



**MID**  
**1:240**  
**Feet**

**MWD Gamma**

Client: **FOT**  
Well Name: **511506**  
Country: **Taylor**

Company Representative

Unique ID/API: **47-9101224**  
Surface Location: **Taylor County**

Jeff Lofton / Bill Teel

Country: **USA**  
State: **West Virginia**

Geologist

Dane Fischer

Rig Name: **Savanna 640E**  
Latitude: **39°17'40.099N**  
Longitude: **80°11'33.114W**

License/Permit#: **01224**

Directional Drillers

Mark Davis  
Toby Barrick

Job No: **1130314**  
Permanent Datum: **Mean Sea**  
Drilling Measurement From: **Drill Floor**

GL: **1470** Feet  
KB: **15.41** Feet

Spud Date: **June 7, 2011**  
Print Date: **June 22, 2011**

MWD Operator

Bob Dillon  
Justin Lee

Log Start Depth: **6550** Feet  
Log End Depth: **11470** Feet  
Bottom Hole Temp: **NA** °F

Comments:

Leg Name  
Main Leg

PHOENIX TECHNOLOGY SERVICES LP (PHOENIX) DOES NOT MAKE AND EXPRESSLY DISCLAIMS ALL WARRANTIES, REPRESENTATIONS AND CONDITIONS, WITH RESPECT TO THE INFORMATION CONTAINED IN THIS DOCUMENT, WHETHER ORAL OR WRITTEN, EXPRESS OR IMPLIED OR ARISING FROM CONTRACT OR STATUTE INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY, ACCURACY AND FITNESS FOR A PARTICULAR PURPOSE. ANYONE USING THIS INFORMATION DOES SO AT THEIR OWN RISK AND ACKNOWLEDGES AND AGREES THAT PHOENIX SHALL NOT BE LIABLE FOR ANY ERROR, OMISSION, DEFECT, DELAY, OR NON-COMPLIANCE IN THE INFORMATION AND WITHOUT LIMITING THE FOREGOING, PHOENIX DOES NOT WARRANT THAT THE INFORMATION OR THE USE THEREOF WILL BE FREE OF ALL ERRORS OR THAT IT DOES NOT INFRINGE ANY THIRD PARTY RIGHTS. ANYONE USING THE INFORMATION AGREES TO INDEMNIFY AND HOLD PHOENIX HARMLESS FROM ALL CLAIMS, ACTIONS, COSTS (INCLUDING LEGAL COSTS) ON A SOLIDFUND AND REASONABLE CLIENT BASIS, AND LIABILITIES ARISING FROM OR IN CONNECTION WITH THE USE OF THE INFORMATION.

| BitRun:                  | 1          | 2          | 3                      |
|--------------------------|------------|------------|------------------------|
| Start Depth (ft):        | 6613       | 7322       | 8072                   |
| End Depth (ft):          | 7322       | 8072       | 11458.37               |
| Start Date:              | 2011.05.07 | 2011.05.18 | 2011.05.19             |
| End Date:                | 2011.05.18 | 2011.05.19 | 2011.05.22             |
| Gamma Scale Factor:      | 5.388      | 5.388      | 5.193                  |
| Snubey-b-Bit (PTB):      | 54         | 54         | 54                     |
| Gamma-b-Bit (GTB):       | 49         | 49         | 49                     |
| Tool Carrier ID (ft):    | 2.75       | 2.75       | 2.75                   |
| Tool Carrier OD (ft):    | 5          | 5          | 5                      |
| Hole Size (ft):          | 8.5        | 8.5        | 7.875                  |
| Casing Size (ft):        | 9.625      | 9.625      | 9.625                  |
| Casing Start Depth (ft): | 0          | 0          | 0                      |
| Casing End Depth (ft):   | 2715       | 2715       | 2715                   |
| Mud Type:                | water base | WATER BASE | WATER BASE             |
| Mud Weight (lb/gal):     | 12.3       | 12.3       | 12.3                   |
| Mud Viscosity:           | 45         | 50         | 50                     |
| KCL Correction Factor:   | 0.000      | 0.000      | 0.000                  |
| Mud KCL Content (%):     | 0.001      | 0.001      | 0.001                  |
| Comment:                 | -          | -          | -BEGIN LATERAL SECTION |

| BitRun:                  |  |  |  |
|--------------------------|--|--|--|
| Start Depth (ft):        |  |  |  |
| End Depth (ft):          |  |  |  |
| Start Date:              |  |  |  |
| End Date:                |  |  |  |
| Gamma Scale Factor:      |  |  |  |
| Snubey-b-Bit (PTB):      |  |  |  |
| Gamma-b-Bit (GTB):       |  |  |  |
| Tool Carrier ID (ft):    |  |  |  |
| Tool Carrier OD (ft):    |  |  |  |
| Hole Size (ft):          |  |  |  |
| Casing Size (ft):        |  |  |  |
| Casing Start Depth (ft): |  |  |  |
| Casing End Depth (ft):   |  |  |  |
| Mud Type:                |  |  |  |
| Mud Weight (lb/gal):     |  |  |  |
| Mud Viscosity:           |  |  |  |
| KCL Correction Factor:   |  |  |  |
| Mud KCL Content (%):     |  |  |  |
| Comment:                 |  |  |  |



# PHOENIX

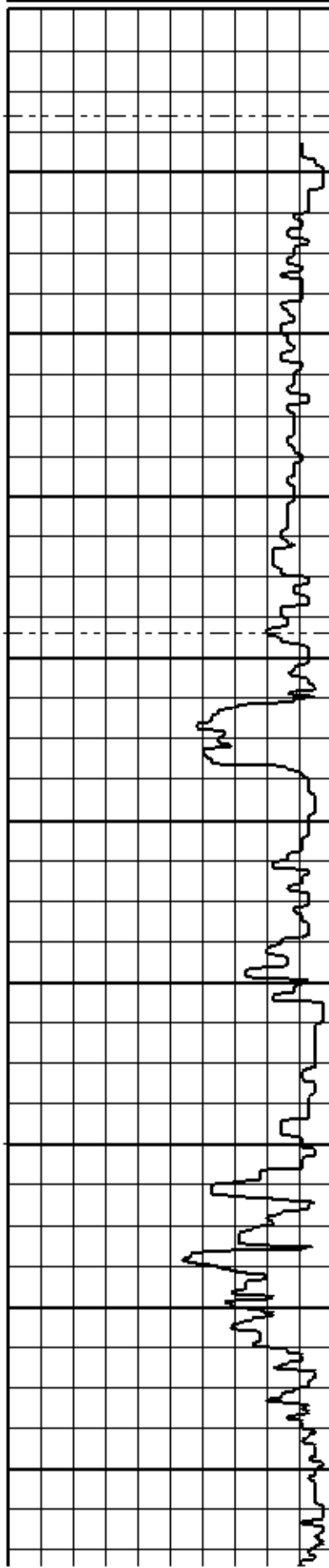
## TECHNOLOGY SERVICES

|     |             |      |
|-----|-------------|------|
| 0   | Gamma (API) | 250  |
| 250 | Gamma (API) | 500  |
| 500 | Gamma (API) | 750  |
| 750 | Gamma (API) | 1000 |

1:240ft

MD

|     |             |     |
|-----|-------------|-----|
| 0   | ROP (ft/hr) | 150 |
| 150 | ROP (ft/hr) | 300 |



