Valhyr South-1 / Drilling + Geological

PWA/WP:01/049

909044 002

Dee
Please file 15/12/01
Thanks
Kourosh

NAYLOR SOUTH-1
POST WELL AUDIT

SBU E&E Team
May 2002

C:\TEMP\NaylorSth-pwaB.doc

WILDCAT WELLS - POST WELL AUDIT PROFORMA

1. **Q. What play was addressed by the well?**

   A. Waarre Sandstone – Tilted fault block closure.

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2. **Q. What were the primary objectives of the well?**

   A. Waarre Sandstone –Gas

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3. **Q. What were the result(s) of the well? Specify as a minimum Net Pay and significant test results.**

   A. The well encountered the Waarre Sandstone about 52m low to prognosis. The section was well developed (103m) but found to be water saturated with no pay mapped. It should be noted that there is a small pool area updip of the location that still could provide a trap. The area is only about 30 acres and it would be non-economic.

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4. **Q. For technical and commercial success cases: were the reservoir/pool parameters within the range (P_{90} - P_{10}) predicted?**

   A. Gross Waarre thickness was 103m (338') which was close to the P1 case of 347'. Net sand was 170' giving a net/gross of 50%, which was marginally below P90 of 65%. Average porosity was 14.7% compared to P90 of 13.7%. Currently the maximum closure area on the structure is mapped at about 50 acres which is below the pre-drill P99 estimate at 75 acres.

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5. **Q. For failure cases: what was the reason for failure (in the primary targets)? Was the critical risk correctly identified?**

   A. Depth structure mapping post drill applying observed interval velocities indicates the well to be at or near structural limit on a small tilted fault block. Structural form is the same as pre-drill but the structure is now deeper and also smaller. The failure of the well can be ascribed to the location being outside closure. The re-mapping indicates a small untested attic updip of the well but given an area of only about 30 acres this would be non-economic. Ahead of drilling the critical risk was identified as leak on the updip fault plane. This could still be the case on this structure based on the presence of the attic area. The well has clearly identified that depth conversion will be critical on any future drilling so that the correct structural definition is obtained. Ahead of drilling some recognition of this was made in that structure was risked at 75%.

6. **Q. What was learnt concerning the understanding of the play in this area?**

   A. This well had a very limited amplitude response and to date successes have invariably had good amplitude response. This indicates a factor in recognising potential accumulations. The well confirmed reservoir at the location. The well was not able to conclusively resolve issues on the fault plane seal effectiveness. The well clearly demonstrated the need for accurate interval velocity definition and application for depth conversion.

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7. Q. **What are the implications for nearby or related drilling opportunities?**

A. **Geological-** - Reservoir is considered as reasonably understood and predicted but risk could be lowered by depositional modelling. The risk on fault plane seal remains an issue with this play type in that the well being outside closure did not assist in resolution. It is also necessary to determine whether the stacked gas pay sands in the area eg Naylor-1 are one system or separate systems. This impacts on pool areas and extent of field. Pre–drill OGIP mapping had the option of a gas pool embracing the Naylor-1/Naylor South-1 area which is clearly not the case post drill.

Geophysical – Depth conversion using correct velocities is a critical factor in defining the structure and consequently defining trap effectiveness. This is clearly recognised as a fundamental issue in this audit and will be the subject of further detailed analysis.

Engineering –The well had to be drilled in part as a deviated well due to restrictions on lease location. This naturally results in a more difficult interpretation of results given the narrow tolerances on sub –surface targets. If possible vertical wells are preferred. However despite this mode of drilling the well was successfully drilled.

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8. Q. **Were there any unexpected results or surprises in the well which impact on the hydrocarbon prospectivity of the area?**

A. No. The dry hole outcome was within the predicted risk profile of the well and does not detract from the prospectivity of the area.

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9. Q. **Was there anything about the way this well was drilled which could be improved?**

A. **Drilling programme, engineering etc.** - No issues in this area

Logging, coring, testing etc. - No issues in this area

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10. Q. **What is the exploration, appraisal or development programme resulting from this well?**

A. This well was part of a drilling campaign in the area. The outcome provides a data point to assess the prospectivity of the area. The results show that the greater Naylor accumulation post Naylor-1 and embracing the Naylor South area cannot be adopted.

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11. Q. **Were relevant health, safety and environmental standards maintained? Are there any outstanding issues?**

A. All issues have been correctly addressed

Tina.Mannella@santos.com on 01/02/2002 09:24:07 AM

To: OTWAY.BASIN@santos.com
cc: (bcc: Kourosh Mehin/NRE)
Subject: MORNING REPORTS 29-30/12/01 - NAYLOR SOUTH 1

Happy New Year to all. I have resent the Progress Report for Naylor South 1. Please disregard previous report. Sorry for any confusion.

Regards

Tina Mannella

(See attached file: NaySth1_29-3012.pdf)

 - NaySth1_29-3012.pdf

Santos

A.C.N. 007 550 923

WELL PROGRESS REPORT

NAYLOR SOUTH 1

DATE: 30/12/2001 (0600 Hours E.S.T.)

DEPTH: 2243 T.D. **PROGRESS:** 0m **DAYS FROM SPUD:** 14

CURRENT OPERATION: PLUGGED AND ABANDONED. RIG RELEASED.

NOPE COST $1,283,828 (P&A) $1,448,078 (C&S) **FINAL FORECAST COST** **COST TO DATE** $1,200,199 (P&A)

CASING DEPTH: 434m **RIG:** ODE 30

PROGRAMMED TD: 2152m **ROTARY TABLE:** 53.0m **GROUND LEVEL:** 48.6m

MUD DATA (2400 Hours)	Type:	Wt:	Visc:	WL:	pH:	K^+:	Cl^-:	PV/YP:	Rmf:
	KCl/PHPA	0.0	0	0	0	0	0	0	-

BIT DATA (2400 Hours)	No.	Make	Type	Size	Hours	Meterage	Condition
LAST							
PRESENT							

SURVEYS :	MD	TVDRT	INCLINATION(°)	AZIMUTH (°)T	OFFSET (m)
30	1828	1819	22.8	172	6.5
31	1877	1865	19.2	171	22.6
32	1925	1911	15	170	36.5
33	1977	1962	12	177	47.5
34	2025	2009	9	190	55.9
35	2068	2051	7.5	193	61.7
36	2116	2099	8	219	66.9
37	2221	2203	10.5	247	76.3

PREVIOUS 24 HOURS OPERATIONS:

RUN IN HOLE AND LAY OUT REMAINDER OF EXCESS PIPE. MAKE UP BIT AND RUN IN HOLE WITH DRILL COLLARS AND 20 JOINTS OF DRILL PIPE. TAG CEMENT AT 388M (14M LOW) WITH 46M CEMENT INSIDE CASING. TEST CEMENT WITH 10KLB. PULL BACK 1 STAND, PICK UP KELLY AND PRESSURE TEST PLUG TO 1100 PSI FOR 10 MINUTES. PULL OUT OF HOLE AND LAY OUT REMAINDER OF DRILL PIPE AND DRILL COLLARS. RIG DOWN V-DOOR, CAT WALK AND BELL NIPPLE. LAY OUT KELLY AND KELLY SPINNER. NIPPLE DOWN BLOW OUT PREVENTORS. NIPPLE DOWN MUD CROSS AND CUT 13 3/8" BRADENHEAD. RUN IN HOLE WITH STINGER TO 30M BELOW CELLAR PUMP CEMENT PLUG #4. **RIG RELEASED AT 04:30 HRS ON 30/12/01.**

ANTICIPATED OPERATIONS:

RIG DOWN RIG. GENERAL MAINTANCE.

Santos

A.C.N. 007 550 923

WELL PROGRESS REPORT

NAYLOR SOUTH 1

DATE: 29/12/2001 (0600 Hours E.S.T.)

DEPTH: 2243 T.D. **PROGRESS:** 0m **DAYS FROM SPUD:** 13

CURRENT OPERATION: PREPARING TO SET ABANDONMENT PLUGS.

NOPE COST $1,283,828 (P&A) $1,448,078 (C&S) **FINAL FORECAST COST** **COST TO DATE $**

CASING DEPTH: 434m **RIG:** ODE 30

PROGRAMMED TD: 2152m **ROTARY TABLE:** 53.0m **GROUND LEVEL:** 48.6m

MUD DATA (2400 Hours)	Type:	Wt:	Visc:	WL:	pH:	K^+:	Cl^-:	PV/YP:	Rmf:
	KCl/PHPA	0.0	0	0	0	0	0	0	-

BIT DATA (2400 Hours)		No.	Make	Type	Size	Hours	Meterage	Condition
	LAST							
	PRESENT							

SURVEYS:	MD	TVDRT	INCLINATION(°)	AZIMUTH (°)T	OFFSET (m)
30	1828	1819	22.8	172	6.5
31	1877	1865	19.2	171	22.6
32	1925	1911	15	170	36.5
33	1977	1962	12	177	47.5
34	2025	2009	9	190	55.9
35	2068	2051	7.5	193	61.7
36	2116	2099	8	219	66.9
37	2221	2203	10.5	247	76.3

PREVIOUS 24 HOURS OPERATIONS:

PULL OUT OF HOLE IN STANDS TO 499M. SPOT HIGH VISCOSITY PILL AND PULL OUT OF HOLE ONE STAND. RIG UP DOWELL. HOLD SAFETY MEETING WITH NEW CREW. SET PLUG 3 FROM 484M TO 374M WITH 10 BARRELS SPACER AND 21.2 BARRELS CEMENT. DISPLACE CEMENT WITH 1.6 BARRELS WATER AND 6.9 BARRELS MUD. PULL OUT OF HOLE THREE STANDS AND CIRCULATE ONE COMPLETE CIRCULATION. PULL OUT OF HOLE LAYING DOWN PIPE. LAY OUT CEMENT STINGER.

ANTICIPATED OPERATIONS:

NIPPLE DOWN BLOW OUT PREVENTORS. PREPARE TO PLUG AND ABANDON.

Tina.Mannella@santos.com on 12/31/2001 11:54:30 AM

To: OTWAY.BASIN@santos.com
cc: (bcc: Kourosh Mehin/NRE)
Subject: MORNING REPORT - NAYLOR SOUTH 1

(See attached file: NAYLOR STH 1.pdf)

 - NAYLOR STH 1.pdf

Santos

A.C.N. 007 550 923

WELL PROGRESS REPORT

NAYLOR SOUTH 1

DATE: 30/12/2001 (0600 Hours E.S.T.)

DEPTH: 2243 T.D. **PROGRESS:** 0m **DAYS FROM SPUD:** 12

CURRENT OPERATION: WELL CASED & SUSPENDED. RIG RELEASED.

NOPE COST $1,283,828 (P&A) $1,448,078 (C&S) **FINAL FORECAST COST** **COST TO DATE** $1,200,199 (P&A)

CASING DEPTH: 434m **RIG:** ODE 30

PROGRAMMED TD: 2152m **ROTARY TABLE:** 53.0m **GROUND LEVEL:** 48.6m

MUD DATA (2400 Hours)	Type:	Wt:	Visc:	WL:	pH:	K^+:	Cl^-:	PV/YP:	Rmf:
	KCl/PHPA	0.0	0	0	0	0	0	0	-

BIT DATA (2400 Hours)	No.	Make	Type	Size	Hours	Meterage	Condition
LAST							
PRESENT							

SURVEYS :	MD	TVDRT	INCLINATION(°)	AZIMUTH (°)T	OFFSET (m)
30	1828	1819	22.8	172	6.5
31	1877	1865	19.2	171	22.6
32	1925	1911	15	170	36.5
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36	2116	2099	8	219	66.9
37	2221	2203	10.5	247	76.3

PREVIOUS 24 HOURS OPERATIONS:

RUN IN HOLE AND LAY OUT REMAINDER OF EXCESS PIPE. MAKE UP BIT AND RUN IN HOLE WITH DRILL COLLARS AND 20 JOINTS OF DRILL PIPE. TAG CEMENT AT 388M (14M LOW) WITH 46M CEMENT INSIDE CASING. TEST CEMENT WITH 10KLB. PULL BACK 1 STAND, PICK UP KELLY AND PRESSURE TEST PLUG TO 1100 PSI FOR 10 MINUTES. PULL OUT OF HOLE AND LAY OUT REMAINDER OF DRILL PIPE AND DRILL COLLARS. RIG DOWN V-DOOR, CAT WALK AND BELL PIPE. LAY OUT KELLY AND KELLY SPINNER. NIPPLE DOWN BLOW OUT PREVENTORS. NIPPLE DOWN MUD CROSS AND CUT 13 3/8" BRADENHEAD. RUN IN HOLE WITH STINGER TO 30M BELOW CELLAR PUMP CEMENT PLUG #4. **RIG RELEASED AT 04:30 HRS ON 30/12/01.**

ANTICIPATED OPERATIONS:

RIG DOWN RIG. GENERAL MAINTANCE.

909044 010

Santos Ltd
A.C.N. 007 550 923
91 King William Street
Adelaide South Australia 5000
GPO Box 2319
Adelaide South Australia 5001
Telephone: (08) 8224 7200
Exploration and Development

Santos

Facsimile

To: KOUROSH MEHIN Fax: 03 94125156

From: MARIS ZWIGULIS Return Fax: 08 8224 7710

Date: 28 DECEMBER 2001

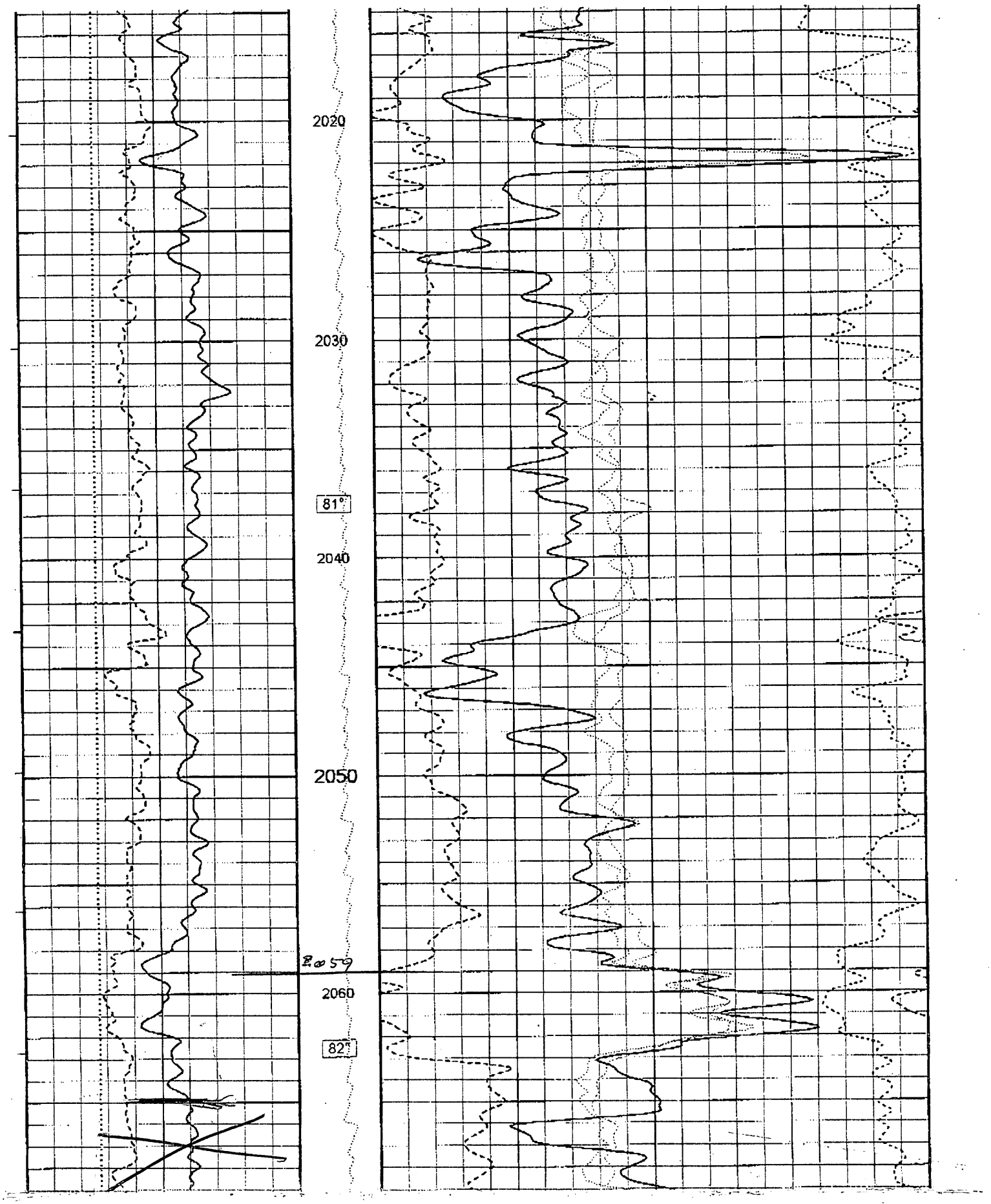
Subject: NAYLOR SOUTH No.1 No of pages: 6 (incl. this one)

(IF INCOMPLETE TRANSMISSION RECEIVED PLEASE PHONE: 8224)

(1) NEUTRON – DENSITY LOG OVER WAARRE SECTION

(2) CAN YOU CONFIRM WITH SANTOS OPERATIONS MICK GIULIANO 0419914480 THAT YOU APPROVE P. & A. of WELL

Thanks MARIS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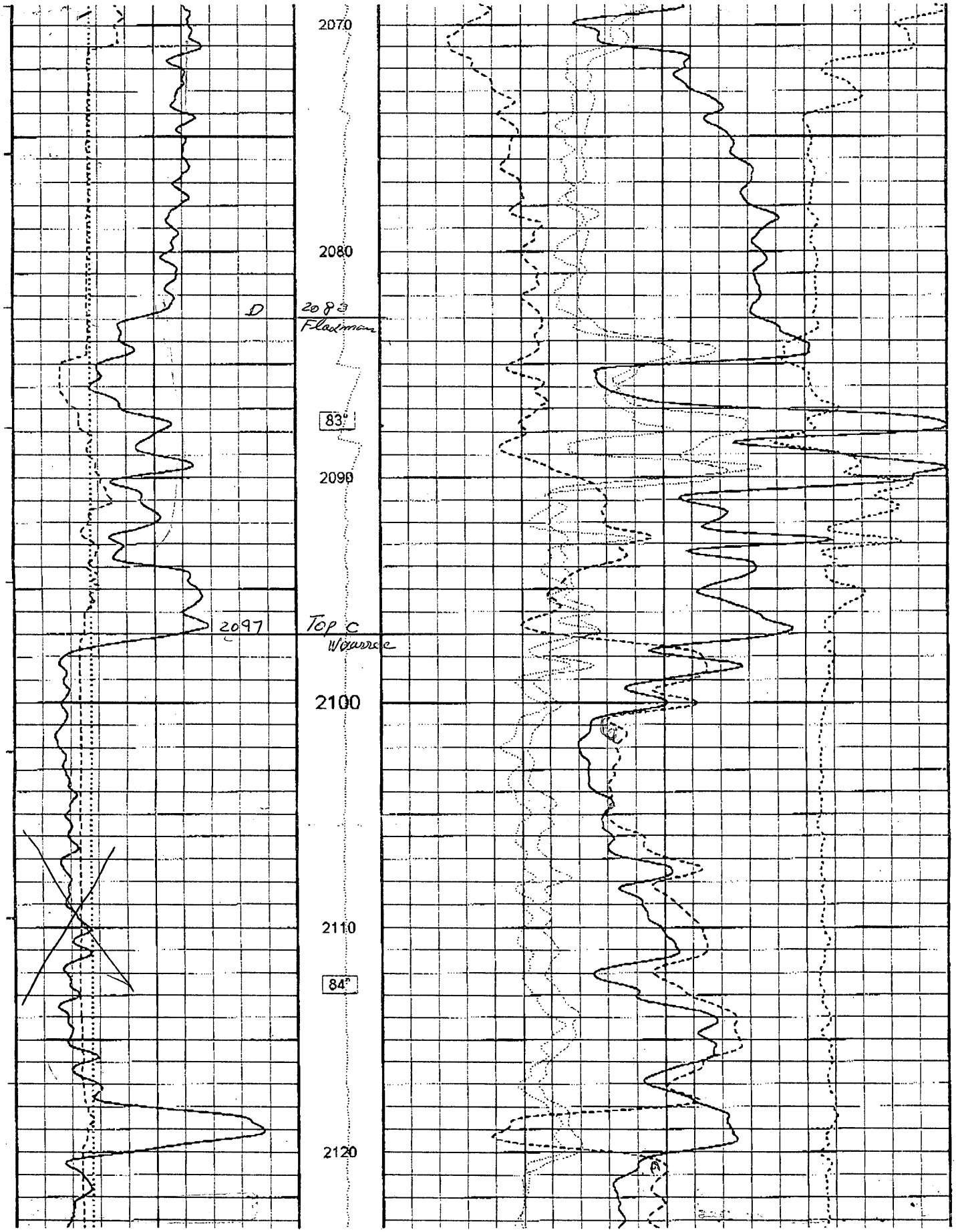
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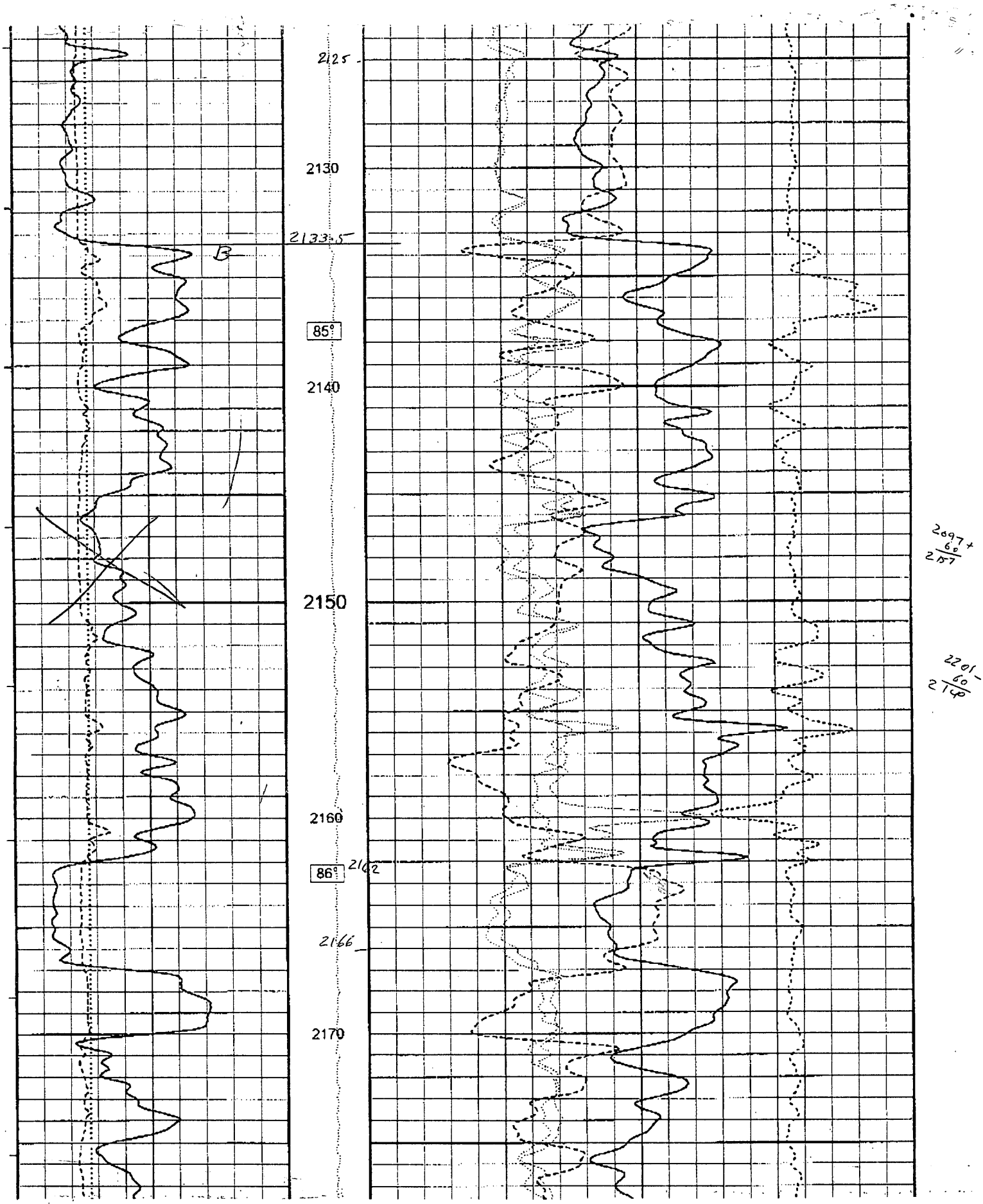
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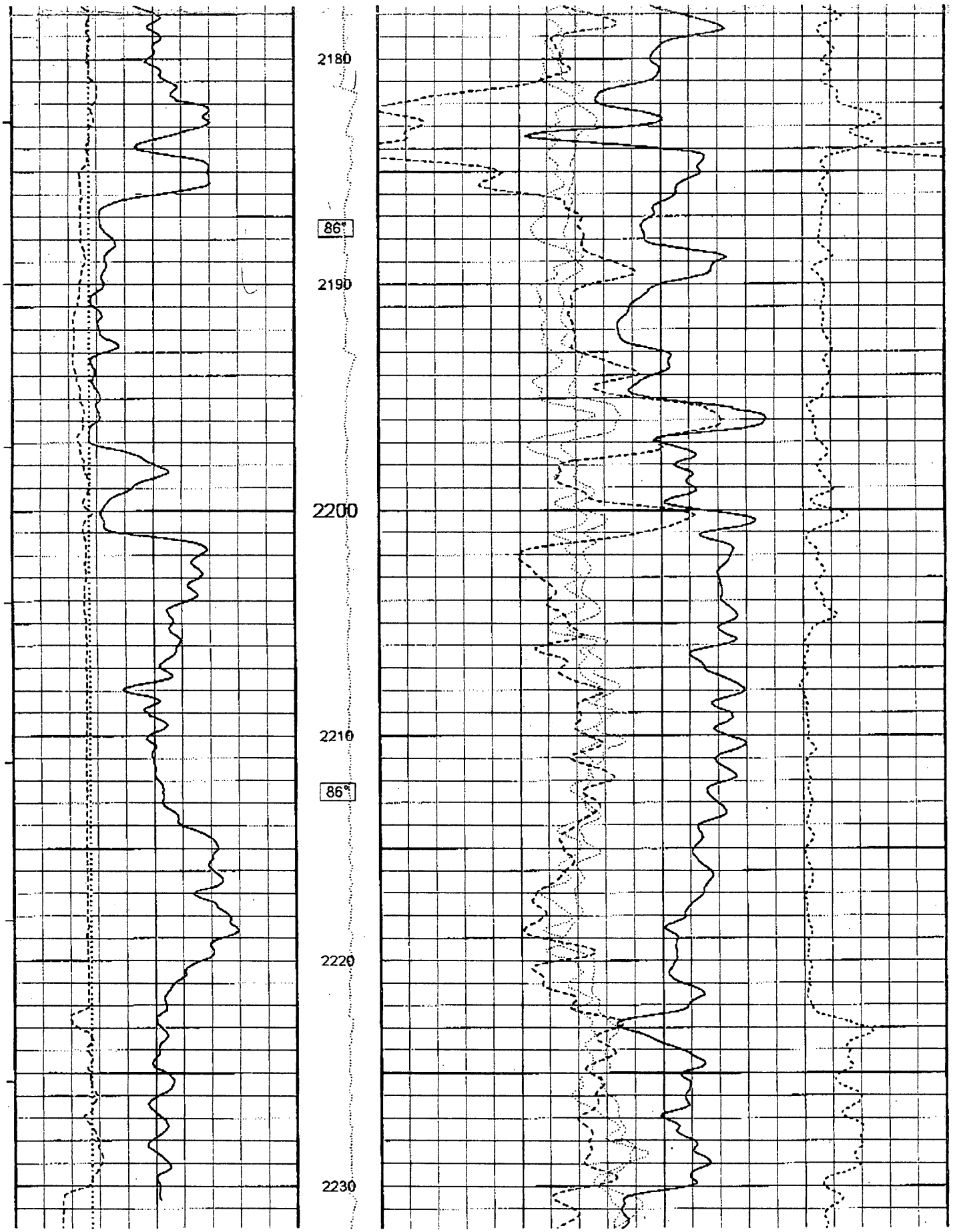
60/
257
2201-
60/
214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2200
2210
86°
2220
2230

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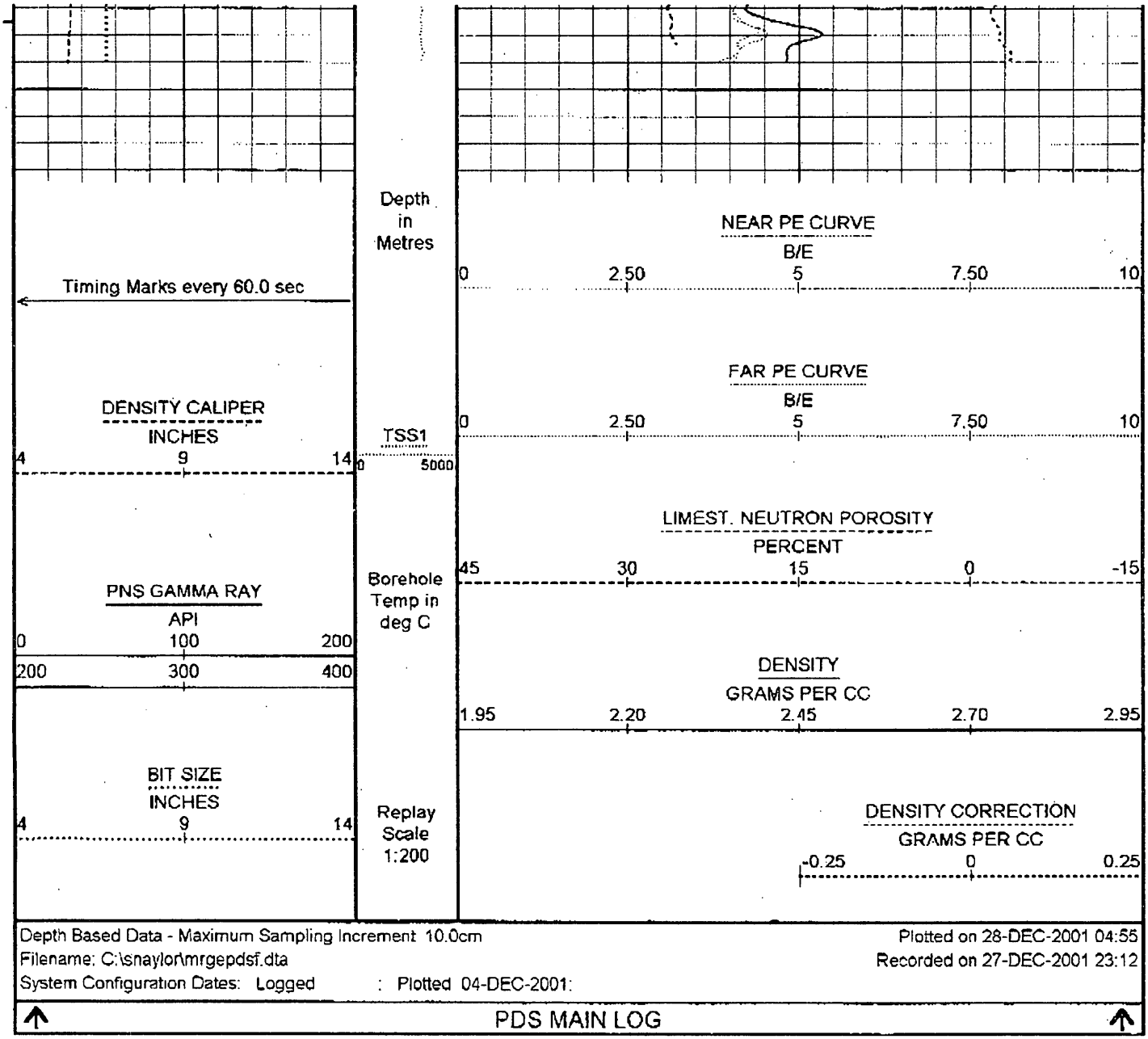
(6)



Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:\snaylor\mrgepdsf.dta
System Configuration Dates: Logged : Plotted 04-DEC-2001:

Plotted on 28-DEC-2001 04:55
Recorded on 27-DEC-2001 23:12

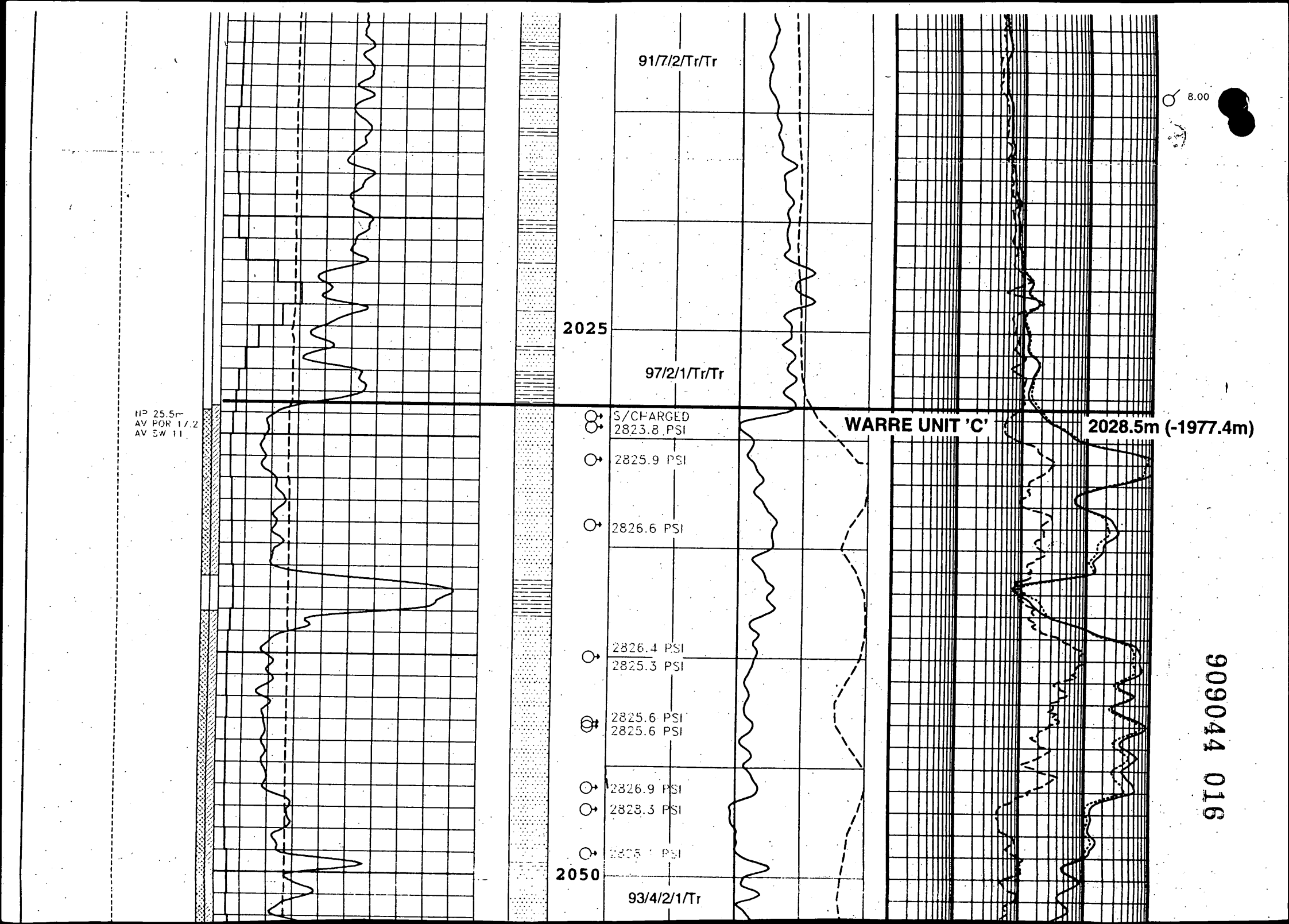
PDS MAIN LOG

COMPANY	SANTOS
WELL	NAYLOR SOUTH 1
FIELD	OTWAY
PROVINCE/COUNTY	VICTORIA
COUNTRY/STATE	SANTOS

Elevation Kelly Bushing		First Reading	2237.0 M
Elevation Drill Floor	4.7 M	Depth Driller	2243.0 M
Elevation Ground Level	48.3 M	Depth Logger	2238.0 M

Reeves

CNS PDS
GR CALIPER
1:200


91/7/2/Tr/Tr
2025
97/2/1/Tr/Tr
NP 25.5m
AV POR 17.2
AV SW 11
S/CHARGED
2823.8 PSI
WARRE UNIT 'C'
2028.5m (-1977.4m)
2825.9 PSI
2826.6 PSI
2826.4 PSI
2825.3 PSI
2825.6 PSI
2825.6 PSI
2826.9 PSI
2828.3 PSI
2050
93/4/2/1/Tr
8.00
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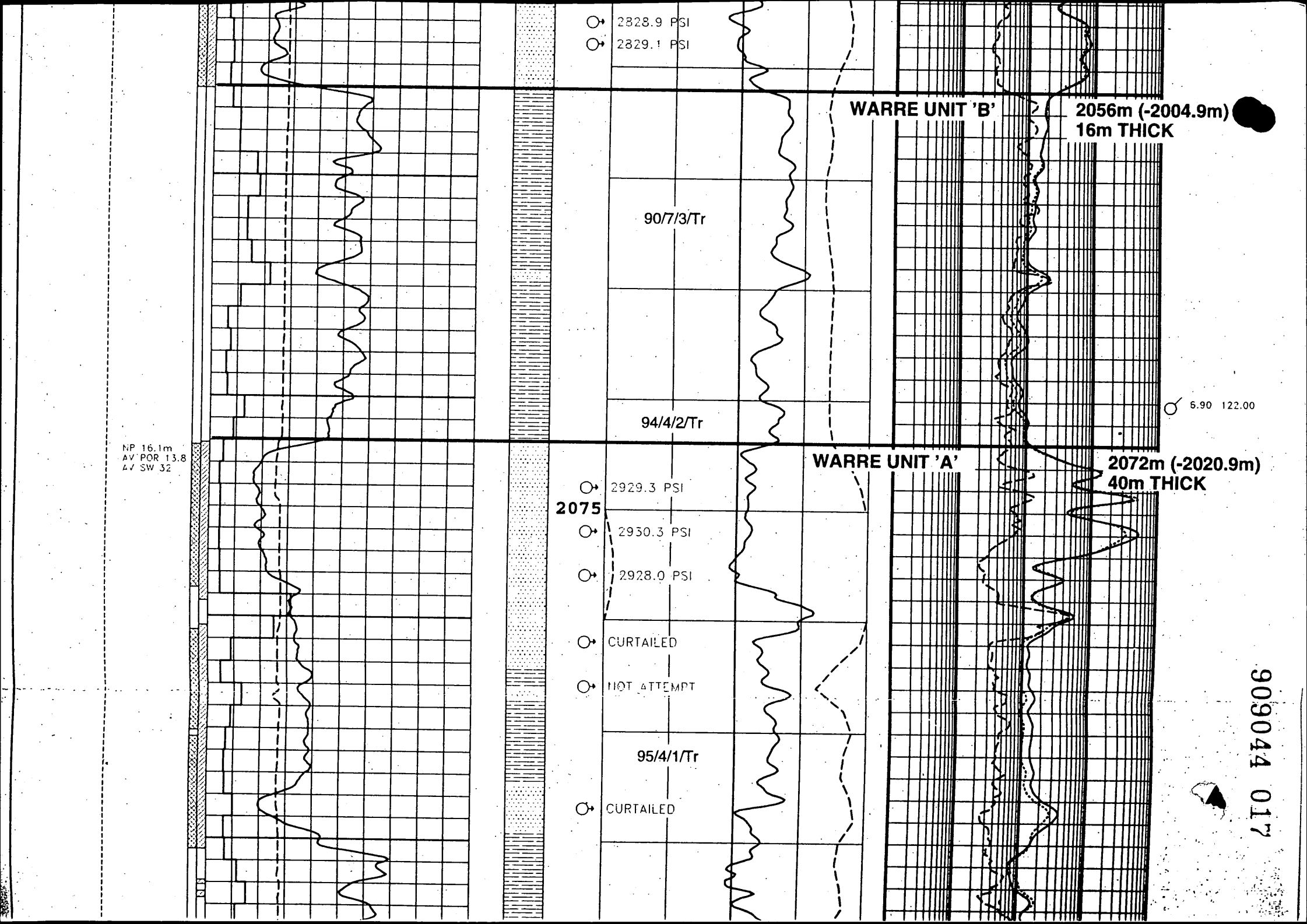
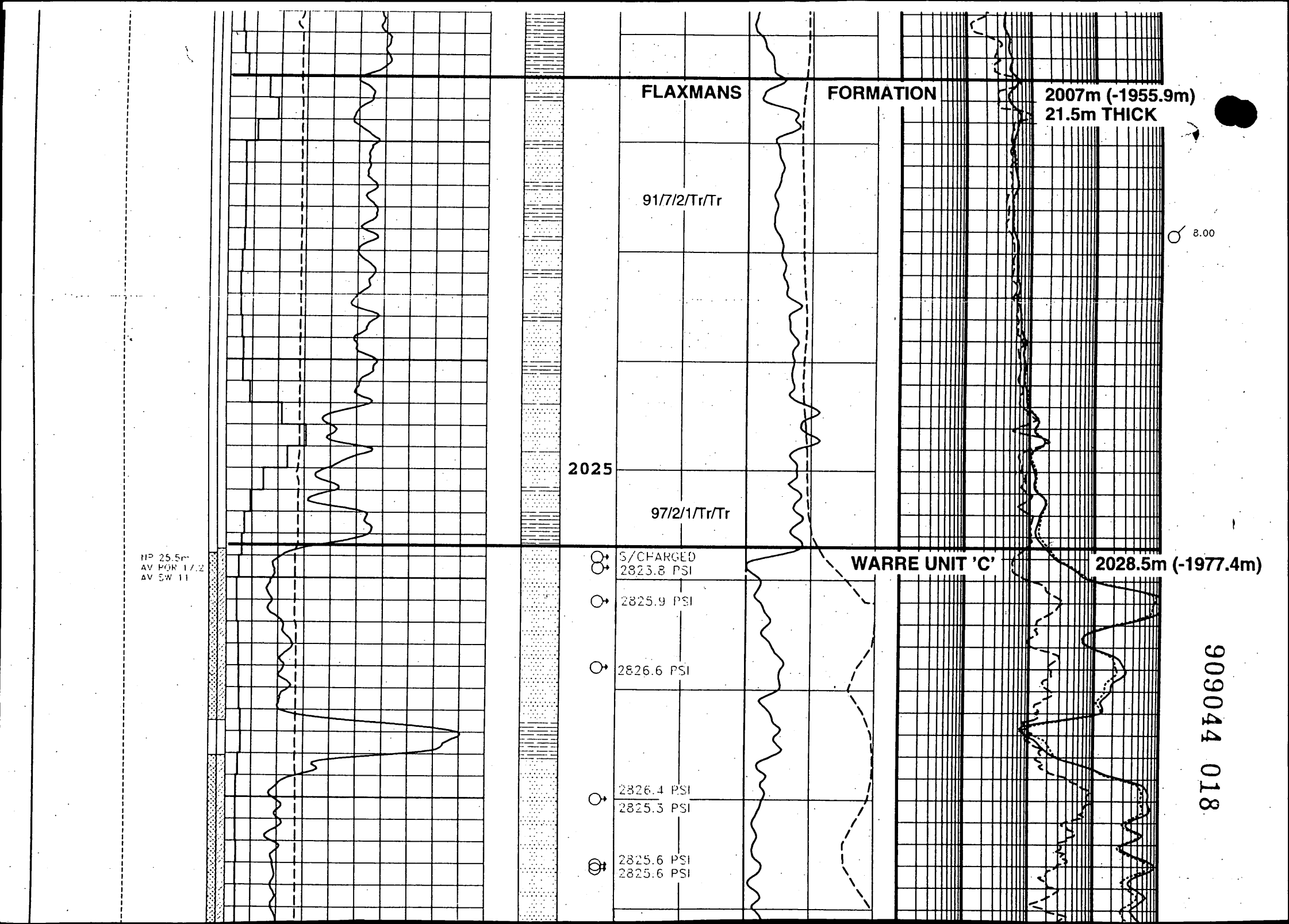

2828.9 PSI
2829.1 PSI
WARRE UNIT 'B'
2056m (-2004.9m)
16m THICK
90/7/3/Tr
6.90 122.00
94/4/2/Tr
NP 16.1m
AV POR 13.8
AV SW 32
WARRE UNIT 'A'
2072m (-2020.9m)
40m THICK
2929.3 PSI
2075
2930.3 PSI
2928.0 PSI
CURTAILED
NOT ATTEMPT
95/4/1/Tr
CURTAILED
909044 017


FLAXMANS FORMATION
2007m (-1955.9m)
21.5m THICK
91/7/2/Tr/Tr
8.00
2025
97/2/1/Tr/Tr
NP 25.5m
AV POR 17.2
AV SW 11
S/CHARGED
2823.8 PSI
WARRE UNIT 'C'
2028.5m (-1977.4m)
2825.9 PSI
2826.6 PSI
2826.4 PSI
2825.3 PSI
2825.6 PSI
2825.6 PSI
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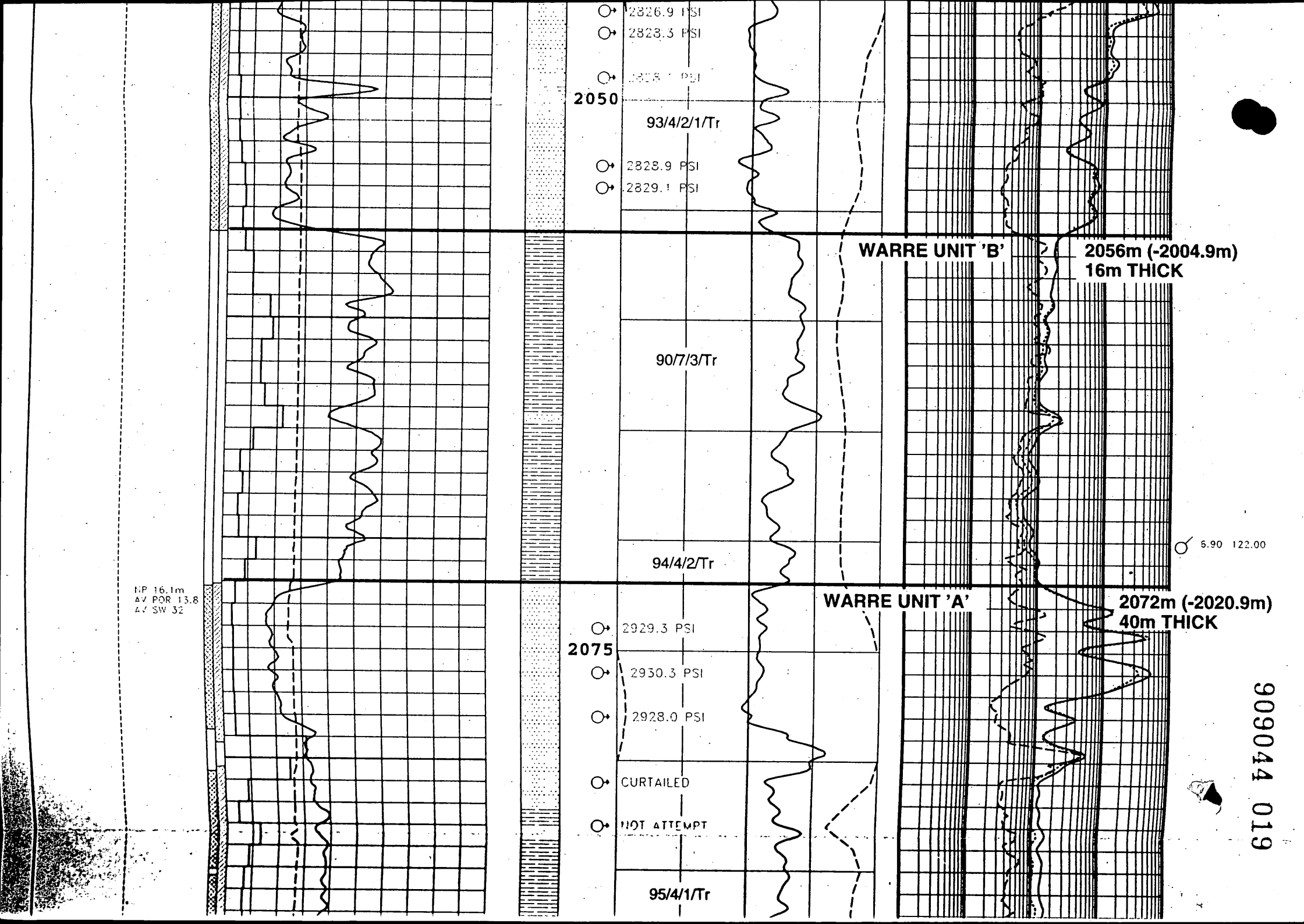
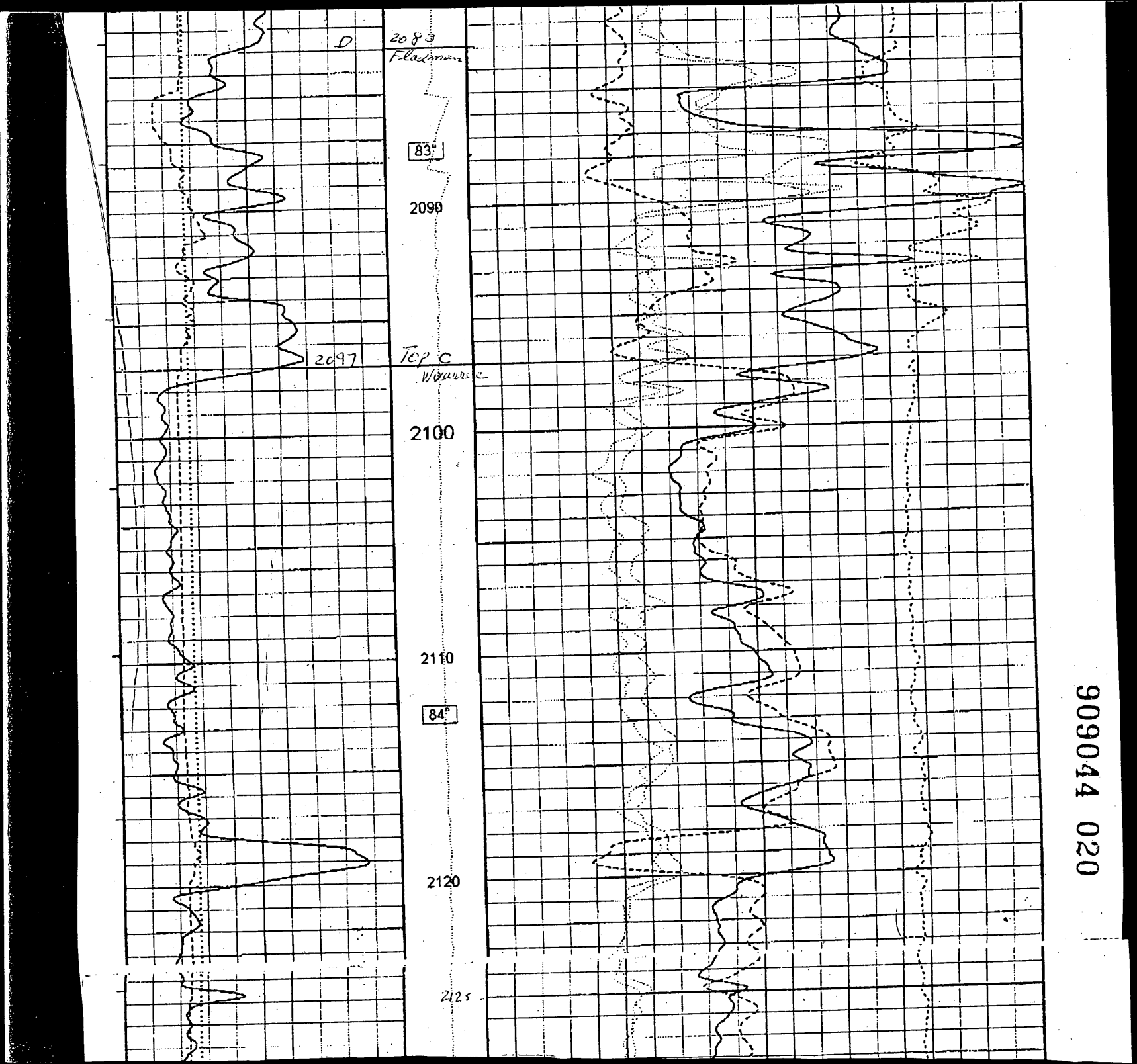

2826.9 PSI
2823.3 PSI
2050
93/4/2/1/Tr
2828.9 PSI
2829.1 PSI
WARRE UNIT 'B'
2056m (-2004.9m)
16m THICK
90/7/3/Tr
94/4/2/Tr
6.90 122.00
NP 16.1m
AV POR 13.8
AV SW 32
WARRE UNIT 'A'
2072m (-2020.9m)
40m THICK
2929.3 PSI
2075
2930.3 PSI
2928.0 PSI
CURTAILED
NOT ATTEMPT
95/4/1/Tr
9090044 019


D
2089
Flaxman
83°
2090
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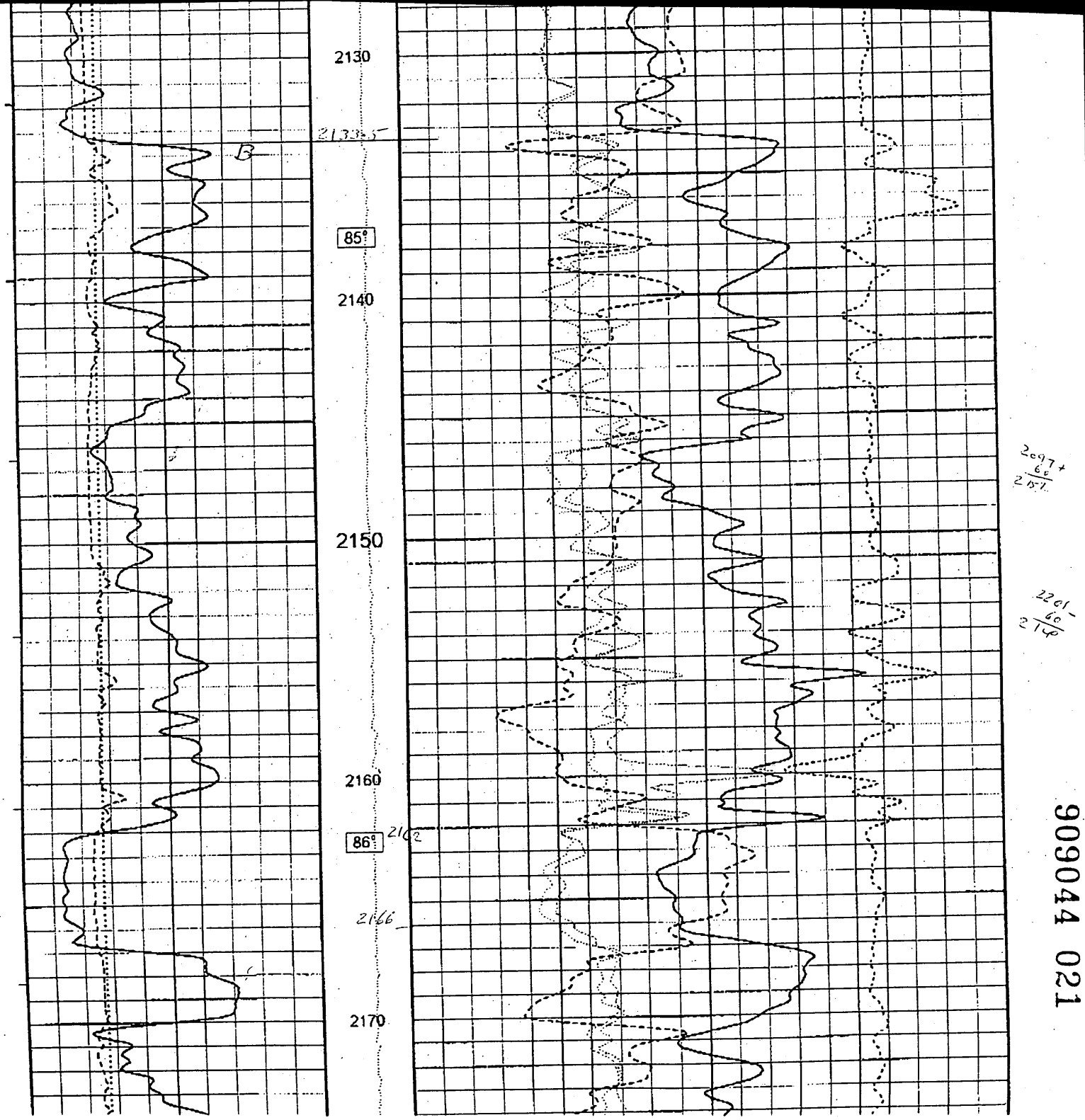
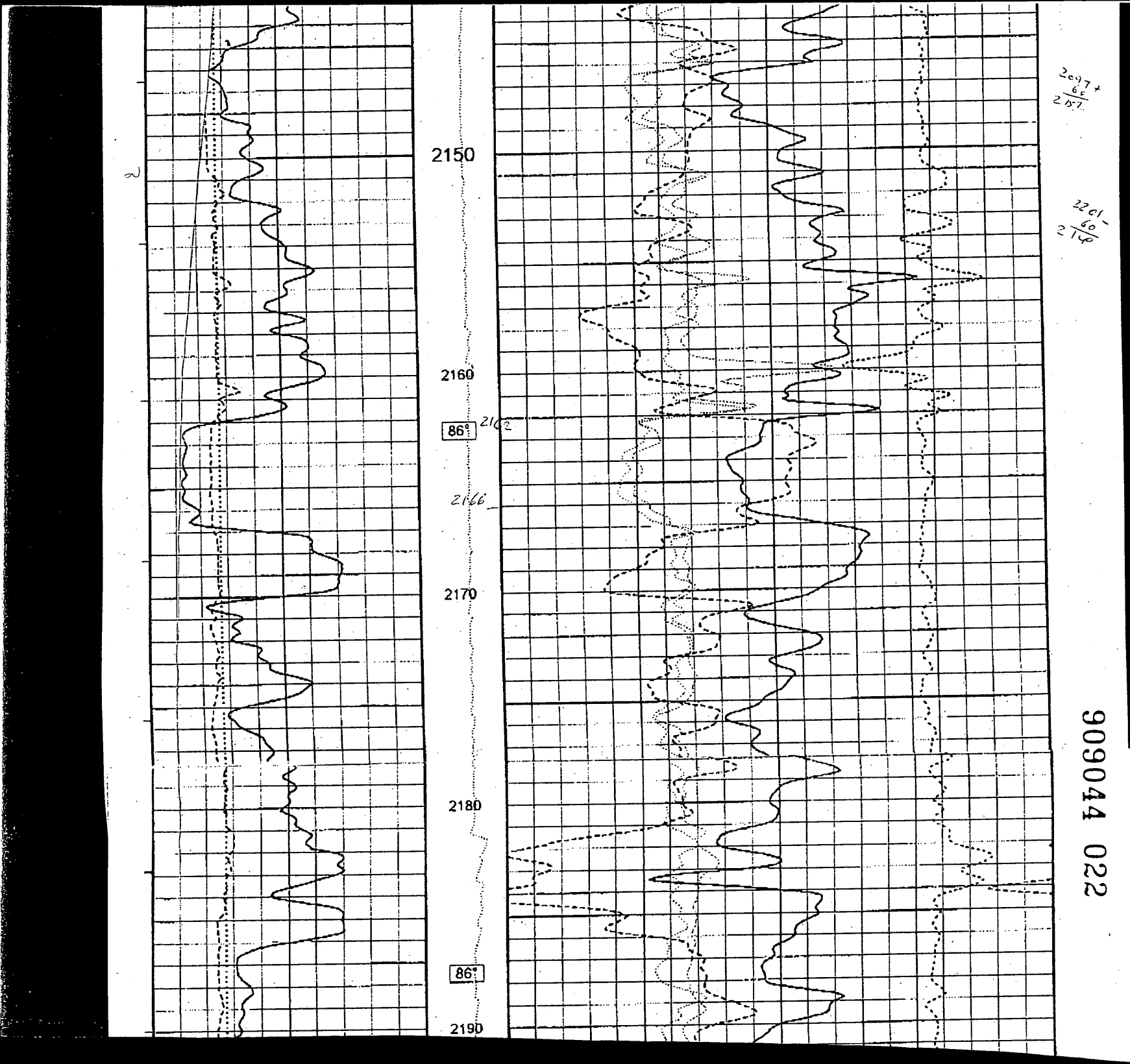
2110
84°
2120
2125


2130
2133.5
B
85°
2140
2150
2160
86°
2162
2166
2170
2097 +
6'
215'
2201'
60'
214'

909044 021



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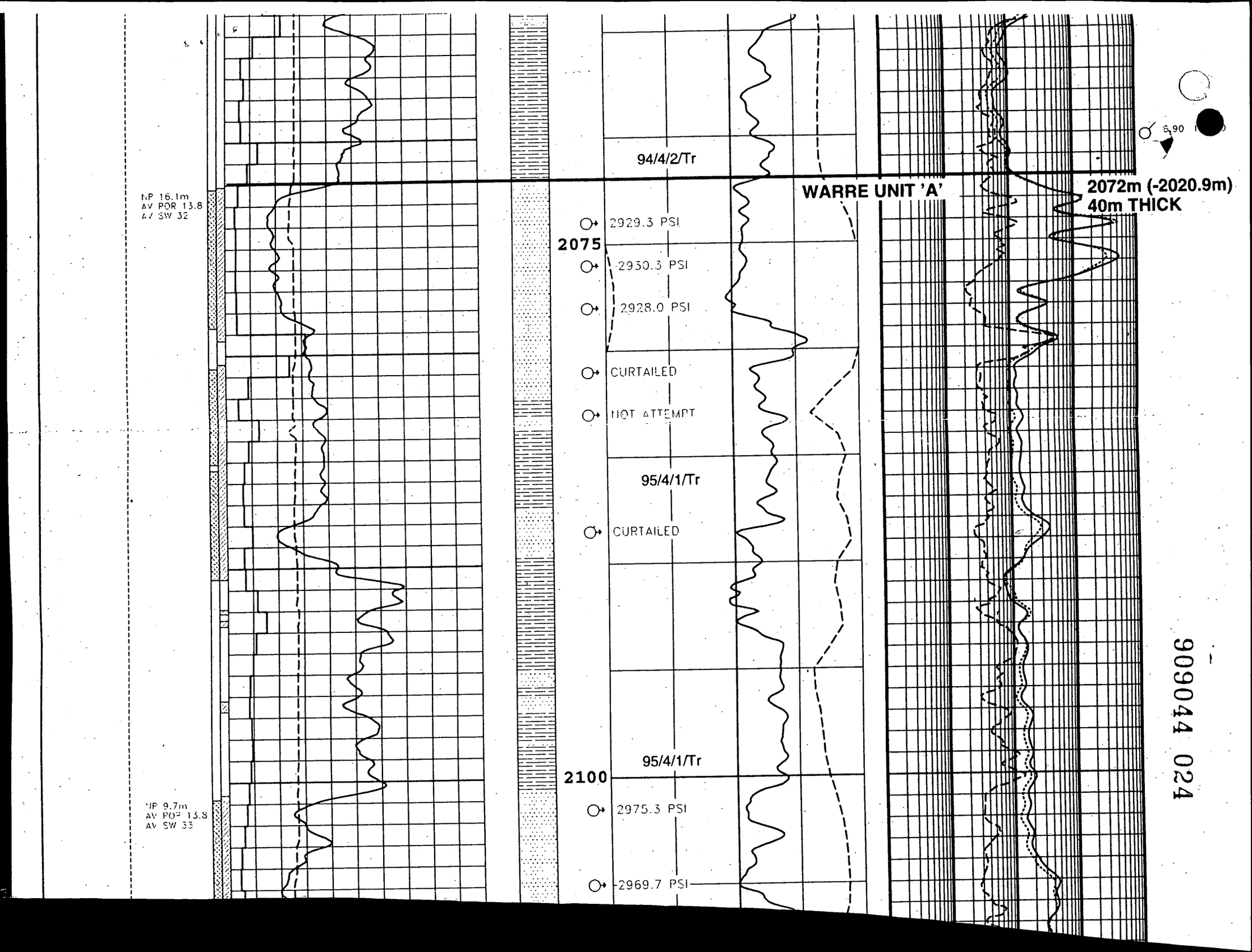
2201 - 2097 / 204


94/4/2/Tr
WARRE UNIT 'A'
2072m (-2020.9m)
40m THICK
NP 16.1m
AV POR 13.8
AV SW 32
2929.3 PSI
2075
2930.3 PSI
2928.0 PSI
CURTAILED
NOT ATTEMPT
95/4/1/Tr
CURTAILED
95/4/1/Tr
2100
2975.3 PSI
2969.7 PSI
NP 9.7m
AV POR 13.8
AV SW 33
5.90

909044 025

2112m (-2060.9m)
31m THICK
FORMATION
EUMERALLA
2970.5 PSI
CURTAILED
92/5/2/1
2125
EARLY NEOCOMIAN

909044 026

Reeves

DLL SLL MLL LCS
GR CALIPER
1:200

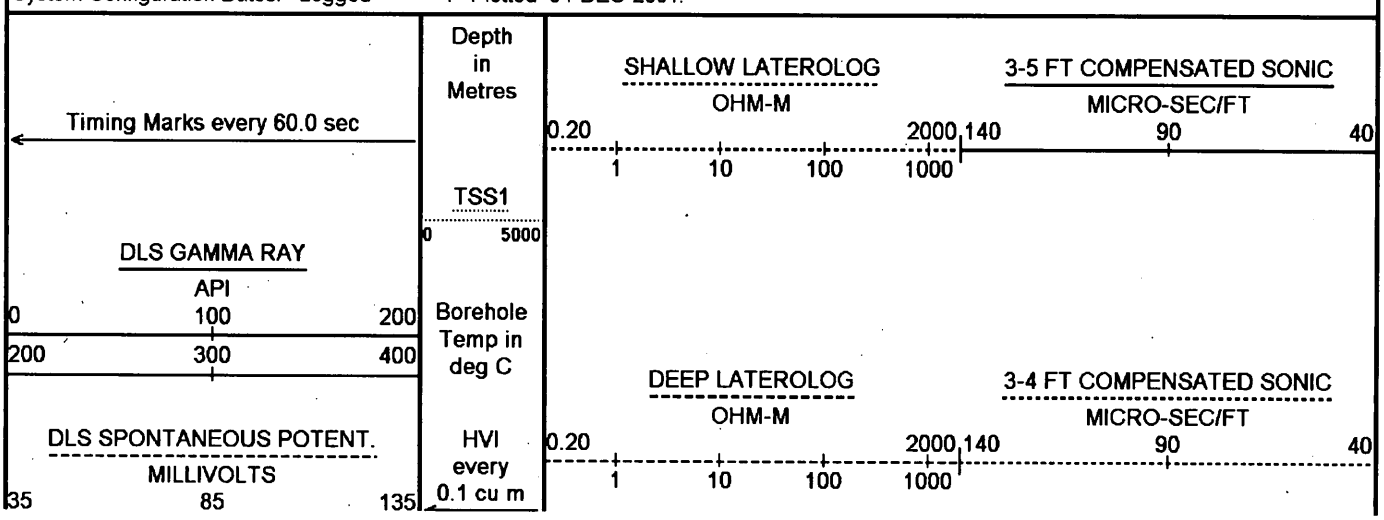
COMPANY	SANTOS
WELL	NAYLOR SOUTH 1
FIELD	OTWAY
PROVINCE/COUNTY	VICTORIA
COUNTRY/STATE	SANTOS
LOCATION	NAYLOR SOUTH 1
LSD / SEC / TWP / RGE	Other Services: LSS PDS CNS
API Number	
Permit Number PEP 154	
Permanent Datum MSL , Elevation 0.0 M	Elevations: KB
Log Measured From RT@53.0 M above Permanent Datum	DF 4.70 M
Drilling Measured From RT@53.0 M	GL 48.3 M

Date			
Run Number	ON		
Depth Driller	2243.0 M		
Depth Logger	2238.0 M		
First Reading	2237.0 M		
Last Reading	SURFACE		
Casing Driller	434.0 M		
Casing Logger	434.0 M		
Bit Size			
Hole Fluid Type	KCL PLOYMER		
Density / Viscosity	9.4	40	
PH / Fluid Loss	9	5.6	
Sample Source	FLOWLINE		
Rm @ Measured Temp	0.816@ .8[C		
Rmf @ Measured Temp	0.676@ .4[C		
Rmc @ Measured Temp	2.320@ .5[C		
Source Rmf / Rmc	PRESS	PRESS	
Rm @ BHT	0.314@ [C		
Time Since Circulation	36 HOURS		
Max Recorded Temp	81[C		
Equipment Name	DLS MLL ATS		
Equipment / Base	1030	ROMA	
Recorded By	A DIGIACOMO		
Witnessed By	T PRATER		
ON BOTTOM	17:35 27 DEC		

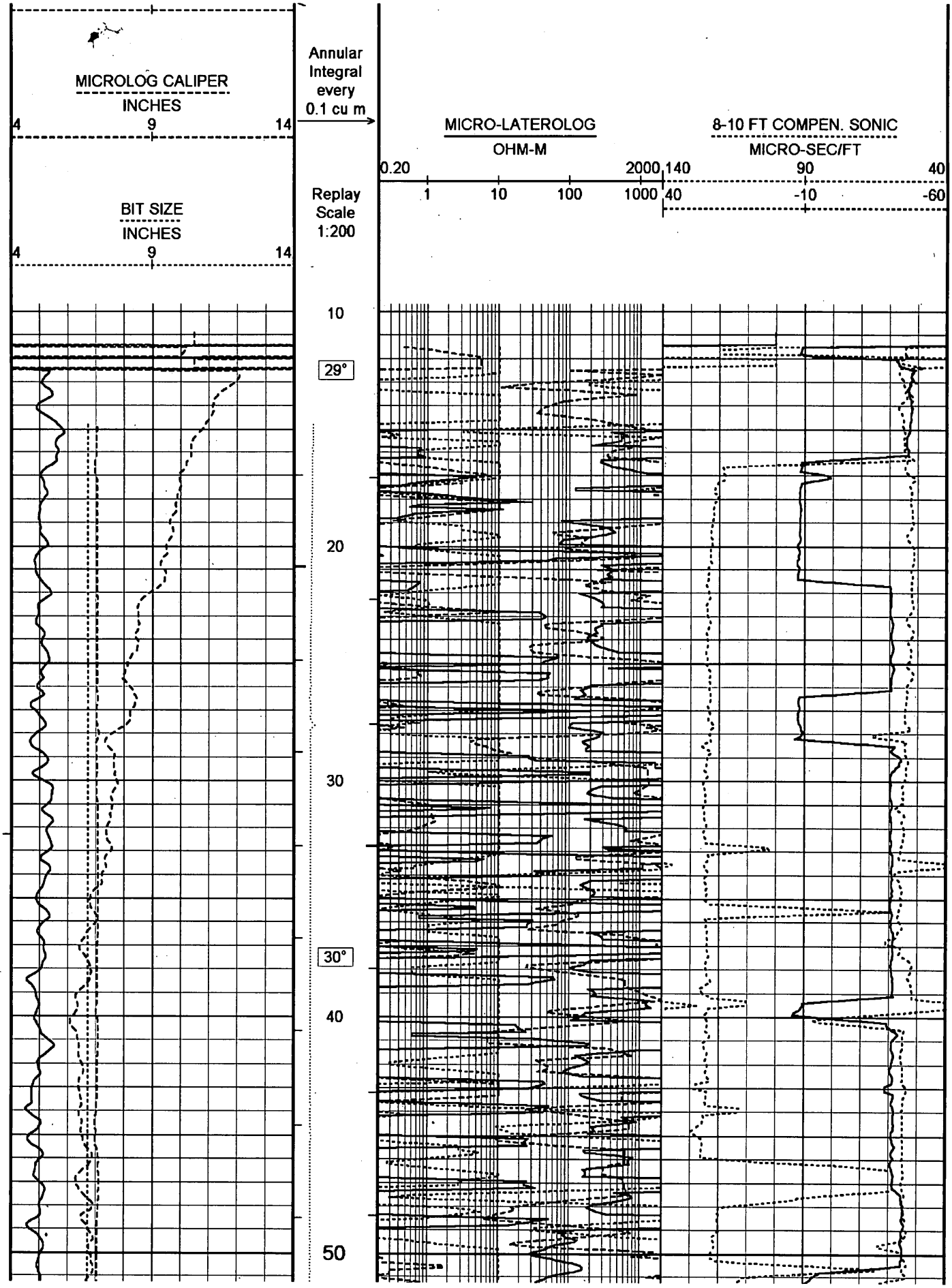
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions in our price schedule.

