

Company **CMX, INC.**  
 Well **BUSHTON #2-36**  
 Field **HEIKEN**  
 County **ELLSWORTH**  
 State **KANSAS**



**DUAL INDUCTION  
 LATEROLOG - SP  
 GAMMA RAY**

SEC	TWP	RGE	OTHER SERVICES:	
36	17S	10W	LDT	CNL
Location: 1360' FSL & 1660' FEL		SW/SE/NW/SE	XY CALIPER	MICROLOG BHC
SURF. SAME	AP#:	015-053-21337-00-00	ELEVATIONS K.B. 1768 G.L. 1760 D.F. 1766	
Permanent Datum	Ground Level	Elev	1760	
Log Measured From	Kelly Bushing			
Drilling Measured From	Kelly Bushing			

Date	27-AUG-2015	
Run No.	ONE	
TD Driller	3255	ft
TD RECON	3252	ft
Bot Logged Interval	3251	ft
Top Logged Interval	370	ft
Casing Depth Driller	8 5/8	in.
Casing Depth RECON	8 5/8	in.
Bit Size	7 7/8	in.
Drilling Fluid Type	WBM	
Density	9.4	40
Fluid Loss	8.8	8.6
Source Of Sample	Flowline	
RM @ Measured Temp	5.32	Ohmm @ 75
RMF @ Measured Temp	3.99	Ohmm @ 75
RMC @ Measured Temp	6.65	Ohmm @ 75
RM @ MRT	3.71	Ohmm @ 104.7
Max Recorded Temp	104.7	DegF
Time Circulation Stopped	26-AUG-2015	18:30
Time Drilling Stopped	27-AUG-2015	11:30
Time Logger On Bottom	27-AUG-2015	14:50
Unit Num	S406	OKLAHOMA CITY, OK
Recorded By	K.HELDERRMON	
Witnessed By	K.LebLanc	

All interpretations are based on inferences from electrical or other readings, and therefore, RECON cannot and will not guarantee the accuracy of any interpretations of log data. RECON shall not be liable for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from

interpretations made by any of our officers, agents or employees, except in the case of provable Gross Negligence or willfull damage. Interpretations are also subject to the terms and conditions of our Price Schedule and General Service Agreement.

**RIG INFORMATION**

Drill Contr/Rig#	DUKE DRILLING #2
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**GENERAL REMARKS SECTION**

FIRST RUN IN THE HOLE  
 CNL AND LDT LOGGED IN A LIMESTONE MATRIX  
 TOP MARK - 324, BOTTOM MARK - 3126.2  
 CNL/LDT LOGGED MATRIX: 2.71 g/cc.

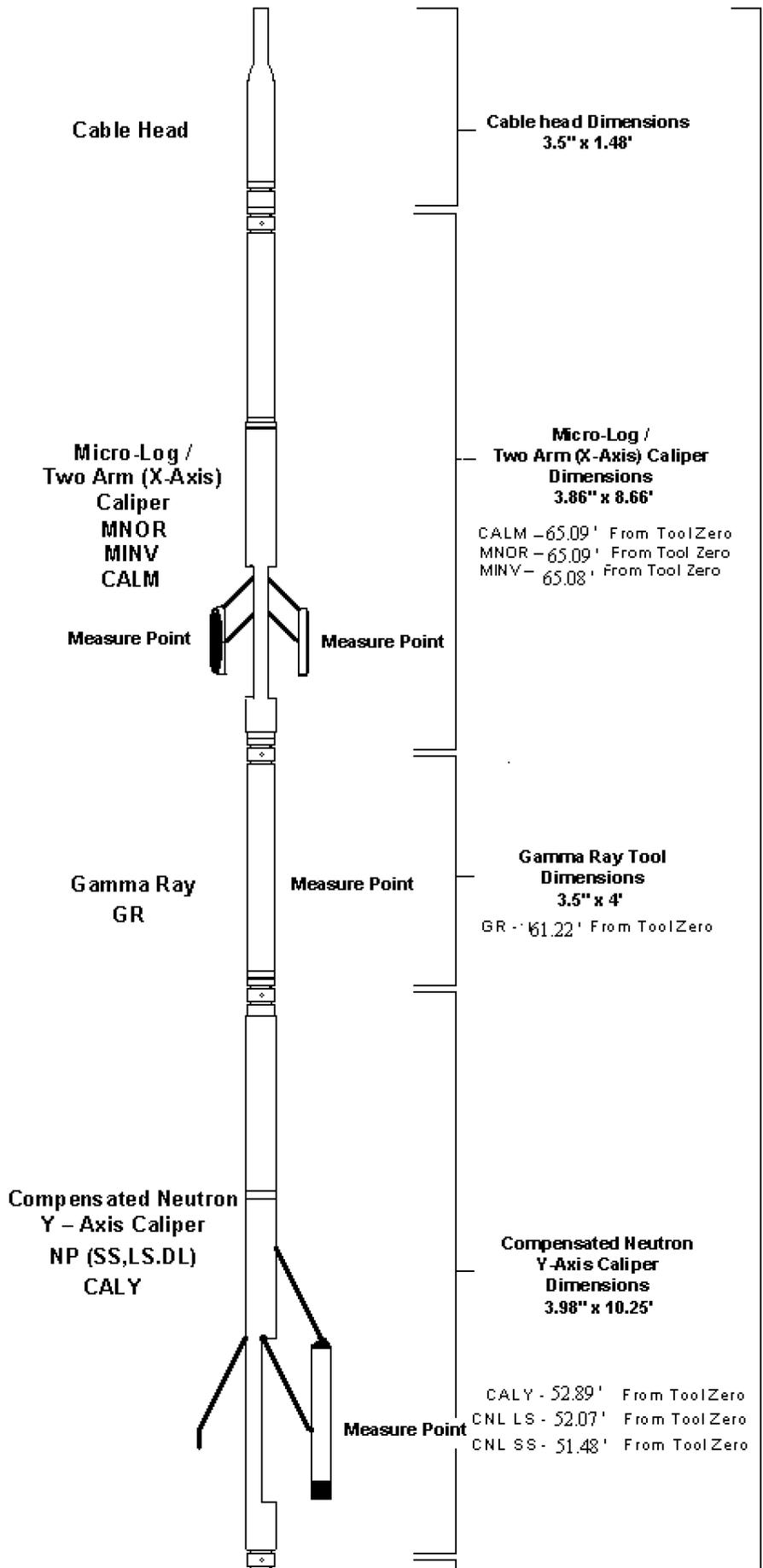
CHLORIDES: 6500  
 LCM: NONE

THANK YOU FOR USING RECON PETROTECHNOLOGIES LTD.

AHV CALCULATED ON 5.5" PROD. CASING

CREW: J.THOMAS

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



**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 - } -38.68' From ToolZero  
LDT w4 -  
LDT SS - 38.19' From ToolZero

**Borehole  
Compensated  
Sonic**

SP(SS,LS,DL)  
DT  
TTI  
VDL  
TT  
Measure Point  
Tool First Reading  
Point

**Borehole Compensated Sonic  
Tool Dimensions  
3.5" x 15.75'**

T-1  
Transmitter 1

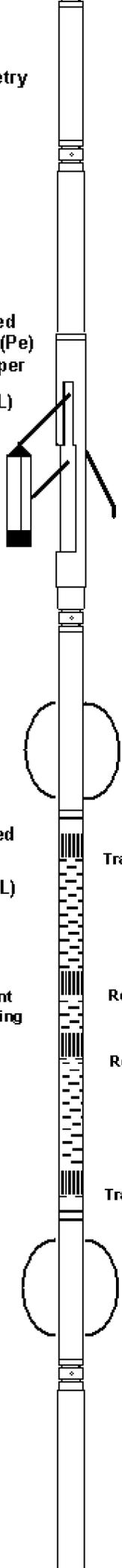
T1R1 - 33.35' From ToolZero  
T1R2 - 31.35' From ToolZero

R-1  
Receiver 1

R-2  
Receiver 2

T2R1 - 28.54' From ToolZero  
T2R2 - 28.37' From ToolZero

T-2  
Transmitter 2



**Dual Induction**

SP  
ILD  
ILM  
LL3



S.P. / CILD Measure Point

CILM Measure Point

Laterolog 3 Measure Point

Tool Zero Point (Tool Bottom)

**Dual Induction Tool Dimensions**  
3.62" x 21'

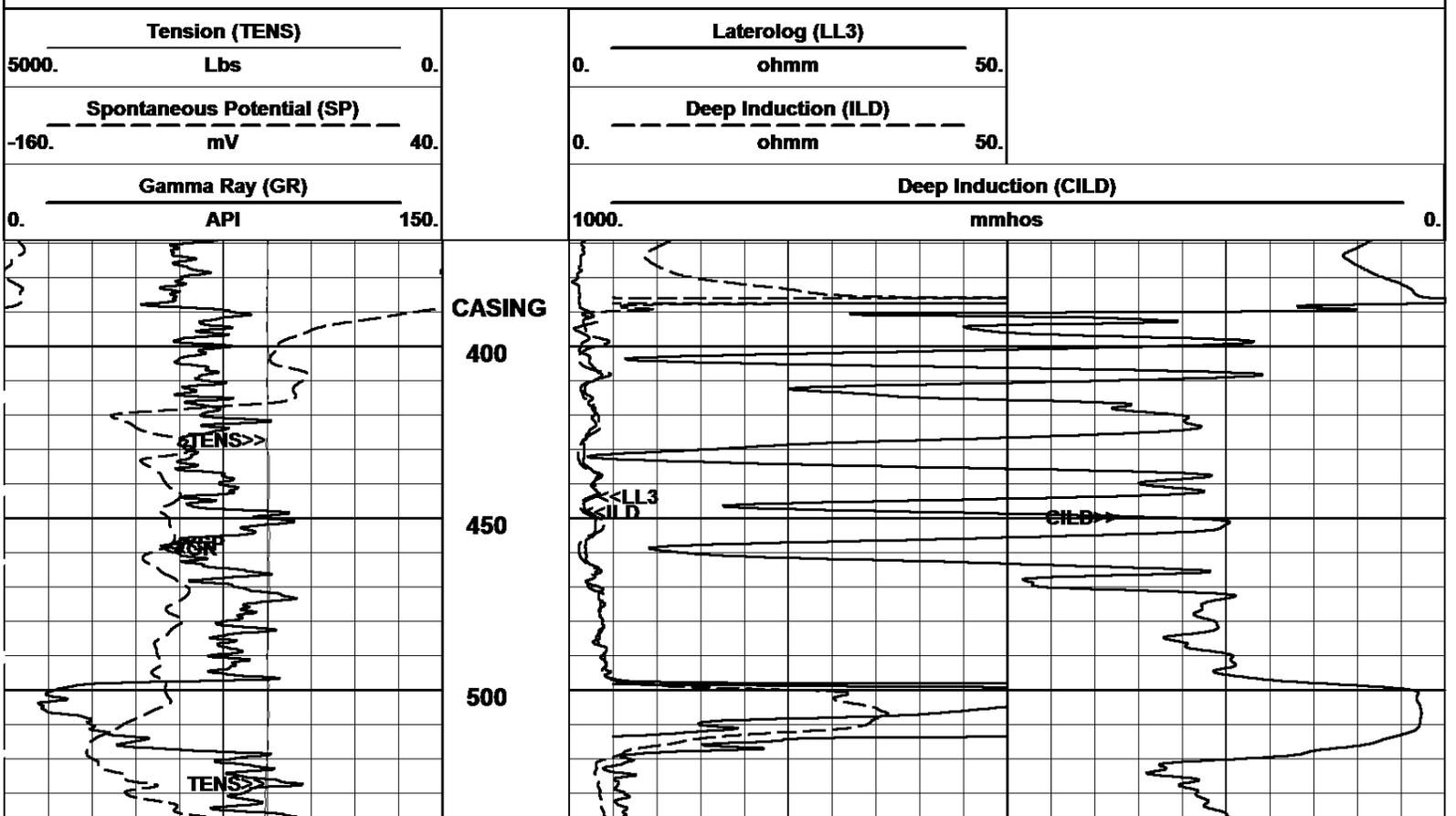
SP - 10.96' From ToolZero  
ILD - 10.96' From ToolZero

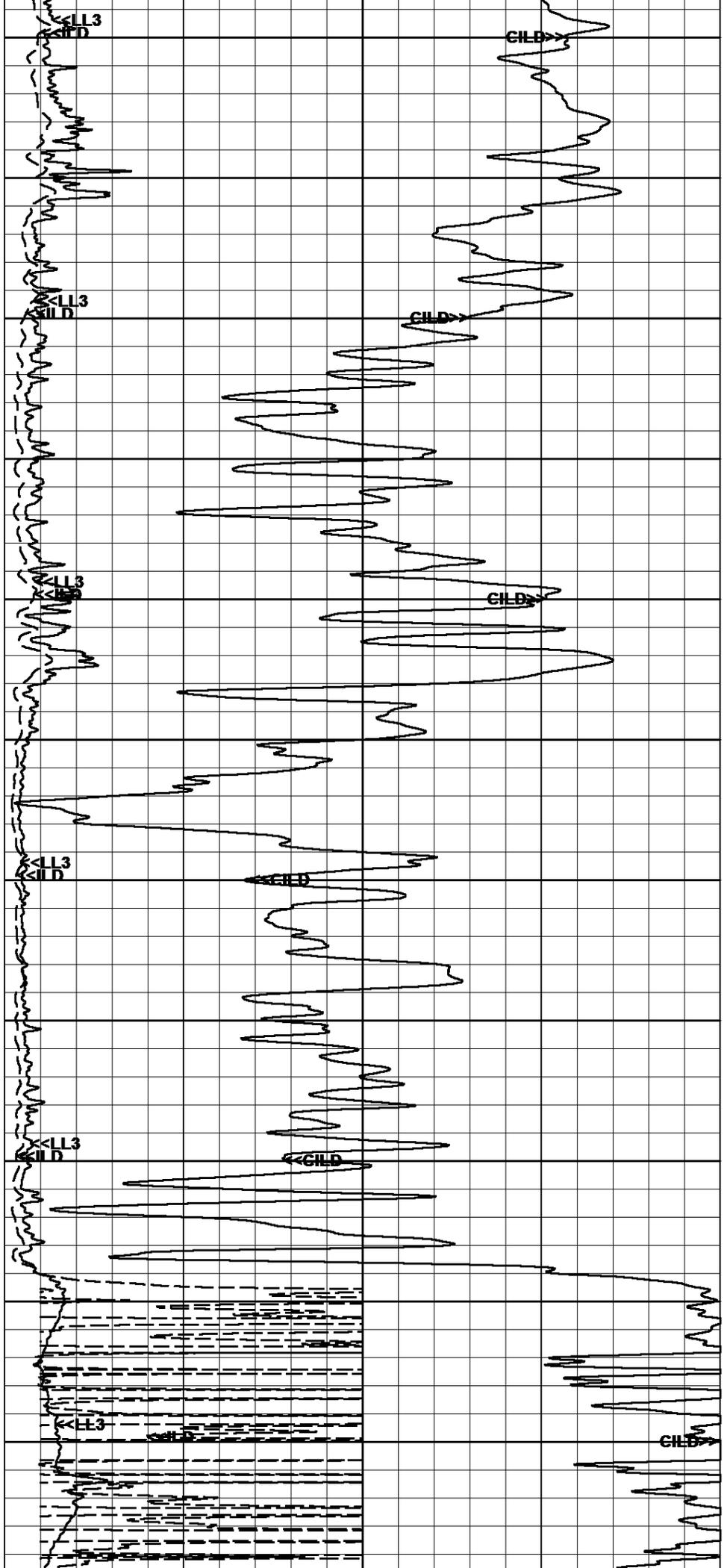
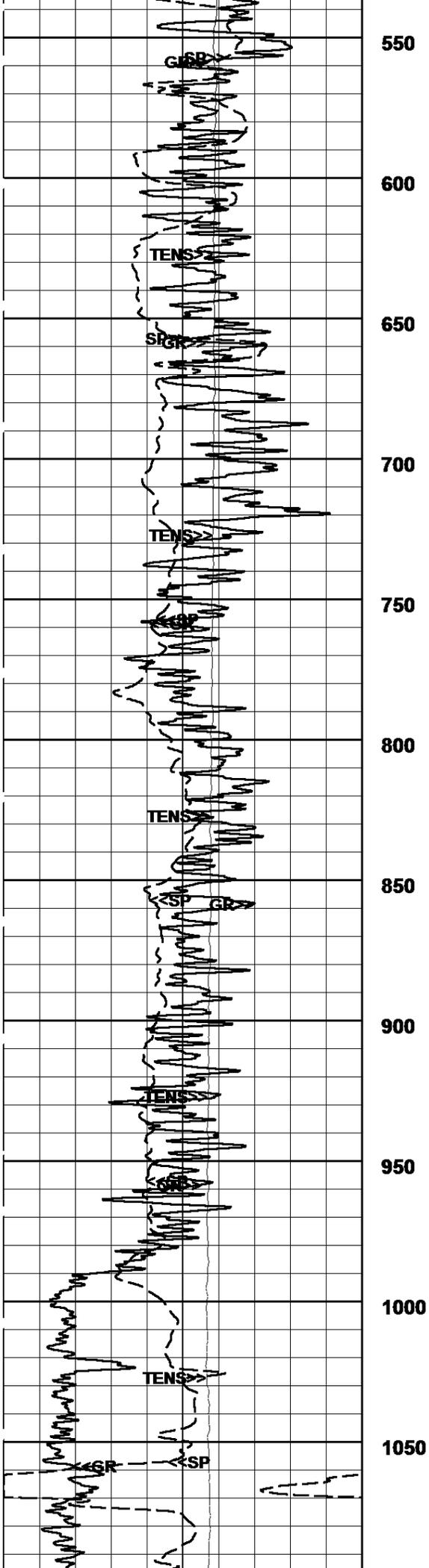
ILM - 7.22' From Tool Zero

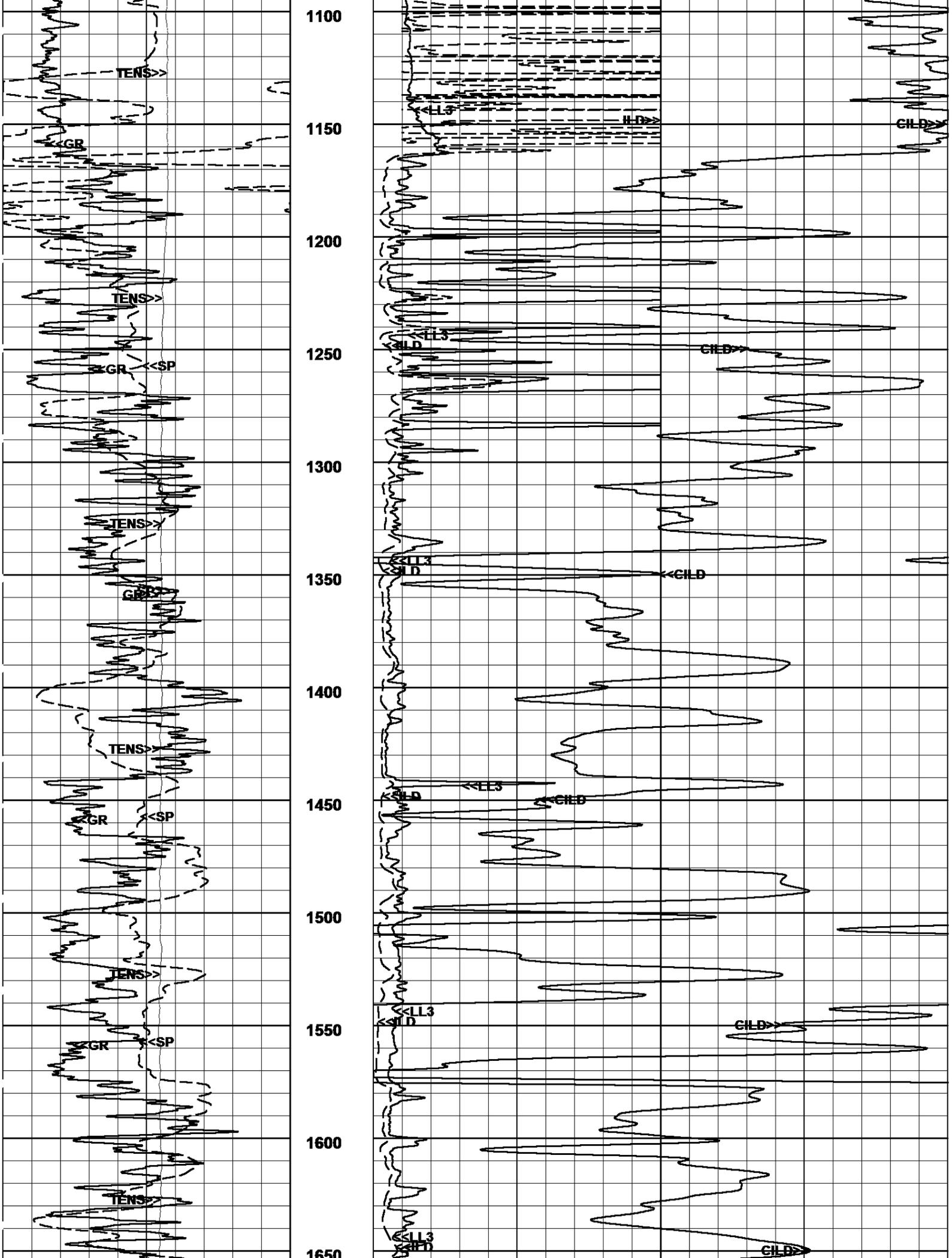
LL3 - 1.67' From ToolZero

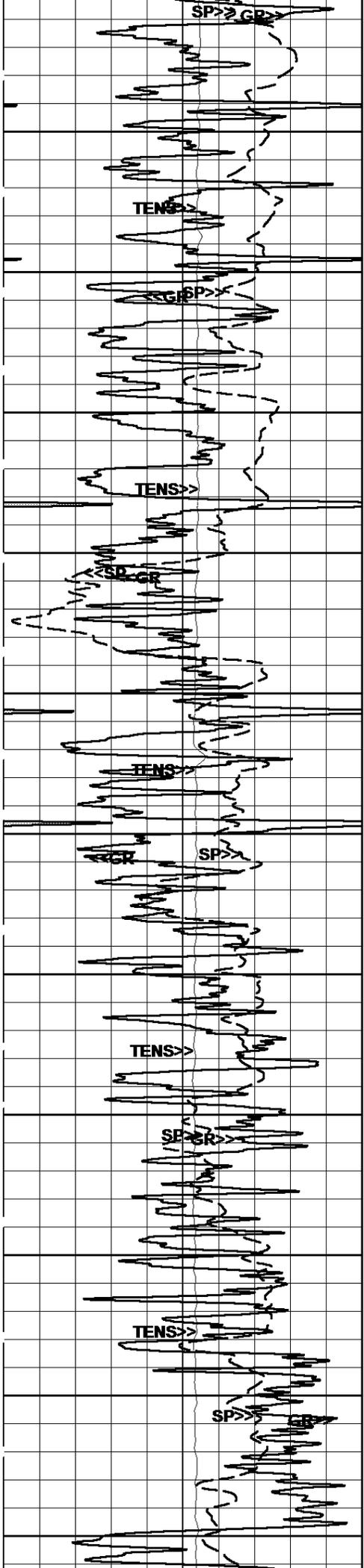
All Measurements are taken from Tool Zero