6550

6570

6590

6610

6630

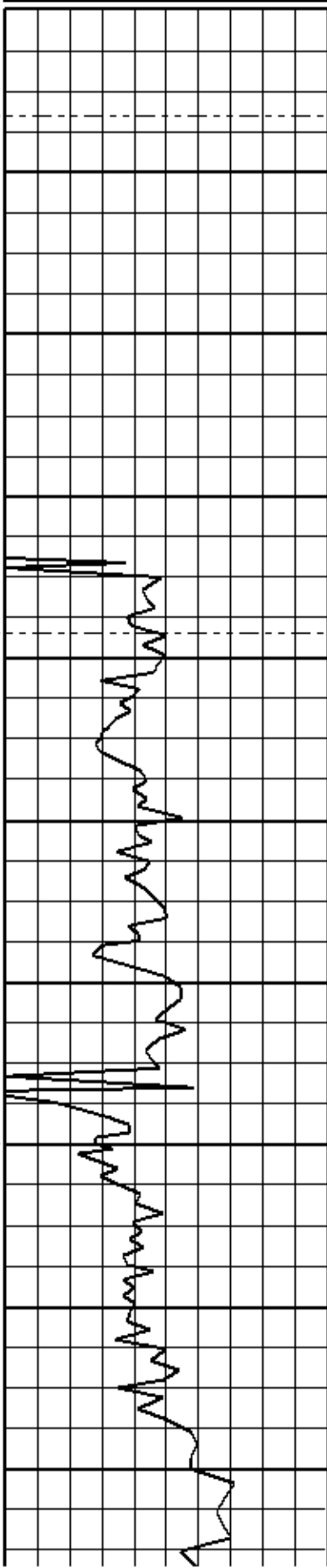
6650

6670

6690

6710

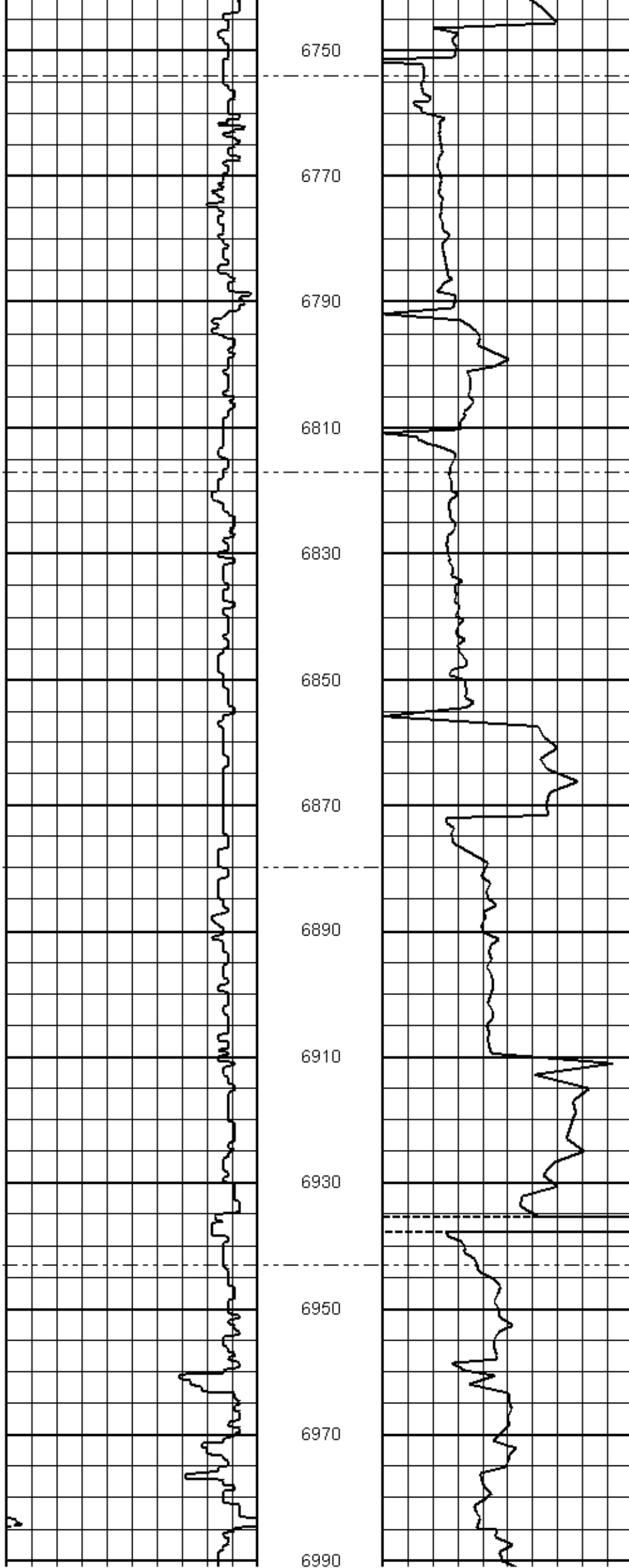
6730



MD: 6563  
INC: 0.8  
AZM: 287.5  
TVD: 6561.46

MD: 6627  
INC: 0.2  
AZM: 28  
TVD: 6625.46

MD: 6690 | INC: 0.1 | AZM: 105.4  
TVD: 6688.46

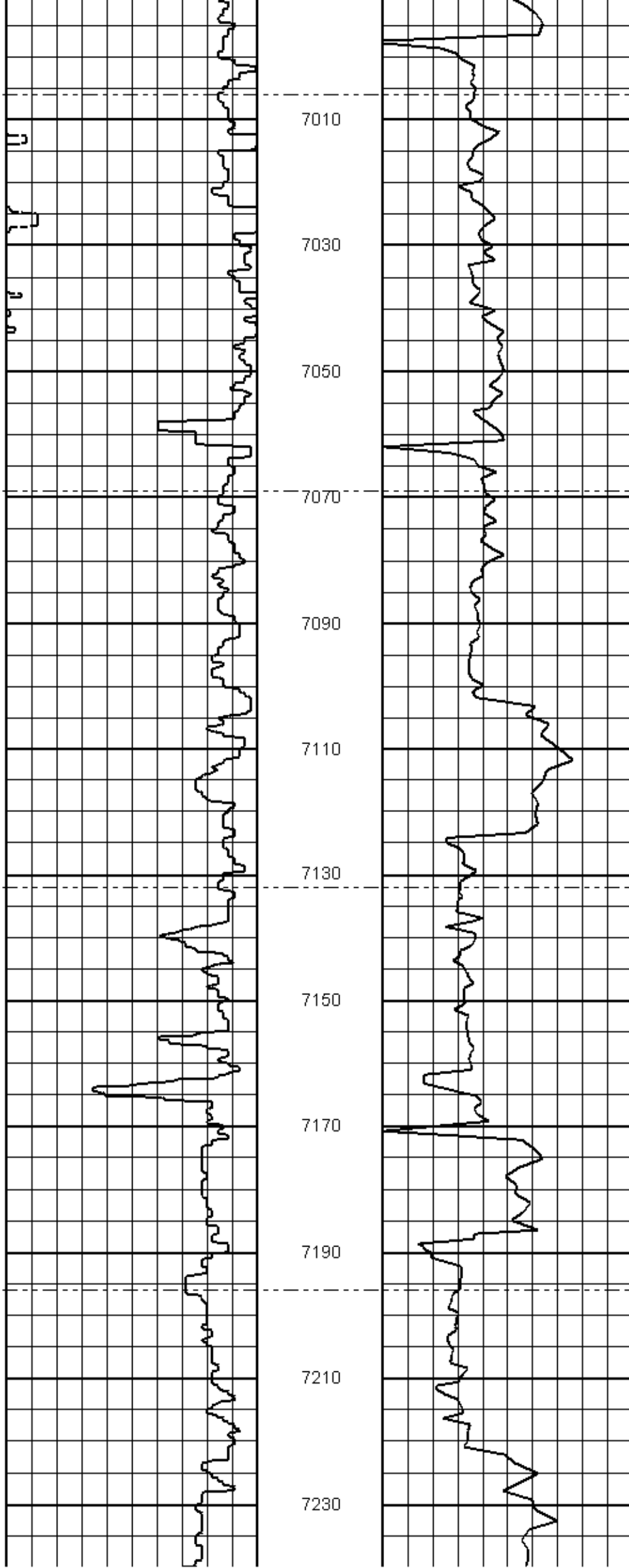


MD: 6754 | INC: 2.2 | AZM: 227.6  
TVD: 6752.44

MD: 6817 | INC: 8.7 | AZM: 243.7  
TVD: 6815.12

MD: 6880 | INC: 13.4 | AZM: 256.1  
TVD: 6876.94

MD: 6943 | INC: 16.2 | AZM: 259.6  
TVD: 6937.85



MD: 7006 | INC: 22.5 | AZM: 259.6  
TVD: 6997.26

7010

7030

7050

7070

