



Premier Directional Drilling
12941 North Freeway Suite 400
Houston, Texas 77060
PH: #281-673-4000

Whisper Rock 4N-25HZ

Scale 5":100' - MD

12/11/2015 7:27 PM

Oper. Company: Anadarko Petroleum Corporation

State: Colorado

Well: Whisper Rock 4N-25HZ

County: Weld

Field: Niobrara

Country: USA

Rig: Precision 462

Location: Wattenburg

Well ID: 05123412970000

Start Date: 12/08/2015 08:30:00

Job Number: R15416

End Date: 12/10/2015 16:50:25

Notes: LWD Recorded Mode Data Log
Gamma Correction Determined by Pipe ID & OD, Mud Weight & Bit Size

Latitude: 40.286223

Elev KB: 5012'

Longitude: -104.962903

Elev DF: 5012'

Elev GL: 4992'

Notes: Datum: NAD1983 Map Zone: 13N (108 W to 102 W) Total Correction: 8.43° Grid Convergence: 0.02° (True North)

Operator 1: Jim Thamvavong

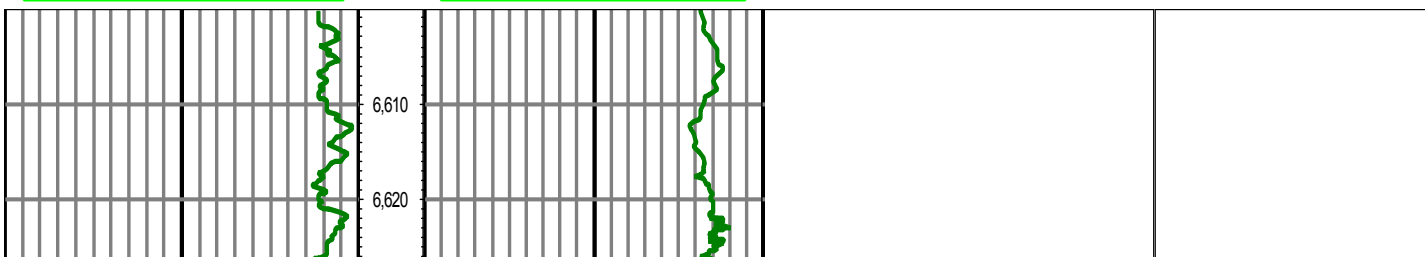
Operator 2: Austin Capaldo

Notes: Smoothing: 2 Gap Fill: 10 Tool Type: Mud Pulse Calculation Method: Minimum Curvature

Tool Run Data	Run #1	Run #2	Run #3	Run #4	Run #5
Tool S/N	EGNF0070				
Bit Size	8.5				
Cal Factor	4.66				
Survey Offset:	72.00				
Gamma Offset	68.00				
Resistivity Offset	0.00				
Start Depth	6600.00				
StartDate	12/8/2015				
StartTime	08:30				
EndDepth	13545.00				
EndDate	12/10/2015				
EndTime	16:50				
Mud Type	OBM				
Mud Weight	9.2 - 9.4				
Funnel Viscosity	70				
Plastic Viscosity	17				
Yield Point	13				
Solids Content	7.25				
Chlorides	60000				
Hole Data			Casing Data		
Size	From	To	Size	From	To
8 1/2	1800.00	13545.00	9 5/8	0.00	1800.00

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 interpretation, and we shall not except in the case of gross or willful negligence on our part, be liable or responsible for any loss, cost damages or expenses incurred or sustained by anyone resulting from an interpretation made by any of our officers, agents, or employees.

0.00 GR RM(API) on TVD 200.00 MD 0.00 GR RM(API) on MD 200.00 Surveys (MD/INC/AZ/TVD/VS)
200.00 2 400.00 FT 200.00 2 400.00



