Tucker
WIRELINE SERVICES

DUAL INDUCTION RESISTIVITY LOG

File No. : TUL-56649
Company : KINNEY OIL COMPANY
Well : STRAHM FARMS #1-27
Field : WILDCAT
County : NEMAHA
State : KANSAS
Country : USA

Location : 15-131-20219-00-00
2310' FNL & 600' FEL
W2 SE SE NE

Sect : 27 Twp : 01S Rge : 14E

Recorded By : R. FRANKLIN
Witnessed By : K. BAILEY

Date : FEB 26 2011
Run No. : 1

Permanent Datum :	GL	
Drilling Measured From :	KB	
Log Measured From:	KB	
Above Permanent Datum :	10.000	FT
Depth--Driller :	3945.0	FT
Depth--Logger :	3943.0	FT
Bottom Log Interval :	3942.0	FT
Top Log Interval :	265.0	FT
Casing Depth--Driller:	265.0	FT
Casing Depth--Logger :	265.0	FT
Casing Diameter :	8.625	IN
Bit Size :	7.875	IN

Unit No. : 123
Location : TULSA

Elevations :

KB :	1311.00	FT
DF :	1310.00	FT
GL :	1301.00	FT

Additional Services

CNT
LDT
MLT
CST

The customer is hereby warned that by providing the log data herein, T. W. S. does not agree to provide any interpretation of log data, conversion of log data to physical rock parameters or recommendations. T. W. S. does not guarantee or warrant either expressly or impliedly, the accuracy of any interpretation of log data, conversion of log data to physical rock parameters or recommendations which may be given by T. W. S. personnel. Any interpretation, conversion or recommendation is not part of the consideration for the agreement between the parties and is not part of any part of the charge by T. W. S. for its services. Any user of the log data is warned that said user is not entitled to rely on intepretations, conversions or recommendations as aforesaid.

Run Number 1

Depth To Fluid	0.0	FT
Fluid Type In Hole :	WBM	
Density :	9.400	SG
Viscosity :	48.000	SEC
pH :	9.500	
Fluid Loss :	6.200	
Salinity :	0.000	KPPM

RM Source :	MEASURED			
RM :	1.400	OHMM at	55	F
RM at BHT :	0.750	OHMM at	108	F
RMF Source :	CALCULATED			
RMF :	1.190	OHMM at	55	F
RMF at BHT :	0.640	OHMM at	108	F
RMC Source :	CALCULATED			

RMC :	1.610	OHMM at	55	F
RMC at BHT :	0.866	OHMM at	108	F

Max Recorded Temp. :	108	F
Time Circulation Stopped :		
Operating Rig Time, Hrs. :	4.0	

- Source Serial Numbers -

Gamma	2991GW
Neutron	N-1046

- Sonde Serial Numbers -

GRTB	GRT-BC-41
CNT	CNP-AE-42
LDTNG	LDP-DA-067
MSTNG	MST-DA-13
CST	CST-AD-38
PIT_B	PIT-CA-069

Casing Strings

Size (IN)	Weight (LB/FT)	Bottom (FT)
8.625	36.00	272.00

- Comments -

ALL PRESENTATIONS AS PER CUSTOMER REQUEST.

GRT, CNT, LDT, MLT, CST, AND PIT RUN IN COMBINATION.
CALIPERS ORIENTED ON THE X-Y AXIS.
PHIN IS CALIPER CORRECTED.
2.71 G/CC USED TO CALCULATE POROSITY.
ANNULAR HOLE VOLUME CALCULATED USING 5.50" PRODUCTION CASING.
DETAIL PRESENTED FROM TD TO 2700' AS PER CLIENTS REQUEST.

GRT: GRP.
CNT: CLCNIN, PHIN, PHINLS.
LDT: PORL, LCORN, PECLN, CLLDIN, LDENN, PORLLS.
MLT: NOR_R, INV_R, MSCLPIN.
CST: PORS, ITT, TT1PF, TT3PF, DDCDTF.
PIT: ILD, ILM, CIRD, SPU, SFLAEC.

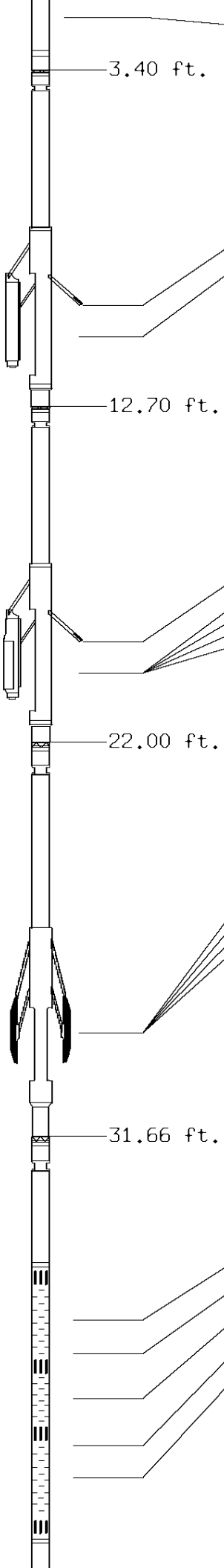
OPERATORS:
S. DAVIS
J. THOMAS

THANK YOU FOR USING TUCKER WIRELINE SERVICES!

Tool String Schematic

Total Tool Length - 66.95 **ft.**
Maximum Outside diameter - 6.00 **in.**
Net Weight in Air - 1171.00 **lbs.**

Tool: GRTB **Length:** 3.40 **ft. O.D.:** 3.60 **in.**
Sonde ID : GRT-BC-41
Measure Point **Stack Offset** **Tool Offset** **Bottom Offset**



Measure Point	Stack Offset	Tool Offset	Bottom Offset
GRP	2.00	2.00	64.95

3.40 ft.

Tool: CNT **Length:** 9.30 **ft. O.D.:** 4.36 **in.**
Sonde ID : CNP-AE-42
Source ID : N-1046
Pad ID : CNP-AE-42

Measure Point	Stack Offset	Tool Offset	Bottom Offset
CLCN	9.40	6.00	57.55
PHIN	10.24	6.84	56.71

12.70 ft.

Tool: LDTNG **Length:** 9.30 **ft. O.D.:** 4.80 **in.**
Sonde ID : LDP-DA-067
Source ID : 2991GW
Pad ID : LDP-DA-067

Measure Point	Stack Offset	Tool Offset	Bottom Offset
CLLD	18.70	6.00	48.25
PEL	19.70	7.00	47.25
PES	20.10	7.40	46.85
LDEN	19.70	7.00	47.25
LCOR	19.70	7.00	47.25

22.00 ft.

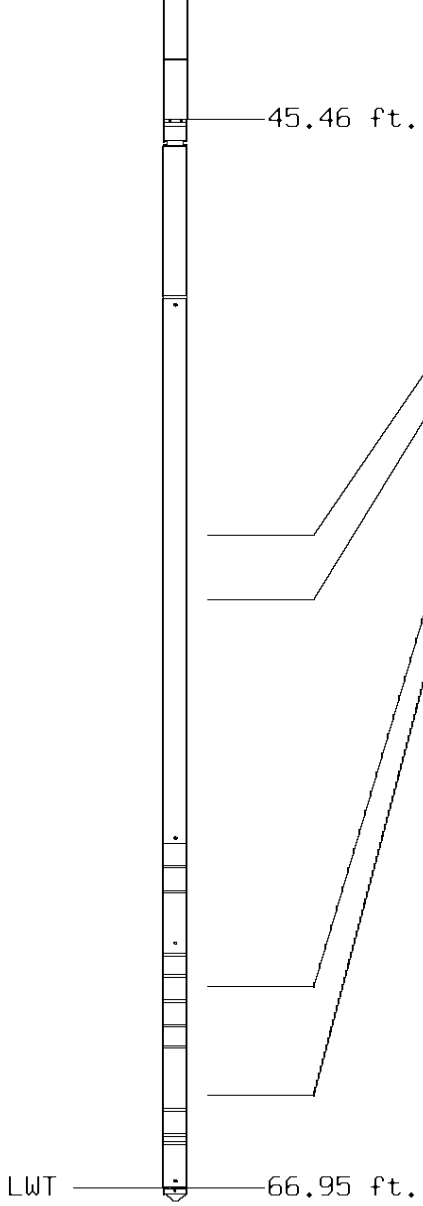
Tool: MST **Length:** 9.66 **ft. O.D.:** 6.00 **in.**
Sonde ID : MST-DA-13

Measure Point	Stack Offset	Tool Offset	Bottom Offset
MSFL	29.60	7.60	37.35
CLMR	29.60	7.60	37.35
MSFN	29.60	7.60	37.35
MSFI	29.60	7.60	37.35

31.66 ft.

Tool: CST **Length:** 13.80 **ft. O.D.:** 3.60 **in.**
Sonde ID : CST-AD-38

Measure Point	Stack Offset	Tool Offset	Bottom Offset
TT1	36.46	4.80	30.49
TT3	37.46	5.80	29.49
CDT	38.96	7.30	27.99
TT4	40.46	8.80	26.49
TT2	41.46	9.80	25.49



Tool: PIT **Length:** 21.49 **ft. O.D.:** 3.62 **in.**
Sonde ID : PIT-CA-069

Measure Point	Stack Offset	Tool Offset	Bottom Offset
ILD	54.38	8.92	12.56
ILM	55.56	10.10	11.39
SFLU	62.95	17.49	4.00
SP	66.06	20.60	0.88

