y CALIPER