DLS MAIN LOG

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 27-DEC-2001 21:48
Filename: C:\snaylor\mrgedlsm.dta — Recorded on 27-DEC-2001 17:34
System Configuration Dates: Logged : Plotted 04-DEC-2001:



909044 027


MICROLOG CALIPER
INCHES
4
9
14
BIT SIZE
INCHES
4
9
14
Annular Integral every 0.1 cu m
Replay Scale 1:200
MICRO-LATEROLOG
OHM-M
0.20
1
10
100
1000
2000
8-10 FT COMPEN. SONIC
MICRO-SEC/FT
140
90
40
40
-10
-60
10
29°
20
30
30°
40
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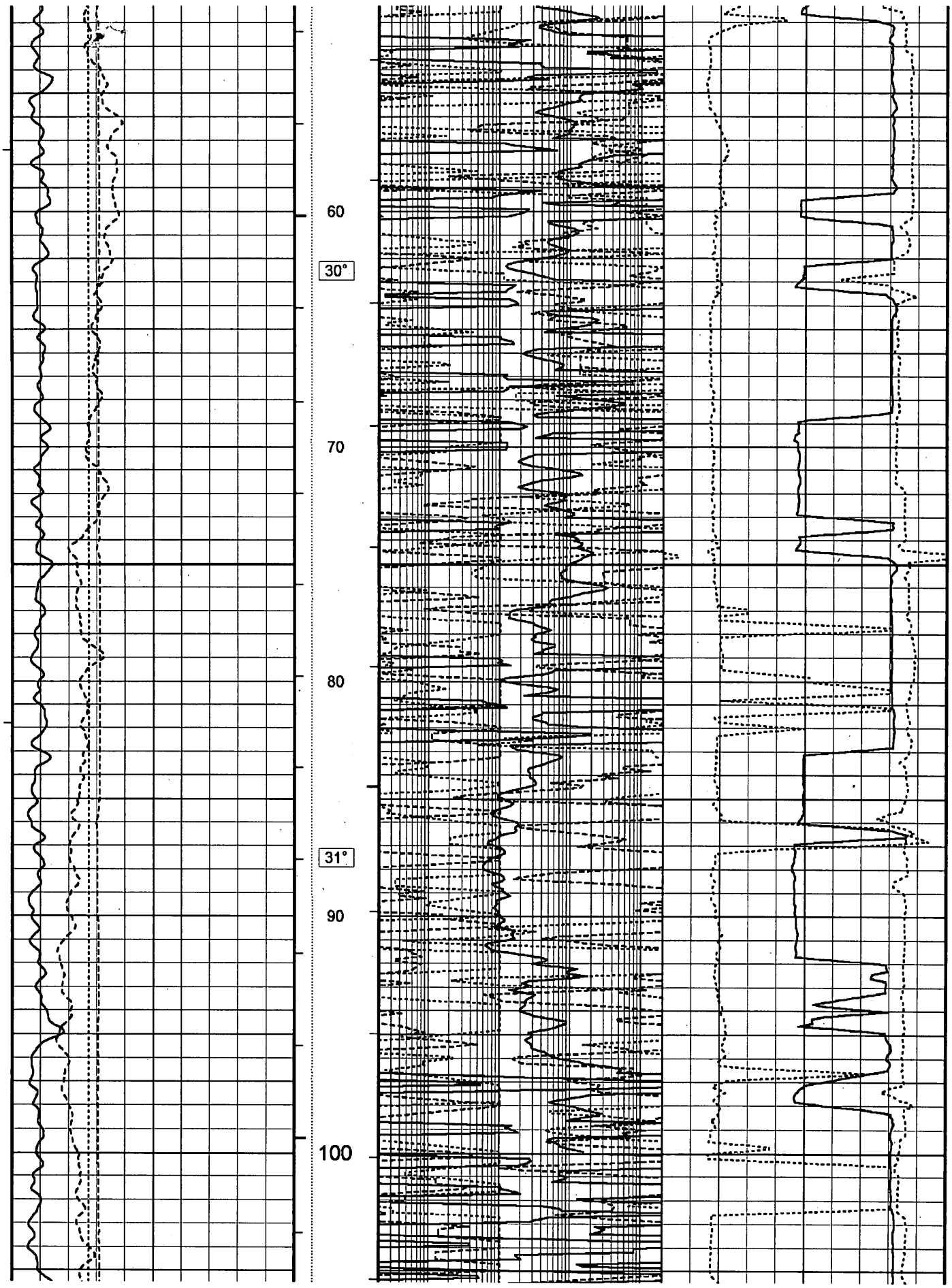
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30°
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80
31°
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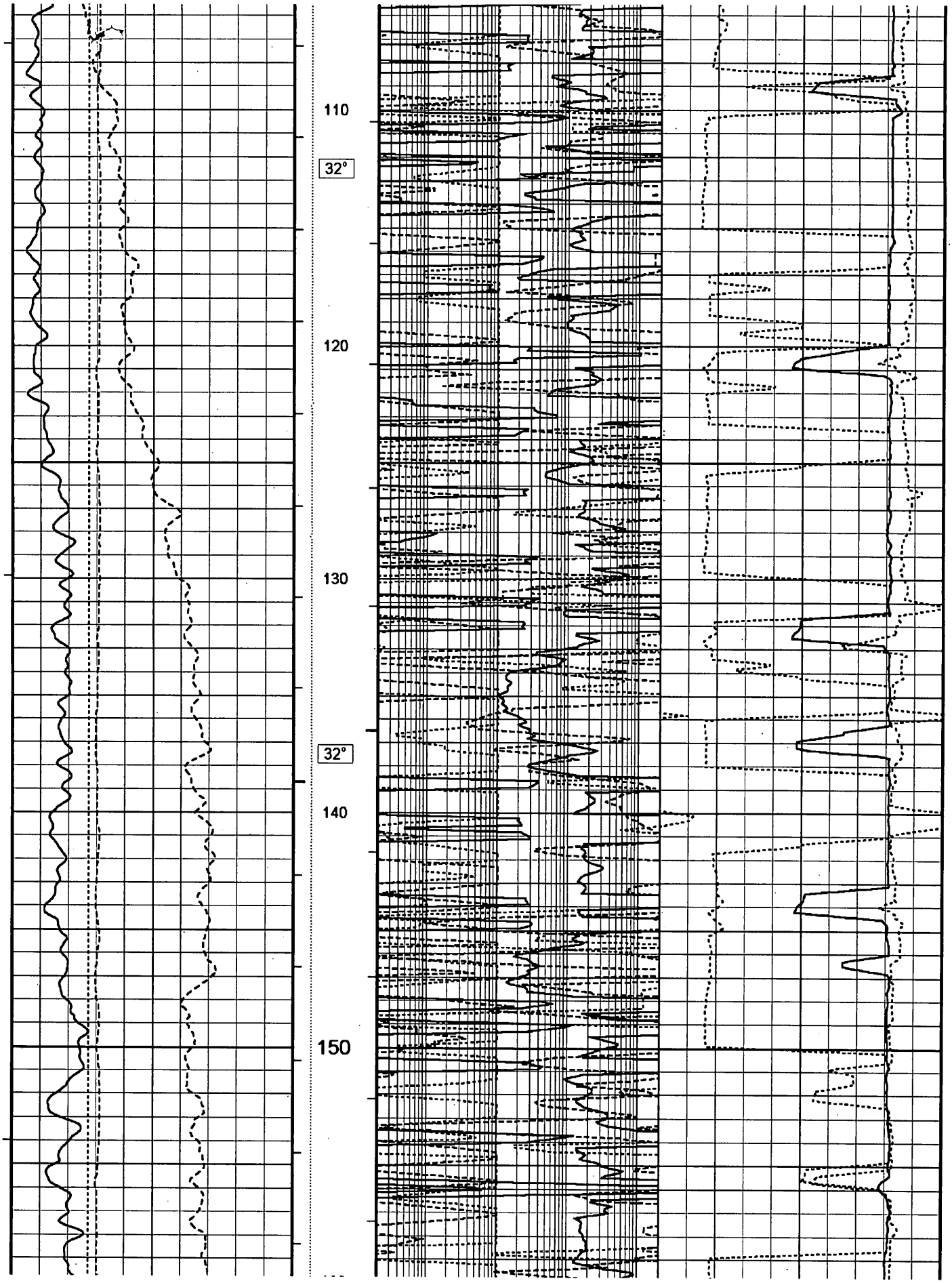
909044 029



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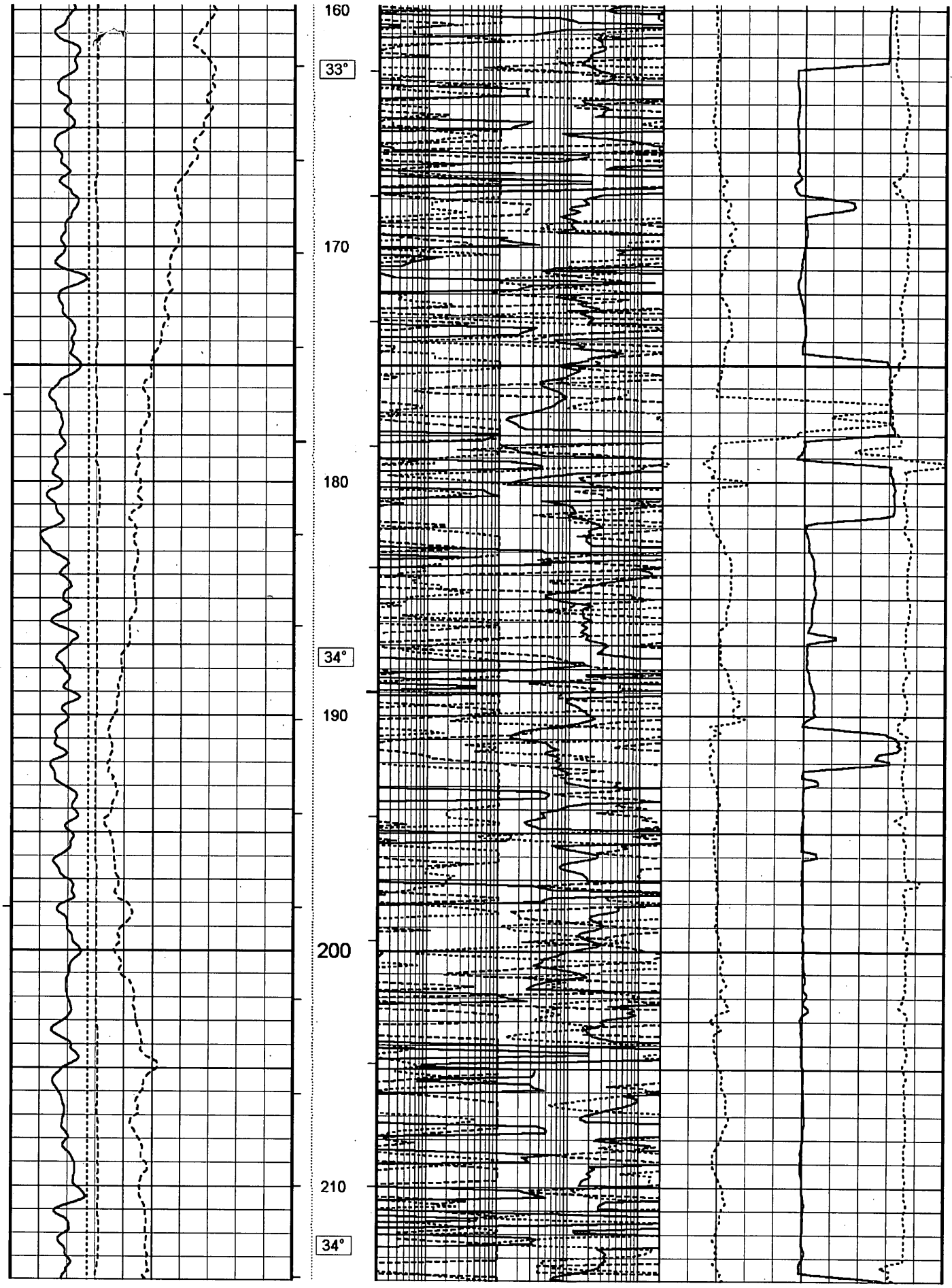

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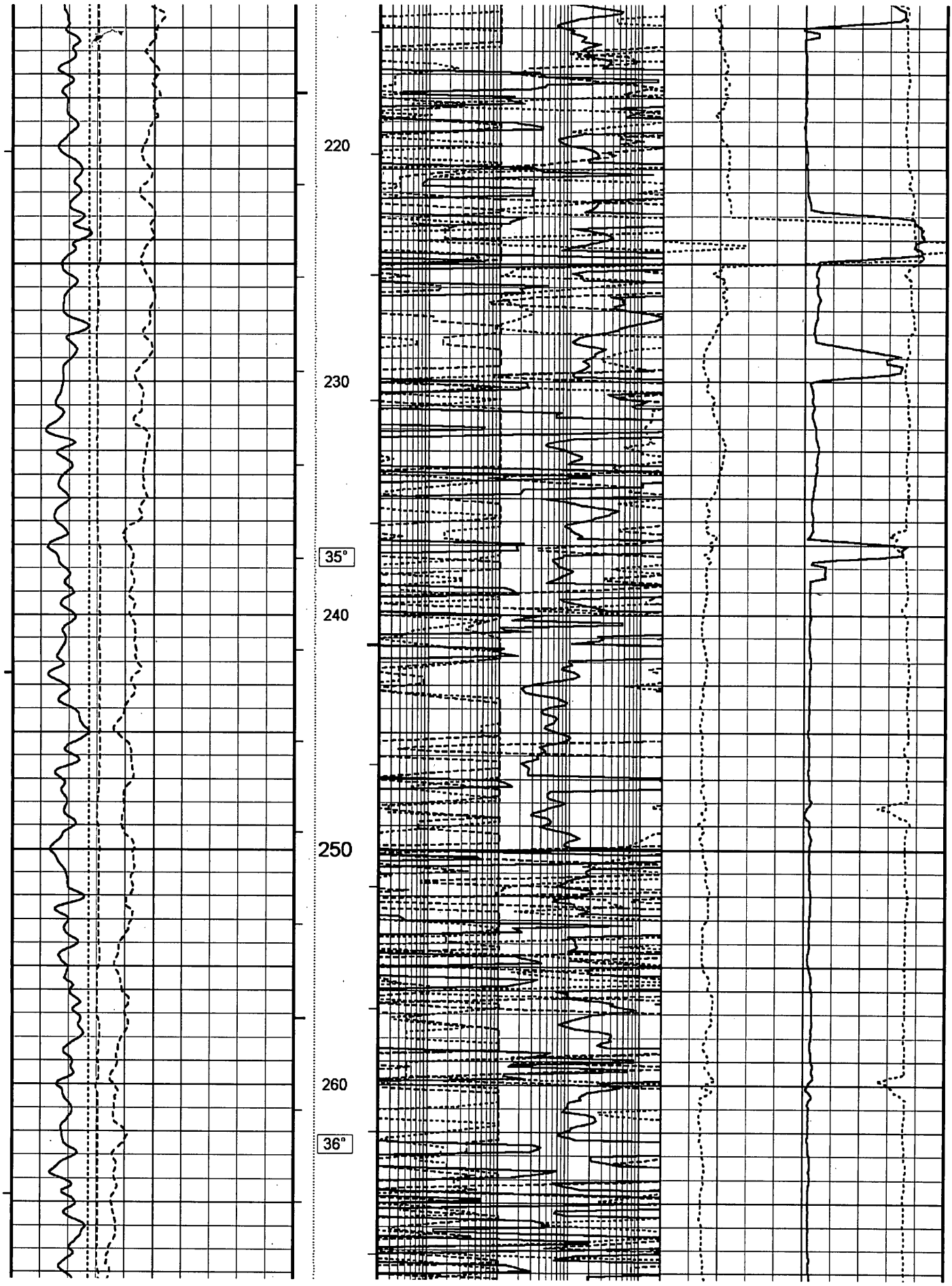
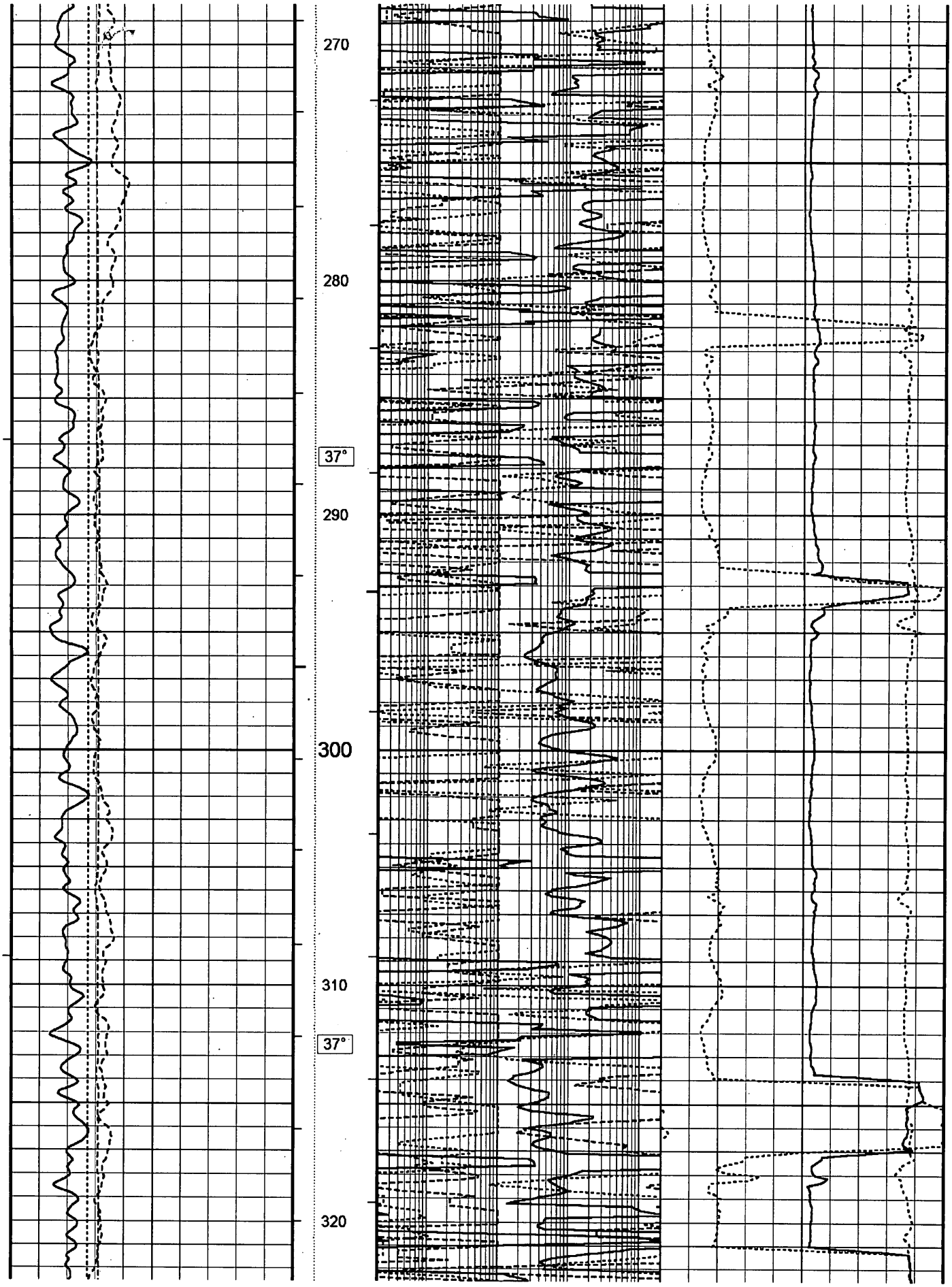
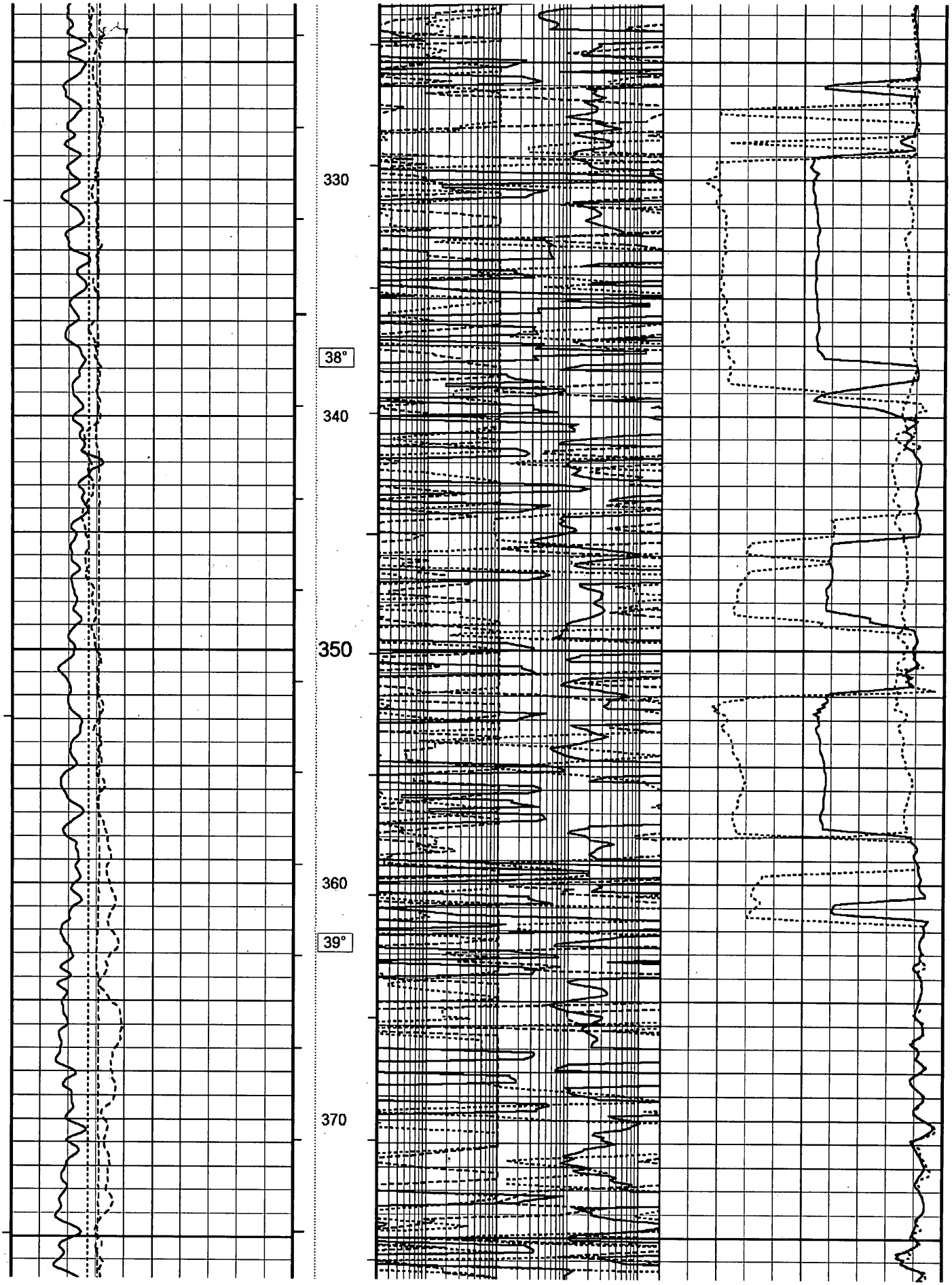
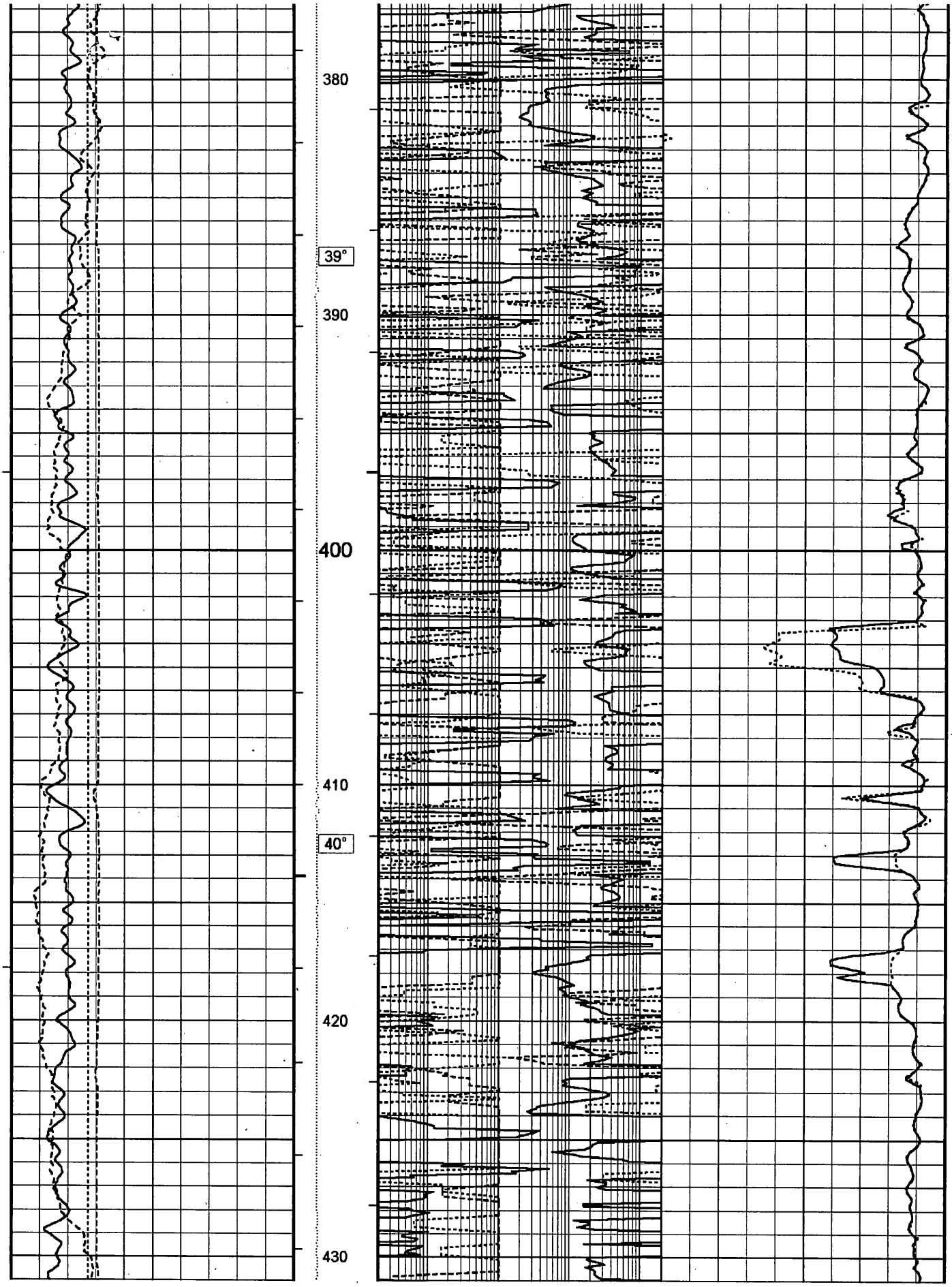
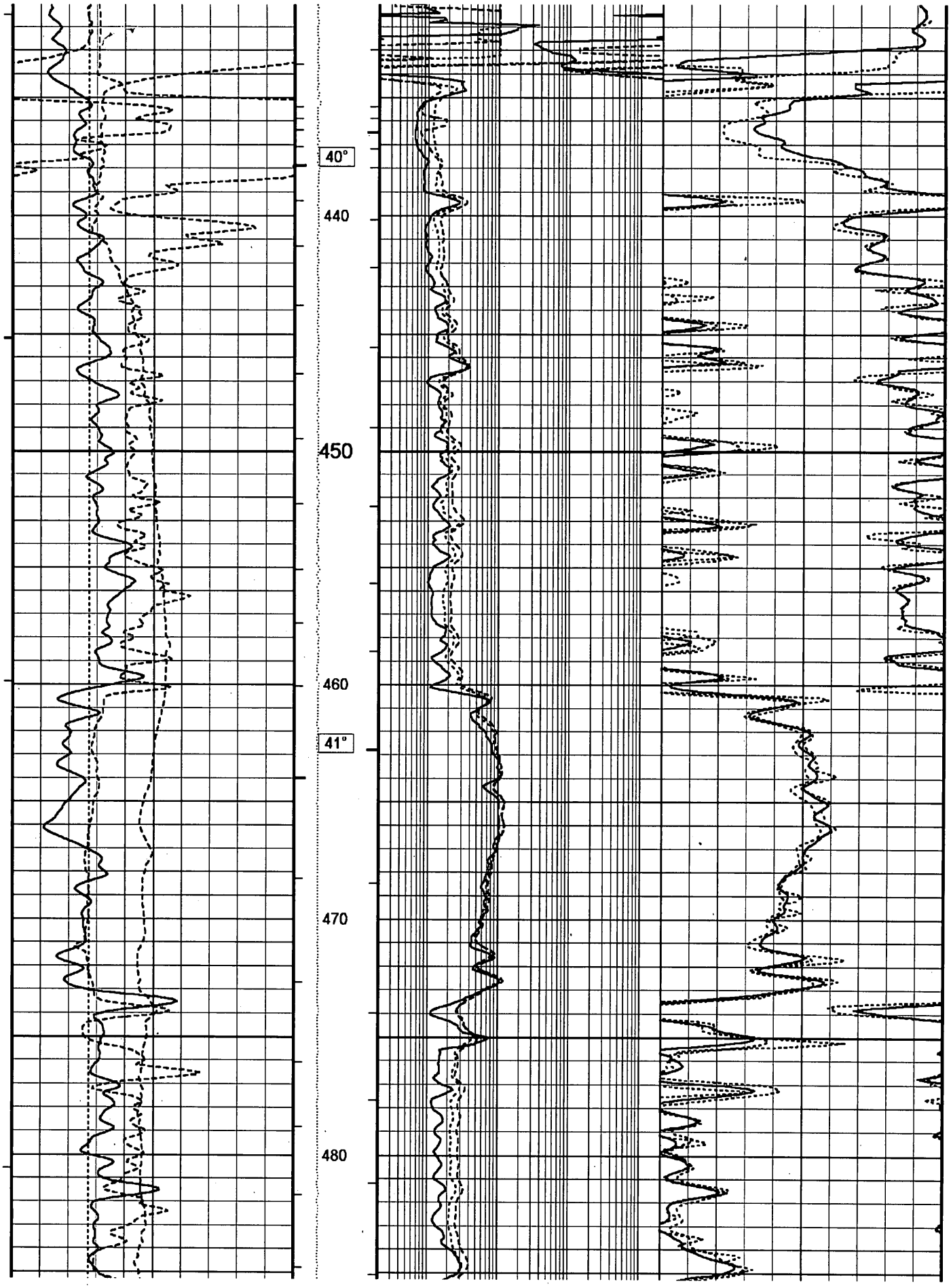



270
280
37°
290
300
310
37°
320

909044 033




380
39°
390
400
410
40°
420
430


40°
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450
460
41°
470
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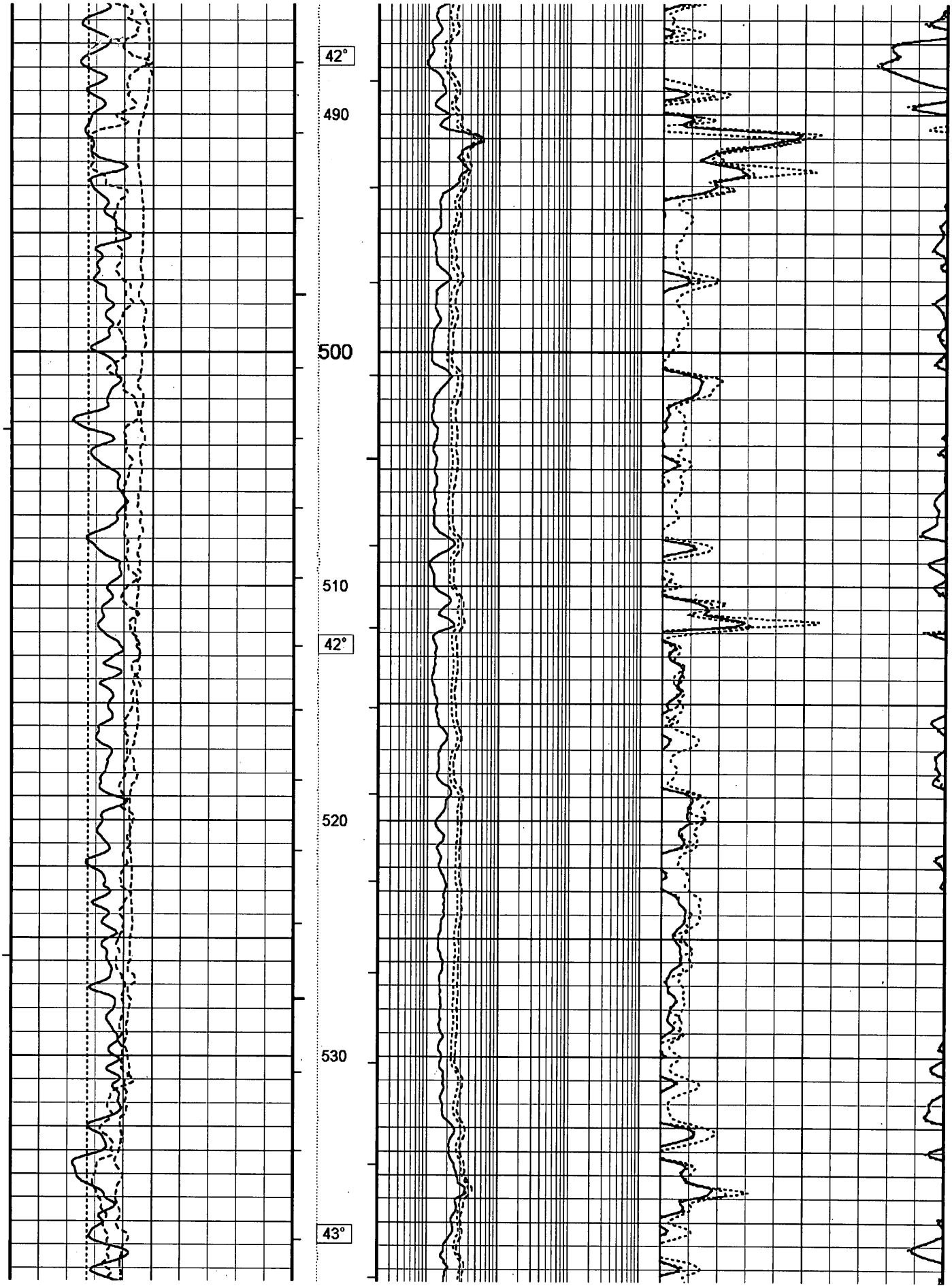
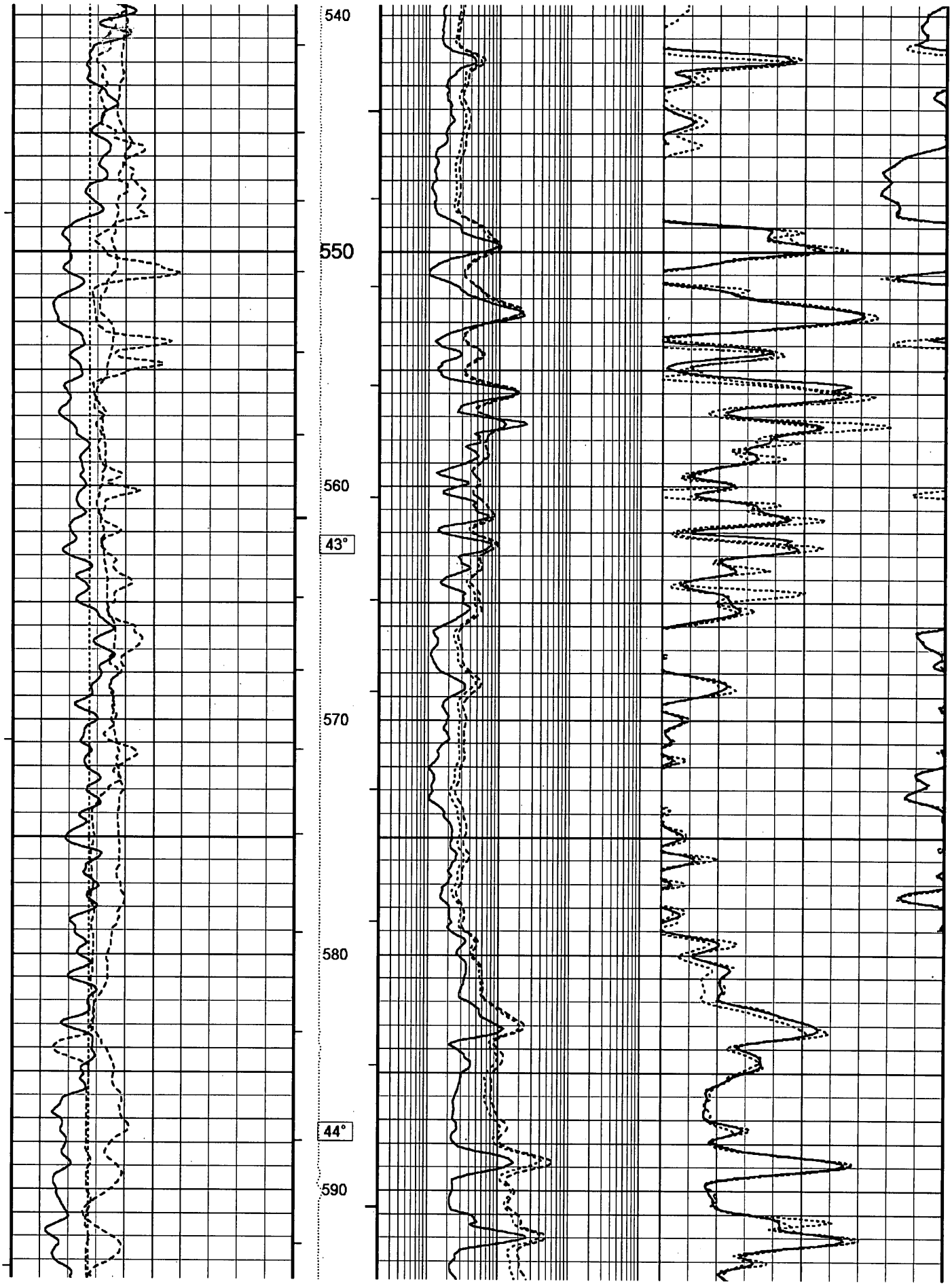

42°
490
500
510
42°
520
530
43°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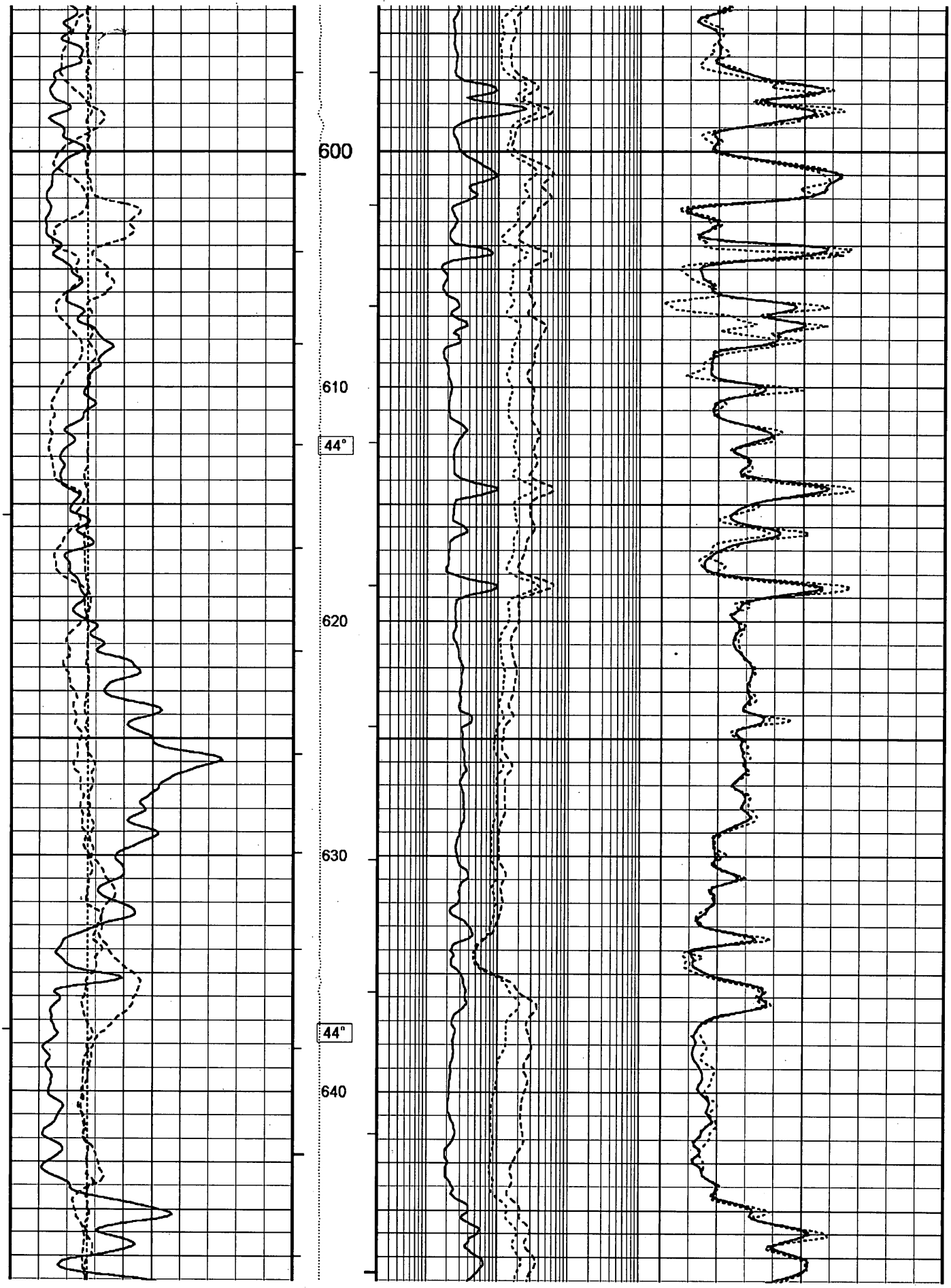
550
560
43°
570
580
44°
590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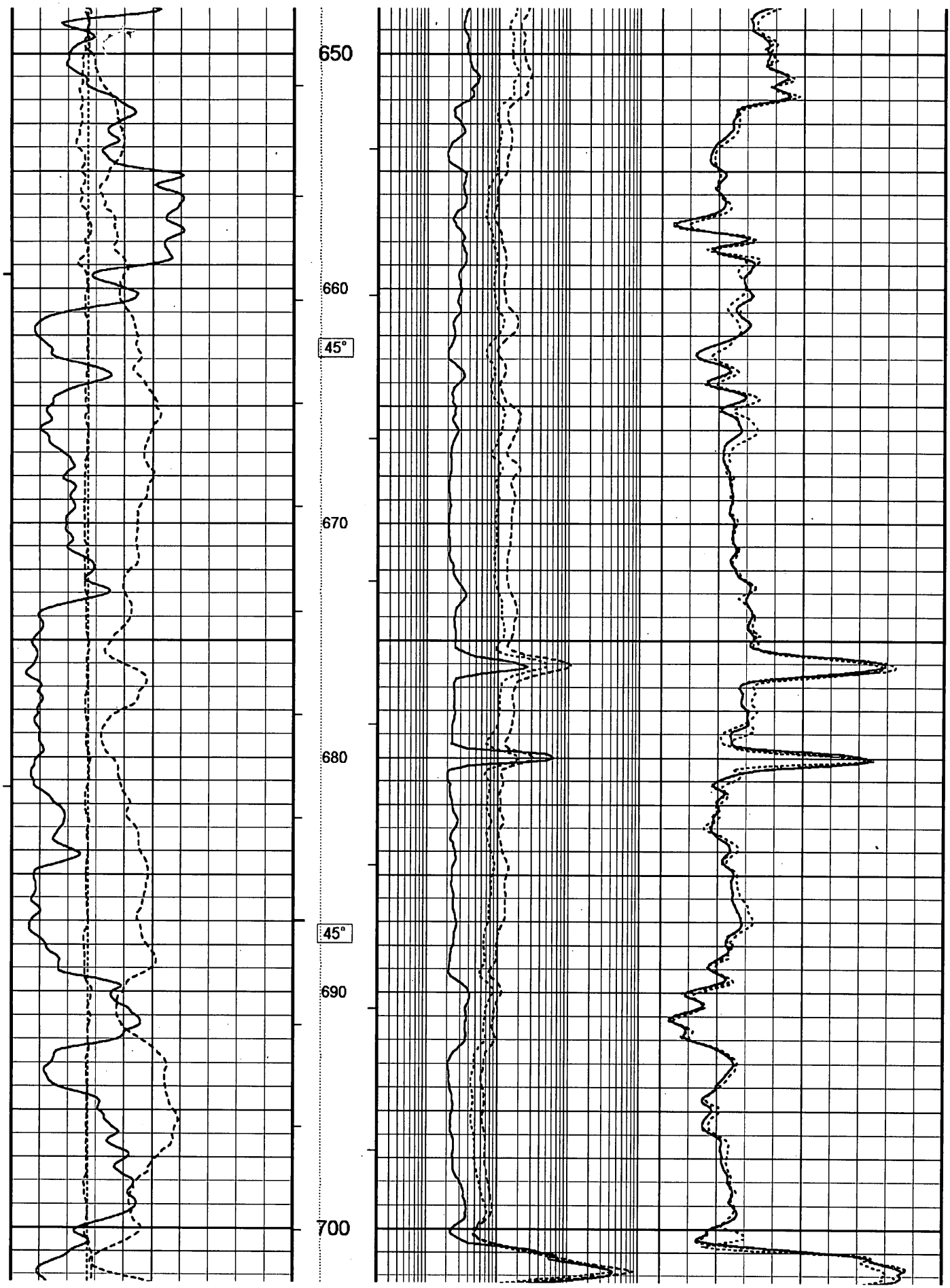
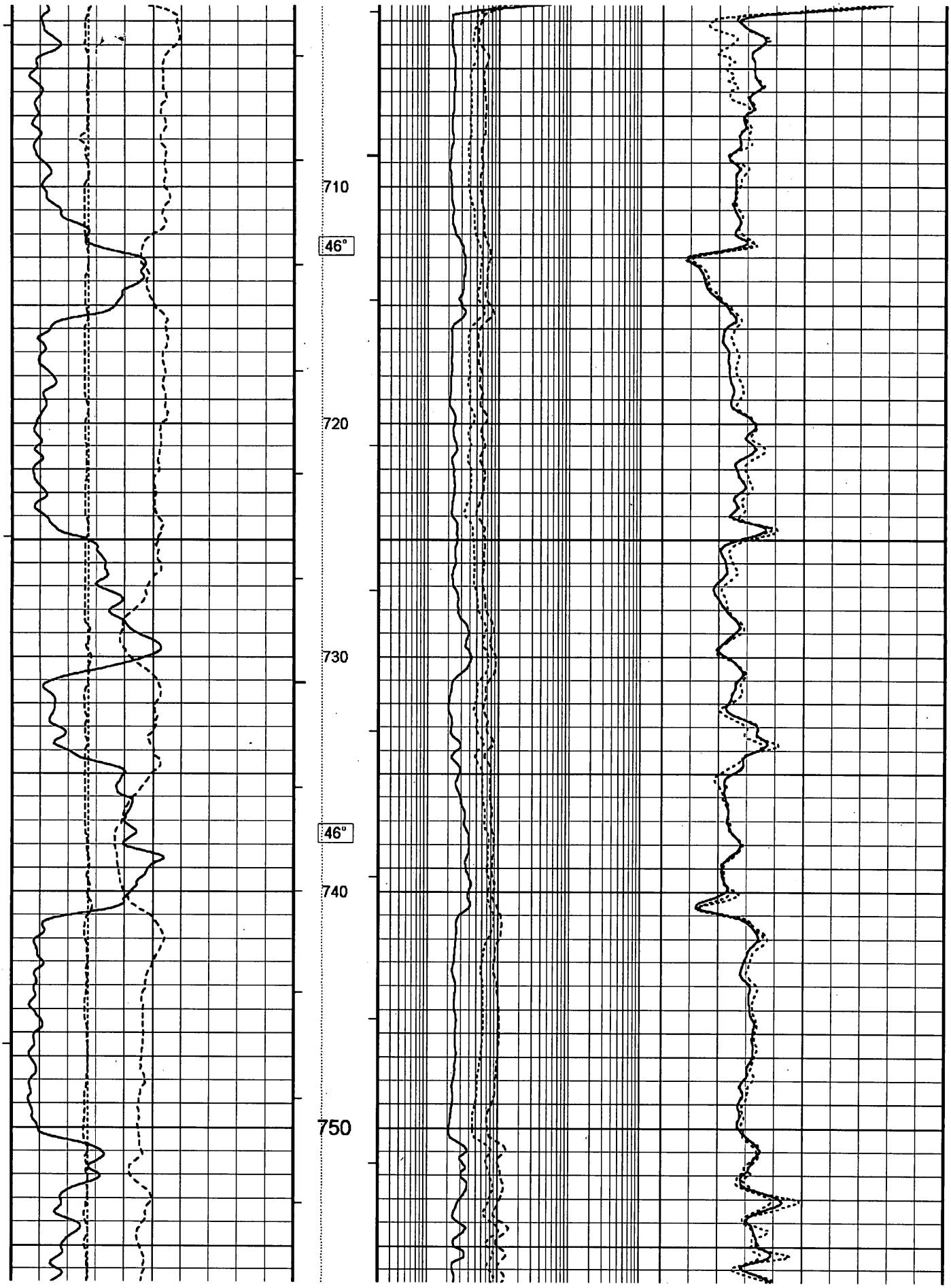
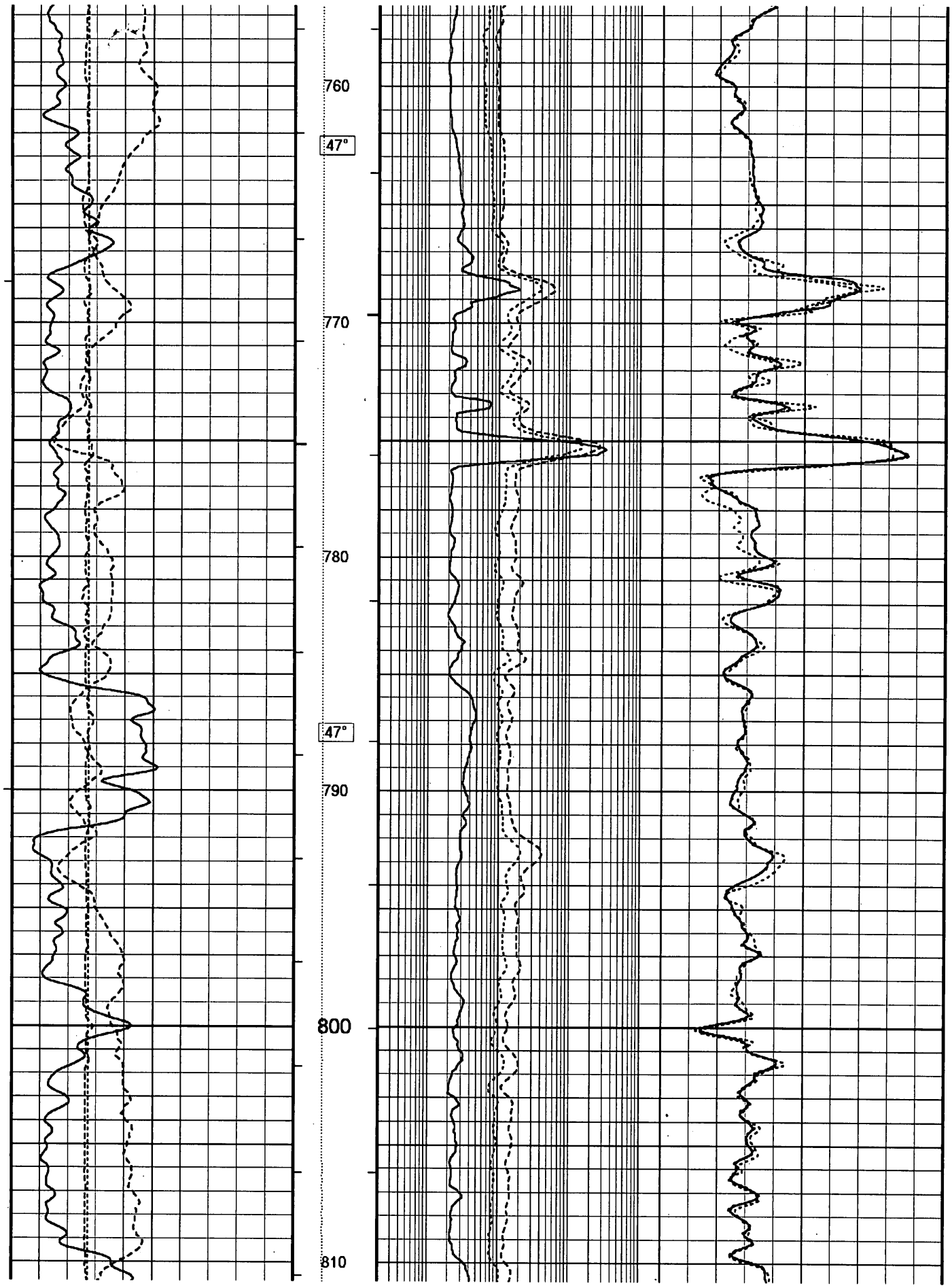
44°
620
630
44°
640