TENSION
LBS
10000 0

SHALLOW FOCUSED RESISTIVITY
OHMM
0.0 500.0
0.0 50.0

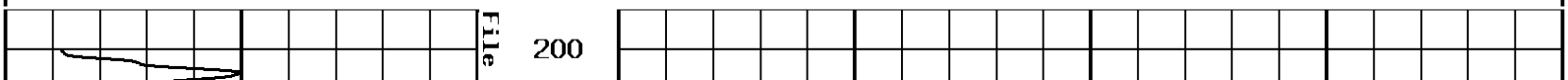
SPONTANEOUS POTENTIAL
mV
→| |← 20

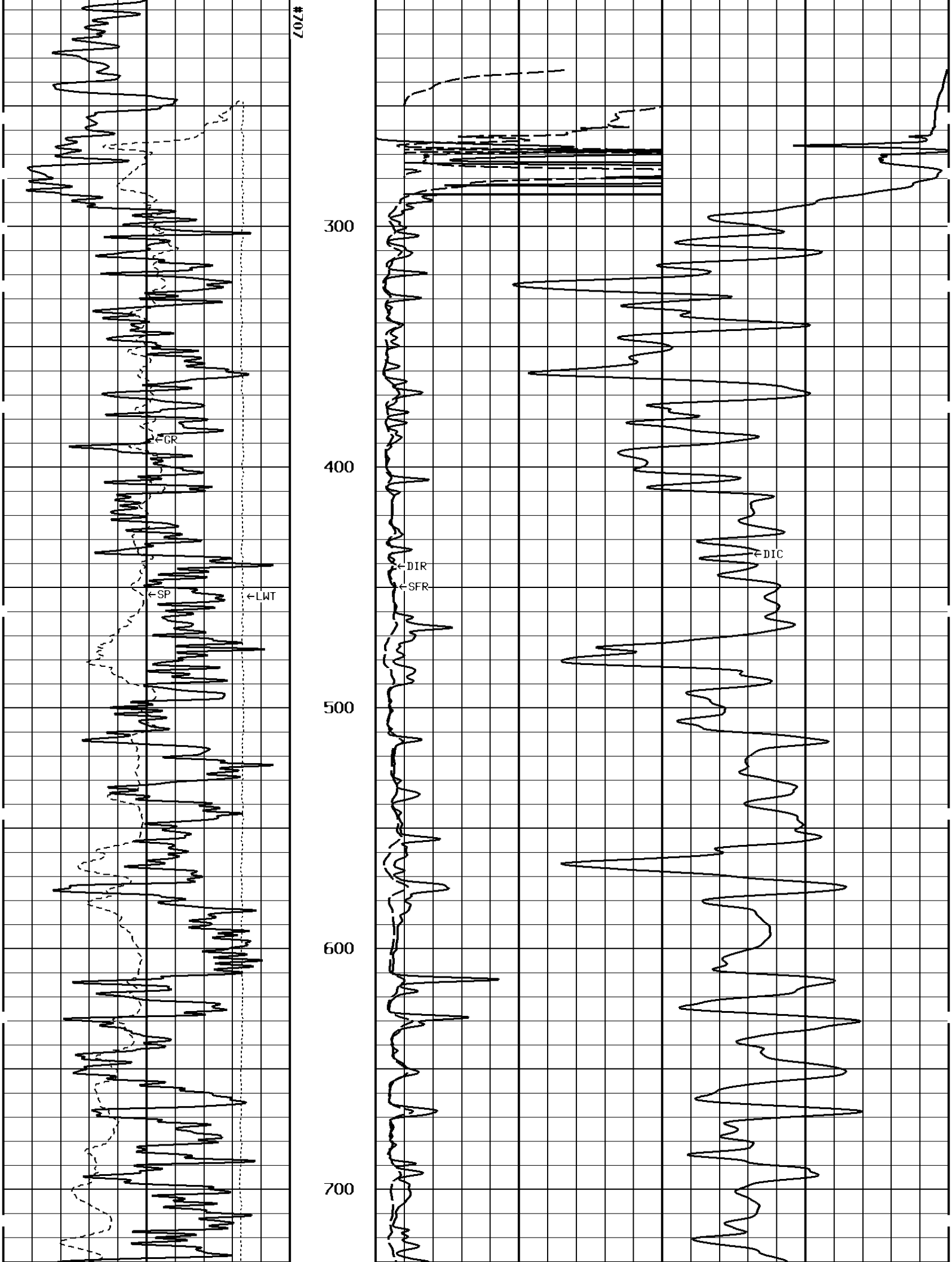
DEEP INDUCTION
OHMM
0.0 500.0
0.0 50.0

GAMMA RAY
API UNITS
150 300
0 150

DEEP CONDUCTIVITY
MMHO
2000 1000
1000 0

1:600 SECTION