Tool First Reading Point

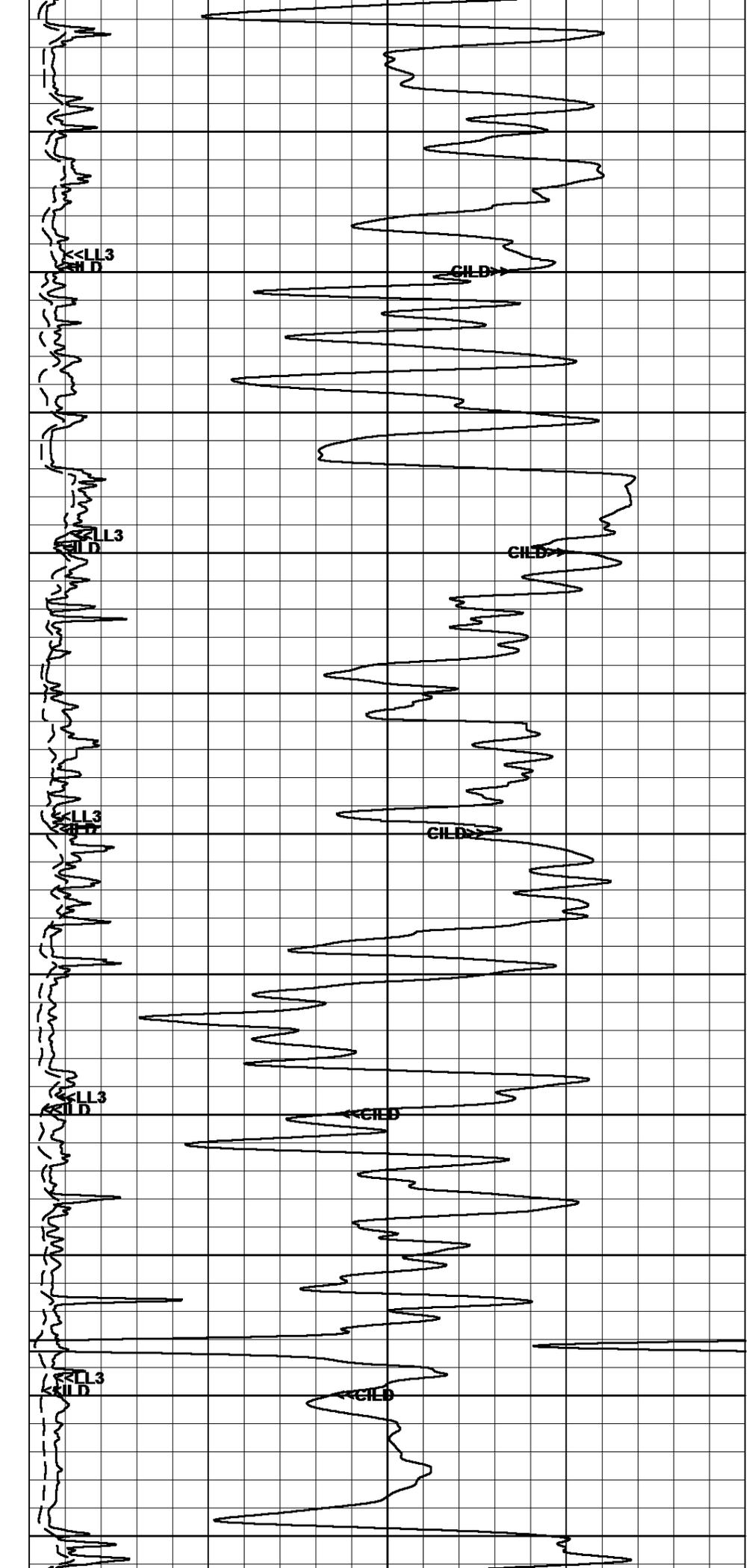


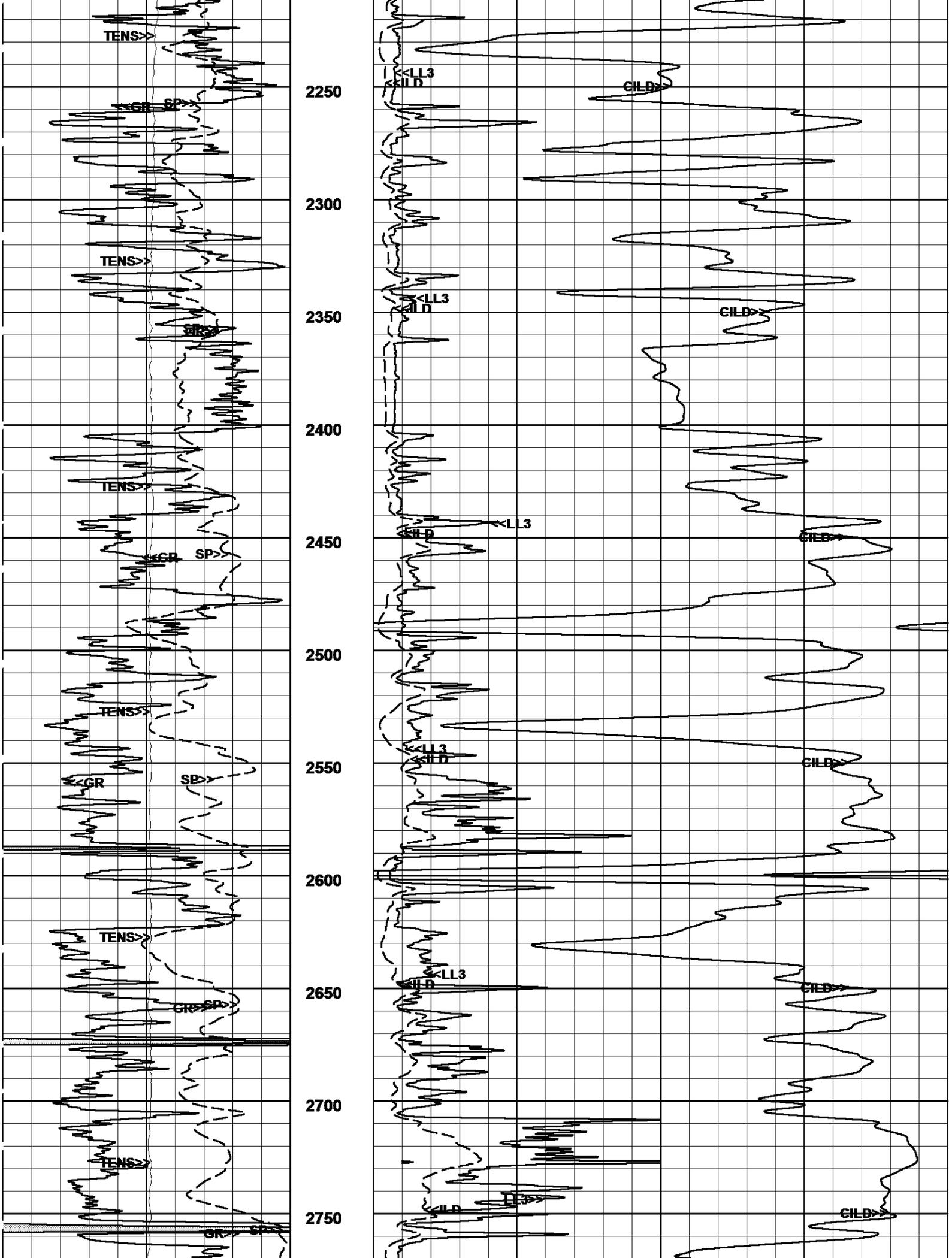


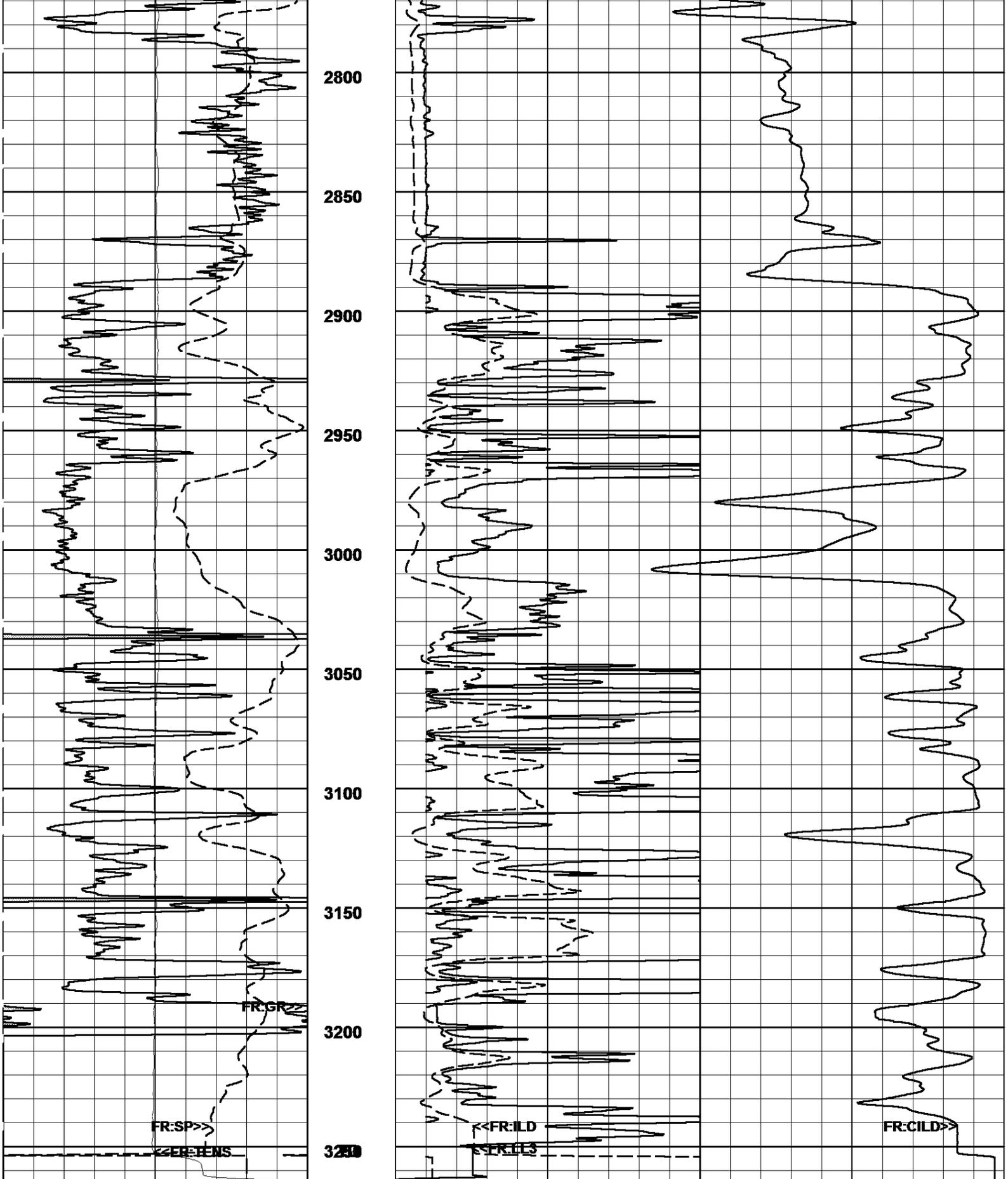




1700  
1750  
1800  
1850  
1900  
1950  
2000  
2050  
2100  
2150  
2200







**Gamma Ray (GR)**  
 0. API 150.

**Spontaneous Potential (SP)**  
 -160. mV 40.

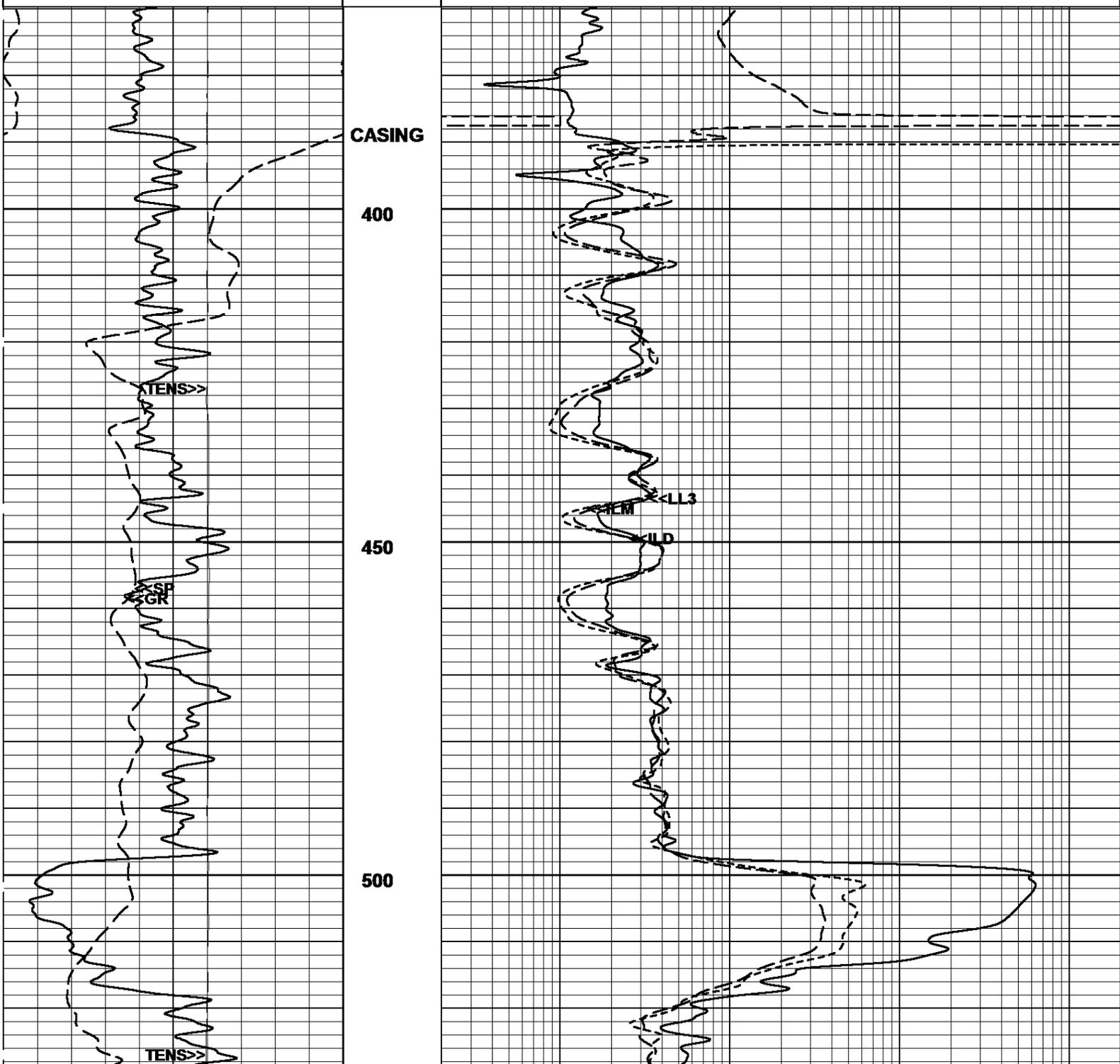
**Tension (TENS)**  
 5000. Lbs 0.

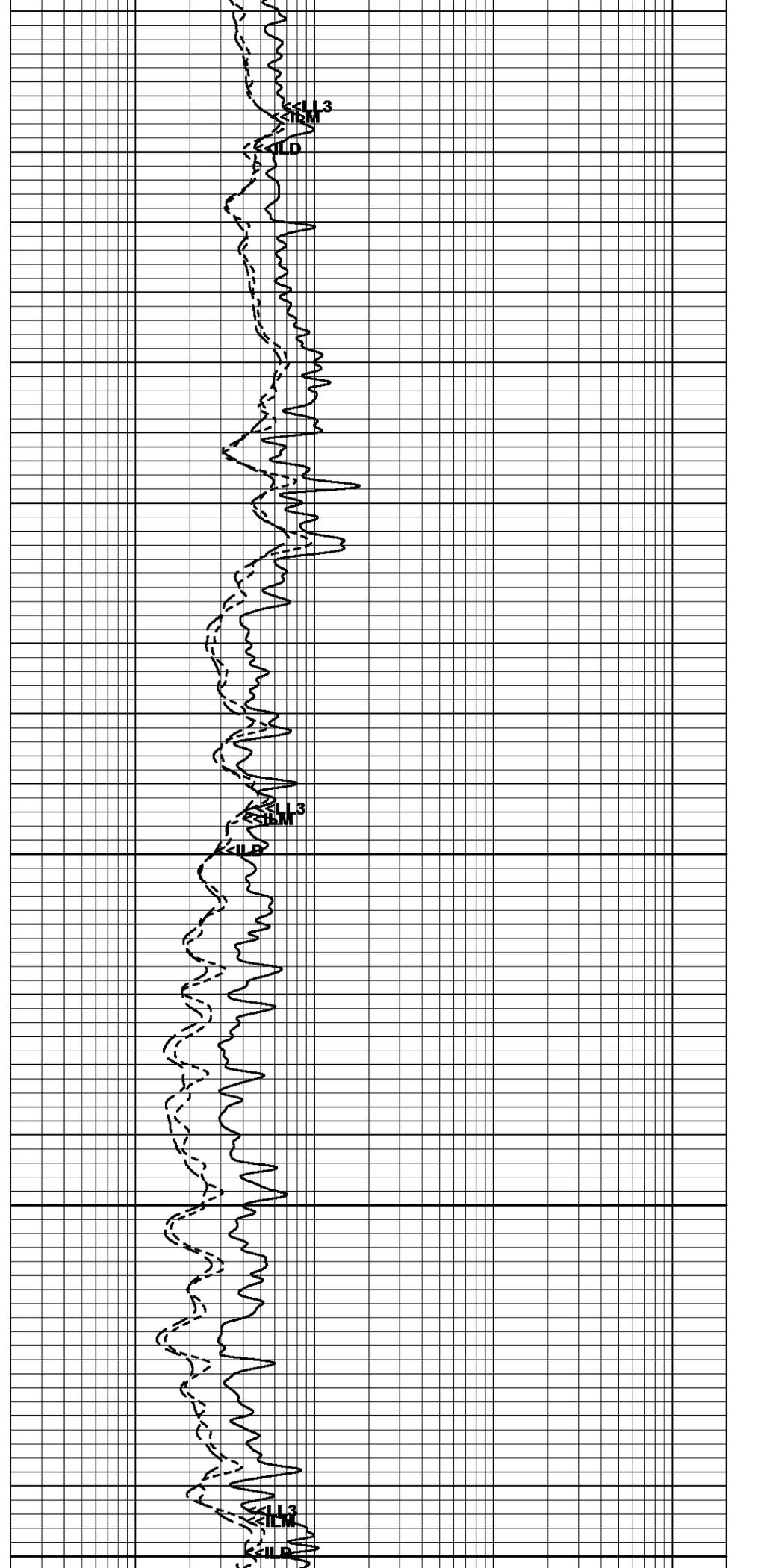
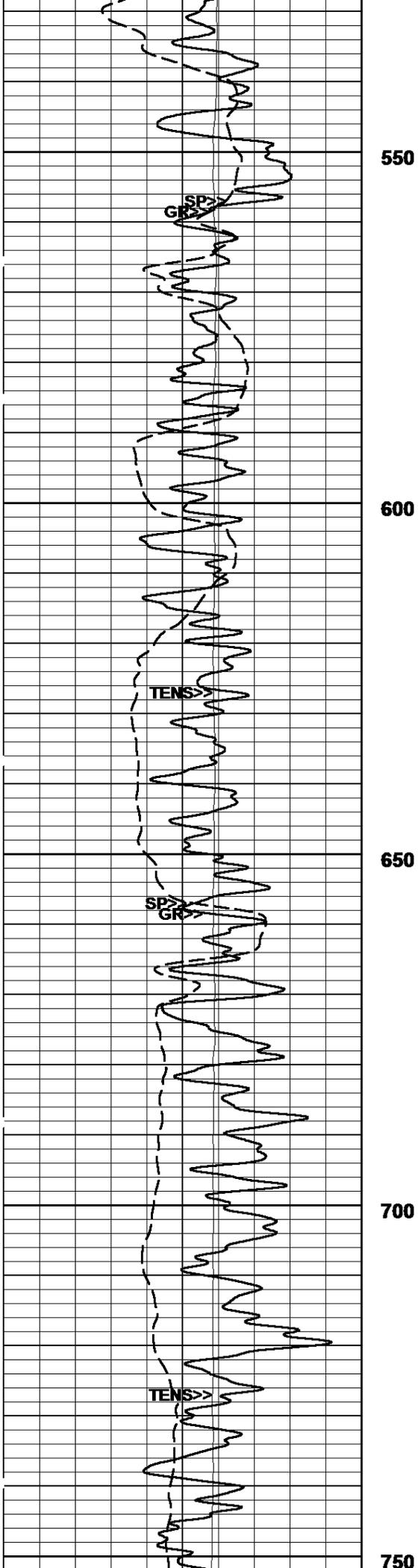
**Deep Induction (CILD)**  
 1000. mmhos 0.

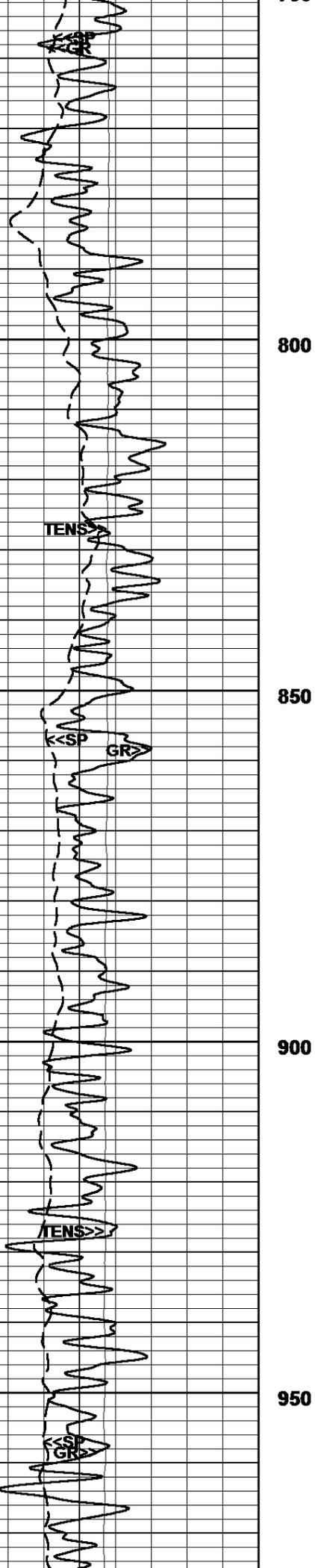
**Deep Induction (ILD)**  
 0. ohmm 50.

**Laterolog (LL3)**  
 0. ohmm 50.

<b>Tension (TENS)</b> 5000. Lbs 0.	<b>Laterolog (LL3)</b> 0.2 ohmm 2000.
<b>Spontaneous Potential (SP)</b> -160. mV 40.	<b>Med Induction (ILM)</b> 0.2 ohmm 2000.
<b>Gamma Ray (GR)</b> 0. API 150.	<b>Deep Induction (ILD)</b> 0.2 ohmm 2000.





