Tucker WIRELINE SERVICES

DUAL INDUCTION RESISTIVITY LOG

Company LB EXPLORATIONS INC.
Well LARKIN #14-2
Field DEERHEAD NORTH
County BARBER
State KANSAS
Country USA
API No. 15-007-20258-00-01

File No : TUL-55923
Company : LB EXPLORATIONS INC.
Well : LARKIN #14-2
Field : DEERHEAD NORTH
County : BARBER
State : KANSAS
Country : USA
API No : 15-007-20258-00-01

Location :
1880' FSL & 2120' FWL
NW SE

LSD : **Sect :** 14 **Twp :** 32S **Rge :** 15E

Permanent Datum:	GL		**Elevations:**			**Services:**	
Drilling Measured From:	KB		**KB**	2110.00	Ft	CNT	CNT
Log Measured From:	KB		**DF**	2009.00	Ft	LDT	PIT
Above Permanent Datum:	13.00	Ft	**GL**	1997.00	Ft	MLT	

Date	Oct 10 2011							
Run Number	1							
Depth--Driller	5400.0	Ft						
Depth--Logger	5393.0	Ft						
First Reading	5392.0	Ft						
Last Reading	257.0	Ft						
Casing--Driller	244.0	Ft						
Casing--Logger	257.0	Ft						
Bit Size	7.875	In						
Casing Size	8.625	In						
Hole Fluid Type	WBM							
Density	9.1	LBS/GAL						
Fluid Loss	11.2	CC						
PH/Viscosity	9.0	45.0 SEC						
Sample Source	MEASURED							
RM@Measured Temp.	0.780	@ 66 F						
RMF@Measured Temp	0.663	@ 66 F						
RMC@Measured Temp.	1.031	@ 66 F						
Source RMF/RMC	CALCULATED	CALCULATED						
RM@BHT	0.414	@ 130 F						
Time Circulation Stopped	Oct 09 2011 10:00							
Max Recorded Temp.	130	F						
Equipment/Base	TRK123	TULSA						
Recorded By	S. DAVIS / R. FRANKLIN							
Witnessed By	S. PETERMAN							

Bitsize Intervals

Size (In)	Bottom (Ft)
7.875	5400.00

Casing Strings

Size (In)	Weight (Lbs)	Bottom (Ft)
8.625	20.00	244.00

Run Number	1		
Date	Oct 10 2011		
Date/Time On Bottom	Oct 10 2011 03:30		
Depth to Fluid	0.0	Ft	
Salinity	0.000	PPM	
RMF@BHT	0.352	@ 130 F	
RMC@BHT	0.548	@ 130 F	

Run Number 1

Comments

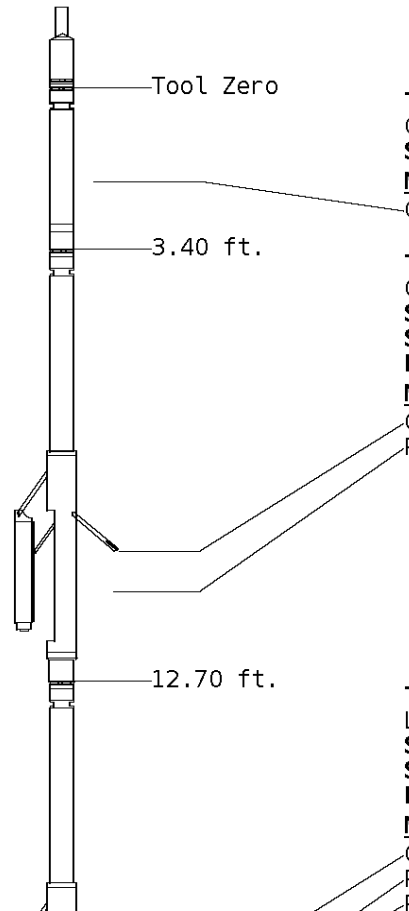
ALL PRESENTATIONS AS PER CUSTOMER REQUEST
GRT, CNT, LDT, MLT, CST, AND PIT RUN IN COMBINATION.
CALIPERS ORIENTED ON X-Y AXIS.
2.71 G/CC USED TO CALCULATED POROSITY.
ANNULAR HOLE VOLUME CALCULATED UISING 5.50" PRODUCTION CASING.
DETAIL PRESENTED FROM TD TO DETAIL 3500' PER CUSTOMER REQUEST.

GRT: GRP, UFGRP, S-KK, S-UK, S-TK.
CNT: PHIN, CLCNIN.
LDT: PORL, LCORN, PECLN, LDENN, PORLLS, CLLDIN.
MLT: NOR_RF, INV_RF, MSCLPIN.
CST: PORS, ITT, CDTF, TT1, TT2, TT3, TT4.
PIT: ILD, ILM, SPU, SFLAEC.

OPERATORS:
J. THOMAS
S. DAVIS
A. WARREN

Tool String Schematic

Total Tool Length - 67.37 **ft.**
Maximum Outside diameter - 6.00 **in.**
Net Weight in Air - 1171.00 **lbs.**



Tool: GRT-B **Length:** 3.40 **ft.** **O.D.** 3.60 **in.**
Gamma Ray Controller
Sonde ID :GRT-BC-41

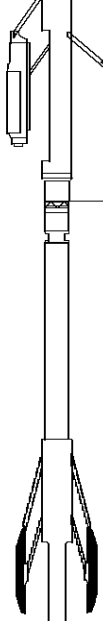
Measure Point	Tool Offset	Stack Offset	Bottom Offset
GRP	2.00	2.00	65.37

Tool: CNT-AA **Length:** 9.30 **ft.** **O.D.** 4.36 **in.**
Compensated Neutron A Pad on NDT-A
Sonde ID :NDT-BB-129
Source ID :N-1046
Pad ID :CNP-AA-112

Measure Point	Tool Offset	Stack Offset	Bottom Offset
CLCN	6.00	9.40	57.97
PHIN	6.80	10.20	57.17

Tool: LDT-DF **Length:** 9.72 **ft.** **O.D.** 4.80 **in.**
Litho Density D Pad on NDT-F
Sonde ID :PDT-GA-464
Source ID :2991GW
Pad ID :LDP-DA-066

Measure Point	Tool Offset	Stack Offset	Bottom Offset
CLLD	6.42	19.12	48.25
PEL	7.42	20.12	47.25
PES	7.82	20.52	46.85



LDEN	7.62	20.32	47.05
LCOR	7.62	20.32	47.05

22.42 ft.

Tool: MST-DA **Length:** 9.66 **ft.** **O.D.** 6.00 **in.**
Micro Spherically Focused (IC,D)
Sonde ID :MLT-DA-21

Measure Point	Tool Offset	Stack Offset	Bottom Offset
MSFL	7.60	30.02	37.35
MSCLP	7.60	30.02	37.35
INV	7.60	30.02	37.35
NOR	7.60	30.02	37.35

32.08 ft.

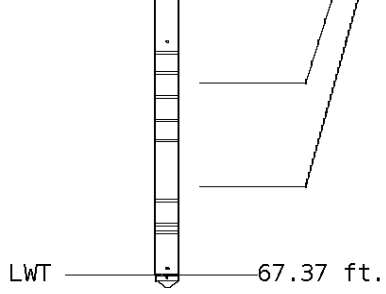
Tool: CST-AD **Length:** 13.80 **ft.** **O.D.** 3.60 **in.**
Open Hole Sonic
Sonde ID :CST-AD-078

Measure Point	Tool Offset	Stack Offset	Bottom Offset
TT1	4.80	36.88	30.49
TT3	5.80	37.88	29.49
CDT	7.30	39.38	27.99
TT4	8.80	40.88	26.49
TT2	9.80	41.88	25.49

45.88 ft.

Tool: PIT-CA **Length:** 21.49 **ft.** **O.D.** 3.62 **in.**
Phased Dual Induction w/ RM & D
Sonde ID :PIT-BA-20

Measure Point	Tool Offset	Stack Offset	Bottom Offset
ILD	8.92	54.80	12.56
ILM	10.10	55.98	11.39
SFLU	17.49	63.37	4.00
SP	20.60	66.48	0.88



Well File: lb_exp_lar_14-2_oct_10_quint
Segment: V1.D4.S1 MAIN
Reference: 0

Scale: 1:600
Acquired: Not Available
Processed: Not Available

RXO/RT
-160 — 40

TENSION
LBS
10000 — 0

SPONTANEOUS POTENTIAL
mV
→ | ←20

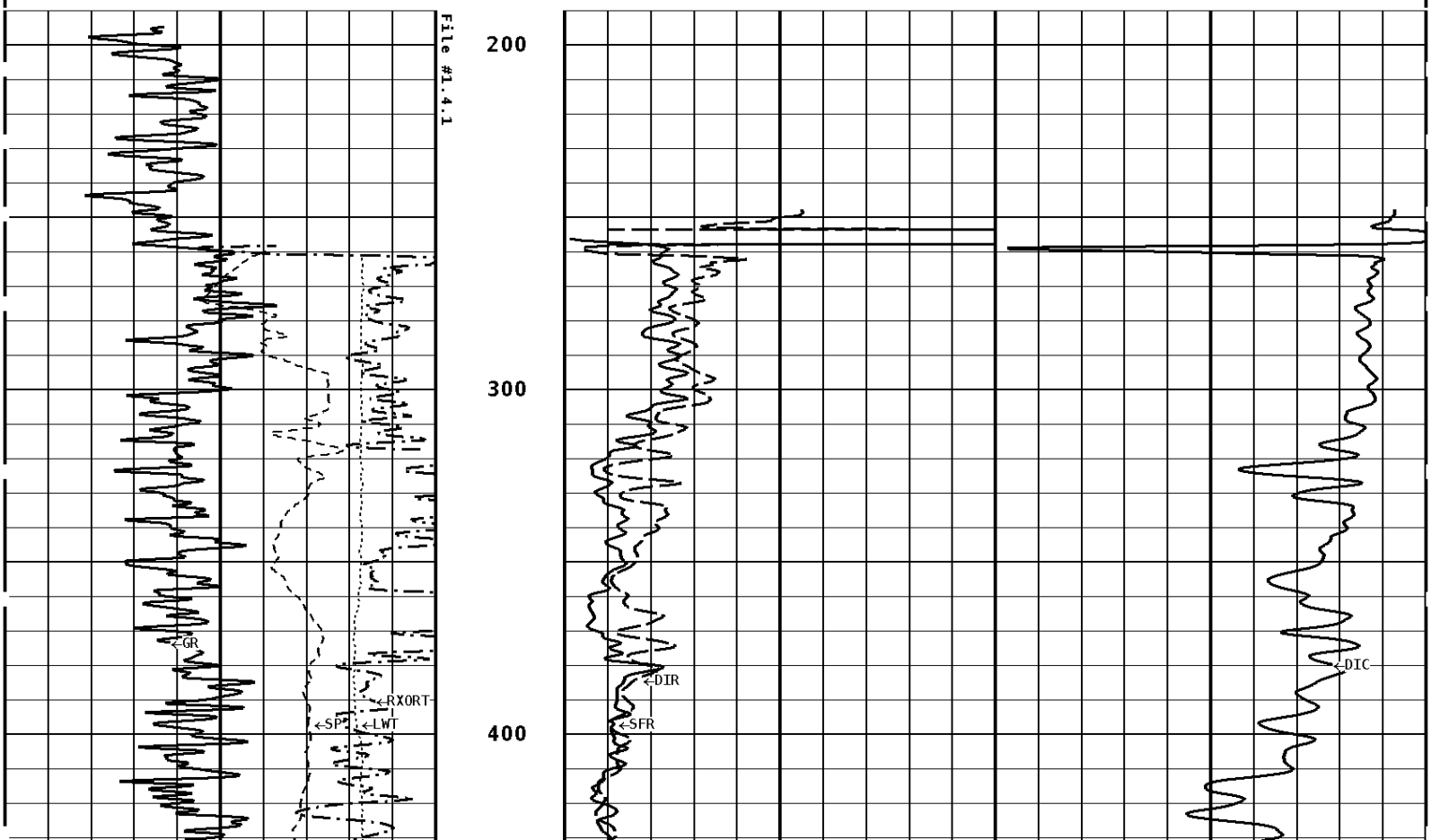
GAMMA RAY
API UNITS
150 — 300
0 — 150

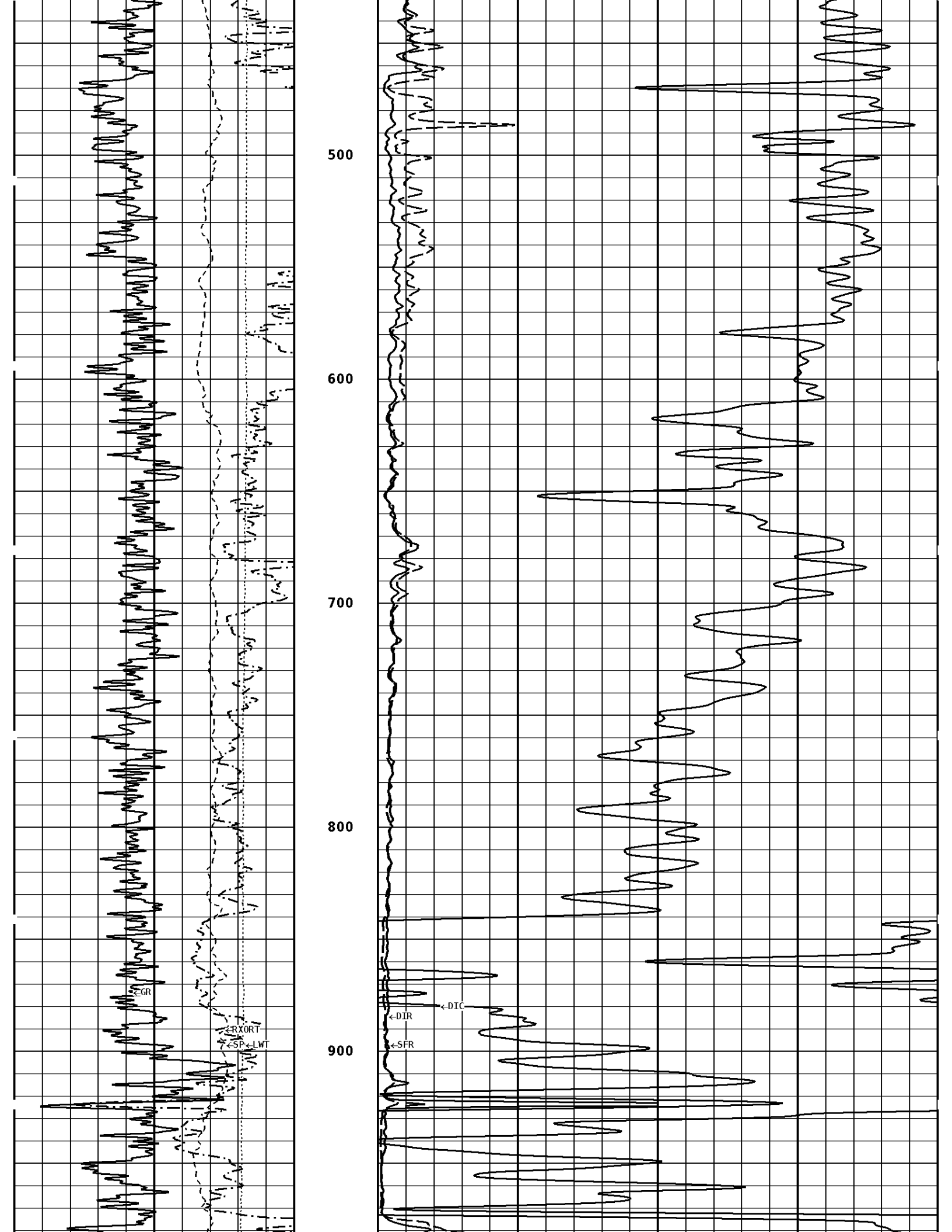
SHALLOW FOCUSED RESISTIVITY
OHMM
0.0 — 500.0
0.0 — 50.0