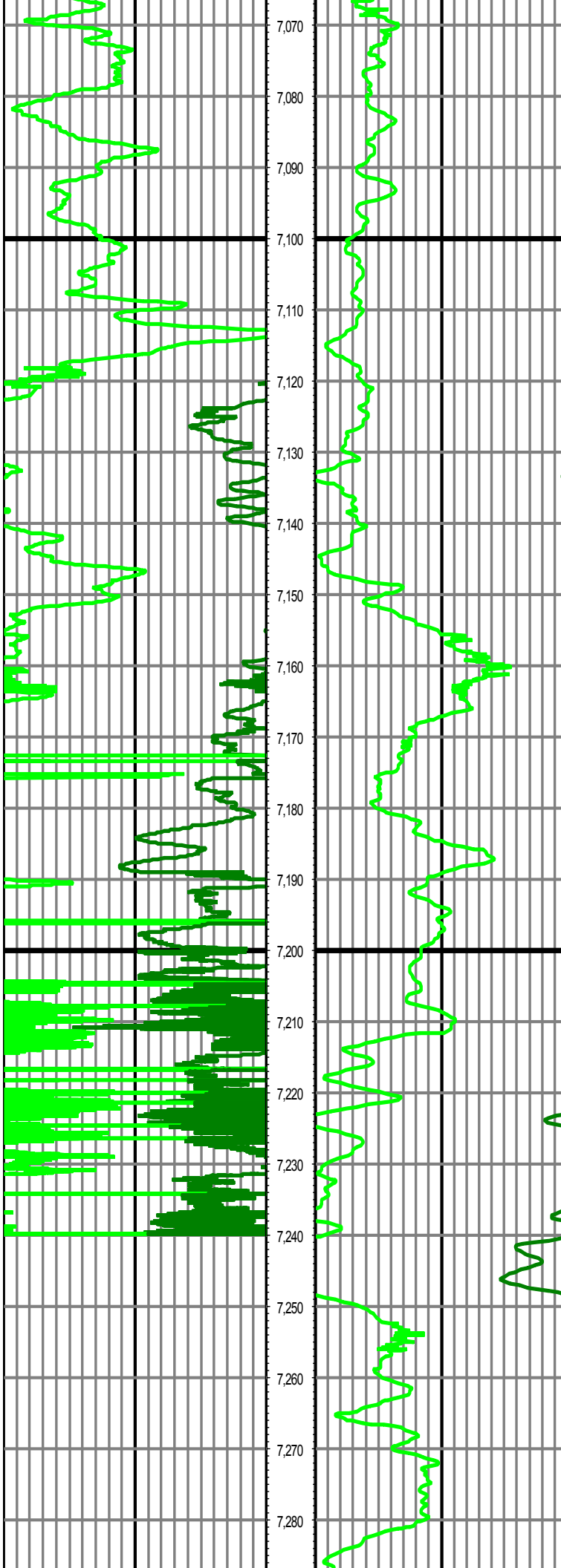
MD: 6684.00 INC: 2.10 AZ: 30.23 TVD: 6554.52 VS: -1098

