STEP energy services

PHASED INDUCTION

SHALLOW FOCUS SP LOG

Company	ENTRANSCO ENERGY LLC
Well	D. WIEBE #32-3
Field	HAZLETT
County	BUTLER
State	KANSAS
Country	USA
API No.	15-015-24133-0000

File No : HAYS-70426
Company : ENTRANSCO ENERGY LLC
Well : D. WIEBE #32-3
Field : HAZLETT
County : BUTLER
State : KANSAS
Country : USA
API No : 15-015-24133-0000

Location :
1238' FSL & 350' FWL
NE NW SW SW

LSD : **Sect :** 32 **Twp :** 23S **Rge :** 5E

Permanent Datum:	GL	**Elevations:**		**Services:**	
Drilling Measured From:	KB	**KB**	1497.00 Ft	NDT	PIT
Log Measured From:	KB	**DF**	1496.00 Ft	LDT	
Above Permanent Datum:	9.00 Ft	**GL**	1488.00 Ft	MLT	

Date	11-16-2019						
Run Number	1						
Depth--Driller	2610.0	Ft					
Depth--Logger	2609.0	Ft					
First Reading	2609.0	Ft					
Last Reading	219.0	Ft					
Casing--Driller	210.0	Ft					
Casing--Logger	219.0	Ft					
Bit Size	7.875	In					
Casing Size	8.625	In					
Hole Fluid Type	WBM						
Density	9.0						
Fluid Loss	8.8						
PH/Viscosity	10.0	38.0					
Sample Source	MEASURED						
RM@Measured Temp.	2.000	@ 50 F					
RMF@Measured Temp	1.600	@ 50 F					
RMC@Measured Temp.	2.400	@ 50 F					
Source RMF/RMC	CALCULATED	CALCULATED					
RM@BHT	1.060	@ 100 F					
Time Circulation Stopped	11-16-2019 02:15						
Max Recorded Temp.	100	F					
Equipment/Base	137	HAYS, KS					
Recorded By	SHELDON TYLER						
Witnessed By	R. GILBERT						

Bitsize Intervals

Size (In)	Bottom (Ft)
7.875	2610.00

Casing Strings

Size (In)	Weight (Lbs)	Bottom (Ft)	Top (Ft)
8.625	32.00	210.00	0.00

Run Number	1		
Date	11-16-2019		
Date/Time On Bottom	11-16-2019 05:15		
Depth to Fluid	0.0	Ft	
Salinity	900.000		
RMF@BHT	0.850	@ 100 F	
RMC@BHT	1.270	@ 100 F	

Run Number 1

Comments

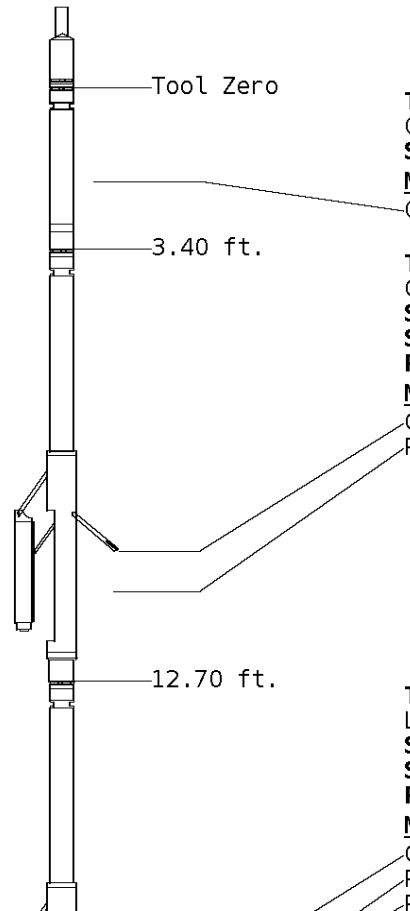
ALL PRESENTATIONS AS PER CUSTOMER REQUEST
GRT, CNT, LDT, MLT AND PIT RUN IN COMBINATION
CALIPERS ORIENTED ON X-Y AXIS
2.71 G/CC USED TO CALCULATE POROSITY
ANNULAR HOLE VOLUME CALCULATED USING 5.5" PRODUCTION CASING
PHIN IS CALIPER CORRECTED

GRT: GRP, GRX
CNT: PHIN, CLCNIN, PHXN
LDT: PORL, LCORN, PECLN, LDENN, PORLLS, CLLDIN, PRXL, PECLX, LDENNX, LCORX
MLT: NOR_RF, INV_RF, MSCLPIN
PIT: ILD, ILM, SPU, SFLAEC, CIRD

OPERATORS:
J. VAUGHN
D.RAGSDALE

Tool String Schematic

Total Tool Length - 54.09 **ft.**
Maximum Outside diameter - 6.00 **in.**
Net Weight in Air - 943.00 **lbs.**



Tool: GRT-B **Length:** 3.40 **ft.** **O.D.** 3.60 **in.**
Gamma Ray Controller
Sonde ID :GRT-BC-038

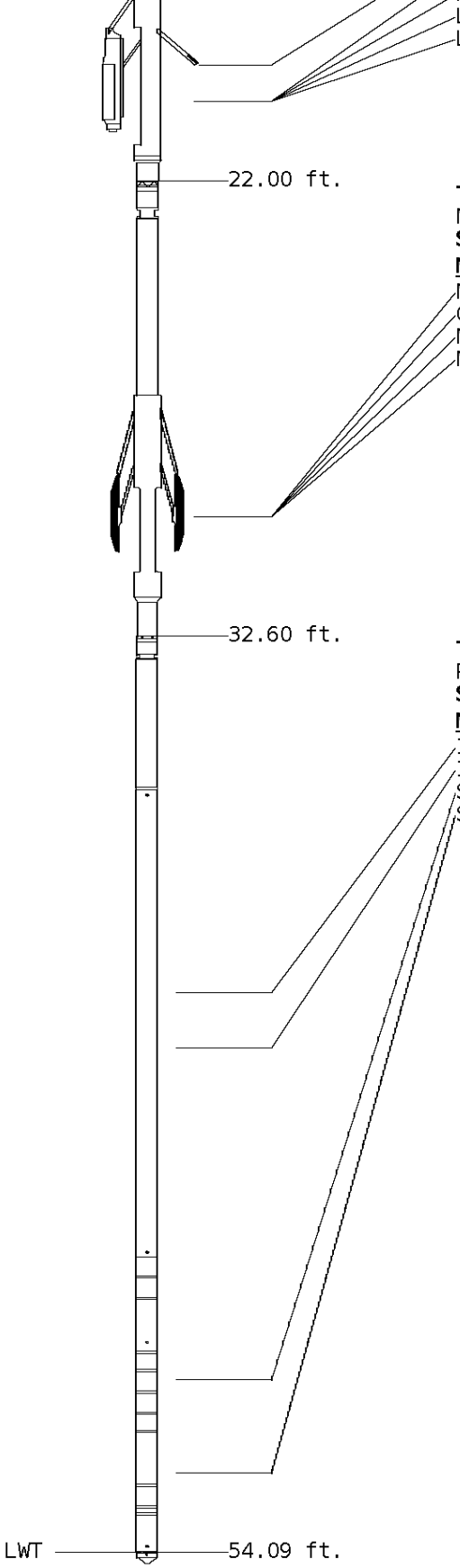
Measure Point	Tool Offset	Stack Offset	Bottom Offset
GRP	2.00	2.00	52.09

Tool: CNT-AA **Length:** 9.30 **ft.** **O.D.** 4.36 **in.**
Compensated Neutron A Pad on NDT-A
Sonde ID :NDT-AF-104
Source ID :N-1104
Pad ID :CNP-AE-41

Measure Point	Tool Offset	Stack Offset	Bottom Offset
CLCN	6.00	9.40	44.69
PHIN	6.80	10.20	43.89

Tool: LDT-DA **Length:** 9.30 **ft.** **O.D.** 4.80 **in.**
Litho Density D Pad on NDT-A
Sonde ID :NDT-FA-404
Source ID :1637GW
Pad ID :LDP-DA-062

Measure Point	Tool Offset	Stack Offset	Bottom Offset
CLLD	6.00	18.70	35.39
PEL	7.00	19.70	34.39
PES	7.40	20.10	33.99



Measure Point	Tool Offset	Stack Offset	Bottom Offset
LDEN	7.20	19.90	34.19
LCOR	7.20	19.90	34.19

Tool: MLT-AB **Length:** 10.60 **ft.** **O.D.** 6.00 **in.**
Micro Log Tool
Sonde ID :MLT-012

Measure Point	Tool Offset	Stack Offset	Bottom Offset
MSFL	8.90	30.90	23.19
CLMR	7.60	29.60	24.49
MSFN	8.90	30.90	23.19
MSFI	8.90	30.90	23.19

Tool: PIT-CA **Length:** 21.49 **ft.** **O.D.** 3.62 **in.**
Phased Dual Induction w/ RM & D
Sonde ID :PIT-AC-043

Measure Point	Tool Offset	Stack Offset	Bottom Offset
ILD	8.92	41.52	12.56
ILM	10.10	42.70	11.39
SFLU	17.49	50.09	4.00
SP	20.60	53.20	0.88

Well File: ENTRANSCO_D-WIEBE_32-3_NOV_16_MST **Scale:** 1:600 **Format:** DIL-600
Segment: V1.D1.S5 Reprocess of MAIN **Acquired:** 2019-11/16 05:26 3.4.1-13972
Reference: 0 **Processed:** 2019-11/16 06:17 3.4.1-13972

TENSION LBS		DEEP INDUCTION OHMM	
10000	0	0.0	500.0
		0.0	50.0
SPONTANEOUS POTENTIAL mV		**SHALLOW FOCUSED RESISTIVITY OHMM**	
		0.0	500.0