MD: 7069 | INC: 29.5 | AZM: 261.8  
TVD: 7053.85

7090

7110

7130

MD: 7132 | INC: 32.5 | AZM: 271.7  
TVD: 7107.88

7150

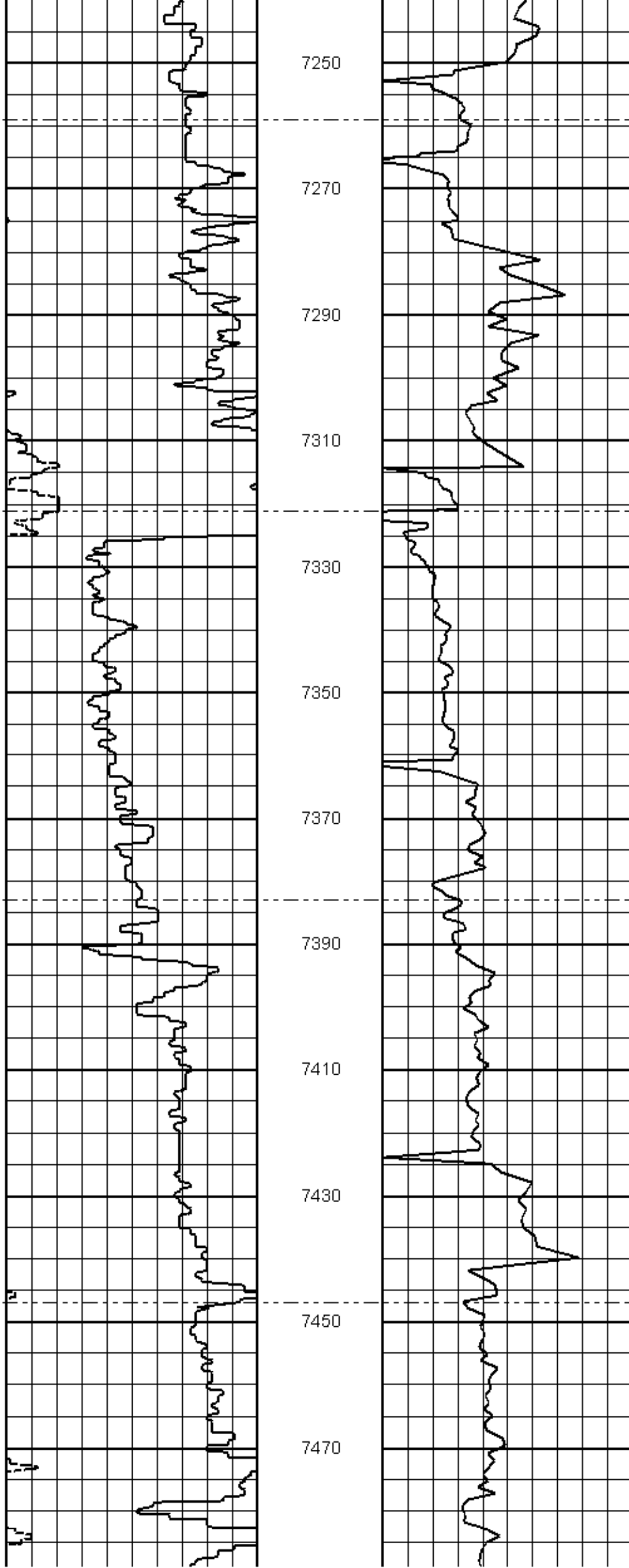
7170

7190

MD: 7196 | INC: 35.9 | AZM: 283.6  
TVD: 7160.87

7210

7230



7250

MD: 7259 | INC: 37.1 | AZM: 290.3  
TVD: 7211.53

7270

7290

7310

MD: 7321 | INC: 37.8 | AZM: 293.1  
TVD: 7260.75

7330

7350

7370

MD: 7383 | INC: 40.7 | AZM: 299.7  
TVD: 7308.78

7390

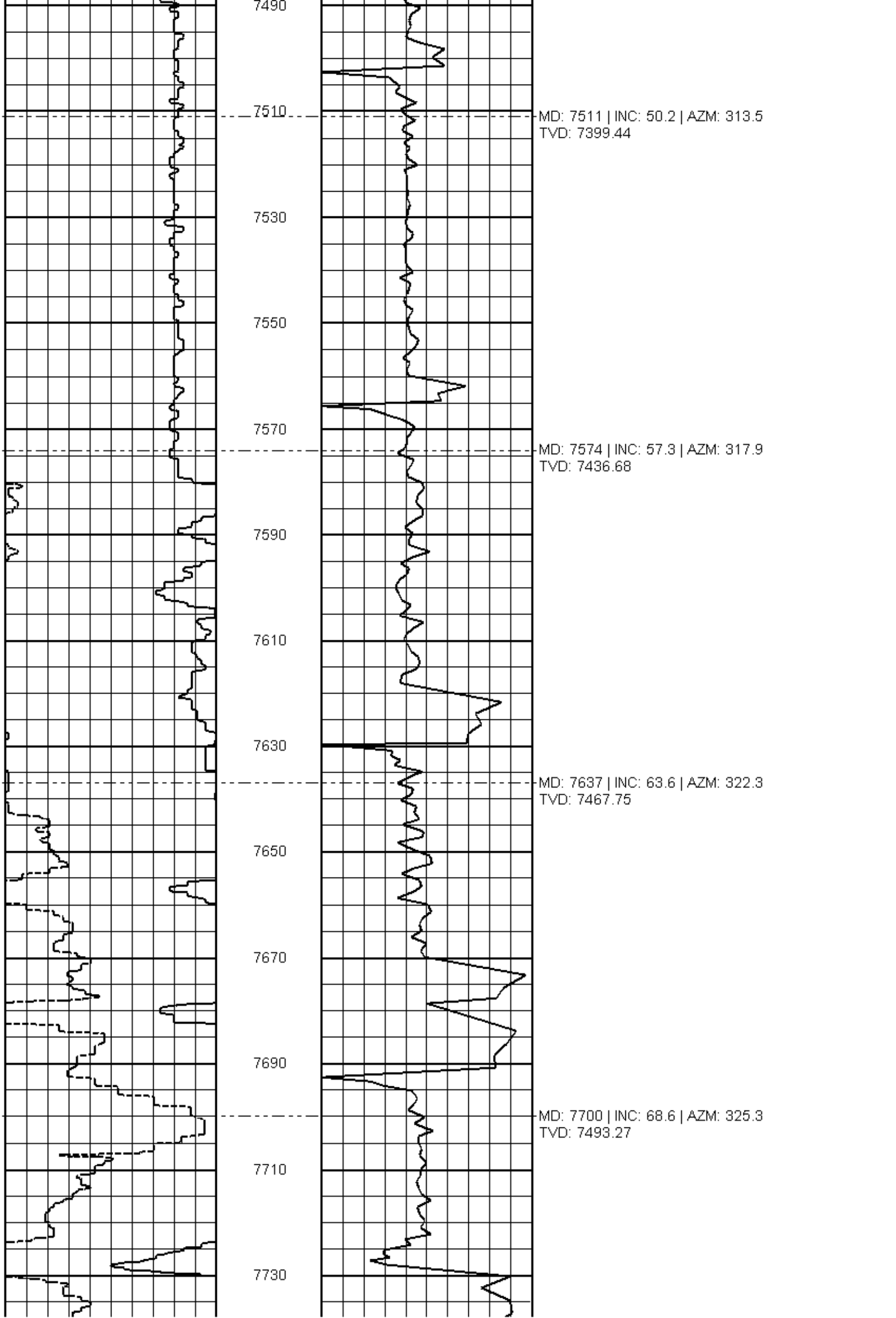
7410

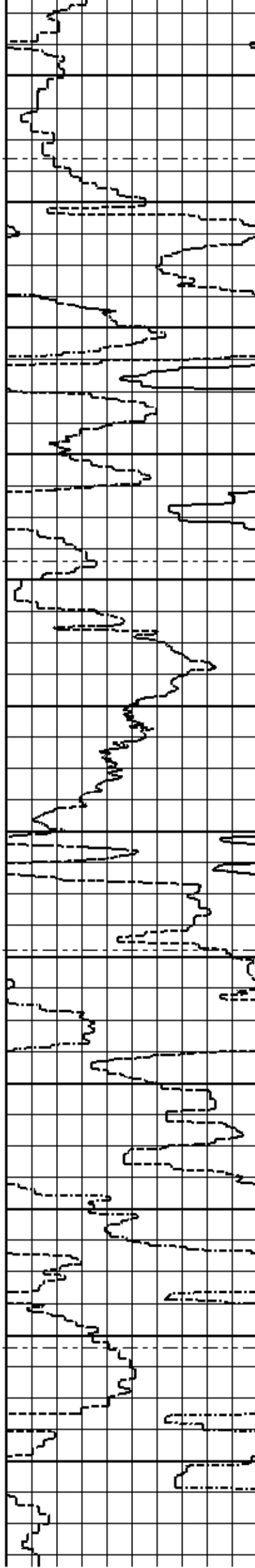
7430

MD: 7447 | INC: 44.3 | AZM: 307  
TVD: 7355.99

7450

7470





7750