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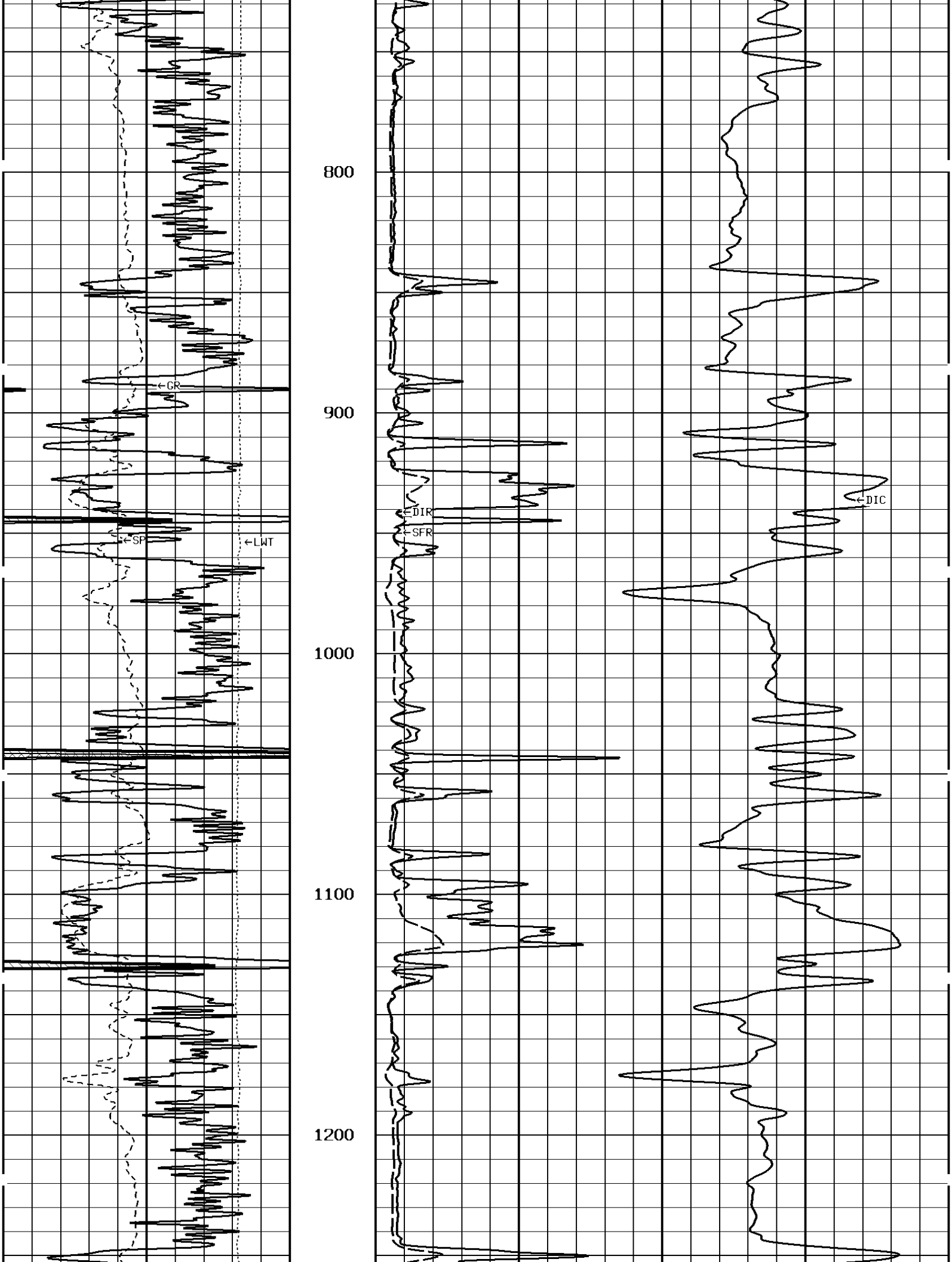
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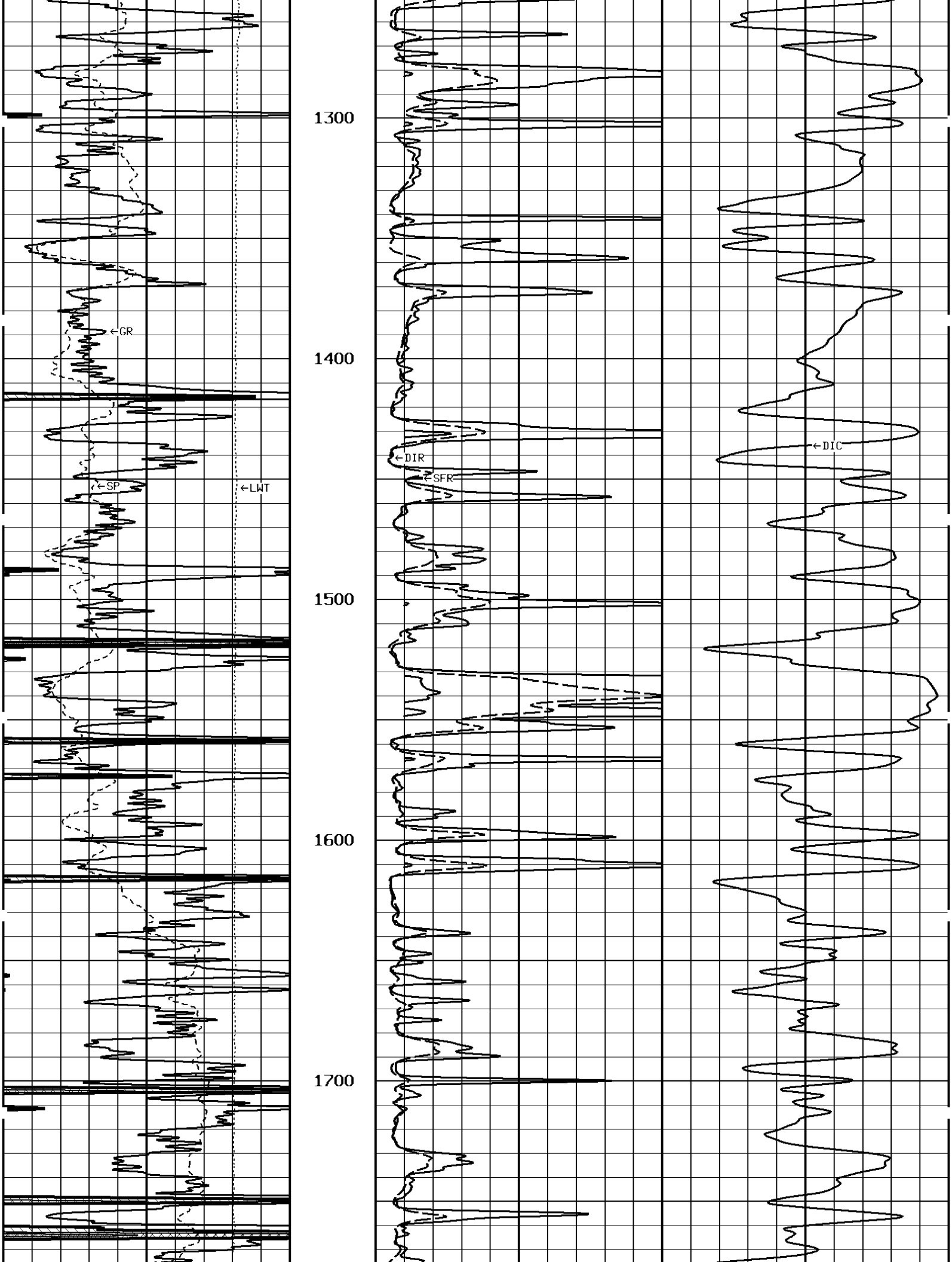
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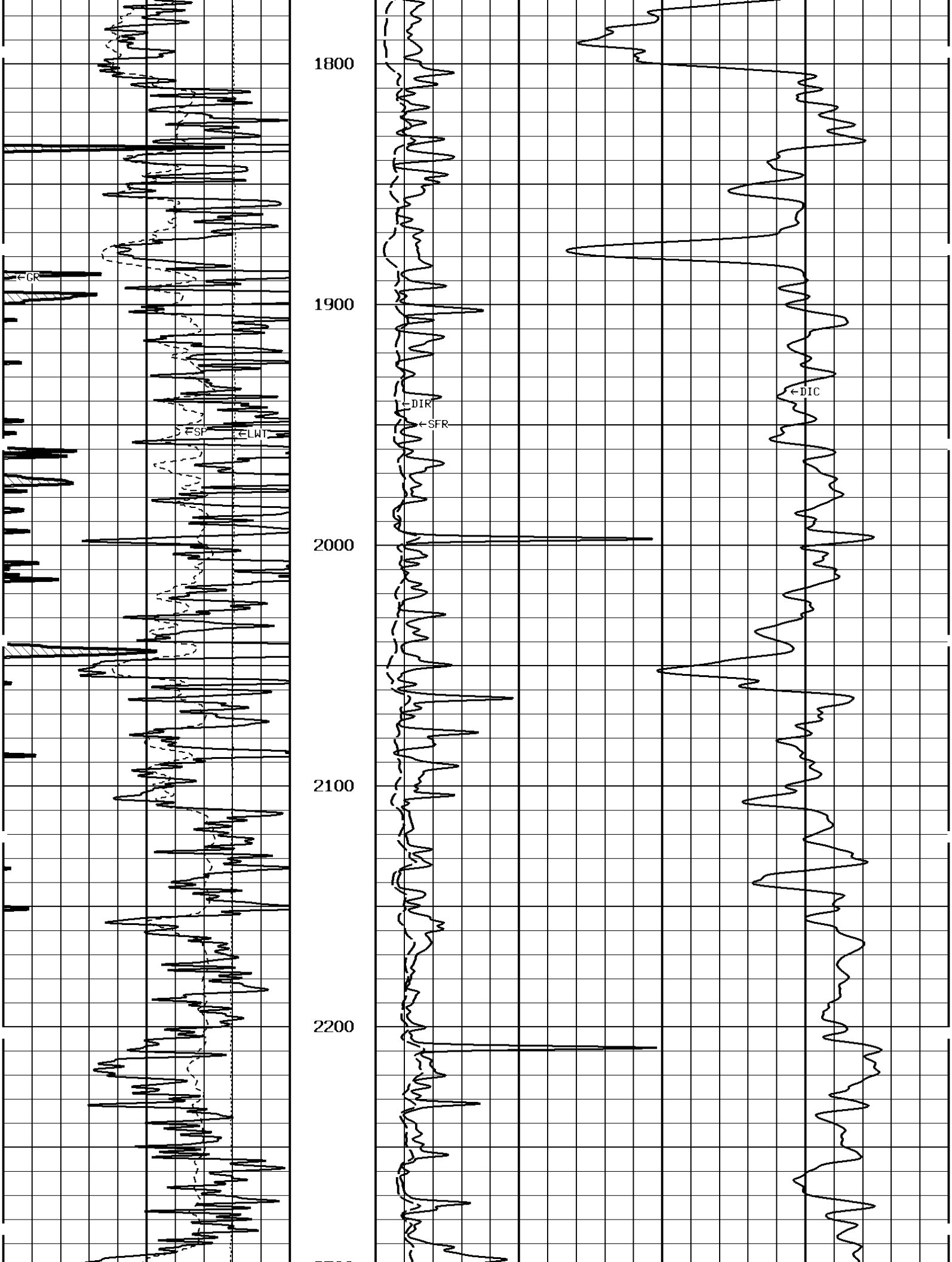
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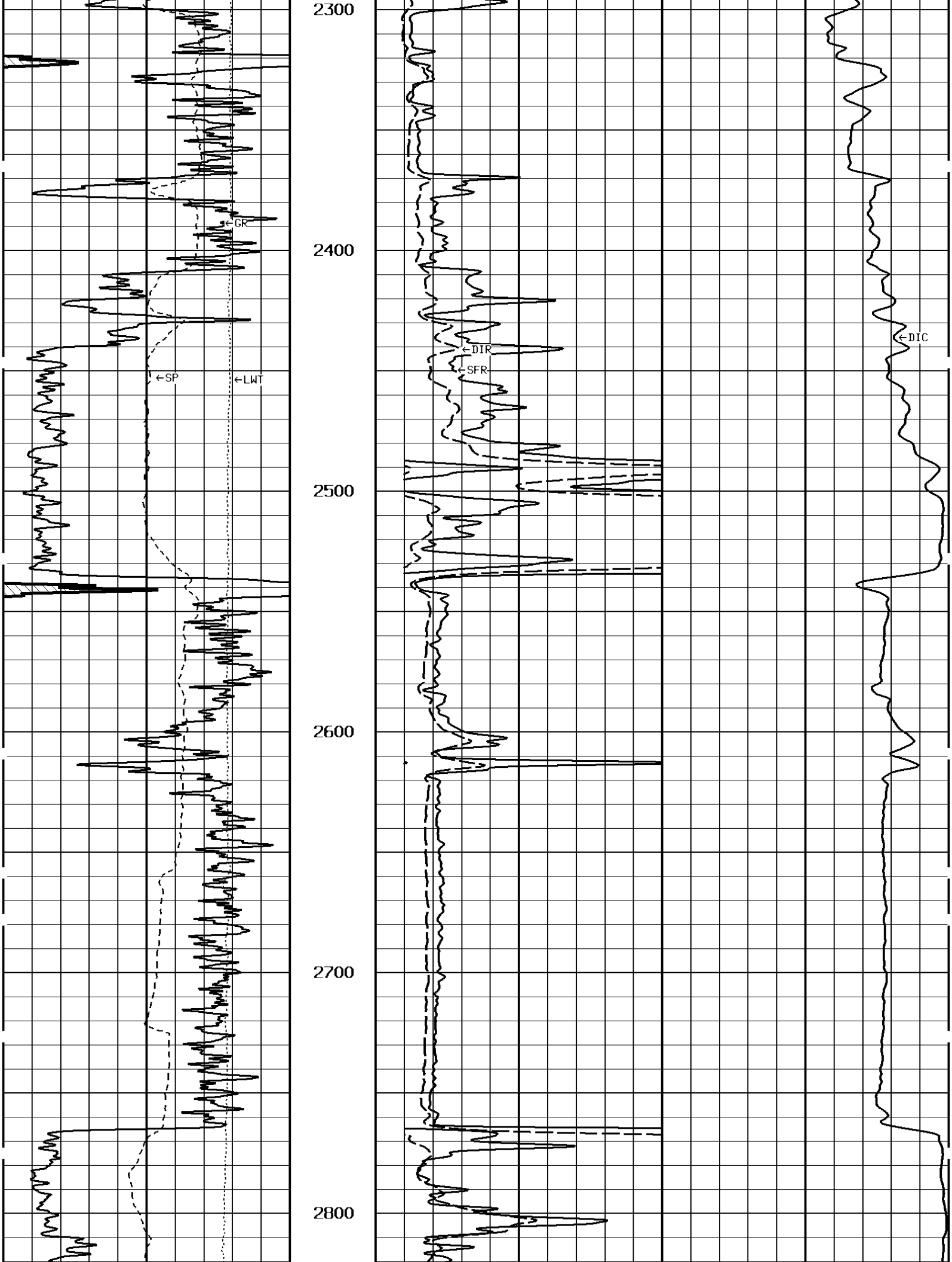