MD: 6779.00 INC: 9.00 AZ: 90.03 TVD: 6649.06 VS: -1086.72

MD: 6874.00 INC: 15.70 AZ: 76.53 TVD: 6741.83 VS: -106

MD: 6969.00 INC: 22.30 AZ: 82.03 TVD: 6831.61 VS: -1036.31

MD: 7064.00 INC: 29.60 AZ: 95.33 TVD: 6917.05 VS: -998



MD: 7157.00 INC: 39.90 AZ: 102.83 TVD: 6993.39 VS: -94

MD: 7252.00 INC: 48.50 AZ: 99.23 TVD: 7061.44 VS: -878

MD: 7347.00 INC: 57.60 AZ: 89.13 TVD: 7118.58 VS: -802

MD: 7443.00 INC: 68.10 AZ: 85.53 TVD: 7162.34 VS: -717.42

MD: 7538.00 INC: 79.00 AZ: 85.42 TVD: 7189.20 VS: -620

MD: 7633.00 INC: 88.40 AZ: 87.53 TVD: 7199.62 VS: -532.50

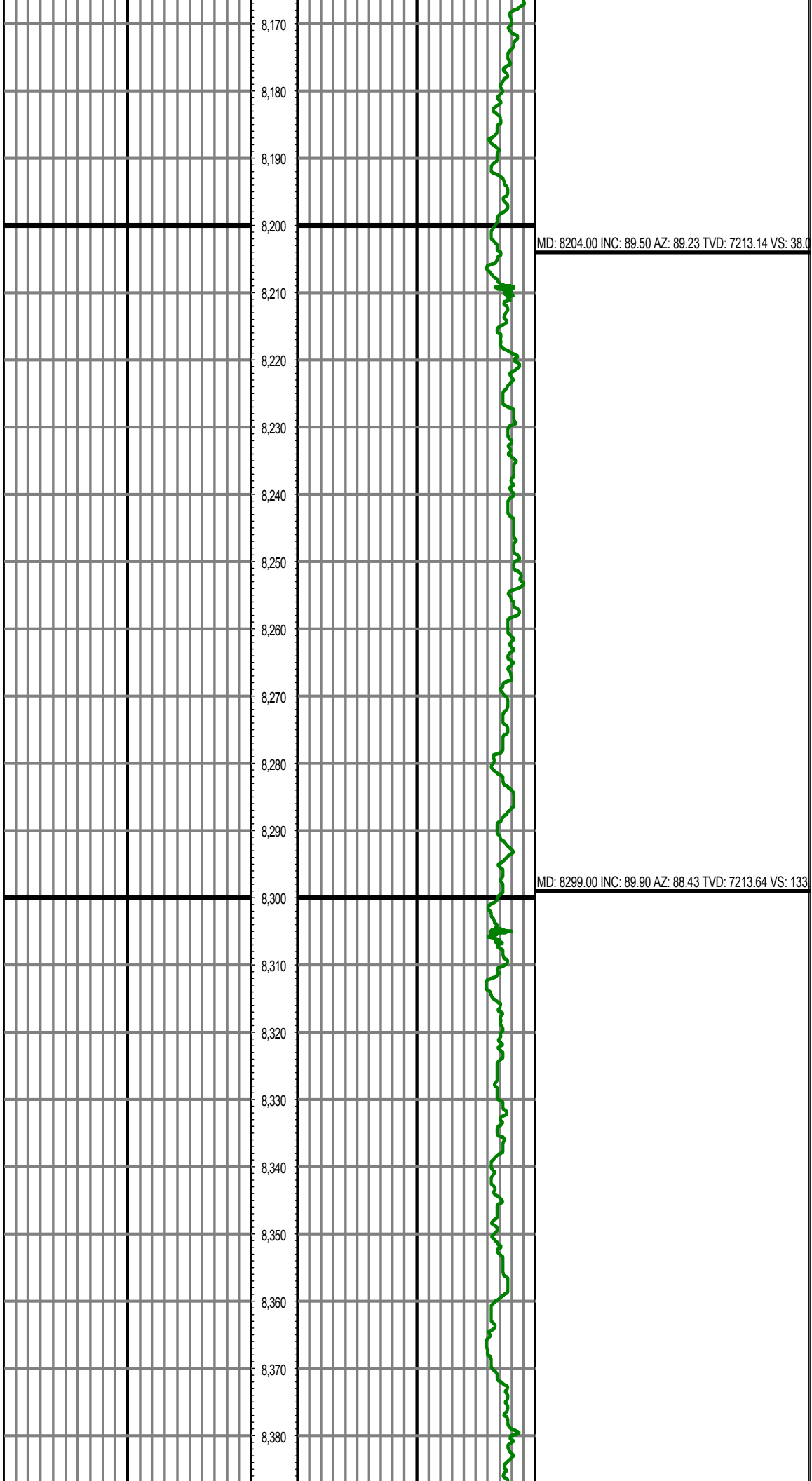
MD: 7729.00 INC: 90.60 AZ: 88.43 TVD: 7200.46 VS: -436