MD: 7763 | INC: 72.6 | AZM: 327.4  
TVD: 7514.19

7770

7790

7810

7830

MD: 7827 | INC: 75.9 | AZM: 327.6  
TVD: 7531.56

7850

7870

7890

MD: 7889 | INC: 80.7 | AZM: 330.6  
TVD: 7544.13

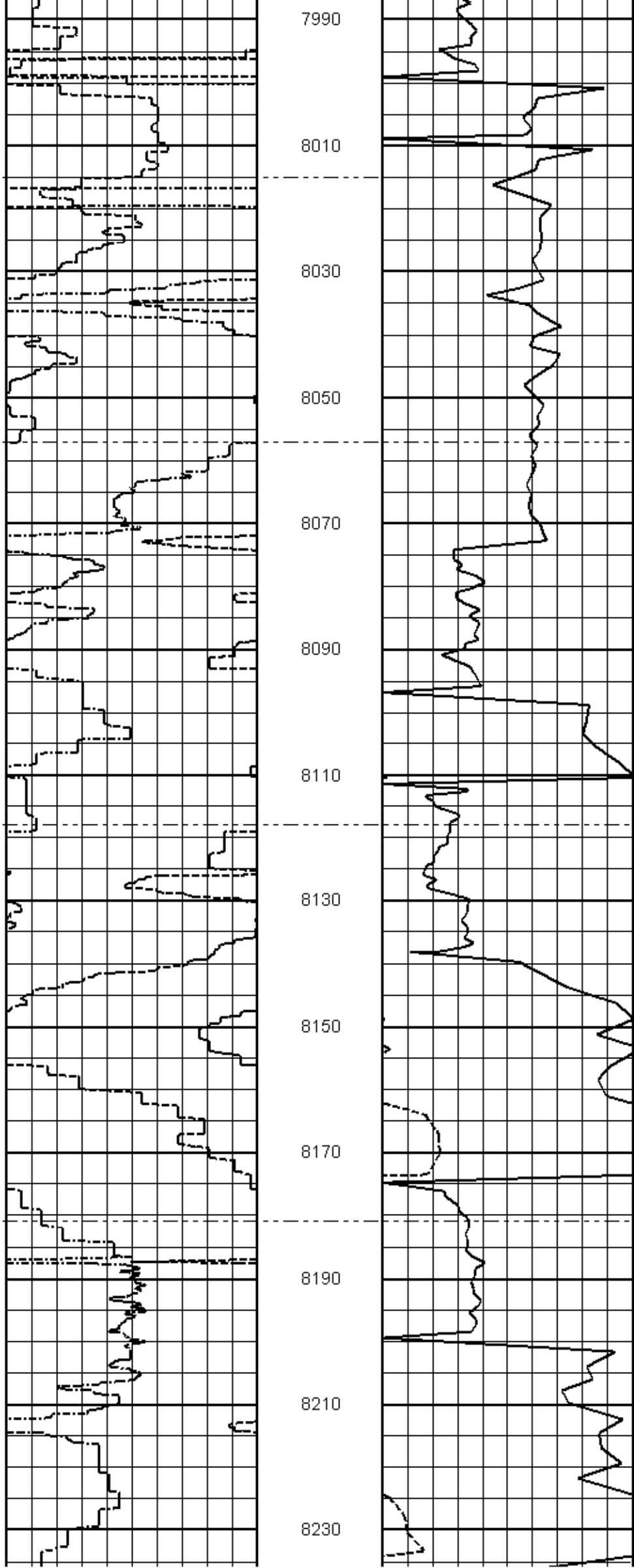
7910

7930

7950

MD: 7952 | INC: 88.1 | AZM: 333.6  
TVD: 7550.27

7970



7990

8010

MD: 8015 | INC: 93.1 | AZM: 335.2  
TVD: 7549.61

8030

8050

MD: 8057 | INC: 93.4 | AZM: 335.4  
TVD: 7547.23

8070

8090

8110

MD: 8118 | INC: 93.8 | AZM: 336.5  
TVD: 7543.4

8130

8150

8170

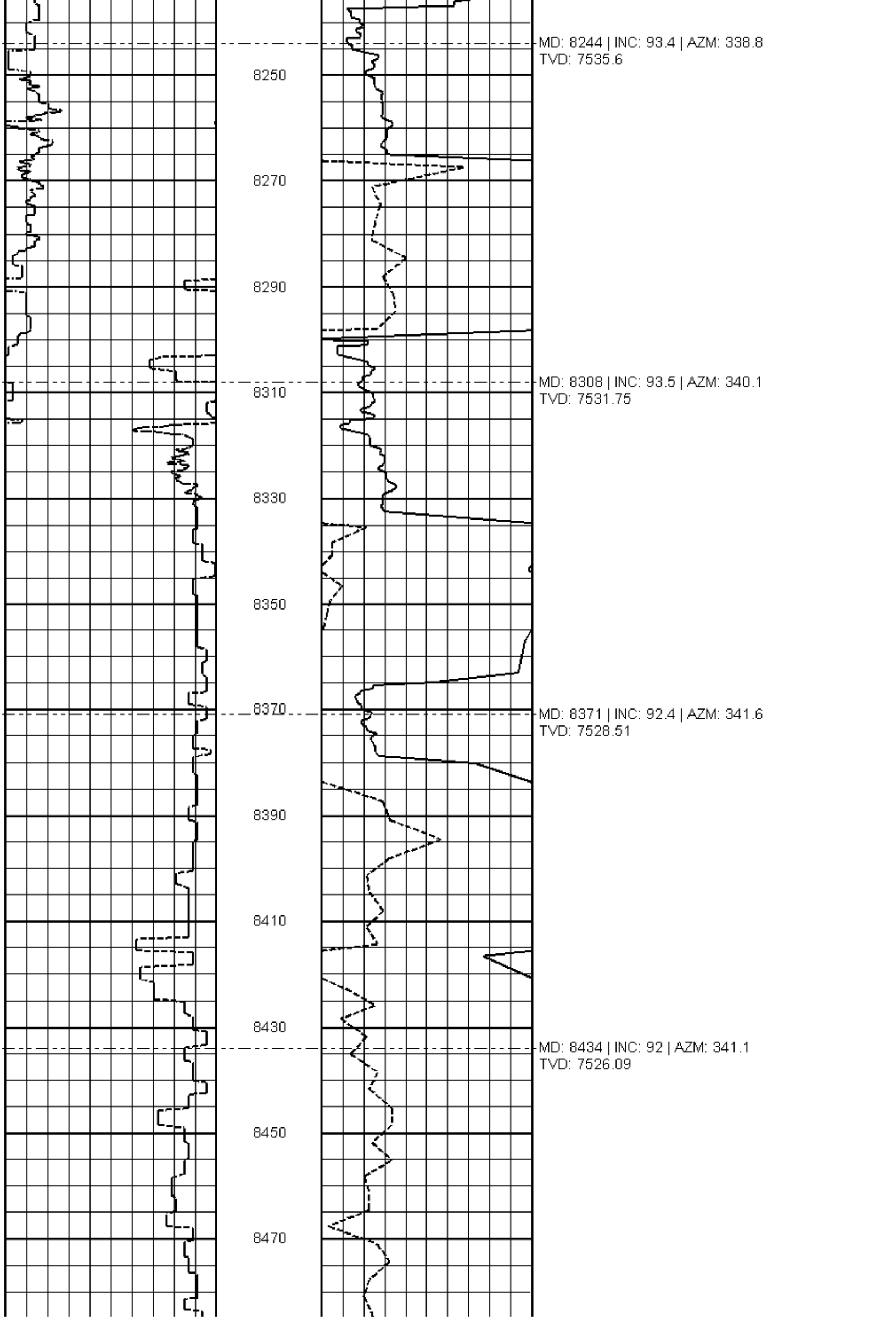
MD: 8181 | INC: 93.5 | AZM: 337.7  
TVD: 7539.39