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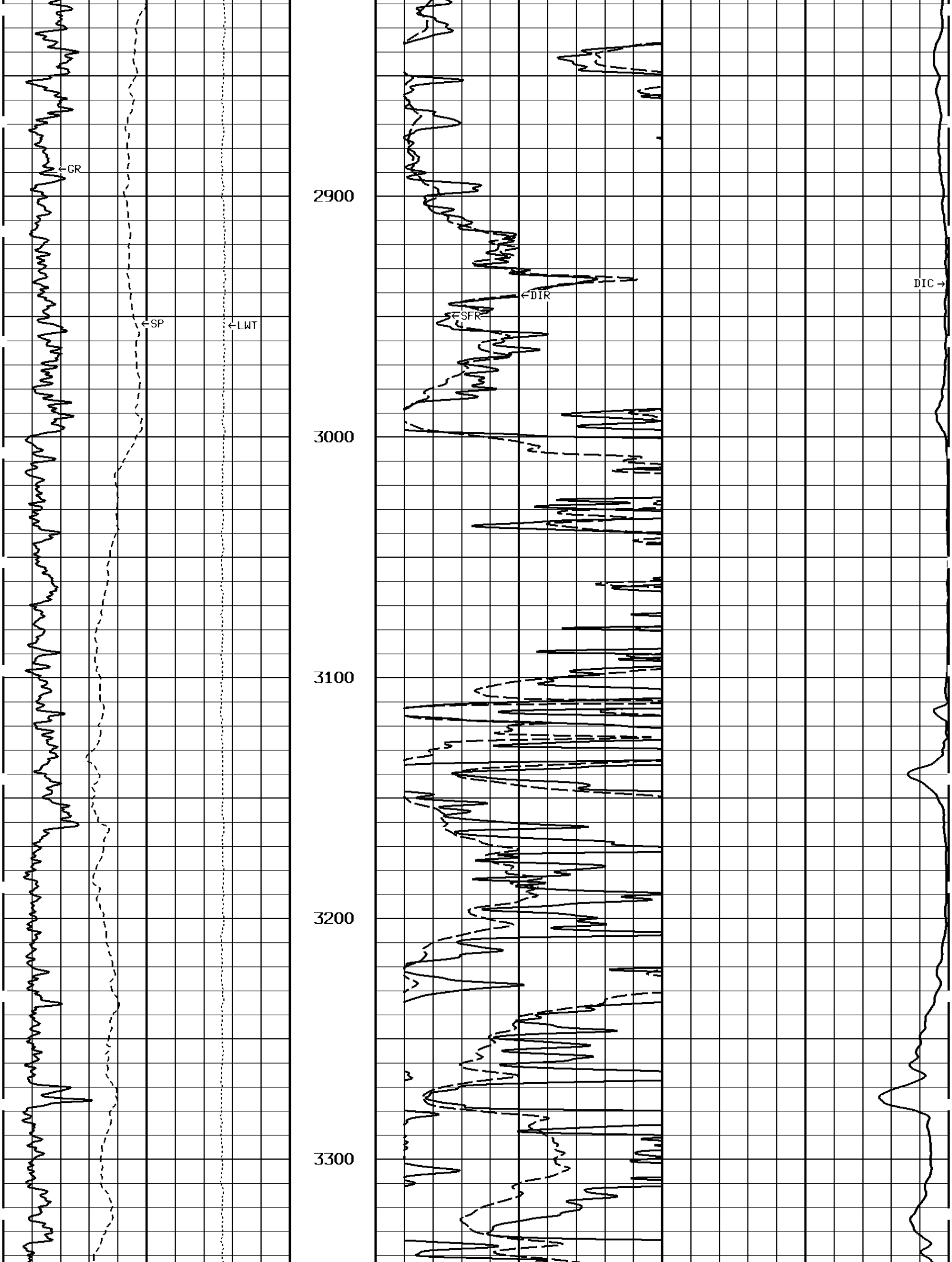
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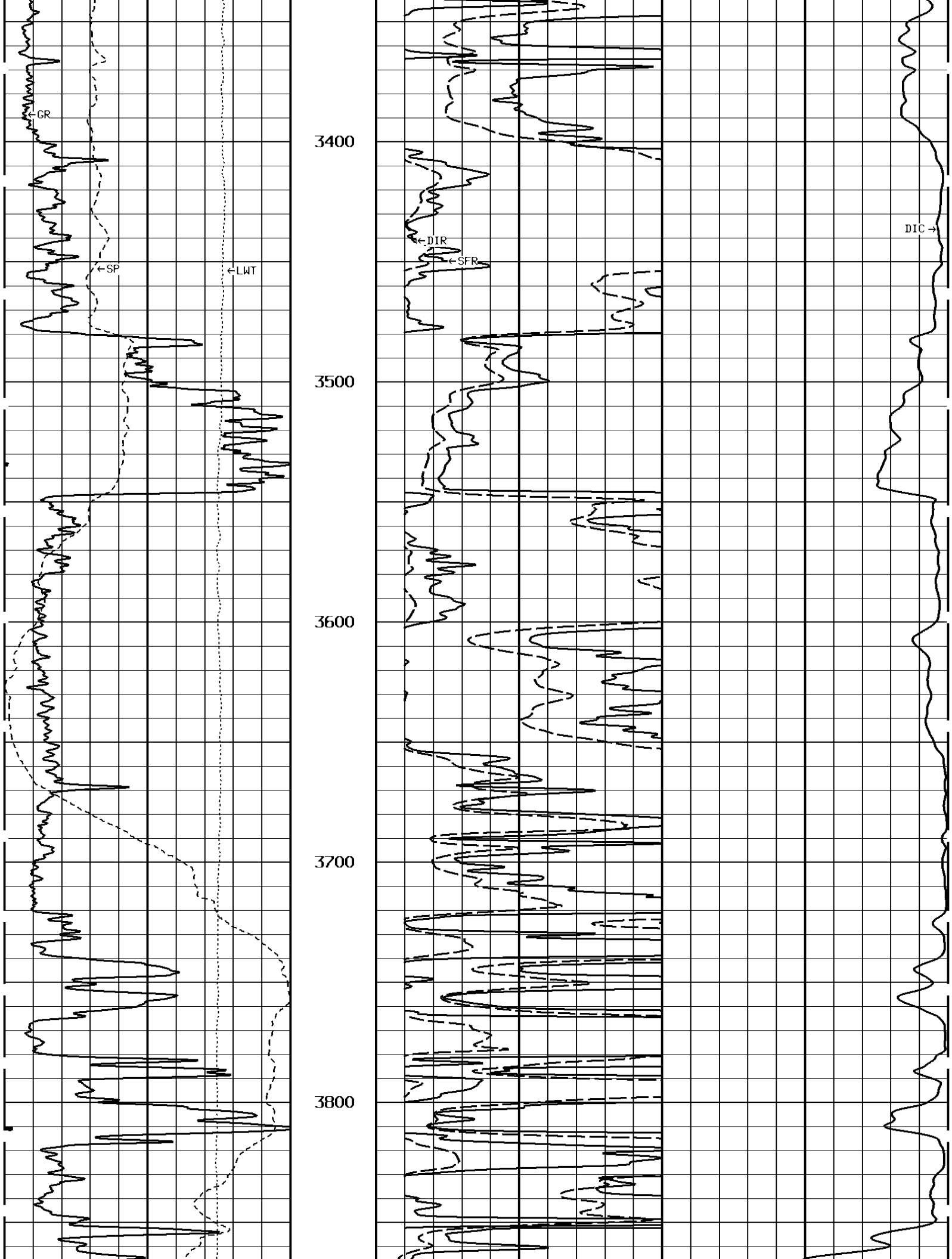
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←SP
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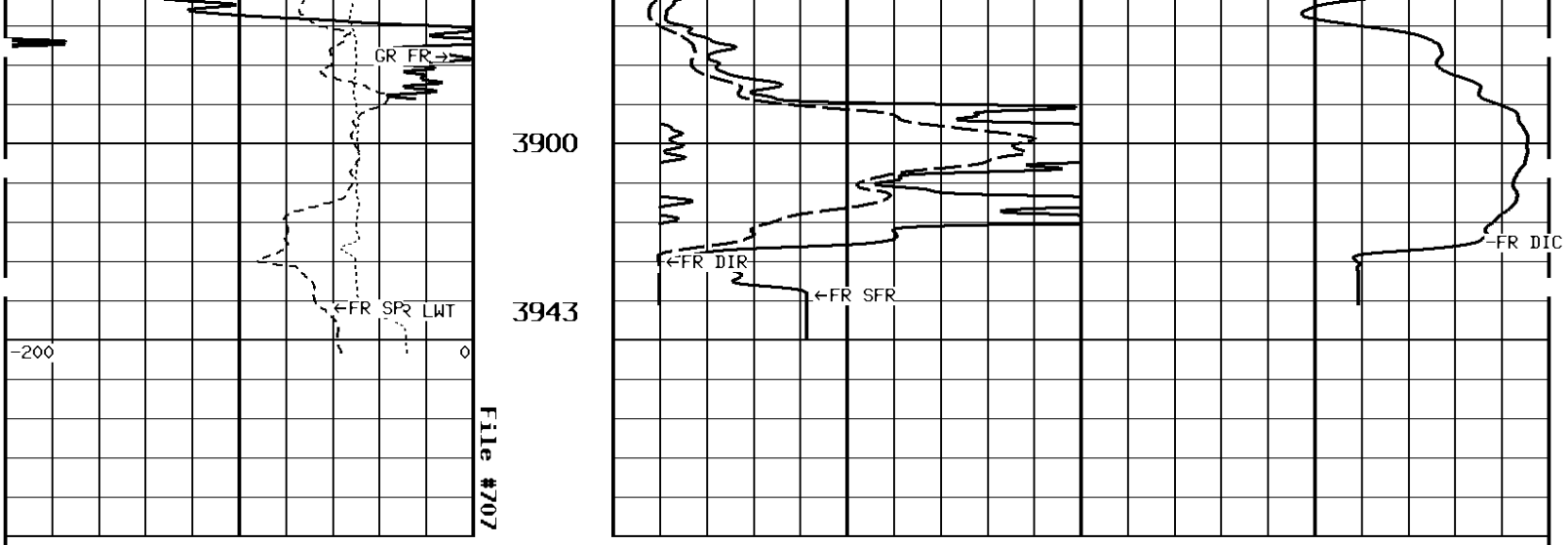
3500
3600
3700
3800
←DIR
←SFR
DIC →