650
660
45°
670
680
45°
690
700

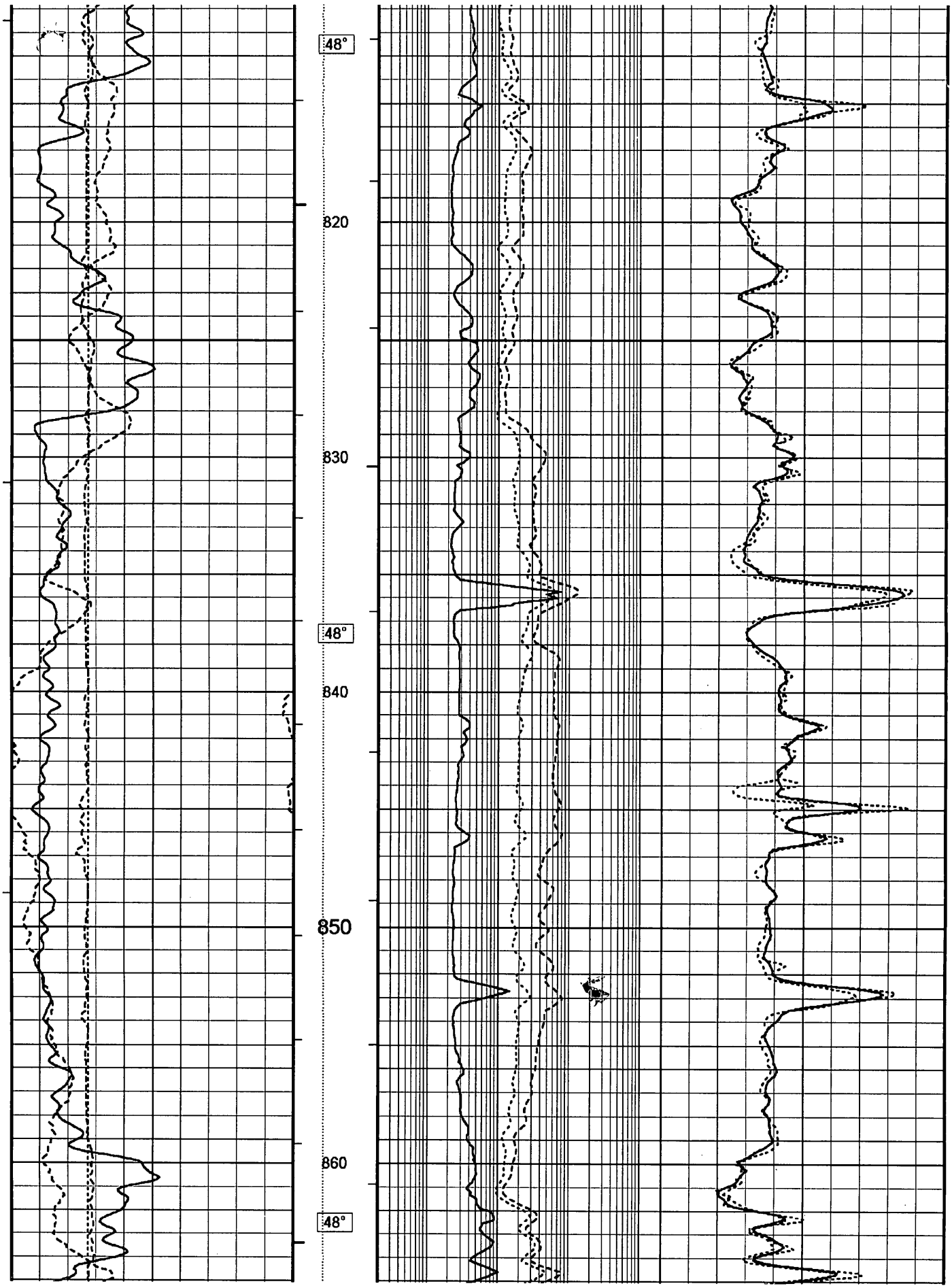
909044 040

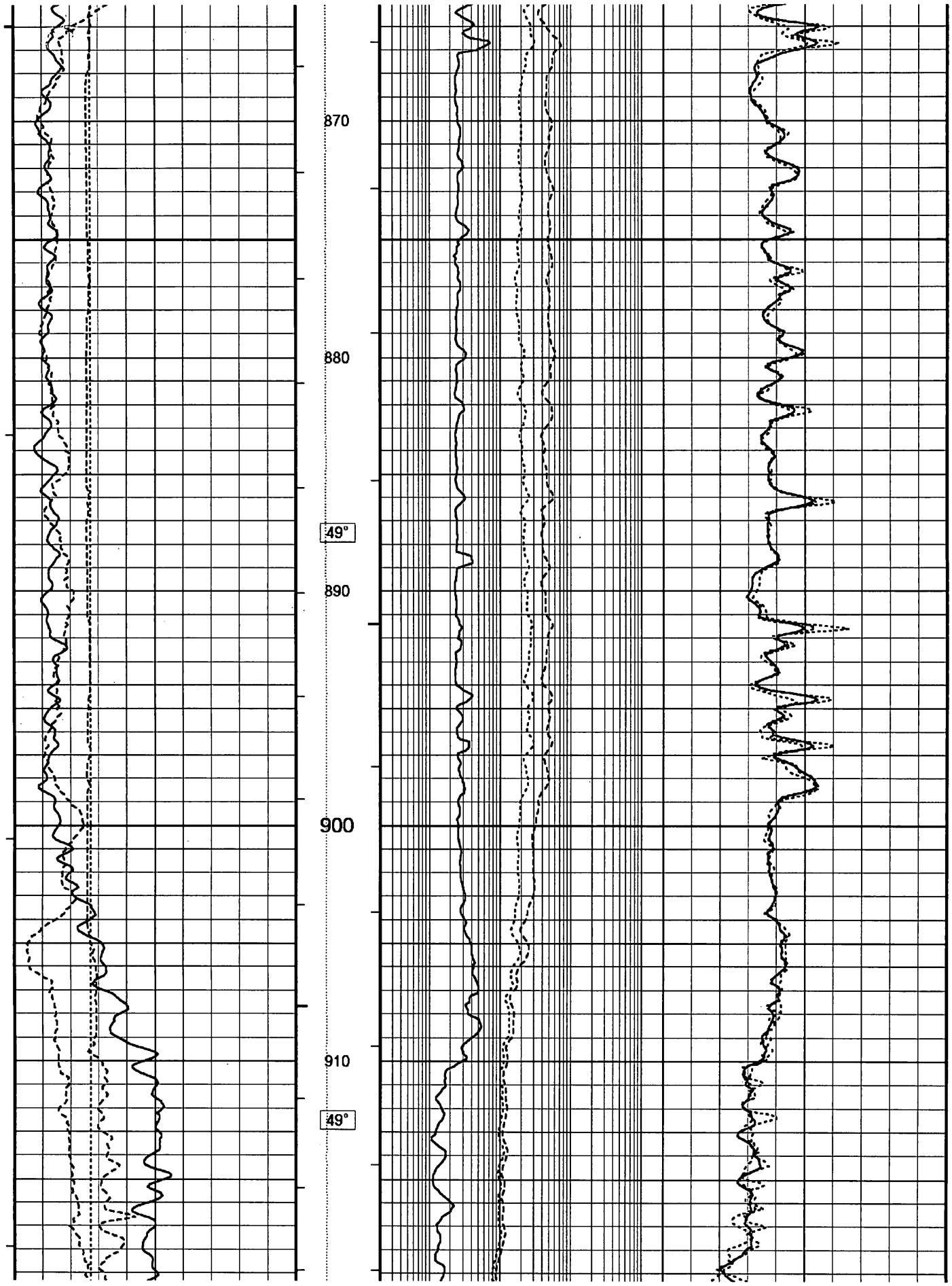


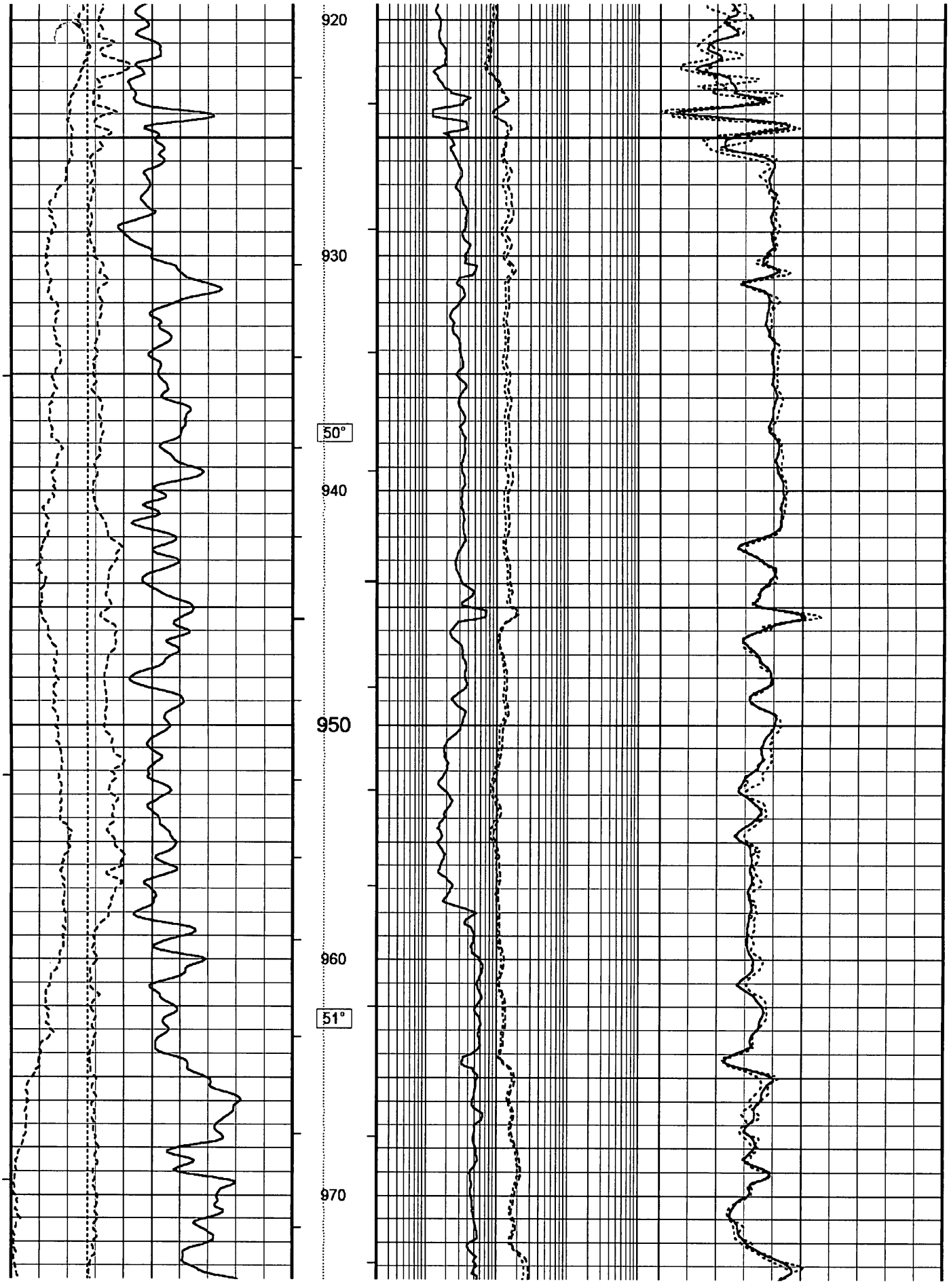
909044 041



909044 042




870
880
49°
890
900
910
49°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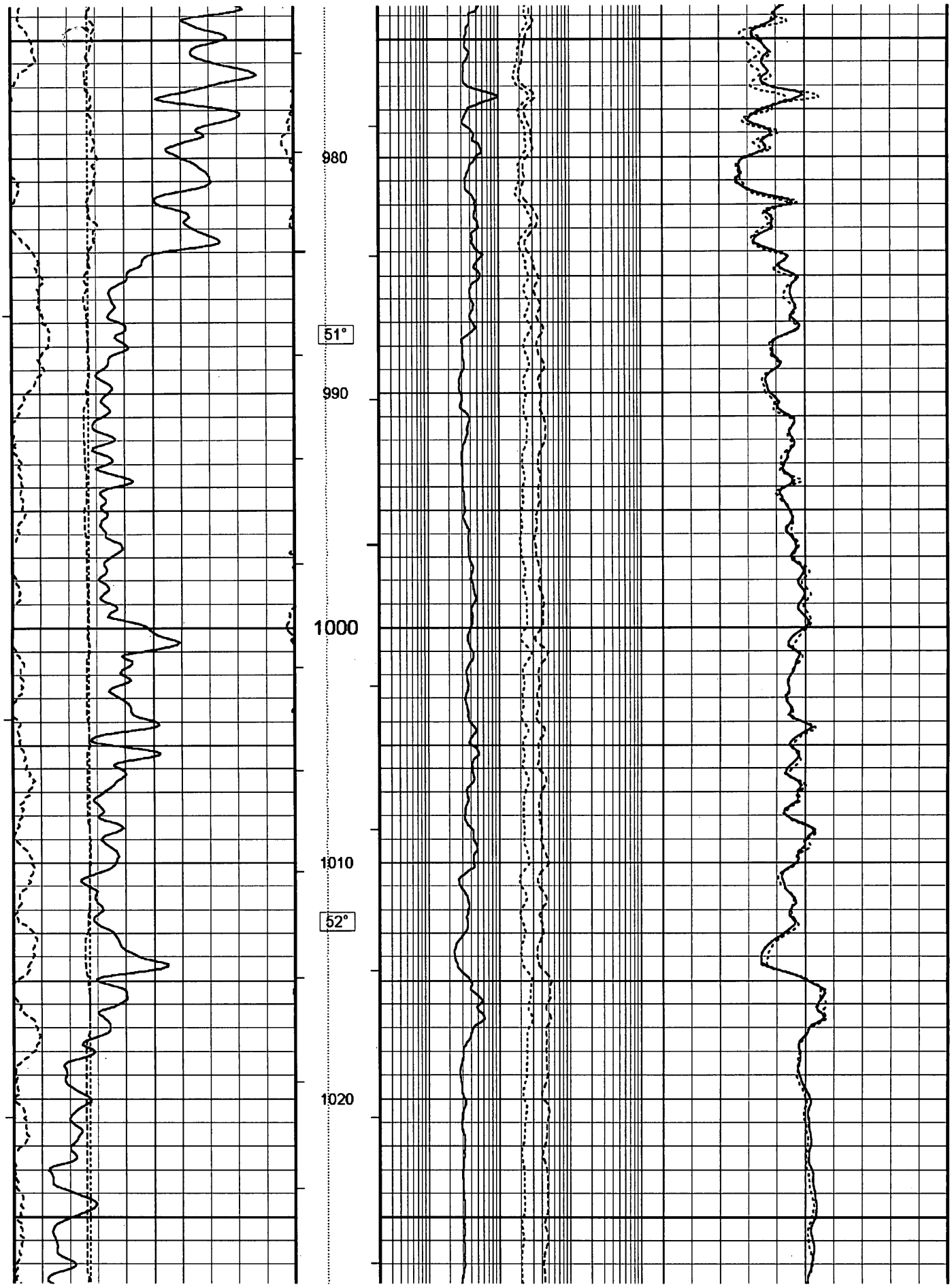
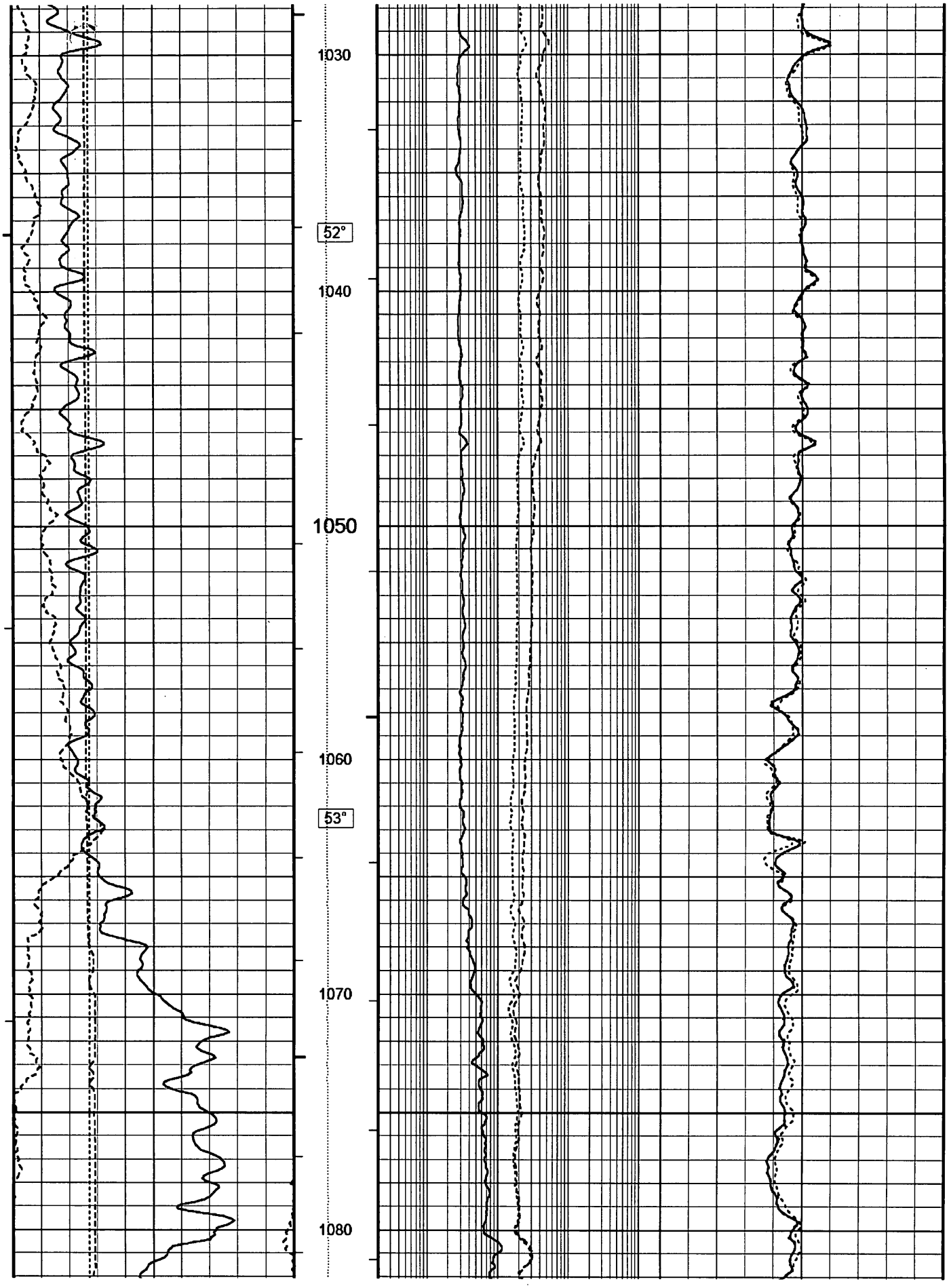
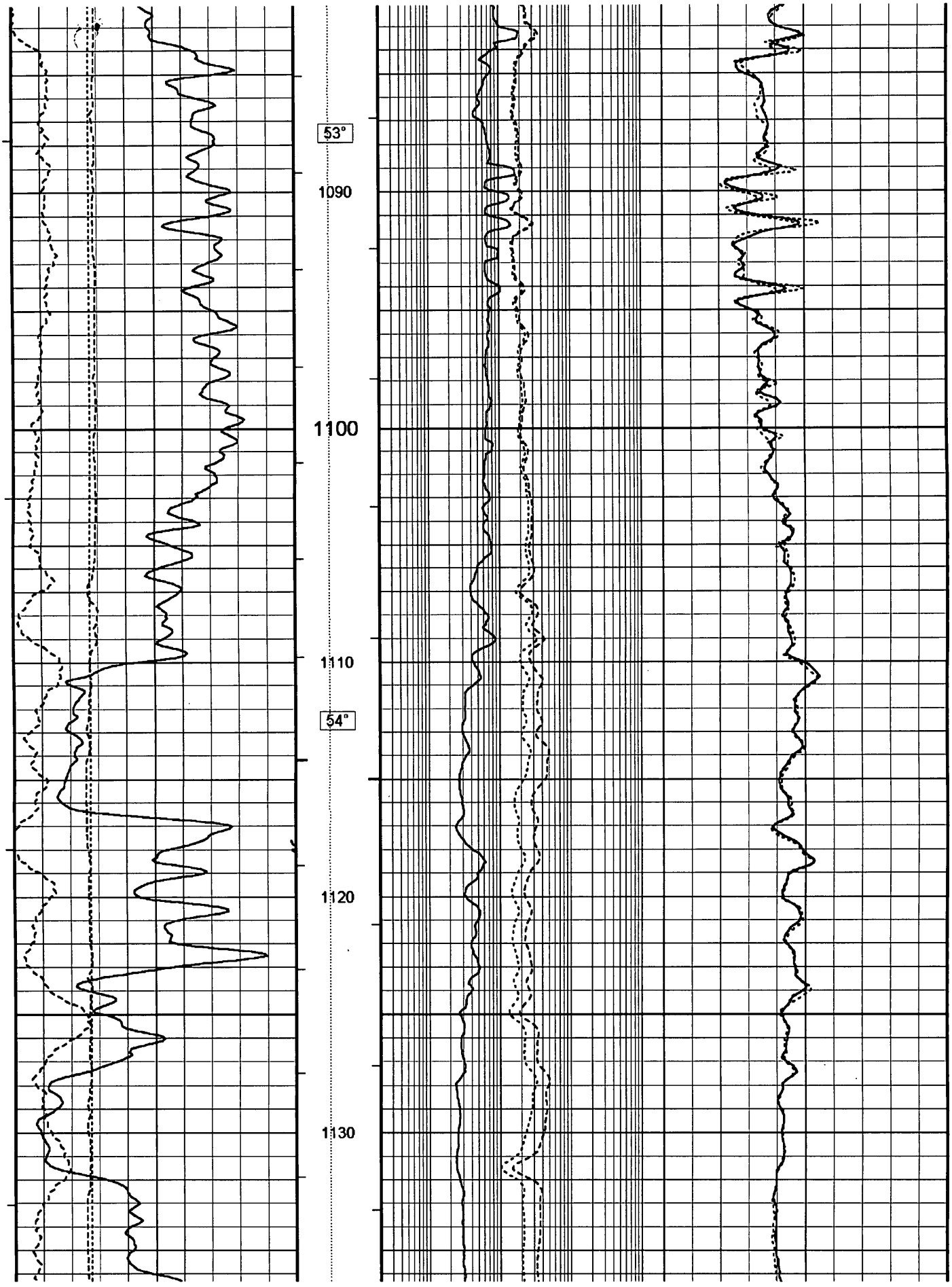
930
50°
940
950
960
51°
970