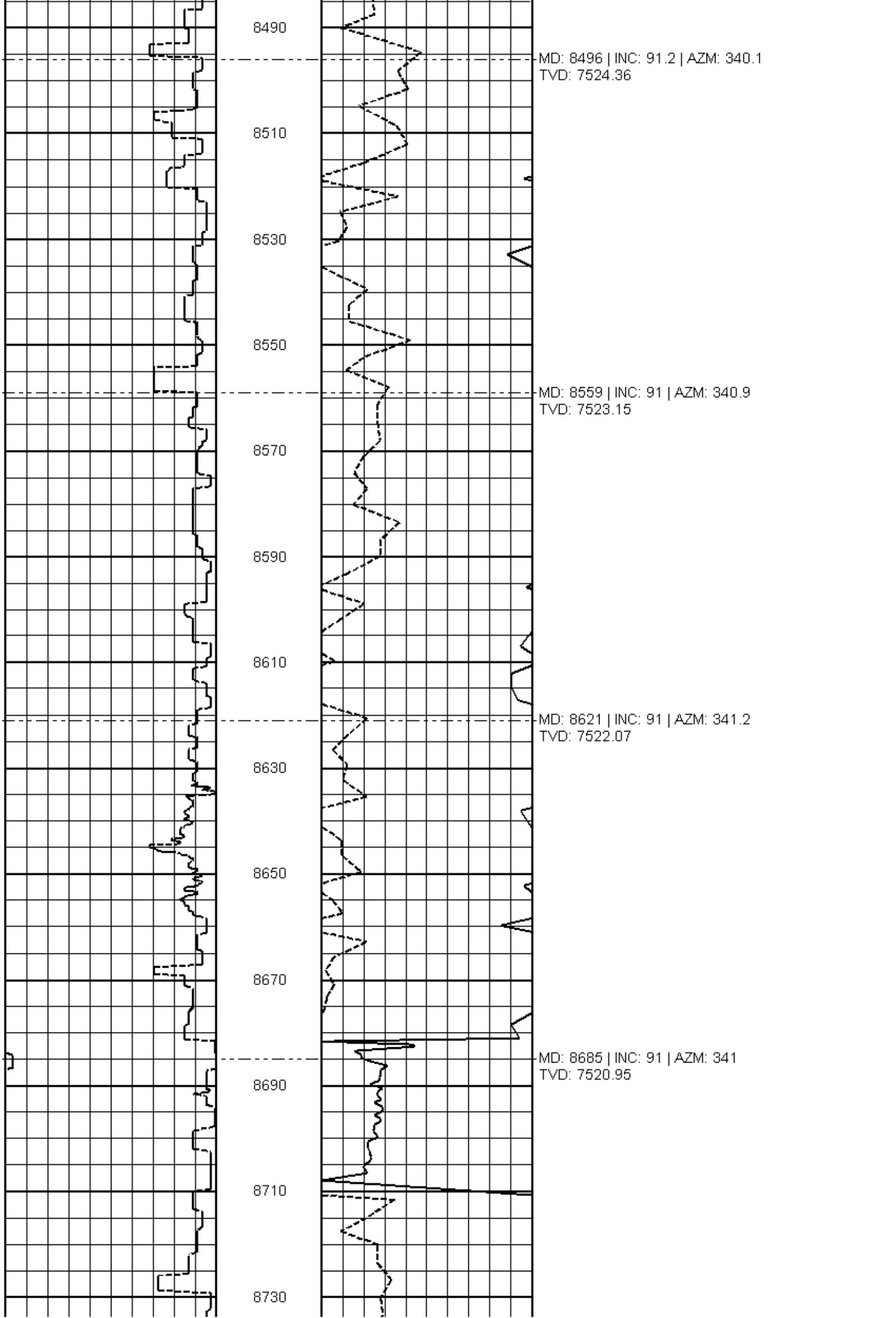
8190

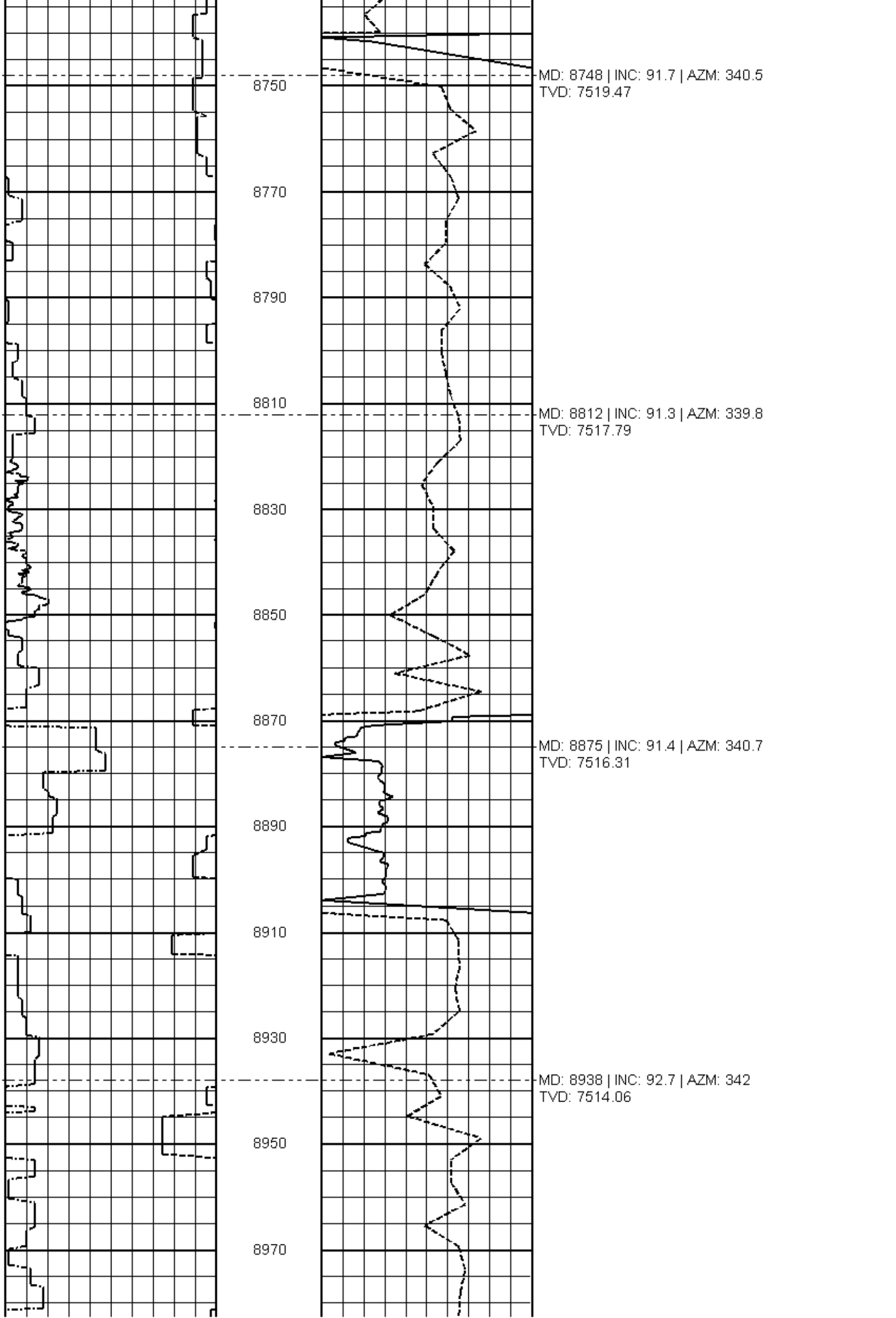
8210

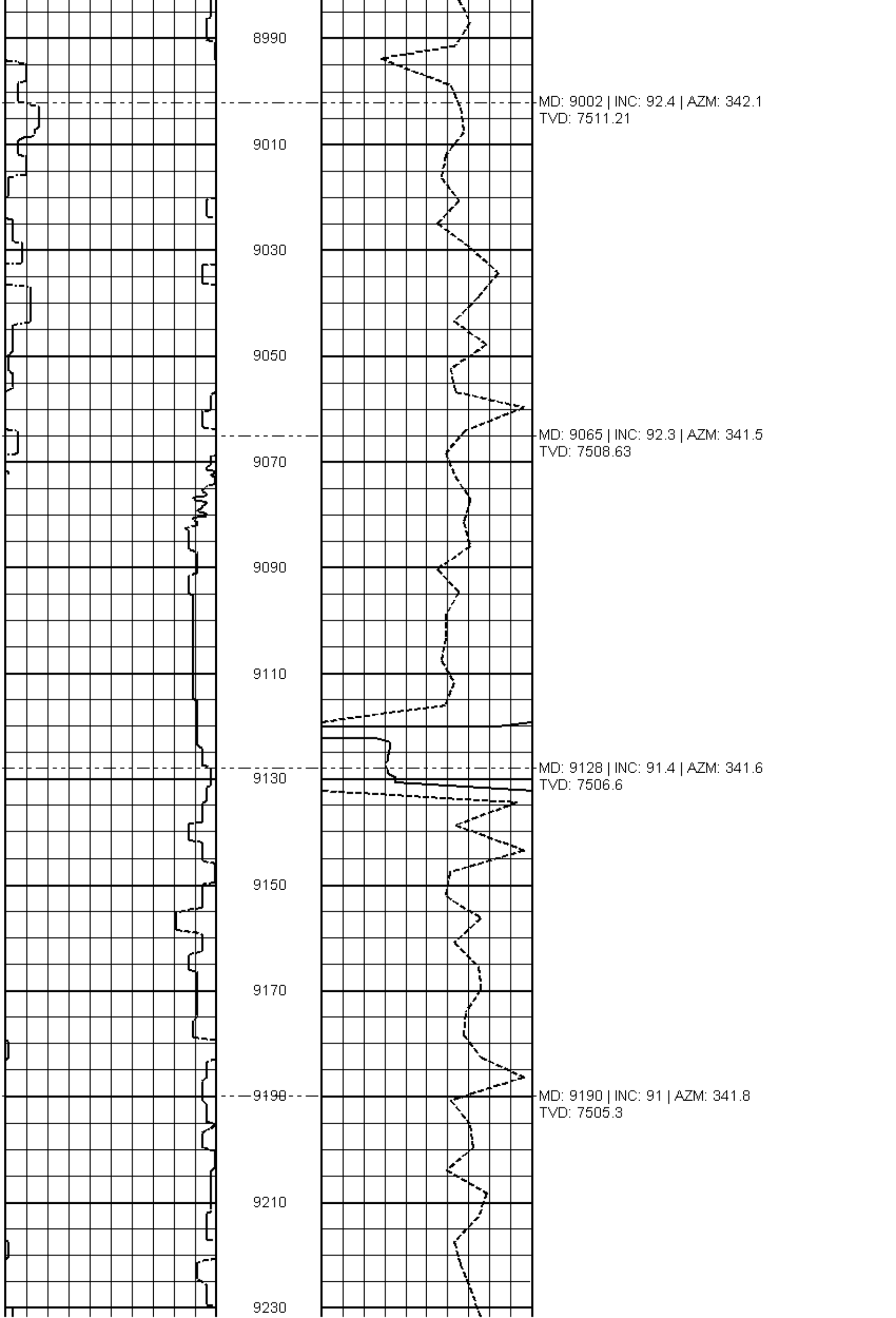
8230











8990

MD: 9002 | INC: 92.4 | AZM: 342.1  
TVD: 7511.21

9010

9030

9050

MD: 9065 | INC: 92.3 | AZM: 341.5  