MD: 7824.00 INC: 89.70 AZ: 88.93 TVD: 7200.21 VS: -341.56

MD: 7919.00 INC: 87.30 AZ: 88.33 TVD: 7202.69 VS: -246.62

MD: 8014.00 INC: 87.60 AZ: 88.23 TVD: 7206.92 VS: -15°

MD: 8109.00 INC: 87.70 AZ: 87.73 TVD: 7210.82 VS: -56°



MD: 8394.00 INC: 89.80 AZ: 86.83 TVD: 7213.90 VS: 228

MD: 8489.00 INC: 90.50 AZ: 88.33 TVD: 7213.65 VS: 322.96

MD: 8583.00 INC: 91.40 AZ: 88.73 TVD: 7212.09 VS: 416.93

MD: 8676.00 INC: 89.50 AZ: 90.83 TVD: 7211.36 VS: 509

MD: 8772.00 INC: 90.10 AZ: 90.32 TVD: 7211.69 VS: 605.90

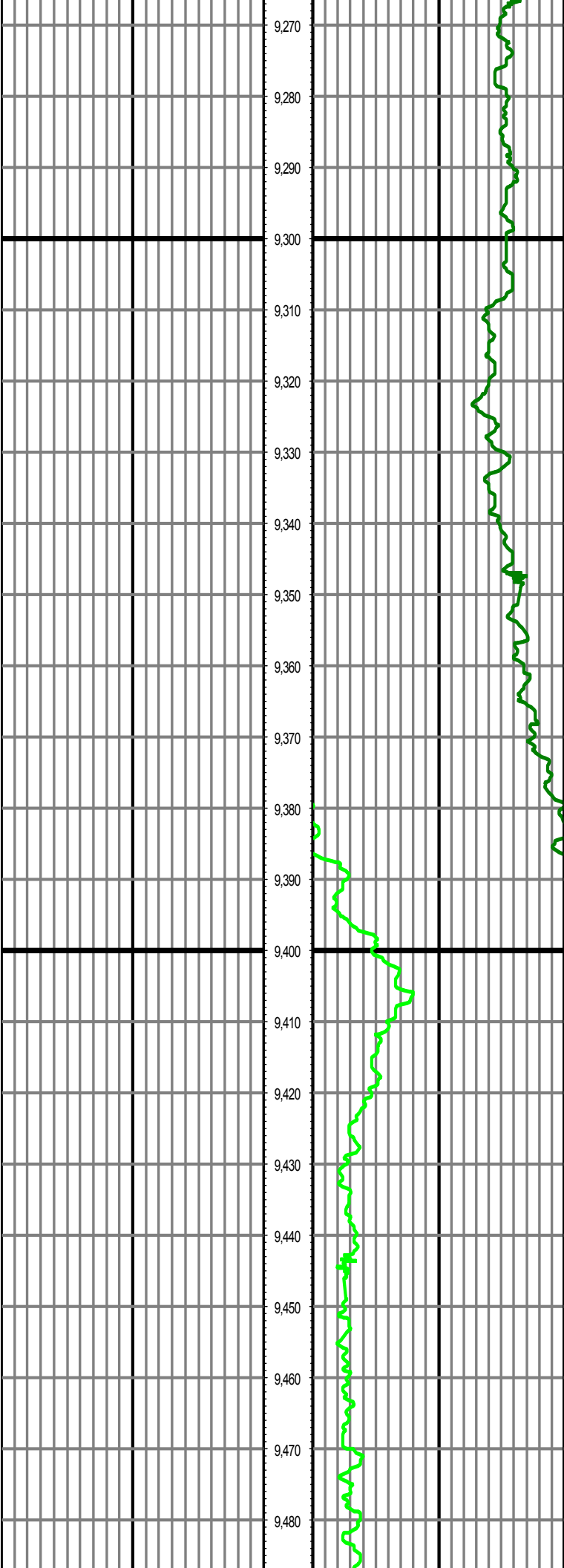
MD: 8867.00 INC: 90.80 AZ: 90.73 TVD: 7210.94 VS: 700

