Rec'd 08/21/2020 - NMOCD

EOW REPORT

Wool Head 20 State Com #512H

Lea County, New Mexico

11/14/2019 - 01/14/2020

API:30-025-46492

Plan Vs. Actual

ADVANCE ENERGY PARTNERS

INTREPID

Advance Energy Partners
Project: Lea County, NM (NAD 83 NME)
Site: (Wool Head)Sec20_T-21-S_R-33-E
Well: Wool Head 20 State Com #512H
Wellbore: OWB
Design: AWB
Lat: 32° 27' 29.103 N
Long: 103° 35' 19.292 W
Pad GL: 3726.0
KB: KB @ 3752.5usft (H&P 466)

WELL DETAILS: Wool Head 20 State Com #512H

3726.0

+N/-S	+E/-W	Northing	Easting	Latittude	Longitude
0.0	0.0	531183.00	771015.10	32° 27' 29.103 N	103° 35' 19.292 W

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
5400.0	0.00	0.00	5400.0	0.0	0.0	0.00	0.00	0.0	NUDGE- Build 1.00
6192.0	7.92	114.82	6189.5	-22.9	49.6	1.00	114.82	-23.6	HOLD- 3476.7 at 6192.0 MD
9668.7	7.92	114.82	9633.0	-224.1	484.4	0.00	0.00	-230.6	DROP- -1.00
10460.7	0.00	0.00	10422.5	-247.0	534.0	1.00	180.00	-254.2	HOLD- 115.0 at 10460.7 MD
10575.7	0.00	0.00	10537.5	-247.0	534.0	0.00	0.00	-254.2	KOP- DLS 12.00 TFO 359.22
11329.3	90.44	359.22	11015.0	234.1	527.5	12.00	359.22	226.9	EOC- 2953.0 hold at 11329.3 MD
14282.3	90.44	359.22	10992.4	3186.7	487.3	0.00	0.00	3179.8	Start DLS 2.00 TFO 0.00
14336.7	91.52	359.22	10991.5	3241.0	486.6	2.00	0.00	3234.1	Start 4230.5 hold at 14336.7 MD
18567.2	91.52	359.22	10878.9	7469.7	429.1	0.00	0.00	7463.2	TD at 18567.2

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
LTP/PBHL (Wool Head 20 SC #512H) v3	10878.9	7469.7	429.1	538652.70	771444.20
T1 (Wool Head 20 SC #512H) v3	10992.4	3186.7	487.3	534369.70	771502.42
FTP (Wool Head 20 SC #512H)	11000.0	-247.1	534.4	530935.90	771549.50

ANNOTATIONS

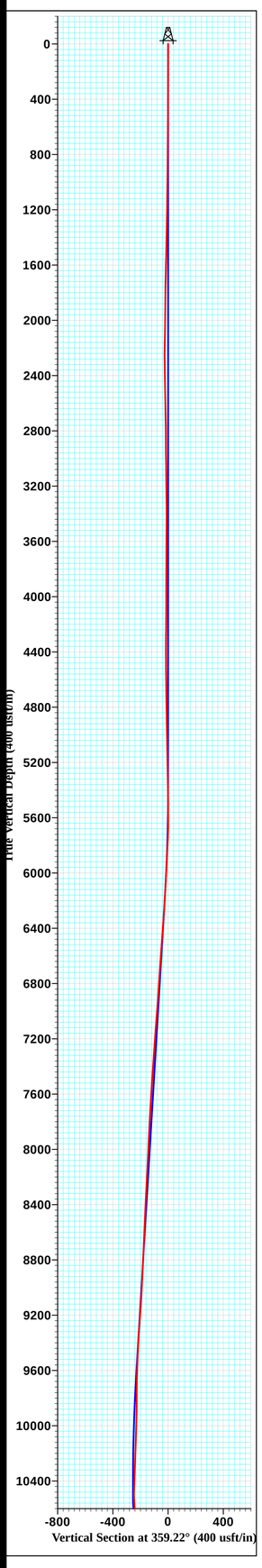
MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation
16033.9	93.40	358.02	10946.8	4930.4	447.9	4923.8	5888.2	CROSS SEC LINE @ 16033.9' MD, 332' FEL
18602.0	93.27	356.65	10867.6	7495.7	430.0	7489.2	8454.4	LAST SVY
18660.0	93.27	356.65	10864.3	7553.5	426.6	7547.0	8512.3	PTD @ 18660.0' MD, 2654' FNL, 332' FEL

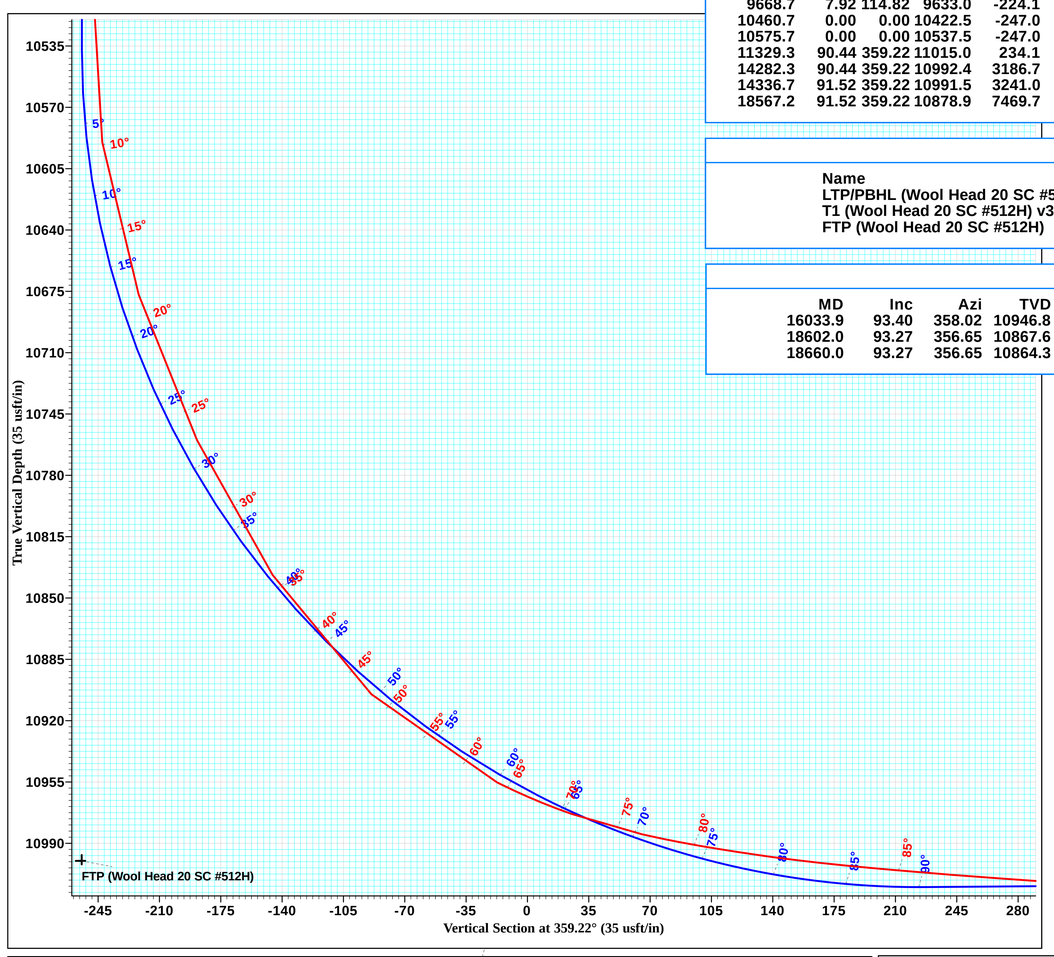
G T M

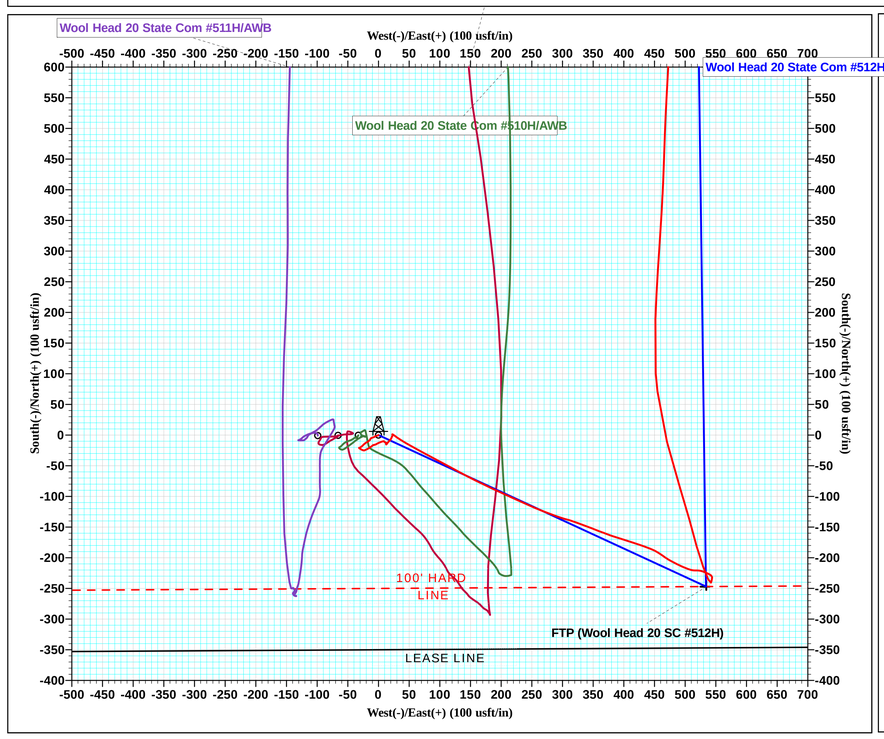
Azimuths to Grid North
True North: -0.40°
Magnetic North: 6.32°

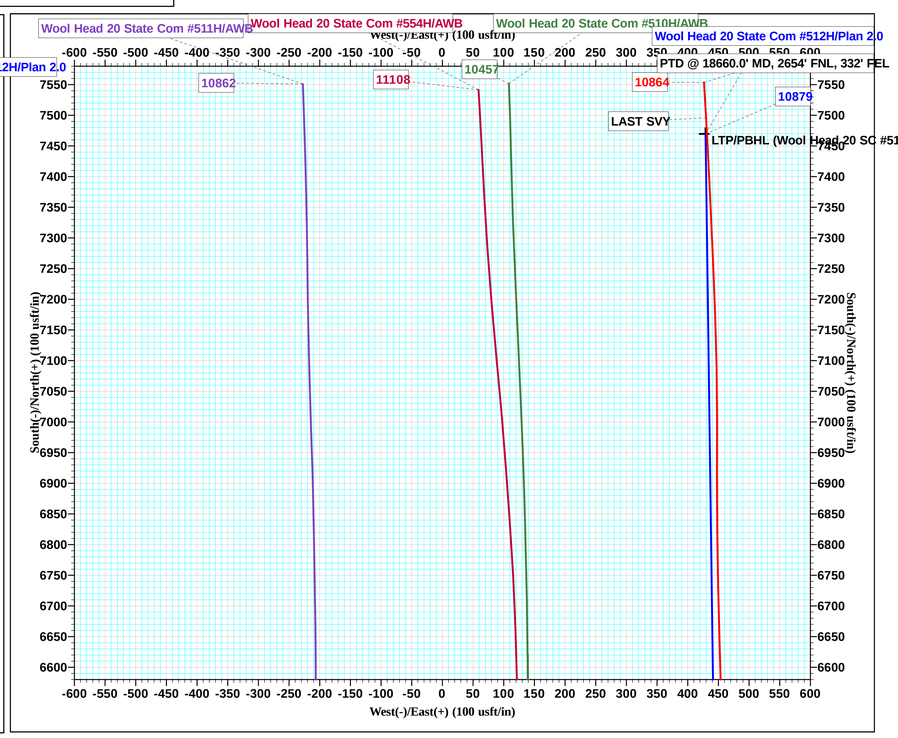
Magnetic Field
Strength: 47826.6nT
Dip Angle: 60.24°
Date: 11/06/2019
Model: IGRF2015

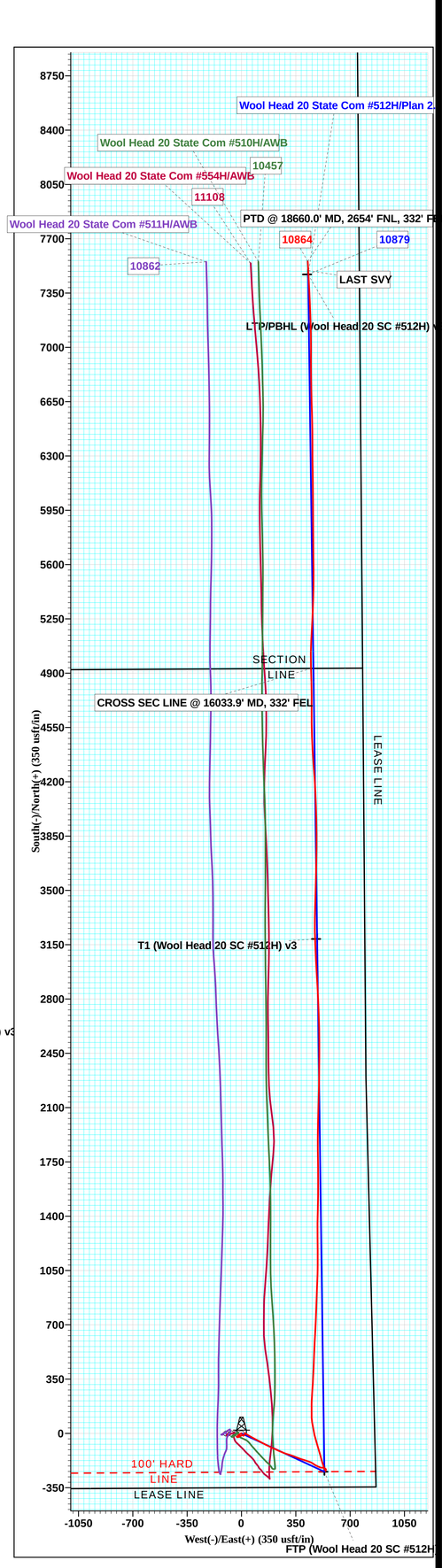
To convert a Magnetic Direction to a Grid Direction, Add 6.32°

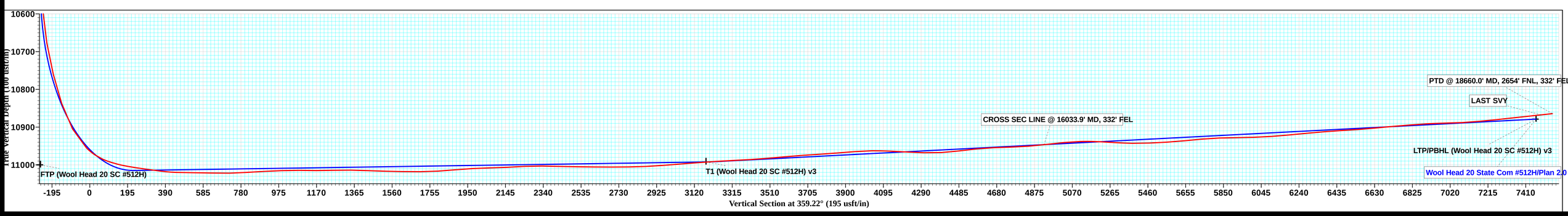












Advance Energy Partners

Lea County, NM (NAD 83 NME)
(Wool Head)Sec20_T-21-S_R-33-E
Wool Head 20 State Com #512H
OWB

Design: AWB

Distance to Plan

16 January, 2020

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Wool Head 20 State Com #512H
Project:	Lea County, NM (NAD 83 NME)	**TVD Reference:**	KB @ 3752.5usft (H&P 466)
Site:	(Wool Head)Sec20_T-21-S_R-33-E	**MD Reference:**	KB @ 3752.5usft (H&P 466)
Well:	Wool Head 20 State Com #512H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	AWB	**Database:**	EDM 10_13

Project Lea County, NM (NAD 83 NME)

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site (Wool Head)Sec20_T-21-S_R-33-E

Site Position:		**Northing:**	531,182.60 usft	**Latitude:**	32° 27' 29.104 N
From:	Map	**Easting:**	770,949.20 usft	**Longitude:**	103° 35' 20.061 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.40 °

Well Wool Head 20 State Com #512H

Well Position	**+N/-S**	0.0 usft	**Northing:**	531,183.00 usft	**Latitude:**	32° 27' 29.103 N
	+E/-W	0.0 usft	**Easting:**	771,015.10 usft	**Longitude:**	103° 35' 19.292 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,726.0 usft

Wellbore OWB

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	11/06/2019	6.72	60.24	47,826.55314995

Design AWB

Audit Notes:

Version:	1.0	**Phase:**	ACTUAL	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	359.22

Survey Program **Date** 01/16/2020

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
238.0	18,660.0	Intrepid MWD (OWB)	MWD	OWSG MWD - Standard

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Well:	Wool Head 20 State Com #512H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	AWB	**Database:**	EDM 10_13

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	Depth on Plan (usft)	Distance to Plan (usft)	High to Plan (usft)	Right to Plan (usft)	Toolface to Plan (°)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.00
238.0	0.35	239.32	238.0	-0.4	238.0	0.7	-0.7	0.0	180.00
329.0	0.57	260.32	329.0	-0.6	329.0	1.4	-1.4	0.4	165.48
424.0	0.48	244.42	424.0	-0.8	424.0	2.3	-2.3	-0.2	-175.90
519.0	0.48	246.09	519.0	-1.1	519.0	3.1	-3.1	-0.1	-178.41
614.0	0.75	255.93	614.0	-1.4	614.0	4.1	-4.1	0.5	172.84
710.0	0.75	244.50	710.0	-1.8	710.0	5.4	-5.3	-0.4	-175.39
804.0	1.32	235.45	804.0	-2.7	804.0	7.0	-6.9	-1.4	-168.83
899.0	1.58	255.67	898.9	-3.6	898.9	9.4	-9.3	1.5	170.91
994.0	1.89	245.03	993.9	-4.6	993.9	12.3	-12.2	-0.5	-177.68
1,084.0	0.92	209.61	1,083.9	-5.8	1,083.9	14.3	-11.6	-8.4	-144.27
1,173.0	0.88	195.81	1,172.8	-7.1	1,172.8	15.4	-10.7	-11.1	-133.96
1,263.0	0.92	232.73	1,262.8	-8.2	1,262.8	16.6	-16.4	-2.0	-173.00
1,352.0	1.76	229.39	1,351.8	-9.5	1,351.8	18.6	-18.4	-3.0	-170.68
1,442.0	2.55	243.10	1,441.7	-11.2	1,441.7	22.0	-21.9	1.8	175.42
1,531.0	2.68	230.53	1,530.7	-13.4	1,530.7	26.0	-25.8	-3.5	-172.29
1,620.0	2.29	223.67	1,619.6	-16.0	1,619.6	29.8	-29.0	-6.8	-166.82
1,710.0	1.49	233.69	1,709.5	-17.9	1,709.5	32.7	-32.7	-1.3	-177.68
1,771.0	1.58	229.74	1,770.5	-18.9	1,770.5	34.4	-34.2	-3.6	-173.94
1,892.0	1.19	260.50	1,891.5	-20.2	1,891.5	37.2	-33.9	15.2	155.84
1,982.0	0.79	149.58	1,981.5	-20.9	1,981.5	38.1	-2.4	-38.0	-93.60
2,071.0	2.29	115.13	2,070.4	-22.2	2,070.4	37.2	17.2	-33.0	-62.46
2,160.0	2.37	123.04	2,159.4	-24.0	2,159.4	36.0	8.9	-34.8	-75.64
2,250.0	1.58	80.59	2,249.3	-24.8	2,249.3	34.5	27.5	-20.9	-37.31
2,340.0	2.07	62.83	2,339.3	-23.9	2,339.3	32.1	29.7	-11.9	-21.87
2,429.0	1.98	61.78	2,428.2	-22.5	2,428.2	29.1	26.8	-11.4	-23.07
2,519.0	1.80	61.16	2,518.2	-21.1	2,518.2	26.4	24.0	-11.1	-24.94

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Well:	Wool Head 20 State Com #512H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	AWB	**Database:**	EDM 10_13

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	Depth on Plan (usft)	Distance to Plan (usft)	High to Plan (usft)	Right to Plan (usft)	Toolface to Plan (°)
2,609.0	1.98	53.61	2,608.1	-19.5	2,608.1	23.7	22.3	-8.1	-19.95
2,699.0	1.80	52.99	2,698.1	-17.8	2,698.1	20.9	19.4	-7.9	-22.06
2,788.0	1.41	47.54	2,787.0	-16.2	2,787.0	18.6	17.6	-6.1	-19.19
2,878.0	1.54	103.61	2,877.0	-15.8	2,877.0	17.3	2.9	-17.1	-80.34
2,968.0	1.80	54.04	2,967.0	-15.3	2,967.0	16.0	12.7	-9.8	-37.66
3,058.0	1.54	63.98	3,056.9	-14.0	3,056.9	14.2	8.2	-11.6	-54.71
3,147.0	1.89	66.88	3,145.9	-12.9	3,145.9	12.9	4.9	-11.9	-67.50
3,237.0	1.89	65.29	3,235.8	-11.7	3,235.8	12.0	2.3	-11.8	-79.00
3,327.0	2.11	70.22	3,325.8	-10.6	3,325.8	12.0	-1.9	-11.8	-98.93
3,417.0	1.05	91.84	3,415.7	-10.1	3,415.7	12.9	-8.5	-9.7	-131.05
3,506.0	0.75	148.35	3,504.7	-10.6	3,504.7	14.0	-13.8	2.4	170.23
3,596.0	0.75	126.55	3,594.7	-11.5	3,594.7	15.2	-14.8	-3.1	-168.06
3,686.0	0.53	109.06	3,684.7	-12.0	3,684.7	16.1	-14.2	-7.6	-151.73
3,776.0	0.53	124.88	3,774.7	-12.4	3,774.7	16.9	-16.5	-3.4	-168.52
3,865.0	0.13	156.17	3,863.7	-12.7	3,863.7	17.4	-16.3	5.9	160.03
3,955.0	0.18	166.19	3,953.7	-12.9	3,953.7	17.6	-15.3	8.7	150.35
4,045.0	0.18	48.68	4,043.7	-13.0	4,043.7	17.7	-0.7	-17.7	-92.37
4,135.0	0.44	188.52	4,133.7	-13.2	4,133.7	17.9	-11.1	14.1	128.21
4,224.0	0.57	175.60	4,222.7	-14.0	4,222.7	18.5	-14.7	11.2	142.82
4,314.0	0.57	174.28	4,312.7	-14.9	4,312.7	19.2	-15.9	10.8	145.73
4,404.0	0.35	115.74	4,402.7	-15.5	4,402.7	19.8	-18.0	-8.3	-155.32
4,493.0	0.57	35.94	4,491.7	-15.2	4,491.7	20.0	4.5	-19.5	-77.08
4,583.0	1.05	28.29	4,581.7	-14.2	4,581.7	19.6	5.8	-18.8	-72.96
4,673.0	1.19	44.99	4,671.7	-12.8	4,671.7	19.5	-1.6	-19.4	-94.73
4,762.0	1.01	36.73	4,760.7	-11.5	4,760.7	19.6	-0.5	-19.6	-91.47
4,852.0	1.23	48.86	4,850.6	-10.3	4,850.6	19.9	-6.3	-18.9	-108.59
4,942.0	1.36	40.95	4,940.6	-8.8	4,940.6	20.5	-5.7	-19.7	-106.18

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Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	Depth on Plan (usft)	Distance to Plan (usft)	High to Plan (usft)	Right to Plan (usft)	Toolface to Plan (°)
5,031.0	1.19	34.53	5,029.6	-7.3	5,029.6	21.0	-5.4	-20.3	-105.01
5,121.0	1.23	25.83	5,119.6	-5.7	5,119.6	21.5	-4.2	-21.0	-101.29
5,217.0	1.32	23.72	5,215.6	-3.7	5,215.6	21.9	-5.6	-21.2	-104.68
5,303.0	1.01	22.33	5,301.5	-2.1	5,301.5	22.4	-6.8	-21.4	-107.62
5,392.0	0.84	15.46	5,390.5	-0.8	5,390.5	22.8	-5.6	-22.1	-104.24
5,482.0	0.04	349.80	5,480.5	-0.1	5,480.8	22.5	3.6	-22.2	-80.87
5,572.0	0.92	334.59	5,570.5	0.6	5,571.1	20.5	7.0	-19.2	-70.05
5,661.0	0.88	109.42	5,659.5	1.0	5,660.3	18.1	-15.4	9.4	148.56
5,751.0	4.66	127.52	5,749.4	-1.5	5,750.5	17.2	-11.4	12.9	131.40
5,841.0	5.05	124.18	5,839.1	-6.1	5,840.7	17.5	-13.6	11.0	141.04
5,930.0	5.10	120.75	5,927.7	-10.4	5,929.9	17.2	-14.6	9.1	147.93
6,020.0	5.54	120.49	6,017.3	-14.7	6,020.1	16.2	-14.0	8.2	149.75
6,110.0	5.63	118.73	6,106.9	-19.2	6,110.3	14.4	-12.6	6.9	151.31
6,199.0	7.21	118.73	6,195.3	-24.1	6,199.5	12.5	-10.9	6.1	150.74
6,289.0	8.44	118.64	6,284.5	-30.1	6,289.5	12.0	-10.8	5.2	154.03
6,378.0	8.26	117.85	6,372.6	-36.4	6,378.5	12.3	-11.5	4.4	159.28
6,468.0	8.44	118.03	6,461.6	-42.6	6,468.5	12.8	-12.2	3.7	163.04
6,558.0	8.31	117.94	6,550.6	-48.9	6,558.5	13.3	-12.9	3.0	166.87
6,648.0	7.96	118.64	6,639.7	-55.1	6,648.5	13.5	-13.3	2.4	169.63
6,737.0	7.60	118.47	6,727.9	-61.0	6,737.5	13.2	-13.1	1.6	173.07
6,828.0	7.34	118.38	6,818.2	-66.8	6,828.5	12.4	-12.4	0.8	176.38
6,917.0	8.70	116.45	6,906.3	-72.7	6,917.4	12.6	-12.6	-0.2	-179.22
7,007.0	9.89	116.18	6,995.1	-79.3	7,007.4	14.7	-14.7	-0.6	-177.84
7,096.0	9.71	116.10	7,082.8	-86.1	7,096.4	17.7	-17.7	-0.9	-177.21
7,186.0	9.58	114.69	7,171.5	-92.8	7,186.3	20.4	-20.3	-1.4	-175.93
7,276.0	9.14	113.99	7,260.3	-99.0	7,276.3	22.6	-22.6	-1.6	-175.94
7,366.0	9.32	114.16	7,349.2	-105.1	7,366.3	24.7	-24.6	-1.4	-176.81

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Survey

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7,455.0	9.23	114.78	7,437.0	-111.2	7,455.3	26.8	-26.8	-1.0	-177.81
7,545.0	9.05	114.34	7,525.9	-117.3	7,545.2	28.7	-28.7	-1.2	-177.65
7,634.0	8.62	112.32	7,613.8	-122.9	7,634.2	30.1	-30.0	-1.9	-176.40
7,724.0	8.31	111.26	7,702.8	-128.0	7,724.2	30.9	-30.9	-1.8	-176.68
7,814.0	8.44	110.73	7,791.9	-132.8	7,814.2	31.6	-31.6	-1.3	-177.73
7,904.0	8.40	109.33	7,880.9	-137.5	7,904.2	32.4	-32.4	-1.0	-178.25
7,993.0	8.48	104.68	7,968.9	-141.5	7,993.2	33.3	-33.2	-2.0	-176.63
8,083.0	8.35	109.68	8,058.0	-145.6	8,083.2	34.1	-34.0	2.6	175.62
8,172.0	8.18	109.86	8,146.0	-150.1	8,172.1	34.8	-34.6	3.8	173.75
8,262.0	7.78	111.09	8,235.2	-154.6	8,262.1	35.1	-34.6	5.5	171.02
8,352.0	7.47	111.53	8,324.4	-159.1	8,352.1	34.8	-34.2	6.5	169.23
8,442.0	7.78	110.38	8,413.6	-163.5	8,442.1	34.5	-33.9	6.7	168.87
8,531.0	6.77	110.56	8,501.9	-167.6	8,531.1	33.8	-32.9	7.7	166.82
8,621.0	7.91	107.39	8,591.1	-171.4	8,621.1	33.2	-32.4	7.2	167.49
8,710.0	8.26	107.48	8,679.2	-175.4	8,710.1	33.9	-32.8	8.8	164.94
8,800.0	7.52	108.27	8,768.4	-179.3	8,800.1	34.4	-32.7	10.8	161.76
8,890.0	8.22	107.83	8,857.5	-183.3	8,890.1	34.9	-32.8	12.0	159.91
8,979.0	8.22	110.12	8,945.6	-187.6	8,979.1	35.9	-32.8	14.5	156.08
9,069.0	7.03	112.14	9,034.8	-192.0	9,069.0	35.8	-31.8	16.5	152.60
9,159.0	7.34	120.84	9,124.1	-197.2	9,159.0	34.6	-27.8	20.6	143.49
9,248.0	6.99	126.47	9,212.4	-203.4	9,248.0	32.6	-24.7	21.3	139.29
9,338.0	7.12	120.40	9,301.7	-209.6	9,338.0	30.5	-25.5	16.8	146.64
9,428.0	6.64	116.97	9,391.1	-214.9	9,428.0	28.7	-24.8	14.4	149.78
9,608.0	4.92	112.84	9,570.2	-222.9	9,607.8	22.9	-19.0	12.8	146.17
9,697.0	4.53	109.77	9,658.9	-225.7	9,696.6	19.5	-14.8	12.6	139.68
9,788.0	4.18	97.20	9,749.6	-227.4	9,787.3	17.6	-13.2	11.7	138.31
9,878.0	3.60	87.71	9,839.4	-227.8	9,877.1	18.1	-12.2	13.3	132.45

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Wool Head 20 State Com #512H
Project:	Lea County, NM (NAD 83 NME)	**TVD Reference:**	KB @ 3752.5usft (H&P 466)
Site:	(Wool Head)Sec20_T-21-S_R-33-E	**MD Reference:**	KB @ 3752.5usft (H&P 466)
Well:	Wool Head 20 State Com #512H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	AWB	**Database:**	EDM 10_13

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	Depth on Plan (usft)	Distance to Plan (usft)	High to Plan (usft)	Right to Plan (usft)	Toolface to Plan (°)
9,968.0	4.26	101.77	9,929.2	-228.4	9,967.0	19.6	-6.5	18.5	109.22
10,057.0	5.01	112.23	10,017.9	-230.6	10,055.9	20.5	-3.2	20.3	98.88
10,147.0	4.48	116.45	10,107.6	-233.8	10,145.9	20.9	-3.5	20.6	99.55
10,236.0	2.37	140.97	10,196.4	-236.8	10,234.8	20.2	4.1	19.8	78.14
10,326.0	2.07	176.04	10,286.4	-239.9	10,324.7	17.9	13.0	12.4	43.64
10,416.0	2.20	200.38	10,376.3	-243.1	10,414.5	14.8	13.8	5.2	20.49
10,492.0	2.37	189.75	10,452.2	-246.0	10,490.4	12.0	9.7	7.2	36.58
10,541.0	2.20	207.94	10,501.2	-247.9	10,539.4	10.4	9.5	4.1	23.36
10,630.0	9.85	331.25	10,589.8	-242.6	10,629.1	9.5	-5.9	-7.4	-128.79
10,720.0	18.95	341.71	10,676.9	-221.8	10,720.6	11.9	-11.8	0.9	175.79
10,810.0	26.51	342.77	10,759.8	-188.6	10,812.1	17.2	-12.8	11.4	138.27
10,899.0	33.63	346.72	10,836.8	-145.4	10,901.3	25.5	-7.2	24.4	106.33
10,989.0	47.82	341.18	10,904.9	-89.1	10,989.3	41.4	-4.1	41.2	95.62
11,079.0	64.00	346.54	10,955.2	-17.4	11,076.2	60.6	-1.3	60.6	91.24
11,168.0	77.14	351.91	10,984.7	65.1	11,163.4	74.9	-5.2	74.7	94.00
11,198.0	79.96	357.27	10,990.7	94.4	11,193.4	77.5	-6.7	77.2	94.98
11,288.0	84.53	2.10	11,002.9	183.5	11,285.0	77.2	-10.1	76.5	97.49
11,378.0	86.02	3.86	11,010.3	273.0	11,375.5	70.7	-3.9	70.6	93.19
11,467.0	86.11	3.33	11,016.4	361.5	11,464.0	63.9	2.8	63.8	87.52
11,557.0	89.23	1.75	11,020.0	451.3	11,553.7	59.0	6.8	58.6	83.35
11,647.0	89.71	3.07	11,020.9	541.1	11,643.6	54.3	8.3	53.6	81.15
11,736.0	89.27	2.98	11,021.7	629.9	11,732.3	48.7	9.8	47.7	78.35
11,826.0	90.24	2.54	11,022.0	719.8	11,822.2	43.5	10.9	42.2	75.55
11,915.0	92.26	1.93	11,020.1	808.6	11,911.0	38.7	9.5	37.5	75.74
12,005.0	91.08	2.36	11,017.5	898.4	12,000.9	33.8	7.6	32.9	76.94
12,095.0	91.60	2.10	11,015.4	988.3	12,090.8	28.8	6.2	28.2	77.58
12,185.0	89.41	0.34	11,014.6	1,078.2	12,180.7	25.8	6.1	25.0	76.23

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Wool Head 20 State Com #512H
Project:	Lea County, NM (NAD 83 NME)	**TVD Reference:**	KB @ 3752.5usft (H&P 466)
Site:	(Wool Head)Sec20_T-21-S_R-33-E	**MD Reference:**	KB @ 3752.5usft (H&P 466)
Well:	Wool Head 20 State Com #512H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	AWB	**Database:**	EDM 10_13

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	Depth on Plan (usft)	Distance to Plan (usft)	High to Plan (usft)	Right to Plan (usft)	Toolface to Plan (°)
12,275.0	89.85	359.82	11,015.2	1,168.2	12,270.7	24.8	7.4	23.7	72.65
12,364.0	91.08	358.59	11,014.4	1,257.2	12,359.7	24.8	7.4	23.7	72.75
12,454.0	89.36	1.05	11,014.1	1,347.2	12,449.7	24.0	7.7	22.8	71.29
12,544.0	89.01	1.66	11,015.4	1,437.1	12,539.6	21.7	9.7	19.4	63.49
12,633.0	88.97	0.78	11,016.9	1,526.1	12,628.5	20.2	11.9	16.3	53.84
12,723.0	89.76	359.73	11,017.9	1,616.0	12,718.5	20.0	13.6	14.7	47.20
12,813.0	89.85	359.64	11,018.2	1,706.0	12,808.4	20.2	14.6	14.0	43.72
12,903.0	92.04	359.11	11,016.8	1,796.0	12,898.4	19.4	13.8	13.7	44.84
12,992.0	92.66	359.64	11,013.1	1,884.9	12,987.4	17.3	10.8	13.5	51.26
13,082.0	91.47	1.75	11,009.9	1,974.8	13,077.3	13.9	8.3	11.2	53.50
13,171.0	90.77	1.66	11,008.1	2,063.7	13,166.2	10.3	7.2	7.3	45.38
13,261.0	91.25	0.96	11,006.5	2,153.7	13,256.2	7.5	6.3	4.0	32.54
13,351.0	91.87	1.13	11,004.1	2,243.6	13,346.1	4.7	4.5	1.2	14.32
13,440.0	89.36	0.69	11,003.1	2,332.5	13,435.0	4.5	4.3	-1.5	-18.94
13,530.0	89.36	0.52	11,004.1	2,422.5	13,525.0	7.0	6.0	-3.6	-31.40
13,619.0	89.45	359.73	11,005.1	2,511.5	13,614.0	9.1	7.6	-5.0	-33.69
13,709.0	89.80	358.94	11,005.7	2,601.5	13,704.0	10.3	8.8	-5.2	-30.57
13,799.0	89.98	357.88	11,005.8	2,691.5	13,794.0	10.5	9.7	-3.9	-22.15
13,889.0	90.33	357.36	11,005.6	2,781.4	13,883.9	10.2	10.1	-1.4	-8.05
13,978.0	91.34	356.74	11,004.3	2,870.4	13,972.8	9.7	9.5	1.9	11.48
14,068.0	92.40	356.48	11,001.4	2,960.2	14,062.7	9.5	7.3	6.0	39.62
14,158.0	92.18	357.27	10,997.8	3,050.1	14,152.6	10.7	4.4	9.7	65.76
14,248.0	92.26	357.62	10,994.3	3,140.0	14,242.5	12.6	1.6	12.5	82.81
14,338.0	91.91	358.67	10,991.0	3,229.9	14,332.5	14.2	-0.6	14.2	92.34
14,428.0	91.34	1.49	10,988.4	3,319.8	14,422.5	12.9	-0.8	12.8	93.39
14,517.0	91.78	1.84	10,986.0	3,408.7	14,511.4	9.1	-0.8	9.1	95.16
14,607.0	92.48	1.40	10,982.7	3,498.6	14,601.3	5.6	-1.8	5.3	108.48

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Wool Head 20 State Com #512H
Project:	Lea County, NM (NAD 83 NME)	**TVD Reference:**	KB @ 3752.5usft (H&P 466)
Site:	(Wool Head)Sec20_T-21-S_R-33-E	**MD Reference:**	KB @ 3752.5usft (H&P 466)
Well:	Wool Head 20 State Com #512H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	AWB	**Database:**	EDM 10_13

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	Depth on Plan (usft)	Distance to Plan (usft)	High to Plan (usft)	Right to Plan (usft)	Toolface to Plan (°)
14,697.0	92.66	1.66	10,978.6	3,588.4	14,691.2	3.8	-3.4	1.7	153.98
14,786.0	92.04	1.22	10,975.0	3,677.3	14,780.1	5.0	-4.7	-1.8	-159.19
14,876.0	91.96	0.26	10,971.8	3,767.2	14,870.1	6.8	-5.4	-4.2	-142.53
14,966.0	92.09	359.64	10,968.7	3,857.1	14,960.1	8.2	-6.2	-5.3	-139.52
15,056.0	92.66	358.59	10,964.9	3,947.0	15,050.1	9.1	-7.6	-5.1	-145.80
15,146.0	90.11	357.97	10,962.8	4,037.0	15,140.0	8.2	-7.3	-3.7	-153.51
15,235.0	88.79	357.53	10,963.6	4,125.9	15,229.0	4.3	-4.1	-1.4	-161.55
15,325.0	88.26	356.12	10,965.9	4,215.8	15,318.7	2.5	0.6	2.4	76.10
15,414.0	89.14	355.07	10,968.0	4,304.6	15,407.5	9.4	5.0	8.0	58.14
15,504.0	91.52	357.18	10,967.4	4,394.5	15,497.3	14.6	6.9	12.9	61.92
15,594.0	93.85	357.88	10,963.2	4,484.3	15,587.2	16.3	5.0	15.5	71.99
15,683.0	92.92	359.38	10,958.0	4,573.2	15,676.2	16.6	2.1	16.4	82.61
15,773.0	91.25	0.61	10,954.7	4,663.1	15,766.2	15.3	1.2	15.2	85.32
15,863.0	90.95	359.46	10,953.0	4,753.1	15,856.1	14.1	1.9	14.0	82.16
15,953.0	92.04	358.50	10,950.6	4,843.0	15,946.1	14.5	2.0	14.3	82.15
16,033.9	93.40	358.02	10,946.8	4,923.8	16,027.0	15.7	0.3	15.7	88.91
CROSS SEC LINE @ 16033.9' MD, 332' FEL									
16,042.0	93.54	357.97	10,946.3	4,931.9	16,035.1	15.9	0.0	15.9	89.91
16,132.0	92.97	0.96	10,941.2	5,021.8	16,125.1	15.7	-2.7	15.5	100.04
16,221.0	90.81	2.89	10,938.2	5,110.6	16,213.9	11.7	-3.3	11.3	106.33
16,311.0	88.75	3.24	10,938.6	5,200.4	16,303.7	5.3	-0.5	5.2	95.92
16,401.0	88.13	2.54	10,941.0	5,290.2	16,393.4	4.3	4.3	-0.5	-6.69
16,491.0	89.49	1.57	10,942.9	5,380.1	16,483.2	9.9	8.6	-5.0	-30.07
16,580.0	91.38	0.34	10,942.2	5,469.0	16,572.1	12.8	10.2	-7.6	-36.73
16,670.0	91.69	0.08	10,939.8	5,559.0	16,662.1	13.8	10.2	-9.2	-41.97
16,760.0	92.84	358.85	10,936.3	5,648.9	16,752.1	13.2	9.1	-9.6	-46.64
16,850.0	92.79	359.64	10,931.8	5,738.8	16,842.1	11.9	7.0	-9.6	-53.83

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Wool Head 20 State Com #512H
Project:	Lea County, NM (NAD 83 NME)	**TVD Reference:**	KB @ 3752.5usft (H&P 466)
Site:	(Wool Head)Sec20_T-21-S_R-33-E	**MD Reference:**	KB @ 3752.5usft (H&P 466)
Well:	Wool Head 20 State Com #512H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	AWB	**Database:**	EDM 10_13

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	Depth on Plan (usft)	Distance to Plan (usft)	High to Plan (usft)	Right to Plan (usft)	Toolface to Plan (°)
16,940.0	90.86	359.73	10,929.0	5,828.7	16,932.0	12.3	6.6	-10.4	-57.63
17,029.0	90.46	359.73	10,927.9	5,917.7	17,021.0	13.7	7.9	-11.1	-54.65
17,119.0	90.77	359.82	10,927.0	6,007.7	17,111.0	15.2	9.3	-12.0	-52.14
17,209.0	92.09	359.20	10,924.7	6,097.7	17,201.0	15.7	9.5	-12.5	-52.74
17,299.0	92.79	358.94	10,920.9	6,187.6	17,291.0	14.6	8.0	-12.2	-56.68
17,388.0	92.79	359.55	10,916.6	6,276.5	17,380.0	13.7	6.1	-12.3	-63.63
17,478.0	92.48	359.64	10,912.4	6,366.4	17,470.0	13.6	4.3	-12.8	-71.35
17,568.0	91.60	359.46	10,909.2	6,456.3	17,560.0	13.8	3.5	-13.4	-75.22
17,657.0	92.13	358.32	10,906.3	6,545.3	17,648.9	13.2	3.0	-12.9	-76.91
17,747.0	92.92	358.41	10,902.4	6,635.2	17,738.9	11.6	1.4	-11.5	-82.99
17,836.0	92.44	358.76	10,898.2	6,724.1	17,827.9	10.5	-0.4	-10.5	-92.03
17,926.0	92.44	359.29	10,894.4	6,814.0	17,917.9	10.4	-1.8	-10.2	-100.03
18,016.0	91.69	0.08	10,891.1	6,903.9	18,007.9	11.3	-2.7	-10.9	-103.62
18,106.0	90.46	0.17	10,889.4	6,993.9	18,097.9	12.5	-1.9	-12.4	-98.96
18,196.0	91.38	358.85	10,888.0	7,083.9	18,187.9	12.9	-1.0	-12.8	-94.47
18,285.0	92.92	357.88	10,884.7	7,172.8	18,276.8	11.7	-2.0	-11.5	-99.81
18,375.0	92.88	357.53	10,880.1	7,262.7	18,366.8	10.0	-4.1	-9.1	-114.49
18,465.0	93.45	357.27	10,875.1	7,352.5	18,456.7	9.2	-6.7	-6.2	-137.10
18,554.0	92.88	357.18	10,870.2	7,441.3	18,545.6	9.8	-9.3	-3.1	-161.24
18,602.0	93.27	356.65	10,867.6	7,489.2	18,567.2	28.4	-27.6	-6.8	-166.21
LAST SVY									
18,660.0	93.27	356.65	10,864.3	7,547.0	18,567.2	85.1	-82.7	-20.3	-166.21
PTD @ 18660.0' MD, 2654' FNL, 332' FEL									

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Wool Head 20 State Com #512H
Project:	Lea County, NM (NAD 83 NME)	**TVD Reference:**	KB @ 3752.5usft (H&P 466)
Site:	(Wool Head)Sec20_T-21-S_R-33-E	**MD Reference:**	KB @ 3752.5usft (H&P 466)
Well:	Wool Head 20 State Com #512H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	AWB	**Database:**	EDM 10_13

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
16,033.9	10,946.8	4,930.4	447.9	CROSS SEC LINE @ 16033.9' MD, 332' FEL
18,602.0	10,867.6	7,495.7	430.0	LAST SVY
18,660.0	10,864.3	7,553.5	426.6	PTD @ 18660.0' MD, 2654' FNL, 332' FEL

Checked By: _____ Approved By: _____ Date: _____

Advance Energy Partners

Lea County, NM (NAD 83 NME)
(Wool Head)Sec20_T-21-S_R-33-E
Wool Head 20 State Com #512H

OWB

Design: AWB

Standard Survey Report

16 January, 2020

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Wool Head 20 State Com #512H
Project:	Lea County, NM (NAD 83 NME)	**TVD Reference:**	KB @ 3752.5usft (H&P 466)
Site:	(Wool Head)Sec20_T-21-S_R-33-E	**MD Reference:**	KB @ 3752.5usft (H&P 466)
Well:	Wool Head 20 State Com #512H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	AWB	**Database:**	EDM 10_13

Project Lea County, NM (NAD 83 NME)

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site (Wool Head)Sec20_T-21-S_R-33-E

Site Position:		**Northing:**	531,182.60 usft	**Latitude:**	32° 27' 29.104 N
From:	Map	**Easting:**	770,949.20 usft	**Longitude:**	103° 35' 20.061 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.40 °

Well Wool Head 20 State Com #512H

Well Position	**+N/-S**	0.0 usft	**Northing:**	531,183.00 usft	**Latitude:**	32° 27' 29.103 N
	+E/-W	0.0 usft	**Easting:**	771,015.10 usft	**Longitude:**	103° 35' 19.292 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,726.0 usft

Wellbore OWB

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	11/06/2019	6.72	60.24	47,826.55314995

Design AWB

Audit Notes:

Version:	1.0	**Phase:**	ACTUAL	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	359.22

Survey Program **Date** 01/16/2020

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
238.0	18,660.0	Intrepid MWD (OWB)	MWD	OWSG MWD - Standard

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
238.0	0.35	239.32	238.0	-0.4	-0.6	-0.4	0.15	0.15	0.00
329.0	0.57	260.32	329.0	-0.6	-1.3	-0.6	0.30	0.24	23.08
424.0	0.48	244.42	424.0	-0.8	-2.1	-0.8	0.18	-0.09	-16.74
519.0	0.48	246.09	519.0	-1.2	-2.9	-1.1	0.01	0.00	1.76
614.0	0.75	255.93	614.0	-1.5	-3.8	-1.4	0.30	0.28	10.36
710.0	0.75	244.50	710.0	-1.9	-5.0	-1.8	0.16	0.00	-11.91
804.0	1.32	235.45	804.0	-2.8	-6.4	-2.7	0.63	0.61	-9.63
899.0	1.58	255.67	898.9	-3.7	-8.6	-3.6	0.60	0.27	21.28
994.0	1.89	245.03	993.9	-4.7	-11.3	-4.6	0.47	0.33	-11.20

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Wool Head 20 State Com #512H
Project:	Lea County, NM (NAD 83 NME)	**TVD Reference:**	KB @ 3752.5usft (H&P 466)
Site:	(Wool Head)Sec20_T-21-S_R-33-E	**MD Reference:**	KB @ 3752.5usft (H&P 466)
Well:	Wool Head 20 State Com #512H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	AWB	**Database:**	EDM 10_13

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,084.0	0.92	209.61	1,083.9	-6.0	-13.0	-5.8	1.40	-1.08	-39.36
1,173.0	0.88	195.81	1,172.8	-7.3	-13.5	-7.1	0.25	-0.04	-15.51
1,263.0	0.92	232.73	1,262.8	-8.4	-14.3	-8.2	0.63	0.04	41.02
1,352.0	1.76	229.39	1,351.8	-9.7	-15.9	-9.5	0.95	0.94	-3.75
1,442.0	2.55	243.10	1,441.7	-11.5	-18.8	-11.2	1.04	0.88	15.23
1,531.0	2.68	230.53	1,530.7	-13.7	-22.1	-13.4	0.66	0.15	-14.12
1,620.0	2.29	223.67	1,619.6	-16.3	-25.0	-16.0	0.55	-0.44	-7.71
1,710.0	1.49	233.69	1,709.5	-18.3	-27.1	-17.9	0.96	-0.89	11.13
1,771.0	1.58	229.74	1,770.5	-19.3	-28.4	-18.9	0.23	0.15	-6.48
1,892.0	1.19	260.50	1,891.5	-20.6	-30.9	-20.2	0.68	-0.32	25.42
1,982.0	0.79	149.58	1,981.5	-21.3	-31.5	-20.9	1.83	-0.44	-123.24
2,071.0	2.29	115.13	2,070.4	-22.6	-29.6	-22.2	1.91	1.69	-38.71
2,160.0	2.37	123.04	2,159.4	-24.3	-26.5	-24.0	0.37	0.09	8.89
2,250.0	1.58	80.59	2,249.3	-25.1	-23.7	-24.8	1.79	-0.88	-47.17
2,340.0	2.07	62.83	2,339.3	-24.2	-21.0	-23.9	0.83	0.54	-19.73
2,429.0	1.98	61.78	2,428.2	-22.7	-18.2	-22.5	0.11	-0.10	-1.18
2,519.0	1.80	61.16	2,518.2	-21.3	-15.6	-21.1	0.20	-0.20	-0.69
2,609.0	1.98	53.61	2,608.1	-19.7	-13.1	-19.5	0.34	0.20	-8.39
2,699.0	1.80	52.99	2,698.1	-17.9	-10.8	-17.8	0.20	-0.20	-0.69
2,788.0	1.41	47.54	2,787.0	-16.4	-8.8	-16.2	0.47	-0.44	-6.12
2,878.0	1.54	103.61	2,877.0	-15.9	-6.8	-15.8	1.55	0.14	62.30
2,968.0	1.80	54.04	2,967.0	-15.4	-4.5	-15.3	1.58	0.29	-55.08
3,058.0	1.54	63.98	3,056.9	-14.0	-2.3	-14.0	0.43	-0.29	11.04
3,147.0	1.89	66.88	3,145.9	-12.9	0.1	-12.9	0.41	0.39	3.26
3,237.0	1.89	65.29	3,235.8	-11.7	2.9	-11.7	0.06	0.00	-1.77
3,327.0	2.11	70.22	3,325.8	-10.5	5.8	-10.6	0.31	0.24	5.48
3,417.0	1.05	91.84	3,415.7	-10.0	8.1	-10.1	1.33	-1.18	24.02
3,506.0	0.75	148.35	3,504.7	-10.5	9.3	-10.6	1.00	-0.34	63.49
3,596.0	0.75	126.55	3,594.7	-11.3	10.0	-11.5	0.32	0.00	-24.22
3,686.0	0.53	109.06	3,684.7	-11.8	10.9	-12.0	0.32	-0.24	-19.43
3,776.0	0.53	124.88	3,774.7	-12.2	11.6	-12.4	0.16	0.00	17.58
3,865.0	0.13	156.17	3,863.7	-12.5	12.0	-12.7	0.48	-0.45	35.16
3,955.0	0.18	166.19	3,953.7	-12.8	12.1	-12.9	0.06	0.06	11.13
4,045.0	0.18	48.68	4,043.7	-12.8	12.2	-13.0	0.34	0.00	-130.57
4,135.0	0.44	188.52	4,133.7	-13.1	12.3	-13.2	0.65	0.29	155.38
4,224.0	0.57	175.60	4,222.7	-13.8	12.3	-14.0	0.19	0.15	-14.52
4,314.0	0.57	174.28	4,312.7	-14.7	12.4	-14.9	0.01	0.00	-1.47
4,404.0	0.35	115.74	4,402.7	-15.3	12.6	-15.5	0.54	-0.24	-65.04
4,493.0	0.57	35.94	4,491.7	-15.1	13.2	-15.2	0.69	0.25	-89.66
4,583.0	1.05	28.29	4,581.7	-14.0	13.8	-14.2	0.55	0.53	-8.50
4,673.0	1.19	44.99	4,671.7	-12.6	14.9	-12.8	0.39	0.16	18.56
4,762.0	1.01	36.73	4,760.7	-11.3	16.0	-11.5	0.27	-0.20	-9.28
4,852.0	1.23	48.86	4,850.6	-10.0	17.2	-10.3	0.36	0.24	13.48
4,942.0	1.36	40.95	4,940.6	-8.6	18.6	-8.8	0.25	0.14	-8.79

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Wool Head 20 State Com #512H
Project:	Lea County, NM (NAD 83 NME)	**TVD Reference:**	KB @ 3752.5usft (H&P 466)
Site:	(Wool Head)Sec20_T-21-S_R-33-E	**MD Reference:**	KB @ 3752.5usft (H&P 466)
Well:	Wool Head 20 State Com #512H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	AWB	**Database:**	EDM 10_13

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,031.0	1.19	34.53	5,029.6	-7.0	19.8	-7.3	0.25	-0.19	-7.21
5,121.0	1.23	25.83	5,119.6	-5.4	20.8	-5.7	0.21	0.04	-9.67
5,217.0	1.32	23.72	5,215.6	-3.4	21.7	-3.7	0.11	0.09	-2.20
5,303.0	1.01	22.33	5,301.5	-1.8	22.4	-2.1	0.36	-0.36	-1.62
5,392.0	0.84	15.46	5,390.5	-0.5	22.8	-0.8	0.23	-0.19	-7.72
5,482.0	0.04	349.80	5,480.5	0.2	23.0	-0.1	0.89	-0.89	-28.51
5,572.0	0.92	334.59	5,570.5	0.9	22.7	0.6	0.98	0.98	-16.90
5,661.0	0.88	109.42	5,659.5	1.3	23.0	1.0	1.87	-0.04	151.49
5,751.0	4.66	127.52	5,749.4	-1.2	26.6	-1.5	4.26	4.20	20.11
5,841.0	5.05	124.18	5,839.1	-5.6	32.8	-6.1	0.54	0.43	-3.71
5,930.0	5.10	120.75	5,927.7	-9.8	39.4	-10.4	0.35	0.06	-3.85
6,020.0	5.54	120.49	6,017.3	-14.1	46.6	-14.7	0.49	0.49	-0.29
6,110.0	5.63	118.73	6,106.9	-18.4	54.2	-19.2	0.21	0.10	-1.96
6,199.0	7.21	118.73	6,195.3	-23.2	62.9	-24.1	1.78	1.78	0.00
6,289.0	8.44	118.64	6,284.5	-29.1	73.7	-30.1	1.37	1.37	-0.10
6,378.0	8.26	117.85	6,372.6	-35.2	85.0	-36.4	0.24	-0.20	-0.89
6,468.0	8.44	118.03	6,461.6	-41.3	96.6	-42.6	0.20	0.20	0.20
6,558.0	8.31	117.94	6,550.6	-47.5	108.2	-48.9	0.15	-0.14	-0.10
6,648.0	7.96	118.64	6,639.7	-53.5	119.4	-55.1	0.40	-0.39	0.78
6,737.0	7.60	118.47	6,727.9	-59.3	130.0	-61.0	0.41	-0.40	-0.19
6,828.0	7.34	118.38	6,818.2	-64.9	140.4	-66.8	0.29	-0.29	-0.10
6,917.0	8.70	116.45	6,906.3	-70.6	151.4	-72.7	1.56	1.53	-2.17
7,007.0	9.89	116.18	6,995.1	-77.0	164.4	-79.3	1.32	1.32	-0.30
7,096.0	9.71	116.10	7,082.8	-83.7	178.0	-86.1	0.20	-0.20	-0.09
7,186.0	9.58	114.69	7,171.5	-90.2	191.7	-92.8	0.30	-0.14	-1.57
7,276.0	9.14	113.99	7,260.3	-96.2	205.0	-99.0	0.50	-0.49	-0.78
7,366.0	9.32	114.16	7,349.2	-102.1	218.2	-105.1	0.20	0.20	0.19
7,455.0	9.23	114.78	7,437.0	-108.1	231.2	-111.2	0.15	-0.10	0.70
7,545.0	9.05	114.34	7,525.9	-114.0	244.2	-117.3	0.21	-0.20	-0.49
7,634.0	8.62	112.32	7,613.8	-119.4	256.8	-122.9	0.60	-0.48	-2.27
7,724.0	8.31	111.26	7,702.8	-124.3	269.1	-128.0	0.39	-0.34	-1.18
7,814.0	8.44	110.73	7,791.9	-129.0	281.3	-132.8	0.17	0.14	-0.59
7,904.0	8.40	109.33	7,880.9	-133.5	293.7	-137.5	0.23	-0.04	-1.56
7,993.0	8.48	104.68	7,968.9	-137.4	306.2	-141.5	0.77	0.09	-5.22
8,083.0	8.35	109.68	8,058.0	-141.2	318.7	-145.6	0.83	-0.14	5.56
8,172.0	8.18	109.86	8,146.0	-145.6	330.8	-150.1	0.19	-0.19	0.20
8,262.0	7.78	111.09	8,235.2	-149.9	342.5	-154.6	0.48	-0.44	1.37
8,352.0	7.47	111.53	8,324.4	-154.3	353.6	-159.1	0.35	-0.34	0.49
8,442.0	7.78	110.38	8,413.6	-158.5	364.8	-163.5	0.38	0.34	-1.28
8,531.0	6.77	110.56	8,501.9	-162.5	375.3	-167.6	1.14	-1.13	0.20
8,621.0	7.91	107.39	8,591.1	-166.2	386.2	-171.4	1.34	1.27	-3.52
8,710.0	8.26	107.48	8,679.2	-169.9	398.1	-175.4	0.39	0.39	0.10
8,800.0	7.52	108.27	8,768.4	-173.7	409.9	-179.3	0.83	-0.82	0.88

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Wool Head 20 State Com #512H
Project:	Lea County, NM (NAD 83 NME)	**TVD Reference:**	KB @ 3752.5usft (H&P 466)
Site:	(Wool Head)Sec20_T-21-S_R-33-E	**MD Reference:**	KB @ 3752.5usft (H&P 466)
Well:	Wool Head 20 State Com #512H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	AWB	**Database:**	EDM 10_13

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,890.0	8.22	107.83	8,857.5	-177.6	421.6	-183.3	0.78	0.78	-0.49
8,979.0	8.22	110.12	8,945.6	-181.7	433.7	-187.6	0.37	0.00	2.57
9,069.0	7.03	112.14	9,034.8	-186.0	444.8	-192.0	1.36	-1.32	2.24
9,159.0	7.34	120.84	9,124.1	-191.0	454.8	-197.2	1.26	0.34	9.67
9,248.0	6.99	126.47	9,212.4	-197.1	464.1	-203.4	0.88	-0.39	6.33
9,338.0	7.12	120.40	9,301.7	-203.2	473.3	-209.6	0.84	0.14	-6.74
9,428.0	6.64	116.97	9,391.1	-208.4	482.7	-214.9	0.70	-0.53	-3.81
9,608.0	4.92	112.84	9,570.2	-216.1	499.1	-222.9	0.98	-0.96	-2.29
9,697.0	4.53	109.77	9,658.9	-218.8	506.0	-225.7	0.52	-0.44	-3.45
9,788.0	4.18	97.20	9,749.6	-220.4	512.6	-227.4	1.11	-0.38	-13.81
9,878.0	3.60	87.71	9,839.4	-220.7	518.7	-227.8	0.96	-0.64	-10.54
9,968.0	4.26	101.77	9,929.2	-221.3	524.8	-228.4	1.29	0.73	15.62
10,057.0	5.01	112.23	10,017.9	-223.4	531.6	-230.6	1.27	0.84	11.75
10,147.0	4.48	116.45	10,107.6	-226.5	538.4	-233.8	0.70	-0.59	4.69
10,236.0	2.37	140.97	10,196.4	-229.5	542.7	-236.8	2.83	-2.37	27.55
10,326.0	2.07	176.04	10,286.4	-232.5	544.0	-239.9	1.52	-0.33	38.97
10,416.0	2.20	200.38	10,376.3	-235.8	543.5	-243.1	1.01	0.14	27.04
10,492.0	2.37	189.75	10,452.2	-238.7	542.7	-246.0	0.60	0.22	-13.99
10,541.0	2.20	207.94	10,501.2	-240.5	542.1	-247.9	1.51	-0.35	37.12
10,630.0	9.85	331.25	10,589.8	-235.3	537.6	-242.6	12.59	8.60	138.55
10,720.0	18.95	341.71	10,676.9	-214.7	529.3	-221.8	10.48	10.11	11.62
10,810.0	26.51	342.77	10,759.8	-181.5	518.8	-188.6	8.41	8.40	1.18
10,899.0	33.63	346.72	10,836.8	-138.5	507.2	-145.4	8.30	8.00	4.44
10,989.0	47.82	341.18	10,904.9	-82.4	490.6	-89.1	16.26	15.77	-6.16
11,079.0	64.00	346.54	10,955.2	-11.0	470.3	-17.4	18.63	17.98	5.96
11,168.0	77.14	351.91	10,984.7	71.3	454.8	65.1	15.82	14.76	6.03
11,198.0	79.96	357.27	10,990.7	100.5	452.1	94.4	19.87	9.40	17.87
11,288.0	84.53	2.10	11,002.9	189.6	451.6	183.5	7.35	5.08	5.37
11,378.0	86.02	3.86	11,010.3	279.2	456.2	273.0	2.56	1.66	1.96
11,467.0	86.11	3.33	11,016.4	367.8	461.8	361.5	0.60	0.10	-0.60
11,557.0	89.23	1.75	11,020.0	457.7	465.8	451.3	3.89	3.47	-1.76
11,647.0	89.71	3.07	11,020.9	547.6	469.6	541.1	1.56	0.53	1.47
11,736.0	89.27	2.98	11,021.7	636.4	474.3	629.9	0.50	-0.49	-0.10
11,826.0	90.24	2.54	11,022.0	726.3	478.6	719.8	1.18	1.08	-0.49
11,915.0	92.26	1.93	11,020.1	815.2	482.1	808.6	2.37	2.27	-0.69
12,005.0	91.08	2.36	11,017.5	905.1	485.4	898.4	1.40	-1.31	0.48
12,095.0	91.60	2.10	11,015.4	995.0	488.9	988.3	0.65	0.58	-0.29
12,185.0	89.41	0.34	11,014.6	1,085.0	490.9	1,078.2	3.12	-2.43	-1.96
12,275.0	89.85	359.82	11,015.2	1,175.0	491.0	1,168.2	0.76	0.49	-0.58
12,364.0	91.08	358.59	11,014.4	1,264.0	489.8	1,257.2	1.95	1.38	-1.38
12,454.0	89.36	1.05	11,014.1	1,354.0	489.5	1,347.2	3.34	-1.91	2.73
12,544.0	89.01	1.66	11,015.4	1,443.9	491.6	1,437.1	0.78	-0.39	0.68
12,633.0	88.97	0.78	11,016.9	1,532.9	493.5	1,526.1	0.99	-0.04	-0.99

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Wool Head 20 State Com #512H
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Site:	(Wool Head)Sec20_T-21-S_R-33-E	**MD Reference:**	KB @ 3752.5usft (H&P 466)
Well:	Wool Head 20 State Com #512H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	AWB	**Database:**	EDM 10_13

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,723.0	89.76	359.73	11,017.9	1,622.9	493.9	1,616.0	1.46	0.88	-1.17
12,813.0	89.85	359.64	11,018.2	1,712.9	493.4	1,706.0	0.14	0.10	-0.10
12,903.0	92.04	359.11	11,016.8	1,802.9	492.4	1,796.0	2.50	2.43	-0.59
12,992.0	92.66	359.64	11,013.1	1,891.8	491.5	1,884.9	0.92	0.70	0.60
13,082.0	91.47	1.75	11,009.9	1,981.7	492.5	1,974.8	2.69	-1.32	2.34
13,171.0	90.77	1.66	11,008.1	2,070.7	495.2	2,063.7	0.79	-0.79	-0.10
13,261.0	91.25	0.96	11,006.5	2,160.6	497.2	2,153.7	0.94	0.53	-0.78
13,351.0	91.87	1.13	11,004.1	2,250.6	498.9	2,243.6	0.71	0.69	0.19
13,440.0	89.36	0.69	11,003.1	2,339.6	500.3	2,332.5	2.86	-2.82	-0.49
13,530.0	89.36	0.52	11,004.1	2,429.5	501.3	2,422.5	0.19	0.00	-0.19
13,619.0	89.45	359.73	11,005.1	2,518.5	501.4	2,511.5	0.89	0.10	-0.89
13,709.0	89.80	358.94	11,005.7	2,608.5	500.4	2,601.5	0.96	0.39	-0.88
13,799.0	89.98	357.88	11,005.8	2,698.5	497.9	2,691.5	1.19	0.20	-1.18
13,889.0	90.33	357.36	11,005.6	2,788.4	494.2	2,781.4	0.70	0.39	-0.58
13,978.0	91.34	356.74	11,004.3	2,877.3	489.6	2,870.4	1.33	1.13	-0.70
14,068.0	92.40	356.48	11,001.3	2,967.1	484.3	2,960.2	1.21	1.18	-0.29
14,158.0	92.18	357.27	10,997.8	3,056.9	479.4	3,050.1	0.91	-0.24	0.88
14,248.0	92.26	357.62	10,994.3	3,146.7	475.4	3,140.0	0.40	0.09	0.39
14,338.0	91.91	358.67	10,991.0	3,236.6	472.4	3,229.9	1.23	-0.39	1.17
14,428.0	91.34	1.49	10,988.4	3,326.6	472.6	3,319.8	3.20	-0.63	3.13
14,517.0	91.78	1.84	10,986.0	3,415.5	475.2	3,408.7	0.63	0.49	0.39
14,607.0	92.48	1.40	10,982.7	3,505.4	477.7	3,498.6	0.92	0.78	-0.49
14,697.0	92.66	1.66	10,978.6	3,595.3	480.1	3,588.4	0.35	0.20	0.29
14,786.0	92.04	1.22	10,975.0	3,684.2	482.3	3,677.3	0.85	-0.70	-0.49
14,876.0	91.96	0.26	10,971.8	3,774.1	483.5	3,767.2	1.07	-0.09	-1.07
14,966.0	92.09	359.64	10,968.7	3,864.0	483.4	3,857.1	0.70	0.14	-0.69
15,056.0	92.66	358.59	10,964.9	3,954.0	482.0	3,947.0	1.33	0.63	-1.17
15,146.0	90.11	357.97	10,962.8	4,043.9	479.3	4,037.0	2.92	-2.83	-0.69
15,235.0	88.79	357.53	10,963.6	4,132.8	475.8	4,125.9	1.56	-1.48	-0.49
15,325.0	88.26	356.12	10,965.9	4,222.6	470.9	4,215.8	1.67	-0.59	-1.57
15,414.0	89.14	355.07	10,968.0	4,311.4	464.0	4,304.6	1.54	0.99	-1.18
15,504.0	91.52	357.18	10,967.4	4,401.1	457.9	4,394.5	3.53	2.64	2.34
15,594.0	93.85	357.88	10,963.2	4,490.9	454.1	4,484.3	2.70	2.59	0.78
15,683.0	92.92	359.38	10,958.0	4,579.8	451.9	4,573.2	1.98	-1.04	1.69
15,773.0	91.25	0.61	10,954.7	4,669.7	451.9	4,663.1	2.30	-1.86	1.37
15,863.0	90.95	359.46	10,953.0	4,759.7	452.0	4,753.1	1.32	-0.33	-1.28
15,953.0	92.04	358.50	10,950.6	4,849.6	450.4	4,843.0	1.61	1.21	-1.07
16,033.9	93.40	358.02	10,946.8	4,930.4	447.9	4,923.8	1.79	1.69	-0.60
CROSS SEC LINE @ 16033.9' MD, 332' FEL									
16,042.0	93.54	357.97	10,946.3	4,938.5	447.6	4,931.9	1.79	1.69	-0.60
16,132.0	92.97	0.96	10,941.2	5,028.3	446.8	5,021.8	3.38	-0.63	3.32
16,221.0	90.81	2.89	10,938.2	5,117.2	449.8	5,110.6	3.25	-2.43	2.17
16,311.0	88.75	3.24	10,938.6	5,207.1	454.6	5,200.4	2.32	-2.29	0.39
16,401.0	88.13	2.54	10,941.0	5,296.9	459.1	5,290.2	1.04	-0.69	-0.78

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Wool Head 20 State Com #512H
Project:	Lea County, NM (NAD 83 NME)	**TVD Reference:**	KB @ 3752.5usft (H&P 466)
Site:	(Wool Head)Sec20_T-21-S_R-33-E	**MD Reference:**	KB @ 3752.5usft (H&P 466)
Well:	Wool Head 20 State Com #512H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	AWB	**Database:**	EDM 10_13

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
16,491.0	89.49	1.57	10,942.9	5,386.8	462.4	5,380.1	1.86	1.51	-1.08
16,580.0	91.38	0.34	10,942.2	5,475.8	463.9	5,469.0	2.53	2.12	-1.38
16,670.0	91.69	0.08	10,939.8	5,565.8	464.2	5,559.0	0.45	0.34	-0.29
16,760.0	92.84	358.85	10,936.3	5,655.7	463.3	5,648.9	1.87	1.28	-1.37
16,850.0	92.79	359.64	10,931.8	5,745.6	462.2	5,738.8	0.88	-0.06	0.88
16,940.0	90.86	359.73	10,929.0	5,835.5	461.7	5,828.7	2.15	-2.14	0.10
17,029.0	90.46	359.73	10,927.9	5,924.5	461.2	5,917.7	0.45	-0.45	0.00
17,119.0	90.77	359.82	10,927.0	6,014.5	460.9	6,007.7	0.36	0.34	0.10
17,209.0	92.09	359.20	10,924.7	6,104.5	460.1	6,097.7	1.62	1.47	-0.69
17,299.0	92.79	358.94	10,920.9	6,194.4	458.7	6,187.6	0.83	0.78	-0.29
17,388.0	92.79	359.55	10,916.6	6,283.3	457.5	6,276.5	0.68	0.00	0.69
17,478.0	92.48	359.64	10,912.4	6,373.2	456.9	6,366.4	0.36	-0.34	0.10
17,568.0	91.60	359.46	10,909.2	6,463.1	456.2	6,456.3	1.00	-0.98	-0.20
17,657.0	92.13	358.32	10,906.3	6,552.1	454.4	6,545.3	1.41	0.60	-1.28
17,747.0	92.92	358.41	10,902.4	6,641.9	451.9	6,635.2	0.88	0.88	0.10
17,836.0	92.44	358.76	10,898.2	6,730.8	449.7	6,724.1	0.67	-0.54	0.39
17,926.0	92.44	359.29	10,894.4	6,820.7	448.1	6,814.0	0.59	0.00	0.59
18,016.0	91.69	0.08	10,891.1	6,910.7	447.6	6,903.9	1.21	-0.83	0.88
18,106.0	90.46	0.17	10,889.4	7,000.6	447.8	6,993.9	1.37	-1.37	0.10
18,196.0	91.38	358.85	10,888.0	7,090.6	447.1	7,083.9	1.79	1.02	-1.47
18,285.0	92.92	357.88	10,884.7	7,179.5	444.5	7,172.8	2.04	1.73	-1.09
18,375.0	92.88	357.53	10,880.1	7,269.3	440.9	7,262.7	0.39	-0.04	-0.39
18,465.0	93.45	357.27	10,875.1	7,359.1	436.9	7,352.5	0.70	0.63	-0.29
18,554.0	92.88	357.18	10,870.2	7,447.9	432.6	7,441.3	0.65	-0.64	-0.10
18,602.0	93.27	356.65	10,867.6	7,495.7	430.0	7,489.2	1.37	0.81	-1.10
LAST SVY									
18,660.0	93.27	356.65	10,864.3	7,553.5	426.6	7,547.0	0.00	0.00	0.00
PTD @ 18660.0' MD, 2654' FNL, 332' FEL									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
LTP/PBHL (Wool Hea	0.00	0.00	10,878.9	7,469.7	429.1	538,652.70	771,444.20	32° 28' 42.985 N	103° 35' 13.675 W
- actual wellpath misses target center by 10.1usft at 18575.5usft MD (10869.1 TVD, 7469.3 N, 431.5 E)									
- Point									
T1 (Wool Head 20 SC	0.00	0.00	10,992.4	3,186.7	487.3	534,369.70	771,502.42	32° 28' 0.601 N	103° 35' 13.345 W
- actual wellpath misses target center by 13.5usft at 14287.6usft MD (10992.8 TVD, 3186.3 N, 473.9 E)									
- Point									
FTP (Wool Head 20 S	0.00	0.00	11,000.0	-247.1	534.4	530,935.90	771,549.50	32° 27' 26.621 N	103° 35' 13.075 W
- actual wellpath misses target center by 188.5usft at 10949.9usft MD (10877.1 TVD, -108.5 N, 499.1 E)									
- Point									

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Wool Head 20 State Com #512H
Project:	Lea County, NM (NAD 83 NME)	**TVD Reference:**	KB @ 3752.5usft (H&P 466)
Site:	(Wool Head)Sec20_T-21-S_R-33-E	**MD Reference:**	KB @ 3752.5usft (H&P 466)
Well:	Wool Head 20 State Com #512H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	AWB	**Database:**	EDM 10_13

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
16,033.9	10,946.8	4,930.4	447.9	CROSS SEC LINE @ 16033.9' MD, 332' FEL
18,602.0	10,867.6	7,495.7	430.0	LAST SVY
18,660.0	10,864.3	7,553.5	426.6	PTD @ 18660.0' MD, 2654' FNL, 332' FEL

Checked By: _____ Approved By: _____ Date: _____

Anti-Collision Report

Advance Energy Partners

Lea County, NM (NAD 83 NME)
(Wool Head)Sec20_T-21-S_R-33-E
Wool Head 20 State Com #512H

OWB
AWB

Anticollision Report

16 January, 2020

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Wool Head 20 State Com #512H
Project:	Lea County, NM (NAD 83 NME)	**TVD Reference:**	KB @ 3752.5usft (H&P 466)
Reference Site:	(Wool Head)Sec20_T-21-S_R-33-E	**MD Reference:**	KB @ 3752.5usft (H&P 466)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Wool Head 20 State Com #512H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	EDM 10_13
Reference Design:	AWB	**Offset TVD Reference:**	Offset Datum

Reference AWB

Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0usft	**Error Model:**	ISCWSA
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 243.2 usft	**Error Surface:**	Pedal Curve
Warning Levels Evaluated at:	2.00 **Sigma**	**Casing Method:**	Not applied

Survey Program **Date** 01/16/2020

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
238.0	18,660.0	Intrepid MWD (OWB)	MWD	OWSG MWD - Standard

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
(Wool Head)Sec20_T-21-S_R-33-E						
Wool Head 20 State Com #510H - OWB - AWB	1,030.4	1,029.8	27.1	20.7	4.227	CC
Wool Head 20 State Com #510H - OWB - AWB	5,600.0	5,600.3	42.5	4.4	1.114	Level 2, ES, SF
Wool Head 20 State Com #511H - OWB - AWB	1,028.6	1,028.6	94.3	87.9	14.729	CC
Wool Head 20 State Com #511H - OWB - AWB	5,319.3	5,321.8	94.8	58.5	2.614	ES
Wool Head 20 State Com #511H - OWB - AWB	5,400.0	5,399.6	96.0	59.2	2.609	SF
Wool Head 20 State Com #554H - OWB - AWB	4,660.3	4,660.3	58.4	26.8	1.847	CC, ES
Wool Head 20 State Com #554H - OWB - AWB	4,700.0	4,699.5	58.8	26.9	1.841	SF

Offset Design: (Wool Head)Sec20_T-21-S_R-33-E - Wool Head 20 State Com #510H - OWB - AWB — **Offset Site Error:** 0.0 usft

Survey Program: 238-MWD — **Rule Assigned:** — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-90.52	-0.3	-32.9	32.9				
100.0	100.0	100.0	100.0	0.1	0.2	29.99	-0.5	-33.0	32.9	32.6	0.29	112.804	
200.0	200.0	199.9	199.9	0.3	0.3	29.47	-1.0	-33.2	32.7	32.1	0.63	51.943	
300.0	300.0	299.8	299.8	0.6	0.6	12.30	-1.7	-33.5	32.5	31.3	1.20	27.039	
391.1	391.1	390.8	390.8	0.9	0.9	17.83	-2.2	-34.1	32.4	30.5	1.85	17.472	
400.0	400.0	399.7	399.7	1.0	1.0	18.31	-2.3	-34.2	32.3	30.4	1.92	16.854	
500.0	500.0	499.8	499.8	1.3	1.3	21.46	-2.7	-35.0	32.4	29.7	2.63	12.297	
600.0	600.0	599.7	599.7	1.7	1.7	12.26	-3.0	-35.7	32.1	28.7	3.35	9.586	
700.0	700.0	699.9	699.8	2.0	2.0	20.91	-3.7	-36.4	31.5	27.5	4.06	7.758	
800.0	800.0	799.6	799.6	2.4	2.4	30.86	-4.6	-37.0	30.7	25.9	4.78	6.420	
900.0	899.9	900.0	900.0	2.8	2.7	13.51	-4.2	-37.5	28.9	23.4	5.49	5.263	
1,000.0	999.9	999.3	999.3	3.1	3.1	27.28	-4.2	-38.6	27.2	21.0	6.19	4.392	
1,030.4	1,030.3	1,029.8	1,029.7	3.2	3.2	33.35	-4.8	-39.3	27.1	20.7	6.41	4.227	CC
1,100.0	1,099.9	1,099.3	1,099.2	3.5	3.4	63.54	-5.8	-40.8	27.7	20.8	6.90	4.015	
1,200.0	1,199.8	1,199.2	1,199.0	3.8	3.8	63.44	-7.4	-43.4	29.7	22.0	7.62	3.894	
1,300.0	1,299.8	1,299.0	1,298.8	4.2	4.2	39.16	-8.8	-46.3	31.4	23.1	8.33	3.768	
1,400.0	1,399.8	1,398.8	1,398.6	4.6	4.5	33.45	-9.8	-49.8	32.6	23.5	9.05	3.600	
1,500.0	1,499.7	1,498.8	1,498.5	4.9	4.9	37.33	-11.6	-53.5	32.6	22.8	9.77	3.335	
1,600.0	1,599.6	1,599.2	1,598.8	5.3	5.2	47.57	-14.0	-56.9	32.6	22.1	10.50	3.107	
1,687.7	1,687.2	1,687.0	1,686.5	5.6	5.6	42.13	-16.1	-59.0	32.4	21.2	11.13	2.908	
1,700.0	1,699.5	1,699.3	1,698.8	5.6	5.6	41.05	-16.4	-59.3	32.4	21.2	11.22	2.887	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Wool Head 20 State Com #512H
Project:	Lea County, NM (NAD 83 NME)	**TVD Reference:**	KB @ 3752.5usft (H&P 466)
Reference Site:	(Wool Head)Sec20_T-21-S_R-33-E	**MD Reference:**	KB @ 3752.5usft (H&P 466)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Wool Head 20 State Com #512H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	EDM 10_13
Reference Design:	AWB	**Offset TVD Reference:**	Offset Datum

Offset Design: (Wool Head)Sec20_T-21-S_R-33-E - Wool Head 20 State Com #510H - OWB - AWB — **Offset Site Error:** 0.0 usft