DEEP INDUCTION
OHMM
0.0 — 500.0
0.0 — 50.0

DEEP CONDUCTIVITY
MMHO
2000 — 1000
1000 — 0

1:600 SECTION

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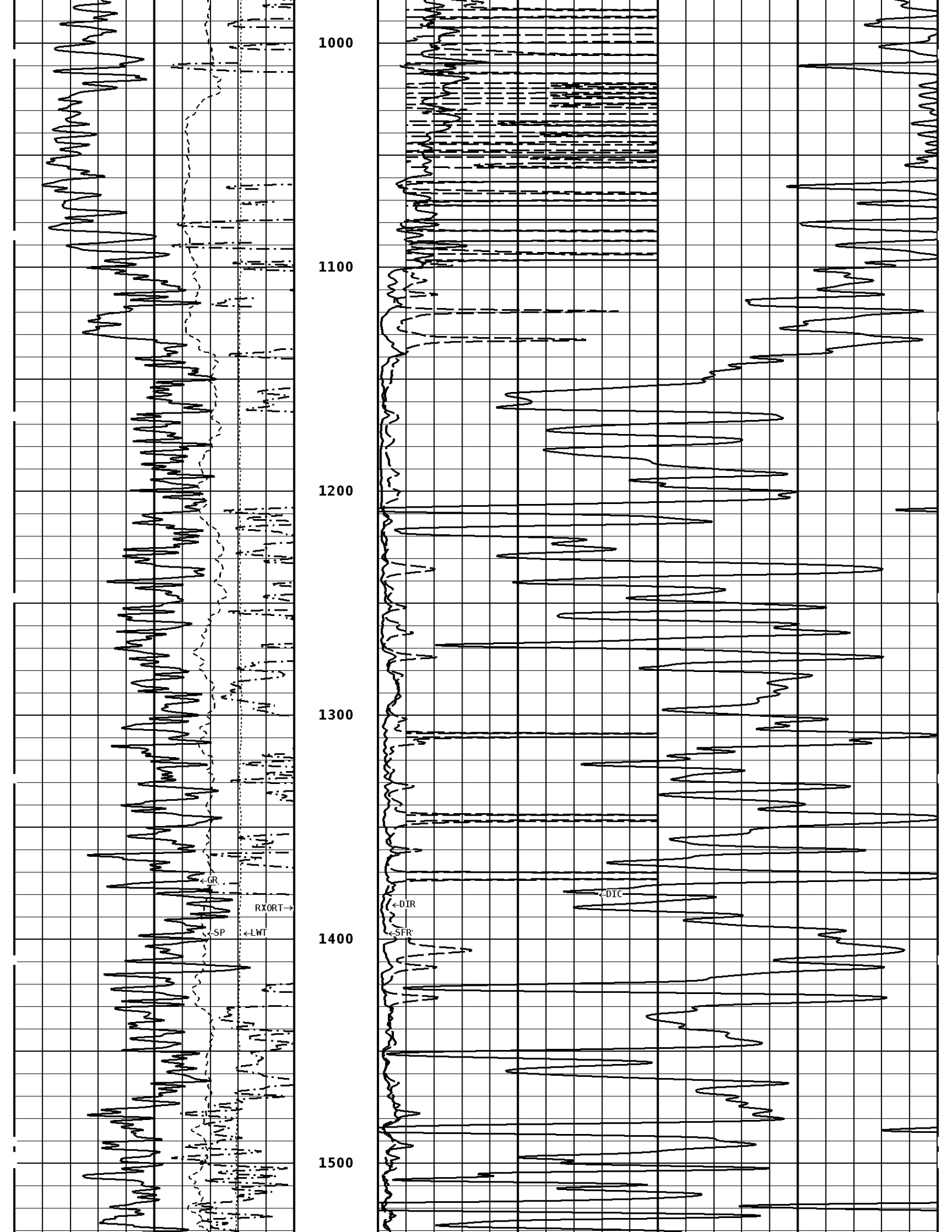
←SP
←LWT
←DIC
←DIR
←SFR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1400
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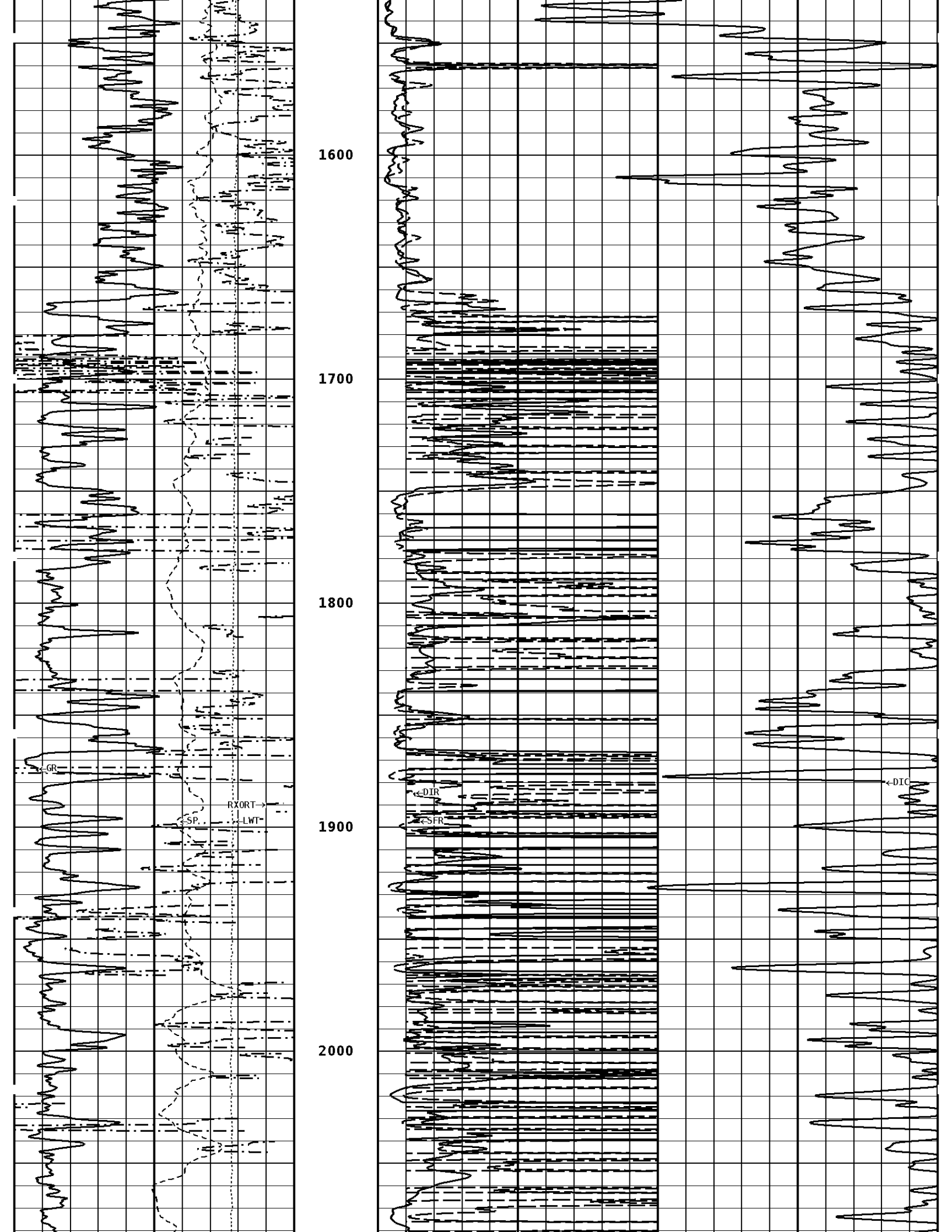
RXORT→
←SP
←LWT
←DIR
←SFR
←DIC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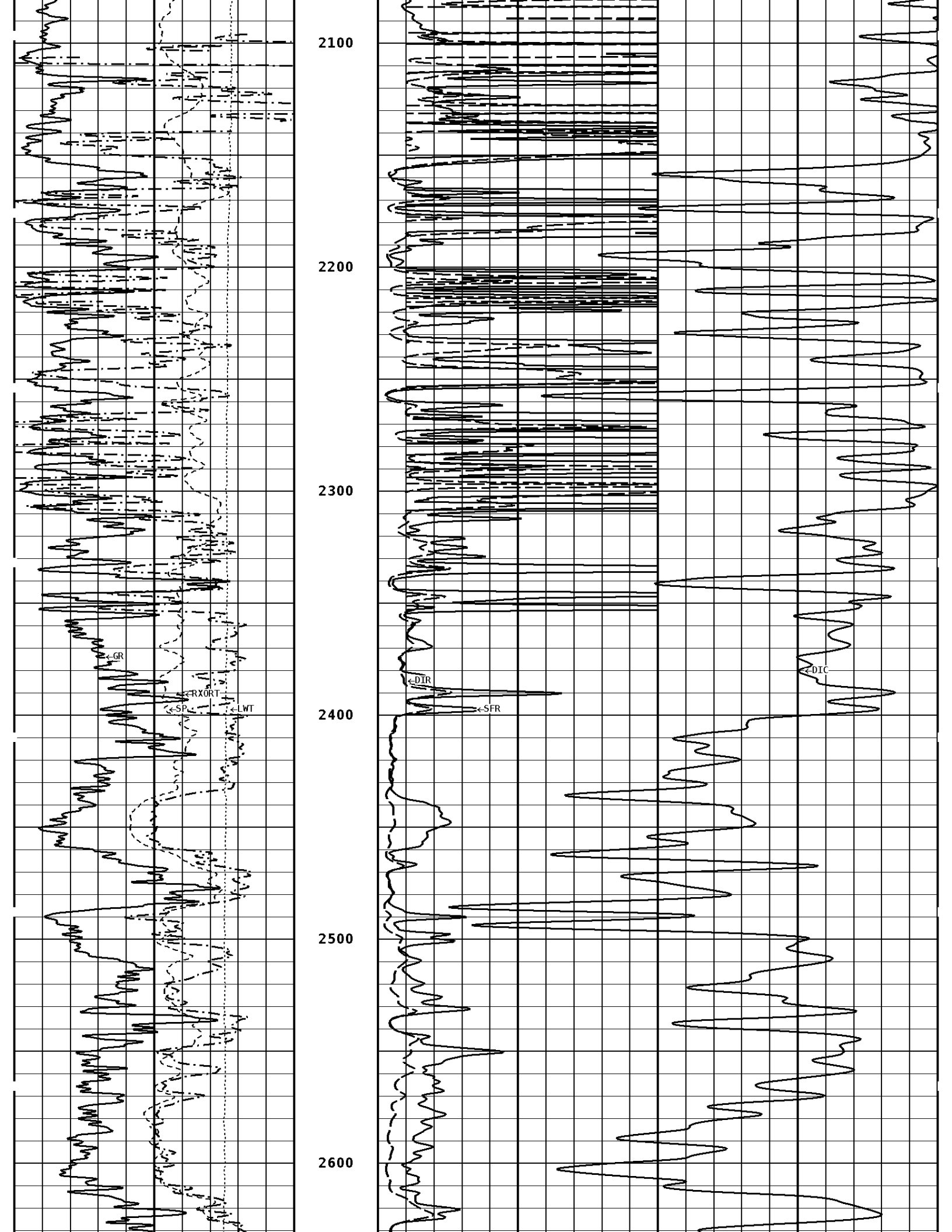
GR
SP
RXORT
LWT
DIR
SFR
DIC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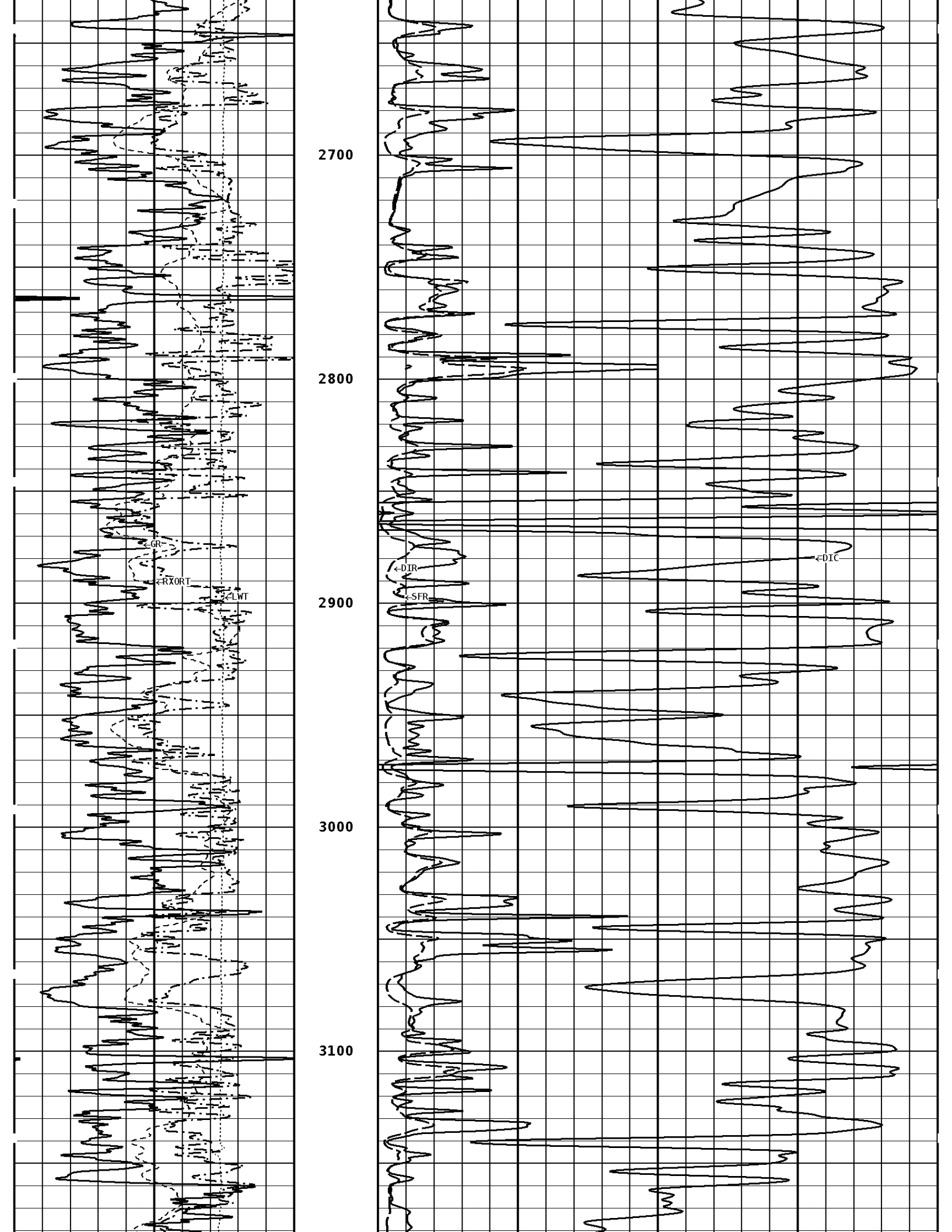
←DIC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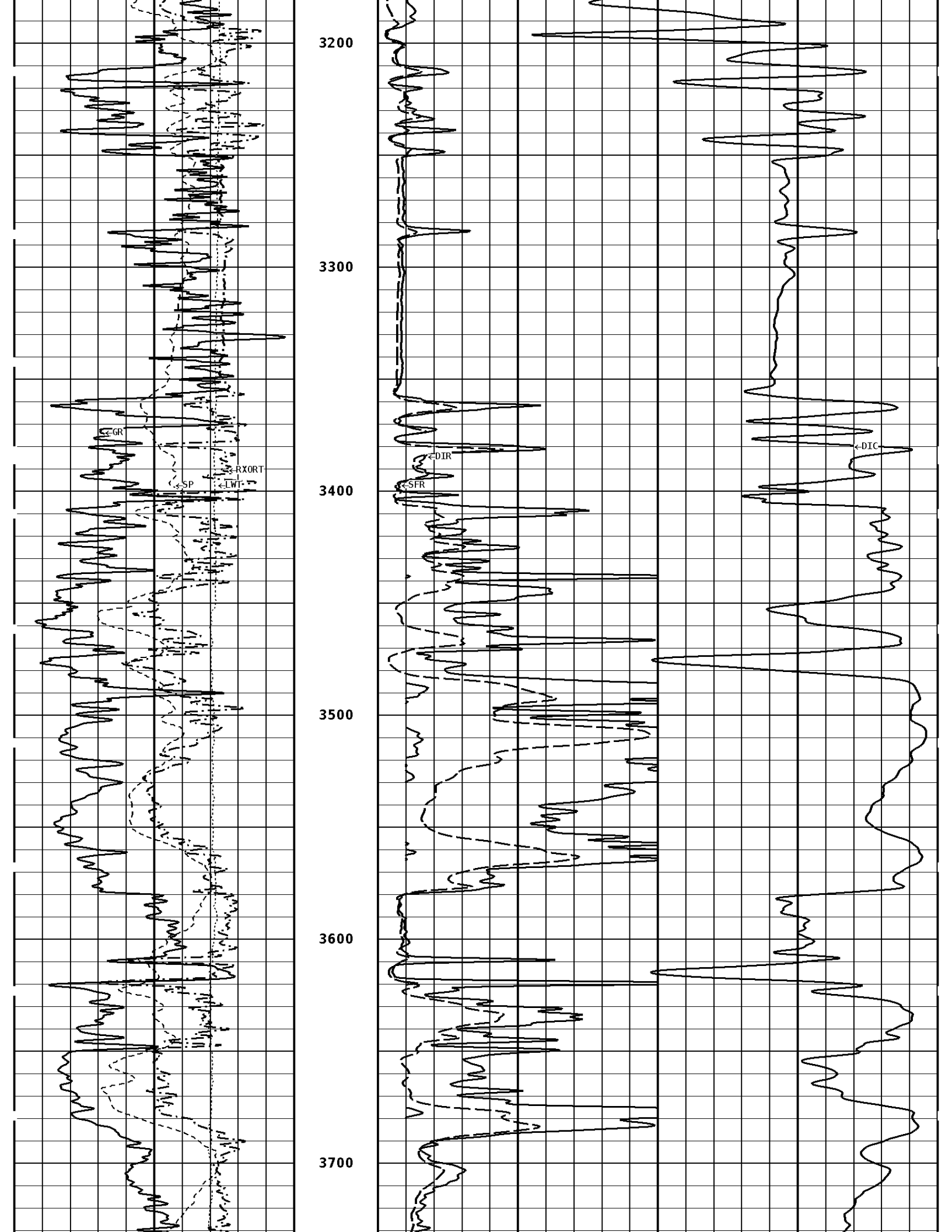