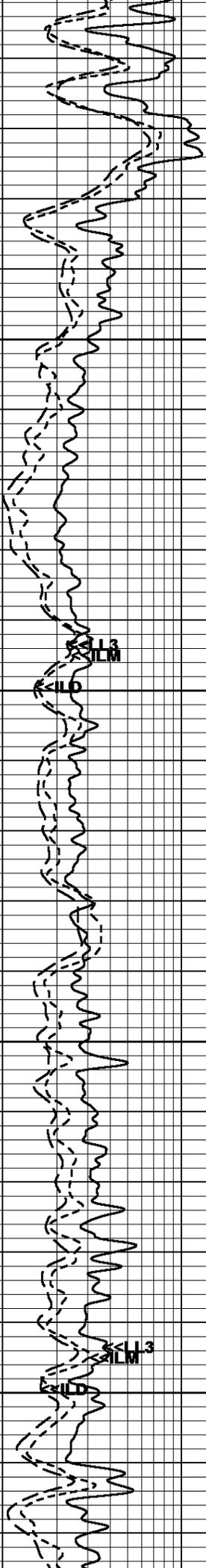


800

850

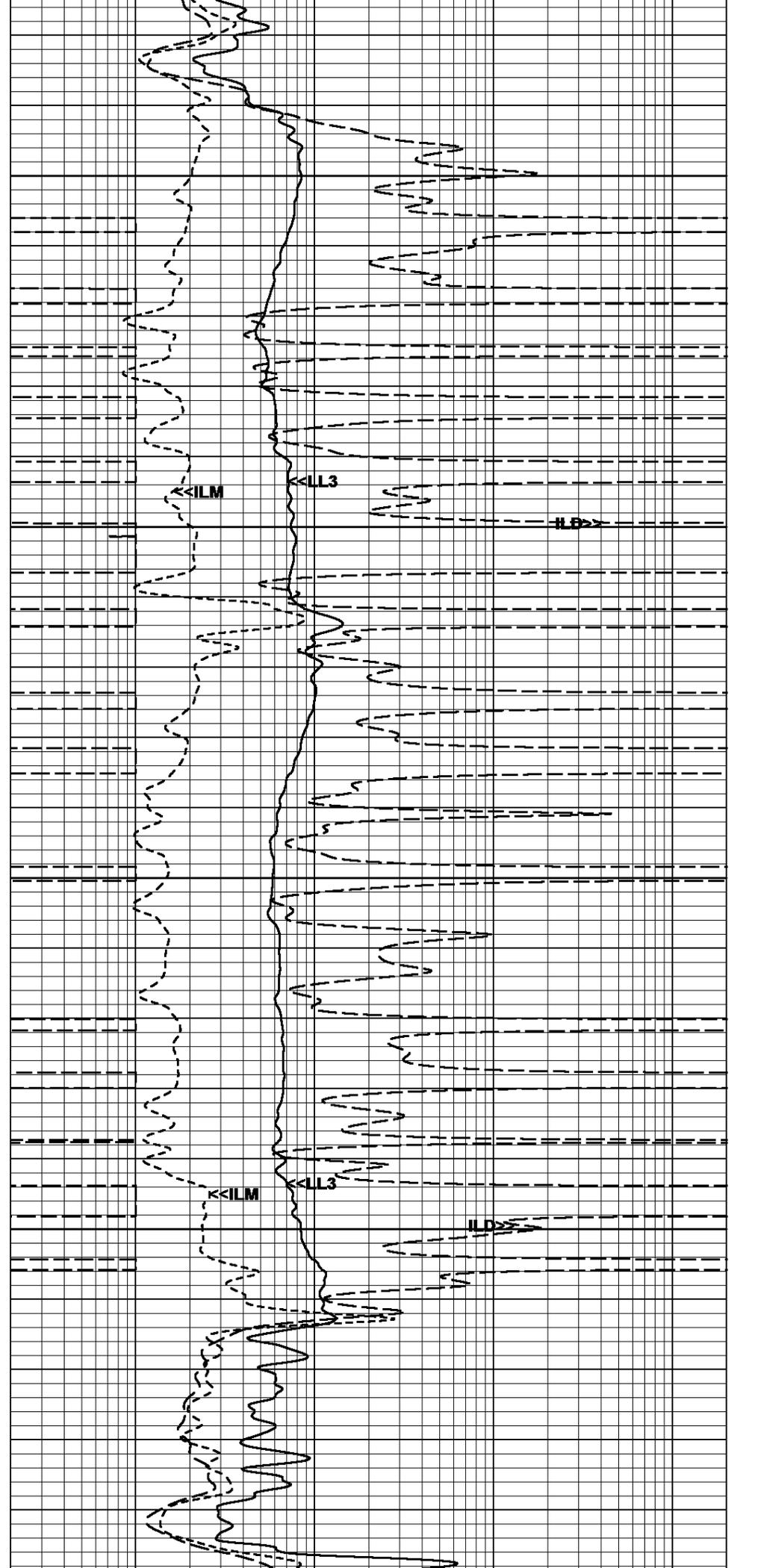
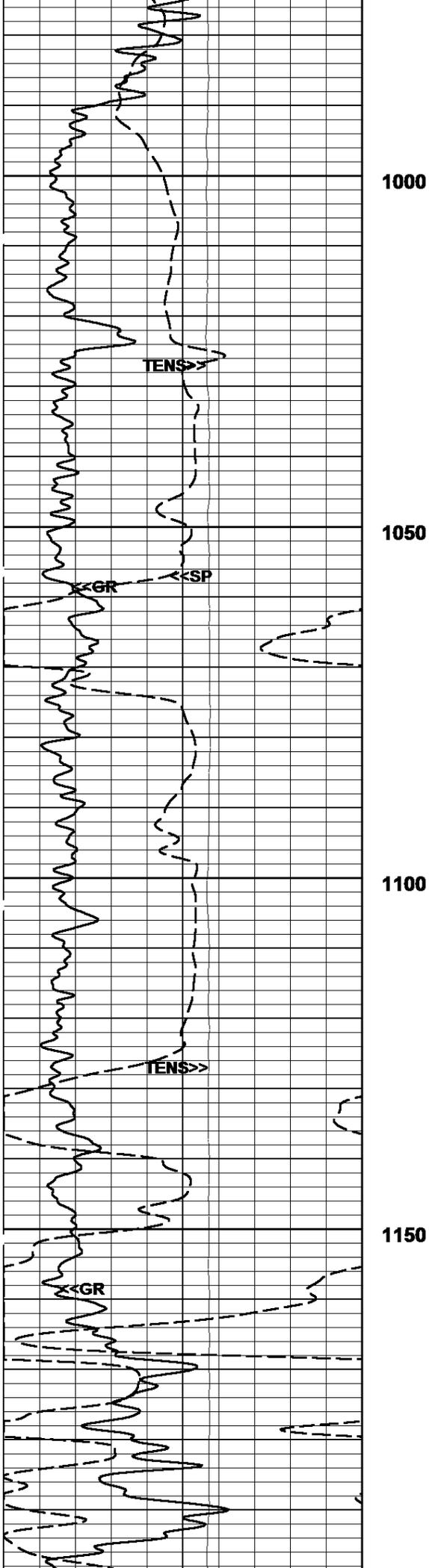
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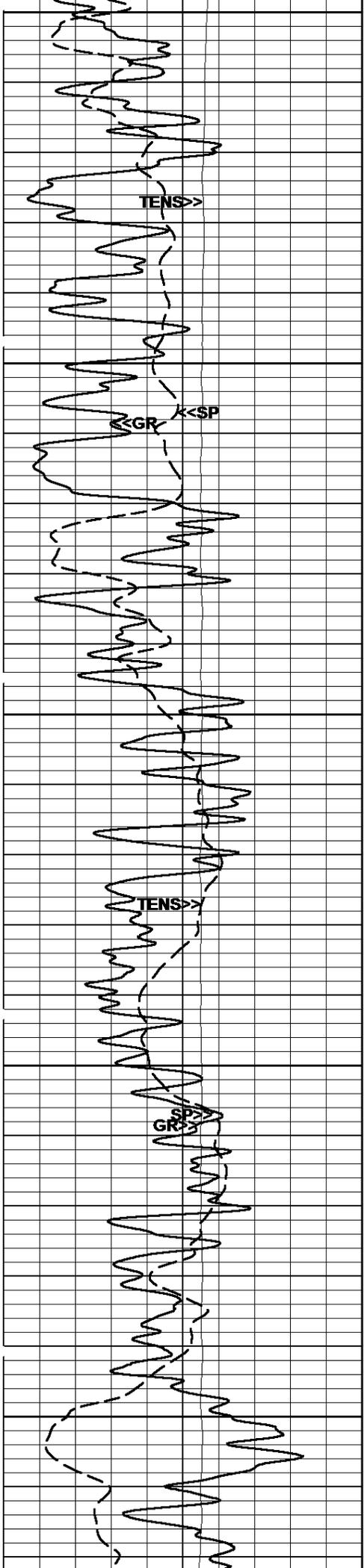
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CAL

TENS





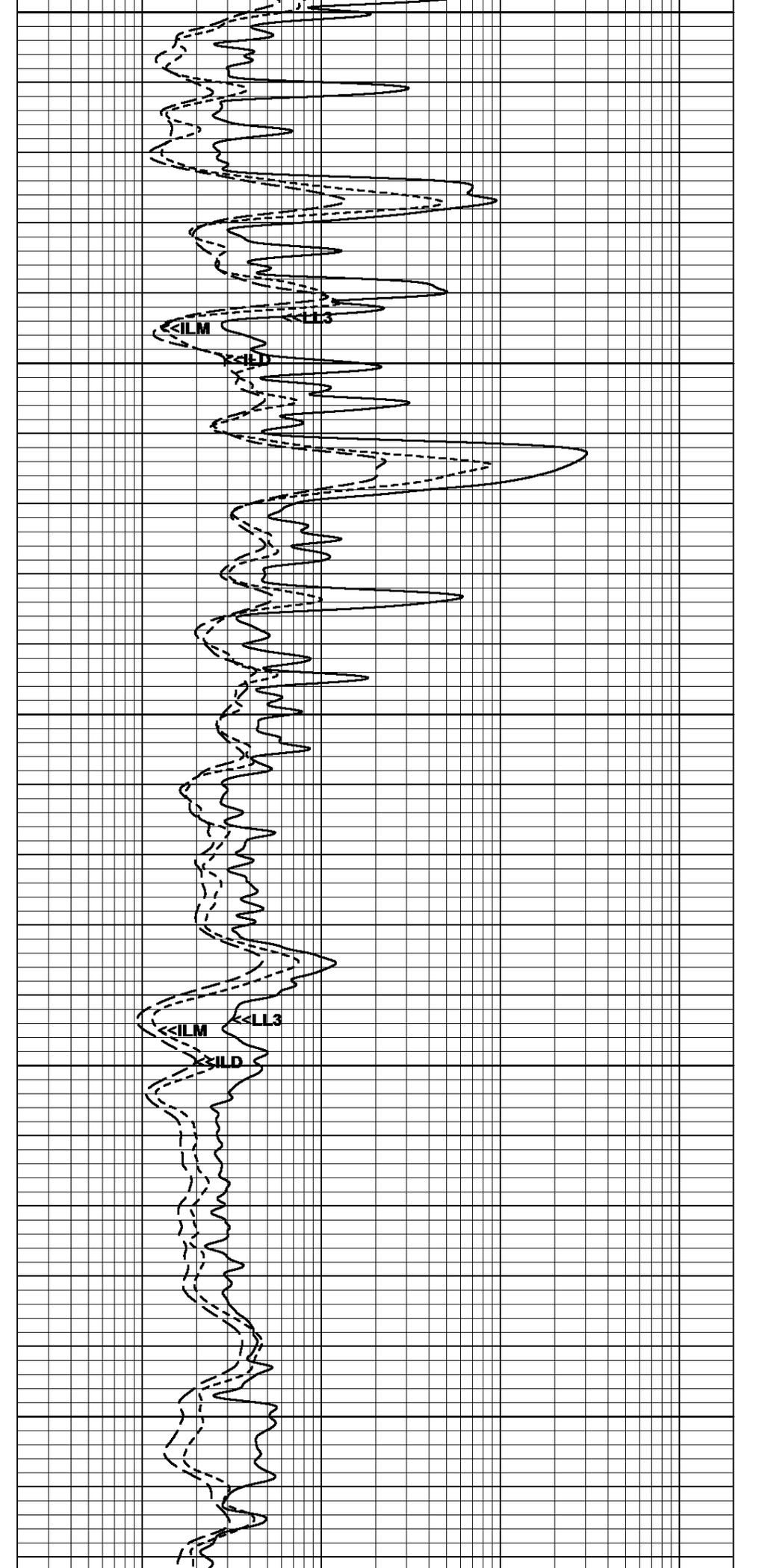
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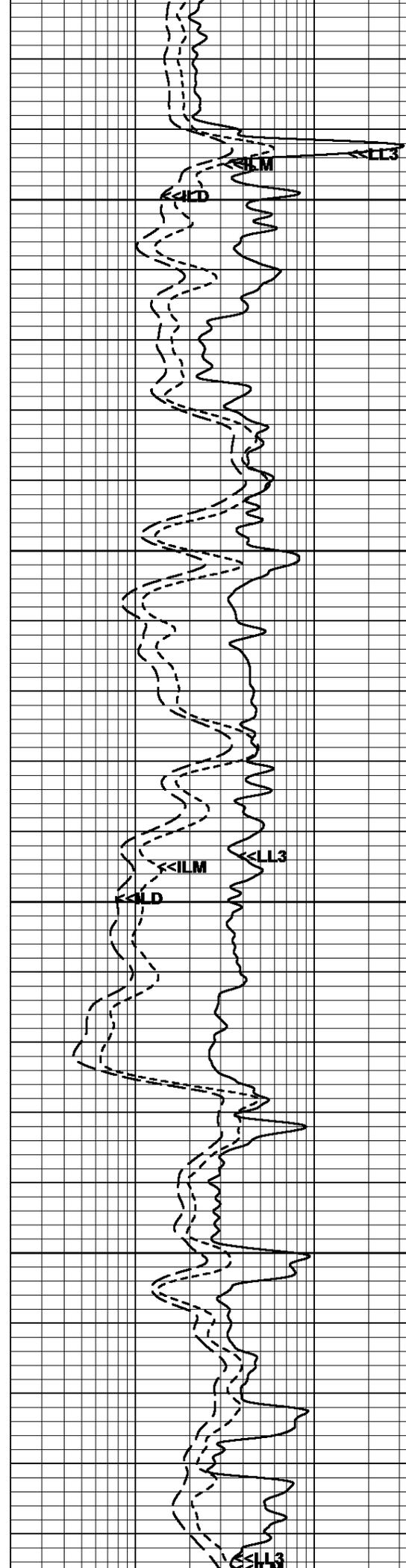
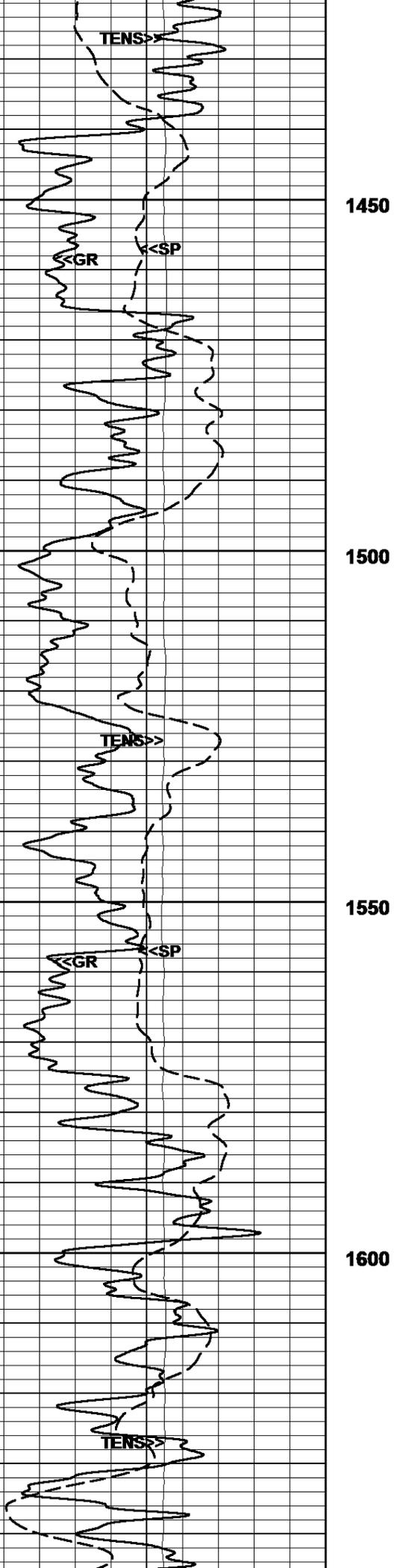
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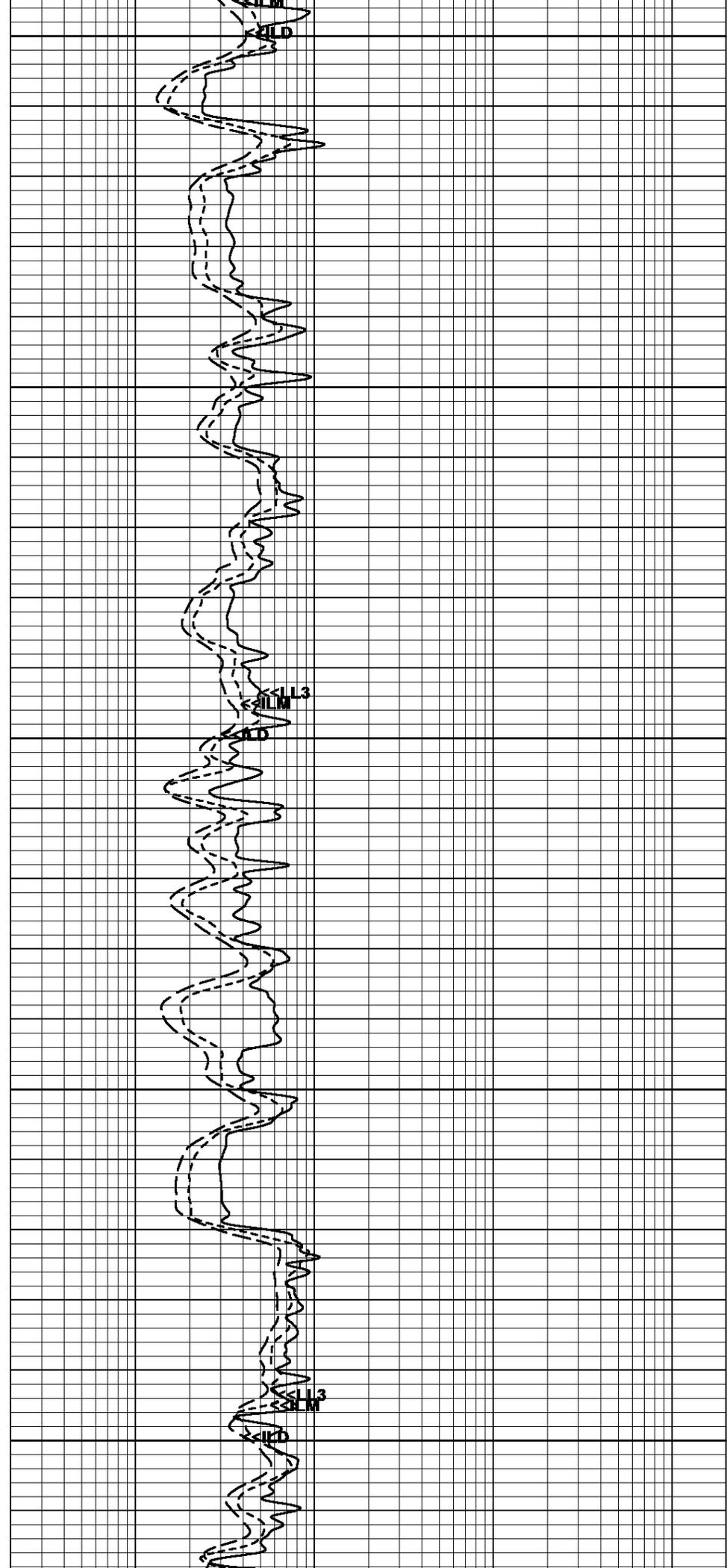
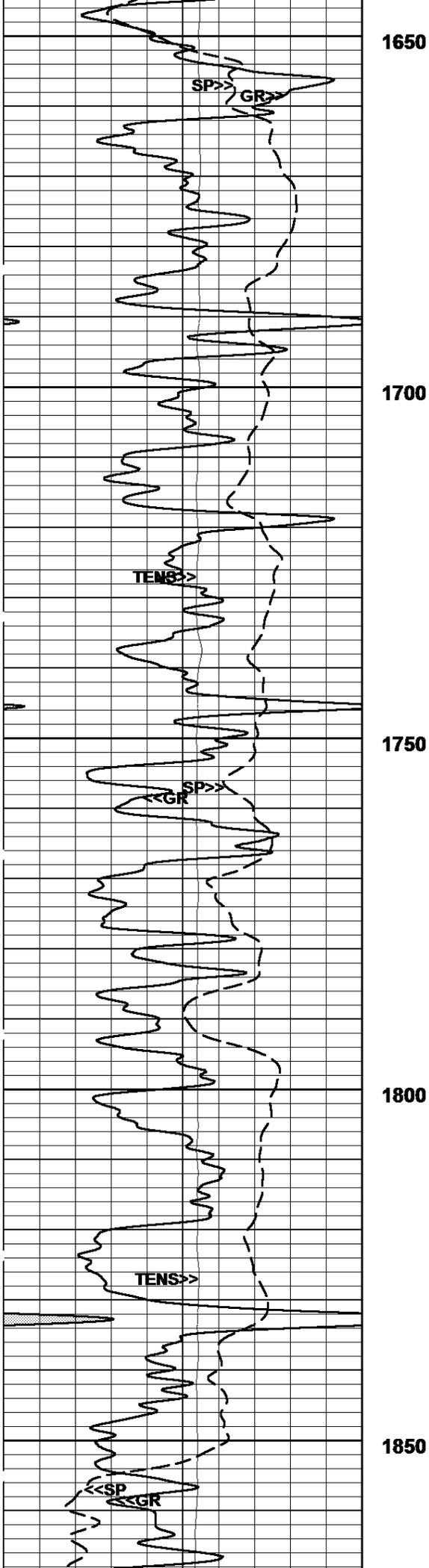
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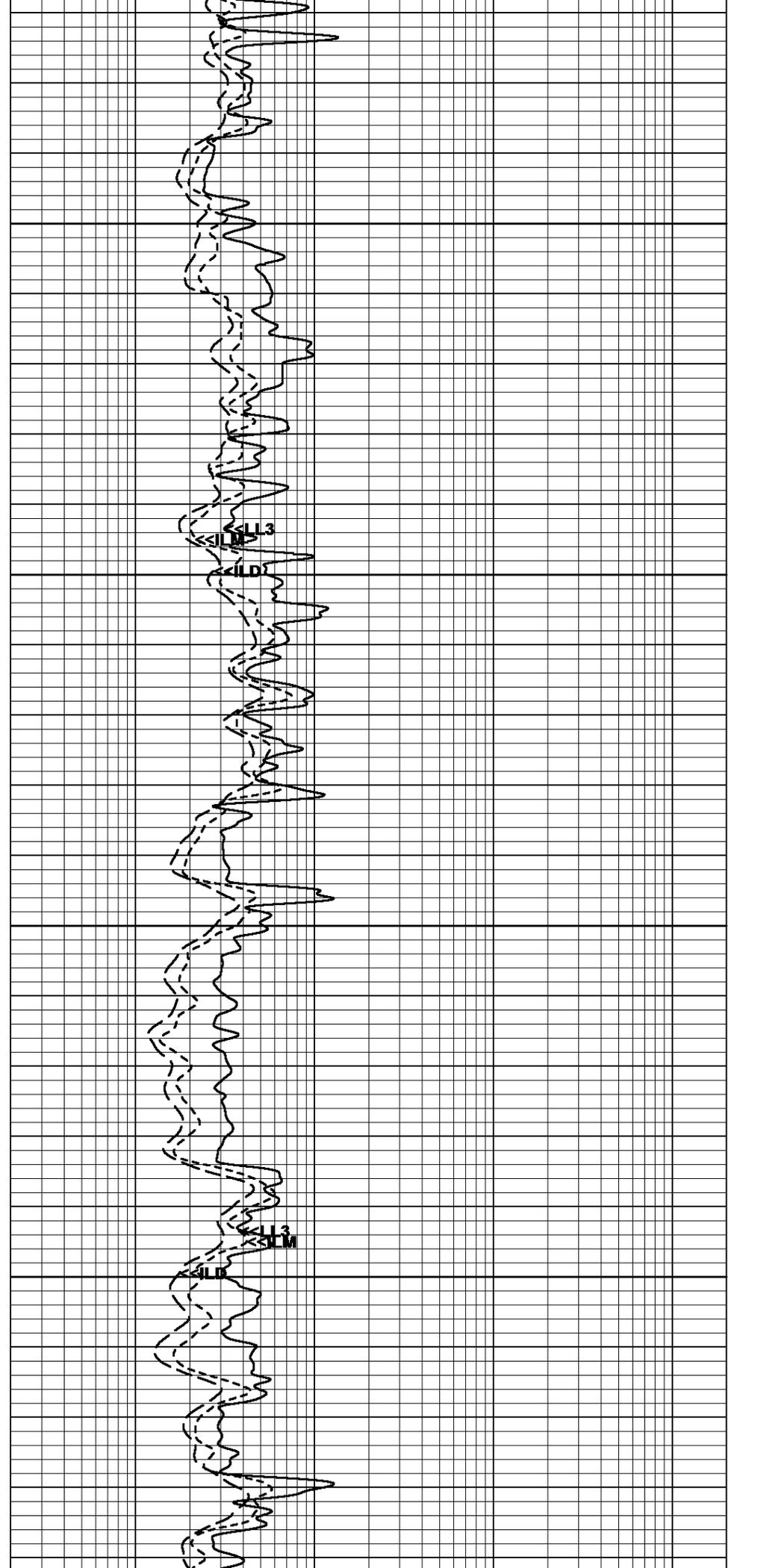
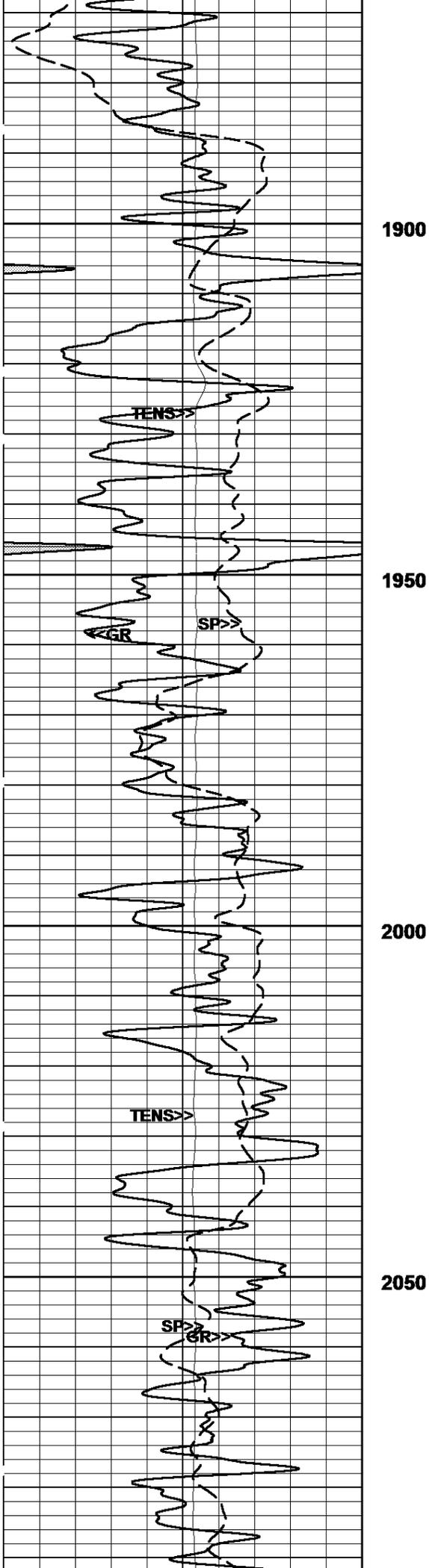
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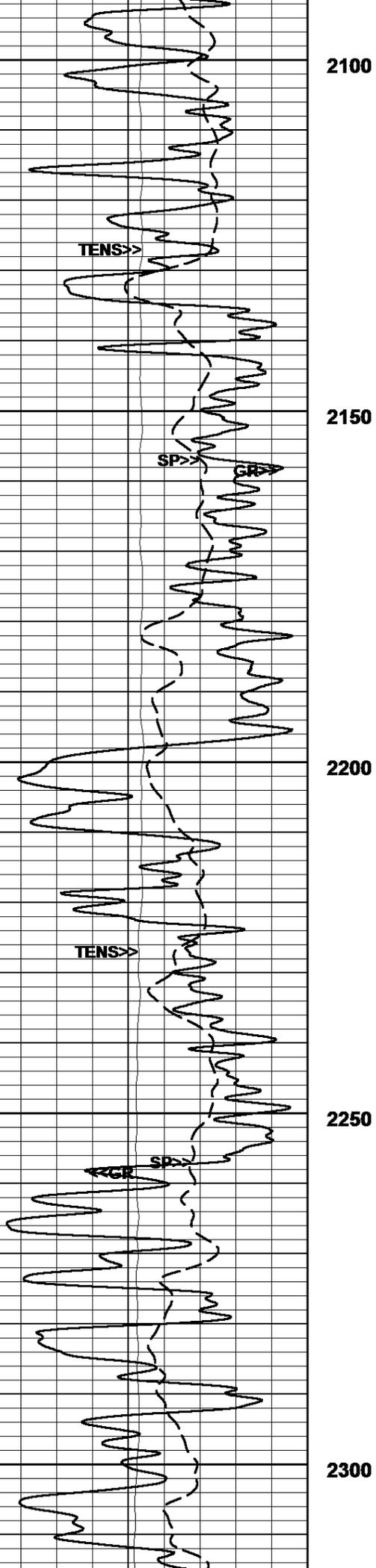
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2100