Survey Program: 238-MWD — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
1,800.0	1,799.5	1,799.3	1,798.8	6.0	6.0	36.74	-18.5	-61.6	32.6	20.6	11.94	2.727	
1,900.0	1,899.5	1,899.4	1,898.9	6.4	6.3	14.29	-19.9	-63.8	32.7	20.0	12.66	2.582	
2,000.0	1,999.5	2,000.5	1,999.9	6.7	6.7	135.18	-21.4	-63.9	32.6	19.2	13.35	2.440	
2,065.9	2,065.3	2,067.0	2,066.4	6.9	6.9	148.44	-22.8	-62.4	32.4	18.6	13.79	2.349	
2,100.0	2,099.4	2,101.2	2,100.5	7.0	7.0	151.51	-23.5	-61.2	32.7	18.7	14.02	2.332	
2,200.0	2,199.3	2,201.2	2,200.5	7.4	7.4	163.90	-23.6	-57.6	32.5	17.8	14.69	2.211	
2,300.0	2,299.3	2,301.2	2,300.4	7.7	7.7	-153.36	-21.3	-53.8	31.7	16.4	15.35	2.068	
2,400.0	2,399.2	2,401.1	2,400.2	8.0	8.0	-143.78	-18.6	-50.2	31.4	15.4	16.02	1.961	
2,500.0	2,499.2	2,501.1	2,500.1	8.4	8.3	-141.02	-16.1	-46.6	31.0	14.3	16.68	1.857	
2,600.0	2,599.1	2,601.0	2,599.9	8.7	8.7	-132.65	-13.7	-43.3	30.6	13.2	17.36	1.763	
2,700.0	2,699.1	2,700.9	2,699.7	9.0	9.0	-130.78	-11.5	-40.5	30.5	12.4	18.03	1.690	
2,800.0	2,799.0	2,800.9	2,799.7	9.4	9.4	-131.74	-9.4	-37.9	30.1	11.3	18.71	1.606	
2,861.8	2,860.8	2,862.7	2,861.4	9.6	9.6	-153.46	-8.2	-36.2	29.9	10.7	19.13	1.562	
2,900.0	2,899.0	2,900.9	2,899.6	9.7	9.7	-164.08	-7.4	-35.2	30.2	10.8	19.39	1.555	
3,000.0	2,998.9	3,001.0	2,999.6	10.0	10.0	-129.15	-5.5	-32.3	30.1	10.0	20.08	1.499	Level 3
3,100.0	3,098.9	3,101.1	3,099.7	10.4	10.4	-136.20	-3.7	-29.2	29.6	8.9	20.76	1.428	Level 3
3,174.9	3,173.8	3,175.9	3,174.5	10.6	10.6	-135.81	-2.5	-26.7	29.4	8.1	21.28	1.381	Level 3
3,200.0	3,198.9	3,200.9	3,199.4	10.7	10.7	-136.05	-2.1	-26.0	29.5	8.1	21.45	1.376	Level 3
3,300.0	3,298.8	3,300.6	3,299.1	11.1	11.1	-141.33	-1.7	-24.3	30.5	8.4	22.14	1.378	Level 3
3,400.0	3,398.7	3,400.6	3,399.1	11.4	11.4	-161.06	-2.3	-23.4	32.1	9.3	22.84	1.407	Level 3
3,500.0	3,498.7	3,500.8	3,499.3	11.8	11.8	140.20	-2.7	-22.0	32.2	8.7	23.53	1.369	Level 3
3,600.0	3,598.7	3,600.7	3,599.2	12.1	12.1	159.92	-2.7	-20.4	31.7	7.5	24.23	1.309	Level 3
3,608.1	3,606.8	3,608.7	3,607.2	12.1	12.1	160.92	-2.7	-20.3	31.7	7.4	24.29	1.306	Level 3
3,700.0	3,698.7	3,700.0	3,698.5	12.5	12.5	175.48	-2.4	-20.0	32.5	7.5	24.93	1.302	Level 3
3,800.0	3,798.7	3,799.5	3,798.0	12.8	12.8	159.80	-2.0	-21.5	34.9	9.3	25.62	1.361	Level 3
3,900.0	3,898.7	3,899.4	3,897.8	13.2	13.2	126.32	-1.5	-23.8	37.5	11.2	26.32	1.425	Level 3
4,000.0	3,998.7	3,999.4	3,997.8	13.5	13.5	179.98	-0.9	-26.1	40.1	13.1	27.02	1.483	Level 3
4,100.0	4,098.7	4,099.4	4,097.8	13.9	13.9	111.44	0.3	-28.0	42.5	14.7	27.72	1.532	
4,200.0	4,198.7	4,199.8	4,198.2	14.2	14.2	113.19	2.8	-29.1	44.5	16.1	28.43	1.567	
4,300.0	4,298.7	4,300.5	4,298.8	14.6	14.6	120.18	4.4	-28.9	45.4	16.3	29.13	1.559	
4,400.0	4,398.7	4,400.7	4,399.0	14.9	14.9	177.27	5.0	-28.0	45.4	15.6	29.83	1.523	
4,500.0	4,498.7	4,500.8	4,499.1	15.3	15.3	-97.64	5.6	-26.8	45.0	14.5	30.53	1.474	Level 3
4,600.0	4,598.7	4,600.8	4,599.1	15.6	15.6	-94.75	6.4	-25.4	44.2	13.0	31.22	1.415	Level 3
4,700.0	4,698.7	4,700.8	4,699.1	16.0	16.0	-106.37	7.3	-23.9	43.7	11.8	31.92	1.370	Level 3
4,800.0	4,798.7	4,800.8	4,799.1	16.3	16.3	-106.61	8.1	-22.5	43.2	10.6	32.61	1.325	Level 3
4,900.0	4,898.6	4,900.9	4,899.2	16.7	16.7	-111.37	7.5	-21.4	42.8	9.5	33.31	1.285	Level 3
5,000.0	4,998.6	5,001.0	4,999.2	17.0	17.0	-109.45	5.2	-20.8	42.2	8.2	34.00	1.242	Level 2
5,100.0	5,098.6	5,100.9	5,099.1	17.4	17.3	-106.91	2.1	-20.1	41.4	6.7	34.70	1.195	Level 2
5,200.0	5,198.6	5,200.8	5,198.9	17.7	17.7	-110.31	-1.1	-19.5	41.1	5.7	35.39	1.161	Level 2
5,208.6	5,207.1	5,209.3	5,207.5	17.7	17.7	-110.83	-1.4	-19.4	41.1	5.6	35.45	1.159	Level 2
5,300.0	5,298.5	5,300.7	5,298.7	18.1	18.0	-115.92	-4.4	-18.8	41.2	5.1	36.09	1.143	Level 2
5,400.0	5,398.5	5,400.5	5,398.6	18.4	18.4	-115.77	-7.9	-18.1	41.6	4.8	36.79	1.131	Level 2
5,500.0	5,498.5	5,500.4	5,498.4	18.8	18.7	-83.02	-11.5	-17.4	42.1	4.6	37.48	1.122	Level 2
5,600.0	5,598.5	5,600.3	5,598.2	19.1	19.1	-111.63	-15.3	-16.6	42.5	4.4	38.18	1.114	Level 2, ES, SF
5,700.0	5,698.5	5,700.6	5,698.5	19.4	19.4	119.91	-18.7	-15.7	44.2	5.3	38.89	1.137	Level 2
5,800.0	5,798.2	5,801.8	5,799.5	19.8	19.8	120.87	-22.2	-12.8	46.6	7.0	39.59	1.176	Level 2
5,900.0	5,897.8	5,902.9	5,900.3	20.2	20.2	126.52	-25.9	-6.7	47.3	7.0	40.27	1.174	Level 2
5,984.6	5,982.1	5,987.7	5,984.9	20.5	20.5	128.51	-29.2	-0.2	47.1	6.2	40.86	1.153	Level 2
6,000.0	5,997.4	6,003.1	6,000.2	20.5	20.5	128.80	-29.8	1.0	47.1	6.1	40.97	1.150	Level 2
6,100.0	6,097.0	6,103.2	6,099.9	20.9	20.9	132.18	-33.3	8.7	47.3	5.7	41.67	1.136	Level 2
6,200.0	6,196.3	6,203.2	6,199.6	21.2	21.2	134.99	-36.9	16.6	48.5	6.1	42.37	1.144	Level 2
6,300.0	6,295.4	6,302.9	6,298.8	21.6	21.6	139.44	-40.7	24.4	52.0	8.9	43.08	1.206	Level 2

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Wool Head 20 State Com #512H
Project:	Lea County, NM (NAD 83 NME)	**TVD Reference:**	KB @ 3752.5usft (H&P 466)
Reference Site:	(Wool Head)Sec20_T-21-S_R-33-E	**MD Reference:**	KB @ 3752.5usft (H&P 466)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Wool Head 20 State Com #512H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	EDM 10_13
Reference Design:	AWB	**Offset TVD Reference:**	Offset Datum

Offset Design: (Wool Head)Sec20_T-21-S_R-33-E - Wool Head 20 State Com #510H - OWB - AWB — **Offset Site Error:** 0.0 usft

Survey Program: 238-MWD — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
6,400.0	6,394.3	6,402.9	6,398.5	22.0	21.9	143.66	-45.0	32.3	56.3	12.5	43.78	1.285	Level 3
6,500.0	6,493.3	6,502.5	6,497.5	22.3	22.3	144.81	-51.2	40.5	60.9	16.4	44.50	1.368	Level 3
6,600.0	6,592.2	6,601.5	6,596.0	22.7	22.7	144.26	-58.9	47.9	66.2	21.0	45.24	1.464	Level 3
6,700.0	6,691.3	6,700.4	6,694.5	23.1	23.0	144.79	-65.3	53.7	72.5	26.5	45.97	1.577	
6,800.0	6,790.4	6,799.9	6,793.7	23.4	23.4	145.73	-71.2	58.6	79.1	32.4	46.68	1.695	
6,900.0	6,889.5	6,899.3	6,892.9	23.8	23.7	148.15	-77.0	63.2	86.4	39.0	47.40	1.822	
7,000.0	6,988.2	6,998.9	6,992.1	24.2	24.1	150.19	-82.3	67.5	96.1	48.0	48.11	1.997	
7,100.0	7,086.7	7,098.6	7,091.6	24.6	24.5	151.96	-87.5	72.1	106.7	57.9	48.82	2.186	
7,200.0	7,185.3	7,198.0	7,190.8	25.0	24.8	154.58	-92.6	76.7	117.2	67.7	49.54	2.367	
7,300.0	7,284.0	7,299.1	7,291.5	25.3	25.2	155.49	-98.7	82.1	126.6	76.4	50.24	2.520	
7,400.0	7,382.7	7,399.6	7,391.5	25.7	25.6	154.79	-106.2	88.6	134.9	83.9	50.96	2.647	
7,500.0	7,481.4	7,499.1	7,490.6	26.1	25.9	154.36	-113.7	95.1	143.0	91.3	51.69	2.766	
7,600.0	7,580.2	7,598.7	7,589.7	26.5	26.3	155.47	-121.1	101.6	150.8	98.3	52.43	2.876	
7,700.0	7,679.1	7,698.1	7,688.6	26.9	26.7	156.61	-128.1	107.9	158.3	105.1	53.16	2.977	
7,800.0	7,778.0	7,797.6	7,787.8	27.3	27.0	156.98	-134.6	114.1	165.7	111.8	53.89	3.075	
7,900.0	7,876.9	7,897.2	7,887.0	27.7	27.4	158.11	-140.8	120.1	173.5	118.8	54.63	3.176	
8,000.0	7,975.8	7,996.9	7,986.3	28.1	27.8	161.95	-147.0	126.2	181.6	126.2	55.36	3.279	
8,100.0	8,074.8	8,095.4	8,084.4	28.5	28.1	156.89	-153.1	131.8	189.8	133.7	56.10	3.384	
8,200.0	8,173.8	8,193.9	8,182.6	28.9	28.5	156.21	-159.0	136.9	198.2	141.4	56.83	3.488	
8,300.0	8,272.8	8,293.8	8,282.3	29.3	28.9	155.26	-164.1	141.6	206.3	148.7	57.56	3.584	
8,400.0	8,371.9	8,396.7	8,384.8	29.6	29.2	155.47	-170.0	147.3	213.0	154.7	58.29	3.654	
8,500.0	8,471.1	8,497.5	8,485.1	30.0	29.6	155.39	-176.9	154.4	218.5	159.4	59.03	3.701	
8,600.0	8,570.3	8,597.1	8,584.3	30.4	30.0	157.28	-183.5	161.1	223.6	163.8	59.77	3.740	
8,700.0	8,669.3	8,695.7	8,682.5	30.8	30.4	157.46	-189.7	167.6	230.4	169.9	60.52	3.808	
8,800.0	8,768.4	8,793.9	8,780.4	31.2	30.7	156.44	-195.5	173.4	237.8	176.5	61.26	3.882	

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Wool Head 20 State Com #512H
Project:	Lea County, NM (NAD 83 NME)	**TVD Reference:**	KB @ 3752.5usft (H&P 466)
Reference Site:	(Wool Head)Sec20_T-21-S_R-33-E	**MD Reference:**	KB @ 3752.5usft (H&P 466)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Wool Head 20 State Com #512H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	EDM 10_13
Reference Design:	AWB	**Offset TVD Reference:**	Offset Datum

Offset Design: (Wool Head)Sec20_T-21-S_R-33-E - Wool Head 20 State Com #511H - OWB - AWB — **Offset Site Error:** 0.0 usft

Survey Program: 238-MWD — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	2.0	2.0	0.0	0.0	-90.46	-0.8	-99.0	99.0				
100.0	100.0	102.1	102.1	0.1	0.2	30.35	-0.6	-99.0	98.9	98.6	0.29	335.792	
200.0	200.0	202.1	202.1	0.3	0.3	30.75	-0.1	-98.9	98.5	97.8	0.63	155.479	
300.0	300.0	301.7	301.7	0.6	0.6	14.95	0.5	-98.9	97.9	96.7	1.21	81.075	
400.0	400.0	401.5	401.5	1.0	1.0	22.13	1.1	-99.4	97.4	95.5	1.92	50.750	
500.0	500.0	501.7	501.7	1.3	1.3	25.88	1.7	-99.8	97.1	94.4	2.64	36.829	
600.0	600.0	601.4	601.4	1.7	1.7	17.40	2.5	-100.1	96.5	93.2	3.35	28.816	
700.0	700.0	701.0	701.0	2.0	2.0	27.27	3.1	-100.8	96.1	92.0	4.06	23.653	
800.0	800.0	800.5	800.4	2.4	2.4	37.99	3.4	-102.1	95.9	91.2	4.77	20.100	
900.0	899.9	900.5	900.4	2.8	2.7	18.80	3.7	-103.7	95.3	89.8	5.49	17.377	
1,000.0	999.9	1,000.1	1,000.0	3.1	3.1	31.32	3.8	-105.4	94.4	88.2	6.20	15.229	
1,028.6	1,028.5	1,028.6	1,028.5	3.2	3.2	37.43	3.7	-106.0	94.3	87.9	6.40	14.729	CC
1,100.0	1,099.9	1,099.7	1,099.6	3.5	3.4	68.54	3.4	-107.7	95.0	88.1	6.91	13.761	
1,200.0	1,199.8	1,199.6	1,199.5	3.8	3.8	69.09	2.7	-110.1	97.0	89.4	7.61	12.739	
1,300.0	1,299.8	1,299.3	1,299.1	4.2	4.1	45.44	1.9	-112.7	98.5	90.1	8.32	11.829	
1,400.0	1,399.8	1,398.5	1,398.3	4.6	4.5	38.59	0.7	-115.9	99.4	90.4	9.03	11.002	
1,500.0	1,499.7	1,498.5	1,498.2	4.9	4.9	41.88	-1.3	-119.9	99.7	89.9	9.75	10.222	
1,600.0	1,599.6	1,599.5	1,599.1	5.3	5.2	51.63	-3.5	-123.3	99.7	89.2	10.47	9.519	
1,666.5	1,666.1	1,666.4	1,665.9	5.5	5.5	47.90	-5.1	-125.0	99.6	88.6	10.95	9.096	
1,700.0	1,699.5	1,699.9	1,699.4	5.6	5.6	45.04	-5.8	-125.8	99.6	88.5	11.19	8.907	
1,800.0	1,799.5	1,799.6	1,799.1	6.0	5.9	41.56	-7.5	-128.3	100.1	88.2	11.90	8.409	
1,900.0	1,899.5	1,900.4	1,899.9	6.4	6.3	20.14	-8.3	-130.5	100.2	87.6	12.62	7.943	
2,000.0	1,999.5	2,003.9	2,003.3	6.7	6.6	142.33	-8.7	-130.4	99.9	86.6	13.31	7.505	
2,100.0	2,099.4	2,106.1	2,105.5	7.0	7.0	160.58	-8.7	-127.0	99.5	85.6	13.98	7.122	
2,198.7	2,198.0	2,203.9	2,203.3	7.4	7.3	170.56	-8.6	-123.0	99.0	84.4	14.64	6.766	
2,200.0	2,199.3	2,205.2	2,204.5	7.4	7.3	170.95	-8.6	-122.9	99.2	84.5	14.65	6.772	
2,300.0	2,299.3	2,303.2	2,302.5	7.7	7.6	-149.87	-8.0	-120.7	99.9	84.5	15.32	6.520	
2,400.0	2,399.2	2,402.9	2,402.1	8.0	8.0	-142.93	-6.9	-119.7	101.9	85.9	15.99	6.373	
2,500.0	2,499.2	2,503.2	2,502.4	8.4	8.3	-142.58	-5.9	-118.4	103.5	86.8	16.66	6.210	
2,600.0	2,599.1	2,602.8	2,602.0	8.7	8.7	-136.04	-4.8	-117.1	104.9	87.5	17.34	6.047	
2,700.0	2,699.1	2,702.4	2,701.7	9.0	9.0	-135.26	-3.6	-116.3	106.5	88.5	18.02	5.910	
2,800.0	2,799.0	2,802.4	2,801.6	9.4	9.4	-137.32	-2.2	-115.5	107.8	89.1	18.71	5.763	
2,900.0	2,899.0	2,902.5	2,901.7	9.7	9.7	-172.63	-0.8	-114.7	109.5	90.1	19.40	5.647	
3,000.0	2,998.9	3,003.2	3,002.4	10.0	10.1	-139.31	0.5	-113.6	110.9	90.8	20.09	5.522	
3,100.0	3,098.9	3,103.9	3,103.0	10.4	10.4	-147.67	1.7	-111.7	111.6	90.8	20.78	5.371	
3,200.0	3,198.9	3,204.2	3,203.4	10.7	10.8	-148.13	3.1	-109.4	112.2	90.7	21.47	5.227	
3,300.0	3,298.8	3,304.4	3,303.5	11.1	11.1	-151.03	4.5	-106.9	112.8	90.6	22.16	5.090	
3,400.0	3,398.7	3,404.5	3,403.5	11.4	11.5	-166.95	5.8	-104.2	113.1	90.3	22.85	4.951	
3,500.0	3,498.7	3,503.9	3,502.9	11.8	11.8	135.29	7.3	-101.7	112.4	88.8	23.55	4.772	
3,600.0	3,598.7	3,603.7	3,602.7	12.1	12.2	154.48	8.9	-99.6	111.6	87.3	24.26	4.600	
3,700.0	3,698.7	3,703.5	3,702.4	12.5	12.5	170.22	10.7	-97.6	111.0	86.0	24.96	4.446	
3,800.0	3,798.7	3,803.3	3,802.2	12.8	12.9	155.53	12.3	-95.8	110.4	84.7	25.66	4.302	
3,900.0	3,898.7	3,903.4	3,902.3	13.2	13.2	123.20	13.9	-93.9	109.3	82.9	26.37	4.145	
4,000.0	3,998.7	4,003.3	4,002.2	13.5	13.6	177.81	15.6	-92.1	108.1	81.0	27.07	3.992	
4,100.0	4,098.7	4,103.5	4,102.3	13.9	13.9	109.75	17.3	-90.2	106.9	79.1	27.77	3.847	
4,200.0	4,198.7	4,203.9	4,202.7	14.2	14.3	109.58	19.0	-87.9	105.4	76.9	28.48	3.700	
4,300.0	4,298.7	4,303.9	4,302.7	14.6	14.6	115.28	20.5	-85.4	103.8	74.6	29.19	3.557	
4,400.0	4,398.7	4,404.0	4,402.7	14.9	15.0	172.07	22.0	-82.7	102.4	72.5	29.89	3.427	
4,500.0	4,498.7	4,504.4	4,503.1	15.3	15.3	-102.42	23.5	-79.8	100.7	70.1	30.60	3.291	
4,600.0	4,598.7	4,604.6	4,603.2	15.6	15.7	-98.51	25.1	-76.3	98.3	67.0	31.29	3.142	
4,700.0	4,698.7	4,703.6	4,702.2	16.0	16.0	-109.80	25.6	-73.9	96.9	64.9	31.99	3.028	
4,800.0	4,798.7	4,802.9	4,801.4	16.3	16.4	-110.92	24.6	-73.2	96.3	63.6	32.68	2.947	

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Wool Head 20 State Com #512H
Project:	Lea County, NM (NAD 83 NME)	**TVD Reference:**	KB @ 3752.5usft (H&P 466)
Reference Site:	(Wool Head)Sec20_T-21-S_R-33-E	**MD Reference:**	KB @ 3752.5usft (H&P 466)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Wool Head 20 State Com #512H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	EDM 10_13
Reference Design:	AWB	**Offset TVD Reference:**	Offset Datum

Offset Design: (Wool Head)Sec20_T-21-S_R-33-E - Wool Head 20 State Com #511H - OWB - AWB

Offset Site Error: 0.0 usft

Survey Program: 238-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
4,815.6	4,814.2	4,818.4	4,816.9	16.4	16.4	-111.58	24.3	-73.1	96.3	63.5	32.79	2.937	
4,900.0	4,898.6	4,903.0	4,901.5	16.7	16.7	-115.10	22.7	-73.1	96.5	63.2	33.37	2.893	
5,000.0	4,998.6	5,003.2	5,001.7	17.0	17.1	-109.97	20.6	-72.7	96.3	62.3	34.06	2.829	
5,100.0	5,098.6	5,103.1	5,101.6	17.4	17.4	-103.28	18.3	-72.2	95.9	61.1	34.75	2.759	
5,200.0	5,198.6	5,203.0	5,201.4	17.7	17.8	-102.21	15.8	-71.8	95.4	59.9	35.44	2.691	
5,300.0	5,298.5	5,303.0	5,301.4	18.1	18.1	-103.10	13.4	-71.3	94.9	58.7	36.13	2.625	
5,319.3	5,317.8	5,321.8	5,320.2	18.1	18.2	-102.50	13.0	-71.2	94.8	58.5	36.26	2.614 ES	
5,400.0	5,398.5	5,399.6	5,397.9	18.4	18.4	-99.35	9.6	-72.6	96.0	59.2	36.80	2.609 SF	
5,500.0	5,498.5	5,498.0	5,496.0	18.8	18.8	-65.45	2.6	-76.6	99.8	62.3	37.46	2.663	
5,600.0	5,598.5	5,597.2	5,594.7	19.1	19.1	-92.46	-5.4	-81.6	104.5	66.4	38.13	2.741	
5,700.0	5,698.5	5,697.1	5,694.2	19.4	19.4	138.66	-13.4	-86.4	111.5	72.7	38.82	2.872	
5,800.0	5,798.2	5,797.1	5,793.8	19.8	19.8	135.98	-20.8	-91.0	122.2	82.7	39.52	3.091	
5,900.0	5,897.8	5,898.8	5,895.1	20.2	20.1	138.90	-29.2	-94.4	133.2	93.0	40.25	3.309	
6,000.0	5,997.4	6,000.3	5,996.1	20.5	20.5	138.69	-39.3	-95.5	142.9	101.9	40.97	3.487	
6,100.0	6,097.0	6,100.2	6,095.4	20.9	20.8	138.67	-50.1	-95.6	152.4	110.8	41.68	3.657	
6,200.0	6,196.3	6,200.0	6,194.6	21.2	21.2	137.66	-60.7	-95.6	163.0	120.6	42.39	3.846	
6,300.0	6,295.4	6,298.4	6,292.4	21.6	21.5	137.37	-71.2	-95.7	175.8	132.7	43.09	4.080	
6,400.0	6,394.3	6,398.6	6,392.0	22.0	21.9	137.73	-82.3	-95.6	189.0	145.2	43.81	4.315	
6,500.0	6,493.3	6,496.8	6,489.7	22.3	22.3	137.43	-92.8	-95.3	202.2	157.6	44.51	4.542	
6,600.0	6,592.2	6,591.6	6,584.1	22.7	22.6	137.37	-102.0	-96.5	216.5	171.3	45.18	4.792	
6,700.0	6,691.3	6,687.8	6,679.8	23.1	22.9	137.46	-110.8	-99.9	232.2	186.4	45.86	5.064	

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Wool Head 20 State Com #512H
Project:	Lea County, NM (NAD 83 NME)	**TVD Reference:**	KB @ 3752.5usft (H&P 466)
Reference Site:	(Wool Head)Sec20_T-21-S_R-33-E	**MD Reference:**	KB @ 3752.5usft (H&P 466)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Wool Head 20 State Com #512H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	EDM 10_13
Reference Design:	AWB	**Offset TVD Reference:**	Offset Datum

Offset Design: (Wool Head)Sec20_T-21-S_R-33-E - Wool Head 20 State Com #554H - OWB - AWB

Offset Site Error: 0.0 usft

Survey Program: 238-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-90.35	-0.4	-65.9	65.9				
100.0	100.0	99.5	99.5	0.1	0.2	30.29	-0.5	-65.9	65.8	65.5	0.29	225.636	
200.0	200.0	199.5	199.5	0.3	0.3	30.16	-0.9	-65.9	65.5	64.8	0.63	103.670	
300.0	300.0	299.2	299.2	0.6	0.6	13.60	-1.4	-66.1	65.0	63.8	1.20	54.149	
400.0	400.0	399.2	399.2	1.0	1.0	19.98	-2.0	-66.7	64.7	62.8	1.92	33.791	
474.3	474.3	473.3	473.3	1.2	1.2	21.87	-2.7	-67.0	64.5	62.1	2.45	26.370	
500.0	500.0	498.9	498.8	1.3	1.3	22.58	-3.0	-67.3	64.6	61.9	2.63	24.548	
600.0	600.0	598.9	598.9	1.7	1.7	13.10	-3.6	-68.3	64.7	61.3	3.34	19.332	
661.9	661.9	660.6	660.6	1.9	1.9	19.04	-3.8	-68.9	64.5	60.7	3.79	17.044	
700.0	700.0	698.5	698.5	2.0	2.0	22.42	-4.0	-69.4	64.5	60.5	4.06	15.910	
800.0	800.0	797.2	797.1	2.4	2.4	32.06	-5.3	-71.8	65.5	60.7	4.77	13.735	
900.0	899.9	898.3	898.1	2.8	2.7	11.49	-7.0	-74.6	66.1	60.6	5.49	12.033	
1,000.0	999.9	998.7	998.5	3.1	3.1	23.31	-7.9	-76.2	64.8	58.6	6.21	10.434	
1,067.5	1,067.3	1,066.0	1,065.9	3.4	3.3	42.43	-8.4	-77.1	64.3	57.6	6.69	9.602	
1,100.0	1,099.9	1,098.5	1,098.4	3.5	3.5	60.63	-8.6	-77.6	64.5	57.6	6.92	9.317	
1,200.0	1,199.8	1,198.4	1,198.3	3.8	3.8	61.29	-9.6	-79.2	65.5	57.9	7.64	8.580	
1,300.0	1,299.8	1,298.4	1,298.2	4.2	4.2	37.48	-10.8	-80.8	66.0	57.6	8.35	7.894	
1,400.0	1,399.8	1,398.3	1,398.1	4.6	4.5	30.99	-11.8	-82.6	65.4	56.3	9.07	7.205	
1,500.0	1,499.7	1,498.0	1,497.8	4.9	4.9	34.98	-13.1	-84.5	63.6	53.8	9.79	6.491	
1,600.0	1,599.6	1,598.1	1,597.8	5.3	5.3	45.70	-14.5	-86.8	62.4	51.9	10.52	5.934	
1,695.6	1,695.1	1,693.6	1,693.3	5.6	5.6	40.65	-15.5	-88.7	61.9	50.7	11.20	5.527	
1,700.0	1,699.5	1,698.0	1,697.7	5.6	5.6	40.35	-15.5	-88.8	61.9	50.7	11.24	5.513	
1,800.0	1,799.5	1,797.5	1,797.2	6.0	6.0	37.80	-16.2	-91.5	62.6	50.6	11.95	5.235	
1,900.0	1,899.5	1,897.6	1,897.3	6.4	6.3	17.36	-15.9	-94.3	63.4	50.7	12.66	5.004	
2,000.0	1,999.5	1,997.9	1,997.5	6.7	6.7	140.68	-14.9	-96.7	65.7	52.4	13.36	4.917	
2,100.0	2,099.4	2,099.0	2,098.5	7.0	7.0	159.97	-13.7	-97.9	70.0	55.9	14.05	4.982	
2,200.0	2,199.3	2,199.5	2,199.0	7.4	7.4	171.33	-12.3	-97.7	73.6	58.9	14.72	5.003	
2,300.0	2,299.3	2,299.5	2,299.1	7.7	7.7	-149.14	-11.0	-97.2	76.2	60.8	15.38	4.952	
2,400.0	2,399.2	2,399.7	2,399.2	8.0	8.0	-142.02	-9.4	-96.4	78.5	62.5	16.04	4.893	
2,500.0	2,499.2	2,499.8	2,499.3	8.4	8.4	-141.62	-8.1	-95.4	80.4	63.7	16.71	4.813	
2,600.0	2,599.1	2,599.4	2,598.9	8.7	8.7	-135.01	-6.6	-94.5	82.2	64.8	17.38	4.730	
2,700.0	2,699.1	2,699.3	2,698.8	9.0	9.0	-134.15	-5.0	-94.0	84.2	66.2	18.06	4.666	
2,800.0	2,799.0	2,800.0	2,799.4	9.4	9.4	-136.34	-3.6	-93.2	85.5	66.8	18.73	4.563	
2,900.0	2,899.0	2,901.6	2,901.1	9.7	9.7	-171.75	-2.8	-90.9	85.7	66.3	19.41	4.414	
3,000.0	2,998.9	3,002.9	3,002.2	10.0	10.1	-138.92	-2.6	-87.0	84.2	64.1	20.08	4.193	
3,100.0	3,098.9	3,103.1	3,102.3	10.4	10.4	-147.83	-2.6	-82.0	81.6	60.8	20.76	3.930	
3,200.0	3,198.9	3,202.3	3,201.4	10.7	10.7	-148.97	-2.5	-77.6	80.0	58.5	21.45	3.729	
3,300.0	3,298.8	3,302.1	3,301.2	11.1	11.1	-152.77	-2.4	-74.0	79.4	57.2	22.14	3.584	
3,400.0	3,398.7	3,401.7	3,400.7	11.4	11.4	-169.32	-2.2	-70.5	78.8	55.9	22.83	3.450	
3,500.0	3,498.7	3,500.2	3,499.2	11.8	11.8	132.45	-2.0	-68.3	78.0	54.5	23.53	3.315	
3,532.0	3,530.8	3,532.0	3,531.0	11.9	11.9	138.44	-1.9	-68.0	78.0	54.2	23.75	3.283	
3,600.0	3,598.7	3,599.8	3,598.8	12.1	12.1	151.23	-1.6	-67.4	78.1	53.9	24.23	3.223	
3,700.0	3,698.7	3,700.3	3,699.2	12.5	12.5	166.26	-1.3	-66.3	78.0	53.1	24.92	3.131	
3,800.0	3,798.7	3,800.3	3,799.3	12.8	12.8	151.16	-0.8	-64.8	77.5	51.9	25.62	3.025	
3,900.0	3,898.7	3,900.5	3,899.5	13.2	13.2	118.41	-0.3	-63.3	76.4	50.0	26.32	2.901	
4,000.0	3,998.7	4,000.9	3,999.9	13.5	13.5	172.37	-0.2	-61.3	74.5	47.5	27.02	2.758	
4,100.0	4,098.7	4,101.1	4,100.0	13.9	13.9	103.87	0.4	-58.8	72.3	44.6	27.72	2.609	
4,200.0	4,198.7	4,201.6	4,200.5	14.2	14.2	103.71	1.0	-55.7	69.6	41.2	28.42	2.449	
4,300.0	4,298.7	4,301.6	4,300.4	14.6	14.6	109.24	1.2	-52.2	66.5	37.4	29.12	2.284	
4,400.0	4,398.7	4,401.3	4,400.1	14.9	14.9	165.79	1.3	-49.0	63.9	34.0	29.82	2.141	
4,500.0	4,498.7	4,501.3	4,500.0	15.3	15.3	-109.50	1.3	-46.0	61.4	30.9	30.52	2.012	
4,600.0	4,598.7	4,600.9	4,599.6	15.6	15.6	-106.43	1.9	-42.9	59.0	27.8	31.22	1.890	

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Wool Head 20 State Com #512H
Project:	Lea County, NM (NAD 83 NME)	**TVD Reference:**	KB @ 3752.5usft (H&P 466)
Reference Site:	(Wool Head)Sec20_T-21-S_R-33-E	**MD Reference:**	KB @ 3752.5usft (H&P 466)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Wool Head 20 State Com #512H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	EDM 10_13
Reference Design:	AWB	**Offset TVD Reference:**	Offset Datum

Offset Design: (Wool Head)Sec20_T-21-S_R-33-E - Wool Head 20 State Com #554H - OWB - AWB — **Offset Site Error:** 0.0 usft

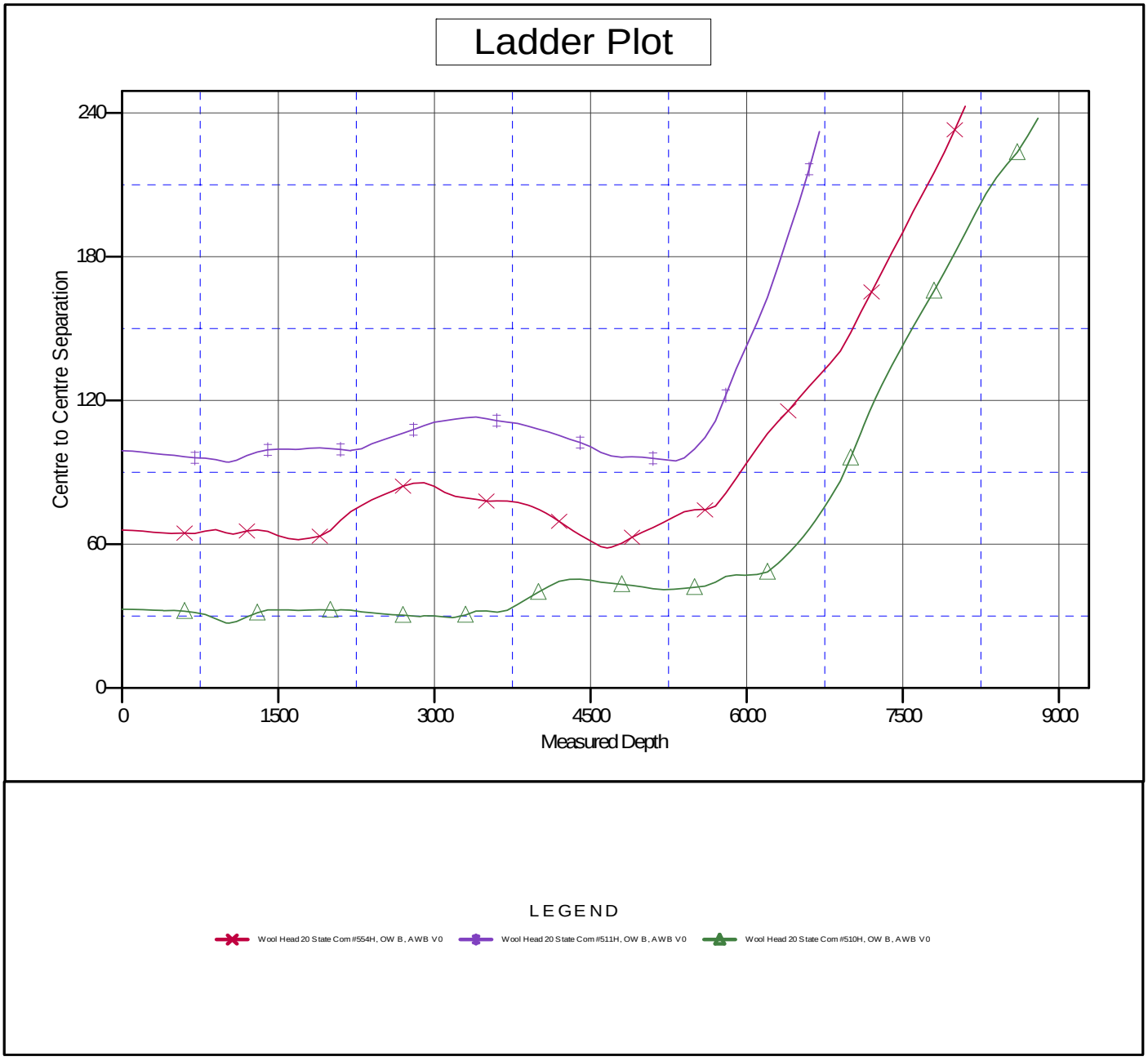
Survey Program: 238-MWD — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
4,660.3	4,658.9	4,660.3	4,658.9	15.8	15.8	-113.47	2.4	-41.8	58.4	26.8	31.64	1.847	CC, ES
4,700.0	4,698.7	4,699.5	4,698.1	16.0	16.0	-118.05	2.7	-41.6	58.8	26.9	31.92	1.841	SF
4,800.0	4,798.7	4,798.7	4,797.4	16.3	16.3	-118.84	3.4	-42.3	60.5	27.9	32.60	1.854	
4,900.0	4,898.6	4,898.8	4,897.4	16.7	16.7	-122.10	4.1	-43.5	62.9	29.6	33.30	1.890	
5,000.0	4,998.6	4,998.9	4,997.5	17.0	17.0	-116.34	4.4	-44.5	65.1	31.1	34.00	1.914	
5,100.0	5,098.6	5,098.5	5,097.1	17.4	17.3	-108.63	4.9	-45.5	67.0	32.3	34.69	1.931	
5,200.0	5,198.6	5,198.5	5,197.1	17.7	17.7	-106.24	5.6	-46.9	69.1	33.7	35.38	1.952	
5,300.0	5,298.5	5,298.0	5,296.6	18.1	18.0	-106.11	5.9	-48.6	71.4	35.3	36.07	1.979	
5,400.0	5,398.5	5,398.4	5,396.9	18.4	18.4	-100.38	6.0	-50.4	73.6	36.8	36.77	2.001	
5,500.0	5,498.5	5,499.3	5,497.8	18.8	18.7	-65.20	2.3	-51.4	74.4	36.9	37.48	1.985	
5,580.6	5,579.1	5,580.0	5,578.4	19.0	19.0	-88.94	-2.2	-51.6	74.5	36.5	38.04	1.960	
5,600.0	5,598.5	5,599.5	5,597.8	19.1	19.1	-92.28	-3.2	-51.6	74.3	36.1	38.17	1.946	
5,700.0	5,698.5	5,699.6	5,697.8	19.4	19.4	139.22	-8.3	-51.4	75.9	37.0	38.87	1.953	
5,800.0	5,798.2	5,799.8	5,797.8	19.8	19.8	136.12	-15.1	-50.7	81.3	41.8	39.57	2.055	
5,900.0	5,897.8	5,900.0	5,897.5	20.2	20.1	137.36	-24.6	-48.9	87.5	47.2	40.28	2.172	
6,000.0	5,997.4	6,000.4	5,997.4	20.5	20.5	136.55	-33.9	-46.7	94.0	53.0	40.98	2.293	
6,100.0	6,097.0	6,101.1	6,097.6	20.9	20.8	136.52	-43.0	-43.6	100.1	58.4	41.69	2.402	
6,200.0	6,196.3	6,202.9	6,198.9	21.2	21.2	135.41	-52.1	-39.1	106.2	63.7	42.40	2.503	
6,300.0	6,295.4	6,306.2	6,301.7	21.6	21.6	135.45	-60.5	-31.5	111.1	68.1	43.08	2.580	
6,400.0	6,394.3	6,405.6	6,400.4	22.0	21.9	136.34	-68.1	-23.3	115.7	71.9	43.80	2.641	
6,500.0	6,493.3	6,505.1	6,499.3	22.3	22.3	136.46	-75.9	-15.5	120.8	76.3	44.52	2.714	
6,600.0	6,592.2	6,605.1	6,598.7	22.7	22.6	136.41	-83.6	-7.7	125.8	80.6	45.24	2.781	
6,700.0	6,691.3	6,704.2	6,697.3	23.1	23.0	136.46	-90.7	-0.3	130.5	84.6	45.97	2.839	
6,800.0	6,790.4	6,803.8	6,796.4	23.4	23.4	136.88	-97.5	6.4	135.4	88.7	46.69	2.899	
6,900.0	6,889.5	6,903.3	6,895.4	23.8	23.7	138.81	-104.3	13.1	140.6	93.2	47.42	2.965	
7,000.0	6,988.2	7,002.5	6,994.2	24.2	24.1	140.18	-111.1	19.3	148.3	100.2	48.14	3.080	
7,100.0	7,086.7	7,102.4	7,093.7	24.6	24.4	141.42	-117.8	25.5	157.0	108.2	48.86	3.214	
7,200.0	7,185.3	7,202.7	7,193.5	25.0	24.8	143.71	-124.4	32.1	165.3	115.7	49.58	3.334	
7,300.0	7,284.0	7,301.2	7,291.7	25.3	25.2	145.02	-130.4	38.1	173.6	123.3	50.31	3.451	
7,400.0	7,382.7	7,401.3	7,391.5	25.7	25.5	145.37	-136.4	44.2	182.0	131.0	51.03	3.567	
7,500.0	7,481.4	7,500.3	7,490.1	26.1	25.9	145.94	-142.1	50.3	190.2	138.4	51.76	3.675	
7,600.0	7,580.2	7,599.4	7,588.9	26.5	26.3	148.11	-147.4	55.7	198.8	146.3	52.48	3.788	
7,700.0	7,679.1	7,699.1	7,688.3	26.9	26.6	150.25	-152.3	61.2	206.9	153.7	53.20	3.889	
7,800.0	7,778.0	7,798.5	7,787.4	27.3	27.0	151.40	-157.2	66.5	215.0	161.1	53.93	3.988	
7,900.0	7,876.9	7,897.5	7,886.2	27.7	27.4	153.05	-162.4	71.7	223.5	168.9	54.65	4.090	
8,000.0	7,975.8	7,995.2	7,983.6	28.1	27.7	157.35	-167.9	76.3	233.0	177.6	55.38	4.207	
8,100.0	8,074.8	8,093.9	8,082.0	28.5	28.1	152.62	-173.9	80.5	242.8	186.7	56.11	4.327	

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Wool Head 20 State Com #512H
Project:	Lea County, NM (NAD 83 NME)	**TVD Reference:**	KB @ 3752.5usft (H&P 466)
Reference Site:	(Wool Head)Sec20_T-21-S_R-33-E	**MD Reference:**	KB @ 3752.5usft (H&P 466)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Wool Head 20 State Com #512H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	EDM 10_13
Reference Design:	AWB	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to KB @ 3752.5usft (H&P 466)
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: Wool Head 20 State Com #512H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.40°

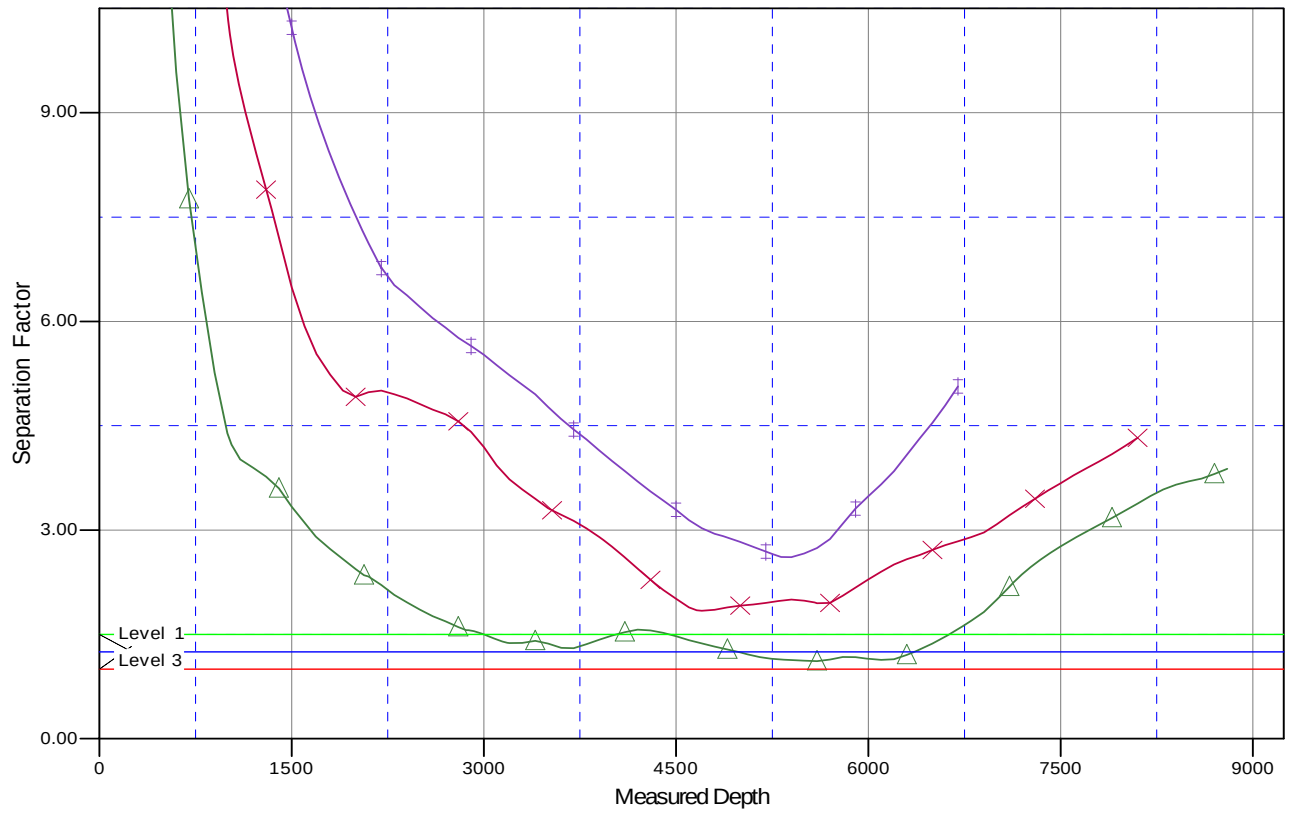


Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Wool Head 20 State Com #512H
Project:	Lea County, NM (NAD 83 NME)	**TVD Reference:**	KB @ 3752.5usft (H&P 466)
Reference Site:	(Wool Head)Sec20_T-21-S_R-33-E	**MD Reference:**	KB @ 3752.5usft (H&P 466)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Wool Head 20 State Com #512H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	EDM 10_13
Reference Design:	AWB	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to KB @ 3752.5usft (H&P 466)
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: Wool Head 20 State Com #512H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.40°

Separation Factor Plot



Daily Reports

SDI Job #:	ID2389	Report Time:	2400 — 1 of 2
COMPANY:	Advance Energy Partners ,LLC	API JOB #	30-025-46492
LOCATION:	Lea Co., N.M.	WORK ORDER#	ID2389
RIG NAME:	HP 466 Flex 3	FIELD:	Delaware Basin
STATE:	New Mexico	Sec-Twn-Rng:	20-21S-33E
COUNTY:	Lea County	AFE# & District	NM0093
WELL NAME:	Wool Head 20 State Com 512H		

From November 14, 2019 at 0000 to November 14, 2019 at 2400

DRILLING SUMMARY

Start Depth	145.00	Rotary Hours	13.42
End Depth	1839.00	Circulating Hours	1.08
Total Drilled:	1694.00	Avg. Total ROP:	101.13
Total Rotary Drilled:	1574.00	Avg. Rotary ROP:	117.32
Total Drilled Sliding:	120.00	Avg. Slide ROP:	36.00
Slide Hours:	3.33	Percent Rotary:	92.92
Below Rotary Hrs.	24.00	Percent Slide:	7.08

Drilling Parameters

WOB	40	Pick UP	101	Slack Off	96	SPM	
RAB	99	SPP	2900	FlowRate	0 - 900		279

Mud Data

Type	WBM			PV	0	SOLID	0
Weight	8.4	GAS	0	YP	0	BHT°	0
Viscosity	28	SAND	0	PH	9.5	Flow T°	0
Chlorides	0	WL	0			Oil %	0

PERSONNEL

Lead Directional :	Bill Corley
Second Directional :	Jason Greer
MWD Operator1	Ben Wallace
MWD Operator2	Micheal Walton
Directional Company:	Intrepid DDS
Geologist:	
Company Man:	TJ Nash

Casing

Size	Lb/ft	Set Depth

BHA

BHA # 1:17.5" Baker DP606S, 9 5/8" 7/8, 5.9 ABH@ 1.50°, 17" Nortrak Stab, 8" UBHO, 8" NMDC, 8" NMDC, X/O ED 54 B - 6 5/8 Reg P, 30 Jts 5 1/2" HWDP,

Signature:

Incl. In:	0.35	Azm. In:	239.32	Incl. Out:	1.58	Azm. Out:	229.74

Daily Cost	$17,420.00
Cummulative Cost:	$17,420.00

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
14-Nov-19	00:00	01:00	1.00	0	0	Rig Service-Outhole	Rig Service
14-Nov-19	01:00	01:40	0.67	0	0	Change BHA	P/U BHA #1, Bit and MWD
14-Nov-19	01:40	01:50	0.17	0	0	Change BHA	P/U BHA #1, Bit and MWD
14-Nov-19	01:50	02:00	0.17	145	145	Other	Tag Bottom @ 145'
14-Nov-19	02:00	08:40	6.67	145	1070	Drilling	Drilling - (WOB:35; :900;RPM:70)
14-Nov-19	08:40	09:25	0.75	1070	1115	Sliding	Slide
14-Nov-19	09:25	12:55	3.50	1115	1512	Drilling	Drilling - (WOB:55; :900;RPM:70)
14-Nov-19	12:55	14:15	1.33	1512	1542	Sliding	Sliding - (WOB:35; :900;TFO:65M)
14-Nov-19	14:15	14:55	0.67	1542	1612	Drilling	Drilling - (WOB:40; :900;RPM:70)
14-Nov-19	14:55	16:10	1.25	1612	1657	Sliding	Sliding - (WOB:35; :900;TFO:50M))
14-Nov-19	16:10	18:45	2.58	1657	1839	Drilling	Drilling - (WOB:40; :900;RPM:80)
14-Nov-19	18:45	19:50	1.08	1839	1839	Circulating	Circulating
14-Nov-19	19:50	22:00	2.17	1839	1839	Other	L/D BHA #1
14-Nov-19	22:00	24:00	2.00	1839	1839	Other	Casing Ops.

	SDI Job #:	ID2389	**Report Time:**	2400	2 of 2
	COMPANY:	Advance Energy Partners ,LLC	**API JOB #**	30-025-46492	
	LOCATION:	Lea Co., N.M.	**WORK ORDER#**	ID2389	
INTREPID Directional Drilling Specialists	**RIG NAME:**	HP 466 Flex 3	**FIELD:**	Delaware Basin	
	STATE:	New Mexico	**Sec-Twn-Rng:**	20-21S-33E	
	COUNTY:	Lea County	**Range/Section**		NM0093
	WELL NAME:	Wool Head 20 State Com 512H	**Company Man**	TJ Nash	
	Lead Directional :	Bill Corley	**2nd Dir Hand :**	Jason Greer	

From November 15, 2019 at 0000 to November 15, 2019 at 2400

DAILY TOTALS

Start Depth	1839.00
End Depth	1839.00
Below Rot Hrs.	18.00
Total Drilled:	0.00
Avg. Total ROP:	NA
Slide Footage:	0.00
Slide Hours	0.00
Avg. Slide ROP:	NA
Rotate Footage:	0.00
Rotary Hours	0.00
Avg. Rot ROP:	NA
Circ Hours	0.00
Ream Hours	0.00
Rotary Hrs%:	NA
Slide Hrs%:	NA
Rotary Ftg%:	NA
Slide Ftg%:	NA

Cost Detail

Descr.	Price

Assembly Totals

BHA #	Motor SN / R.S. SN	Slide Ftg	Slide Hrs	Rotate Ftg	Rotate Hrs	Circ Hrs	D & C Hrs	BHA Ftg	Avg ROP
1	XSH96028	120.00	3.33	1,574.00	13.42	1.08	17.83	1,694.00	94.99

Drilling Parameters

WOB:	40
Rot Wt:	99
Pick UP:	101
Slack Off:	96
SPP:	2900
Flow:	900 - 900
SPM:	279
Rot. RPM	-
Mot RPM:	-
Incl. In:	1.58
Azm. In:	229.74
Incl. Out:	1.58
Azm. Out:	229.74

Mud Record

WBM	
Weight:	8.4
Visc:	28
Chlorides:	0
YP:	0
PV:	0
PH:	9.5
GAS:	0
SAND:	0
WL:	0
SOLID:	0
BHT°:	0
Flow T°:	0
Oil %:	0

Cost Breakdown

Total Daily	
Total Job	$17,420.00

Bit Record

Bit No:	1
Model	17.5" Baker
SN.:	5302410
MFG.	Other
Type	PDC
IADC	
JETS	9-12
TFA:	0.994
Hole ID:	17.5
Bit Hrs:	16.75
Bit Ftg:	1694.00

Pumps

Liner	0	0
Stroke	0	0
Effic.	95.00%	95.00%
Gal/Stk	0.00	0.00
BBL/Stk	0.000	0.000

Current BHA # 1

17.5" Baker DP606S
9 5/8" 7/8, 5.9 ABH@ 1.50°
17" Nortrak Stab
8" UBHO
8" NMDC
8" NMDC
X/O ED 54 B - 6 5/8 Reg P
30 Jts 5 1/2" HWDP

GENERAL COMMENT

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
00:00	18:00	18.00	1839	1839	0	.00	Other	Casing Ops., Walk to 511H, N/U BOP

	SDI Job #:	ID2389-1	**Report Time:**	2400	3 of 3
	COMPANY:	Advance Energy Partners ,LLC	**API JOB #**	30-025-46492	
	LOCATION:	Lea Co., N.M.	**WORK ORDER#**	ID2389	
INTREPID Directional Drilling Specialists	**RIG NAME:**	HP 466 Flex 3	**FIELD:**	Delaware Basin	
	STATE:	New Mexico	**Sec-Twn-Rng:**	20-21S-33E	
	COUNTY:	Lea County	**Range/Section**		NM0093
	WELL NAME:	Wool Head 20 State Com 512H	**Company Man**	Frank Calhoun	
	Lead Directional :	Bill Corley	**2nd Dir Hand :**	James Meredith	

From November 21, 2019 at 0000 to November 21, 2019 at 2400

DAILY TOTALS

Start Depth	1839.00
End Depth	1839.00
Below Rot Hrs.	23.98
Total Drilled:	0.00
Avg. Total ROP:	NA
Slide Footage:	0.00
Slide Hours	0.00
Avg. Slide ROP:	NA
Rotate Footage:	0.00
Rotary Hours	0.00
Avg. Rot ROP:	NA
Circ Hours	0.00
Ream Hours	0.00
Rotary Hrs%:	NA
Slide Hrs%:	NA
Rotary Ftg%:	NA
Slide Ftg%:	NA

Cost Detail

Descr.	Price
DAY RATE	8,150.00
Motor Inspection	3,900.00
Stabilizers	2,006.00

Assembly Totals

BHA #	Motor SN / R.S. SN	Slide Ftg	Slide Hrs	Rotate Ftg	Rotate Hrs	Circ Hrs	D & C Hrs	BHA Ftg	Avg ROP
1	XSH96028	0.00	0.00	0.00	0.00	.00	0.00	0.00	0.00

Drilling Parameters

WOB:	36
Rot Wt:	150
Pick UP:	150
Slack Off:	150
SPP:	1075
Flow:	400 - 900
SPM:	126
Rot. RPM	-
Mot RPM:	-
Incl. In:	1.58
Azm. In:	229.74
Incl. Out:	1.58
Azm. Out:	229.74

Mud Record

WBM	
Weight:	8.4
Visc:	28
Chlorides:	0
YP:	0
PV:	0
PH:	9.5
GAS:	0
SAND:	0
WL:	0
SOLID:	0
BHT°:	0
Flow T°:	0
Oil %:	0

Cost Breakdown

Total Daily	$14,056.00
Total Job	$14,056.00

Bit Record

Bit No:	3
Model	12.25" Baker
SN.:	5306853
MFG.	BAKER
Type	PDC
IADC	
JETS	6-12
TFA:	0.662
Hole ID:	12.25
Bit Hrs:	
Bit Ftg:	

Pumps

Liner	0	0
Stroke	0	0
Effic.	95.00%	95.00%
Gal/Stk	0.00	0.00
BBL/Stk	0.000	0.000

Current BHA # 2

12.25" Baker DP506TWSX
8" 7/8 5.9 FBH @ 1.5 w/ 12"
12" Nortrak Stab
8" UBHO
8" NMDC
8" NMDC
X/O (6 5/8 P x XH B)
18 - 6.5" D.C.
X/O (ED54B x 4 1/2XH P)
30 Jts 5 1/2" HWDP

GENERAL COMMENT

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
00:00	19:30	19.50	1839	1839	0	.00	Other	Casing Ops on 510H, walk to 512H N/U and Test
19:30	20:30	1.00	1839	1839	0	.00	Change BHA	P/U BHA # 2
20:30	21:30	1.00	1839	1839	0	.00	TIH	TIH T/1700
21:30	22:50	1.33	1839	1839	0	.00	Other	Cut Drill Line
22:50	22:55	0.08	1839	1839	0	.00	TIH	TIH T/1780
22:55	23:59	1.07	1839	1839	0	.00	Other	Drilling - (WOB:36;GPM :400;RPM:30)

	SDI Job #:	ID2389-1	**Report Time:**	2400	4 of 4
	COMPANY:	Advance Energy Partners ,LLC	**API JOB #**	30-025-46492	
	LOCATION:	Lea Co., N.M.	**WORK ORDER#**	ID2389	
INTREPID Directional Drilling Specialists	**RIG NAME:**	HP 466 Flex 3	**FIELD:**	Delaware Basin	
	STATE:	New Mexico	**Sec-Twn-Rng:**	20-21S-33E	
	COUNTY:	Lea County	**Range/Section**		NM0093
	WELL NAME:	Wool Head 20 State Com 512H	**Company Man**	Frank Calhoun	
	Lead Directional :	Bill Corley	**2nd Dir Hand :**	James Meredith	

From November 22, 2019 at 0000 to November 22, 2019 at 2400

DAILY TOTALS

Start Depth	1839.00
End Depth	5282.00
Below Rot Hrs.	23.98
Total Drilled:	3443.00
Avg. Total ROP:	186.11
Slide Footage:	98.00
Slide Hours	1.17
Avg. Slide ROP:	84.00
Rotate Footage:	3345.00
Rotary Hours	17.33
Avg. Rot ROP:	192.98
Circ Hours	0.67
Ream Hours	0.00
Rotary Hrs%:	93.69
Slide Hrs%:	6.31
Rotary Ftg%:	97.15
Slide Ftg%:	2.85

Cost Detail

Descr.	Price
DAY RATE	8,150.00

Assembly Totals

BHA #	Motor SN / R.S. SN	Slide Ftg	Slide Hrs	Rotate Ftg	Rotate Hrs	Circ Hrs	D & C Hrs	BHA Ftg	Avg ROP
2	XSH80028	98.00	1.17	3,345.00	17.33	.67	19.17	3,443.00	179.63

Drilling Parameters

WOB:	60
Rot Wt:	140
Pick UP:	140
Slack Off:	140
SPP:	4200
Flow:	400 - 900
SPM:	279
Rot. RPM	60 - 80
Mot RPM:	80 - 80
Incl. In:	1.58
Azm. In:	229.74
Incl. Out:	1.32
Azm. Out:	23.72

Mud Record

WBM	
Weight:	8.4
Visc:	28
Chlorides:	0
YP:	0
PV:	0
PH:	9.5
GAS:	0
SAND:	0
WL:	0
SOLID:	0
BHT°:	0
Flow T°:	0
Oil %:	0

Bit Record

Bit No:	3
Model	12.25" Baker
SN.:	5306853
MFG.	BAKER
Type	PDC
IADC	
JETS	6-12
TFA:	0.662
Hole ID:	12.25
Bit Hrs:	18.50
Bit Ftg:	3443.00

Pumps

Liner	0	0
Stroke	0	0
Effic.	95.00%	95.00%
Gal/Stk	0.00	0.00
BBL/Stk	0.000	0.000

Current BHA # 2

12.25" Baker DP506TWSX
8" 7/8 5.9 FBH @ 1.5 w/ 12"
12" Nortrak Stab
8" UBHO
8" NMDC
8" NMDC
X/O (6 5/8 P x XH B)
18 - 6.5" D.C.
X/O (ED54B x 4 1/2XH P)
30 Jts 5 1/2" HWDP

Cost Breakdown

Total Daily	$8,150.00
Total Job	$22,206.00

GENERAL COMMENT

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
00:00	02:20	2.33	1839	1839	0	.00	Other	Drill Cement & FE
02:20	03:20	1.00	1839	1967	128	128.00	Drilling	Drilling - (WOB:36;GPM :900;RPM:60)
03:20	03:35	0.25	1967	2002	35	140.00	Sliding	Sliding - (WOB:40;GPM :900;TFO:90M))
03:35	04:50	1.25	2002	2231	229	183.20	Drilling	Drilling - (WOB:36;GPM :900;RPM:60)
04:50	05:05	0.25	2231	2256	25	100.00	Sliding	Sliding - (WOB:42;GPM :900;TFO:0))
05:05	06:15	1.17	2256	2465	209	179.14	Drilling	Drilling - (WOB:36;GPM :700;RPM:80)
06:15	06:45	0.50	2465	2465	0	.00	Rig repair	Rig repair
06:45	11:10	4.42	2465	3407	942	213.28	Drilling	Drilling - (WOB:40;GPM :700;RPM:80)
11:10	11:30	0.33	3407	3430	23	69.00	Sliding	Sliding - (WOB:40;GPM :700;TFO:250M))
11:30	16:30	5.00	3430	4400	970	194.00	Drilling	Drilling - (WOB:50;GPM :700;RPM:80)
16:30	16:50	0.33	4400	4415	15	45.00	Sliding	Sliding - (WOB:40;GPM :900;TFO:35M))
16:50	21:20	4.50	4415	5282	867	192.67	Drilling	Drilling - (WOB:60;GPM :900;RPM:80)
21:20	22:00	0.67	5282	5282	0	.00	Circulating	Circulating
22:00	23:59	1.98	5282	5282	0	.00	POOH	POOH T/4000

	SDI Job #:	ID2389-1	**Report Time:**	2400	5 of 5
	COMPANY:	Advance Energy Partners ,LLC	**API JOB #**	30-025-46492	
	LOCATION:	Lea Co., N.M.	**WORK ORDER#**	ID2389	
INTREPID Directional Drilling Specialists	**RIG NAME:**	HP 466 Flex 3	**FIELD:**	Delaware Basin	
	STATE:	New Mexico	**Sec-Twn-Rng:**	20-21S-33E	
	COUNTY:	Lea County	**Range/Section**		NM0093
	WELL NAME:	Wool Head 20 State Com 512H	**Company Man**	Frank Calhoun	
	Lead Directional :	Bill Corley	**2nd Dir Hand :**	James Meredith	

From November 23, 2019 at 0000 to November 23, 2019 at 2400

DAILY TOTALS

Start Depth	5282.00
End Depth	5282.00
Below Rot Hrs.	17.00
Total Drilled:	0.00
Avg. Total ROP:	NA
Slide Footage:	0.00
Slide Hours	0.00
Avg. Slide ROP:	NA
Rotate Footage:	0.00
Rotary Hours	0.00
Avg. Rot ROP:	NA
Circ Hours	1.25
Ream Hours	0.00
Rotary Hrs%:	NA
Slide Hrs%:	NA
Rotary Ftg%:	NA
Slide Ftg%:	NA

Cost Detail

Descr.	Price

Assembly Totals

BHA #	Motor SN / R.S. SN	Slide Ftg	Slide Hrs	Rotate Ftg	Rotate Hrs	Circ Hrs	D & C Hrs	BHA Ftg	Avg ROP
2	XSH80028	98.00	1.17	3,345.00	17.33	.67	19.17	3,443.00	179.63

Drilling Parameters

WOB:	60
Rot Wt:	140
Pick UP:	140
Slack Off:	140
SPP:	4200
Flow:	900 - 900
SPM:	279
Rot. RPM	-
Mot RPM:	-
Incl. In:	1.32
Azm. In:	23.72
Incl. Out:	1.32
Azm. Out:	23.72

Mud Record

WBM	
Weight:	8.4
Visc:	28
Chlorides:	0
YP:	0
PV:	0
PH:	9.5
GAS:	0
SAND:	0
WL:	0
SOLID:	0
BHT°:	0
Flow T°:	0
Oil %:	0

Cost Breakdown

Total Daily	
Total Job	$22,206.00

Bit Record

Bit No:	3
Model	12.25" Baker
SN.:	5306853
MFG.	BAKER
Type	PDC
IADC	
JETS	6-12
TFA:	0.662
Hole ID:	12.25
Bit Hrs:	18.50
Bit Ftg:	3443.00

Pumps

Liner	0	0
Stroke	0	0
Effic.	95.00%	95.00%
Gal/Stk	0.00	0.00
BBL/Stk	0.000	0.000

Current BHA # 2

12.25" Baker DP506TWSX
8" 7/8 5.9 FBH @ 1.5 w/ 12"
12" Nortrak Stab
8" UBHO
8" NMDC
8" NMDC
X/O (6 5/8 P x XH B)
18 - 6.5" D.C.
X/O (ED54B x 4 1/2XH P)
30 Jts 5 1/2" HWDP

GENERAL COMMENT

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
00:00	03:00	3.00	5282	5282	0	.00	POOH	POOH T/ BHA
03:00	04:15	1.25	5282	5282	0	.00	Change Mud	L/D BHA # 2 _ unable to break the bit. Laid motor down with bit made up.
04:15	17:00	12.75	5282	5282	0	.00	Other	Casing Ops, Walk to 511H N/U and test

	SDI Job #:	ID2389-2	**Report Time:**	2400	6 of 6
	COMPANY:	Advance Energy Partners ,LLC	**API JOB #**	30-025-46492	
	LOCATION:	Lea Co., N.M.	**WORK ORDER#**	ID2389	
INTREPID Directional Drilling Specialists	**RIG NAME:**	HP 466 Flex 3	**FIELD:**	Delaware Basin	
	STATE:	New Mexico	**Sec-Twn-Rng:**	20-21S-33E	
	COUNTY:	Lea County	**Range/Section**		NM0093
	WELL NAME:	Wool Head 20 State Com 512H	**Company Man**	Frank Calhoun	
	Lead Directional :	Jason Greer	**2nd Dir Hand :**	James Meredith	

From December 01, 2019 at 0000 to December 01, 2019 at 2400

DAILY TOTALS

Start Depth	5282.00
End Depth	7512.00
Below Rot Hrs.	17.23
Total Drilled:	2230.00
Avg. Total ROP:	223.37
Slide Footage:	68.00
Slide Hours	0.92
Avg. Slide ROP:	74.18
Rotate Footage:	2162.00
Rotary Hours	9.07
Avg. Rot ROP:	238.46
Circ Hours	1.17
Ream Hours	0.00
Rotary Hrs%:	90.82
Slide Hrs%:	9.18
Rotary Ftg%:	96.95
Slide Ftg%:	3.05

Cost Detail

Descr.	Price
DAY RATE	8,150.00
Motors and Turbines	3,600.00
Stabilizers	1,357.00

Assembly Totals

BHA #	Motor SN / R.S. SN	Slide Ftg	Slide Hrs	Rotate Ftg	Rotate Hrs	Circ Hrs	D & C Hrs	BHA Ftg	Avg ROP
2	XSH80028	98.00	1.17	3,345.00	17.33	.67	19.17	3,443.00	179.63
3	XSS70076	68.00	0.92	2,162.00	9.07	1.17	11.15	2,230.00	0.00

Drilling Parameters

WOB:	40
Rot Wt:	140
Pick UP:	140
Slack Off:	140
SPP:	2950
Flow:	651 - 900
SPM:	202
Rot. RPM	30 - 30
Mot RPM:	30 - 30
Incl. In:	1.32
Azm. In:	23.72
Incl. Out:	9.05
Azm. Out:	114.34

Mud Record

WBM	
Weight:	8.4
Visc:	28
Chlorides:	0
YP:	0
PV:	0
PH:	9.5
GAS:	0
SAND:	0
WL:	0
SOLID:	0
BHT°:	0
Flow T°:	0
Oil %:	0

Cost Breakdown

Total Daily	$13,107.00
Total Job	$13,107.00

Bit Record

Bit No:	3
Model	8 1/2" Reed
SN.:	A264974
MFG.	REED
Type	PDC
IADC	
JETS	6-15
TFA:	1.035
Hole ID:	8.5
Bit Hrs:	9.98
Bit Ftg:	2230.00

Pumps

Liner	0	0
Stroke	0	0
Effic.	95.00%	95.00%
Gal/Stk	0.00	0.00
BBL/Stk	0.000	0.000

Current BHA # 3

8 1/2" Reed TKC66
7" 7/8 5.9 FBH @ 1.83 W/
8 1/4" Nortrak Stab
UBHO
NMDC
NMDC
X-O (4 1/2 IF P x 4 1/2 XH B)
18 - 6.5" D.C.
X/O (ED54B x 4 1/2XH P)
30 jts -5 1/2 HWDP

GENERAL COMMENT

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
04:30	06:45	2.25	5282	5282	0	.00	N/U BOPS	N/U & Test BOP's
06:45	07:15	0.50	5282	5282	0	.00	Change BHA	P/U BHA #3
07:15	09:20	2.08	5282	5282	0	.00	TIH	TIH T/ 2492
09:20	10:30	1.17	5282	5282	0	.00	Other	Slip and Cut Drilling Line
10:30	10:55	0.42	5282	5282	0	.00	TIH	TIH T/2794
10:55	11:20	0.42	5282	5282	0	.00	Circulating	Drill Out DV Tool
11:20	13:15	1.92	5282	5282	0	.00	TIH	TIH T/5181
13:15	14:00	0.75	5282	5282	0	.00	Circulating	Drill Cement and Float equipment
14:00	15:45	1.75	5282	5652	370	211.43	Drilling	Drilling - (WOB:40;GPM :651;RPM:30)
15:45	16:00	0.25	5652	5672	20	80.00	Sliding	Sliding - (WOB:20;GPM :900;TFO:130M))
16:00	16:30	0.50	5672	5724	52	104.00	Drilling	Drilling - (WOB:40; :651;RPM:30)
16:30	16:40	0.17	5724	5732	8	48.00	Sliding	Sliding - (WOB:20; :900;TFO:130M))
16:40	17:40	1.00	5732	6010	278	278.00	Drilling	Drilling - (WOB:40; :651;RPM:30)
17:40	17:50	0.17	6010	6020	10	60.00	Sliding	Sliding - (WOB:20; :900;TFO:130M)

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
17:50	**18:30**	0.67	**6020**	**6183**	163	**244.50**	**Drilling**	Drilling - (WOB:40; :651;RPM:30)
18:30	**18:40**	0.17	**6183**	**6198**	15	**90.00**	**Sliding**	Sliding - (WOB:25; :651;TFO:120M))
18:40	**21:00**	2.33	**6198**	**6901**	703	**301.29**	**Drilling**	Drilling - (WOB:40; :651;RPM:30)
21:00	**21:10**	0.17	**6901**	**6916**	15	**90.00**	**Sliding**	Sliding - (WOB:25; :651;TFO:100M))
21:10	**23:59**	2.82	**6916**	**7512**	596	**211.60**	**Drilling**	Drilling - (WOB:40;GPM :651;RPM:30)

	SDI Job #:	ID2389-2	**Report Time:**	2400	7 of 7
	COMPANY:	Advance Energy Partners ,LLC	**API JOB #**	30-025-46492	
	LOCATION:	Lea Co., N.M.	**WORK ORDER#**	ID2389	
INTREPID Directional Drilling Specialists	**RIG NAME:**	HP 466 Flex 3	**FIELD:**	Delaware Basin	
	STATE:	New Mexico	**Sec-Twn-Rng:**	20-21S-33E	
	COUNTY:	Lea County	**Range/Section**		NM0093
	WELL NAME:	Wool Head 20 State Com 512H	**Company Man**	Frank Calhoun	
	Lead Directional :	Jason Greer	**2nd Dir Hand :**	James Meredith	

From December 02, 2019 at 0000 to December 02, 2019 at 2400

DAILY TOTALS

Start Depth	7512.00
End Depth	10220.00
Below Rot Hrs.	23.98
Total Drilled:	2708.00
Avg. Total ROP:	114.10
Slide Footage:	88.00
Slide Hours	1.83
Avg. Slide ROP:	48.00
Rotate Footage:	2620.00
Rotary Hours	21.90
Avg. Rot ROP:	119.63
Circ Hours	0.00
Ream Hours	0.00
Rotary Hrs%:	92.28
Slide Hrs%:	7.72
Rotary Ftg%:	96.75
Slide Ftg%:	3.25

Cost Detail

Descr.	Price
DAY RATE	8,150.00

Assembly Totals

BHA #	Motor SN / R.S. SN	Slide Ftg	Slide Hrs	Rotate Ftg	Rotate Hrs	Circ Hrs	D & C Hrs	BHA Ftg	Avg ROP
3	XSS70076	156.00	2.75	4,782.00	30.97	1.17	34.88	4,938.00	141.56

Drilling Parameters

WOB:	40
Rot Wt:	140
Pick UP:	140
Slack Off:	140
SPP:	2950
Flow:	651 - 651
SPM:	202
Rot. RPM	30 - 30
Mot RPM:	30 - 30
Incl. In:	9.05
Azm. In:	114.34
Incl. Out:	4.48
Azm. Out:	116.45

Mud Record

WBM

Weight:	8.4
Visc:	28
Chlorides:	0
YP:	0
PV:	0
PH:	9.5
GAS:	0
SAND:	0
WL:	0
SOLID:	0
BHT°:	0
Flow T°:	0
Oil %:	0

Cost Breakdown

Total Daily	$8,150.00
Total Job	$21,257.00

Bit Record

Bit No:	3
Model	8 1/2" Reed
SN.:	A264974
MFG.	REED
Type	PDC
IADC	
JETS	6-15
TFA:	1.035
Hole ID:	8.5
Bit Hrs:	33.72
Bit Ftg:	4938.00

Pumps

Liner	0	0
Stroke	0	0
Effic.	95.00%	95.00%
Gal/Stk	0.00	0.00
BBL/Stk	0.000	0.000

Current BHA # 3

8 1/2" Reed TKC66
7" 7/8 5.9 FBH @ 1.83 W/
8 1/4" Nortrak Stab
UBHO
NMDC
NMDC
X-O (4 1/2 IF P x 4 1/2 XH B)
18 - 6.5" D.C.
X/O (ED54B x 4 1/2XH P)
30 jts -5 1/2 HWDP

GENERAL COMMENT

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
00:00	07:05	7.08	7512	8605	1093	154.31	Drilling	Drilling - (WOB:40;GPM :651;RPM:30)
07:05	07:25	0.33	8605	8620	15	45.00	Sliding	Sliding - (WOB:25;GPM :651;TFO:120M))
07:25	09:55	2.50	8620	8873	253	101.20	Drilling	Drilling - (WOB:40;GPM :651;RPM:30)
09:55	10:15	0.33	8873	8888	15	45.00	Sliding	Sliding - (WOB:25;GPM :651;TFO:120M)
10:15	10:45	0.50	8888	8951	63	126.00	Drilling	Drilling - (WOB:40;GPM :651;RPM:30)
10:45	11:00	0.25	8951	8951	0	.00	Rig Service-Inhole	Rig Service-Inhole
11:00	13:00	2.00	8951	9142	191	95.50	Drilling	Drilling - (WOB:40;GPM :651;RPM:30)
13:00	13:20	0.33	9142	9160	18	54.00	Sliding	Sliding - (WOB:25;GPM :651;TFO:120M)
13:20	15:20	2.00	9160	9316	156	78.00	Drilling	Drilling - (WOB:40;GPM :651;RPM:30)
15:20	15:45	0.42	9316	9336	20	48.00	Sliding	Sliding - (WOB:25;GPM :651;TFO:110M))
15:45	21:00	5.25	9336	9951	615	117.14	Drilling	Drilling - (WOB:40;GPM :651;RPM:30)
21:00	21:25	0.42	9951	9971	20	48.00	Sliding	Sliding - (WOB:25;GPM :651;TFO:160M))
21:25	23:59	2.57	9971	10220	249	97.01	Drilling	Drilling - (WOB:40;GPM :651;RPM:30)

	SDI Job #:	ID2389-2	**Report Time:**	2400	8 of 8
	COMPANY:	Advance Energy Partners ,LLC	**API JOB #**	30-025-46492	
	LOCATION:	Lea Co., N.M.	**WORK ORDER#**	ID2389	
INTREPID Directional Drilling Specialists	**RIG NAME:**	HP 466 Flex 3	**FIELD:**	Delaware Basin	
	STATE:	New Mexico	**Sec-Twn-Rng:**	20-21S-33E	
	COUNTY:	Lea County	**Range/Section**		NM0093
	WELL NAME:	Wool Head 20 State Com 512H	**Company Man**	Frank Calhoun	
	Lead Directional :	Jason Greer	**2nd Dir Hand :**	James Meredith	

From December 03, 2019 at 0000 to December 03, 2019 at 2400

DAILY TOTALS

Start Depth	10220.00
End Depth	10555.00
Below Rot Hrs.	16.25
Total Drilled:	335.00
Avg. Total ROP:	89.33
Slide Footage:	22.00
Slide Hours	0.75
Avg. Slide ROP:	29.33
Rotate Footage:	313.00
Rotary Hours	3.00
Avg. Rot ROP:	104.33
Circ Hours	1.50
Ream Hours	0.00
Rotary Hrs%:	80.00
Slide Hrs%:	20.00
Rotary Ftg%:	93.43
Slide Ftg%:	6.57

Cost Detail

Descr.	Price
DAY RATE	8,150.00

Assembly Totals

BHA #	Motor SN / R.S. SN	Slide Ftg	Slide Hrs	Rotate Ftg	Rotate Hrs	Circ Hrs	D & C Hrs	BHA Ftg	Avg ROP
3	XSS70076	178.00	3.50	5,095.00	33.97	2.67	40.13	5,273.00	131.39

Drilling Parameters

WOB:	40
Rot Wt:	140
Pick UP:	140
Slack Off:	140
SPP:	2800
Flow:	651 - 651
SPM:	202
Rot. RPM	30 - 30
Mot RPM:	30 - 30
Incl. In:	4.48
Azm. In:	116.45
Incl. Out:	0
Azm. Out:	0

Mud Record

WBM

Weight:	8.4
Visc:	28
Chlorides:	0
YP:	0
PV:	0
PH:	9.5
GAS:	0
SAND:	0
WL:	0
SOLID:	0
BHT°:	0
Flow T°:	0
Oil %:	0

Cost Breakdown

Total Daily	**$8,150.00**
Total Job	**$29,407.00**

Bit Record

Bit No:	3
Model	8 1/2" Reed
SN.:	A264974
MFG.	REED
Type	PDC
IADC	
JETS	6-15
TFA:	1.035
Hole ID:	8.5
Bit Hrs:	37.47
Bit Ftg:	5273.00

Pumps

Liner	0	0
Stroke	0	0
Effic.	95.00%	95.00%
Gal/Stk	0.00	0.00
BBL/Stk	0.000	0.000

Current BHA # 3

8 1/2" Reed TKC66
7" 7/8 5.9 FBH @ 1.83 W/
8 1/4" Nortrak Stab
UBHO
NMDC
NMDC
X-O (4 1/2 IF P x 4 1/2 XH B)
18 - 6.5" D.C.
X/O (ED54B x 4 1/2XH P)
30 jts -5 1/2 HWDP

GENERAL COMMENT

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
00:00	00:45	0.75	10220	10242	22	29.33	Sliding	Sliding - (WOB:20;GPM :651;TFO:275M))
00:45	03:45	3.00	10242	10555	313	104.33	Drilling	Drilling - (WOB:40;GPM :651;RPM:30)
03:45	05:15	1.50	10555	10555	0	.00	Circulating	Circulating
05:15	15:45	10.50	10555	10555	0	.00	POOH	POOH
15:45	16:15	0.50	10555	10555	0	.00	Other	L/D BHA #3
16:15	24:00	7.75	10555	10555	0	.00	Standby	Standby - Skid Rig