RXORT
LWT
DIR
SFR
DIC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3600
3700
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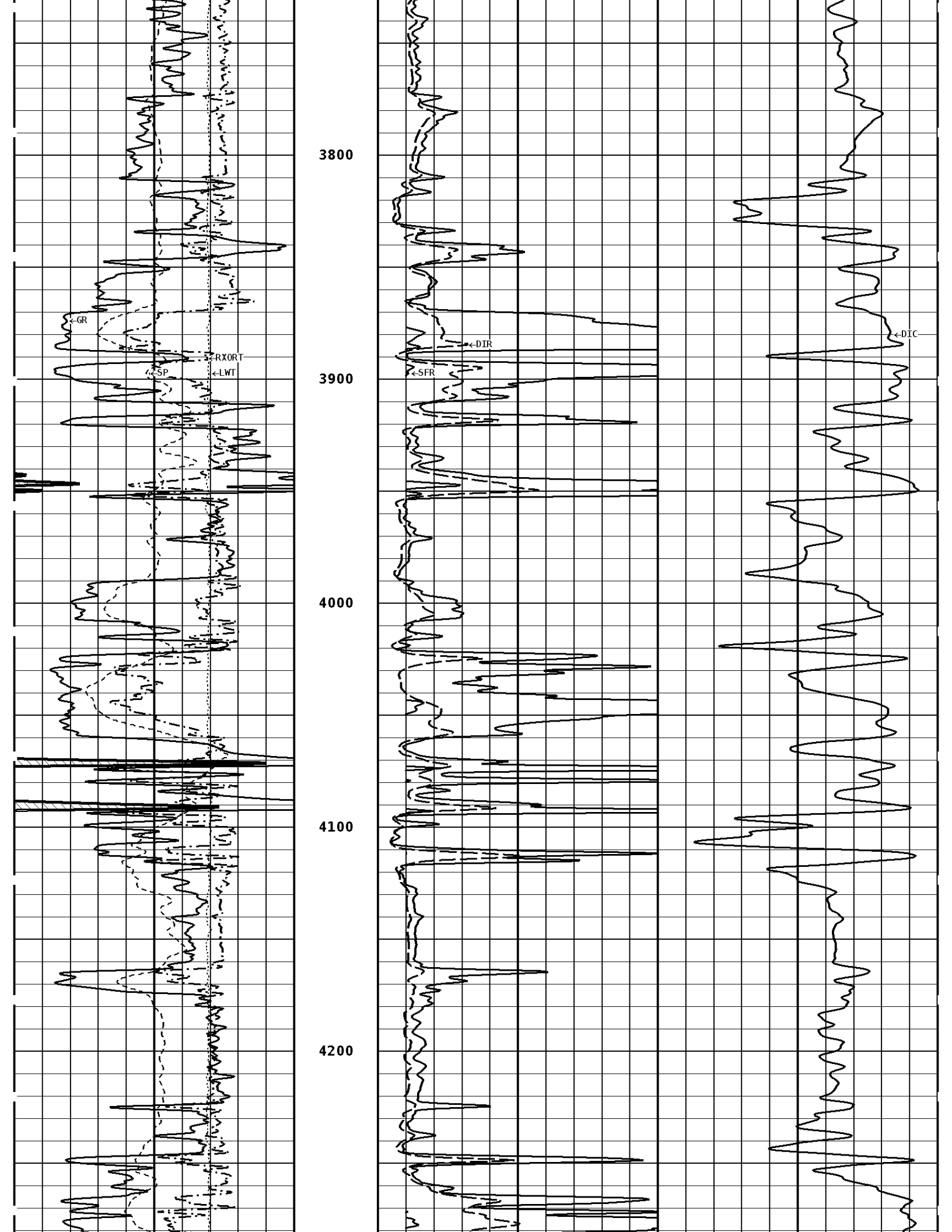
SP
RXORT
LWT
DIR
SFR
DIC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3900
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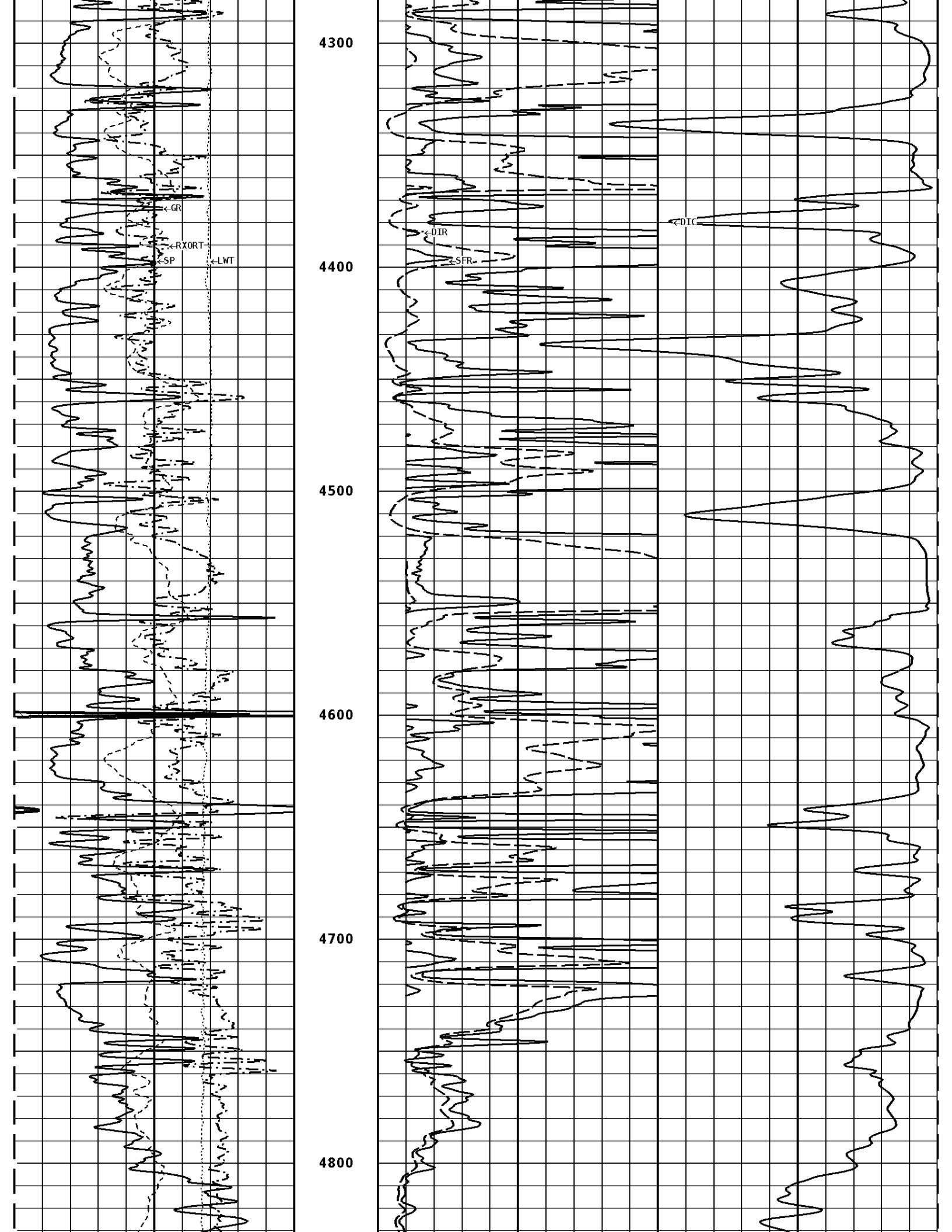
←DIR
←SFR
←DIC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RXORT
SP
LWT
DIR
SFR
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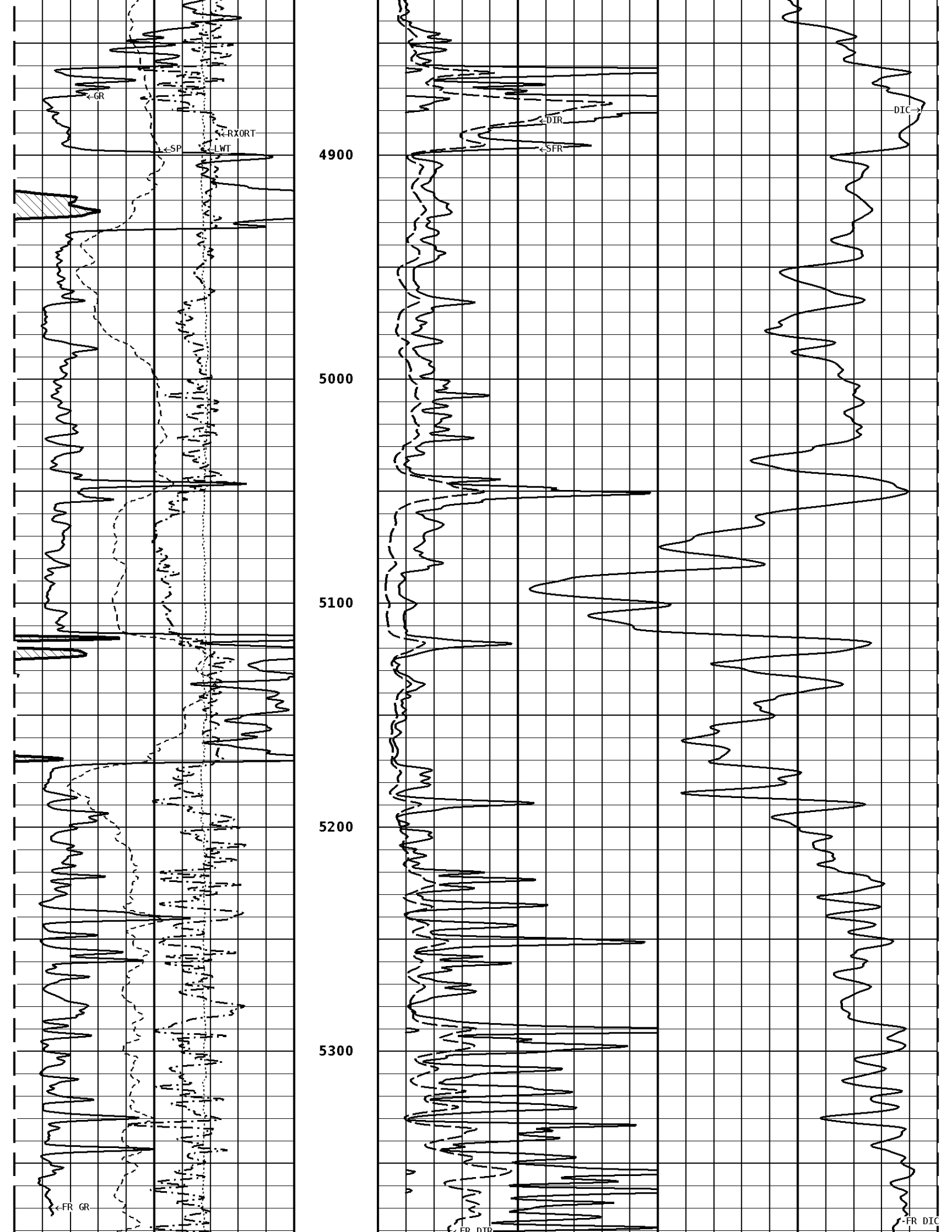
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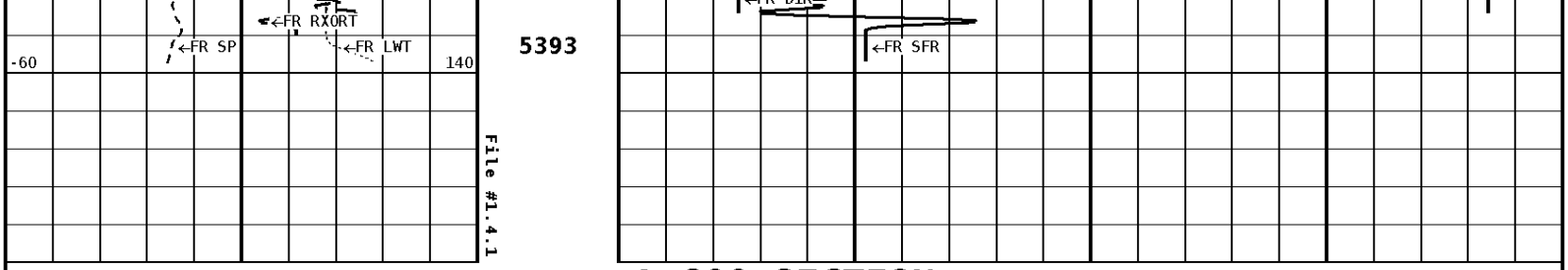
←FR GR
←DIR
←SFR
DIC→
←FR DIR
←FR DIC