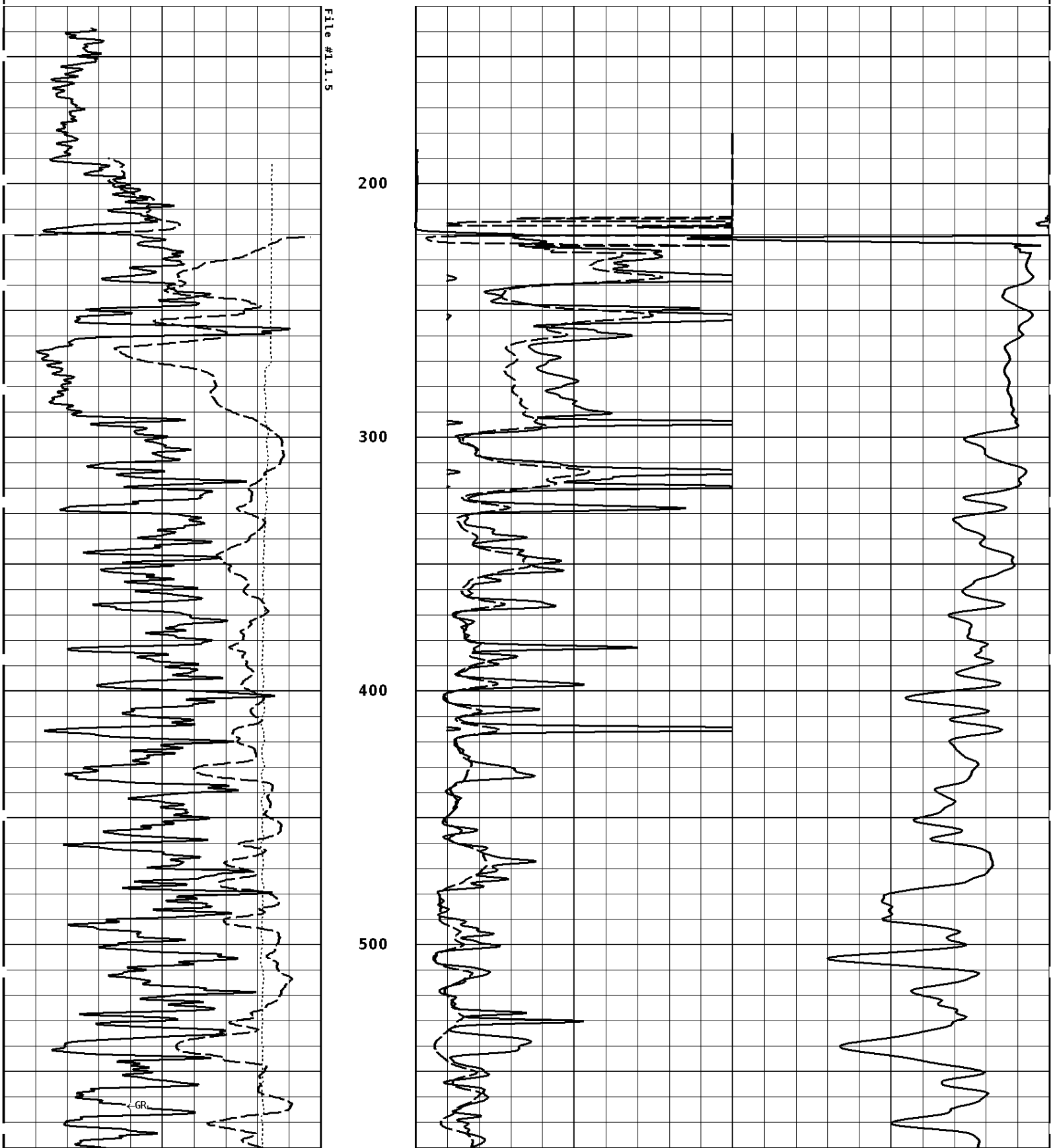
→ ←20

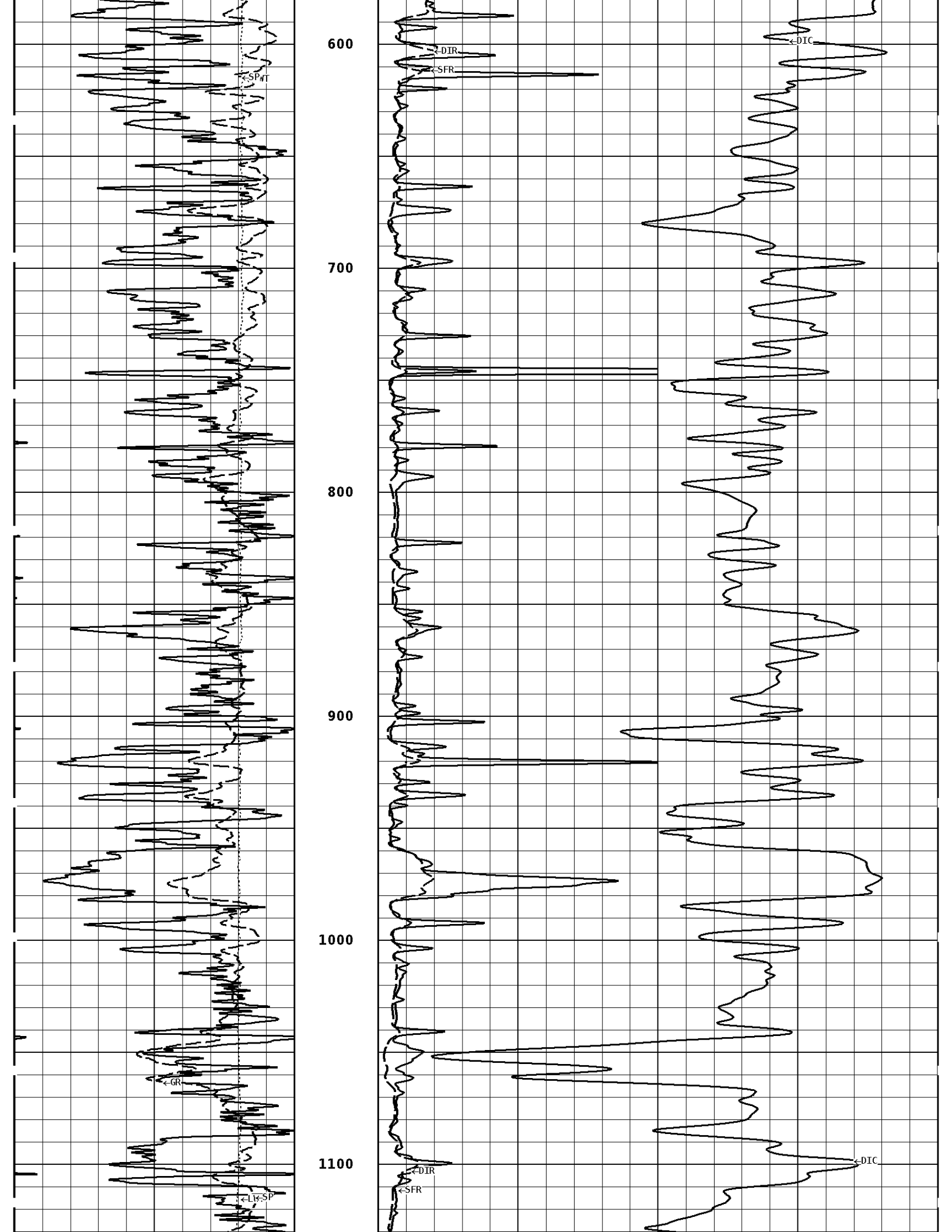
GAMMA RAY
API UNITS
150 300
0 150

0.0 500.0
0.0 50.0

DEEP CONDUCTIVITY
MMHO
2000 1000
1000 0

1:600 MAIN SECTION




600
700
800
900
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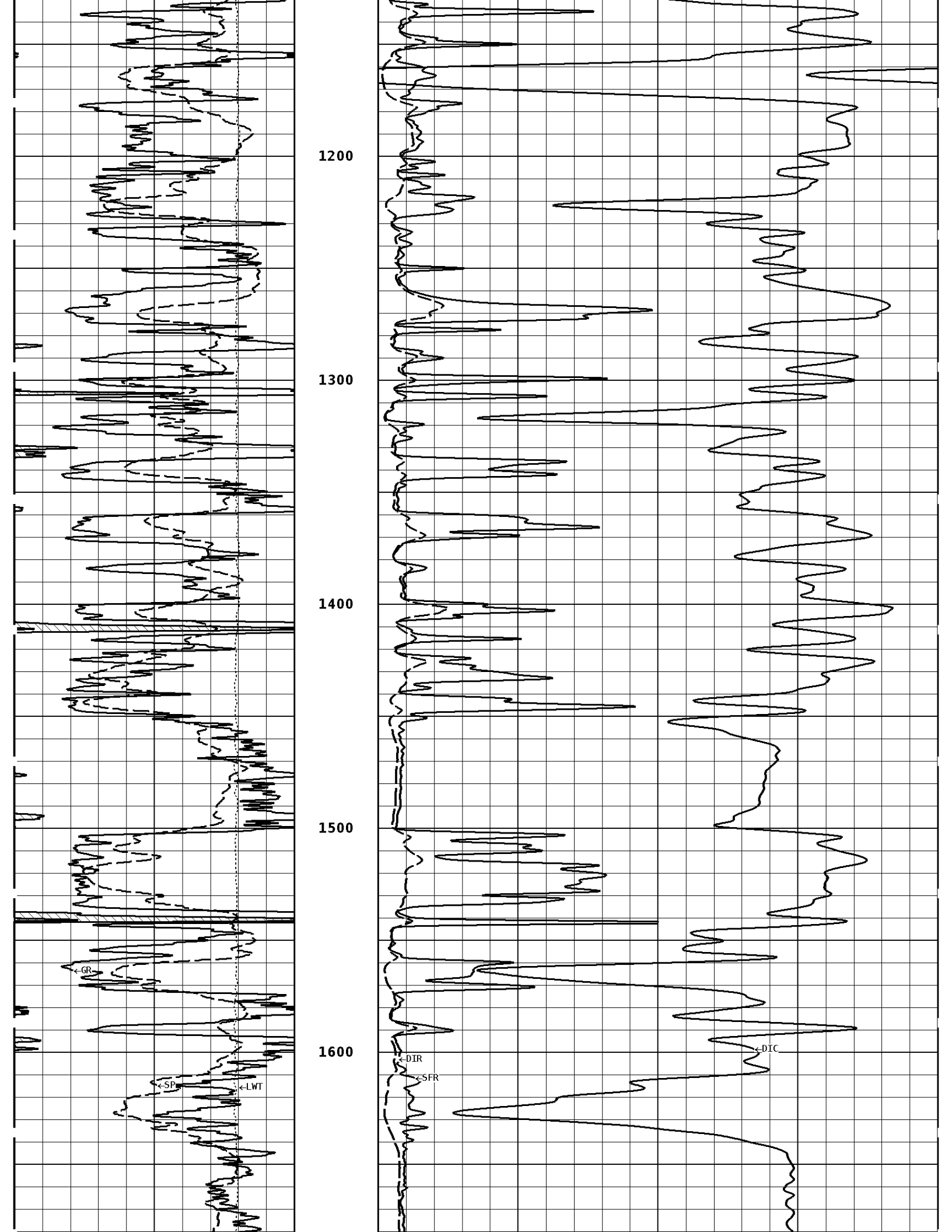
1100
SP
GR
LL
SP
DIR
SFR
DIC
DIR
SFR
DIC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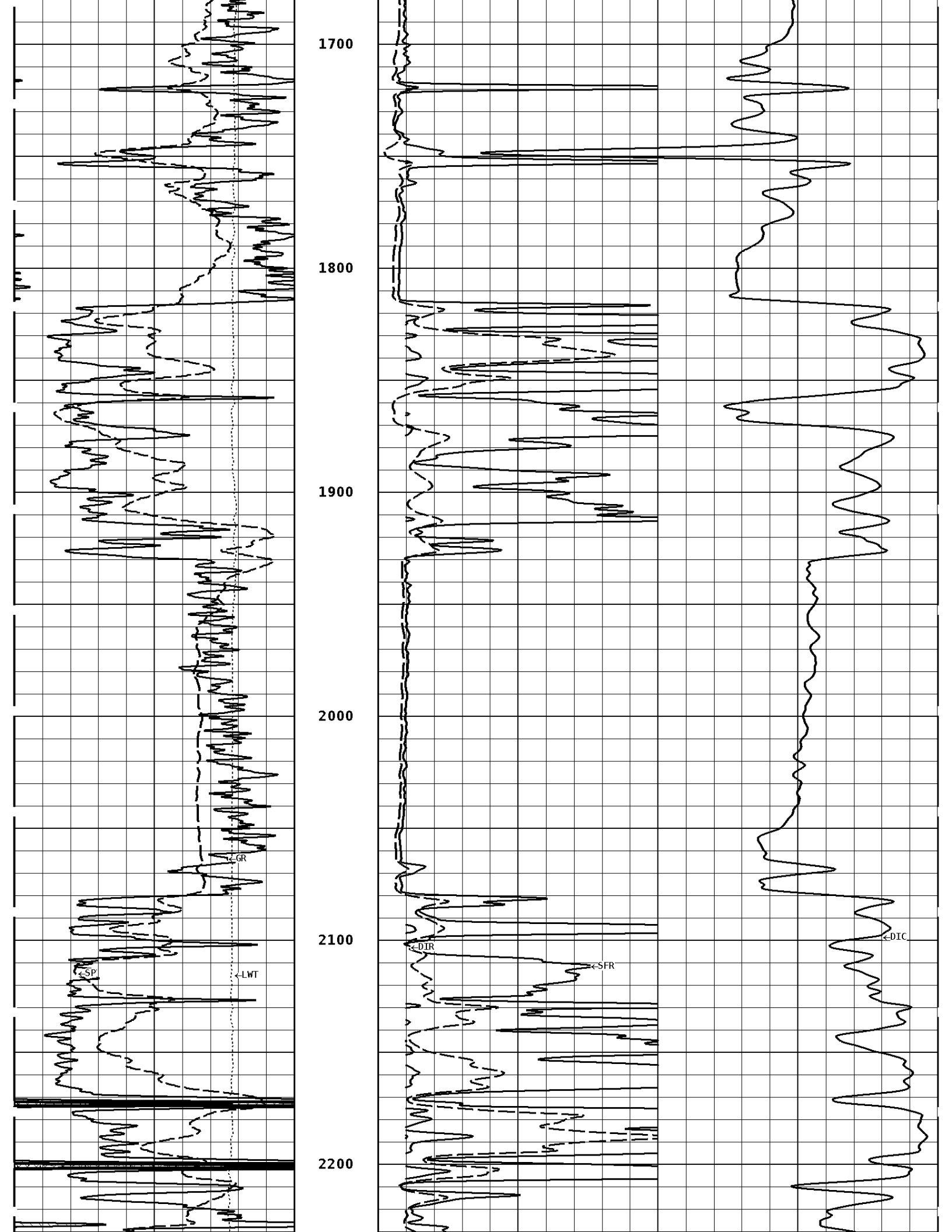
1300
1400
1500
1600
←GR
←SP
←LWT
←DIR
←SFR
←DIC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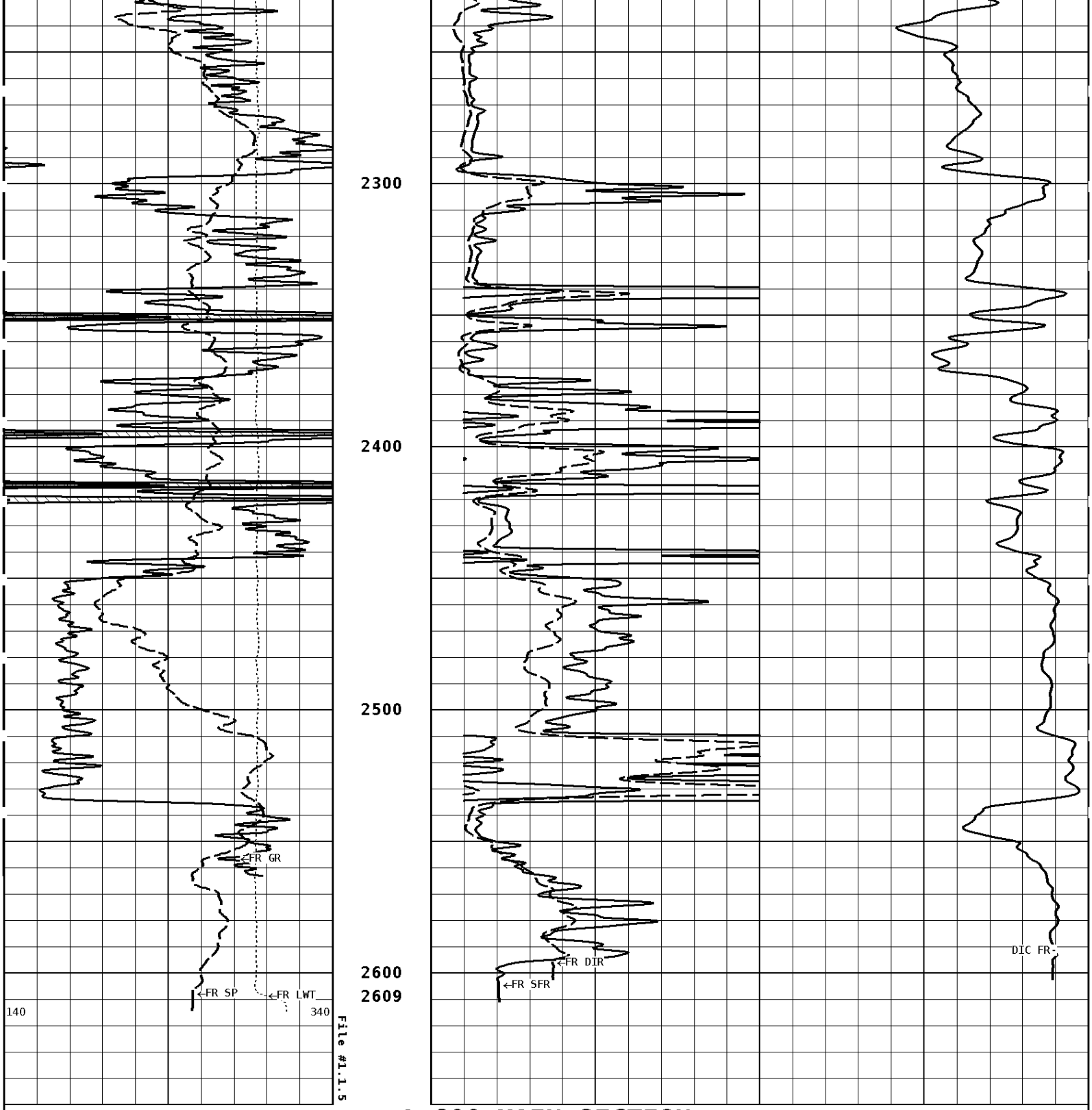
1800
1900
2000
2100
2200
GR
SP
LWT
DIR
SFR
DIC