SDI Job #:	ID2389-3	**Report Time:**	2400	9 of 12	
COMPANY:	Advance Energy Partners ,LLC	**API JOB #**	30-025-46492		
LOCATION:	Lea Co., N.M.	**WORK ORDER#**	ID2389		
RIG NAME:	HP 466 Flex 3	**FIELD:**	Delaware Basin		
STATE:	New Mexico	**Sec-Twn-Rng:**	20-21S-33E		
COUNTY:	Lea County	**AFE# & District**	NM0093		
WELL NAME:	Wool Head 20 State Com 512H				

From Monday, January 06, 2020 at 0000 to Monday, January 06, 2020 at 2400

DRILLING SUMMARY

Start Depth	10555.00	**Rotary Hours**	0.00	**WOB**	0	**Pick UP**	0	**Slack Off**	0	**SPM**	
End Depth	10715.00	**Circulating Hours**	0.50	**RAB**	0	**SPP**	2600	**FlowRate**	0 - 580	180	
Total Drilled:	160.00	**Avg. Total ROP:**	35.56	**Mud Data**							
Total Rotary Drilled:	0.00	**Avg. Rotary ROP:**	NA	**Type**				**PV**	0	**SOLID**	0
Total Drilled Sliding:	160.00	**Avg. Slide ROP:**	35.56	**Weight**	0	**GAS**	0	**YP**	0	**BHT°**	0
Slide Hours:	4.50	**Percent Rotary:**	.00	**Viscosity**	0	**SAND**	0	**PH**	0	**Flow T°**	0
Below Rotary Hrs.	16.00	**Percent Slide:**	100.00	**Chlorides**	0	**WL**	0			**Oil %**	0

PERSONNEL

Lead Directional :	Jason Mueller
Second Directional :	Jason Greer
MWD Operator1	Michael Walton
MWD Operator2	Dustin Loomis
Directional Company:	Intrepid DDS
Geologist:	
Company Man:	Frank Calhoun

Casing

Size	Lb/ft	Set Depth

Signature:

BHA

BHA # 4:Security GTD55DM, 6 3/4 7/8 5.0 FBH @ 2.12 TS, UBHO, 6 3/4" NMDC, 6 3/4" FLEX, X-O (ED 54 BX x 4 1/2 IF PN),

Incl. In:	2.37	**Azm. In:**	189.75	**Incl. Out:**	9.85	**Azm. Out:**	331.25	**Daily Cost**	$22,530.00
								Cummulative Cost:	$22,530.00

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
6-Jan-20	00:00	08:00	8.00	10555	10555	Standby	Standby
6-Jan-20	08:00	09:00	1.00	10555	10555	Change BHA	P/U & Test BHA #4 - Good
6-Jan-20	09:00	14:30	5.50	10555	10555	TIH	TIH
6-Jan-20	14:30	15:00	0.50	10555	10555	Circulating	Fill Pipe / Sync MWD Tool
6-Jan-20	15:00	15:30	0.50	10555	10589	Sliding	Sliding - (WOB:0;GPM :580;TFO:359M))
6-Jan-20	15:30	15:40	0.17	10589	10589	Survey & Conn.	Survey & Conn.@0' Inc 0° Azm 0°
6-Jan-20	15:40	16:55	1.25	10589	10678	Sliding	Sliding - (WOB:0;GPM :580;TFO:359M))
6-Jan-20	16:55	17:05	0.17	10678	10678	Survey & Conn.	Survey & Conn.@0' Inc 0° Azm 0°
6-Jan-20	17:05	19:50	2.75	10678	10715	Sliding	Sliding - (WOB:0;GPM :580;TFO:359M)
6-Jan-20	19:50	24:00	4.17	10715	10715	POOH	POOH

SDI Job #:	ID2389-3	Report Time:	2400 — 10 of 12
COMPANY:	Advance Energy Partners ,LLC	API JOB #	30-025-46492
LOCATION:	Lea Co., N.M.	WORK ORDER#	ID2389
RIG NAME:	HP 466 Flex 3	FIELD:	Delaware Basin
STATE:	New Mexico	Sec-Twn-Rng:	20-21S-33E
COUNTY:	Lea County	AFE# & District	NM0093
WELL NAME:	Wool Head 20 State Com 512H		

From Tuesday, January 07, 2020 at 0000 to Tuesday, January 07, 2020 at 2400

DRILLING SUMMARY

Start Depth	10715.00	Rotary Hours	0.00
End Depth	10908.00	Circulating Hours	8.58
Total Drilled:	193.00	Avg. Total ROP:	57.90
Total Rotary Drilled:	0.00	Avg. Rotary ROP:	NA
Total Drilled Sliding:	193.00	Avg. Slide ROP:	57.90
Slide Hours:	3.33	Percent Rotary:	.00
Below Rotary Hrs.	24.00	Percent Slide:	100.00

Drilling Parameters

WOB	80	Pick UP	290	Slack Off	240	SPM	
RAB	250	SPP	3120	FlowRate	0 - 580	180	

Mud Data

Type	OBM			PV	17	SOLID	11
Weight	9.7	GAS	0	YP	11	BHT°	127
Viscosity	70	SAND	0.01	PH	0	Flow T°	110
Chlorides	45000	WL	8.4			Oil %	70

PERSONNEL

Lead Directional :	Jason Mueller
Second Directional :	Jason Greer
MWD Operator1	Michael Walton
MWD Operator2	Dustin Loomis
Directional Company:	Intrepid DDS
Geologist:	
Company Man:	TJ Nash

Casing

Size	Lb/ft	Set Depth

Signature:

BHA

BHA # 5:Security GTD64C, 6 3/4" 7/8 5.0 Adj @ 2.38 W/ SS, UBHO, 6 3/4" NMDC, 6 3/4" FLEX, X-O (ED 54 BX x 4 1/2 IF PN),

Incl. In:	9.85	Azm. In:	331.25	Incl. Out:	26.51	Azm. Out:	342.77

Daily Cost	$20,700.00
Cummulative Cost:	$43,230.00

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
7-Jan-20	00:00	01:30	1.50	10715	10715	POOH	POOH
7-Jan-20	01:30	03:00	1.50	10715	10715	Change BHA	L/D BHA #4 and P/U BHA #5
7-Jan-20	03:00	07:45	4.75	10715	10715	TIH	TIH
7-Jan-20	07:45	08:15	0.50	10715	10715	Circulating	Fill Pipe & Re-Log 30'
7-Jan-20	08:15	09:15	1.00	10715	10769	Sliding	Sliding - (WOB:0;GPM :580;TFO:20))
7-Jan-20	09:15	09:25	0.17	10769	10769	Survey & Conn.	Survey & Conn.@0' Inc 0° Azm 0°
7-Jan-20	09:25	10:10	0.75	10769	10798	Sliding	Sliding - (WOB:0;GPM :580;TFO:20))
7-Jan-20	10:10	18:15	8.08	10798	10798	Circulating	Rig Repair - TD
7-Jan-20	18:15	19:00	0.75	10798	10859	Sliding	Sliding - (WOB:80;GPM :580;TFO:20))
7-Jan-20	19:00	19:10	0.17	10859	10859	Survey & Conn.	Survey & Conn.@0' Inc 0° Azm 0°
7-Jan-20	19:10	20:00	0.83	10859	10908	Sliding	Sliding - (WOB:80;GPM :580;TFO:20)
7-Jan-20	20:00	24:00	4.00	10908	10908	POOH	POOH

SDI Job #:	ID2389-3	**Report Time:**	2400	11 of 12	
COMPANY:	Advance Energy Partners ,LLC	**API JOB #**	30-025-46492		
LOCATION:	Lea Co., N.M.	**WORK ORDER#**	ID2389		
RIG NAME:	HP 466 Flex 3	**FIELD:**	Delaware Basin		
STATE:	New Mexico	**Sec-Twn-Rng:**	20-21S-33E		
COUNTY:	Lea County	**AFE# & District**	NM0093		
WELL NAME:	Wool Head 20 State Com 512H				

From Wednesday, January 08, 2020 at 0000 to Wednesday, January 08, 2020 at 2400

DRILLING SUMMARY

Start Depth	10908.00	**Rotary Hours**	0.00
End Depth	11216.00	**Circulating Hours**	0.67
Total Drilled:	308.00	**Avg. Total ROP:**	25.67
Total Rotary Drilled:	0.00	**Avg. Rotary ROP:**	NA
Total Drilled Sliding:	308.00	**Avg. Slide ROP:**	25.67
Slide Hours:	12.00	**Percent Rotary:**	.00
Below Rotary Hrs.	24.00	**Percent Slide:**	100.00

Drilling Parameters

WOB	80	**Pick UP**	290	**Slack Off**	240	**SPM**			
RAB	250	**SPP**	2652	**FlowRate**	0 - 580	141			

Mud Data

Type	OBM			**PV**	17	**SOLID**	10.7		
Weight	9.7	**GAS**	0	**YP**	12	**BHT°**	127		
Viscosity	72	**SAND**	0.01	**PH**	0	**Flow T°**	105		
Chlorides	47000	**WL**	8			**Oil %**	70		

PERSONNEL

Lead Directional :	Jason Mueller
Second Directional :	Jason Greer
MWD Operator1	Ben Wallace
MWD Operator2	Joe Hatley
Directional Company:	Intrepid DDS
Geologist:	
Company Man:	TJ Nash

Casing

Size	Lb/ft	Set Depth

Signature:

BHA

BHA # 6:Security GTD64C, 6 3/4" 7/8 5.0 FBH @ 2.5° TS, UBHO, 6 3/4" NMDC, 6 3/4" FLEX, X-O (ED 54 BX x 4 1/2 IF PN),

Incl. In:	26.51	**Azm. In:**	342.77	**Incl. Out:**	77.14	**Azm. Out:**	351.91

Daily Cost	**$20,700.00**
Cummulative Cost:	**$63,930.00**

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
8-Jan-20	00:00	02:00	2.00	10908	10908	POOH	POOH
8-Jan-20	02:00	04:00	2.00	10908	10908	Change BHA	L/D BHA#5 / P/U BHA#6
8-Jan-20	04:00	09:00	5.00	10908	10908	TIH	TIH
8-Jan-20	09:00	10:05	1.08	10908	10947	Sliding	Sliding - (WOB:80;GPM :454;TFO:20))
8-Jan-20	10:05	10:15	0.17	10947	10947	Survey & Conn.	Survey & Conn.@0' Inc 0° Azm 0°
8-Jan-20	10:15	10:45	0.50	10947	10947	Circulating	Work pipe free
8-Jan-20	10:45	13:50	3.08	10947	11037	Sliding	Sliding - (WOB:80; :454;TFO:20))
8-Jan-20	13:50	14:00	0.17	11037	11037	Survey & Conn.	Survey & Conn.@0' Inc 0° Azm 0°
8-Jan-20	14:00	21:50	7.83	11037	11216	Sliding	Sliding - (WOB:80;GPM :454;TFO:40))
8-Jan-20	21:50	22:00	0.17	11216	11216	MWD Survey	MWD Survey@0' Inc 0° Azm 0°
8-Jan-20	22:00	24:00	2.00	11216	11216	POOH	POOH

SDI Job #:	ID2389-3	**Report Time:**	2400	12 of 12	
COMPANY:	Advance Energy Partners ,LLC	**API JOB #**	30-025-46492		
LOCATION:	Lea Co., N.M.	**WORK ORDER#**	ID2389		
RIG NAME:	HP 466 Flex 3	**FIELD:**	Delaware Basin		
STATE:	New Mexico	**Sec-Twn-Rng:**	20-21S-33E		
COUNTY:	Lea County	**AFE# & District**	NM0093		
WELL NAME:	Wool Head 20 State Com 512H				

From Thursday, January 09, 2020 at 0000 to Thursday, January 09, 2020 at 2400

DRILLING SUMMARY

Start Depth	11216.00	**Rotary Hours**	8.92	**WOB**	45	**Pick UP**	290	**Slack Off**	240	**SPM**	
End Depth	12422.00	**Circulating Hours**	1.00	**RAB**	250	**SPP**	4050	**FlowRate**	0 - 676	210	
Total Drilled:	1206.00	**Avg. Total ROP:**	99.81								
Total Rotary Drilled:	1049.00	**Avg. Rotary ROP:**	117.64	**Type**	OBM			**PV**	17	**SOLID**	10.7
Total Drilled Sliding:	157.00	**Avg. Slide ROP:**	49.58	**Weight**	9.7	**GAS**	0	**YP**	12	**BHT°**	127
Slide Hours:	3.17	**Percent Rotary:**	86.98	**Viscosity**	72	**SAND**	0.01	**PH**	0	**Flow T°**	105
Below Rotary Hrs.	23.83	**Percent Slide:**	13.02	**Chlorides**	47000	**WL**	8			**Oil %**	70

Drilling Parameters

Mud Data

PERSONNEL

Lead Directional :	Jason Mueller
Second Directional :	Jason Greer
MWD Operator1	Ben Wallace
MWD Operator2	Joe Hatley
Directional Company:	Intrepid DDS
Geologist:	
Company Man:	TJ Nash

Casing

Size	Lb/ft	Set Depth

Signature:

BHA

BHA # 7:Baker DD506TWX w/ 6x22, 7" 7/8 8.5 FBH @ 1.75 W/ SS, UBHO, 6 3/4" NMDC, 6 3/4 NMDC, X-O (ED 54 BX x 4 1/2 IF PN), 28 stds. D.P., X-O (4 1/2 IF BX x ED 54 PN), Agitator, X-O (ED 54 BX x 4 1/2 IF PN),

Incl. In:	77.14	**Azm. In:**	351.91	**Incl. Out:**	91.08	**Azm. Out:**	358.59	**Daily Cost**	$24,188.00
								Cummulative Cost:	$88,118.00

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
9-Jan-20	00:00	02:00	2.00	11216	11216	POOH	POOH
9-Jan-20	02:00	04:00	2.00	11216	11216	Change BHA	L/D BHA #6 -P/U BHA #7
9-Jan-20	04:00	09:00	5.00	11216	11216	TIH	TIH
9-Jan-20	09:00	09:40	0.67	11216	11216	Circulating	W/R F/ 10897-11184
9-Jan-20	09:40	10:00	0.33	11216	11216	Circulating	Re-Log 11184-11216
9-Jan-20	10:00	10:30	0.50	11216	11231	Drilling	Drilling - (WOB:42;GPM :599;RPM:35)
9-Jan-20	10:30	11:05	0.58	11231	11256	Sliding	Sliding - (WOB:45;GPM :676;TFO:65))
9-Jan-20	11:05	11:15	0.17	11256	11256	Survey & Conn.	Survey & Conn.@11198' Inc 79.96° Azm 357.27°
9-Jan-20	11:15	12:00	0.75	11256	11313	Drilling	Drilling - (WOB:45;GPM :676;RPM:35)
9-Jan-20	12:00	12:35	0.58	11313	11334	Sliding	Sliding - (WOB:45;GPM :676;TFO:65))
9-Jan-20	12:35	12:45	0.17	11334	11346	Drilling	Drilling - (WOB:45;GPM :676;RPM:35)
9-Jan-20	12:45	12:55	0.17	11346	11346	Survey & Conn.	Survey & Conn.@11288' Inc 84.53° Azm 2.1°
9-Jan-20	12:55	13:40	0.75	11346	11436	Drilling	Drilling - (WOB:45;GPM :676;RPM:35)
9-Jan-20	13:40	13:50	0.17	11436	11436	Survey & Conn.	Survey & Conn.@11378' Inc 86.02° Azm 3.86°
9-Jan-20	13:50	14:10	0.33	11436	11470	Drilling	Drilling - (WOB:45;GPM :676;RPM:35)
9-Jan-20	14:10	14:30	0.33	11470	11490	Sliding	Sliding - (WOB:45;GPM :676;TFO:HS))
9-Jan-20	14:30	14:50	0.33	11490	11525	Drilling	Drilling - (WOB:45;GPM :676;RPM:40)

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
9-Jan-20	**15:00**	**15:30**	0.50	**11525**	**11615**	**Drilling**	Drilling - (WOB:45;GPM :676;RPM:40)
9-Jan-20	**15:30**	**15:40**	0.17	**11615**	**11615**	**Survey & Conn.**	Survey & Conn.@11557' Inc 89.23° Azm 1.75°
9-Jan-20	**15:40**	**15:50**	0.17	**11615**	**11632**	**Drilling**	Drilling - (WOB:45;GPM :676;RPM:40)
9-Jan-20	**15:50**	**16:30**	0.67	**11632**	**11659**	**Sliding**	Sliding - (WOB:45;GPM :676;TFO:130))
9-Jan-20	**16:30**	**16:45**	0.25	**11659**	**11705**	**Drilling**	Drilling - (WOB:45;GPM :676;RPM:40)
9-Jan-20	**16:45**	**16:50**	0.08	**11705**	**11705**	**Survey & Conn.**	Survey & Conn.@11647' Inc 89.71° Azm 3.07°
9-Jan-20	**16:50**	**17:00**	0.17	**11705**	**11720**	**Drilling**	Drilling - (WOB:45;GPM :676;RPM:40)
9-Jan-20	**17:00**	**17:10**	0.17	**11720**	**11727**	**Sliding**	Sliding - (WOB:45;GPM :676;TFO:180))
9-Jan-20	**17:10**	**17:35**	0.42	**11727**	**11794**	**Drilling**	Drilling - (WOB:45;GPM :676;RPM:40)
9-Jan-20	**17:35**	**17:45**	0.17	**11794**	**11794**	**Survey & Conn.**	Survey & Conn.@11736' Inc 89.27° Azm 2.98°
9-Jan-20	**17:45**	**19:05**	1.33	**11794**	**11973**	**Drilling**	Drilling - (WOB:45;GPM :676;RPM:40)
9-Jan-20	**19:05**	**19:30**	0.42	**11973**	**11998**	**Sliding**	Sliding - (WOB:45;GPM :676;TFO:180))
9-Jan-20	**19:30**	**20:00**	0.50	**11998**	**12063**	**Drilling**	Drilling - (WOB:45;GPM :676;RPM:40)
9-Jan-20	**20:00**	**20:10**	0.17	**12063**	**12063**	**Survey & Conn.**	Survey & Conn.@12005' Inc 91.08° Azm 2.36°
9-Jan-20	**20:10**	**20:55**	0.75	**12063**	**12153**	**Drilling**	Drilling - (WOB:45;GPM :676;RPM:40)
9-Jan-20	**20:55**	**21:05**	0.17	**12153**	**12153**	**Survey & Conn.**	Survey & Conn.@12095' Inc 91.6° Azm 2.1°
9-Jan-20	**21:05**	**21:10**	0.08	**12153**	**12160**	**Drilling**	Drilling - (WOB:45;GPM :676;RPM:40)
9-Jan-20	**21:10**	**21:35**	0.42	**12160**	**12192**	**Sliding**	Sliding - (WOB:45;GPM :676;TFO:155L))
9-Jan-20	**21:35**	**22:00**	0.42	**12192**	**12243**	**Drilling**	Drilling - (WOB:45;GPM :676;RPM:40)
9-Jan-20	**22:00**	**22:10**	0.17	**12243**	**12243**	**Survey & Conn.**	Survey & Conn.@12185' Inc 89.41° Azm 0.34°
9-Jan-20	**22:10**	**23:00**	0.83	**12243**	**12333**	**Drilling**	Drilling - (WOB:45; :676;RPM:40)
9-Jan-20	**23:00**	**23:10**	0.17	**12333**	**12333**	**Survey & Conn.**	Survey & Conn.@12275' Inc 89.85° Azm 359.82°
9-Jan-20	**23:10**	**23:50**	0.67	**12333**	**12422**	**Drilling**	Drilling - (WOB:45; :676;RPM:40)
9-Jan-20	**23:50**	**24:00**	0.17	**12422**	**12422**	**Survey & Conn.**	Survey & Conn.@12364' Inc 91.08° Azm 358.59°

SDI Job #:	ID2389-3	**Report Time:**	2400	13 of 13	
COMPANY:	Advance Energy Partners ,LLC	**API JOB #**	30-025-46492		
LOCATION:	Lea Co., N.M.	**WORK ORDER#**	ID2389		
RIG NAME:	HP 466 Flex 3	**FIELD:**	Delaware Basin		
STATE:	New Mexico	**Sec-Twn-Rng:**	20-21S-33E		
COUNTY:	Lea County	**AFE# & District**	NM0093		
WELL NAME:	Wool Head 20 State Com 512H				

From Friday, January 10, 2020 at 0000 to Friday, January 10, 2020 at 2400

DRILLING SUMMARY

Start Depth	12422.00	**Rotary Hours**	17.92	**WOB**	50	**Pick UP**	290	**Slack Off**	240	**SPM**	
End Depth	13995.00	**Circulating Hours**	0.00	**RAB**	250	**SPP**	4480	**FlowRate**	676 - 725	225	
Total Drilled:	1573.00	**Avg. Total ROP:**	75.81								
Total Rotary Drilled:	1456.00	**Avg. Rotary ROP:**	81.27								
Total Drilled Sliding:	117.00	**Avg. Slide ROP:**	41.29								
Slide Hours:	2.83	**Percent Rotary:**	92.56								
Below Rotary Hrs.	24.00	**Percent Slide:**	7.44								

Drilling Parameters

Mud Data

Type	OBM			**PV**	13	**SOLID**	10.1
Weight	9.5	**GAS**	0	**YP**	9	**BHT°**	162
Viscosity	60	**SAND**	0.01	**PH**	0	**Flow T°**	119
Chlorides	46000	**WL**	7.6			**Oil %**	71

PERSONNEL

Lead Directional :	Jason Mueller
Second Directional :	Jason Greer
MWD Operator1	Ben Wallace
MWD Operator2	Joe Hatley
Directional Company:	Intrepid DDS
Geologist:	
Company Man:	TJ Nash

Casing

Size	Lb/ft	Set Depth

Signature:

BHA

BHA # 7:Baker DD506TWX w/ 6x22, 7" 7/8 8.5 FBH @ 1.75 W/ SS, UBHO, 6 3/4" NMDC, 6 3/4 NMDC, X-O (ED 54 BX x 4 1/2 IF PN), 28 stds. D.P., X-O (4 1/2 IF BX x ED 54 PN), Agitator, X-O (ED 54 BX x 4 1/2 IF PN),

Incl. In:	91.08	**Azm. In:**	358.59	**Incl. Out:**	90.33	**Azm. Out:**	357.36	**Daily Cost**	$8,150.00
								Cummulative Cost:	$96,268.00

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
10-Jan-20	00:00	00:10	0.17	12422	12427	Drilling	Drilling - (WOB:45; :676;RPM:70)
10-Jan-20	00:10	00:30	0.33	12427	12457	Sliding	Sliding - (WOB:45; :676;TFO:160R))
10-Jan-20	00:30	01:10	0.67	12457	12512	Drilling	Drilling - (WOB:45; :676;RPM:70)
10-Jan-20	01:10	01:20	0.17	12512	12512	Survey & Conn.	Survey & Conn.@12454' Inc 89.36° Azm 1.05°
10-Jan-20	01:20	02:15	0.92	12512	12602	Drilling	Drilling - (WOB:45; :676;RPM:70)
10-Jan-20	02:15	02:25	0.17	12602	12602	Survey & Conn.	Survey & Conn.@12544' Inc 89.01° Azm 1.66°
10-Jan-20	02:25	03:15	0.83	12602	12691	Drilling	Drilling - (WOB:45; :676;RPM:70)
10-Jan-20	03:15	03:25	0.17	12691	12691	Survey & Conn.	Survey & Conn.@12633' Inc 88.97° Azm 0.78°
10-Jan-20	03:25	04:30	1.08	12691	12781	Drilling	Drilling - (WOB:45; :676;RPM:70)
10-Jan-20	04:30	04:40	0.17	12781	12781	Survey & Conn.	Survey & Conn.@12723' Inc 89.76° Azm 359.73°
10-Jan-20	04:40	05:45	1.08	12781	12871	Drilling	Drilling - (WOB:45; :676;RPM:50)
10-Jan-20	05:45	05:55	0.17	12871	12871	Survey & Conn.	Survey & Conn.@12813' Inc 89.85° Azm 359.64°
10-Jan-20	05:55	07:00	1.08	12871	12961	Drilling	Drilling - (WOB:45; :725;RPM:65)
10-Jan-20	07:00	07:10	0.17	12961	12961	Survey & Conn.	Survey & Conn.@12903' Inc 92.04° Azm 359.11°
10-Jan-20	07:10	07:30	0.33	12961	12978	Drilling	Drilling - (WOB:45; :725;RPM:65)
10-Jan-20	07:30	08:10	0.67	12978	13000	Sliding	Sliding - (WOB:45; :676;TFO:140))
10-Jan-20	08:10	08:55	0.75	13000	13050	Drilling	Drilling - (WOB:45; :725;RPM:65)

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
10-Jan-20	08:55	09:05	0.17	13050	13050	Survey & Conn.	Survey & Conn.@12992' Inc 92.66° Azm 359.64°
10-Jan-20	09:05	09:15	0.17	13050	13068	Drilling	Drilling - (WOB:45; :725;RPM:65)
10-Jan-20	09:15	10:10	0.92	13068	13103	Sliding	Sliding - (WOB:45; :676;TFO:135))
10-Jan-20	10:10	10:45	0.58	13103	13140	Drilling	Drilling - (WOB:45; :725;RPM:65)
10-Jan-20	10:45	10:55	0.17	13140	13140	Survey & Conn.	Survey & Conn.@13082' Inc 91.47° Azm 1.75°
10-Jan-20	10:55	11:55	1.00	13140	13229	Drilling	Drilling - (WOB:45; :725;RPM:65)
10-Jan-20	11:55	12:05	0.17	13229	13229	Survey & Conn.	Survey & Conn.@13171' Inc 90.77° Azm 1.66°
10-Jan-20	12:05	13:30	1.42	13229	13319	Drilling	Drilling - (WOB:45; :725;RPM:65)
10-Jan-20	13:30	13:35	0.08	13319	13319	Survey & Conn.	Survey & Conn.@13261' Inc 91.25° Azm 0.96°
10-Jan-20	13:35	14:00	0.42	13319	13346	Drilling	Drilling - (WOB:45;GPM :725;RPM:65)
10-Jan-20	14:00	14:55	0.92	13346	13376	Sliding	Sliding - (WOB:45;GPM :676;TFO:150))
10-Jan-20	14:55	15:20	0.42	13376	13409	Drilling	Drilling - (WOB:45;GPM :725;RPM:65)
10-Jan-20	15:20	15:30	0.17	13409	13409	Survey & Conn.	Survey & Conn.@13351' Inc 91.87° Azm 1.13°
10-Jan-20	15:30	16:15	0.75	13409	13498	Drilling	Drilling - (WOB:50;GPM :725;RPM:65)
10-Jan-20	16:15	16:40	0.42	13498	13498	Rig Service-Inhole	Rig Service-Inhole
10-Jan-20	16:40	16:45	0.08	13498	13498	Survey & Conn.	Survey & Conn.@13440' Inc 89.36° Azm 0.69°
10-Jan-20	16:45	16:55	0.17	13498	13498	Survey & Conn.	Survey & Conn.@13440' Inc 89.36° Azm 0.69°
10-Jan-20	16:55	17:50	0.92	13498	13588	Drilling	Drilling - (WOB:50;GPM :725;RPM:68)
10-Jan-20	17:50	18:00	0.17	13588	13588	Survey & Conn.	Survey & Conn.@13530' Inc 89.36° Azm 0.52°
10-Jan-20	18:00	19:10	1.17	13588	13677	Drilling	Drilling - (WOB:50;GPM :725;RPM:68)
10-Jan-20	19:10	19:20	0.17	13677	13677	Survey & Conn.	Survey & Conn.@13619' Inc 89.45° Azm 359.73°
10-Jan-20	19:20	20:30	1.17	13677	13767	Drilling	Drilling - (WOB:50;GPM :725;RPM:68)
10-Jan-20	20:30	20:40	0.17	13767	13767	Survey & Conn.	Survey & Conn.@13709' Inc 89.8° Azm 358.94°
10-Jan-20	20:40	21:50	1.17	13767	13857	Drilling	Drilling - (WOB:50;GPM :725;RPM:68)
10-Jan-20	21:50	22:00	0.17	13857	13857	Survey & Conn.	Survey & Conn.@13799' Inc 89.98° Azm 357.88°
10-Jan-20	22:00	23:10	1.17	13857	13947	Drilling	Drilling - (WOB:50; :725;RPM:40)
10-Jan-20	23:10	23:20	0.17	13947	13947	Survey & Conn.	Survey & Conn.@13889' Inc 90.33° Azm 357.36°
10-Jan-20	23:20	24:00	0.67	13947	13995	Drilling	Drilling - (WOB:50; :725;RPM:40)

SDI Job #:	ID2389-3	**Report Time:**	2400	14 of 14	
COMPANY:	Advance Energy Partners ,LLC	**API JOB #**	30-025-46492		
LOCATION:	Lea Co., N.M.	**WORK ORDER#**	ID2389		
RIG NAME:	HP 466 Flex 3	**FIELD:**	Delaware Basin		
STATE:	New Mexico	**Sec-Twn-Rng:**	20-21S-33E		
COUNTY:	Lea County	**AFE# & District**	NM0093		
WELL NAME:	Wool Head 20 State Com 512H				

From Saturday, January 11, 2020 at 0000 to Saturday, January 11, 2020 at 2400

DRILLING SUMMARY

Start Depth	13995.00	**Rotary Hours**	13.08	**WOB**	63	**Pick UP**	290	**Slack Off**	240	**SPM**	
End Depth	15420.00	**Circulating Hours**	3.58	**RAB**	250	**SPP**	4400	**FlowRate**	676 - 725	225	
Total Drilled:	1425.00	**Avg. Total ROP:**	81.82								
Total Rotary Drilled:	1260.00	**Avg. Rotary ROP:**	96.31	**Type**	OBM			**PV**	14	**SOLID**	10
Total Drilled Sliding:	165.00	**Avg. Slide ROP:**	38.08	**Weight**	9.5	**GAS**	0	**YP**	10	**BHT°**	175
Slide Hours:	4.33	**Percent Rotary:**	88.42	**Viscosity**	60	**SAND**	0.01	**PH**	0	**Flow T°**	125
Below Rotary Hrs.	24.00	**Percent Slide:**	11.58	**Chlorides**	46000	**WL**	7.4			**Oil %**	71

Drilling Parameters

Mud Data

PERSONNEL

Lead Directional :	Jason Mueller
Second Directional :	Jason Greer
MWD Operator1	Ben Wallace
MWD Operator2	Joe Hatley
Directional Company:	Intrepid DDS
Geologist:	
Company Man:	TJ Nash

Casing

Size	Lb/ft	Set Depth

Signature:

BHA

BHA # 7:Baker DD506TWX w/ 6x22, 7" 7/8 8.5 FBH @ 1.75 W/ SS, UBHO, 6 3/4" NMDC, 6 3/4 NMDC, X-O (ED 54 BX x 4 1/2 IF PN), 28 stds. D.P., X-O (4 1/2 IF BX x ED 54 PN), Agitator, X-O (ED 54 BX x 4 1/2 IF PN),

Incl. In:	90.33	**Azm. In:**	357.36	**Incl. Out:**	88.26	**Azm. Out:**	356.12	**Daily Cost**	$8,150.00
								Cummulative Cost:	$104,418.00

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
11-Jan-20	00:00	00:40	0.67	13995	14036	Drilling	Drilling - (WOB:50; :725;RPM:40)
11-Jan-20	00:40	00:50	0.17	14036	14036	Survey & Conn.	Survey & Conn.@13978' Inc 91.34° Azm 356.74°
11-Jan-20	00:50	02:05	1.25	14036	14126	Drilling	Drilling - (WOB:50;GPM :725;RPM:40)
11-Jan-20	02:05	02:15	0.17	14126	14126	Survey & Conn.	Survey & Conn.@14068' Inc 92.4° Azm 356.48°
11-Jan-20	02:15	02:20	0.08	14126	14132	Drilling	Drilling - (WOB:50;GPM :725;RPM:60)
11-Jan-20	02:20	03:00	0.67	14132	14165	Sliding	Sliding - (WOB:55;GPM :676;TFO:140R))
11-Jan-20	03:00	03:40	0.67	14165	14216	Drilling	Drilling - (WOB:50;GPM :725;RPM:60)
11-Jan-20	03:40	03:50	0.17	14216	14216	Survey & Conn.	Survey & Conn.@14158' Inc 92.18° Azm 357.27°
11-Jan-20	03:50	04:50	1.00	14216	14306	Drilling	Drilling - (WOB:50;GPM :725;RPM:60)
11-Jan-20	04:50	05:00	0.17	14306	14306	Survey & Conn.	Survey & Conn.@14248' Inc 92.26° Azm 357.62°
11-Jan-20	05:00	05:10	0.17	14306	14314	Drilling	Drilling - (WOB:50;GPM :725;RPM:60)
11-Jan-20	05:10	05:55	0.75	14314	14349	Sliding	Sliding - (WOB:55;GPM :676;TFO:140R))
11-Jan-20	05:55	06:30	0.58	14349	14396	Drilling	Drilling - (WOB:50;GPM :725;RPM:60)
11-Jan-20	06:30	06:40	0.17	14396	14396	Survey & Conn.	Survey & Conn.@14338' Inc 91.91° Azm 358.67°
11-Jan-20	06:40	06:50	0.17	14396	14408	Drilling	Drilling - (WOB:50;GPM :725;RPM:60)
11-Jan-20	06:50	07:45	0.92	14408	14440	Sliding	Sliding - (WOB:55;GPM :676;TFO:110))
11-Jan-20	07:45	08:30	0.75	14440	14486	Drilling	Drilling - (WOB:55;GPM :725;RPM:70)

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
11-Jan-20	08:30	08:40	0.17	14486	14486	Survey & Conn.	Survey & Conn.@14428' Inc 91.34° Azm 1.49°
11-Jan-20	08:40	09:45	1.08	14486	14575	Drilling	Drilling - (WOB:60;GPM :725;RPM:45)
11-Jan-20	09:45	09:55	0.17	14575	14575	Survey & Conn.	Survey & Conn.@14517' Inc 91.78° Azm 1.84°
11-Jan-20	09:55	10:50	0.92	14575	14665	Drilling	Drilling - (WOB:63;GPM :725;RPM:45)
11-Jan-20	10:50	11:00	0.17	14665	14665	Survey & Conn.	Survey & Conn.@14607' Inc 92.48° Azm 1.4°
11-Jan-20	11:00	11:10	0.17	14665	14678	Drilling	Drilling - (WOB:63;GPM :725;RPM:45)
11-Jan-20	11:10	12:15	1.08	14678	14708	Sliding	Sliding - (WOB:55;GPM :725;TFO:150))
11-Jan-20	12:15	12:45	0.50	14708	14755	Drilling	Drilling - (WOB:63;GPM :725;RPM:45)
11-Jan-20	12:45	12:55	0.17	14755	14755	Survey & Conn.	Survey & Conn.@14697' Inc 92.66° Azm 1.66°
11-Jan-20	12:55	13:40	0.75	14755	14844	Drilling	Drilling - (WOB:63;GPM :725;RPM:45)
11-Jan-20	13:40	13:50	0.17	14844	14844	Survey & Conn.	Survey & Conn.@14786' Inc 92.04° Azm 1.22°
11-Jan-20	13:50	14:40	0.83	14844	14934	Drilling	Drilling - (WOB:63;GPM :725;RPM:45)
11-Jan-20	14:40	14:50	0.17	14934	14934	Survey & Conn.	Survey & Conn.@14876' Inc 91.96° Azm 0.26°
11-Jan-20	14:50	15:35	0.75	14934	15024	Drilling	Drilling - (WOB:63;GPM :725;RPM:45)
11-Jan-20	15:35	15:45	0.17	15024	15024	Survey & Conn.	Survey & Conn.@14966' Inc 92.05° Azm 359.64°
11-Jan-20	15:45	16:40	0.92	15024	15114	Drilling	Drilling - (WOB:63;GPM :725;RPM:45)
11-Jan-20	16:40	17:00	0.33	15114	15114	Rig Service-Inhole	Rig Service-Inhole
11-Jan-20	17:00	19:20	2.33	15114	15114	Circulating	Work on Top Drive - Saver Sub
11-Jan-20	19:20	19:30	0.17	15114	15114	Survey & Conn.	Survey & Conn.@15056' Inc 92.66° Azm 358.59°
11-Jan-20	19:30	19:40	0.17	15114	15120	Drilling	Drilling - (WOB:63;GPM :725;RPM:45)
11-Jan-20	19:40	20:35	0.92	15120	15155	Sliding	Sliding - (WOB:55;GPM :725;TFO:150))
11-Jan-20	20:35	21:00	0.42	15155	15204	Drilling	Drilling - (WOB:63;GPM :725;RPM:45)
11-Jan-20	21:00	22:15	1.25	15204	15204	Circulating	Work on Top Drive - Saver Sub
11-Jan-20	22:15	22:25	0.17	15204	15204	Survey & Conn.	Survey & Conn.@15146' Inc 90.11° Azm 357.97°
11-Jan-20	22:25	23:00	0.58	15204	15293	Drilling	Drilling - (WOB:63; :725;RPM:45)
11-Jan-20	23:00	23:10	0.17	15293	15293	Survey & Conn.	Survey & Conn.@15235' Inc 88.79° Azm 357.53°
11-Jan-20	23:10	23:35	0.42	15293	15383	Drilling	Drilling - (WOB:63; :725;RPM:45)
11-Jan-20	23:35	23:45	0.17	15383	15383	Survey & Conn.	Survey & Conn.@15325' Inc 88.26° Azm 356.12°
11-Jan-20	23:45	24:00	0.25	15383	15420	Drilling	Drilling - (WOB:63; :725;RPM:45)

SDI Job #:	ID2389-3	**Report Time:**	2400	15 of 15	
COMPANY:	Advance Energy Partners ,LLC	**API JOB #**	30-025-46492		
LOCATION:	Lea Co., N.M.	**WORK ORDER#**	ID2389		
RIG NAME:	HP 466 Flex 3	**FIELD:**	Delaware Basin		
STATE:	New Mexico	**Sec-Twn-Rng:**	20-21S-33E		
COUNTY:	Lea County	**AFE# & District**	NM0093		
WELL NAME:	Wool Head 20 State Com 512H				

From Sunday, January 12, 2020 at 0000 to Sunday, January 12, 2020 at 2400

DRILLING SUMMARY

Start Depth	15420.00	**Rotary Hours**	14.00	**WOB**	63	**Pick UP**	290	**Slack Off**	240	**SPM**	
End Depth	16998.00	**Circulating Hours**	0.00	**RAB**	250	**SPP**	4580	**FlowRate**	695 - 725	225	
Total Drilled:	1578.00	**Avg. Total ROP:**	76.05								
Total Rotary Drilled:	1335.00	**Avg. Rotary ROP:**	95.36	**Type**	OBM			**PV**	13	**SOLID**	9.7
Total Drilled Sliding:	243.00	**Avg. Slide ROP:**	36.00	**Weight**	9.4	**GAS**	0	**YP**	10	**BHT°**	180
Slide Hours:	6.75	**Percent Rotary:**	84.60	**Viscosity**	56	**SAND**	0.01	**PH**	0	**Flow T°**	130
Below Rotary Hrs.	24.00	**Percent Slide:**	15.40	**Chlorides**	47000	**WL**	7			**Oil %**	71

Drilling Parameters

Mud Data

PERSONNEL

Lead Directional :	Jason Mueller
Second Directional :	Jason Greer
MWD Operator1	Ben Wallace
MWD Operator2	Joe Hatley
Directional Company:	Intrepid DDS
Geologist:	
Company Man:	TJ Nash

Casing

Size	Lb/ft	Set Depth

Signature:

BHA

BHA # 7:Baker DD506TWX w/ 6x22, 7" 7/8 8.5 FBH @ 1.75 W/ SS, UBHO, 6 3/4" NMDC, 6 3/4 NMDC, X-O (ED 54 BX x 4 1/2 IF PN), 28 stds. D.P., X-O (4 1/2 IF BX x ED 54 PN), Agitator, X-O (ED 54 BX x 4 1/2 IF PN),

Incl. In:	88.26	**Azm. In:**	356.12	**Incl. Out:**	90.86	**Azm. Out:**	359.73	**Daily Cost**	$8,150.00
								Cummulative Cost:	$112,568.00

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
12-Jan-20	00:00	00:30	0.50	15420	15472	Drilling	Drilling - (WOB:63; :725;RPM:45)
12-Jan-20	00:30	00:40	0.17	15472	15472	Survey & Conn.	Survey & Conn.@15414' Inc 89.14° Azm 355.07°
12-Jan-20	00:40	00:50	0.17	15472	15480	Drilling	Drilling - (WOB:63; :725;RPM:45)
12-Jan-20	00:50	01:35	0.75	15480	15520	Sliding	Sliding - (WOB:55; :725;TFO:90R))
12-Jan-20	01:35	02:00	0.42	15520	15562	Drilling	Drilling - (WOB:63; :725;RPM:45)
12-Jan-20	02:00	02:10	0.17	15562	15562	Survey & Conn.	Survey & Conn.@15504' Inc 91.52° Azm 357.18°
12-Jan-20	02:10	02:55	0.75	15562	15652	Drilling	Drilling - (WOB:63; :725;RPM:45)
12-Jan-20	02:55	03:05	0.17	15652	15652	Survey & Conn.	Survey & Conn.@15594' Inc 93.85° Azm 357.88°
12-Jan-20	03:05	03:10	0.08	15652	15657	Drilling	Drilling - (WOB:63; :725;RPM:45)
12-Jan-20	03:10	04:10	1.00	15657	15703	Sliding	Sliding - (WOB:55; :725;TFO:155R))
12-Jan-20	04:10	04:40	0.50	15703	15741	Drilling	Drilling - (WOB:63; :725;RPM:45)
12-Jan-20	04:40	04:50	0.17	15741	15741	Survey & Conn.	Survey & Conn.@15683' Inc 92.92° Azm 359.38°
12-Jan-20	04:50	05:25	0.58	15741	15831	Drilling	Drilling - (WOB:63; :725;RPM:60)
12-Jan-20	05:25	05:35	0.17	15831	15831	Survey & Conn.	Survey & Conn.@15773' Inc 91.25° Azm 0.61°
12-Jan-20	05:35	06:20	0.75	15831	15921	Drilling	Drilling - (WOB:63; :725;RPM:60)
12-Jan-20	06:20	06:30	0.17	15921	15921	Survey & Conn.	Survey & Conn.@15863' Inc 90.95° Azm 359.46°
12-Jan-20	06:30	07:10	0.67	15921	16011	Drilling	Drilling - (WOB:63; :695;RPM:60)

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
12-Jan-20	07:10	07:20	0.17	16011	16011	Survey & Conn.	Survey & Conn.@15953' Inc 92.04° Azm 358.5°
12-Jan-20	07:20	07:55	0.58	16011	16054	Drilling	Drilling - (WOB:63; :695;RPM:60)
12-Jan-20	07:55	08:55	1.00	16054	16089	Sliding	Sliding - (WOB:55; :725;TFO:120))
12-Jan-20	08:55	09:00	0.08	16089	16100	Drilling	Drilling - (WOB:63; :695;RPM:60)
12-Jan-20	09:00	09:10	0.17	16100	16100	Survey & Conn.	Survey & Conn.@16042' Inc 93.54° Azm 357.97°
12-Jan-20	09:10	09:30	0.33	16100	16126	Drilling	Drilling - (WOB:63; :695;RPM:60)
12-Jan-20	09:30	10:10	0.67	16126	16148	Sliding	Sliding - (WOB:55; :725;TFO:135))
12-Jan-20	10:10	10:35	0.42	16148	16190	Drilling	Drilling - (WOB:63; :725;RPM:60)
12-Jan-20	10:35	10:45	0.17	16190	16190	Survey & Conn.	Survey & Conn.@16132' Inc 92.97° Azm 0.96°
12-Jan-20	10:45	10:55	0.17	16190	16202	Drilling	Drilling - (WOB:63; :725;RPM:60)
12-Jan-20	10:55	12:05	1.17	16202	16240	Sliding	Sliding - (WOB:63; :725;TFO:140))
12-Jan-20	12:05	12:45	0.67	16240	16279	Drilling	Drilling - (WOB:63; :725;RPM:60)
12-Jan-20	12:45	12:55	0.17	16279	16279	Survey & Conn.	Survey & Conn.@16221' Inc 90.81° Azm 2.89°
12-Jan-20	12:55	13:55	1.00	16279	16369	Drilling	Drilling - (WOB:63; :725;RPM:60)
12-Jan-20	13:55	14:10	0.25	16369	16369	Rig Service-Inhole	Rig Service-Inhole
12-Jan-20	14:10	14:15	0.08	16369	16369	Survey & Conn.	Survey & Conn.@16311' Inc 88.75° Azm 3.24°
12-Jan-20	14:15	15:30	1.25	16369	16459	Drilling	Drilling - (WOB:63; :725;RPM:40)
12-Jan-20	15:30	15:40	0.17	16459	16459	Survey & Conn.	Survey & Conn.@16401' Inc 88.13° Azm 2.54°
12-Jan-20	15:40	16:00	0.33	16459	16485	Drilling	Drilling - (WOB:63; :725;RPM:40)
12-Jan-20	16:00	16:15	0.25	16485	16497	Sliding	Sliding - (WOB:63; :725;TFO:HS))
12-Jan-20	16:15	16:50	0.58	16497	16549	Drilling	Drilling - (WOB:63; :725;RPM:40)
12-Jan-20	16:50	17:00	0.17	16549	16549	Survey & Conn.	Survey & Conn.@16491' Inc 89.49° Azm 1.57°
12-Jan-20	17:00	17:50	0.83	16549	16638	Drilling	Drilling - (WOB:63; :725;RPM:40)
12-Jan-20	17:50	18:00	0.17	16638	16638	Survey & Conn.	Survey & Conn.@16580' Inc 91.38° Azm 0.34°
12-Jan-20	18:00	18:45	0.75	16638	16728	Drilling	Drilling - (WOB:63; :725;RPM:40)
12-Jan-20	18:45	18:55	0.17	16728	16728	Survey & Conn.	Survey & Conn.@16670' Inc 91.69° Azm 0.08°
12-Jan-20	18:55	20:00	1.08	16728	16818	Drilling	Drilling - (WOB:63; :725;RPM:40)
12-Jan-20	20:00	20:10	0.17	16818	16818	Survey & Conn.	Survey & Conn.@16760' Inc 92.84° Azm 358.85°
12-Jan-20	20:10	20:20	0.17	16818	16823	Drilling	Drilling - (WOB:63; :725;RPM:40)
12-Jan-20	20:20	21:10	0.83	16823	16845	Sliding	Sliding - (WOB:63; :725;TFO:140R))
12-Jan-20	21:10	21:50	0.67	16845	16908	Drilling	Drilling - (WOB:63; :725;RPM:40)
12-Jan-20	21:50	22:00	0.17	16908	16908	Survey & Conn.	Survey & Conn.@16850' Inc 92.79° Azm 359.64°
12-Jan-20	22:00	22:10	0.17	16908	16922	Drilling	Drilling - (WOB:63; :725;RPM:40)
12-Jan-20	22:10	23:15	1.08	16922	16950	Sliding	Sliding - (WOB:63; :725;TFO:180))
12-Jan-20	23:15	23:45	0.50	16950	16998	Drilling	Drilling - (WOB:63; :725;RPM:40)
12-Jan-20	23:45	24:00	0.25	16998	16998	Survey & Conn.	Survey & Conn.@16940' Inc 90.86° Azm 359.73°

SDI Job #:	ID2389-3	**Report Time:**	2400	16 of 16	
COMPANY:	Advance Energy Partners ,LLC	**API JOB #**	30-025-46492		
LOCATION:	Lea Co., N.M.	**WORK ORDER#**	ID2389		
RIG NAME:	HP 466 Flex 3	**FIELD:**	Delaware Basin		
STATE:	New Mexico	**Sec-Twn-Rng:**	20-21S-33E		
COUNTY:	Lea County	**AFE# & District**	NM0093		
WELL NAME:	Wool Head 20 State Com 512H				

From Monday, January 13, 2020 at 0000 to Monday, January 13, 2020 at 2400

DRILLING SUMMARY

Start Depth	16998.00	**Rotary Hours**	14.67	**WOB**	63	**Pick UP**	290	**Slack Off**	240	**SPM**	
End Depth	18488.00	**Circulating Hours**	0.25	**RAB**	250	**SPP**	4450	**FlowRate**	348 - 725	216	
Total Drilled:	1490.00	**Avg. Total ROP:**	71.24								
Total Rotary Drilled:	1284.00	**Avg. Rotary ROP:**	87.55	**Type**	OBM			**PV**	14	**SOLID**	9.9
Total Drilled Sliding:	206.00	**Avg. Slide ROP:**	32.96	**Weight**	9.5	**GAS**	0	**YP**	8	**BHT°**	182
Slide Hours:	6.25	**Percent Rotary:**	86.17	**Viscosity**	54	**SAND**	0.01	**PH**	0	**Flow T°**	136
Below Rotary Hrs.	24.00	**Percent Slide:**	13.83	**Chlorides**	45000	**WL**	6.8			**Oil %**	71

Drilling Parameters

Mud Data

PERSONNEL

Lead Directional :	Jason Mueller
Second Directional :	Jason Greer
MWD Operator1	Ben Wallace
MWD Operator2	Joe Hatley
Directional Company:	Intrepid DDS
Geologist:	
Company Man:	TJ Nash

Casing

Size	Lb/ft	Set Depth

Signature:

BHA

BHA # 7:Baker DD506TWX w/ 6x22, 7" 7/8 8.5 FBH @ 1.75 W/ SS, UBHO, 6 3/4" NMDC, 6 3/4 NMDC, X-O (ED 54 BX x 4 1/2 IF PN), 28 stds. D.P., X-O (4 1/2 IF BX x ED 54 PN), Agitator, X-O (ED 54 BX x 4 1/2 IF PN),

Incl. In:	90.86	**Azm. In:**	359.73	**Incl. Out:**	92.88	**Azm. Out:**	357.33	**Daily Cost**	$8,150.00
								Cummulative Cost:	$120,718.00

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
13-Jan-20	00:00	00:30	0.50	16998	17087	Drilling	Drilling - (WOB:63; :725;RPM:40)
13-Jan-20	00:30	00:40	0.17	17087	17087	Survey & Conn.	Survey & Conn.@17029' Inc 90.46° Azm 359.73°
13-Jan-20	00:40	01:25	0.75	17087	17177	Drilling	Drilling - (WOB:63; :725;RPM:40)
13-Jan-20	01:25	01:35	0.17	17177	17177	Survey & Conn.	Survey & Conn.@17119' Inc 90.77° Azm 359.82°
13-Jan-20	01:35	02:20	0.75	17177	17267	Drilling	Drilling - (WOB:63; :725;RPM:40)
13-Jan-20	02:20	02:30	0.17	17267	17267	Survey & Conn.	Survey & Conn.@17209' Inc 92.09° Azm 359.2°
13-Jan-20	02:30	03:30	1.00	17267	17357	Drilling	Drilling - (WOB:63; :725;RPM:40)
13-Jan-20	03:30	03:40	0.17	17357	17357	Survey & Conn.	Survey & Conn.@17299' Inc 92.79° Azm 358.94°
13-Jan-20	03:40	03:50	0.17	17357	17363	Drilling	Drilling - (WOB:63; :725;RPM:40)
13-Jan-20	03:50	04:15	0.42	17363	17363	Rig repair	Rig repair - Pmps
13-Jan-20	04:15	05:00	0.75	17363	17388	Sliding	Sliding - (WOB:63;GPM :725;TFO:180))
13-Jan-20	05:00	05:45	0.75	17388	17446	Drilling	Drilling - (WOB:63;GPM :725;RPM:40)
13-Jan-20	05:45	05:55	0.17	17446	17446	Survey & Conn.	Survey & Conn.@17388' Inc 92.79° Azm 359.55°
13-Jan-20	05:55	06:15	0.33	17446	17470	Drilling	Drilling - (WOB:63; :705;RPM:60)
13-Jan-20	06:15	07:10	0.92	17470	17500	Sliding	Sliding - (WOB:63; :725;TFO:150))
13-Jan-20	07:10	07:55	0.75	17500	17536	Drilling	Drilling - (WOB:63; :705;RPM:60)
13-Jan-20	07:55	08:10	0.25	17536	17536	Circulating	Circ & Work on Pmps

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
13-Jan-20	**08:10**	**08:15**	0.08	**17536**	**17536**	**Survey & Conn.**	Survey & Conn.@17478' Inc 92.48° Azm 359.64°
13-Jan-20	**08:15**	**09:25**	1.17	**17536**	**17626**	**Drilling**	Drilling - (WOB:63; :705;RPM:60)
13-Jan-20	**09:25**	**09:30**	0.08	**17626**	**17626**	**Survey & Conn.**	Survey & Conn.@17568' Inc 91.6° Azm 359.46°
13-Jan-20	**09:30**	**10:45**	1.25	**17626**	**17715**	**Drilling**	Drilling - (WOB:63; :705;RPM:60)
13-Jan-20	**10:45**	**10:55**	0.17	**17715**	**17715**	**Survey & Conn.**	Survey & Conn.@17657' Inc 92.13° Azm 358.32°
13-Jan-20	**10:55**	**11:05**	0.17	**17715**	**17727**	**Drilling**	Drilling - (WOB:63; :705;RPM:60)
13-Jan-20	**11:05**	**12:25**	1.33	**17727**	**17767**	**Sliding**	Sliding - (WOB:63; :705;TFO:140))
13-Jan-20	**12:25**	**12:50**	0.42	**17767**	**17805**	**Drilling**	Drilling - (WOB:63; :705;RPM:60)
13-Jan-20	**12:50**	**13:00**	0.17	**17805**	**17805**	**Survey & Conn.**	Survey & Conn.@17747' Inc 92.92° Azm 358.41°
13-Jan-20	**13:00**	**14:00**	1.00	**17805**	**17894**	**Drilling**	Drilling - (WOB:63; :705;RPM:60)
13-Jan-20	**14:00**	**14:10**	0.17	**17894**	**17894**	**Survey & Conn.**	Survey & Conn.@17836' Inc 92.44° Azm 358.76°
13-Jan-20	**14:10**	**14:20**	0.17	**17894**	**17906**	**Drilling**	Drilling - (WOB:63; :705;RPM:60)
13-Jan-20	**14:20**	**15:35**	1.25	**17906**	**17947**	**Sliding**	Sliding - (WOB:63; :705;TFO:135))
13-Jan-20	**15:35**	**16:05**	0.50	**17947**	**17984**	**Drilling**	Drilling - (WOB:63; :705;RPM:60)
13-Jan-20	**16:05**	**16:10**	0.08	**17984**	**17984**	**Survey & Conn.**	Survey & Conn.@17926' Inc 92.44° Azm 359.29°
13-Jan-20	**16:10**	**16:35**	0.42	**17984**	**18013**	**Drilling**	Drilling - (WOB:63; :705;RPM:60)
13-Jan-20	**16:35**	**17:55**	1.33	**18013**	**18048**	**Sliding**	Sliding - (WOB:63; :705;TFO:150))
13-Jan-20	**17:55**	**18:20**	0.42	**18048**	**18074**	**Drilling**	Drilling - (WOB:63; :705;RPM:60)
13-Jan-20	**18:20**	**18:30**	0.17	**18074**	**18074**	**Survey & Conn.**	Survey & Conn.@18016' Inc 91.69° Azm 0.08°
13-Jan-20	**18:30**	**19:40**	1.17	**18074**	**18164**	**Drilling**	Drilling - (WOB:63; :705;RPM:60)
13-Jan-20	**19:40**	**19:50**	0.17	**18164**	**18164**	**Survey & Conn.**	Survey & Conn.@18106' Inc 90.46° Azm 0.17°
13-Jan-20	**19:50**	**20:45**	0.92	**18164**	**18254**	**Drilling**	Drilling - (WOB:63; :705;RPM:60)
13-Jan-20	**20:45**	**20:55**	0.17	**18254**	**18254**	**Survey & Conn.**	Survey & Conn.@18196' Inc 91.38° Azm 358.85°
13-Jan-20	**20:55**	**21:50**	0.92	**18254**	**18343**	**Drilling**	Drilling - (WOB:63; :705;RPM:60)
13-Jan-20	**21:50**	**22:00**	0.17	**18343**	**18343**	**Survey & Conn.**	Survey & Conn.@18285' Inc 92.92° Azm 357.88°
13-Jan-20	**22:00**	**22:10**	0.17	**18343**	**18352**	**Drilling**	Drilling - (WOB:63; :705;RPM:60)
13-Jan-20	**22:10**	**22:50**	0.67	**18352**	**18387**	**Sliding**	Sliding - (WOB:63; :705;TFO:180))
13-Jan-20	**22:50**	**23:25**	0.58	**18387**	**18433**	**Drilling**	Drilling - (WOB:63; :705;RPM:60)
13-Jan-20	**23:25**	**23:35**	0.17	**18433**	**18433**	**Survey & Conn.**	Survey & Conn.@18375' Inc 92.88° Azm 357.33°
13-Jan-20	**23:35**	**24:00**	0.42	**18433**	**18488**	**Drilling**	Drilling - (WOB:63; :705;RPM:60)

	SDI Job #:	ID2389-3	**Report Time:**	2400	17 of 17
	COMPANY:	Advance Energy Partners ,LLC	**API JOB #**	30-025-46492	
	LOCATION:	Lea Co., N.M.	**WORK ORDER#**	ID2389	
INTREPID Directional Drilling Specialists	**RIG NAME:**	HP 466 Flex 3	**FIELD:**	Delaware Basin	
	STATE:	New Mexico	**Sec-Twn-Rng:**	20-21S-33E	
	COUNTY:	Lea County	**Range/Section**		NM0093
	WELL NAME:	Wool Head 20 State Com 512H	**Company Man**	TJ Nash	
	Lead Directional :	Jason Mueller	**2nd Dir Hand :**	Jason Greer	

From Tuesday, January 14, 2020 at 0000 to Tuesday, January 14, 2020 at 2400

DAILY TOTALS

Start Depth	18488.00
End Depth	18660.00
Below Rot Hrs.	10.00
Total Drilled:	172.00
Avg. Total ROP:	79.38
Slide Footage:	31.00
Slide Hours	0.50
Avg. Slide ROP:	62.00
Rotate Footage:	141.00
Rotary Hours	1.67
Avg. Rot ROP:	84.60
Circ Hours	3.50
Ream Hours	0.00
Rotary Hrs%:	76.92
Slide Hrs%:	23.08
Rotary Ftg%:	81.98
Slide Ftg%:	18.02

Cost Detail

Descr.	Price
DAY RATE	8,150.00

Assembly Totals

BHA #	Motor SN / R.S. SN	Slide Ftg	Slide Hrs	Rotate Ftg	Rotate Hrs	Circ Hrs	D & C Hrs	BHA Ftg	Avg ROP
7	XSS70079	919.00	23.83	6,525.00	70.25	8.33	102.42	7,444.00	72.74

Drilling Parameters

WOB:	0
Rot Wt:	0
Pick UP:	0
Slack Off:	0
SPP:	0
Flow:	0 - 750
SPM:	0
Rot. RPM	60 - 60
Mot RPM:	60 - 60
Incl. In:	92.88
Azm. In:	357.33
Incl. Out:	93.27
Azm. Out:	356.65

Mud Record

OBM

Weight:	9.6
Visc:	54
Chlorides:	4600
YP:	9
PV:	13
PH:	0
GAS:	0
SAND:	0.01
WL:	6.8
SOLID:	10.5
BHT°:	182
Flow T°:	142
Oil %:	71

Bit Record

Bit No:	7
Model	Baker
SN.:	5308084
MFG.	Other
Type	PDC
IADC	
JETS	6-22
TFA:	2.226
Hole ID:	8 1/2
Bit Hrs:	94.08
Bit Ftg:	7444.00

Pumps

Liner	0	0
Stroke	0	0
Effic.	95.00%	95.00%
Gal/Stk	0.00	0.00
BBL/Stk	0.000	0.000

Current BHA # 7

Baker DD506TWX w/ 6x22
7" 7/8 8.5 FBH @ 1.75 W/ SS
UBHO
6 3/4" NMDC
6 3/4 NMDC
X-O (ED 54 BX x 4 1/2 IF PN
28 stds. D.P.
X-O (4 1/2 IF BX x ED 54 PN)
Agitator
X-O (ED 54 BX x 4 1/2 IF PN

Cost Breakdown

Total Daily	$8,150.00
Total Job	$128,868.00

GENERAL COMMENT

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
00:00	00:25	0.42	18488	18523	35	84.00	Drilling	Drilling - (WOB:63; :705;RPM:60)
00:25	00:35	0.17	18523	18523	0	.00	Survey & Conn.	Survey & Conn.@0' Inc 0° Azm 0°
00:35	00:45	0.17	18523	18530	7	42.00	Drilling	Drilling - (WOB:70; :705;RPM:60)
00:45	01:15	0.50	18530	18561	31	62.00	Sliding	Sliding - (WOB:85; :705;TFO:180))
01:15	01:55	0.67	18561	18612	51	76.50	Drilling	Drilling - (WOB:70; :705;RPM:60)
01:55	02:05	0.17	18612	18612	0	.00	Survey & Conn.	Survey & Conn.@0' Inc 0° Azm 0°
02:05	02:30	0.42	18612	18660	48	115.20	Drilling	Drilling - (WOB:70; :705;RPM:60)
02:30	02:35	0.08	18660	18660	0	.00	MWD Survey	MWD Survey@0' Inc 0° Azm 0°
02:35	05:45	3.17	18660	18660	0	.00	Circulating	Circulating @ TD
05:45	06:15	0.50	18660	18660	0	.00	POOH	POOH - Rack Back 10 Stnds
06:15	06:30	0.25	18660	18660	0	.00	Circulating	Flow Check & Pmp Slug
06:30	09:00	2.50	18660	18660	0	.00	POOH	POOH - L/D DP
09:00	10:00	1.00	18660	18660	0	.00	POOH	L/D All Directional Tools
10:00	24:00	14.00	18660	18660	0	.00	Standby	Standby - Run Csng

	SDI Job #:	ID2389-3	**Report Time:**	2400	18 of 18
	COMPANY:	Advance Energy Partners ,LLC	**API JOB #**	30-025-46492	
	LOCATION:	Lea Co., N.M.	**WORK ORDER#**	ID2389	
INTREPID Directional Drilling Specialists	**RIG NAME:**	HP 466 Flex 3	**FIELD:**	Delaware Basin	
	STATE:	New Mexico	**Sec-Twn-Rng:**	20-21S-33E	
	COUNTY:	Lea County	**Range/Section**		NM0093
	WELL NAME:	Wool Head 20 State Com 512H	**Company Man**	TJ Nash	
	Lead Directional :	Jason Mueller	**2nd Dir Hand :**	Jason Greer	

From Wednesday, January 15, 2020 at 0000 to Wednesday, January 15, 2020 at 2400

DAILY TOTALS

Start Depth	18660.00
End Depth	18660.00
Below Rot Hrs.	0.00
Total Drilled:	0.00
Avg. Total ROP:	NA
Slide Footage:	0.00
Slide Hours	0.00
Avg. Slide ROP:	NA
Rotate Footage:	0.00
Rotary Hours	0.00
Avg. Rot ROP:	NA
Circ Hours	0.00
Ream Hours	0.00
Rotary Hrs%:	NA
Slide Hrs%:	NA
Rotary Ftg%:	NA
Slide Ftg%:	NA

Cost Detail

Descr.	Price
DAY RATE	4,950.00

Assembly Totals

BHA #	Motor SN / R.S. SN	Slide Ftg	Slide Hrs	Rotate Ftg	Rotate Hrs	Circ Hrs	D & C Hrs	BHA Ftg	Avg ROP

Drilling Parameters

WOB:	0
Rot Wt:	0
Pick UP:	0
Slack Off:	0
SPP:	0
Flow:	0 - 0
SPM:	0
Rot. RPM	-
Mot RPM:	-
Incl. In:	93.27
Azm. In:	356.65
Incl. Out:	93.27
Azm. Out:	356.65

Mud Record

OBM	
Weight:	9.6
Visc:	54
Chlorides:	4600
YP:	9
PV:	13
PH:	0
GAS:	0
SAND:	0.01
WL:	6.8
SOLID:	10.5
BHT°:	182
Flow T°:	142
Oil %:	71

Cost Breakdown

Total Daily	$4,950.00
Total Job	$133,818.00

Bit Record

Bit No:	
Model	
SN.:	
MFG.	
Type	
IADC	
JETS	
TFA:	
Hole ID:	N/A
Bit Hrs:	
Bit Ftg:	

Pumps

Liner	0	0
Stroke	0	0
Effic.	95.00%	95.00%
Gal/Stk	0.00	0.00
BBL/Stk	0.000	0.000

Current BHA # 0

GENERAL COMMENT

Start Time	End Time	Hours	Start Depth	End Depth	Delta Depth	ROP	Activity Code	COMMENT
00:00	23:59	23.98	18660	18660	0	.00	Standby	Standby - Run Csng & Cement

SDI Job #:	ID2389-3	**Report Time:**	2400	19 of 19	
COMPANY:	Advance Energy Partners ,LLC	**API JOB #**	30-025-46492		
LOCATION:	Lea Co., N.M.	**WORK ORDER#**	ID2389		
RIG NAME:	HP 466 Flex 3	**FIELD:**	Delaware Basin		
STATE:	New Mexico	**Sec-Twn-Rng:**	20-21S-33E		
COUNTY:	Lea County	**AFE# & District**	NM0093		
WELL NAME:	Wool Head 20 State Com 512H				

From Thursday, January 16, 2020 at 0000 to Thursday, January 16, 2020 at 2400

DRILLING SUMMARY

Start Depth	18660.00	**Rotary Hours**	0.00
End Depth	18660.00	**Circulating Hours**	0.00
Total Drilled:	0.00	**Avg. Total ROP:**	NA
Total Rotary Drilled:	0.00	**Avg. Rotary ROP:**	NA
Total Drilled Sliding:	0.00	**Avg. Slide ROP:**	NA
Slide Hours:	0.00	**Percent Rotary:**	NA
Below Rotary Hrs.	0.00	**Percent Slide:**	NA

Drilling Parameters

WOB	0	**Pick UP**	0	**Slack Off**	0	**SPM**	
RAB	0	**SPP**	0	**FlowRate**	0 - 0	0	

Mud Data

Type	OBM			**PV**	13	**SOLID**	10.5
Weight	9.6	**GAS**	0	**YP**	9	**BHT°**	182
Viscosity	54	**SAND**	0.01	**PH**	0	**Flow T°**	142
Chlorides	4600	**WL**	6.8			**Oil %**	71

PERSONNEL

Lead Directional :	Jason Mueller
Second Directional :	James Meredith
MWD Operator1	Ben Wallace
MWD Operator2	Joe Hatley
Directional Company:	Intrepid DDS
Geologist:	
Company Man:	TJ Nash

Casing

Size	Lb/ft	Set Depth

Signature:

BHA

N/A

Incl. In:	93.27	**Azm. In:**	356.65	**Incl. Out:**	0	**Azm. Out:**	0

Daily Cost	**$4,950.00**
Cummulative Cost:	**$138,768.00**

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
16-Jan-20	00:00	15:00	15.00	18660	18660	Standby	Standby- Prepare rig to move. Released rig from 512H @ 15:00
16-Jan-20	15:00	23:59	8.98	18660	18660	Standby	Standby- Rigging down moving to new pad.

ADVANCE ENERGY PARTNERS

BHA's

INTREPID

BHA # 1

SDI Job #:	ID2389-3 **Work Order:** ID2389	**FIELD:**	Delaware Basin
COMPANY:	Advance Energy Partners ,LLC	**Sec-Twn-Rng:**	20-21S-33E
LOCATION:	Lea Co., N.M.	**PO #/ DISTRICT**	NM0093
RIG NAME:	HP 466 Flex 3	**Lead DD:**	Bill Corley
STATE:	New Mexico	**Co. Man:**	Frank Calhoun
COUNTY:	Lea County	**BHA TYPE:**	Steerable Assembly
WELL NAME:	Wool Head 20 State Com 512H	**BHA WT:**	58428 **Wt @ Jars:** N/A

Time and Depths

Date In:	14-Nov-19 @ 01:50
Date Out:	21-Nov-19 @ 20:30
Hrs In Hole:	60.67
Start Depth:	145.00
End Depth:	1839.00
Total Drilled:	1694.00
Avg. Total ROP:	101.13
Circ Hrs: Tot/Only	17.83 / 1.08
Percent Slide:	7.08
Percent Hrs:	19.90
Slide Hours:	3.33
Total Sliding:	120.00
Avg. Slide ROP:	36.00
Percent Rotary:	92.92
Percent Hrs:	80.10
Rotary Hours:	13.42
Total Rotary:	1574.00
Avg. Rotary ROP:	117.32
Reason POOH:	

Motor Data

9 5/8, 7/8 5.9 ABH@1.5° w/

MFG.:	Intrepid
PAD OD:	10.45
NB Stab:	14.5
Bit to Bend:	8.75
Bent Hsg/Sub°:	1.5 / 0
Lobe/Stage:	7/8 / 5.9
Rev/GAL:	0.166
Rotor Jet:	0
Prop BUR:	4
Act BUR:	2

Drilling Parameters

SO/PU:	96 - 96 / 101-101
Rot Strg Wt:	99-99
WOB:	35 - 55
TORQ:	22000 - 26000
SPP:	2900 - 2900
Motor RPM:	149
Rotary RPM:	70 - 80
Flow Rate:	900 - 900
Avg Diff:	1000
Stall Pres.:	1990
Off Bot Pres.:	

Mud Data

Type	WBM		
WT:	8.4	**GAS:**	0
Vis:	28	**PV:**	0
WL:	0	**PH:**	9.5
SOL:	0	**SAND:**	0
Oil %:	0	**T °:**	0
Chlor:	0	**YP:**	0

Bit Record

Other / 17.5" Baker DP606S

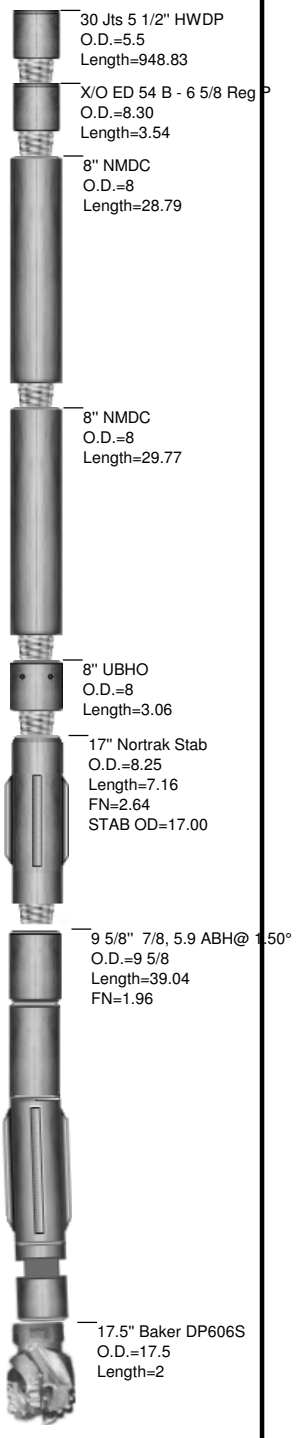
Run #:	1
Type Bit:	PDC
IADC#:	**TFA:** 0.994
JETS:	9-12
Bit Drop:	634 PSI @ 900 GPM
Cond.:	

MWD Spacing **Gamma:** 0 **Restiv:** 0 **Sensor:** 68
GYRO: 0 **DNSC:** 0 **Sonic:** 0

Last Casing **O.D.**
Shoe @: **Hanger @:**

INC IN: .0 **INC OUT:** .0 **AZM IN:** .00 **AZM OUT:** .00

9 5/8" MTR 7/8 5.9 ABH @ 1.50° w/ 14 1/2" NBS
BTB - 8.75
Flow: 400-900
RPM: 66-150
Max Diff: 1330 psi.
Max Torq: 22,020
RPG: 0.166
Bit to Sensor: 68'



BHA Detail

Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn	MFG.
17.5" Baker DP606S	5302410	3	17.5	2.00	2.00	6 5/8 REGP	BAKER
9 5/8" 7/8, 5.9 ABH@ 1.50°	XSH96028		9 5/8	39.04	41.04	6 5/8 REGB	Intrepid
17" Nortrak Stab	AWSS5143	2 7/8	8.25	7.16	48.20	6 5/8 REGB	Amega West
8" UBHO	BT801172	3 1/4	8	3.06	51.26	6 5/8 REGB	Intrepid
8" NMDC	BT801135	3 3/8	8	29.77	81.03	6 5/8 REGB	Intrepid
8" NMDC	BT80655	3 7/16	8	28.79	109.82	6 5/8 REGB	Intrepid
X/O ED 54 B - 6 5/8 Reg P	RENTAL	2.75	8.30	3.54	113.36	ED54B	Rig
30 Jts 5 1/2" HWDP	RIG	3.375	5.5	948.83	1062.19	ED54B	RIG

BHA # 2

SDI Job #:	ID2389-3	**Work Order:**	ID2389	**FIELD:**	Delaware Basin
COMPANY:	Advance Energy Partners ,LLC			**Sec-Twn-Rng:**	20-21S-33E
LOCATION:	Lea Co., N.M.			**PO #/ DISTRICT**	NM0093
RIG NAME:	HP 466 Flex 3			**Lead DD:**	Jason Greer
STATE:	New Mexico			**Co. Man:**	Frank Calhoun
COUNTY:	Lea County			**BHA TYPE:**	Steerable Assembly
WELL NAME:	Wool Head 20 State Com 512H			**BHA WT:**	97099 **Wt @ Jars:** N/A

Time and Depths

Date In:	21-Nov-19 @ 20:30
Date Out:	01-Dec-19 @ 07:15
Hrs In Hole:	44.97
Start Depth:	1839.00
End Depth:	5282.00
Total Drilled:	3443.00
Avg. Total ROP:	186.11
Circ Hrs: Tot/Only	20.42 / 1.92
Percent Slide:	2.85
Percent Hrs:	6.31
Slide Hours:	1.17
Total Sliding:	98.00
Avg. Slide ROP:	84.00
Percent Rotary:	97.15
Percent Hrs:	93.69
Rotary Hours:	17.33
Total Rotary:	3345.00
Avg. Rotary ROP:	192.98
Reason POOH:	

Motor Data

8in. 7/8 5.9 FBH@1.5° w/ 12

MFG.:	Intrepid
PAD OD:	8.12
NB Stab:	11.75
Bit to Bend:	5.5
Bent Hsg/Sub°:	1.5 /
Lobe/Stage:	7/8 / 5.9
Rev/GAL:	0.166
Rotor Jet:	0
Prop BUR:	8
Act BUR:	8

Mud Data

Type WBM

WT:	8.4	**GAS:**	0
Vis:	28	**PV:**	0
WL:	0	**PH:**	9.5
SOL:	0	**SAND:**	0
Oil %:	0	**T °:**	0
Chlor:	0	**YP:**	0

Drilling Parameters

SO/PU:	140 - 140 / 140-140
Rot Strg Wt:	140-140
WOB:	36 - 60
TORQ:	18000 - 23000
SPP:	3000 - 4200
Motor RPM:	116 - 149
Rotary RPM:	60 - 80
Flow Rate:	700 - 900
Avg Diff:	700
Stall Pres.:	1990
Off Bot Pres.:	

Bit Record

BAKER / 12.25" Baker DP506TWSX

Run #:	3
Type Bit:	PDC
IADC#:	**TFA:** 0.662
JETS:	6-12
Bit Drop:	1430 PSI @ 900 GPM
Cond.:	

MWD Spacing **Gamma:** 0 **Restiv:** 0 **Sensor:** 65
GYRO: 0 **DNSC:** 1838 **Sonic:** 0

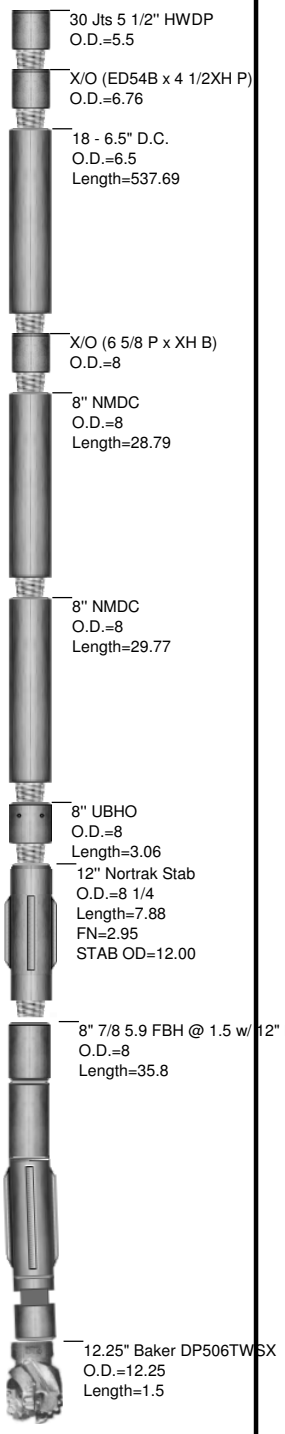
Last Casing **O.D.** 13 3/8
Shoe @: 1838 **Hanger @:**

INC IN: .0 **INC OUT:** .0 **AZM IN:** .00 **AZM OUT:** .00

8" MTR 7/8 5.9 ABH @ 1.50° w/ 12" NBS
BTB - 5.79
Flow: 400-900
RPM: 66-150
Max Diff: 1330 psi.
Max Torq: 22,020
RPG: 0.166
Bit to Sensor: 65'
Bit Runs = 0

BHA Detail

Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn	MFG.
12.25" Baker DP506TWSX	5306853	3	12.25	1.50	1.50	6 5/8 REGP	BAKER
8" 7/8 5.9 FBH @ 1.5 w/ 12" NBS	XSH80028		8	35.80	37.30	6 5/8 REGB	Intrepid
12" Nortrak Stab	BT801184	2 3/4	8 1/4	7.88	45.18	6 5/8 REGB	BT
8" UBHO	BT801172	3 1/4	8	3.06	48.24	6 5/8 REGB	Intrepid
8" NMDC	BT801135	3 3/8	8	29.77	78.01	6 5/8 REGB	Intrepid
8" NMDC	BT80655	3 7/16	8	28.79	106.80	6 5/8 REGB	Intrepid
X/O (6 5/8 P x XH B)	BT80403	2.75	8	2.32	109.12	4 1/2 XHB	Intrepid
18 - 6.5" D.C.	Rig	3	6.5	537.69	646.81	4 1/2 XHB	RIG
X/O (ED54B x 4 1/2XH P)	BD15088	2.88	6.76	3.60	650.41	ED54B	Rig
30 Jts 5 1/2" HWDP	RIG	3.375	5.5	948.83	1599.24	ED54B	RIG



WinSURV II BHA Report - License: NP5548

BHA # 3

SDI Job #:	ID2389-3 **Work Order:** ID2389	**FIELD:**	Delaware Basin
COMPANY:	Advance Energy Partners ,LLC	**Sec-Twn-Rng:**	20-21S-33E
LOCATION:	Lea Co., N.M.	**PO #/ DISTRICT**	NM0093
RIG NAME:	HP 466 Flex 3	**Lead DD:**	Jason Mueller
STATE:	New Mexico	**Co. Man:**	Frank Calhoun
COUNTY:	Lea County	**BHA TYPE:**	Steerable Assembly
WELL NAME:	Wool Head 20 State Com 512H	**BHA WT:**	108611 **Wt @ Jars:** N/A

Time and Depths

Date In:	01-Dec-19 @ 07:15
Date Out:	06-Jan-20 @ 09:00
Hrs In Hole:	57.97
Start Depth:	5282.00
End Depth:	10555.00
Total Drilled:	5273.00
Avg. Total ROP:	140.74
Circ Hrs: Tot/Only	40.13 / 2.67
Percent Slide:	3.38
Percent Hrs:	9.34
Slide Hours:	3.50
Total Sliding:	178.00
Avg. Slide ROP:	50.86
Percent Rotary:	96.62
Percent Hrs:	90.66
Rotary Hours:	33.97
Total Rotary:	5095.00
Avg. Rotary ROP:	150.00
Reason POOH:	TD

Motor Data

7in. 7/8 8.5 FBH @ 1.83 w/ 8	
MFG.:	Intrepid
PAD OD:	7 1/16
NB Stab:	8.25
Bit to Bend:	4.25
Bent Hsg/Sub°:	1.83 /
Lobe/Stage:	7/8 / 8.5
Rev/GAL:	0.26
Rotor Jet:	0
Prop BUR:	10
Act BUR:	14