MD: 8961.00 INC: 92.20 AZ: 90.73 TVD: 7208.48 VS: 794.83

MD: 9056.00 INC: 92.30 AZ: 92.13 TVD: 7204.75 VS: 889

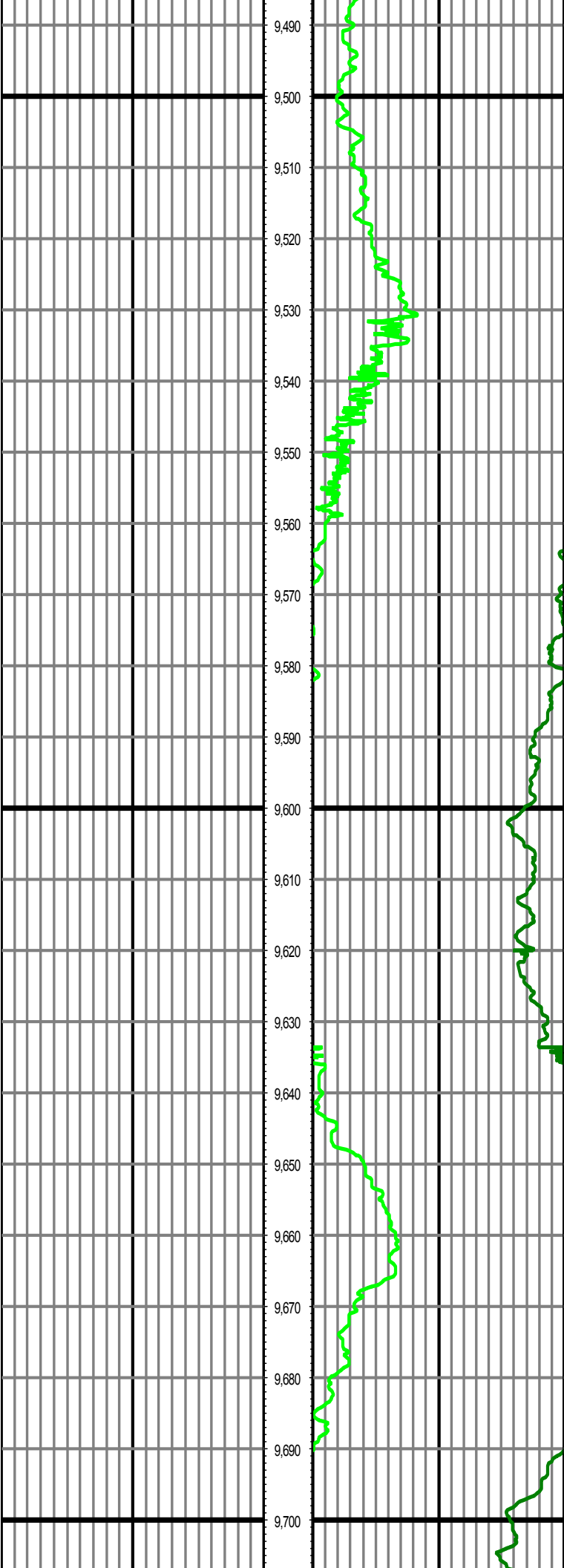
MD: 9151.00 INC: 88.80 AZ: 91.03 TVD: 7203.84 VS: 984.63

MD: 9247.00 INC: 90.20 AZ: 91.13 TVD: 7204.68 VS: 108



MD: 9342.00 INC: 87.99 AZ: 90.83 TVD: 7206.17 VS: 117

MD: 9438.00 INC: 88.80 AZ: 91.23 TVD: 7208.86 VS: 1271.48



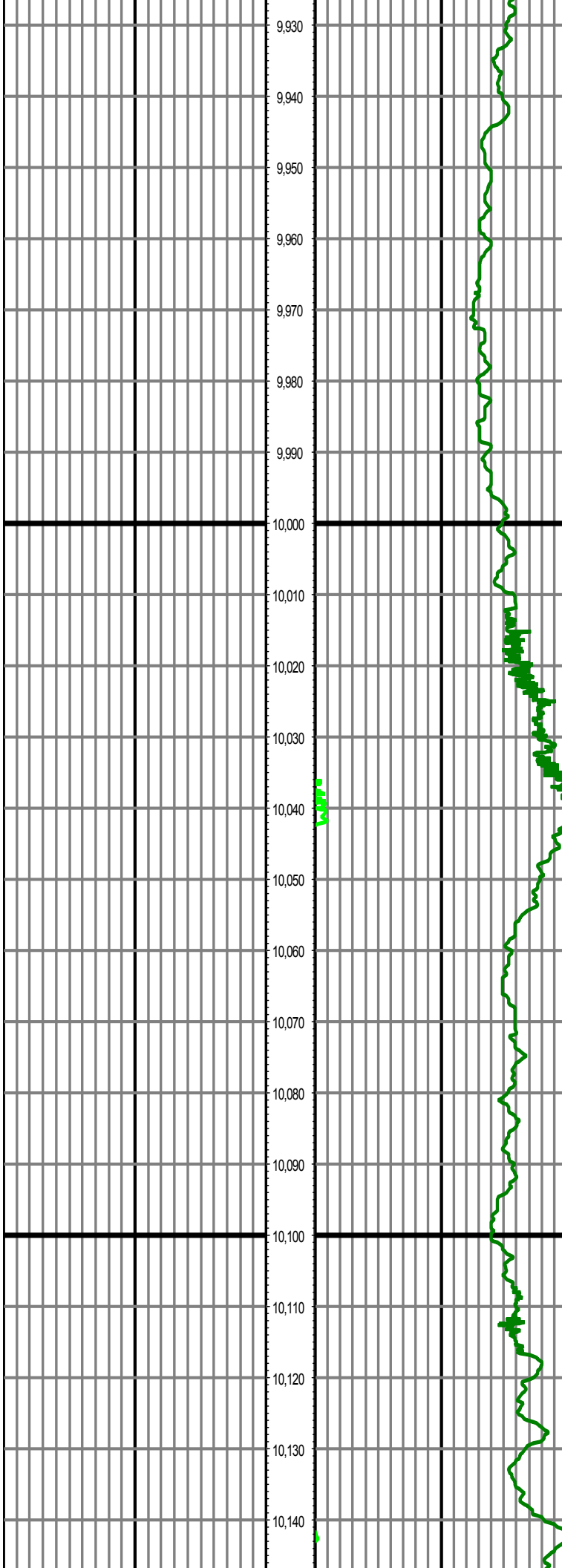
MD: 9532.00 INC: 90.10 AZ: 92.13 TVD: 7209.76 VS: 136