TENS>

2150

SP>

AGR

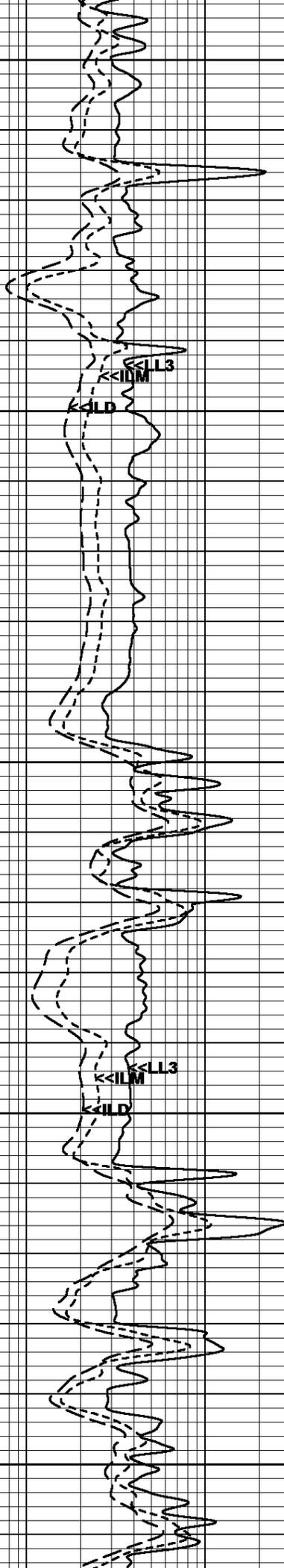
2200

TENS>

2250

SP

2300



KILL3

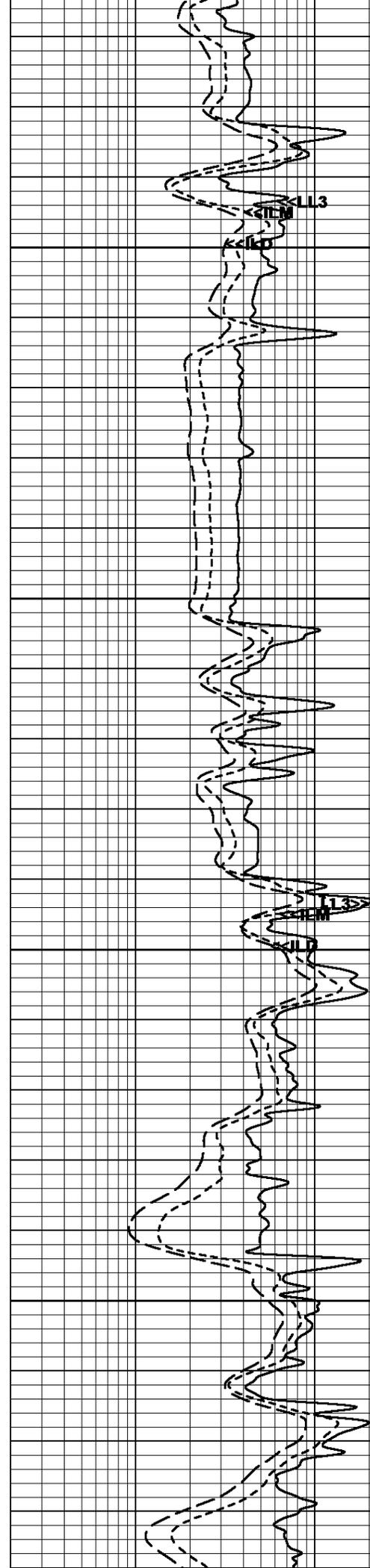
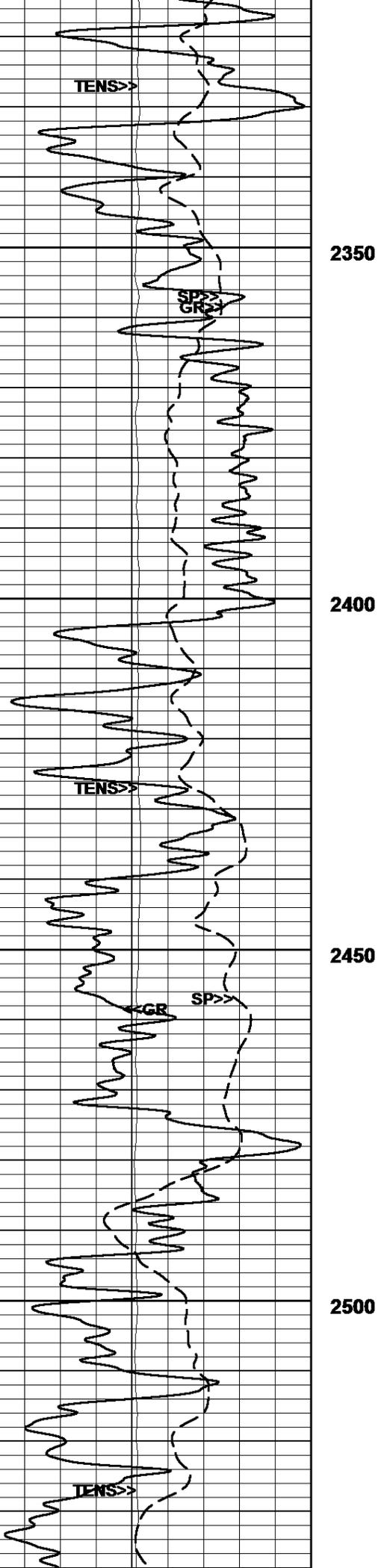
KILD

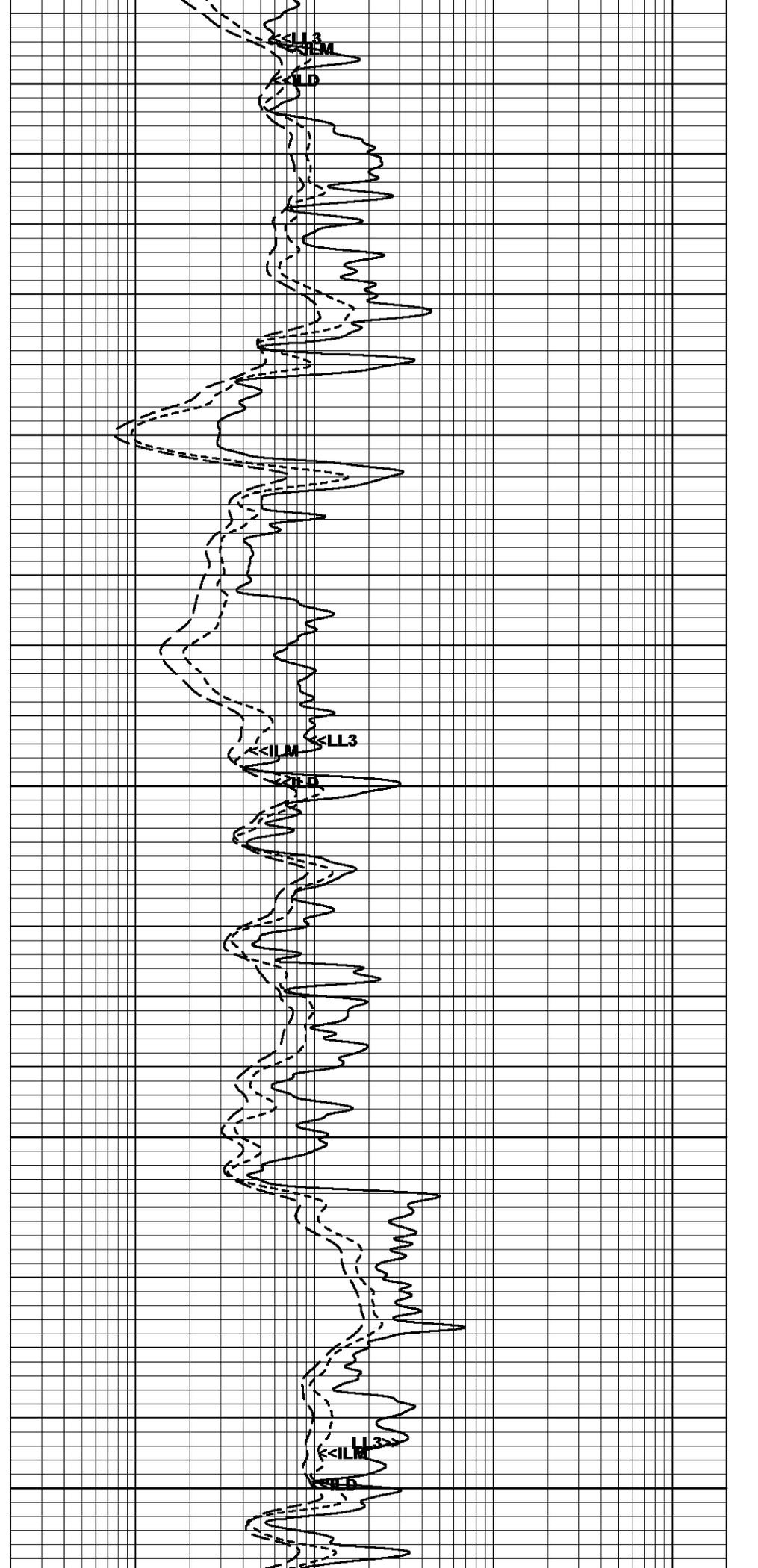
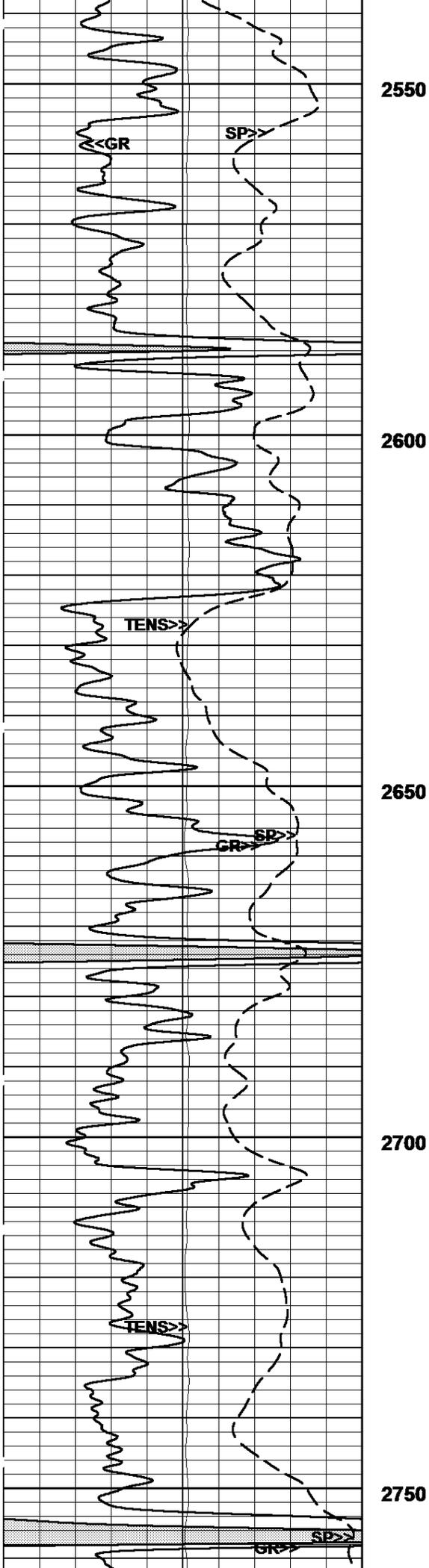
KILL3

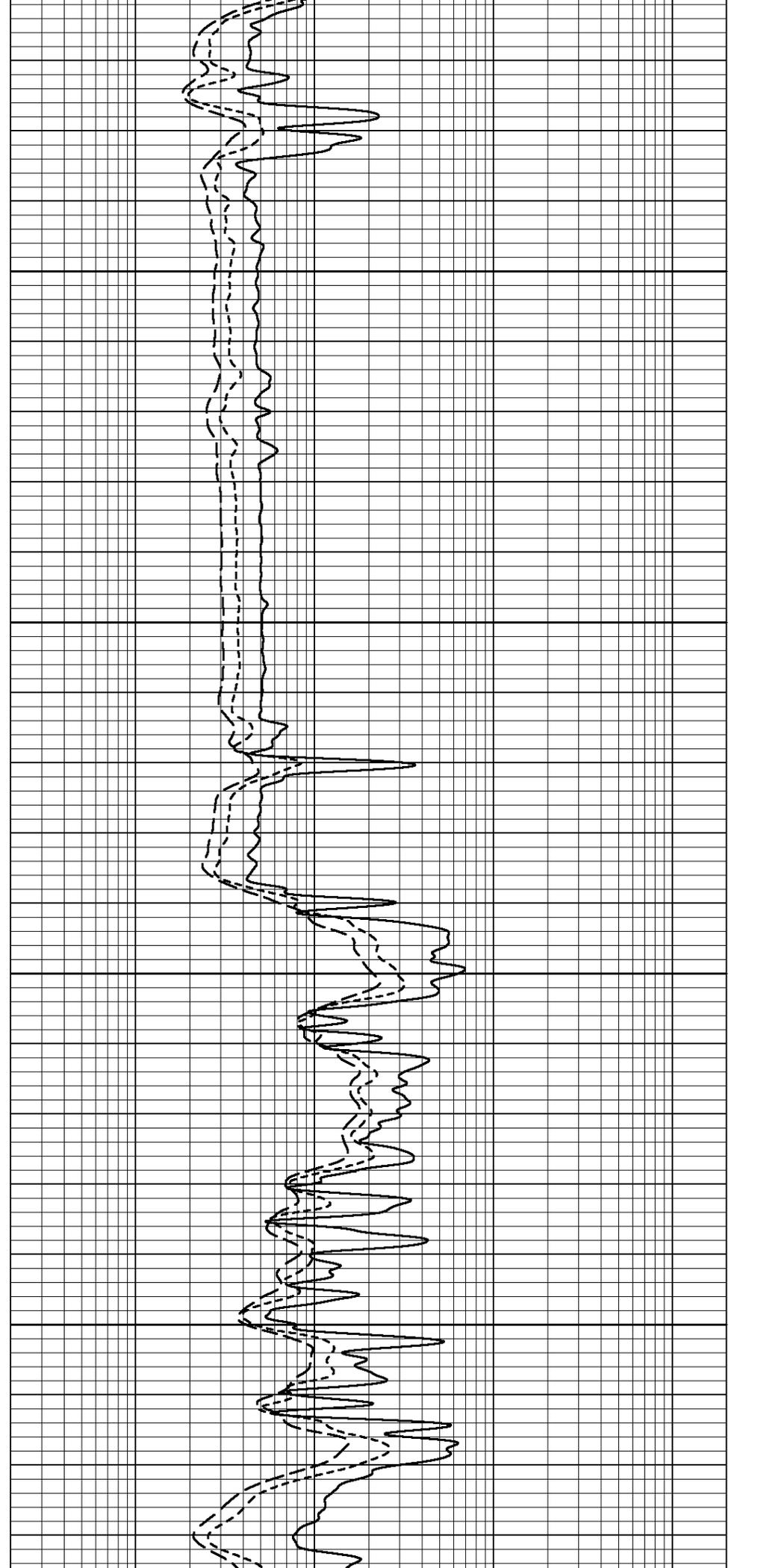
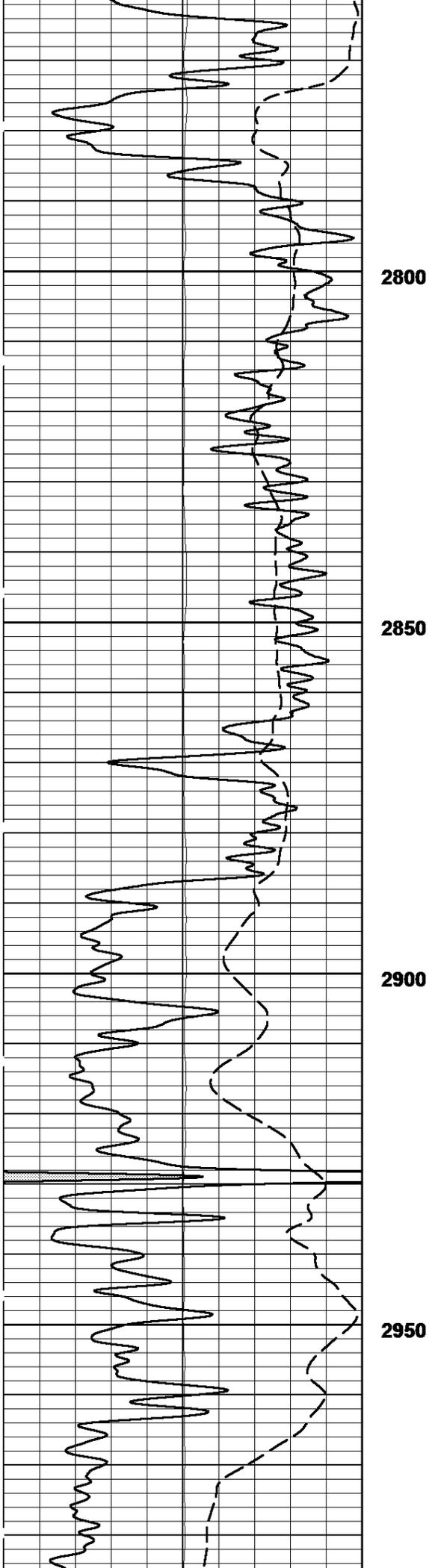
KILD