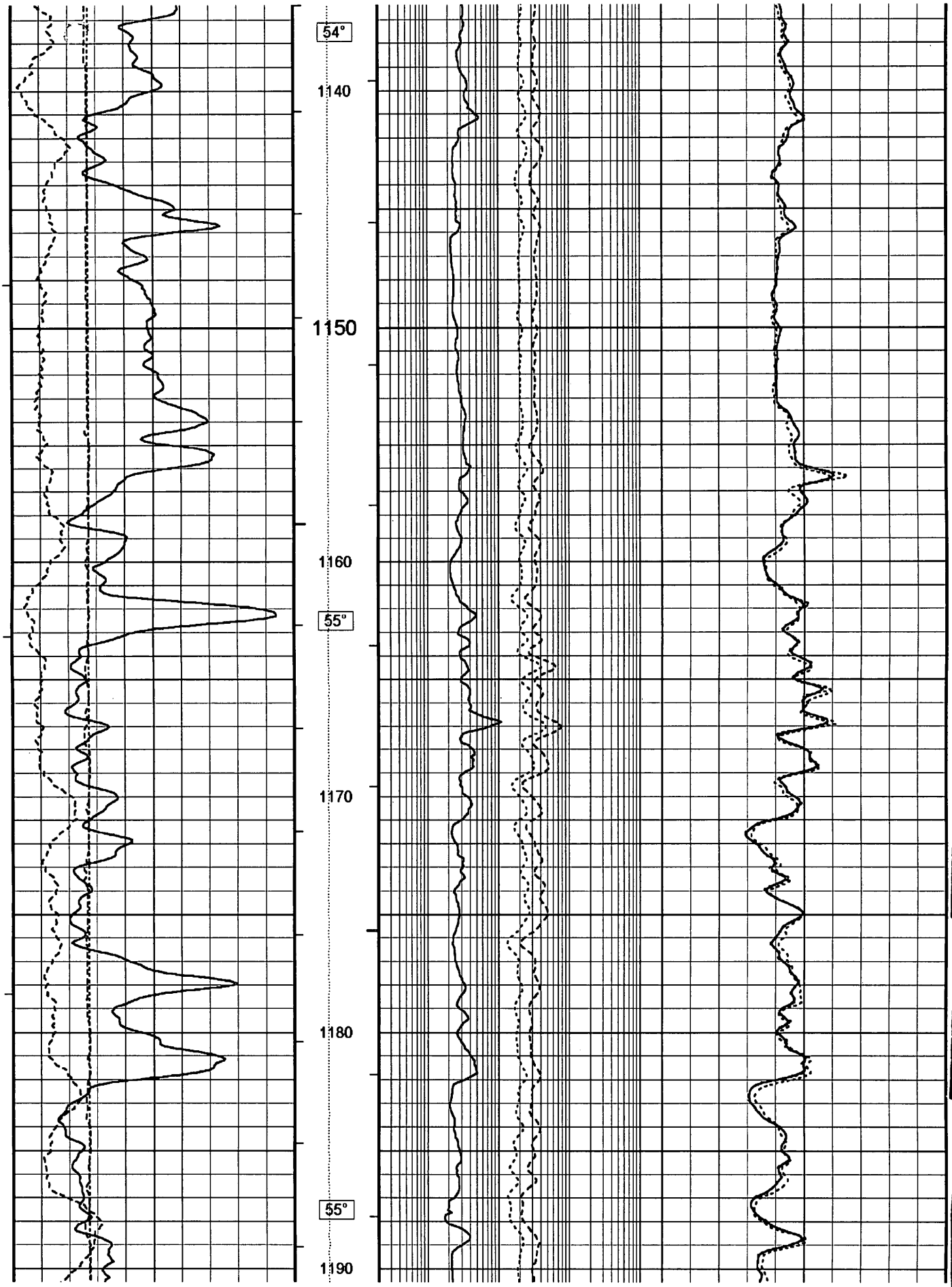
909044 045

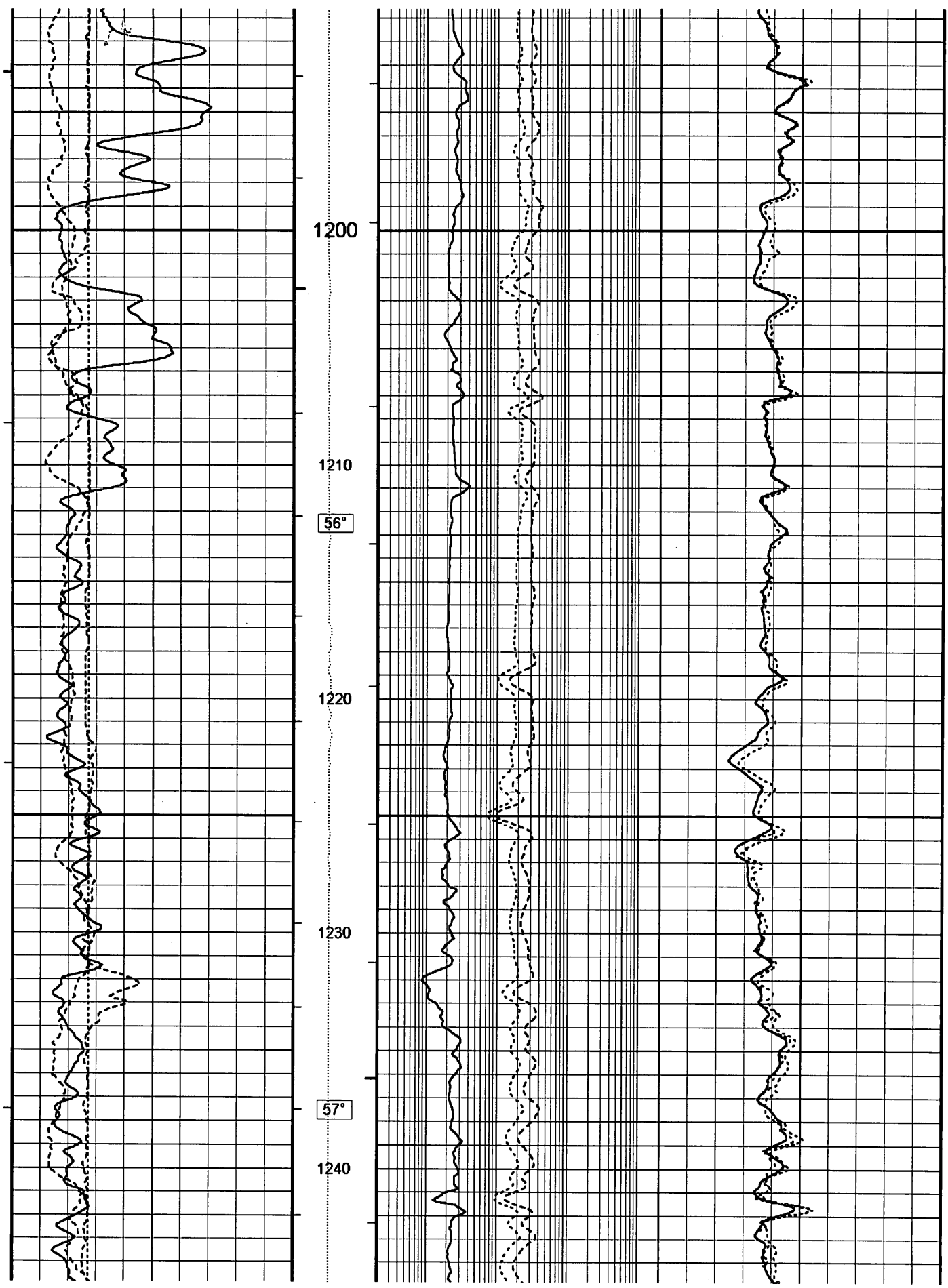


909044 046

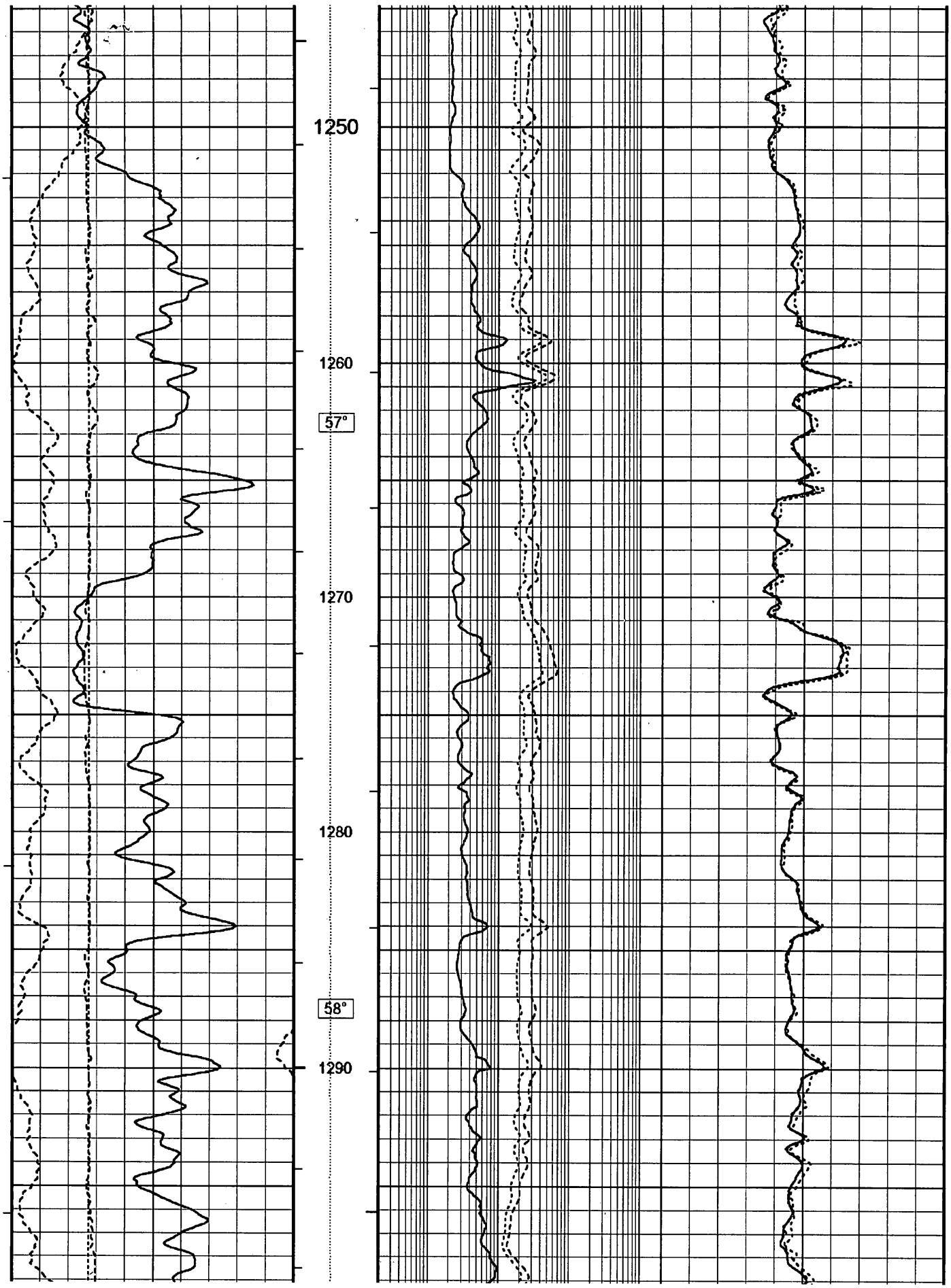


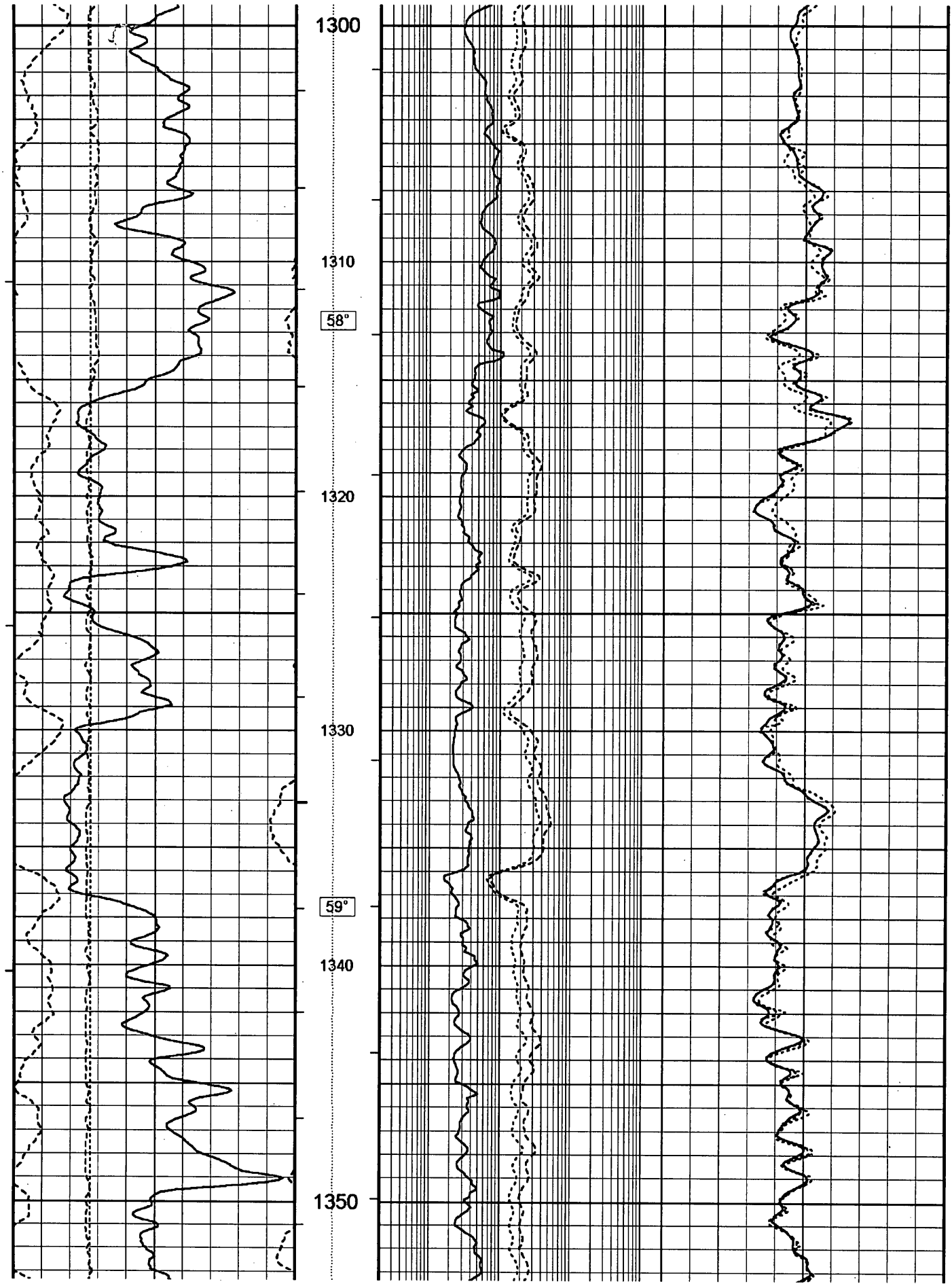

53°
1090
1100
1110
54°
1120
1130

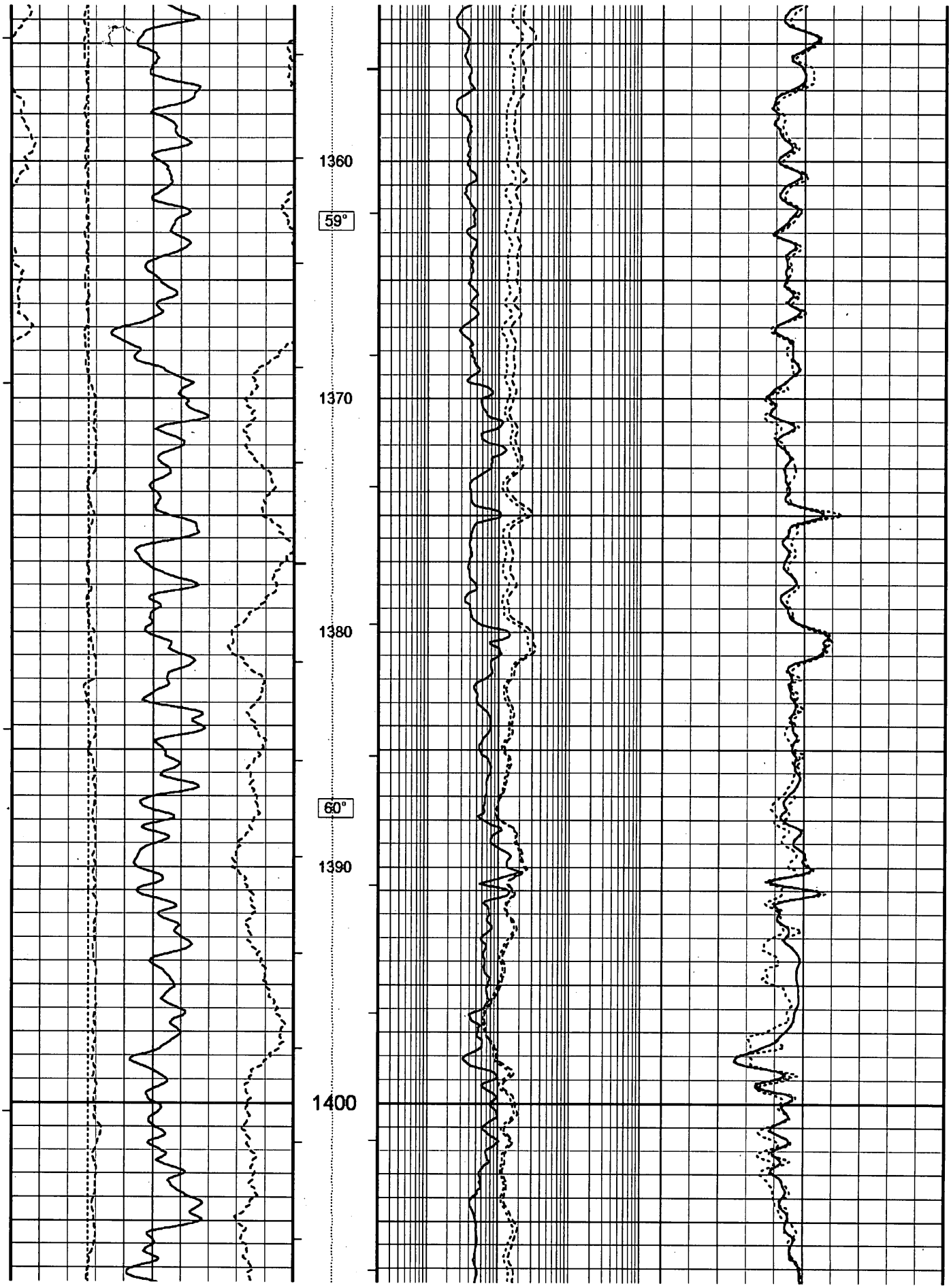

54°
1140
1150
1160
55°
1170
1180
55°
1190

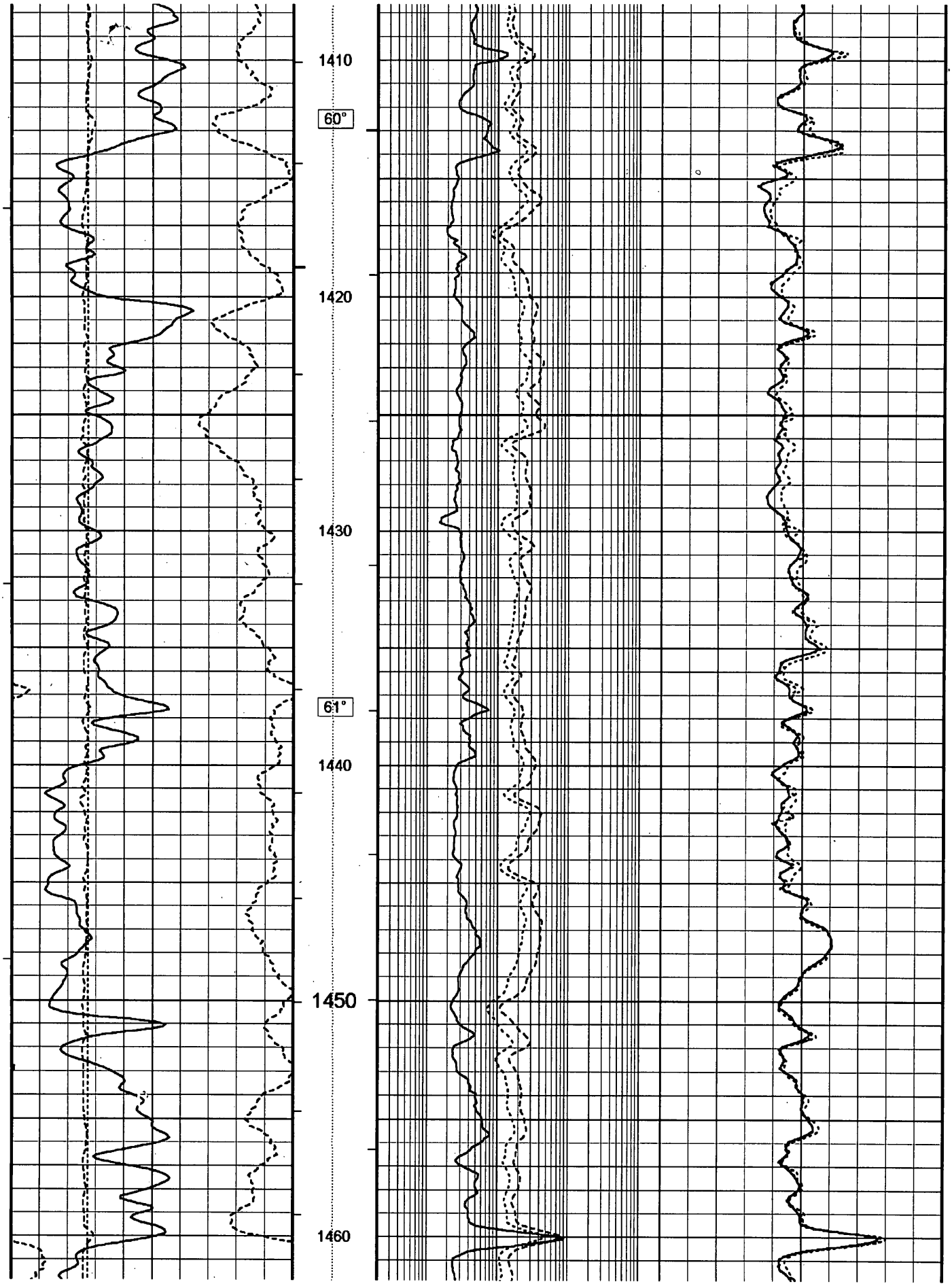

1200
1210
56°
1220
1230
57°
1240

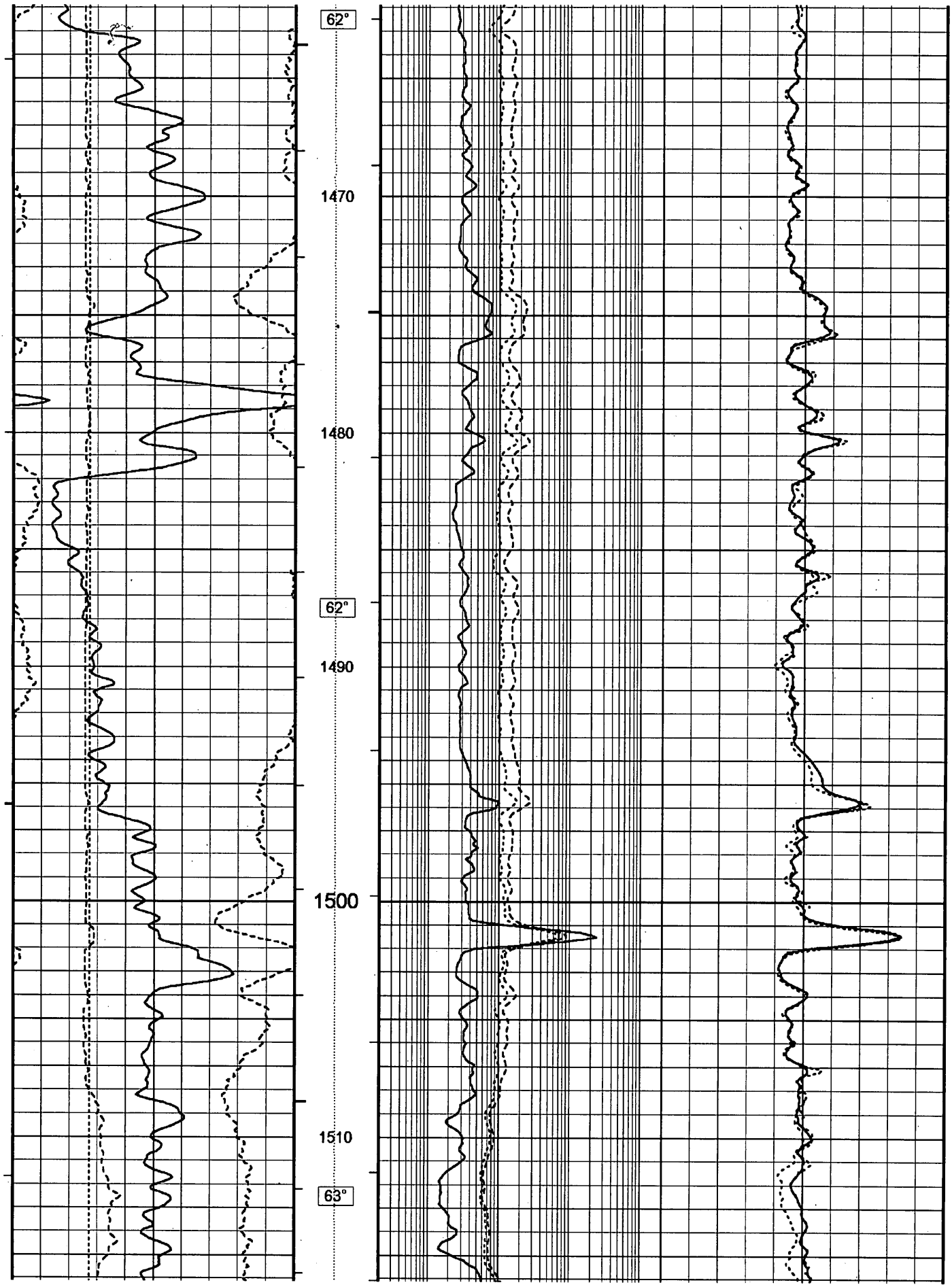
909044 050

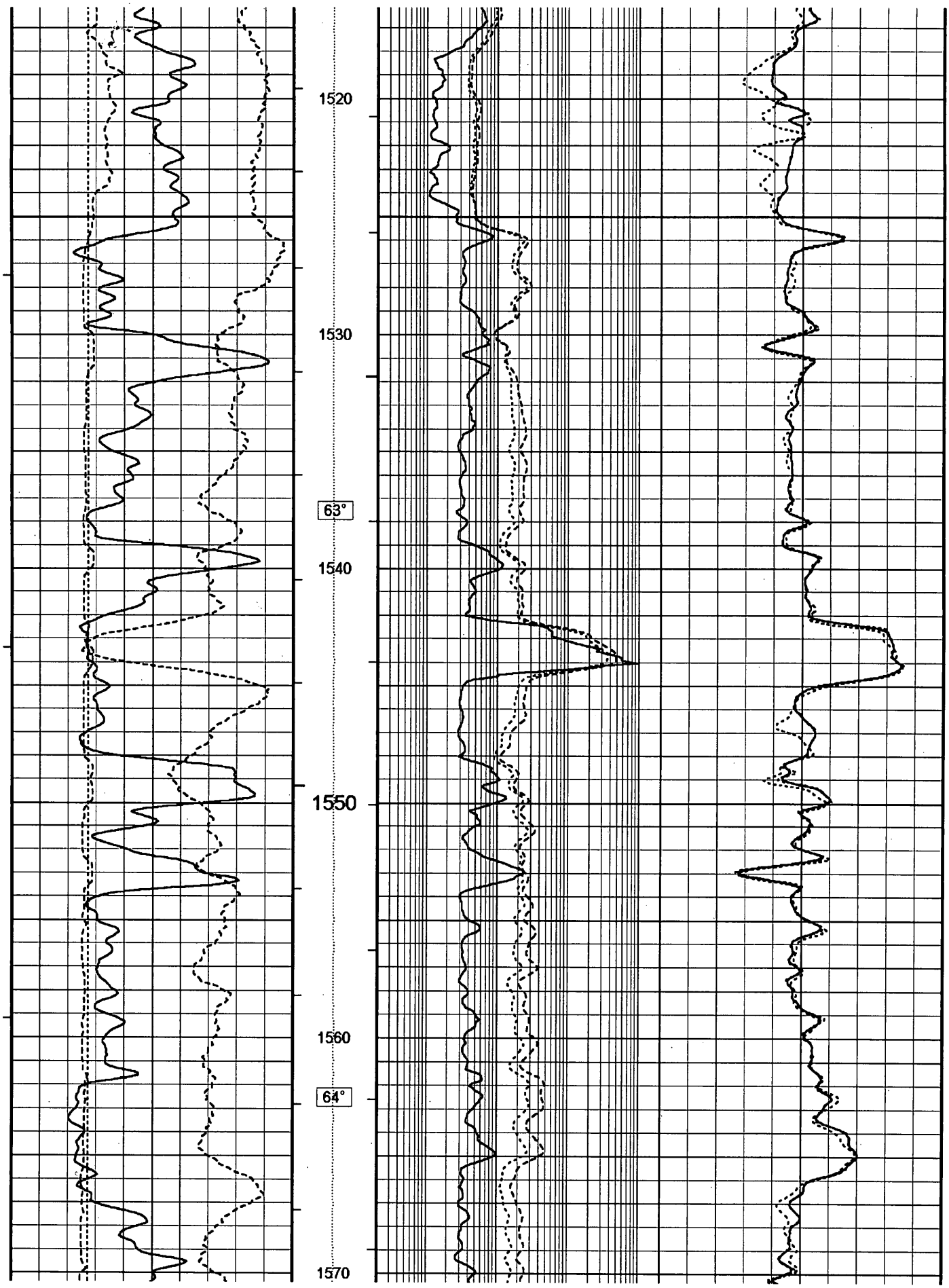


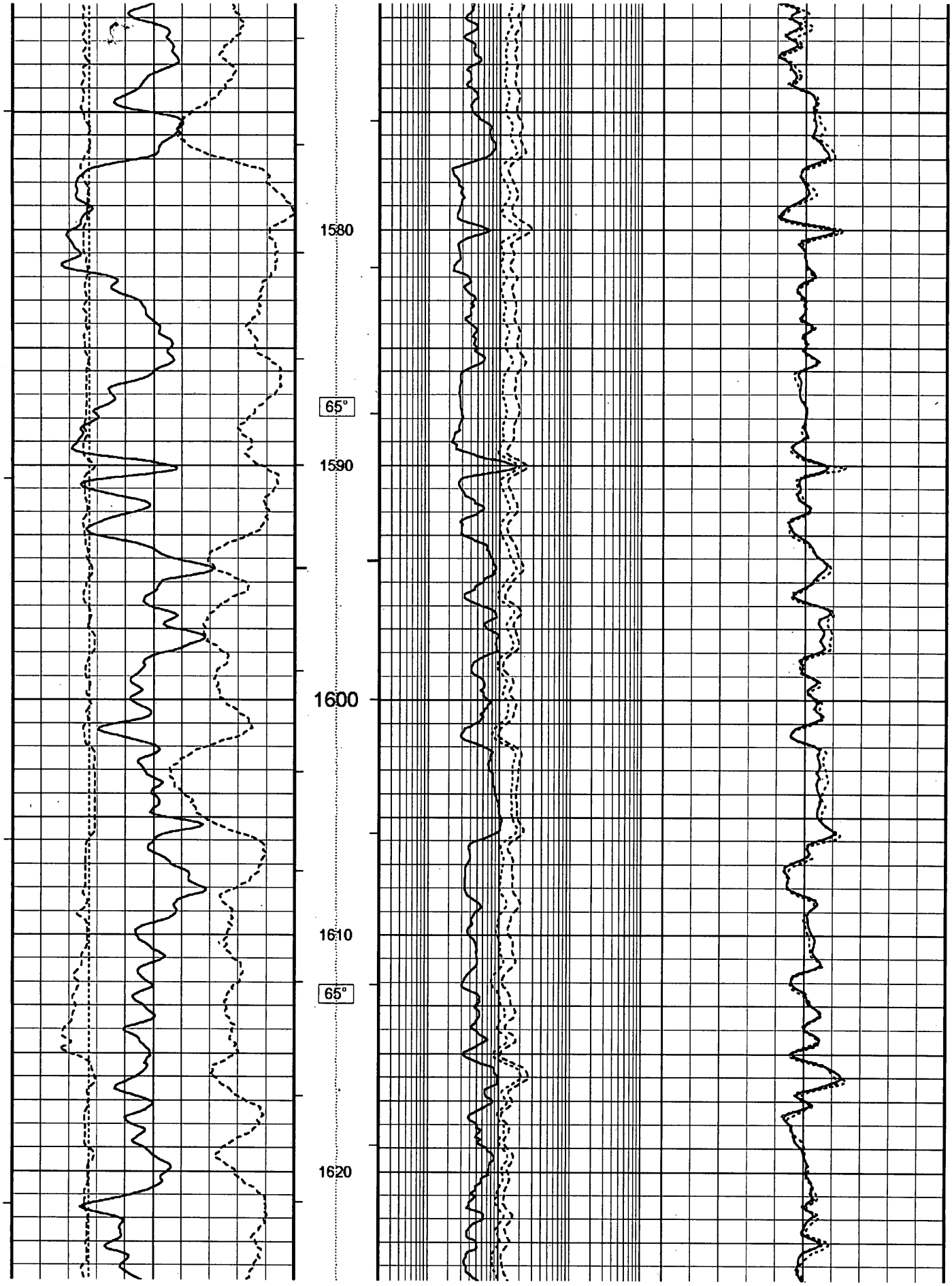

1300
1310
58°
1320
1330
59°
1340
1350

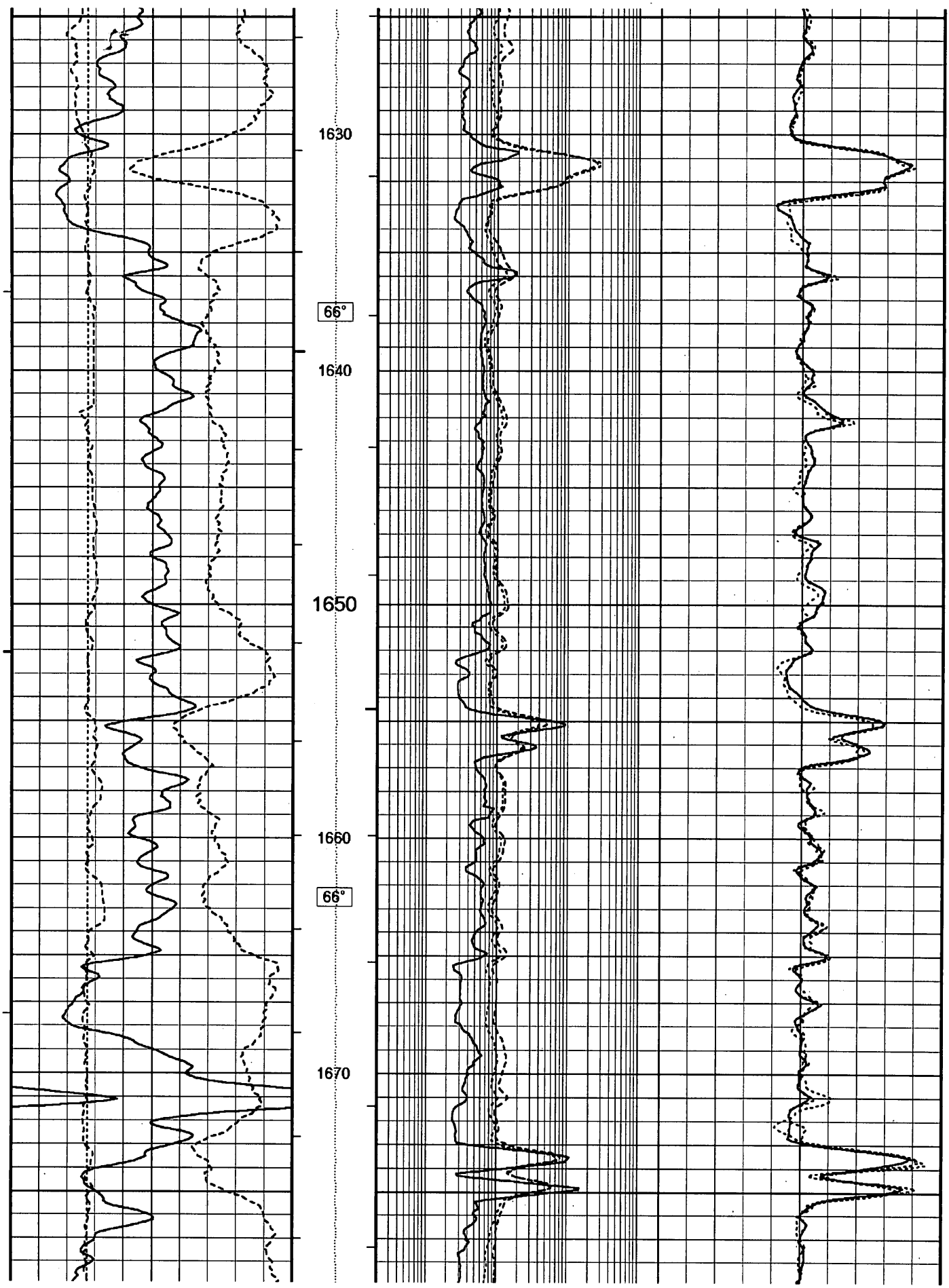

1360
59°
1370
1380
60°
1390
1400

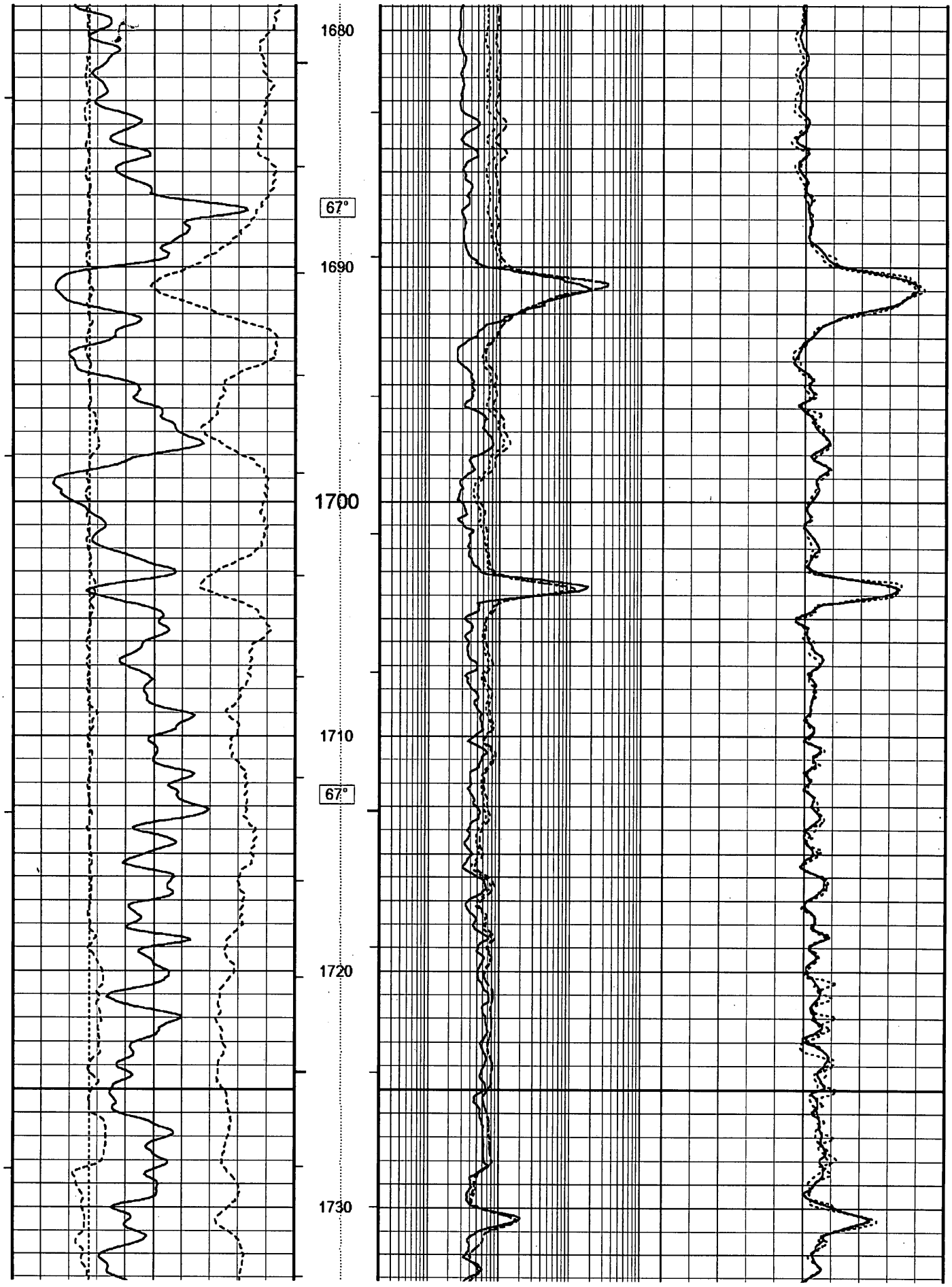

1410
60°
1420
1430
61°
1440
1450
1460

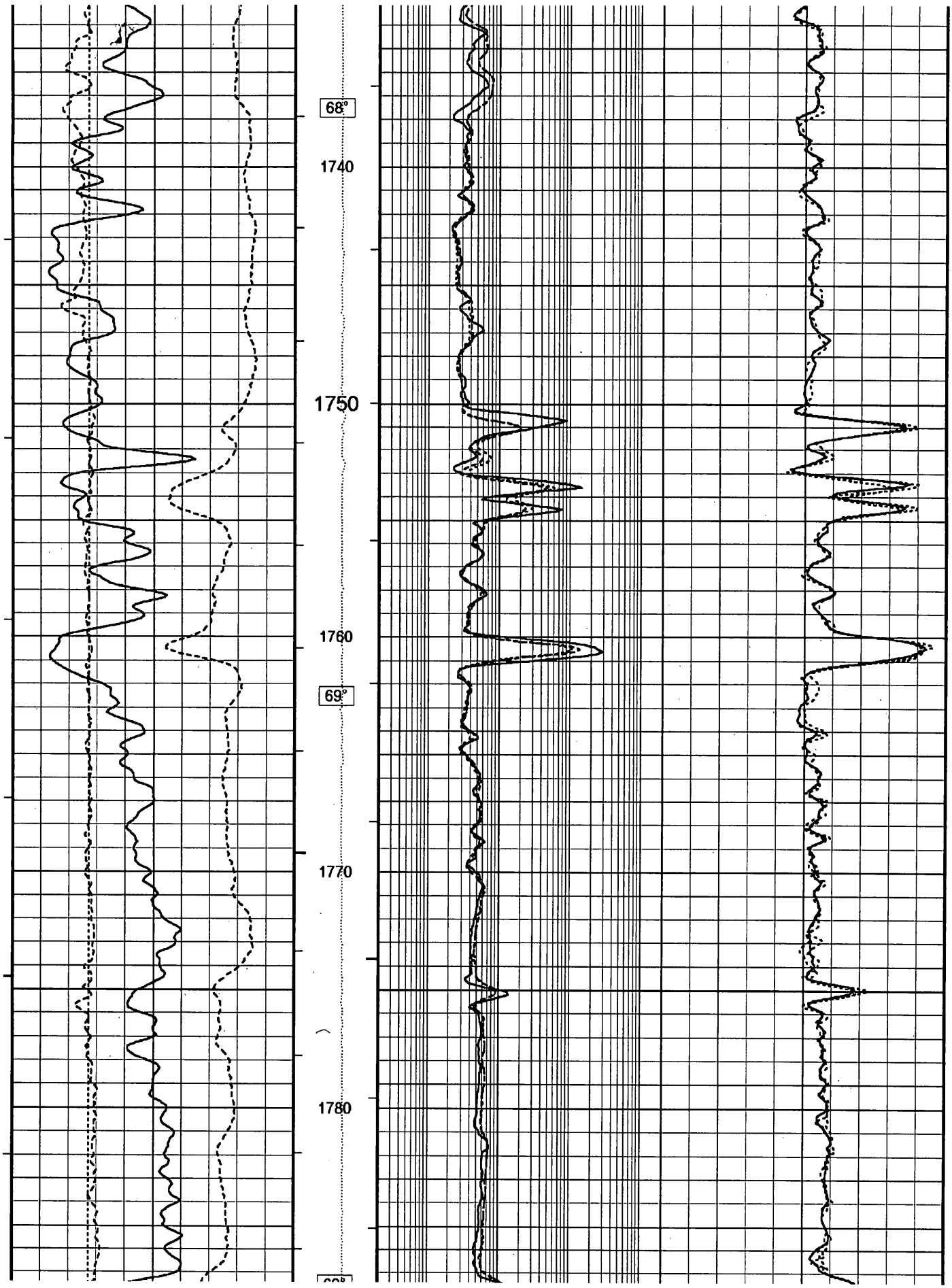

62°
1470
1480
62°
1490
1500
1510
63°


1520
1530
63°
1540
1550
1560
64°
1570

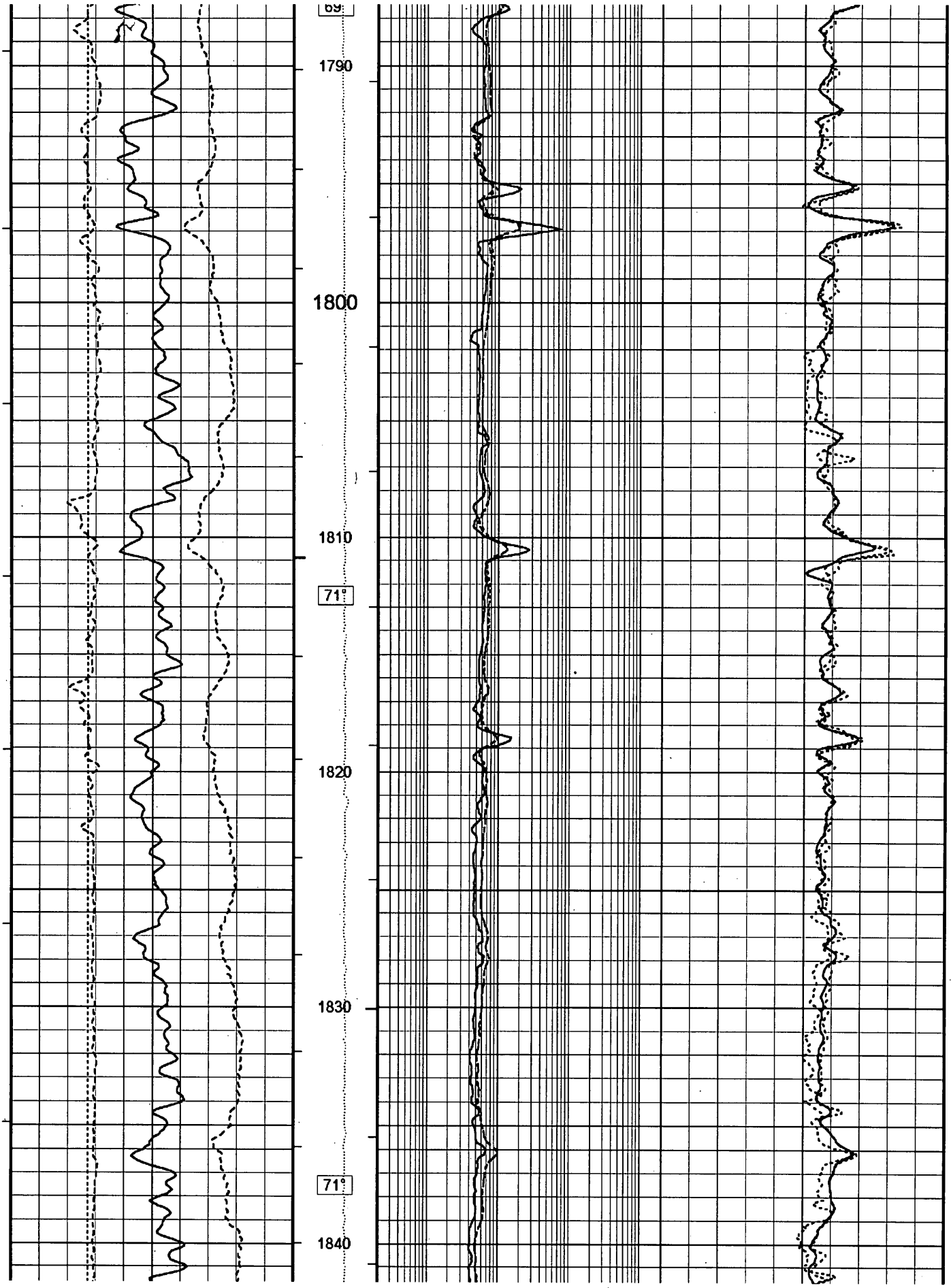

1580
65°
1590
1600
1610
65°
1620

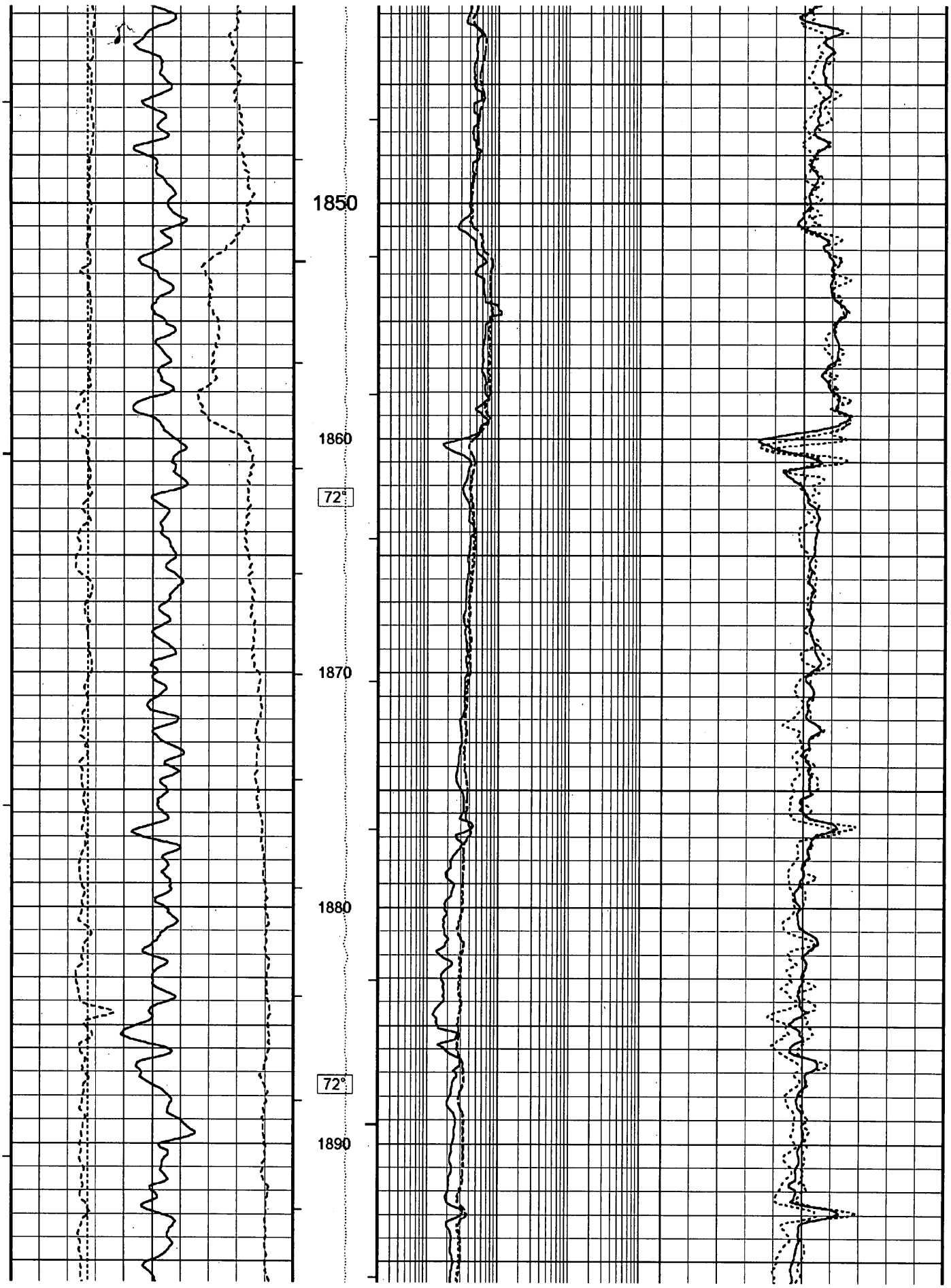

1630
66°
1640
1650
1660
66°
1670

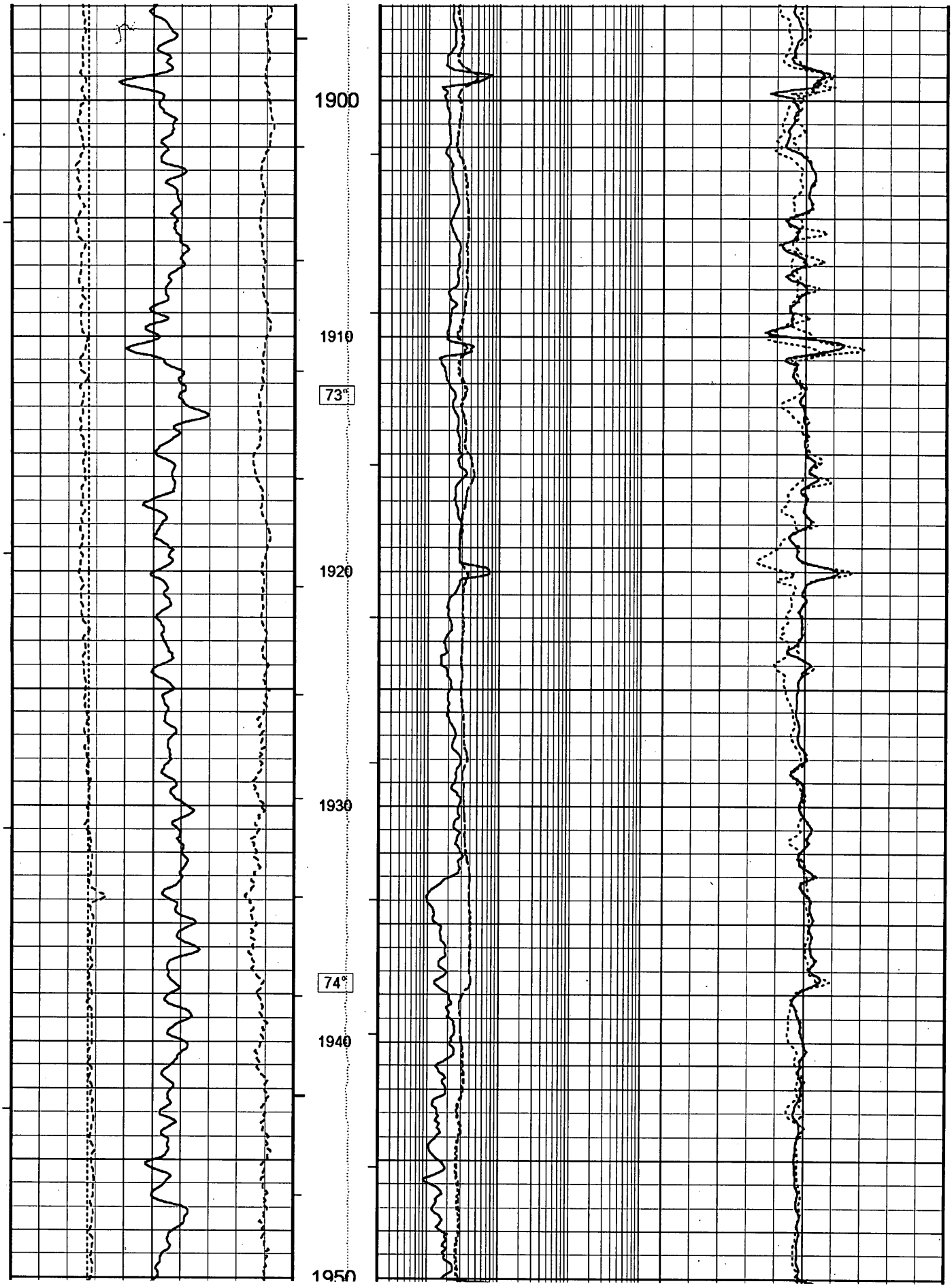

1680
67°
1690
1700
1710
67°
1720
1730


68°
1740
1750
1760
69°
1770
1780

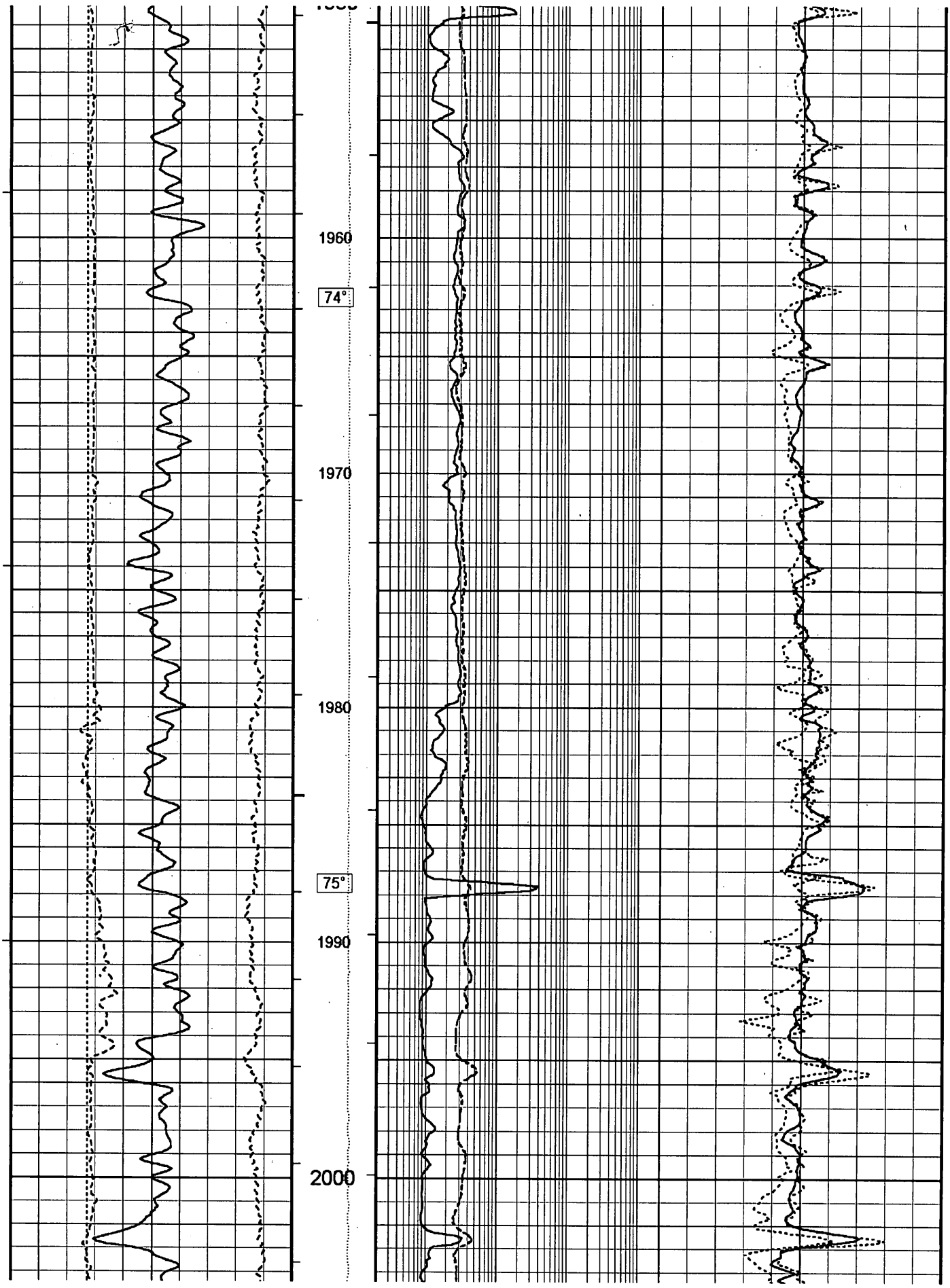
909044 060

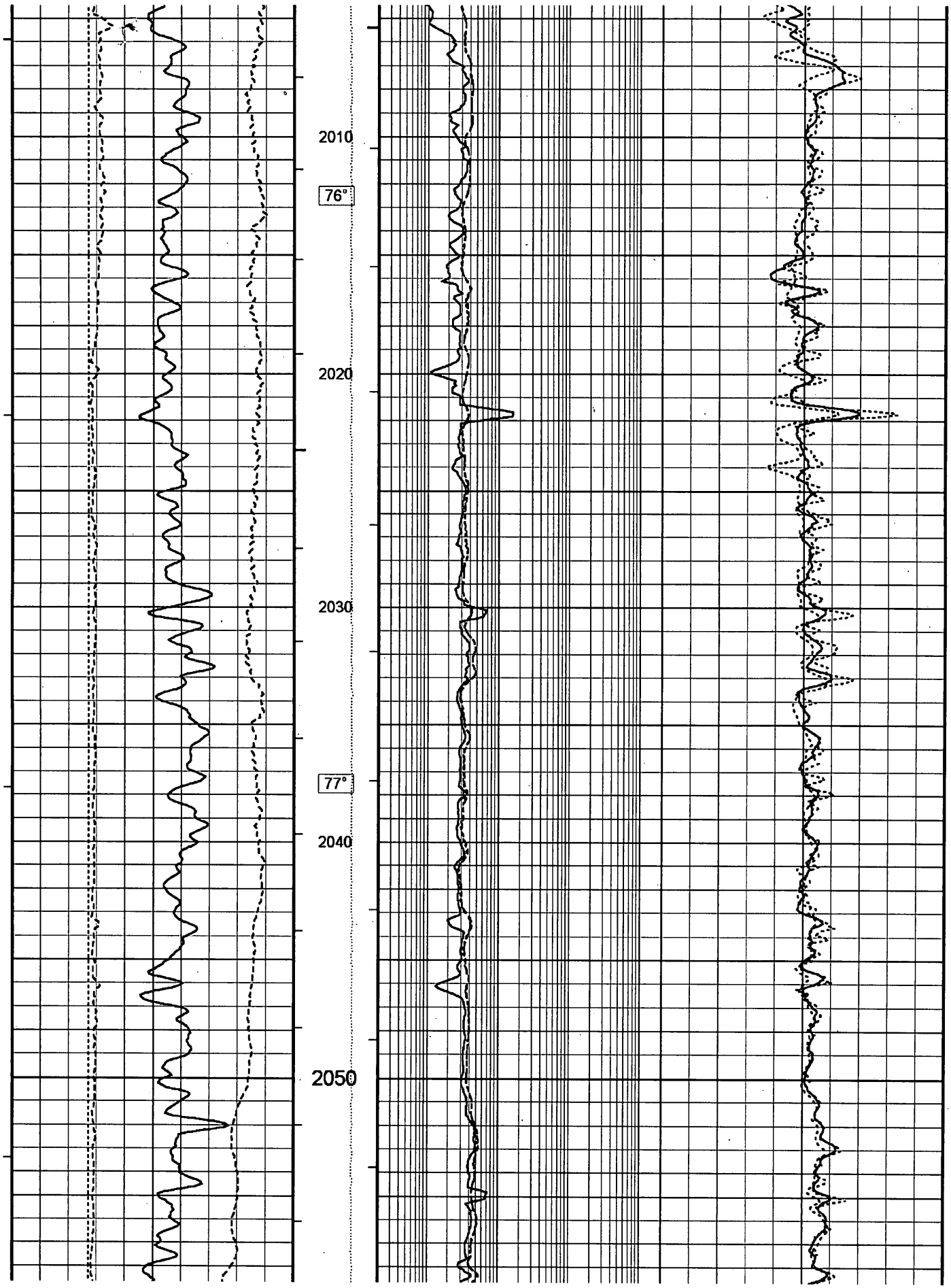


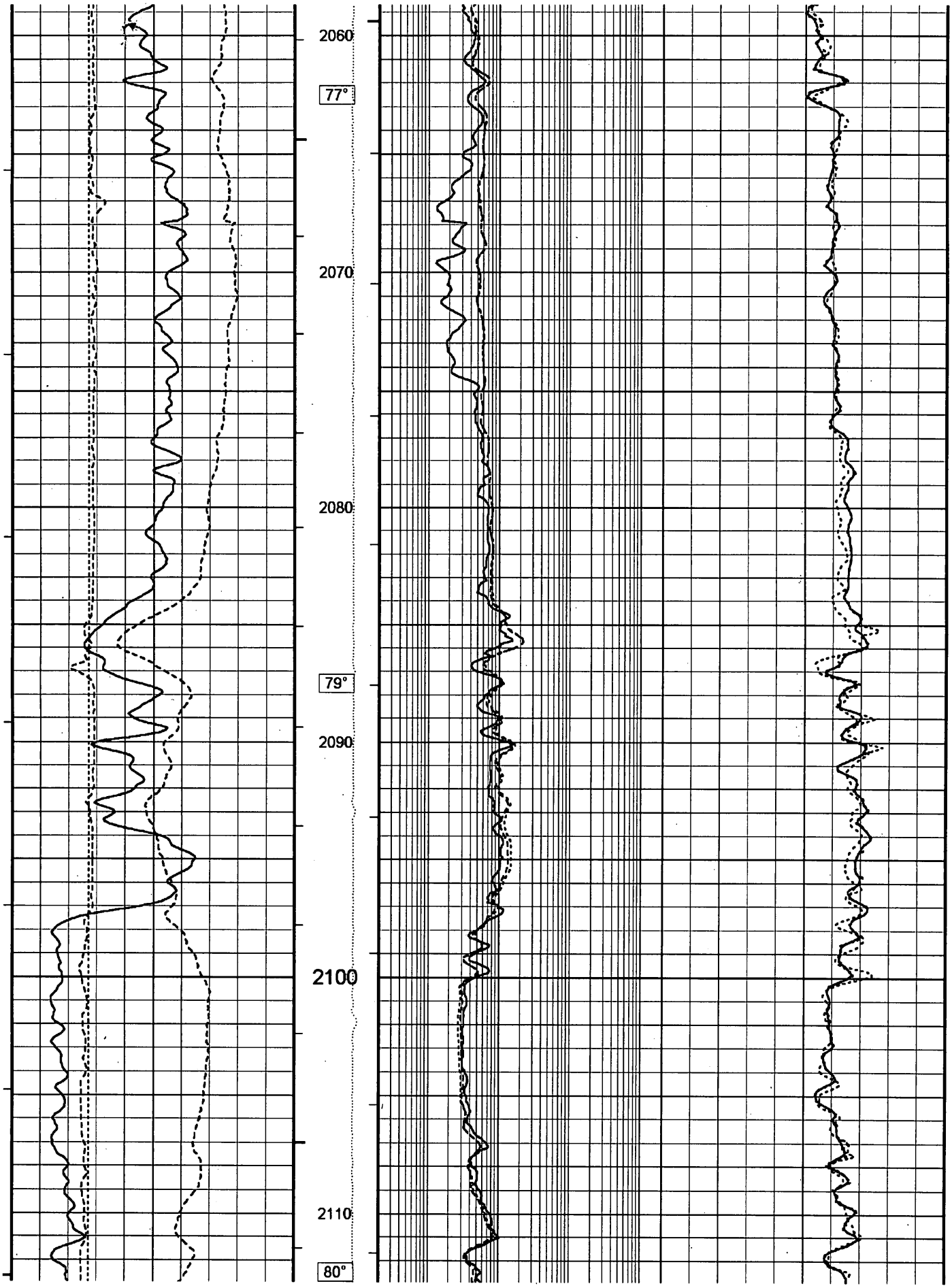

1850
1860
72°
1870
1880
72°
1890

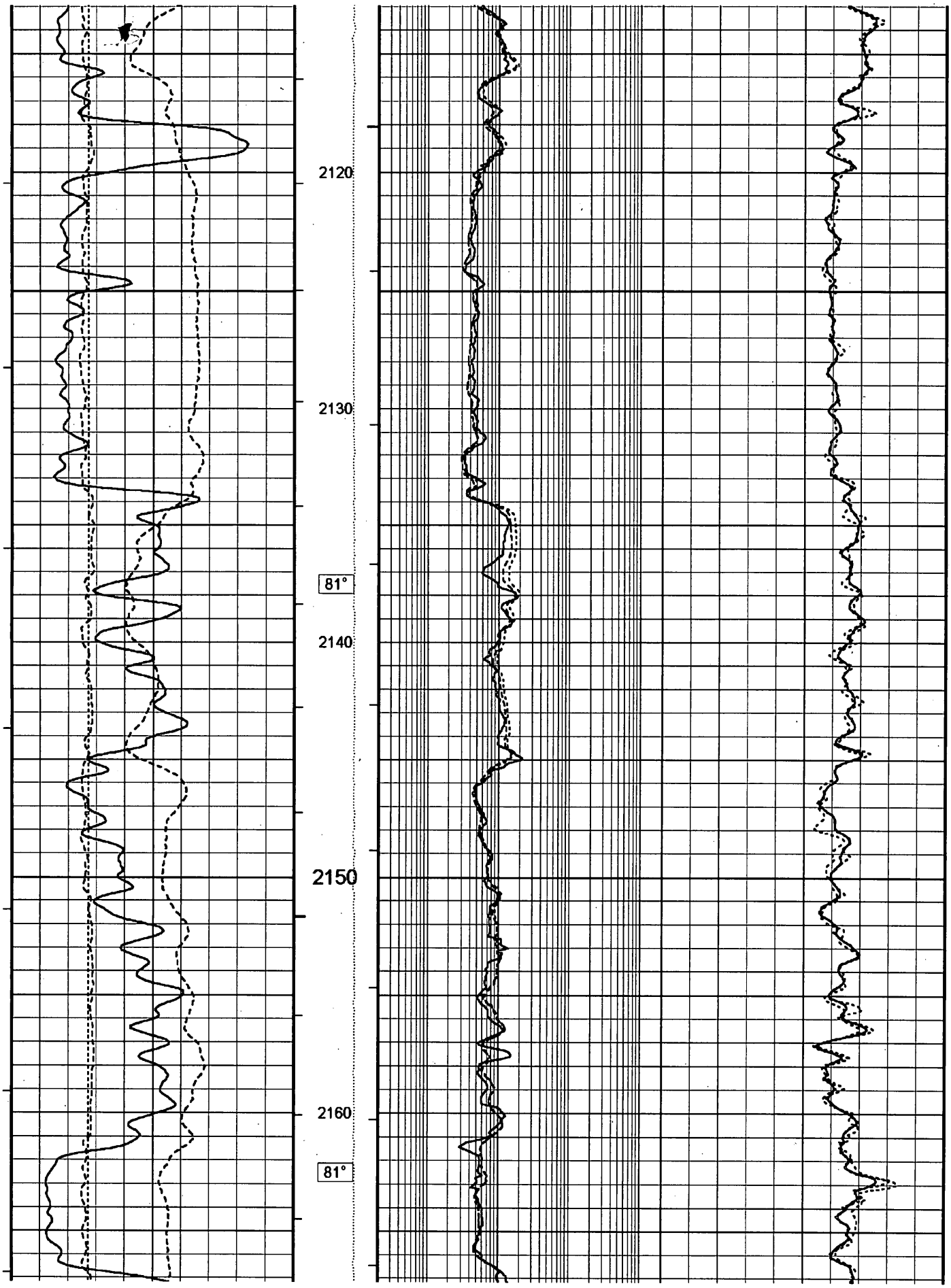

1900
1910
73
1920
1930
74
1940
1950

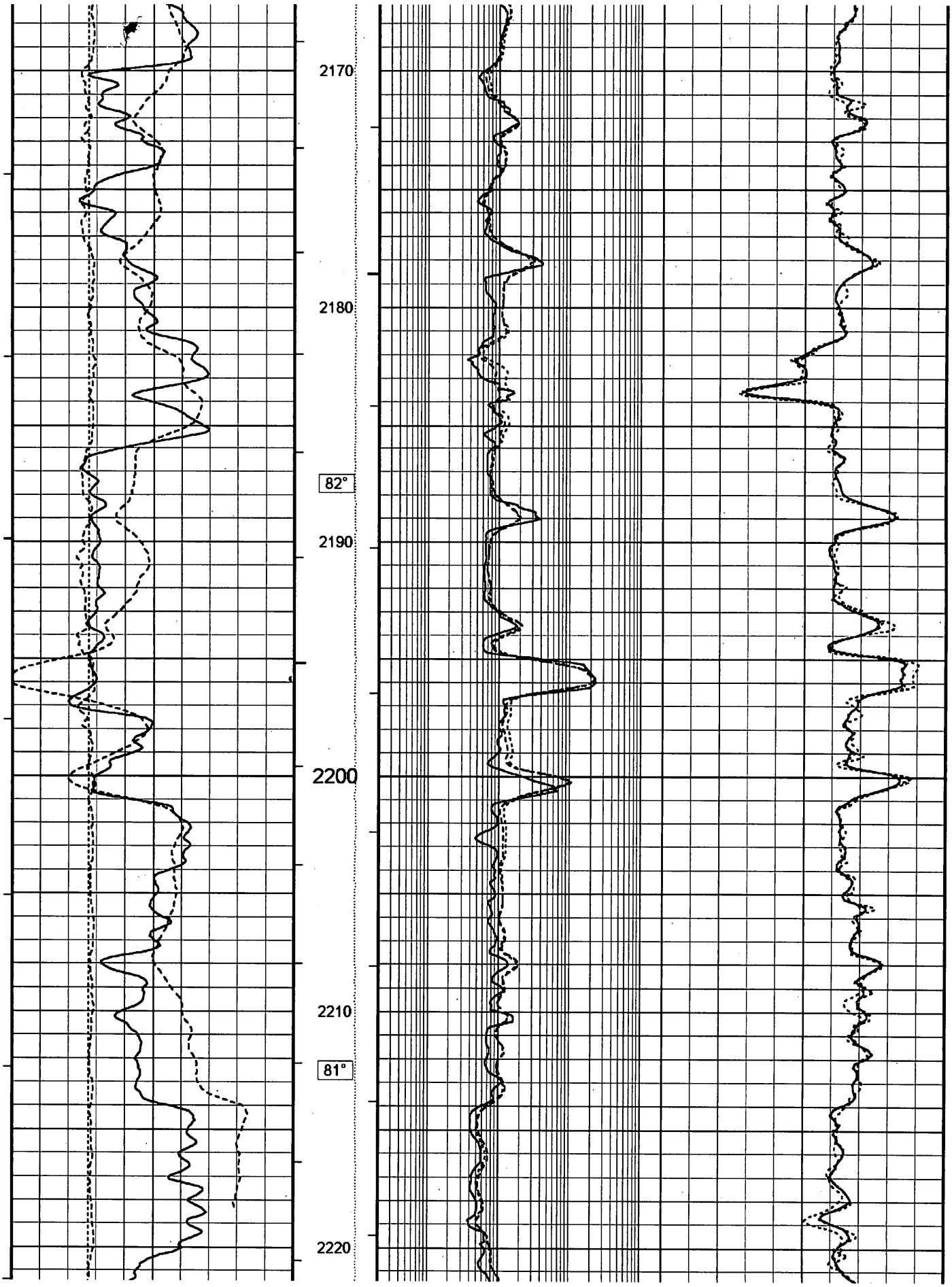
909044 063



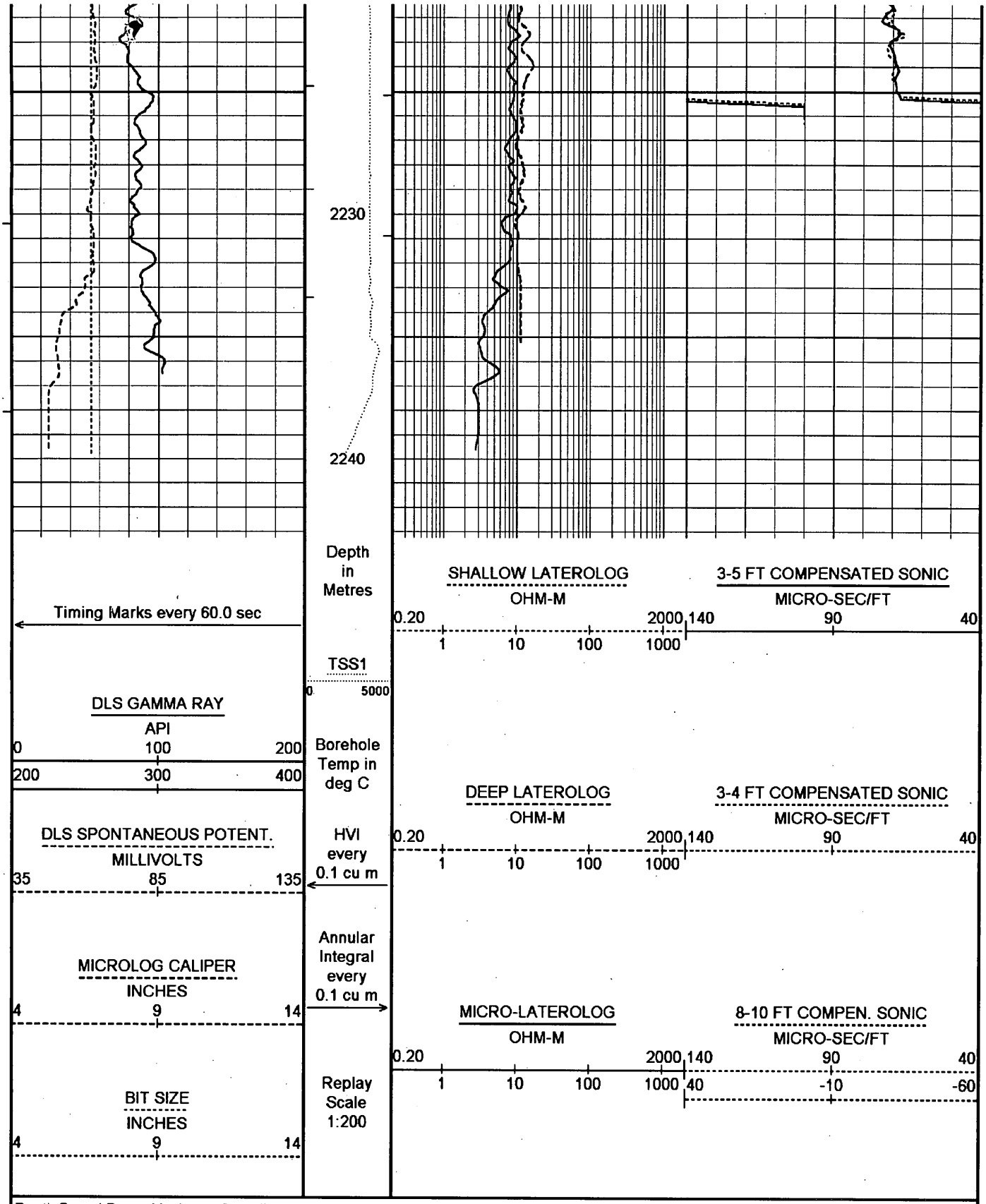

2010
76°
2020
2030
77°
2040
2050


2060
77°
2070
2080
79°
2090
2100
2110
80°


2120
2130
81°
2140
2150
2160
81°


2170
2180
82°
2190
2200
2210
81°
2220

909044 068



Depth Based Data - Maximum Sampling Increment 10.0cm

Filename: C:\snaylor\mrgedlsm.dta

System Configuration Dates: Logged : Plotted 04-DEC-2001:

Plotted on 27-DEC-2001 21:48

Recorded on 27-DEC-2001 17:34

DLS MAIN LOG

909044 069

COMPANY	SANTOS
WELL	NAYLOR SOUTH 1
FIELD	OTWAY
PROVINCE/COUNTY	VICTORIA
COUNTRY/STATE	SANTOS

Elevation Kelly Bushing		First Reading	2237.0 M
Elevation Drill Floor	4.70 M	Depth Driller	2243.0 M
Elevation Ground Level	48.3 M	Depth Logger	2238.0 M

Reeves

DLL SLL MLL LCS

GR CALIPER

1:200

Reeves

CNS PDS
GR CALIPER
1:200

COMPANY	SANTOS
WELL	NAYLOR SOUTH 1
FIELD	OTWAY
PROVINCE/COUNTY	VICTORIA
COUNTRY/STATE	SANTOS
LOCATION	NAYLOR SOUTH 1
LSD / SEC / TWP / RGE	
API Number	
Permit Number	PEP 154
Permanent Datum	MSL , Elevation 0.0 M
Log Measured From	RT@53.0 M above Permanent Datum
Drilling Measured From	RT@53.0 M
Other Services	DLS MLL LCS LSS
Elevations: KB	
DF	4.7 M
GL	48.3 M

Date			
Run Number	ON		
Depth Driller	2243.0 M		
Depth Logger	2238.0 M		
First Reading	2237.0 M		
Last Reading	SURFACE		
Casing Driller	434.0 M		
Casing Logger	434.0 M		
Bit Size			
Hole Fluid Type	KCL PLOYMER		
Density / Viscosity	9.4	40	
PH / Fluid Loss	9	5.6	
Sample Source	FLOWLINE		
Rm @ Measured Temp	0.816@ .8[C		
Rmf @ Measured Temp	0.676@ .4[C		
Rmc @ Measured Temp	2.320@ .5[C		
Source Rmf / Rmc	PRESS	PRESS	
Rm @ BHT	0.314@ [C		
Time Since Circulation	36 HOURS		
Max Recorded Temp	81[C		
Equipment Name	PDS CNS		
Equipment / Base	1030	ROMA	
Recorded By	A DIGIACOMO		
Witnessed By	T PRATER		
ON BOTTOM	17:35 27 DEC		

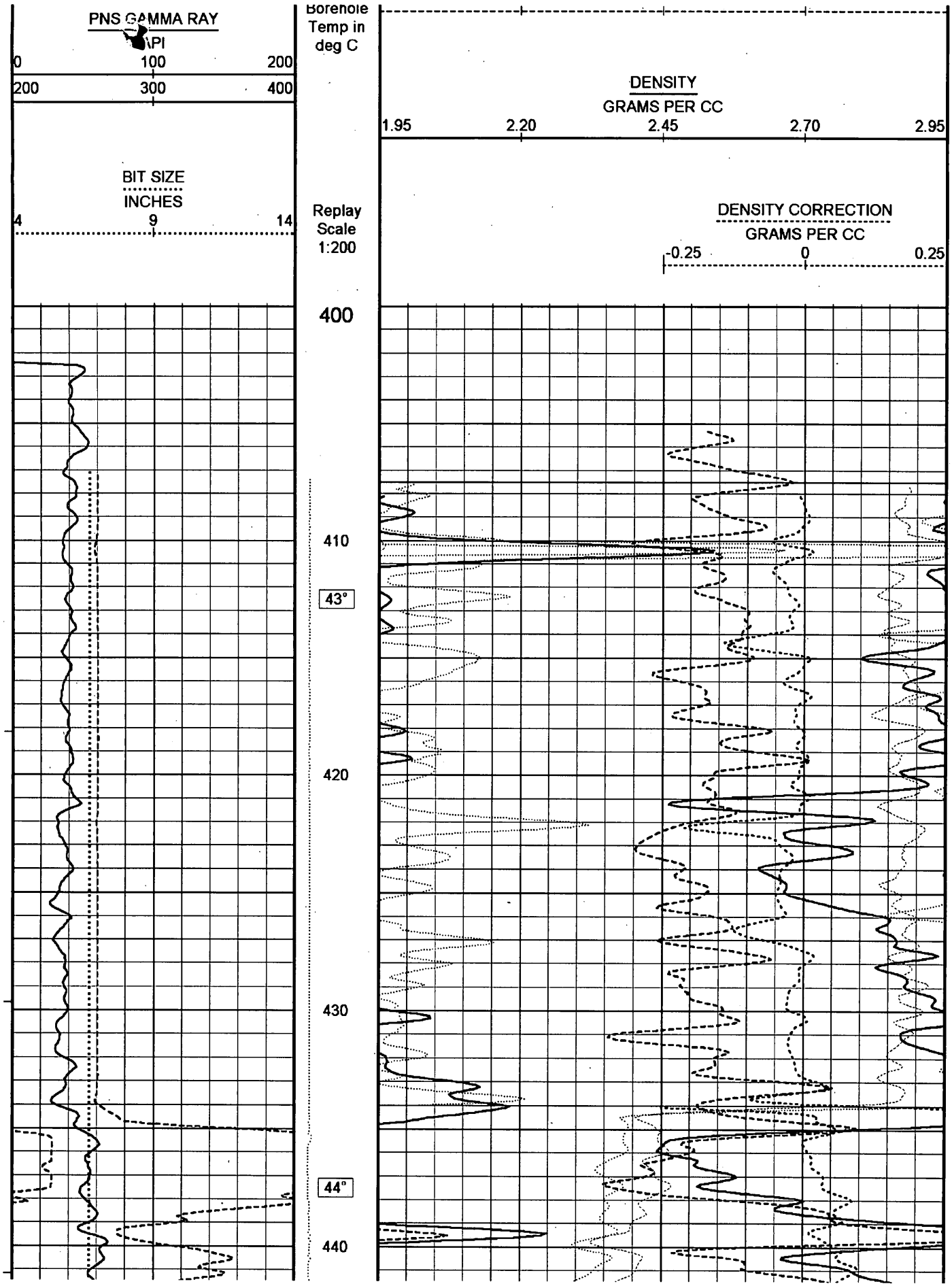
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions in our price schedule.

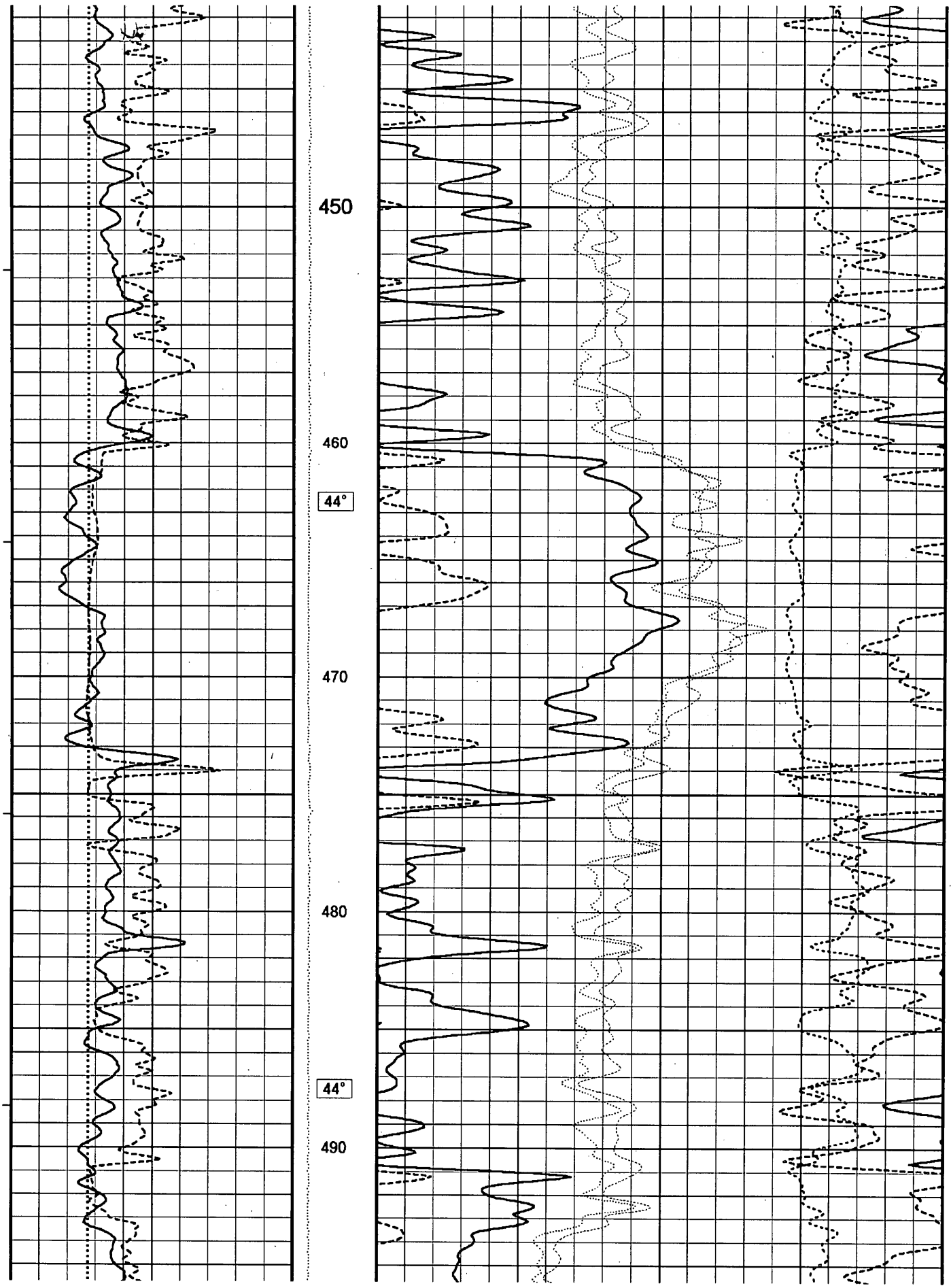
PDS MAIN LOG

Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:\snaylor\mrgepdsf.dta
System Configuration Dates: Logged : Plotted 04-DEC-2001:

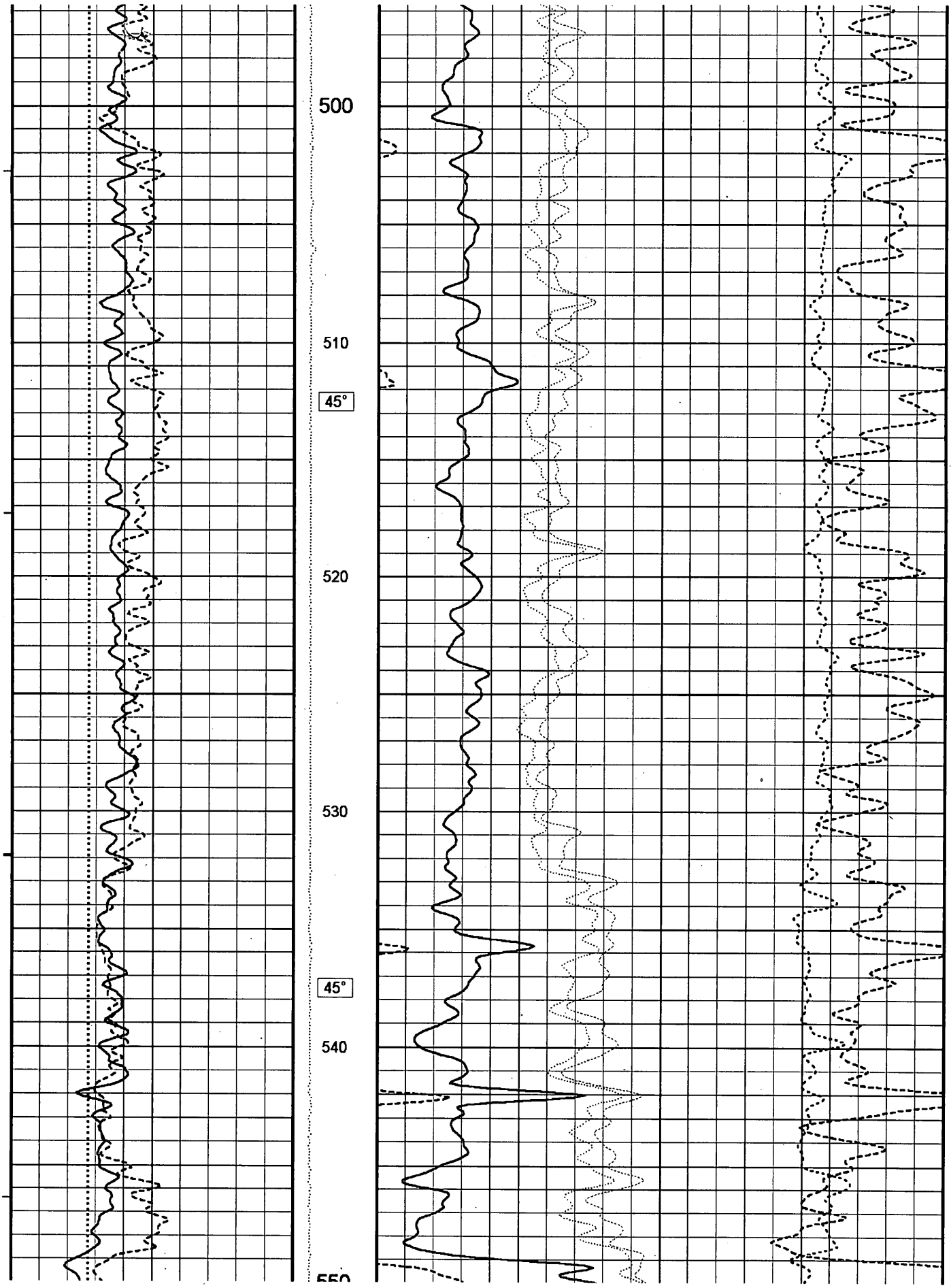
Plotted on 28-DEC-2001 04:55
Recorded on 27-DEC-2001 23:12

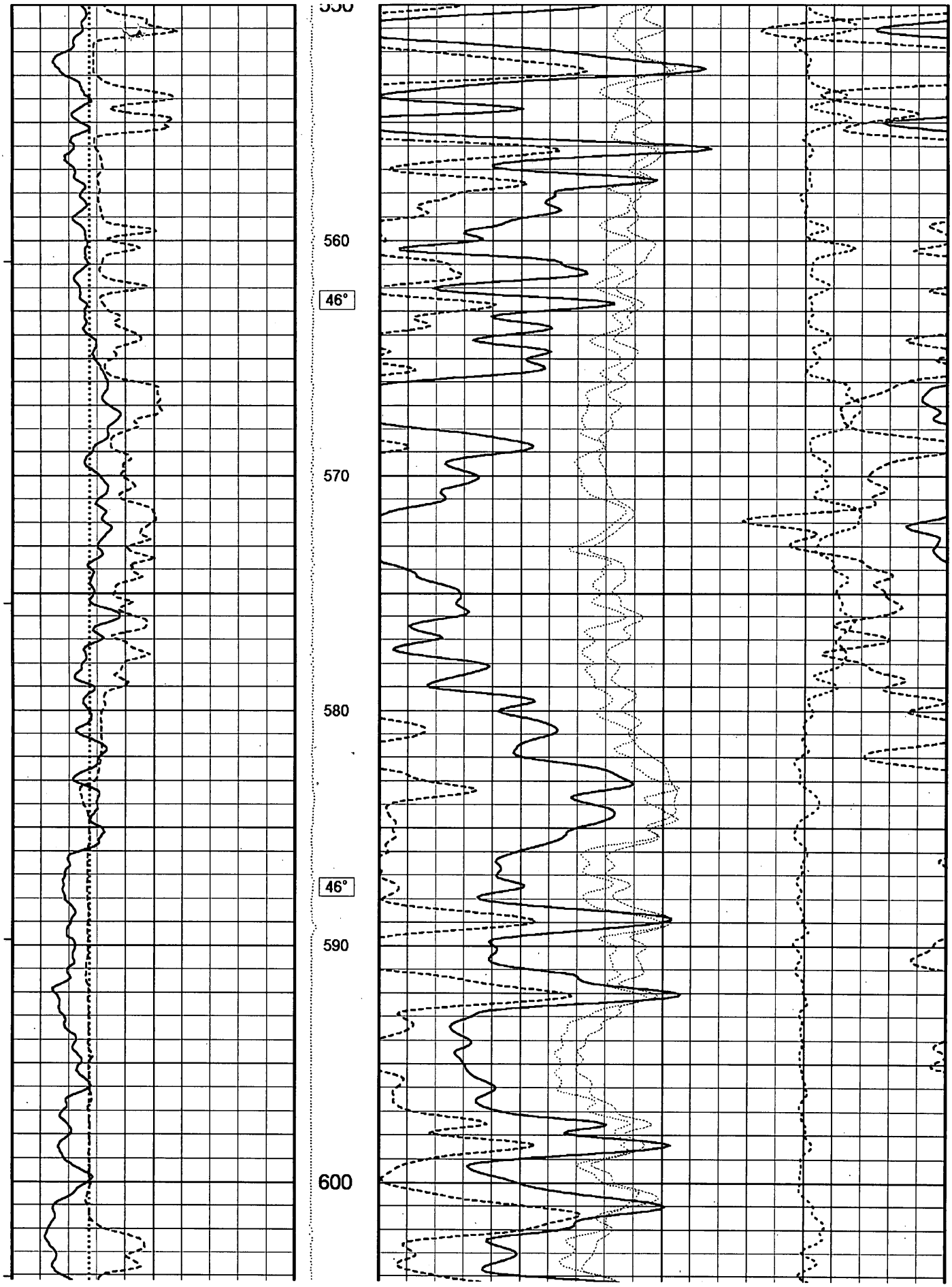
909044 071


PNS GAMMA RAY
API
0
100
200
200
300
400
BIT SIZE
INCHES
4
9
14
Borenole Temp in deg C
Replay Scale 1:200
DENSITY
GRAMS PER CC
1.95
2.20
2.45
2.70
2.95
DENSITY CORRECTION
GRAMS PER CC
-0.25
0
0.25
400
410
43°
420
430
44°
440