MD: 9628.00 INC: 87.30 AZ: 90.03 TVD: 7211.93 VS: 1461.34

MD: 9723.00 INC: 87.99 AZ: 89.93 TVD: 7215.83 VS: 155

MD: 9818.00 INC: 88.40 AZ: 89.83 TVD: 7218.82 VS: 1651.21

MD: 9913.00 INC: 88.80 AZ: 90.32 TVD: 7221.15 VS: 1746.17



MD: 10008.00 INC: 91.10 AZ: 91.53 TVD: 7221.23 VS: 18.4

MD: 10103.00 INC: 88.80 AZ: 89.93 TVD: 7221.31 VS: 1936.1

MD: 10198.00 INC: 88.99 AZ: 89.93 TVD: 7223.14 VS: 203

MD: 10293.00 INC: 89.40 AZ: 90.13 TVD: 7224.46 VS: 2126.08

MD: 10387.00 INC: 90.40 AZ: 89.53 TVD: 7224.63 VS: 227

MD: 10480.00 INC: 90.30 AZ: 87.13 TVD: 7224.06 VS: 2313.05

MD: 10574.00 INC: 90.80 AZ: 86.83 TVD: 7223.15 VS: 2406.94

MD: 10669.00 INC: 91.80 AZ: 86.23 TVD: 7221.01 VS: 25

MD: 10764.00 INC: 89.80 AZ: 87.23 TVD: 7219.68 VS: 2596.68

MD: 10859.00 INC: 89.90 AZ: 85.53 TVD: 7219.94 VS: 268

MD: 10953.00 INC: 89.20 AZ: 87.44 TVD: 7220.68 VS: 2785.35

MD: 11048.00 INC: 89.80 AZ: 87.73 TVD: 7221.51 VS: 284

MD: 11144.00 INC: 89.40 AZ: 86.73 TVD: 7222.18 VS: 2976.20

MD: 11239.00 INC: 88.80 AZ: 91.93 TVD: 7223.67 VS: 3071.16

MD: 11333.00 INC: 89.50 AZ: 91.63 TVD: 7225.07 VS: 316

MD: 11426.00 INC: 90.80 AZ: 92.63 TVD: 7224.83 VS: 3257.98

MD: 11519.00 INC: 89.60 AZ: 91.23 TVD: 7224.51 VS: 338