Mud Data

Type			
WT:	0	**GAS:**	0
Vis:	0	**PV:**	0
WL:	0	**PH:**	0
SOL:	0	**SAND:**	0
Oil %:	0	**T °:**	0
Chlor:	0	**YP:**	0

Drilling Parameters

SO/PU:	140 - 140 / 140-140
Rot Strg Wt:	140-140
WOB:	20 - 60
TORQ:	13500 - 17500
SPP:	2400 - 4200
Motor RPM:	169 - 234
Rotary RPM:	30 - 30
Flow Rate:	651 - 900
Avg Diff:	
Stall Pres.:	
Off Bot Pres.:	

Bit Record

REED / 8 1/2" Reed TKC66

Run #:	3
Type Bit:	PDC
IADC#:	**TFA:** 1.035
JETS:	6-15
Bit Drop:	0 PSI @ 900 GPM
Cond.:	2-3

MWD Spacing **Gamma:** 0 **Restiv:** 0 **Sensor:** 63
GYRO: 0 **DNSC:** 5282 **Sonic:** 0

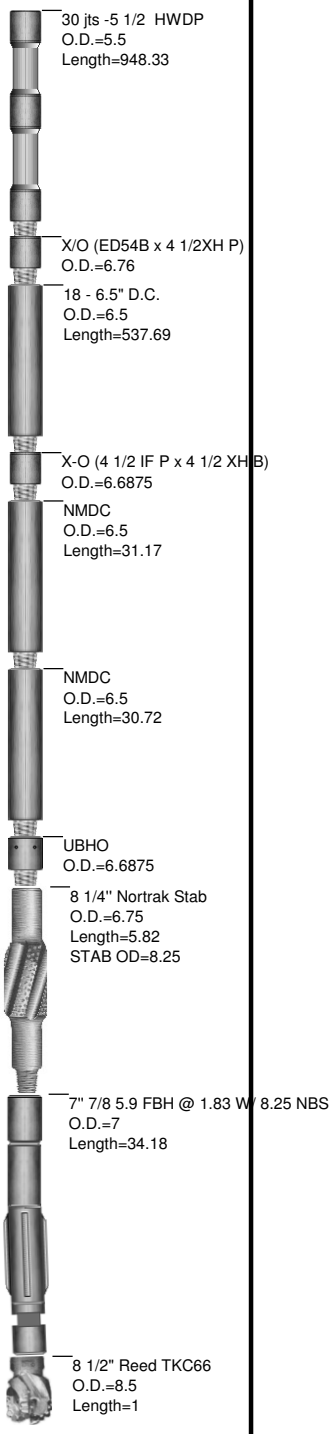
Last Casing **O.D.**
Shoe @: **Hanger @:**

INC IN: .0 **INC OUT:** .0 **AZM IN:** .00 **AZM OUT:** .00

7" MTR 7/8 8.5 FBH @ 1.83° w/ 8.25" NBS
BTB - 4.25
Flow: 500-750
RPM: 130-200
Max Diff: 1910 psi.
Max Torq: 18,710
RPG: 0.26
Bit to Sensor: 63'
Bit Runs = 0

BHA Detail

Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn	MFG.
8 1/2" Reed TKC66	A264974	2.8125	8.5	1.00	1.00	4 1/2 REGP	REED
7" 7/8 5.9 FBH @ 1.83 W/ 8.25 NBS	XSS70076		7	34.18	35.18	4 1/2 IFB	Intrepid
8 1/4" Nortrak Stab	BT675261	2.75	6.75	5.82	41.00	4 1/2 IFB	BT
UBHO	X67UBO23	2.75	6.6875	3.54	44.54	4 1/2 IFB	Intrepid
NMDC	BT675004	3.25	6.5	30.72	75.26	4 1/2 IFB	BT
NMDC	AMDC6021	3.25	6.5	31.17	106.43	4 1/2 IFB	AWS
X-O (4 1/2 IF P x 4 1/2 XH B)	BT6751494	2.75	6.6875	3.11	109.54	4 1/2 XHB	BT
18 - 6.5" D.C.	Rig	2.625	6.5	537.69	647.23	4 1/2 XHB	RIG
X/O (ED54B x 4 1/2XH P)	BD15088	2.88	6.76	3.60	650.83	ED54B	Rig
30 jts -5 1/2 HWDP	HWDP-3.375-	3.375	5.5	948.33	1599.16	ED54B	Rig
				0.00	1599.16		



WinSURV II BHA Report - License: NP5548

BHA # 4

SDI Job #:	ID2389-3 **Work Order:** ID2389	**FIELD:**	Delaware Basin
COMPANY:	Advance Energy Partners ,LLC	**Sec-Twn-Rng:**	20-21S-33E
LOCATION:	Lea Co., N.M.	**PO #/ DISTRICT**	NM0093
RIG NAME:	HP 466 Flex 3	**Lead DD:**	Jason Mueller
STATE:	New Mexico	**Co. Man:**	TJ Nash
COUNTY:	Lea County	**BHA TYPE:**	Steerable Assembly
WELL NAME:	Wool Head 20 State Com 512H	**BHA WT:**	8931 **Wt @ Jars:** N/A

Time and Depths

Date In:	06-Jan-20 @ 09:00
Date Out:	07-Jan-20 @ 03:00
Hrs In Hole:	18.00
Start Depth:	10555.00
End Depth:	10715.00
Total Drilled:	160.00
Avg. Total ROP:	35.56
Circ Hrs: Tot/Only	5.00 / .50
Percent Slide:	100.00
Percent Hrs:	100.00
Slide Hours:	4.50
Total Sliding:	160.00
Avg. Slide ROP:	35.56
Percent Rotary:	.00
Percent Hrs:	.00
Rotary Hours:	.00
Total Rotary:	.00
Avg. Rotary ROP:	NA
Reason POOH:	BHA

Motor Data

6 3/4 7/8 5.0 FBH TS

MFG.:	Intrepid
PAD OD:	7.10
NB Stab:	0
Bit to Bend:	3.95
Bent Hsg/Sub°:	2.12 / 2.12
Lobe/Stage:	7/8 / 5
Rev/GAL:	0.26
Rotor Jet:	0
Prop BUR:	13
Act BUR:	14.9

Mud Data

Type

WT:	0	**GAS:**	0
Vis:	0	**PV:**	0
WL:	0	**PH:**	0
SOL:	0	**SAND:**	0
Oil %:	0	**T °:**	0
Chlor:	0	**YP:**	0

Drilling Parameters

SO/PU:	0 - 250 / 0-302
Rot Strg Wt:	0-242
WOB:	0 - 50
TORQ:	-
SPP:	1694 - 2600
Motor RPM:	151
Rotary RPM:	-
Flow Rate:	580 - 580
Avg Diff:	650
Stall Pres.:	1130
Off Bot Pres.:	1694

Bit Record

HALLIBURTON / Security GTD55DM

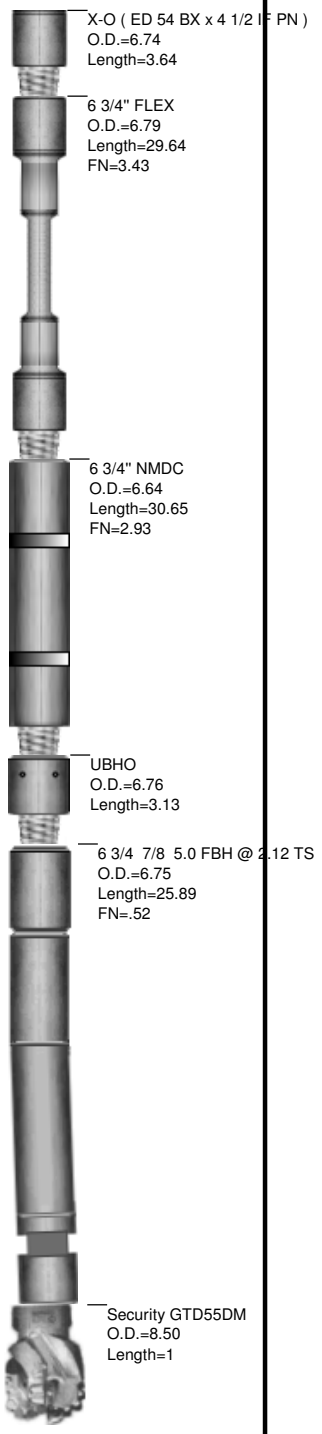
Run #:	4
Type Bit:	PDC
IADC#:	**TFA:** 1.855
JETS:	5-22
Bit Drop:	0 PSI @ 580 GPM
Cond.:	Bit Graded 1-1

MWD Spacing **Gamma:** 36 **Restiv:** 0 **Sensor:** 48 **GYRO:** 0 **DNSC:** 10555 **Sonic:** 0

Last Casing **O.D.** 9 5/8 **Shoe @:** 5272 **Hanger @:**

INC IN: .0 **INC OUT:** .0 **AZM IN:** .00 **AZM OUT:** .00

6 3/4" MTR 7/8 5.0 FBH @ 2.12° TS
BTB - 3.95
Flow: 300-600
RPM: 86-180
Max Diff: 1130 psi.
Max Torq: 10,460
RPG: 0.288
Bit to Sensor:48 '
Bit to Gamma: 36' Bit Runs = 0



BHA Detail

Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn	MFG.
Security GTD55DM	13070534		8.50	1.00	1.00	4 1/2 REGP	
6 3/4 7/8 5.0 FBH @ 2.12 TS	XSS67071		6.75	25.89	26.89	4 1/2 IFB	Intrepid
UBHO	BT6751409	3 3/16	6.76	3.13	30.02	4 1/2 IFB	Intrepid
6 3/4" NMDC	BT6751122	3 1/4	6.64	30.65	60.67	4 1/2 IFB	Intrepid
6 3/4" FLEX	AMDC6003	2 13/16	6.79	29.64	90.31	4 1/2 IFB	Intrepid
X-O (ED 54 BX x 4 1/2 IF PN)	BT15201	3	6.74	3.64	93.95	ED 54B	RIG

BHA # 5

SDI Job #:	ID2389-3 **Work Order:** ID2389	**FIELD:**	Delaware Basin
COMPANY:	Advance Energy Partners ,LLC	**Sec-Twn-Rng:**	20-21S-33E
LOCATION:	Lea Co., N.M.	**PO #/ DISTRICT**	NM0093
RIG NAME:	HP 466 Flex 3	**Lead DD:**	Jason Mueller
STATE:	New Mexico	**Co. Man:**	TJ Nash
COUNTY:	Lea County	**BHA TYPE:**	Steerable Assembly
WELL NAME:	Wool Head 20 State Com 512H	**BHA WT:**	5096 **Wt @ Jars:** N/A

Time and Depths

Date In:	07-Jan-20 @ 03:00
Date Out:	08-Jan-20 @ 04:00
Hrs In Hole:	25.00
Start Depth:	10715.00
End Depth:	10908.00
Total Drilled:	193.00
Avg. Total ROP:	57.90
Circ Hrs: Tot/Only	11.92 / 8.58
Percent Slide:	100.00
Percent Hrs:	100.00
Slide Hours:	3.33
Total Sliding:	193.00
Avg. Slide ROP:	57.90
Percent Rotary:	.00
Percent Hrs:	.00
Rotary Hours:	.00
Total Rotary:	.00
Avg. Rotary ROP:	NA
Reason POOH:	BHA

Motor Data

6 3/4 7/8 5.0 ABH @2.38°	
MFG.:	Intrepid
PAD OD:	7.30
NB Stab:	0
Bit to Bend:	6.88
Bent Hsg/Sub°:	2.38 / 2.38
Lobe/Stage:	7/8 / 5
Rev/GAL:	0.288
Rotor Jet:	0
Prop BUR:	13
Act BUR:	

Mud Data

Type	OBM		
WT:	9.7	**GAS:**	0
Vis:	70	**PV:**	17
WL:	8.4	**PH:**	0
SOL:	11	**SAND:**	0.01
Oil %:	70	**T °:**	127
Chlor:	45000	**YP:**	11

Drilling Parameters

SO/PU:	240 - 240 / 290-290
Rot Strg Wt:	250-250
WOB:	0 - 80
TORQ:	-
SPP:	1180 - 3120
Motor RPM:	167
Rotary RPM:	-
Flow Rate:	388 - 580
Avg Diff:	
Stall Pres.:	
Off Bot Pres.:	

Bit Record

Haliburton / Security GTD64C

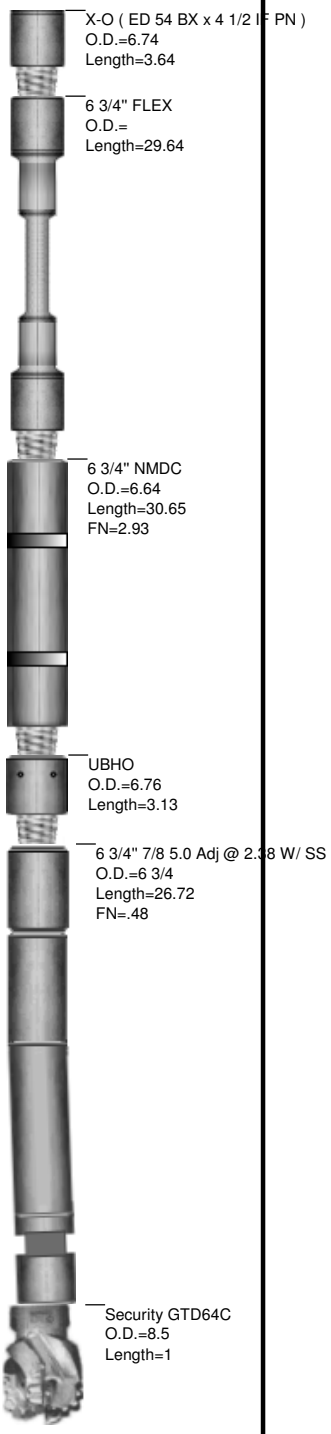
Run #:	5		
Type Bit:	PDC		
IADC#:		**TFA:**	2.226
JETS:	6-22		
Bit Drop:	61 PSI @ 580 GPM		
Cond.:	1-1		

MWD Spacing **Gamma:** 37 **Restiv:** 0 **Sensor:** 49 **GYRO:** 0 **DNSC:** 10715 **Sonic:** 0

Last Casing **O.D.** 9 5/8 **Shoe @:** 5272 **Hanger @:**

INC IN: .0 **INC OUT:** .0 **AZM IN:** .00 **AZM OUT:** .00

6 3/4 7/8 5.0 ABH @ 2.38° w/SS
BTB - 6.88
Flow: 300-600
RPM: 86-180
Max Diff: 1130 psi.
Max Torq: 10,460
RPG: 0.288
Bit to Sensor:49 '
Bit to Gamma: 37'



BHA Detail

Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn	MFG.
Security GTD64C	13400169		8.5	1.00	1.00	4 1/2 REGP	Haliburton
6 3/4" 7/8 5.0 Adj @ 2.38 W/ SS	XSH67138		6 3/4	26.72	27.72	4 1/2 IFB	Intrepid
UBHO	BT6751409	3 3/16	6.76	3.13	30.85	4 1/2 IFB	Intrepid
6 3/4" NMDC	BT6751122	3 1/4	6.64	30.65	61.50	4 1/2 IFB	Intrepid
6 3/4" FLEX	AMDC6003			29.64	91.14	4 1/2 IFB	Intrepid
X-O (ED 54 BX x 4 1/2 IF PN)	BT15201	3	6.74	3.64	94.78	ED 54B	RIG

BHA # 6

SDI Job #:	ID2389-3 **Work Order:** ID2389	**FIELD:**	Delaware Basin
COMPANY:	Advance Energy Partners ,LLC	**Sec-Twn-Rng:**	20-21S-33E
LOCATION:	Lea Co., N.M.	**PO #/ DISTRICT**	NM0093
RIG NAME:	HP 466 Flex 3	**Lead DD:**	Jason Mueller
STATE:	New Mexico	**Co. Man:**	TJ Nash
COUNTY:	Lea County	**BHA TYPE:**	Steerable Assembly
WELL NAME:	Wool Head 20 State Com 512H	**BHA WT:**	4973 **Wt @ Jars:** N/A

Time and Depths

Date In:	08-Jan-20 @ 04:00
Date Out:	09-Jan-20 @ 04:00
Hrs In Hole:	24.00
Start Depth:	10908.00
End Depth:	11216.00
Total Drilled:	308.00
Avg. Total ROP:	25.67
Circ Hrs: Tot/Only	12.67 / .67
Percent Slide:	100.00
Percent Hrs:	100.00
Slide Hours:	12.00
Total Sliding:	308.00
Avg. Slide ROP:	25.67
Percent Rotary:	.00
Percent Hrs:	.00
Rotary Hours:	.00
Total Rotary:	.00
Avg. Rotary ROP:	NA
Reason POOH:	

Motor Data

6 3/4 7/8 5.0 FBH @2.5° TS

MFG.:	Intrepid
PAD OD:	7.05
NB Stab:	0
Bit to Bend:	3.96
Bent Hsg/Sub°:	2.5 / 2.5
Lobe/Stage:	7/8 / 5
Rev/GAL:	0.288
Rotor Jet:	0
Prop BUR:	18
Act BUR:	17

Mud Data

Type OBM

WT:	9.7	**GAS:**	0
Vis:	72	**PV:**	17
WL:	8	**PH:**	0
SOL:	10.7	**SAND:**	0.01
Oil %:	70	**T °:**	127
Chlor:	47000	**YP:**	12

Drilling Parameters

SO/PU:	240 - 240 / 290-290
Rot Strg Wt:	250-250
WOB:	80 - 80
TORQ:	-
SPP:	2652 - 2652
Motor RPM:	131
Rotary RPM:	-
Flow Rate:	454 - 454
Avg Diff:	750
Stall Pres.:	1130
Off Bot Pres.:	1700

Bit Record

Haliburton / Security GTD64C

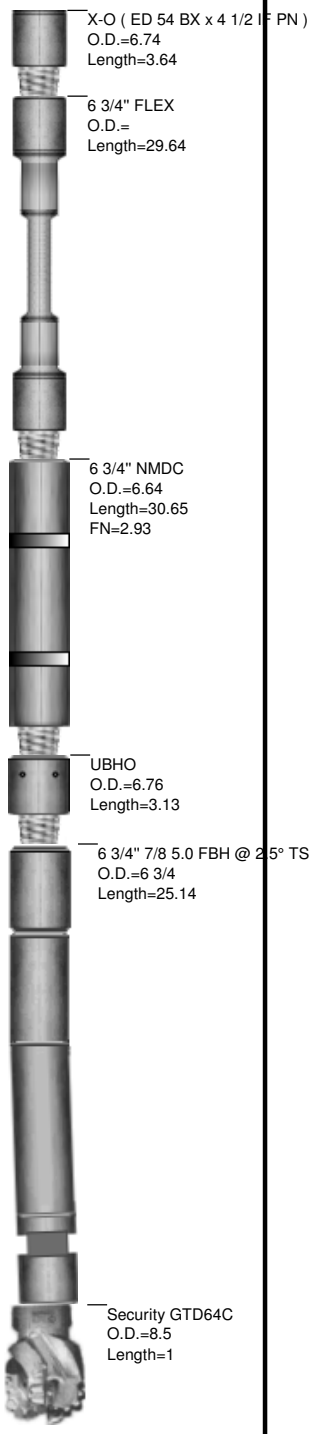
Run #:	6
Type Bit:	PDC
IADC#:	**TFA:** 2.226
JETS:	6-22
Bit Drop:	37 PSI @ 454 GPM
Cond.:	1-2

MWD Spacing **Gamma:** 37 **Restiv:** 0 **Sensor:** 48 **GYRO:** 0 **DNSC:** 10908 **Sonic:** 0

Last Casing **O.D.** 9 5/8 **Shoe @:** 5272 **Hanger @:**

INC IN: .0 **INC OUT:** .0 **AZM IN:** .00 **AZM OUT:** .00

6 3/4" MTR 7/8 5.0 FBH @ 2.50° TS
BTB - 3.96
Flow: 300-600
RPM: 86-180
Max Diff: 1130 psi.
Max Torq: 10,460
RPG: 0.288
Bit to Sensor:48 '
Bit to Gamma: 37'



BHA Detail

Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn	MFG.
Security GTD64C	13400169		8.5	1.00	1.00	4 1/2 REGP	Haliburton
6 3/4" 7/8 5.0 FBH @ 2.5° TS	XSS67068		6 3/4	25.14	26.14	4 1/2 IFB	OTHER
UBHO	BT6751409	3 3/16	6.76	3.13	29.27	4 1/2 IFB	Intrepid
6 3/4" NMDC	BT6751122	3 1/4	6.64	30.65	59.92	4 1/2 IFB	Intrepid
6 3/4" FLEX	AMDC6003			29.64	89.56	4 1/2 IFB	Intrepid
X-O (ED 54 BX x 4 1/2 IF PN)	BT15201	3	6.74	3.64	93.20	ED 54B	RIG

BHA # 7

INTREPID Directional Drilling Specialists

SDI Job #:	ID2389-3 **Work Order:** ID2389	**FIELD:**	Delaware Basin
COMPANY:	Advance Energy Partners ,LLC	**Sec-Twn-Rng:**	20-21S-33E
LOCATION:	Lea Co., N.M.	**PO #/ DISTRICT**	NM0093
RIG NAME:	HP 466 Flex 3	**Lead DD:**	Jason Mueller
STATE:	New Mexico	**Co. Man:**	TJ Nash
COUNTY:	Lea County	**BHA TYPE:**	Steerable Assembly
WELL NAME:	Wool Head 20 State Com 512H	**BHA WT:**	184017 **Wt @ Jars:** N/A

Time and Depths

Date In:	09-Jan-20 @ 04:00
Date Out:	14-Jan-20 @ 06:31
Hrs In Hole:	122.35
Start Depth:	11216.00
End Depth:	18660.00
Total Drilled:	7444.00
Avg. Total ROP:	79.12
Circ Hrs: Tot/Only	102.42 / 8.33
Percent Slide:	12.35
Percent Hrs:	25.33
Slide Hours:	23.83
Total Sliding:	919.00
Avg. Slide ROP:	38.56
Percent Rotary:	87.65
Percent Hrs:	74.67
Rotary Hours:	70.25
Total Rotary:	6525.00
Avg. Rotary ROP:	92.88
Reason POOH:	TD

Motor Data

7 in. 7/8 8.5 FBH @1.75° w/SS

MFG.:	Intrepid
PAD OD:	7.15
NB Stab:	0
Bit to Bend:	4.28
Bent Hsg/Sub°:	1.75 /
Lobe/Stage:	7/8 / 8.5
Rev/GAL:	0.26
Rotor Jet:	0
Prop BUR:	8
Act BUR:	8

Mud Data

Type OBM

WT:	9.6	**GAS:**	0
Vis:	54	**PV:**	13
WL:	6.8	**PH:**	0
SOL:	10.5	**SAND:**	0.01
Oil %:	71	**T °:**	182
Chlor:	4600	**YP:**	9

Drilling Parameters

SO/PU:	240 - 240 / 290-290
Rot Strg Wt:	250-250
WOB:	0 - 85
TORQ:	0 - 22000
SPP:	0 - 4600
Motor RPM:	176 - 189
Rotary RPM:	35 - 70
Flow Rate:	0 - 750
Avg Diff:	650
Stall Pres.:	1910
Off Bot Pres.:	3450

Bit Record

Other / Baker DD506TWX w/ 6x22

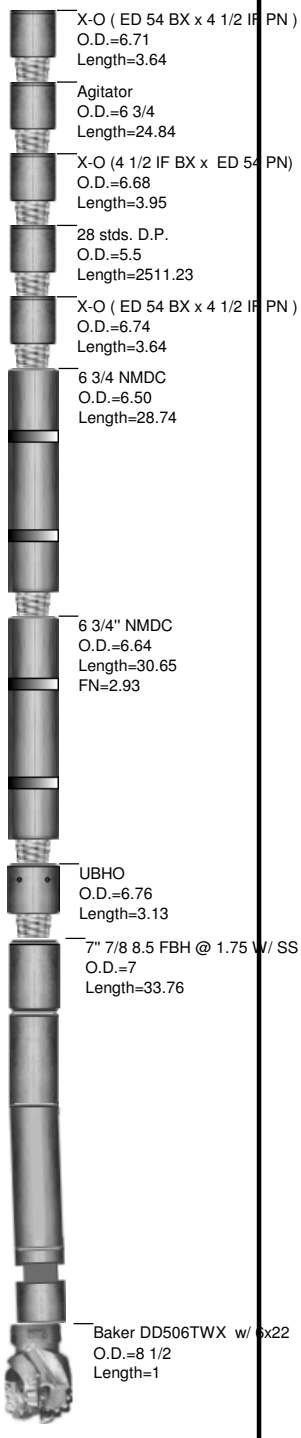
Run #:	7
Type Bit:	PDC
IADC#:	**TFA:** 2.226
JETS:	6-22
Bit Drop:	100 PSI @ 750 GPM
Cond.:	1-3-WT-G-X-1-CT-TD

MWD Spacing **Gamma:** 45 **Restiv:** 0 **Sensor:** 58
GYRO: 0 **DNSC:** 11214 **Sonic:** 0

Last Casing **O.D.** 9 5/8
Shoe @: 5272 **Hanger @:**

INC IN: .0 **INC OUT:** .0 **AZM IN:** .00 **AZM OUT:** .00

7" MTR 7/8 8.5 FBH @ 1.75° w/ SS
BTB - 4.28
Flow: 500-750
RPM: 130-200
Max Diff: 1910 psi.
Max Torq: 18,710
RPG: 0.26
Bit to Sensor: 58'
Bit to Gamma: 45'
Bit Runs = 0



BHA Detail

Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn	MFG.
Baker DD506TWX w/ 6x22	5308084		8 1/2	1.00	1.00	4 1/2 REGP	BAKER
7" 7/8 8.5 FBH @ 1.75 W/ SS	XSS70079		7	33.76	34.76	4 1/2 IFB	Intrepid
UBHO	BT6751409	3 3/16	6.76	3.13	37.89	4 1/2 IFB	Intrepid
6 3/4" NMDC	BT6751122	3 1/4	6.64	30.65	68.54	4 1/2 IFB	Intrepid
6 3/4 NMDC	BT6751083	3 1/4	6.50	28.74	97.28	4 1/2 IFB	OTHER
X-O (ED 54 BX x 4 1/2 IF PN)	BT15201	3	6.74	3.64	100.92	ED 54B	RIG
28 stds. D.P.	Rig 1		5.5	2,511.23	2612.15	ED 54B	Other
X-O (4 1/2 IF BX x ED 54 PN)	BD8072	3 1/4	6.68	3.95	2616.10	4 1/2 IFB	RIG
Agitator	675-4086162	2 1/2	6 3/4	24.84	2640.94	4 1/2 IFB	NOV
X-O (ED 54 BX x 4 1/2 IF PN)	BD15147	3 1/4	6.71	3.64	2644.58	ED 54B	RIG

BHA # 1

Mud Motor Report

SDI Job #:	ID2389-3	**FIELD:**	Delaware Basin
COMPANY:	Advance Energy Partners ,LLC	**Sec-Twn-Rng:**	20-21S-33E
LOCATION:	Lea Co., N.M.	**SD District**	
RIG NAME:	HP 466 Flex 3	**Lead DD:**	Bill Corley
STATE:	New Mexico	**Co. Man:**	Frank Calhoun
COUNTY:	Lea County		
WELL NAME:	Wool Head 20 State Com 512H	**Motor Failed?: NO**	

Time and Depths (This BHA)

Date In:	14-Nov-19 @ 01:50
Date Out:	21-Nov-19 @ 20:30
Hrs In Hole:	60.67
Start Depth:	145.00
End Depth:	1839.00
Total Drilled:	1694.00
Avg. Total ROP:	101.13
Circ Hrs:Tot/Only	17.83 / 1.08
Percent Slide:	7.08
Percent Hrs:	19.90
Slide Hours:	3.33
Total Sliding:	120.00
Avg. Slide ROP:	36.00
Percent Rotary:	92.92
Percent Hrs:	80.10
Rot / Total Hrs:	13.42 / 16.75
Rotary Drilled:	1574.00
Avg. Rotary ROP:	117.32
Reason POOH:	

Motor Data

Desc:	9 5/8, 7/8 5.9 ABH@1.5° w/ 14.5
MFG.:	Intrepid
BHA Circ/ All BHA:	**17.83 / 17.83**
Motor SN:	**XSH96028**
PAD OD:	10.45
NB Stab:	14.5
Bit to Bend:	8.75
Bent Hsg / Sub:	1.5 / 0 °
Lobe/Stage:	7/8 / 5.9
Rev/GAL:	0.166
Rotor Jet:	0
Prop BUR:	4
Act BUR:	2
Stator Clearance:	
Lower Stab OD:	14.5
Upper Stab OD:	17
Extended Motor?	NO
Number of Stalls:	8
Stall Duration:	3

Drilling Parameters

SO/PU:	96 - 96 / 101-101
Rot Wt:	99-99
WOB:	35 - 55
TORQ:	22000 - 26000
SPP:	2900 - 2900
Motor RPM:	149
Rotary RPM:	70 - 80
Flow Rate:	900 - 900
Avg Diff:	1000
Stall Pres.:	1990
Off Bot Pres.:	

Bit Record

Other / 17.5" Baker DP606S

Run #:	1
Type Bit:	PDC
IADC#:	**TFA:** 0.994
JETS:	9-12
Bit Drop:	634 PSI @ 900 GPM
Cond.:	

Mud Data

Type	WBM			**WT:**	8.4	**Vis:**	28	**WL:**	0	**PV:**	0	**Flow T °:**	0
SAND:	0	**Chlor:**	0	**GAS:**	0	**SOL:**	0	**Oil %:**	0	**YP:**	0	**PH:** 9.5	**Bottom Hole T °:**	0

Formation:

EXPANDED REASON PULLED:

TD Surface Casing Point

BHA PERFORMANCE:

BHA performed well allowing for maximum rotation period

ADDITIONAL COMMENTS: **(Expands to next page if necessary)**

Bit graded 2-3

BHA # 2

Mud Motor Report

SDI Job #:	ID2389-3	**FIELD:**	Delaware Basin
COMPANY:	Advance Energy Partners ,LLC	**Sec-Twn-Rng:**	20-21S-33E
LOCATION:	Lea Co., N.M.	**SD District**	
RIG NAME:	HP 466 Flex 3	**Lead DD:**	Jason Greer
STATE:	New Mexico	**Co. Man:**	Frank Calhoun
COUNTY:	Lea County		
WELL NAME:	Wool Head 20 State Com 512H	**Motor Failed?: NO**	

Time and Depths (This BHA)

Date In:	21-Nov-19 @ 20:30
Date Out:	01-Dec-19 @ 07:15
Hrs In Hole:	44.97
Start Depth:	1839.00
End Depth:	5282.00
Total Drilled:	3443.00
Avg. Total ROP:	186.11
Circ Hrs:Tot/Only	20.42 / 1.92
Percent Slide:	2.85
Percent Hrs:	6.31
Slide Hours:	1.17
Total Sliding:	98.00
Avg. Slide ROP:	84.00
Percent Rotary:	97.15
Percent Hrs:	93.69
Rot / Total Hrs:	17.33 / 18.50
Rotary Drilled:	3345.00
Avg. Rotary ROP:	192.98
Reason POOH:	

Motor Data

Desc:	8in. 7/8 5.9 FBH@1.5° w/ 12
MFG.:	Intrepid
BHA Circ/ All BHA:	**20.42 / 20.42**
Motor SN:	**XSH80028**
PAD OD:	8.12
NB Stab:	11.75
Bit to Bend:	5.5
Bent Hsg / Sub:	1.5 / °
Lobe/Stage:	7/8 / 5.9
Rev/GAL:	0.166
Rotor Jet:	0
Prop BUR:	8
Act BUR:	8
Stator Clearance:	
Lower Stab OD:	11.75
Upper Stab OD:	12
Extended Motor?	NO
Number of Stalls:	0
Stall Duration:	0

Drilling Parameters

SO/PU:	140 - 140 / 140-140
Rot Wt:	140-140
WOB:	36 - 60
TORQ:	18000 - 23000
SPP:	3000 - 4200
Motor RPM:	116 - 149
Rotary RPM:	60 - 80
Flow Rate:	700 - 900
Avg Diff:	700
Stall Pres.:	1990
Off Bot Pres.:	

Bit Record

BAKER / 12.25" Baker DP506TWSX

Run #:	3
Type Bit:	PDC
IADC#:	**TFA:** 0.662
JETS:	6-12
Bit Drop:	1430 PSI @ 900 GPM
Cond.:	

Mud Data

Type	WBM			**WT:**	8.4	**Vis:**	28	**WL:**	0	**PV:**	0	**Flow T °:**	0
SAND:	0	**Chlor:**	0	**GAS:**	0	**SOL:**	0	**Oil %:**	0	**YP:**	0	**PH:** 9.5	**Bottom Hole T °:**	0

Formation:

EXPANDED REASON PULLED:

Section TD

BHA PERFORMANCE:

Very well build rates & tracked very well.

ADDITIONAL COMMENTS: **(Expands to next page if necessary)**

Motor had 1/2 inch squat , Drained well. Pulled upt to 120K to break bit. Laid Motor down with bit attached.

BHA # 3

Mud Motor Report

SDI Job #:	ID2389-3	**FIELD:**	Delaware Basin
COMPANY:	Advance Energy Partners ,LLC	**Sec-Twn-Rng:**	20-21S-33E
LOCATION:	Lea Co., N.M.	**SD District**	
RIG NAME:	HP 466 Flex 3	**Lead DD:**	Jason Mueller
STATE:	New Mexico	**Co. Man:**	Frank Calhoun
COUNTY:	Lea County		
WELL NAME:	Wool Head 20 State Com 512H	**Motor Failed?: NO**	

Time and Depths (This BHA)

Date In:	01-Dec-19 @ 07:15
Date Out:	06-Jan-20 @ 09:00
Hrs In Hole:	57.97
Start Depth:	5282.00
End Depth:	10555.00
Total Drilled:	5273.00
Avg. Total ROP:	140.74
Circ Hrs:Tot/Only	40.13 / 2.67
Percent Slide:	3.38
Percent Hrs:	9.34
Slide Hours:	3.50
Total Sliding:	178.00
Avg. Slide ROP:	50.86
Percent Rotary:	96.62
Percent Hrs:	90.66
Rot / Total Hrs:	33.97 / 37.47
Rotary Drilled:	5095.00
Avg. Rotary ROP:	150.00
Reason POOH:	TD

Motor Data

Desc:	7in. 7/8 8.5 FBH @ 1.83 w/ 8 1/4
MFG.:	Intrepid
BHA Circ/ All BHA:	**40.13 / 40.13**
Motor SN:	**XSS70076**
PAD OD:	7 1/16
NB Stab:	8.25
Bit to Bend:	4.25
Bent Hsg / Sub:	1.83 / °
Lobe/Stage:	7/8 / 8.5
Rev/GAL:	0.26
Rotor Jet:	0
Prop BUR:	10
Act BUR:	14
Stator Clearance:	
Lower Stab OD:	12 1/4
Upper Stab OD:	
Extended Motor?	NO
Number of Stalls:	
Stall Duration:	

Drilling Parameters

SO/PU:	140 - 140 / 140-140
Rot Wt:	140-140
WOB:	20 - 60
TORQ:	13500 - 17500
SPP:	2400 - 4200
Motor RPM:	169 - 234
Rotary RPM:	30 - 30
Flow Rate:	651 - 900
Avg Diff:	
Stall Pres.:	
Off Bot Pres.:	

Bit Record

REED / 8 1/2" Reed TKC66

Run #:	3
Type Bit:	PDC
IADC#:	**TFA:** 1.035
JETS:	6-15
Bit Drop:	0 PSI @ 900 GPM
Cond.:	2-3

Mud Data

Type				**WT:**	0	**Vis:**	0	**WL:**	0	**PV:**	0	**Flow T °:**	0
SAND:	0	**Chlor:**	0	**GAS:**	0	**SOL:**	0	**Oil %:**	0	**YP:**	0	**PH:**	0	**Bottom Hole T °:**	0

Formation:

EXPANDED REASON PULLED:

Section TD

BHA PERFORMANCE:

As expected - Good Build Rates

ADDITIONAL COMMENTS: **(Expands to next page if necessary)**

Bit Graded 2-2 - Broke Cutters on Nose - Motor Didn't Drain, 1/2" squat

Mud Motor Report

BHA # 4

SDI Job #:	ID2389-3	**FIELD:**	Delaware Basin
COMPANY:	Advance Energy Partners ,LLC	**Sec-Twn-Rng:**	20-21S-33E
LOCATION:	Lea Co., N.M.	**SD District**	
RIG NAME:	HP 466 Flex 3	**Lead DD:**	Jason Mueller
STATE:	New Mexico	**Co. Man:**	TJ Nash
COUNTY:	Lea County		
WELL NAME:	Wool Head 20 State Com 512H	**Motor Failed?: NO**	

Time and Depths (This BHA)

Date In:	06-Jan-20 @ 09:00
Date Out:	07-Jan-20 @ 03:00
Hrs In Hole:	18.00
Start Depth:	10555.00
End Depth:	10715.00
Total Drilled:	160.00
Avg. Total ROP:	35.56
Circ Hrs:Tot/Only	5.00 / .50
Percent Slide:	100.00
Percent Hrs:	100.00
Slide Hours:	4.50
Total Sliding:	160.00
Avg. Slide ROP:	35.56
Percent Rotary:	.00
Percent Hrs:	.00
Rot / Total Hrs:	.00 / 4.50
Rotary Drilled:	.00
Avg. Rotary ROP:	NA
Reason POOH:	BHA

Motor Data

Desc:	6 3/4 7/8 5.0 FBH TS
MFG.:	Intrepid
BHA Circ/ All BHA:	**5.00 / 5.00**
Motor SN:	XSS67071
PAD OD:	7.10
NB Stab:	0
Bit to Bend:	3.95
Bent Hsg / Sub:	2.12 / 2.12 °
Lobe/Stage:	7/8 / 5
Rev/GAL:	0.26
Rotor Jet:	0
Prop BUR:	13
Act BUR:	14.9
Stator Clearance:	
Lower Stab OD:	
Upper Stab OD:	
Extended Motor?	NO
Number of Stalls:	0
Stall Duration:	0

Drilling Parameters

SO/PU:	0 - 250 / 0-302
Rot Wt:	0-242
WOB:	0 - 50
TORQ:	-
SPP:	1694 - 2600
Motor RPM:	151
Rotary RPM:	-
Flow Rate:	580 - 580
Avg Diff:	650
Stall Pres.:	1130
Off Bot Pres.:	1694

Bit Record

HALLIBURTON / Security GTD55DM

Run #:	4
Type Bit:	PDC
IADC#:	**TFA:** 1.855
JETS:	5-22
Bit Drop:	0 PSI @ 580 GPM
Cond.:	Bit Graded 1-1

Mud Data

Type				**WT:**	0	**Vis:**	0	**WL:**	0	**PV:**	0	**Flow T °:**	0
SAND:	0	**Chlor:**	0	**GAS:**	0	**SOL:**	0	**Oil %:**	0	**YP:**	0	**PH:**	0	**Bottom Hole T °:**	0

Formation:

EXPANDED REASON PULLED:

POOH for bit and 2.38° motor.

BHA PERFORMANCE:

Had issues sliding due to aggressive bit selection

ADDITIONAL COMMENTS: **(Expands to next page if necessary)**

BHA would hang up and due to the aggressive Security GTD55DM bit, once weight would get to the bit the differential would spike causing toolface issues.

Mud Motor Report

BHA # 5

SDI Job #:	ID2389-3	**FIELD:**	Delaware Basin
COMPANY:	Advance Energy Partners ,LLC	**Sec-Twn-Rng:**	20-21S-33E
LOCATION:	Lea Co., N.M.	**SD District**	
RIG NAME:	HP 466 Flex 3	**Lead DD:**	Jason Mueller
STATE:	New Mexico	**Co. Man:**	TJ Nash
COUNTY:	Lea County		
WELL NAME:	Wool Head 20 State Com 512H	**Motor Failed?: NO**	

Time and Depths (This BHA)

Date In:	07-Jan-20 @ 03:00
Date Out:	08-Jan-20 @ 04:00
Hrs In Hole:	25.00
Start Depth:	10715.00
End Depth:	10908.00
Total Drilled:	193.00
Avg. Total ROP:	57.90
Circ Hrs:Tot/Only	11.92 / 8.58
Percent Slide:	100.00
Percent Hrs:	100.00
Slide Hours:	3.33
Total Sliding:	193.00
Avg. Slide ROP:	57.90
Percent Rotary:	.00
Percent Hrs:	.00
Rot / Total Hrs:	.00 / 3.33
Rotary Drilled:	.00
Avg. Rotary ROP:	NA
Reason POOH:	BHA

Motor Data

Desc:	6 3/4 7/8 5.0 ABH @2.38° w/SS
MFG.:	Intrepid
BHA Circ/ All BHA:	**11.92 / 11.92**
Motor SN:	XSH67138
PAD OD:	7.30
NB Stab:	0
Bit to Bend:	6.88
Bent Hsg / Sub:	2.38 / 2.38 °
Lobe/Stage:	7/8 / 5
Rev/GAL:	0.288
Rotor Jet:	0
Prop BUR:	13
Act BUR:	
Stator Clearance:	
Lower Stab OD:	
Upper Stab OD:	
Extended Motor?	NO
Number of Stalls:	0
Stall Duration:	0

Drilling Parameters

SO/PU:	240 - 240 / 290-290
Rot Wt:	250-250
WOB:	0 - 80
TORQ:	-
SPP:	1180 - 3120
Motor RPM:	167
Rotary RPM:	-
Flow Rate:	388 - 580
Avg Diff:	
Stall Pres.:	
Off Bot Pres.:	

Bit Record

Haliburton / Security GTD64C

Run #:	5
Type Bit:	PDC
IADC#:	**TFA:** 2.226
JETS:	6-22
Bit Drop:	61 PSI @ 580 GPM
Cond.:	1-1

Mud Data

Type	OBM			**WT:**	9.7	**Vis:**	70	**WL:**	8.4	**PV:**	17	**Flow T °:**	110
SAND:	0.01	**Chlor:**	45000	**GAS:**	0	**SOL:**	11	**Oil %:**	70	**YP:**	11	**PH:**	0	**Bottom Hole T °:**	127

Formation:

EXPANDED REASON PULLED:

Insufficent build rates

BHA PERFORMANCE:

Insufficent build rates

ADDITIONAL COMMENTS: **(Expands to next page if necessary)**

Bit was graded 1-1 and re-ran

Mud Motor Report

BHA # 6

SDI Job #:	ID2389-3	**FIELD:**	Delaware Basin
COMPANY:	Advance Energy Partners ,LLC	**Sec-Twn-Rng:**	20-21S-33E
LOCATION:	Lea Co., N.M.	**SD District**	
RIG NAME:	HP 466 Flex 3	**Lead DD:**	Jason Mueller
STATE:	New Mexico	**Co. Man:**	TJ Nash
COUNTY:	Lea County		
WELL NAME:	Wool Head 20 State Com 512H	**Motor Failed?:**	NO

Time and Depths (This BHA)

Date In:	08-Jan-20 @ 04:00
Date Out:	09-Jan-20 @ 04:00
Hrs In Hole:	24.00
Start Depth:	10908.00
End Depth:	11216.00
Total Drilled:	308.00
Avg. Total ROP:	25.67
Circ Hrs:Tot/Only	12.67 / .67
Percent Slide:	100.00
Percent Hrs:	100.00
Slide Hours:	12.00
Total Sliding:	308.00
Avg. Slide ROP:	25.67
Percent Rotary:	.00
Percent Hrs:	.00
Rot / Total Hrs:	.00 / 12.00
Rotary Drilled:	.00
Avg. Rotary ROP:	NA
Reason POOH:	

Motor Data

Desc:	6 3/4 7/8 5.0 FBH @2.5° TS
MFG.:	Intrepid
BHA Circ/ All BHA:	**12.67 / 12.67**
Motor SN:	XSS67068
PAD OD:	7.05
NB Stab:	0
Bit to Bend:	3.96
Bent Hsg / Sub:	2.5 / 2.5 °
Lobe/Stage:	7/8 / 5
Rev/GAL:	0.288
Rotor Jet:	0
Prop BUR:	18
Act BUR:	17
Stator Clearance:	
Lower Stab OD:	
Upper Stab OD:	
Extended Motor?	NO
Number of Stalls:	1
Stall Duration:	.30

Drilling Parameters

SO/PU:	240 - 240 / 290-290
Rot Wt:	250-250
WOB:	80 - 80
TORQ:	-
SPP:	2652 - 2652
Motor RPM:	131
Rotary RPM:	-
Flow Rate:	454 - 454
Avg Diff:	750
Stall Pres.:	1130
Off Bot Pres.:	1700

Bit Record

Haliburton / Security GTD64C

Run #:	6		
Type Bit:	PDC		
IADC#:		**TFA:**	2.226
JETS:	6-22		
Bit Drop:	37 PSI @ 454 GPM		
Cond.:	1-2		

Mud Data

Type	OBM			**WT:**	9.7	**Vis:**	72	**WL:**	8	**PV:**	17	**Flow T °:**	105
SAND:	0.01	**Chlor:**	47000	**GAS:**	0	**SOL:**	10.7	**Oil %:**	70	**YP:**	12	**PH:**	0	**Bottom Hole T °:**	127

Formation:

EXPANDED REASON PULLED:

Soft landed curve section

BHA PERFORMANCE:

Bha performed well, averaging 17.02° per 100'. soft landed cuve at projected 79.10° and 359.40°. Build rate needed 3.5°/100.

ADDITIONAL COMMENTS: **(Expands to next page if necessary)**

Bit graded 1-2 with chipped cutters on shoulder.

BHA # 7

Mud Motor Report

SDI Job #:	ID2389-3	**FIELD:**	Delaware Basin
COMPANY:	Advance Energy Partners ,LLC	**Sec-Twn-Rng:**	20-21S-33E
LOCATION:	Lea Co., N.M.	**SD District**	
RIG NAME:	HP 466 Flex 3	**Lead DD:**	Jason Mueller
STATE:	New Mexico	**Co. Man:**	TJ Nash
COUNTY:	Lea County		
WELL NAME:	Wool Head 20 State Com 512H	**Motor Failed?: NO**	

Time and Depths (This BHA)

Date In:	09-Jan-20 @ 04:00
Date Out:	14-Jan-20 @ 06:31
Hrs In Hole:	122.35
Start Depth:	11216.00
End Depth:	18660.00
Total Drilled:	7444.00
Avg. Total ROP:	79.12
Circ Hrs:Tot/Only	102.42 / 8.33
Percent Slide:	12.35
Percent Hrs:	25.33
Slide Hours:	23.83
Total Sliding:	919.00
Avg. Slide ROP:	38.56
Percent Rotary:	87.65
Percent Hrs:	74.67
Rot / Total Hrs:	70.25 / 94.08
Rotary Drilled:	6525.00
Avg. Rotary ROP:	92.88
Reason POOH:	TD

Motor Data

Desc:	7 in. 7/8 8.5 FBH @1.75° w/SS
MFG.:	Intrepid
BHA Circ/ All BHA:	**102.42 / 102.42**
Motor SN:	**XSS70079**
PAD OD:	7.15
NB Stab:	0
Bit to Bend:	4.28
Bent Hsg / Sub:	1.75 / °
Lobe/Stage:	7/8 / 8.5
Rev/GAL:	0.26
Rotor Jet:	0
Prop BUR:	8
Act BUR:	8
Stator Clearance:	
Lower Stab OD:	
Upper Stab OD:	
Extended Motor?	NO
Number of Stalls:	
Stall Duration:	

Drilling Parameters

SO/PU:	240 - 240 / 290-290
Rot Wt:	250-250
WOB:	0 - 85
TORQ:	0 - 22000
SPP:	0 - 4600
Motor RPM:	176 - 189
Rotary RPM:	35 - 70
Flow Rate:	0 - 750
Avg Diff:	650
Stall Pres.:	1910
Off Bot Pres.:	3450

Bit Record

Other / Baker DD506TWX w/ 6x22

Run #:	7
Type Bit:	PDC
IADC#:	**TFA:** 2.226
JETS:	6-22
Bit Drop:	100 PSI @ 750 GPM
Cond.:	1-3-WT-G-X-1-CT-TD

Mud Data

Type	OBM			**WT:**	9.6	**Vis:**	54	**WL:**	6.8	**PV:**	13	**Flow T °:**	142
SAND:	0.01	**Chlor:**	4600	**GAS:**	0	**SOL:**	10.5	**Oil %:**	71	**YP:**	9	**PH:**	0	**Bottom Hole T °:**	182

Formation:

EXPANDED REASON PULLED:

Well TD @ 18660

BHA PERFORMANCE:

Very Good - Single Run with no issues, Seen Typical walking to Left & Building Tendicy. Rotary was around 60 Rpm most of lateral & seen Very Low Over pull coming off Bottom.

ADDITIONAL COMMENTS: **(Expands to next page if necessary)**

Motor had 1/2" Squat, No other Visual Damage, Drained Good

INTREPID
Directional Drilling Specialists

SDI Job #:	ID2389-3
COMPANY:	Advance Energy Partners ,LLC
LOCATION:	Lea Co., N.M.
RIG NAME:	HP 466 Flex 3
STATE:	New Mexico
COUNTY:	Lea County
WELL NAME:	Wool Head 20 State Com 512H
Survey File:	

FIELD:	Delaware Basin
Sec-Twn-Rng:	20-21S-33E
Range/Section	/NM0093

MOTOR INFORMATION

Desc: 9 5/8, 7/8 5.9 ABH@1.5° w/ 14.5 NBS
Bent Hsg/Sub: 1.5 0 Bit to Bend: 8.75
PAD OD: 10.45 NB Stab: 14.5

Slide Report for BHA # 1 with Surveys included

Note: Sliding and Drilling Surveys are LOGICAL expectations.

#	Date	Hrs	Start MD	End MD	DMD	WOB	ROP	RPM	Surf Torq	Flow Rate	SPP On B	SPP Off B	Delta SPP	TFO cTFO	Survey MD	INC	AZM	Surv DLS	Mot DLS	Rot DLS	Q	Drill Mode
1	14-Nov	6.67	145	1070	925	35	138.8	70	22000	900	2900	1800	1100		1070	0.00	0.00	0.00	0.00	0.00	0	Drilling
1	14-Nov	0.75	1070	1115	45	35	60.0	70	22000	900	2900	1800	1100	65M	1115	0.00	0.00	0.00	0.00	0.00	0	Sliding
1	14-Nov	3.50	1115	1512	397	55	113.4	70	26000	900	2900	1800	1100		1512	0.00	0.00	0.00	0.00	0.00	0	Drilling
1	14-Nov	1.33	1512	1542	30	35	22.5	70	22000	900	2900	1800	1100	65M	1542	0.00	0.00	0.00	0.00	0.00	0	Sliding
1	14-Nov	0.67	1542	1612	70	40	105.0	80	22000	900	2900	1800	1100		1612	0.00	0.00	0.00	0.00	0.00	0	Drilling
1	14-Nov	1.25	1612	1657	45	35	36.0	80	22000	900	2900	1800	1100	50M	1657	0.00	0.00	0.00	0.00	0.00	0	Sliding
1	14-Nov	2.58	1657	1839	182	40	70.5	80	22000	900	2900	1800	1100		1839	0.00	0.00	0.00	0.00	0.00	0	Drilling

Total Drilled:	1694	**Avg. Total ROP:**	101.13	**DEPTH% - TIME %**	
Total Rotary Drilled:	1574	**Avg. Rotary ROP:**	117.32	**Percent Rotary:**	92.92 - 80.10
Total Drilled Sliding:	120	**Avg. Slide ROP:**	36.00	**Percent Slide:**	7.08 - 19.90

INTREPID
Directional Drilling Specialists

SDI Job #:	ID2389-3
COMPANY:	Advance Energy Partners ,LLC
LOCATION:	Lea Co., N.M.
RIG NAME:	HP 466 Flex 3
STATE:	New Mexico
COUNTY:	Lea County
WELL NAME:	Wool Head 20 State Com 512H
Survey File:	

FIELD:	Delaware Basin
Sec-Twn-Rng:	20-21S-33E
Range/Section	/NM0093

MOTOR INFORMATION

Desc: 8in. 7/8 5.9 FBH@1.5° w/ 12 NBS
Bent Hsg/Sub: 1.5 0 Bit to Bend: 5.5
PAD OD: 8.12 NB Stab: 11.75

Slide Report for BHA # 2 with Surveys included

Note: Sliding and Drilling Surveys are LOGICAL expectations.

#	Date	Hrs	Start MD	End MD	DMD	WOB	ROP	RPM	Surf Torq	Flow Rate	SPP On B	SPP Off B	Delta SPP	TFO cTFO	Survey MD	INC	AZM	Surv DLS	Mot DLS	Rot DLS	Q	Drill Mode
2	22-Nov	1.00	1839	1967	128	36	128.0	60	18000	900	3500	2900	600		1967	0.62	354.00	1.83	0.00	0.00	0	Drilling
2	22-Nov	0.25	1967	2002	35	40	140.0			900	3400	2900	500	90M	2002	1.08	165.00	1.91	0.00	0.00	0	Sliding
2	22-Nov	1.25	2002	2231	229	36	183.2	60	18000	900	3550	2900	650		2231	1.65	154.00	1.79	0.00	0.00	0	Drilling
2	22-Nov	0.25	2231	2256	25	42	100.0			900	3500	2900	600		2256	1.61	82.00	0.83	0.00	0.00	0	Sliding
2	22-Nov	1.17	2256	2465	209	36	179.1	80	23000	700	3000	2400	600		2465	1.91	62.00	0.20	0.00	0.00	0	Drilling
2	22-Nov	4.42	2465	3407	942	40	213.3	80	19000	700	3000	2400	600		3407	1.15	88.00	1.33	0.00	0.00	0	Drilling
2	22-Nov	0.33	3407	3430	23	40	69.0	80	19000	700	3000	2400	600	250M	3430	0.96	97.00	1.00	0.00	0.00	0	Sliding
2	22-Nov	5.00	3430	4400	970	50	194.0	80	19000	700	3000	2400	600		4400	0.35	229.00	0.54	0.00	0.00	0	Drilling
2	22-Nov	0.33	4400	4415	15	40	45.0	80	19000	900	4200	3200	1000	35M	4415	0.33	128.00	0.69	0.00	0.00	0	Sliding
2	22-Nov	4.50	4415	5282	867	60	192.7	80	19000	900	4200	3200	1000		5282	1.09	25.00	0.36	0.00	0.00	0	Drilling

Total Drilled:	3443	**Avg. Total ROP:**	186.11	**DEPTH% - TIME %**	
Total Rotary Drilled:	3345	**Avg. Rotary ROP:**	192.98	**Percent Rotary:**	97.15 - 93.69
Total Drilled Sliding:	98	**Avg. Slide ROP:**	84.00	**Percent Slide:**	2.85 - 6.31

INTREPID
Directional Drilling Specialists

SDI Job #:	ID2389-2
COMPANY:	Advance Energy Partners ,LLC
LOCATION:	Lea Co., N.M.
RIG NAME:	HP 466 Flex 3
STATE:	New Mexico
COUNTY:	Lea County
WELL NAME:	Wool Head 20 State Com 512H
Survey File:	

FIELD:	Delaware Basin
Sec-Twn-Rng:	20-21S-33E
Range/Section	/NM0093

MOTOR INFORMATION

Desc: 7in. 7/8 8.5 FBH @ 1.83 w/ 8 1/4 NBS

Bent Hsg/Sub: 1.83 | **0** | **Bit to Bend: 4.25**

PAD OD: 7 1/16 | **NB Stab: 12 1/4**

Slide Report for BHA # 3 with Surveys included

Note: Sliding and Drilling Surveys are LOGICAL expectations.

#	Date	Hrs	Start MD	End MD	DMD	WOB	ROP	RPM	Surf Torq	Flow Rate	SPP On B	SPP Off B	Delta SPP	TFO cTFO	Survey MD	INC	AZM	Surv DLS	Mot DLS	Rot DLS	Q	Drill Mode
					86									-151	5303	1.01	22.23	0.36			5	Survey
					89									-179	5392	0.84	15.46	0.23			5	Survey
					90									-16	5482	0.04	349.80	0.89			5	Survey
3	1-Dec	1.75	5282	5572	290	40	211.4	30	13500	651	2700	2100	600		5572	0.92	334.59	0.98	0.00	0.98	5	Drilling
					90									158	5572	0.92	334.59	0.98			6	Survey & Conn.
			5572	5652	80	40	211.4	30	13500	651	2700	2100			5652	0.92	312.07	1.87			0	Drilling
3	1-Dec	0.25	5652	5661	9	20	80.0	30	13500	900	2700	2100	600	130M	5661	0.88	109.42	1.87	0.00	0.00	5	Sliding
					89									22	5661	0.88	109.42	1.87			6	Survey & Conn.
			5661	5672	11	20	80.0	30	13500	900	2700	2100		130M	5672	2.85	118.85	4.26			0	Sliding
3	1-Dec	0.50	5672	5724	52	40	104.0	30	13500	651	2700	2100	600		5724	3.23	120.66	4.26	0.00	0.00	0	Drilling
3	1-Dec	0.17	5724	5732	8	20	48.0	30	13500	900	2700	2100	600	130M	5732	6.63	136.95	4.26	0.00	0.00	0	Sliding
					90									-38	5751	4.66	127.52	4.26			5	Survey
					90									-82	5841	5.05	124.18	0.54			5	Survey
3	1-Dec	1.00	5732	5930	198	40	278.0	30	13500	651	2700	2100	600		5930	5.10	120.75	0.35	0.00	0.35	5	Drilling
					89									-3	5930	5.10	120.75	0.35			6	Survey & Conn.
			5930	6010	80	40	278.0	30	13500	651	2700	2100			6010	5.14	120.72	0.49			0	Drilling
3	1-Dec	0.17	6010	6020	10	20	60.0	30	13500	900	2700	2100	600	130M	6020	5.54	120.49	0.49	0.00	0.00	5	Sliding
					90									-63	6020	5.54	120.49	0.49			6	Survey & Conn.
3	1-Dec	0.67	6020	6110	90	40	244.5	30	13500	651	2700	2100	600		6110	5.63	118.73	0.21	0.00	0.21	5	Drilling
					90										6110	5.63	118.73	0.21			6	Survey & Conn.
			6110	6183	73	40	244.5	30	13500	651	2700	2100			6183	5.79	118.73	1.78			0	Drilling
3	1-Dec	0.17	6183	6198	15	25	90.0			651	2700	2100	600	120M	6198	7.21	118.73	1.78	0.00	0.00	0	Sliding
					89									-1	6199	7.21	118.73	1.78			5	Survey
					90									-148	6289	8.44	118.64	1.37			5	Survey
					89									8	6378	8.26	117.85	0.24			5	Survey

Slide Report for BHA # 3 with Surveys included

Note: Sliding and Drilling Surveys are LOGICAL expectations.

#	Date	Hrs	Start MD	End MD	DMD	WOB	ROP	RPM	Surf Torq	Flow Rate	SPP On B	SPP Off B	Delta SPP	TFO cTFO	Survey MD	INC	AZM	Surv DLS	Mot DLS	Rot DLS	Q	Drill Mode
					90									-174	6468	8.44	118.03	0.20			5	Survey
					90									165	6558	8.31	117.94	0.15			5	Survey
					90									-176	6648	7.96	118.64	0.40			5	Survey
					89									-177	6737	7.60	118.47	0.41			5	Survey
3	1-Dec	2.33	6198	6828	630	40	301.3	30	17500	651	2900	2100	800		6828	7.34	118.38	0.29	0.00	0.29	5	Drilling
					91									-12	6828	7.34	118.38	0.29			6	Survey & Conn.
			6828	6901	73	40	301.3	30	17500	651	2900	2100			6901	7.48	118.19	1.56			0	Drilling
3	1-Dec	0.17	6901	6916	15	25	90.0			651	2450	2100	350	100M	6916	8.70	116.45	1.56	0.00	0.00	0	Sliding
					89									-2	6917	8.70	116.45	1.56			5	Survey
					90									-176	7007	9.89	116.18	1.32			5	Survey
					89									-120	7096	9.71	116.10	0.20			5	Survey
					90									-166	7186	9.58	114.69	0.30			5	Survey
					90									9	7276	9.14	113.99	0.50			5	Survey
					90									132	7366	9.32	114.16	0.20			5	Survey
3	1-Dec	2.82	6916	7455	539	40	211.6	30	17500	651	2950	2100	850		7455	9.23	114.78	0.15	0.00	0.15	5	Drilling
					89									-159	7455	9.23	114.78	0.15			6	Survey & Conn.
			7455	7512	57	40	211.6	30	17500	651	2950	2100			7512	9.21	114.74	0.21		0.21	4	Drilling
					90									-145	7545	9.05	114.34	0.21			5	Survey
					89									-154	7634	8.62	112.32	0.60			5	Survey
					90									-31	7724	8.31	111.26	0.39			5	Survey
					90									-102	7814	8.44	110.73	0.17			5	Survey
					90									33	7904	8.40	109.33	0.23			5	Survey
					89									180	7993	8.48	109.68	0.11			5	Survey
					90									171	8083	8.35	109.68	0.14			5	Survey
					89									157	8172	8.18	109.86	0.19			5	Survey
					90									170	8262	7.78	111.09	0.48			5	Survey
					90									-27	8352	7.47	111.53	0.35			5	Survey
					90									179	8442	7.78	110.38	0.38			5	Survey
3	2-Dec	7.08	7512	8531	1019	40	154.3	30	17500	651	2950	2100	850		8531	6.77	110.56	1.14	0.00	1.14	5	Drilling
					89									-21	8531	6.77	110.56	1.14			6	Survey & Conn.
			8531	8605	74	40	154.3	30	17500	651	2950	2100			8605	6.88	110.24	1.34			0	Drilling
3	2-Dec	0.33	8605	8620	15	25	45.0	30	17500	651	2950	2100	850	120M	8620	7.91	107.39	1.34	0.00	0.00	0	Sliding
					90									2	8621	7.91	107.39	1.34			5	Survey
					89									172	8710	8.26	107.48	0.39			5	Survey

Slide Report for BHA # 3 with Surveys included

Note: Sliding and Drilling Surveys are LOGICAL expectations.

#	Date	Hrs	Start MD	End MD	DMD	WOB	ROP	RPM	Surf Torq	Flow Rate	SPP On B	SPP Off B	Delta SPP	TFO cTFO	Survey MD	INC	AZM	Surv DLS	Mot DLS	Rot DLS	Q	Drill Mode
3	2-Dec	2.50	8620	8800	180	40	101.2	30	17500	651	2950	2100	850		8800	7.52	108.27	0.83	0.00	0.83	5	Drilling
					90									-5	8800	7.52	108.27	0.83			6	Survey & Conn.
			8800	8873	73	40	101.2	30	17500	651	2950	2100			8873	7.59	108.23	0.78			0	Drilling
3	2-Dec	0.33	8873	8888	15	25	45.0	30	17500	651	2950	2100	850	120M	8888	8.22	107.83	0.78	0.00	0.00	0	Sliding
3	2-Dec	0.50	8888	8890	2	40	126.0	30	17500	651	2950	2100	850		8890	8.22	107.83	0.78	0.00	0.00	5	Drilling
					90									91	8890	8.22	107.83	0.78			6	Survey & Conn.
			8890	8951	61	40	126.0	30	17500	651	2950	2100			8951	8.22	108.06	0.37		0.37	5	Drilling
					89									168	8979	8.22	110.12	0.37			5	Survey
3	2-Dec	2.00	8951	9069	118	40	95.5	30	17500	651	2950	2100	850		9069	7.03	112.14	1.36	0.00	1.36	5	Drilling
					90									78	9069	7.03	112.14	1.36			6	Survey & Conn.
			9069	9142	73	40	95.5	30	17500	651	2950	2100			9142	7.06	113.01	1.26			0	Drilling
3	2-Dec	0.33	9142	9159	17	25	54.0	30	17500	651	2950	2100	850	120M	9159	7.34	120.84	1.26	0.00	0.00	5	Sliding
					90									119	9159	7.34	120.84	1.26			6	Survey & Conn.
			9159	9160	1	25	54.0	30	17500	651	2950	2100		120M	9160	7.03	125.91	0.88			0	Sliding
3	2-Dec	2.00	9160	9248	88	40	78.0	30	17500	651	2950	2100	850		9248	6.99	126.47	0.88	0.00	0.00	5	Drilling
					89									-83	9248	6.99	126.47	0.88			6	Survey & Conn.
			9248	9316	68	40	78.0	30	17500	651	2950	2100			9316	7.00	125.86	0.84			0	Drilling
3	2-Dec	0.42	9316	9336	20	25	48.0	30	17500	651	2950	2100	850	110M	9336	7.12	120.40	0.84	0.00	0.00	0	Sliding
					90									-141	9338	7.12	120.40	0.84			5	Survey
					90									-168	9428	6.64	116.97	0.70			5	Survey
					180									-149	9608	4.92	112.84	0.98			5	Survey
					89									-116	9697	4.53	109.77	0.52			5	Survey
					91									-137	9788	4.18	97.20	1.11			5	Survey
3	2-Dec	5.25	9336	9878	542	40	117.1	30	17500	651	2950	2100	850		9878	3.60	87.71	0.96	0.00	0.96	5	Drilling
					90									63	9878	3.60	87.71	0.96			6	Survey & Conn.
			9878	9951	73	40	117.1	30	17500	651	2950	2100			9951	3.67	89.12	1.29			0	Drilling
3	2-Dec	0.42	9951	9968	17	25	48.0	30	17500	651	2950	2100	850	160M	9968	4.26	101.77	1.29	0.00	0.00	5	Sliding
					90									54	9968	4.26	101.77	1.29			6	Survey & Conn.
			9968	9971	3	25	48.0	30	17500	651	2950	2100		160M	9971	4.94	111.18	1.27	1.27		5	Sliding
					89									149	10057	5.01	112.23	1.27			5	Survey
3	2-Dec	2.57	9971	10147	176	40	97.0	30	17500	651	2950	2100	850		10147	4.48	116.45	0.70	0.00	0.70	5	Drilling
					90									157	10147	4.48	116.45	0.70			6	Survey & Conn.
			10147	10220	73	40	97.0	30	17500	651	2950	2100			10220	4.27	118.90	2.83			0	Drilling
3	3-Dec	0.75	10220	10236	16	20	29.3	30	17500	651	2400	2100	300	275M	10236	2.37	140.97	2.83	0.00	0.00	5	Sliding

Slide Report for BHA # 3 with Surveys included

Note: Sliding and Drilling Surveys are LOGICAL expectations.

#	Date	Hrs	Start MD	End MD	DMD	WOB	ROP	RPM	Surf Torq	Flow Rate	SPP On B	SPP Off B	Delta SPP	TFO cTFO	Survey MD	INC	AZM	Surv DLS	Mot DLS	Rot DLS	Q	Drill Mode
					89									120	10236	2.37	140.97	2.83			6	Survey & Conn.
			10236	10242	6	20	29.3	30	17500	651	2400	2100		275M	10242	2.10	172.53	1.52	1.52		4	Sliding
					90									94	10326	2.07	176.04	1.52			5	Survey
					90									-74	10416	2.20	200.38	1.01			5	Survey
					76										10492	2.37	189.75	0.60			5	Survey
3	3-Dec	3.00	10242	10555	313	40	104.3	30	17500	651	2800	2100	700		10555	2.37	189.75	0.00	0.00	0.00	5	Drilling
					63										10555	2.37	189.75	0.00			6	Survey & Conn.

Total Drilled:	5273	**Avg. Total ROP:**	140.74	**DEPTH% - TIME %**	
Total Rotary Drilled:	5095	**Avg. Rotary ROP:**	150.00	**Percent Rotary:**	96.62 - 90.66
Total Drilled Sliding:	178	**Avg. Slide ROP:**	50.86	**Percent Slide:**	3.38 - 9.34

INTREPID
Directional Drilling Specialists

SDI Job #:	ID2389-3
COMPANY:	Advance Energy Partners ,LLC
LOCATION:	Lea Co., N.M.
RIG NAME:	HP 466 Flex 3
STATE:	New Mexico
COUNTY:	Country
WELL NAME:	Wool Head 20 State Com 512H

FIELD:	Delaware Basin
Sec-Twn-Rng:	20-21S-33E
SD District	

MOTOR INFORMATION

Desc: 6 3/4 7/8 5.0 FBH TS

Bent Hsg/Sub: 2.1 / 2.1 **Bit to Bend: 3.95**
2 2

PAD OD: 7.10 **NB Stab:**

Slide Report for BHA # 4

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
4	6-Jan	Sliding	15:00	15:30	0.50	10555	10589	34		68.0	0	0	580	2600	359M	0.00	0.00	0.00	
4	6-Jan	Sliding	15:40	16:55	1.25	10589	10678	89		71.2	0	0	580	2600	359M	0.00	0.00	0.00	
4	6-Jan	Sliding	17:05	19:50	2.75	10678	10715	37		13.5	0	0	580	2600	359M	0.00	0.00	0.00	

Total Drilled:	160	**Avg. Total ROP:**	35.56	**DEPTH% - TIME %**	
Total Rotary Drilled:	0	**Avg. Rotary ROP:**	NA	**Percent Rotary:**	.00 - .00
Total Drilled Sliding:	160	**Avg. Slide ROP:**	35.56	**Percent Slide:**	100.00 - 100.00

INTREPID
Directional Drilling Specialists

SDI Job #:	ID2389-3
COMPANY:	Advance Energy Partners ,LLC
LOCATION:	Lea Co., N.M.
RIG NAME:	HP 466 Flex 3
STATE:	New Mexico
COUNTY:	Country
WELL NAME:	Wool Head 20 State Com 512H

FIELD:	Delaware Basin
Sec-Twn-Rng:	20-21S-33E
SD District	

MOTOR INFORMATION

Desc: 6 3/4 7/8 5.0 ABH @2.38° w/SS

Bent Hsg/Sub: 2.38 / 2.38 **Bit to Bend: 6.88**

PAD OD: 7.30 **NB Stab:**

Slide Report for BHA # 5

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
5	7-Jan	Sliding	08:15	09:15	1.00	10715	10769	54		54.0	0	0	580	3000	20	0.00	0.00	0.00	
5	7-Jan	Sliding	09:25	10:10	0.75	10769	10798	29		38.7	0	0	580	3000	20	0.00	0.00	0.00	
5	7-Jan	Sliding	18:15	19:00	0.75	10798	10859	61	80	81.3	0	0	580	3120	20	0.00	0.00	0.00	
5	7-Jan	Sliding	19:10	20:00	0.83	10859	10908	49	80	58.8	0	0	580	3120	20	0.00	0.00	0.00	

Total Drilled:	193	**Avg. Total ROP:**	57.90	**DEPTH% - TIME %**	
Total Rotary Drilled:	0	**Avg. Rotary ROP:**	NA	**Percent Rotary:**	.00 - .00
Total Drilled Sliding:	193	**Avg. Slide ROP:**	57.90	**Percent Slide:**	100.00 - 100.00

INTREPID
Directional Drilling Specialists

SDI Job #:	ID2389-3
COMPANY:	Advance Energy Partners ,LLC
LOCATION:	Lea Co., N.M.
RIG NAME:	HP 466 Flex 3
STATE:	New Mexico
COUNTY:	Lea County
WELL NAME:	Wool Head 20 State Com 512H
Survey File:	

FIELD:	Delaware Basin
Sec-Twn-Rng:	20-21S-33E
Range/Section	/NM0093

MOTOR INFORMATION

Desc: 6 3/4 7/8 5.0 FBH @2.5° TS
Bent Hsg/Sub: 2.5 2.5 **Bit to Bend:** 3.96
PAD OD: 7.05 **NB Stab:**

Slide Report for BHA # 6 with Surveys included

Note: Sliding and Drilling Surveys are LOGICAL expectations.

#	Date	Hrs	Start MD	End MD	DMD	WOB	ROP	RPM	Surf Torq	Flow Rate	SPP On B	SPP Off B	Delta SPP	TFO cTFO	Survey MD	INC	AZM	Surv DLS	Mot DLS	Rot DLS	Q	Drill Mode
6	8-Jan	1.08	10908	10947	39	80	36.0	0	0	454	2652	1680	972	20	10947	0.00	0.00	0.00	0.00	0.00	0	Sliding
6	8-Jan	3.08	10947	11037	90	80	29.2	0	0	454	2652	1680	972	70R	11037	0.00	0.00	0.00	0.00	0.00	0	Sliding
6	8-Jan	7.83	11037	11216	179	80	22.9	0	0	454	2652	1680	972	75R	11216	0.00	0.00	0.00	0.00	0.00	0	Sliding

Total Drilled:	308	**Avg. Total ROP:**	25.67	**DEPTH% - TIME %**	
Total Rotary Drilled:	0	**Avg. Rotary ROP:**	NA	**Percent Rotary:**	.00 - .00
Total Drilled Sliding:	308	**Avg. Slide ROP:**	25.67	**Percent Slide:**	100.00 - 100.00

INTREPID
Directional Drilling Specialists

SDI Job #:	ID2389-3
COMPANY:	Advance Energy Partners ,LLC
LOCATION:	Lea Co., N.M.
RIG NAME:	HP 466 Flex 3
STATE:	New Mexico
COUNTY:	Lea County
WELL NAME:	Wool Head 20 State Com 512H
Survey File:	

FIELD:	Delaware Basin
Sec-Twn-Rng:	20-21S-33E
Range/Section	/NM0093

MOTOR INFORMATION

Desc: 7 in. 7/8 8.5 FBH @1.75° w/SS
Bent Hsg/Sub: 1.75 0 **Bit to Bend:** 4.28
PAD OD: 7.15 **NB Stab:**

Slide Report for BHA # 7 with Surveys included

Note: Sliding and Drilling Surveys are LOGICAL expectations.

#	Date	Hrs	Start MD	End MD	DMD	WOB	ROP	RPM	Surf Torq	Flow Rate	SPP On B	SPP Off B	Delta SPP	TFO cTFO	Survey MD	INC	AZM	Surv DLS	Mot DLS	Rot DLS	Q	Drill Mode
7	9-Jan	0.50	11216	11231	15	45	30.0	35	18	599	3150	2875	275		11231	81.63	359.00	7.35	0.00	0.00	0	Drilling
7	9-Jan	0.58	11231	11256	25	45	42.9	35	18	676	3880	3450	430	65	11256	82.90	0.00	7.35	0.00	0.00	0	Sliding
7	9-Jan	0.75	11256	11313	57	45	76.0	35	18	676	3880	3450	430		11313	84.94	3.00	2.56	0.00	0.00	0	Drilling
7	9-Jan	0.58	11313	11334	21	45	36.0	0	0	676	3880	3450	430	65	11334	85.29	3.00	2.56	0.00	0.00	0	Sliding
7	9-Jan	0.17	11334	11346	12	45	72.0	35	22	676	3880	3450	430		11346	85.49	3.00	2.56	0.00	0.00	0	Drilling
7	9-Jan	0.75	11346	11436	90	45	120.0	35	22	676	3880	3450	430		11436	86.08	4.00	0.60	0.00	0.00	0	Drilling
7	9-Jan	0.33	11436	11470	34	45	102.0	35	22	676	3880	3450	430		11470	86.21	3.00	3.89	0.00	0.00	0	Drilling
7	9-Jan	0.33	11470	11490	20	45	60.0	0	0	676	3880	3450	430	HS	11490	86.91	4.00	3.89	0.00	0.00	0	Sliding
7	9-Jan	0.33	11490	11525	35	45	105.0	40	20	676	3880	3450	430		11525	88.12	4.00	3.89	0.00	0.00	0	Drilling
7	9-Jan	0.50	11525	11615	90	45	180.0	40	20	676	3880	3450	430		11615	89.54	3.00	1.56	0.00	0.00	0	Drilling
7	9-Jan	0.17	11615	11632	17	45	102.0	40	20	676	3880	3450	430		11632	89.63	3.00	1.56	0.00	0.00	0	Drilling
7	9-Jan	0.67	11632	11659	27	45	40.5	0	0	676	3880	3450	430	130	11659	89.65	3.00	0.50	0.00	0.00	0	Sliding
7	9-Jan	0.25	11659	11705	46	45	184.0	40	20	676	4050	3450	600		11705	89.42	3.00	0.50	0.00	0.00	0	Drilling
7	9-Jan	0.17	11705	11720	15	45	90.0	40	20	676	4050	3450	600		11720	89.35	3.00	0.50	0.00	0.00	0	Drilling
7	9-Jan	0.17	11720	11727	7	45	42.0	0	0	676	4050	3450	600	180	11727	89.31	3.00	0.50	0.00	0.00	0	Sliding
7	9-Jan	0.42	11727	11794	67	45	160.8	40	20	676	4050	3450	600		11794	89.90	3.00	1.18	0.00	0.00	0	Drilling
7	9-Jan	1.33	11794	11973	179	45	134.3	40	20	676	4050	3450	600		11973	91.50	2.00	1.40	0.00	0.00	0	Drilling
7	9-Jan	0.42	11973	11998	25	45	60.0	40	20	676	4050	3450	600	180	11998	91.17	2.00	1.40	0.00	0.00	0	Sliding
7	9-Jan	0.50	11998	12063	65	45	130.0	40	20	676	4050	3450	600		12063	91.42	3.00	0.65	0.00	0.00	0	Drilling
7	9-Jan	0.75	12063	12153	90	45	120.0	40	20	676	4050	3450	600		12153	90.19	3.00	3.12	0.00	0.00	0	Drilling
7	9-Jan	0.08	12153	12160	7	45	84.0	40	20	676	4050	3450	600		12160	90.02	3.00	3.12	0.00	0.00	0	Drilling
7	9-Jan	0.42	12160	12192	32	45	76.8	40	20	676	4050	3450	600	155L	12192	89.44	0.00	0.76	0.00	0.00	0	Sliding
7	9-Jan	0.42	12192	12243	51	45	122.4	40	20	676	4050	3450	600		12243	89.69	1.00	0.76	0.00	0.00	0	Drilling
7	9-Jan	0.83	12243	12333	90	45	108.0	40	20	676	4050	3450	600		12333	90.65	1.00	1.95	0.00	0.00	0	Drilling
7	9-Jan	0.67	12333	12422	89	45	133.5	40	20	676	4050	3450	600		12422	89.97	0.00	3.34	0.00	0.00	0	Drilling

Slide Report for BHA # 7 with Surveys included

Note: Sliding and Drilling Surveys are LOGICAL expectations.