1:600 SECTION

GAMMA RAY
API UNITS
150 300
0 150

DEEP CONDUCTIVITY
MMHO
2000 1000
1000 0

SPONTANEOUS POTENTIAL
mV
→| |← 20

DEEP INDUCTION
OHMM
0.0 500.0
0.0 50.0

TENSION
LBS
10000 0

SHALLOW FOCUSED RESISTIVITY
OHMM
0.0 500.0
0.0 50.0

TENSION
LBS
10000 0

SHALLOW FOCUSED RESISTIVITY
OHMM
0.2 2000.0

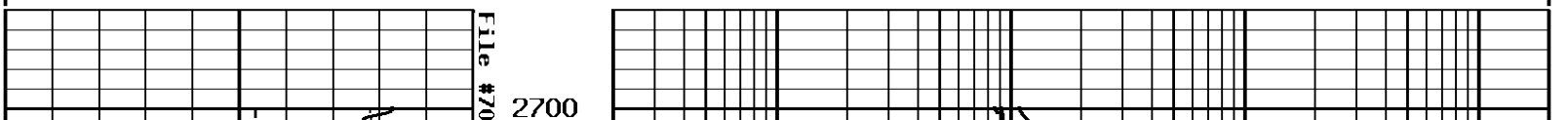
SPONTANEOUS POTENTIAL
mV
→| |← 20

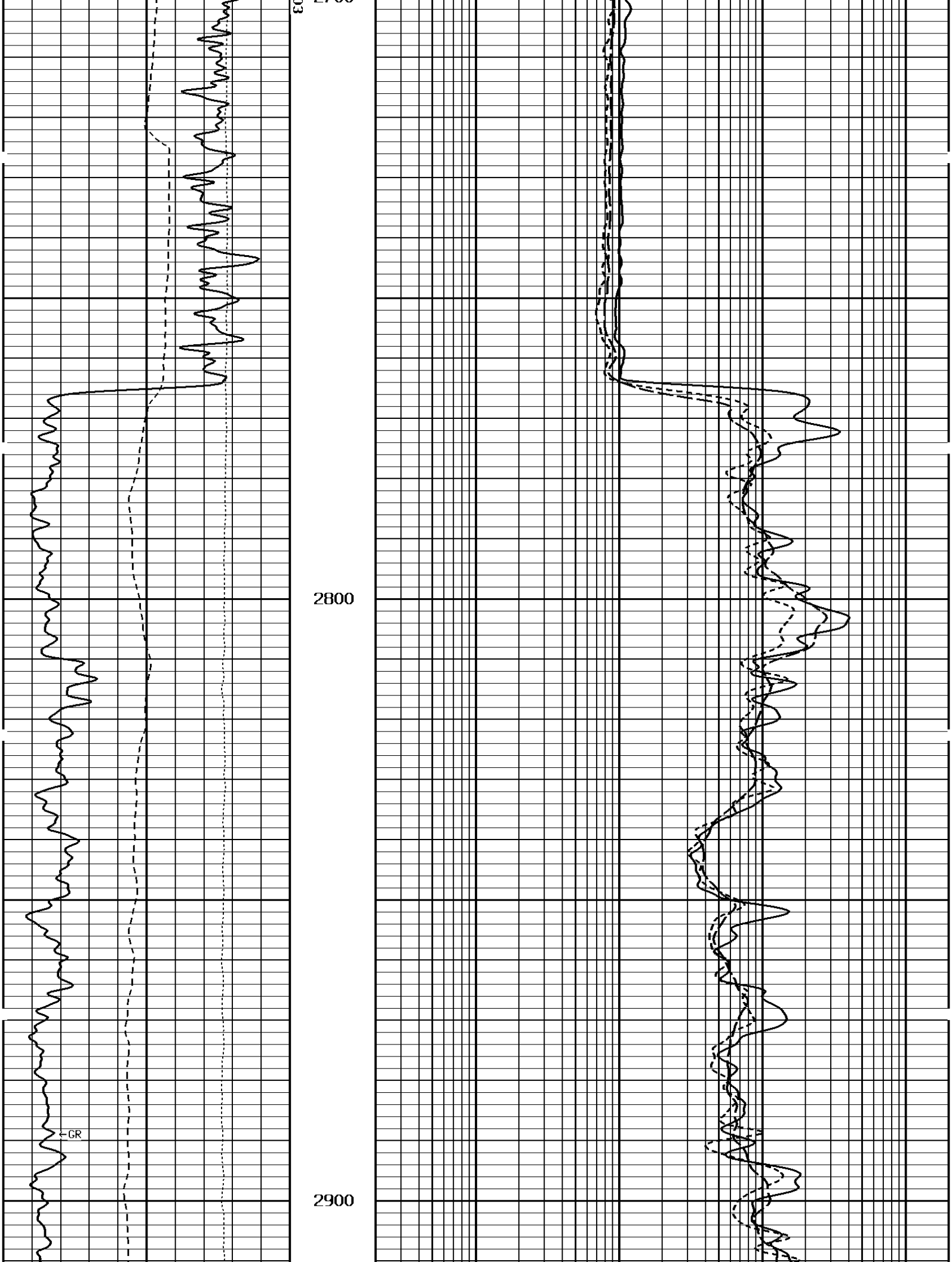
MEDIUM INDUCTION
OHMM
0.2 2000.0

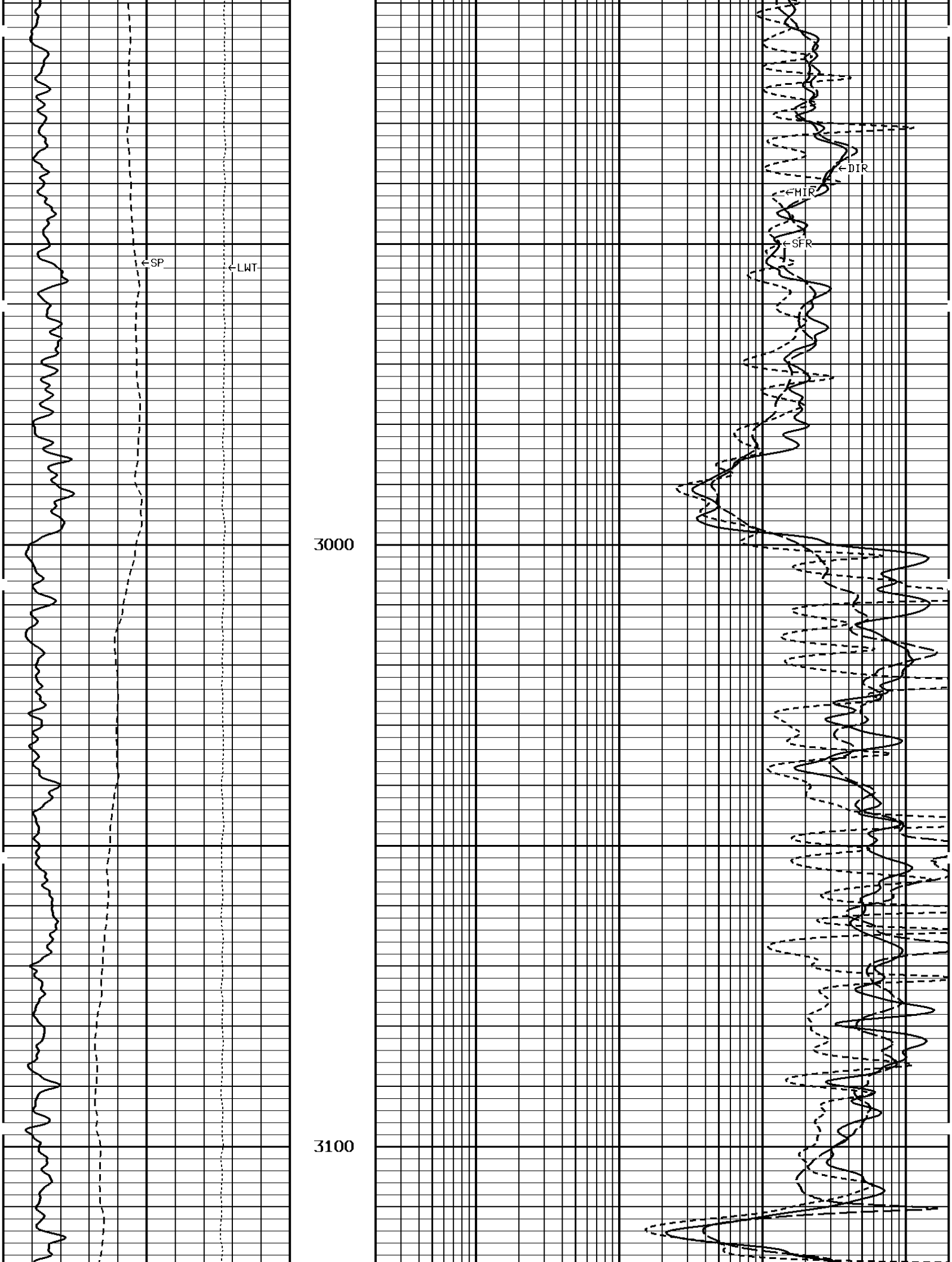
GAMMA RAY
API UNITS
150 300
0 150

DEEP INDUCTION
OHMM
0.2 2000.0

1:240 MAIN SECTION




2700
2800
2900
←GR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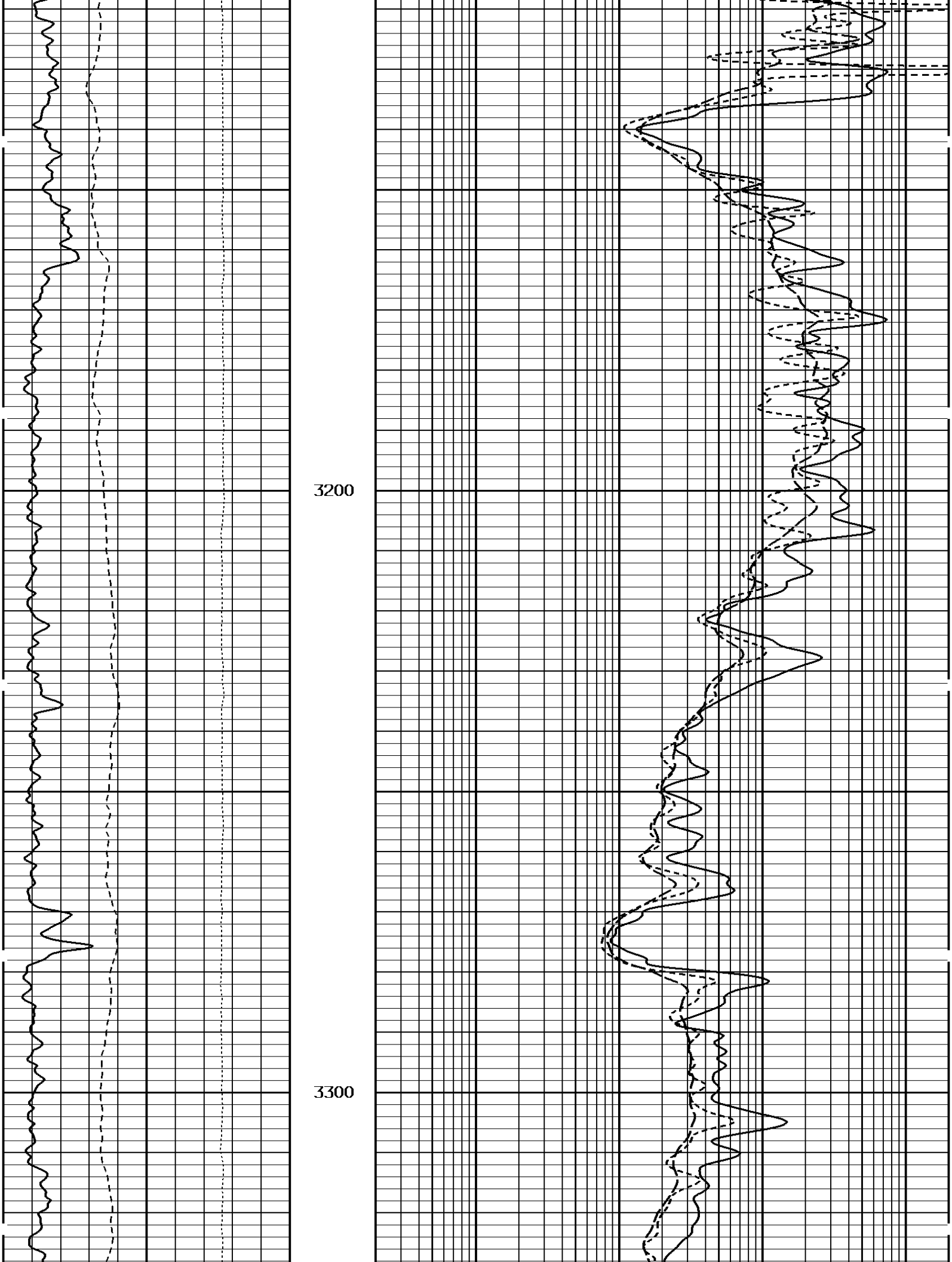