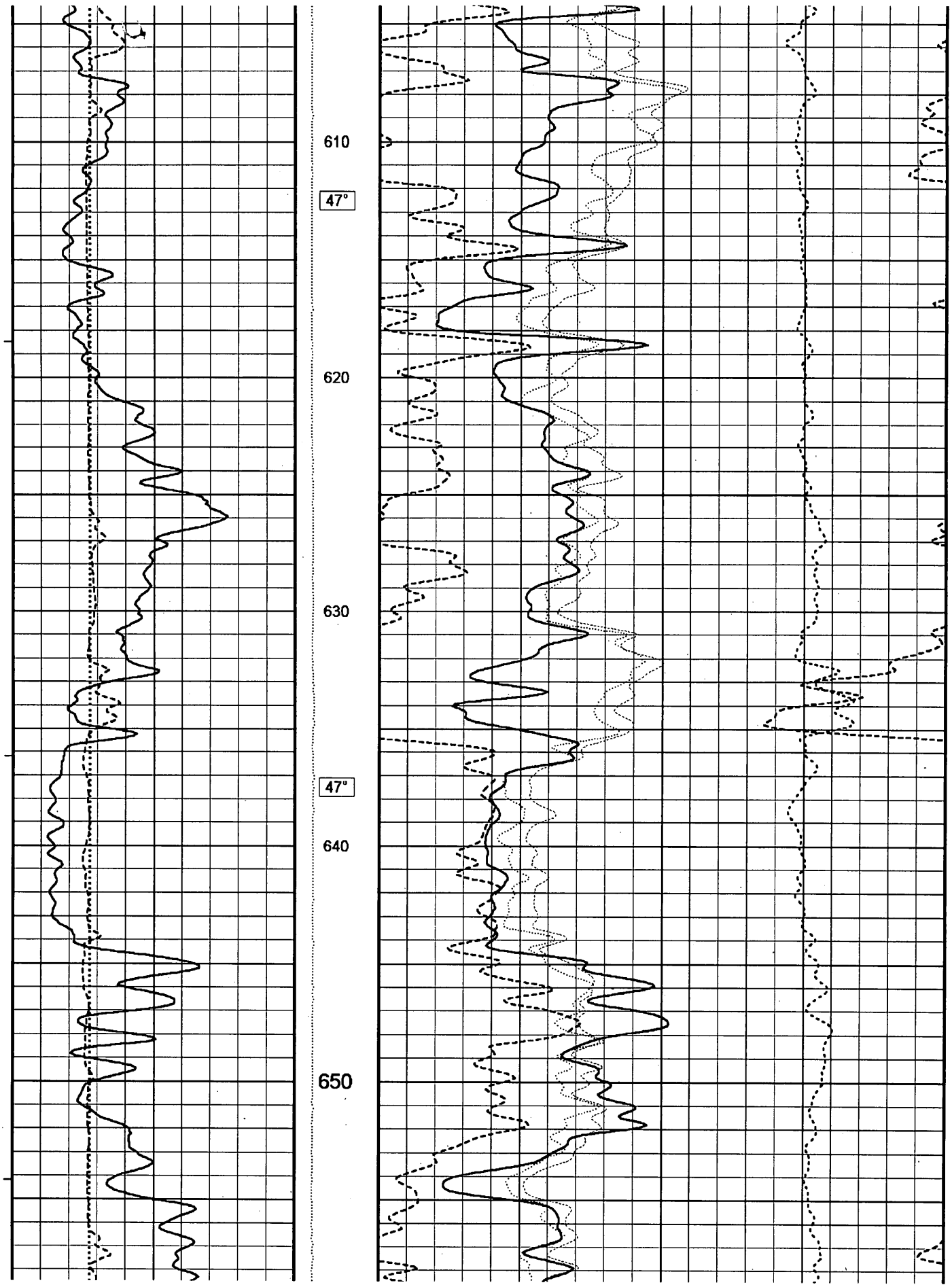

450
460
44°
470
480
44°
490

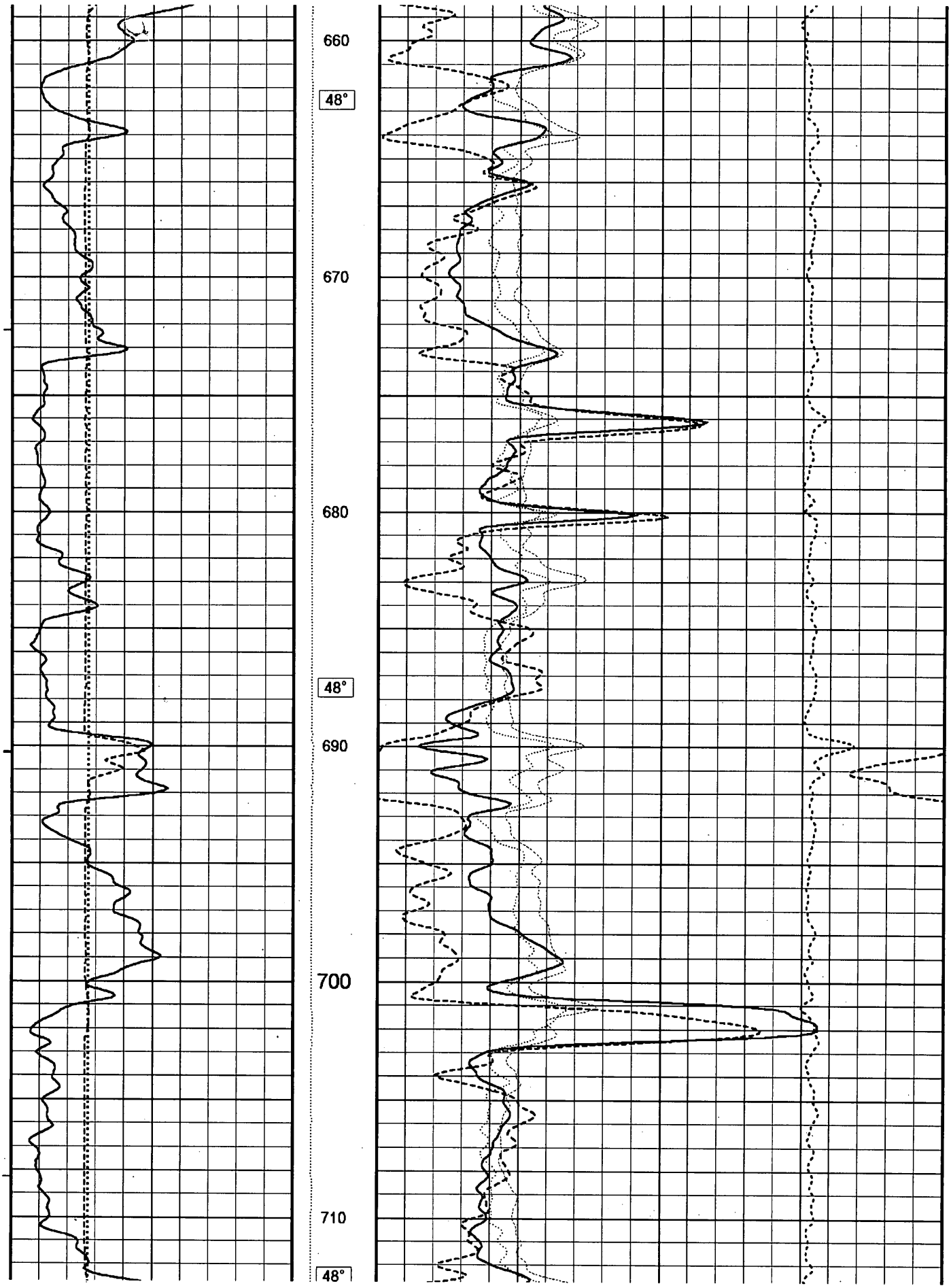
909044 073

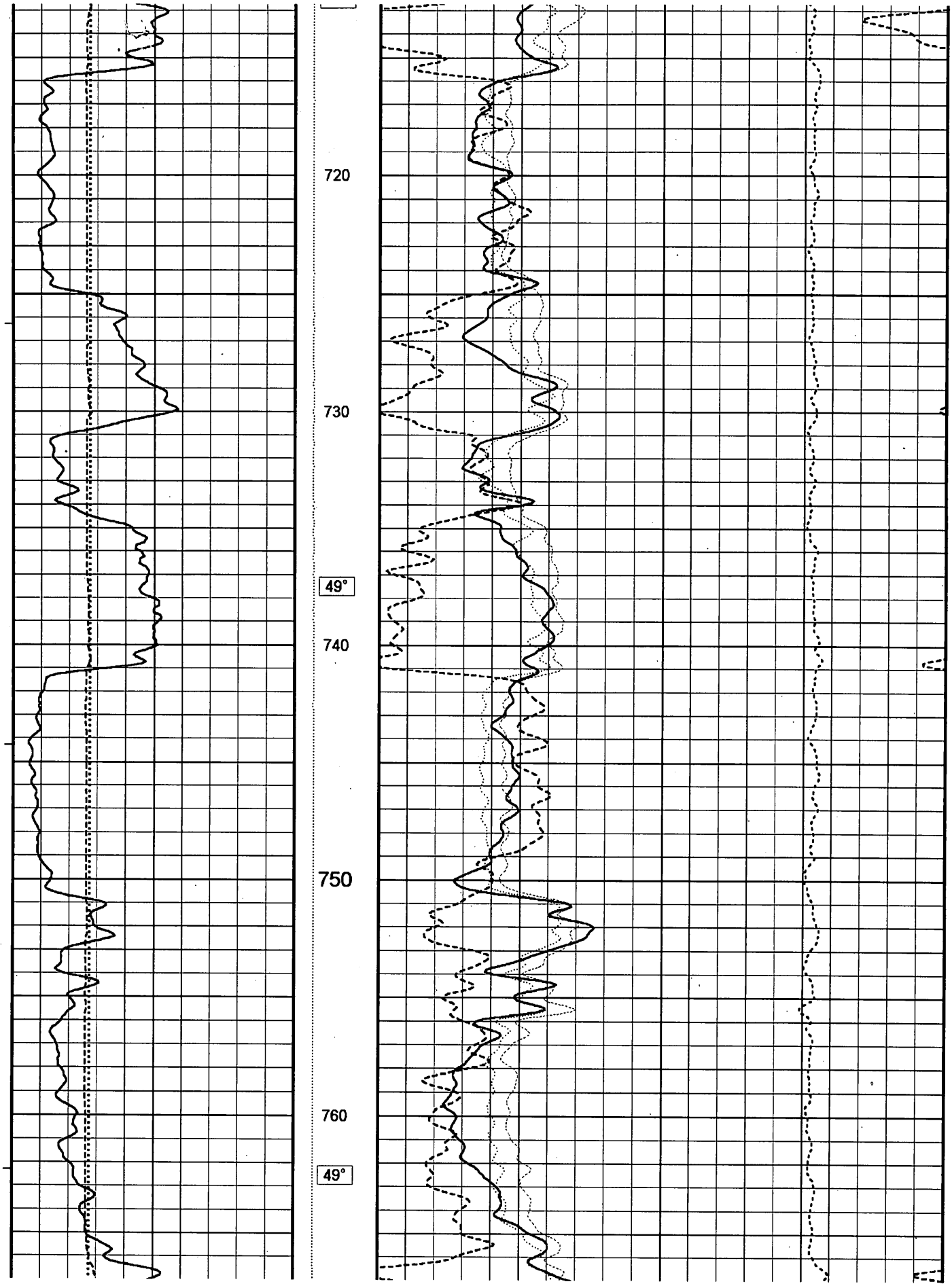



560
46°
570
580
46°
590
600

909044 075




660
48°
670
680
48°
690
700
710
48°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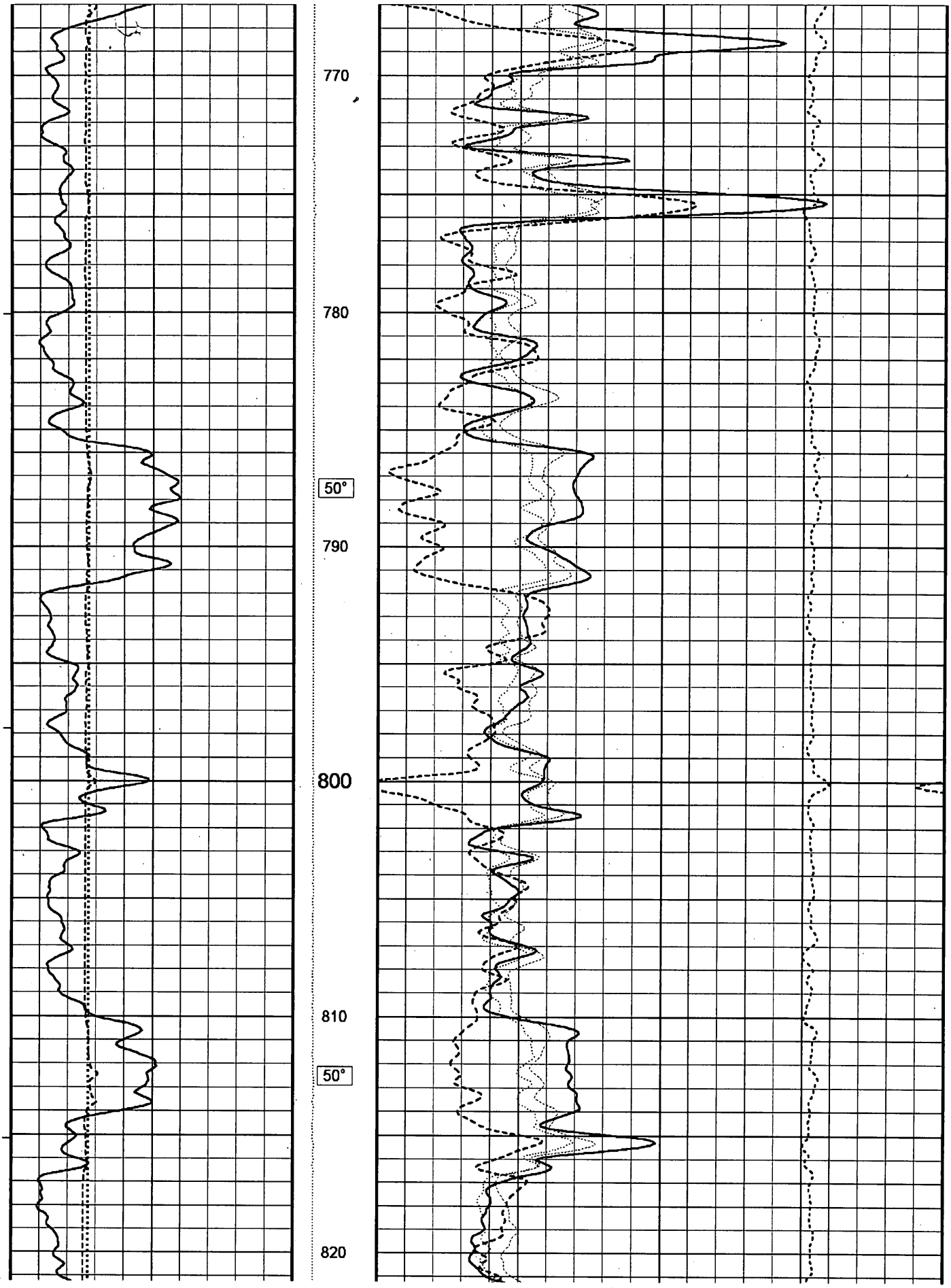
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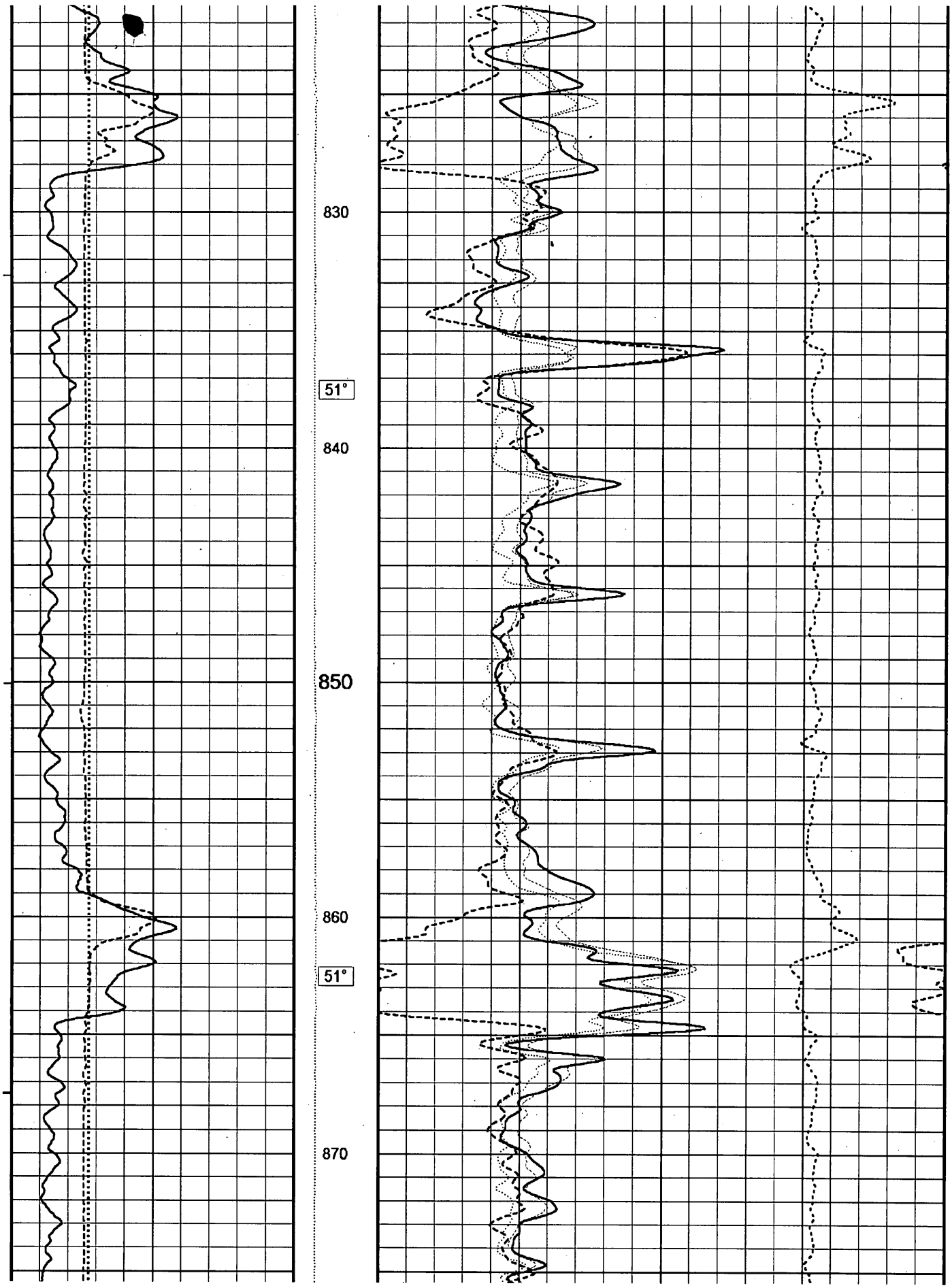
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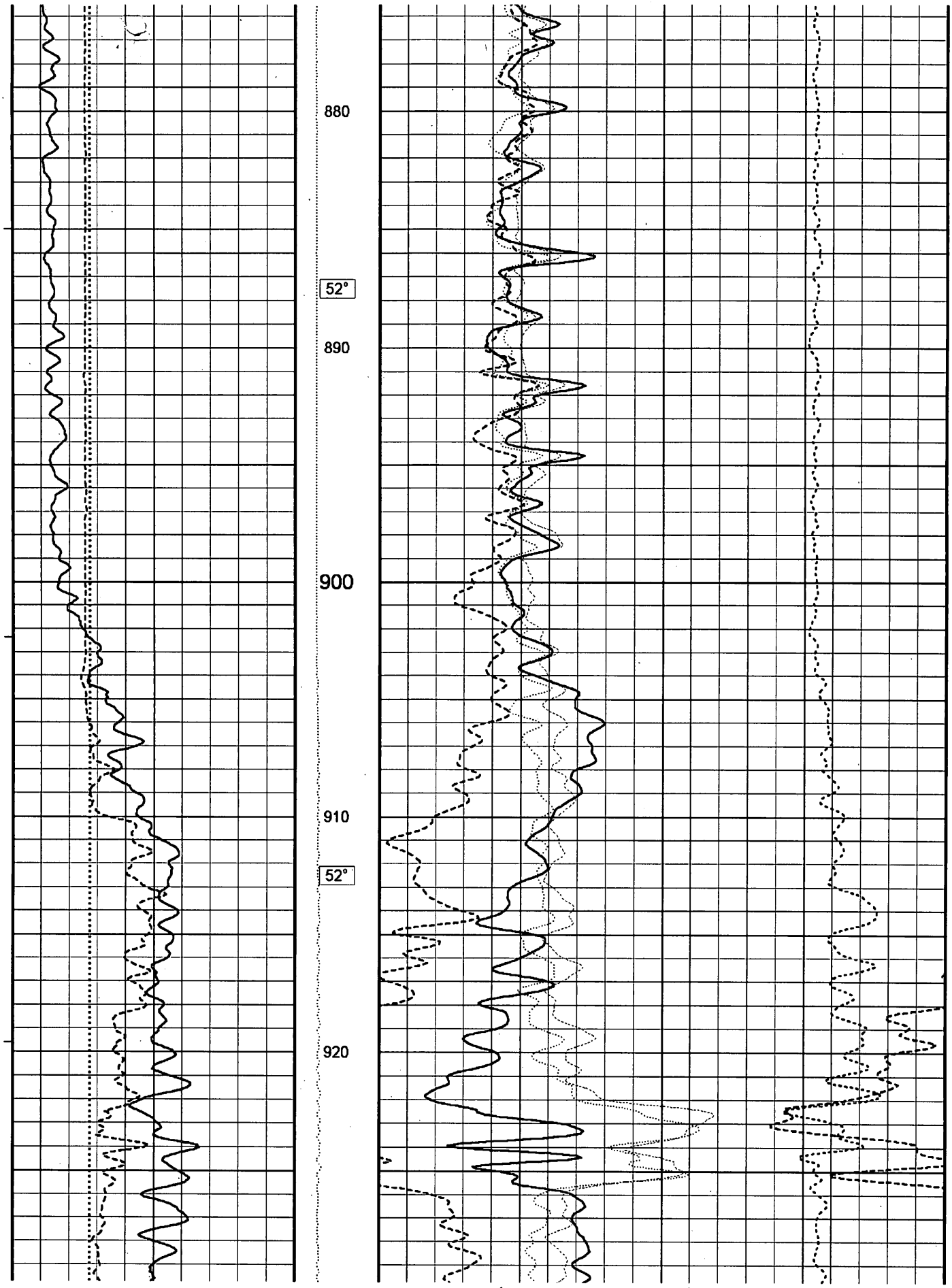

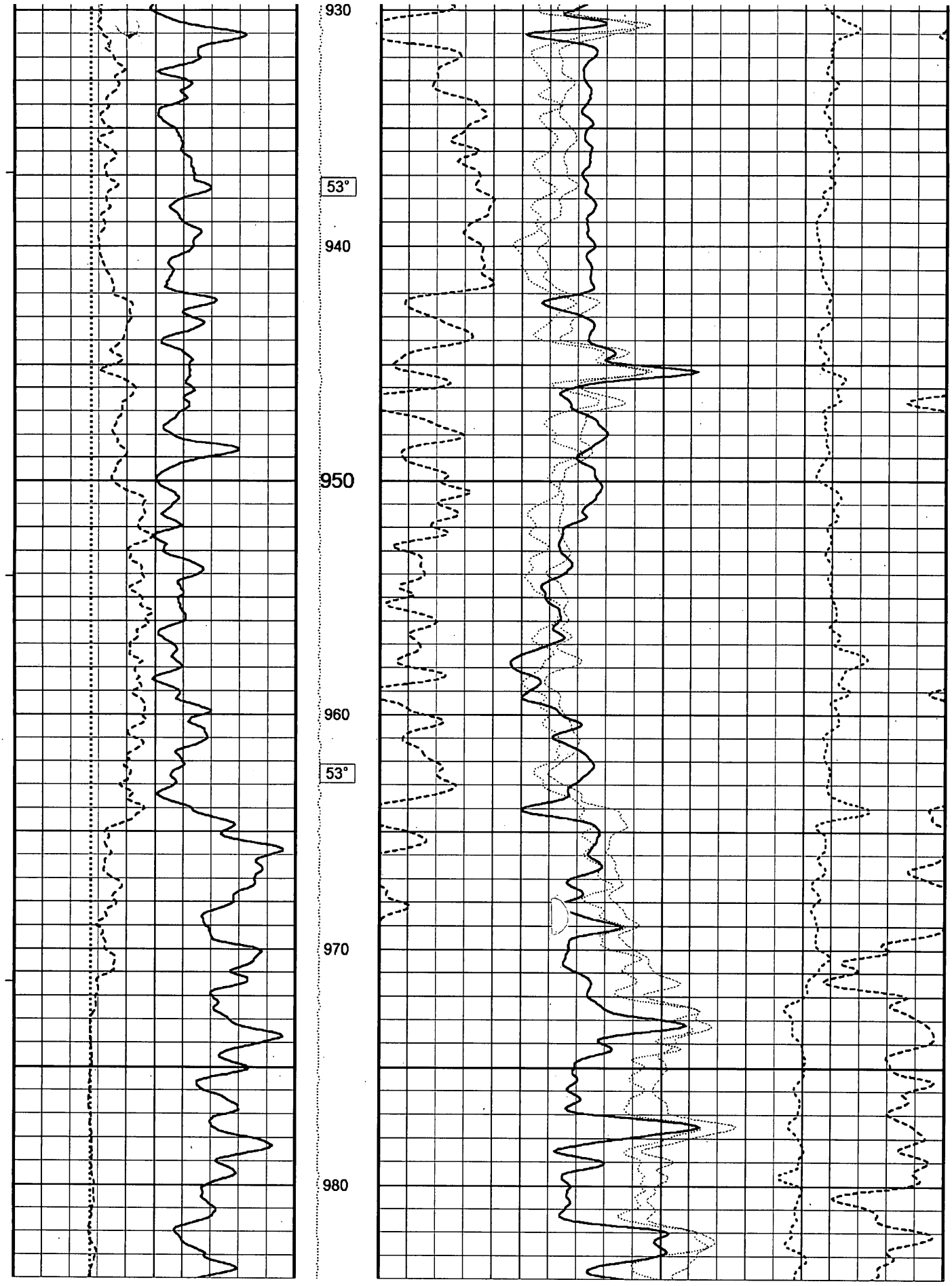
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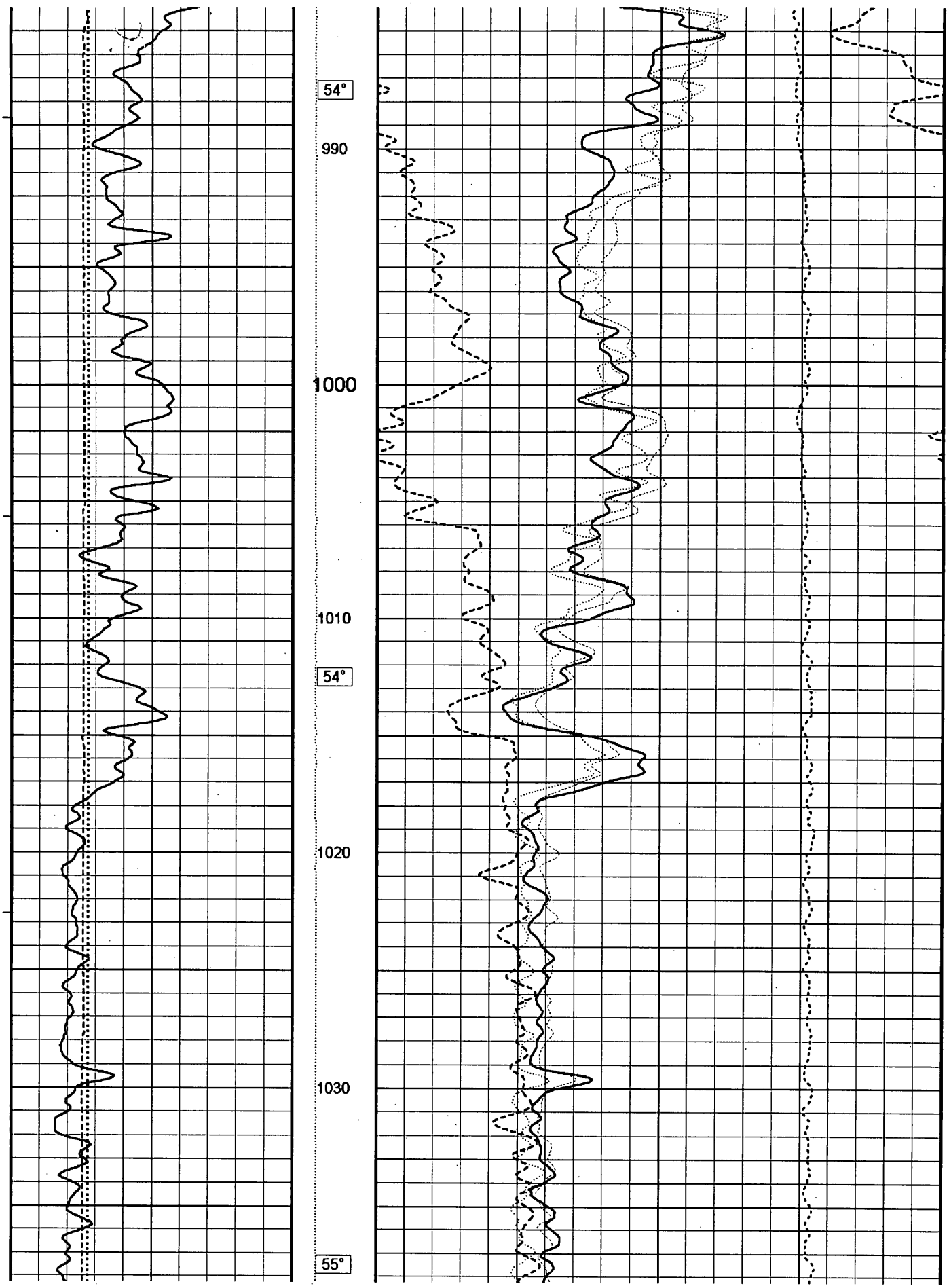

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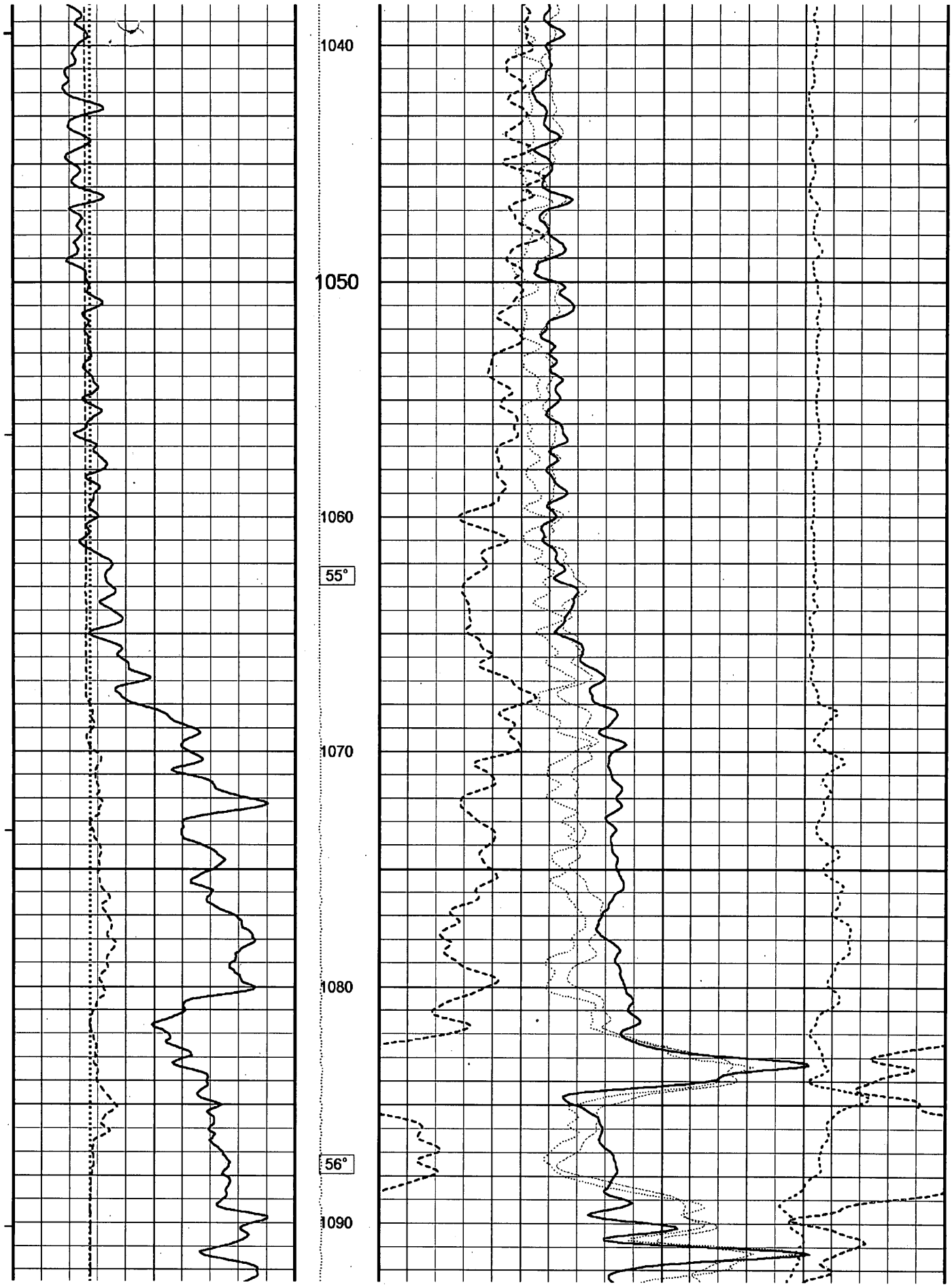

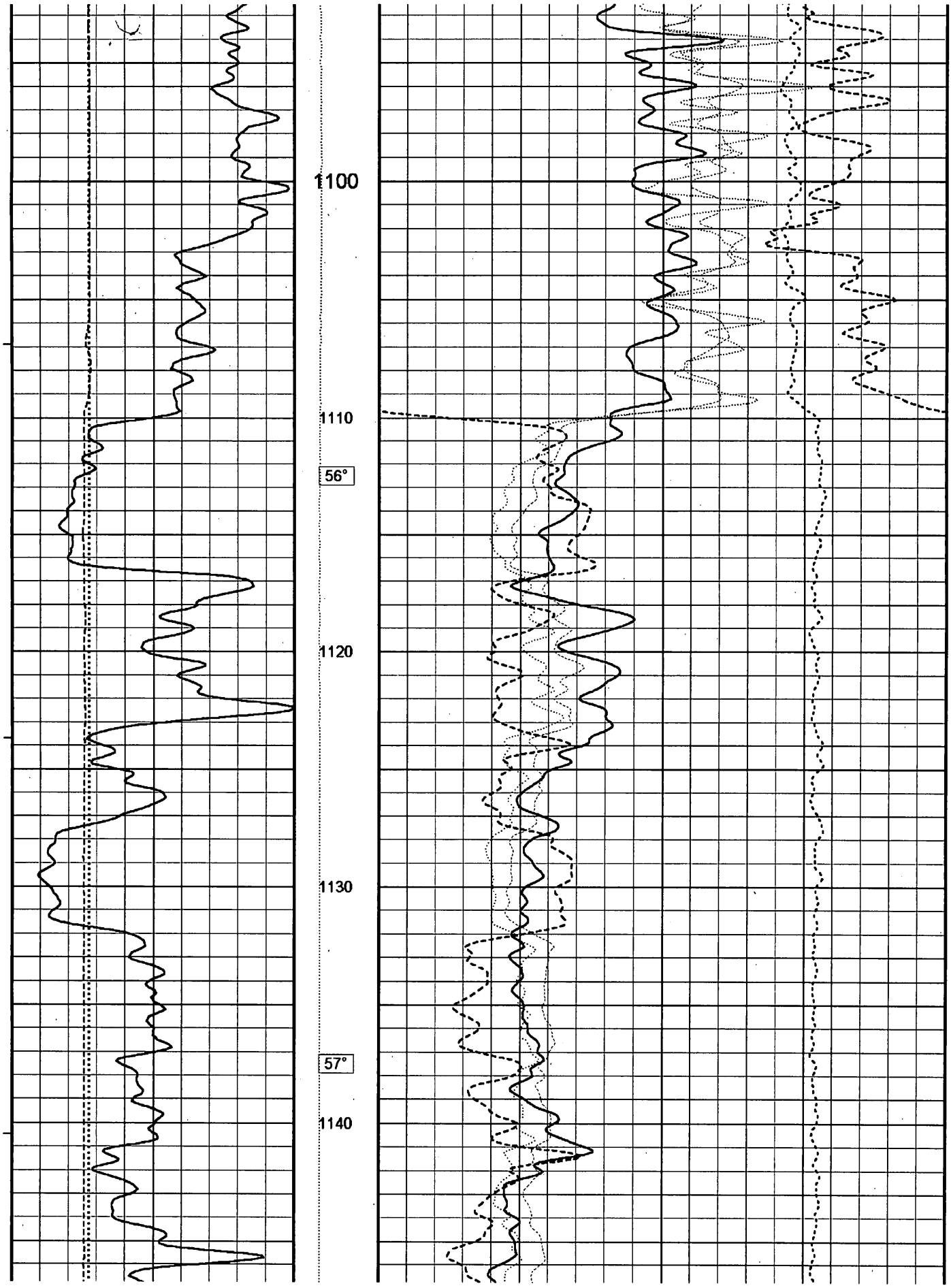
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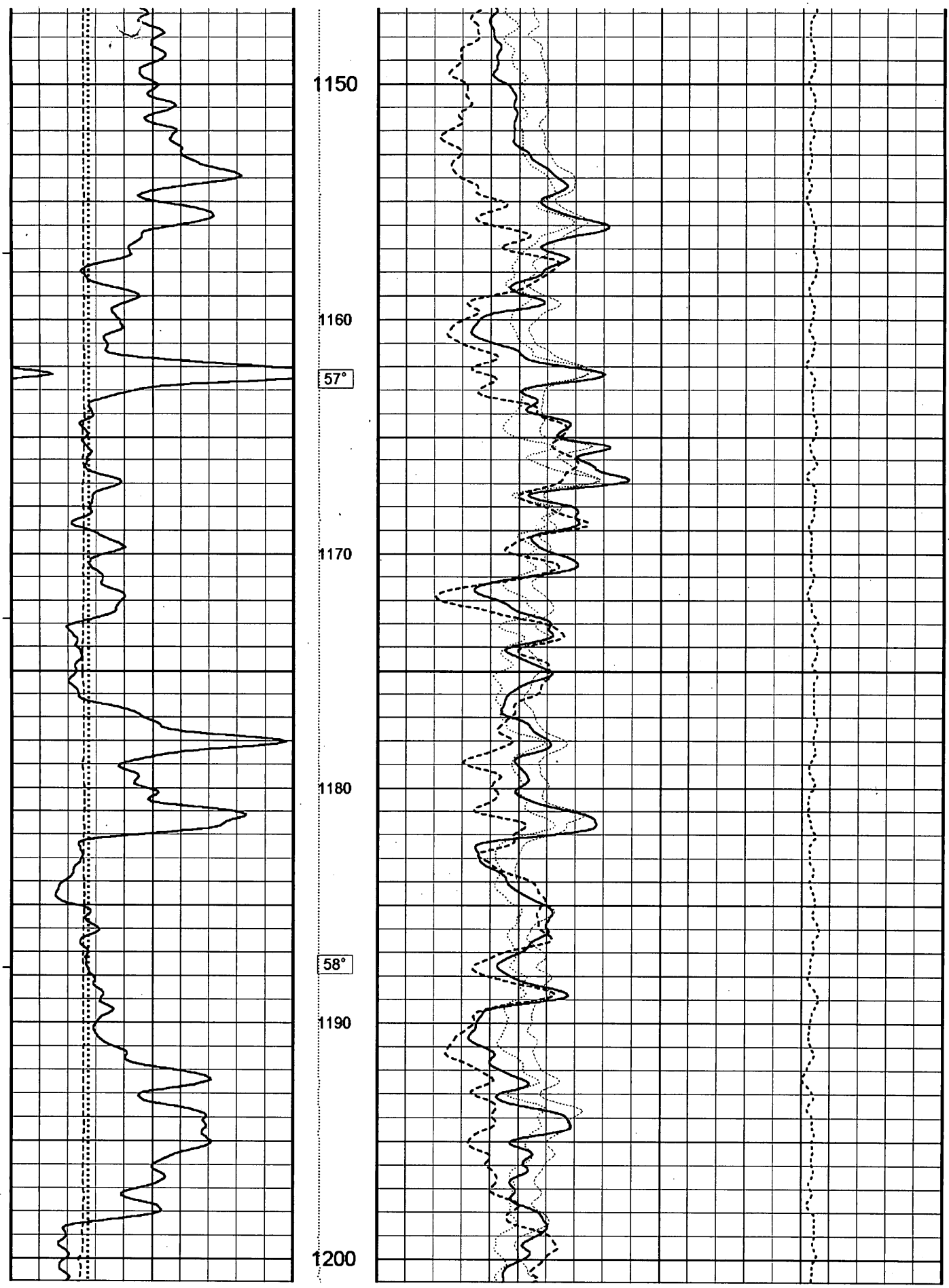
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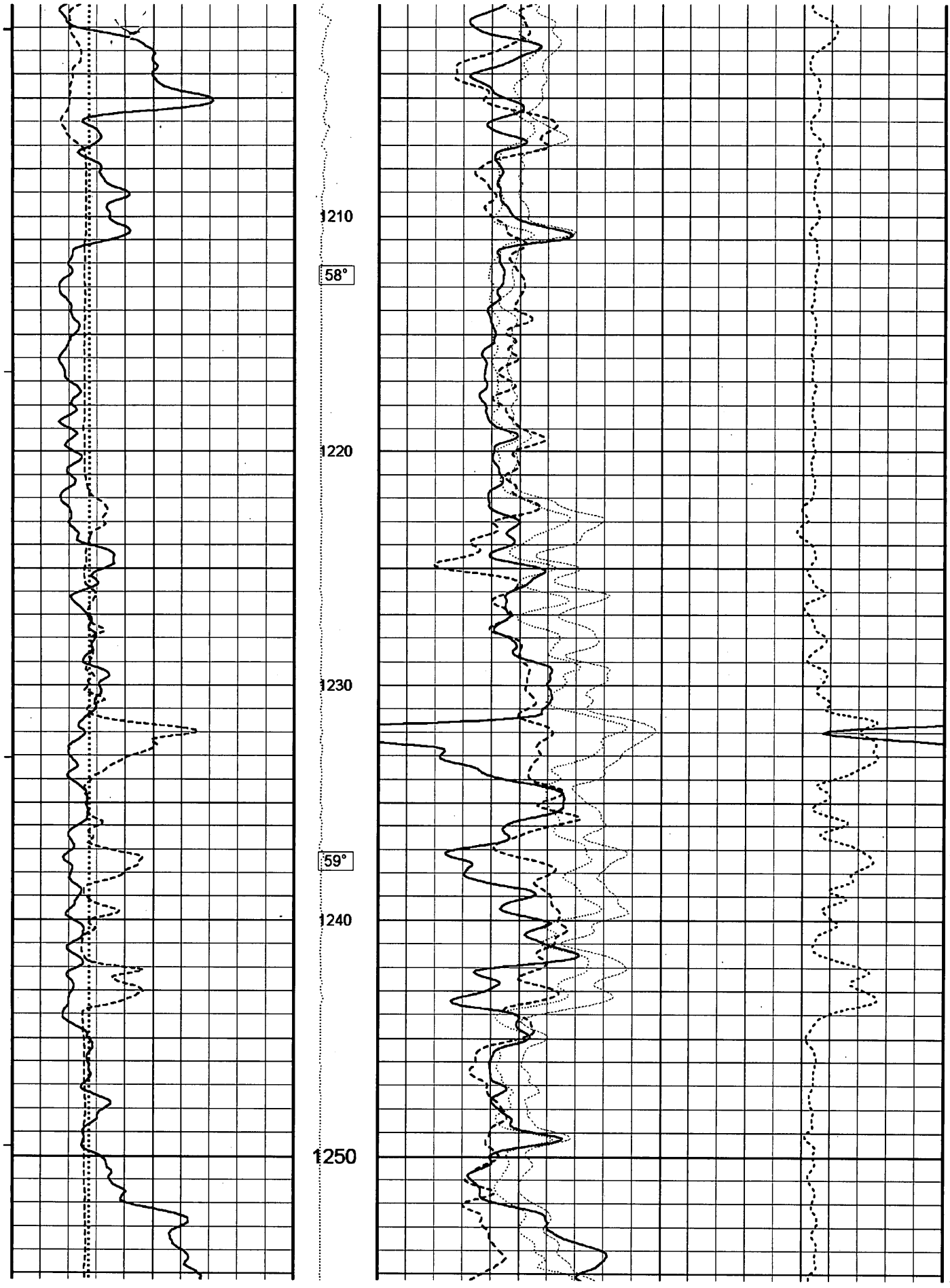
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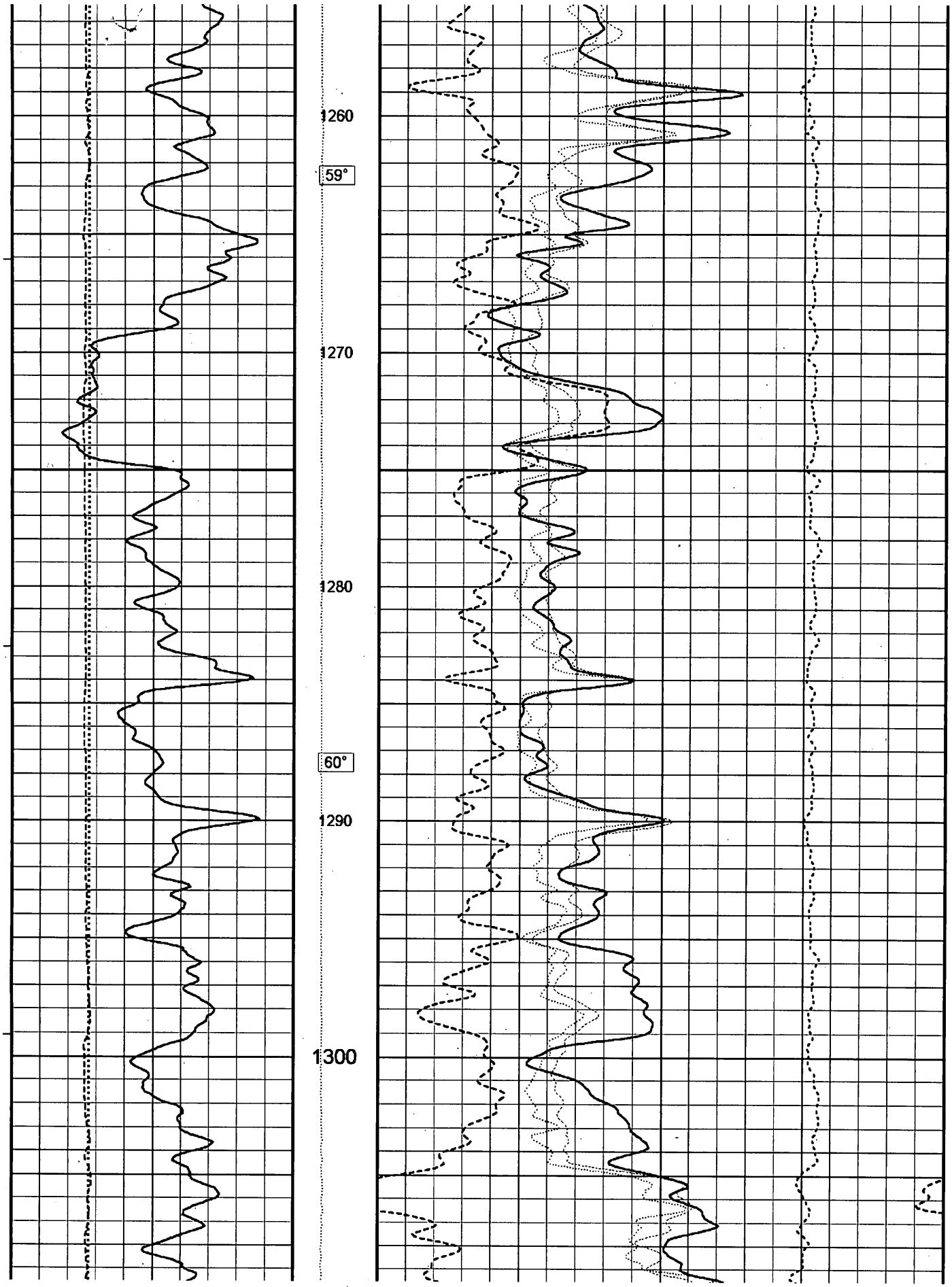
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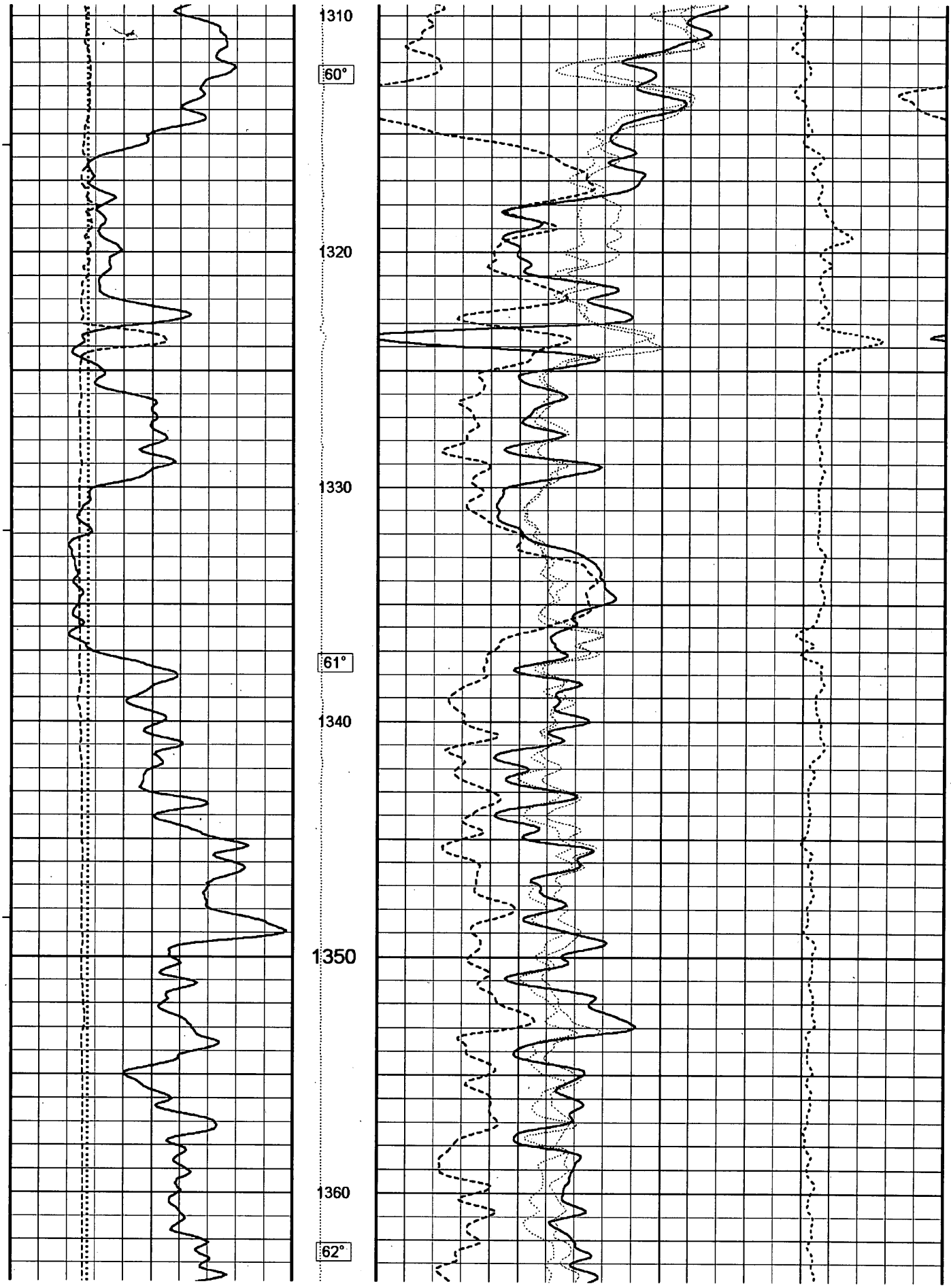
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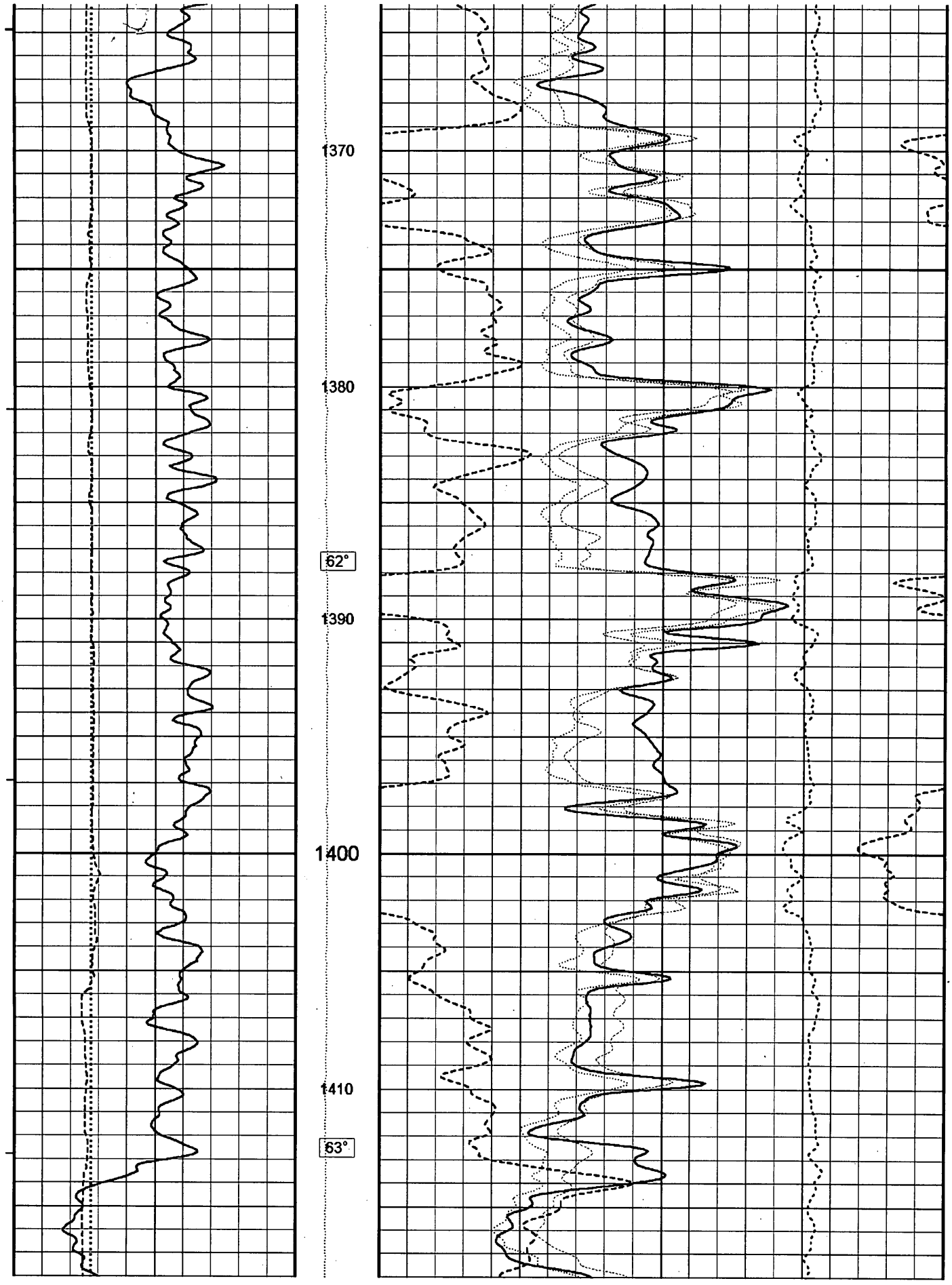
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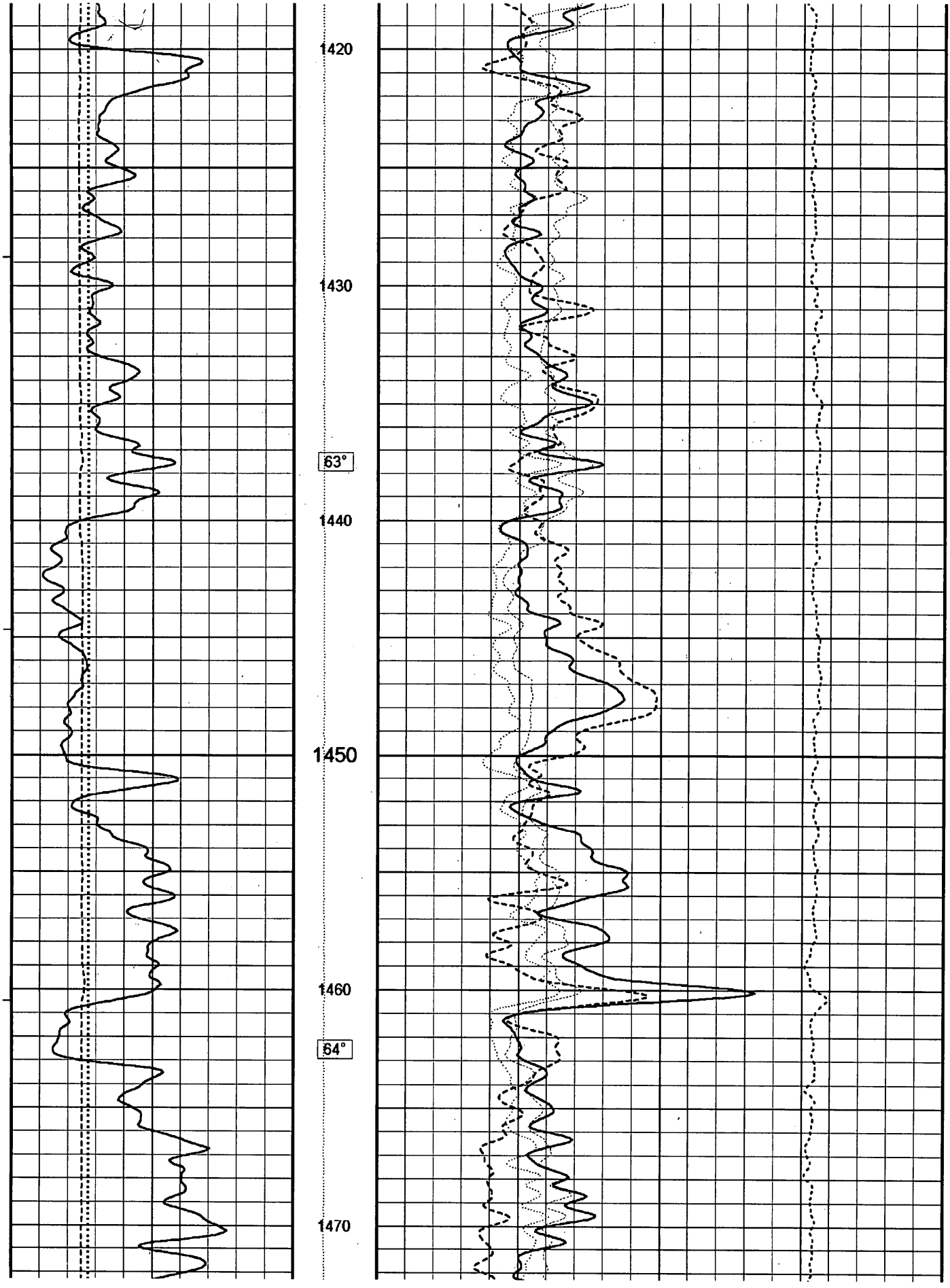

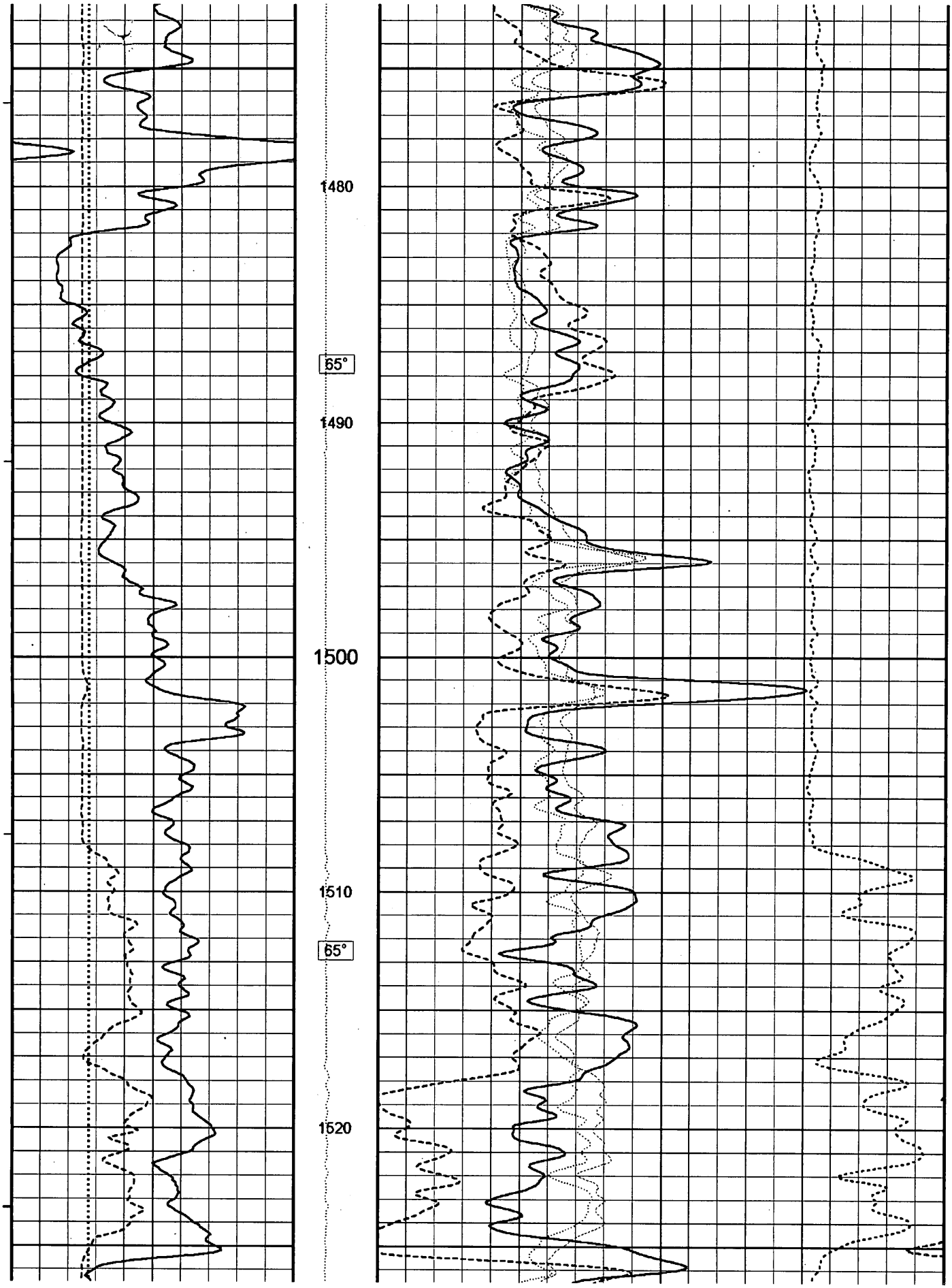
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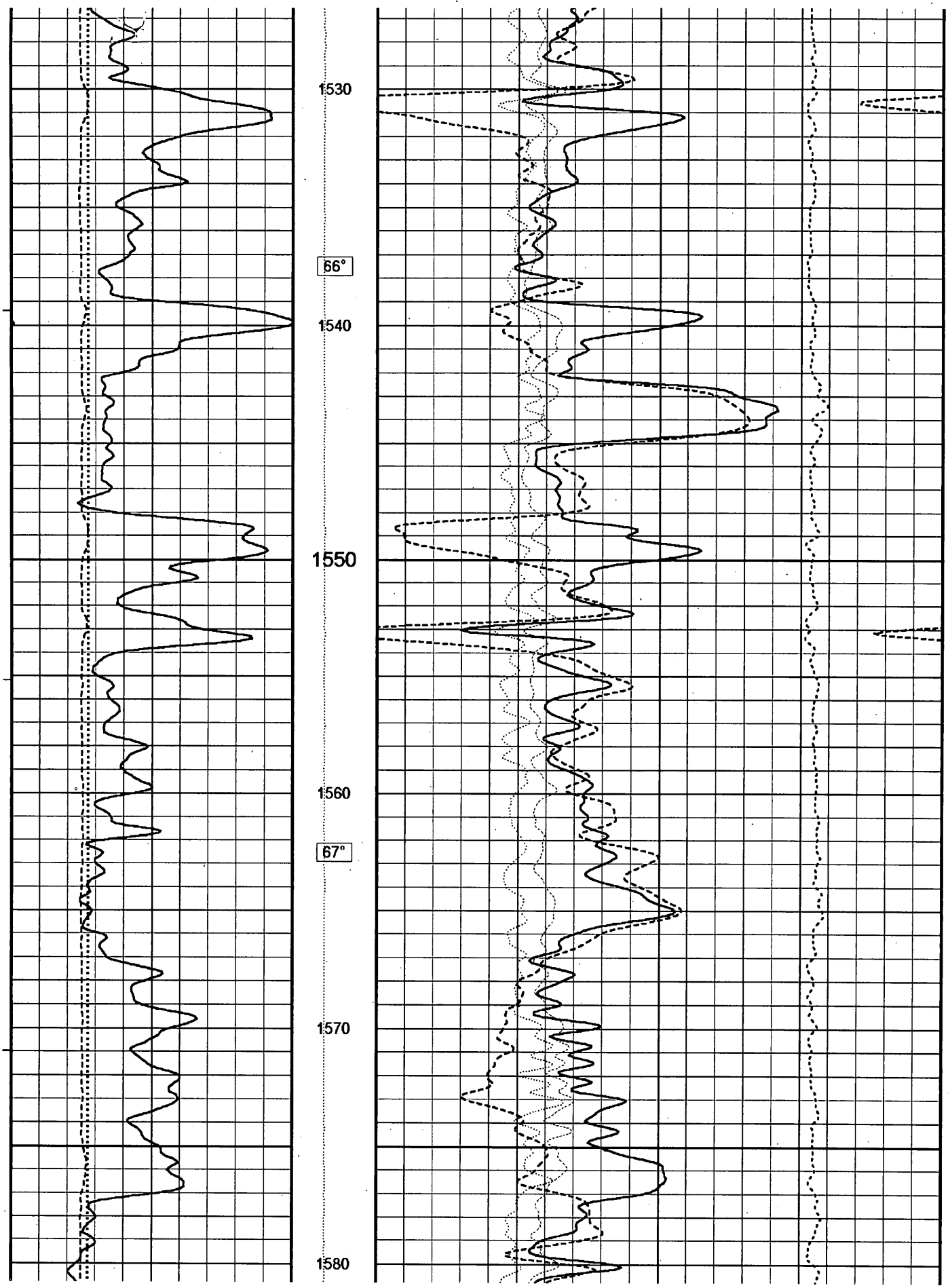

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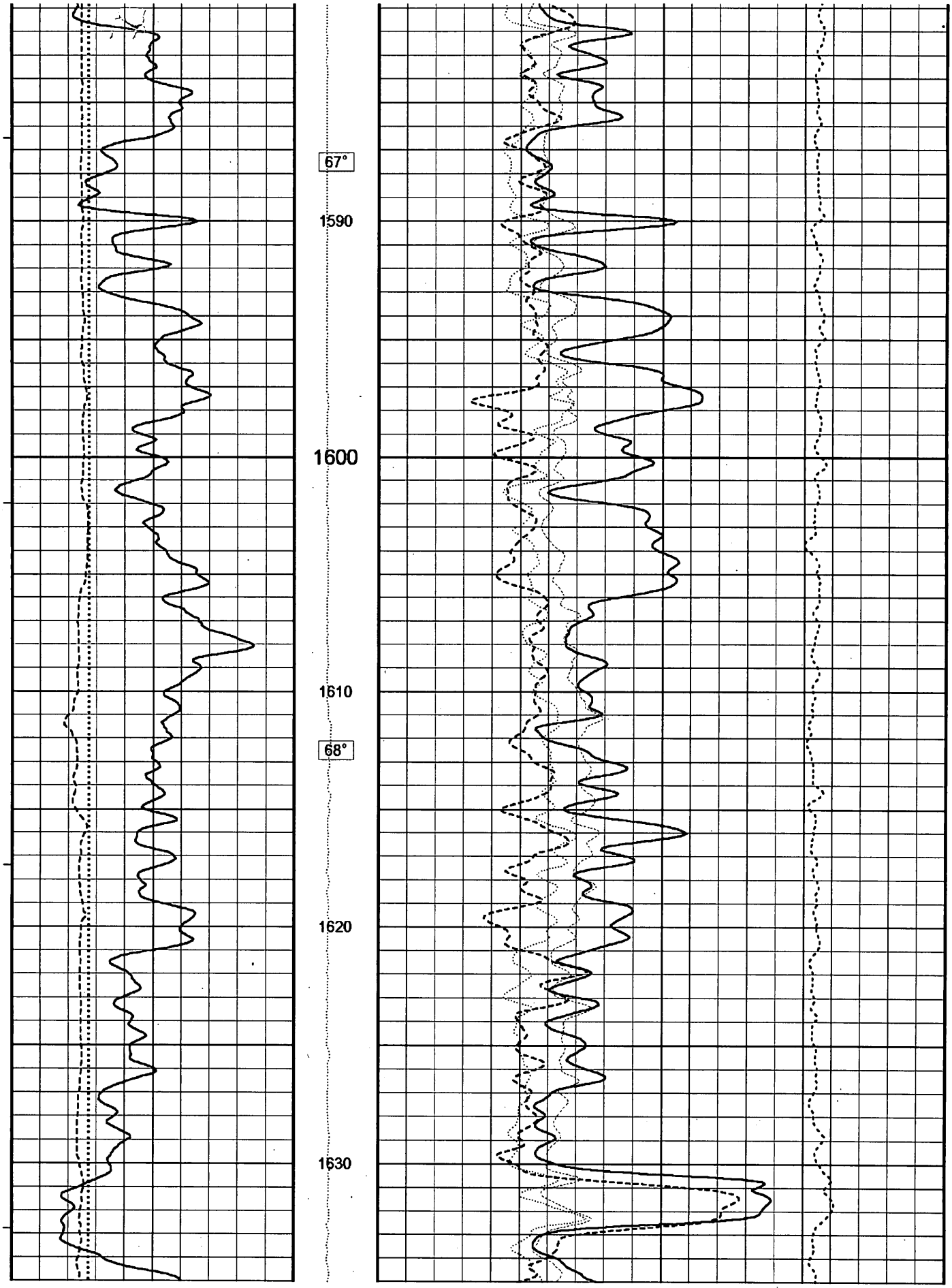