MD: 11613.00 INC: 89.10 AZ: 91.13 TVD: 7225.57 VS: 3444.86

MD: 11707.00 INC: 91.10 AZ: 91.73 TVD: 7225.40 VS: 35

MD: 11801.00 INC: 88.50 AZ: 90.73 TVD: 7225.73 VS: 3632.75

MD: 11895.00 INC: 89.70 AZ: 91.13 TVD: 7227.20 VS: 3726.75

MD: 11991.00 INC: 91.40 AZ: 91.73 TVD: 7226.28 VS: 38°

MD: 12086.00 INC: 88.40 AZ: 90.53 TVD: 7226.45 VS: 3917.6°

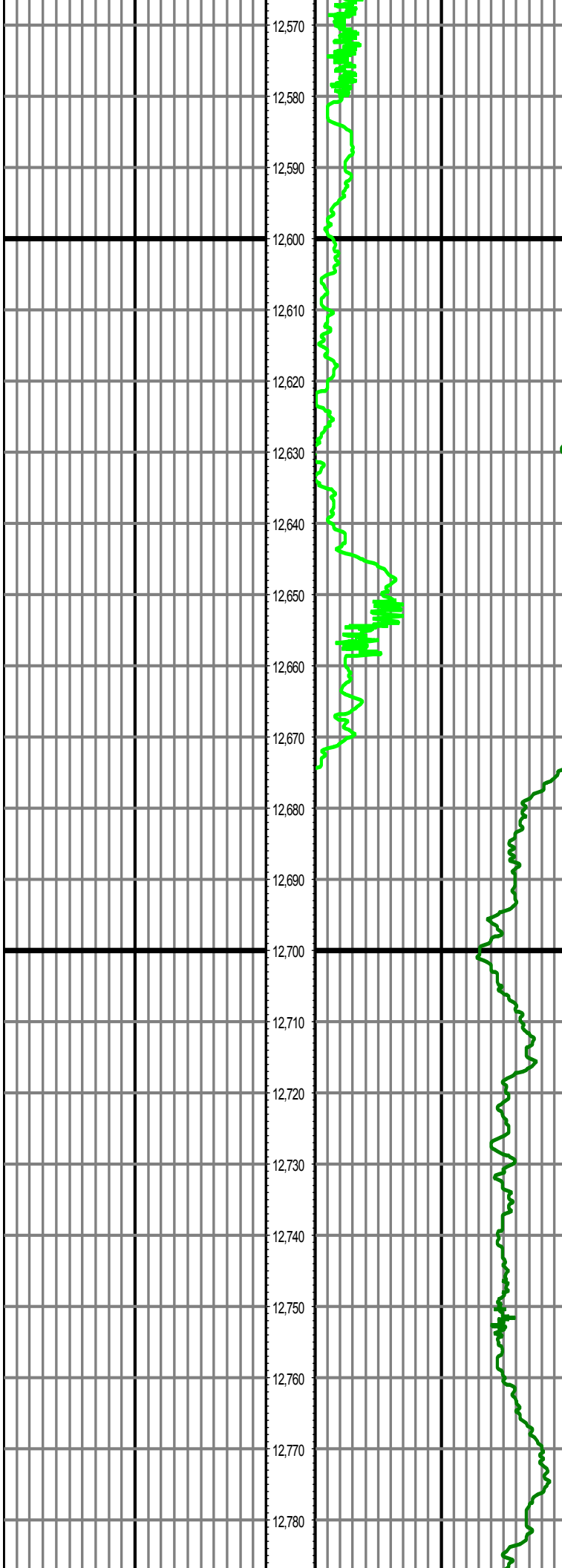
MD: 12181.00 INC: 89.30 AZ: 90.63 TVD: 7228.35 VS: 40

MD: 12276.00 INC: 89.90 AZ: 90.03 TVD: 7229.02 VS: 4107.56

MD: 12371.00 INC: 90.30 AZ: 88.83 TVD: 7228.85 VS: 42

MD: 12466.00 INC: 89.60 AZ: 87.03 TVD: 7228.93 VS: 4297.52

MD: 12561.00 INC: 90.10 AZ: 87.73 TVD: 7229.18 VS: 4392.48



MD: 12656.00 INC: 87.80 AZ: 87.63 TVD: 7230.92 VS: 44

MD: 12752.00 INC: 88.99 AZ: 87.83 TVD: 7233.61 VS: 4583.28

MD: 12846.00 INC: 90.20 AZ: 87.93 TVD: 7234.27 VS: 467

MD: 12942.00 INC: 89.20 AZ: 88.33 TVD: 7234.76 VS: 4773.20

MD: 13037.00 INC: 90.30 AZ: 89.13 TVD: 7235.17 VS: 486

MD: 13132.00 INC: 87.99 AZ: 89.93 TVD: 7236.58 VS: 4963.17

MD: 13226.00 INC: 88.70 AZ: 90.32 TVD: 7239.30 VS: 5057.13

MD: 13226.00 INC: 88.70 AZ: 90.32 TVD: 7239.30 VS: 508

MD: 13320.00 INC: 90.60 AZ: 90.73 TVD: 7239.87 VS: 5151.11

MD: 13415.00 INC: 91.40 AZ: 91.83 TVD: 7238.21 VS: 5246.05