←LWT
←DIR
←MIR
←SFR
3000
3100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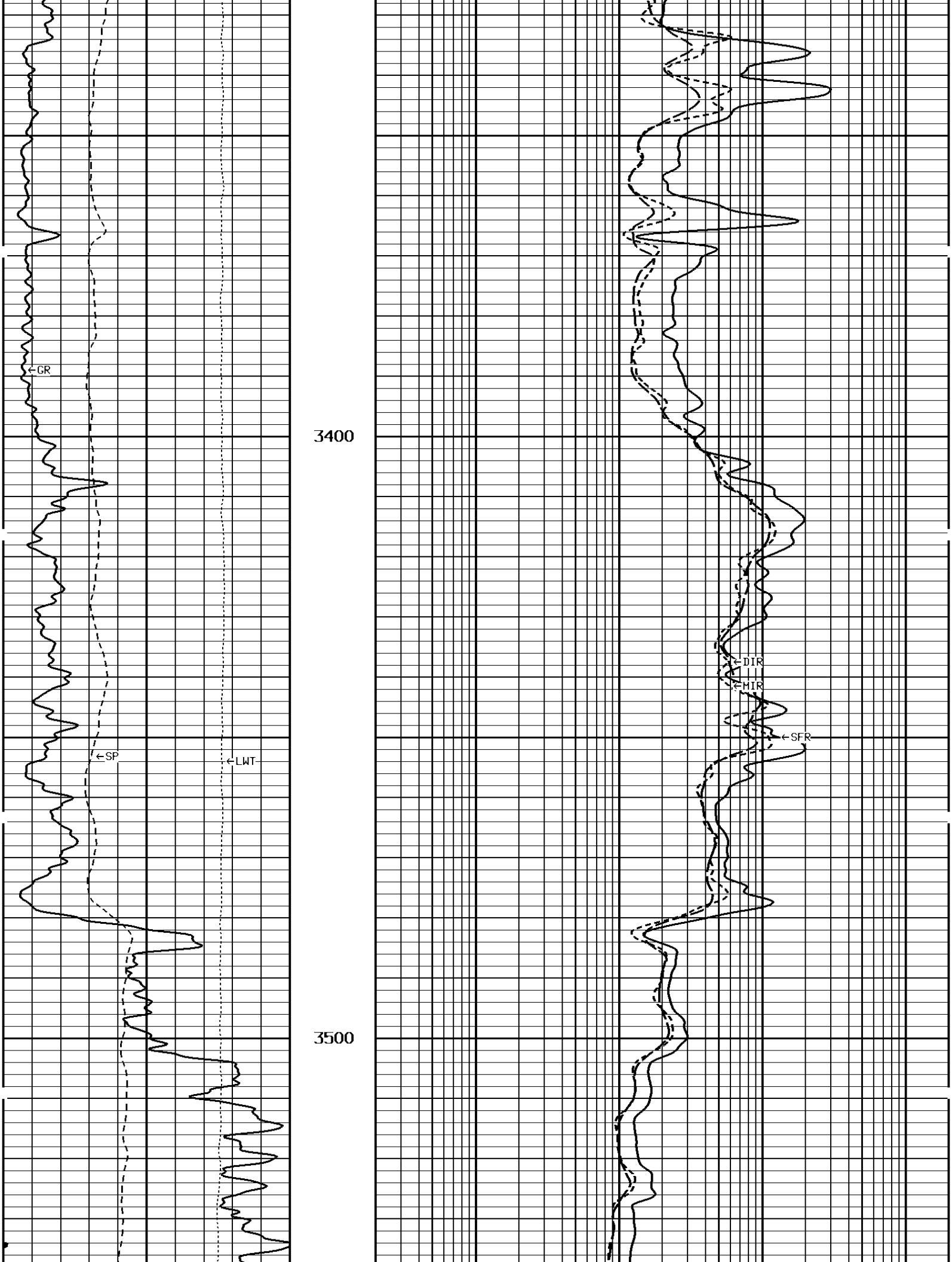
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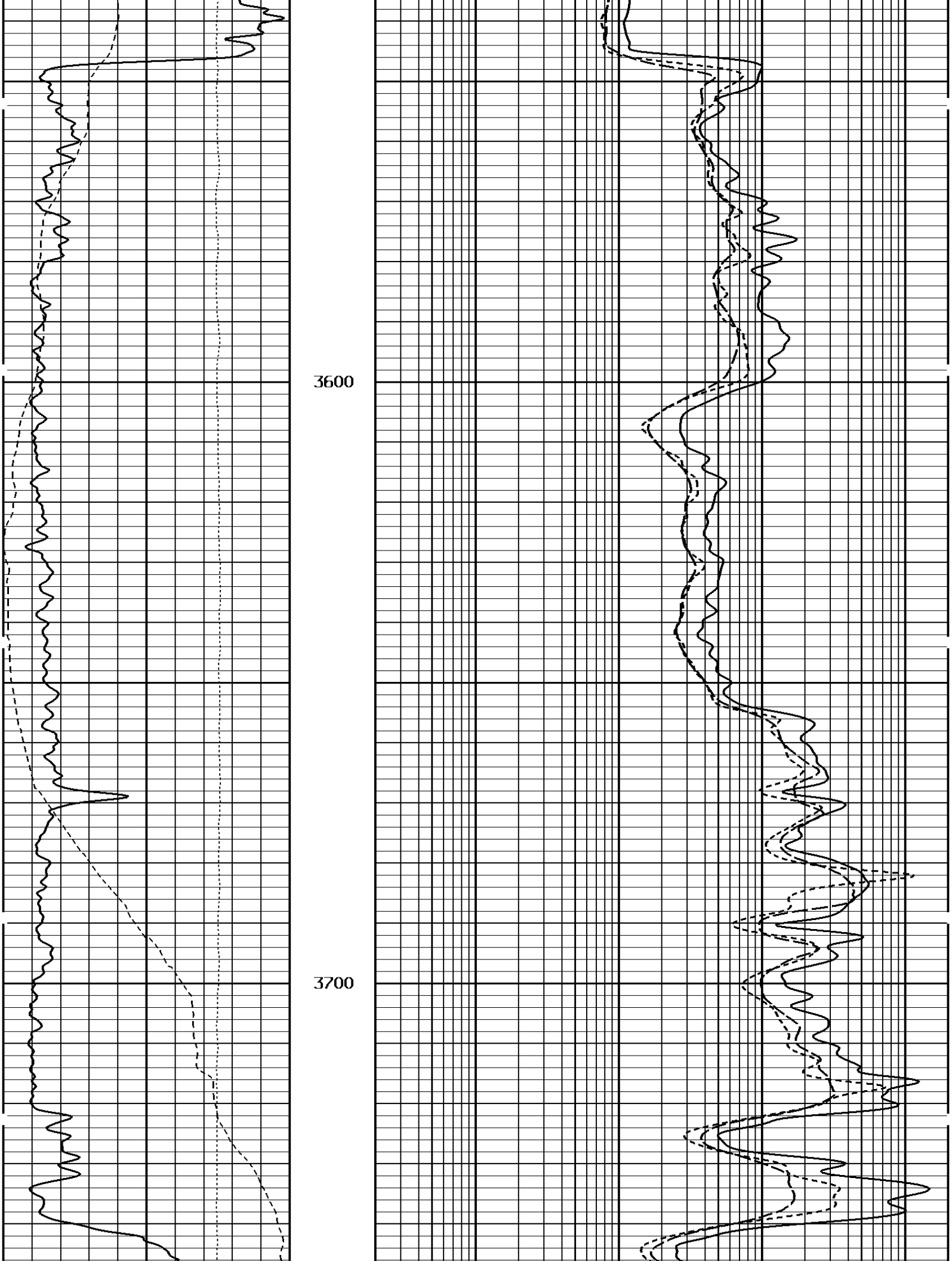
←DIR
←MIR
←SFR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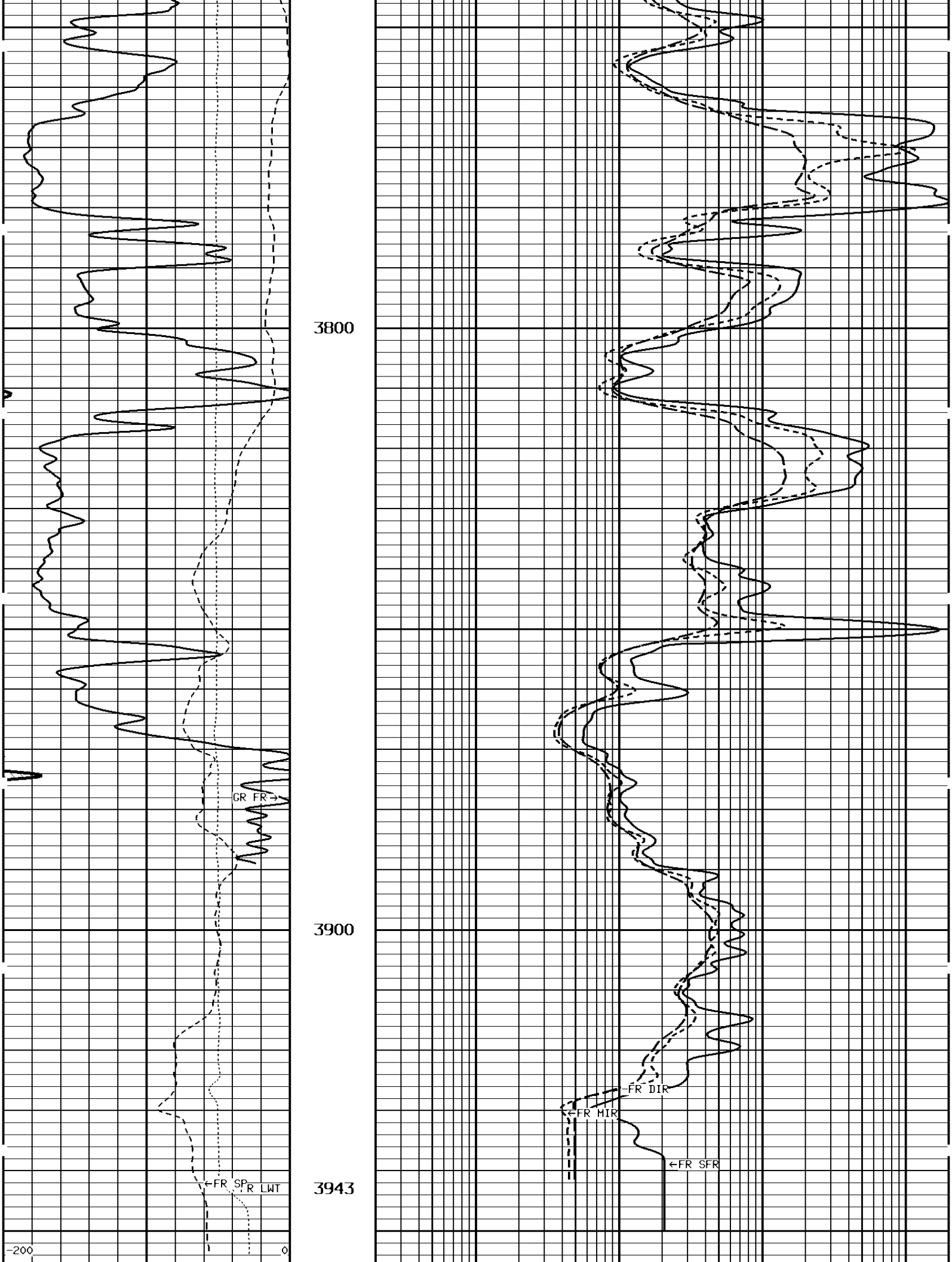
3700


3800
3900
3943
GR FR→
←FR SP
R LWT
-200
0
←FR DIR
←FR MIR
←FR SFR

File #703

1:240 MAIN SECTION

GAMMA RAY API UNITS 150 0 300 150	DEEP INDUCTION OHMM 0.2 2000.0
SPONTANEOUS POTENTIAL mV → ← 20	MEDIUM INDUCTION OHMM 0.2 2000.0
TENSION LBS 10000 0	SHALLOW FOCUSED RESISTIVITY OHMM 0.2 2000.0