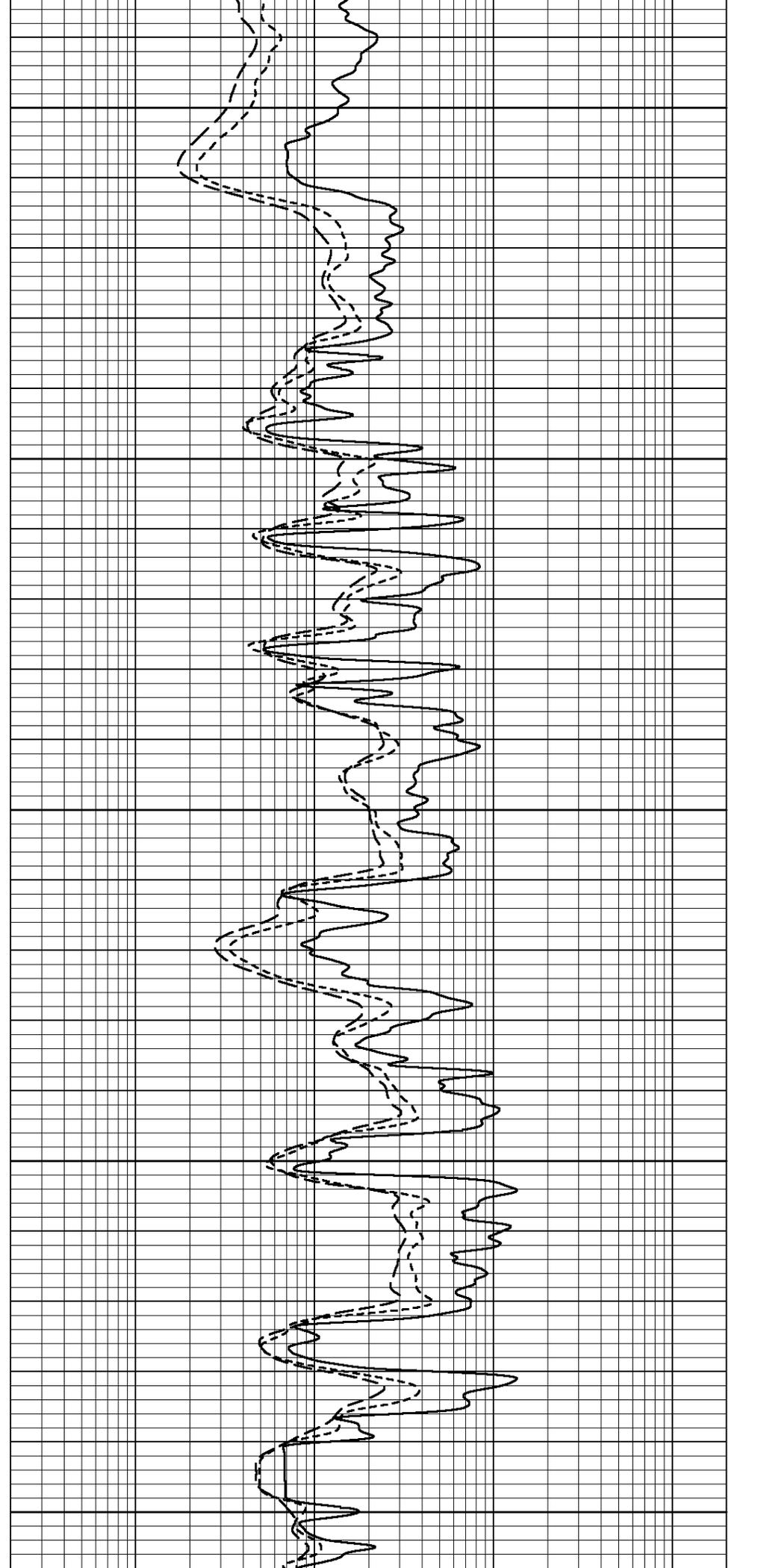
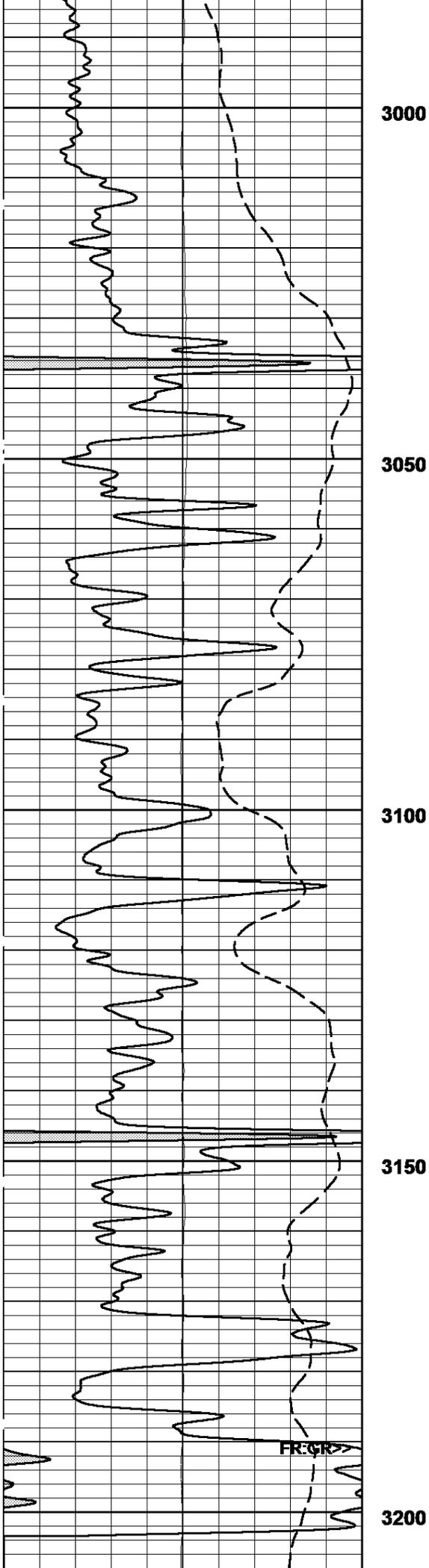
KILD

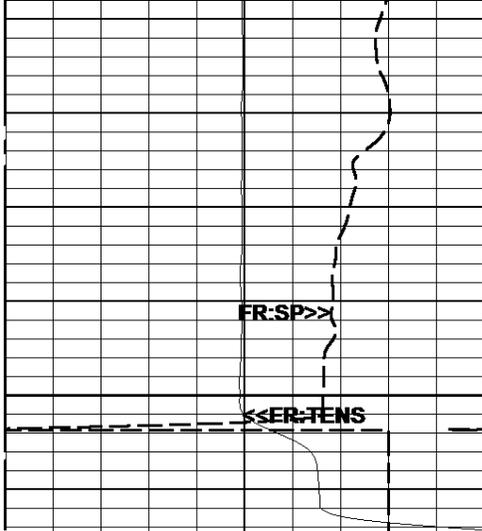
KILL3



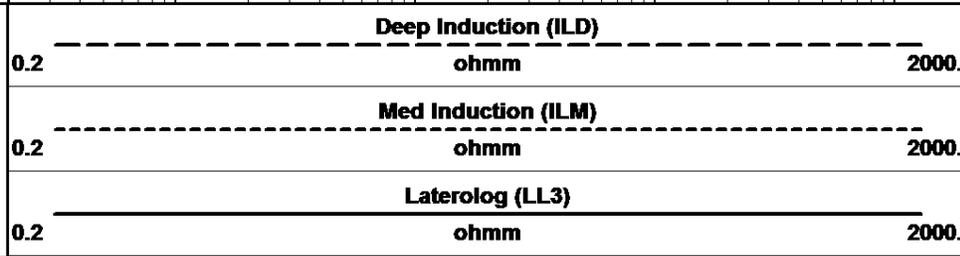
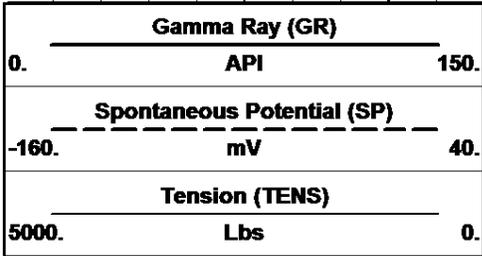
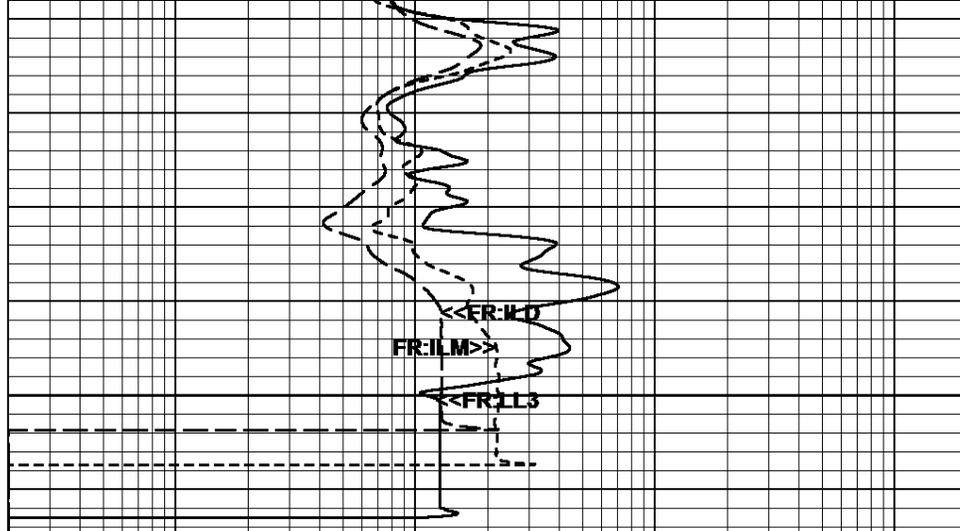




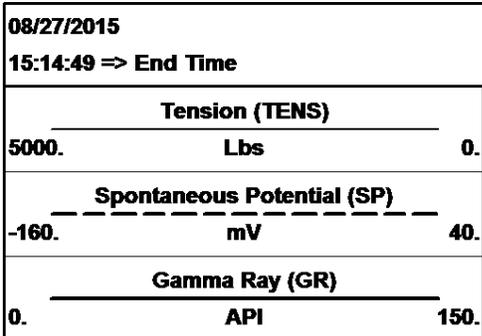




3250  
1D

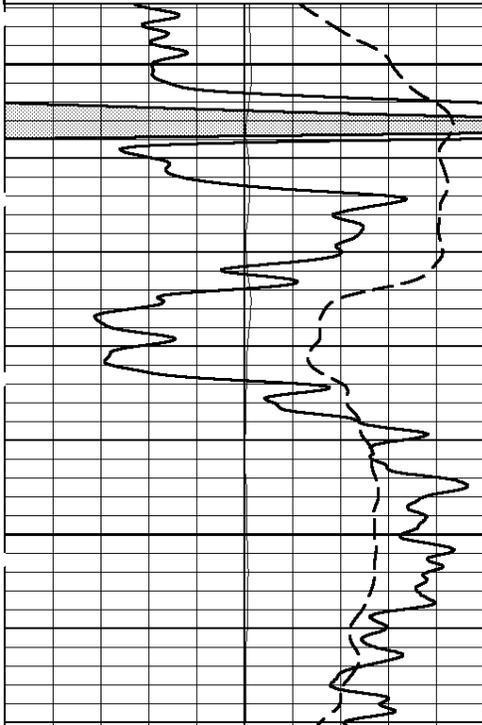
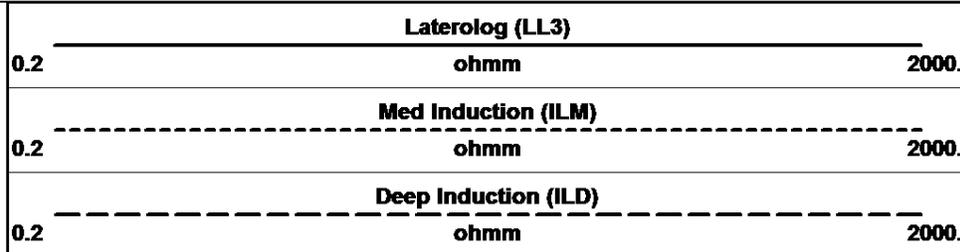


08/27/2015 **MAIN PASS (5"/100ft)** Log UP - (VER 11.19)  
 15:28:28 => Start Time Start Depth=> 3264.60 Feet



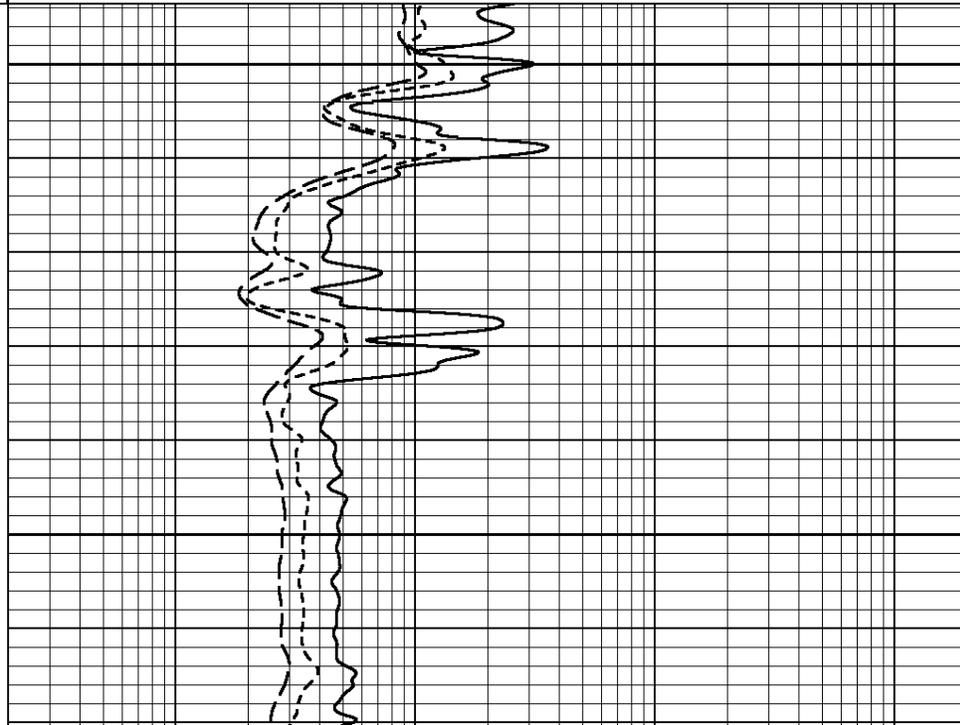
**REPEAT PASS (5"/100ft)**

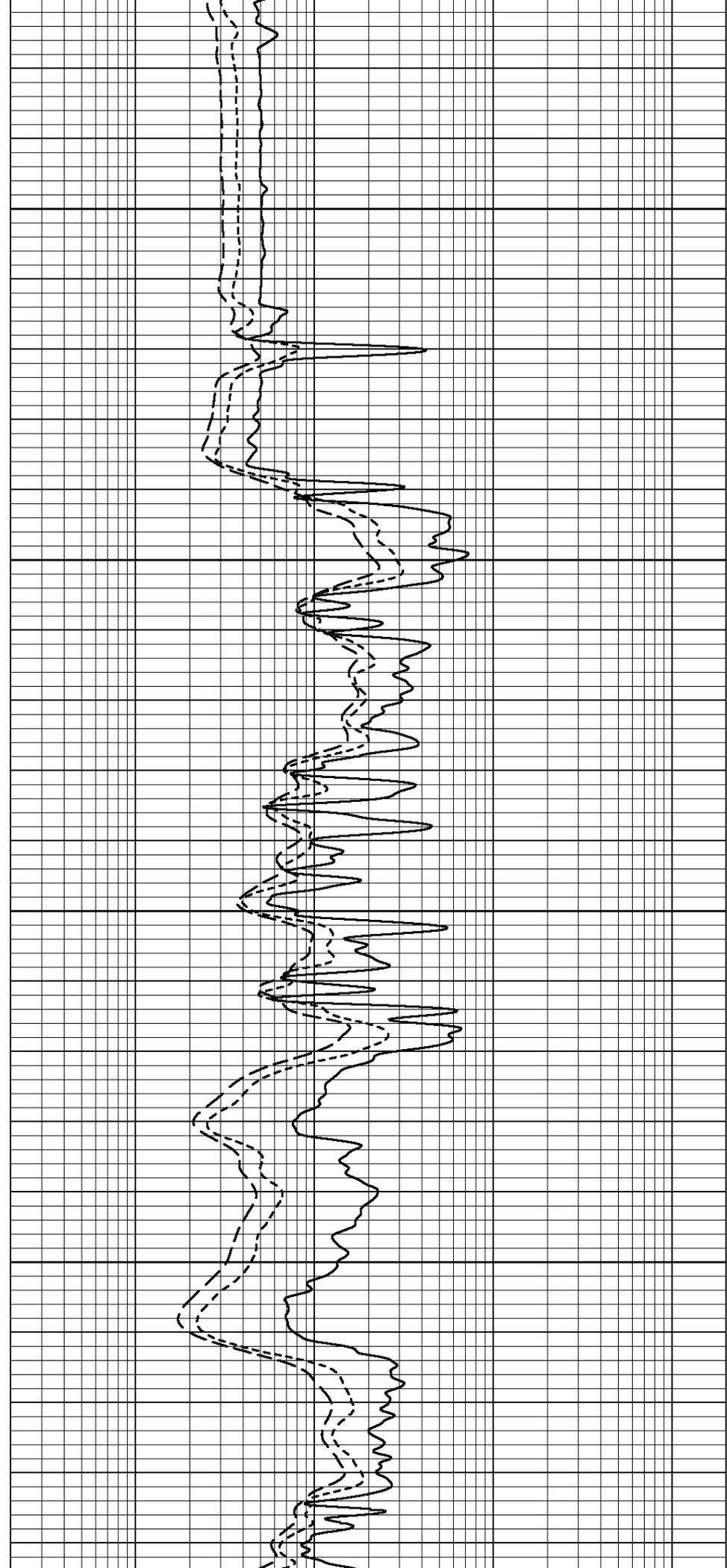
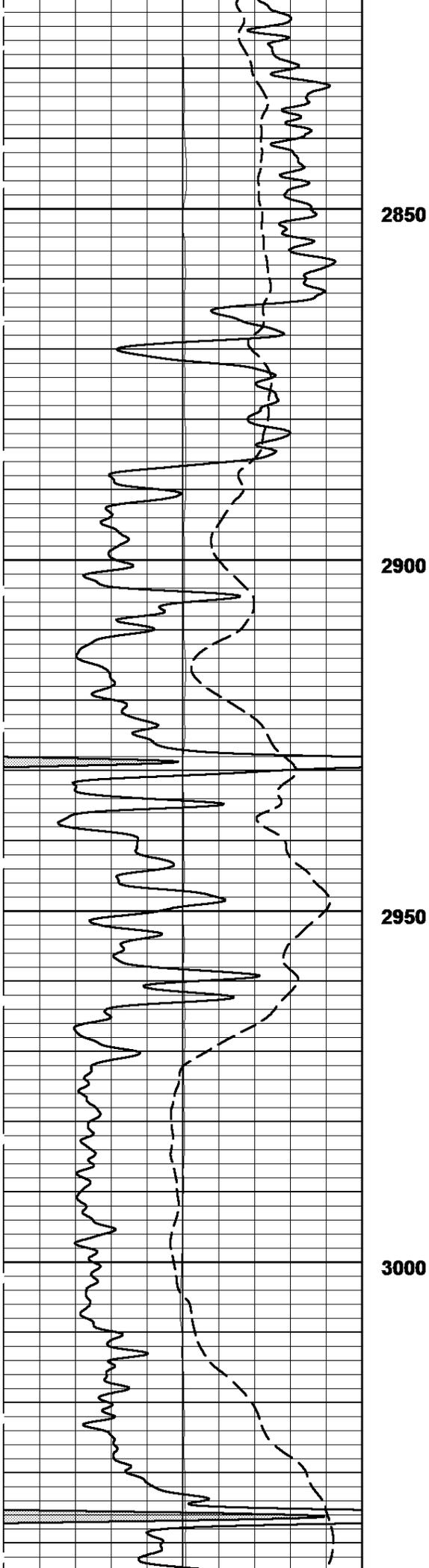
08/27/2015 Log UP - (VER 11.19)  
 15:14:49 => End Time End Depth=> 2743.80 Feet