1:600 SECTION

GAMMA RAY
API UNITS
150 — 300
0 — 150

SPONTANEOUS POTENTIAL
mV
→| |←20

TENSION
LBS
10000 — 0

RXO/RT
-160 — 40

DEEP CONDUCTIVITY
MMHO
2000 — 1000
1000 — 0

DEEP INDUCTION
OHMM
0.0 — 500.0
0.0 — 50.0

SHALLOW FOCUSED RESISTIVITY
OHMM
0.0 — 500.0
0.0 — 50.0

Well File: lb_exp_lar_14-2_oct_10_quint
Segment: V1.D4.S1 MAIN
Reference: 0
Scale: 1:240
Acquired: Not Available
Processed: Not Available

RXO/RT
-160 — 40

TENSION
LBS
10000 — 0

SPONTANEOUS POTENTIAL
mV
→| |←20

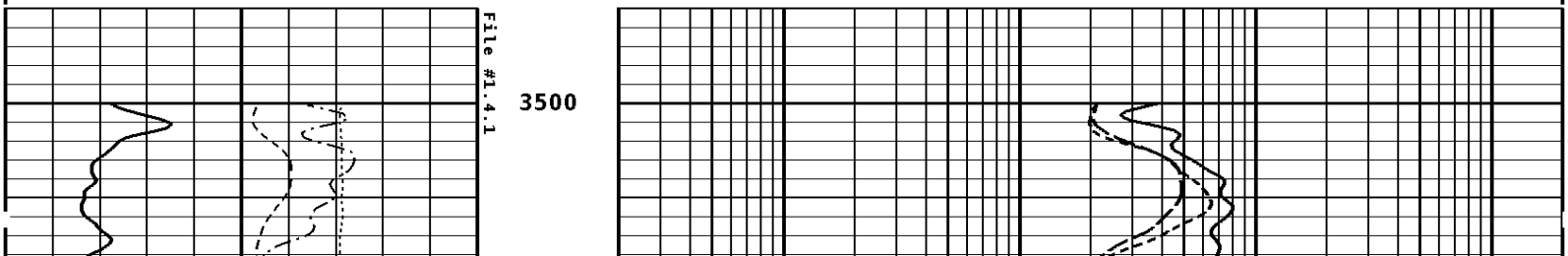
GAMMA RAY
API UNITS
150 — 300
0 — 150

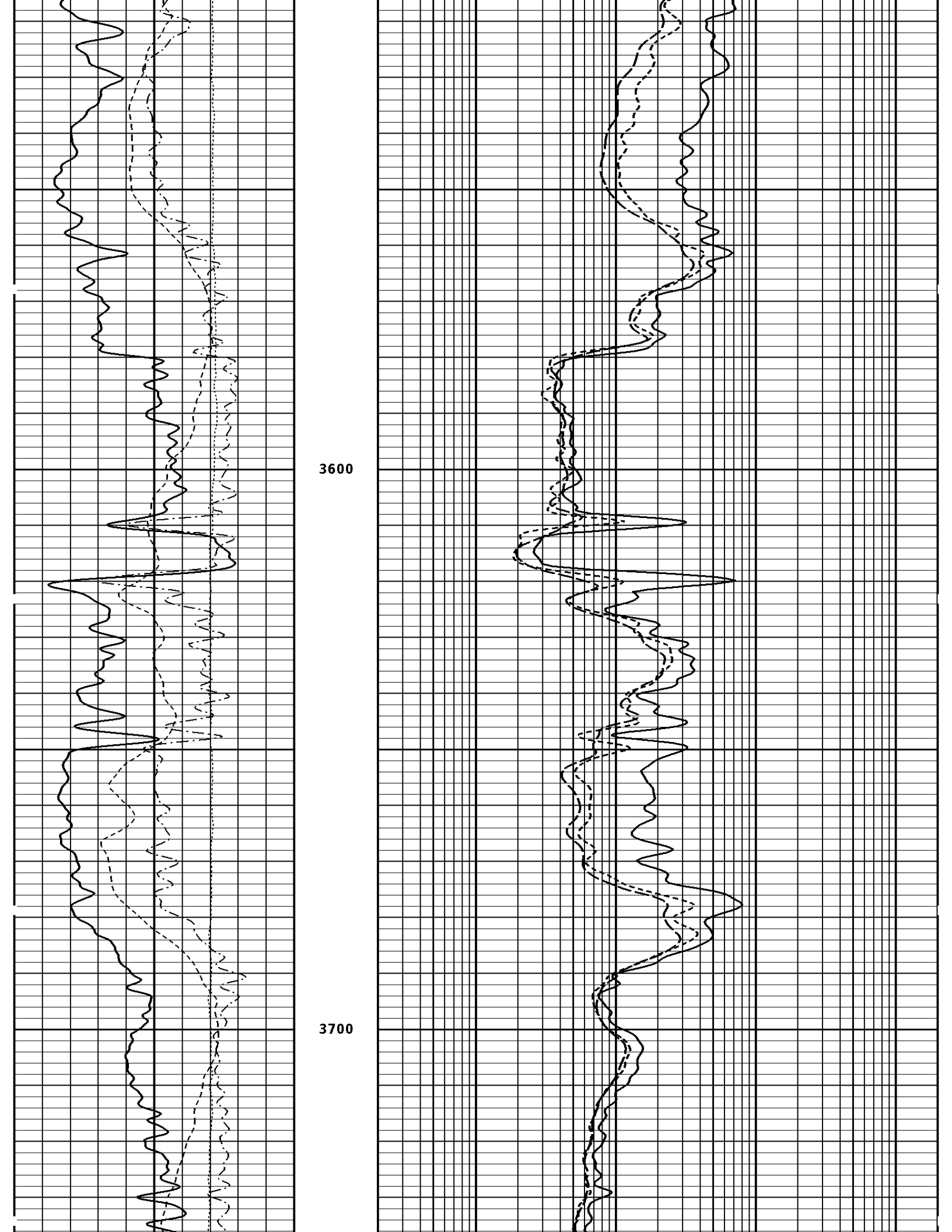
SHALLOW FOCUSED RESISTIVITY
OHMM
0.2 — 2000.0