* Borehole Zone Factors *

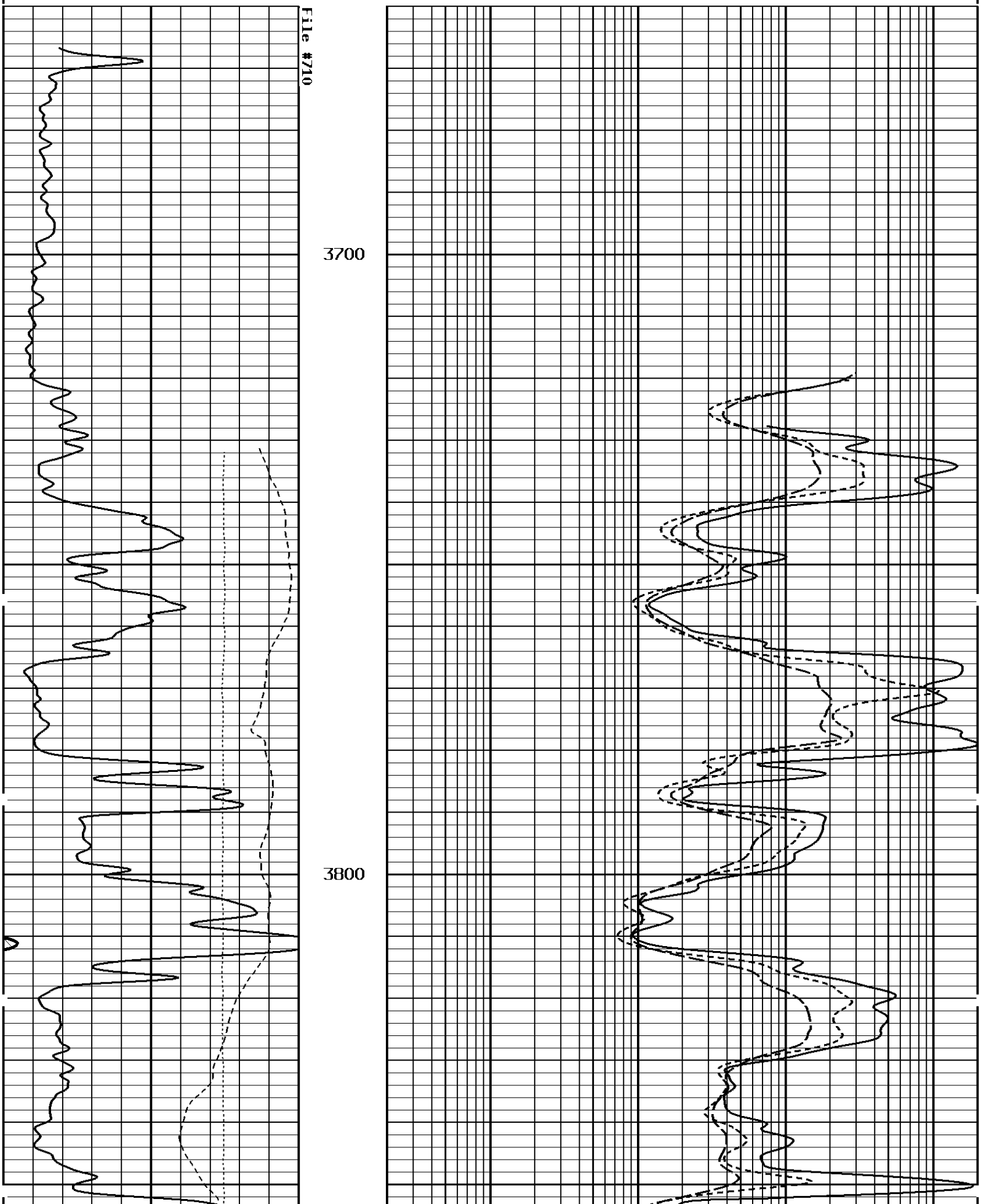
Zone 1 99999.0 to 0.0 F

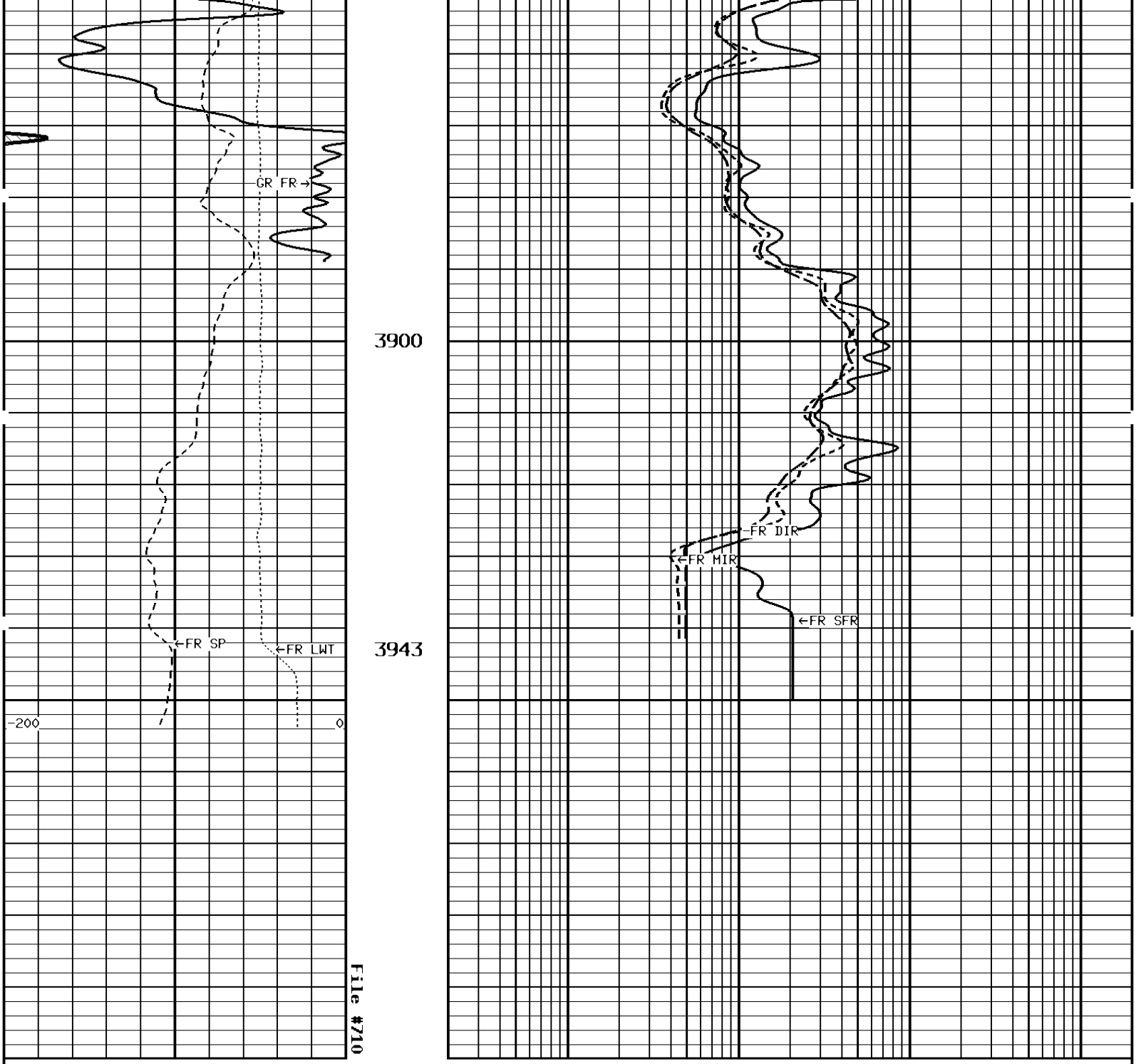
Drill Bit Size	7.875	IN
BHT Depth	3943.000	F
Borehole Temperature	108.0	DEGF
Temperature Gradient	1.00	DFHF
Resistivity Of Mud	1.40	OHMM
Resistivity Of Mud Temperature	55.00	DEGF

TENSION LBS 10000 0	SHALLOW FOCUSED RESISTIVITY OHMM 0.2 2000.0
SPONTANEOUS POTENTIAL mV → ← 20	MEDIUM INDUCTION OHMM 0.2 2000.0
GAMMA RAY API UNITS 150 0 300 150	DEEP INDUCTION OHMM 0.2 2000.0

1:240 REPEAT SECTION

1:240 REPEAT SECTION





1:240 REPEAT SECTION

GAMMA RAY API UNITS 150 300 0 150	DEEP INDUCTION OHMM 0.2 2000.0
SPONTANEOUS POTENTIAL mV →| |← 20	MEDIUM INDUCTION OHMM 0.2 2000.0
TENSION LBS	SHALLOW FOCUSED RESISTIVITY OHMM

10000	0

0.2	2000.0

* Borehole Zone Factors *

Zone 1 99999.0 to 0.0 F

Drill Bit Size	7.875	IN
BHT Depth	3943.000	F
Borehole Temperature	108.0	DEGF
Temperature Gradient	1.00	DFHF
Resistivity Of Mud	1.40	OHMM
Resistivity Of Mud Temperature	55.00	DEGF

* Calibration Summary *

Shop Calibration
GRTB

Performed : 29-Apr-2010 Time : 11:02
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_B

Performed : 08-Nov-2010 Time : 11:08
Sensor Suite : P-IND-T ID : PIT-CA-069

Medium

	Measured R	Measured X	Calibrated R	Calibrated X	Units
Air	130164	131172	0.2	0.0	MMHOS
Zero	131072	131069	0.0	0.0	MMHOS
Reference	249229	248290	5000.0	5000.0	MMHOS
Loop	151517	175824	2808.4	1001.1	MMHOS
Sonde Error			0.0	-7.6	MMHOS
Cond			5000.0	5000.0	MMHOS

Deep

	Measured R	Measured X	Calibrated R	Calibrated X	Units
Air	128051	132179	-0.0	-0.1	MMHOS
Zero	131071	131069	0.0	0.0	MMHOS
Reference	234815	233611	2000.0	2000.0	MMHOS
Loop	150130	177907	1317.5	466.2	MMHOS
Sonde Error			-2.4	1.2	MMHOS
Cond			2000.0	2000.0	MMHOS

Temperature

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

Performed : 08-Nov-2010 Time : 11:02
Sensor Suite : SFL ID : PIT-CA-069

Internal

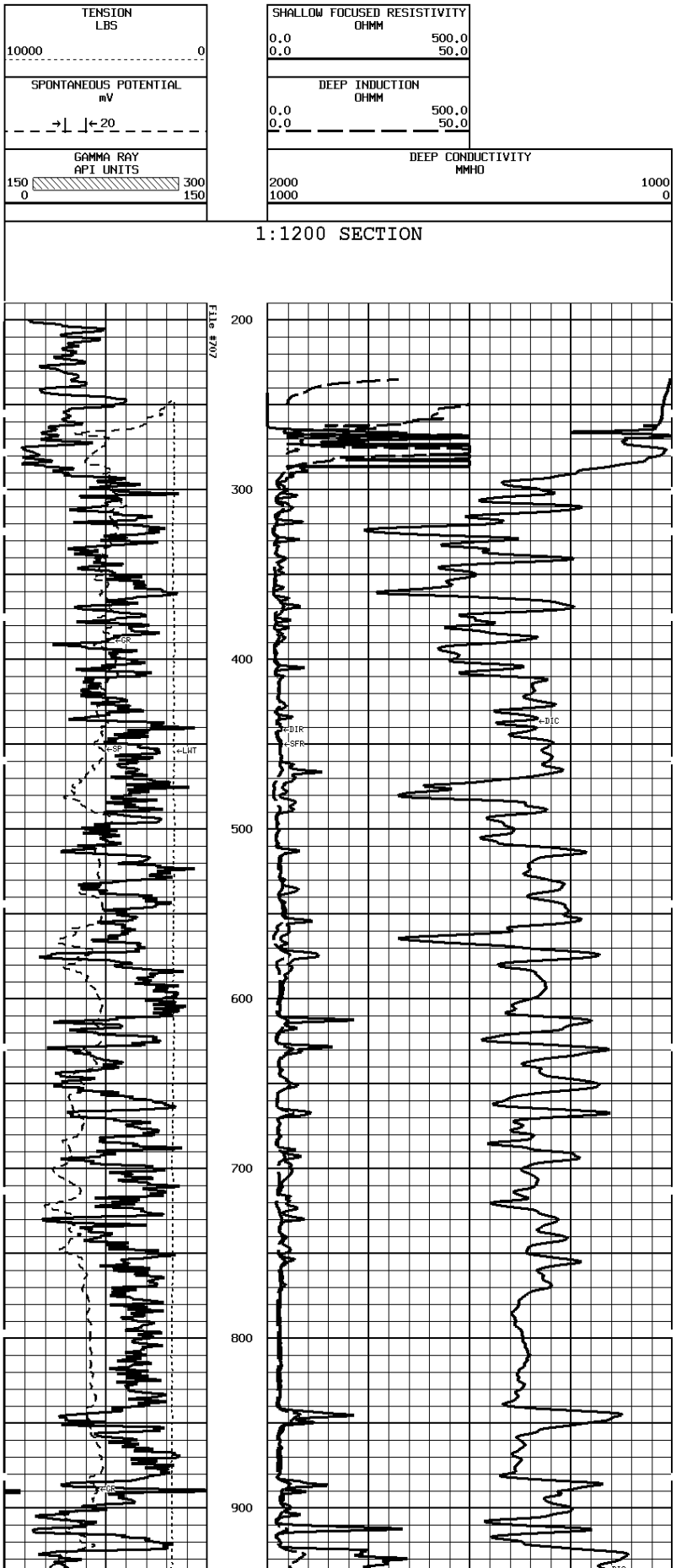
	Measured Zero	Measured Reference	Calibrated Zero	Calibrated Reference	Units
Im	32750.0	49066.8	0.0	7028.0	uA
Ib	32765.9	49134.2	0.0	1750.0	mA
MOM1	32789.8	56739.0	0.0	175.0	mV
Equivalent SFL				43.97	OHMM