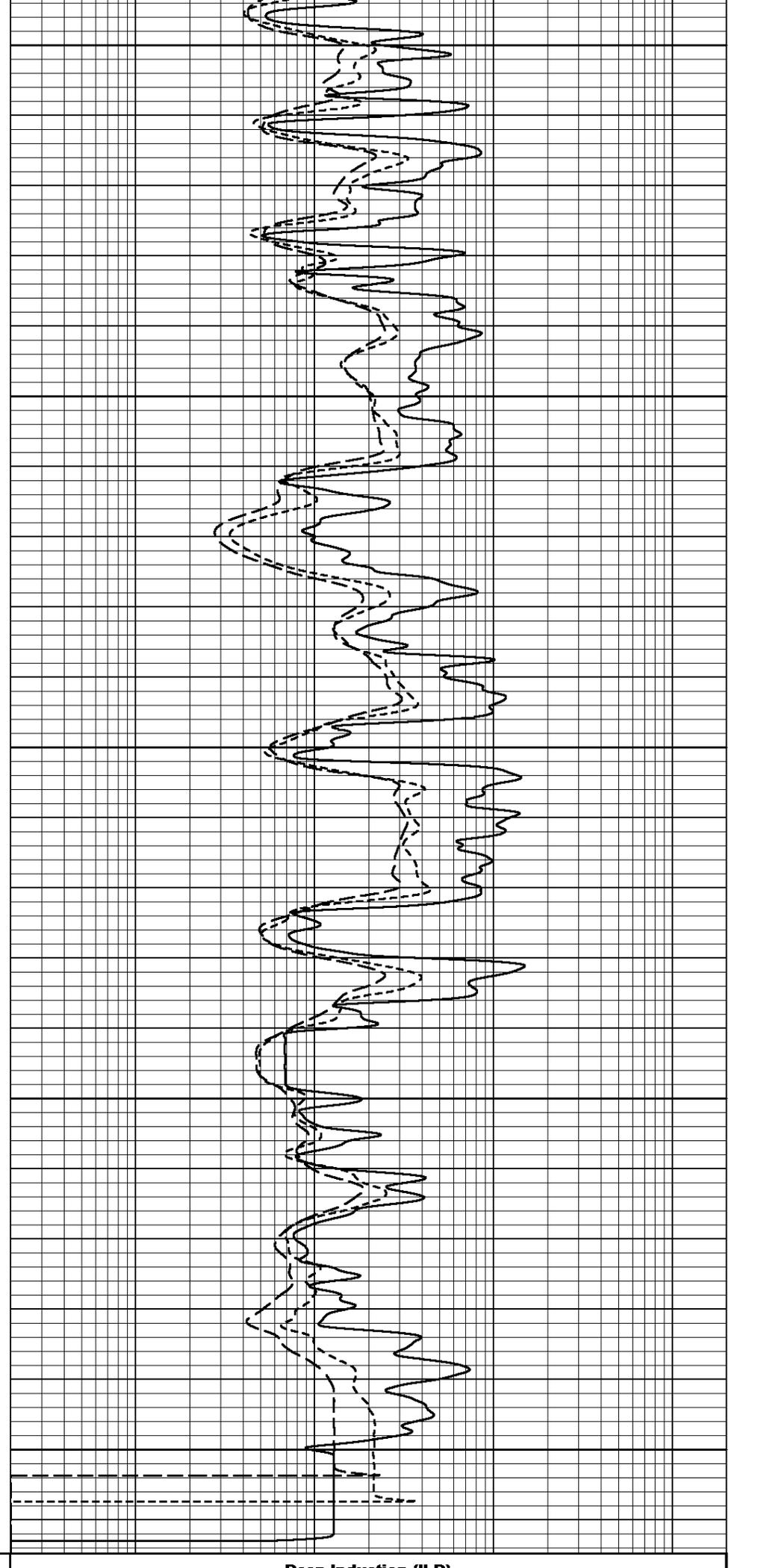
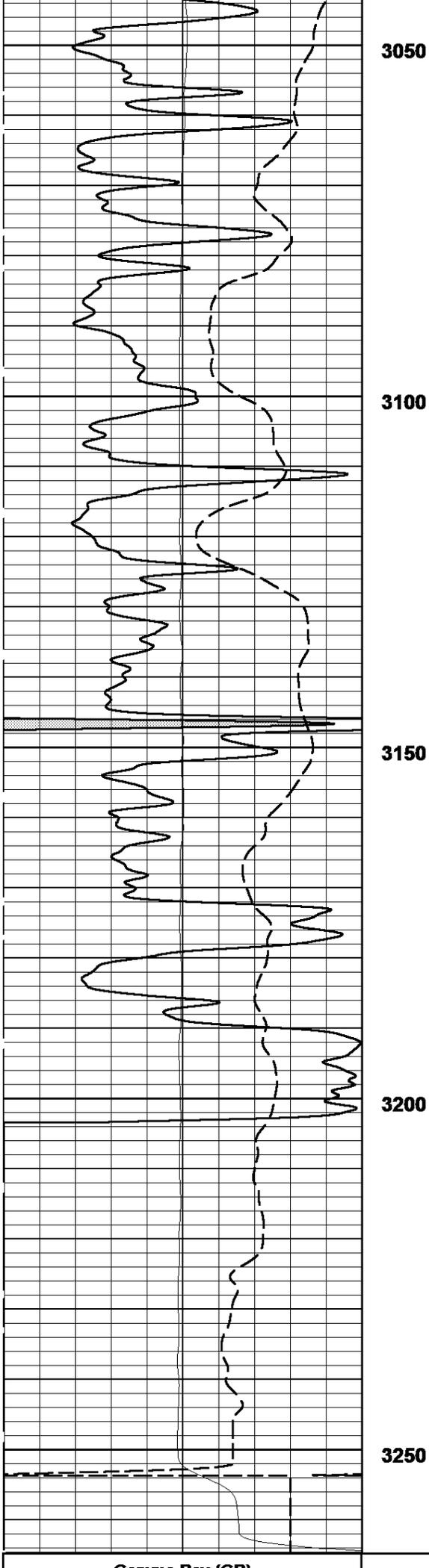


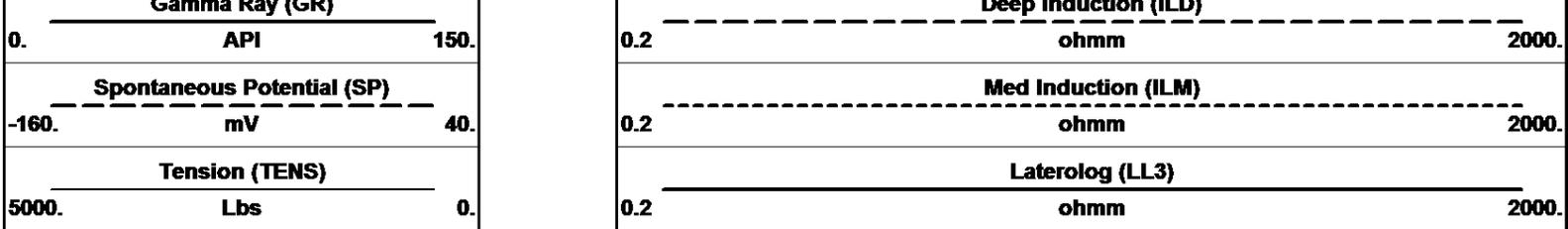
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2800



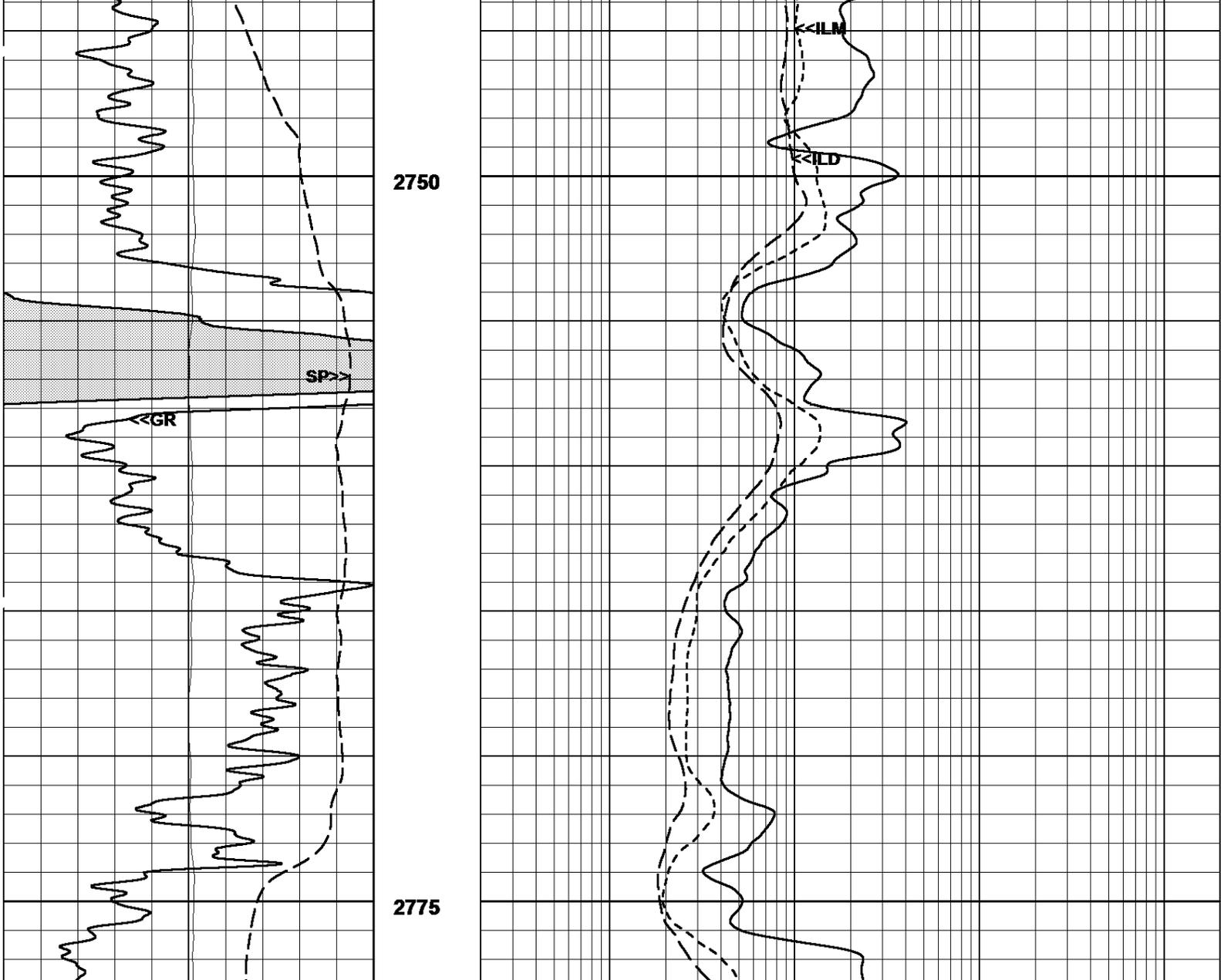


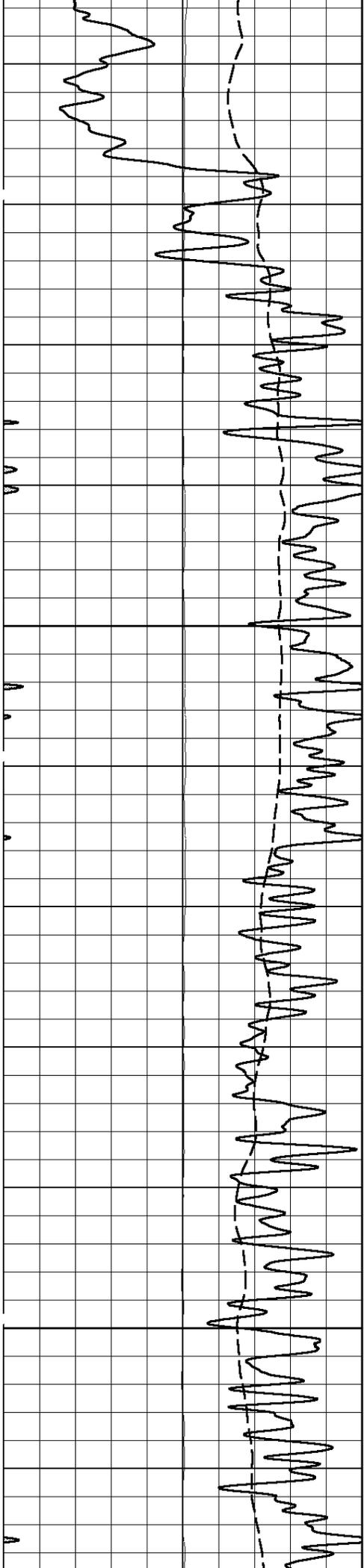




08/27/2015 **REPEAT PASS (5"/100ft)** Log UP - (VER 11.19)  
 14:46:53 => Start Time Start Depth=> 3264.60 Feet

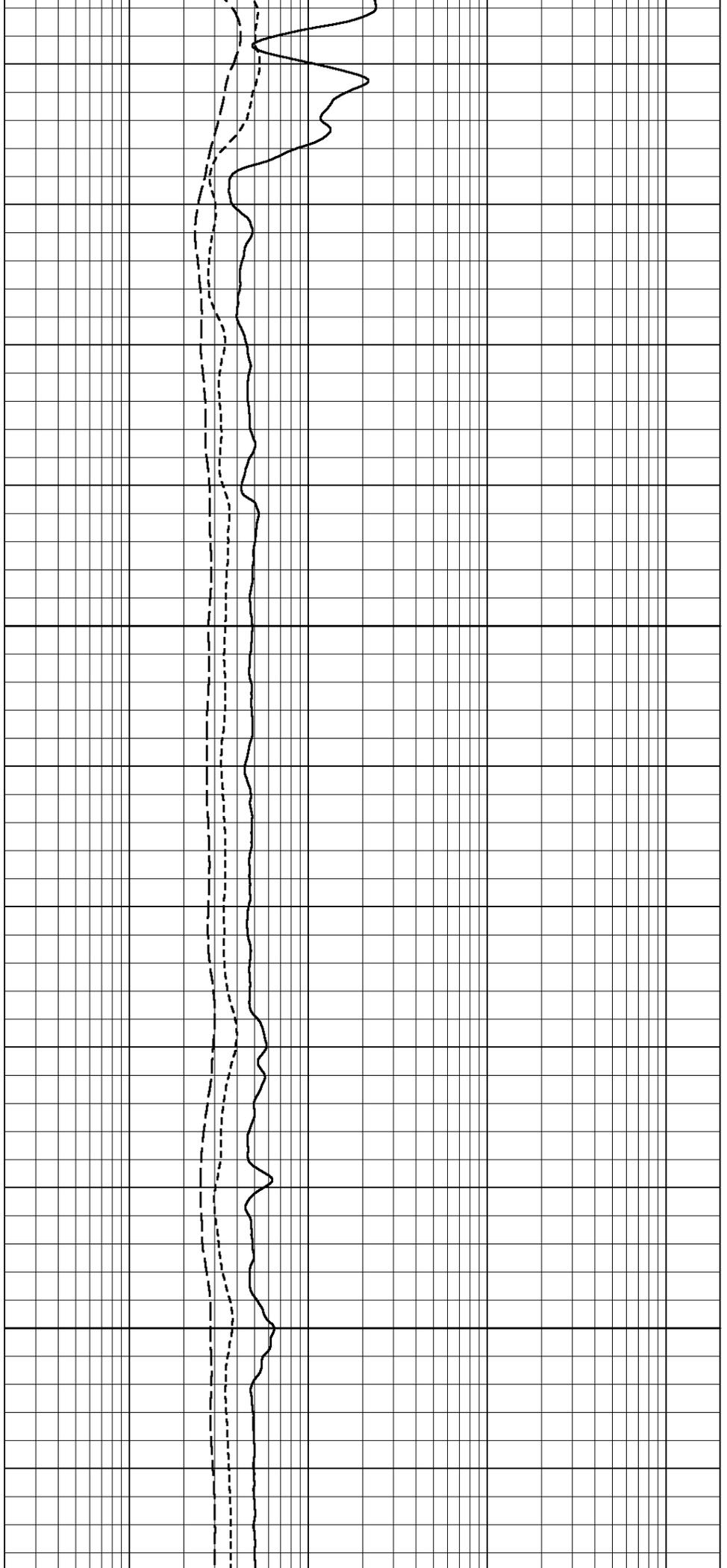
08/27/2015 **HIGH DEFINITION PASS (20"/100ft)** Log UP - (VER 11.19)  
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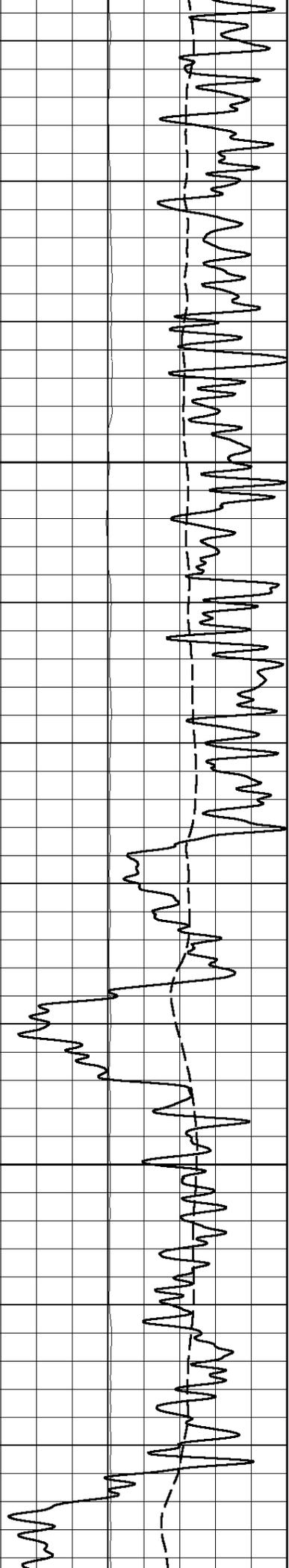




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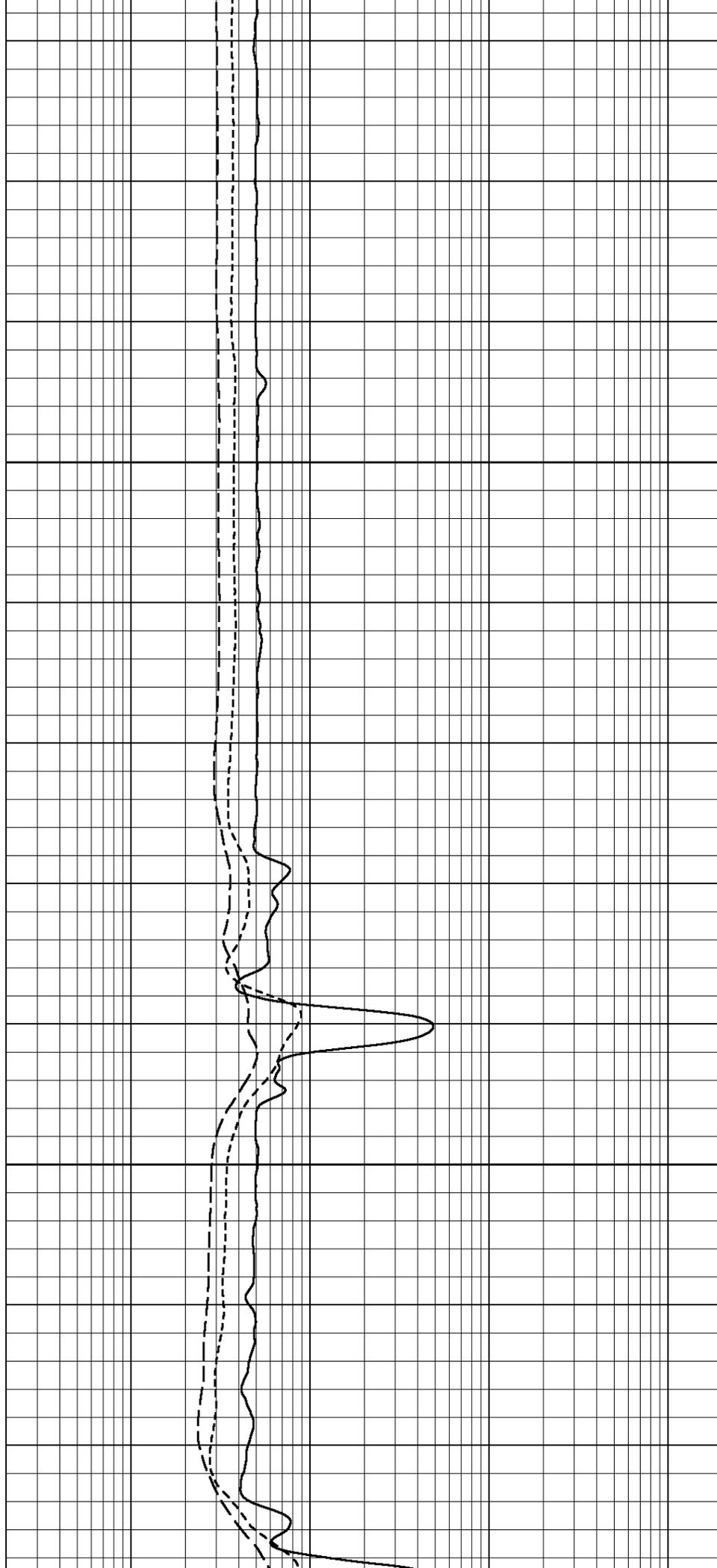
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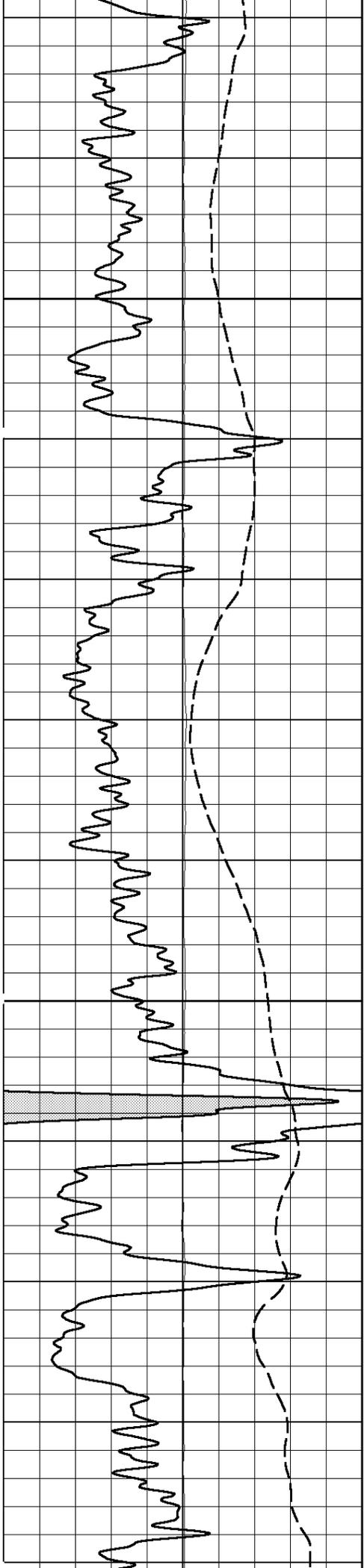