MEDIUM INDUCTION
OHMM
0.2 — 2000.0

DEEP INDUCTION
OHMM
0.2 — 2000.0

1:240 MAIN SECTION

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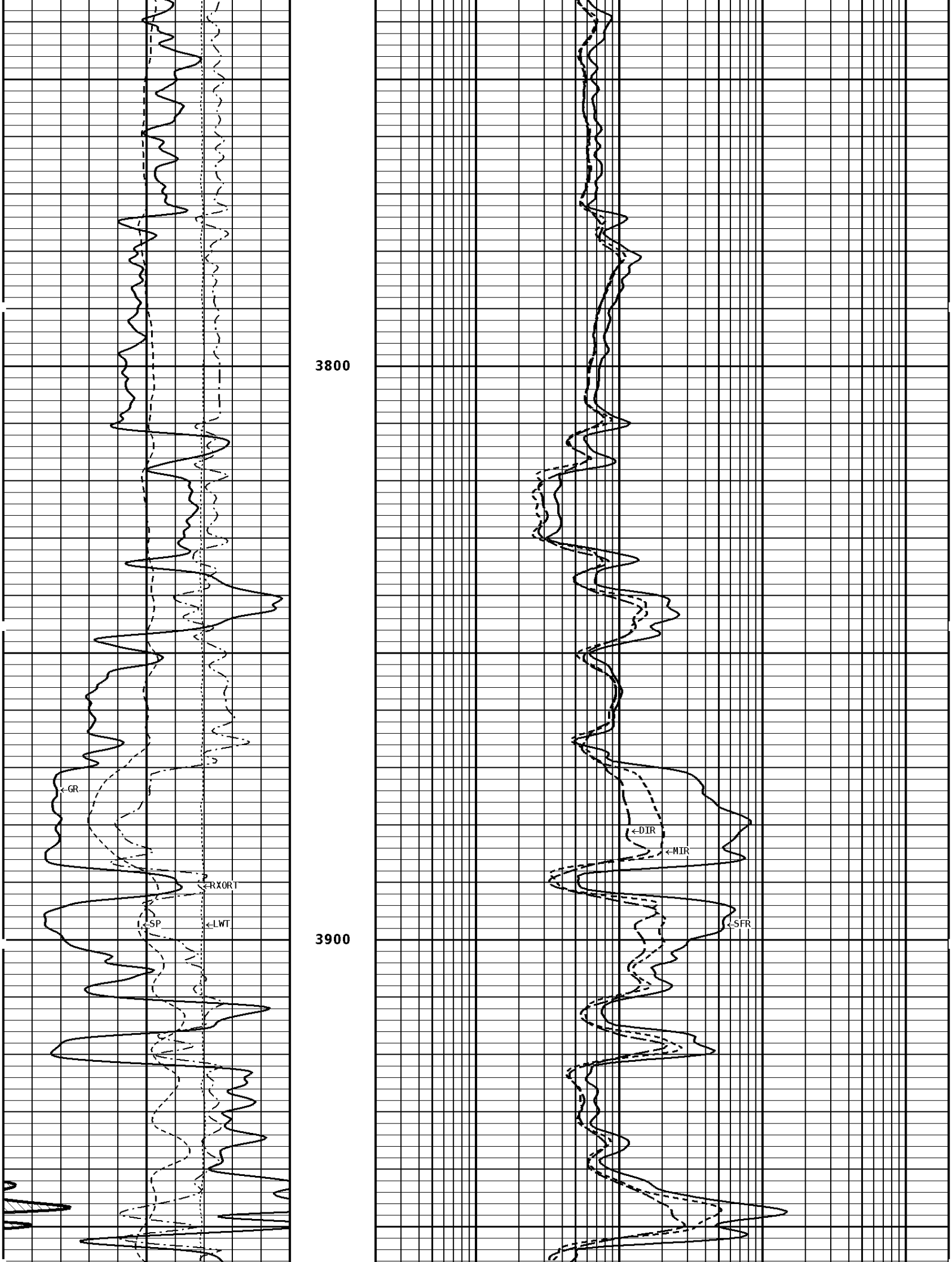
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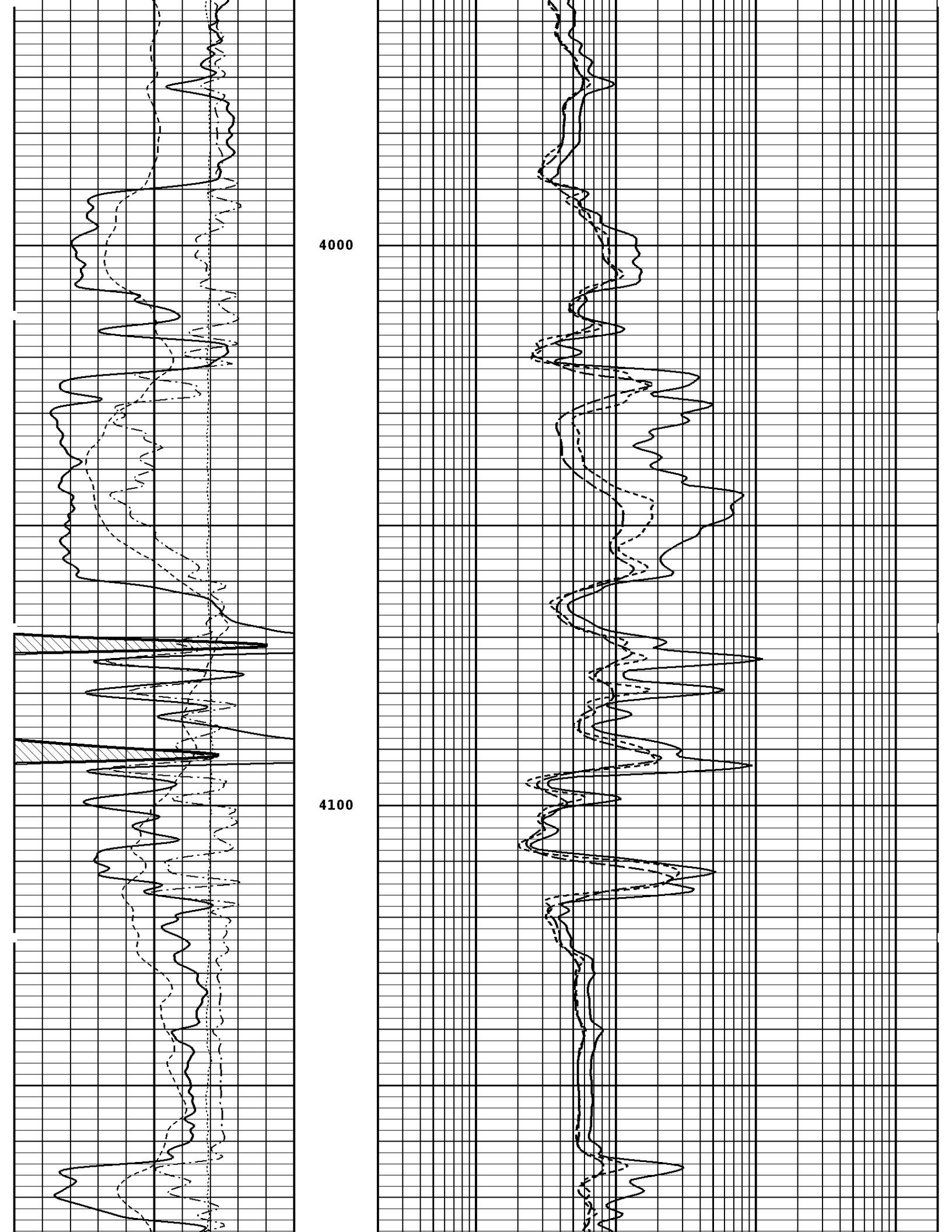
←RXORT
←SP
←LWT
←DIR
←MIR
←SFR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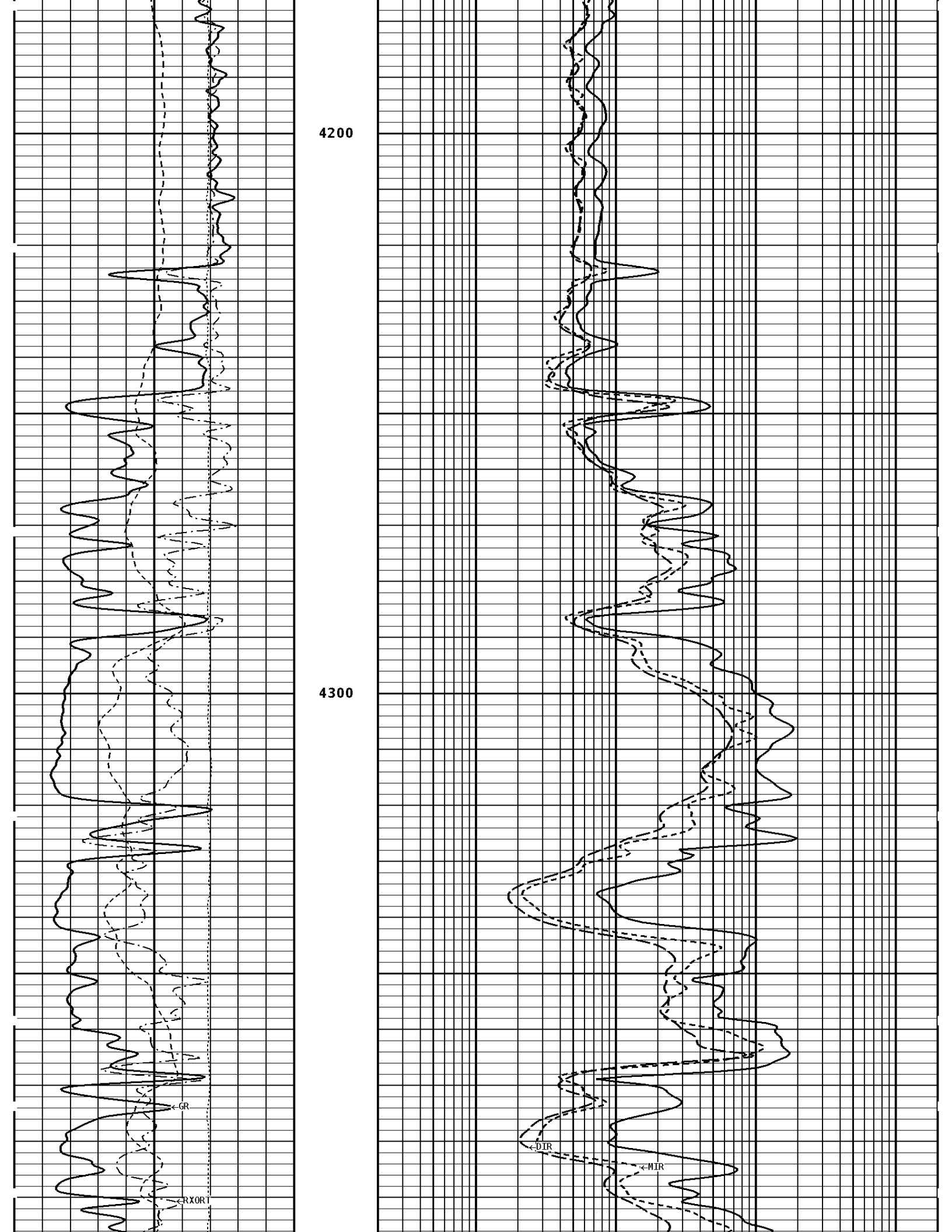
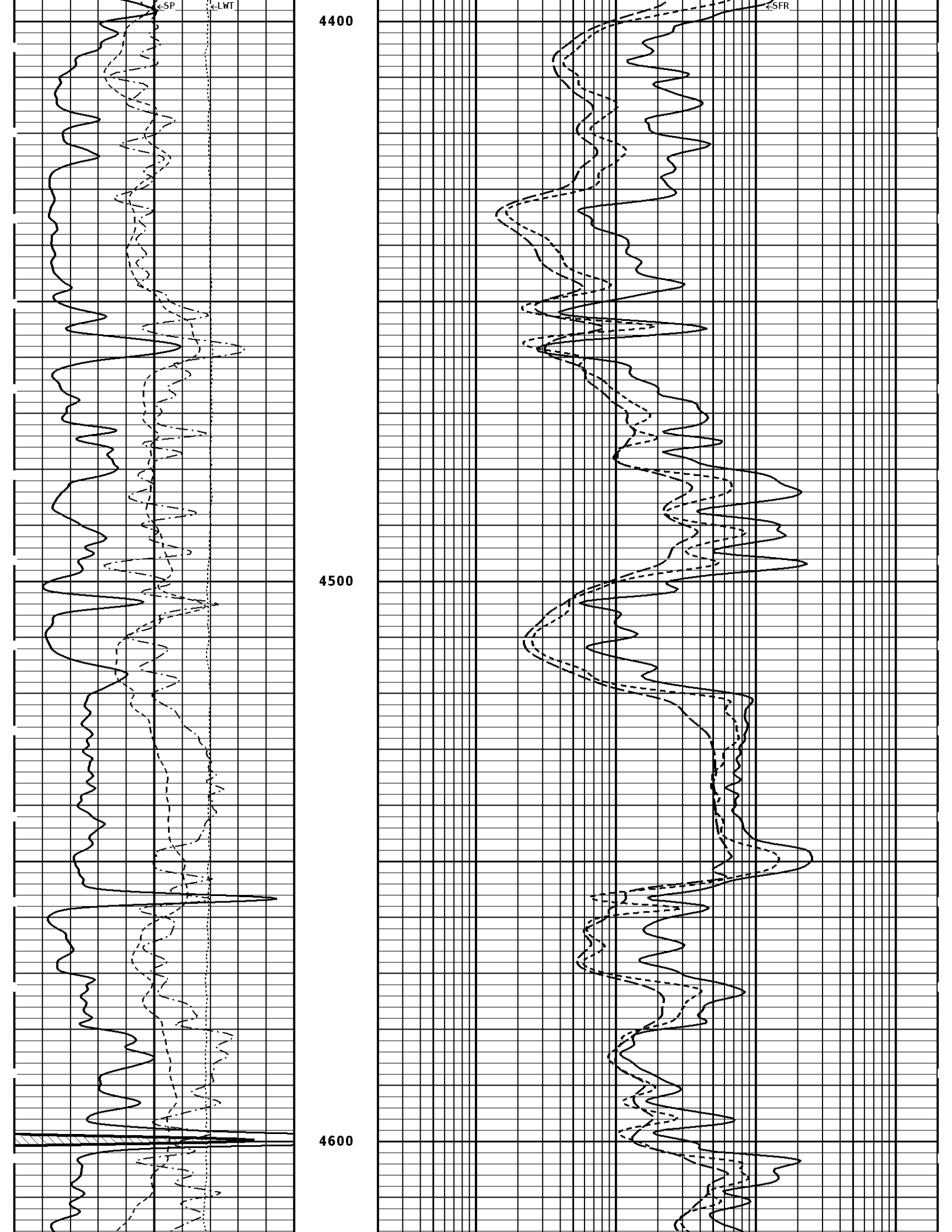