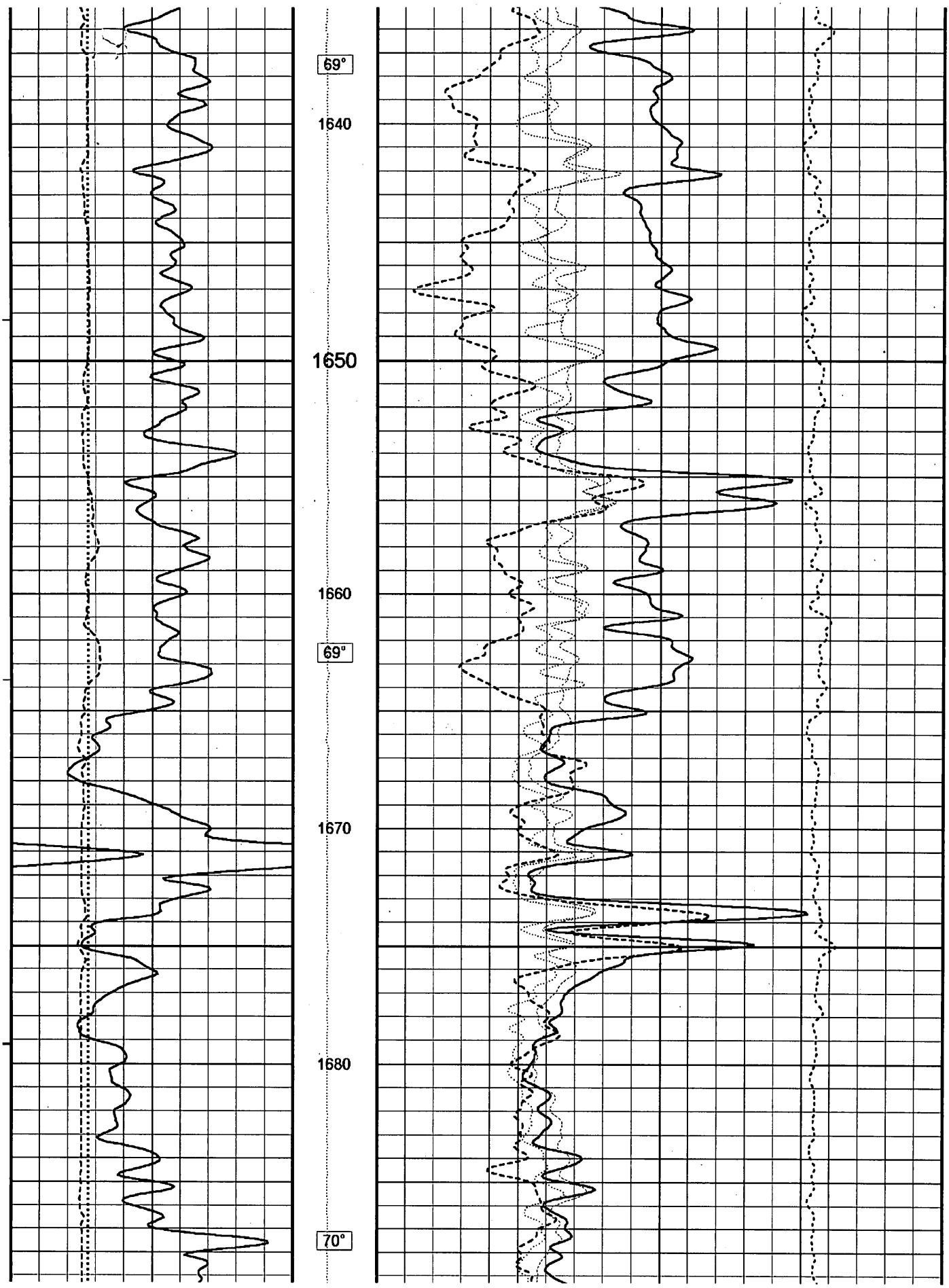
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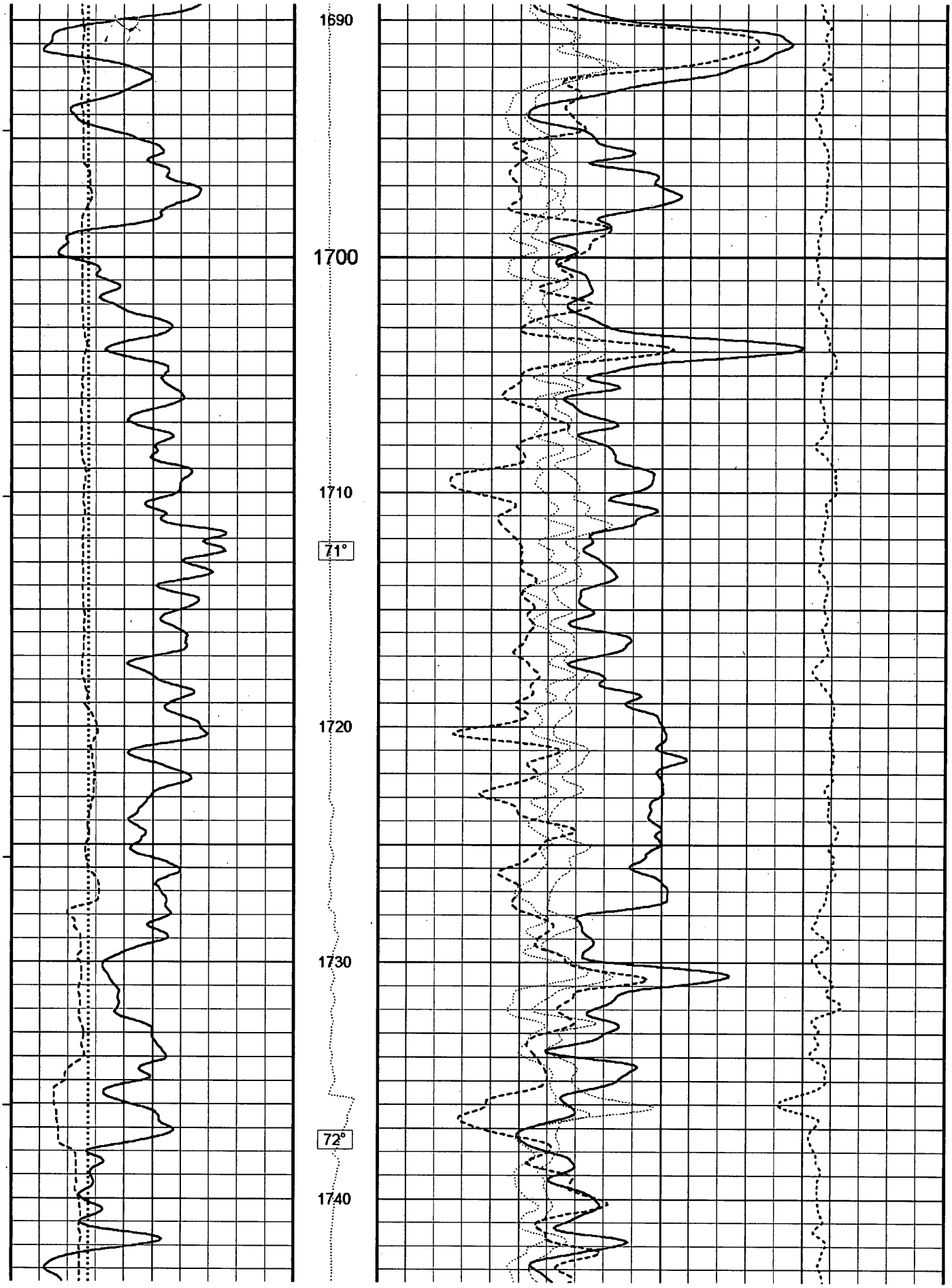
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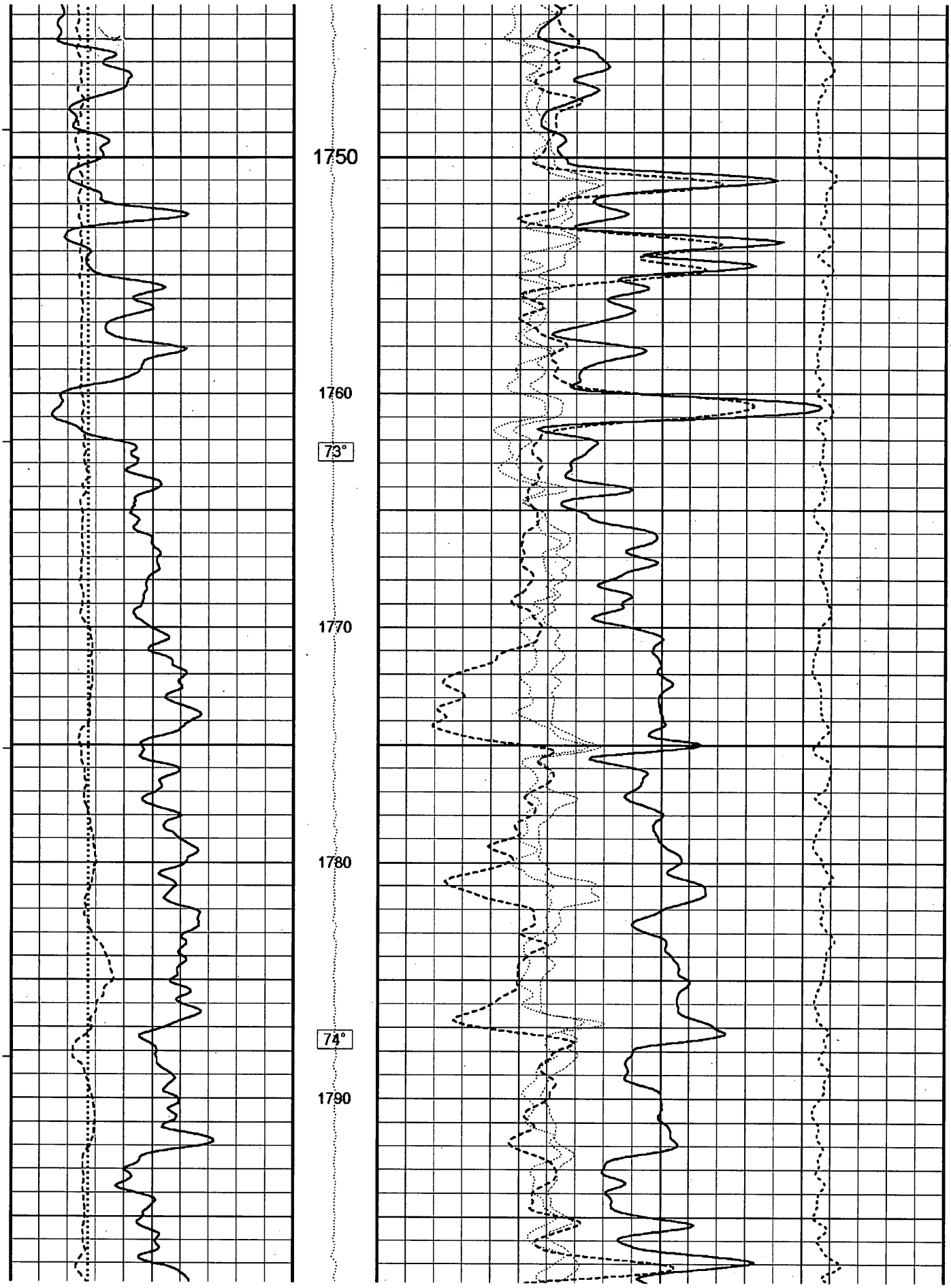
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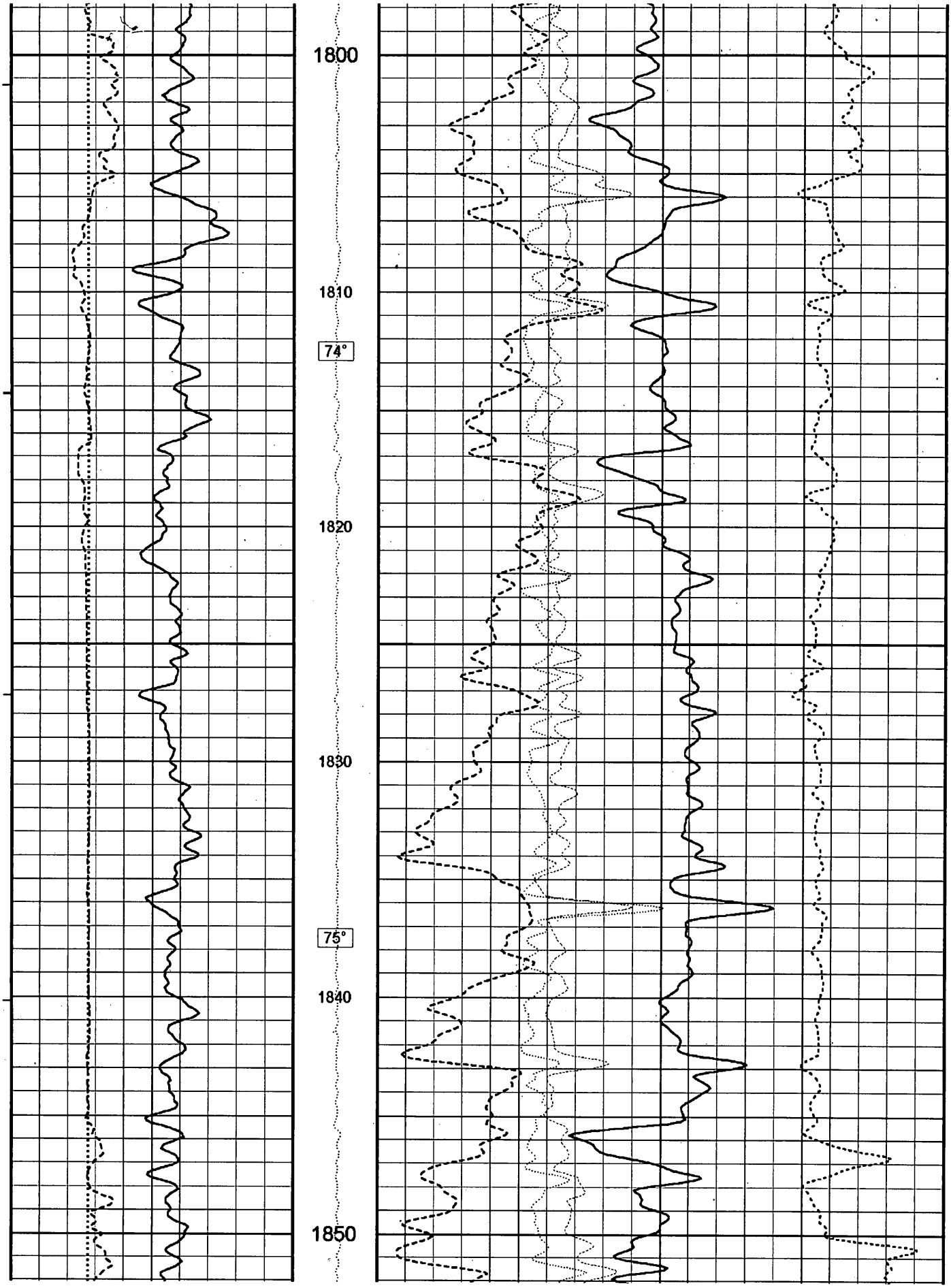
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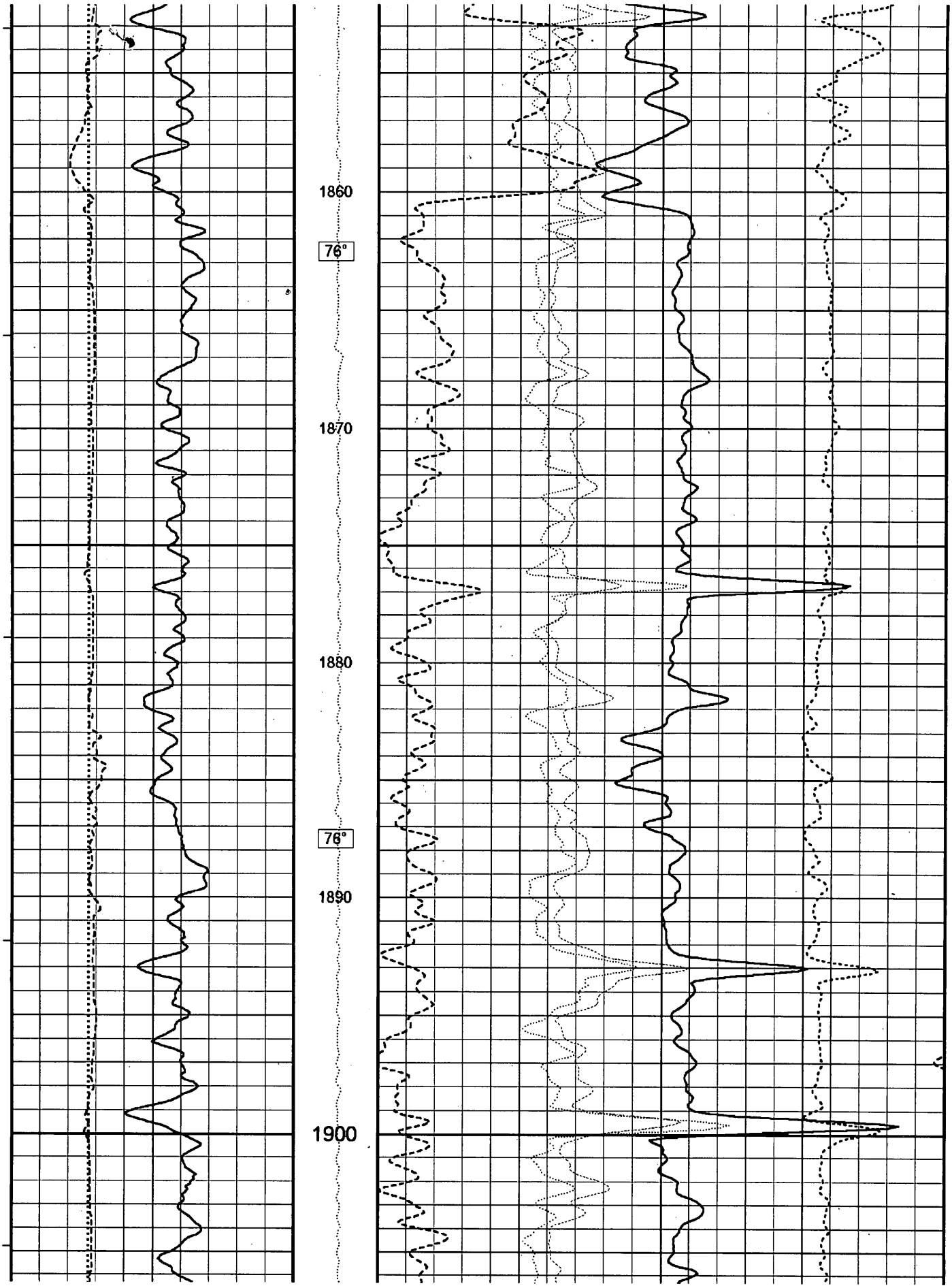
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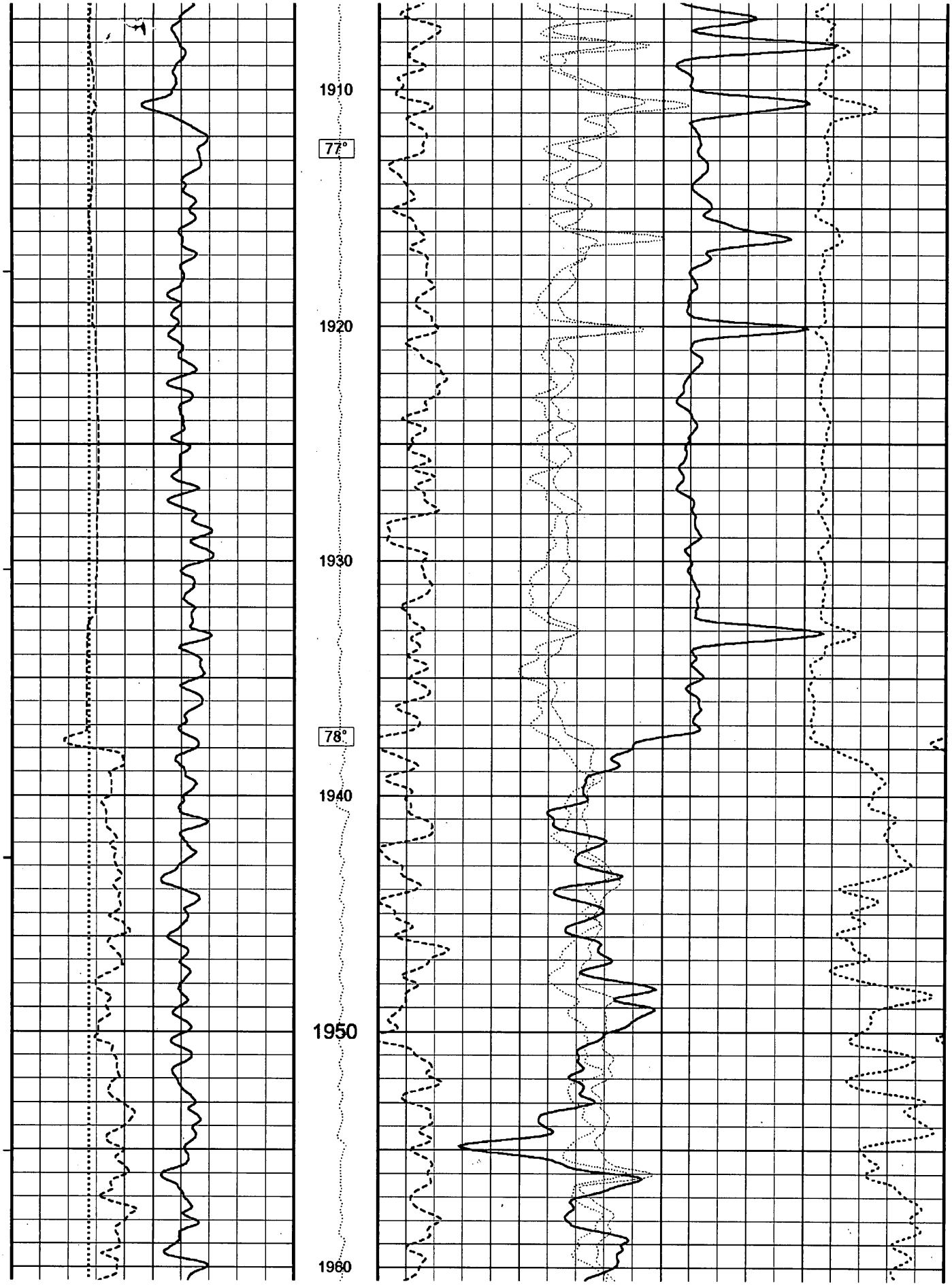
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1940
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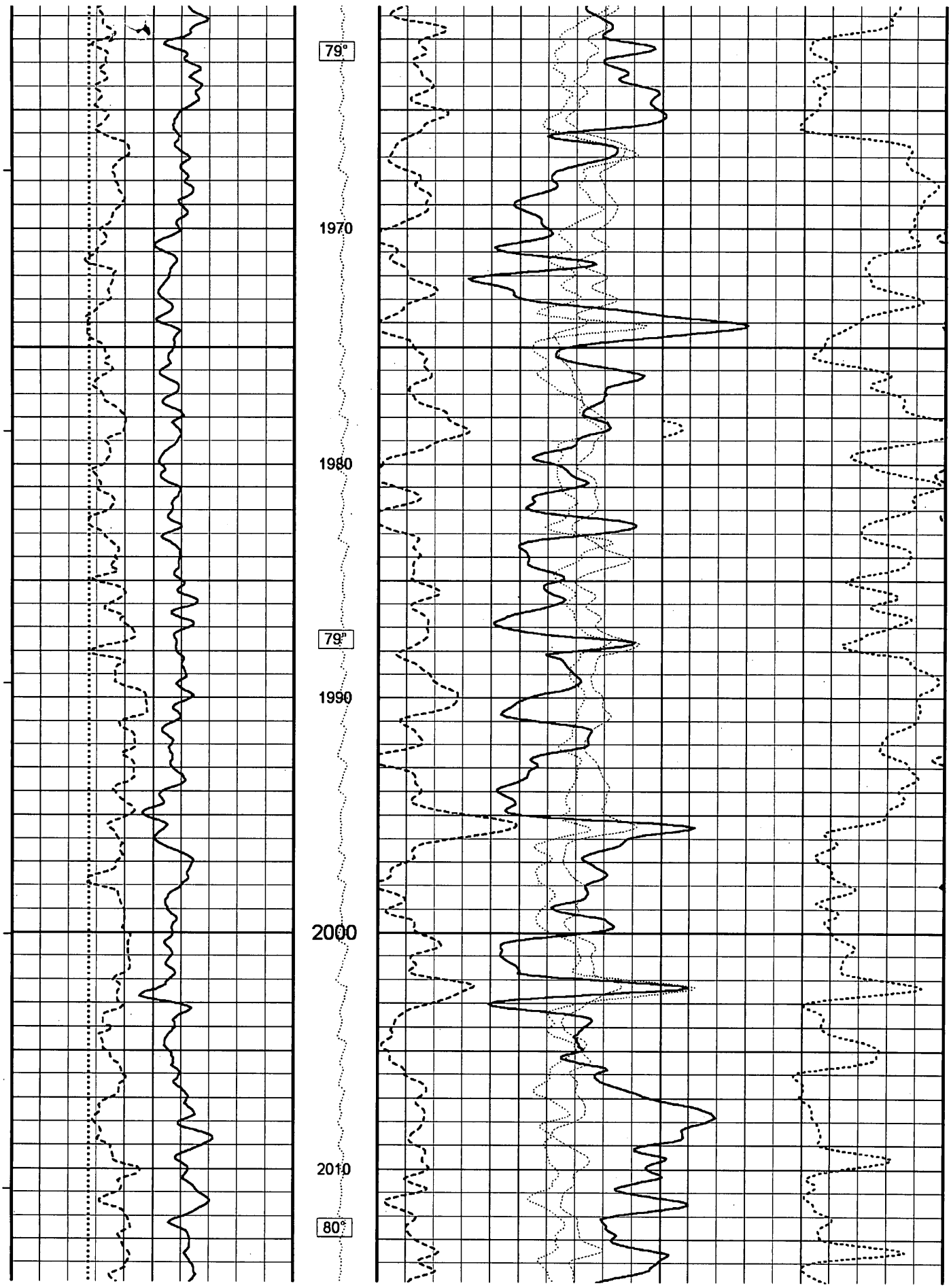
1960

909044 100



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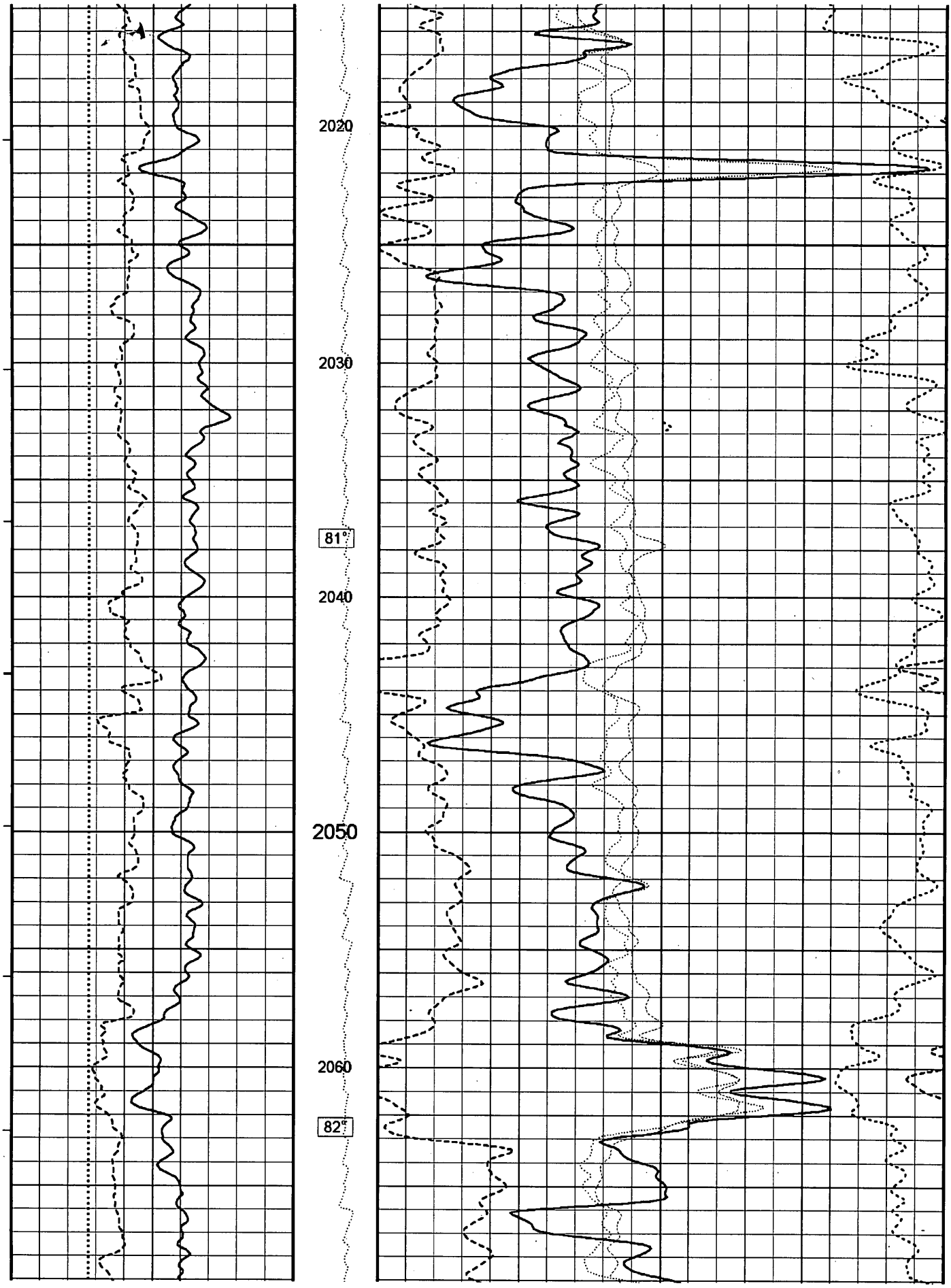

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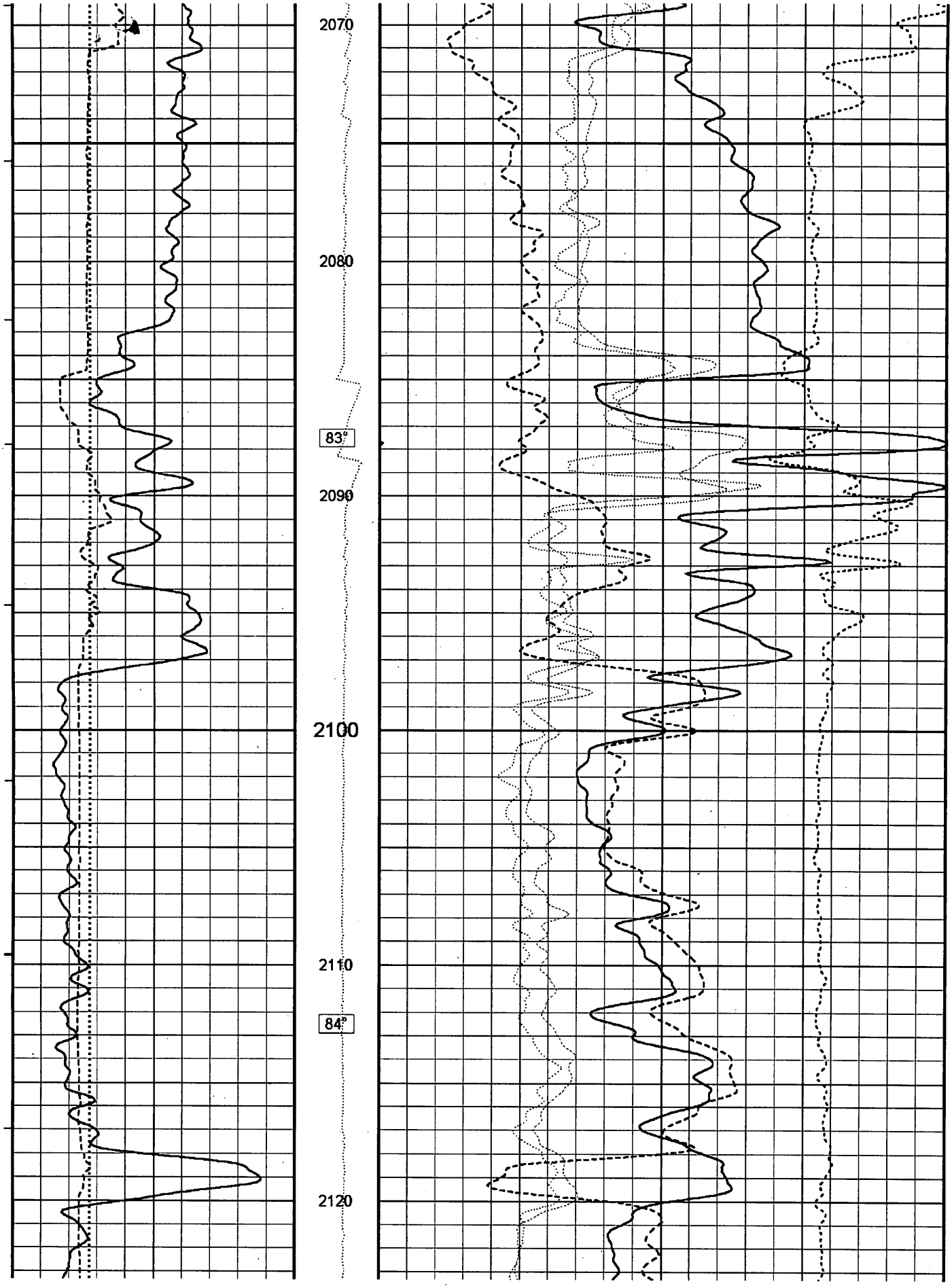

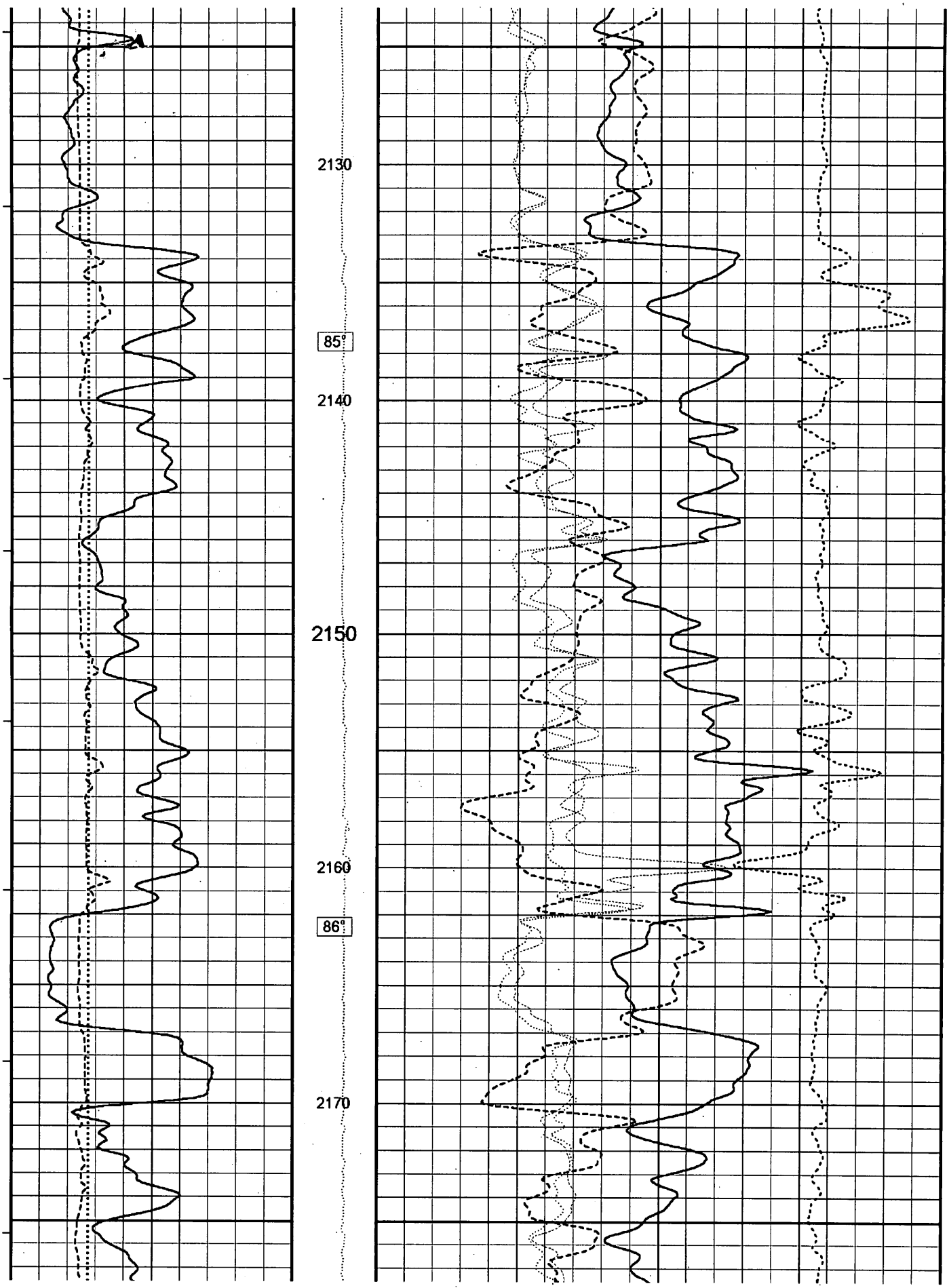
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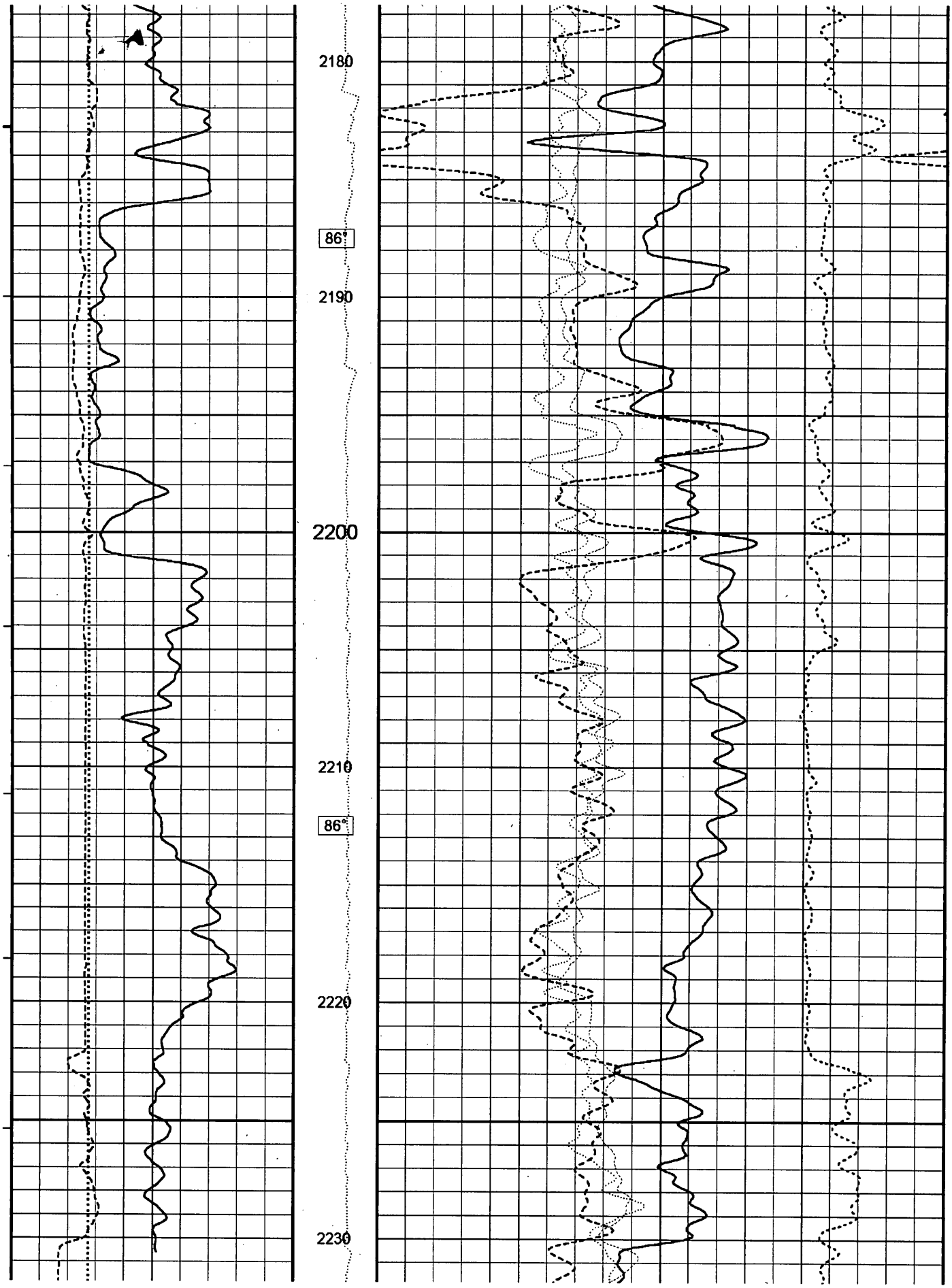
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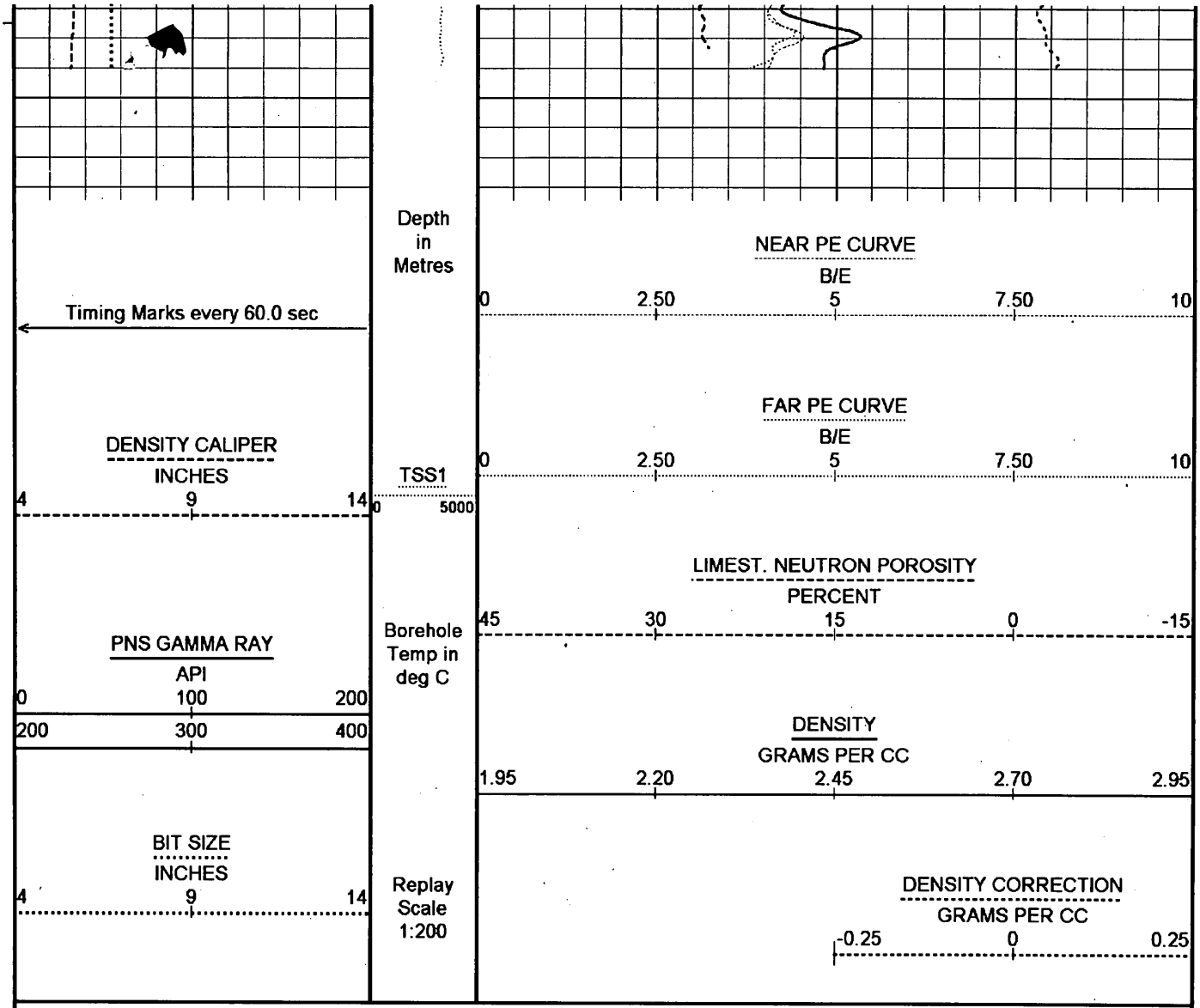

Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:\snaylor\mrgepdsf.dta
System Configuration Dates: Logged : Plotted 04-DEC-2001:

Plotted on 28-DEC-2001 04:55
Recorded on 27-DEC-2001 23:12

PDS MAIN LOG

COMPANY	SANTOS
WELL	NAYLOR SOUTH 1
FIELD	OTWAY
PROVINCE/COUNTY	VICTORIA
COUNTRY/STATE	SANTOS

Elevation Kelly Bushing		First Reading	2237.0 M
Elevation Drill Floor	4.7 M	Depth Driller	2243.0 M
Elevation Ground Level	48.3 M	Depth Logger	2238.0 M

Reeves

CNS PDS
GR CALIPER
1:200

Michael.Giuliano@santos.com on 12/28/2001 10:34:33 AM

To: kourosh.mehin@nre.vic.gov.au
cc: (bcc: Kourosh Mehin/NRE)
Subject: Naylor South Logs

Michael FX Giuliano
Senior Staff Operations Geologist
Santos Ltd
Ph (08) 8224 7673
Mob 0418 821275(See attached file: pdsnaylorsth1.zip)(See attached file: Mrgedlsm.zip)(See attached file: pdsm.zip)(See attached file: dlsnaylorsth1.zip)

- pdsnaylorsth1.zip
- Mrgedlsm.zip
- pdsm.zip
- dlsnaylorsth1.zip

Santos

A.C.N. 007 550 923

WELL PROGRESS REPORT

NAYLOR SOUTH 1

DATE: 28/12/2001 (0600 Hours E.S.T.)

DEPTH: 2243 T.D. **PROGRESS:** 0m **DAYS FROM SPUD:** 12

CURRENT OPERATION: RUNNING IN HOLE WITH CEMENT STINGER TO SET ABANDONMENT PLUGS

NOPE COST $1,283,828 (P&A) $1,448,078 (C&S) **FINAL FORECAST COST** **COST TO DATE:** $

CASING DEPTH: 434m **RIG:** ODE 30

PROGRAMMED TD: 2152m **ROTARY TABLE:** 53.0m **GROUND LEVEL:** 48.3m

MUD DATA (2400 Hours)	Type:	Wt:	Visc:	WL:	pH:	K^+:	Cl^-:	PV/YP:	Rmf:
	KCl/PHPA	9.4	43	5.8	9.0	29700	7500	14/14	0.5 @ 20 DEGC

BIT DATA (2400 Hours)		No.	Make	Type	Size	Hours	Meterage	Condition
	LAST	4	HYCALOG	DS185	6 3/4"	11.2	424	2-5-WT-S-X-I-LN-TD
	PRESENT	2RR	HUGHES	STR554 A3X	6 3/4"	0	0	6-2-WT-S-X-I-RO-BHA

SURVEYS:	MD	TVDRT	INCLINATION(°)	AZIMUTH (°)T	OFFSET (m)
30	1828	1819	22.8	172	6.5
31	1877	1865	19.2	171	22.6
32	1925	1911	15	170	36.5
33	1977	1962	12	177	47.5
34	2025	2009	9	190	55.9
35	2068	2051	7.5	193	61.7
36	2116	2099	8	219	66.9
37	2221	2203	10.5	247	76.3

PREVIOUS 24 HOURS OPERATIONS:

CIRCULATE AND PUMP HIGH VISCOSITY PILL. FLOW CHECK, PUMP SLUG AND PULL OUT OF HOLE. HOLD PRE JOB SAFETY MEETING. RIG UP TO RUN REEVES WIRELINE LOGS. RUN1: DLS-MRS-LCS-GR-CAL, RUN 2: PDS-CNS-GR. PULL OUT OF HOLE AFTER REEVES WIRELINE LOGGING. RIG DOWN REEVES, RIG UP FOR CEMENTING.

ANTICIPATED OPERATIONS:

CONTINUE RUN IN HOLE TO SET ABANDONMENT PLUGS.

Tina.Mannella@santos.com on 12/28/2001 09:45:24 AM

To: OTWAY.BASIN@santos.com
cc: (bcc: Kourosh Mehin/NRE)
Subject: MORNING REPORTS 28/12/01 - NAYLOR STH 1

(See attached file: NS1_2812.pdf)

 - NS1_2812.pdf

Anna.Pignetti@santos.com on 12/27/2001 09:39:55 AM

To: neil.gibbins@beachpetroleum.com.au, hector.gordon@beachpetroleum.com.au, kourosh.mehin@nre.vic.gov.au, bruce.armour@nre.vic.gov.au
cc: danny.burns@beachpetroleum.com.au (bcc: Kourosh Mehin/NRE)
Subject: Naylor Sth 1 Reps

(See attached file: NS1_2512.pdf)(See attached file: Ns1_2000.pdf)(See attached file: Ns1_2100.pdf)(See attached file: Ns1_2200.pdf)(See attached file: Ns1_2300.pdf)(See attached file: Ns1_1800.pdf)

Anna Pignetti
Geology Operations Department
Santos Limited
Ph: 08 8224 7967

 - NS1_2512.pdf

 - Ns1_2000.pdf

 - Ns1_2100.pdf

 - Ns1_2200.pdf

 - Ns1_2300.pdf

 - Ns1_1800.pdf

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WELL PROGRESS REPORT

NAYLOR SOUTH 1

DATE: 27/12/2001 (0600 Hours E.S.T.)

DEPTH: 2243 T.D. **PROGRESS:** **DAYS FROM SPUD:** 11

CURRENT OPERATION: PULLING OUT OF HOLE FOLLOWING WIPER TRIP TO RUN WIRELINE LOGS

NOPE COST (C&S) $1,283,828 (P&A)$1,448,078 **FINAL FORECAST COST** **COST TO DATE: $**

CASING DEPTH: 434m **RIG:** ODE 30

PROGRAMMED TD: 2152m **ROTARY TABLE:** 53.0m **GROUND LEVEL:** 48.3m

MUD DATA (2400 Hours)	Type:	Wt:	Visc:	WL:	pH:	K^+:	Cl^-:	PV/YP:	Rmf:
	KCl/PHPA	9.4	43	5.5	9.0	32400	7500	15/13	0.5 @ 20 DEGC

BIT DATA (2400 Hours)		No.	Make	Type	Size	Hours	Meterage	Condition
	LAST	4	HYCALOG	DS185	6 3/4"	11.2	424	2-5-WT-S-X-I-LN-TD
	PRESENT	2RR	HUGHES	STR554A3X	6 3/4"			IN HOLE

SURVEYS:	MD	TVDRT	INCLINATION(°)	AZIMUTH (°)T	OFFSET (m)
30	1828	1819	22.8	172	6.5
31	1877	1865	19.2	171	22.6
32	1925	1911	15	170	36.5
33	1977	1962	12	177	47.5
34	2025	2009	9	190	55.9
35	2068	2051	7.5	193	61.7
36	2116	2099	8	219	66.9
37	2221	2203	10.5	247	76.3

PREVIOUS 24 HOURS OPERATIONS:

PULL OUT OF HOLE TO 2145m . WORK TIGHT HOLE AT 2140m. BACK REAM FROM 2145m TO 2097m. PULL OUT OF HOLE TO 1809m. WORK TIGHT HOLE FROM 1852m TO 1809m. BACK REAM FROM 1809m TO 1788m. PULL OUT OF HOLE FROM 1788m TO SURFACE. INTERMITTENT DRAG OF UP TO 35klb OVERPULL NOTED FROM MOST STANDS TO 600m. FREQUENTLY SWABBING HOLE. BREAK OFF AND LAY OUT 3 STABILISERS, NMDC AND 2 FLOATS. STABILISERS AND BIT PACKED OFF WITH CLAY. PICK UP AND MAKE UP BIT SUB AND RE-RUN BIT. RUN IN HOLE TO TD. CIRCULATE HOLE CLEAN AND PUMP HIVIS PILL. FLOW CHECK, PUMP SLUG AND PULL OUT OF HOLE. TOP WAARRE FORMATION WAS INTERSECTED 21m SOUTH AND 19m EAST OF PLANNED LOCATION - WHICH IS WITHIN THE 25m RADIUS TARGET TOLERANCE.

ANTICIPATED OPERATIONS:

PULL OUT OF HOLE AND RIG UP REEVES TO RUN WIRELINE LOGGING.

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WELL PROGRESS REPORT

NAYLOR SOUTH 1

DATE: 26/12/2001 (0600 Hours E.S.T.)

FORMATION TOPS:	RT(m)	-TVDSS(m)	H/L to Prog	H/L to NAYLOR 1
CLIFTON FORMATION	464	-411	1m L	1m H
MEPUNGA FORMATION	551	-498	3m L	2m H
DILWYN FORMATION	609	-556	24m H	29m H
PEMBER MUDSTONE	909	-856	48m L	22m L
PEBBLE POINT FORMATION	980	-926	62m L	31m L
MASSACRE SHALE	1081	-1027	Not prog	74m L
TIMBOON SANDSTONE	1119	-1065	Not prog	90m L
PAARATTE FORMATION	1259	-1205	163m L	116m L
SKULL CREEK MUDSTONE	1781	-1723	62m L	243m L
BELFAST MUDSTONE	1936	-1869	7m L	200m L
FLAXMANS FORMATION	2084	-2014	59m L	58m L
WAARRE FORMATION: UNIT C	2102	-2031	56m L	54m L
WAARRE FORMATION: UNIT B	2132	-2061	Not prog	56m L
WAARRE FORMATION: UNIT A	2144	-2073	Not prog	52m L
EUMERALLA FORMATION	2193	-2121	67m L	60m L
TD	2244	-2171	71m L	

HYDROCARBON SHOW SUMMARY		
INTERVAL	**LITHOLOGY**	**GAS**
NONE		

GEOLOGICAL SUMMARY		
INTERVAL	**LITHOLOGY**	**GAS** Peak / Background

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WELL PROGRESS REPORT

NAYLOR SOUTH 1

DATE: 26/12/2001 (0600 Hours E.S.T.)

DEPTH: 2243 **PROGRESS:** 378 m **DAYS FROM SPUD:** 10

CURRENT OPERATION: PREPARING TO PULL OUT OF HOLE ON WIPER TRIP AT TD.

NOPE COST (C&S) $1,283,828 (P&A)$1,448,078 **FINAL FORECAST COST** **COST TO DATE: $**

CASING DEPTH: 434m **RIG:** ODE 30

PROGRAMMED TD: 2152m **ROTARY TABLE:** 53.0m **GROUND LEVEL:** 48.3m

MUD DATA (2400 Hours)	Type:	Wt:	Visc:	WL:	pH:	K^+:	Cl^-:	PV/YP:	Rmf:
	KCl/PHPA	9.4	43	5.5	9.0	32400	8000	14/14	0.5 @ 20 DEGC

BIT DATA (2400 Hours)		No.	Make	Type	Size	Hours	Meterage	Condition
	LAST	3	SMITH	X32DGPS	6 3/4"	18.3	169	5-5-WT-A-E-I-ER-PR
	PRESENT	4	HYCALOG	DS185	6 3/4"	7.4	367	IN HOLE

SURVEYS:	MD	TVDRT	INCLINATION(°)	AZIMUTH (°)T	DEPARTURE (m)		OFFSET (m)
26	1764	1761	21.6	162.65	4.4 E	20.8 N	20.799
27	1783	1778	23.1	167.52	6.2 E	13.9 N	13.933
28	1792	1786	22.7	167.37	7.0 E	10.4 N	10.421
29	1802	1795	22.5	167.20	7.8 E	6.9 N	6.913
30	1828	1819	22.8	172			6.5
31	1877	1865	19.2	171			22.6
32	1925	1911	15	170			36.5
33	1977	1962	12	177			47.5
34	2025	2009	9	190			55.9
35	2068	2051	7.5	193			61.7
36	2116	2099	8	219			66.9
37	2221	2203	10.5	247			76.3

PREVIOUS 24 HOURS OPERATIONS:

DRILL AHEAD 6 3/4" HOLE WITH WIRELINE SURVEYS APPROX EVERY 50m TO TD AT 2243m. WELL REACHED TD AT 0430 HOURS 26/12/01. CIRCULATE BOTTOMS UP. CIRCULATION STOPPED AT 5:30am ON THE 26/12/01. RUN WIRELINE SURVEY.

ANTICIPATED OPERATIONS:

20 STAND WIPER TRIP. CIRCULATE BOTTOMS UP. PULL OUT OF HOLE TO RUN WIRELINE LOGS

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WELL PROGRESS REPORT

NAYLOR SOUTH 1

DATE: 26/12/2001 (0600 Hours E.S.T.)

FORMATION TOPS:	RT(m)	-TVDSS(m)	H/L to Prog	H/L to NAYLOR 1
PAARATTE FORMATION	1259	-1205	163m L	116m L
SKULL CREEK MUDSTONE	1781	-1723	62m L	243m L
BELFAST MUDSTONE	1936	-1869	7m L	200m L
FLAXMANS FORMATION	2084	-2014	59m L	58m L
WAARRE FORMATION: UNIT C	2102	-2031	56m L	54m L
WAARRE FORMATION: UNIT B	2132	-2061	Not prog	56m L
WAARRE FORMATION: UNIT A	2144	-2073	Not prog	52m L
EUMERALLA FORMATION	2193	-2121	67m L	60m L

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY	GAS
NONE		

GEOLOGICAL SUMMARY

INTERVAL	LITHOLOGY	GAS Peak / Background
1865m - 1936m ROP: 0.6 - 1.3 m/ft Ave: 0.7 mn/ft	SILTSTONE WITH TRACE LIMESTONE SILTSTONE: medium - dark grey , arenaceous - argillaceous in part, occasional carbonaceous specks, trace feldspars, soft - occasional firm, subblocky - subfissile. LIMESTONE: pale - medium brown, micritic, firm, moderately hard, microcrystalline.	10 - 20 UNITS 96/4
1936 - 2084 ROP: 0.6 - 2 m/ft Ave: 0.9 mn/ft	**BELFAST MUDSTONE** MASSIVE SILTSTONE SILTSTONE: medium - dark grey, medium - dark grey brown, arenaceous, trace micro micaceous, trace calcareous, common dark green glauconite, firm, dispersive.	20 - 40 UNITS 94/6
2084 - 2102 ROP: 0.8 - 1.5 m/ft Ave: 1.1 mn/ft	**FLAXMANS FORMATION** INTERBEDDED SANDSTONE AND SILTSTONE SANDSTONE: clear, translucent, milky-off white, very fine - medium, predominantly fine, subangular - subrounded, hard siliceous cement, white argillaceous matrix, predominantly loose, occasional hard, poor inferred porosity, no fluorescence. SILTSTONE: pale - medium grey, medium - dark grey / brown, very fine arenaceous, common carbonaceous specks, common glauconite, calcareous, trace micro micaceous, trace pyrite, firm - moderately hard, subblocky - dispersive.	50 - 80 UNITS PEAK:200 UNITS 93/5/2

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A.C.N. 007 550 923

WELL PROGRESS REPORT

NAYLOR SOUTH 1

DATE: 26/12/2001 (0600 Hours E.S.T.)

GEOLOGICAL SUMMARY

INTERVAL	LITHOLOGY	GAS Peak / Background
2102 - 2132 ROP: 0.8 - 1.3 m/ft Ave: 1.0 mn/ft	**WAARRE FORMATION: UNIT C** SANDSTONE WITH MINOR SILTSTONE SANDSTONE: clear, translucent, off white, very fine - very coarse, predominantly medium, poor sorted, angular - subangular, occasional weak siliceous cement, trace off white argillaceous matrix, loose - moderately hard, poor visual porosity, poor - fair inferred porosity, no fluorescence. SILTSTONE: pale - medium grey, very fine arenaceous, common carbonaceous specks and laminations, minor calcareous, firm - moderately hard, subblocky - subfissile.	50 - 90 UNITS PEAK: 160 UNITS 94/5/1
2132 - 2144 ROP: 1.2 - 2.1 m/ft Ave: 1.7 mn/ft	**WAARRE FORMATION: UNIT B** SILTSTONE WITH MINOR SANDSTONE SANDSTONE: clear, translucent, off white, very fine - coarse, poor sorted, subangular - subrounded, weak siliceous cement, common off white argillaceous matrix, loose - moderately hard, poor visual porosity, no fluorescence. SILTSTONE: pale - medium grey, very fine arenaceous, common carbonaceous specks and laminations, minor calcareous, firm - moderately hard, subblocky - subfissile.	60 - 70 UNITS 92/6/2/Tr
2144 - 2193 ROP: 0.8 - 3.8 m/ft Ave: 1.3 mn/ft	**WAARRE FORMATION: UNIT A** INTERBEDDED SANDSTONE AND SILTSTONE SANDSTONE: off white, clear, translucent, occasional pale grey, very fine - fine, occasional coarse, well sorted - bimodal, subangular - subrounded, moderately hard siliceous cement, trace calcareous matrix, common argillaceous matrix, trace glauconite, trace pyrite, moderately hard - hard, very poor visual porosity, poor inferred porosity, no fluorescence. SILTSTONE: pale brown, pale - medium brown / grey, medium - dark grey, arenaceous, trace glauconite, trace calcareous, firm - moderately hard, subfissile - subblocky.	30 - 80 UNITS PEAK:300 UNIT 91/7/2/Tr
2193 - 2243 ROP: 0.7 - 26 m/ft Ave: 2.8 mn/ft	**EUMERALLA FORMATION** INTERBEDDED SANDSTONE AND SILTSTONE SANDSTONE: off white – very light grey, occasionally light green / grey, occasional clear – translucent, fine - medium, predominantly fine, moderately well sorted, subangular - subrounded, common weak calcareous cement, common - abundant white argillaceous matrix, occasional lithics, trace pyrite, friable - occasional loose, poor visual and inferred porosity, no fluorescence. SILTSTONE: medium grey - medium grey / brown, common pale blue / grey, argillaceous, trace very fine arenaceous, trace very fine micro micaceous in part, firm - occasional soft, rare moderately hard, subblocky.	10 - 40 UNITS 93/5/2

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WELL PROGRESS REPORT

NAYLOR SOUTH 1

DATE: 25/12/2001 (0600 Hours E.S.T.)

DEPTH: 1865 **PROGRESS:** 86 m **DAYS FROM SPUD:** 9

CURRENT OPERATION: DRILLING AHEAD 6 3/4" HOLE IN THE SKULL CREEK MUDSTONE

NOPE COST (C&S) $1,283,828 (P&A)$1,448,078 **FINAL FORECAST COST** **COST TO DATE:** $

CASING DEPTH: 434m **RIG:** ODE 30

PROGRAMMED TD: 2152m **ROTARY TABLE:** 53.0m **GROUND LEVEL:** 48.3m

MUD DATA (2400 Hours)	Type:	Wt:	Visc:	WL:	pH:	K^+:	Cl^-:	PV/YP:	Rmf:
	KCl/PHPA	9.1	40	5.6	9.0	29700	10500	12/12	0.3 @ 22 DEGC

BIT DATA (2400 Hours)		No.	Make	Type	Size	Hours	Meterage	Condition
	LAST	3	SMITH	X32DGPS	6 3/4"	18.3	169	5-5-WT-A-E-I-ER-PR
	PRESENT	4	HYCALOG	DS185	6 3/4"	0.35	86	IN HOLE

SURVEYS:	MD	TVDRT	INCLINATION(°)	AZIMUTH (°)	DEPARTURE (m)		OFFSET (m)
26	1764	1761	21.6	162.65	4.4 E	20.8 N	20.799
27	1783	1778	23.1	167.52	6.2 E	13.9 N	13.933
28	1792	1786	22.7	167.37	7.0 E	10.4 N	10.421
29	1802	1795	22.5	167.20	7.8 E	6.9 N	6.913
30	1828	1819	22.8	160			6.5

PREVIOUS 24 HOURS OPERATIONS:

DRILL AHEAD 6 3/4" HOLE WITH MWD. SLIDE TO BUILD ANGLE. DRILL AHEAD 6 3/4" HOLE WITH MWD. DRILL TO 1819m. PULL OUT OF HOLE FOR BIT TRIP, RUN IN HOLE. CONTINUE DRILLING IN THE SKULL CREEK FORMATION, WITH WIRELINE SURVEYS APPROX EVERY 50m. BEARING AND DISTANCE FROM TARGET ARE 165° AND 45mTVD.

ANTICIPATED OPERATIONS:

DRILL AHEAD 6 3/4" HOLE TO TD.

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A.C.N. 007 550 923

WELL PROGRESS REPORT

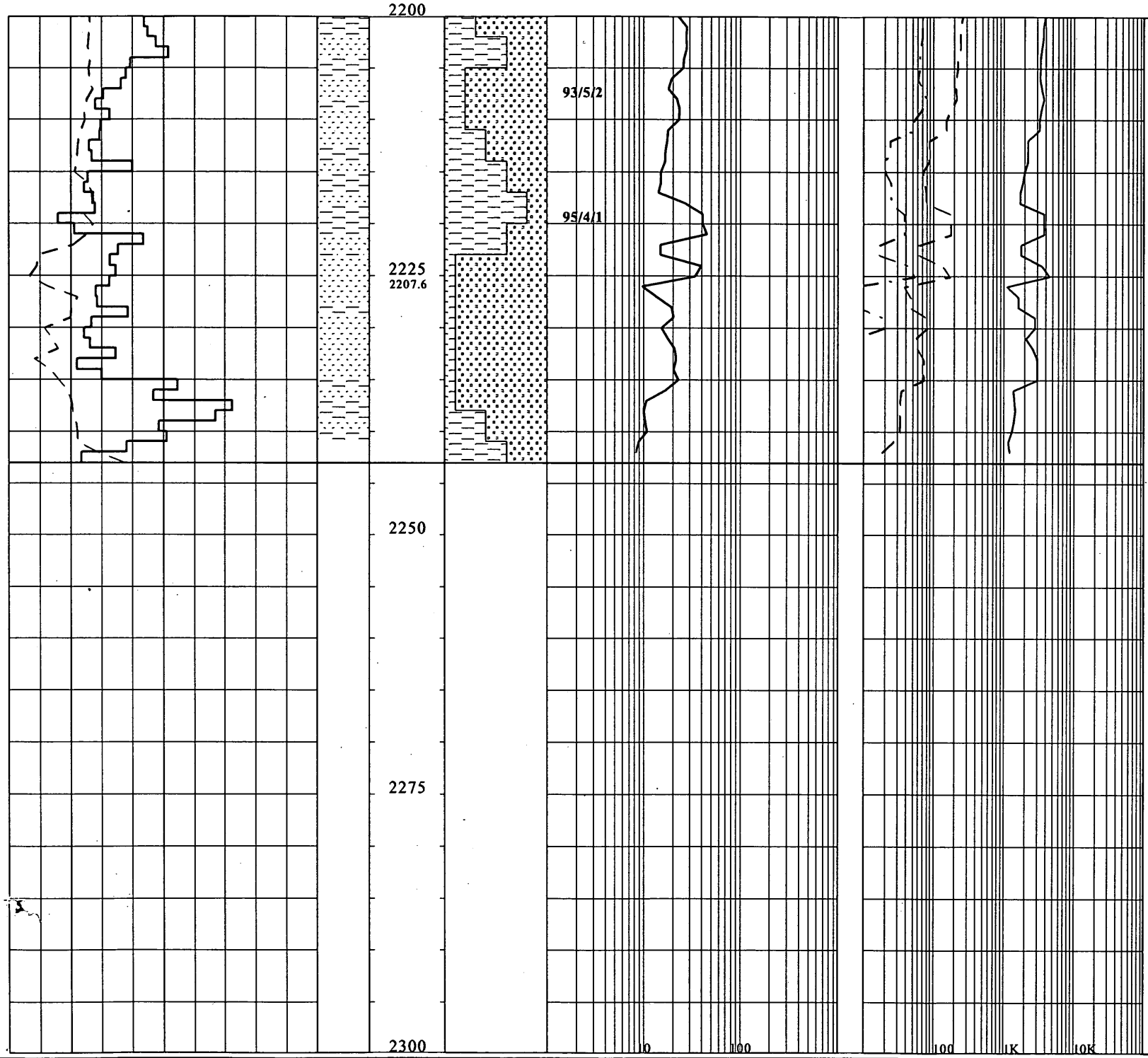
NAYLOR SOUTH 1

DATE: 25/12/2001 (0600 Hours E.S.T.)

FORMATION TOPS:	RT(m)	Subsea(m)	H/L to Prog	H/L to NAYLOR 1
CLIFTON FORMATION	464	-411	1m L	1m H
MEPUNGA FORMATION	551	-498	3m L	2m H
DILWYN FORMATION	609	-556	24m H	29m H
PEMBER MUDSTONE	909	-856	48m L	22m L
PEBBLE POINT FORMATION	980	-927	62m L	31m L
MASSACRE SHALE	1081	-1028	Not prog	74m L
TIMBOON SANDSTONE	1119	-1066	Not prog	90m L
PAARATTE FORMATION	1259	-1206	164m L	117m L
SKULL CREEK MUDSTONE	1782	-1729	68m L	248m L

HYDROCARBON SHOW SUMMARY		
INTERVAL	**LITHOLOGY**	**GAS**
NONE		

GEOLOGICAL SUMMARY		
INTERVAL	**LITHOLOGY**	**GAS** Peak / Background
1779 - 1782 ROP: 1.2 - 17 m/ft Ave: 7.8 mn/ft	INTERBEDDED SANDSTONE AND SILTSTONE SANDSTONE: clear, translucent, occasionally milky, very fine - very coarse, bimodal sorting, subangular - subround, trace off white argillaceous matrix, occasional pyrite nodules, loose, poor inferred porosity, no fluorescence. SILTSTONE: pale - medium grey, predominantly light grey, argillaceous in part, common calcareous, soft - dispersive, amorphous.	Nil - trace gas
1782 - 1865 ROP: 5.9 - 29 m/ft Ave: 9.1 mn/ft	**SKULL CREEK MUDSTONE** SILTSTONE WITH MINOR SANDSTONE SILTSTONE: light - medium grey, occasional light grey / brown, argillaceous to arenaceous in part, trace carbonaceous specks, common pyrite nodular, soft, amorphous. SANDSTONE: clear, off white, translucent, pale grey in part, predominantly very fine - fine, occasional coarse, moderately well sorted, subangular - subrounded, white argillaceous matrix, moderately siliceous cement, trace pyrite, loose, occasional moderately hard aggregates, very poor visual porosity, no fluorescence.	15 / 2 - 7 UNITS PEAK:96/4 BACKGROUND:100%C1



g y.

grn/gry,occ clr-trnsl,f-m,pred f
mod wl srt,sa-sr,com wk calc cmt
com-abdt wh arg mtx,occ liths,tr
pyr,fri-occ lse,pr vis & inf por
no fluor.