1:600 MAIN SECTION

GAMMA RAY
API UNITS
150 300
0 150

DEEP CONDUCTIVITY
MMHO
2000 1000
1000 0

SPONTANEOUS POTENTIAL
mV
→ ←20

SHALLOW FOCUSED RESISTIVITY
OHMM
0.0 500.0
0.0 50.0

TENSION
LBS

DEEP INDUCTION
OHMM

10000 0

0.0 500.0
0.0 50.0

Well File: ENTRANSCO_D-WIEBE_32-3_NOV_16_MST **Scale:** 1:240 **Format:** DIL-240
Segment: V1.D1.S5 Reprocess of MAIN **Acquired:** 2019-11/16 05:26 3.4.1-13972
Reference: 0 **Processed:** 2019-11/16 06:17 3.4.1-13972

SPONTANEOUS POTENTIAL
mV
→| |←20

TENSION
LBS
10000 0

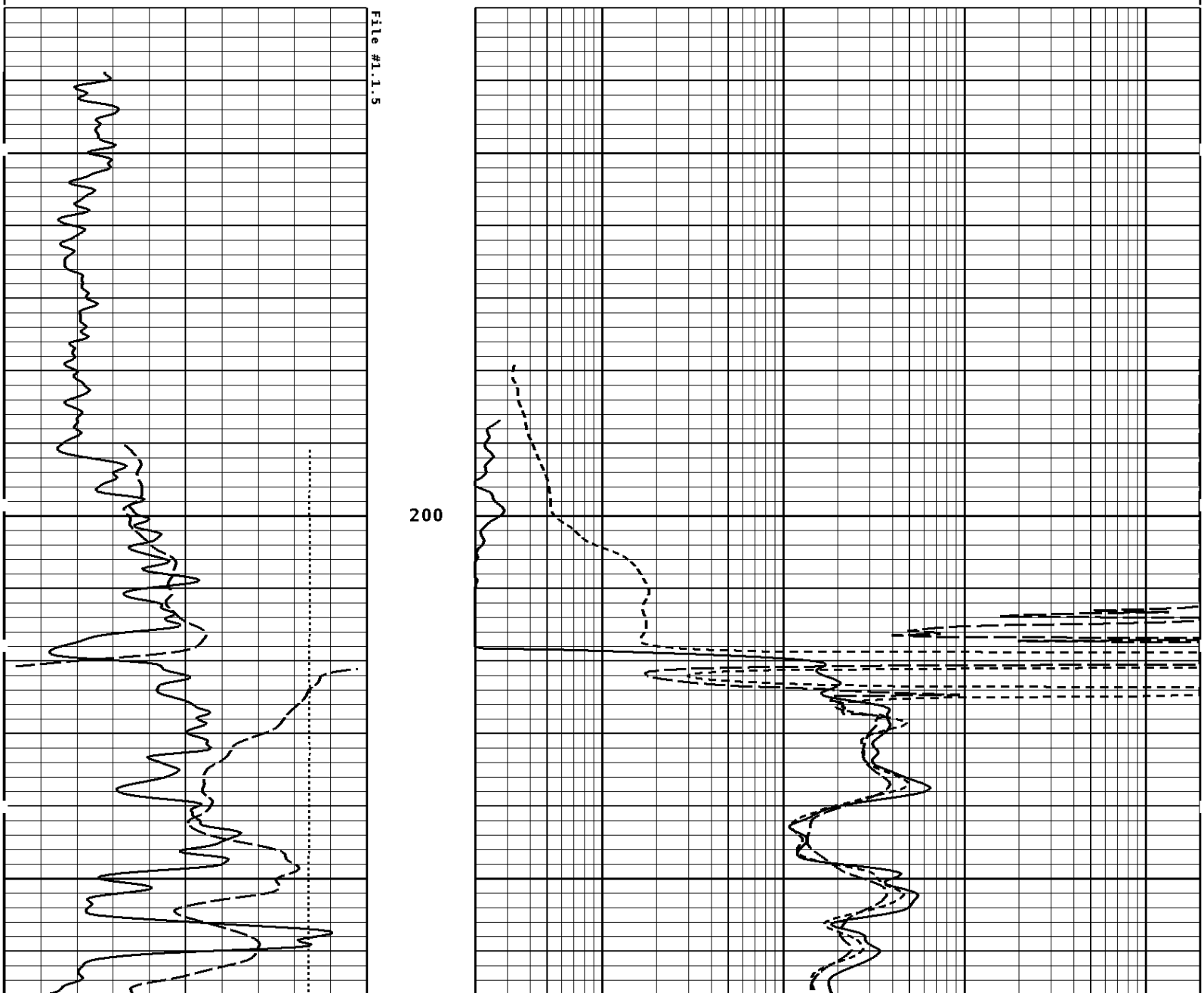
GAMMA RAY
API UNITS
150 300
0 150

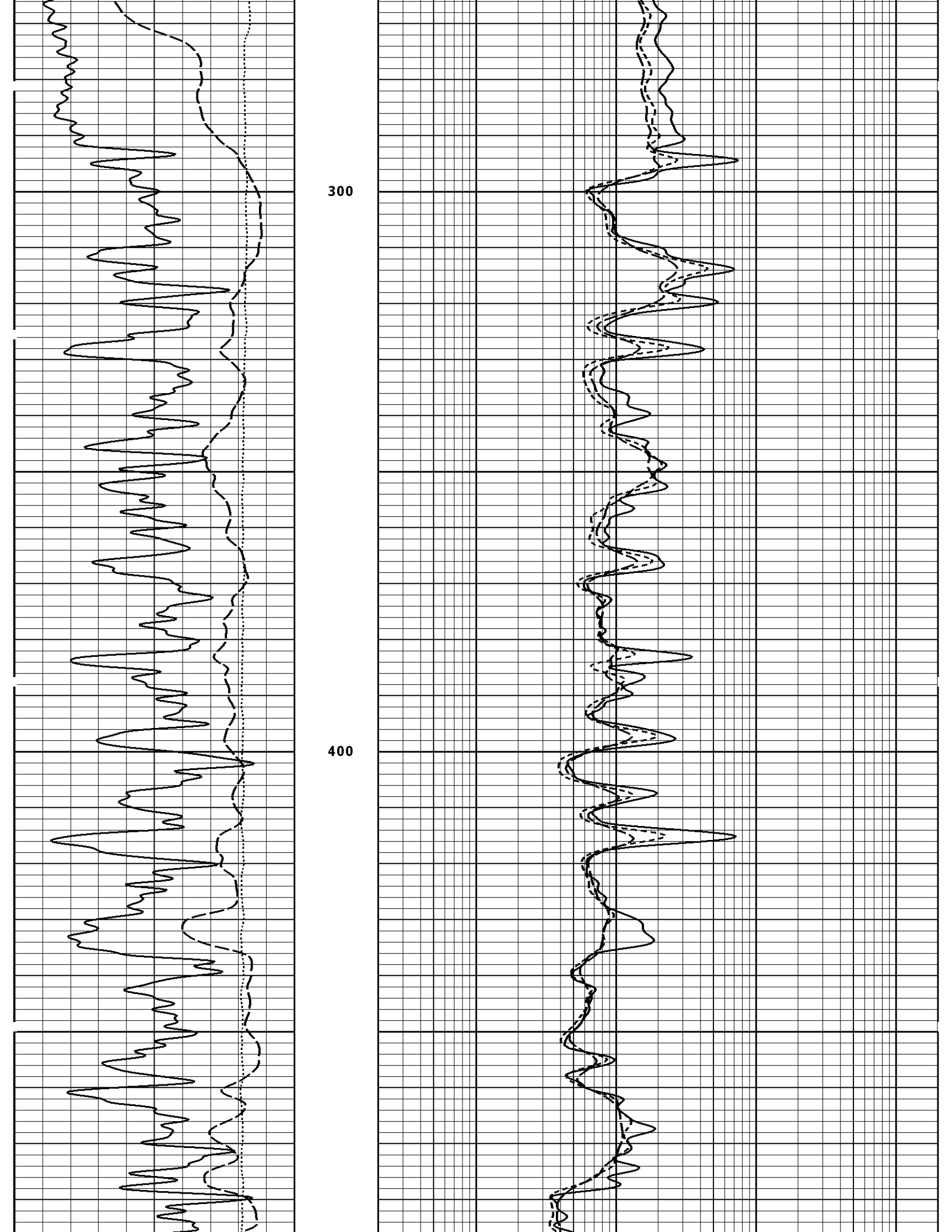
DEEP INDUCTION
OHMM
0.2 2000.0

MEDIUM INDUCTION
OHMM
0.2 2000.0

SHALLOW FOCUSED RESISTIVITY
OHMM
0.2 2000.0

1:240 MAIN SECTION

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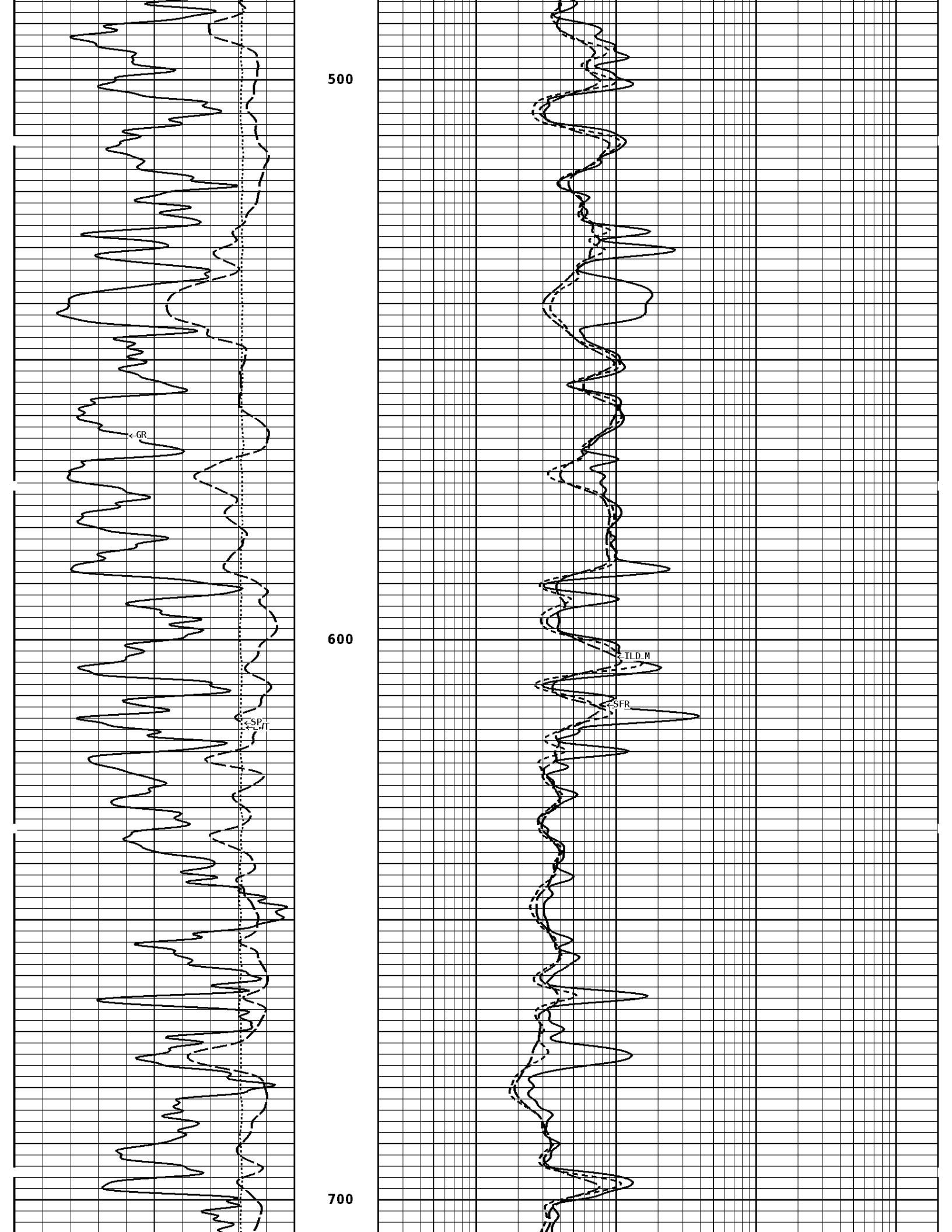