#	Date	Hrs	Start MD	End MD	DMD	WOB	ROP	RPM	Surf Torq	Flow Rate	SPP On B	SPP Off B	Delta SPP	TFO cTFO	Survey MD	INC	AZM	Surv DLS	Mot DLS	Rot DLS	Q	Drill Mode
7	10-Jan	0.17	12422	12427	5	45	30.0	70	22000	676	3800	3200	600		12427	89.88	0.00	3.34	0.00	0.00	0	Drilling
7	10-Jan	0.33	12427	12457	30	45	90.0	70	22000	676	3800	3200	600	160R	12457	89.35	1.00	0.78	0.00	0.00	0	Sliding
7	10-Jan	0.67	12457	12512	55	45	82.5	70	22000	676	3800	3200	600		12512	89.13	1.00	0.78	0.00	0.00	0	Drilling
7	10-Jan	0.92	12512	12602	90	45	98.2	70	22000	676	3800	3200	600		12602	88.98	2.00	0.99	0.00	0.00	0	Drilling
7	10-Jan	0.83	12602	12691	89	45	106.8	70	22000	676	3800	3200	600		12691	89.48	1.00	1.46	0.00	0.00	0	Drilling
7	10-Jan	1.08	12691	12781	90	45	83.1	70	22000	676	3800	3200	600		12781	89.82	0.00	0.14	0.00	0.00	0	Drilling
7	10-Jan	1.08	12781	12871	90	45	83.1	50	23	676	4000	3550	450		12871	91.26	0.00	2.50	0.00	0.00	0	Drilling
7	10-Jan	1.08	12871	12961	90	45	83.1	65	24	725	4300	3850	450		12961	92.44	359.00	0.92	0.00	0.00	0	Drilling
7	10-Jan	0.33	12961	12978	17	45	51.0	65	24	725	4300	3850	450		12978	92.56	0.00	0.92	0.00	0.00	0	Drilling
7	10-Jan	0.67	12978	13000	22	45	33.0	0	0	676	4300	3850	450	140	13000	92.55	0.00	2.69	0.00	0.00	0	Sliding
7	10-Jan	0.75	13000	13050	50	45	66.7	65	24	725	4300	3850	450		13050	91.89	1.00	2.69	0.00	0.00	0	Drilling
7	10-Jan	0.17	13050	13068	18	45	108.0	65	24	725	4300	3850	450		13068	91.66	1.00	2.69	0.00	0.00	0	Drilling
7	10-Jan	0.92	13068	13103	35	45	38.2	0	0	676	4300	3850	450	135	13103	91.30	2.00	0.79	0.00	0.00	0	Sliding
7	10-Jan	0.58	13103	13140	37	45	63.4	65	24	725	4300	3850	450		13140	91.01	2.00	0.79	0.00	0.00	0	Drilling
7	10-Jan	1.00	13140	13229	89	45	89.0	65	24	725	4300	3850	450		13229	91.08	2.00	0.94	0.00	0.00	0	Drilling
7	10-Jan	1.42	13229	13319	90	45	63.5	65	24	725	4300	3850	450		13319	91.65	1.00	0.71	0.00	0.00	0	Drilling
7	10-Jan	0.42	13319	13346	27	48	64.8	65	24	725	4300	3850	450		13346	91.84	1.00	0.71	0.00	0.00	0	Drilling
7	10-Jan	0.92	13346	13376	30	48	32.7	0	0	676	4300	3850	450	150	13376	91.16	1.00	2.86	0.00	0.00	0	Sliding
7	10-Jan	0.42	13376	13409	33	50	79.2	65	24	725	4300	3850	450		13409	90.23	1.00	2.86	0.00	0.00	0	Drilling
7	10-Jan	0.75	13409	13498	89	50	118.7	68	27	725	4480	3850	630		13498	89.36	1.00	0.19	0.00	0.00	0	Drilling
7	10-Jan	0.92	13498	13588	90	50	98.2	68	0	725	4480	3850	630		13588	89.42	1.00	0.89	0.00	0.00	0	Drilling
7	10-Jan	1.17	13588	13677	89	50	76.3	68	0	725	4480	3850	630		13677	89.68	0.00	0.96	0.00	0.00	0	Drilling
7	10-Jan	1.17	13677	13767	90	50	77.1	68	0	725	4480	3850	630		13767	89.92	0.00	1.19	0.00	0.00	0	Drilling
7	10-Jan	1.17	13767	13857	90	50	77.1	68	0	725	4480	3850	630		13857	90.21	358.00	0.70	0.00	0.00	0	Drilling
7	10-Jan	1.17	13857	13947	90	50	77.1	40	0	725	4480	3850	630		13947	90.99	358.00	1.33	0.00	0.00	0	Drilling
7	10-Jan	0.67	13947	13995	48	50	72.0	40	0	725	4480	3850	630		13995	91.54	357.00	1.21	0.00	0.00	0	Drilling
7	11-Jan	0.67	13995	14036	41	50	61.5	40	27	725	4480	3850	630		14036	92.02	357.00	1.21	0.00	0.00	0	Drilling
7	11-Jan	1.25	14036	14126	90	50	72.0	40	27	725	4480	3850	630		14126	92.26	357.00	0.91	0.00	0.00	0	Drilling
7	11-Jan	0.08	14126	14132	6	50	72.0	60	27	725	4480	3850	630		14132	92.24	357.00	0.91	0.00	0.00	0	Drilling
7	11-Jan	0.67	14132	14165	33	55	49.5	0	0	676	4480	3850	630	140R	14165	92.19	357.00	0.40	0.00	0.00	0	Sliding
7	11-Jan	0.67	14165	14216	51	50	76.5	60	27	725	4480	3850	630		14216	92.23	357.00	0.40	0.00	0.00	0	Drilling
7	11-Jan	1.00	14216	14306	90	50	90.0	60	27	725	4480	3850	630		14306	92.03	358.00	1.23	0.00	0.00	0	Drilling
7	11-Jan	0.17	14306	14314	8	50	48.0	60	27	725	4480	3850	630		14314	92.00	358.00	1.23	0.00	0.00	0	Drilling
7	11-Jan	0.75	14314	14349	35	55	46.7	0	0	725	4480	3850	630	140R	14349	91.84	359.00	3.20	0.00	0.00	0	Sliding

Slide Report for BHA # 7 with Surveys included

Note: Sliding and Drilling Surveys are LOGICAL expectations.

#	Date	Hrs	Start MD	End MD	DMD	WOB	ROP	RPM	Surf Torq	Flow Rate	SPP On B	SPP Off B	Delta SPP	TFO cTFO	Survey MD	INC	AZM	Surv DLS	Mot DLS	Rot DLS	Q	Drill Mode
7	11-Jan	0.58	14349	14396	47	50	80.6	60	28	725	4480	3850	630		14396	91.54	0.00	3.20	0.00	0.00	0	Drilling
7	11-Jan	0.17	14396	14408	12	50	72.0	60	28	725	4480	3850	630		14408	91.47	1.00	3.20	0.00	0.00	0	Drilling
7	11-Jan	0.92	14408	14440	32	55	34.9	0	0	725	4480	3850	630	110	14440	91.40	2.00	0.63	0.00	0.00	0	Sliding
7	11-Jan	0.75	14440	14486	46	55	61.3	70	28	725	4480	3850	630		14486	91.63	2.00	0.63	0.00	0.00	0	Drilling
7	11-Jan	1.08	14486	14575	89	60	82.2	45	30	725	4400	3900	500		14575	92.23	2.00	0.92	0.00	0.00	0	Drilling
7	11-Jan	0.92	14575	14665	90	63	98.2	45	36	725	4400	3780	620		14665	92.60	2.00	0.35	0.00	0.00	0	Drilling
7	11-Jan	0.17	14665	14678	13	63	78.0	45	36	725	4400	3780	620		14678	92.62	2.00	0.35	0.00	0.00	0	Drilling
7	11-Jan	1.08	14678	14708	30	55	27.7	0	0	725	4400	3780	620	150	14708	92.58	2.00	0.85	0.00	0.00	0	Sliding
7	11-Jan	0.50	14708	14755	47	63	94.0	45	36	725	4400	3780	620		14755	92.26	2.00	0.85	0.00	0.00	0	Drilling
7	11-Jan	0.75	14755	14844	89	63	118.7	45	36	725	4400	3780	620		14844	91.99	2.00	1.07	0.00	0.00	0	Drilling
7	11-Jan	0.83	14844	14934	90	63	108.0	45	36	725	4400	3780	620		14934	92.04	1.00	0.70	0.00	0.00	0	Drilling
7	11-Jan	0.75	14934	15024	90	63	120.0	45	36	725	4400	3780	620		15024	92.46	0.00	1.33	0.00	0.00	0	Drilling
7	11-Jan	0.92	15024	15114	90	63	98.2	45	36	725	4400	3780	620		15114	91.02	359.00	2.92	0.00	0.00	0	Drilling
7	11-Jan	0.17	15114	15120	6	63	36.0	45	36	725	4400	3780	620		15120	90.85	359.00	2.92	0.00	0.00	0	Drilling
7	11-Jan	0.92	15120	15155	35	55	38.2	45	36	725	4400	3780	620	180	15155	89.98	358.00	1.56	0.00	0.00	0	Sliding
7	11-Jan	0.42	15155	15204	49	63	117.6	45	36	725	4400	3780	620		15204	89.25	358.00	1.56	0.00	0.00	0	Drilling
7	11-Jan	0.58	15204	15293	89	63	152.6	45	36	725	4400	3780	620		15293	88.45	358.00	1.67	0.00	0.00	0	Drilling
7	11-Jan	0.42	15293	15383	90	63	216.0	45	36	725	4400	3780	620		15383	88.83	357.00	1.54	0.00	0.00	0	Drilling
7	11-Jan	0.25	15383	15420	37	63	148.0	45	36	725	4400	3780	620		15420	89.30	355.00	3.53	0.00	0.00	0	Drilling
7	12-Jan	0.50	15420	15472	52	63	104.0	45	36	725	4400	3780	620		15472	90.67	356.00	3.53	0.00	0.00	0	Drilling
7	12-Jan	0.17	15472	15480	8	63	48.0	45	36	725	4400	3780	620		15480	90.89	357.00	3.53	0.00	0.00	0	Drilling
7	12-Jan	0.75	15480	15520	40	55	53.3	45	36	725	4400	3780	620	90R	15520	91.93	357.00	2.70	0.00	0.00	0	Sliding
7	12-Jan	0.42	15520	15562	42	63	100.8	45	36	725	4400	3780	620		15562	93.02	358.00	2.70	0.00	0.00	0	Drilling
7	12-Jan	0.75	15562	15652	90	63	120.0	45	36	725	4400	3780	620		15652	93.24	359.00	1.98	0.00	0.00	0	Drilling
7	12-Jan	0.08	15652	15657	5	63	60.0	45	36	725	4400	3780	620		15657	93.19	359.00	1.98	0.00	0.00	0	Drilling
7	12-Jan	1.00	15657	15703	46	55	46.0	45	36	725	4400	3780	620	155R	15703	92.55	0.00	2.30	0.00	0.00	0	Sliding
7	12-Jan	0.50	15703	15741	38	63	76.0	45	36	725	4400	3780	620		15741	91.84	0.00	2.30	0.00	0.00	0	Drilling
7	12-Jan	0.58	15741	15831	90	63	154.3	60	37	695	4450	3600	850		15831	91.06	1.00	1.32	0.00	0.00	0	Drilling
7	12-Jan	0.75	15831	15921	90	63	120.0	60	37	695	4450	3600	850		15921	91.65	0.00	1.61	0.00	0.00	0	Drilling
7	12-Jan	0.67	15921	16011	90	63	135.0	60	37	695	4450	3600	850		16011	93.02	359.00	1.79	0.00	0.00	0	Drilling
7	12-Jan	0.58	16011	16054	43	63	73.7	60	37	695	4450	3600	850		16054	93.46	358.00	3.38	0.00	0.00	0	Drilling
7	12-Jan	1.00	16054	16089	35	55	35.0	0	0	725	4450	3600	850	120	16089	93.24	0.00	3.38	0.00	0.00	0	Sliding
7	12-Jan	0.08	16089	16100	11	63	132.0	60	37	695	4450	3600	850		16100	93.17	0.00	3.38	0.00	0.00	0	Drilling
7	12-Jan	0.33	16100	16126	26	63	78.0	60	37	725	4580	3850	730		16126	93.01	1.00	3.38	0.00	0.00	0	Drilling

Slide Report for BHA # 7 with Surveys included

Note: Sliding and Drilling Surveys are LOGICAL expectations.

#	Date	Hrs	Start MD	End MD	DMD	WOB	ROP	RPM	Surf Torq	Flow Rate	SPP On B	SPP Off B	Delta SPP	TFO cTFO	Survey MD	INC	AZM	Surv DLS	Mot DLS	Rot DLS	Q	Drill Mode
7	12-Jan	0.67	16126	16148	22	55	33.0	0	0	725	4580	3850	730	135	16148	92.58	1.00	3.25	0.00	0.00	0	Sliding
7	12-Jan	0.42	16148	16190	42	63	100.8	60	37	725	4580	3850	730		16190	91.56	2.00	3.25	0.00	0.00	0	Drilling
7	12-Jan	0.17	16190	16202	12	63	72.0	60	37	725	4580	3850	730		16202	91.27	2.00	3.25	0.00	0.00	0	Drilling
7	12-Jan	1.17	16202	16240	38	63	32.6	0	0	725	4580	3850	730	140	16240	90.38	3.00	2.32	0.00	0.00	0	Sliding
7	12-Jan	0.67	16240	16279	39	63	58.5	60	37	725	4580	3850	730		16279	89.48	3.00	2.32	0.00	0.00	0	Drilling
7	12-Jan	1.00	16279	16369	90	63	90.0	60	37	725	4580	3850	730		16369	88.35	4.00	1.04	0.00	0.00	0	Drilling
7	12-Jan	1.25	16369	16459	90	63	72.0	40	37	725	4580	3850	730		16459	89.01	3.00	1.86	0.00	0.00	0	Drilling
7	12-Jan	0.33	16459	16485	26	63	78.0	40	37	725	4580	3850	730		16485	89.40	3.00	1.86	0.00	0.00	0	Drilling
7	12-Jan	0.25	16485	16497	12	63	48.0	0	0	725	4580	3850	730	HS	16497	89.62	2.00	2.53	0.00	0.00	0	Sliding
7	12-Jan	0.58	16497	16549	52	63	89.1	40	37	725	4580	3850	730		16549	90.72	2.00	2.53	0.00	0.00	0	Drilling
7	12-Jan	0.83	16549	16638	89	63	106.8	40	37	725	4580	3850	730		16638	91.58	1.00	0.45	0.00	0.00	0	Drilling
7	12-Jan	0.75	16638	16728	90	63	120.0	40	37	725	4580	3850	730		16728	92.43	1.00	1.87	0.00	0.00	0	Drilling
7	12-Jan	1.08	16728	16818	90	63	83.1	40	37	725	4580	3850	730		16818	92.81	359.00	0.88	0.00	0.00	0	Drilling
7	12-Jan	0.17	16818	16823	5	63	30.0	40	37	725	4580	3850	730		16823	92.81	359.00	0.88	0.00	0.00	0	Drilling
7	12-Jan	0.83	16823	16845	22	63	26.4	40	37	725	4580	3850	730	140R	16845	92.79	0.00	0.88	0.00	0.00	0	Sliding
7	12-Jan	0.67	16845	16908	63	63	94.5	40	37	725	4580	3850	730		16908	91.55	0.00	2.15	0.00	0.00	0	Drilling
7	12-Jan	0.17	16908	16922	14	63	84.0	40	37	725	4580	3850	730		16922	91.25	0.00	2.15	0.00	0.00	0	Drilling
7	12-Jan	1.08	16922	16950	28	63	25.8	40	37	725	4580	3850	730	180	16950	90.82	0.00	0.45	0.00	0.00	0	Sliding
7	12-Jan	0.50	16950	16998	48	63	96.0	40	37	725	4580	3850	730		16998	90.60	0.00	0.45	0.00	0.00	0	Drilling
7	13-Jan	0.50	16998	17087	89	63	178.0	40	37	725	4580	3850	730		17087	90.66	0.00	0.36	0.00	0.00	0	Drilling
7	13-Jan	0.75	17087	17177	90	63	120.0	40	37	725	4580	3850	730		17177	91.62	0.00	1.62	0.00	0.00	0	Drilling
7	13-Jan	0.75	17177	17267	90	63	120.0	40	37	725	4580	3850	730		17267	92.54	359.00	0.83	0.00	0.00	0	Drilling
7	13-Jan	1.00	17267	17357	90	63	90.0	40	37	725	4580	3850	730		17357	92.79	359.00	0.68	0.00	0.00	0	Drilling
7	13-Jan	0.17	17357	17363	6	63	36.0	40	37	725	4580	3850	730		17363	92.79	359.00	0.68	0.00	0.00	0	Drilling
7	13-Jan	0.75	17363	17388	25	63	33.3	0	0	725	4580	3850	730	180	17388	92.79	0.00	0.36	0.00	0.00	0	Sliding
7	13-Jan	0.75	17388	17446	58	63	77.3	40	37	705	4580	3850	730		17446	92.59	0.00	0.36	0.00	0.00	0	Drilling
7	13-Jan	0.33	17446	17470	24	63	72.0	60	37	705	4580	3850	730		17470	92.51	0.00	0.36	0.00	0.00	0	Drilling
7	13-Jan	0.92	17470	17500	30	63	32.7	60	37	725	4580	3850	730	150	17500	92.26	0.00	1.00	0.00	0.00	0	Sliding
7	13-Jan	0.75	17500	17536	36	63	48.0	60	37	705	4580	3850	730		17536	91.91	0.00	1.00	0.00	0.00	0	Drilling
7	13-Jan	1.17	17536	17626	90	63	77.1	60	37	705	4450	3900	550		17626	91.95	0.00	1.41	0.00	0.00	0	Drilling
7	13-Jan	1.25	17626	17715	89	63	71.2	60	37	705	4450	3900	550		17715	92.64	358.00	0.88	0.00	0.00	0	Drilling
7	13-Jan	0.17	17715	17727	12	63	72.0	60	37	705	4450	3900	550		17727	92.74	358.00	0.88	0.00	0.00	0	Drilling
7	13-Jan	1.33	17727	17767	40	63	30.0	0	0	705	4450	3900	550	140	17767	92.81	358.00	0.67	0.00	0.00	0	Sliding
7	13-Jan	0.42	17767	17805	38	63	91.2	60	37	705	4450	3900	550		17805	92.61	359.00	0.67	0.00	0.00	0	Drilling

Slide Report for BHA # 7 with Surveys included

Note: Sliding and Drilling Surveys are LOGICAL expectations.

#	Date	Hrs	Start MD	End MD	DMD	WOB	ROP	RPM	Surf Torq	Flow Rate	SPP On B	SPP Off B	Delta SPP	TFO cTFO	Survey MD	INC	AZM	Surv DLS	Mot DLS	Rot DLS	Q	Drill Mode
7	13-Jan	1.00	17805	17894	89	63	89.0	60	37	705	4450	3900	550		17894	92.44	359.00	0.59	0.00	0.00	0	Drilling
7	13-Jan	0.17	17894	17906	12	63	72.0	60	37	705	4450	3900	550		17906	92.44	359.00	0.59	0.00	0.00	0	Drilling
7	13-Jan	1.25	17906	17947	41	63	32.8	0	0	705	4450	3900	550	135	17947	92.27	359.00	1.21	0.00	0.00	0	Sliding
7	13-Jan	0.50	17947	17984	37	63	74.0	60	37	705	4450	3900	550		17984	91.96	0.00	1.21	0.00	0.00	0	Drilling
7	13-Jan	0.42	17984	18013	29	63	69.6	60	37	705	4450	3900	550		18013	91.72	0.00	1.21	0.00	0.00	0	Drilling
7	13-Jan	1.33	18013	18048	35	63	26.3	0	0	705	4450	3900	550	150	18048	91.25	0.00	1.37	0.00	0.00	0	Sliding
7	13-Jan	0.42	18048	18074	26	63	62.4	60	37	705	4450	3900	550		18074	90.90	0.00	1.37	0.00	0.00	0	Drilling
7	13-Jan	1.17	18074	18164	90	63	77.1	60	37	705	4450	3900	550		18164	91.05	1.00	1.79	0.00	0.00	0	Drilling
7	13-Jan	0.92	18164	18254	90	63	98.2	60	37	705	4450	3900	550		18254	92.38	359.00	2.04	0.00	0.00	0	Drilling
7	13-Jan	0.92	18254	18343	89	63	97.1	60	37	705	4450	3900	550		18343	92.89	358.00	0.39	0.00	0.00	0	Drilling
7	13-Jan	0.17	18343	18352	9	63	54.0	60	37	705	4450	3900	550		18352	92.89	358.00	0.39	0.00	0.00	0	Drilling
7	13-Jan	0.67	18352	18387	35	63	52.5	60	37	705	4450	3900	550	180	18387	92.96	358.00	0.70	0.00	0.00	0	Sliding
7	13-Jan	0.58	18387	18433	46	63	78.9	60	37	705	4450	3900	550		18433	93.25	358.00	0.70	0.00	0.00	0	Drilling
7	13-Jan	0.42	18433	18488	55	63	132.0	60	37	705	4450	3900	550		18488	93.30	357.00	0.65	0.00	0.00	0	Drilling
7	14-Jan	0.42	18488	18523	35	70	84.0	60	37	705	4450	3900	550		18523	93.08	357.00	0.65	0.00	0.00	0	Drilling
7	14-Jan	0.17	18523	18530	7	70	42.0	60	37	705	4450	3900	550		18530	93.03	357.00	0.65	0.00	0.00	0	Drilling
7	14-Jan	0.50	18530	18561	31	85	62.0	60	37	705	4450	3900	550	180	18561	92.94	357.00	1.37	0.00	0.00	0	Sliding
7	14-Jan	0.67	18561	18612	51	70	76.5	60	37	705	4450	3900	550		18612	93.27	357.00	0.00	0.00	0.00	0	Drilling
7	14-Jan	0.42	18612	18660	48	70	115.2	60	37	705	4450	3900	550		18660	93.27	357.00	0.00	0.00	0.00	0	Drilling

Total Drilled:	7444	**Avg. Total ROP:**	79.12	**DEPTH% - TIME %**
Total Rotary Drilled:	6525	**Avg. Rotary ROP:**	92.88	**Percent Rotary:** 87.65 - 74.67
Total Drilled Sliding:	919	**Avg. Slide ROP:**	38.56	**Percent Slide:** 12.35 - 25.33

Final Logs

Gamma Ray

INTREPID Directional Drilling Specialists

Intrepid-DDS
10314 TX-191
Midland,TX 79707

1" = 100'
MD FT

Company: AEP
Well: Wool Head 20 State Com #512H
Field: Delaware Basin
API: 30-025-46492
County: Lea
State: New Mexico
Country: USA
Rig: HP 466
AFE: NM0093
Job: ID2389

Company: AEP
Well: Wool Head 20 State Com #512H
Field: Delaware Basin
API: 30-025-46492
County: Lea
State: New Mexico
Country: USA
Rig: HP 466

Well Location NAD 1927

Latitude: 32° 27' 29.103 N Longitude: 103° 35' 19.292 W
Y: 531183.00 X: 771015.1

Section: 20 Twnship: 21-S Rnge: 33-E

Permanent Datum: Mean Sea Level Kelly Bushing Elev: N/A
Log Measured From: Rotary Table Drill Floor Elev: 3752.5
Height of Reference: 26.5 Ground Level Elev: 3726

Depth Drilled: 1.0 to: 18660.0
Depth Logged: 5100.0 to: 18660.01
Date Logged: 13 Nov 2019 23:53 to: 14 Jan 2020 02:37

Disclaimer: Intrepid DDS uses its best efforts to provide customers with accurate information and interpretations with services performed but does not warranty the accuracy of information or interpretations.

Hole Data			Casing Data		
Size	From (MD)	To (MD)	Size	From (MD)	To (MD)
17.5	100	1838	13 3/8	100	1838
12 1/4	1838	5282	9 5/8	1838	5282
8.5	5282	18660	5 1/2	5282	18660

Report:AEP_7 Curve Log_DRPM Date: Jan 14 2020 10:32 Filter: AF1 Software: 10.7.9

Run Data

Run Name	MWD Run 1	MWD Run 2	MWD Run 3	MWD Run 4	MWD Run 5	MWD Run 6	MWD Run 7			
Start Date	13 Nov 2019	21 Nov 2019	1 Dec 2019	5 Jan 2020	7 Jan 2020	8 Jan 2020	9 Jan 2020			
Start Time	1:45	08:45	7:30	23:00	2:15	04:00	03:45			
End Date	14 Nov 2019	22 Nov 2019	3 Dec 2019	7 Jan 2019	8 Jan 2020	9 Jan 2020	14 Jan 2019			
End Time	22:00	22:15	05:00	1:45	2:30	2:15	02:30			
Depth In	1.0	1852	5282	10555	10715	10908	11214			
Depth Out	1838	5282	10555	10715	10908	11214	18660			
Log Top			5217	10502	10680	10872	11177			
Log Bottom			10502	10680	10872	11177	18613			
Hole Size	17.5	12.25	8.5	8.5	8.5	8.5	8.5			

Tool Data

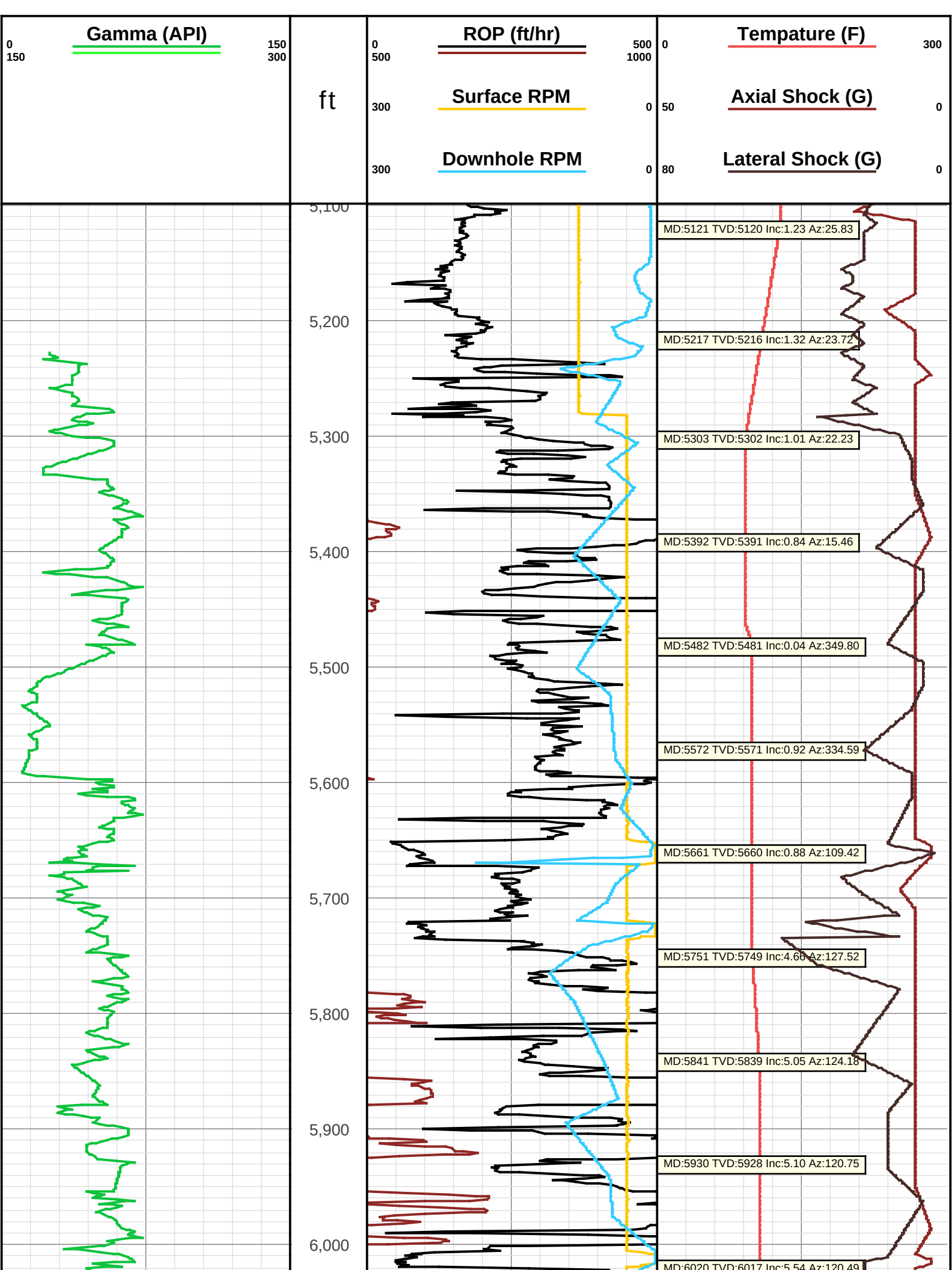
Run Name	MWD Run 1	MWD Run 2	MWD Run 3	MWD Run 4	MWD Run 5	MWD Run 6	MWD Run 7	
Directional Sensor SN	20125-R	20125-R	20120-R	20129-R	20129-R	20129	20124	
Directional Offset	68	65	63	47	47	48	58	
Gamma Sensor SN	N/A	N/A	352-R	691-R	688-R	617	688	
Gamma Offset			53	35	36	37	47	
Gamma Corr. Factor	1.0	1.0	3.661	3.79	3.82	3.65	3.65	

Mud Data

Run Name	MWD Run 1	MWD Run 2	MWD Run 3	MWD Run 4	MWD Run 5	MWD Run 6	MWD Run 7	
Mud Type	Water Based	Water Based	Water Based	Oil Based	Oil Based	Oil Based	Oil Based	
Mud Density (lb/gal)	10.0	10.4	9.2	9.6	9.6	9.7	9.5	
Funnel Visc. (s/qt)	41	29	1	61	61	70	65	
Plastic Visc. (cP)	4	2	1	14	14	17	15	
pH	8.1	10.2	11	N/A	N/A	NA		
Chlor. Whole Mud (mg/L)	1800	188000	73,000	48,000	48,000	45000	46000	
API Filtrate (cm3/30)	99	99	99/2	N/A	N/A	99/2	7.8	
Max MWD Temp (F)	370.6	420.6	142.0	122.0	120.2	122.0	190.8	

Personnel

Run Name	MWD Run 1	MWD Run 2	MWD Run 3	MWD Run 4	MWD Run 5	MWD Run 6	MWD Run 7	
MWD Operator 1	Ben Wallace	Michael Walton	Michael Walton	Michael Walton	Michael Walton	Ben Wallace	Ben Wallace	
MWD Operator 2	Mike Walton	Jospeh Hatley	Jospeh Hatley	Dustin Loomis	Dustin Loomis	Joe Hatley	Joe Hatley	
MWD Operator 3								


Gamma (API)
0
150
150
300
ft
ROP (ft/hr)
0
500
500
1000
Surface RPM
300
0
Downhole RPM
300
0
Tempature (F)
0
300
Axial Shock (G)
50
0
Lateral Shock (G)
80
0
5,100
5,200
5,300
5,400
5,500
5,600
5,700
5,800
5,900
6,000
MD:5121 TVD:5120 Inc:1.23 Az:25.83
MD:5217 TVD:5216 Inc:1.32 Az:23.72
MD:5303 TVD:5302 Inc:1.01 Az:22.23
MD:5392 TVD:5391 Inc:0.84 Az:15.46
MD:5482 TVD:5481 Inc:0.04 Az:349.80
MD:5572 TVD:5571 Inc:0.92 Az:334.59
MD:5661 TVD:5660 Inc:0.88 Az:109.42
MD:5751 TVD:5749 Inc:4.66 Az:127.52
MD:5841 TVD:5839 Inc:5.05 Az:124.18
MD:5930 TVD:5928 Inc:5.10 Az:120.75
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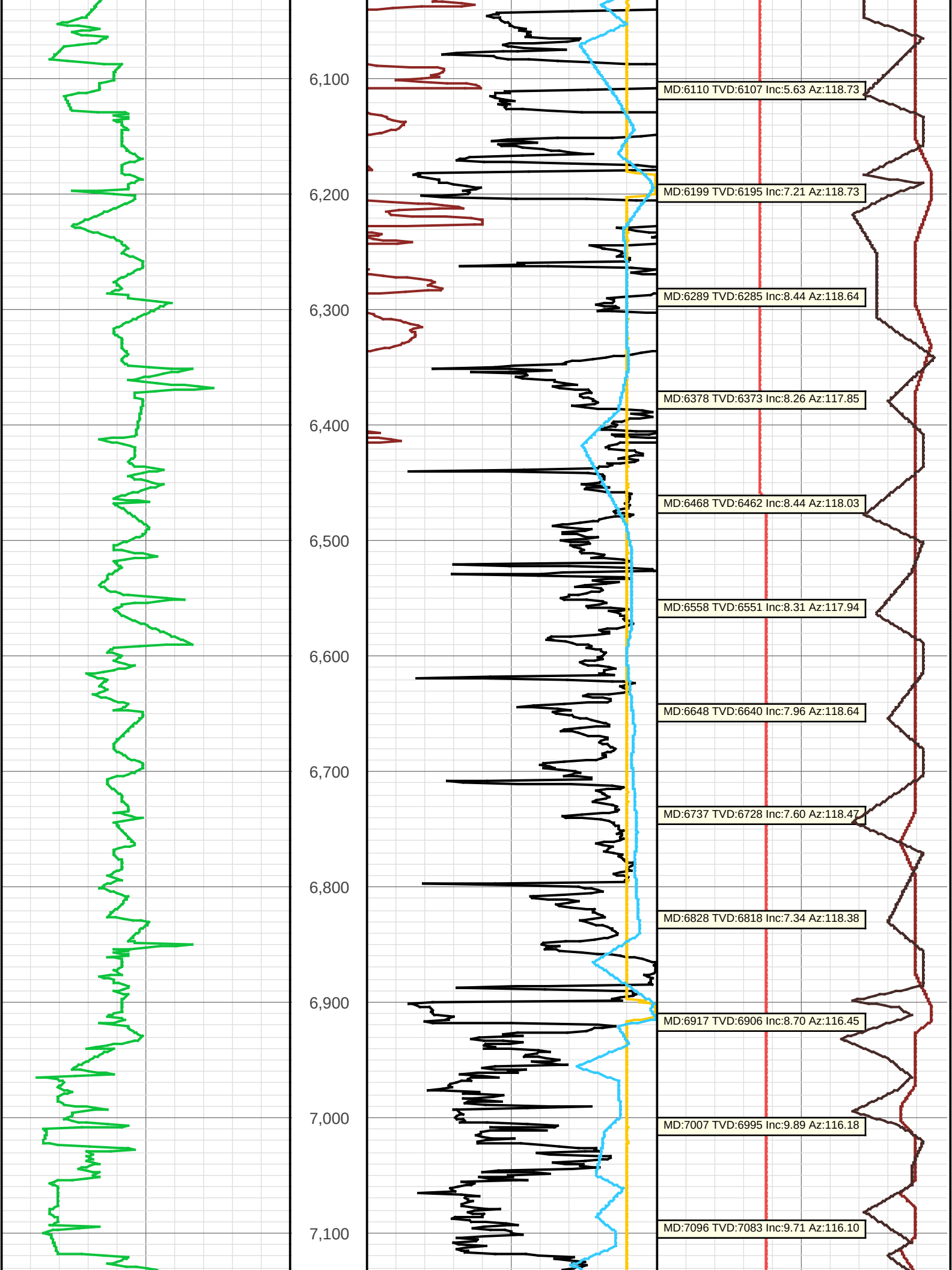
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6,800
6,900
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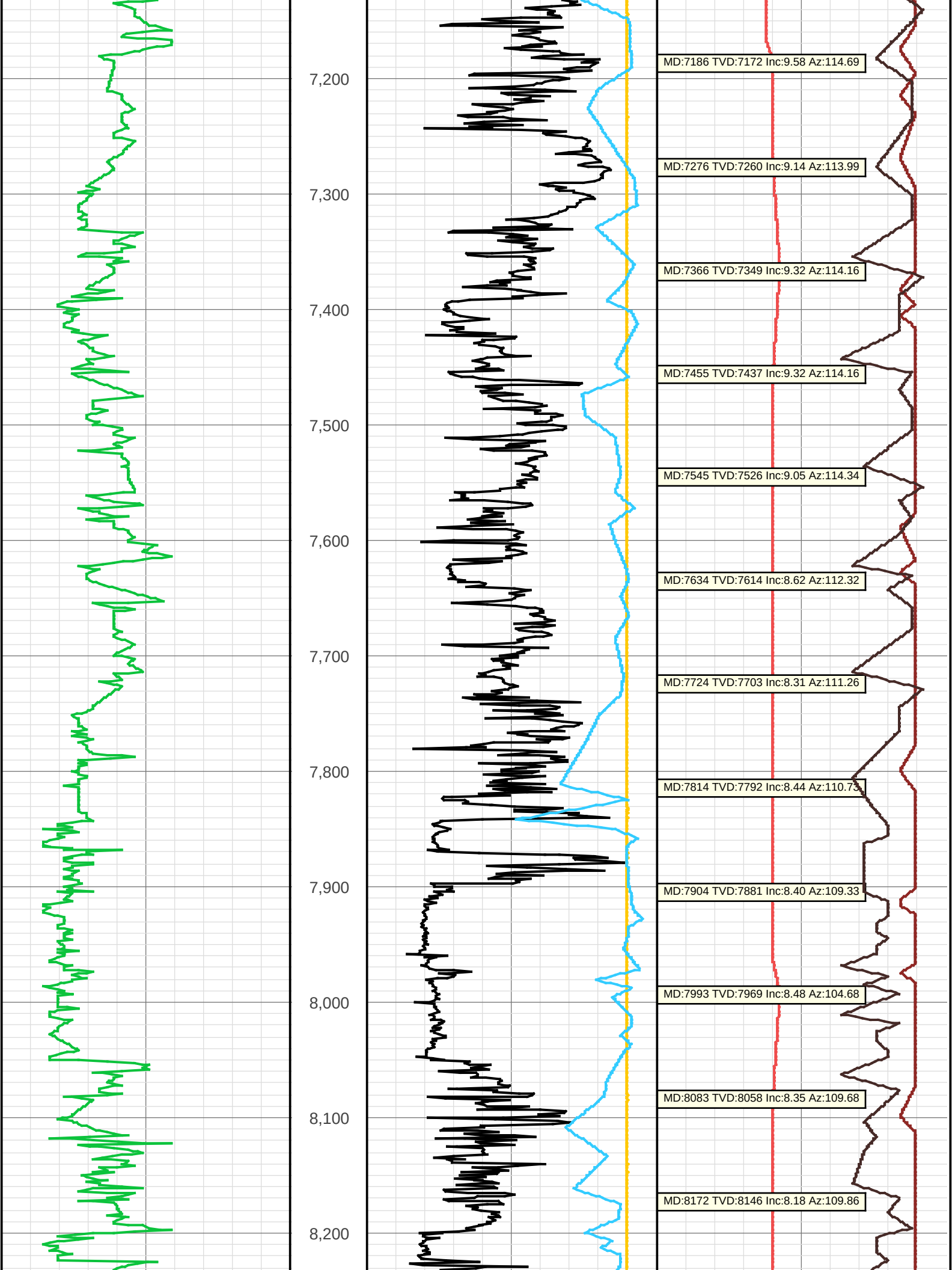
MD:6289 TVD:6285 Inc:8.44 Az:118.64
MD:6378 TVD:6373 Inc:8.26 Az:117.85
MD:6468 TVD:6462 Inc:8.44 Az:118.03
MD:6558 TVD:6551 Inc:8.31 Az:117.94
MD:6648 TVD:6640 Inc:7.96 Az:118.64
MD:6737 TVD:6728 Inc:7.60 Az:118.47
MD:6828 TVD:6818 Inc:7.34 Az:118.38
MD:6917 TVD:6906 Inc:8.70 Az:116.45
MD:7007 TVD:6995 Inc:9.89 Az:116.18
MD:7096 TVD:7083 Inc:9.71 Az:116.10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8,200
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MD:7276 TVD:7260 Inc:9.14 Az:113.99
MD:7366 TVD:7349 Inc:9.32 Az:114.16
MD:7455 TVD:7437 Inc:9.32 Az:114.16
MD:7545 TVD:7526 Inc:9.05 Az:114.34
MD:7634 TVD:7614 Inc:8.62 Az:112.32
MD:7724 TVD:7703 Inc:8.31 Az:111.26
MD:7814 TVD:7792 Inc:8.44 Az:110.73
MD:7904 TVD:7881 Inc:8.40 Az:109.33
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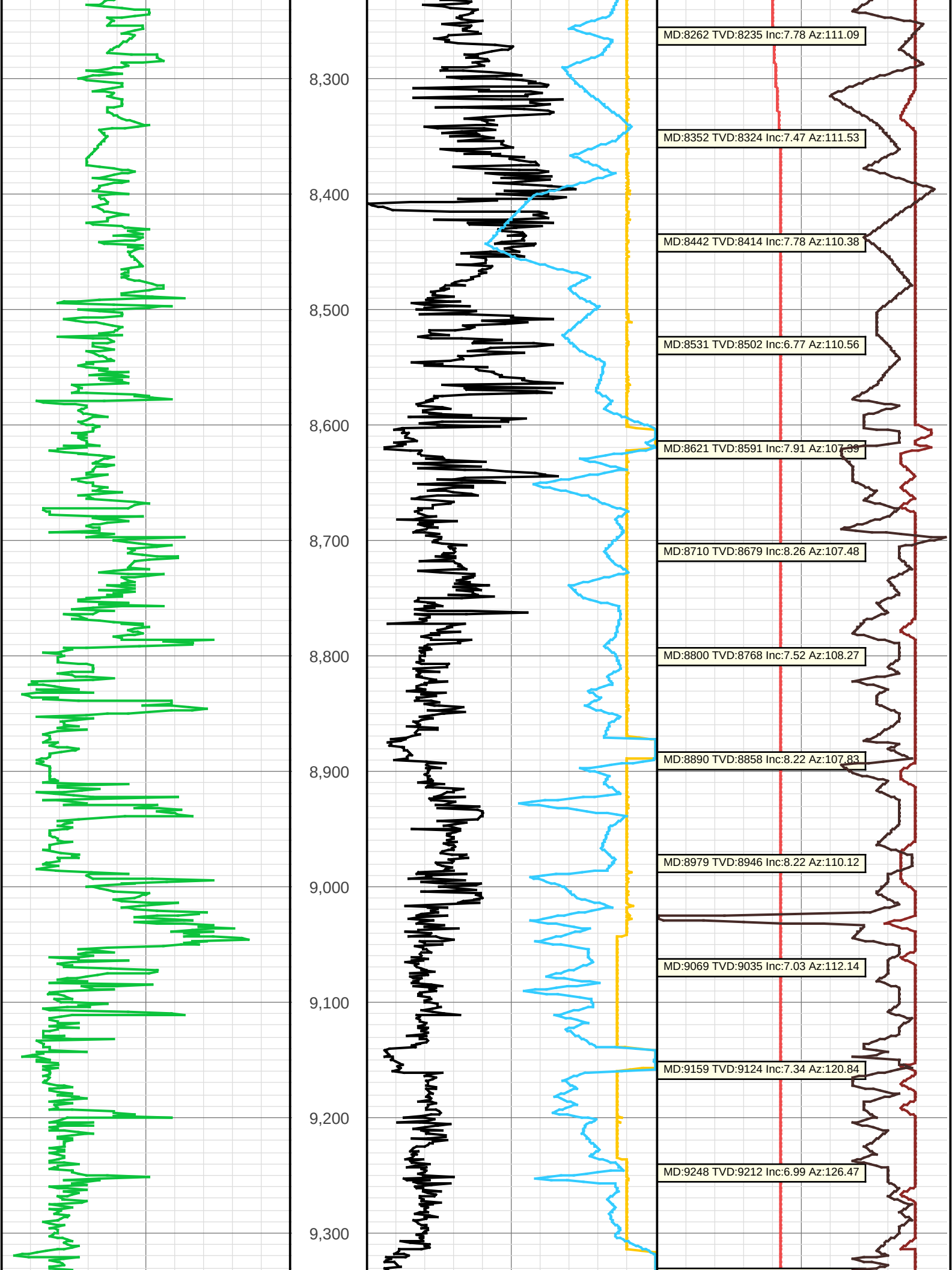
MD:8172 TVD:8146 Inc:8.18 Az:109.86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8,900
9,000
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9,300
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MD:8442 TVD:8414 Inc:7.78 Az:110.38
MD:8531 TVD:8502 Inc:6.77 Az:110.56
MD:8621 TVD:8591 Inc:7.91 Az:107.39
MD:8710 TVD:8679 Inc:8.26 Az:107.48
MD:8800 TVD:8768 Inc:7.52 Az:108.27
MD:8890 TVD:8858 Inc:8.22 Az:107.83
MD:8979 TVD:8946 Inc:8.22 Az:110.12
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MD:9159 TVD:9124 Inc:7.34 Az:120.84
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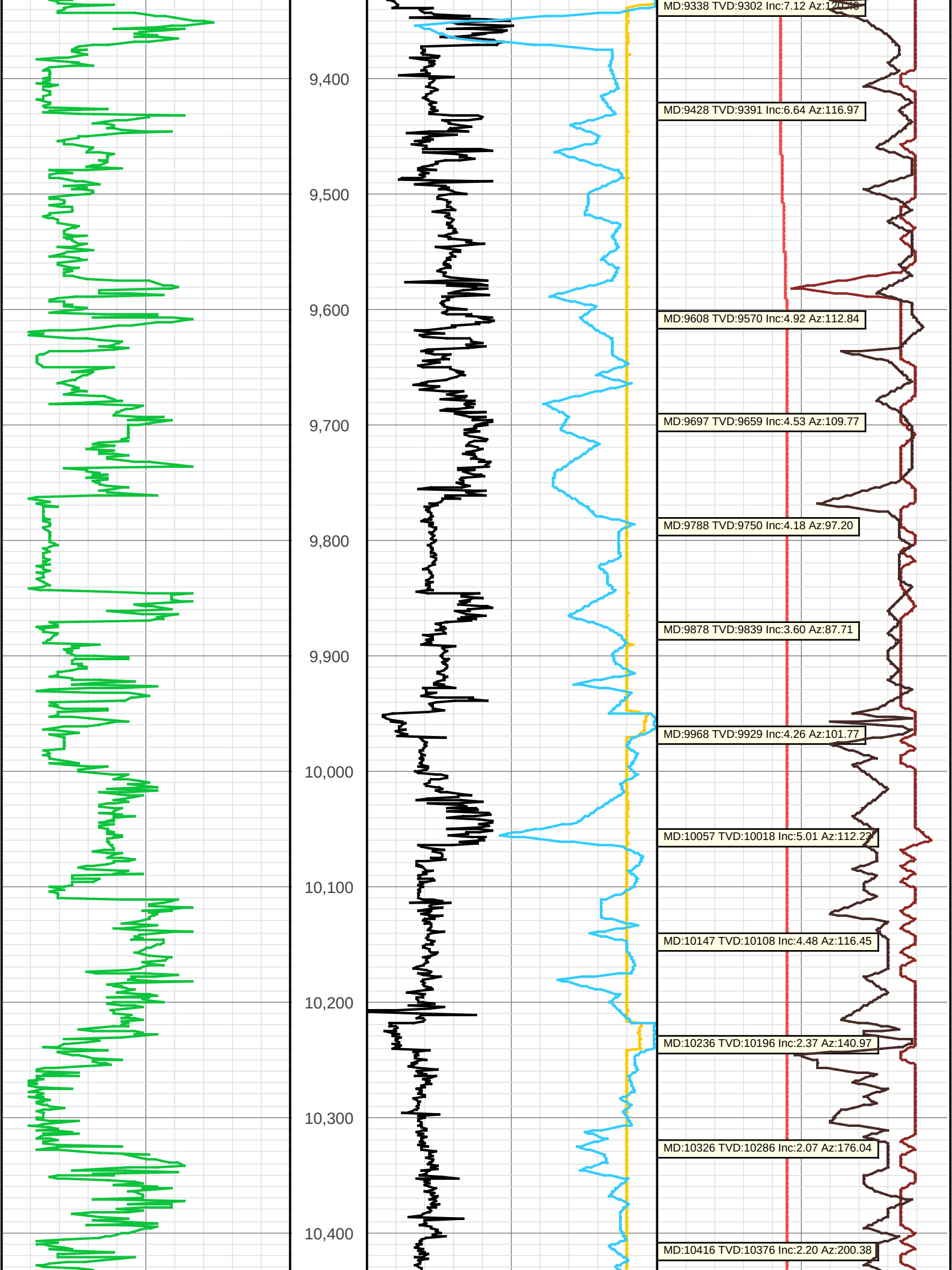
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MD:9428 TVD:9391 Inc:6.64 Az:116.97
MD:9608 TVD:9570 Inc:4.92 Az:112.84
MD:9697 TVD:9659 Inc:4.53 Az:109.77
MD:9788 TVD:9750 Inc:4.18 Az:97.20
MD:9878 TVD:9839 Inc:3.60 Az:87.71
MD:9968 TVD:9929 Inc:4.26 Az:101.77
MD:10057 TVD:10018 Inc:5.01 Az:112.23
MD:10147 TVD:10108 Inc:4.48 Az:116.45
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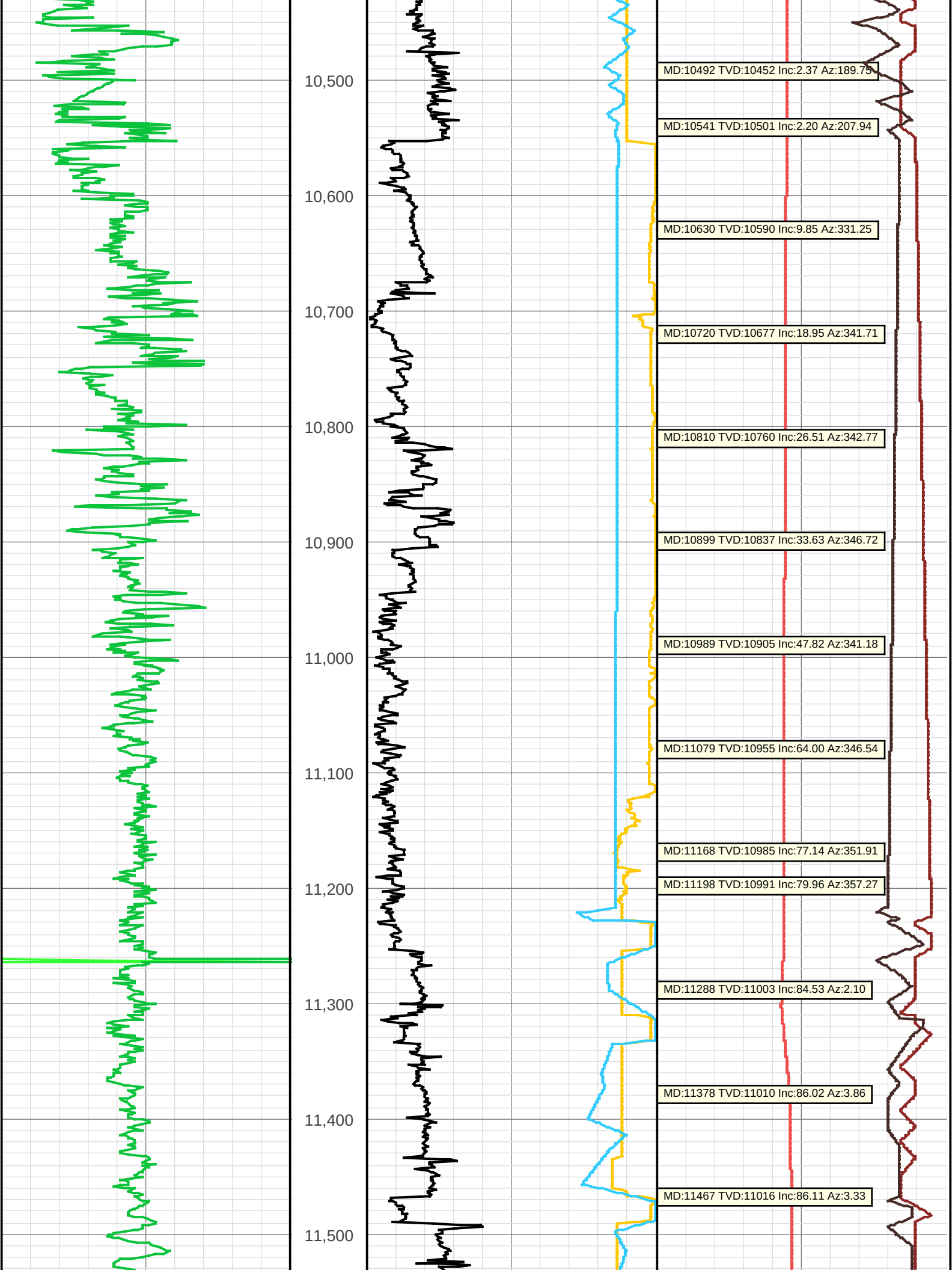
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MD:10989 TVD:10905 Inc:47.82 Az:341.18
MD:11079 TVD:10955 Inc:64.00 Az:346.54
MD:11168 TVD:10985 Inc:77.14 Az:351.91
MD:11198 TVD:10991 Inc:79.96 Az:357.27
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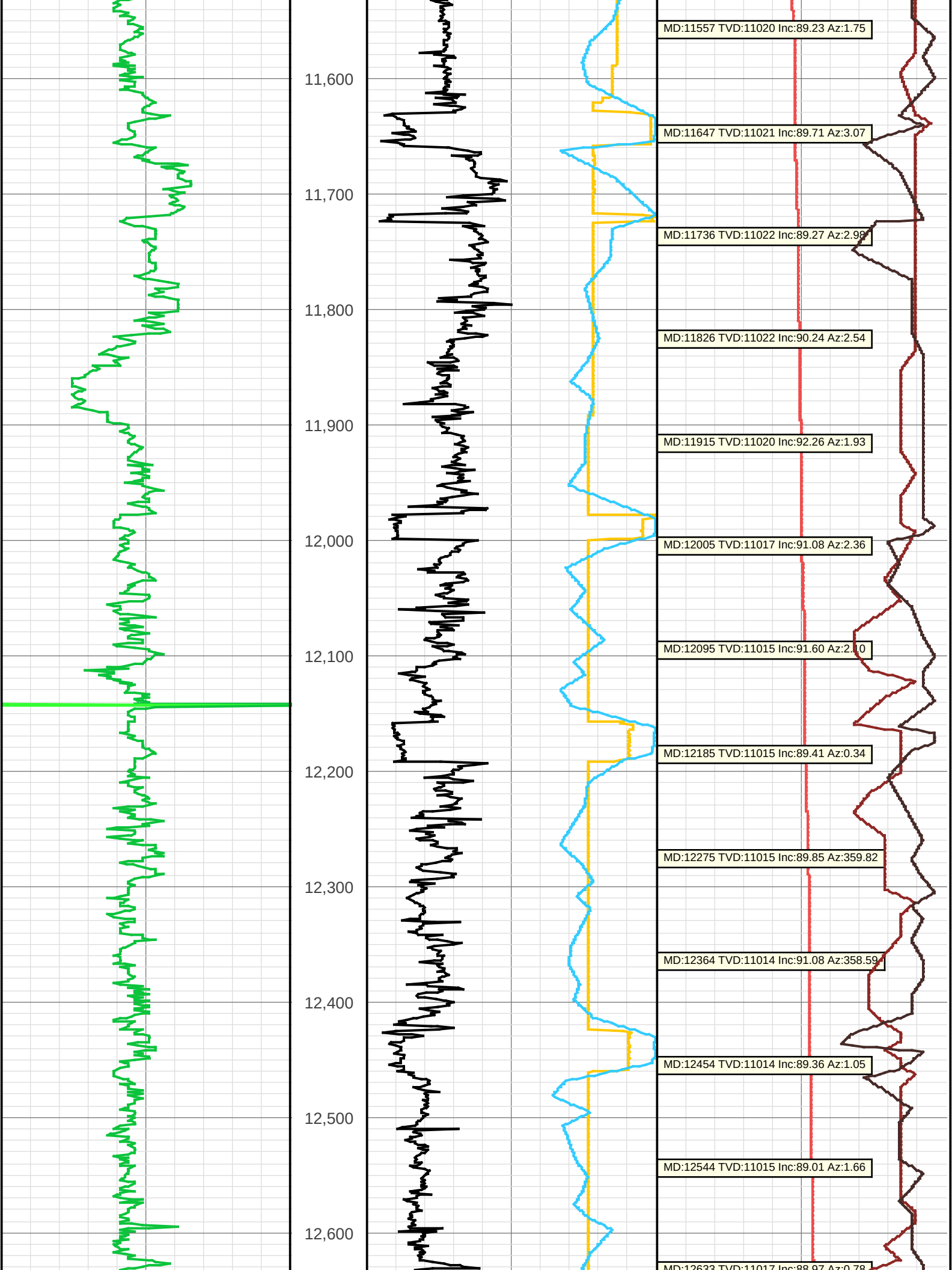
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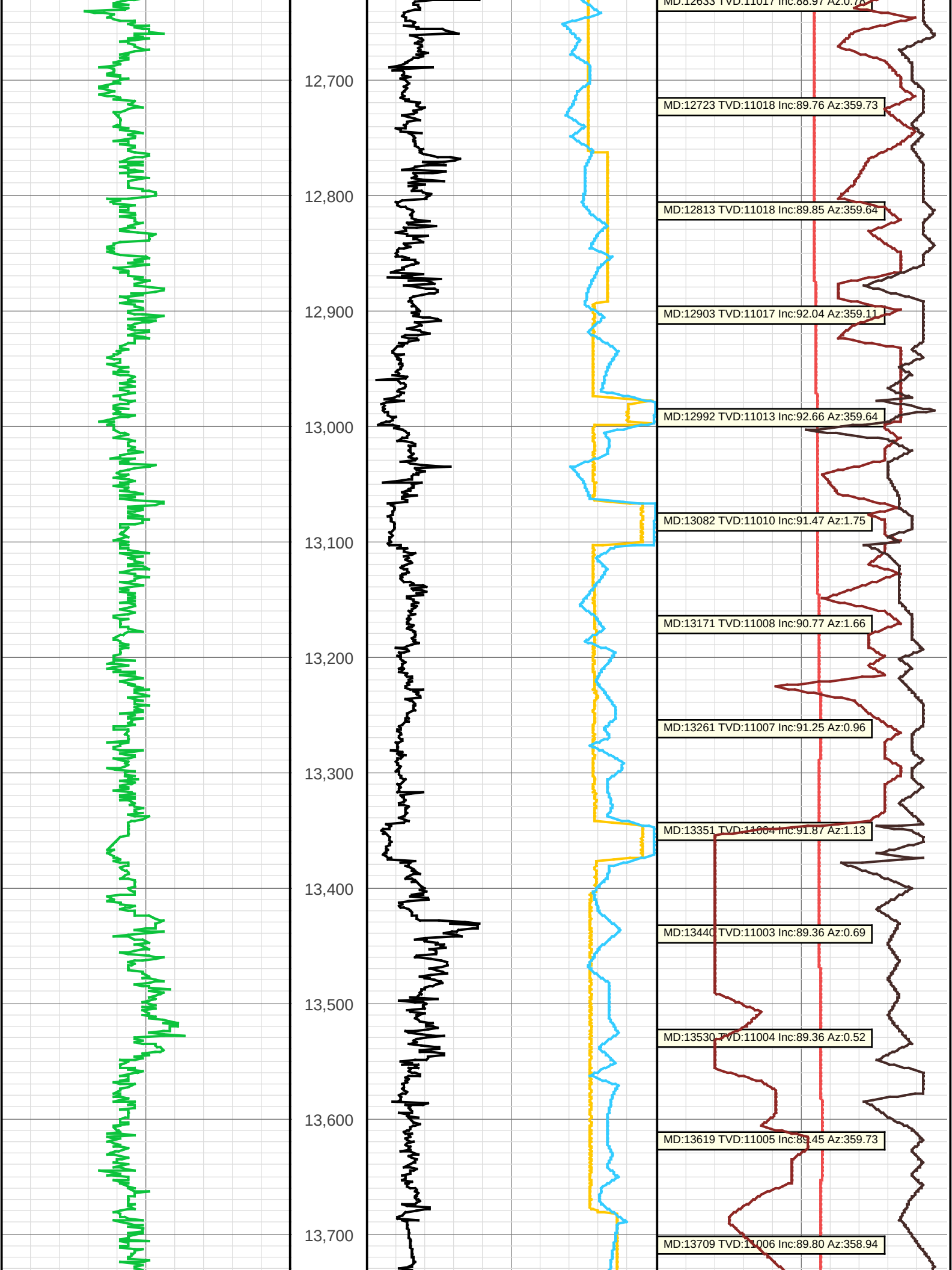
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MD:12992 TVD:11013 Inc:92.66 Az:359.64
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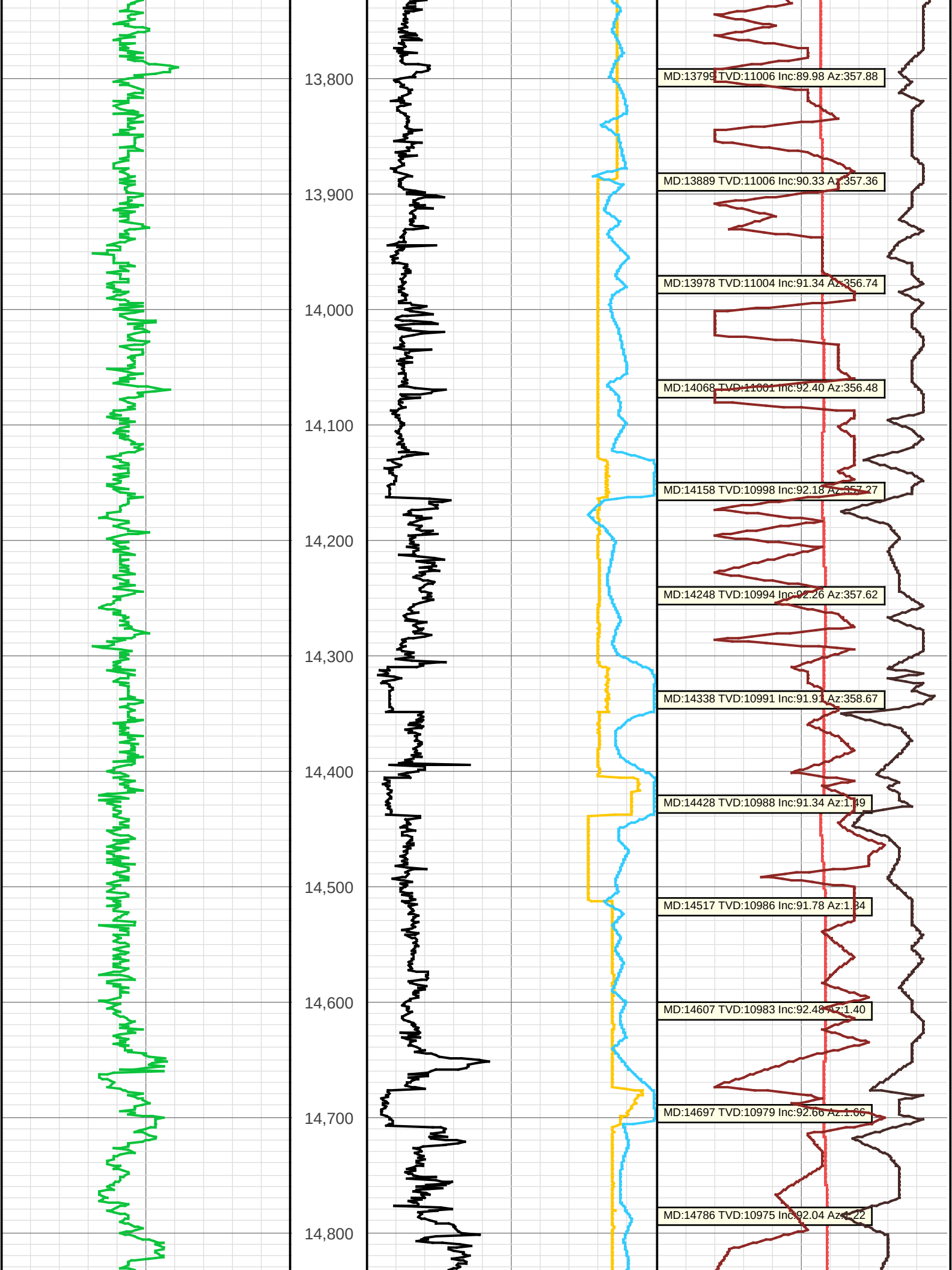
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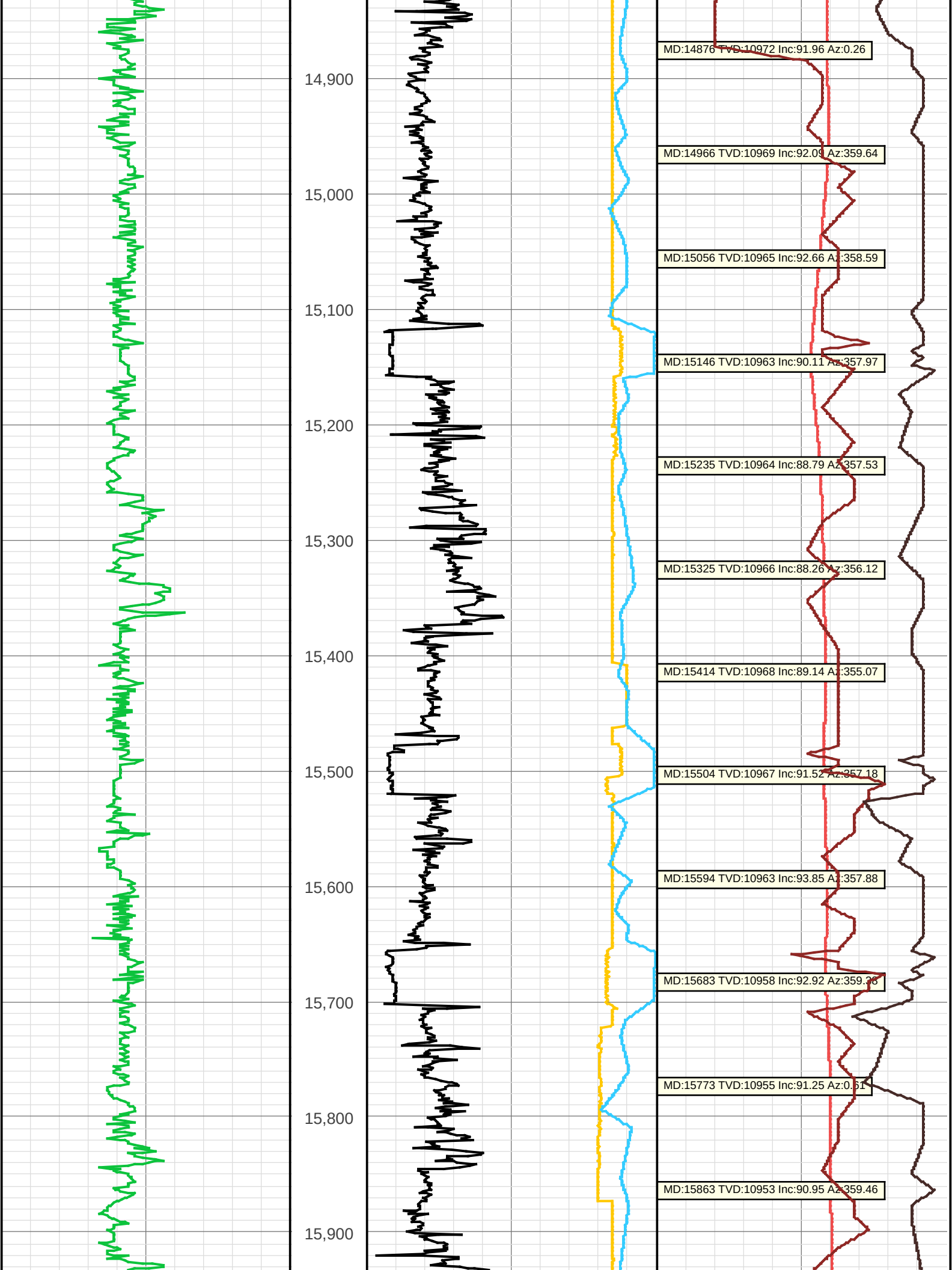
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MD:15056 TVD:10965 Inc:92.66 Az:358.59
MD:15146 TVD:10963 Inc:90.11 Az:357.97
MD:15235 TVD:10964 Inc:88.79 Az:357.53
MD:15325 TVD:10966 Inc:88.26 Az:356.12
MD:15414 TVD:10968 Inc:89.14 Az:355.07
MD:15504 TVD:10967 Inc:91.52 Az:357.18
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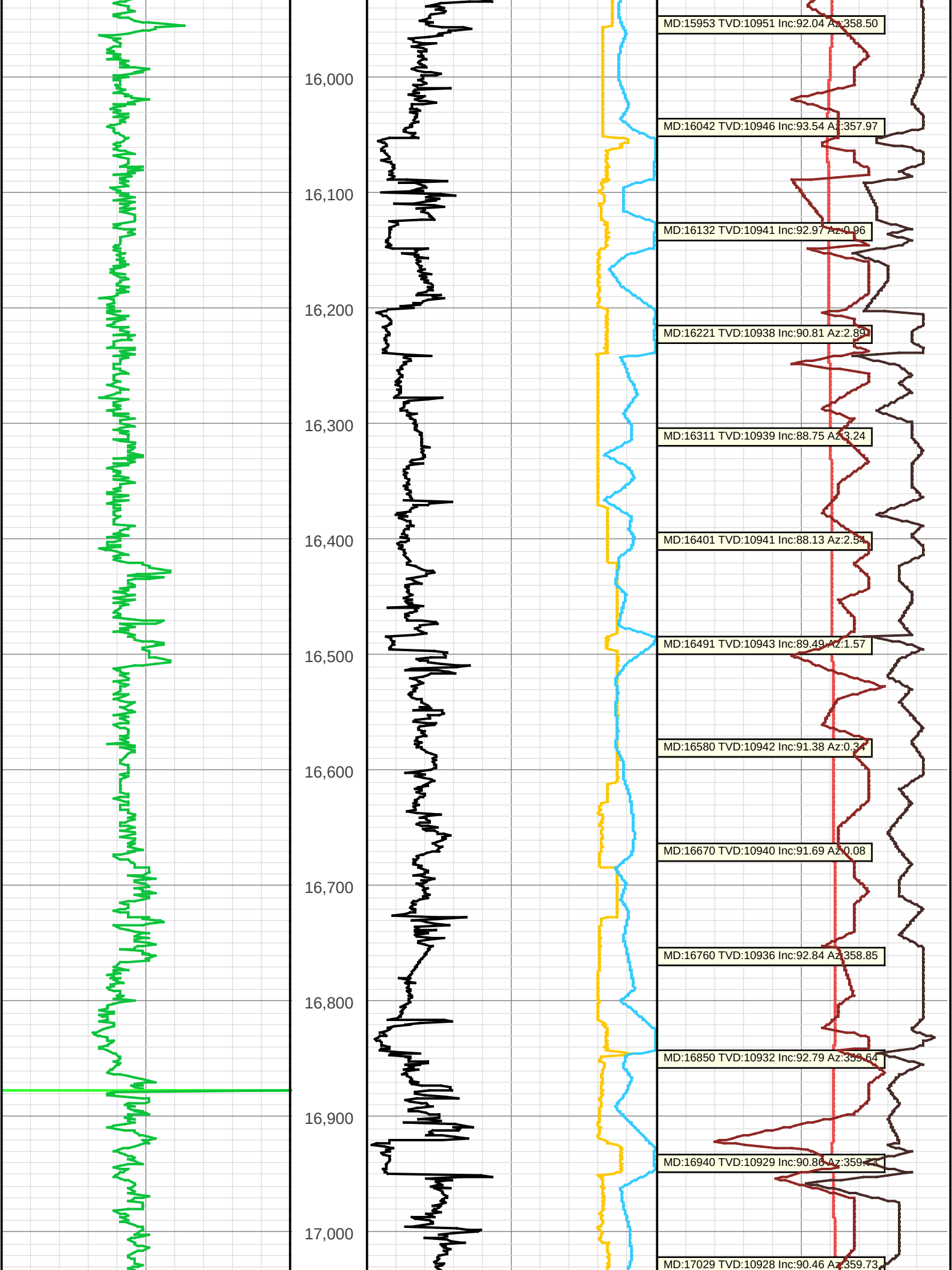
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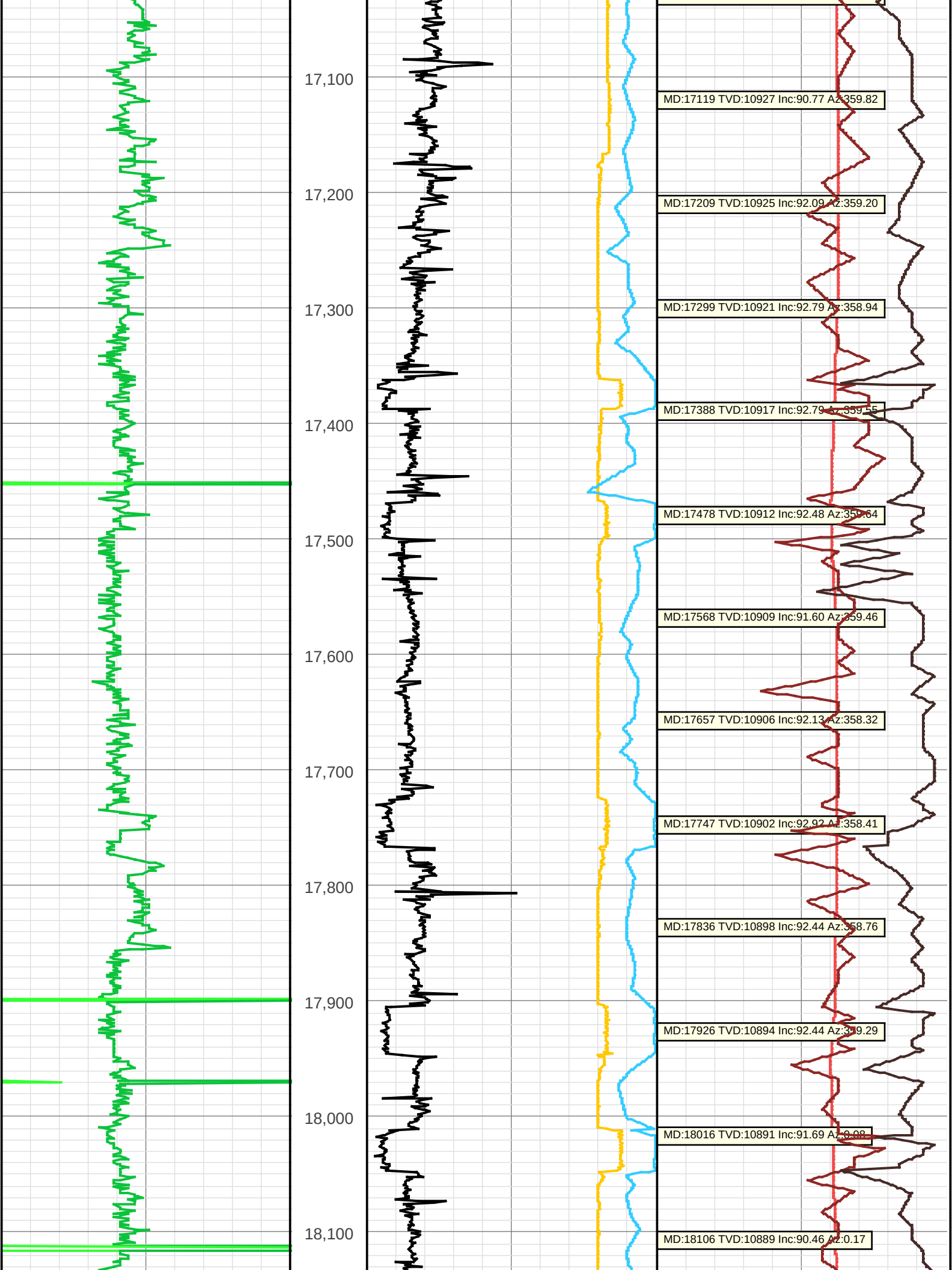
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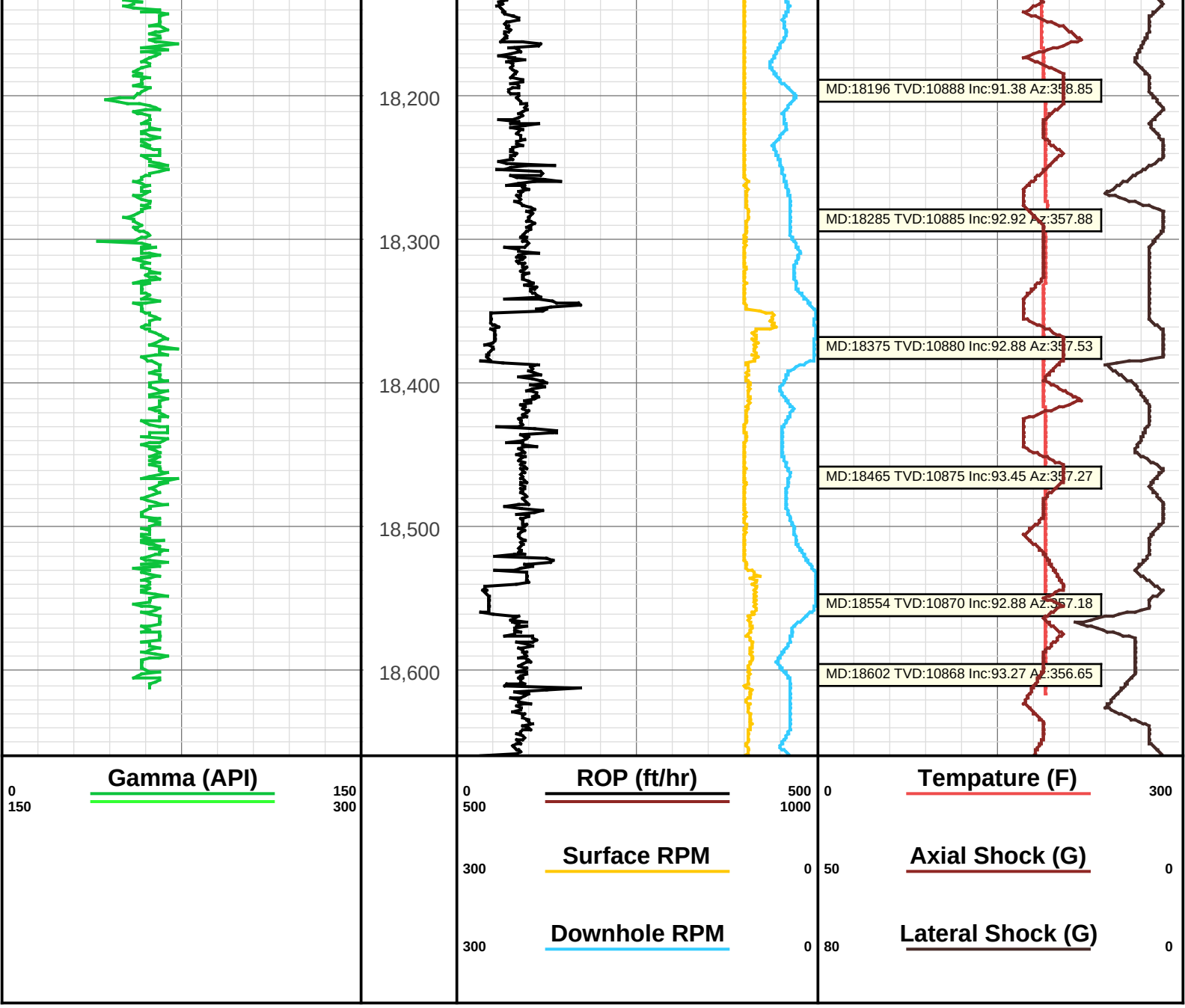
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MD:18375 TVD:10880 Inc:92.88 Az:357.53
MD:18465 TVD:10875 Inc:93.45 Az:357.27
MD:18554 TVD:10870 Inc:92.88 Az:357.18
MD:18602 TVD:10868 Inc:93.27 Az:356.65
Gamma (API)
0
150
150
300
ROP (ft/hr)
0
500
500
1000
Surface RPM
300
0
Downhole RPM
300
0
Tempature (F)
0
300
Axial Shock (G)
50
0
Lateral Shock (G)
80
0

Gamma Ray

INTREPID Directional Drilling Specialists

Intrepid-DDS
10314 TX-191
Midland,TX 79707

1" = 100'
TVD FT

Company: AEP
Well: Wool Head 20 State Com #512H
Field: Delaware Basin
API: 30-025-46492
County: Lea
State: New Mexico
Country: USA
Rig: HP 466
AFE: NM0093
Job: ID2389

Company: AEP
Well: Wool Head 20 State Com #512H
Field: Delaware Basin
API: 30-025-46492
County: Lea
State: New Mexico
Country: USA
Rig: HP 466

Well Location NAD 1927

Latitude: 32° 27' 29.103 N Longitude: 103° 35' 19.292 W
Y: 531183.00 X: 771015.1

Section: 20 Twnship: 21-S Rnge: 33-E

Permanent Datum: Mean Sea Level Kelly Bushing Elev: N/A
Log Measured From: Rotary Table Drill Floor Elev: 3752.5
Height of Reference: 26.5 Ground Level Elev: 3726

Depth Drilled: 1.0 to: 18660.0
Depth Logged: 5100.0 to: 18660.01
Date Logged: 13 Nov 2019 23:53 to: 14 Jan 2020 10:33

Disclaimer: Intrepid DDS uses its best efforts to provide customers with accurate information and interpretations with services performed but does not warranty the accuracy of information or interpretations.