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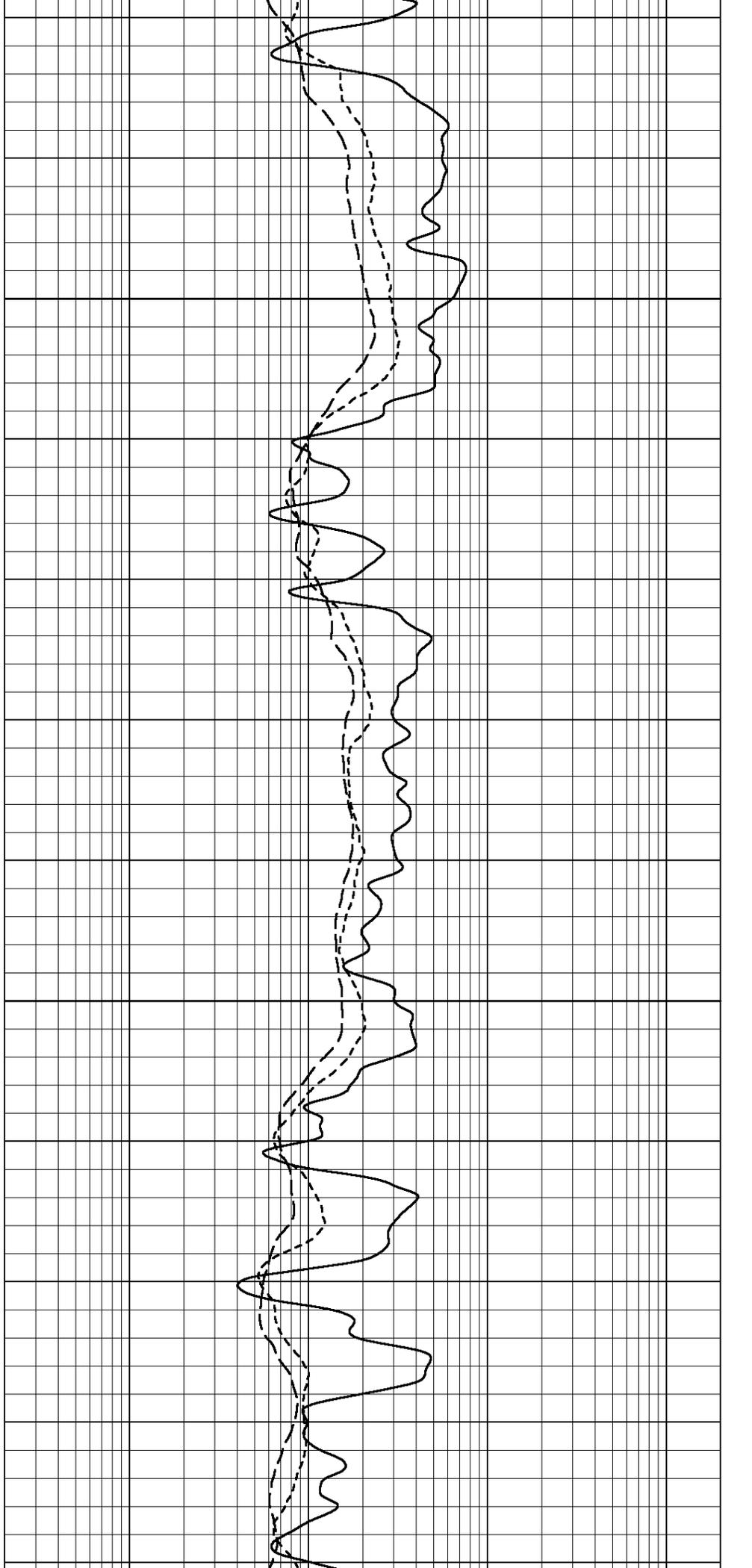
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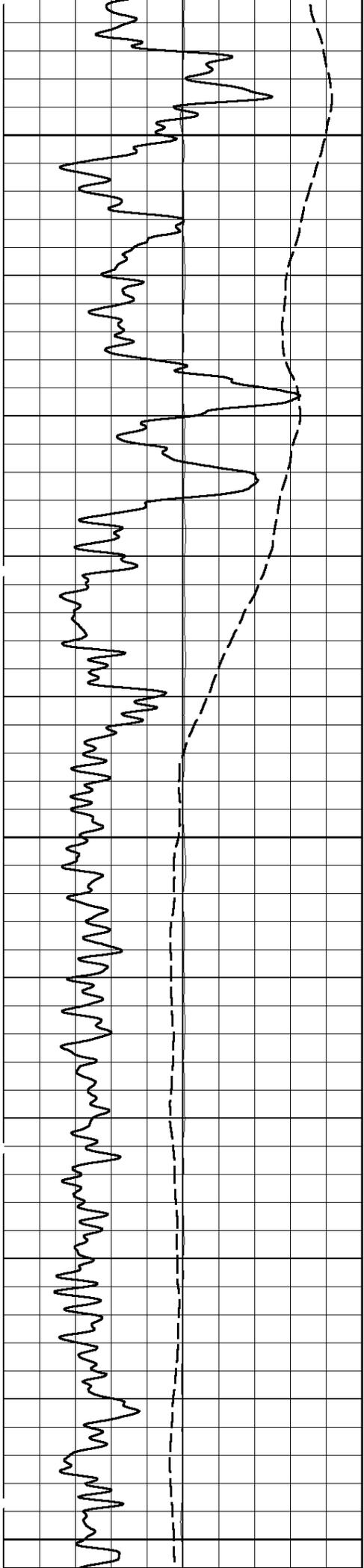




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2925

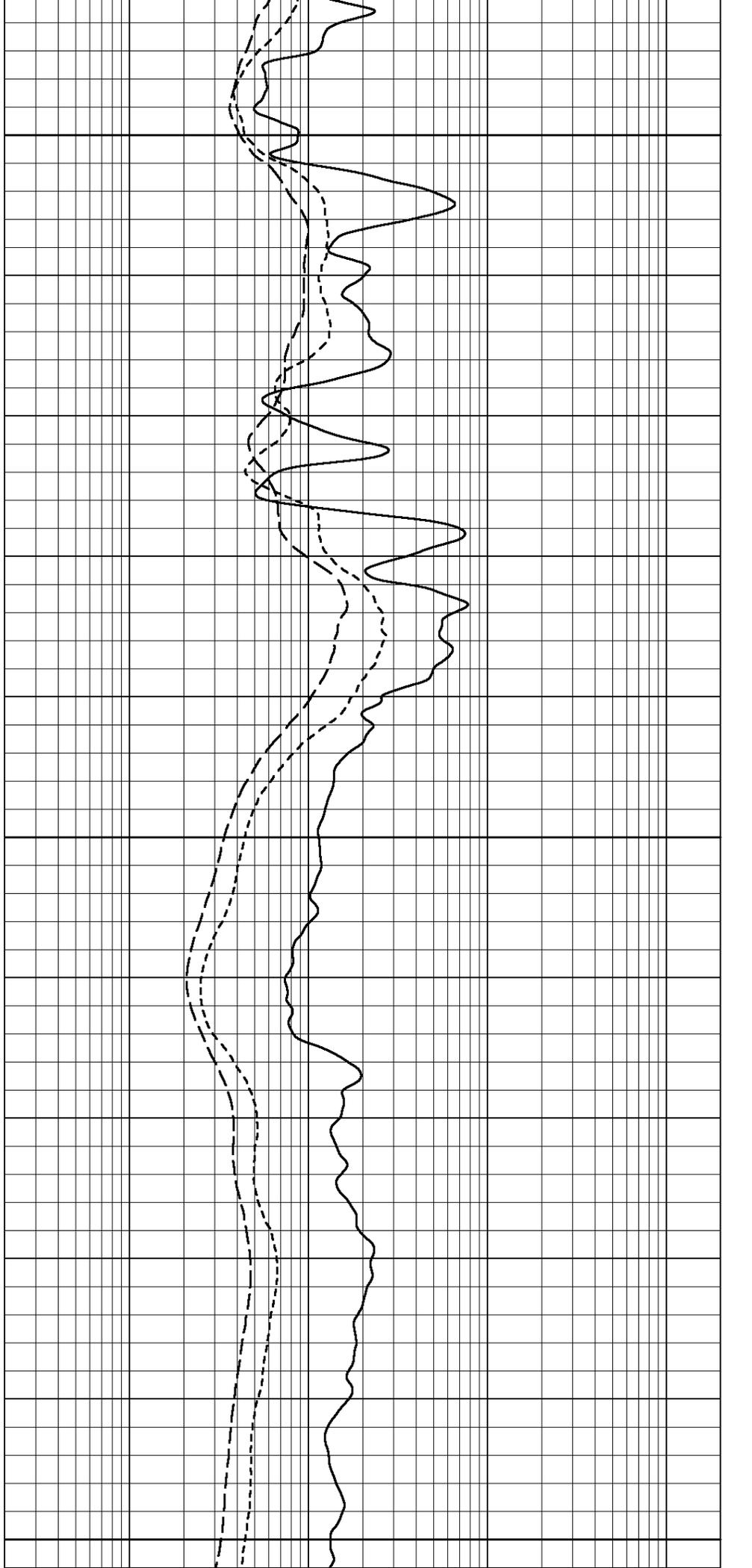


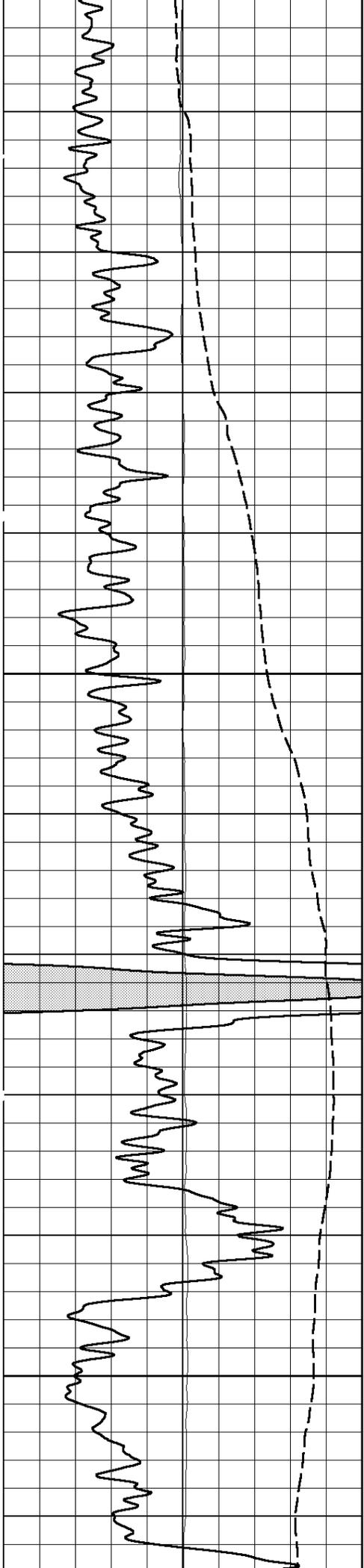


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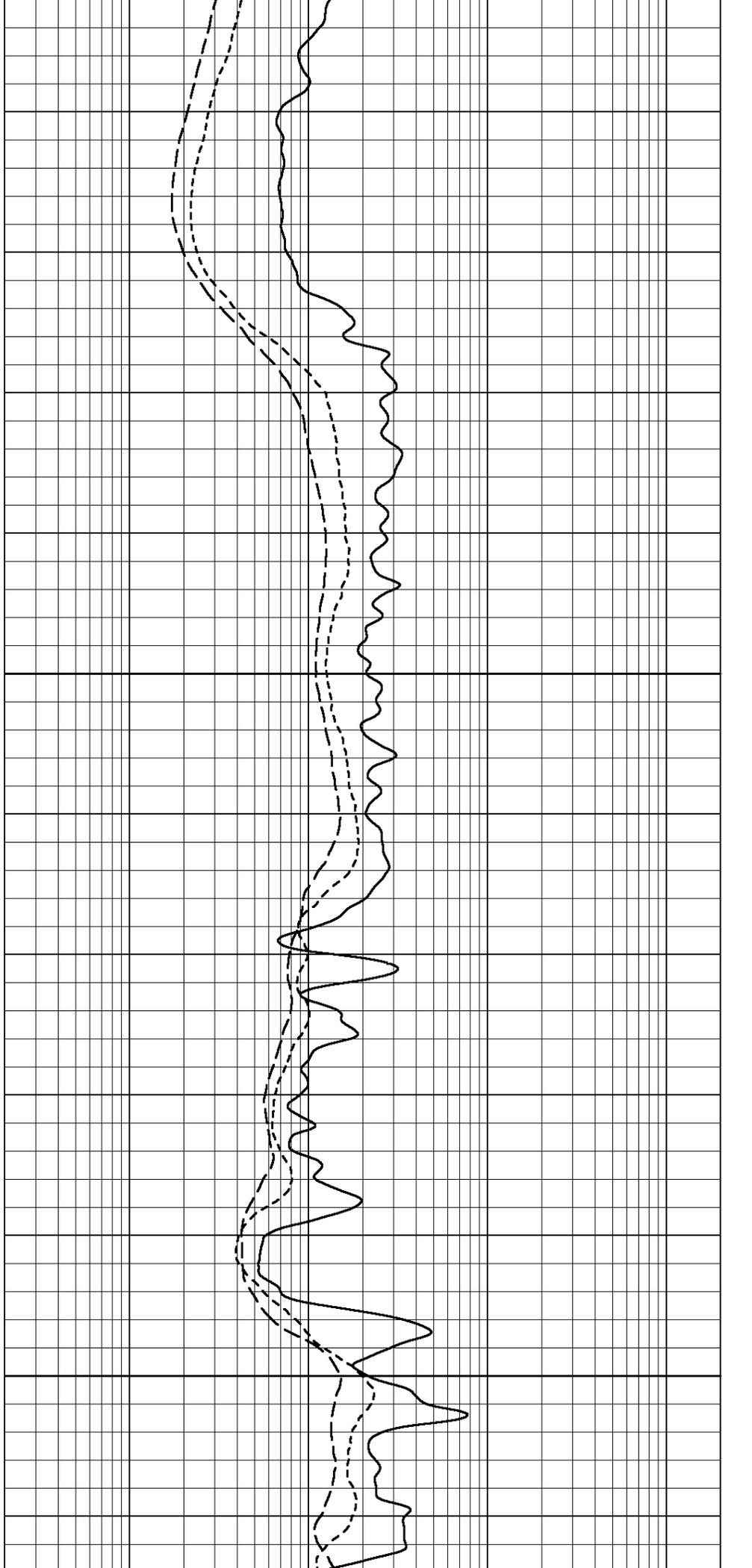
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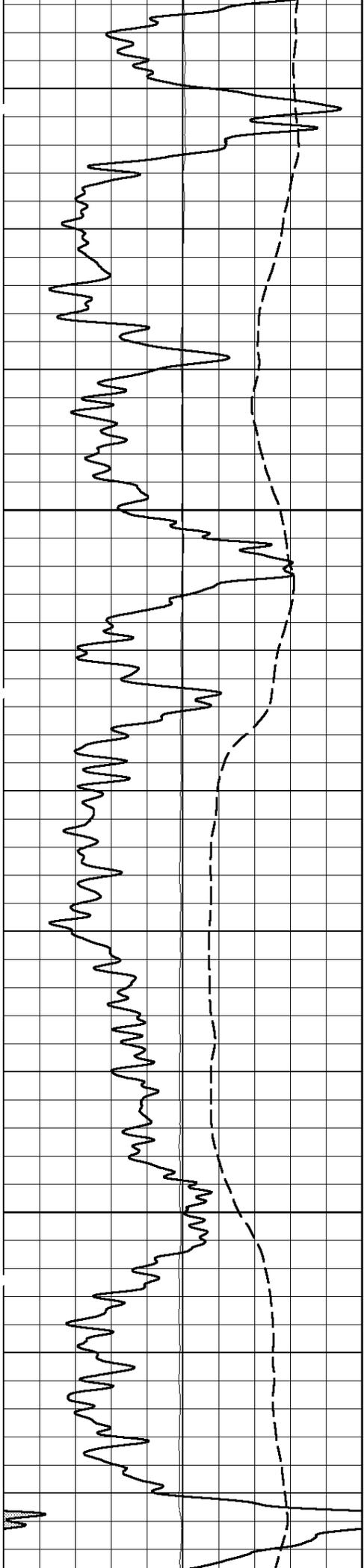




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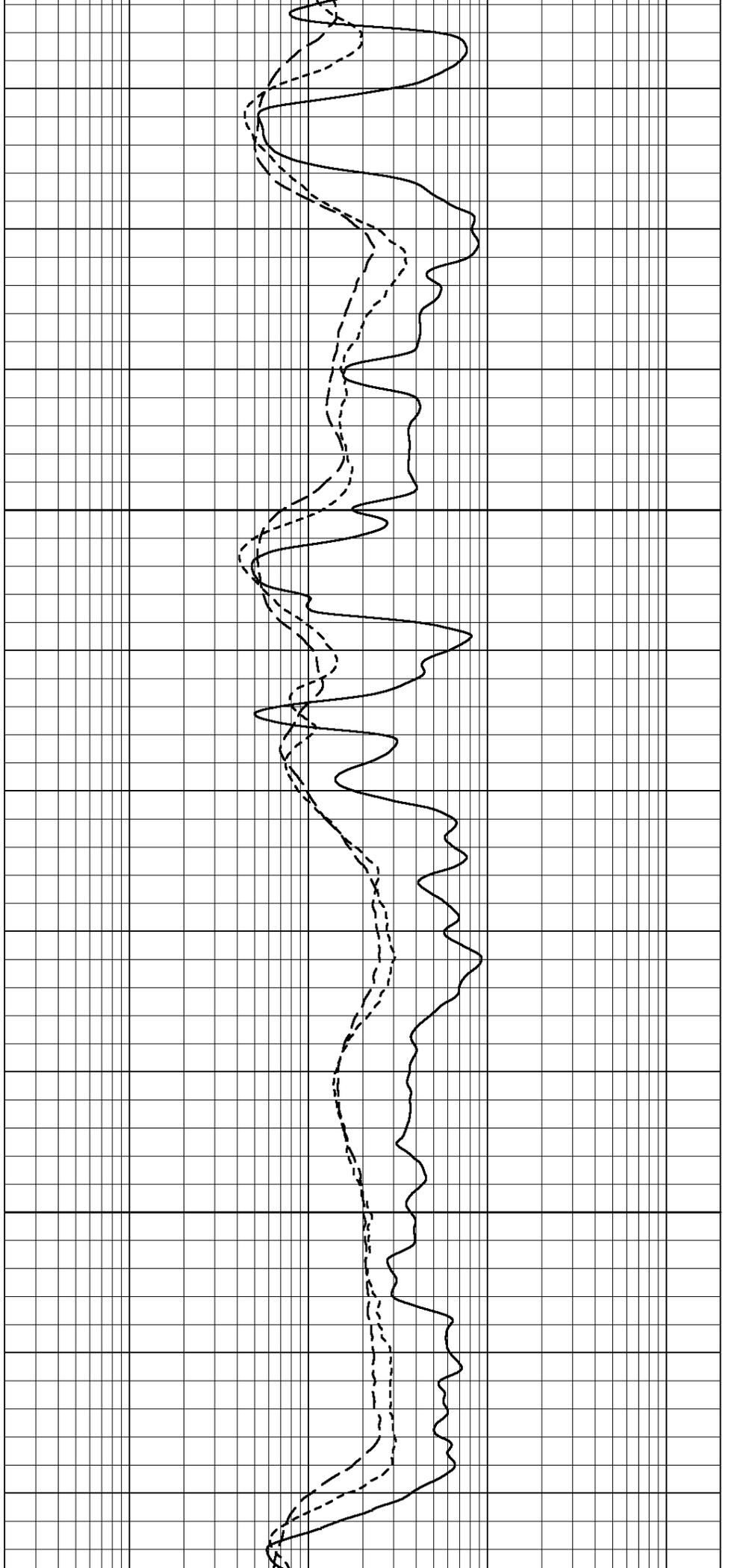
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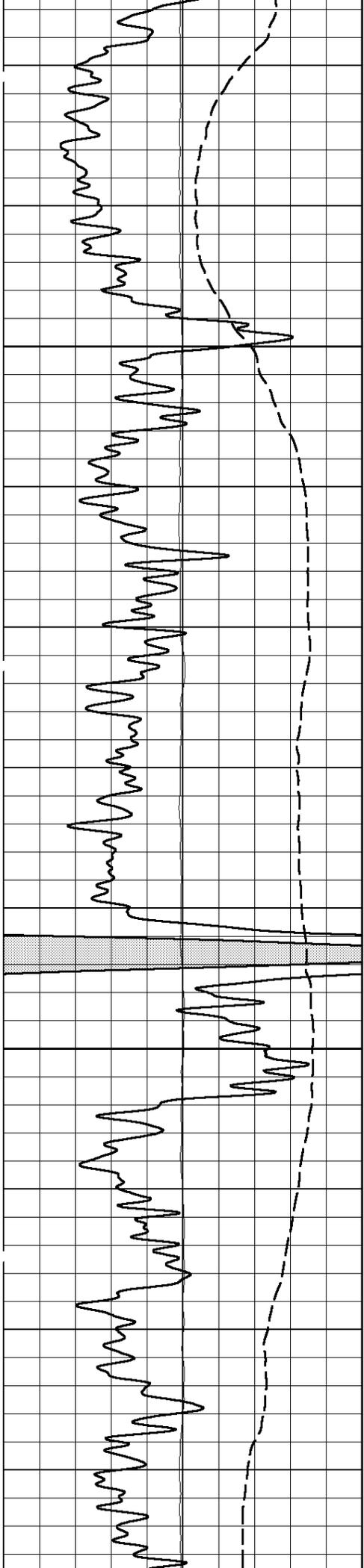