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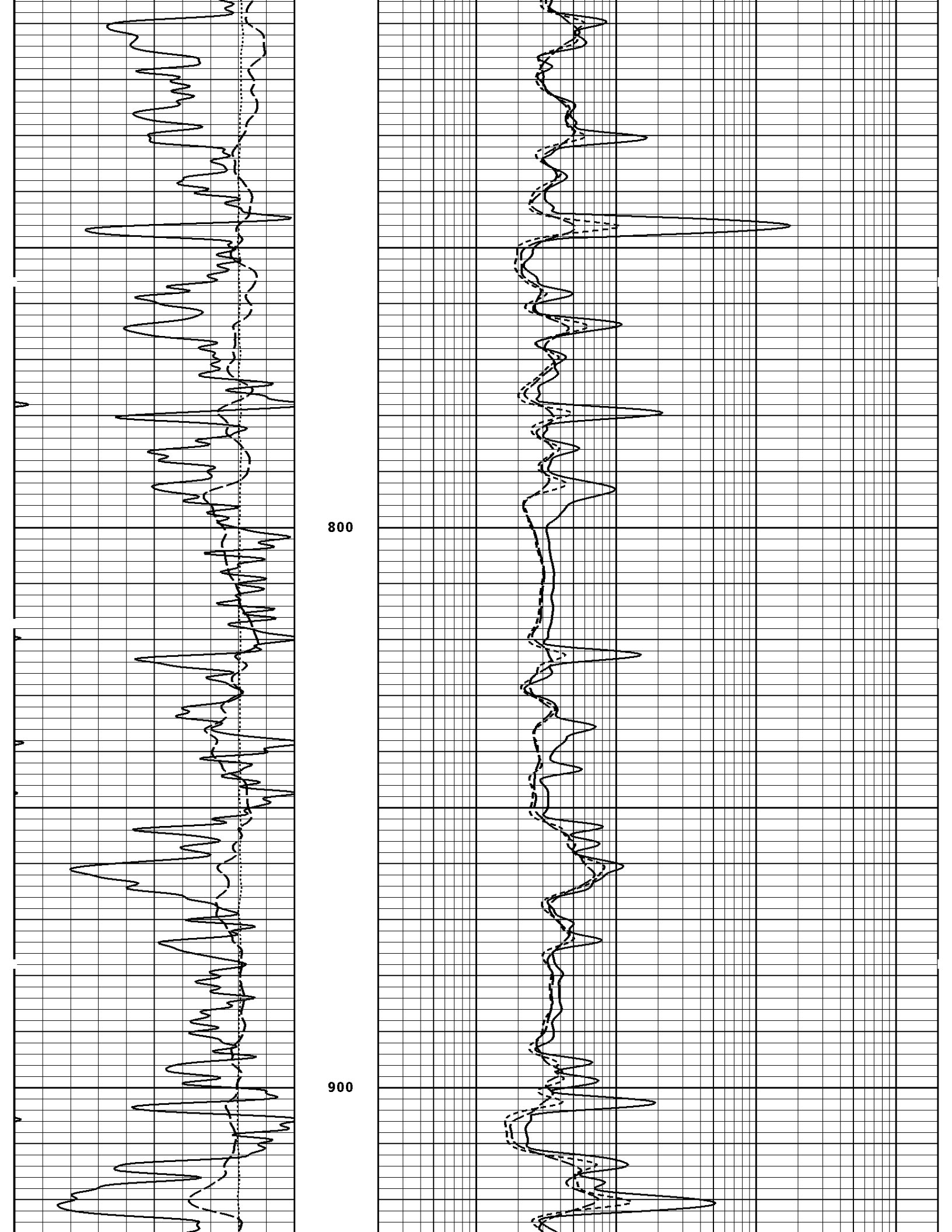
600
700
GR
SP
ILD_M
SFR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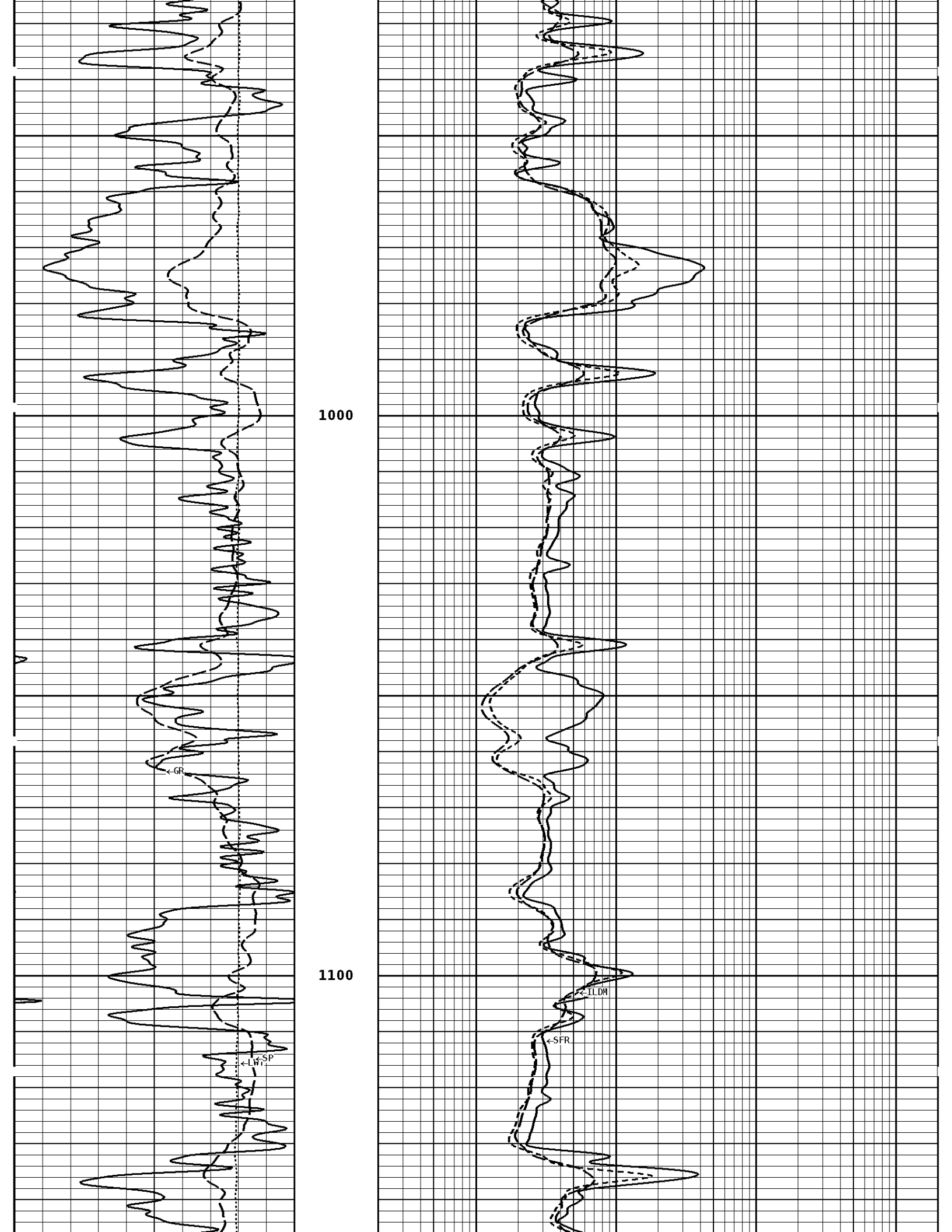
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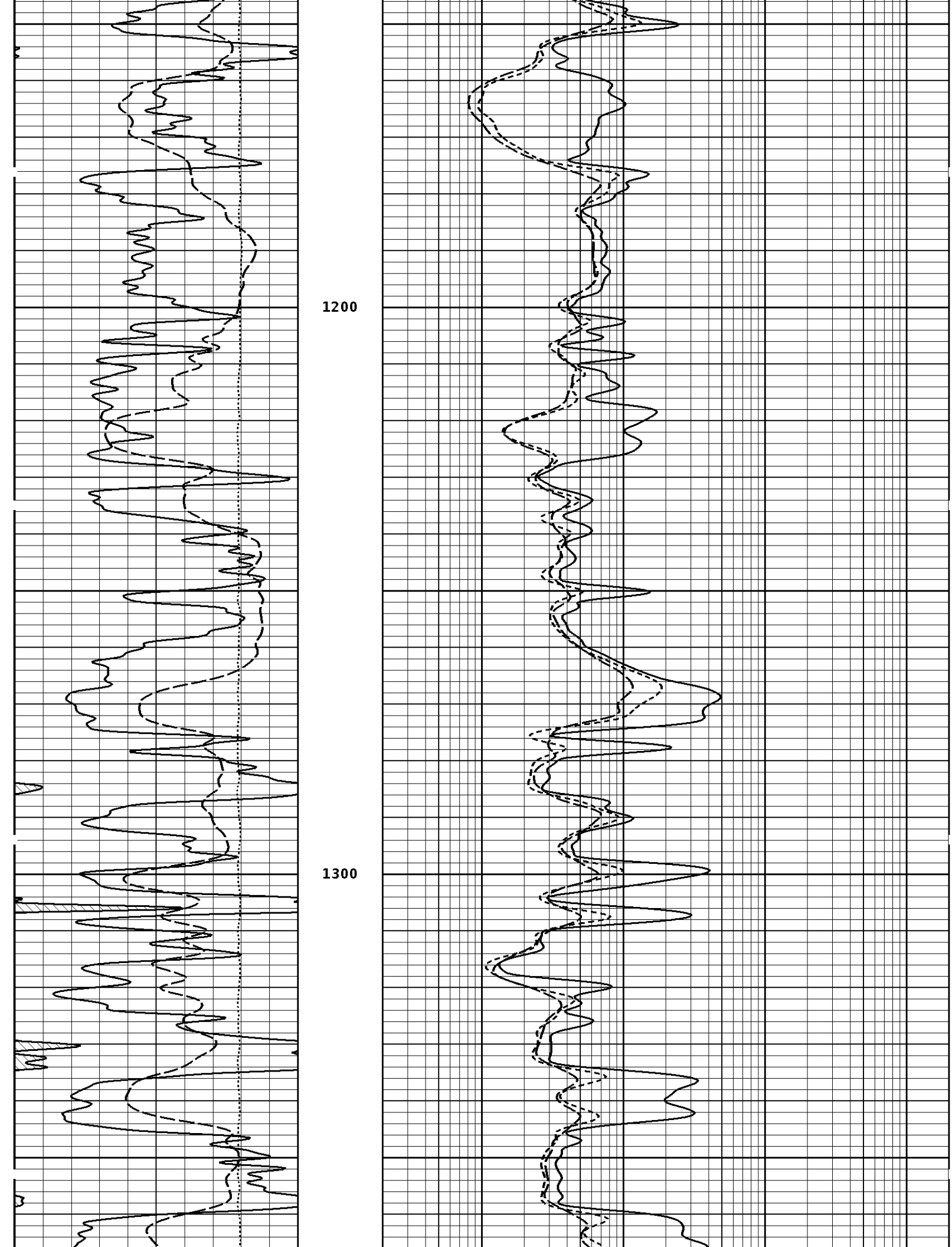
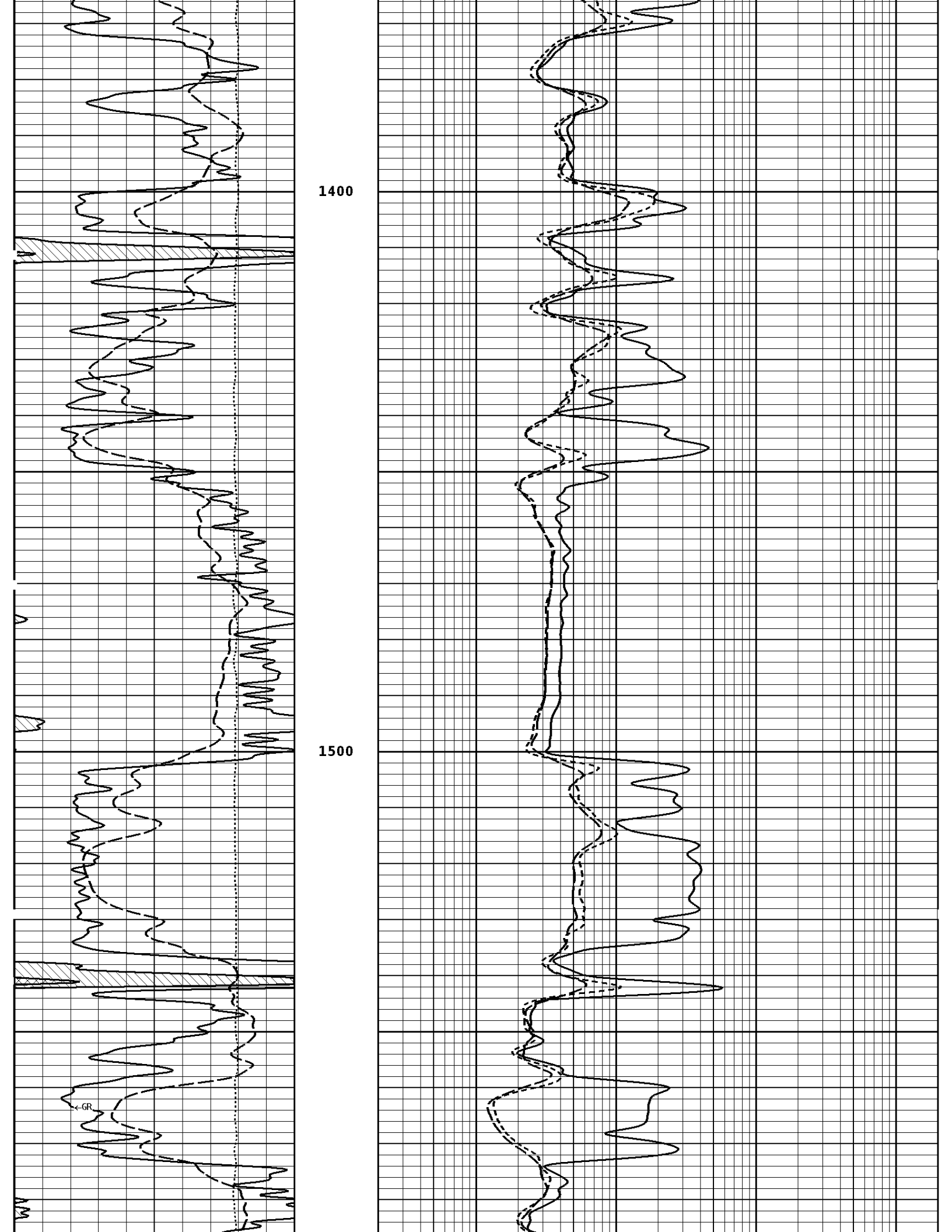
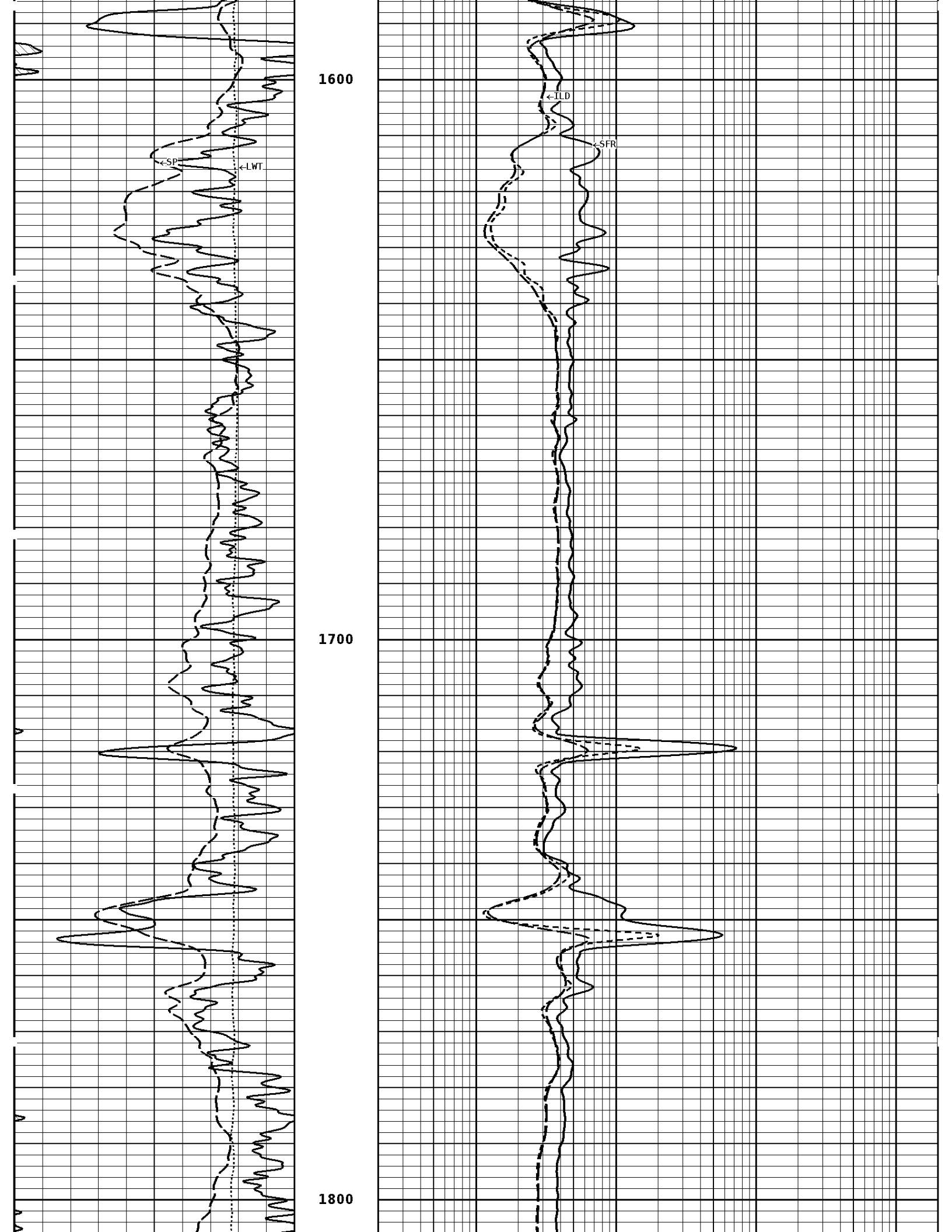
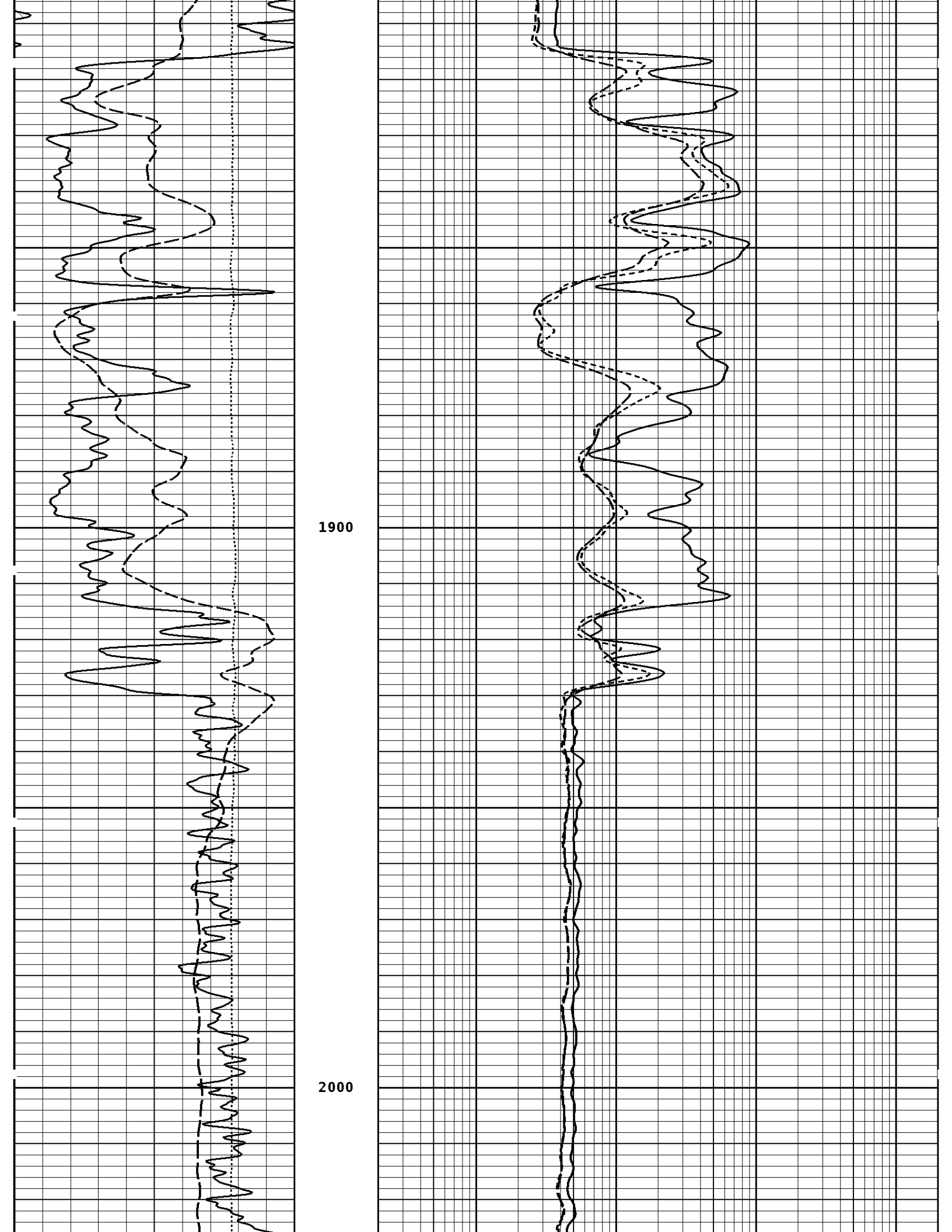
1100
←GR
←SP
←LLD
←ILDM
←SFR