Hole Data			Casing Data		
Size	From (MD)	To (MD)	Size	From (MD)	To (MD)
17.5	100	1838	13 3/8	100	1838
12 1/4	1838	5282	9 5/8	1838	5282
8.5	5282	18660	5 1/2	5282	18660

Report:AEP_7 Curve Log_DRPM Date: Jan 14 2020 10:33 Filter: AF1 Software: 10.7.9

Run Data

Run Name	MWD Run 1	MWD Run 2	MWD Run 3	MWD Run 4	MWD Run 5	MWD Run 6	MWD Run 7			
Start Date	13 Nov 2019	21 Nov 2019	1 Dec 2019	5 Jan 2020	7 Jan 2020	8 Jan 2020	9 Jan 2020			
Start Time	1:45	08:45	7:30	23:00	2:15	04:00	03:45			
End Date	14 Nov 2019	22 Nov 2019	3 Dec 2019	7 Jan 2019	8 Jan 2020	9 Jan 2020	14 Jan 2019			
End Time	22:00	22:15	05:00	1:45	2:30	2:15	02:30			
Depth In	1.0	1852	5282	10555	10715	10908	11214			
Depth Out	1838	5282	10555	10715	10908	11214	18660			
Log Top			5217	10502	10680	10872	11177			
Log Bottom			10502	10680	10872	11177	18613			
Hole Size	17.5	12.25	8.5	8.5	8.5	8.5	8.5			

Tool Data

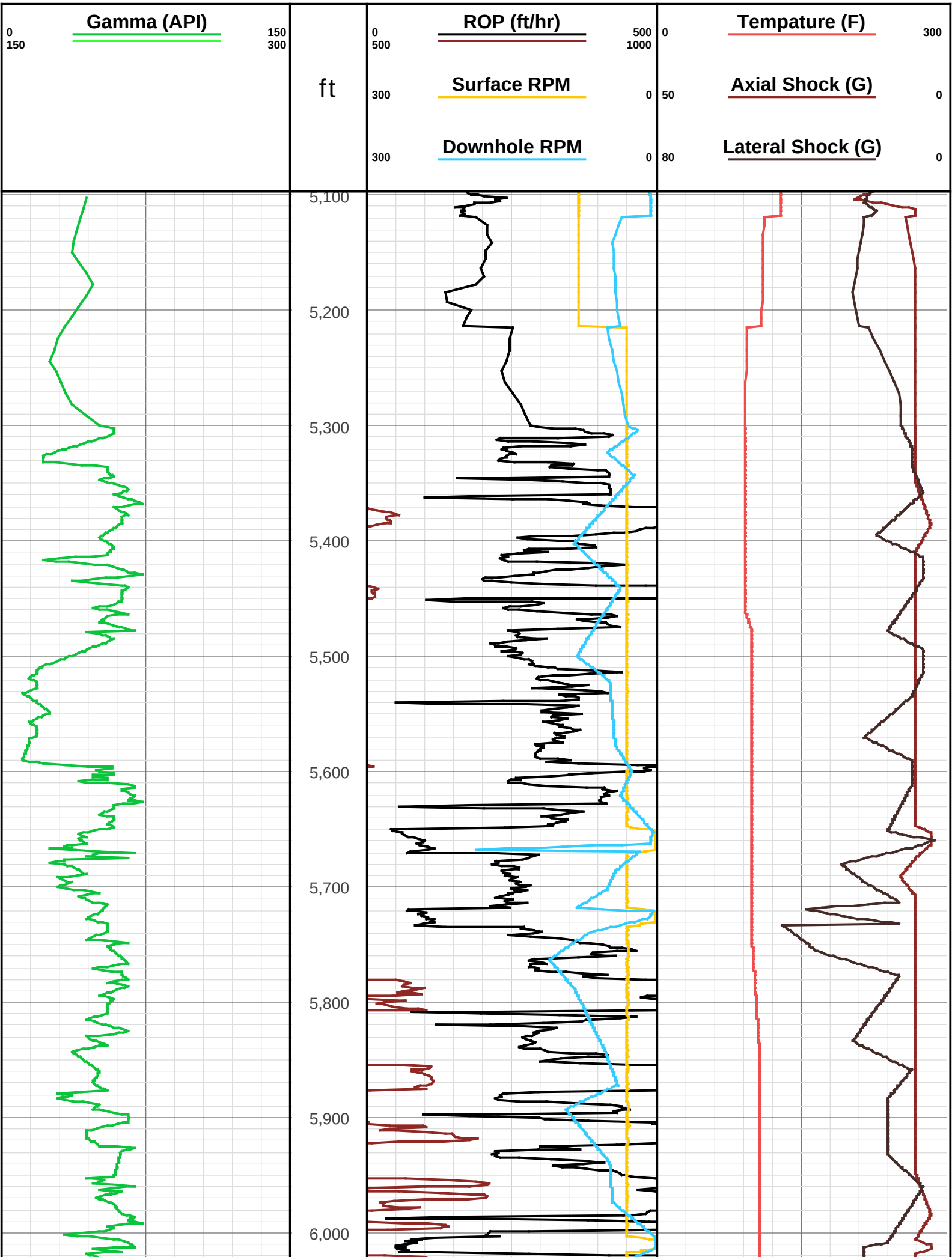
Run Name	MWD Run 1	MWD Run 2	MWD Run 3	MWD Run 4	MWD Run 5	MWD Run 6	MWD Run 7	
Directional Sensor SN	20125-R	20125-R	20120-R	20129-R	20129-R	20129	20124	
Directional Offset	68	65	63	47	47	48	58	
Gamma Sensor SN	N/A	N/A	352-R	691-R	688-R	617	688	
Gamma Offset			53	35	36	37	47	
Gamma Corr. Factor	1.0	1.0	3.661	3.79	3.82	3.65	3.65	

Mud Data

Run Name	MWD Run 1	MWD Run 2	MWD Run 3	MWD Run 4	MWD Run 5	MWD Run 6	MWD Run 7	
Mud Type	Water Based	Water Based	Water Based	Oil Based	Oil Based	Oil Based	Oil Based	
Mud Density (lb/gal)	10.0	10.4	9.2	9.6	9.6	9.7	9.5	
Funnel Visc. (s/qt)	41	29	1	61	61	70	65	
Plastic Visc. (cP)	4	2	1	14	14	17	15	
pH	8.1	10.2	11	N/A	N/A	NA		
Chlor. Whole Mud (mg/L)	1800	188000	73,000	48,000	48,000	45000	46000	
API Filtrate (cm3/30)	99	99	99/2	N/A	N/A	99/2	7.8	
Max MWD Temp (F)	370.6	420.6	142.0	122.0	120.2	122.0	190.8	

Personnel

Run Name	MWD Run 1	MWD Run 2	MWD Run 3	MWD Run 4	MWD Run 5	MWD Run 6	MWD Run 7	
MWD Operator 1	Ben Wallace	Michael Walton	Michael Walton	Michael Walton	Michael Walton	Ben Wallace	Ben Wallace	
MWD Operator 2	Mike Walton	Jospeh Hatley	Jospeh Hatley	Dustin Loomis	Dustin Loomis	Joe Hatley	Joe Hatley	
MWD Operator 3								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150
300
ft
ROP (ft/hr)
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500
500
1000
Surface RPM
300
0
Downhole RPM
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Tempature (F)
0
300
Axial Shock (G)
50
0
Lateral Shock (G)
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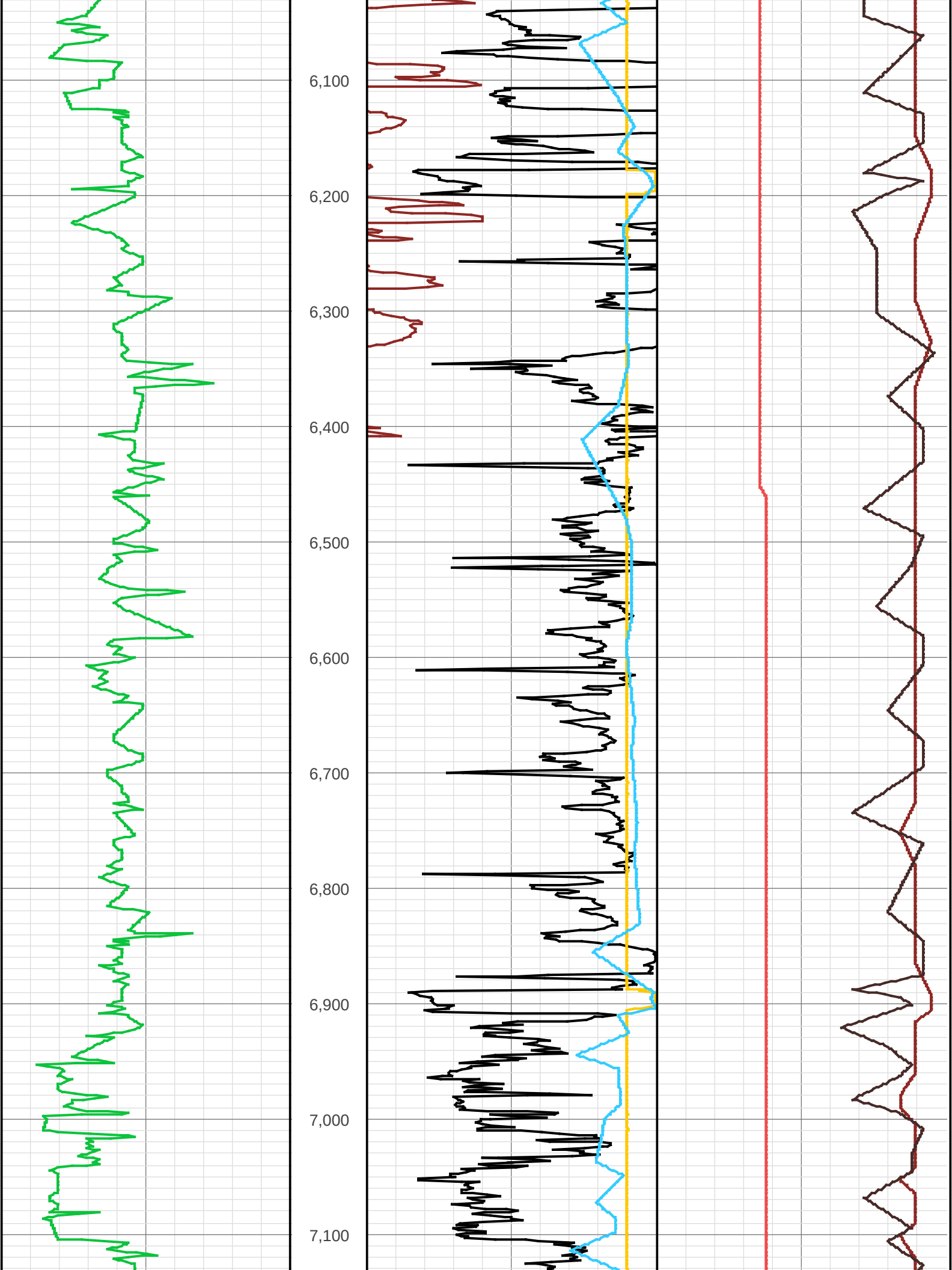
5,800
5,900
6,000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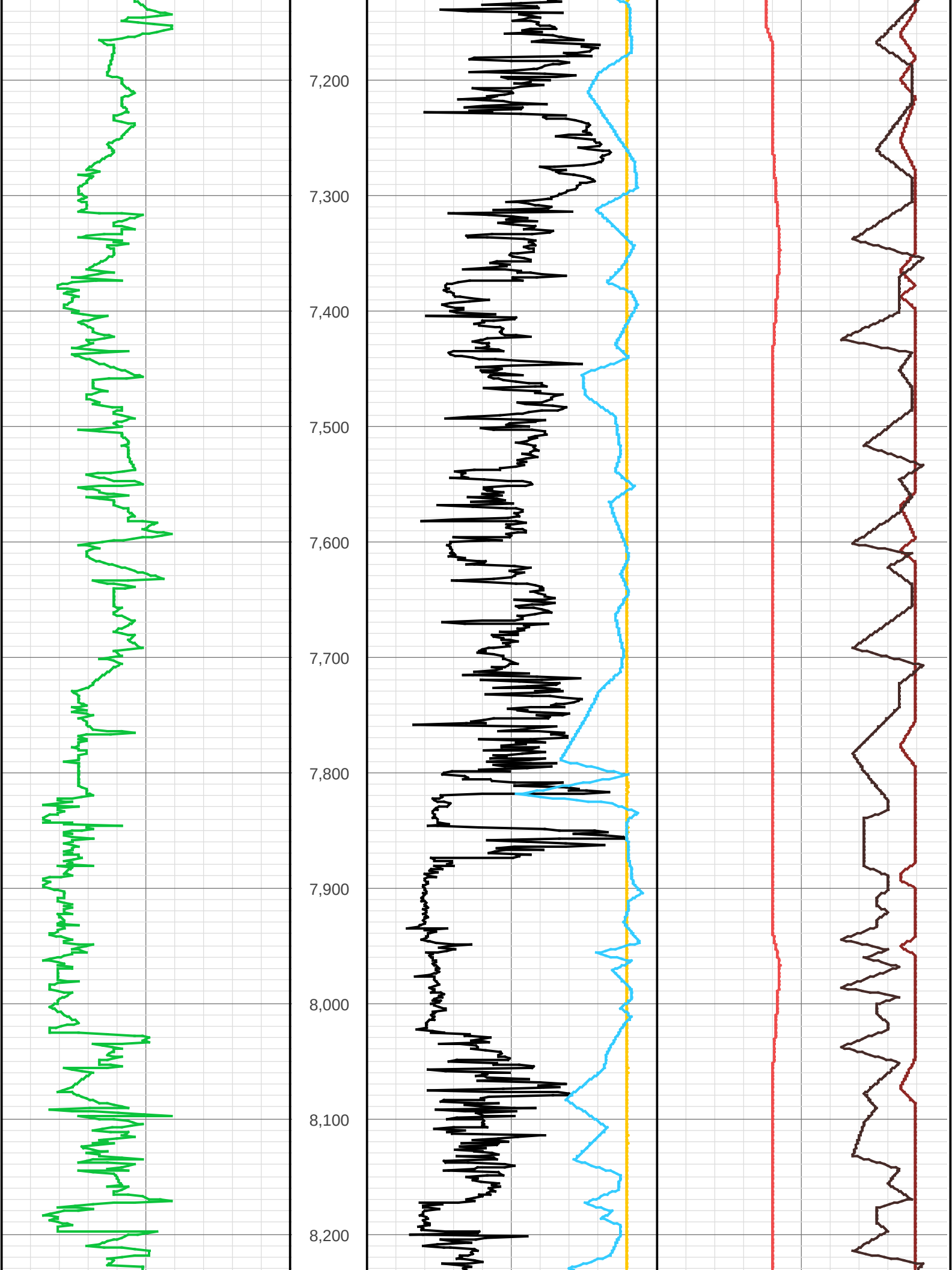
7,000
7,100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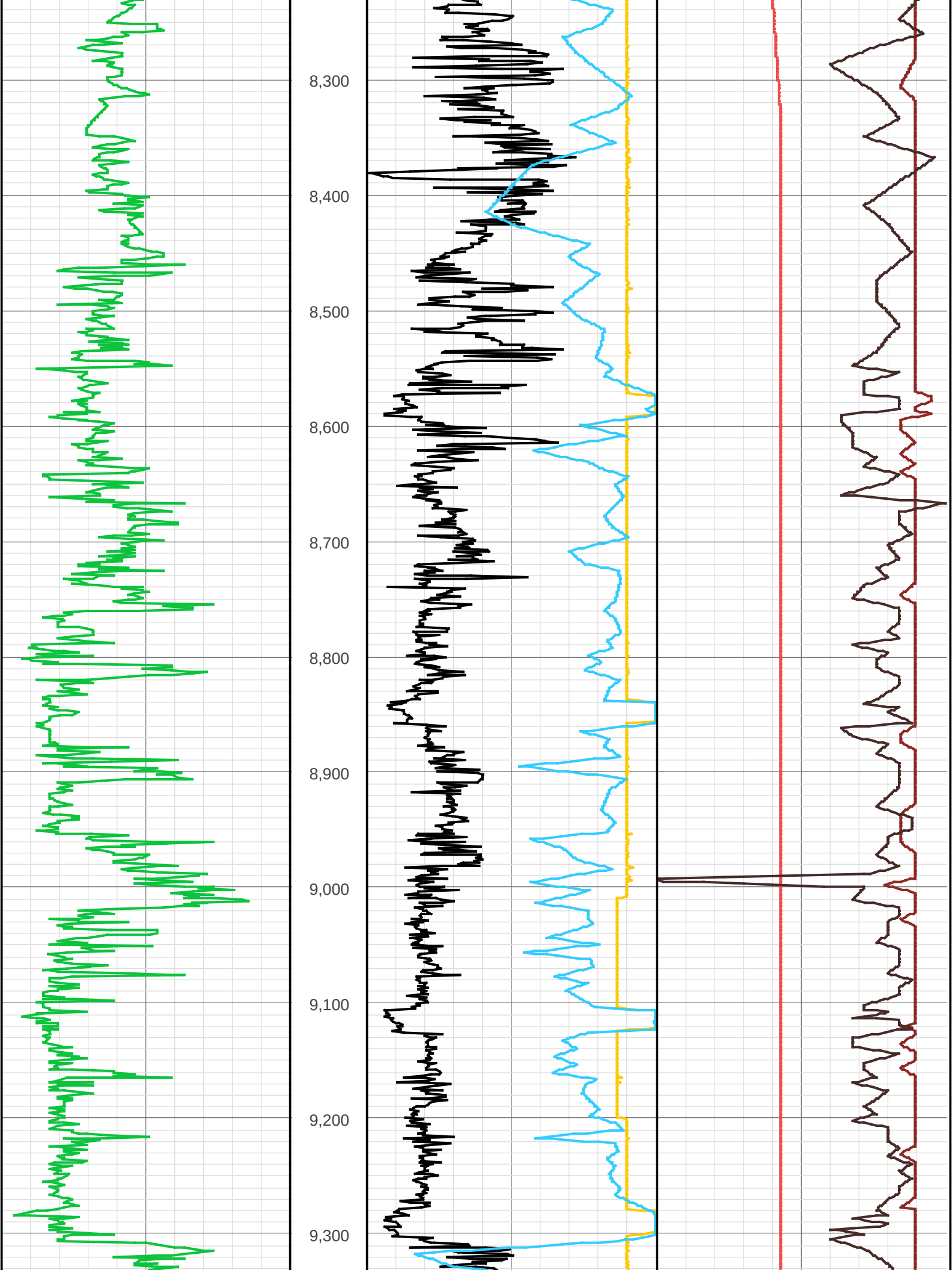
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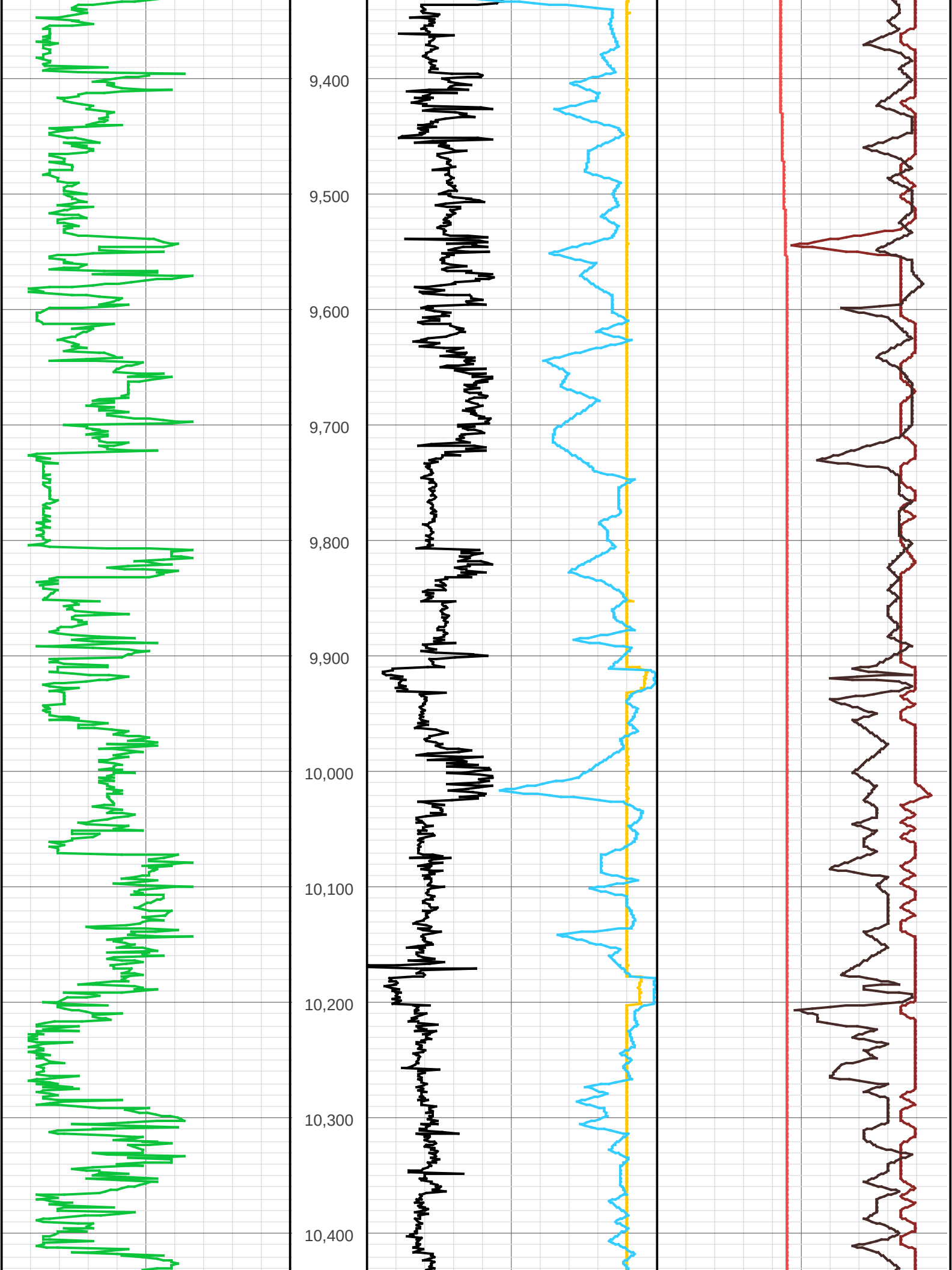
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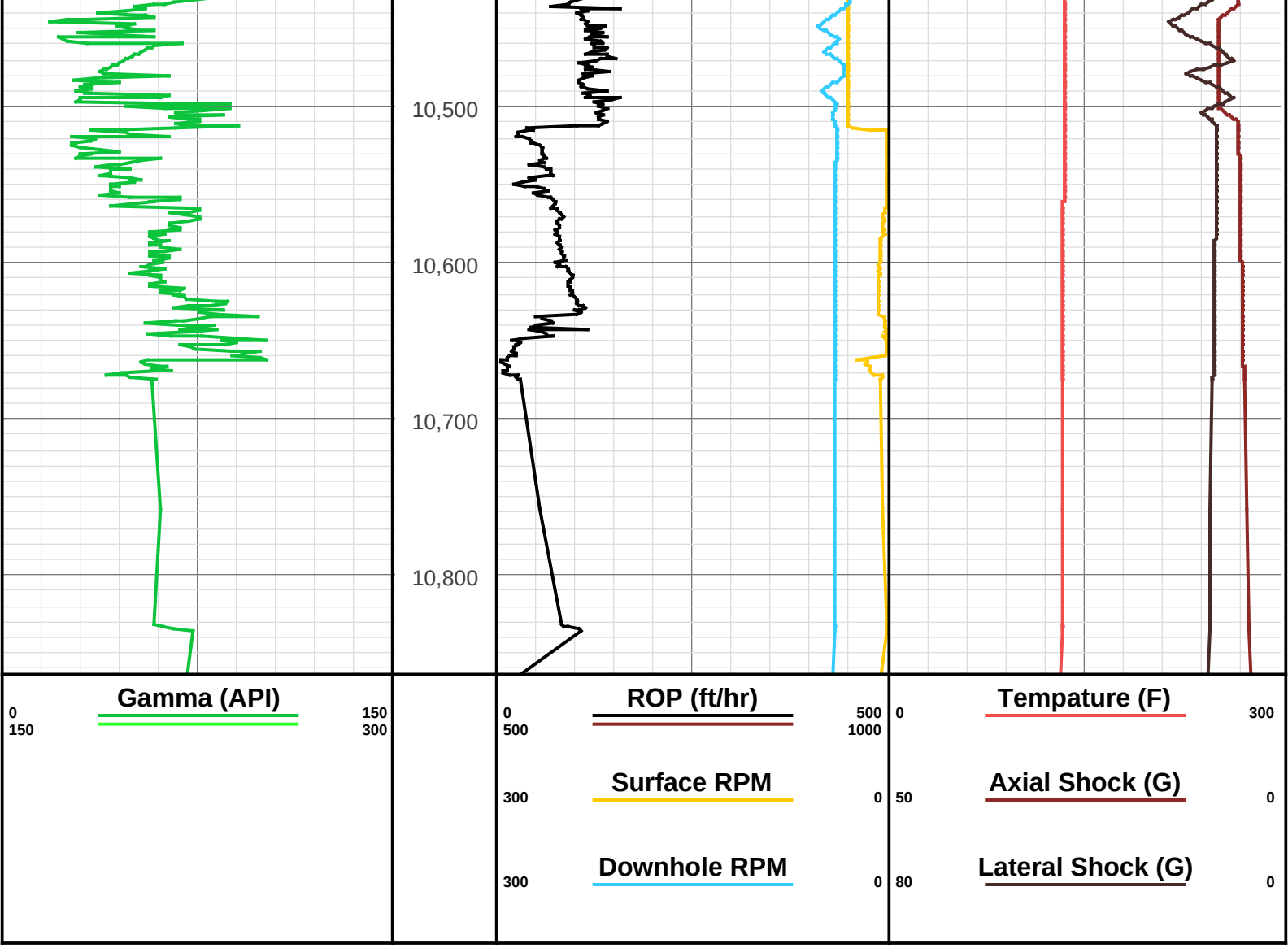
10,400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10,600
10,700
10,800
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150
150
300
ROP (ft/hr)
0
500
500
1000
Surface RPM
300
0
Downhole RPM
300
0
Tempature (F)
0
300
Axial Shock (G)
50
0
Lateral Shock (G)
80
0

Gamma Ray

INTREPID
Directional Drilling Specialists

Intrepid-DDS
10314 TX-191
Midland,TX 79707

2" = 100'
MD FT

Company: AEP
Well: Wool Head 20 State Com #512H
Field: Delaware Basin
API: 30-025-46492
County: Lea
State: New Mexico
Country: USA
Rig: HP 466
AFE: NM0093
Job: ID2389

Company: AEP
Well: Wool Head 20 State Com #512H
Field: Delaware Basin
API: 30-025-46492
County: Lea
State: New Mexico
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Rig: HP 466

Well Location NAD 1927

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Y: 531183.00 X: 771015.1

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Depth Drilled: 1.0 to: 18660.0
Depth Logged: 5100.0 to: 18660.01
Date Logged: 13 Nov 2019 23:53 to: 14 Jan 2020 02:37

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Run Data

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Start Date	13 Nov 2019	21 Nov 2019	1 Dec 2019	5 Jan 2020	7 Jan 2020	8 Jan 2020	9 Jan 2020			
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Tool Data

Run Name	MWD Run 1	MWD Run 2	MWD Run 3	MWD Run 4	MWD Run 5	MWD Run 6	MWD Run 7	
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Directional Offset	68	65	63	47	47	48	58	
Gamma Sensor SN	N/A	N/A	352-R	691-R	688-R	617	688	
Gamma Offset			53	35	36	37	47	
Gamma Corr. Factor	1.0	1.0	3.661	3.79	3.82	3.65	3.65	

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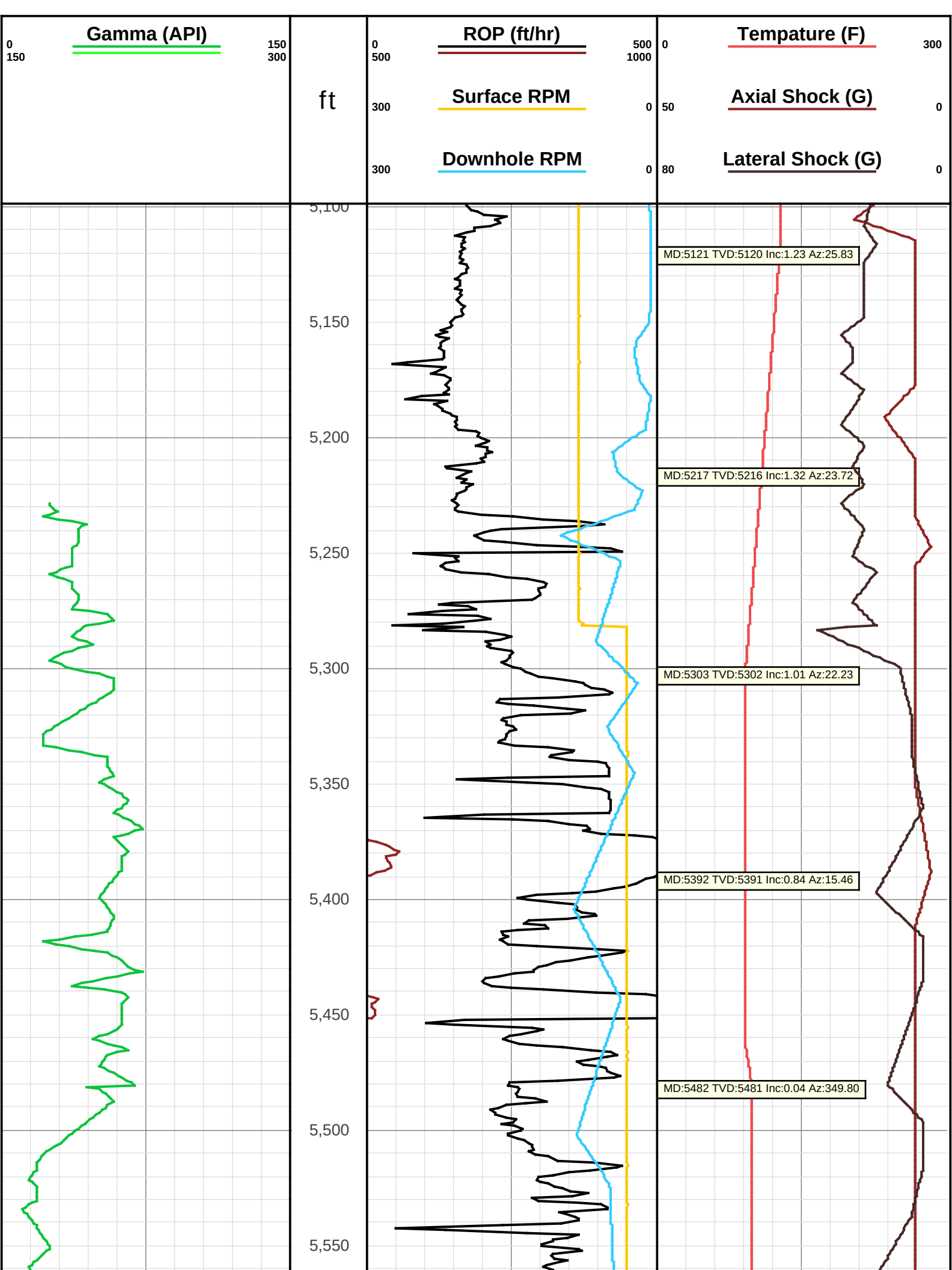
MWD Operator 2	Mike Walton	Jospeh Hatley	Jospeh Hatley	Dustin Loomis	Dustin Loomis	Joe Hatley	Joe Hatley	
MWD Operator 3								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150
150
300
ft
ROP (ft/hr)
0
500
500
1000
Surface RPM
300
0
Downhole RPM
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Tempature (F)
0
300
Axial Shock (G)
50
0
Lateral Shock (G)
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5,150
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5,250
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5,400
5,450
5,500
5,550
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MD:5217 TVD:5216 Inc:1.32 Az:23.72
MD:5303 TVD:5302 Inc:1.01 Az:22.23
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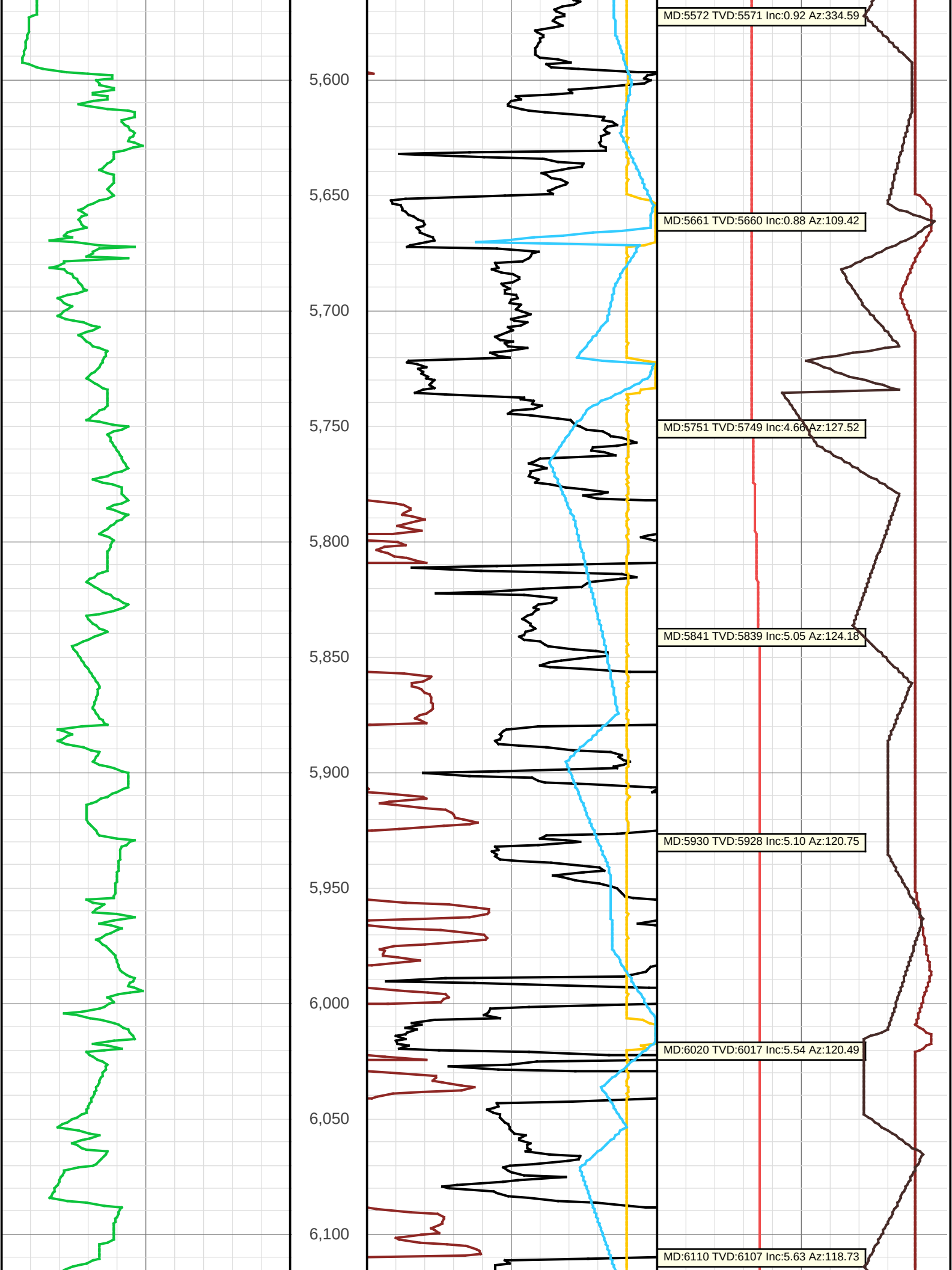
MD:5482 TVD:5481 Inc:0.04 Az:349.80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MD:5841 TVD:5839 Inc:5.05 Az:124.18
MD:5930 TVD:5928 Inc:5.10 Az:120.75
MD:6020 TVD:6017 Inc:5.54 Az:120.49
MD:6110 TVD:6107 Inc:5.63 Az:118.73
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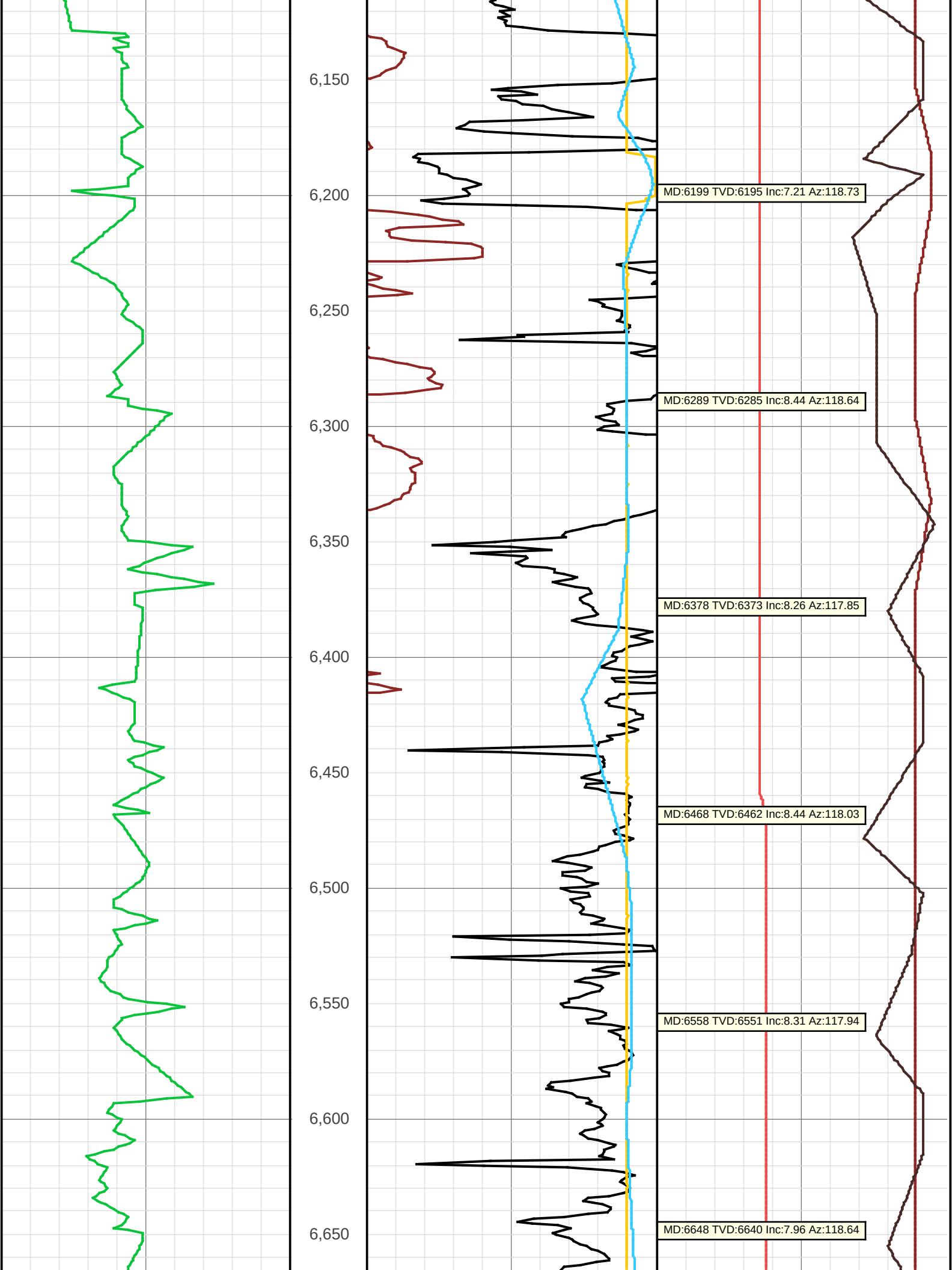
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MD:6289 TVD:6285 Inc:8.44 Az:118.64
MD:6378 TVD:6373 Inc:8.26 Az:117.85
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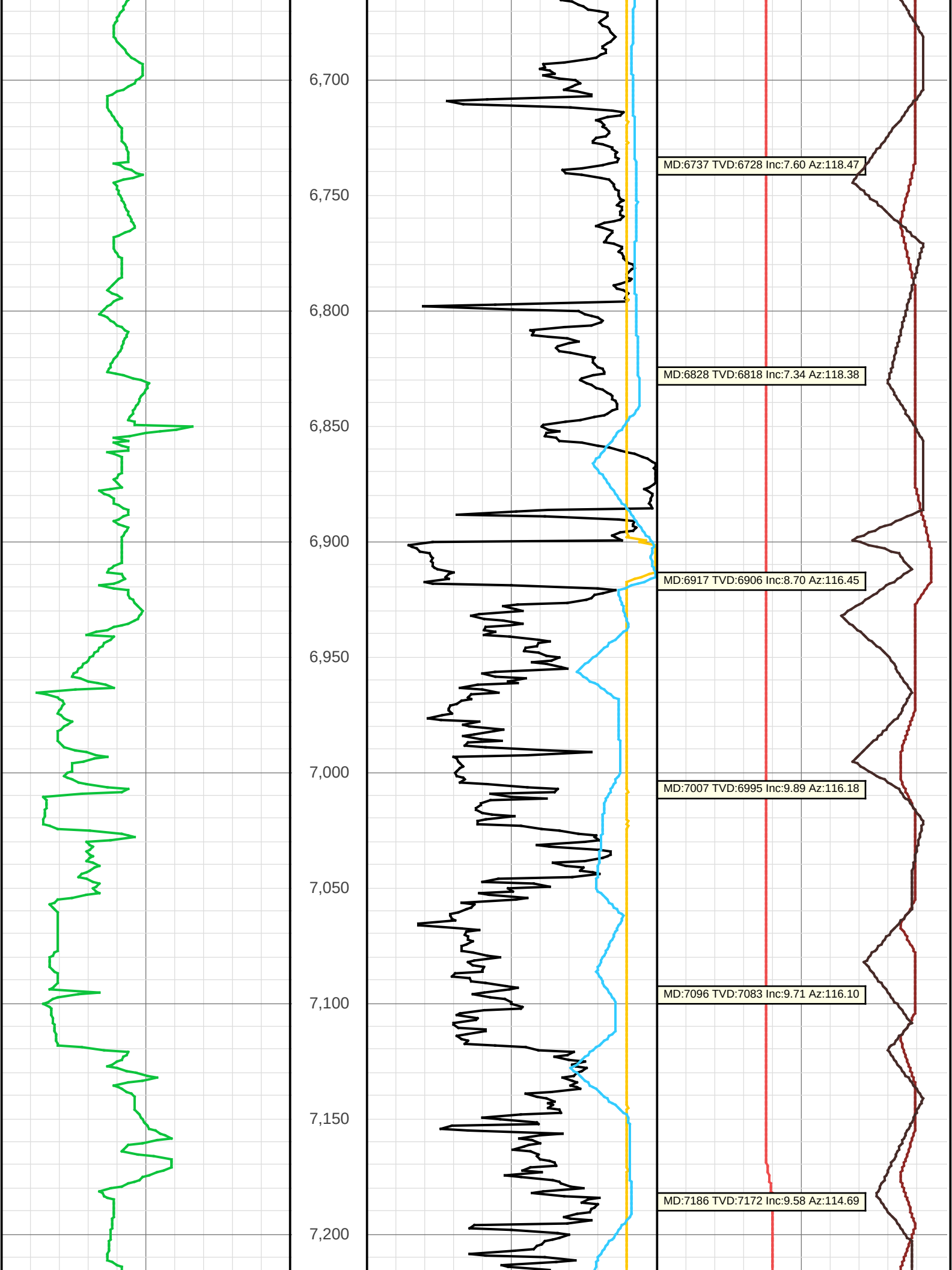
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MD:6828 TVD:6818 Inc:7.34 Az:118.38
MD:6917 TVD:6906 Inc:8.70 Az:116.45
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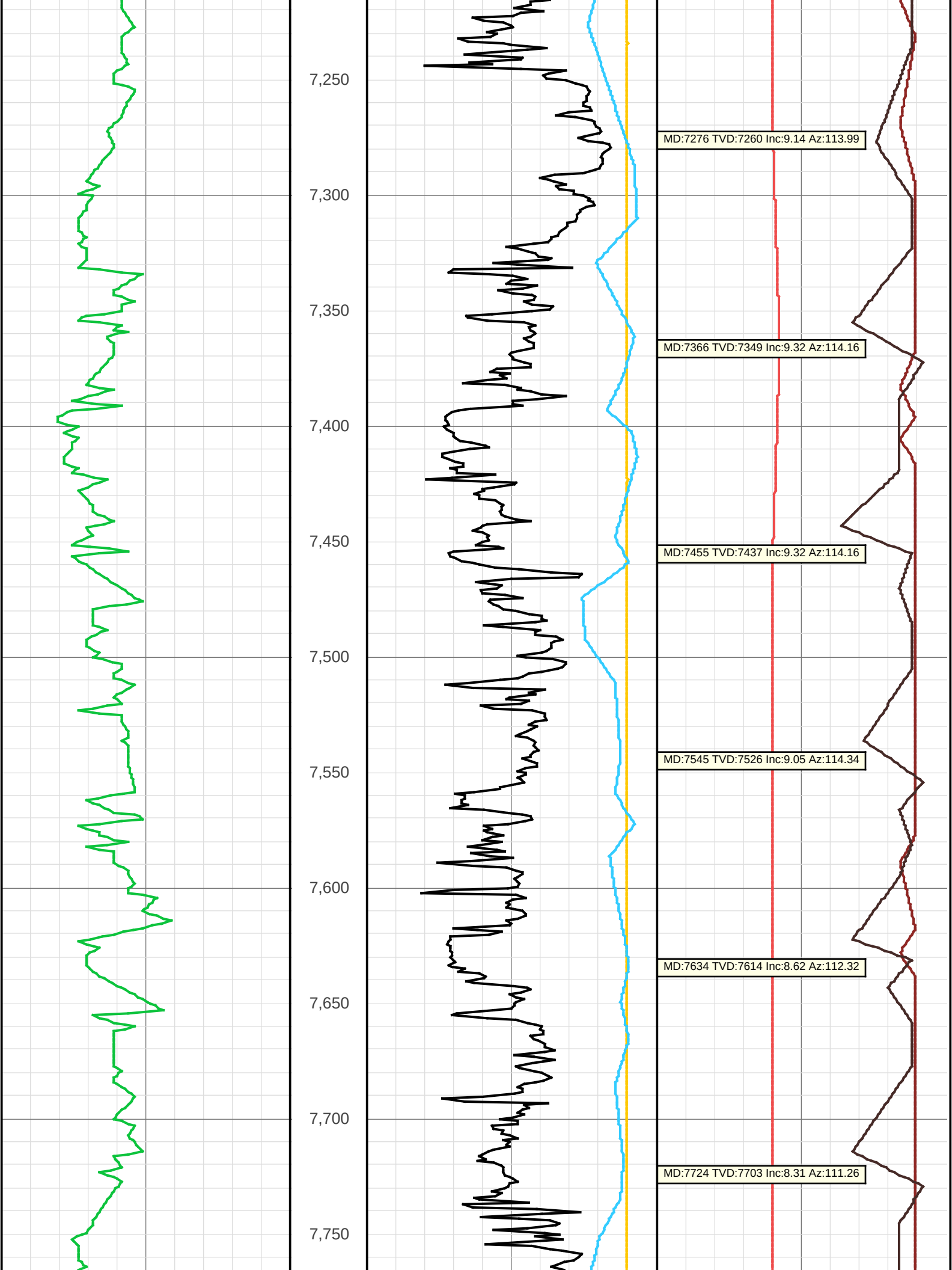
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7,550
7,600
7,650
7,700
7,750
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MD:7366 TVD:7349 Inc:9.32 Az:114.16
MD:7455 TVD:7437 Inc:9.32 Az:114.16
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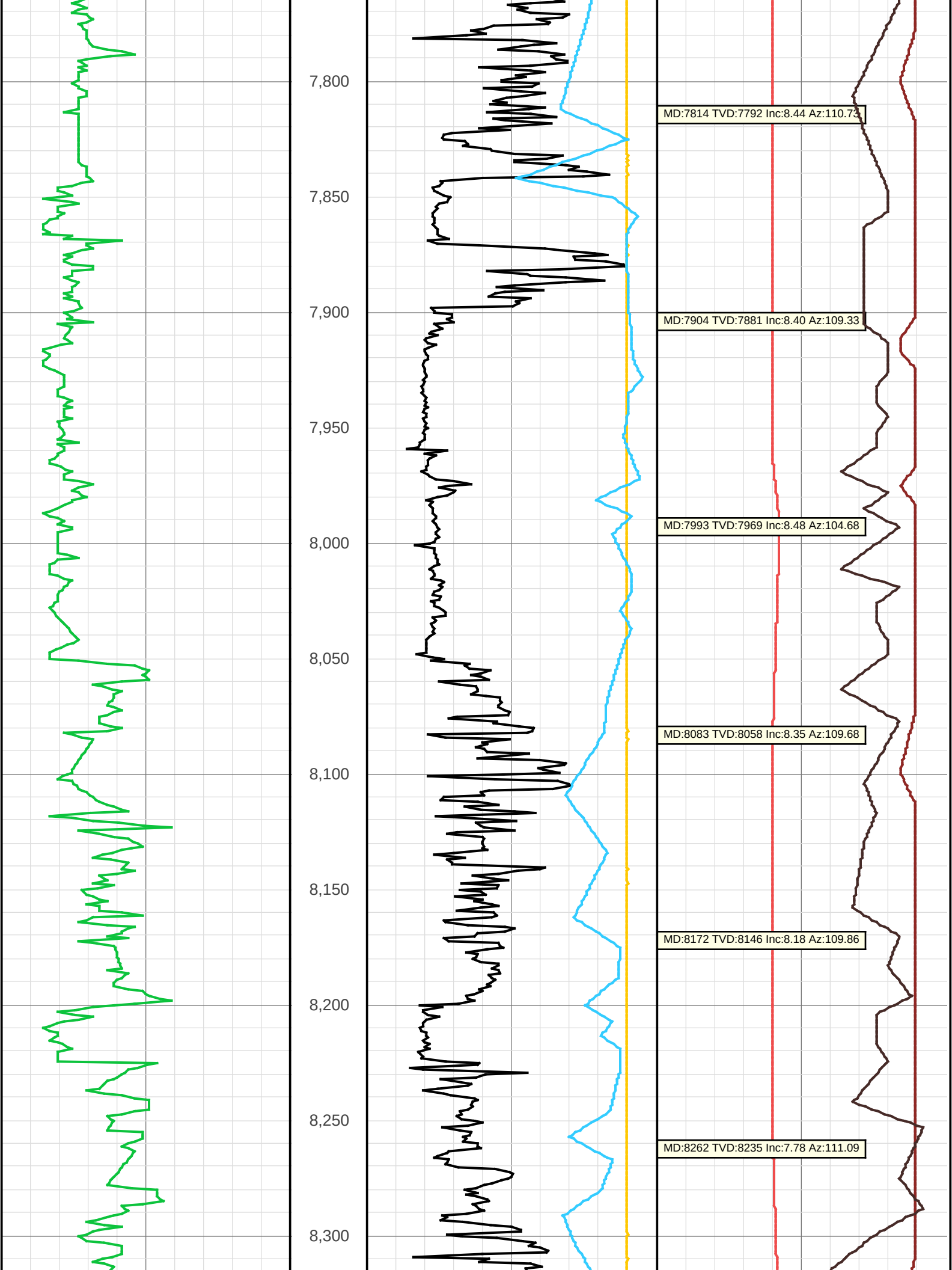
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7,900
7,950
8,000
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8,100
8,150
8,200
8,250
8,300
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MD:7904 TVD:7881 Inc:8.40 Az:109.33
MD:7993 TVD:7969 Inc:8.48 Az:104.68
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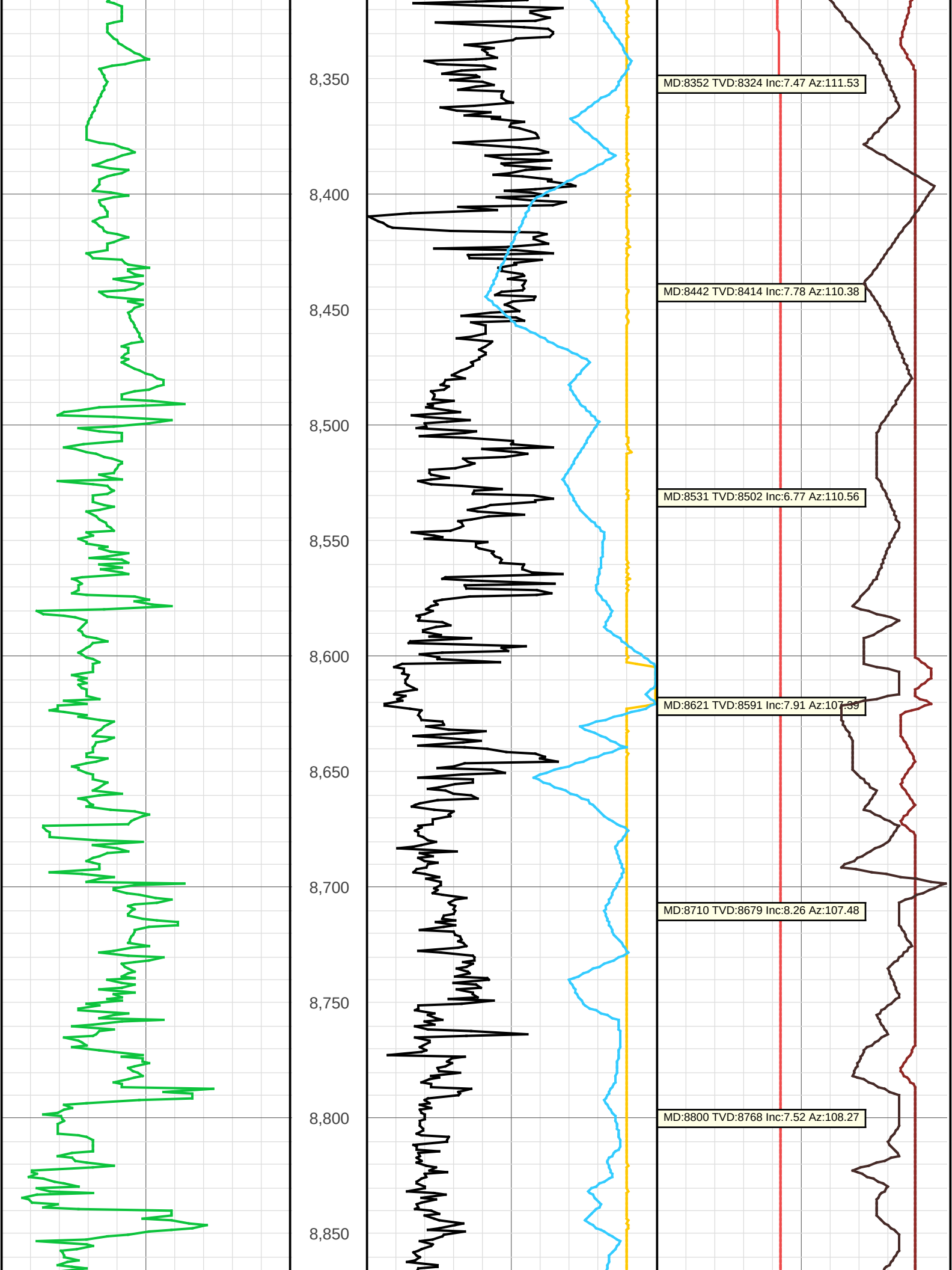
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8,850
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MD:8442 TVD:8414 Inc:7.78 Az:110.38
MD:8531 TVD:8502 Inc:6.77 Az:110.56
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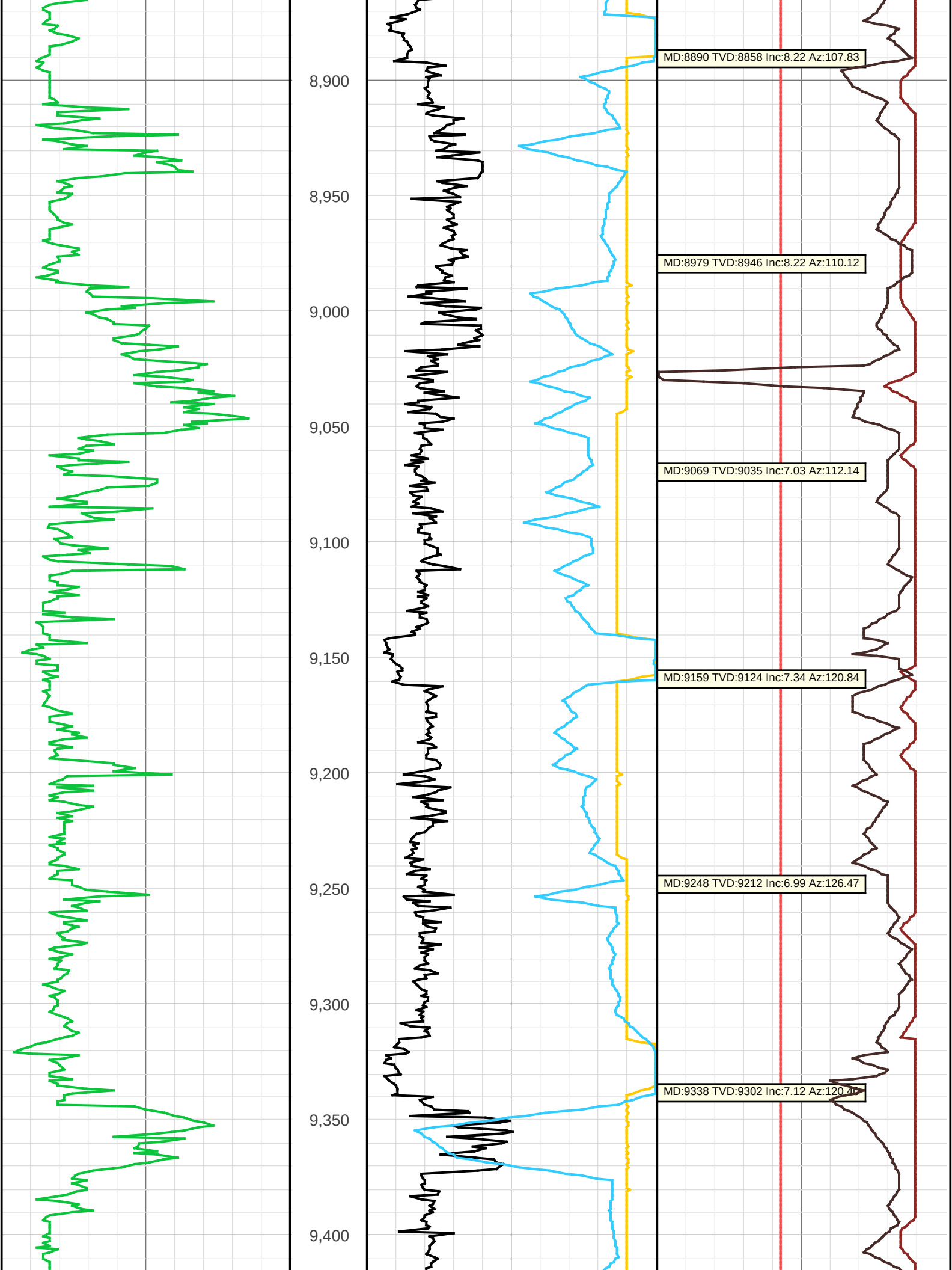
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9,350
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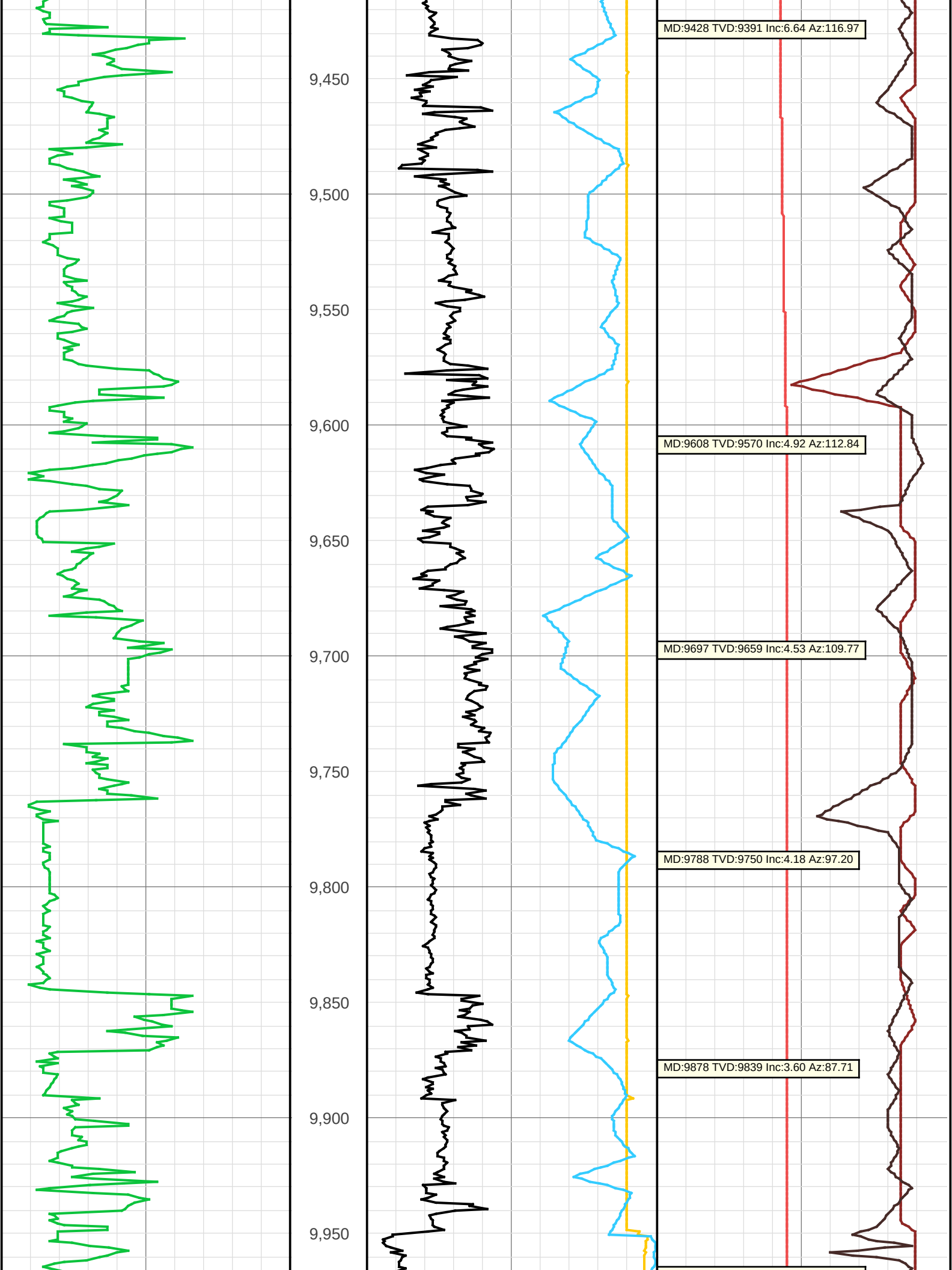
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9,950
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MD:9608 TVD:9570 Inc:4.92 Az:112.84
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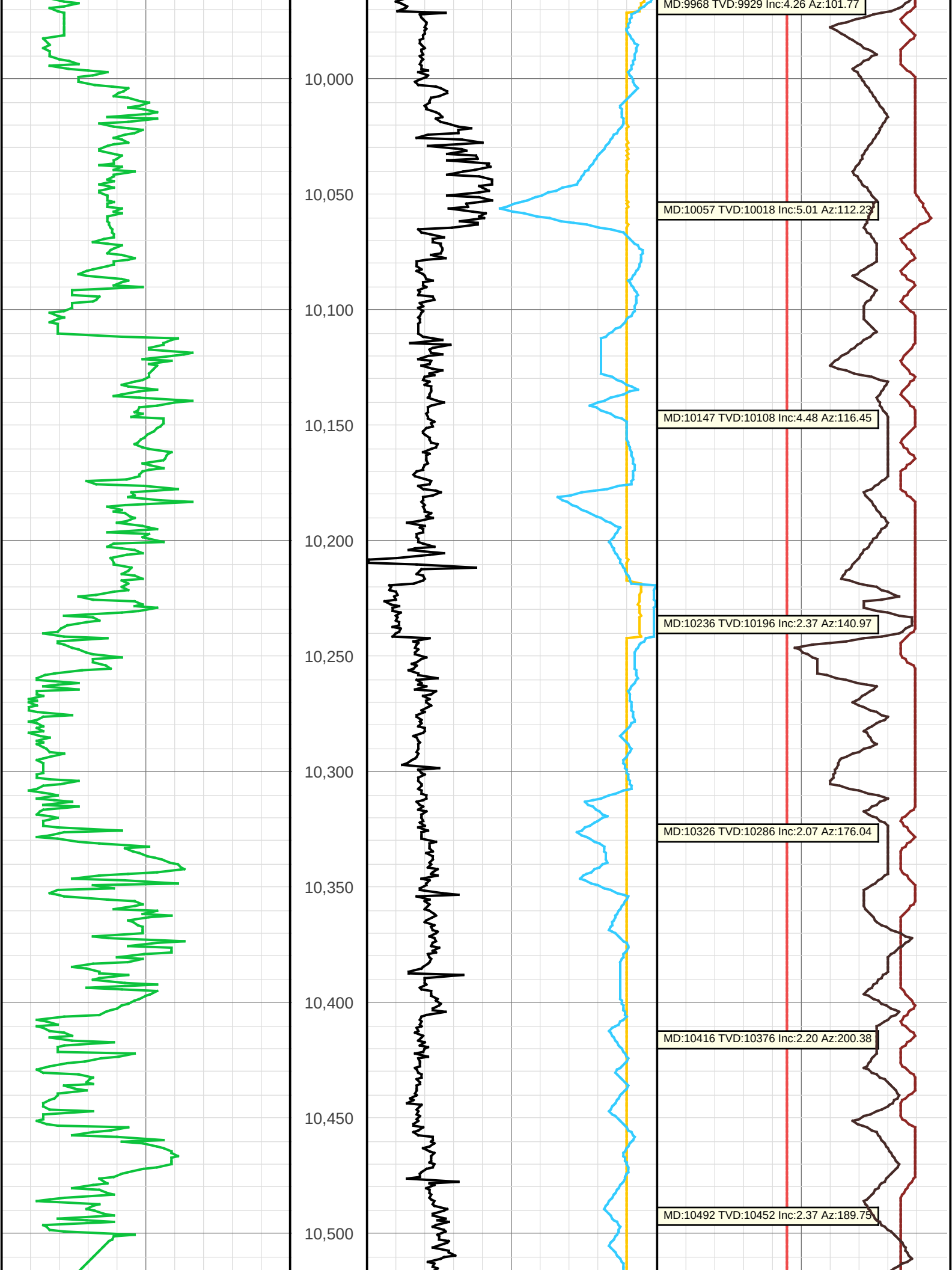
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10,200
10,250
10,300
10,350
10,400
10,450
10,500
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MD:10057 TVD:10018 Inc:5.01 Az:112.23
MD:10147 TVD:10108 Inc:4.48 Az:116.45
MD:10236 TVD:10196 Inc:2.37 Az:140.97
MD:10326 TVD:10286 Inc:2.07 Az:176.04
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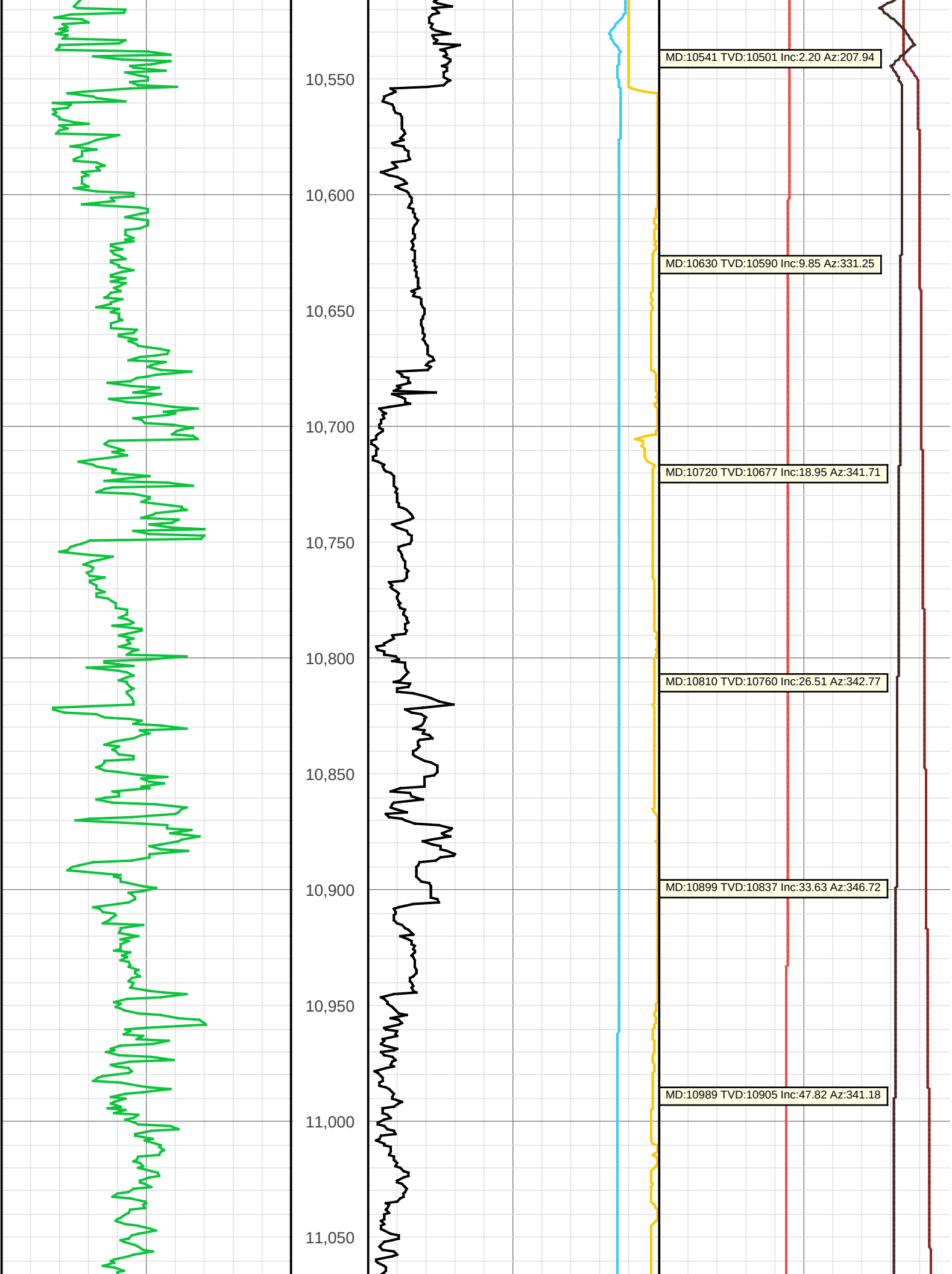
MD:10492 TVD:10452 Inc:2.37 Az:189.75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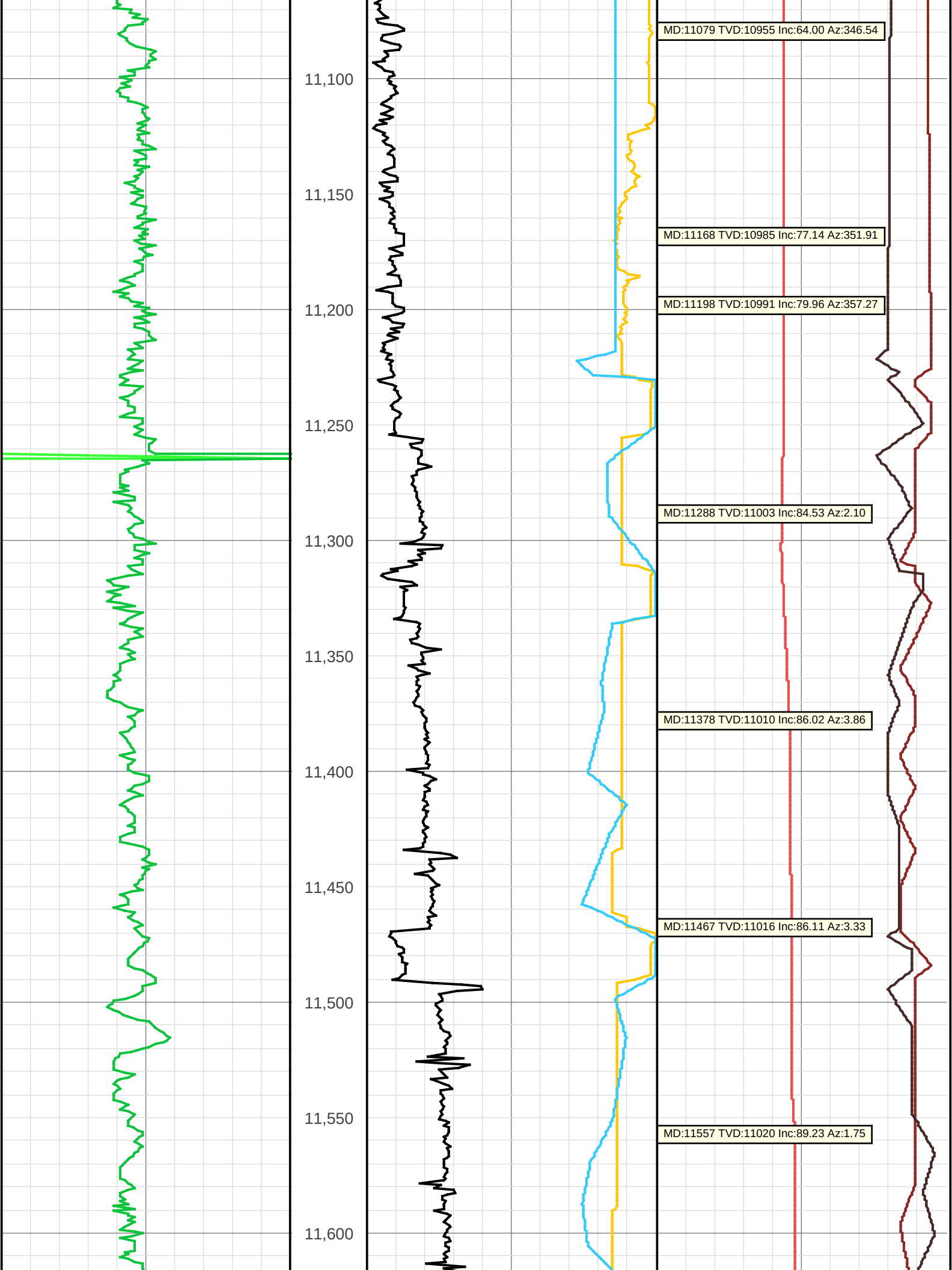
10,650
10,700
10,750
10,800
10,850
10,900
10,950
11,000
11,050
MD:10541 TVD:10501 Inc:2.20 Az:207.94
MD:10630 TVD:10590 Inc:9.85 Az:331.25
MD:10720 TVD:10677 Inc:18.95 Az:341.71
MD:10810 TVD:10760 Inc:26.51 Az:342.77
MD:10899 TVD:10837 Inc:33.63 Az:346.72
MD:10989 TVD:10905 Inc:47.82 Az:341.18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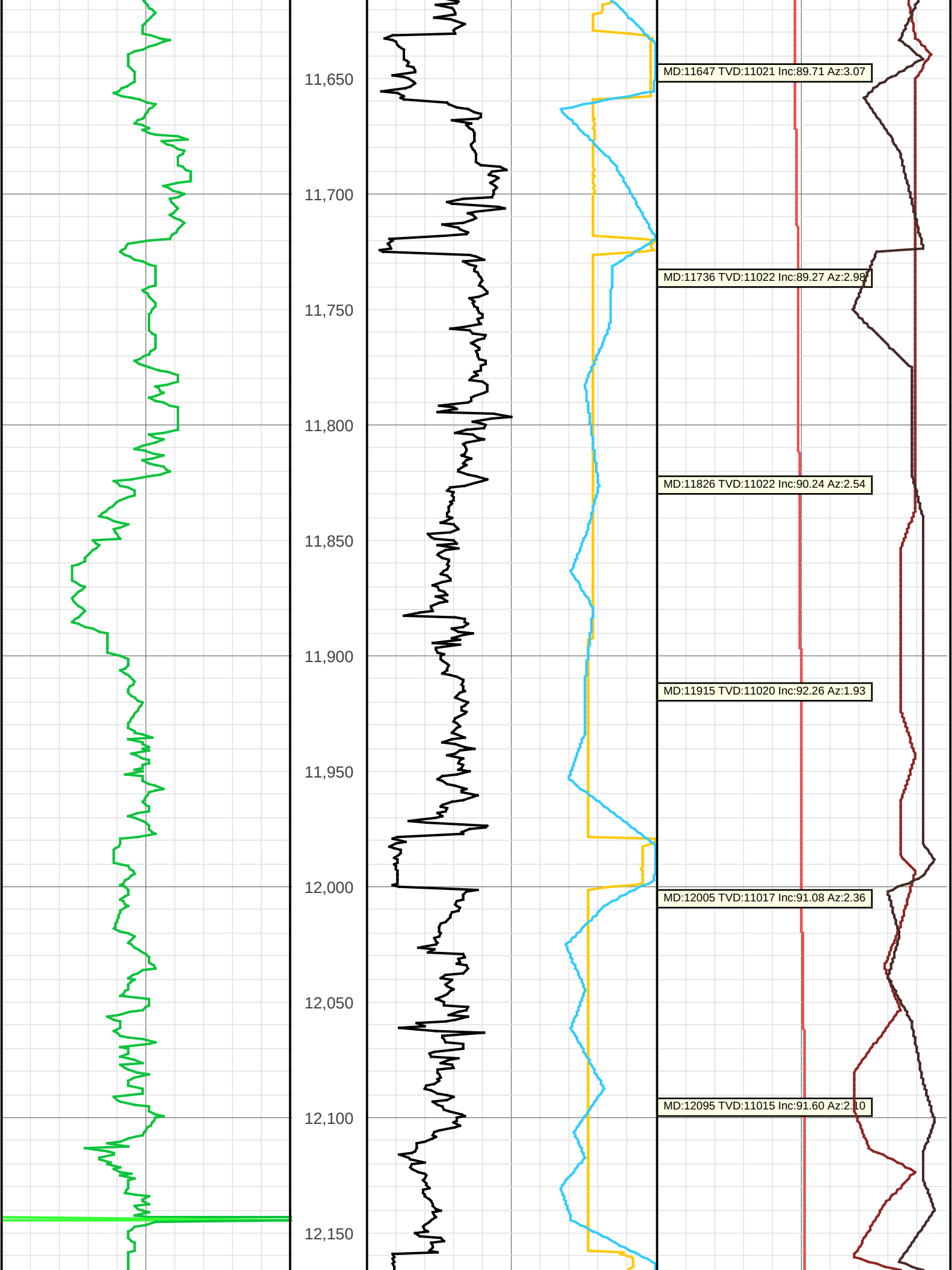
11,200
11,250
11,300
11,350
11,400
11,450
11,500
11,550
11,600
MD:11079 TVD:10955 Inc:64.00 Az:346.54
MD:11168 TVD:10985 Inc:77.14 Az:351.91
MD:11198 TVD:10991 Inc:79.96 Az:357.27
MD:11288 TVD:11003 Inc:84.53 Az:2.10
MD:11378 TVD:11010 Inc:86.02 Az:3.86
MD:11467 TVD:11016 Inc:86.11 Az:3.33
MD:11557 TVD:11020 Inc:89.23 Az:1.75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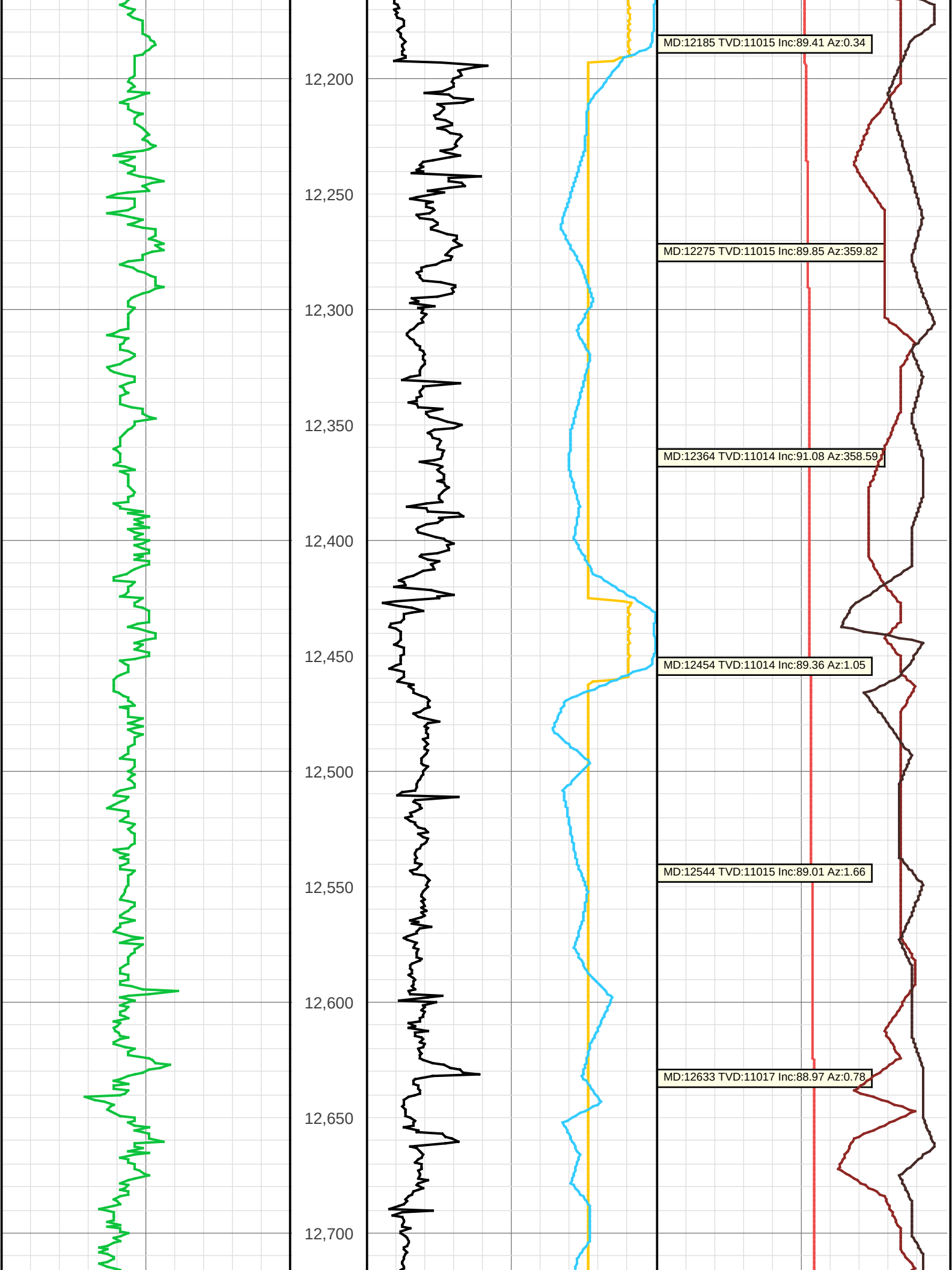
11,700
11,750
11,800
11,850
11,900
11,950
12,000
12,050
12,100
12,150
MD:11647 TVD:11021 Inc:89.71 Az:3.07
MD:11736 TVD:11022 Inc:89.27 Az:2.98
MD:11826 TVD:11022 Inc:90.24 Az:2.54
MD:11915 TVD:11020 Inc:92.26 Az:1.93
MD:12005 TVD:11017 Inc:91.08 Az:2.36
MD:12095 TVD:11015 Inc:91.60 Az:2.10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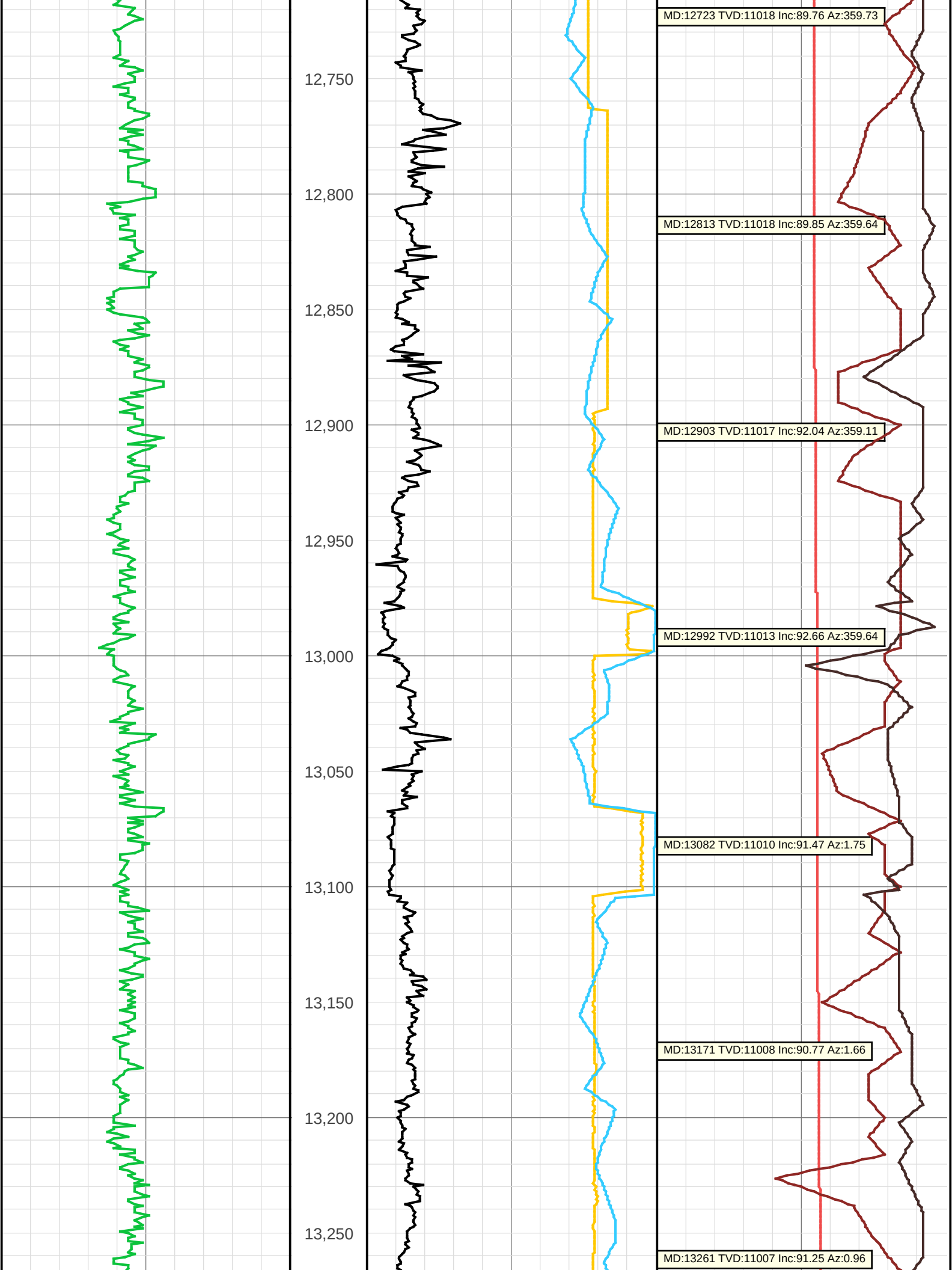
12,350
12,400
12,450
12,500
12,550
12,600
12,650
12,700
MD:12185 TVD:11015 Inc:89.41 Az:0.34
MD:12275 TVD:11015 Inc:89.85 Az:359.82
MD:12364 TVD:11014 Inc:91.08 Az:358.59
MD:12454 TVD:11014 Inc:89.36 Az:1.05
MD:12544 TVD:11015 Inc:89.01 Az:1.66
MD:12633 TVD:11017 Inc:88.97 Az:0.78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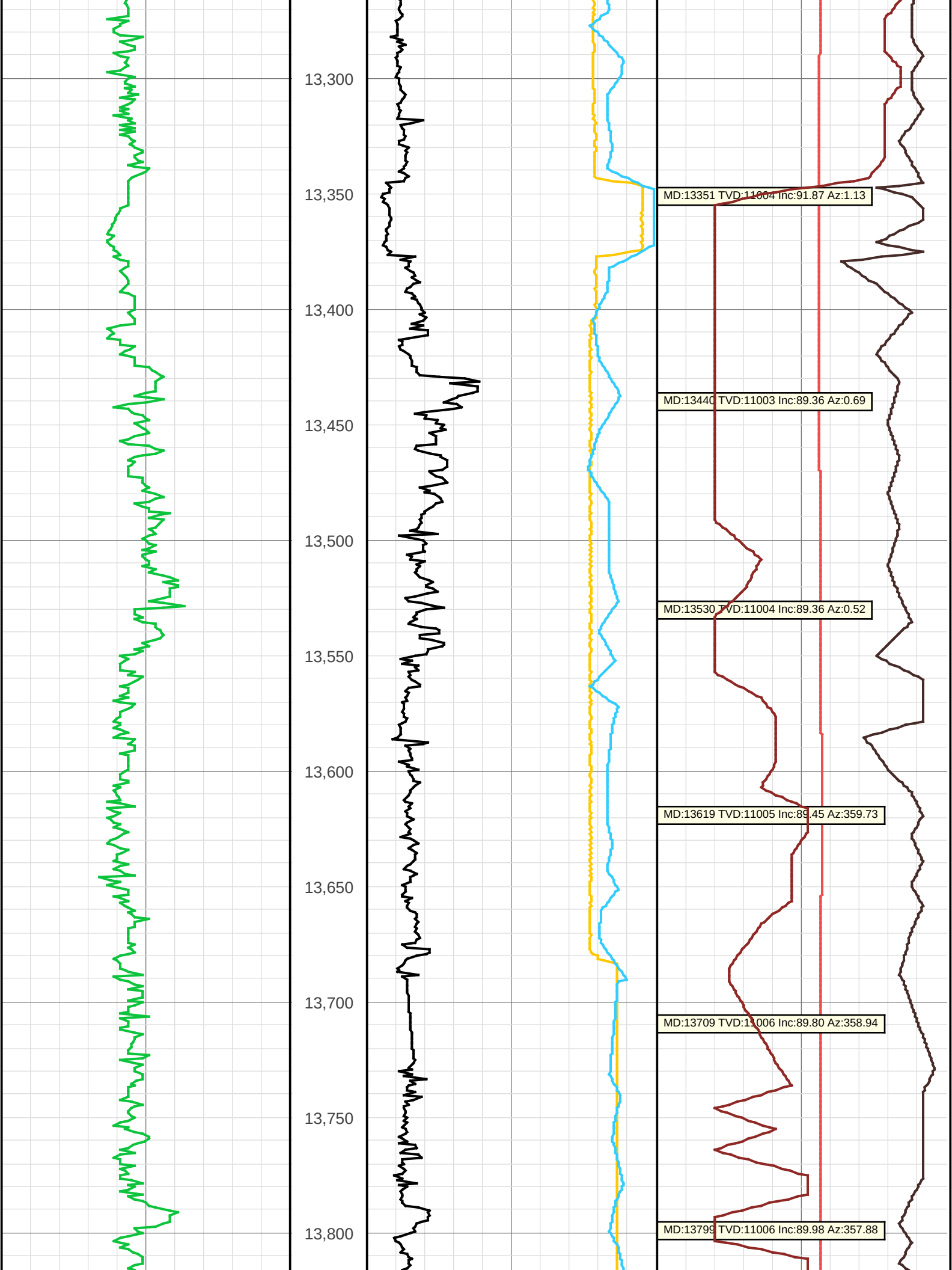
12,950
13,000
13,050
13,100
13,150
13,200
13,250
MD:12723 TVD:11018 Inc:89.76 Az:359.73
MD:12813 TVD:11018 Inc:89.85 Az:359.64
MD:12903 TVD:11017 Inc:92.04 Az:359.11
MD:12992 TVD:11013 Inc:92.66 Az:359.64
MD:13082 TVD:11010 Inc:91.47 Az:1.75
MD:13171 TVD:11008 Inc:90.77 Az:1.66
MD:13261 TVD:11007 Inc:91.25 Az:0.96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13,600
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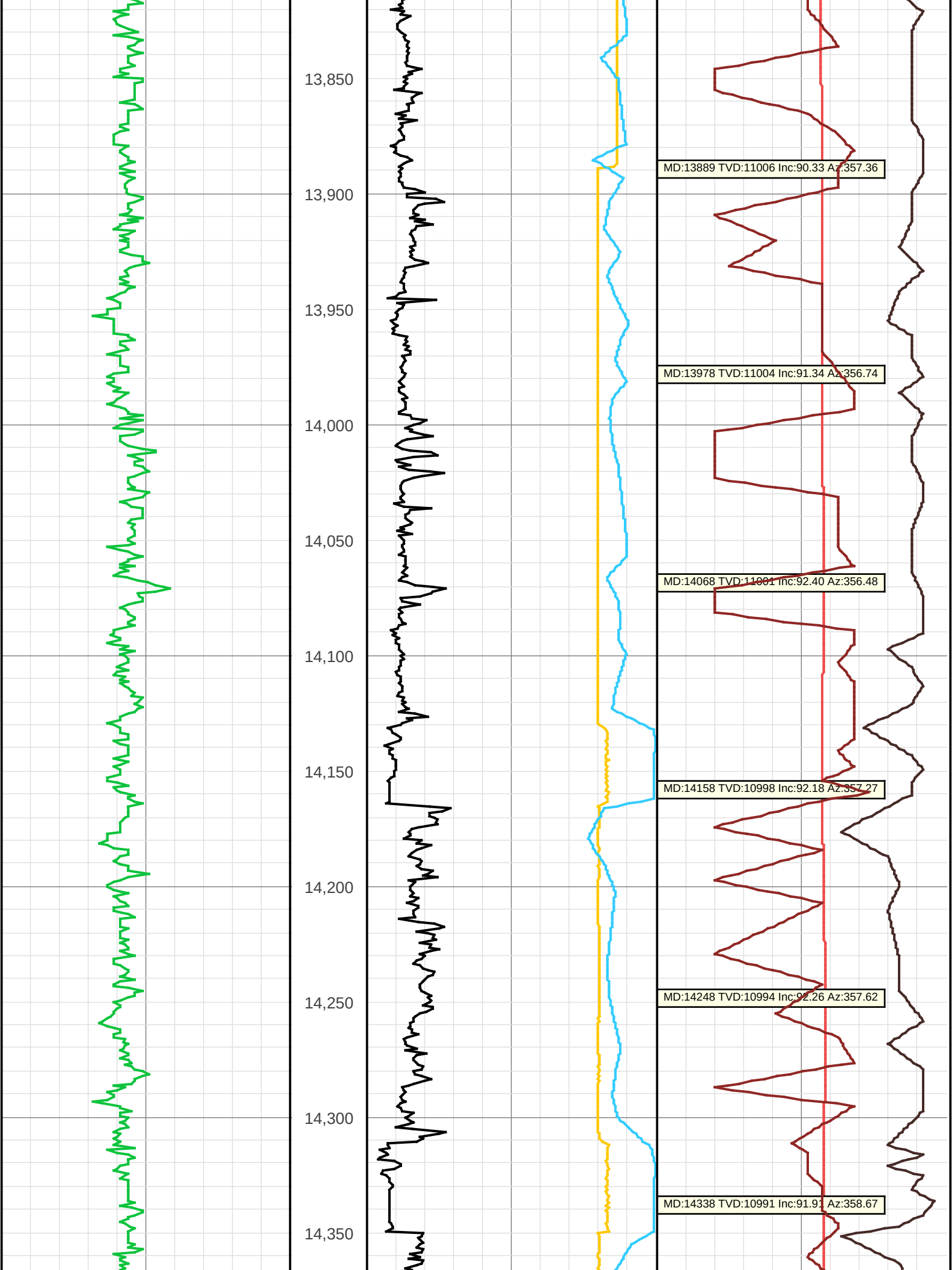
13,750
13,800
MD:13351 TVD:11004 Inc:91.87 Az:1.13
MD:13440 TVD:11003 Inc:89.36 Az:0.69
MD:13530 TVD:11004 Inc:89.36 Az:0.52
MD:13619 TVD:11005 Inc:89.45 Az:359.73
MD:13709 TVD:11006 Inc:89.80 Az:358.94
MD:13799 TVD:11006 Inc:89.98 Az:357.88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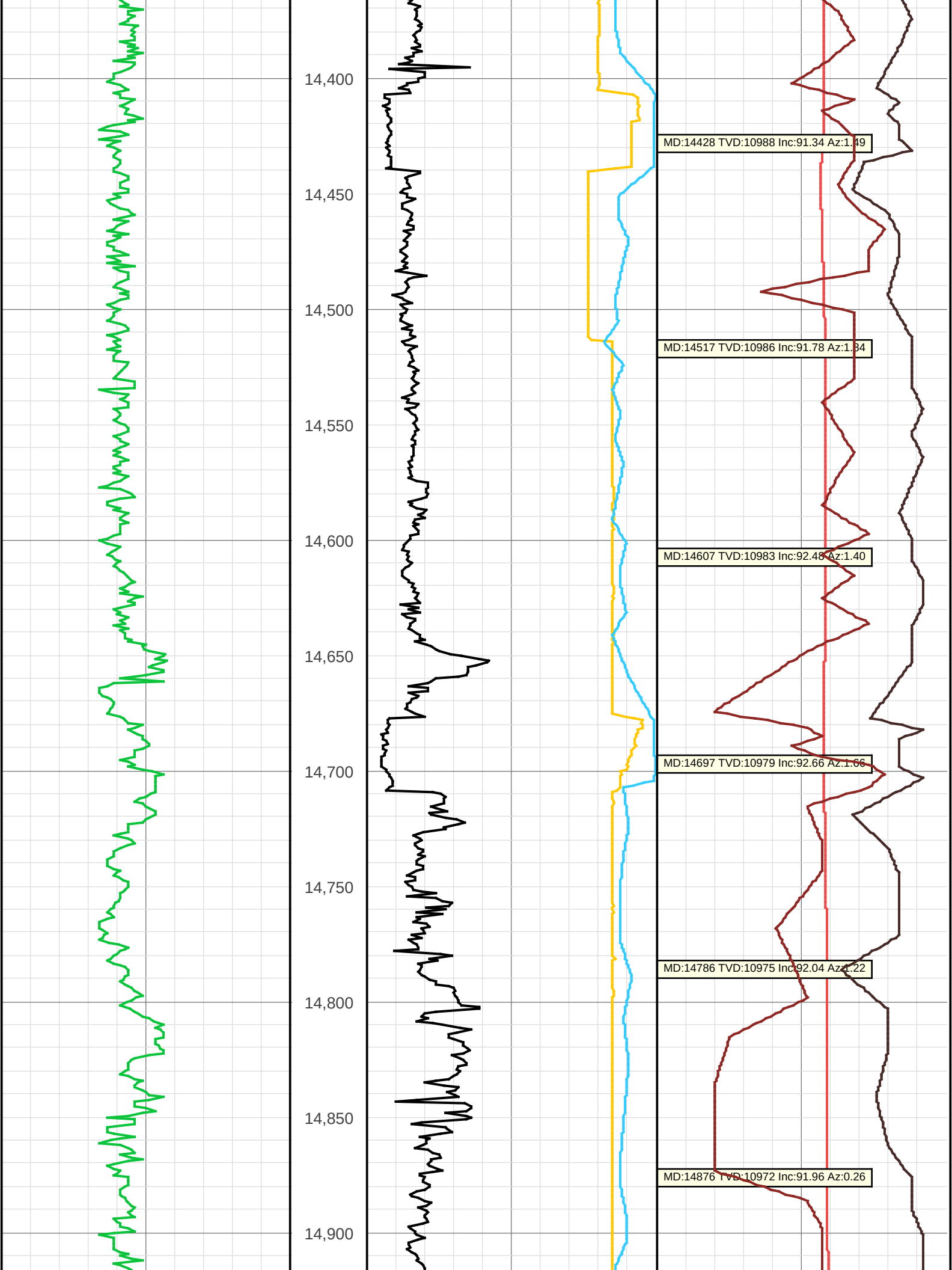
14,350
MD:13889 TVD:11006 Inc:90.33 Az:357.36
MD:13978 TVD:11004 Inc:91.34 Az:356.74
MD:14068 TVD:11001 Inc:92.40 Az:356.48
MD:14158 TVD:10998 Inc:92.18 Az:357.27
MD:14248 TVD:10994 Inc:92.26 Az:357.62
MD:14338 TVD:10991 Inc:91.91 Az:358.67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14,500
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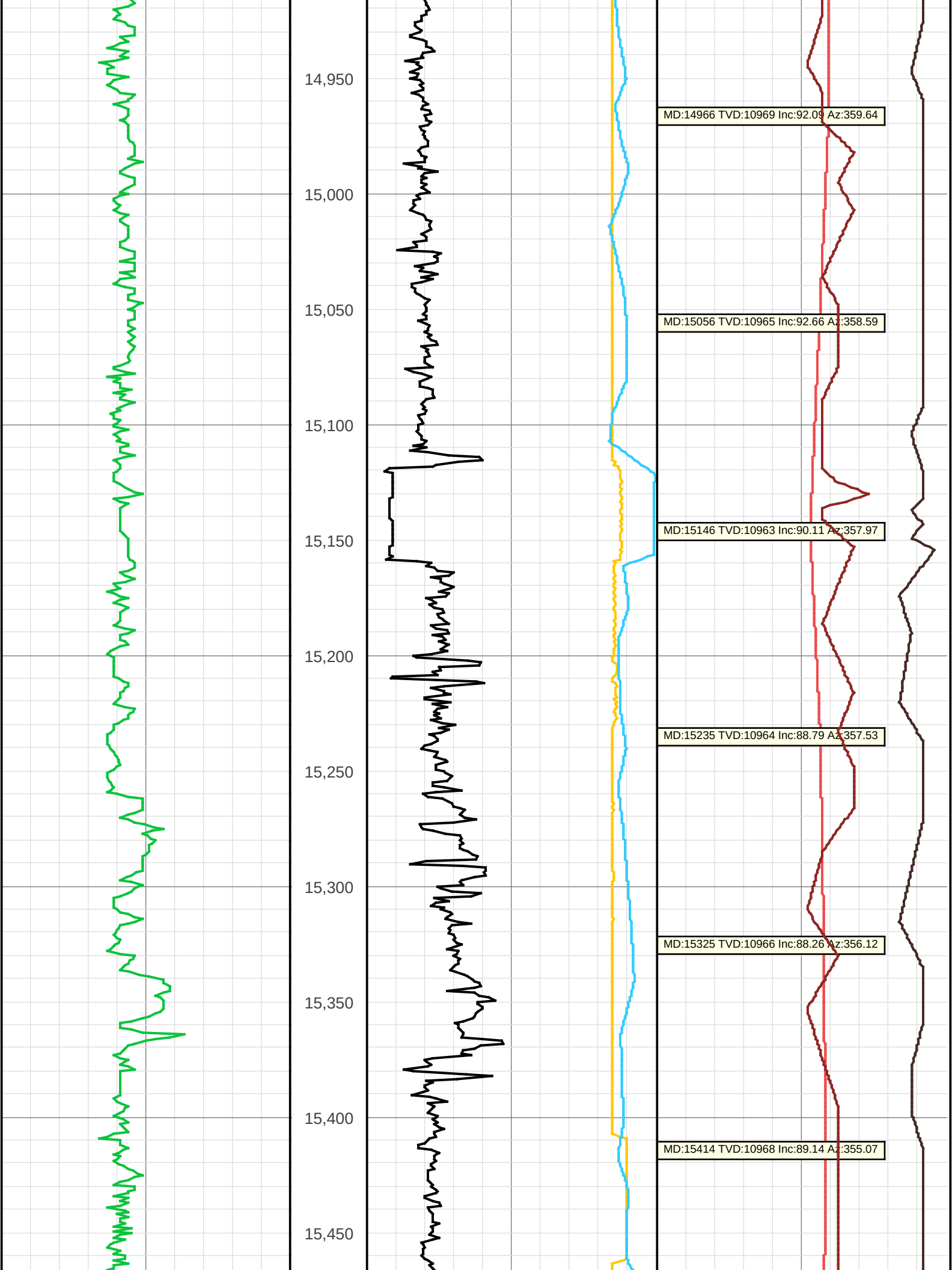
14,600
14,650
14,700
14,750
14,800
14,850
14,900
MD:14428 TVD:10988 Inc:91.34 Az:1.49
MD:14517 TVD:10986 Inc:91.78 Az:1.34
MD:14607 TVD:10983 Inc:92.48 Az:1.40
MD:14697 TVD:10979 Inc:92.66 Az:1.66
MD:14786 TVD:10975 Inc:92.04 Az:1.22
MD:14876 TVD:10972 Inc:91.96 Az:0.26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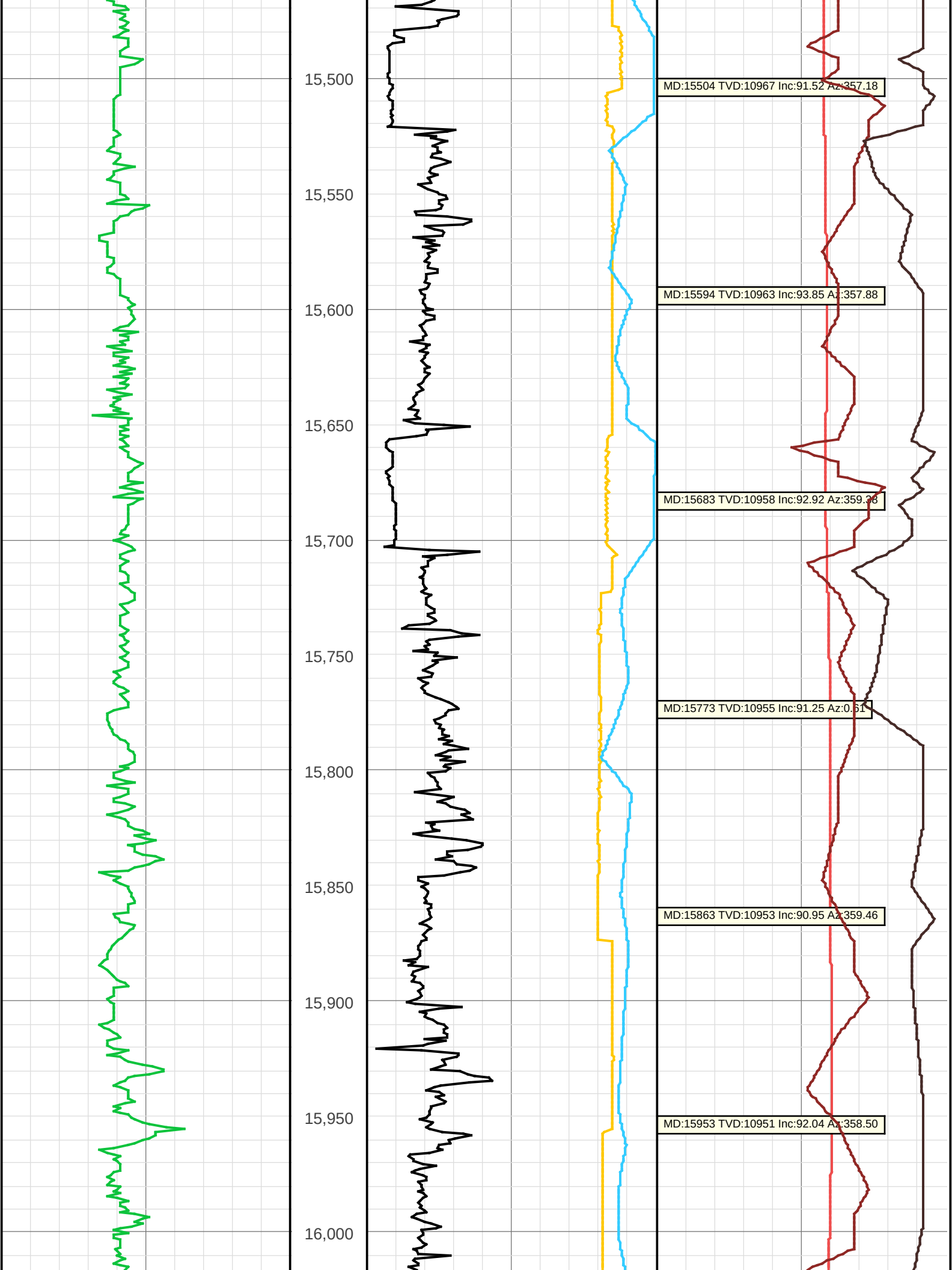
15,400
15,450
MD:14966 TVD:10969 Inc:92.09 Az:359.64
MD:15056 TVD:10965 Inc:92.66 Az:358.59
MD:15146 TVD:10963 Inc:90.11 Az:357.97
MD:15235 TVD:10964 Inc:88.79 Az:357.53
MD:15325 TVD:10966 Inc:88.26 Az:356.12
MD:15414 TVD:10968 Inc:89.14 Az:355.07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15,650
15,700
15,750
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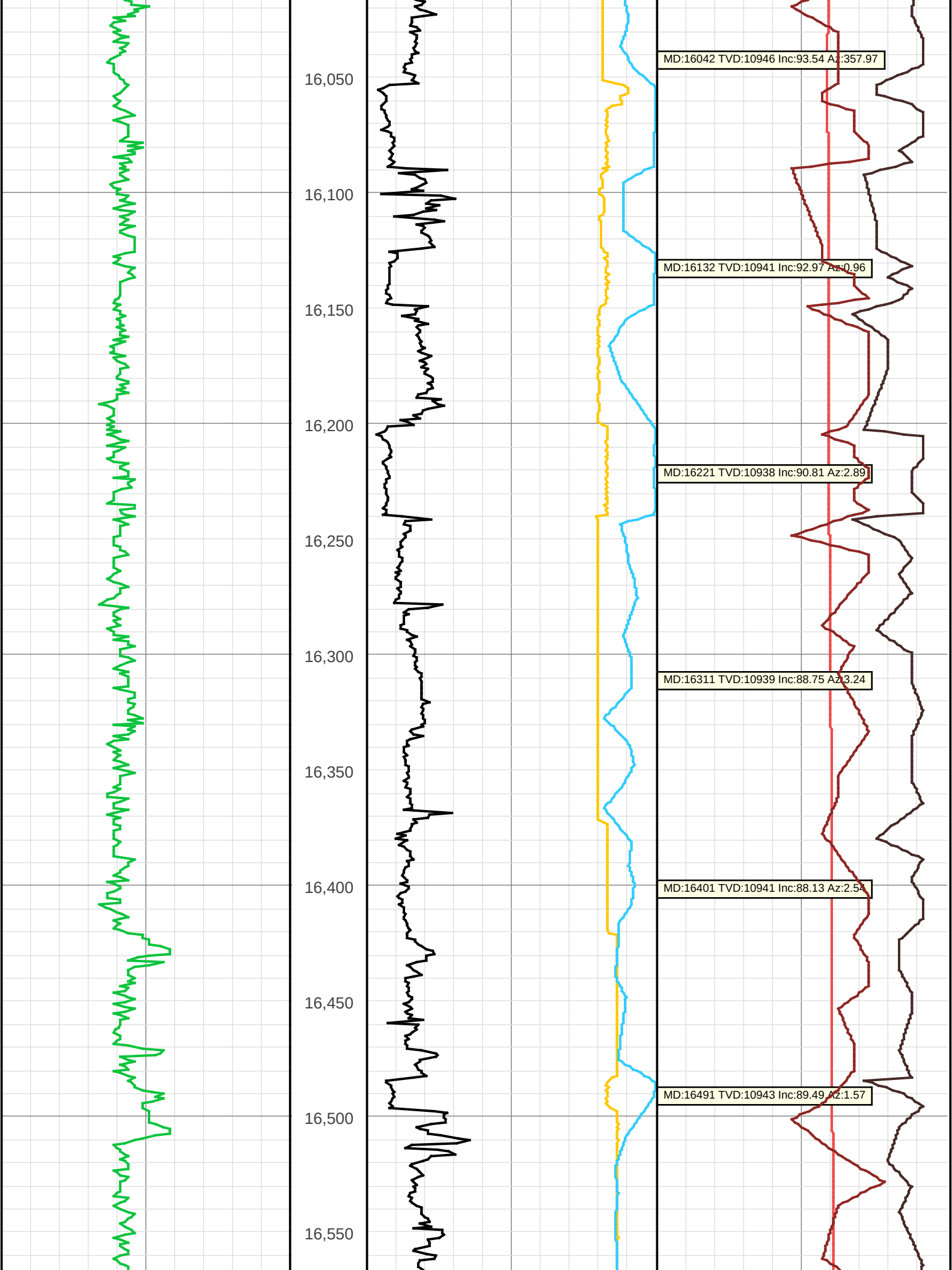
15,850
15,900
15,950
16,000
MD:15504 TVD:10967 Inc:91.52 Az:357.18
MD:15594 TVD:10963 Inc:93.85 Az:357.88
MD:15683 TVD:10958 Inc:92.92 Az:359.38
MD:15773 TVD:10955 Inc:91.25 Az:0.61
MD:15863 TVD:10953 Inc:90.95 Az:359.46
MD:15953 TVD:10951 Inc:92.04 Az:358.50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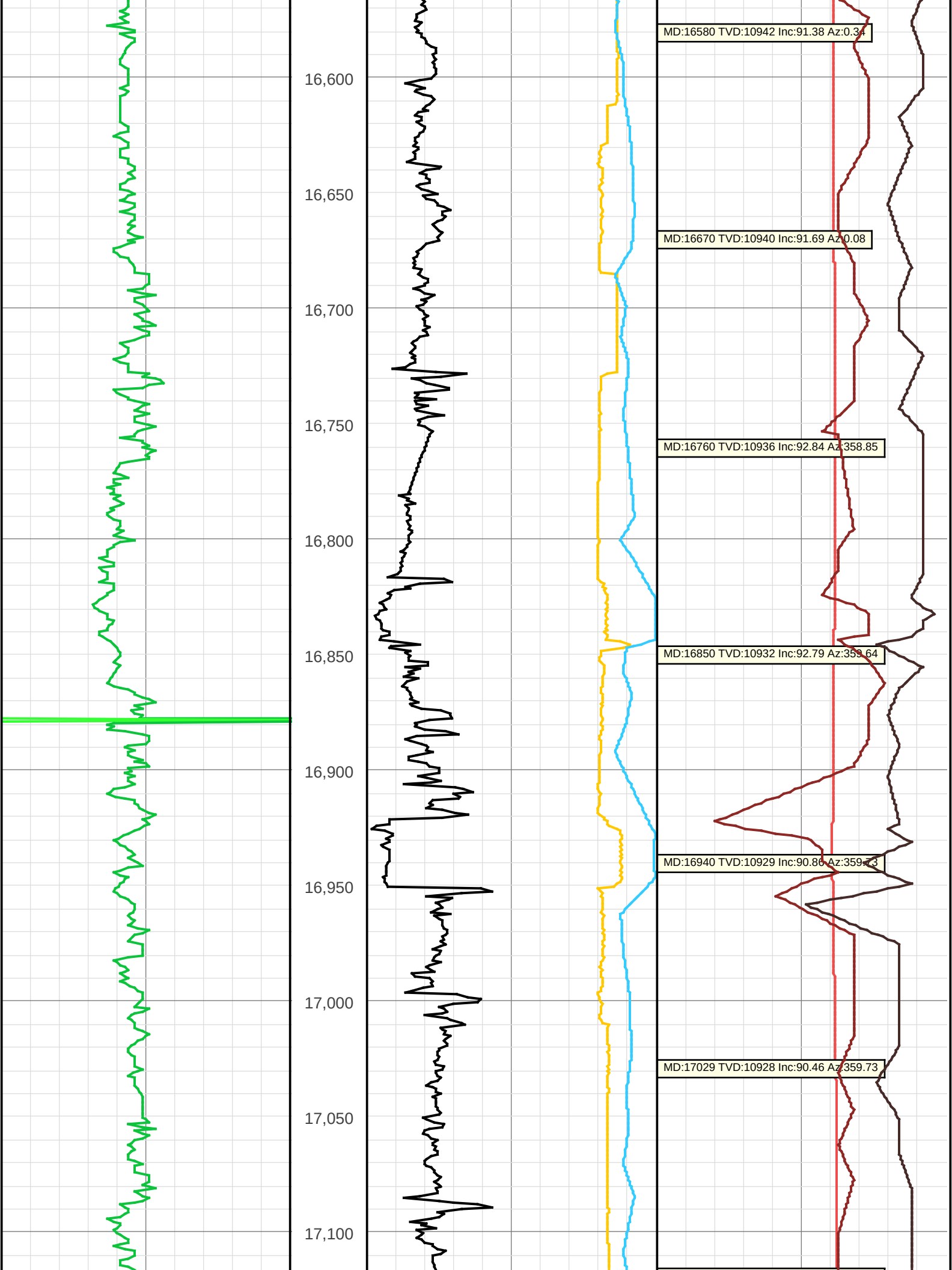
16,100
16,150
16,200
16,250
16,300
16,350
16,400
16,450
16,500
16,550
MD:16042 TVD:10946 Inc:93.54 Az:357.97
MD:16132 TVD:10941 Inc:92.97 Az:0.96
MD:16221 TVD:10938 Inc:90.81 Az:2.89
MD:16311 TVD:10939 Inc:88.75 Az:3.24
MD:16401 TVD:10941 Inc:88.13 Az:2.54
MD:16491 TVD:10943 Inc:89.49 Az:1.57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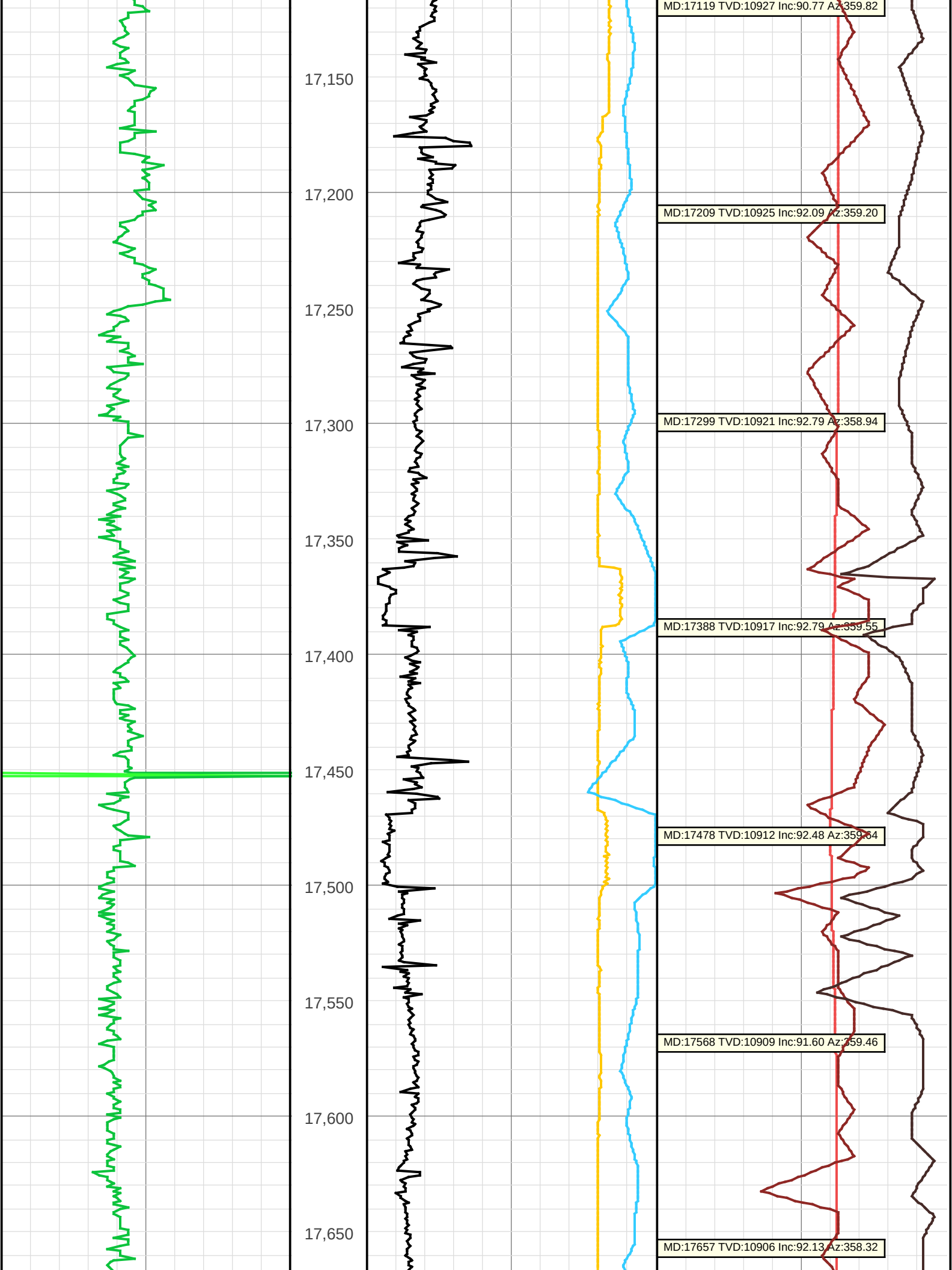
16,700
16,750
16,800
16,850
16,900
16,950
17,000
17,050
17,100
MD:16580 TVD:10942 Inc:91.38 Az:0.34
MD:16670 TVD:10940 Inc:91.69 Az:0.08
MD:16760 TVD:10936 Inc:92.84 Az:358.85
MD:16850 TVD:10932 Inc:92.79 Az:359.64
MD:16940 TVD:10929 Inc:90.86 Az:359.73
MD:17029 TVD:10928 Inc:90.46 Az:359.73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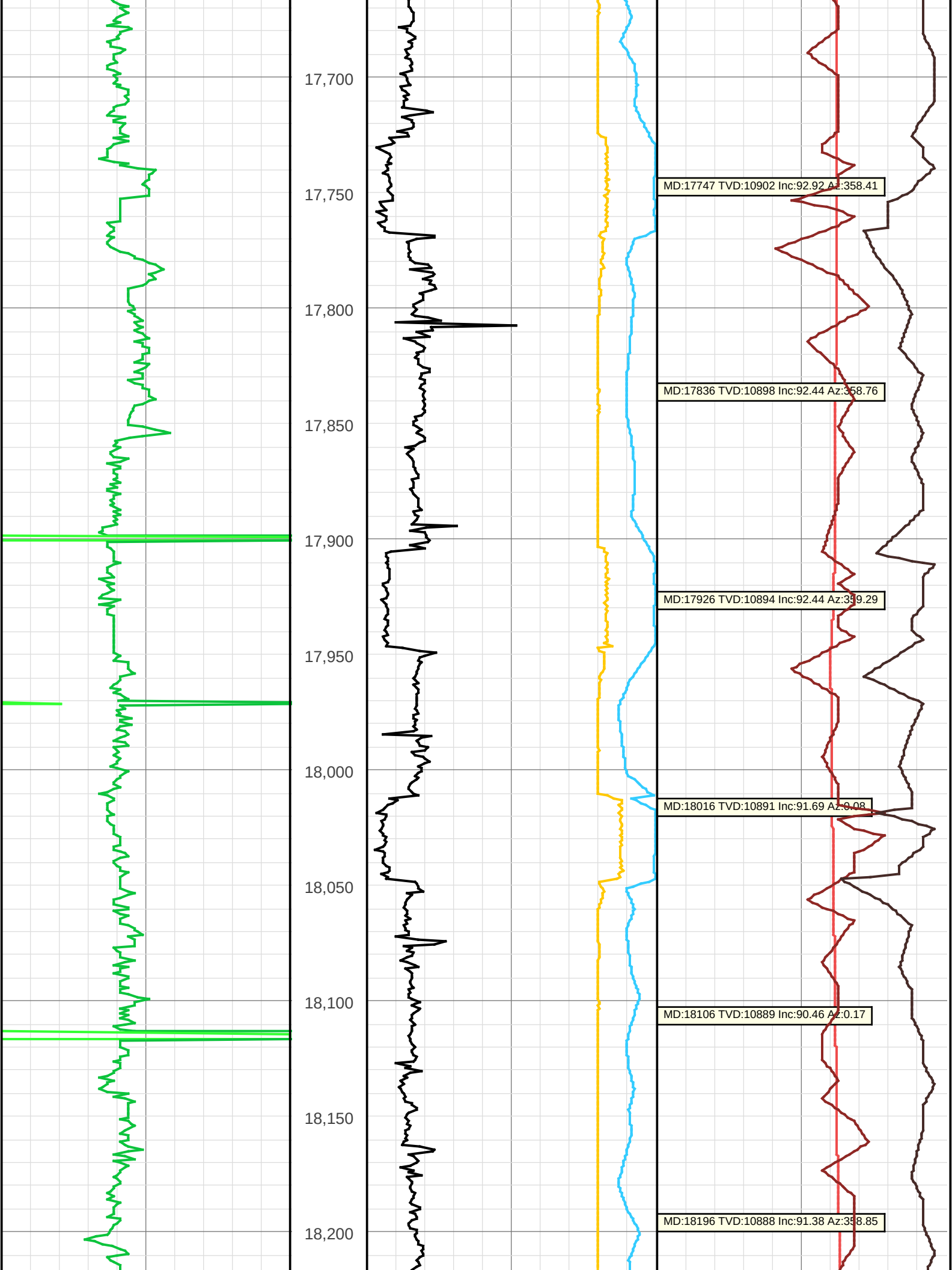
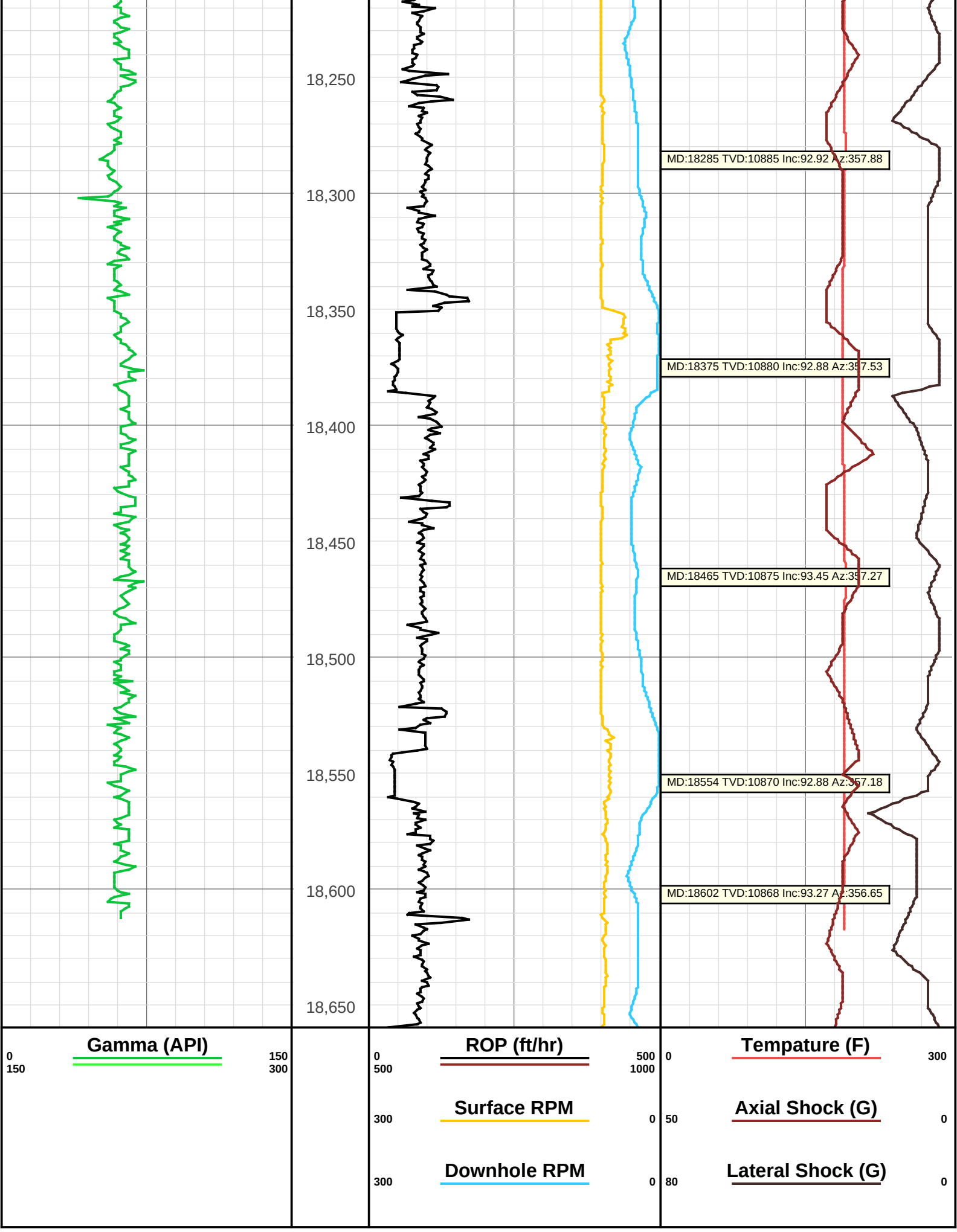
17,200
17,250
17,300
17,350
17,400
17,450
17,500
17,550
17,600
17,650
MD:17119 TVD:10927 Inc:90.77 Az:359.82
MD:17209 TVD:10925 Inc:92.09 Az:359.20
MD:17299 TVD:10921 Inc:92.79 Az:358.94
MD:17388 TVD:10917 Inc:92.79 Az:359.55
MD:17478 TVD:10912 Inc:92.48 Az:359.64
MD:17568 TVD:10909 Inc:91.60 Az:359.46
MD:17657 TVD:10906 Inc:92.13 Az:358.32