4200
4300
GR
RXORT
DIR
MIR


SP
LWT
SFR
4400
4500
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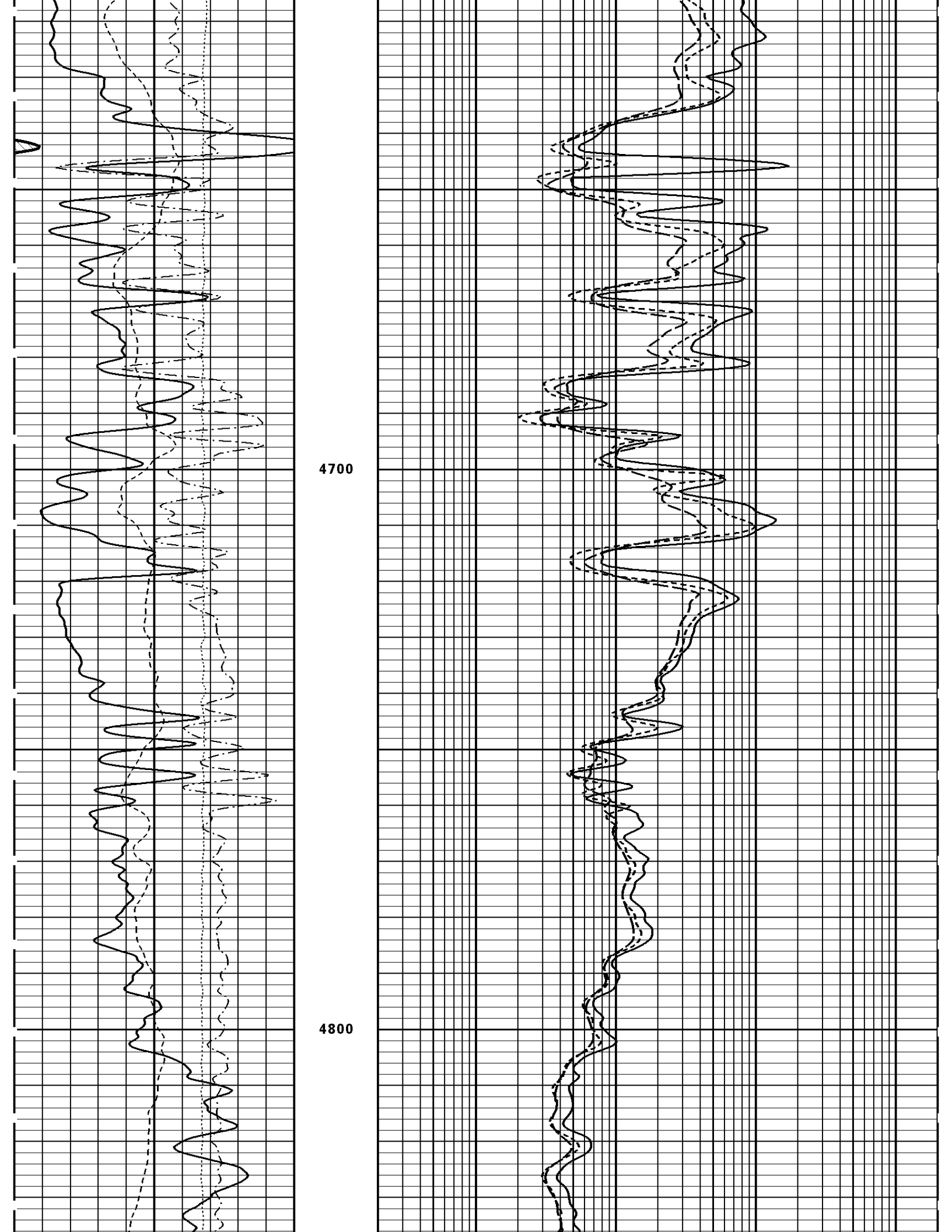
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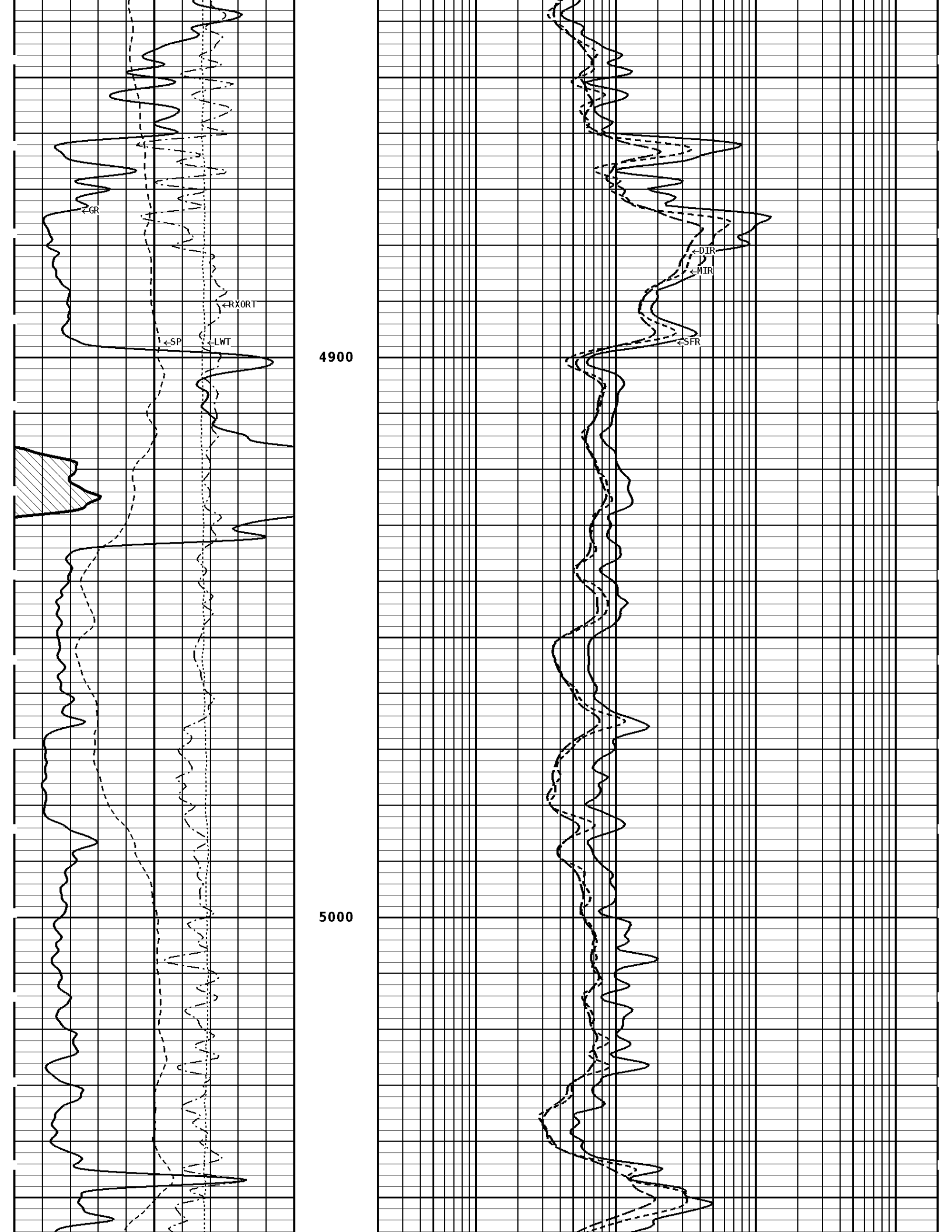
4800


GR
RXORT
SP
LWT
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DIR
MIR
SFR
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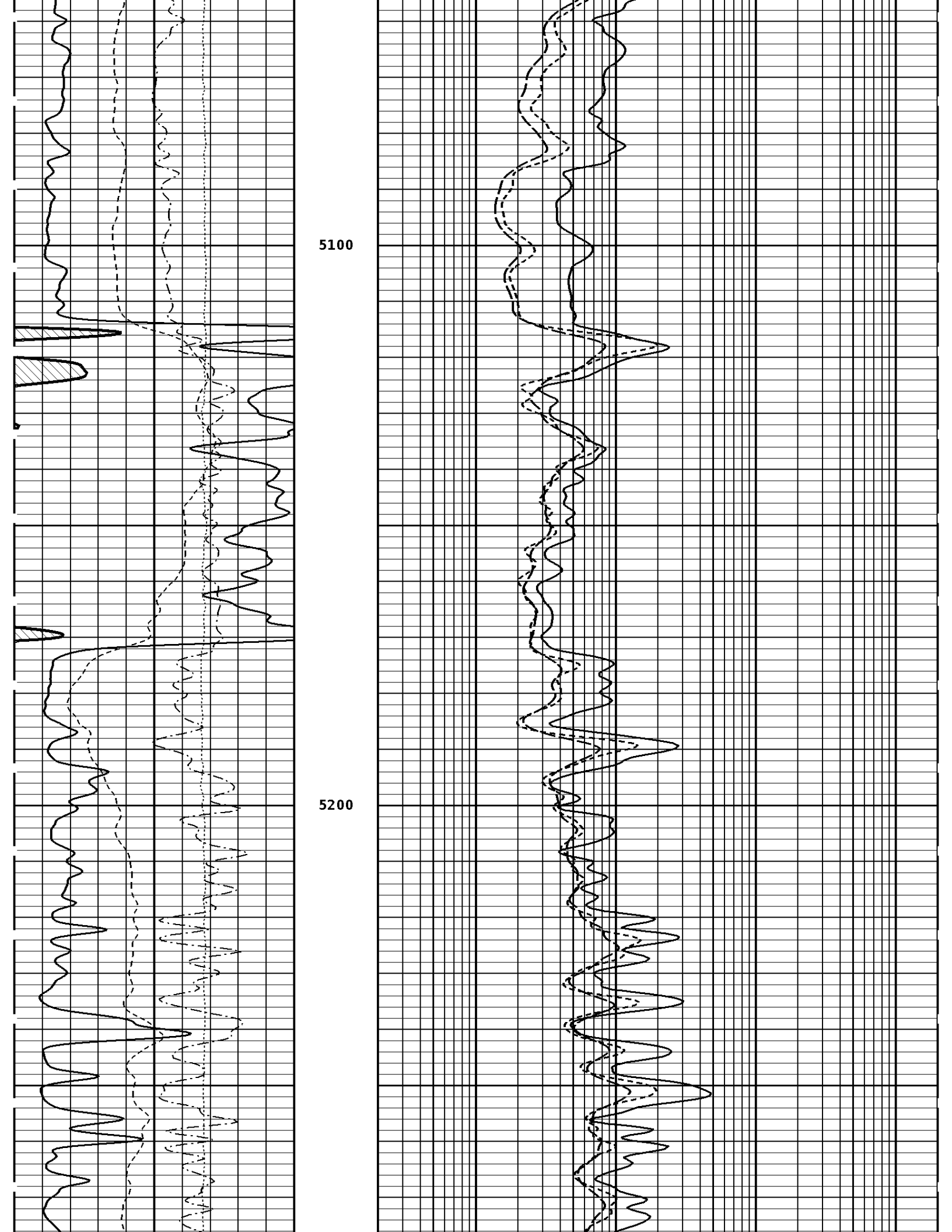
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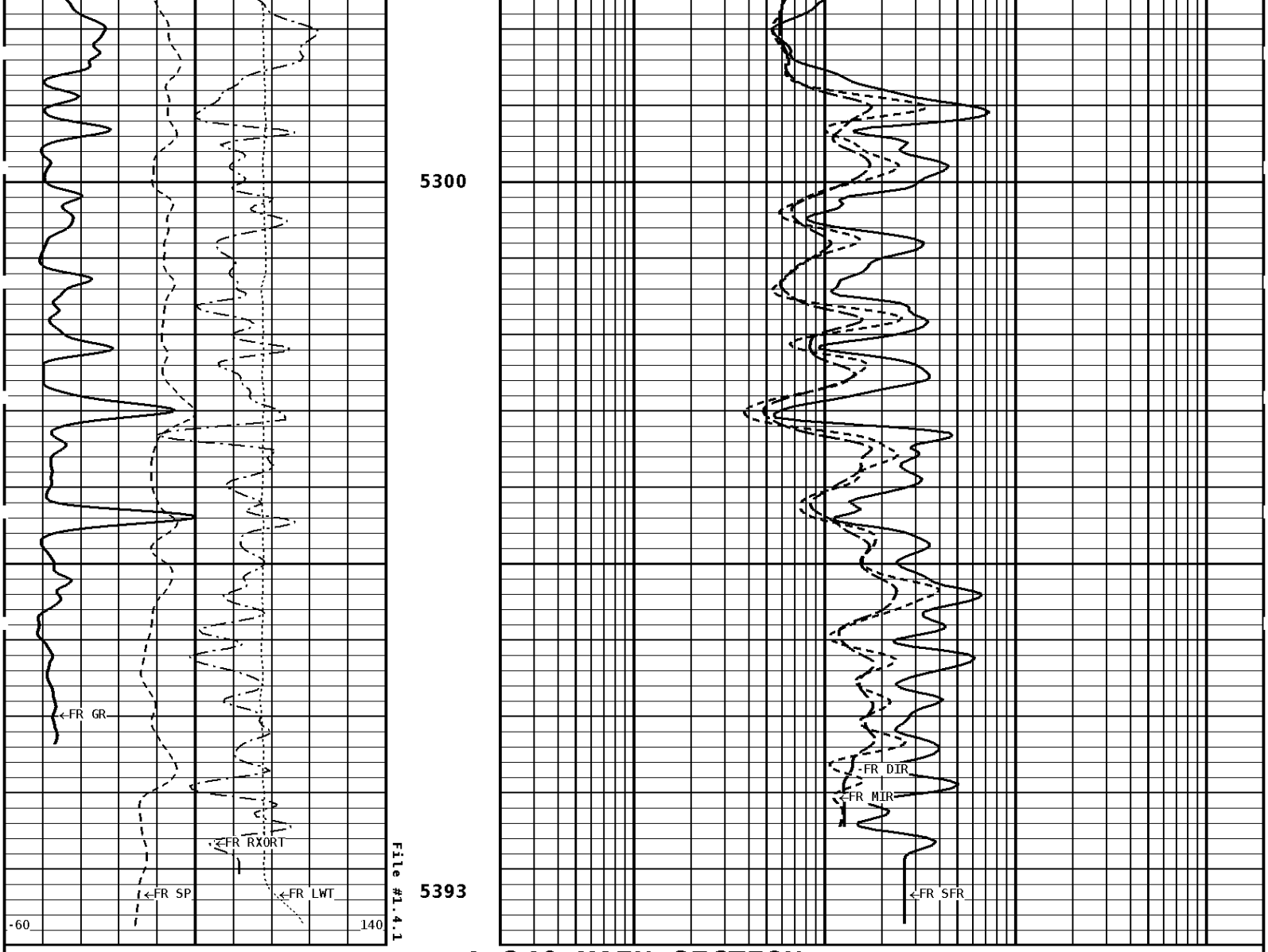


1:240 MAIN SECTION

GAMMA RAY
API UNITS
150 — 300
0 — 150

SPONTANEOUS POTENTIAL
mV
→| |←20

TENSION
LBS
10000 — 0

RXO/RT
-160 — 40

DEEP INDUCTION
OHMM
0.2 — 2000.0

MEDIUM INDUCTION
OHMM
0.2 — 2000.0

SHALLOW FOCUSED RESISTIVITY
OHMM
0.2 — 2000.0

Well File: lb_exp_lar_14-2_oct_10_quint	**Scale:** 1:240
Segment: V1.D1.S4 RP	**Acquired:** 2011-10/10 03:24 3.2.0-9963
Reference: 0	**Processed:** 2011-10/10 05:53 3.2.0-9963