1200
1300


1400
1500
GR


1600
1700
1800
←SP
←LWT
←ILD
←SFR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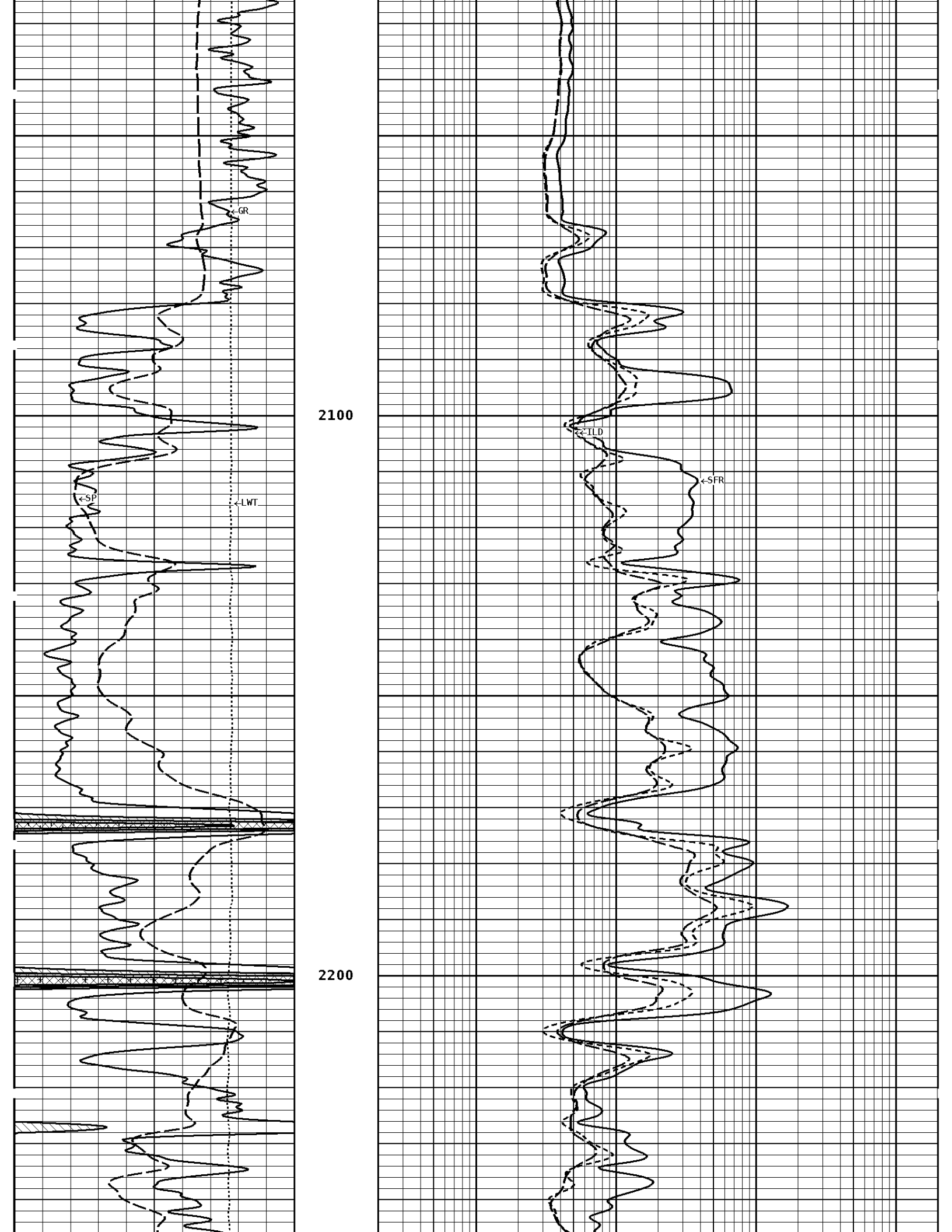
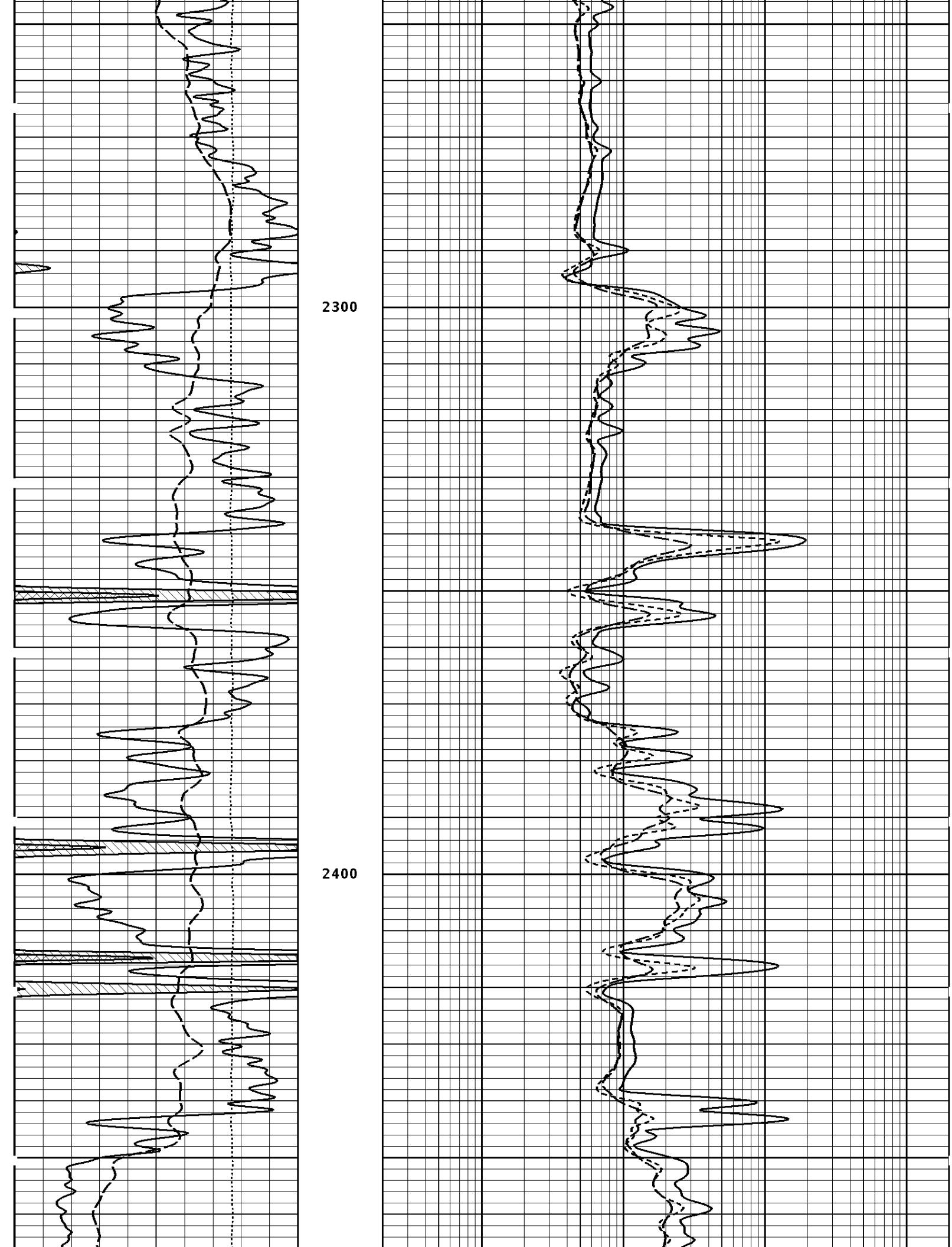

GR
SP
LWT
ILD
SFR
2100
2200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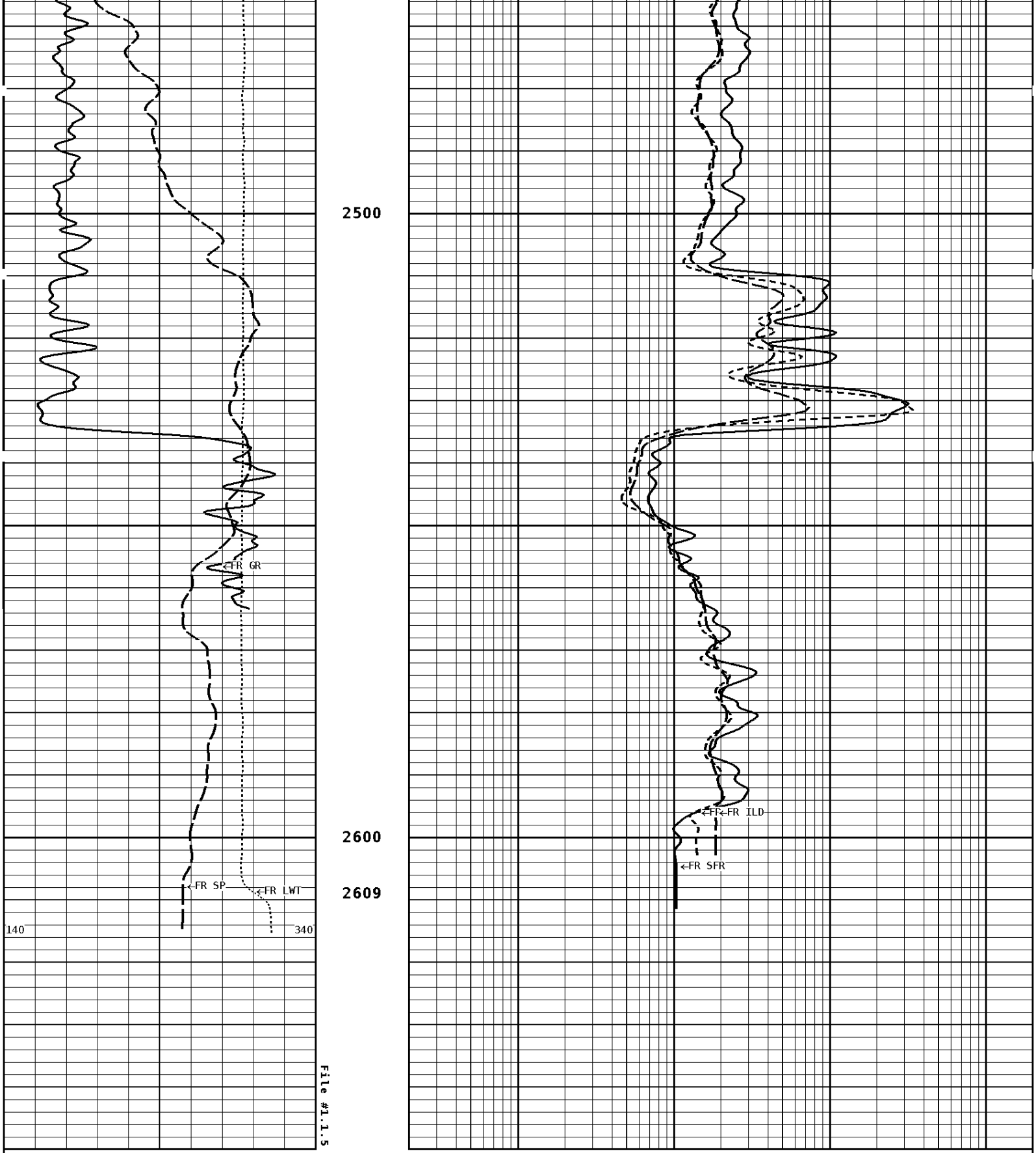
2400



1:240 MAIN SECTION

GAMMA RAY
API UNITS
150 0 300 150

SHALLOW FOCUSED RESISTIVITY
OHMM
0.2 2000.0

TENSION
LBS

MEDIUM INDUCTION
OHMM

LBS

10000 0

SPONTANEOUS POTENTIAL
mV

→| |←20

OHMM

0.2 2000.0

DEEP INDUCTION
OHMM

0.2 2000.0

*** Borehole Zone Factors ***

Zone 1 99999.0 to 0.0 Feet

Drill Bit Size	7.875	in
Casing Diameter	5.500	in
BHT Depth	2610.000	ft
Borehole Temperature	100.0	degF
Temperature Gradient	1.00	DFHF
Resistivity Of Mud	2.000	ohmm
Standoff	1.5	
Resistivity Of Mud Temperature	50.00	degF