17,700
17,750
17,800
17,850
17,900
17,950
18,000
18,050
18,100
18,150
18,200
MD:17747 TVD:10902 Inc:92.92 Az:358.41
MD:17836 TVD:10898 Inc:92.44 Az:358.76
MD:17926 TVD:10894 Inc:92.44 Az:359.29
MD:18016 TVD:10891 Inc:91.69 Az:0.08
MD:18106 TVD:10889 Inc:90.46 Az:0.17
MD:18196 TVD:10888 Inc:91.38 Az:358.85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18,350
18,400
18,450
18,500
18,550
18,600
18,650
MD:18285 TVD:10885 Inc:92.92 Az:357.88
MD:18375 TVD:10880 Inc:92.88 Az:357.53
MD:18465 TVD:10875 Inc:93.45 Az:357.27
MD:18554 TVD:10870 Inc:92.88 Az:357.18
MD:18602 TVD:10868 Inc:93.27 Az:356.65
Gamma (API)
0
150
150
300
ROP (ft/hr)
0
500
500
1000
Surface RPM
300
0
Downhole RPM
300
0
Tempature (F)
0
300
Axial Shock (G)
50
0
Lateral Shock (G)
80
0

Gamma Ray

INTREPID Directional Drilling Specialists

Intrepid-DDS
10314 TX-191
Midland,TX 79707

2" = 100'
TVD FT

Company: AEP
Well: Wool Head 20 State Com #512H
Field: Delaware Basin
API: 30-025-46492
County: Lea
State: New Mexico
Country: USA
Rig: HP 466
AFE: NM0093
Job: ID2389

Company: AEP
Well: Wool Head 20 State Com #512H
Field: Delaware Basin
API: 30-025-46492
County: Lea
State: New Mexico
Country: USA
Rig: HP 466

Well Location NAD 1927

Latitude: 32° 27' 29.103 N Longitude: 103° 35' 19.292 W
Y: 531183.00 X: 771015.1

Section: 20 Twnship: 21-S Rnge: 33-E

Permanent Datum: Mean Sea Level Kelly Bushing Elev: N/A
Log Measured From: Rotary Table Drill Floor Elev: 3752.5
Height of Reference: 26.5 Ground Level Elev: 3726

Depth Drilled: 1.0 to: 18660.0
Depth Logged: 5100.0 to: 18660.01
Date Logged: 13 Nov 2019 23:53 to: 14 Jan 2020 10:33

Disclaimer: Intrepid DDS uses its best efforts to provide customers with accurate information and interpretations with services performed but does not warranty the accuracy of information or interpretations.

Hole Data			Casing Data		
Size	From (MD)	To (MD)	Size	From (MD)	To (MD)
17.5	100	1838	13 3/8	100	1838
12 1/4	1838	5282	9 5/8	1838	5282
8.5	5282	18660	5 1/2	5282	18660

Run Data

Run Name	MWD Run 1	MWD Run 2	MWD Run 3	MWD Run 4	MWD Run 5	MWD Run 6	MWD Run 7			
Start Date	13 Nov 2019	21 Nov 2019	1 Dec 2019	5 Jan 2020	7 Jan 2020	8 Jan 2020	9 Jan 2020			
Start Time	1:45	08:45	7:30	23:00	2:15	04:00	03:45			
End Date	14 Nov 2019	22 Nov 2019	3 Dec 2019	7 Jan 2019	8 Jan 2020	9 Jan 2020	14 Jan 2019			
End Time	22:00	22:15	05:00	1:45	2:30	2:15	02:30			
Depth In	1.0	1852	5282	10555	10715	10908	11214			
Depth Out	1838	5282	10555	10715	10908	11214	18660			
Log Top			5217	10502	10680	10872	11177			
Log Bottom			10502	10680	10872	11177	18613			
Hole Size	17.5	12.25	8.5	8.5	8.5	8.5	8.5			

Tool Data

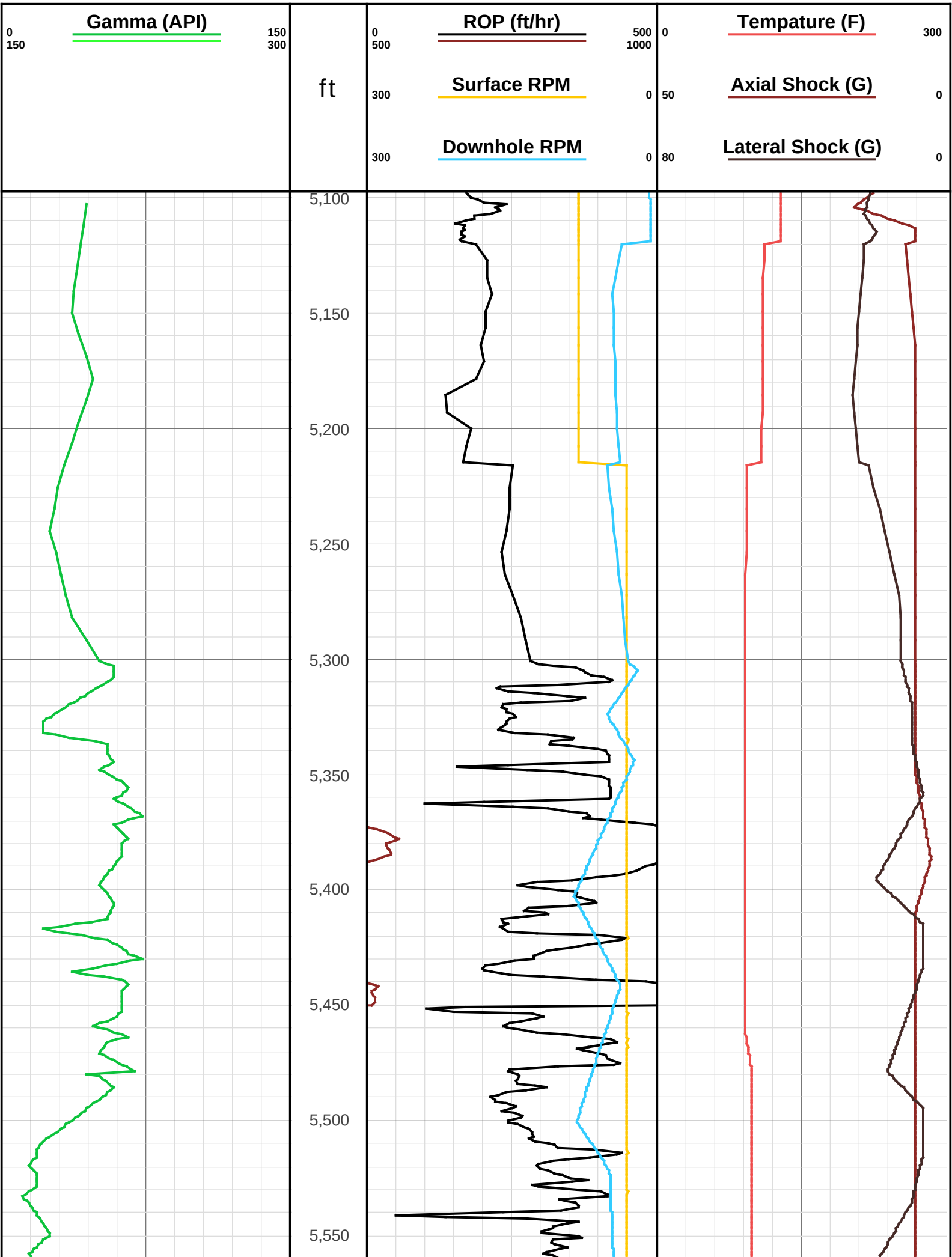
Run Name	MWD Run 1	MWD Run 2	MWD Run 3	MWD Run 4	MWD Run 5	MWD Run 6	MWD Run 7	
Directional Sensor SN	20125-R	20125-R	20120-R	20129-R	20129-R	20129	20124	
Directional Offset	68	65	63	47	47	48	58	
Gamma Sensor SN	N/A	N/A	352-R	691-R	688-R	617	688	
Gamma Offset			53	35	36	37	47	
Gamma Corr. Factor	1.0	1.0	3.661	3.79	3.82	3.65	3.65	

Mud Data

Run Name	MWD Run 1	MWD Run 2	MWD Run 3	MWD Run 4	MWD Run 5	MWD Run 6	MWD Run 7	
Mud Type	Water Based	Water Based	Water Based	Oil Based	Oil Based	Oil Based	Oil Based	
Mud Density (lb/gal)	10.0	10.4	9.2	9.6	9.6	9.7	9.5	
Funnel Visc. (s/qt)	41	29	1	61	61	70	65	
Plastic Visc. (cP)	4	2	1	14	14	17	15	
pH	8.1	10.2	11	N/A	N/A	NA		
Chlor. Whole Mud (mg/L)	1800	188000	73,000	48,000	48,000	45000	46000	
API Filtrate (cm3/30)	99	99	99/2	N/A	N/A	99/2	7.8	
Max MWD Temp (F)	370.6	420.6	142.0	122.0	120.2	122.0	190.8	

Personnel

Run Name	MWD Run 1	MWD Run 2	MWD Run 3	MWD Run 4	MWD Run 5	MWD Run 6	MWD Run 7	
MWD Operator 1	Ben Wallace	Michael Walton	Michael Walton	Michael Walton	Michael Walton	Ben Wallace	Ben Wallace	
MWD Operator 2	Mike Walton	Jospeh Hatley	Jospeh Hatley	Dustin Loomis	Dustin Loomis	Joe Hatley	Joe Hatley	
MWD Operator 3								


Gamma (API)
0
150
150
300
ft
ROP (ft/hr)
0
500
500
1000
Surface RPM
300
0
Downhole RPM
300
0
Tempature (F)
0
300
Axial Shock (G)
50
0
Lateral Shock (G)
80
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5,150
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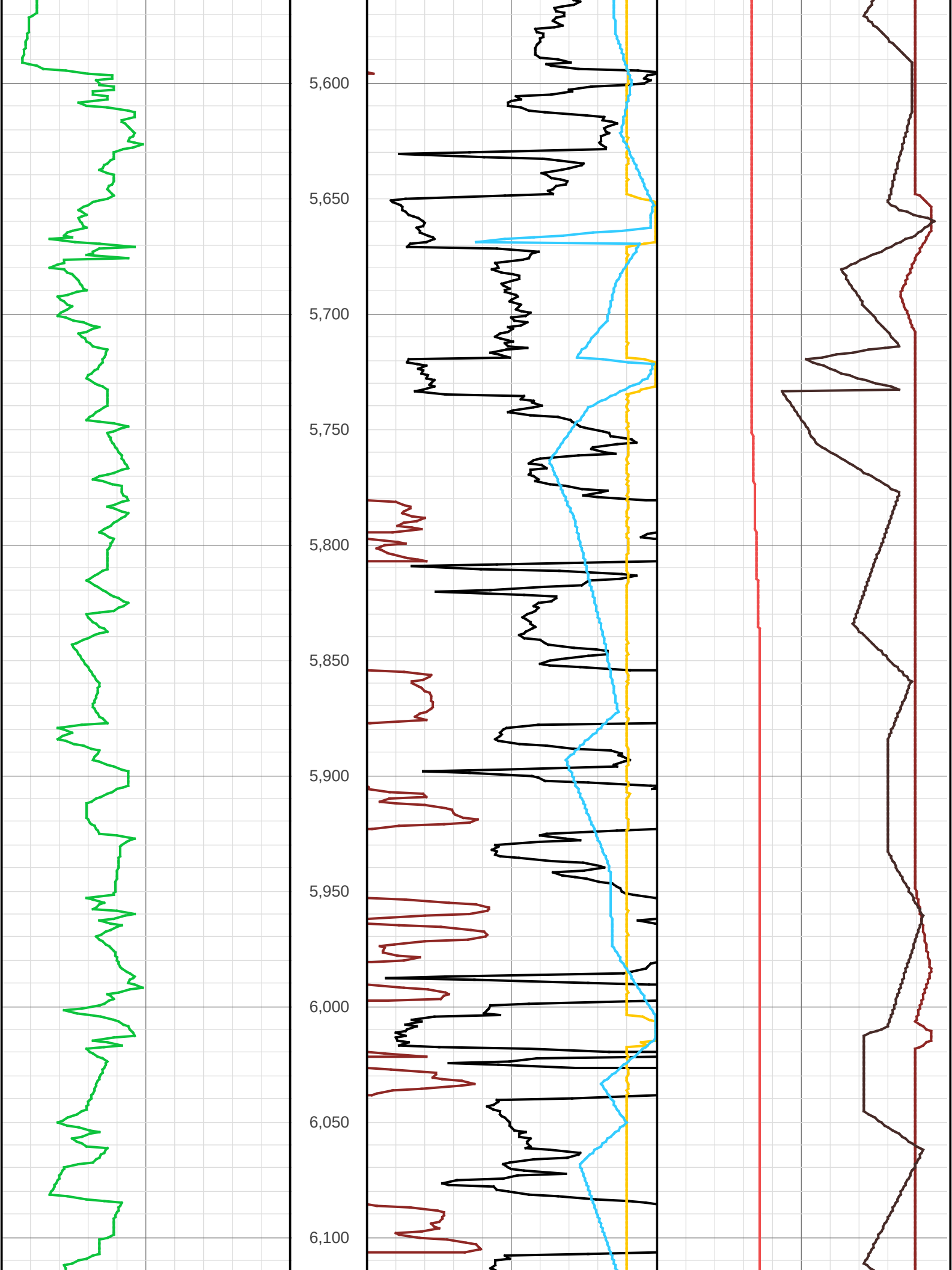
5,300
5,350
5,400
5,450
5,500
5,550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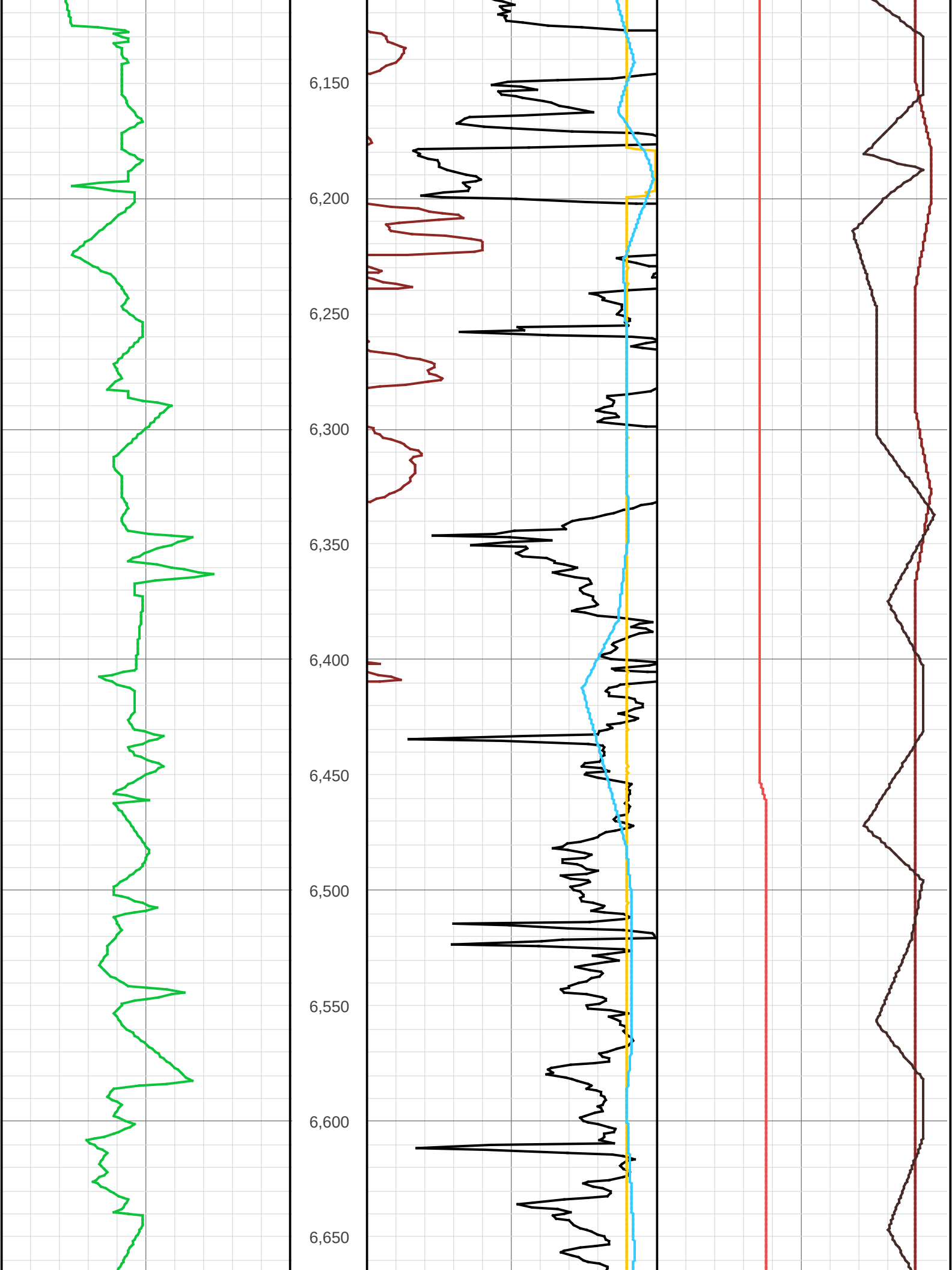
5,750
5,800
5,850
5,900
5,950
6,000
6,050
6,100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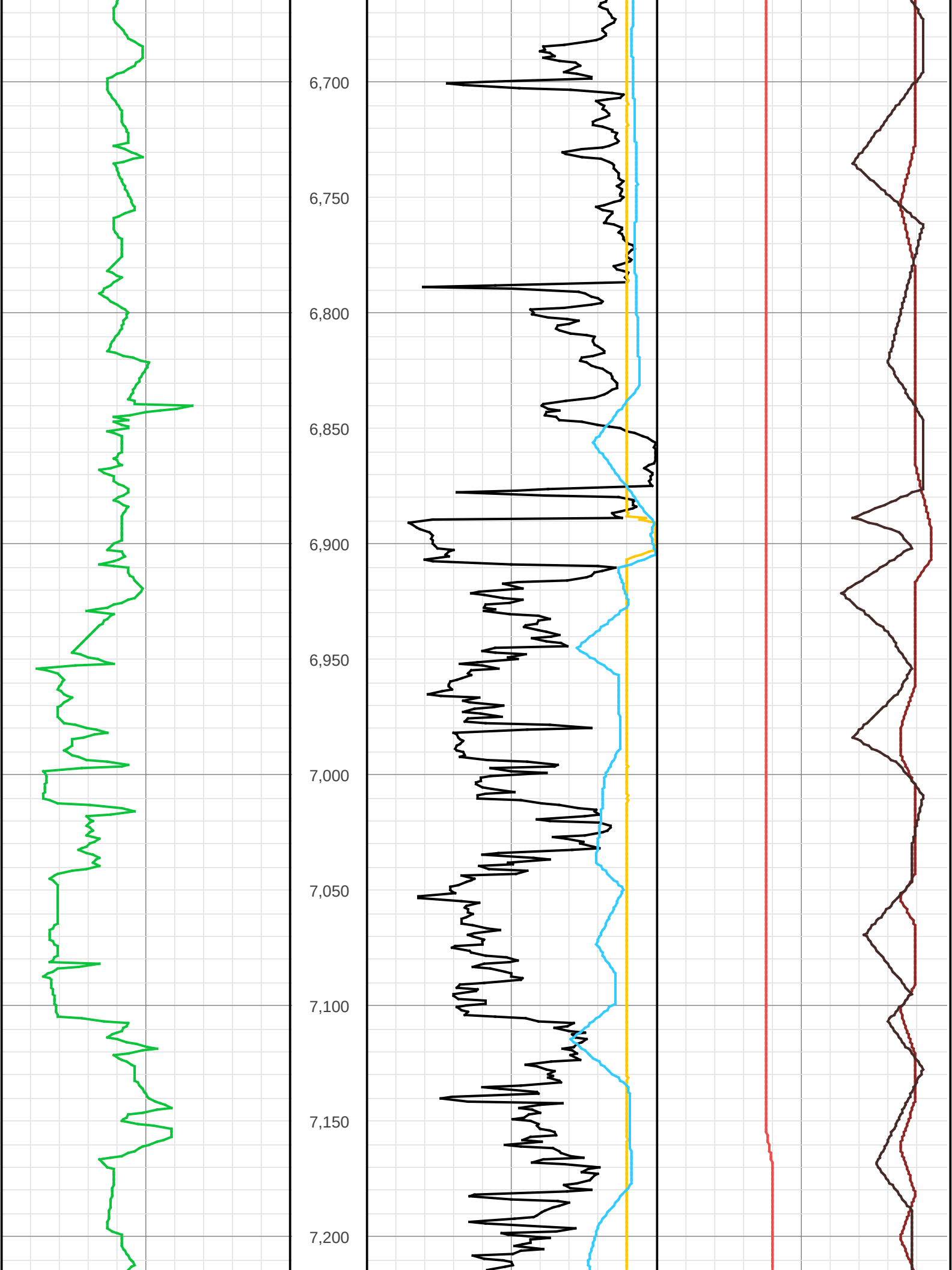
6,250
6,300
6,350
6,400
6,450
6,500
6,550
6,600
6,650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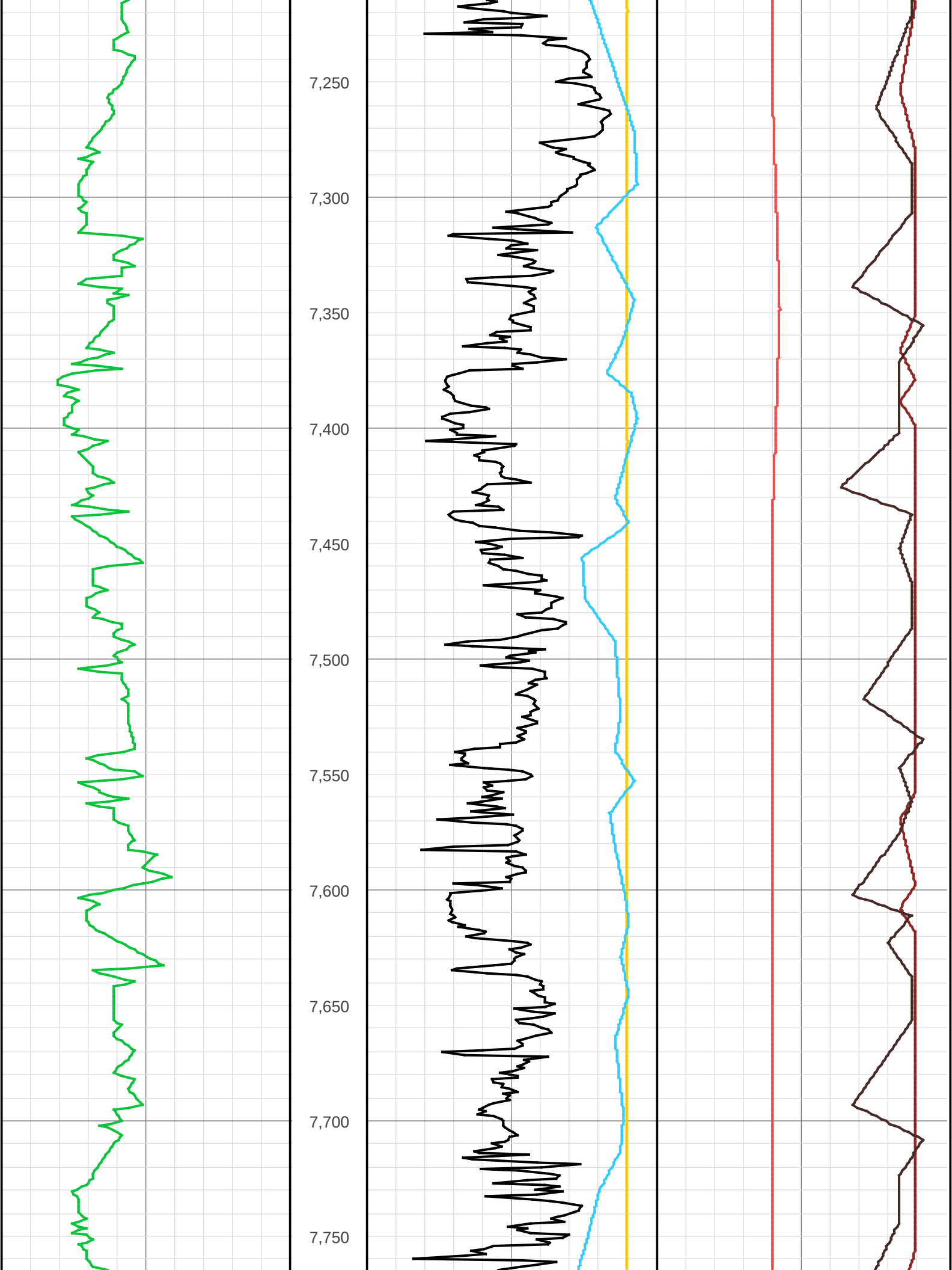
6,900
6,950
7,000
7,050
7,100
7,150
7,200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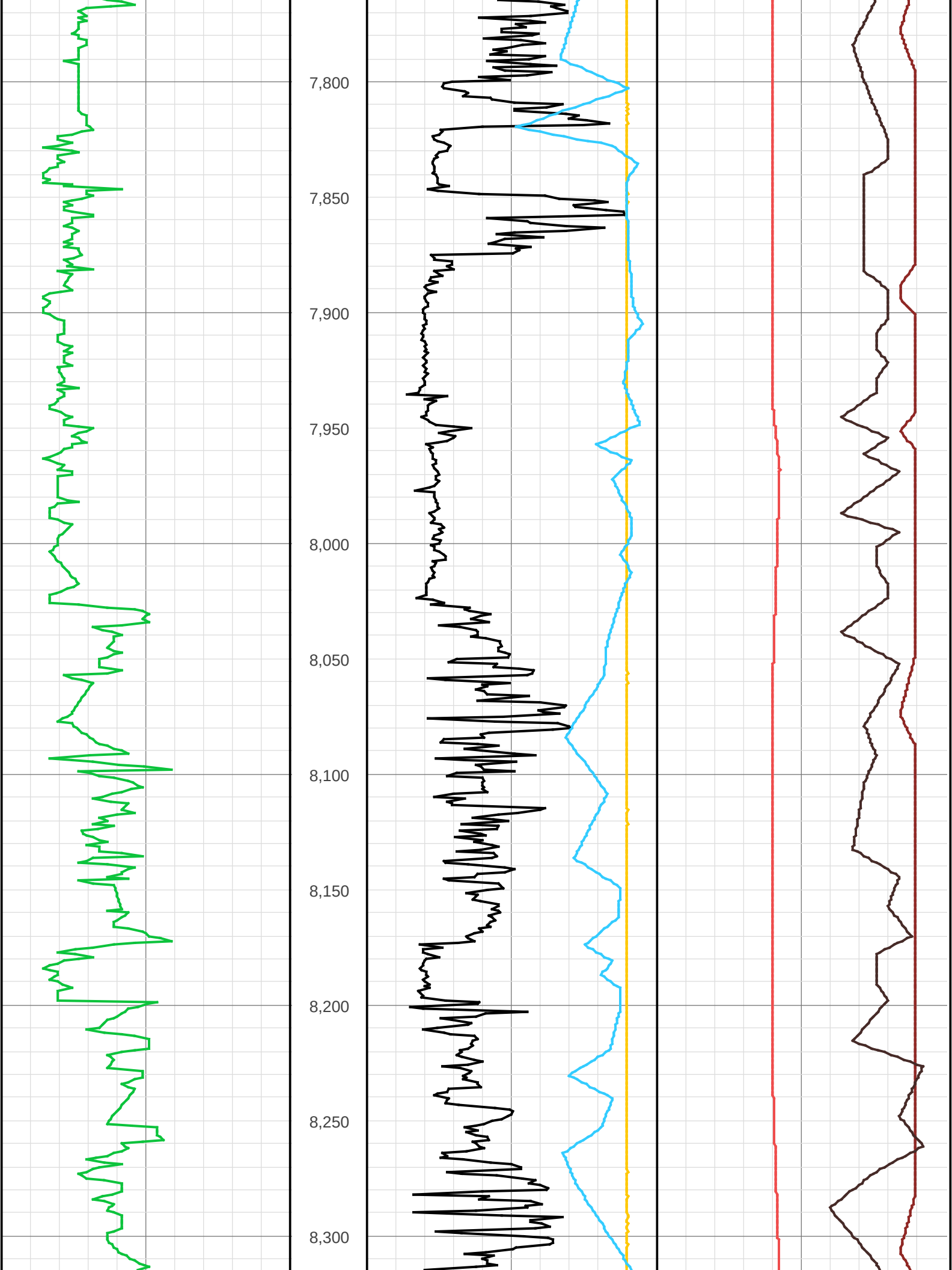
7,550
7,600
7,650
7,700
7,750