TVD: 7508.63

9070

9090

9110

MD: 9128 | INC: 91.4 | AZM: 341.6  
TVD: 7506.6

9130

9150

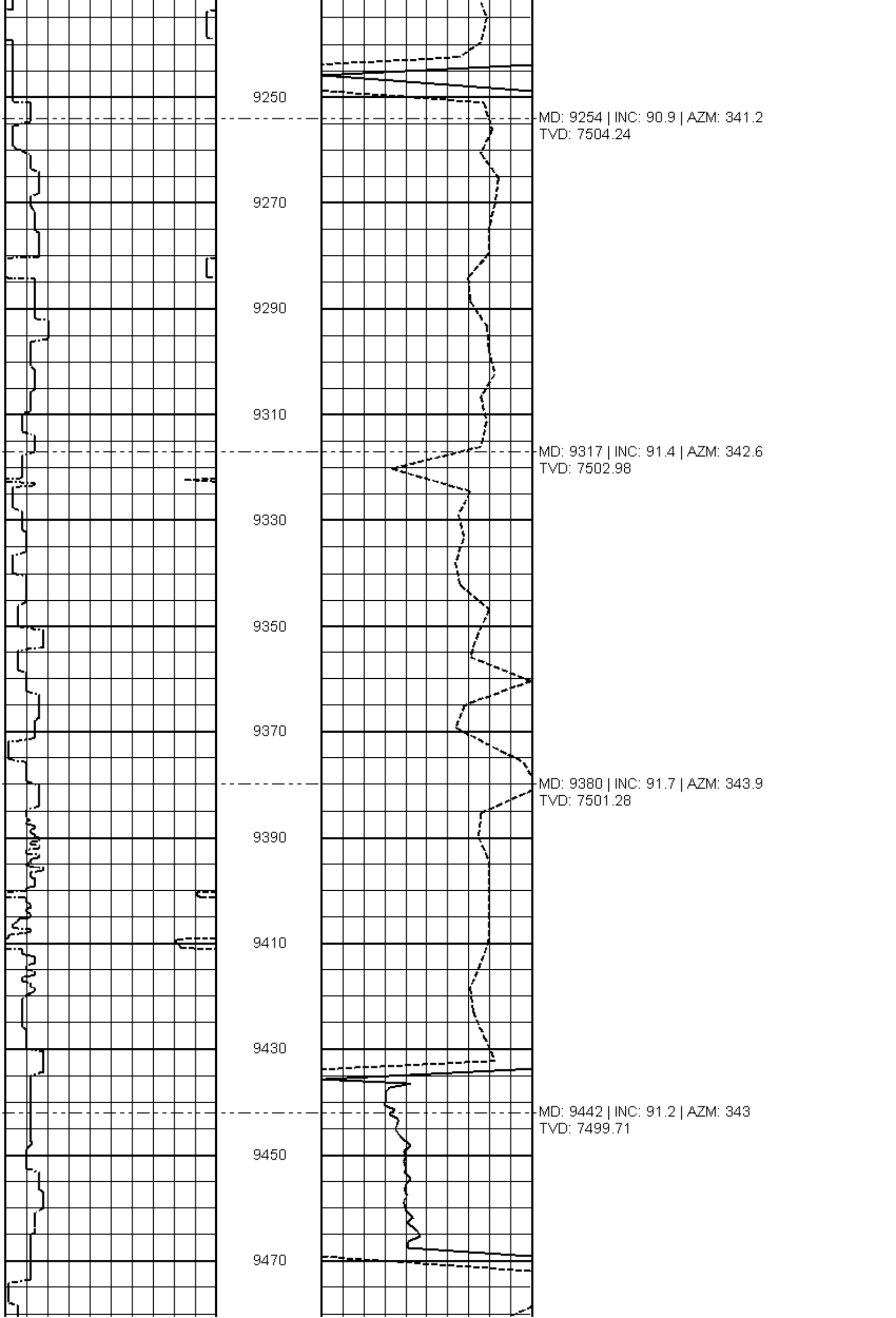
9170

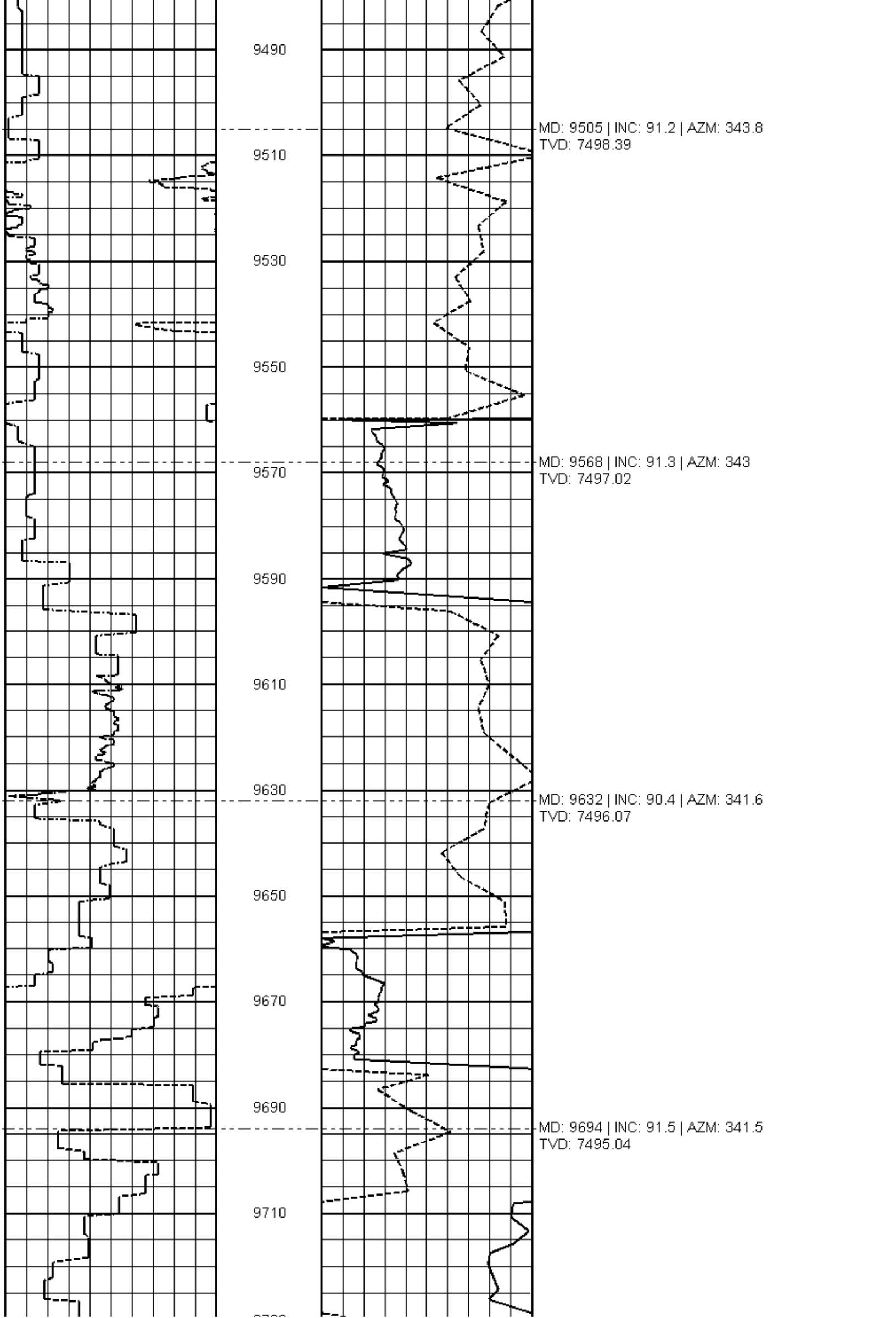
MD: 9190 | INC: 91 | AZM: 341.8  
TVD: 7505.3