Well File: ENTRANSCO_D-WIEBE_32-3_NOV_16_MST **Scale:** 1:240 **Format:** DIL-240
Segment: V1.D1.S3 Reprocess of REPEAT **Acquired:** 2019-11/16 05:10 3.4.1-13972
Reference: 0 **Processed:** 2019-11/16 06:18 3.4.1-13972

SPONTANEOUS POTENTIAL
mV

→| |←20

DEEP INDUCTION
OHMM

0.2 2000.0

TENSION
LBS

10000 0

MEDIUM INDUCTION
OHMM

0.2 2000.0

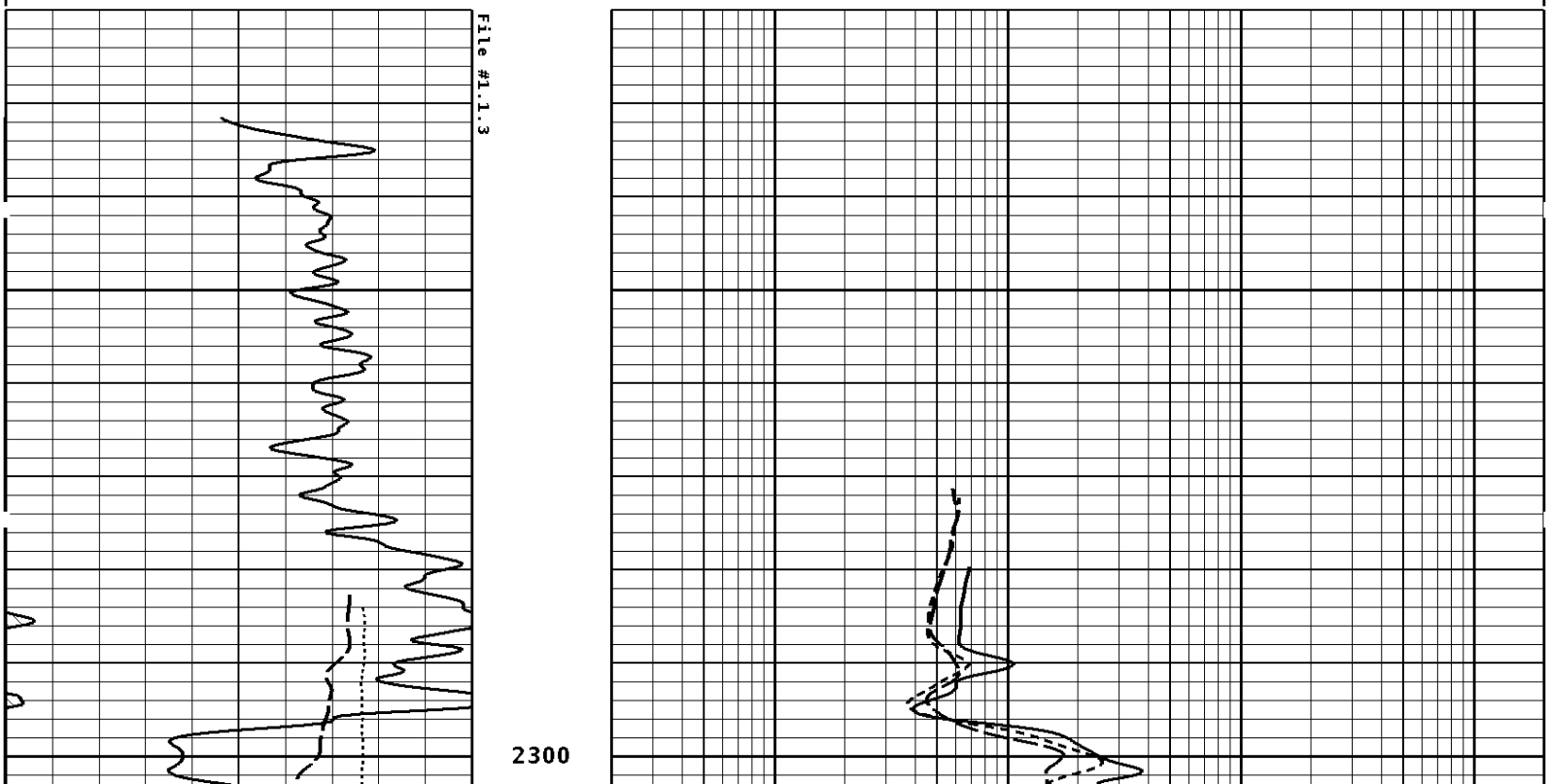
GAMMA RAY
API UNITS

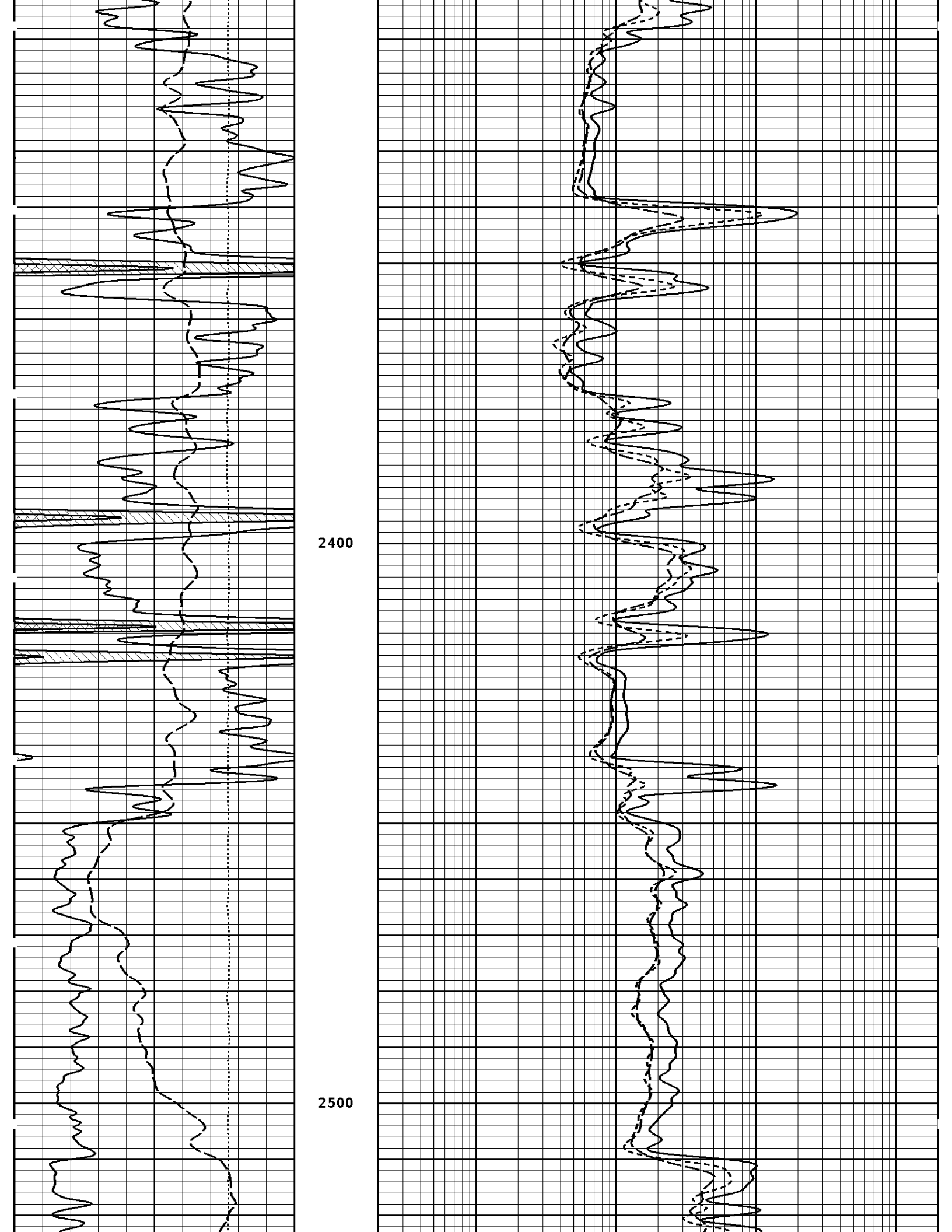
150 300
0 150

SHALLOW FOCUSED RESISTIVITY
OHMM

0.2 2000.0

1:240 REPEAT SECTION

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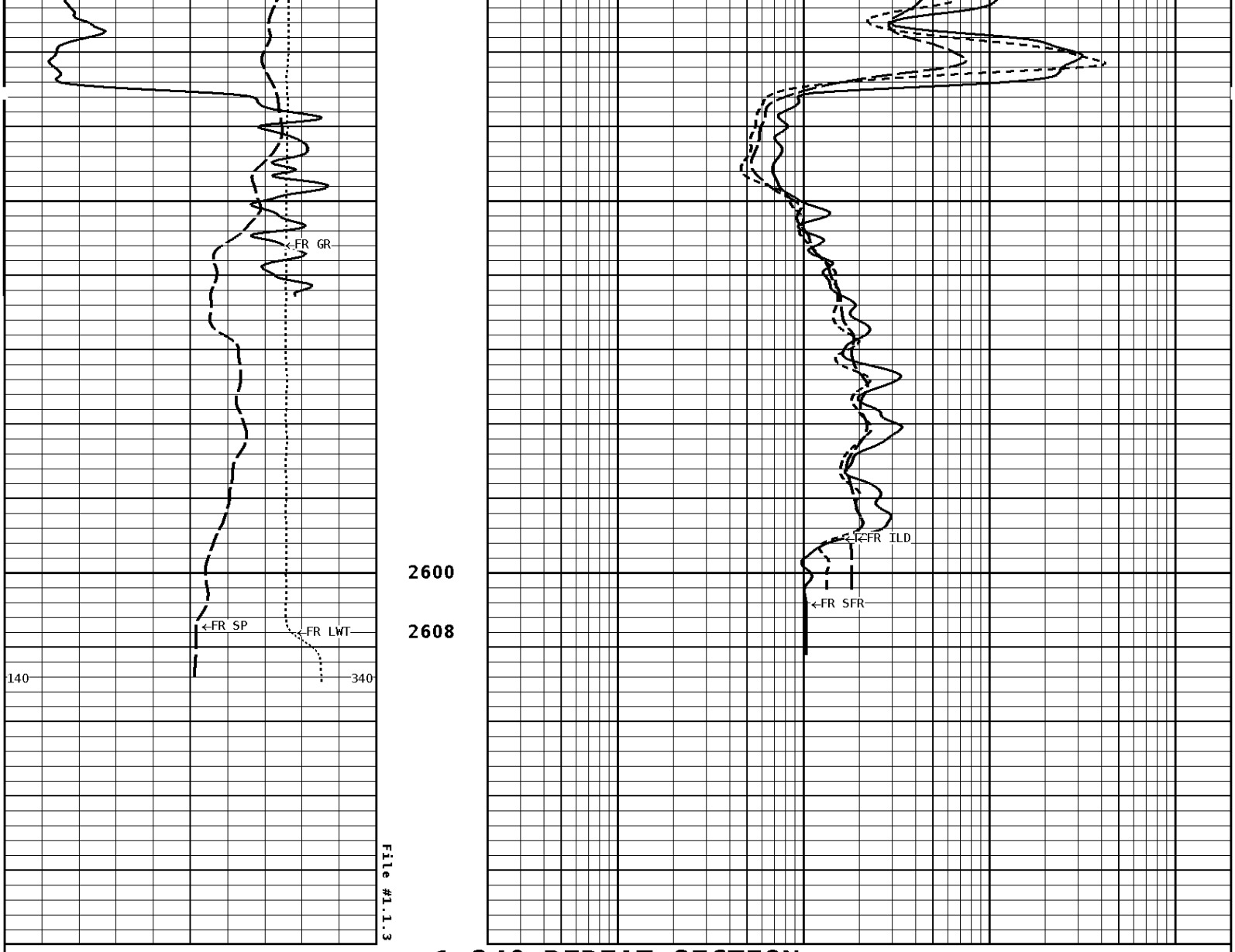
2500



1:240 REPEAT SECTION

GAMMA RAY
API UNITS
150 300
0 150

TENSION
LBS
10000 0

SPONTANEOUS POTENTIAL
mV
→ ←20

SHALLOW FOCUSED RESISTIVITY
OHMM
0.2 2000.0

MEDIUM INDUCTION
OHMM
0.2 2000.0

DEEP INDUCTION
OHMM
0.2 2000.0

*** Borehole Zone Factors ***

Zone 1 99999.0 to 0.0 Feet

Drill Bit Size	7.875	in
Casing Diameter	5.500	in
BHT Depth	2610.000	ft
Borehole Temperature	100.0	degF
Temperature Gradient	1.00	DFHF
Resistivity Of Mud	2.000	ohmm
Standoff	1.5	