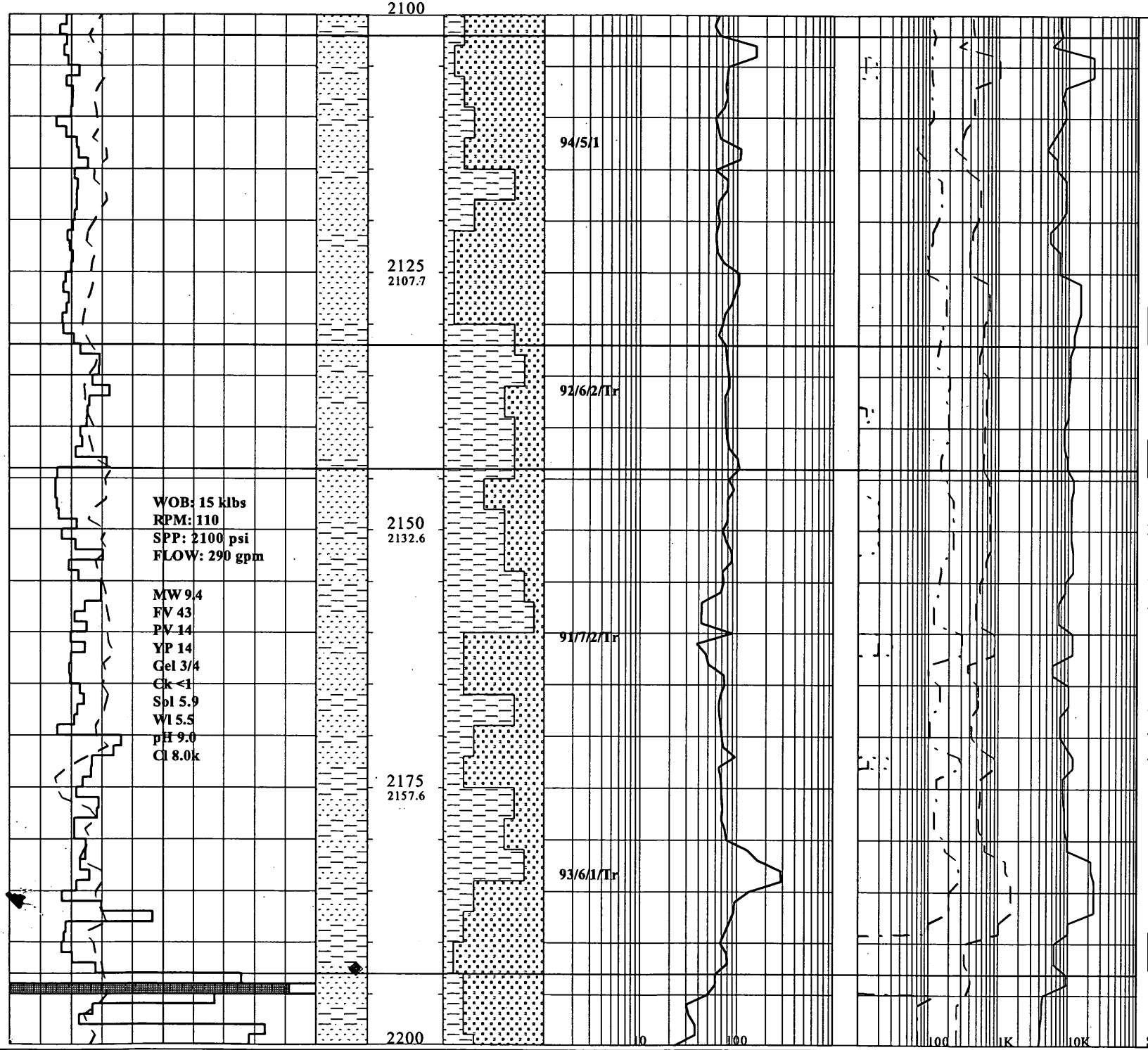
SILTSTONE:med gry-med gry/brn,
com pl blu/gry,arg,tr vf aren,tr
vf micmic i/p,frm,occ sft,rr mod
hd,sbblky.

NAYLOR SOUTH #1 REACHEAD TD @ 04:30 HRS ON THE 26/12/01

Well Name: NAYLOR STH 1

Geoservices

9090444 118



py

sbblky-disp.

WAARRE FM(UNIT C): 2102m (-2031mTVDSS)

SANDSTONE:clr,trnsl,off wh,vf-vcrs,pred med,pr srt,ang-sa,occ wk sil cmt,tr off wh arg mtx,lse -mod hd,pr-fr vis por,no fluor.
SILTSTONE:pl-med gy,med gy/bn, com vf aren,com carb spks & lam, frm-mod hd,sbblky-sbfiss.

WAARRE FM(UNIT B): 2132m (-2061mTVDSS)

SILTSTONE:pl-med gy,vf aren,com carb spks & lam,mnr calc,frm-mod hd,sbblky-sbfiss.

WAARRE FM(UNIT A): 2144m (-2073mTVDSS)

SANDSTONE:off wh,clr,trnsl,occ pl gy,vf-f,occ crs,wl srt-bimod, sa-sr,mod hd sil cmt,tr calc mtx com arg mtx,tr glauc,tr pyr,mod hd-hd,vpr vis & inf por,no fluor

SILTSTONE:pl bn,pl-med bn/gy,med -dk gy,aren,tr glauc,tr calc,frm -mod hd,sbfiss,sbblky.

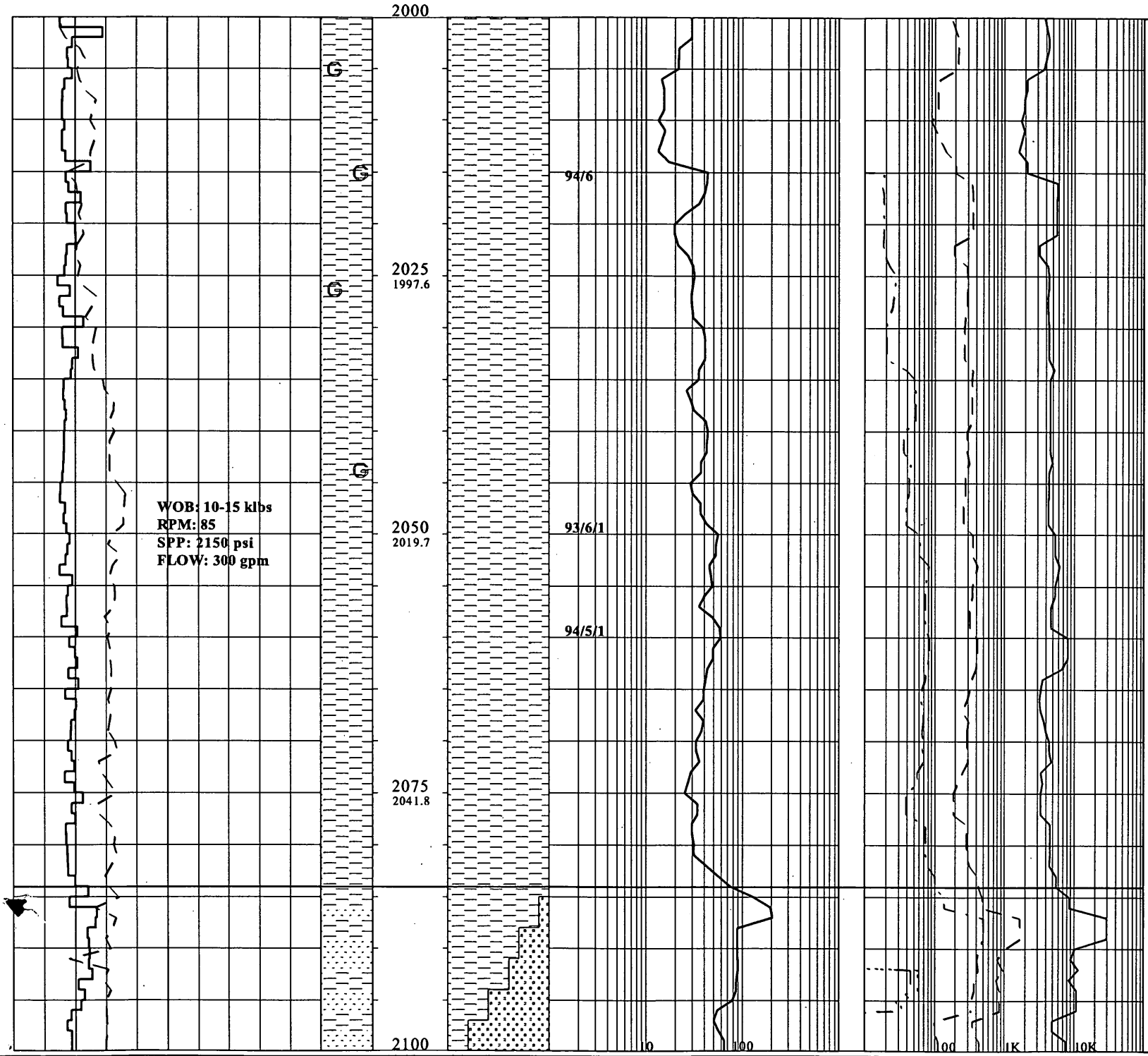
EUMERALLA FM: 2193m (-2121mTVDSS)

SANDSTONE:off wh-v lt gry,occ lt

Well Name: NAYLOR STH 1

Geoservices

9090441 119



SILTSTONE:med-dk gy,med-dk gy/bn aren,tr micmic,tr calc,com dk gn glauc,frm,disp.

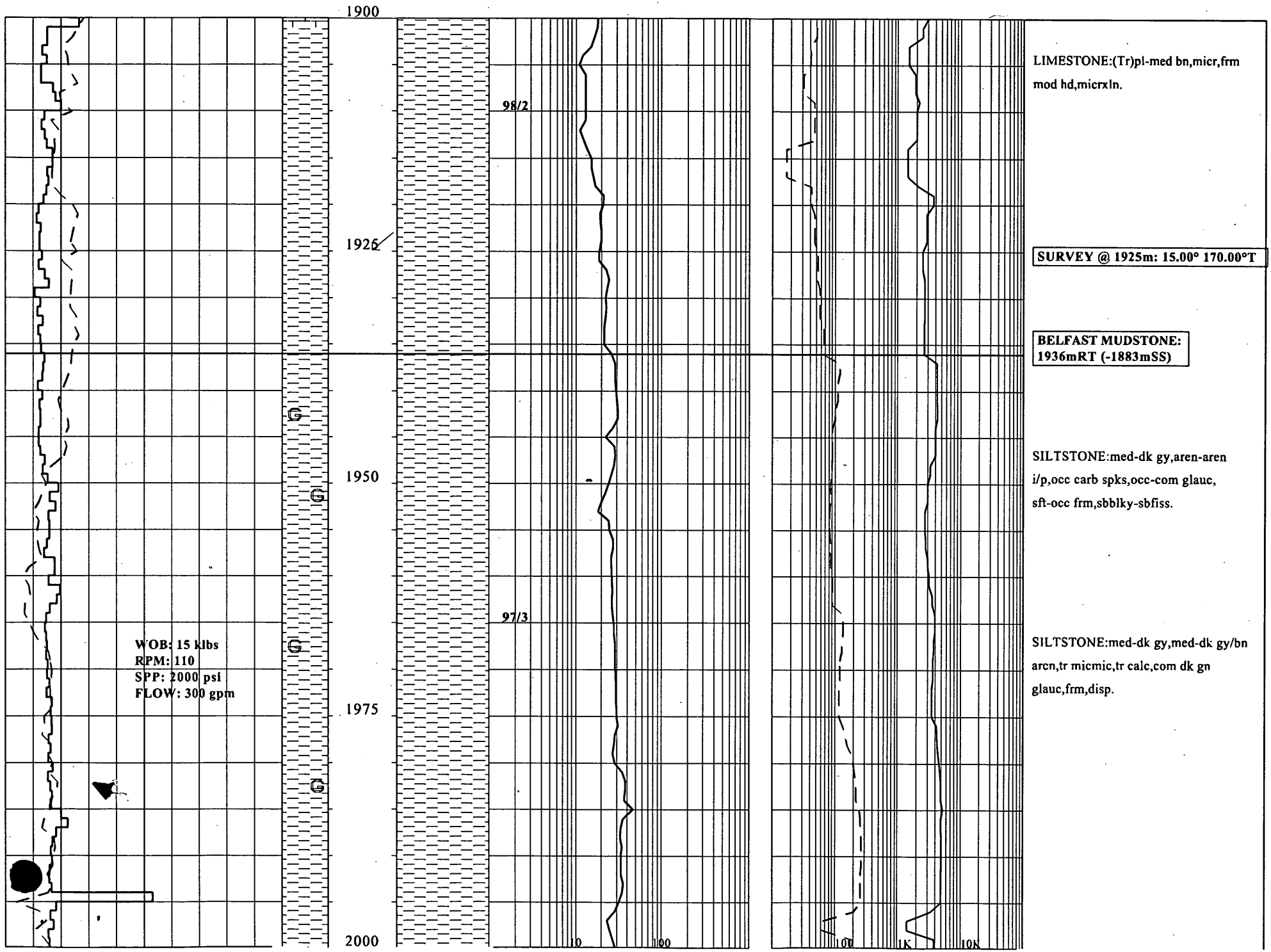
SILTSTONE:med-dk gy,med-dk gy/bn aren,tr micmic,tr calc,com dk gn glauc,frm,disp.

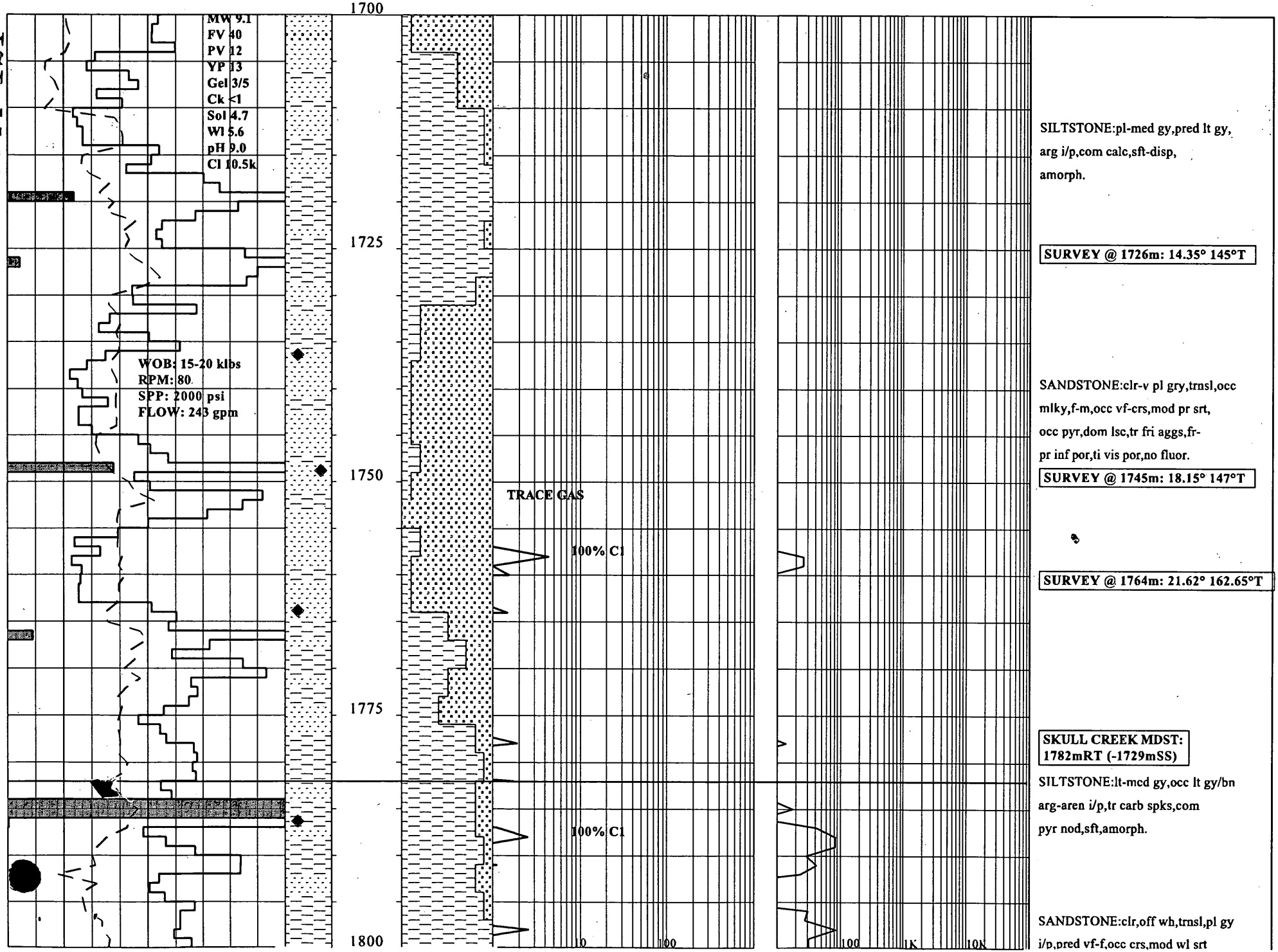
FLAXMANS FM: 2084m (-2016mTVDSS)

SANDSTONE:clr-trnsl,mlky-off wh, vf-med,pred f,sa-sr,hd sil cmt, wh arg mtx,pred lse,occ hd,pr inf por,no fluor.
SILTSTONE:pl-med gy,med-dk gy/bn vf aren,com carb spks,com glauc, calc,tr micmic,tr pyr,frm-mod hd

Well Name: NAYLOR STH 1

Geoservices


9090441 120
1900
1925
1950
1975
2000
98/2
97/3
G
G
G
G
WOB: 15 klbs
RPM: 110
SPP: 2000 psi
FLOW: 300 gpm
10
100
10
1K
10K
LIMESTONE:(Tr)pl-med bn,micr,frm mod hd,micrxln.
SURVEY @ 1925m: 15.00° 170.00°T
BELFAST MUDSTONE: 1936mRT (-1883mSS)
SILTSTONE:med-dk gy,aren-aren i/p,occ carb spks,occ-com glauc, sft-occ frm,sbblky-sbfiss.
SILTSTONE:med-dk gy,med-dk gy/bn arcn,tr micmic,tr calc,com dk gn glauc,frm,disp.


9090441 121
1700
1725
1750
1775
1800
MW 9.1
FV 40
PV 12
YP 13
Gel 3/5
Ck <1
Sol 4.7
WI 5.6
pH 9.0
Cl 10.5k
WOB: 15-20 klbs
RPM: 80
SPP: 2000 psi
FLOW: 243 gpm
TRACE GAS
100% C1
100% C1
10
100
100
1K
10K
SILTSTONE:pl-med gy,pred lt gy,
arg i/p,com calc,sft-disp,
amorph.
SURVEY @ 1726m: 14.35° 145°T
SANDSTONE:clr-v pl gry,trnsl,occ
mlky,f-m,occ vf-crs,mod pr srt,
occ pyr,dom lsc,tr fri aggs,fr-
pr inf por,ti vis por,no fluor.
SURVEY @ 1745m: 18.15° 147°T
SURVEY @ 1764m: 21.62° 162.65°T
SKULL CREEK MDST:
1782mRT (-1729mSS)
SILTSTONE:lt-med gy,occ lt gy/bn
arg-aren i/p,tr carb spks,com
pyr nod,sft,amorph.
SANDSTONE:clr,off wh,trnsl,pl gy
i/p,pred vf-f,occ crs,mod wl srt

Anna.Pignetti@santos.com on 12/24/2001 10:10:42 AM

To: neil.gibbins@beachpetroleum.com.au, hector.gordon@beachpetroleum.com.au, kourosh.mehin@nre.vic.gov.au, bruce.armour@nre.vic.gov.au
cc: danny.burns@beachpetroleum.com.au (bcc: Kourosh Mehin/NRE)
Subject: Naylor Sth 1 Reps

(See attached file: NS1_2212.pdf)(See attached file: Ns1_1500.pdf)(See attached file: Ns1_1600.pdf)(See attached file: Ns1_1650.pdf)(See attached file: Ns1_1700.pdf)

Anna Pignetti
Geology Operations Department
Santos Limited
Ph: 08 8224 7967

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 - Ns1_1500.pdf

 - Ns1_1600.pdf

 - Ns1_1650.pdf

 - Ns1_1700.pdf

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WELL PROGRESS REPORT

NAYLOR SOUTH 1

DATE: 24/12/2001 (0600 Hours E.S.T.)

DEPTH: 1779 **PROGRESS:** 129 m **DAYS FROM SPUD:** 7

CURRENT OPERATION: DRILLING AHEAD 6 3/4" DIRECTIONAL HOLE IN THE PAARATTE FORMATION

NOPE COST (C&S) $1,283,828 (P&A)$1,448,078 **FINAL FORECAST COST** **COST TO DATE:** $ 932,182

CASING DEPTH: 434m **RIG:** ODE 30

PROGRAMMED TD: 2152m **ROTARY TABLE:** 53.0m **GROUND LEVEL:** 48.3m

MUD DATA (2400 Hours)	Type:	Wt:	Visc:	WL:	pH:	K^+:	Cl^-:	PV/YP:	Rmf:
	KCl/PHPA	9.1	40	5.6	9.0	32400	10500	12/13	0.3 @ 22 DEGC

BIT DATA (2400 Hours)		No.	Make	Type	Size	Hours	Meterage	Condition
	LAST	2	HU	STR554A3X	6 3/4"	34.9	1839	6-2-WT-S-X-I-RO-BHA
	PRESENT	3	SMITH	X32DGPS	6 3/4"	7.8	75	IN HOLE

SURVEYS:	MD	TVDRT	INCLINATION(°)	AZIMUTH (°)	DEPARTURE (m)	OFFSET (m)
15	1308	1307	2.5	314	11.207 E	35
16	1453	1452	2.37	300	7.130 E	38
17	1627	1626	3.0	269	0.082 W	41
18	1638	1637.1	3.32	265.67	0.690 W	41.5
19	1647	1646.9	3.34	263.3	1.254 W	41.6
20	1657.62	1656.58	3.20	242.00	1.656 W	40.4
21	1667.00	1665.94	3.26	196.00	2.139 W	40.1
22	1677.00	1675.92	4.81	171.00	2.276 W	39.5
23	1697.00	1695.79	8.23	152.00	1.903 W	37.2
24	1726.00	1724.22	14.35	145.00	0.160 W	31.9
25	1745.00	1742.45	18.15	147.00	2.213 W	27.1
26	1764	1760	21.62	162.65	4.395 W	21.1

PREVIOUS 24 HOURS OPERATIONS:

DRILL AHEAD 6 3/4" HOLE WITH MWD. SLIDE TO BUILD ANGLE. DRILL AHEAD 6 3/4" HOLE WITH MWD.

ANTICIPATED OPERATIONS:

DRILL AHEAD 6 3/4" HOLE WITH MWD.

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A.C.N. 007 550 923

WELL PROGRESS REPORT

NAYLOR SOUTH 1

DATE: 24/12/2001 (0600 Hours E.S.T.)

FORMATION TOPS:	RT(m)	Subsea(m)	H/L to Prog	H/L to NAYLOR 1
CLIFTON FORMATION	464	-411	1m L	1m H
MEPUNGA FORMATION	551	-498	3m L	2m H
DILWYN FORMATION	609	-556	24m H	29m H
PEMBER MUDSTONE	909	-856	48m L	22m L
PEBBLE POINT FORMATION	980	-927	62m L	31m L
MASSACRE SHALE	1081	-1028	Not prog	74m L
TIMBOON SANDSTONE	1119	-1066	Not prog	90m L
PAARATTE FORMATION	1259	-1206	164m L	117m L

HYDROCARBON SHOW SUMMARY		
INTERVAL	**LITHOLOGY**	**GAS**
NONE		

GEOLOGICAL SUMMARY		
INTERVAL	**LITHOLOGY**	**GAS** Peak / Background
1650 - 1779 ROP: 1 - 17 m/ft Ave: 7.8 mn/ft	INTERBEDDED SANDSTONE AND SILTSTONE SANDSTONE: clear, translucent, occasionally milky, very fine - very coarse, bimodal sorting, subangular - subrounded, trace off white argillaceous matrix, occasional pyrite nodules, loose, poor inferred porosity, no fluorescence. SILTSTONE: pale - medium grey, predominantly light grey, argillaceous in part, common calcareous, soft – dispersive, amorphous.	Nil - trace gas

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A.C.N. 007 550 923

WELL PROGRESS REPORT

NAYLOR SOUTH 1

DATE: 23/12/2001 (0600 Hours E.S.T.)

DEPTH: 1650 m **PROGRESS:** 0 m **DAYS FROM SPUD:** 7

CURRENT OPERATION: RUNNING IN HOLE WITH DIRECTIONAL ASSEMBLY TO KICK OFF WELL

NOPE COST (C&S) $1,283,828 (P&A)$1,448,078 **FINAL FORECAST COST** **COST TO DATE:** $

CASING DEPTH: 434m **RIG:** ODE 30

PROGRAMMED TD: 2152m **ROTARY TABLE:** 53.0m **GROUND LEVEL:** 48.3m

MUD DATA (2400 Hours)	Type:	Wt:	Visc:	WL:	pH:	K^+:	Cl^-:	PV/YP:	Rmf:
	KCl/PHPA	9.1	44	5.6	9.5	35100	11000	14/16	0.3 @ 22 DEGC

BIT DATA (2400 Hours)		No.	Make	Type	Size	Hours	Meterage	Condition
	LAST	2	HU	STR554A3X	6 3/4"	34.9	1839	
	PRESENT	3	SMITH	XR32	6 3/4"			

SURVEYS:	MD	TVDRT	INCLINATION(°)	AZIMUTH (°)	OFFSET
11	712	711.7	2.13	42	16.5
12	857	856.6	2.0	26	21.4
13	1010	1009	1.63	12	26
14	1163	1162	2.0	349	31
15	1308	1307	2.5	314	35
16	1453	1452	2.37	300	38
17	1627	1626	3.0	267	41

PREVIOUS 24 HOURS OPERATIONS:

RUN IN HOLE TO 1570m, HOLE IN GOOD CONDITION. PICK UP KELLY AND REAM/WASH. CIRCULATE HOLE CLEAN. PULL OUT OF HOLE. MAKE UP MOTOR AND MWD. RUN IN HOLE, PICK UP KELLY AND ATTEMPT TO CIRCULATE. STRING PACKED OFF, UNABLE TO CIRCULATE. WORK STRING AND TRY TO OBTAIN CIRCULATION WITHOUT SUCCESS. PULL OUT OF HOLE. WET TRIP. BOTTOM OF TOP STABILISER AND TOP OF MWD TOOL PACKED OFF WITH PIPE SCALE. CLEAR SCALE FROM STRING AND RACK BACK MOTOR AND MWD. RUN IN HOLE WITH COLLARS AND HEAVY WEIGHT DRILL PIPE AND CIRCULATE THROUGH TO CLEAR OF ANY POSSIBLE SCALE. PULL OUT OF HOLE WITH DRILL COLLARS.

ANTICIPATED OPERATIONS:

TEST TOOLS AND MOTOR. RUN IN HOLE AND DRILL AHEAD 6 3/4" HOLE.

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A.C.N. 007 550 923

WELL PROGRESS REPORT

NAYLOR SOUTH 1

DATE: 23/12/2001 (0600 Hours E.S.T.)

FORMATION TOPS:	RT(m)	-Subsea(m)	H/L to Prog	H/L to NAYLOR 1
CLIFTON FORMATION	464	-411	1m L	1m H
MEPUNGA FORMATION	551	-498	3m L	2m H
DILWYN FORMATION	609	-556	24m H	29m H
PEMBER MUDSTONE	909	-856	48m L	22m L
PEBBLE POINT FORMATION	980	-927	62m L	31m L
MASSACRE SHALE	1081	-1028	Not prog	74m L
TIMBOON SANDSTONE	1119	-1066	Not prog	90m L
PAARATTE FORMATION	1259	-1206	164m L	117m L

HYDROCARBON SHOW SUMMARY		
INTERVAL	**LITHOLOGY**	**GAS**
NONE		

GEOLOGICAL SUMMARY		
INTERVAL	**LITHOLOGY**	**GAS** Peak / Background

Santos

A.C.N. 007 550 923

WELL PROGRESS REPORT

NAYLOR SOUTH 1

DATE: 22/12/2001 (0600 Hours E.S.T.)

DEPTH: 1650 m **PROGRESS:** 192 **DAYS FROM SPUD:** 6

CURRENT OPERATION: RUNNING IN HOLE ON WIPER TRIP (TIGHT HOLE) PRIOR TO MAKING UP TOOLS FOR DIRECTIONAL RUN.

NOPE COST (C&S) $1,283,828 (P&A)$1,448,078 **FINAL FORECAST COST** **COST TO DATE:** $ 840,916

CASING DEPTH: 434m **RIG:** ODE 30

PROGRAMMED TD: 2152m **ROTARY TABLE:** 53.0m **GROUND LEVEL:** 48.3m

MUD DATA (2400 Hours)	Type:	Wt:	Visc:	WL:	pH:	K^+:	Cl^-:	PV/YP:	Rmf:
	KCl/PHPA	9.1	42	6.0	9.5	35100	11500	14/15	0.3 @ 22 DEGC

BIT DATA (2400 Hours)		No.	Make	Type	Size	Hours	Meterage	Condition
	LAST	1	HTC	GT-1	9 7/8"	34.0	438	1/2/WT/A/2/I/NO/TD
	PRESENT	2	HU	STR554A3X	6 3/4"	34.9	1839	IN HOLE

SURVEYS:	MD	TVDRT	INCLINATION(°)	AZIMUTH (°)	OFFSET
11	712	711.7	2.13	42	16.5
12	857	856.6	2.0	26	21.4
13	1010	1009	1.63	12	26
14	1163	1162	2.0	349	31
15	1308	1307	2.5	314	35
16	1453	1452	2.37	300	38
17	1627	1626	3.0	267	41

PREVIOUS 24 HOURS OPERATIONS:

DRILL AHEAD 6 3/4" HOLE WITH WIRELINE SURVEYS. CIRCULATE BOTTOMS UP. PULL OUT OF HOLE FOR WIPER TRIP. 10-20klb OVERPULL ON EVERY STAND. TIGHT HOLE DUE TO STABILISERS DRAGGING THROUGH FILTER CAKE. APPROX 130m TO TARGET ON 165° AZIMUTH.

ANTICIPATED OPERATIONS:

CONTINUE TO PULL OUT OF HOLE FOR WIPER TRIP. RUN IN HOLE. CIRCULATE HOLE CLEAN. PULL OUT OF HOLE. PICK UP MOTOR AND MWD. RUN IN HOLE AND DRILL AHEAD 6 3/4" HOLE.

Santos

A.C.N. 007 550 923

WELL PROGRESS REPORT

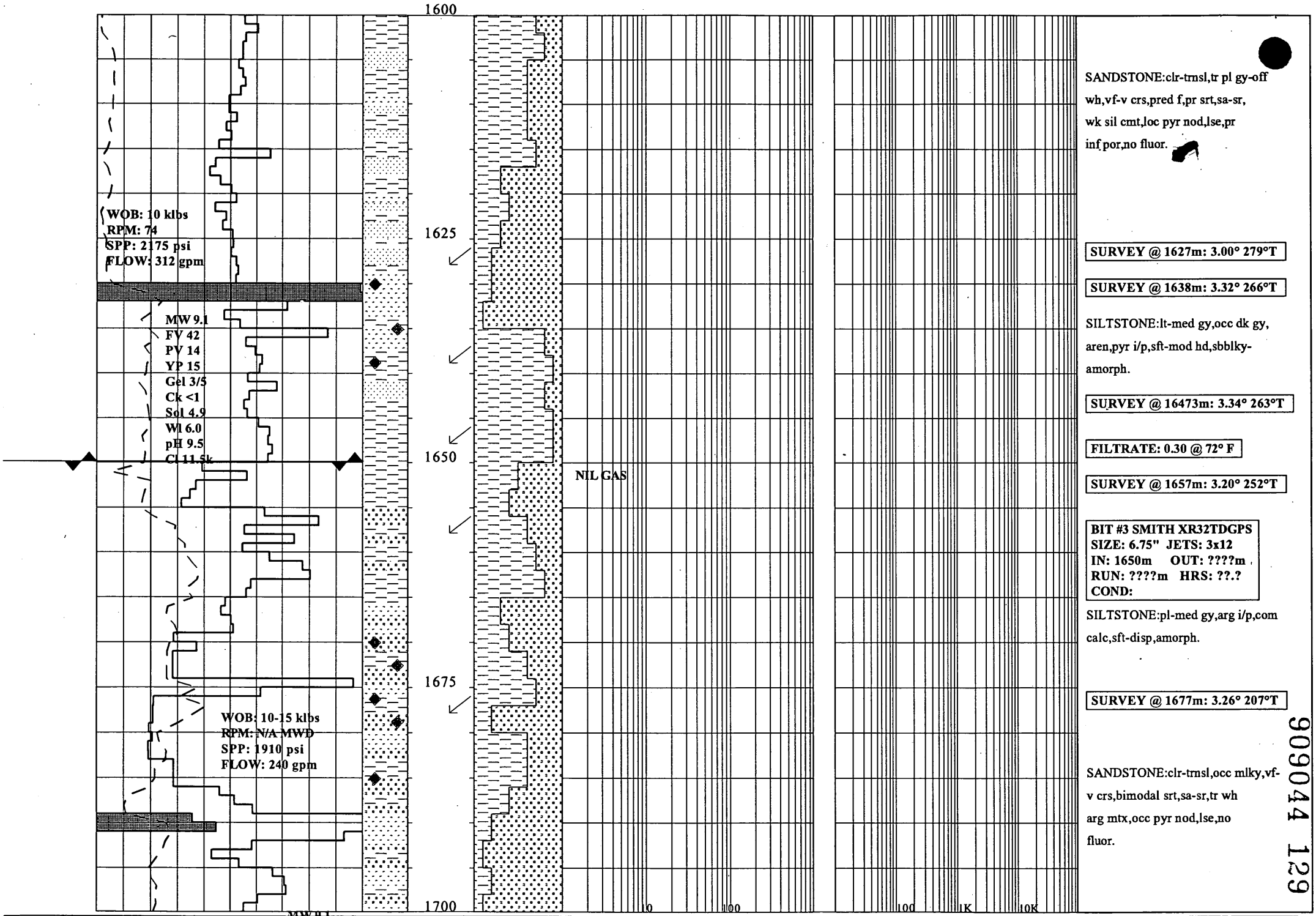
NAYLOR SOUTH 1

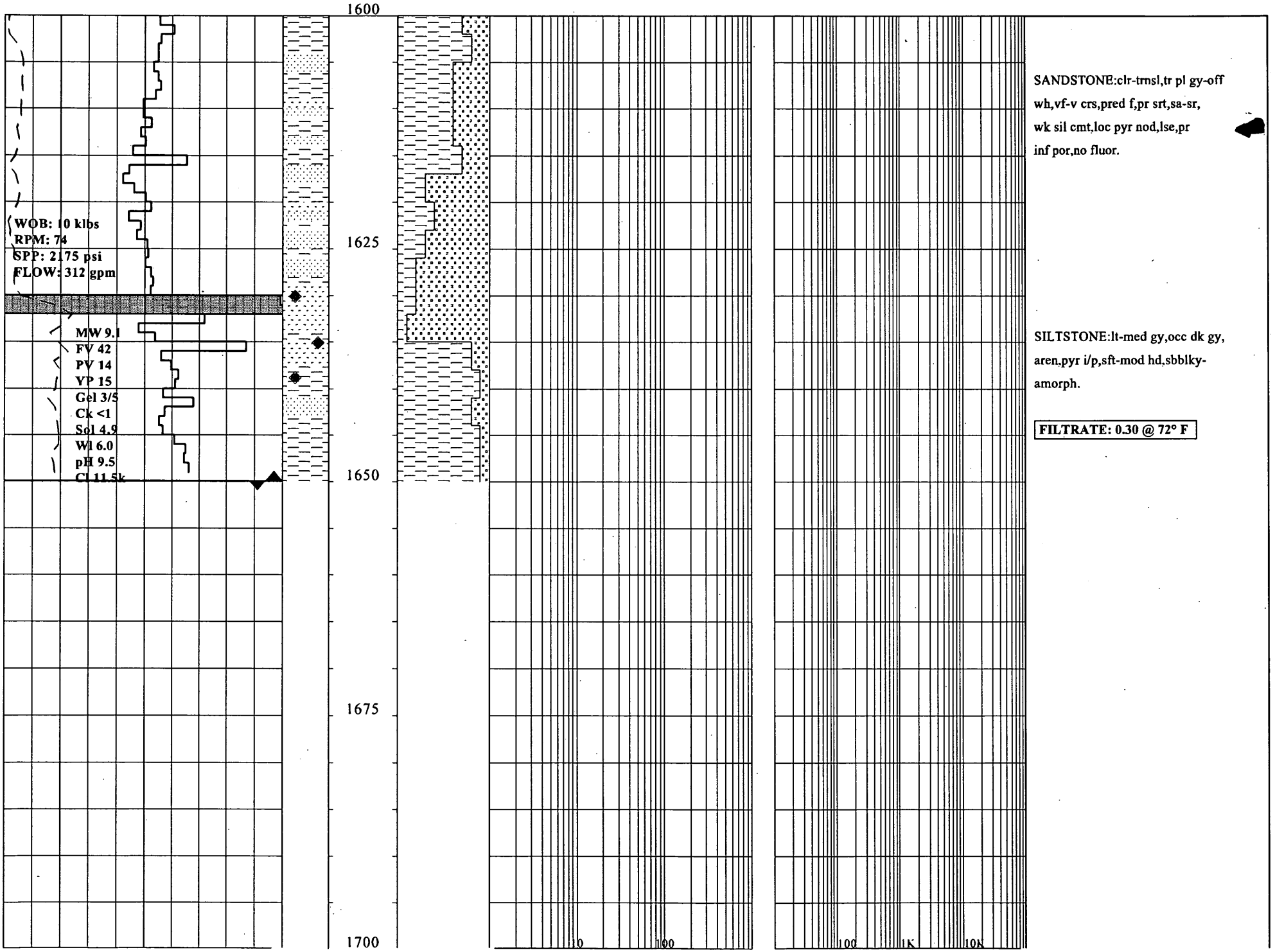
DATE: 22/12/2001 (0600 Hours E.S.T.)

FORMATION TOPS:	RT(m)	-Subsea(m)	H/L to Prog	H/L to NAYLOR 1
CLIFTON FORMATION	464	-411	1m L	1m H
MEPUNGA FORMATION	551	-498	3m L	2m H
DILWYN FORMATION	609	-556	24m H	29m H
PEMBER MUDSTONE	909	-856	48m L	22m L
PEBBLE POINT FORMATION	980	-927	62m L	31m L
MASSACRE SHALE	1081	-1028	Not prog	74m L
TIMBOON SANDSTONE	1119	-1066	Not prog	90m L
PAARATTE FORMATION	1259	-1206	164m L	117m L

HYDROCARBON SHOW SUMMARY		
INTERVAL	**LITHOLOGY**	**GAS**
NONE		

GEOLOGICAL SUMMARY		
INTERVAL	**LITHOLOGY**	**GAS** Peak / Background
1259 - 1425 ROP: 0.6 - 1.2 mn/ft Ave: 0.7 mn/ft	**PAARATTE FORMATION** INTERBEDDED SILTSTONE AND SANDSTONE SANDSTONE: clear, off white, translucent, very fine - medium, occasional coarse, moderately poor sorted, subangular - subrounded, loose, poor inferred porosity, no fluorescence. SILTSTONE: light - medium grey, medium grey/brown, arenaceous, trace argillaceous in part, occasional carbonaceous specks and lams, trace very fine lithics, soft - dispersive in part, amorphous.	Nil gas
1425 - 1510 ROP: 0.6 - 13 mn/ft Ave: 1 mn/ft	SANDSTONE WITH MINOR SILTSTONE SANDSTONE: clear, very pale grey, translucent, very fine - medium, occasional coarse, poor sorted, subangular - subrounded, loose, poor - fair inferred porosity, no fluorescence. SILTSTONE: pale - medium grey, occasional dark grey, common arenaceous, soft - dispersive, subblocky - amorphous.	Nil gas
1510 - 1650 ROP: 1 - 30 mn/ft Ave: 6.8 mn/ft	INTERBEDDED SANDSTONE AND SILTSTONE SANDSTONE: clear, translucent, milky, off white, pale brown, fine - coarse, predominantly medium, poor sorted, subangular - subrounded, angular in part, moderately siliceous cement, off white argillaceous matrix, occasional pyrite nodules, predominantly loose, poor inferred porosity, no fluorescence. SILTSTONE: medium - pale brown/grey, medium grey, occasional dark grey, common arenaceous grading to very fine SANDSTONE in part, soft - firm, subblocky - amorphous.	Nil - trace gas


1600
1625
1650
1675
1700
WOB: 10 klbs
RPM: 74
SPP: 2175 psi
FLOW: 312 gpm
MW 9.1
FV 42
PV 14
YP 15
Gel 3/5
Ck <1
Sol 4.9
Wl 6.0
pH 9.5
Cl 11.5k
NIL GAS
WOB: 10-15 klbs
RPM: N/A MWD
SPP: 1910 psi
FLOW: 240 gpm
MW 9.1
0
100
100
1K
10K
SANDSTONE:clr-trnsl,tr pl gy-off wh,vf-v crs,pred f,pr srt,sa-sr, wk sil cmt,loc pyr nod,lse,pr inf por,no fluor.
SURVEY @ 1627m: 3.00° 279°T
SURVEY @ 1638m: 3.32° 266°T
SILTSTONE:lt-med gy,occ dk gy, aren,pyr i/p,sft-mod hd,sbblky-amorph.
SURVEY @ 16473m: 3.34° 263°T
FILTRATE: 0.30 @ 72° F
SURVEY @ 1657m: 3.20° 252°T
BIT #3 SMITH XR32TDGPS
SIZE: 6.75" JETS: 3x12
IN: 1650m OUT: ????m
RUN: ????m HRS: ??.?
COND:
SILTSTONE:pl-med gy,arg i/p,com calc,sft-disp,amorph.
SURVEY @ 1677m: 3.26° 207°T
SANDSTONE:clr-trnsl,occ mlky,vf-v crs,bimodal srt,sa-sr,tr wh arg mtx,occ pyr nod,lse,no fluor.
9090044 129
Well Name: NAYLOR STH 1
Geoservices

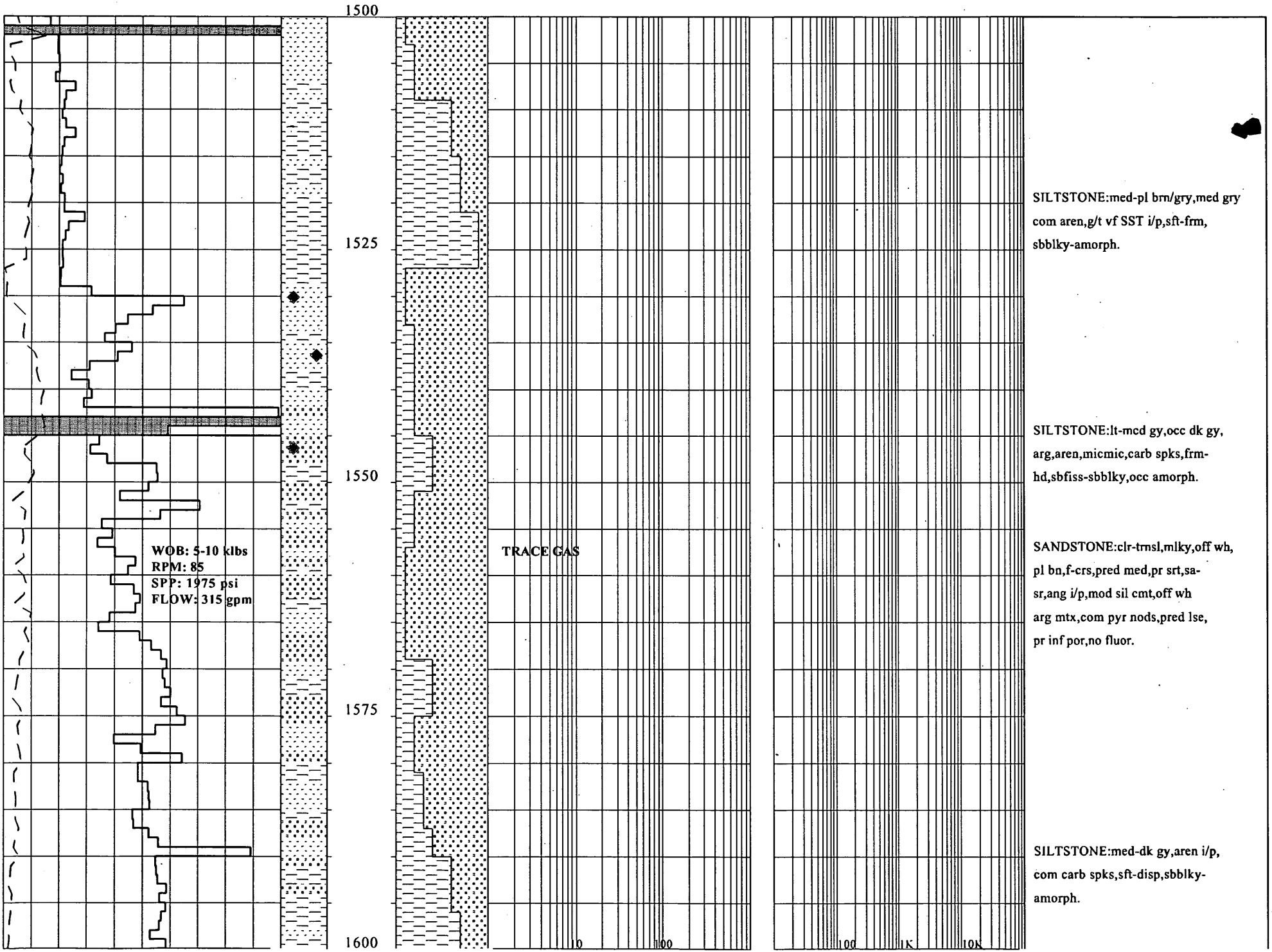


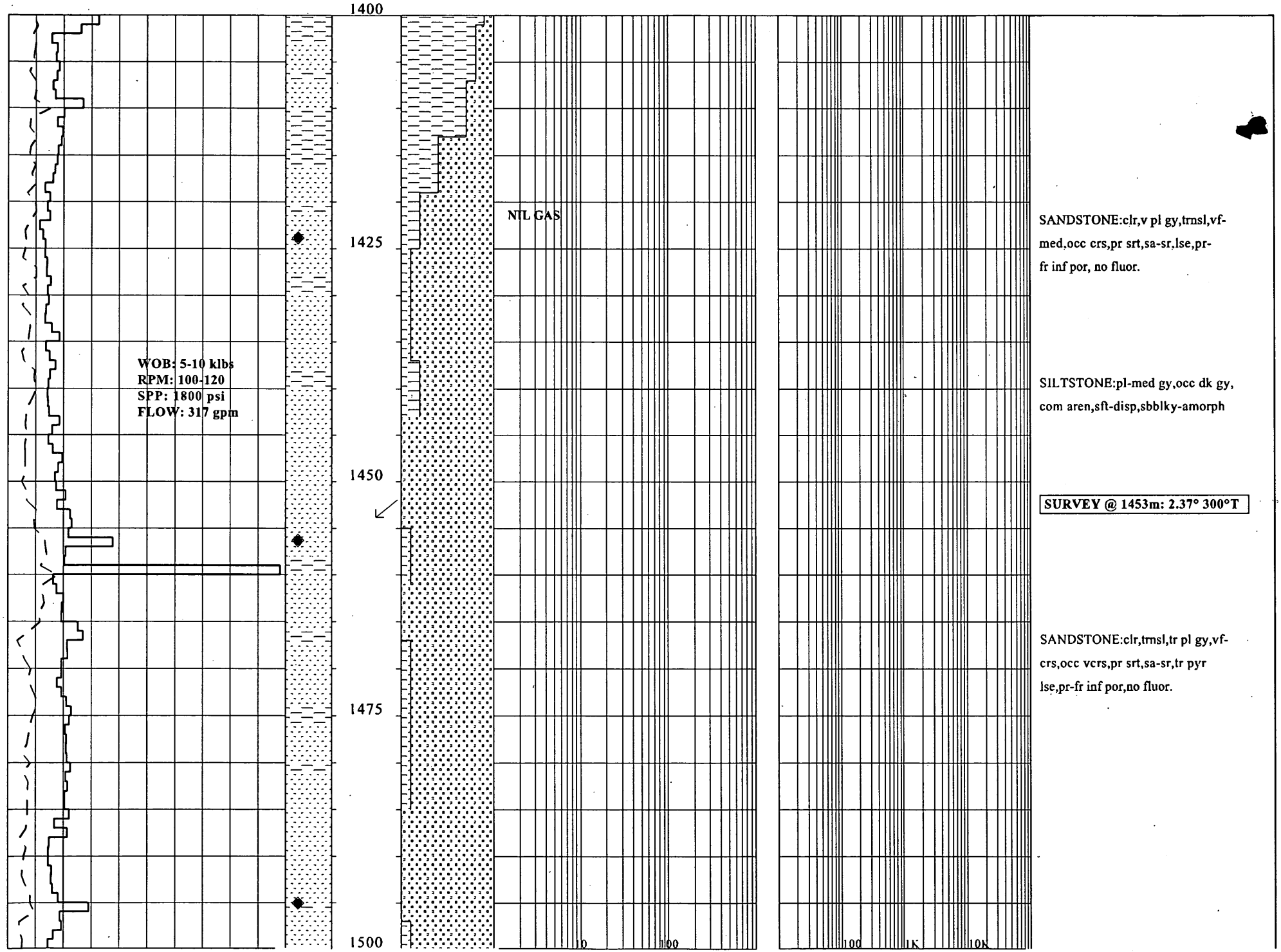
SANDSTONE:clr-trnsl,tr pl gy-off wh,vf-v crs,pred f,pr srt,sa-sr, wk sil cmt,loc pyr nod,lse,pr inf por,no fluor.

SILTSTONE:lt-med gy,occ dk gy, aren,pyr i/p,sft-mod hd,sbblky-amorph.

FILTRATE: 0.30 @ 72° F

909044 130


1500
1525
1550
1575
1600
WOB: 5-10 klbs
RPM: 85
SPP: 1975 psi
FLOW: 315 gpm
TRACE GAS
0
100
100
1K
10K
SILTSTONE:med-pl brn/gry,med gry com aren,g/t vf SST i/p,sft-frm, sbblky-amorph.
SILTSTONE:lt-med gy,occ dk gy, arg,aren,micmic,carb spks,frm-hd,sbfiss-sbblky,occ amorph.
SANDSTONE:clr-trnsl,mlky,off wh, pl bn,f-crs,pred med,pr srt,sa-sr,ang i/p,mod sil cmt,off wh arg mtx,com pyr nods,pred lse, pr inf por,no fluor.
SILTSTONE:med-dk gy,aren i/p, com carb spks,sft-disp,sbblky-amorph.



SANDSTONE:clr,v pl gy,trnsl,vf-med,occ crs,pr srt,sa-sr,lse,pr-fr inf por, no fluor.

SILTSTONE:pl-med gy,occ dk gy, com aren,sft-disp,sbblky-amorph

SURVEY @ 1453m: 2.37° 300°T

SANDSTONE:clr,trnsl,tr pl gy,vf-crs,occ vcrs,pr srt,sa-sr,tr pyr lse,pr-fr inf por,no fluor.

909044 132

Anna.Pignetti@santos.com on 12/21/2001 09:46:56 AM

To: neil.gibbins@beachpetroleum.com.au, hector.gordon@beachpetroleum.com.au, kourosh.mehin@nre.vic.gov.au, bruce.armour@nre.vic.gov.au
cc: danny.burns@beachpetroleum.com.au (bcc: Kourosh Mehin/NRE)
Subject: Naylor Sth 1 Reps

(See attached file: Ns1_800.pdf)(See attached file: Ns1_1100.pdf)(See attached file: Ns1_1200.pdf)(See attached file: Ns1_1300.pdf)(See attached file: Ns1_1400.pdf)(See attached file: NS1_2112.pdf)(See attached file: Ns1_1000.pdf)(See attached file: Ns1_900.pdf)

Anna Pignetti
Geology Operations Department
Santos Limited
Ph: 08 8224 7967

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 - Ns1_900.pdf

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WELL PROGRESS REPORT

NAYLOR SOUTH 1

DATE: 21/12/2001 (0600 Hours E.S.T.)

DEPTH: 1458 m **PROGRESS:** 676m **DAYS FROM SPUD:** 5

CURRENT OPERATION: DRILLING AHEAD 6 ¾" HOLE IN THE PAARATTE FORMATION

NOPE COST (C&S) $1,283,828 (P&A)$1,448,078 **FINAL FORECAST COST** **COST TO DATE:** $ 798,933

CASING DEPTH: 434m **RIG:** ODE 30

PROGRAMMED TD: 2152m **ROTARY TABLE:** 53.0m **GROUND LEVEL:** 48.3m

MUD DATA (2400 Hours)	Type:	Wt:	Visc:	WL:	pH:	K^+:	Cl^-:	PV/YP:	Rmf:
	KCl/PHPA	8.90	40	7.0	9.0	32400	11000	16/12	N/A

BIT DATA (2400 Hours)		No.	Make	Type	Size	Hours	Meterage	Condition
	LAST	1	HTC	GT-1	9 7/8"	34.0	438	1/2/WT/A/2/I/NO/TD
	PRESENT	2	HU	STR554A3X	6 3/4"	9.0	825	IN HOLE

SURVEYS:	MD	TVDRT	INCLINATION(°)	AZIMUTH (°)	OFFSET
8	358	357.9	1.00	346	6.0
9	425	424.9	1.25	351	7.3
10	568	567.9	2.50	27	11.5
11	712	711.7	2.13	42	16.5
12	857	856.6	2.0	26	21.4
13	1010	1009	1.63	12	26
14	1163	1162	2.0	349	31
15	1308	1307	2.5	314	35

PREVIOUS 24 HOURS OPERATIONS:

DRILL AHEAD 6 3/4" HOLE WITH WIRELINE SURVEYS.

ANTICIPATED OPERATIONS:

DRILL AHEAD 6 3/4" HOLE WITH SURVEYS TO APPROX 1600m. CIRCULATE BOTTOMS UP. WIPER TRIP. CIRCULATE BOTTOMS UP. PULL OUT OF HOLE. MAKE UP DIRECTIONAL ASSEMBLY AND MWD. RUN IN HOLE. SPERRY SUN TO ARRIVE ONSITE APPROX. 6PM.

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A.C.N. 007 550 923

WELL PROGRESS REPORT

NAYLOR SOUTH 1

DATE: 21/12/2001 (0600 Hours E.S.T.)

FORMATION TOPS:	RT(m)	-Subsea(m)	H/L to Prog	H/L to NAYLOR 1
CLIFTON FORMATION	464	-411	1m L	1m H
MEPUNGA FORMATION	551	-498	3m L	2m H
DILWYN FORMATION	609	-556	24m H	29m H
PEMBER MUDSTONE	909	-856	48m L	22m L
PEBBLE POINT FORMATION	980	-927	62m L	31m L
MASSACRE SHALE	1081	-1028	Not prog	74m L
TIMBOON SANDSTONE	1119	-1066	Not prog	90m L
PAARATTE FORMATION	1259	-1206	164m L	117m L

HYDROCARBON SHOW SUMMARY		
INTERVAL	**LITHOLOGY**	**GAS**
NONE		

GEOLOGICAL SUMMARY		
INTERVAL	**LITHOLOGY**	**GAS** Peak / Background
782 - 871 ROP: 0.4 - 10.7 mn/ft Ave: 1.2 mn/ft	**DILWYN FORMATION** SANDSTONE WITH TRACE SILTSTONE SANDSTONE: clear - very pale grey/brown, translucent, iron staining in part, fine - medium, occasional coarse, moderately sorted, subangular - subrounded, loose, poor - fair inferred porosity, no fluorescence. SILTSTONE: light - medium brown-grey/brown, argillaceous, calcareous, trace pyrite, soft, dispersive, amorphous.	Nil gas
909 - 980 ROP: 0.9 - 7 mn/ft Ave: 2.7 mn/ft	**PEMBER MUDSTONE** INTERBEDDED CLAYSTONE AND SANDSTONE SANDSTONE: off white, translucent, pale brown, very fine - fine, occasional medium grained, rare coarse grains, moderately well sorted, subangular - subrounded, loose, poor - fair inferred porosity, no fluorescence. CLAYSTONE: medium - dark grey/brown, calcareous, argillaceous, occasional grading to SILTSTONE, trace carbonaceous specks, soft, amorphous.	Nil gas
980 - 1080 ROP: 0.6 - 2.8 mn/ft Ave: 1.2 mn/ft	**PEBBLE POINT FORMATION** INTERBEDDED SANDSTONE WITH MINOR CLAYSTONE SANDSTONE: pale brown/orange, off white, fine - coarse, predominantly medium, moderately - poor sorted, subangular - subrounded, occasional brown silty matrix, calcareous, rare pyrite, predominantly loose, occasionally friable, poor visual and inferred porosity, no fluorescence. CLAYSTONE: dark brown/grey, calcareous, argillaceous, trace fossil fragments, soft, amorphous.	Nil gas

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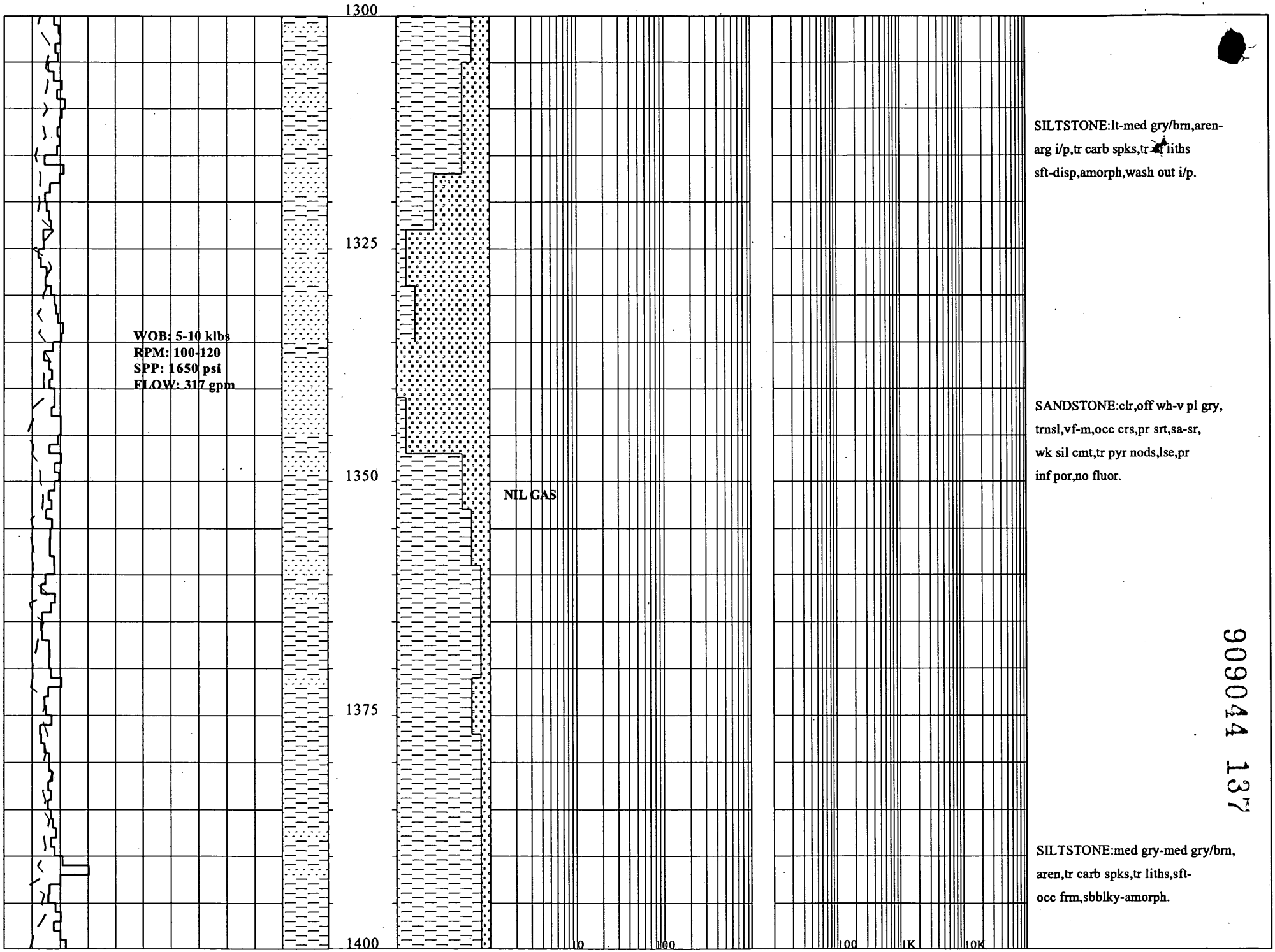
WELL PROGRESS REPORT

NAYLOR SOUTH 1

DATE: 21/12/2001 (0600 Hours E.S.T.)