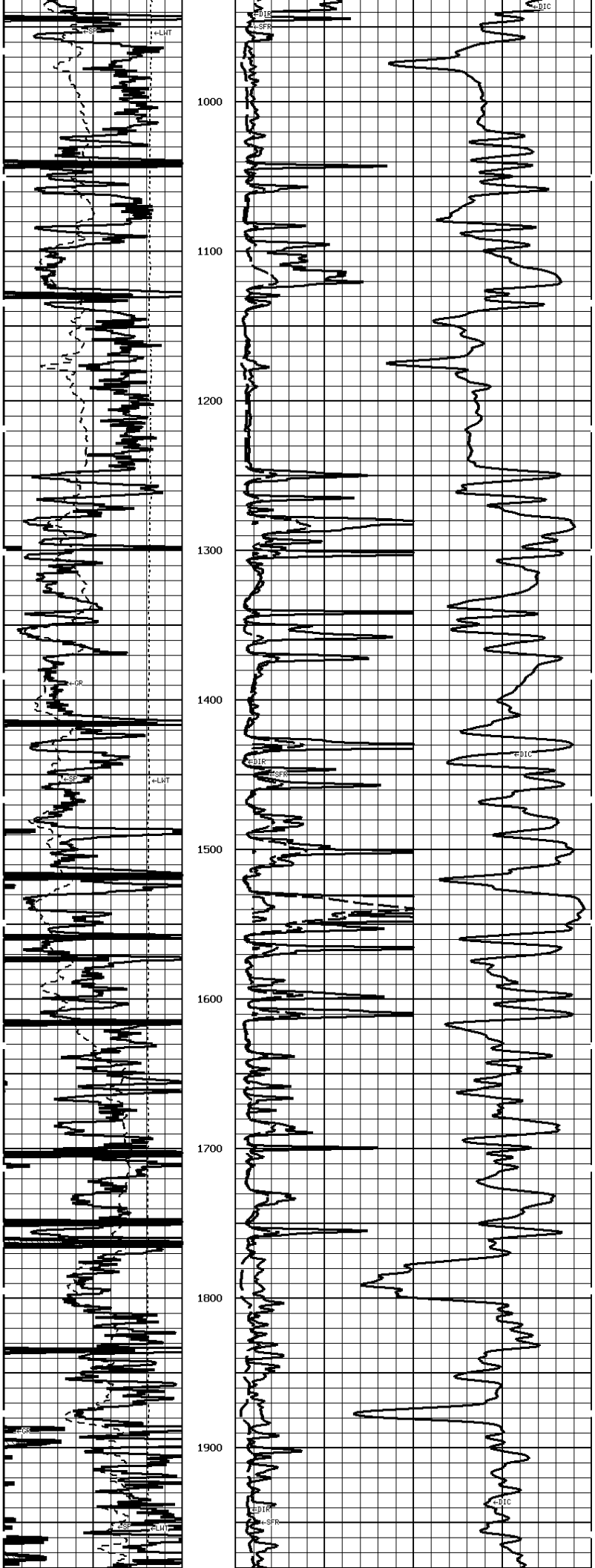
Performed : 08-Nov-2010 Time : 10:52

Performed : 08-NOV-2010 Time : 10:52
Sensor Suite : P-SP ID : PIT-CA-069

Internal

Measured Zero	Measured Reference	Calibrated Zero	Calibrated Reference	Units
32768.3	58943.1	0.0	1000.0	mV

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DIR
SFR
DIC
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1100
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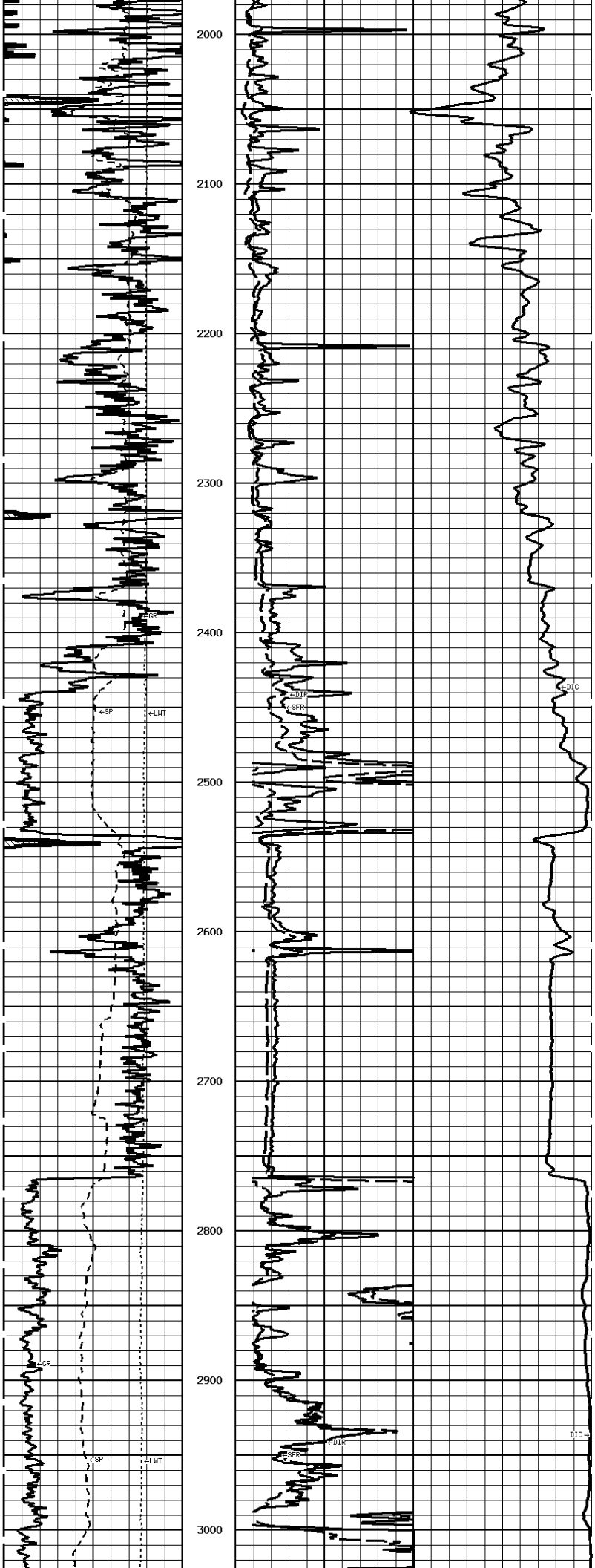
1300
1400
1500
1600
1700
1800
1900
GR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2300
2400
2500
2600
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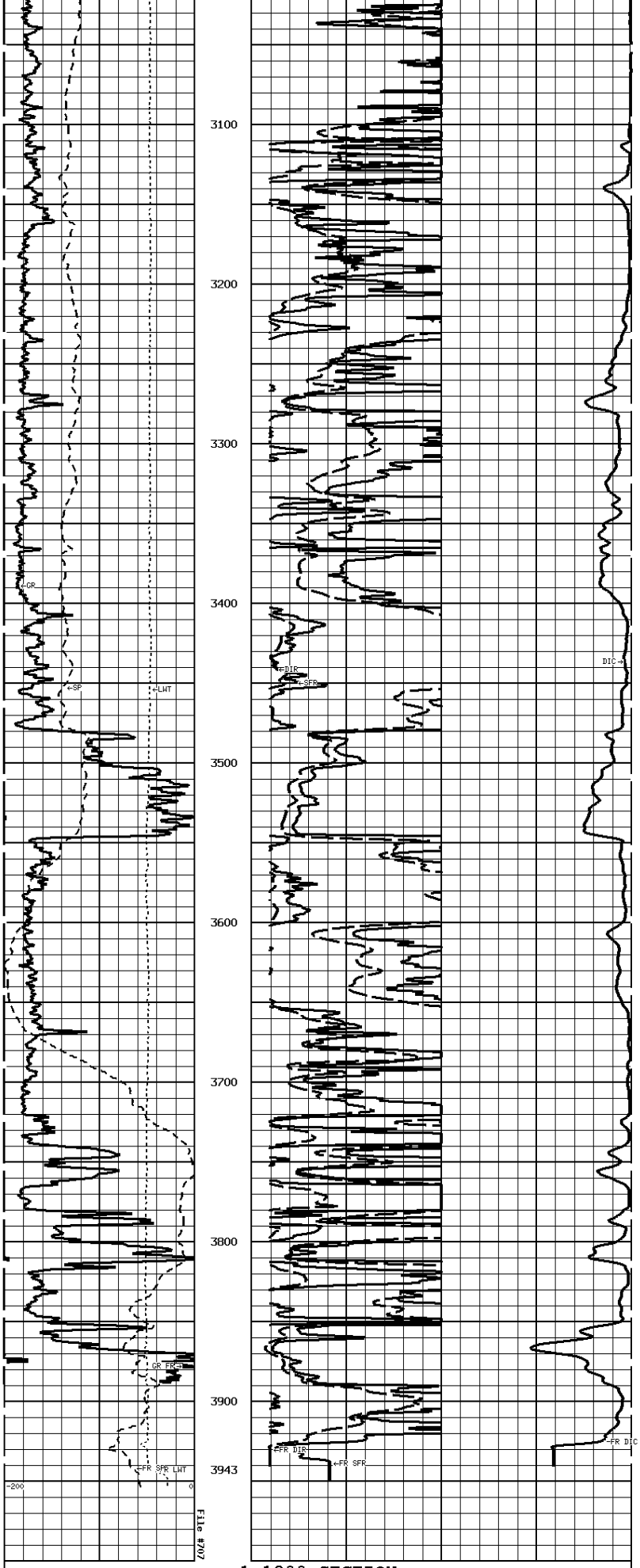
2800
2900
3000
←GR
←SP
←LWT
←DIR
←SFR
←DIC
DIC→



1:1200 SECTION

GAMMA RAY API UNITS	DEEP CONDUCTIVITY MMHO
150 — 300	2000 — 1000

150 300
0 150

SPONTANEOUS POTENTIAL
mV
→| |← 20

TENSION
LBS
10000 0

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