RXO/RT

-160 40

TENSION
LBS
10000 0

SPONTANEOUS POTENTIAL
mV
→| |←20

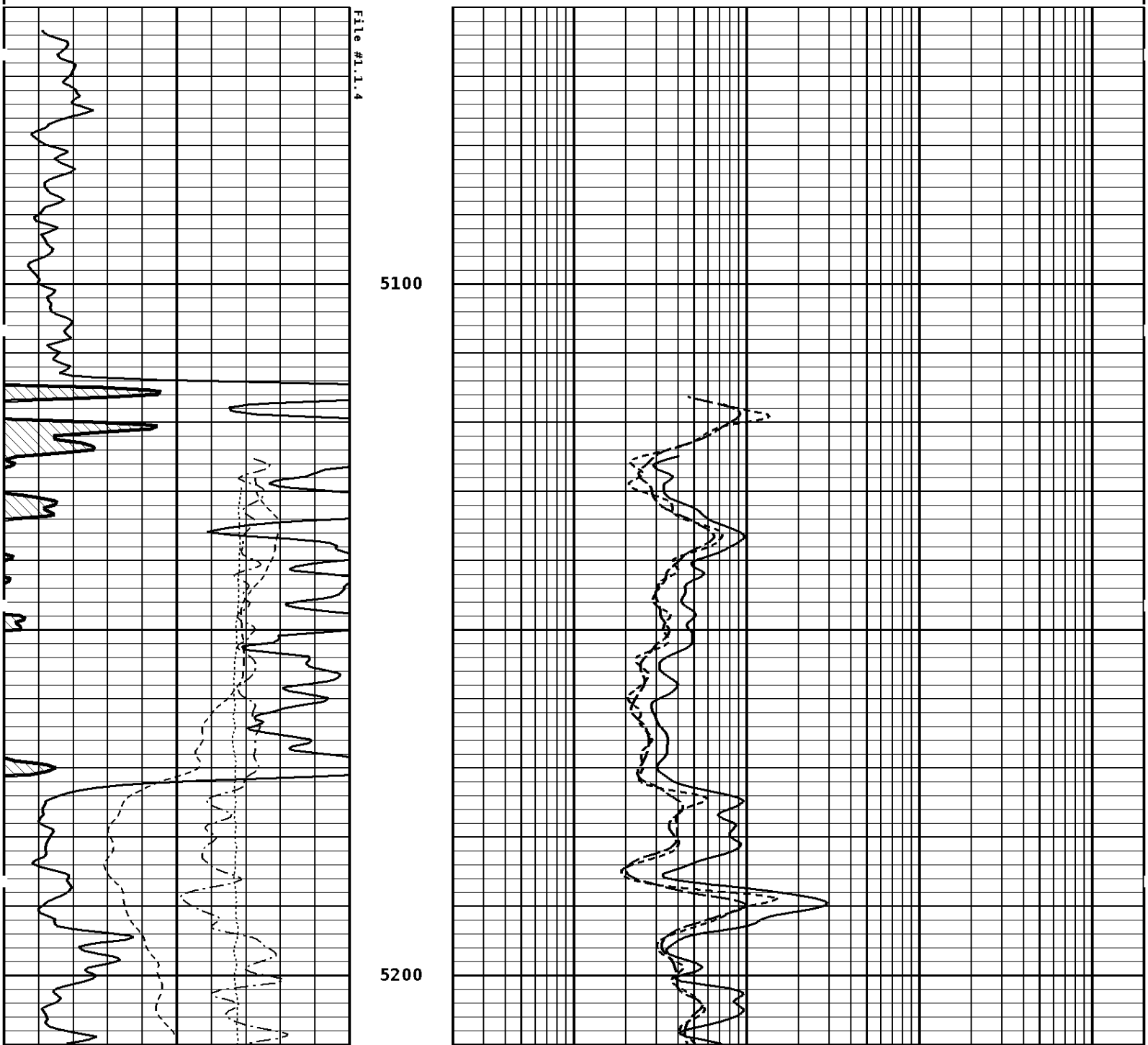
GAMMA RAY
API UNITS
150 300
0 150

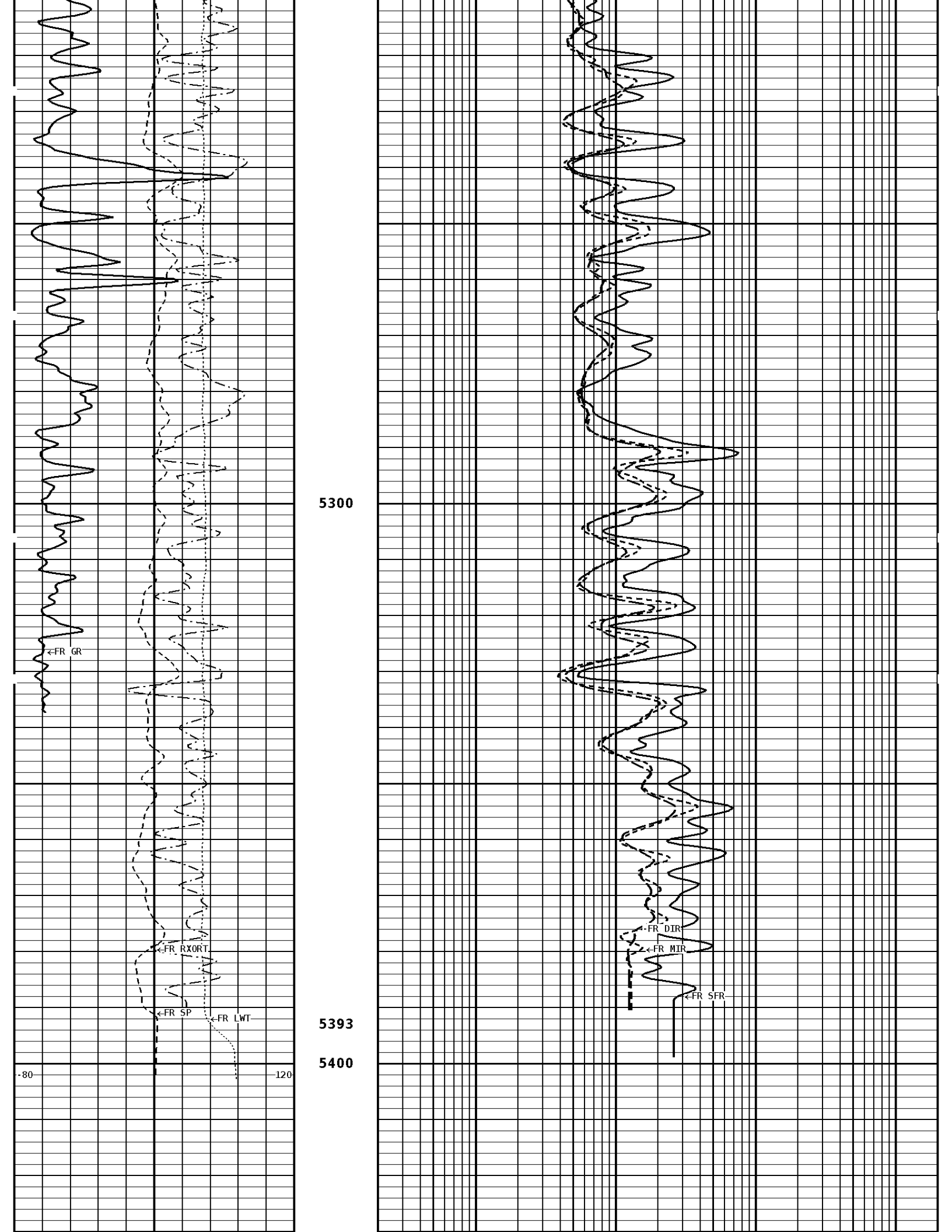
SHALLOW FOCUSED RESISTIVITY
OHMM
0.2 2000.0

MEDIUM INDUCTION
OHMM
0.2 2000.0

DEEP INDUCTION
OHMM
0.2 2000.0

1:240 REPEAT SECTION

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←FR LWT
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5393
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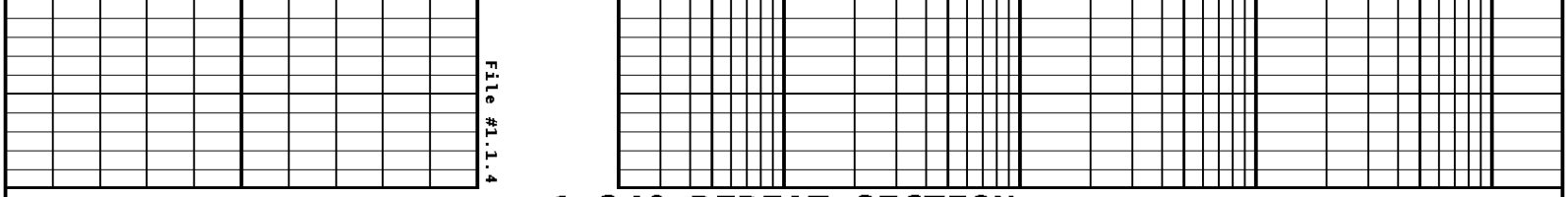
-80
120
←FR DIR
←FR MIR
←FR SFR



1:240 REPEAT SECTION

GAMMA RAY API UNITS		DEEP INDUCTION OHMM	
150	300	0.2	2000.0
0	150		
SPONTANEOUS POTENTIAL mV		**MEDIUM INDUCTION OHMM**	
→| |←20		0.2	2000.0
TENSION LBS		**SHALLOW FOCUSED RESISTIVITY OHMM**	
10000	0	0.2	2000.0
RXO/RT			
-160	40		

* Borehole Zone Factors *

Zone 1 99999.0 to 0.0 Feet

Drill Bit Size	7.875	in
BHT Depth	5393.000	ft
Borehole Temperature	130.0	degF
Temperature Gradient	1.00	DFHF
Resistivity Of Mud	0.780	ohm/m
Resistivity Of Mud Temperature	66.00	degF

* Calibration Summary *

Shop Calibration
GRT-B

Performed : 04-APR-2011 Time : 19:28
Sensor Suite : GR-GR5 ID : GRT-BC-41

	Measured Background	Measured Jig	Units	Calibrated Jig	Units
GR	46	346	CPS	175	GRAPI

Shop Calibration
PIT-CA

Performed : 28-Apr-2011 Time : 12:28
Sensor Suite : P-IND-T ID : PIT-BA-20

Medium

	Measured R	Measured X	Calibrated R	Calibrated X	Units
Air	131962	129542	0.7	0.6	MMHOS
Zero	131066	131066	-35.6	65.7	MMHOS
Reference	243848	243961	4964.4	5065.7	MMHOS
Loop	129936	210242	3485.0	3664.5	MMHOS
Sonde Error			1.7	-6.4	MMHOS
Cond			4964.4	5065.7	MMHOS

Deep

	Measured R	Measured X	Calibrated R	Calibrated X	Units
Air	129083	131627	0.6	-0.3	MMHOS
Zero	131081	131070	43.4	-14.2	MMHOS
Reference	226295	227770	2043.4	1985.8	MMHOS
Loop	126392	213055	1628.1	1740.4	MMHOS

Sonde Error		-1.8	-3.9	MMHOS
Cond		2043.4	1985.8	MMHOS

Temperature

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

Performed : 28-Apr-2011 Time : 11:20
Sensor Suite : SFL ID : PIT-BA-20

Internal

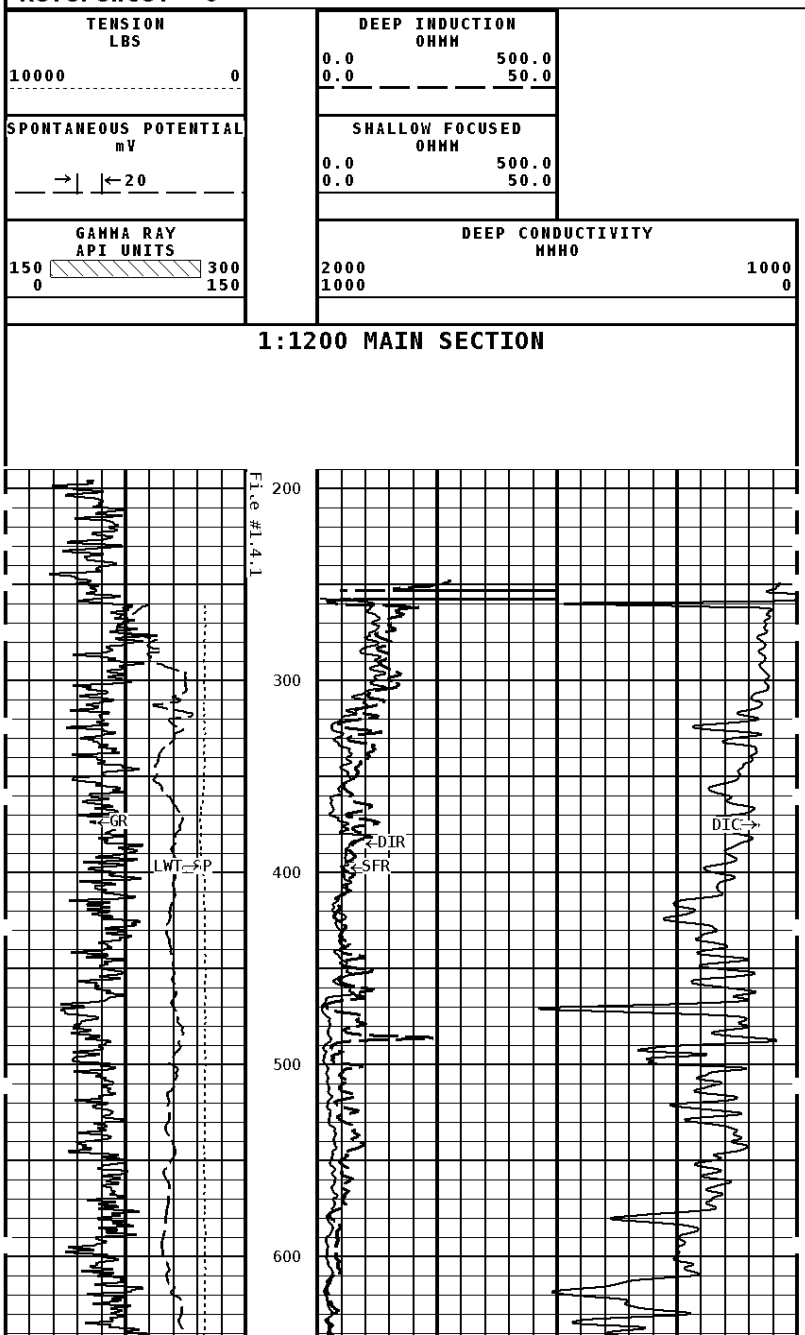
	Measured		Calibrated		
	Zero	Reference	Zero	Reference	Units
Im	32760.7	48913.6	0.0	7028.0	uA
Ib	32767.0	48524.4	0.0	1750.0	mA
MOM1	32806.3	56136.9	0.0	175.0	mV
Equivalent SFL				43.97	OHMM