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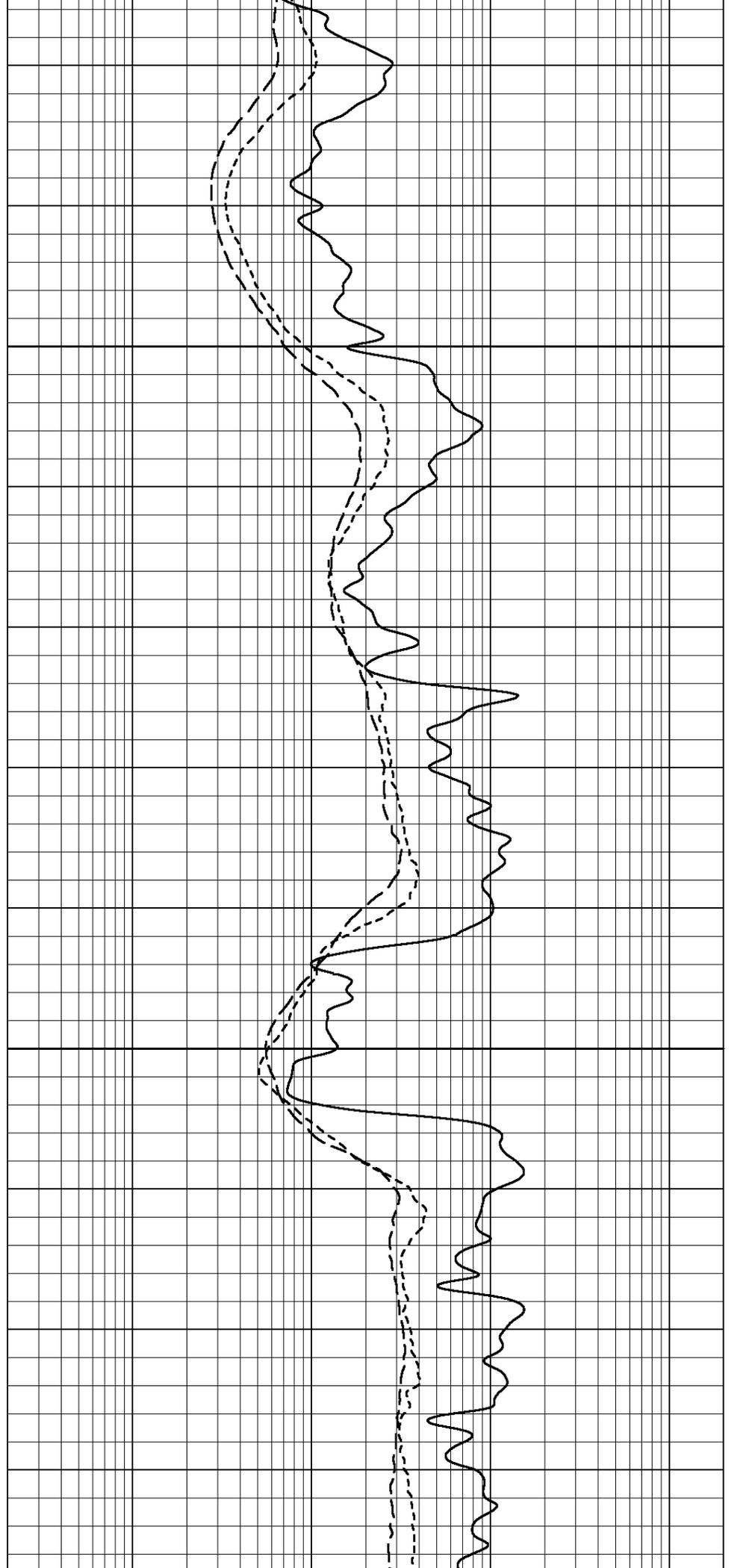
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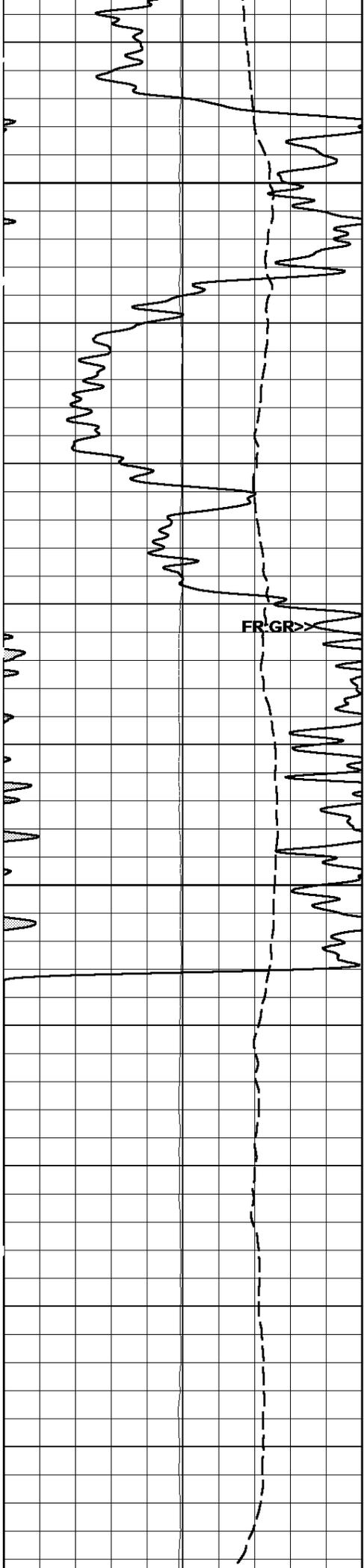




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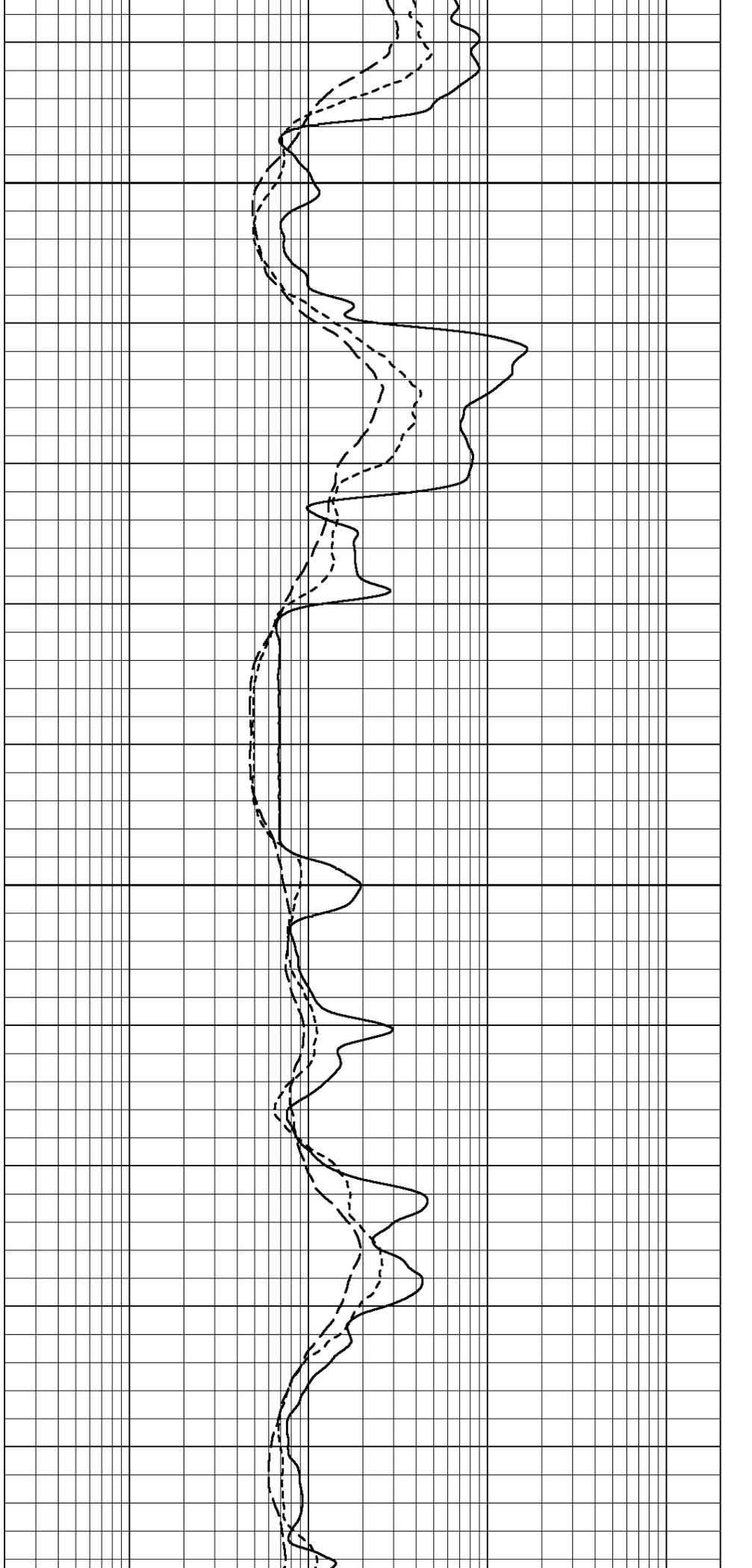
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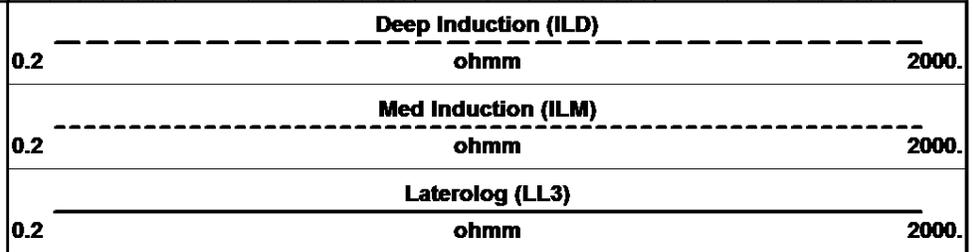
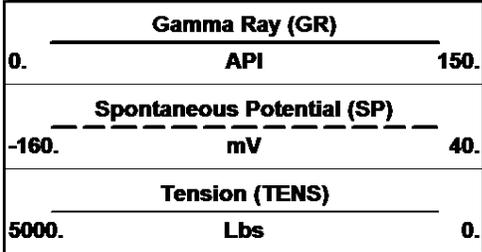
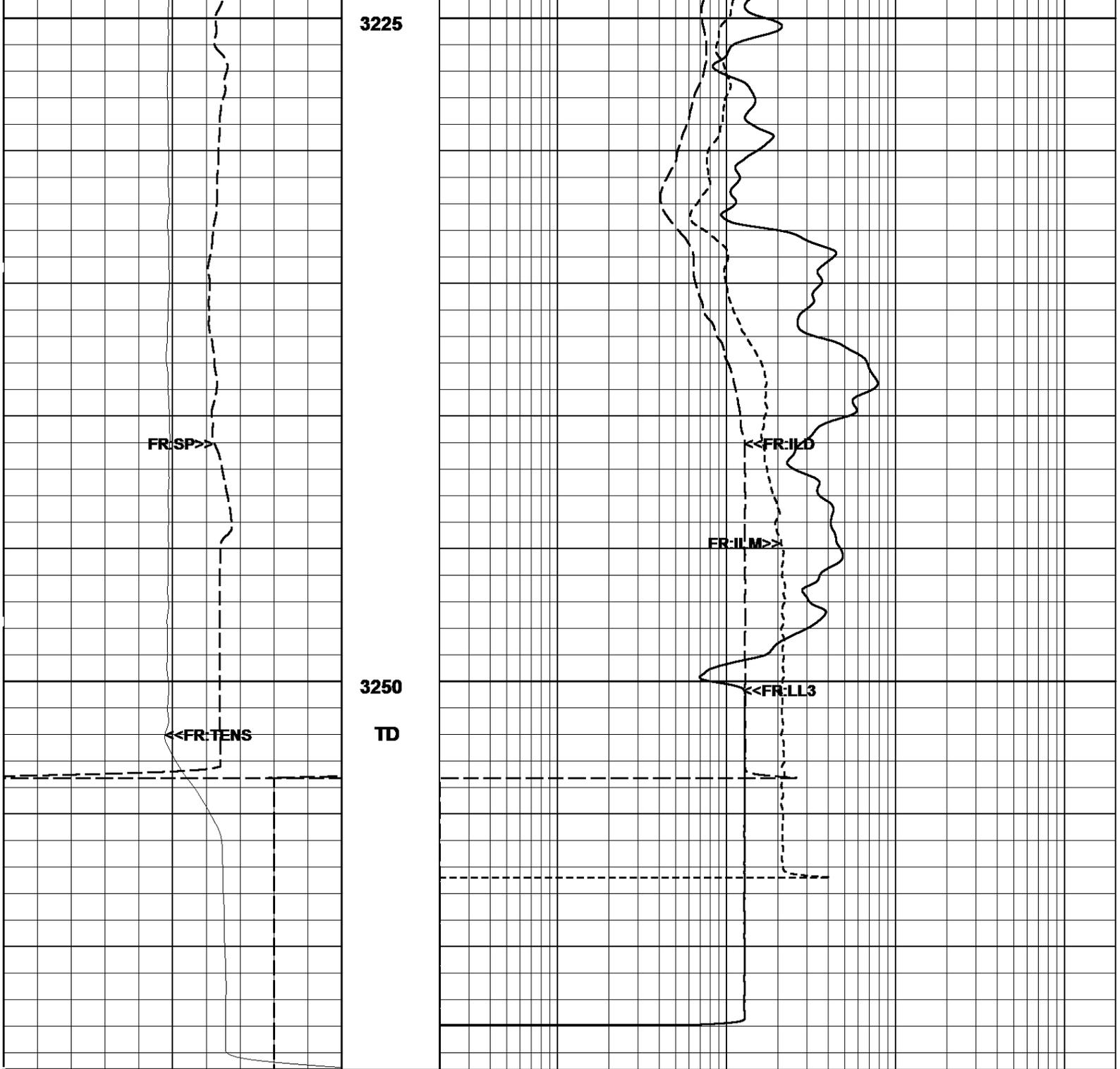




3175

3200





08/27/2015  
 14:46:53 => Start Time

### HIGH DEFINITION PASS (20"/100Ft)

Log UP - (VER 11.19)  
 Start Depth=> 3264.60 Feet

## Induction Resistivity / Conductivity Calibrations

TOOL TYPE

Slim Hole Induction

LOOP TYPE

SERIAL NUM

RD1002

LOOP NUM

## MASTER CALIBRATIONS

	OPEN LOOP(mmho)		CLOSED LOOP(mmho)		LOOP VERIFIER(mV)		CALIBRATION DATE	CALIBRATION TIME
	NO SKIN		NO SKIN	W/ SKIN	ZERO(mV)	SPAN(mV)		
DEEP INDUCTION	-0.000		400.000	499.231	-0.210	640.710	M/D/Y> 3/20/2015	H:M:S> 13:39:15
MED INDUCTION	0.000		462.500	501.895	-27.502	757.422	M/D/Y> 3/20/2015	H:M:S> 14:2:41
SHALLOW LATERLOG	CALIBRATOR LOW(ohm)		CALIBRATOR HI(ohm)		LOW(mV)	HI(mV)		
	2.000		500.000		9.859	2518.169	M/D/Y> 3/20/2015	H:M:S> 14:17:40

## WELL SITE CALIBRATIONS


## 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

Company

CMX, INC.

Well

BUSHTON #2-36

Field

HEIKEN

County

ELLSWORTH

State

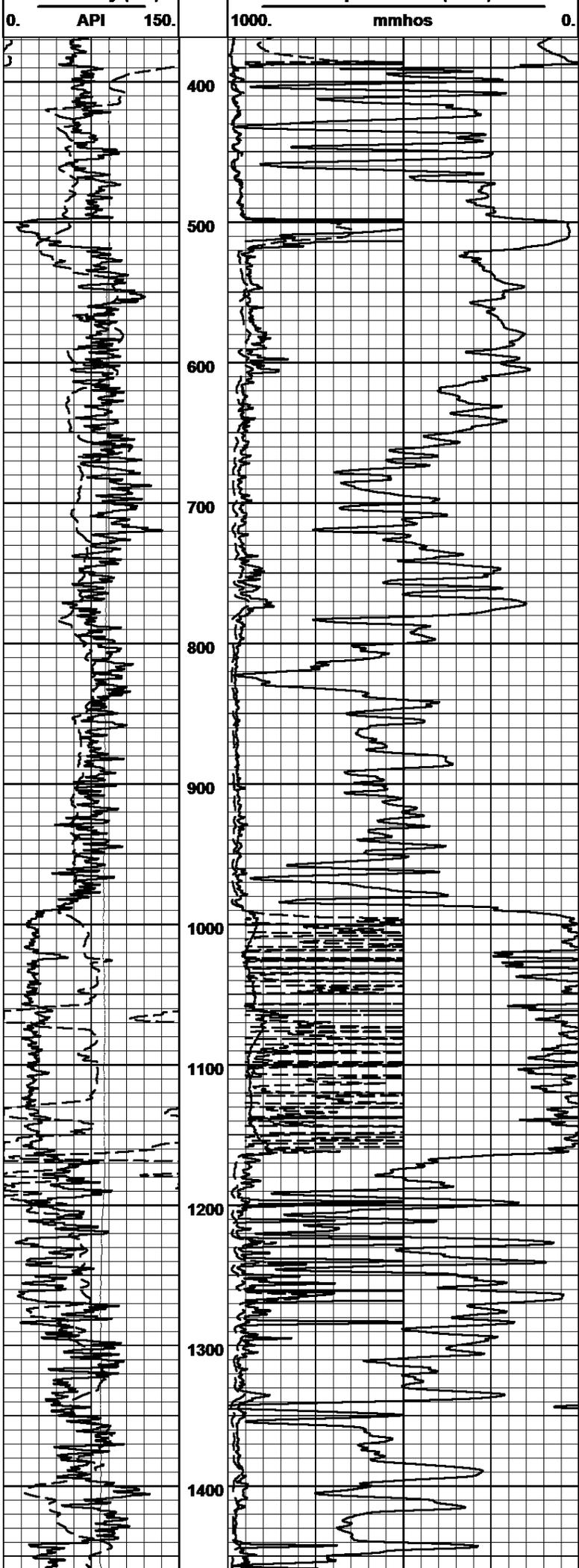
KANSAS

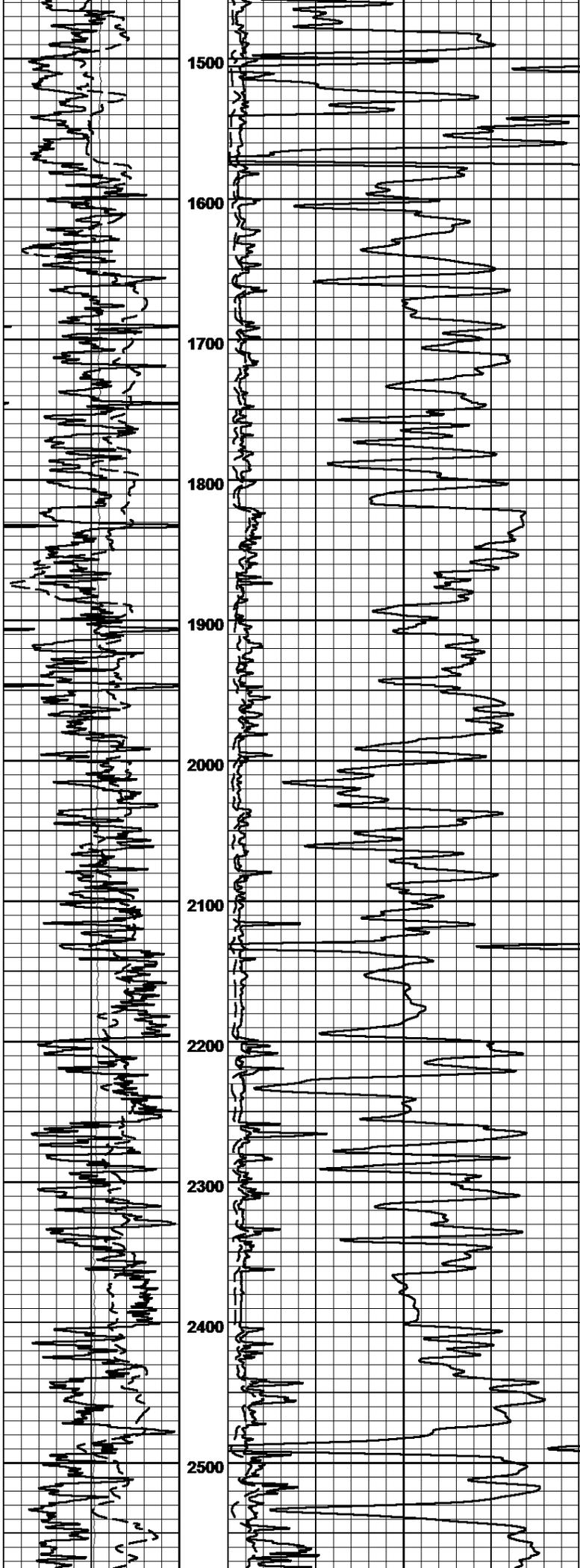


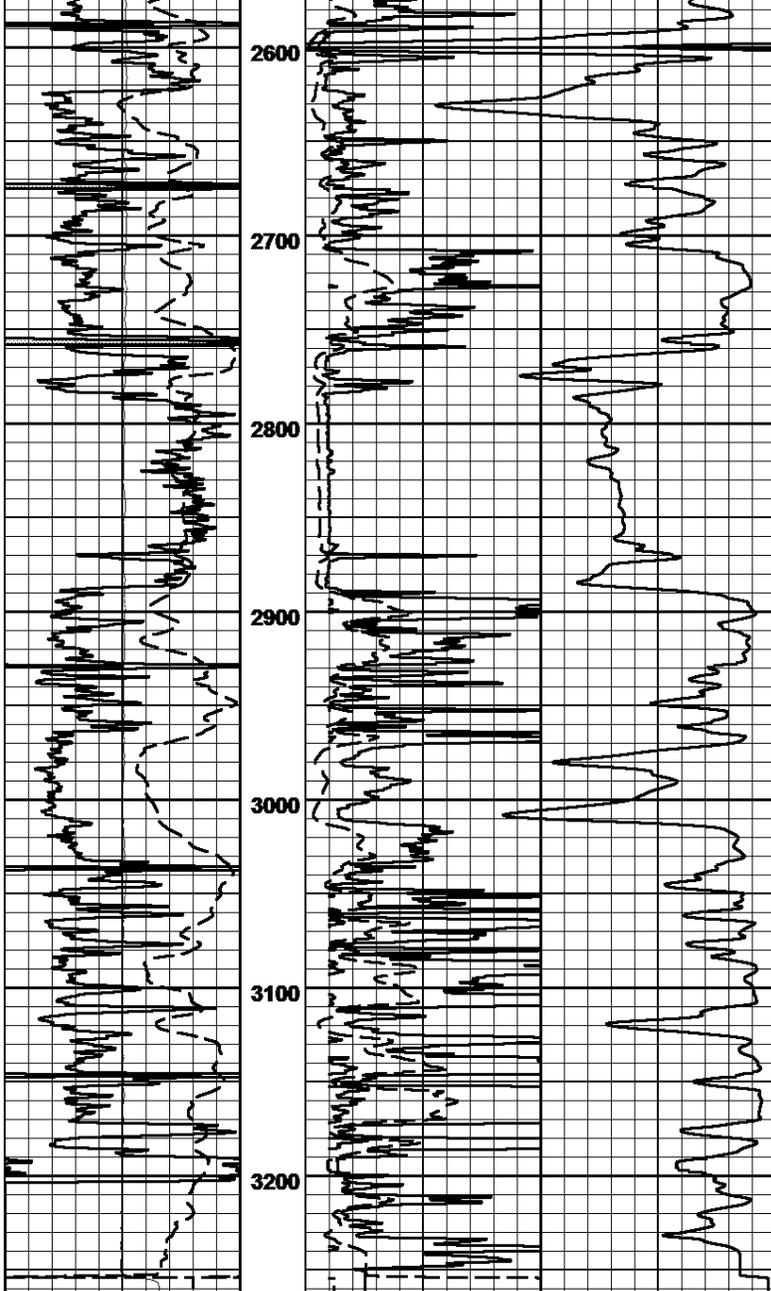
DUAL INDUCTION  
LATEROLOG - SP  
GAMMA RAY

08/27/2015 MAIN PASS (1"/100FT) Log UP - (VER 11.19)  
16:46:11 => End Time End Depth=> 369.50 Feet

Tension (TENS)			Laterolog (LL3)		
5000.	Lbs	0.	0.	ohmm	50.
Spontaneous Potential (SP)			Deep Induction (ILD)		
-160.	mV	40.	0.	ohmm	50.
Gamma Ray (GR)			Deep Induction (CILD)		







<b>Gamma Ray (GR)</b>		<b>Deep Induction (CILD)</b>	
0.	API 150.	1000.	mmhos 0.
<b>Spontaneous Potential (SP)</b>		<b>Deep Induction (ILD)</b>	
-160.	mV 40.	0.	ohmm 50.
<b>Tension (TENS)</b>		<b>Laterolog (LL3)</b>	
5000.	Lbs 0.	0.	ohmm 50.

08/27/2015 **MAIN PASS (1"/100FT) Log UP - (VER 11.19)**  
 15:28:28 => Start Time Start Depth=> 3264.50 Feet