Resistivity Of Mud Temperature	50.00	degF

* Calibration Summary *

Shop Calibration GRT-B

Performed : 24-JUN-2019 Time : 12:20
Sensor Suite : GR-GR5 ID : GRT-BC-038

	Measured Background	Measured Jig	Units	Calibrated Jig	Units
GR	36	266	CPS	160	GRAPI

Shop Calibration PIT-CA

Performed : 10-MAY-2019 Time : 11:27
Sensor Suite : P-IND-T ID : PIT-AC-043

Medium

	Measured R	Measured X	Calibrated R	Calibrated X	Units
Air	131492	129685	0.0	0.0	MMHOS
Zero	131066	131062	-18.1	59.6	MMHOS
Reference	244915	244454	4981.9	5059.6	MMHOS
Loop	130404	210498	3515.7	3611.2	MMHOS
Sonde Error			-0.5	-1.7	MMHOS
Cond			4981.9	5059.6	MMHOS

Deep

	Measured R	Measured X	Calibrated R	Calibrated X	Units
Air	131939	129230	0.0	-0.0	MMHOS
Zero	131079	131067	-15.6	35.3	MMHOS
Reference	220620	224092	1984.4	2035.3	MMHOS
Loop	129308	206166	1595.4	1712.8	MMHOS
Sonde Error			-0.6	-7.8	MMHOS
Cond			1984.4	2035.3	MMHOS

Temperature

Measured Low	Measured High	Calibrated Low	Calibrated High	Units
16980.0	56920.0	70.0	350.0	DEGF

Performed : 10-May-2019 Time : 14:03
Sensor Suite : SFL ID : PIT-AC-043

Internal

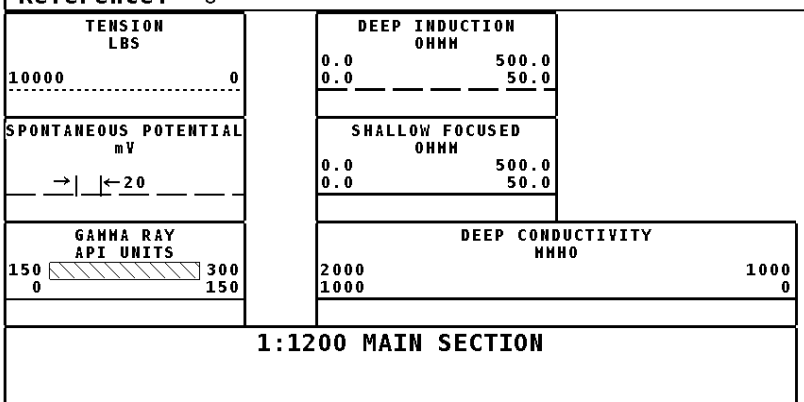
	Measured Zero	Measured Reference	Calibrated Zero	Calibrated Reference	Units
Im	32732.6	48929.1	0.0	7028.0	uA
Ib	32768.6	49680.1	0.0	1750.0	mA
MOM1	32722.0	56290.6	0.0	175.0	mV
Equivalent SFL				43.97	OHMM

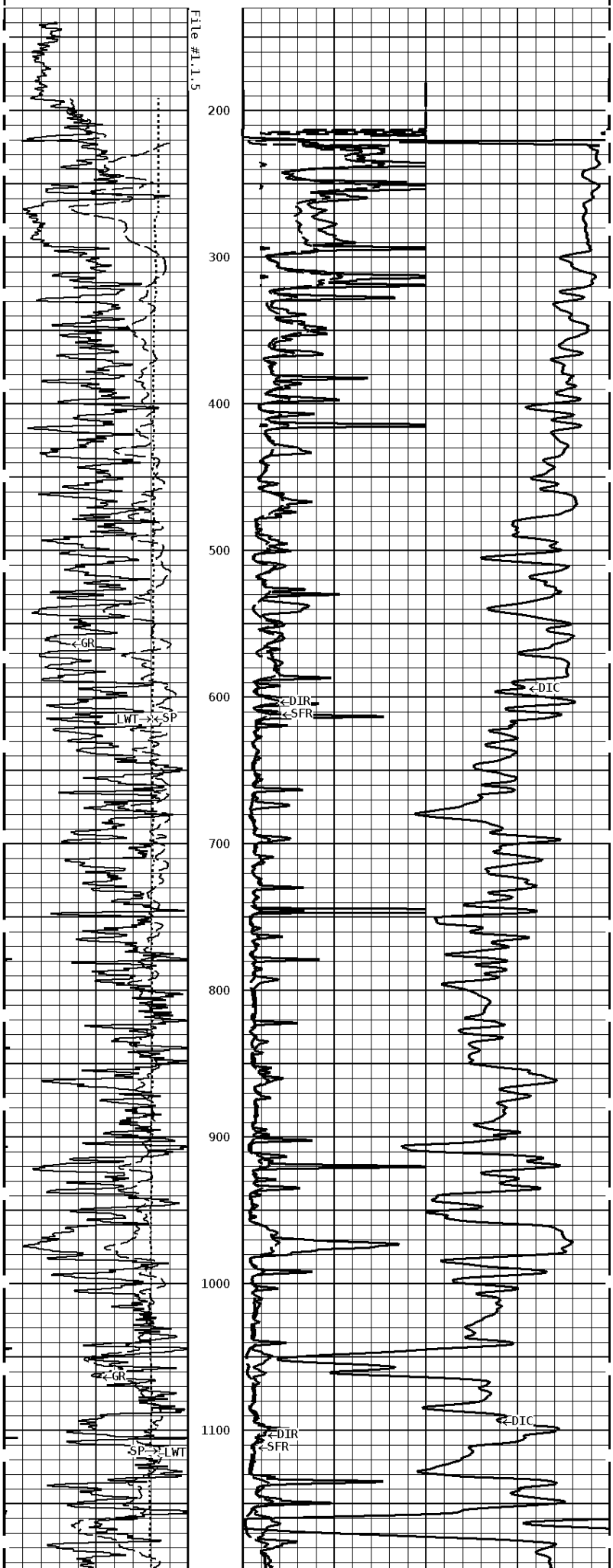
Performed : 10-MAY-2019 Time : 11:16
Sensor Suite : P-SP ID : PIT-AC-043

Internal

Measured Zero	Measured Reference	Calibrated Zero	Calibrated Reference	Units
32774.5	58935.9	0.0	1000.0	mV

Well File: ENTRANSCO_D-WIEBE_32-3_NOV_16_MST **Scale:** 1:1200 **Format:** DIL1200
Segment: V1.D1.S5 Reprocess of MAIN **Acquired:** 2019-11/16 05:26 3.4.1-13972
Reference: 0 **Processed:** 2019-11/16 06:17 3.4.1-13972




File #1.1.5
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700
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1100
GR
LWT
SP
DIR
SFR
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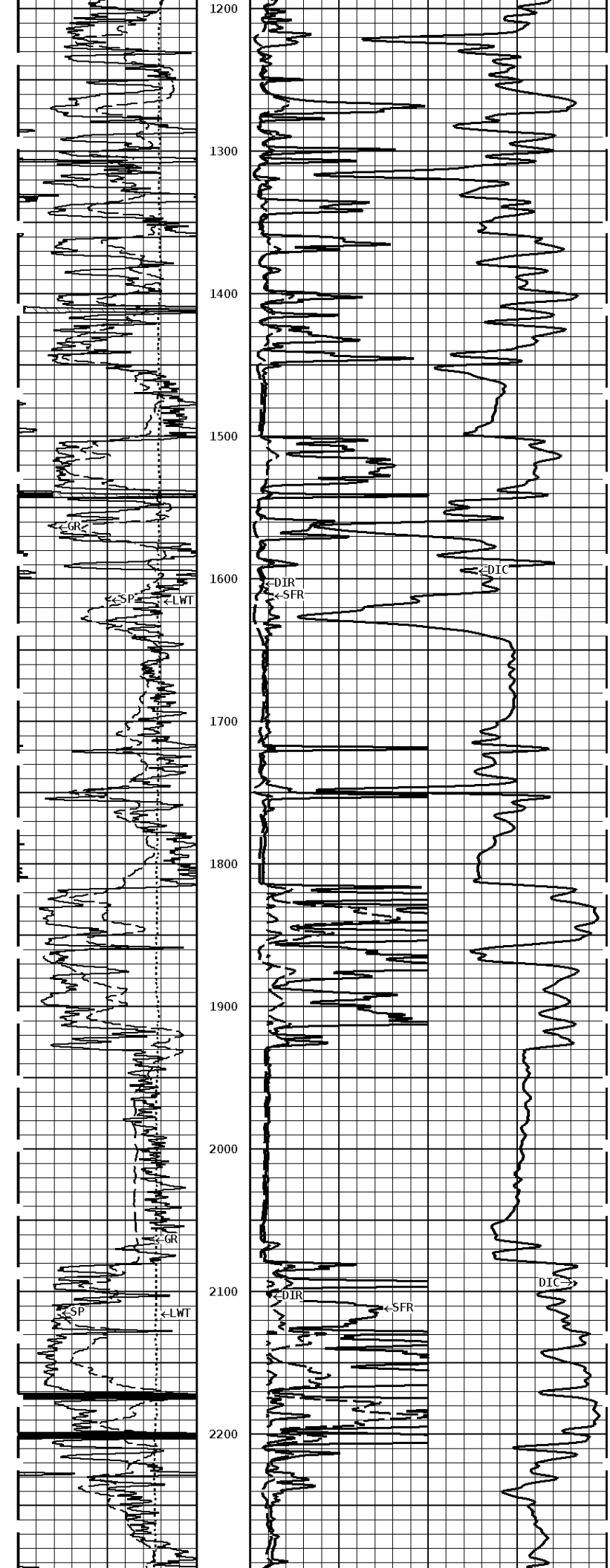
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1300
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GR
SP
LWT
DIR
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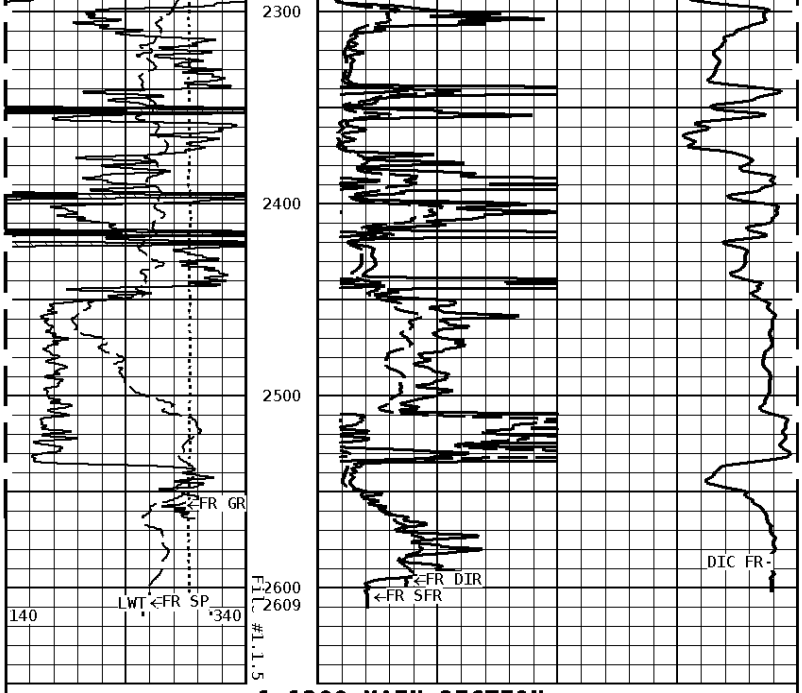
GR
SP
LWT
DIR
SFR
DIC



1:1200 MAIN SECTION

GAMMA RAY
API UNITS
150 300
0 150

DEEP CONDUCTIVITY
MMHO
2000 1000
1000 0

SPONTANEOUS POTENTIAL
mV
20

SHALLOW FOCUSED
OHMM
0.0 500.0
0.0 50.0

TENSION
LBS
10000 0

DEEP INDUCTION
OHMM
0.0 500.0
0.0 50.0

STEP energy services

Company: ENTRANSCO ENERGY LLC

Well: D. WIEBE #32-3

Location: 1238' FSL & 350' FWL

Logged: 11-16-2019

K.B. Elev: 1497.0 Ft