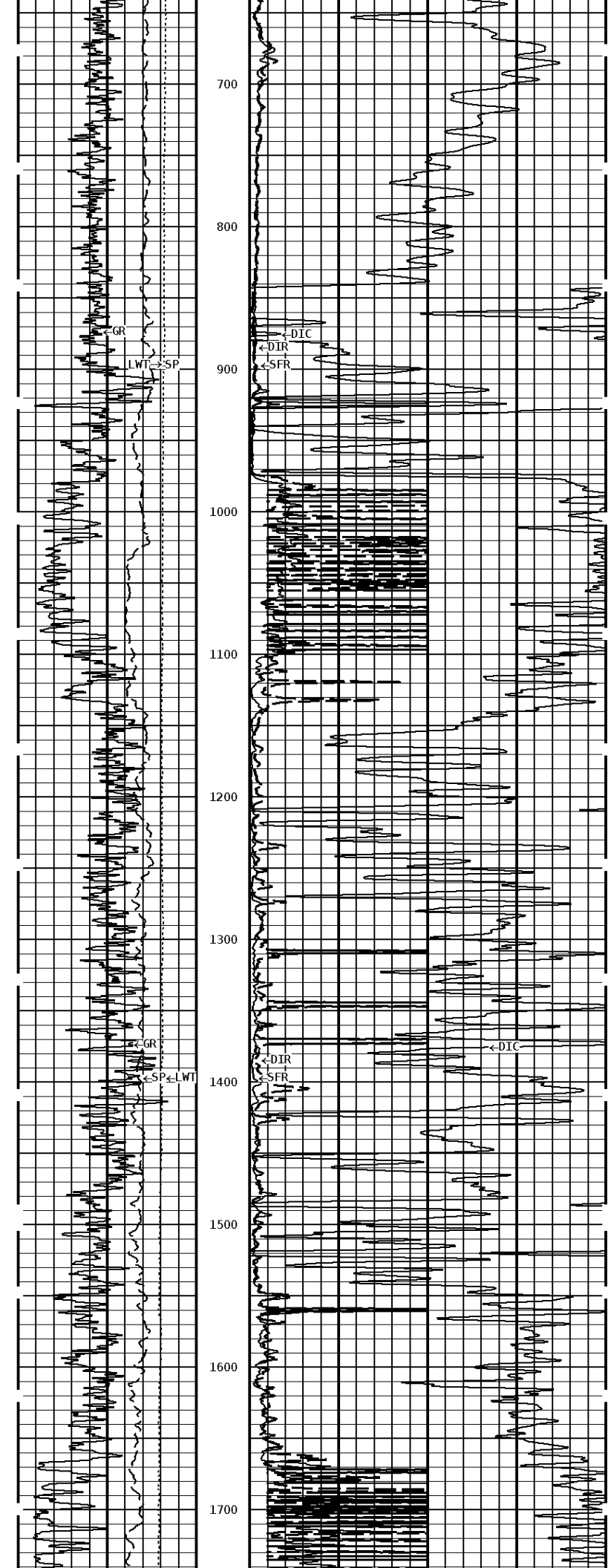
Performed : 28-Apr-2011 Time : 11:22
Sensor Suite : P-SP ID : PIT-BA-20

Internal

	Measured		Calibrated		
	Zero	Reference	Zero	Reference	Units
	32793.6	58951.0	0.0	1000.0	mV

Well File: lb_exp_lar_14-2_oct_10_quint **Scale:** 1:1200
Segment: V1.D4.S1 MAIN **Acquired:** Not Available
Reference: 0 **Processed:** Not Available

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800
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DIC
DIR
SFR
LWT
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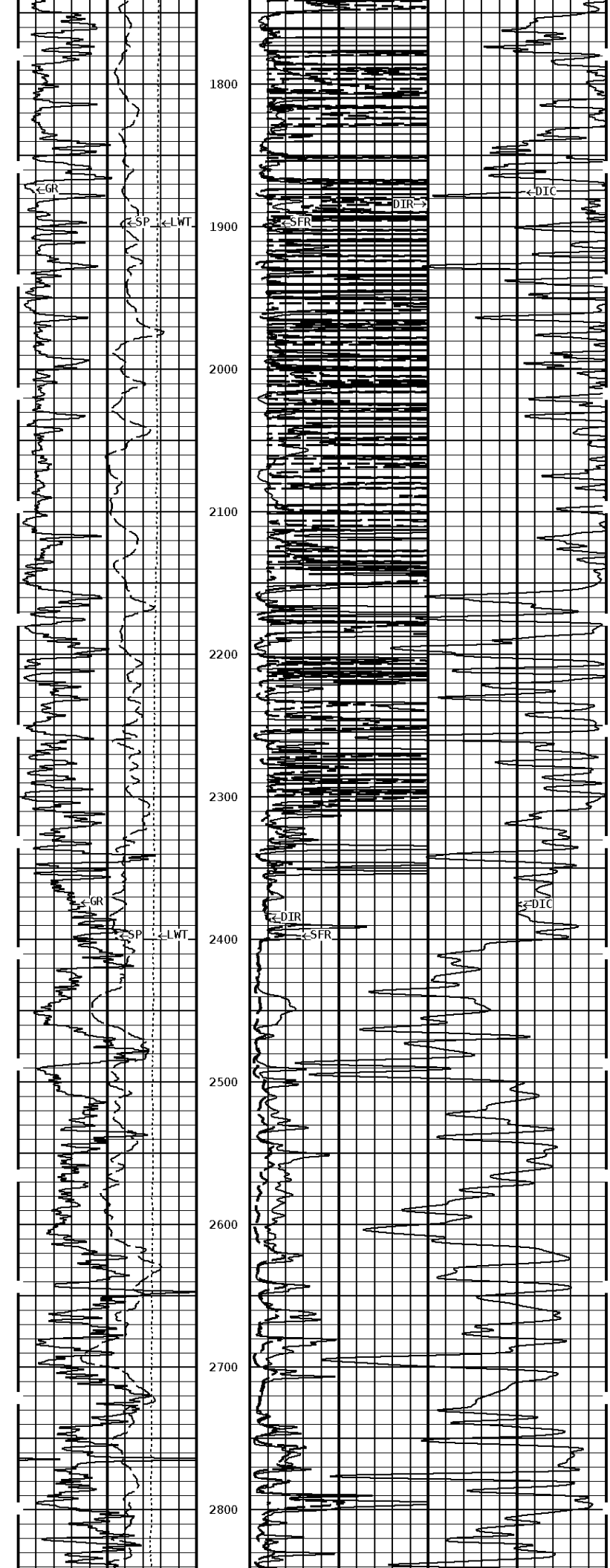
1500
1600
1700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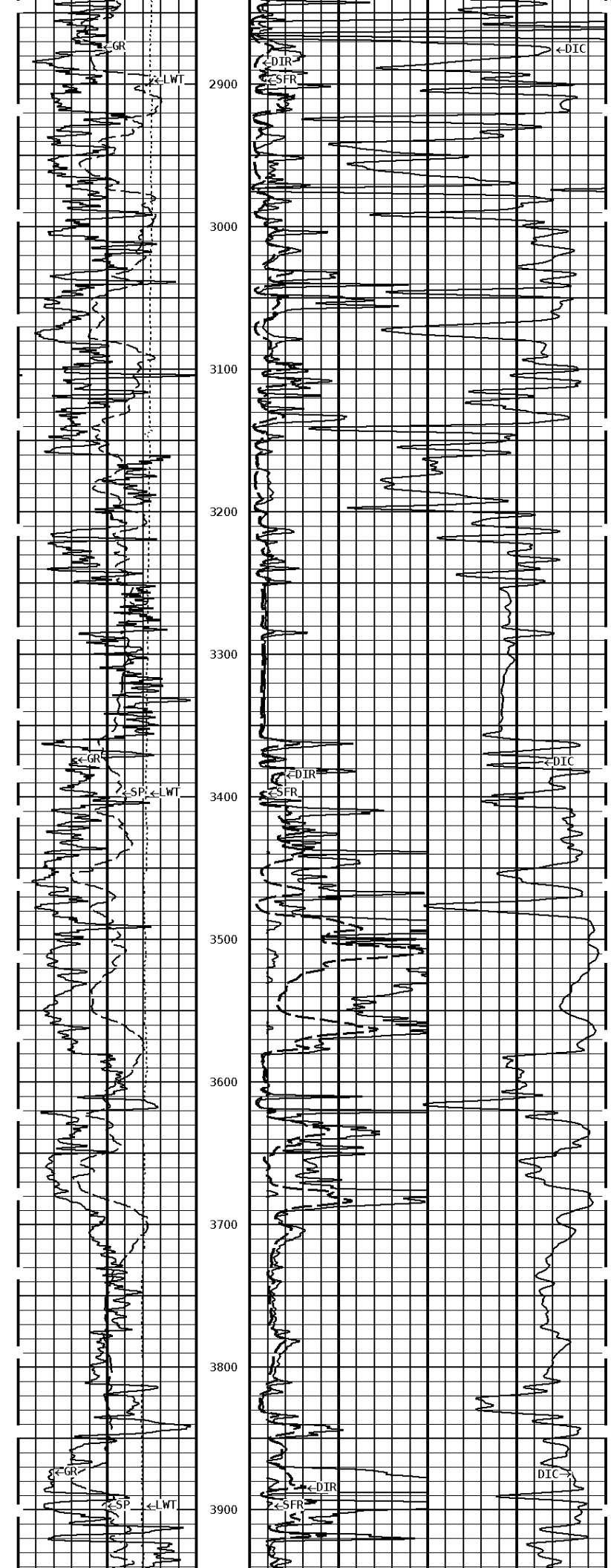
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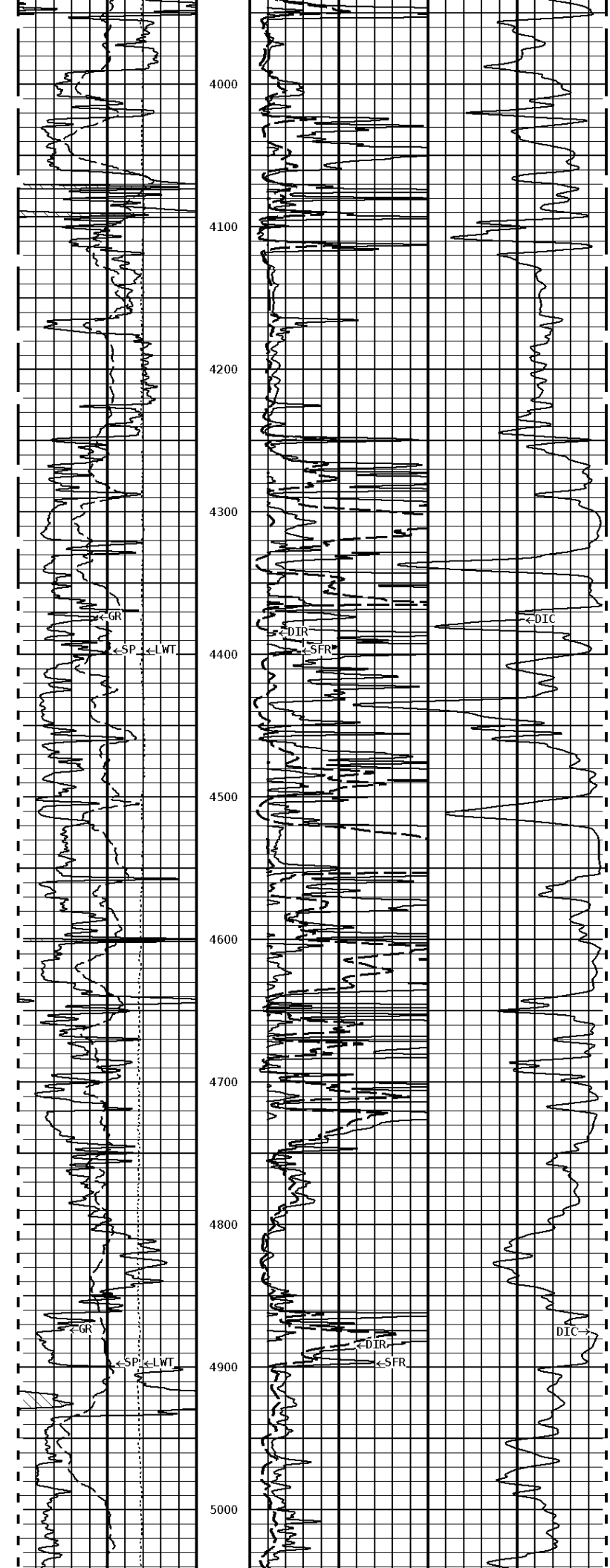
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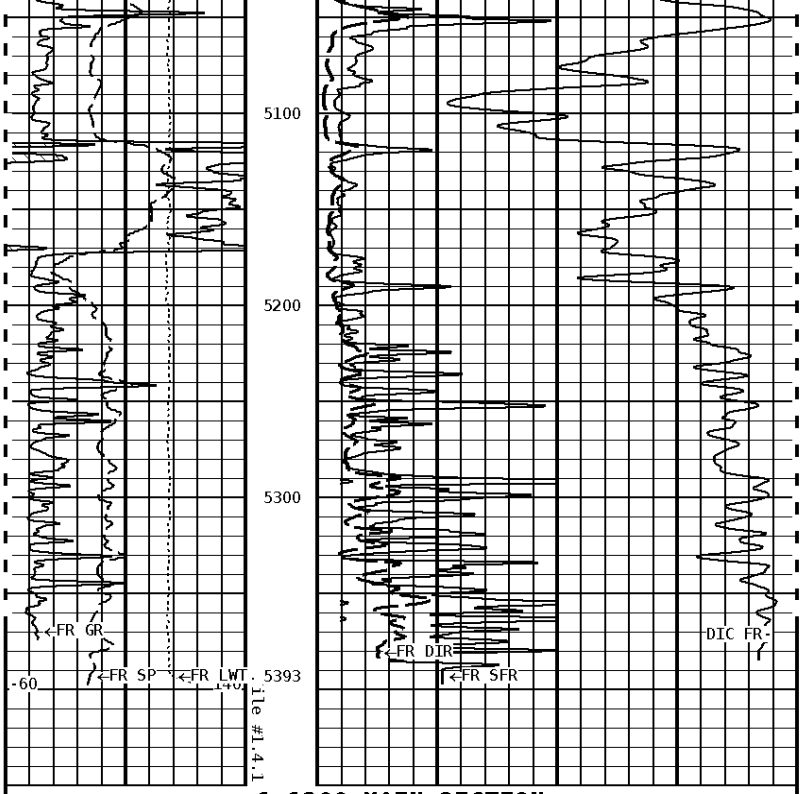

1:1200 MAIN SECTION

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