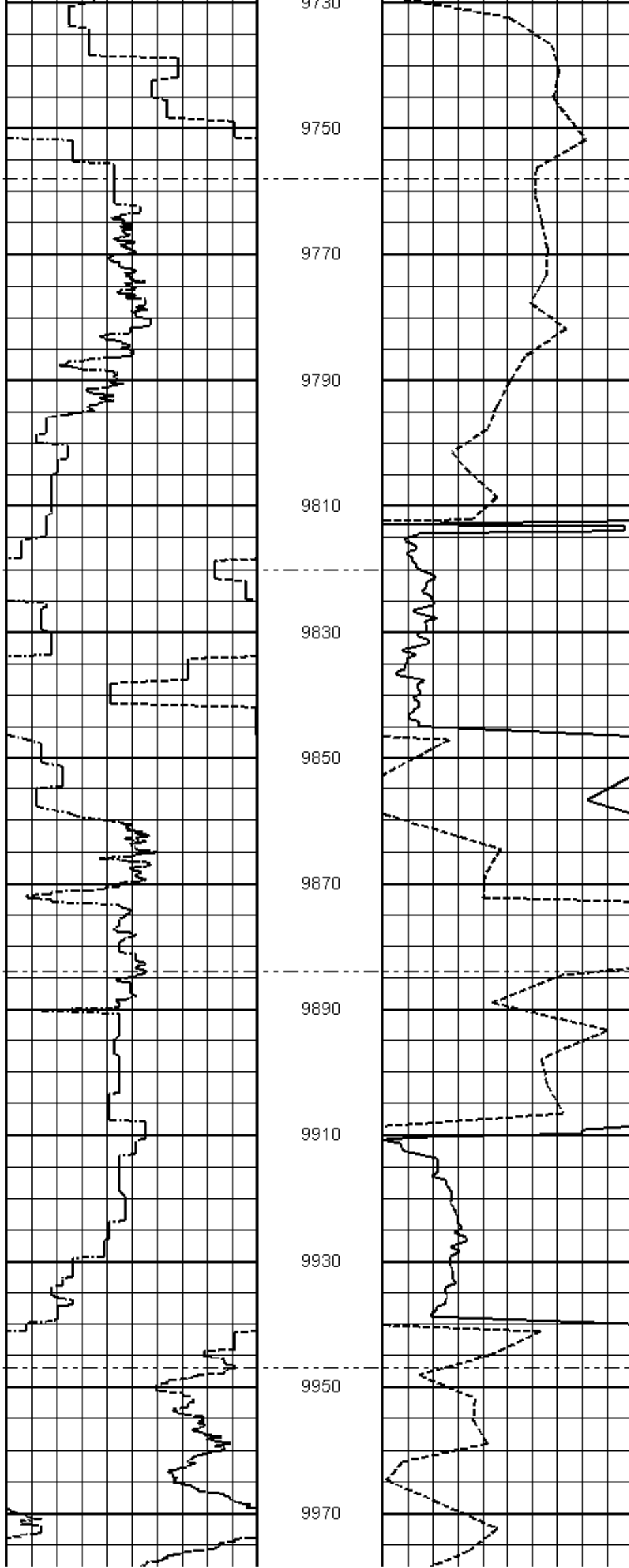
9190

9210

9230







9730

9750

9770

9790

9810

9830

9850

9870

9890

9910

9930

9950

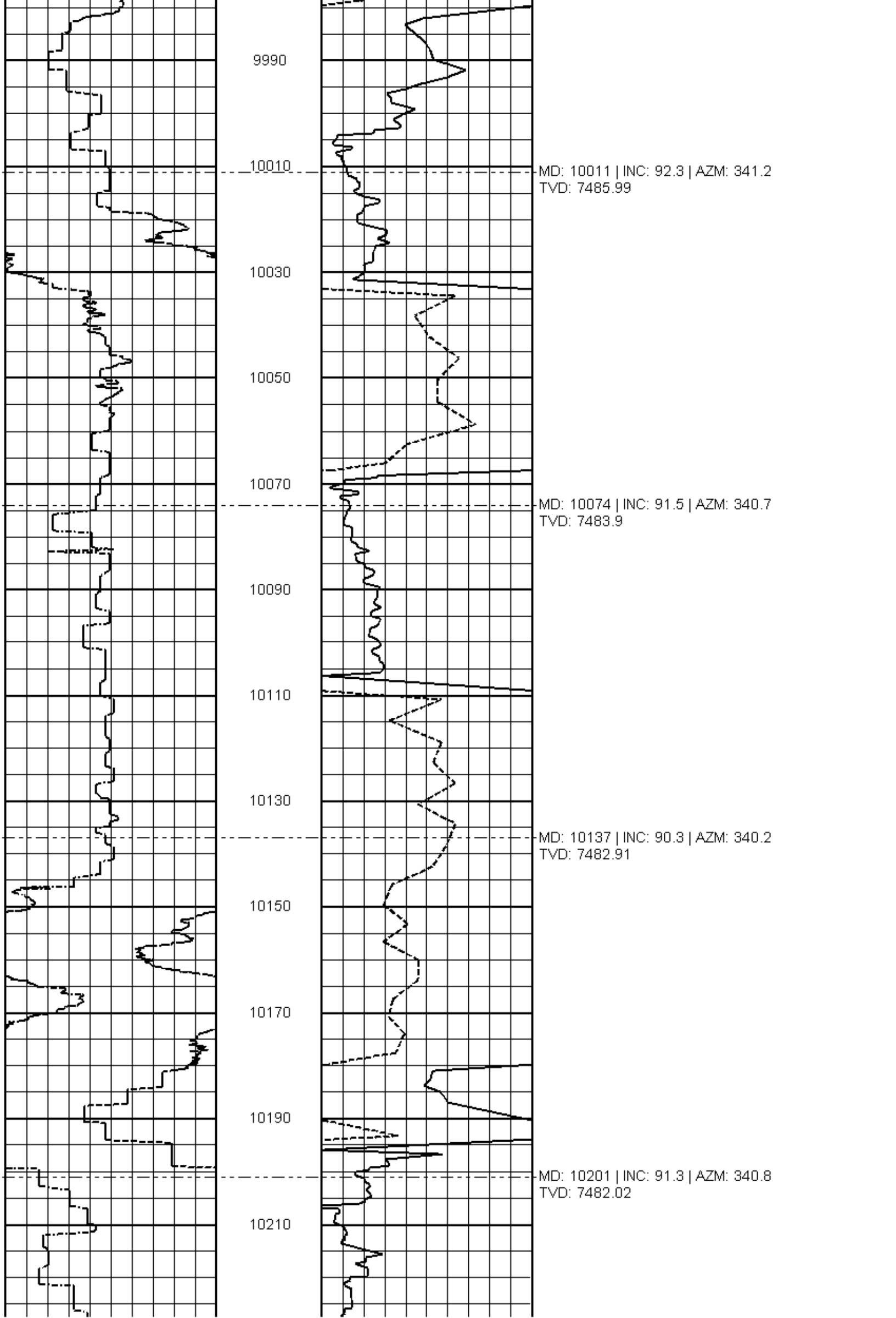
9970

MD: 9758 | INC: 93.6 | AZM: 343.1  
TVD: 7492.19

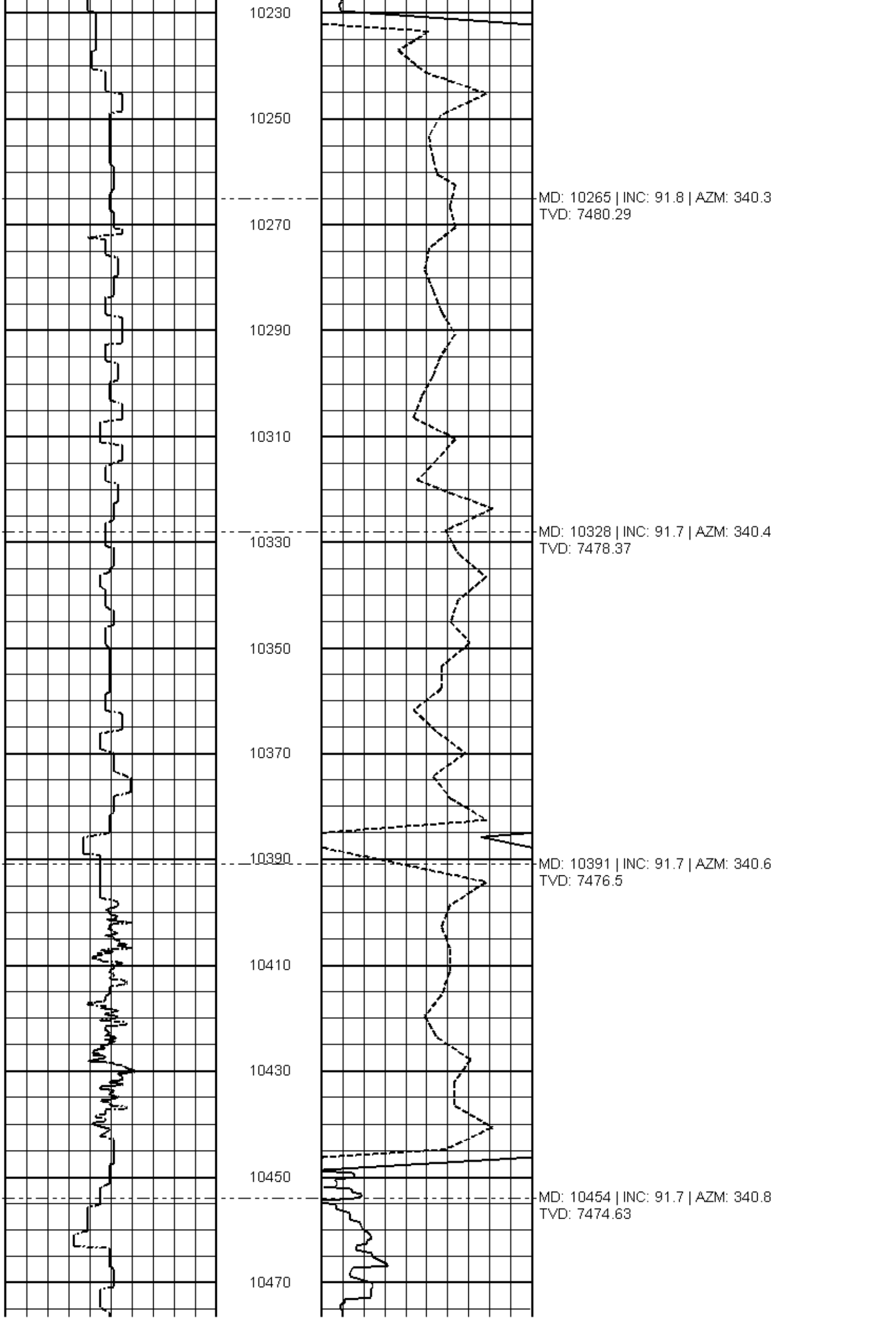
MD: 9820 | INC: 92 | AZM: 342.1  
TVD: 7489.16

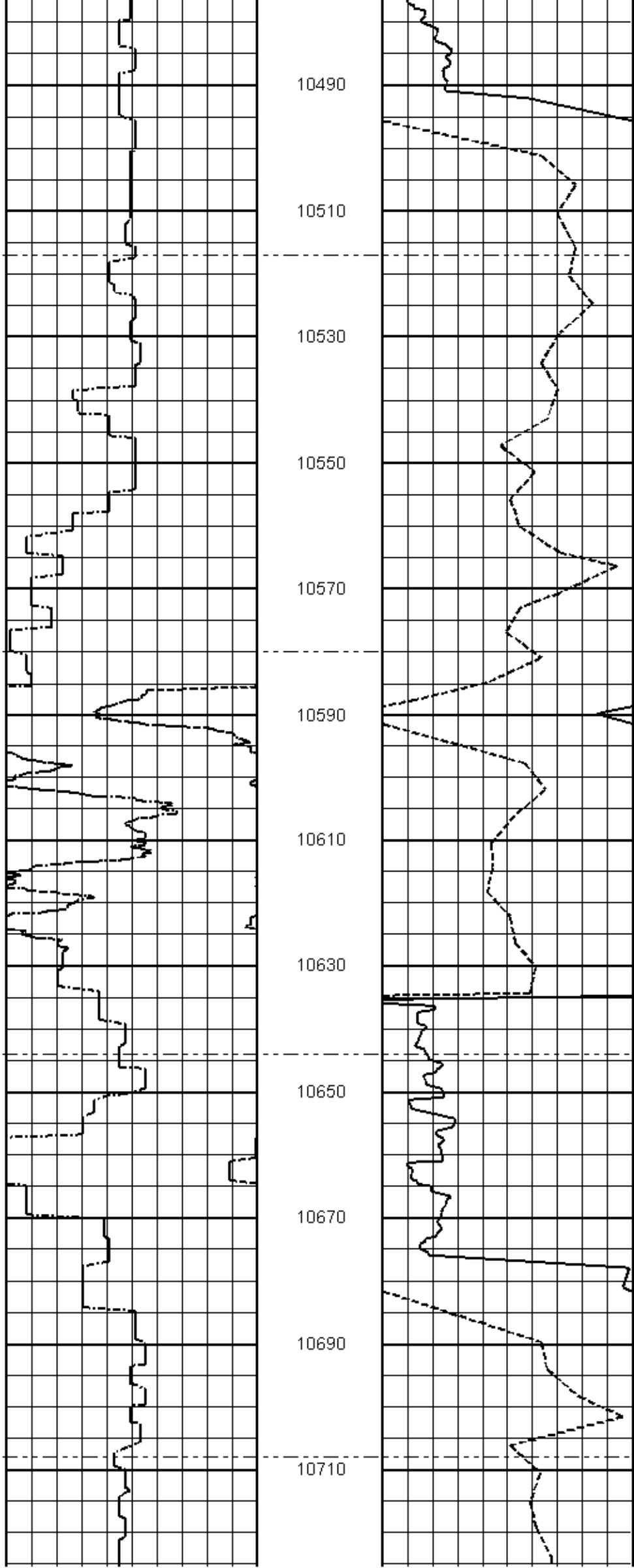
MD: 9884 | INC: 90.4 | AZM: 340.9  
TVD: 7487.82