GEOLOGICAL SUMMARY

INTERVAL	LITHOLOGY	GAS Peak / Background
1081- 1119 ROP: 0.8 - 1.2 mn/ft Ave: 1 mn/ft	**MASSACRE SHALE** INTERBEDDED SILTSTONE AND SANDSTONE SANDSTONE: clear, translucent, pale brown, very fine to medium, rare coarse, poor sorted, subrounded - subangular, occasional calcareous matrix, rare pyrite, loose, poor - fair inferred and visual porosity, no fluorescence. SILTSTONE: medium - dark grey / brown, occasional light brown, argillaceous, arenaceous in part, occasional calcareous, soft - firm, moderately hard in part, predominantly blocky.	Nil gas
1119- 1259 ROP: 0.5 - 1.2 mn/ft Ave: 0.7 mn/ft	**TIMBOON SANDSTONE** INTERBEDDED SANDSTONE WITH MINOR SILTSTONE SANDSTONE: off white, clear, translucent, occasional pale brown, very fine - coarse, occasional very coarse, poor sorted, subrounded - subangular, loose, poor inferred porosity, no fluorescence. SILTSTONE: light - medium grey/brown, light brown, trace calcareous, common argillaceous, arenaceous in part, common carbonaceous specks, soft, amorphous.	Nil gas
1259 - 1458 ROP: 0.6 - 1.2 mn/ft Ave: 0.7 mn/ft	**PAARATTE FORMATION** INTERBEDDED SILTSTONE AND SANDSTONE SANDSTONE: clear, off white, translucent, very fine - medium, occasional coarse, moderately poor sorted, subangular - subrounded, loose, poor inferred porosity, no fluorescence. SILTSTONE: light - medium grey, medium grey/brown, arenaceous, trace argillaceous in part, occasional carbonaceous specks and lams, trace very fine lithics, soft - dispersive in part, amorphous.	Nil gas



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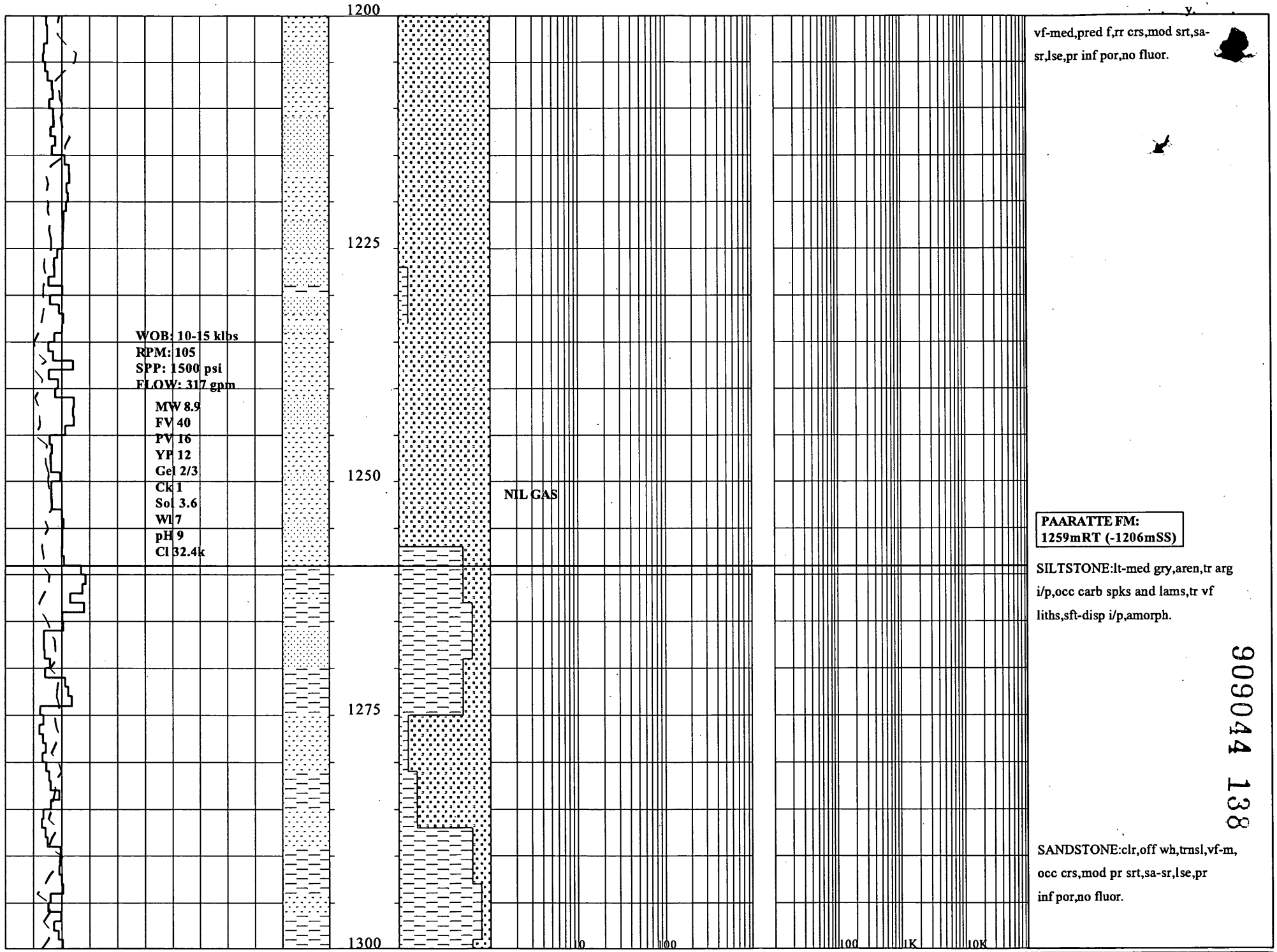
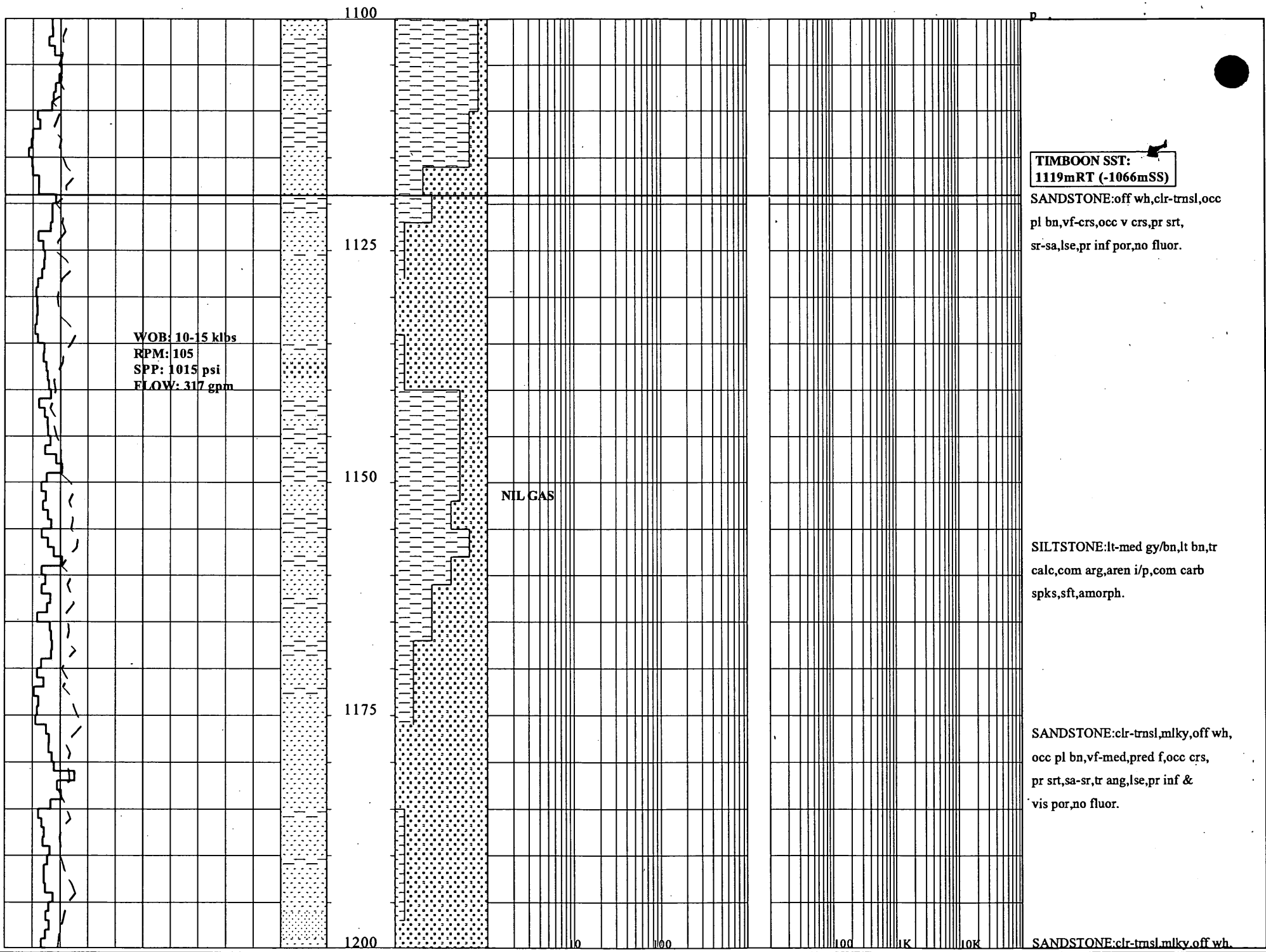
Well Name: NAYLOR STH 1

Geoservices



Well Name: NAYLOR STH 1

Geoservices



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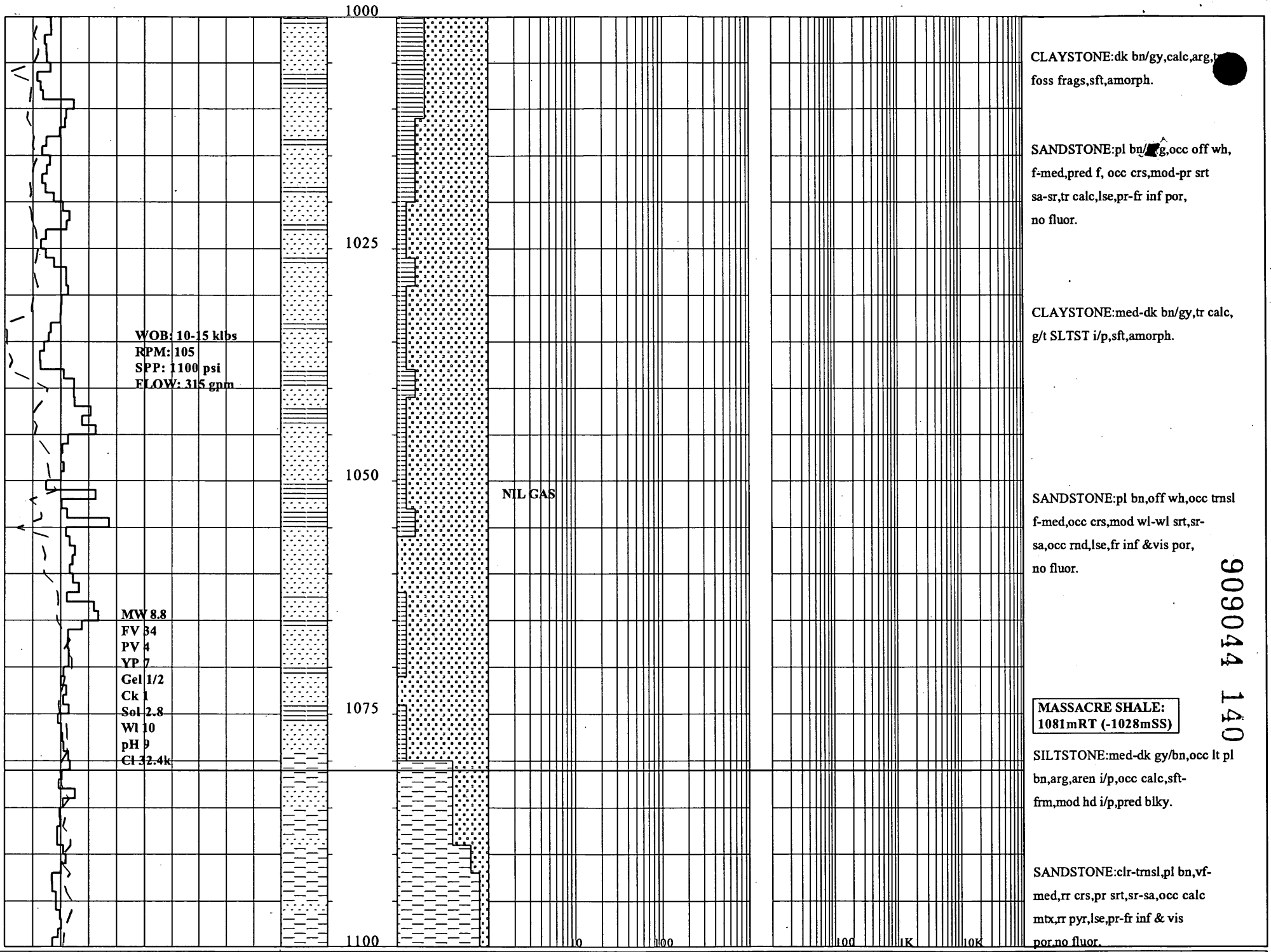
Geoservices



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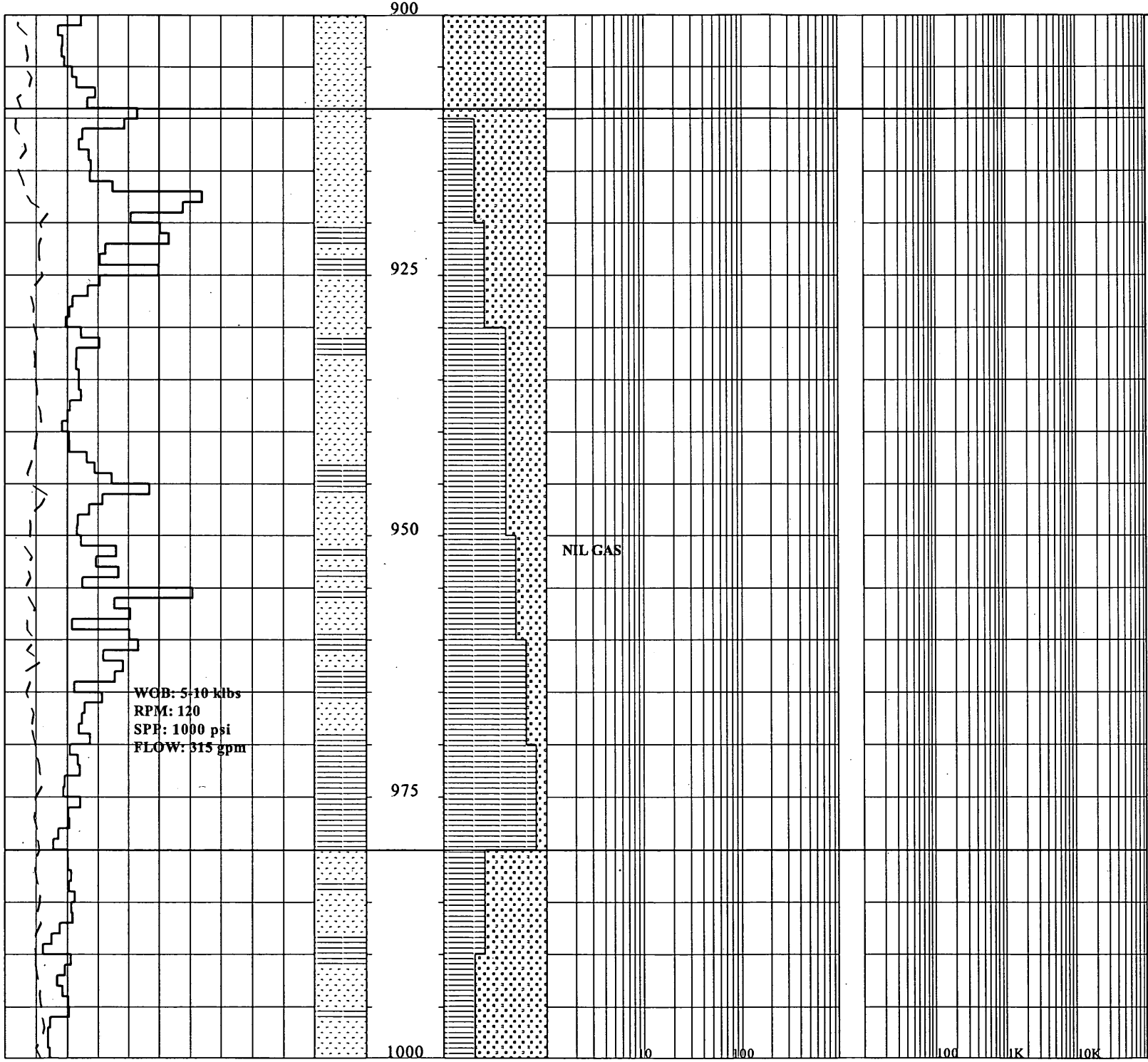
Well Name: NAYLOR STH 1

Geoservices



PEMBER MUDSTONE: 909mRT (-856mSS)

SANDSTONE:off wh,trnsl,pl bn,vf-f,occ med,rr crs grns,mod wl srt,sa-sr,lse,pr-fr inf por,no fluor.

CLAYSTONE:med-dk gy/bn,calc,arg, occ g/t SLTST,tr carb spks,sft, amorph.

SANDSTONE:off wh,trnsl,pl bn,f-med,mod wl srt,sa-sr,lse,pr-fr inf por,no fluor.

CLAYSTONE:dk bn/gy,calc,arg,sft, amorph.

PEBBLE POINT FM: 980mRT (-927mSS)

SANDSTONE:pl bn/org,off wh,f-crs,pred med,mod-pr srt, sa-sr, lse,occ fri,pr vis & inf por,no fluor.

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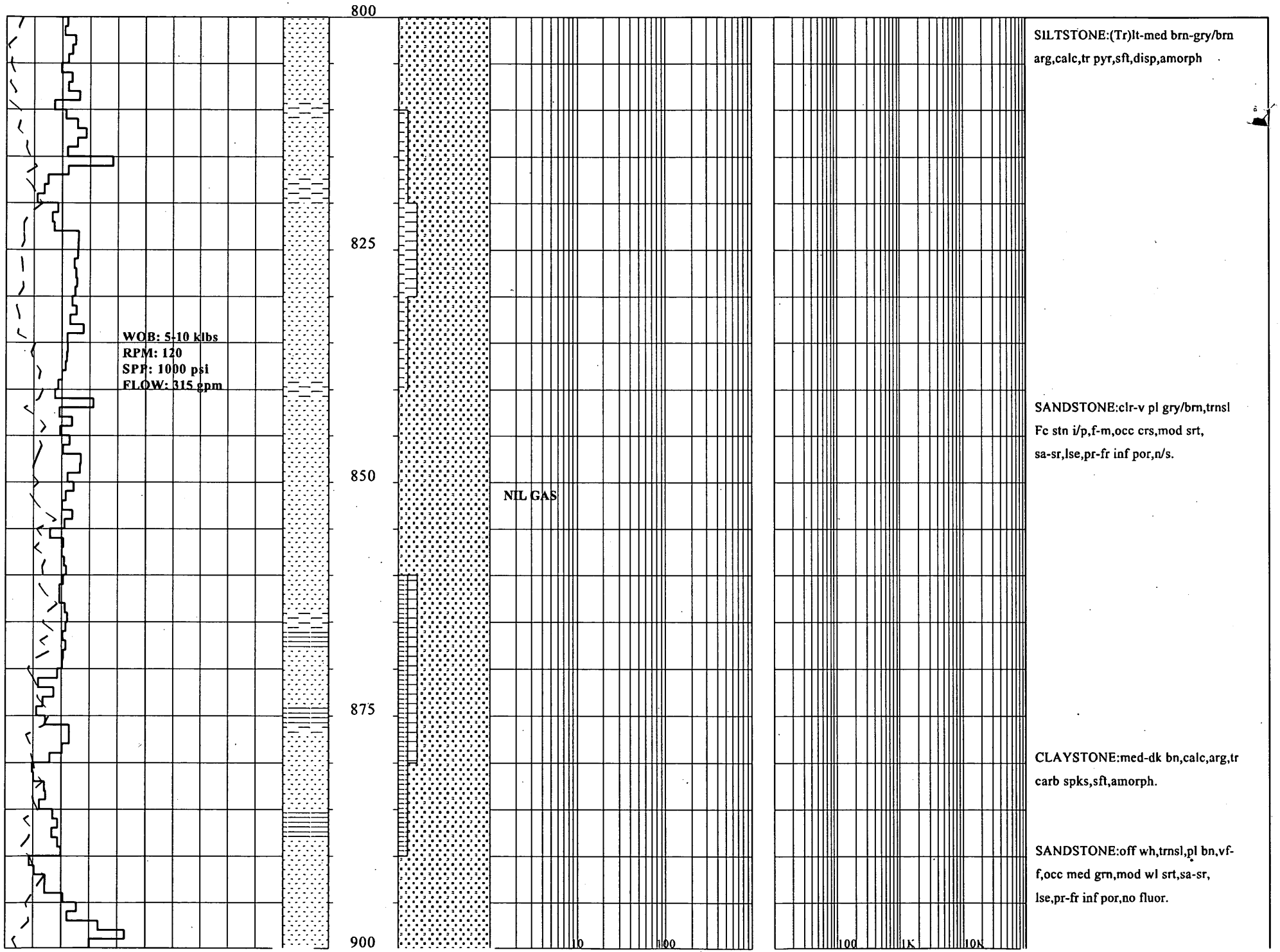
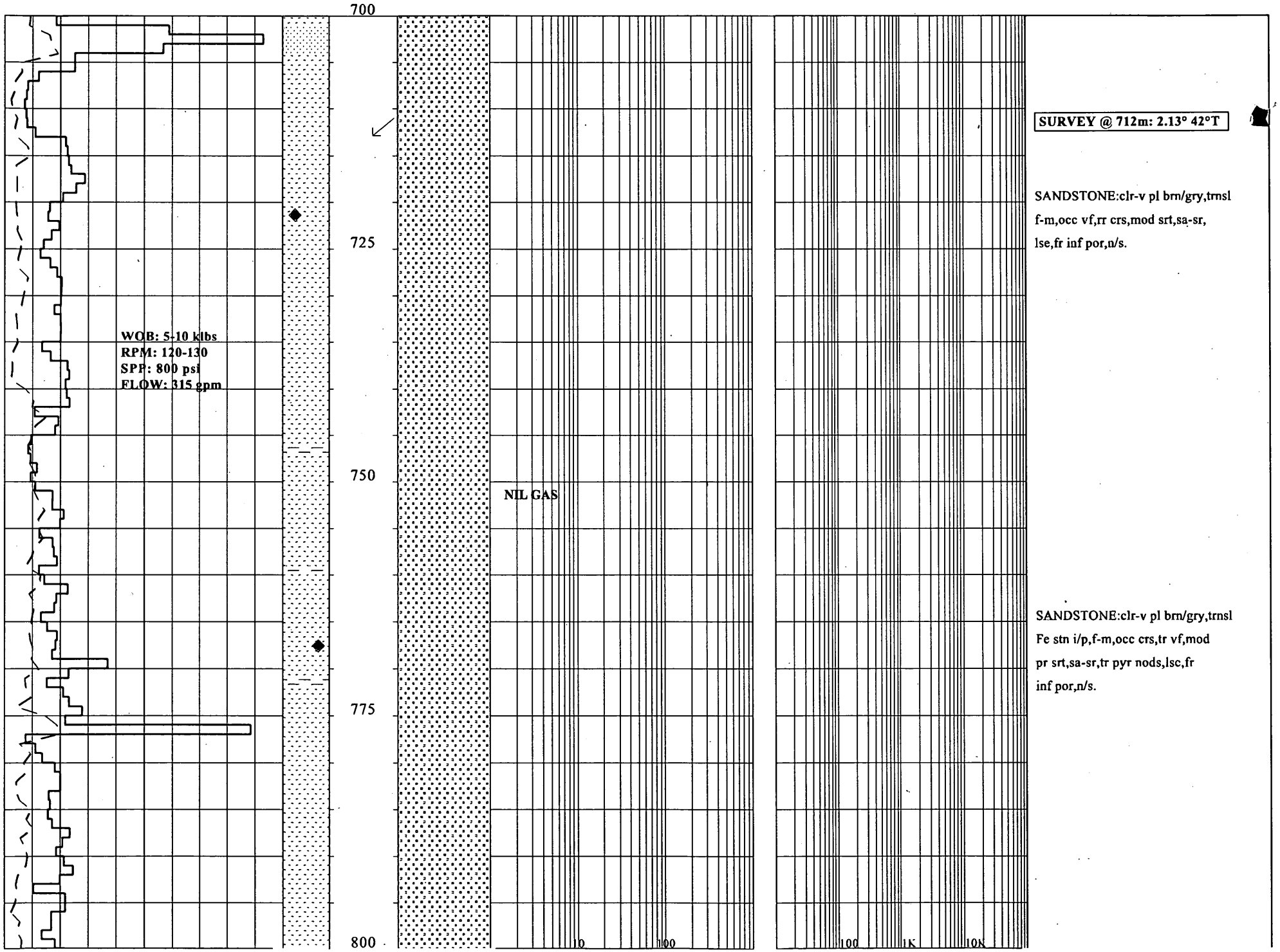
Well Name: NAYLOR STH 1

Geoservices


800
825
850
875
900
WOB: 5-10 klbs
RPM: 120
SPP: 1000 psi
FLOW: 315 gpm
NIL GAS
0
100
100
1K
10K
SILTSTONE:(Tr)lt-med brn-gry/brn arg,calc,tr pyr,sft,disp,amorph
SANDSTONE:clr-v pl gry/brn,trnsl Fc stn i/p,f-m,occ crs,mod srt, sa-sr,lse,pr-fr inf por,n/s.
CLAYSTONE:med-dk bn,calc,arg,tr carb spks,sft,amorph.
SANDSTONE:off wh,trnsl,pl bn,vf-f,occ med grn,mod wl srt,sa-sr, lse,pr-fr inf por,no fluor.



SURVEY @ 712m: 2.13° 42°T

SANDSTONE:clr-v pl brn/gry,trnsl f-m,occ vf,rr crs,mod srt,sa-sr, lse,fr inf por,n/s.

SANDSTONE:clr-v pl brn/gry,trnsl Fe stn i/p,f-m,occ crs,tr vf,mod pr srt,sa-sr,tr pyr nods,lsc,fr inf por,n/s.

Tina.Mannella@santos.com on 12/20/2001 09:26:39 AM

To: OTWAY.BASIN@santos.com
cc: (bcc: Kourosh Mehin/NRE)
Subject: MORNING REPORTS 20/12/01 - NAYLOR SOUTH 1

(See attached file: Ns1_700.pdf)(See attached file: Ns1_500.pdf)(See attached file: Ns1_600.pdf)(See attached file: NS1_2012.pdf)

A Very Merry Christmas and a Happy New Year to All.

Regards

Tina Mannella

 - Ns1_700.pdf

 - Ns1_500.pdf

 - Ns1_600.pdf

 - NS1_2012.pdf

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WELL PROGRESS REPORT

NAYLOR SOUTH 1

DATE: 20/12/2001 (0600 Hours E.S.T.)

DEPTH: 782 m **PROGRESS:** 344m **DAYS FROM SPUD:** 5

CURRENT OPERATION: DRILLING AHEAD IN THE DILWYN FORMATION

NOPE COST (C&S) $1,283,828 (P&A)$1,448,078 **FINAL FORECAST COST** **COST TO DATE:** $766,143

CASING DEPTH: 434m **RIG:** ODE 30

PROGRAMMED TD: 2152m **ROTARY TABLE:** 53.0m **GROUND LEVEL:** 48.3m

MUD DATA (2400 Hours)	Type:	Wt:	Visc:	WL:	pH:	K^+:	Cl^-:	PV/YP:	Rmf:
	Gel Spud Mud	8.5	33	N/A	9.0	35100	20500	4/4	N/A

BIT DATA (2400 Hours)		No.	Make	Type	Size	Hours	Meterage	Condition
	LAST	1	HTC	GT-1	9 7/8"	34.0	438m	1/2/WT/A/2/I/NO/TD
	PRESENT	2	HU	STR554A3X	6 3/4"	9.0	190	IN HOLE

SURVEYS:	MD	INCLINATION	AZIMUTH (T)		MD	INCLINATION	AZIMUTH (T)
1	25m	0.50°	135°	8	358m	1.00°	346°
2	99m	0.25°	237°	9	425m	1.25°	351°
3	136m	0.75°	171°	10	568m	2.50°	27°
4	155m	0.85°	346°	11	712m	2.13°	42°
5	174m	3.00°	351°				
6	231m	2.50°	341°				
7	287m	1.35°	1°				

PREVIOUS 24 HOURS OPERATIONS:

MAKE UP NEW BOTTOM HOLE ASSEMBLY AND RUN IN HOLE. DRILL PLUGS, FLOAT, CEMENT AND SHOE. DRILL 3m OF NEW HOLE TO 441m. PERFORM LEAK OFF TEST. L.O.T. = 15.9ppg EMW. DRILL AHEAD 6 3/4" HOLE WITH SURVEYS

ANTICIPATED OPERATIONS:

DRILL AHEAD 6 3/4" HOLE WITH SURVEYS.

Santos

A.C.N. 007 550 923

WELL PROGRESS REPORT

NAYLOR SOUTH 1

DATE: 20/12/2001 (0600 Hours E.S.T.)

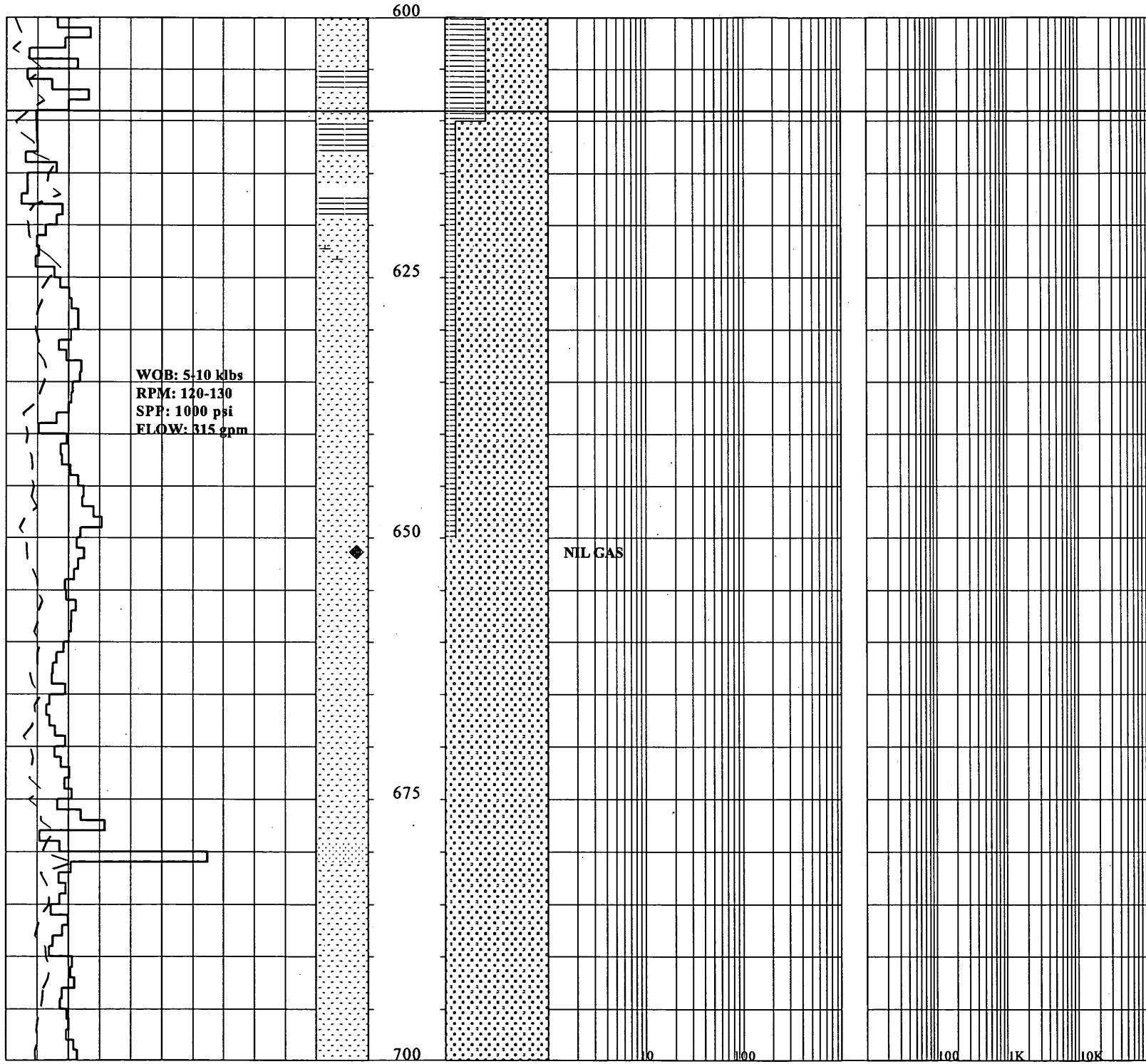
FORMATION TOPS:	RT(m)	-Subsea(m)	H/L to Prog	H/L to NAYLOR 1
CLIFTON FORMATION	464	-411	1m L	1m H
MEPUNGA FORMATION	551	-498	3m L	2m H
DILWYN FORMATION	609	-556	24m H	29m H

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY	GAS
NONE		

GEOLOGICAL SUMMARY

INTERVAL	LITHOLOGY	GAS
438 - 464 ROP: 0.9 - 4.2 mn/ft Ave: 1.8 mn/ft	**MARL** MARL: pale to medium grey, strongly calcareous, common fossil fragments, very soft to firm, amorphous.	Nil gas
464 - 551 ROP: 0.6 - 6 mn/ft Ave: 1.7 mn/ft	**CLIFTON FORMATION** **INTERBEDDED MARL, SILTSTONE AND MINOR SANDSTONE** MARL: pale to medium grey, pale grey/green, strongly calcareous, trace fossil fragments, very soft to firm, amorphous. SILTSTONE: orange - red brown, common iron staining, arenaceous grading to fine SANDSTONE, calcareous, soft, amorphous. SANDSTONE: orange - red/brown, common iron staining, very fine - medium grained, coarse in part, poor sorted, rounded to subrounded, common argillaceous red/brown matrix, calcareous cement, loose to firm, poor inferred porosity, no fluorescence.	Nil gas
551 - 609 ROP: 0.5 - 2 mn/ft Ave: 1.1 mn/ft	**MEPUNGA FORMATION** **INTERBEDDED CLAYSTONE AND MINOR SANDSTONE** CLAYSTONE: medium - dark brown, medium red/brown, calcareous, minor fossil fragments, grading to SILTSTONE in part, soft - firm, amorphous. SANDSTONE: pale brown, off white, fine - medium, moderately sorted, subangular - subrounded, loose, poor inferred porosity.	Nil gas
609 - 782 ROP: 0.2 - 8.8 mn/ft Ave: 0.9 mn/ft	**DILWYN FORMATION** **SANDSTONE WITH MINOR CLAYSTONE** SANDSTONE: light - medium brown, translucent, fine - medium, occasionally coarse, moderately sorted, subangular - subrounded, occasional angular, moderately calcareous cement, trace brown argillaceous matrix, trace pyrite nodules, loose, fair inferred visual porosity, no fluorescence. CLAYSTONE: light grey, medium brown, medium red/brown, calcareous, trace pyrite, trace fossil fragments, soft - firm, amorphous.	Nil gas



DILWYN FM:
609mRT (-556mSS)

SANDSTONE:lt-med brn,trnsl,fn-med,occ crs,mod srt,sa[illegible],occ ang,mod calc cmt,tr brn arg mtx, tr pyr nods,lse,fr inf por,n/s.

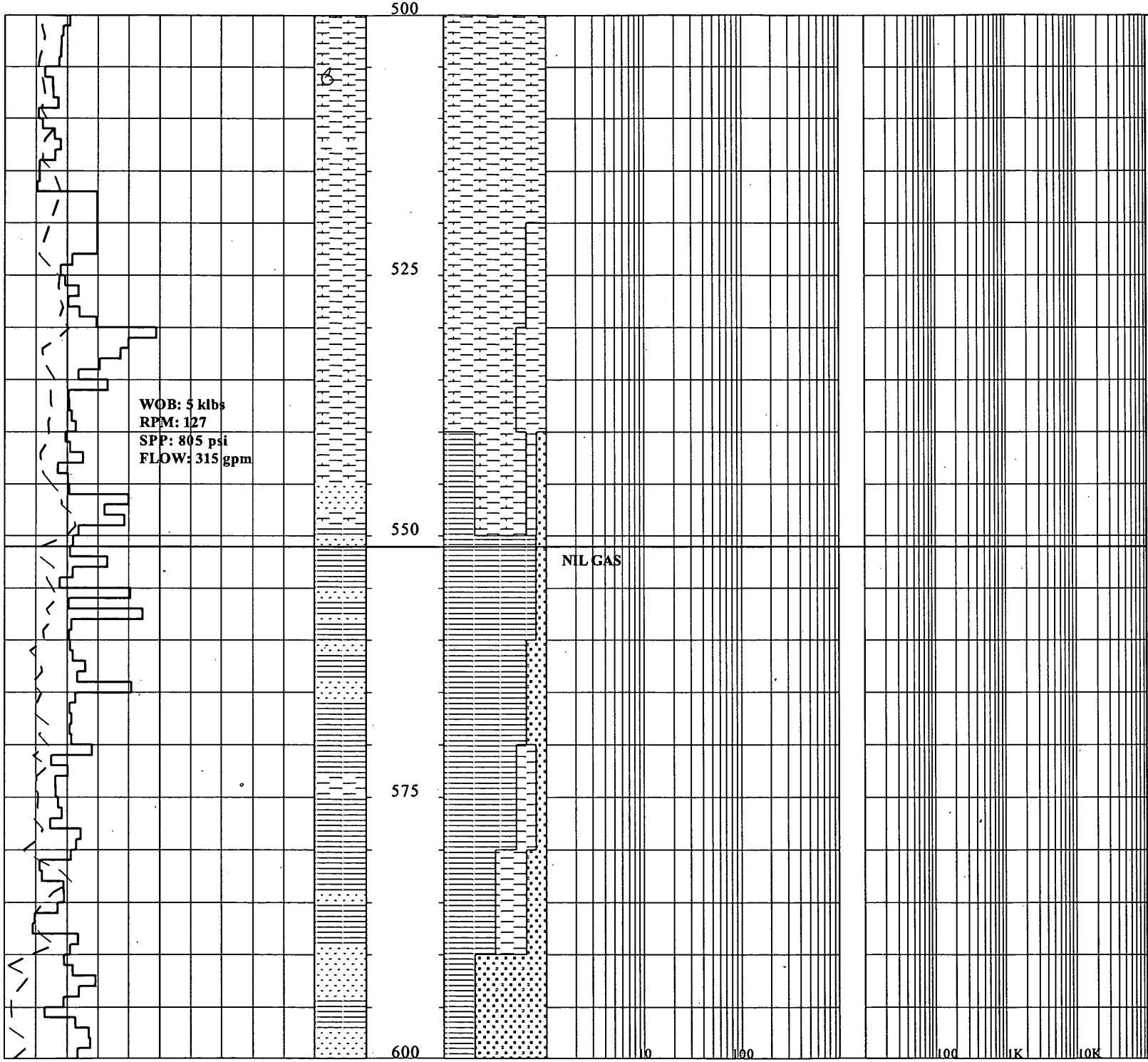
CLAYSTONE:lt gy,med bn, med rd/bn,calc,mnr foss frags,sft -frm, amporh.

SANDSTONE:clr-opq,trnsl,v pl brn/gry i/p,f-m,occ crs,sa-sr, mod srt,com wk calc cmt,tr pyr nods,lse,fr inf por,n/s.

909044 147

Well Name: NAYLOR STH 1

Geoservices



MARL:pl-med gy/bn, pl gy/gn,strg calc,tr foss frags,v sft,amorph

SILTSTONE:med bn,med gy,strng calc,arg,com foss frags,sft-frm, amorph.

MEPUNGA FM: 551mRT (-498mSS)

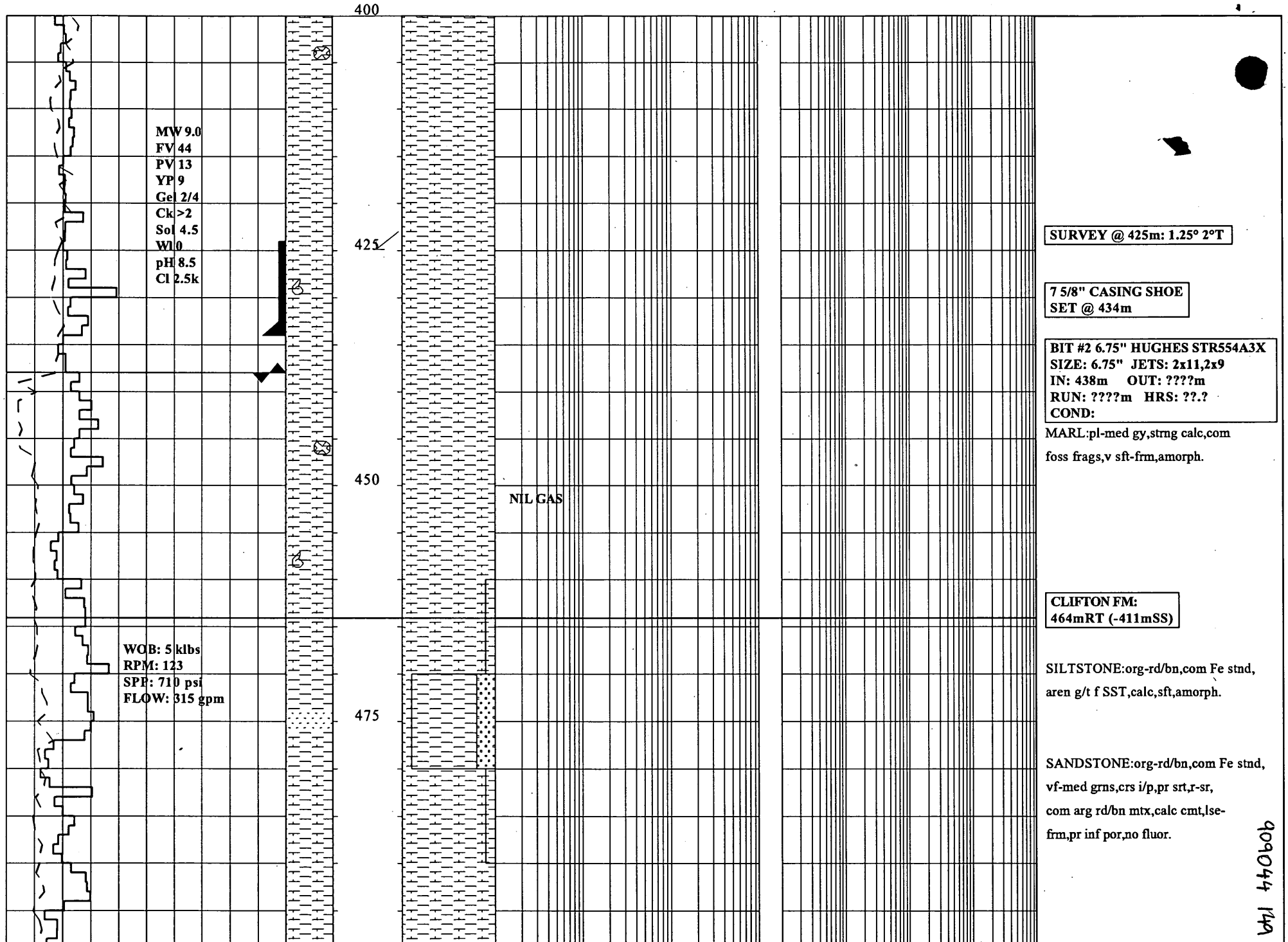
SANDSTONE:pl bn,off wh,f-med, mod srt,sa-sr,lse,pr inf por.

CLAYSTONE:med-dk bn, med rd/bn, calc, mnr foss frags, g/t SLTST i/p, sft-frm,amorph.

909044 148

Well Name: NAYLOR STH 1

Geoservices



SURVEY @ 425m: 1.25° 2°T

7 5/8" CASING SHOE
SET @ 434m

BIT #2 6.75" HUGHES STR554A3X
SIZE: 6.75" JETS: 2x11,2x9
IN: 438m OUT: ????m
RUN: ????m HRS: ??.?
COND:

MARL:pl-med gy,strng calc,com foss frags,v sft-frm,amorph.

CLIFTON FM:
464mRT (-411mSS)

SILTSTONE:org-rd/bn,com Fe stnd, aren g/t f SST,calc,sft,amorph.

SANDSTONE:org-rd/bn,com Fe stnd, vf-med grns,crs i/p,pr srt,r-sr, com arg rd/bn mtx,calc cmt,lse-frm,pr inf por,no fluor.

Well Name: NAYLOR STH 1

Geoservices

Anna.Pignetti@santos.com.au on 12/19/2001 09:32:11 AM

To: neil.gibbins@beachpetroleum.com.au, hector.gordon@beachpetroleum.com.au, kourosh.mehin@nre.vic.gov.au, bruce.armour@nre.vic.gov.au
cc: danny.burns@beachpetroleum.com.au (bcc: Kourosh Mehin/NRE)
Subject: Naylor Sth 1 Reps

(See attached file: NS1_1912.pdf)

Anna Pignetti
Geology Operations Department
Santos Limited
Ph: 08 8224 7967

 - NS1_1912.pdf

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WELL PROGRESS REPORT

NAYLOR SOUTH 1

DATE: 19-12-2001 (0600 Hours)

DEPTH: 438 m **PROGRESS:** 0m **DAYS FROM SPUD:** 4

CURRENT OPERATION: MAKING UP 6 ¾" DRILLING ASSEMBLY HAVING INSTALLED AND TESTED BLOWOUT PREVENTION EQUIPMENT.

NOPE COST (P&A)$1,283,828 (C&S)$1,448,078 **FINAL FORECAST COST** (P&A)$ (C&S)$ **COST TO DATE:** $ 652,938

CASING DEPTH: 434m **RIG:** ODE 30

PROGRAMMED TD: 2152m **ROTARY TABLE:** 53.0m **GROUND LEVEL:** 48.3m

MUD DATA (2400 Hours)	Type:	Wt:	Visc:	WL:	pH:	K^+:	Cl^-:	PV/YP:	Rmf:
	Gel Spud Mud	9.0	42	N/A	8.5	5,400	2,000	11 / 7	N/A

BIT DATA (2400 Hours)		No.	Make	Type	Size	Hours	Meterage	Condition
	LAST	1	HTC	GT-1	9 7/8"	34.0	438m	1/2/WT/A/2/I/NO/TD
	PRESENT							

SURVEYS:	MD	INCLINATION	AZIMUTH (T)		MD	INCLINATION	AZIMUTH (T)
1	25m	0.50°	142°	8	358m	1.00°	357°
2	99m	0.25°	248°	9	425m	1.25°	2°
3	136m	0.75°	182°				
4	155m	0.85°	357°				
5	174m	3.00°	2°				
6	232m	2.50°	352°				
7	287m	1.35°	12°				

PREVIOUS 24 HOURS OPERATIONS:

RIG DOWN V-DOOR AND REMOVE CATWALK. INSTALL MUD CROSS, RAMS AND HYDRIL. INSTALL KILL LINE AND HCR VALVE. SPOT CHOKE MANIFOLD. NIPPLE UP BLOW OUT PREVENTORS AND PRESSURE TEST BLOW OUT PREVENTORS. INSTALL WEAR BUSHING.

ANTICIPATED OPERATIONS:

MAKE UP NEW BOTTOM HOLE ASSEMBLY AND RUN IN HOLE. DRILL AHEAD 6 3/4" HOLE

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WELL PROGRESS REPORT

NAYLOR SOUTH 1

DATE: 19-12-2001 (0600 Hours)

FORMATION TOPS:	RT	-Subsea	H/L to Prog	H/L to Offsets
NONE				

HYDROCARBON SHOW SUMMARY		
INTERVAL	**LITHOLOGY**	**GAS**
NONE		

GEOLOGICAL SUMMARY		
INTERVAL	**LITHOLOGY**	**GAS** Peak / Background

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ABN 80 007 550 923

OPERATIONS GEOLOGY

FAX TRANSMITTAL FORM

Date : 18.12.01

Total number of pages : 3
(including this page)

To / Attn : MR K MEHIN

Subject : MAYLER WELL REPORTS

From : ANNA

Please advise via (08) 8224 7967 if fax not received

909044 154

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WELL PROGRESS REPORT

NAYLOR SOUTH 1

DATE: 18/12/2001 (0600 Hours)

DEPTH: 438 m **PROGRESS:** 0m **DAYS FROM SPUD:** 3

CURRENT OPERATION: NIPPLING UP AND PRESSURE TESTING BLOWOUT PREVENTERS

NOPE COST (P&A)$1,283,828 (C&S)$1,448,078 **FINAL FORECAST COST** (P&A)$ (C&S)$ **COST TO DATE:** $631,102

CASING DEPTH: 434m **RIG:** ODE 30

PROGRAMMED TD: 2152m **ROTARY TABLE:** 52.2m (prelim.) **GROUND LEVEL:** 47.5m(prelim)

	Type:	Wt:	Visc:	WL:	pH:	K^+:	Cl^-:	PV/YP:	Rmf:
MUD DATA (2400 Hours)	Gel Spud Mud	9.0	42	N/A	8.5	5,400	2,000	11 / 7	N/A

		No.	Make	Type	Size	Hours	Meterage	Condition
BIT DATA (2400 Hours)	LAST PRESENT	1	HTC	GT-J	9 7/8"	34.0	438m	1/2/WT/A/2/I/NO/TD

SURVEYS:	MD	INCLINATION	AZIMUTH (T)		MD	INCLINATION	AZIMUTH (T)
1	25m	0.50°	142°	8	358m	1.00°	357°
2	99m	0.25°	248°	9	425m	1.25°	2°
3	136m	0.75°	182°				
4	155m	0.85°	357°				
5	174m	3.00°	2°				
6	232m	2.50°	352°				
7	287m	1.35°	12°				

PREVIOUS 24 HOURS OPERATIONS:

LAY DOWN 6 1/4" DRILL COLLARS. RIG UP AND RUN 37 JOINTS (BREAK CIRCULATION AFTER 25 JOINTS RUN) OF 7 5/8" CASING WITH SHOE SET AT 434.03m. CIRCULATE CASING. RIG UP CEMENT HEAD, HOLD PRE JOB SAFETY MEETING AND RUN CEMENT JOB. WAIT ON CEMENT. PREPARE WELLHEAD AND BLOW OUT PREVENTORS. SLACK OFF AND BACK OUT LANDING JOINT. INSTALL BRADENHEAD. NIPPLE UP BLOW OUT PREVENTORS.

ANTICIPATED OPERATIONS:

CONTINUE TO NIPPLE UP AND TEST BLOW OUT PREVENTORS. MAKE UP NEW BOTTOM HOLE ASSEMBLY AND RUN IN HOLE.

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WELL PROGRESS REPORT

NAYLOR SOUTH 1

DATE: 18/12/2001 (0600 Hours)

FORMATION TOPS:	RT	-Subsea	H/L to Prog	H/L to Offsets
NONE				

HYDROCARBON SHOW SUMMARY		
INTERVAL	**LITHOLOGY**	**GAS**
NONE		

GEOLOGICAL SUMMARY		
INTERVAL	**LITHOLOGY**	**GAS**
166m - 438m ROP: 0.5 - 1.8 Avc : 1.1 mn/m ROP (Jetting): 35.0- 64.0 mn/m	**MARL WITH MINOR INTERBEDDED LIMESTONE.** MARL: light to medium grey, occasional pale grey, trace pale brownish grey, very calcareous, common fossil fragments, abundant shell fragments, very soft to soft, dispersive, sitcky in part, amorphous to trace subblocky. LIMESTONE: off white, cream, pale greyish orange, trace pale brownish orange, abundant fossil fragments, friable, medium crystalline.	Peak / Background Nil Gas

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WELL PROGRESS REPORT

NAYLOR SOUTH 1

DATE: 17-12-2001 (0600 Hours)

DEPTH: 438 m **PROGRESS:** 272m **DAYS FROM SPUD:** 2

CURRENT OPERATION: PULLING OUT OF HOLE POST WIPER TRIP AT SURFACE CASING POINT.

NOPE COST (P&A)$1,283,828 (C&S)$1,448,078 **FINAL FORECAST COST** (P&A)$ (C&S)$ **COST TO DATE:** $

CASING DEPTH: N/A **RIG:** ODE 30

PROGRAMMED TD: 2152m **ROTARY TABLE:** 52.2m (prelim.) **GROUND LEVEL:** 47.5m(prelim)

MUD DATA (2400 Hours)	Type:	Wt:	Visc:	WL:	pH:	K^+:	Cl^-:	PV/YP:	Rmf:
	Gel Spud Mud	9.0	44	N/A	8.5	5,400	2,500	13 / 9	N/A

BIT DATA (2400 Hours)		No.	Make	Type	Size	Hours	Meterage	Condition
	LAST							
	PRESENT	1	HTC	GT-1	9 7/8"	7.9	272m	IN HOLE

SURVEYS:	MD	INCLINATION	AZIMUTH (T)		MD	INCLINATION	AZIMUTH (T)
1	25m	0.50°	142°	8	358m	1.00°	357°
2	99m	0.25°	248°	9	425m	1.25°	2°
3	136m	0.75°	182°				
4	155m	0.85°	357°				
5	174m	3.00°	2°				
6	232m	2.50°	352°				
7	287m	1.35°	12°				

PREVIOUS 24 HOURS OPERATIONS:
JET 9 7/8" HOLE FROM 166m TO 168m. DRILL AHEAD 9 7/8" HOLE WITH ROTARY FROM 168m TO 173m. CIRCULATE AND RUN WIRELINE SURVEY. DRILL AHEAD 9 7/8" HOLE FROM 173m TO 191m. USE HIGH RPM, LOW WOB AND DOUBLE REAM EACH CONNECTION TO TRY TO DROP ANGLE. CIRCULATE AND RUN WIRELINE SURVEY. DRILL AHEAD 9 7/8" HOLE FROM 191m TO 250m: RPM 120, WOB 10, GPM 505. CIRCULATE AND RUN WIRELINE SURVEY. DRILL AHEAD 9 7/8" HOLE FROM 250m TO 308m: RPM 130, WOB 10, GPM 505. CONDUCT RIG SERVICE. CIRCULATE AND RUN WIRELINE SURVEY. DRILL AHEAD 9 7/8" HOLE FROM 308m TO 376m: RPM 130, WOB 10, GPM 505. CIRCULATE AND RUN WIRELINE SURVEY. DRILL AHEAD 9 7/8" HOLE FROM 376m TO 438m - SECTION TD, RPM 130, WOB 10, GPM 505. CIRCULATE HOLE CLEAN. RUN WIRELINE SURVEY. FLOW CHECK. PICK UP BAILS AND PULL OUT OF HOLE FOR WIPER TRIP. CLEAN STABILISER AND BIT. RUN IN HOLE TO 422m. CIRCULATE AND CONDITION MUD. MUD VERY DEHYRATED AND TREATED WITH WATER. WASH DOWN TO 438m. NO FILL. CIRCULATE HOLE CLEAN. FLOW CHECK, PUMP PILL AND PULL OUT OF HOLE TO RUN CASING.

ANTICIPATED OPERATIONS:
CONTINUE TO PULL OUT OF HOLE. RIG UP AND RUN 7 5/8" CASING. CEMENT SAME. NIPPLE UP AND PRESSURE TEST BLOW OUT PREVENTORS.

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WELL PROGRESS REPORT

NAYLOR SOUTH 1

DATE: 17-12-2001 (0600 Hours)

FORMATION TOPS:	RT	-Subsea	H/L to Prog	H/L to Offsets
NONE				

HYDROCARBON SHOW SUMMARY		
INTERVAL	**LITHOLOGY**	**GAS**
NONE		

GEOLOGICAL SUMMARY		
INTERVAL	**LITHOLOGY**	**GAS** Peak / Background
166m - 438m ROP: 0.5 - 1.8 Ave : 1.1 mn/m ROP (Jetting): 35.0- 64.0 mn/m	**MARL WITH MINOR INTERBEDDED LIMESTONE.** MARL: light to medium grey, occasional pale grey, trace pale brownish grey, very calcareous, common fossil fragments, abundant shell fragments, very soft to soft, dispersive, sticky in part, amorphous to trace subblocky. LIMESTONE: off white , cream, pale greyish orange, trace pale brownish orange, abundant fossil fragments, friable, medium crystalline.	Nil Gas

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WELL PROGRESS REPORT

NAYLOR SOUTH 1

DATE: 16-12-2001 (0600 Hours)

DEPTH: 166 m **PROGRESS:** 166m **DAYS FROM SPUD:** 1

CURRENT OPERATION: DRILLING AHEAD 9 7/8" SURFACE HOLE, JETTING TO BUILD ANGLE AT 166m.

NOPE COST (P&A)$1,283,828 (C&S)$1,448,078 **FINAL FORECAST COST** (P&A)$ (C&S)$ **COST TO DATE:** $

CASING DEPTH: N/A **RIG:** ODE 30

PROGRAMMED TD: 2152m **ROTARY TABLE:** 52.2m (prelim.) **GROUND LEVEL:** 47.5m(prelim)

MUD DATA (2400 Hours)	Type:	Wt:	Visc:	WL:	pH:	K^+:	Cl^-:	PV/YP:	Rmf:
	Gel Spud Mud	8.9	42	N/A	8.5	10,800	6,500	13 / 8	N/A

BIT DATA (2400 Hours)		No.	Make	Type	Size	Hours	Meterage	Condition
	LAST							
	PRESENT	1	HTC	GT-1	9 7/8"	8.6	166m	IN HOLE

SURVEYS:	MD	INCLINATION	AZIMUTH (T)	MD	INCLINATION	AZIMUTH (T)
1	25m	0.5°	142°			
2	100m	0.25°	245°			
3	126m	0.75°	182°			

PREVIOUS 24 HOURS OPERATIONS:

PICK UP BIT BREAKER TO MAKE UP 9 7/8" BIT. BREAKER FELL THROUGH BREAKER RIM. PICK UP MAGNET AND ATTEMPT TO FISH BIT BREAKER. MAKE UP 9 7/8" DRILLING ASSEMBLY. **SPUD WELL AT 0730 HRS 15/12/01**, DRILL AHEAD 9 7/8" HOLE FROM SPUD TO 43.3m. USE LOW GALLONS PER MINUTE AND RPM UNTIL BOTTOM HOLE ASSEMBLY BELOW CONDUCTOR. CIRCULATE AND RUN WIRELINE SURVEY. DRILL AHEAD 9 7/8" HOLE FROM 43m TO 116m. CIRCULATE AND RUN WIRELINE SURVEY. DRILL AHEAD 9 /78" HOLE FROM 116m TO 143m. CIRCULATE AND RUN WIRELINE SURVEY. JET HOLE FROM 153m TO 157m.. WORK ON PUMP 1 WHILE JETTING. DRILL IN ROTARY FROM 157m TO 164m JET FROM 164m TO 166m.

ANTICIPATED OPERATIONS:

JET TO 168m THEN DRILL AHEAD 9 7/8" HOLE WITH ROTARY TO KELLY DOWN AT 174m. RUN WIRELINE SURVEY. DRILL AHEAD 9 7/8" HOLE, JETTING AS REQUIRED TO MAINTAIN HOLE ANGLE.

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WELL PROGRESS REPORT

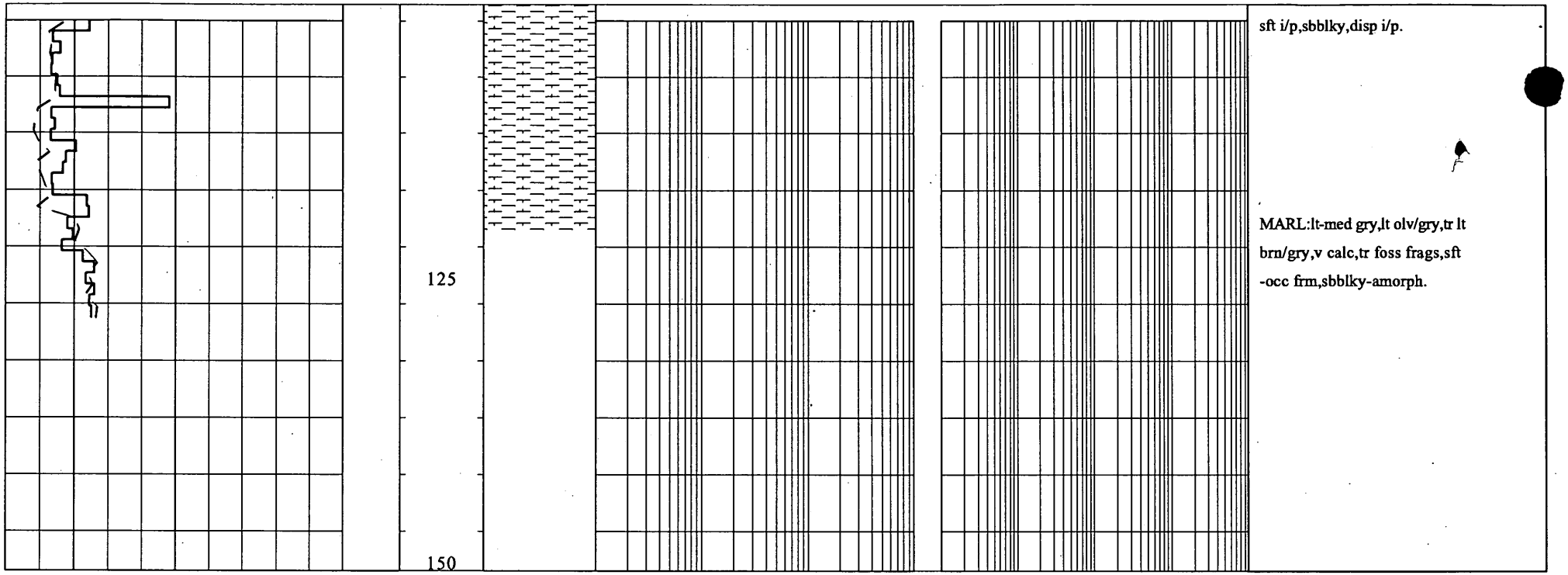
NAYLOR SOUTH 1

DATE: 16-12-2001 (0600 Hours)

FORMATION TOPS:	RT	-Subsea	H/L to Prog	H/L to Offsets
NONE				

HYDROCARBON SHOW SUMMARY		
INTERVAL	**LITHOLOGY**	**GAS**
NONE		

GEOLOGICAL SUMMARY		
INTERVAL	**LITHOLOGY**	**GAS** Peak / Background
	INTERBEDDED LIMESTONE, SANDSTONE AND MARL.	
Spud - 166m ROP: 0.3 - 1.6 Ave : 0.8 mn/m ROP (Jetting): 24.0-100.0 mn/m	LIMESTONE: off white to cream, clear in part, moderately crystalline, sucrosic in part, common fossil fragments, common shell fragments, friable to loose. SANDSTONE: clear to off white, pale grey, fine to medium, moderately sorted, subangular to subrounded in part, common calcareous, loose, poor to fair inferred porosity, no fluorescence. MARL: light to medium grey, trace pale brownish grey, very calcareous, common fossil fragments, very soft to soft, dispersive, amorphous, sticky.	Nil Gas



sft i/p,sbblky,disp i/p.

MARL:lt-med gry,lt olv/gry,tr lt brn/gry,v calc,tr foss frags,sft -occ frm,sbblky-amorph.

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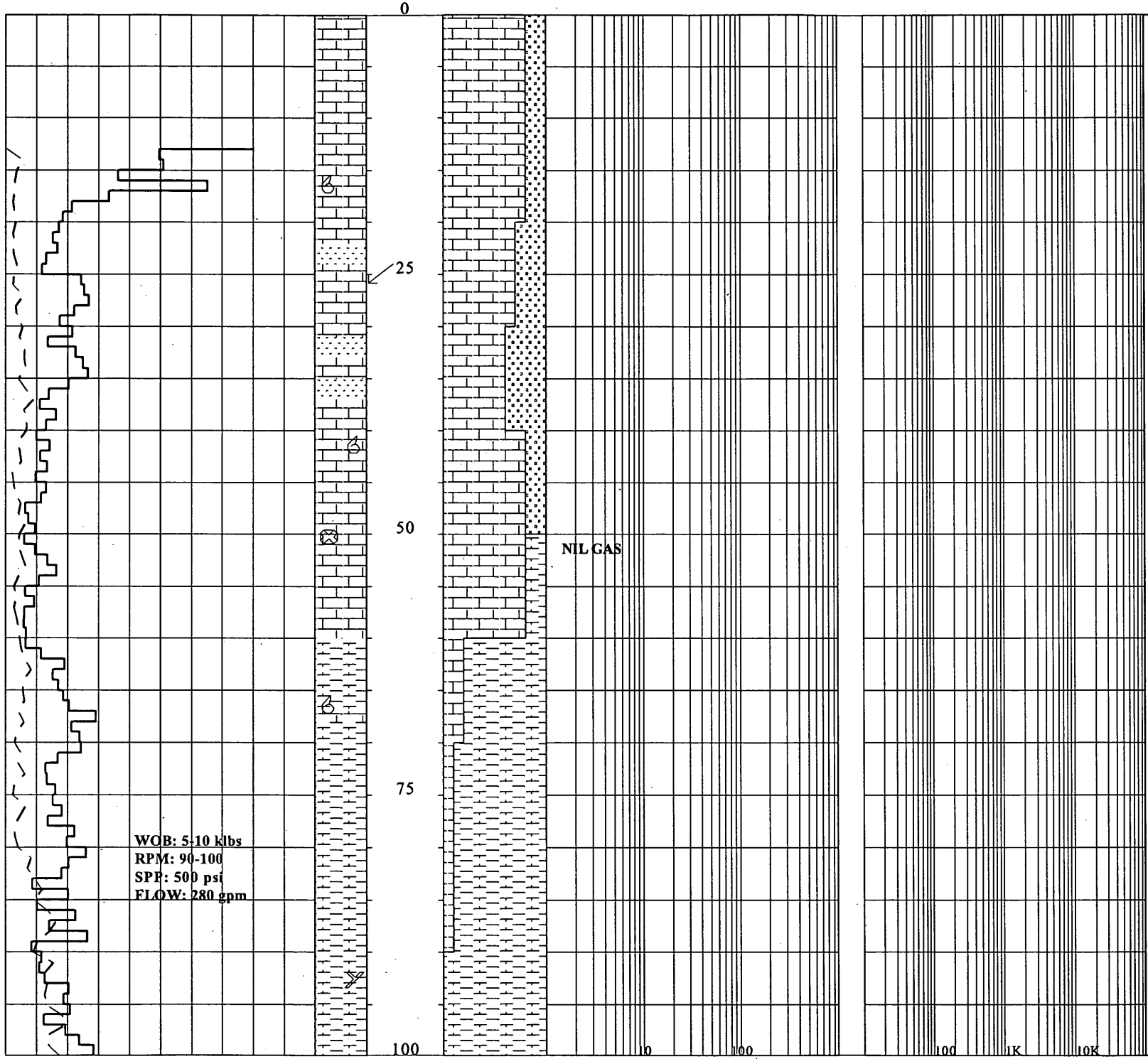
10 100 100 1K 10K

Well Name: NAYLOR STH 1

Geoservices



NAYLOR SOUTH-1 SPUDDED @ 07:30 HOURS ON 15-12-20[redacted]

BIT #1:HTC GT-1
SIZE: 9.875" JETS:1x22,2xBlanks
IN : 7m OUT: xxxm
RUN: xxxm HRS: xx.x
COND:

SURVEY @ 26m:0.5° 142°T

LIMESTONE:off wh,yel/org,pl gry, lse,disp,m xln,suc i/p,occ foss, com shell frags.

SANDSTONE:clr-off wh,pl gry,f-m, mod srt,sa-sr i/p,com calc,lse, pr-fr inf por,n/s.

LIMESTONE:off wh-crm,clr i/p,m xln,suc i/p,com foss frags,com shell frags,fri-lse.

MARL:pl gry,-pl brn/gry,med gry i/p,v calc,occ foss frags,sft-v

909044 161

Well Name: NAYLOR STH 1

Geoservices