MD: 9947 | INC: 90.3 | AZM: 340.1  
TVD: 7487.44









10490

10510

10530

10550

10570

10590

10610

10630

10650

10670

10690

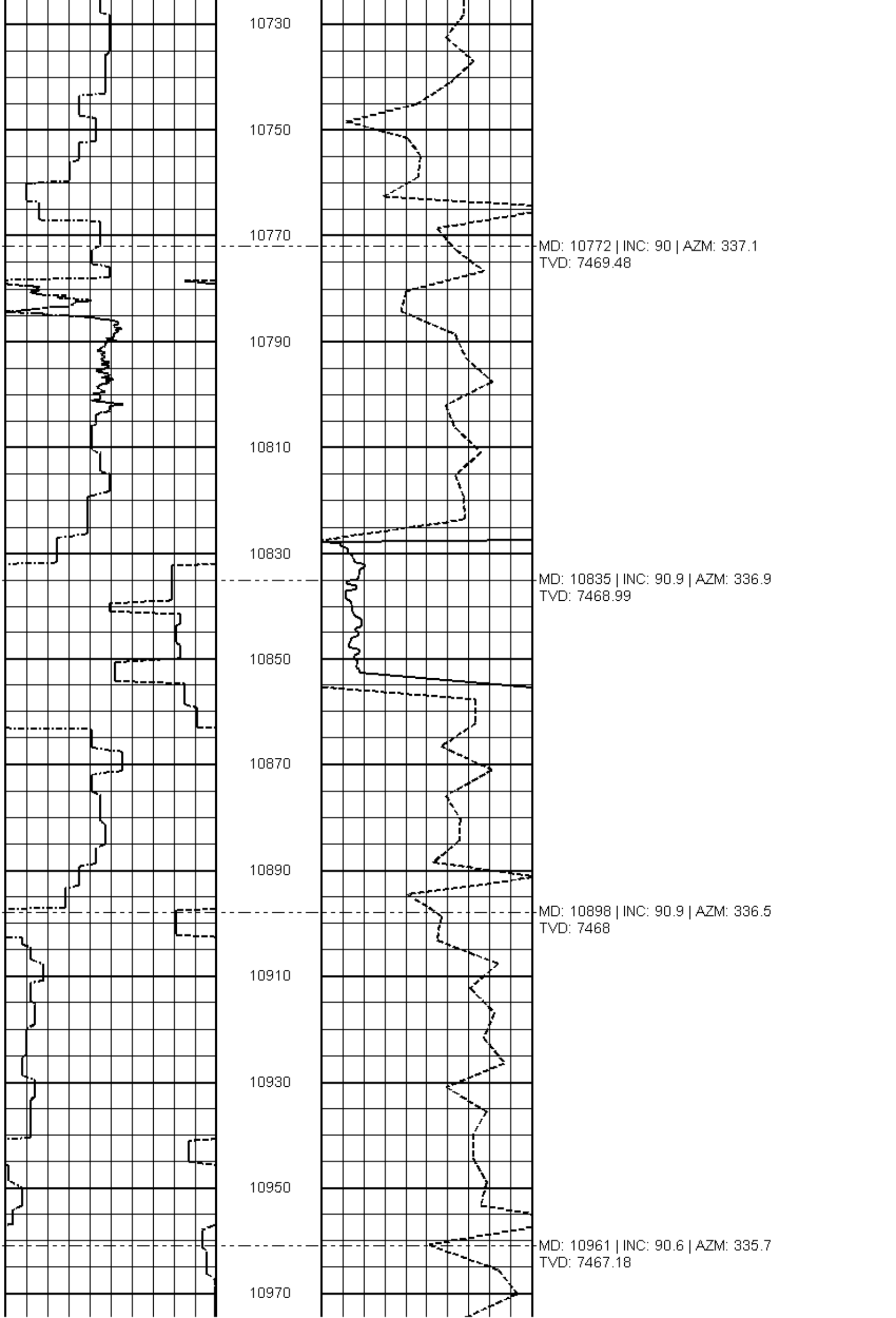
10710

MD: 10517 | INC: 90.8 | AZM: 340  
TVD: 7473.26

MD: 10580 | INC: 90.9 | AZM: 340.7  
TVD: 7472.33

MD: 10644 | INC: 91.1 | AZM: 340.3  
TVD: 7471.21

MD: 10708 | INC: 91 | AZM: 338.5  
TVD: 7470.04



10730

10750

10770

MD: 10772 | INC: 90 | AZM: 337.1  
TVD: 7469.48

10790

10810

10830

MD: 10835 | INC: 90.9 | AZM: 336.9  
TVD: 7468.99

10850

10870

10890

MD: 10898 | INC: 90.9 | AZM: 336.5  
TVD: 7468

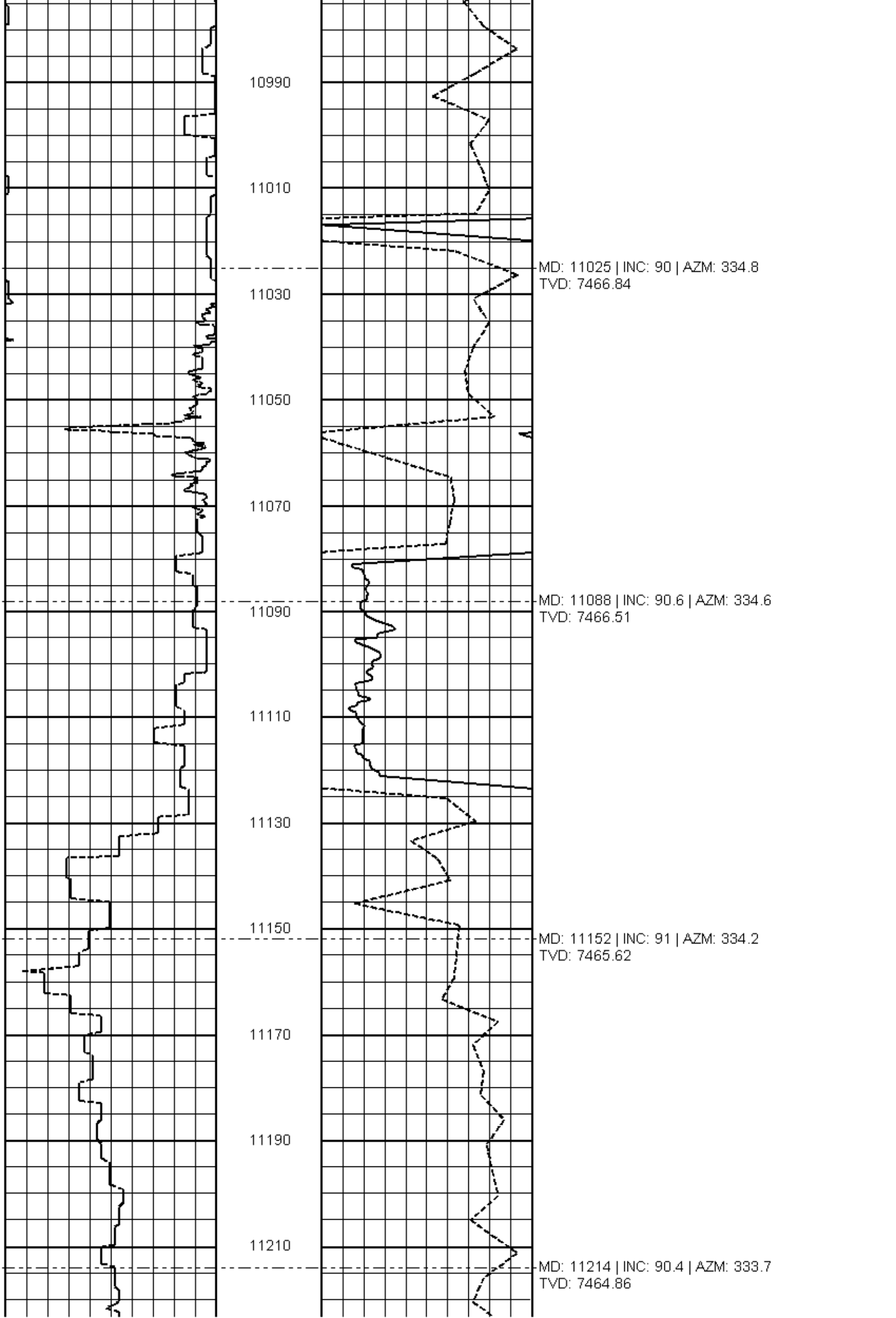
10910

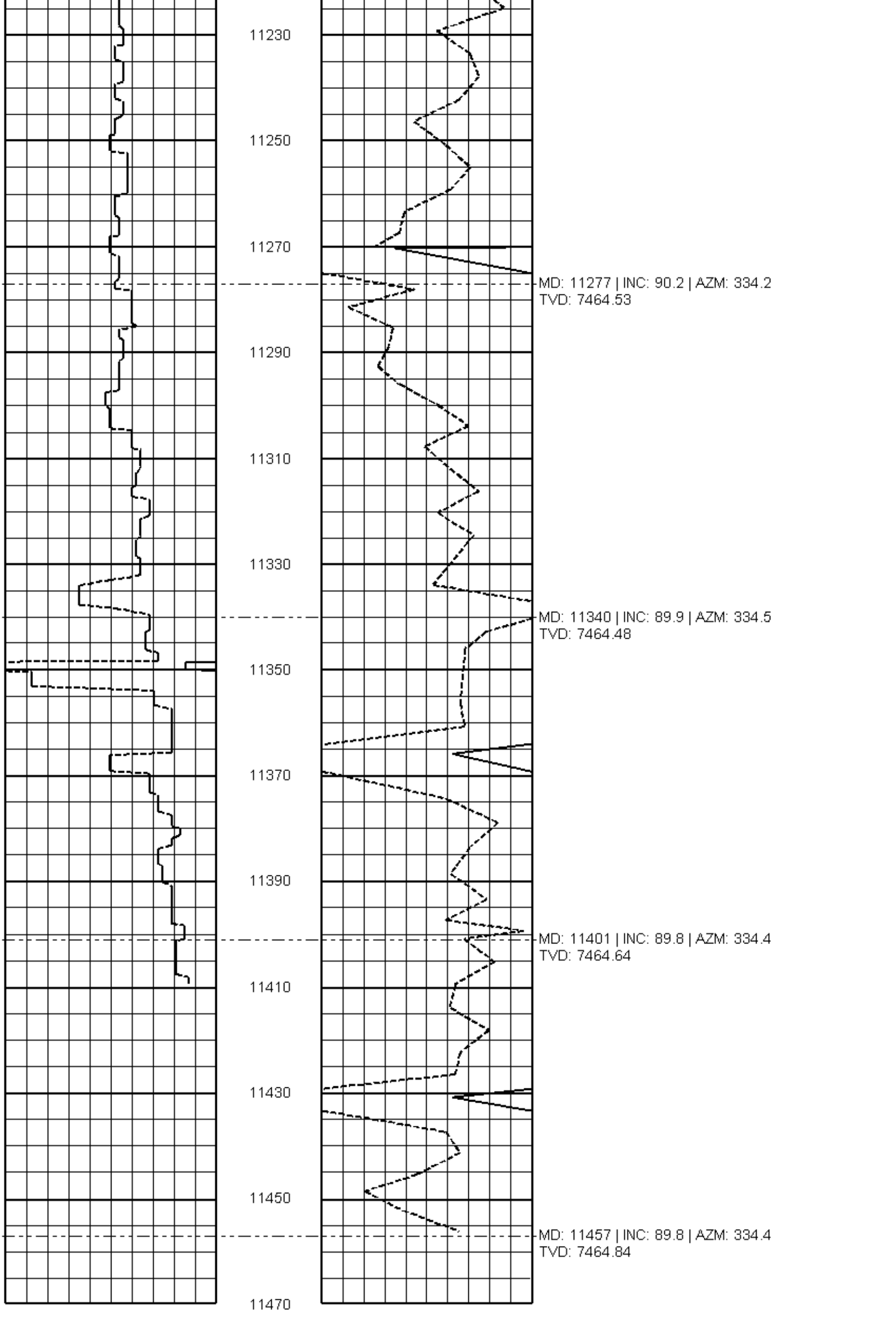
10930

10950

MD: 10961 | INC: 90.6 | AZM: 335.7  
TVD: 7467.18

10970





11230

11250

11270

MD: 11277 | INC: 90.2 | AZM: 334.2  
TVD: 7464.53

11290

11310

11330

MD: 11340 | INC: 89.9 | AZM: 334.5  
TVD: 7464.48

11350

11370

11390

MD: 11401 | INC: 89.8 | AZM: 334.4  
TVD: 7464.64

11410

11430

11450

MD: 11457 | INC: 89.8 | AZM: 334.4  
TVD: 7464.84

11470