7,800
7,850
7,900
7,950
8,000
8,050
8,100
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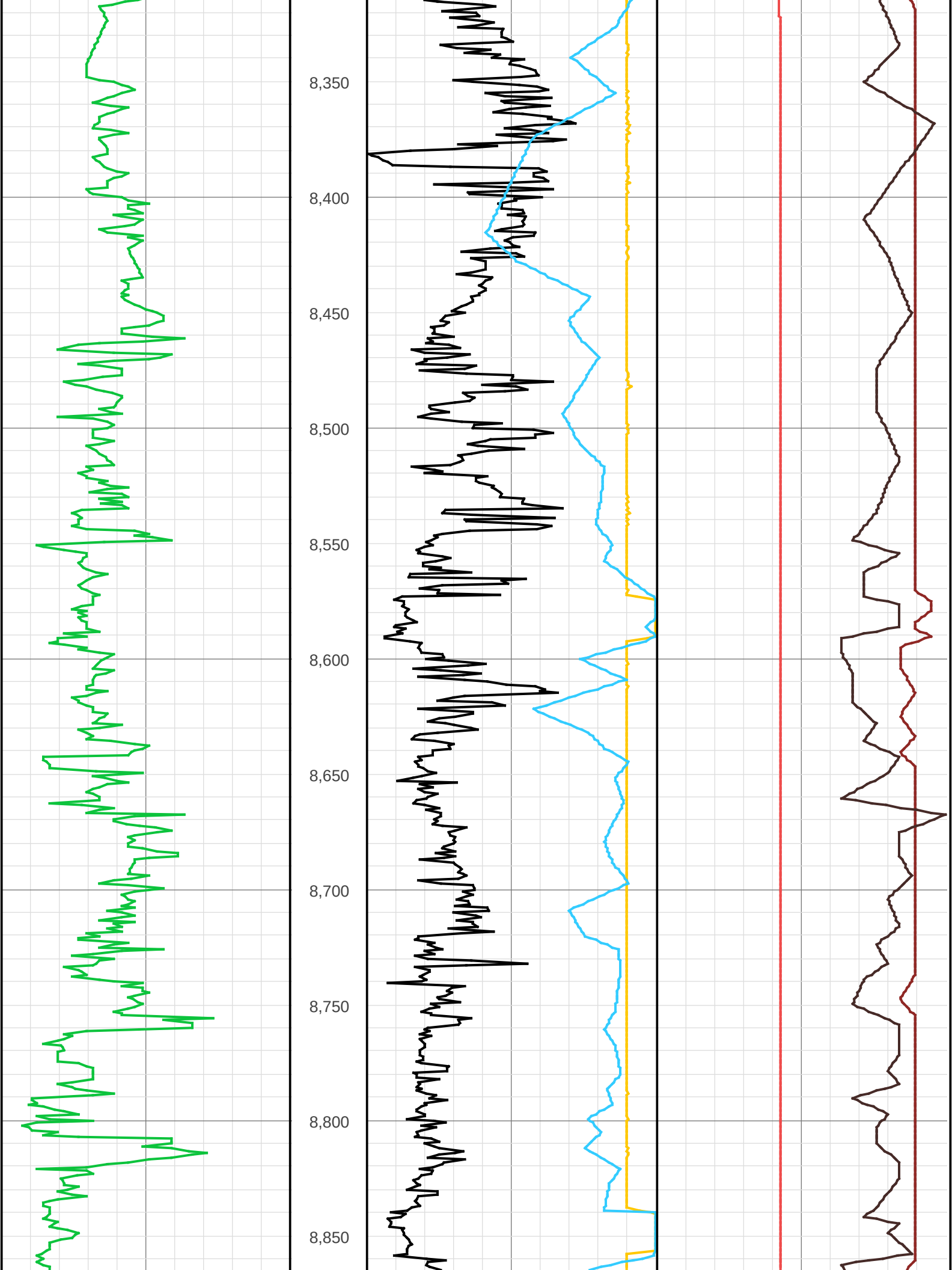
8,200
8,250
8,300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8,650
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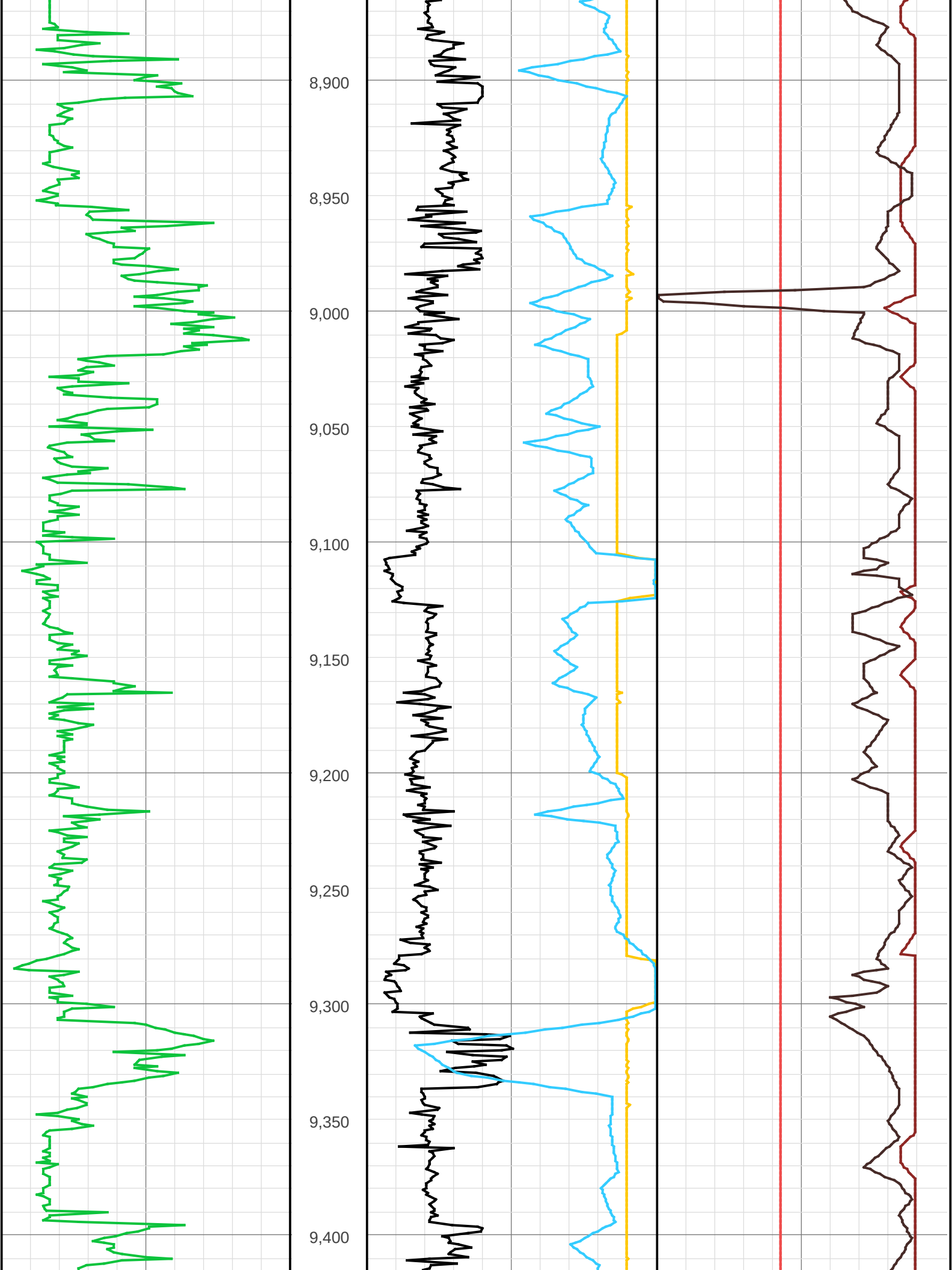
8,750
8,800
8,850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8,950
9,000
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9,100
9,150
9,200
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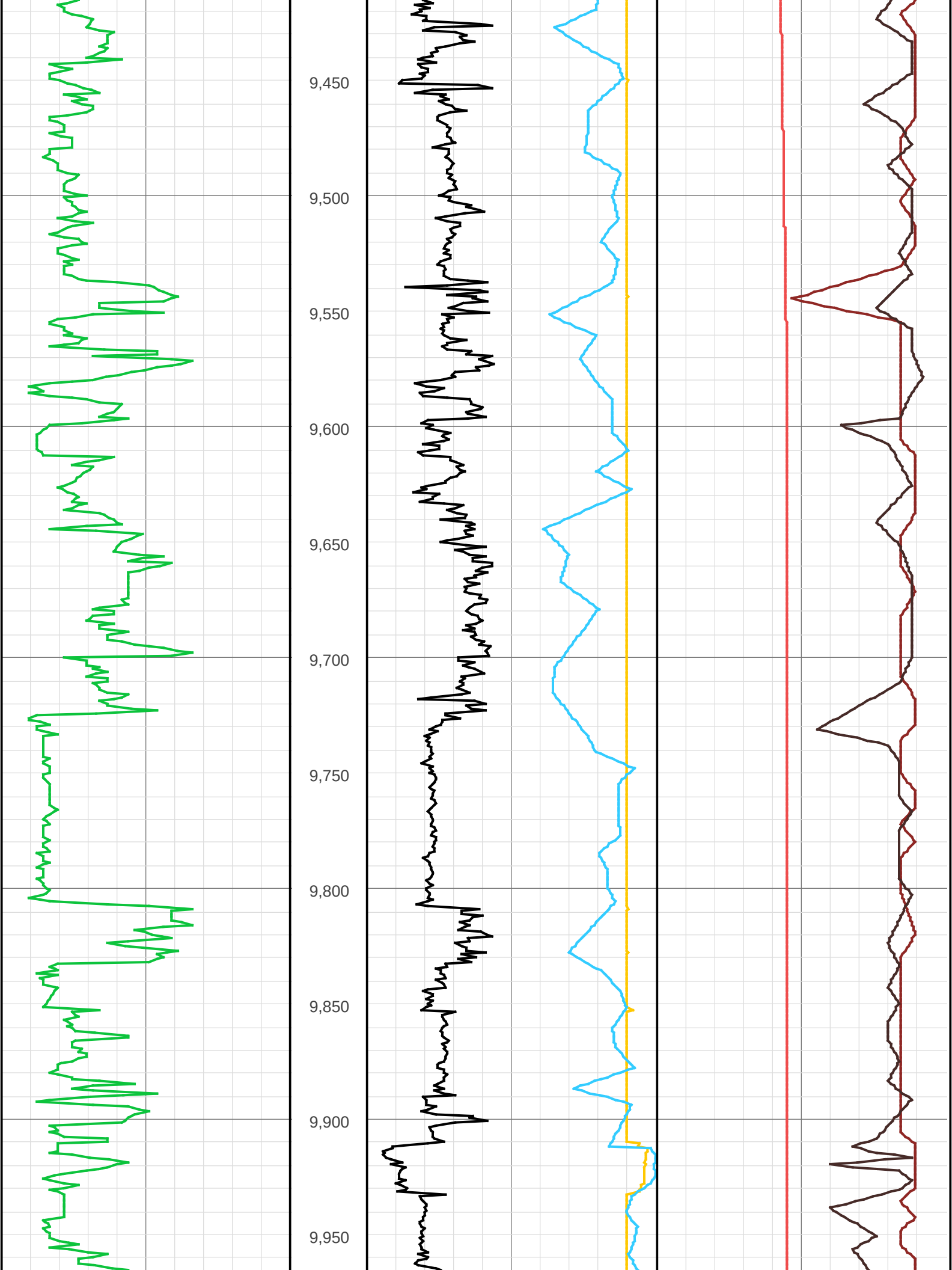
9,300
9,350
9,400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9,550
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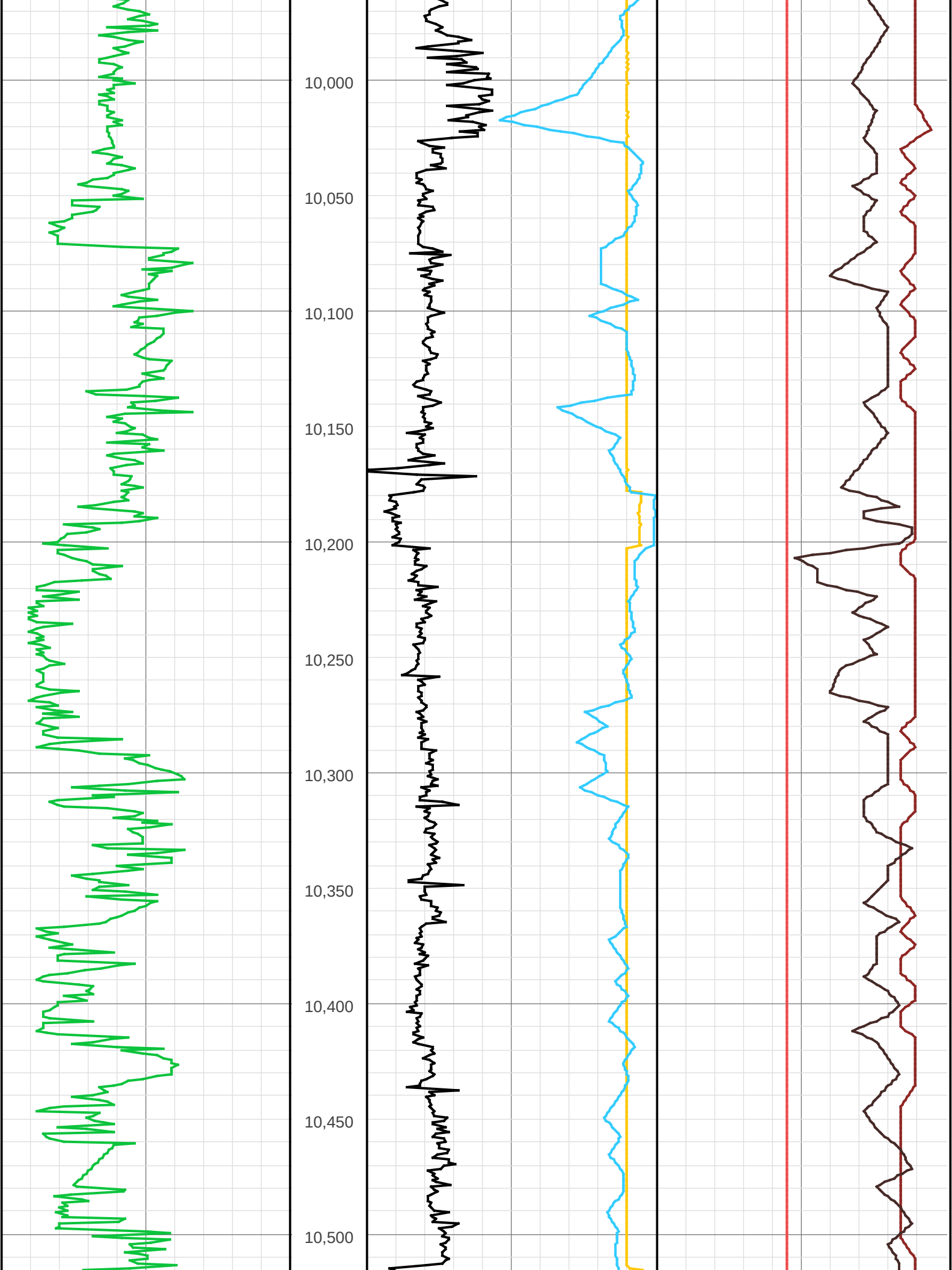
9,750
9,800
9,850
9,900
9,950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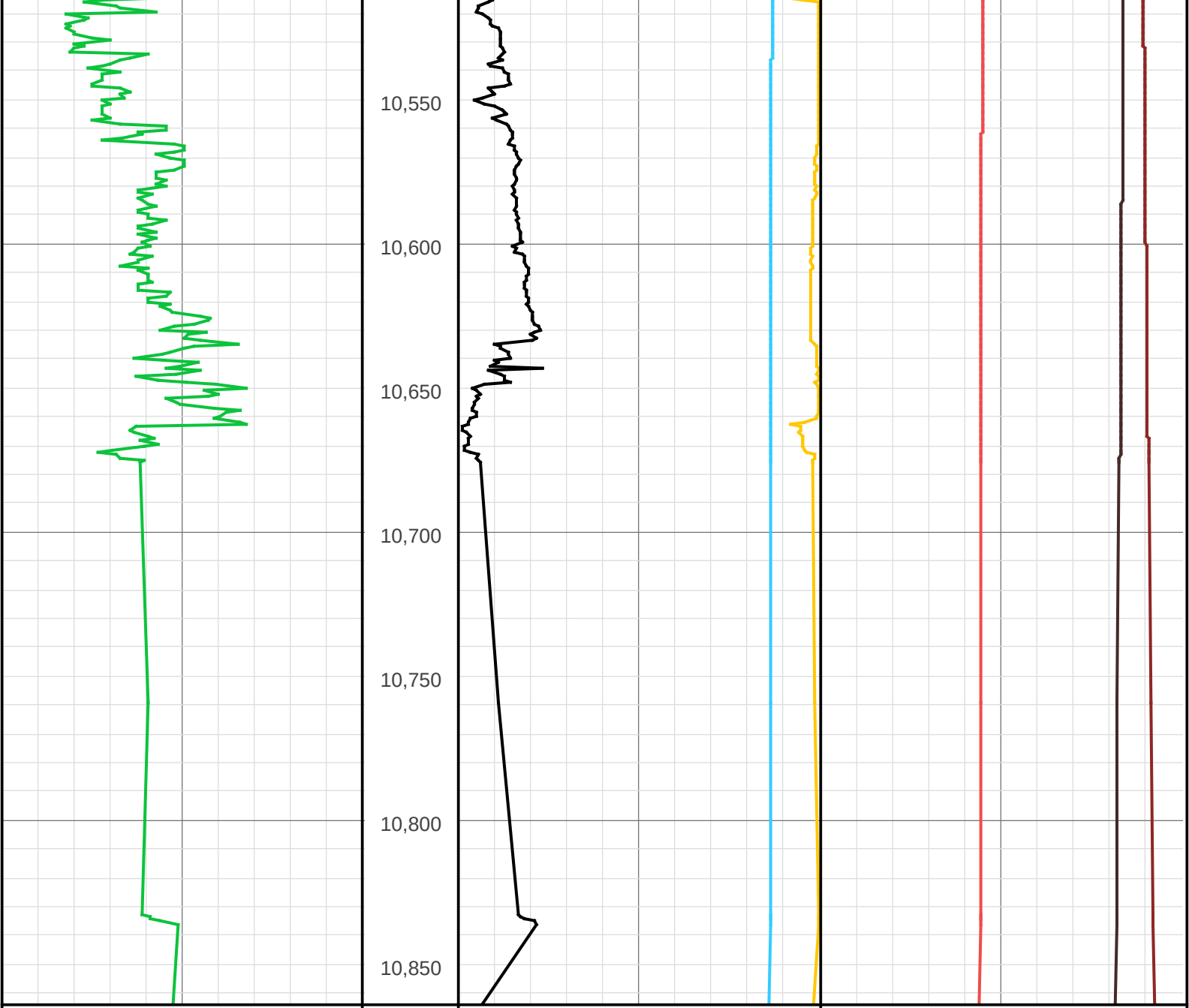
10,050
10,100
10,150
10,200
10,250
10,300
10,350
10,400
10,450
10,500


10,550
10,600
10,650
10,700
10,750
10,800
10,850
Gamma (API)
0
150
150
300
ROP (ft/hr)
0
500
500
1000
Surface RPM
300
0
Downhole RPM
300
0
Tempature (F)
0
300
Axial Shock (G)
50
0
Lateral Shock (G)
80
0

Gamma Ray

INTREPID Directional Drilling Specialists

Intrepid-DDS
10314 TX-191
Midland,TX 79707

5" = 100'
MD FT

Company: AEP
Well: Wool Head 20 State Com #512H
Field: Delaware Basin
API: 30-025-46492
County: Lea
State: New Mexico
Country: USA
Rig: HP 466
AFE: NM0093
Job: ID2389

Company: AEP
Well: Wool Head 20 State Com #512H
Field: Delaware Basin
API: 30-025-46492
County: Lea
State: New Mexico
Country: USA
Rig: HP 466

Well Location NAD 1927

Latitude: 32° 27' 29.103 N Longitude: 103° 35' 19.292 W
Y: 531183.00 X: 771015.1

Section: 20 Twnship: 21-S Rnge: 33-E

Permanent Datum: Mean Sea Level Kelly Bushing Elev: N/A
Log Measured From: Rotary Table Drill Floor Elev: 3752.5
Height of Reference: 26.5 Ground Level Elev: 3726

Depth Drilled: 1.0 to: 18660.0
Depth Logged: 5100.0 to: 18660.01
Date Logged: 13 Nov 2019 23:53 to: 14 Jan 2020 10:32

Disclaimer: Intrepid DDS uses its best efforts to provide customers with accurate information and interpretations with services performed but does not warranty the accuracy of information or interpretations.

Hole Data			Casing Data		
Size	From (MD)	To (MD)	Size	From (MD)	To (MD)
17.5	100	1838	13 3/8	100	1838
12 1/4	1838	5282	9 5/8	1838	5282
8.5	5282	18660	5 1/2	5282	18660

Run Data

Run Name	MWD Run 1	MWD Run 2	MWD Run 3	MWD Run 4	MWD Run 5	MWD Run 6	MWD Run 7			
Start Date	13 Nov 2019	21 Nov 2019	1 Dec 2019	5 Jan 2020	7 Jan 2020	8 Jan 2020	9 Jan 2020			
Start Time	1:45	08:45	7:30	23:00	2:15	04:00	03:45			
End Date	14 Nov 2019	22 Nov 2019	3 Dec 2019	7 Jan 2019	8 Jan 2020	9 Jan 2020	14 Jan 2019			
End Time	22:00	22:15	05:00	1:45	2:30	2:15	02:30			
Depth In	1.0	1852	5282	10555	10715	10908	11214			
Depth Out	1838	5282	10555	10715	10908	11214	18660			
Log Top			5217	10502	10680	10872	11177			
Log Bottom			10502	10680	10872	11177	18613			
Hole Size	17.5	12.25	8.5	8.5	8.5	8.5	8.5			

Tool Data

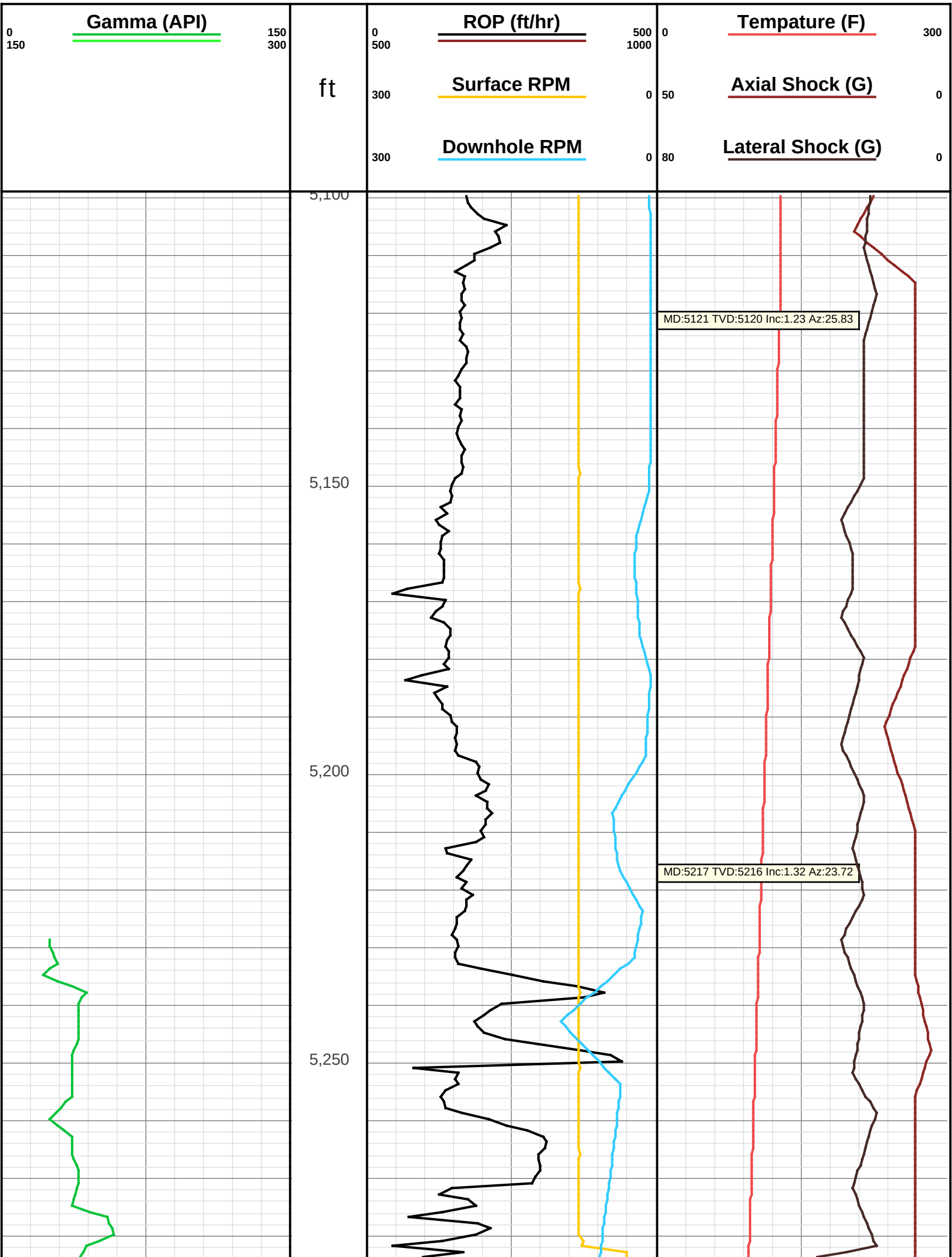
Run Name	MWD Run 1	MWD Run 2	MWD Run 3	MWD Run 4	MWD Run 5	MWD Run 6	MWD Run 7	
Directional Sensor SN	20125-R	20125-R	20120-R	20129-R	20129-R	20129	20124	
Directional Offset	68	65	63	47	47	48	58	
Gamma Sensor SN	N/A	N/A	352-R	691-R	688-R	617	688	
Gamma Offset			53	35	36	37	47	
Gamma Corr. Factor	1.0	1.0	3.661	3.79	3.82	3.65	3.65	

Mud Data

Run Name	MWD Run 1	MWD Run 2	MWD Run 3	MWD Run 4	MWD Run 5	MWD Run 6	MWD Run 7	
Mud Type	Water Based	Water Based	Water Based	Oil Based	Oil Based	Oil Based	Oil Based	
Mud Density (lb/gal)	10.0	10.4	9.2	9.6	9.6	9.7	9.5	
Funnel Visc. (s/qt)	41	29	1	61	61	70	65	
Plastic Visc. (cP)	4	2	1	14	14	17	15	
pH	8.1	10.2	11	N/A	N/A	NA		
Chlor. Whole Mud (mg/L)	1800	188000	73,000	48,000	48,000	45000	46000	
API Filtrate (cm3/30)	99	99	99/2	N/A	N/A	99/2	7.8	
Max MWD Temp (F)	370.6	420.6	142.0	122.0	120.2	122.0	190.8	

Personnel

Run Name	MWD Run 1	MWD Run 2	MWD Run 3	MWD Run 4	MWD Run 5	MWD Run 6	MWD Run 7	
MWD Operator 1	Ben Wallace	Michael Walton	Michael Walton	Michael Walton	Michael Walton	Ben Wallace	Ben Wallace	
MWD Operator 2	Mike Walton	Jospeh Hatley	Jospeh Hatley	Dustin Loomis	Dustin Loomis	Joe Hatley	Joe Hatley	
MWD Operator 3								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150
150
300
ft
ROP (ft/hr)
0
500
500
1000
Surface RPM
300
0
Downhole RPM
300
0
Tempature (F)
0
300
Axial Shock (G)
50
0
Lateral Shock (G)
80
0
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5,250
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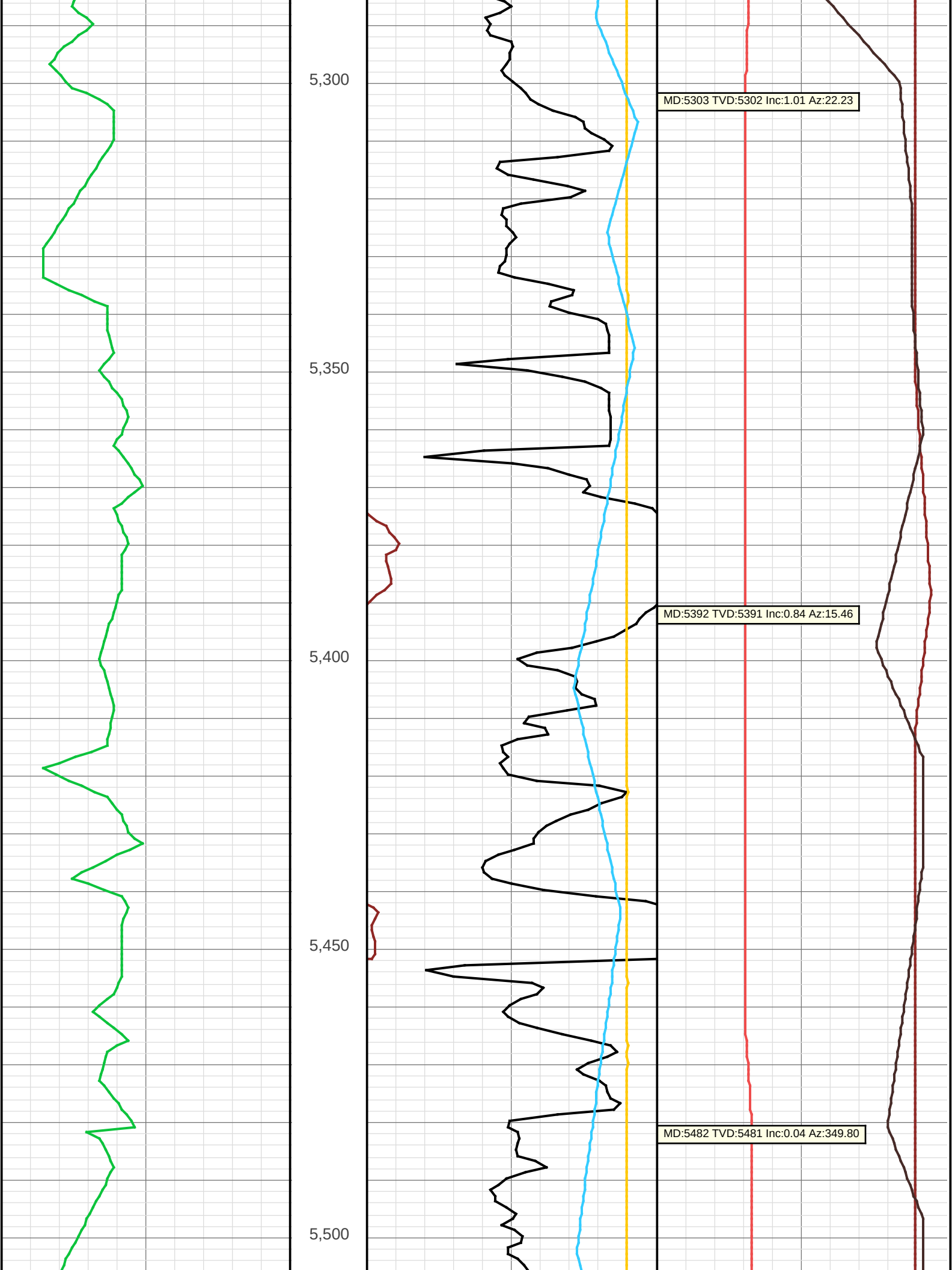
MD:5217 TVD:5216 Inc:1.32 Az:23.72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5,350
5,400
5,450
5,500
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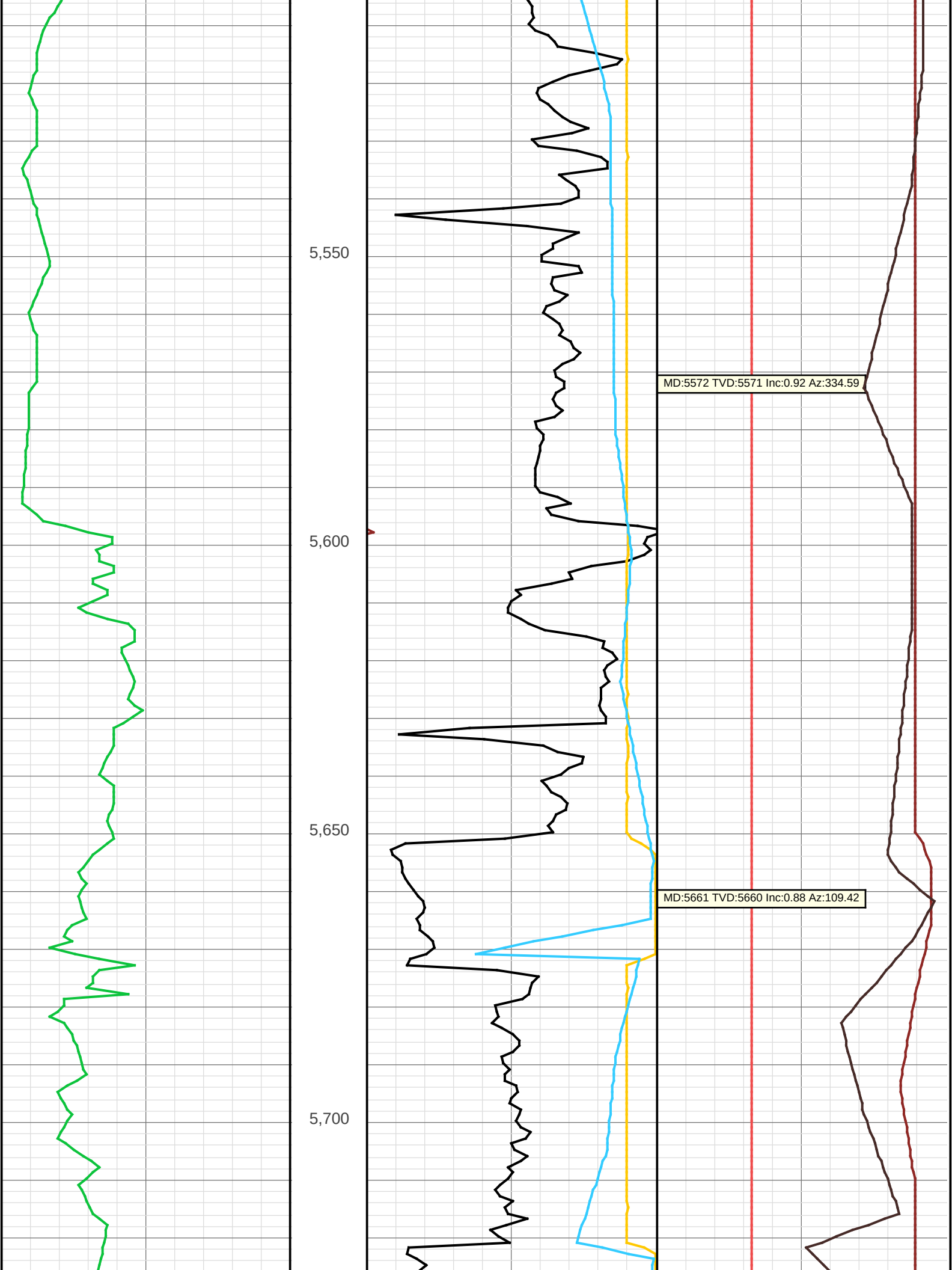
MD:5392 TVD:5391 Inc:0.84 Az:15.46
MD:5482 TVD:5481 Inc:0.04 Az:349.80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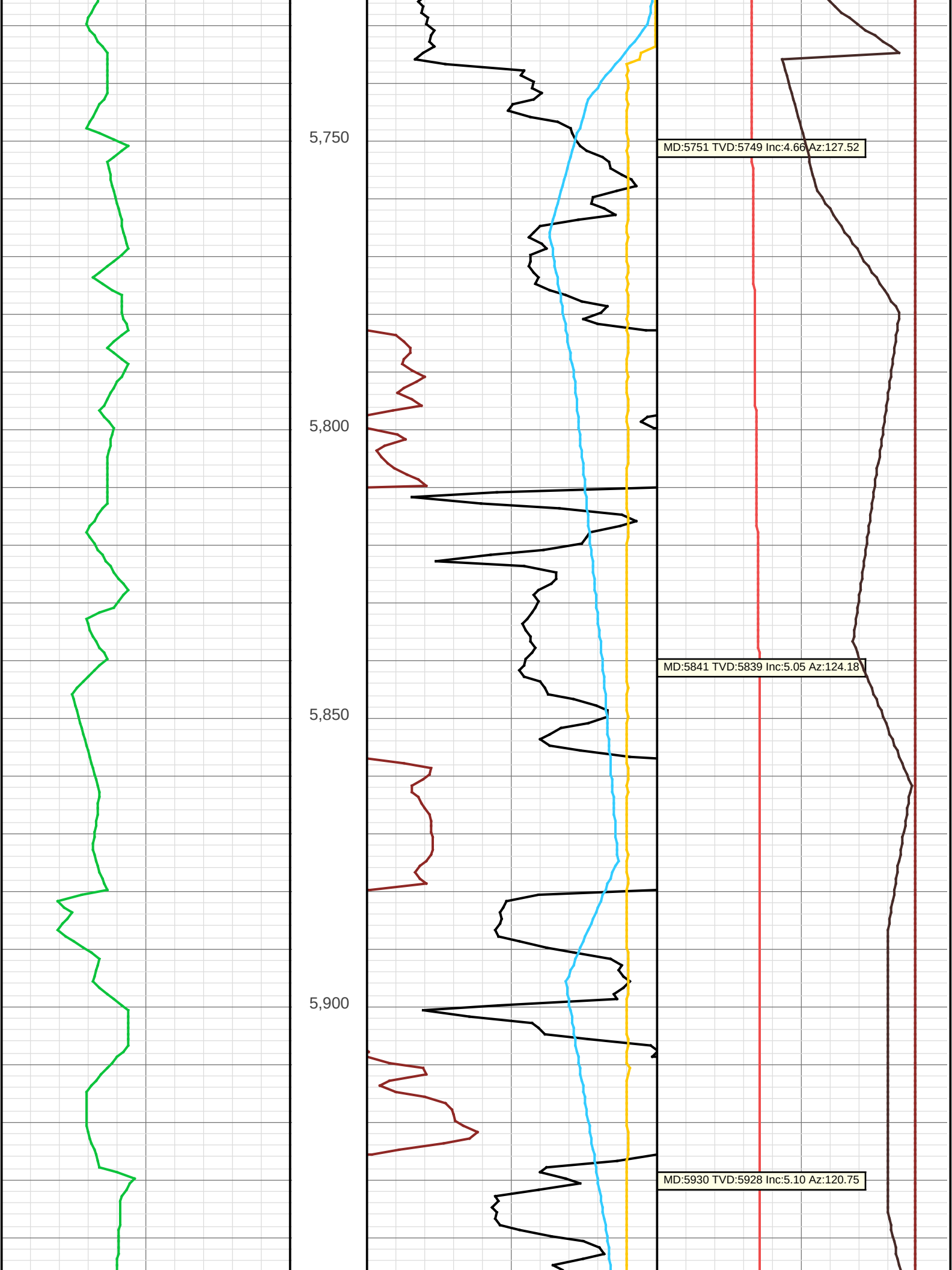
MD:5661 TVD:5660 Inc:0.88 Az:109.42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5,800
5,850
5,900
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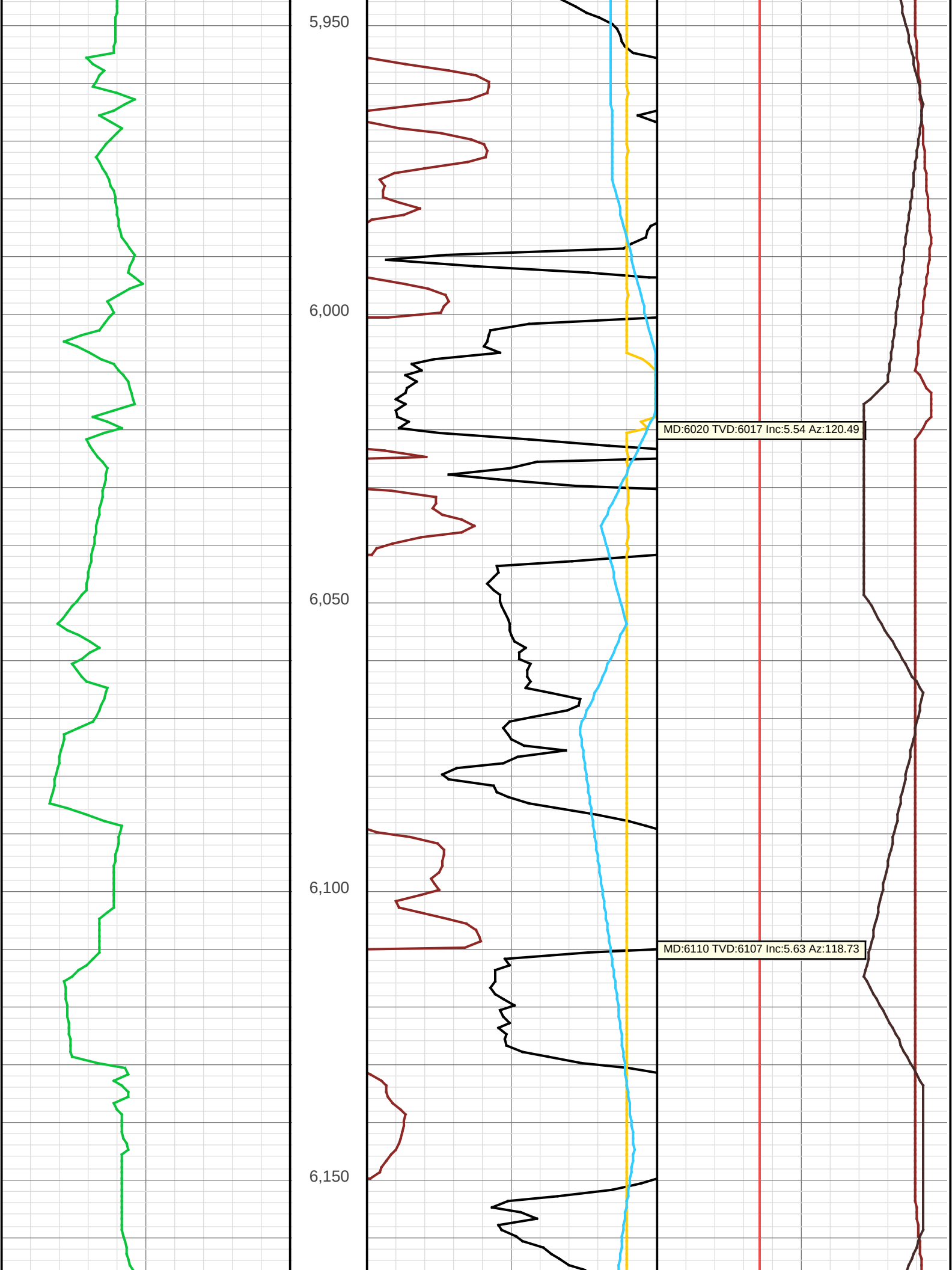
MD:5841 TVD:5839 Inc:5.05 Az:124.18
MD:5930 TVD:5928 Inc:5.10 Az:120.75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6,000
6,050
6,100
6,150
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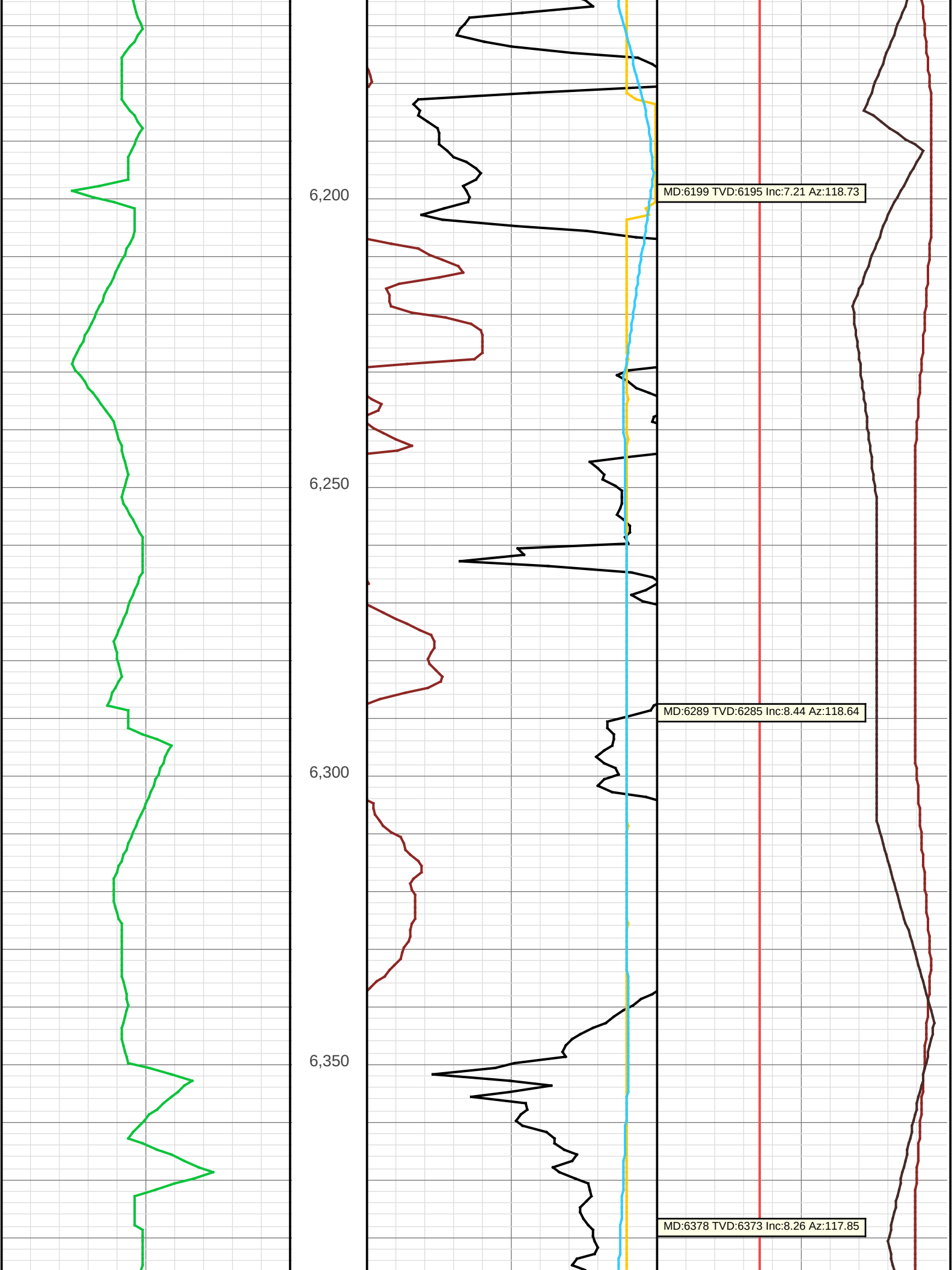
MD:6110 TVD:6107 Inc:5.63 Az:118.73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6,250
6,300
6,350
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MD:6289 TVD:6285 Inc:8.44 Az:118.64
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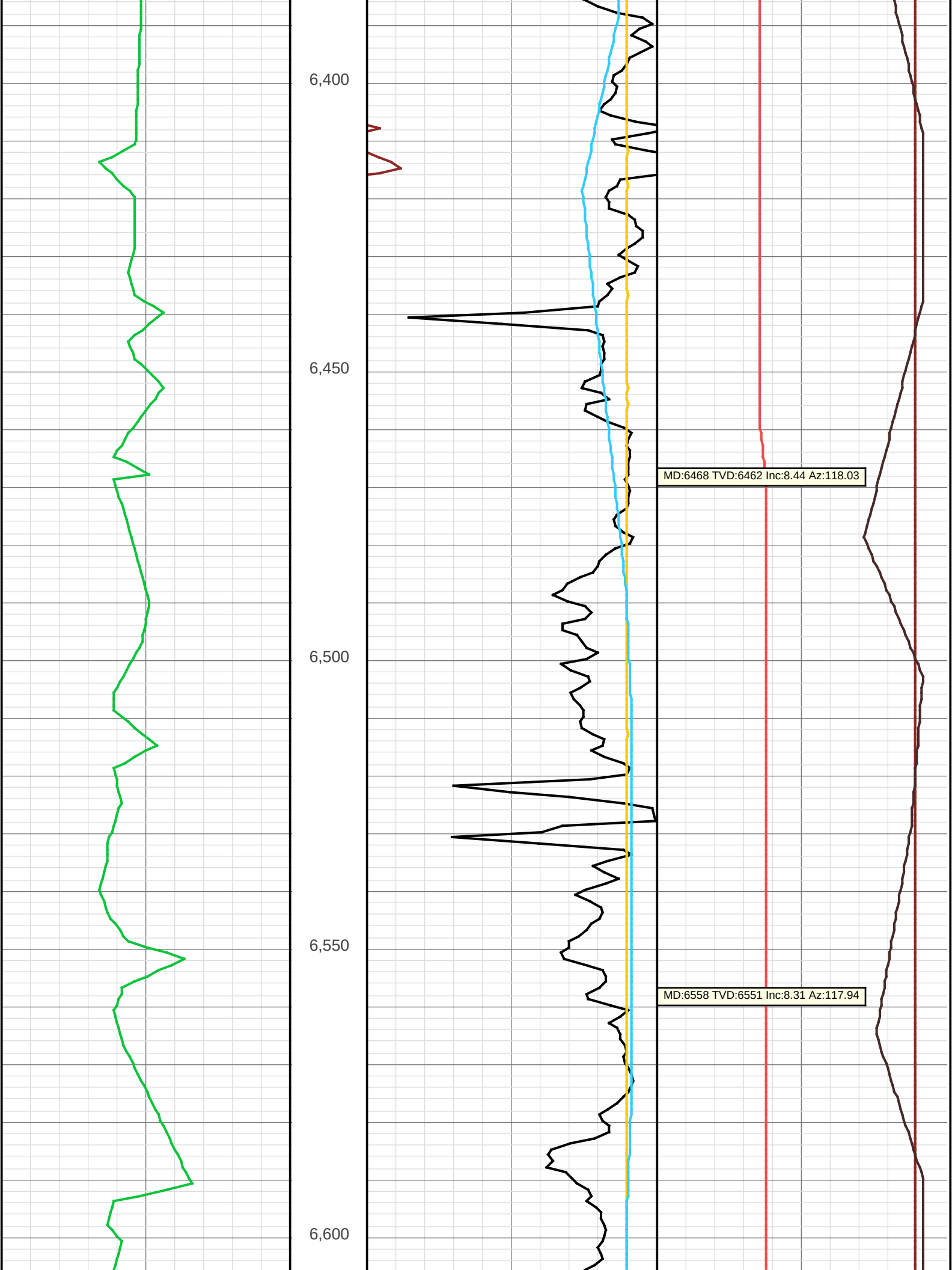
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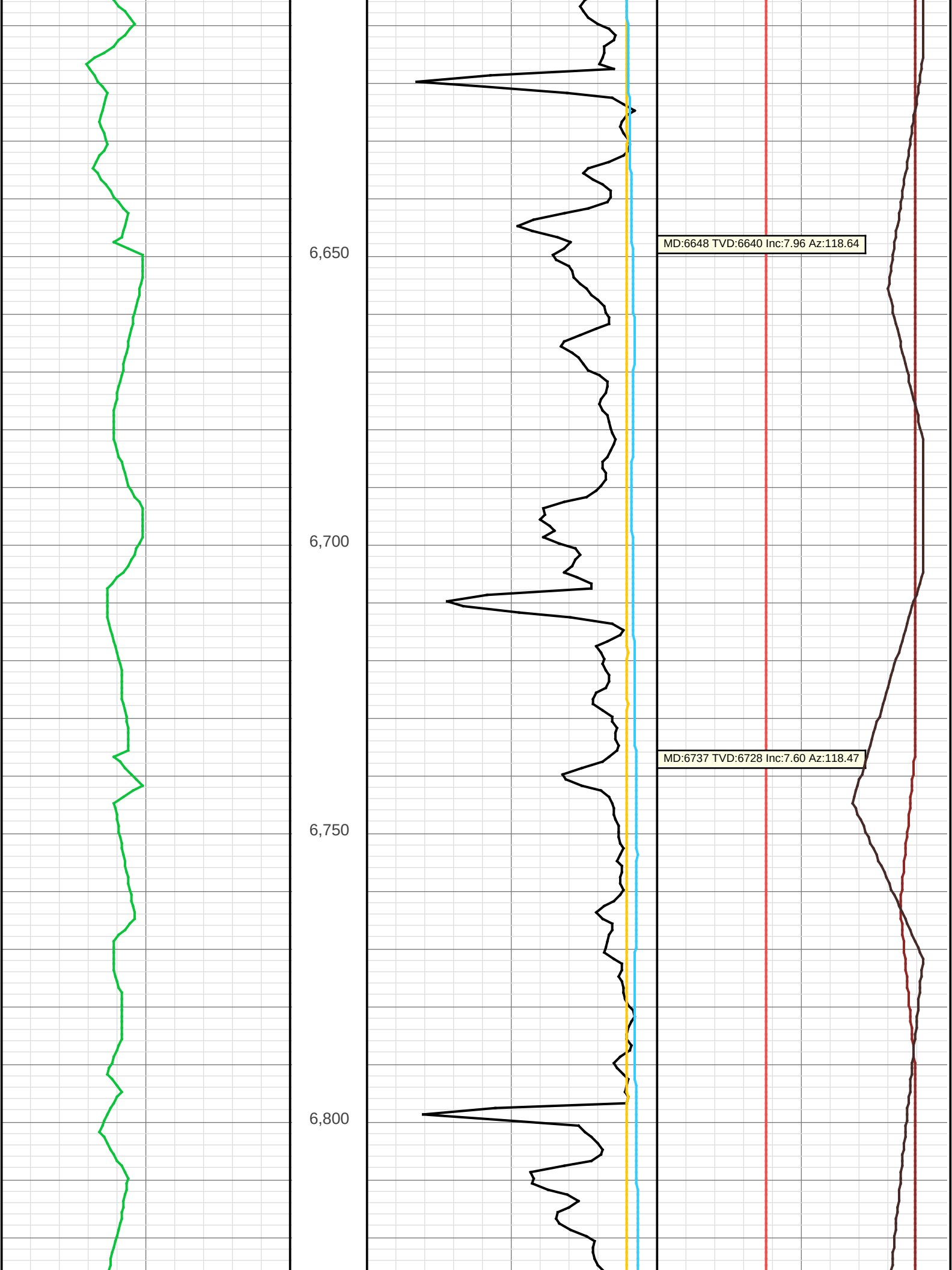
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6,700
6,750
6,800
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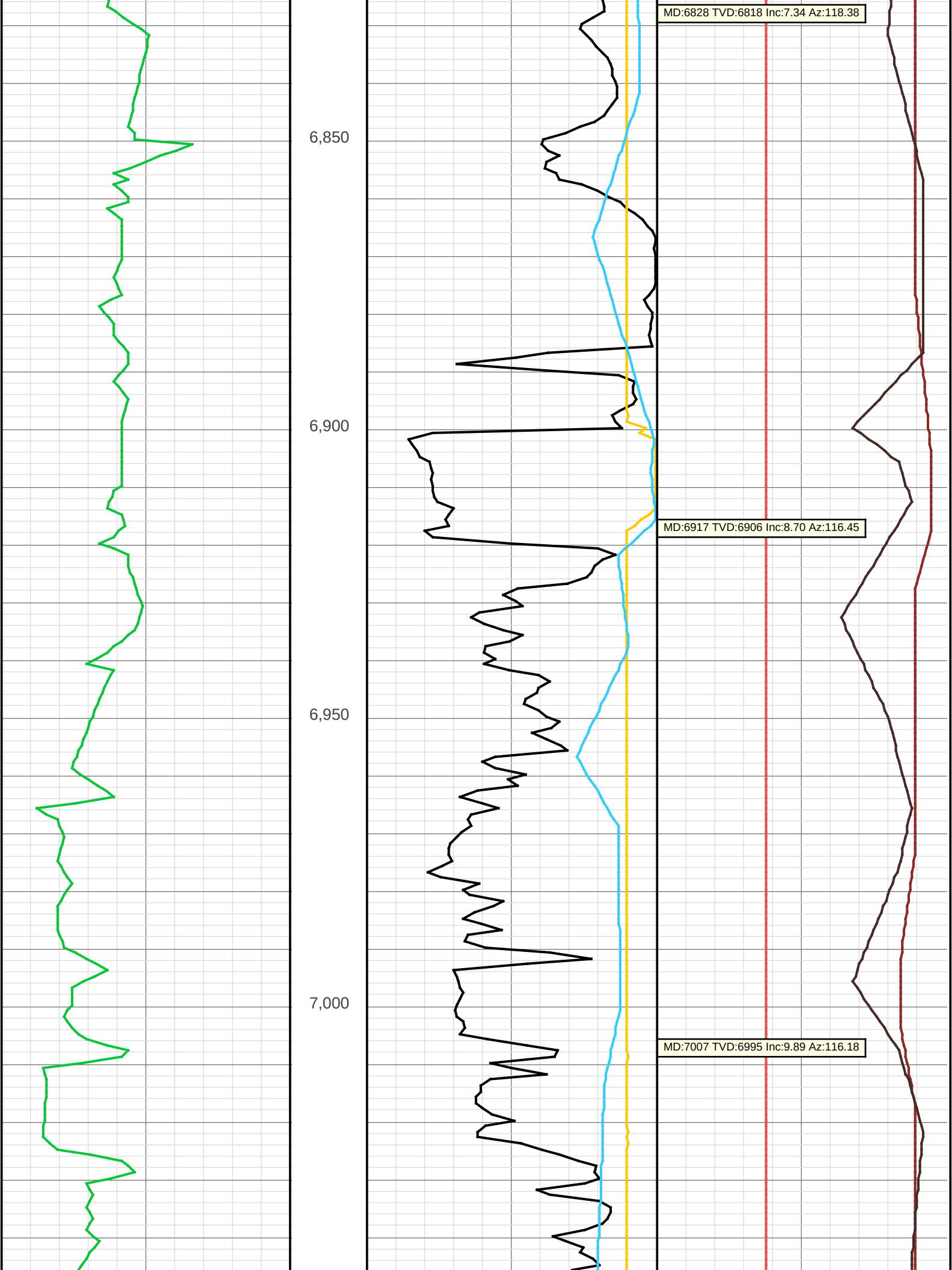
MD:6737 TVD:6728 Inc:7.60 Az:118.47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6,900
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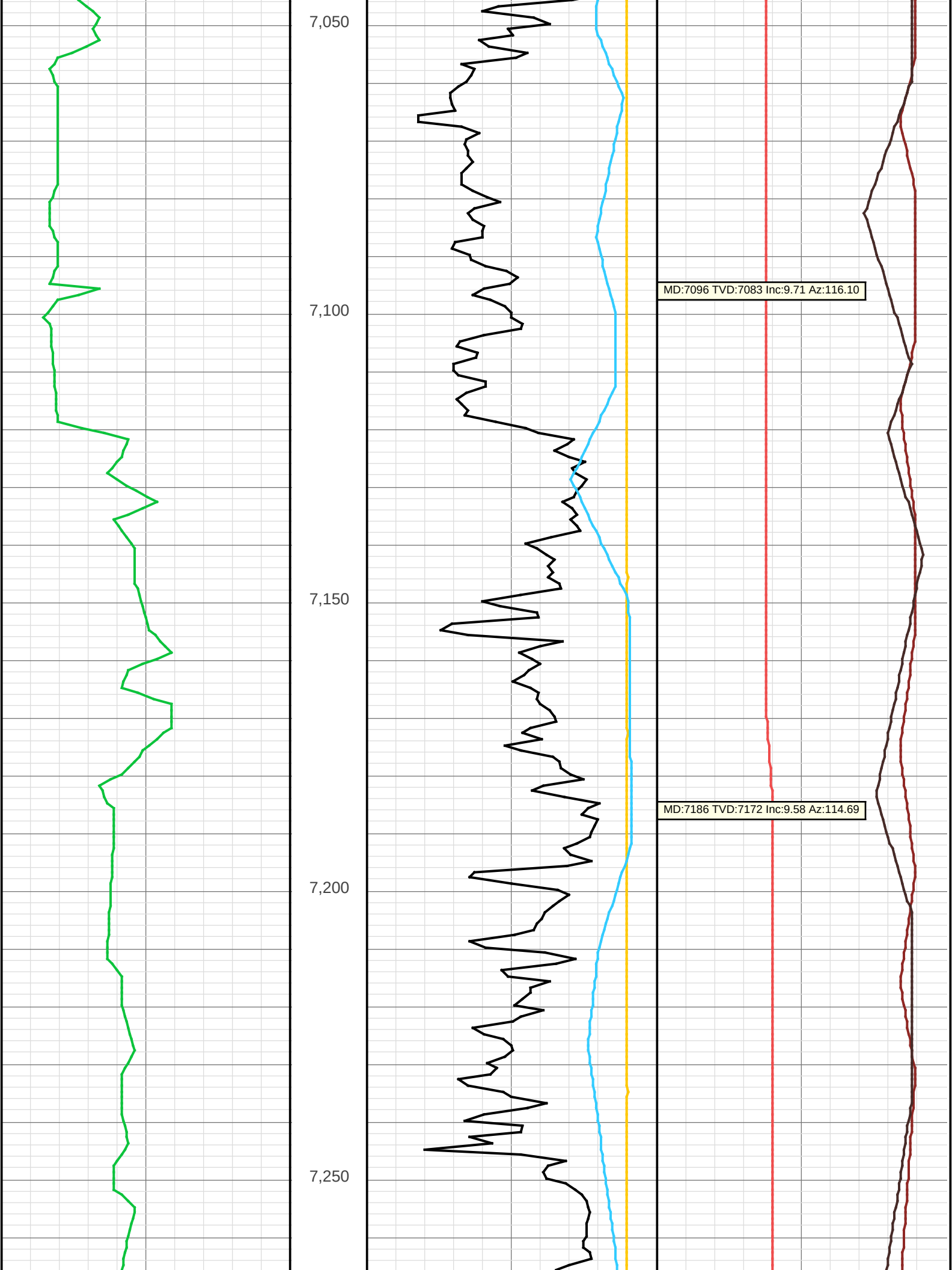
6,950
7,000
MD:7007 TVD:6995 Inc:9.89 Az:116.18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7,100
7,150
7,200
7,250
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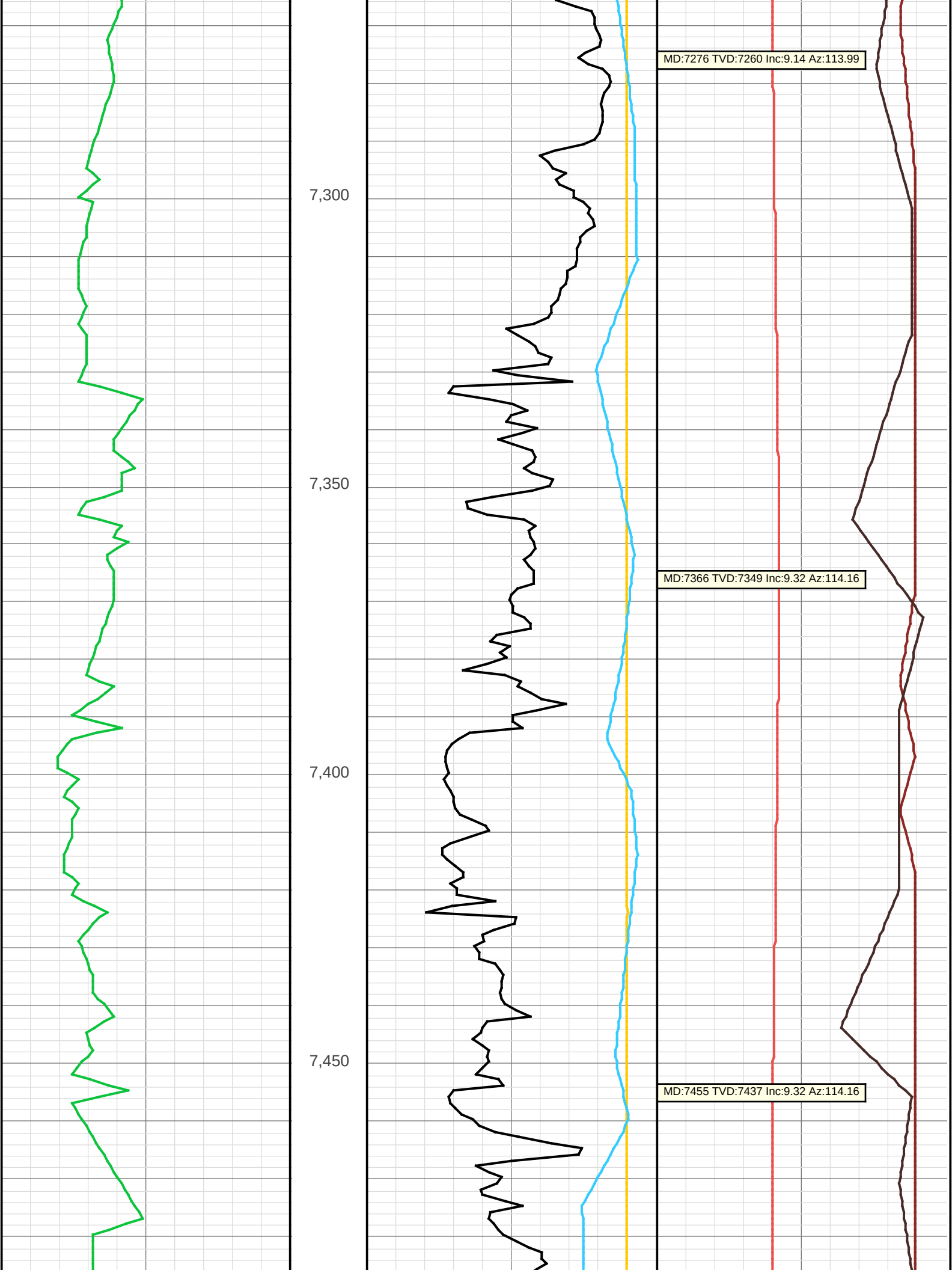
MD:7186 TVD:7172 Inc:9.58 Az:114.69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7,350
7,400
7,450
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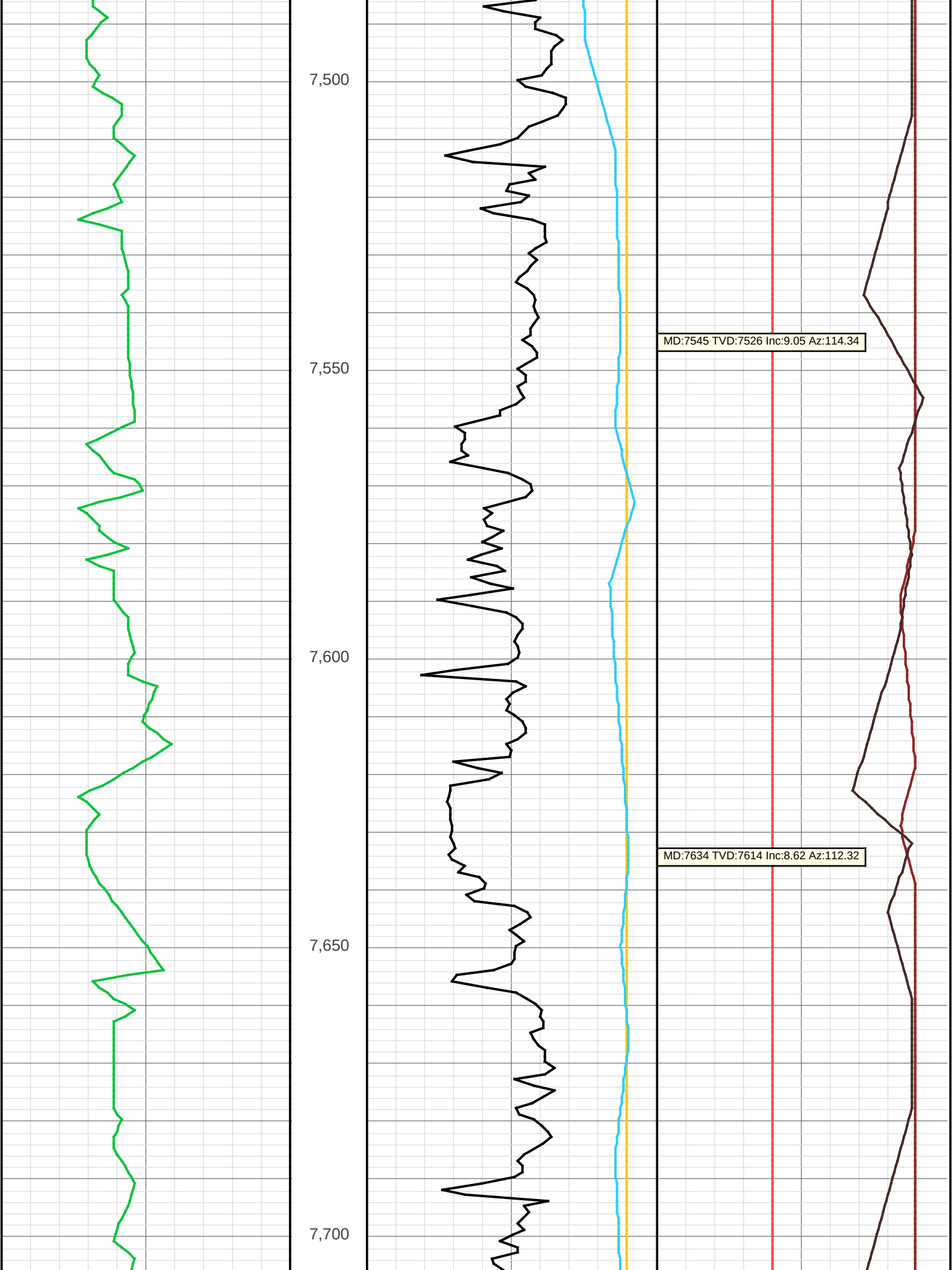
MD:7366 TVD:7349 Inc:9.32 Az:114.16
MD:7455 TVD:7437 Inc:9.32 Az:114.16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7,600
7,650
7,700
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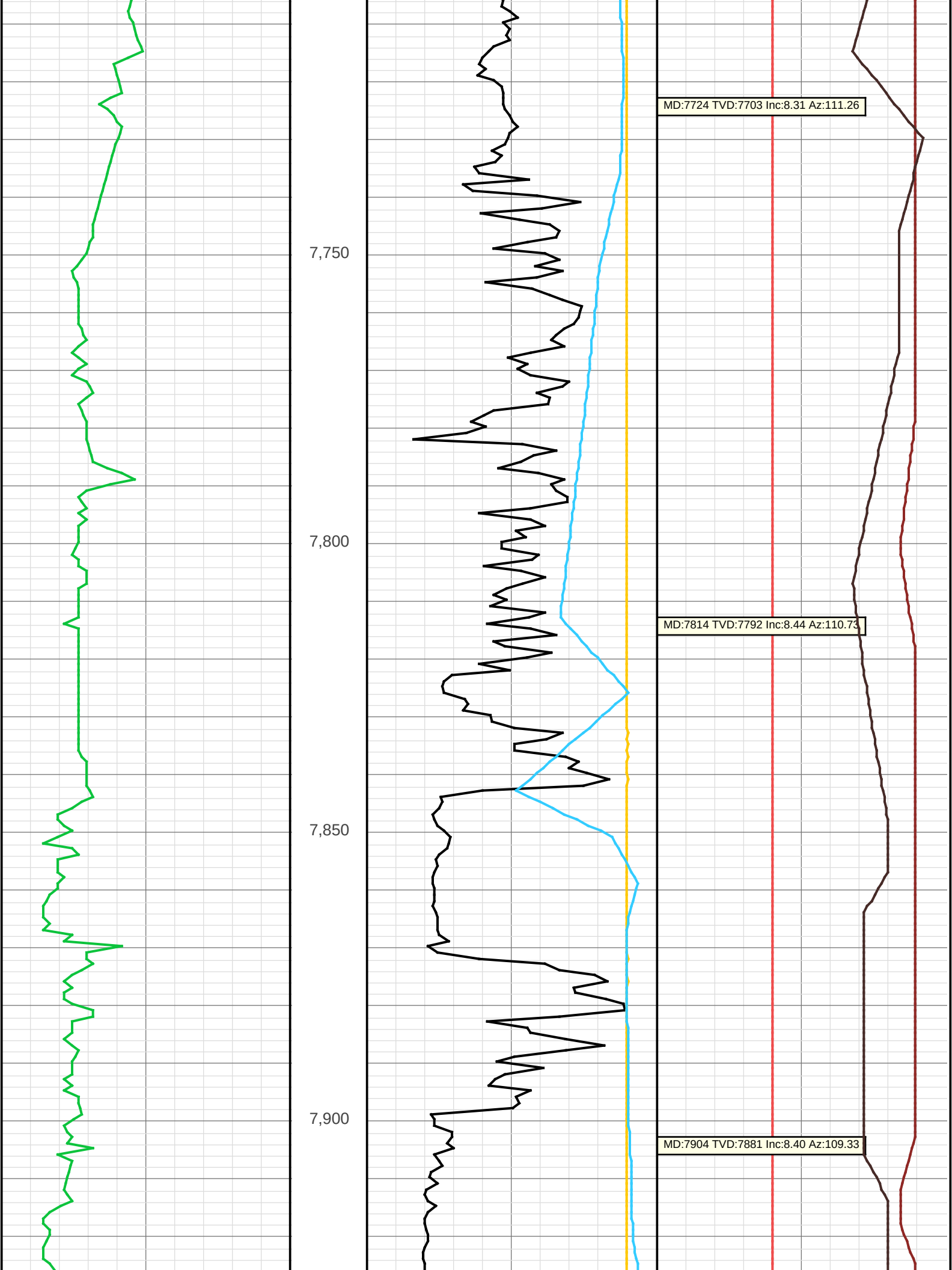
MD:7634 TVD:7614 Inc:8.62 Az:112.32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7,800
7,850
7,900
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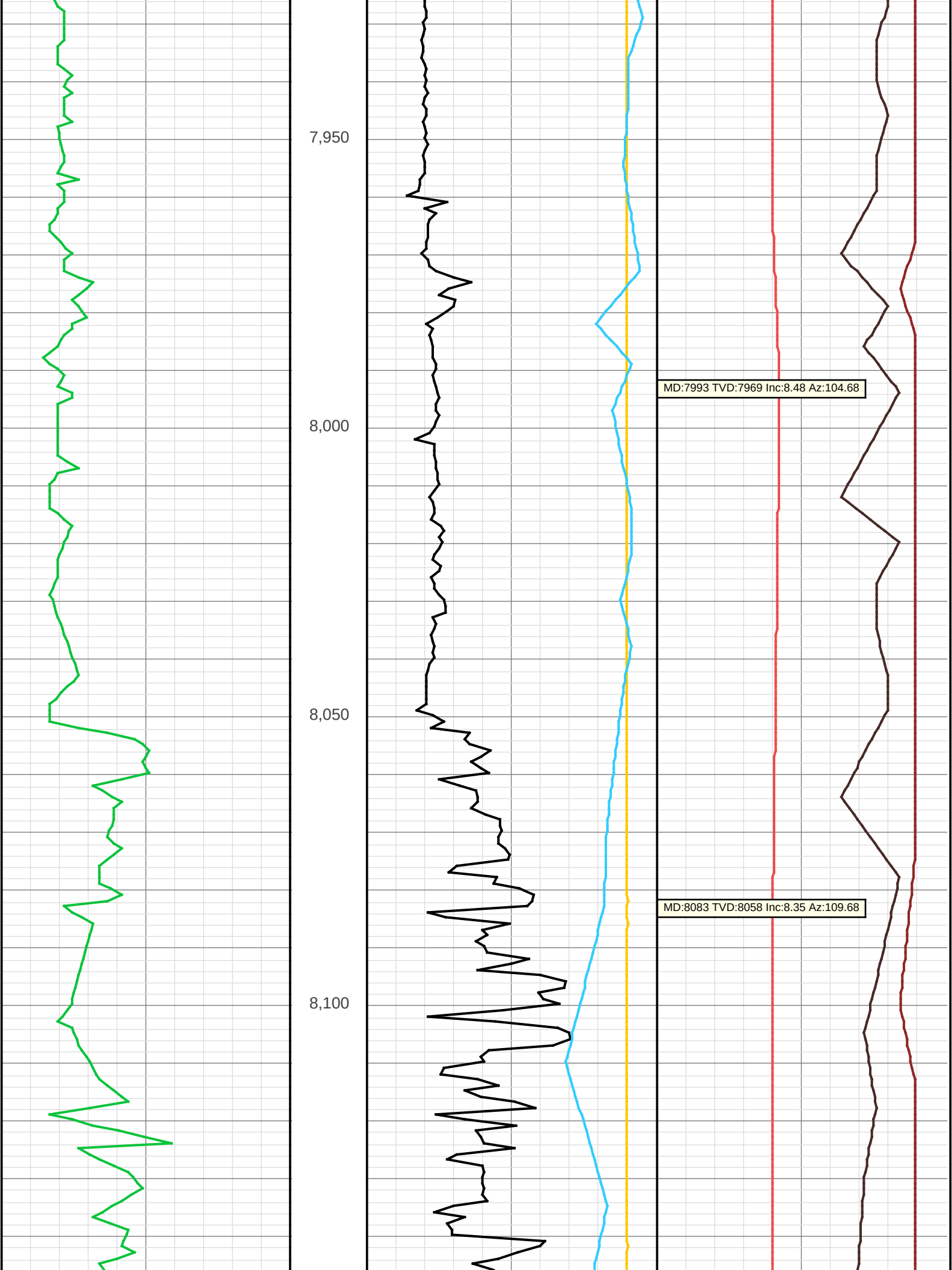
MD:7814 TVD:7792 Inc:8.44 Az:110.73
MD:7904 TVD:7881 Inc:8.40 Az:109.33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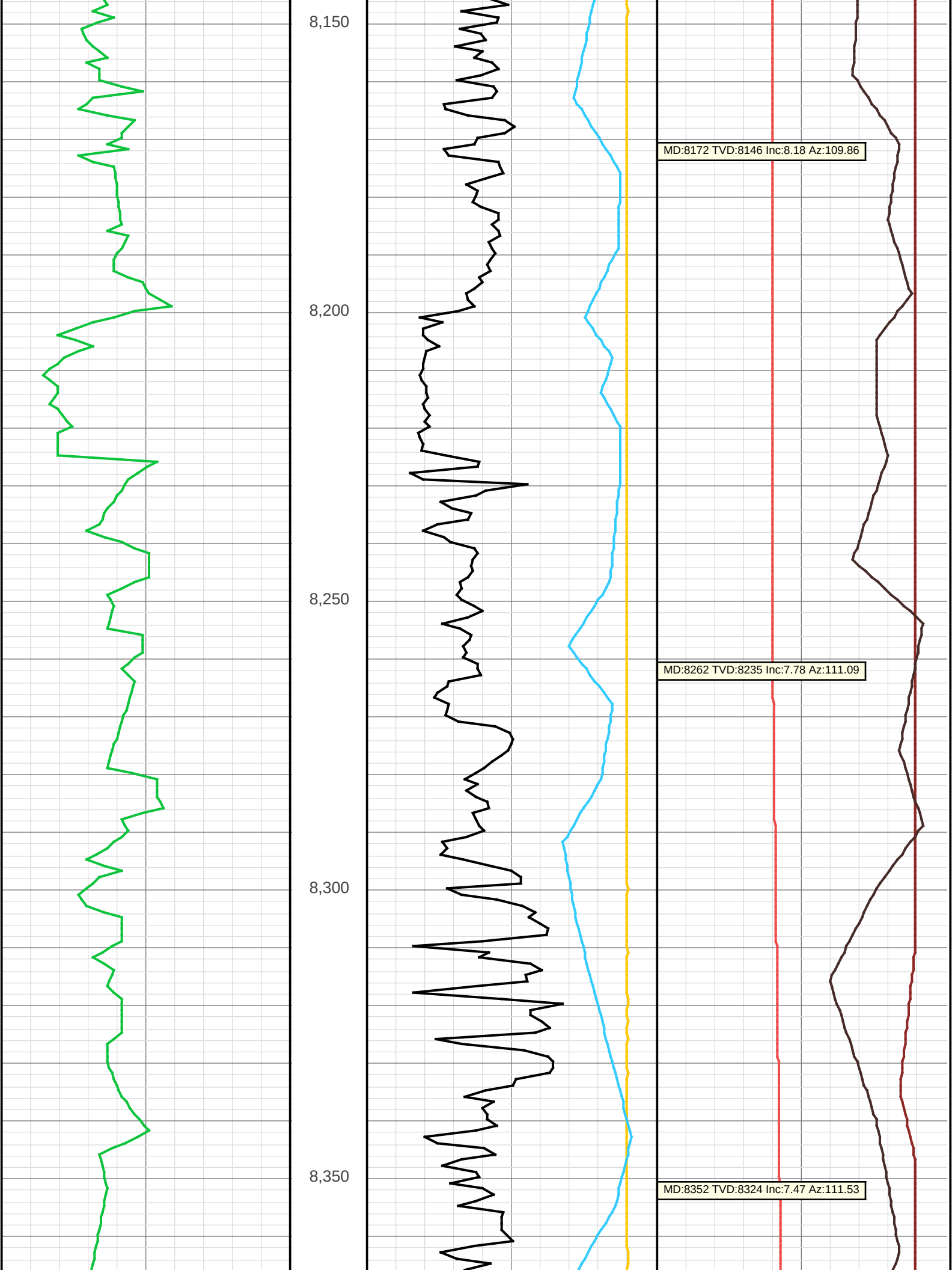
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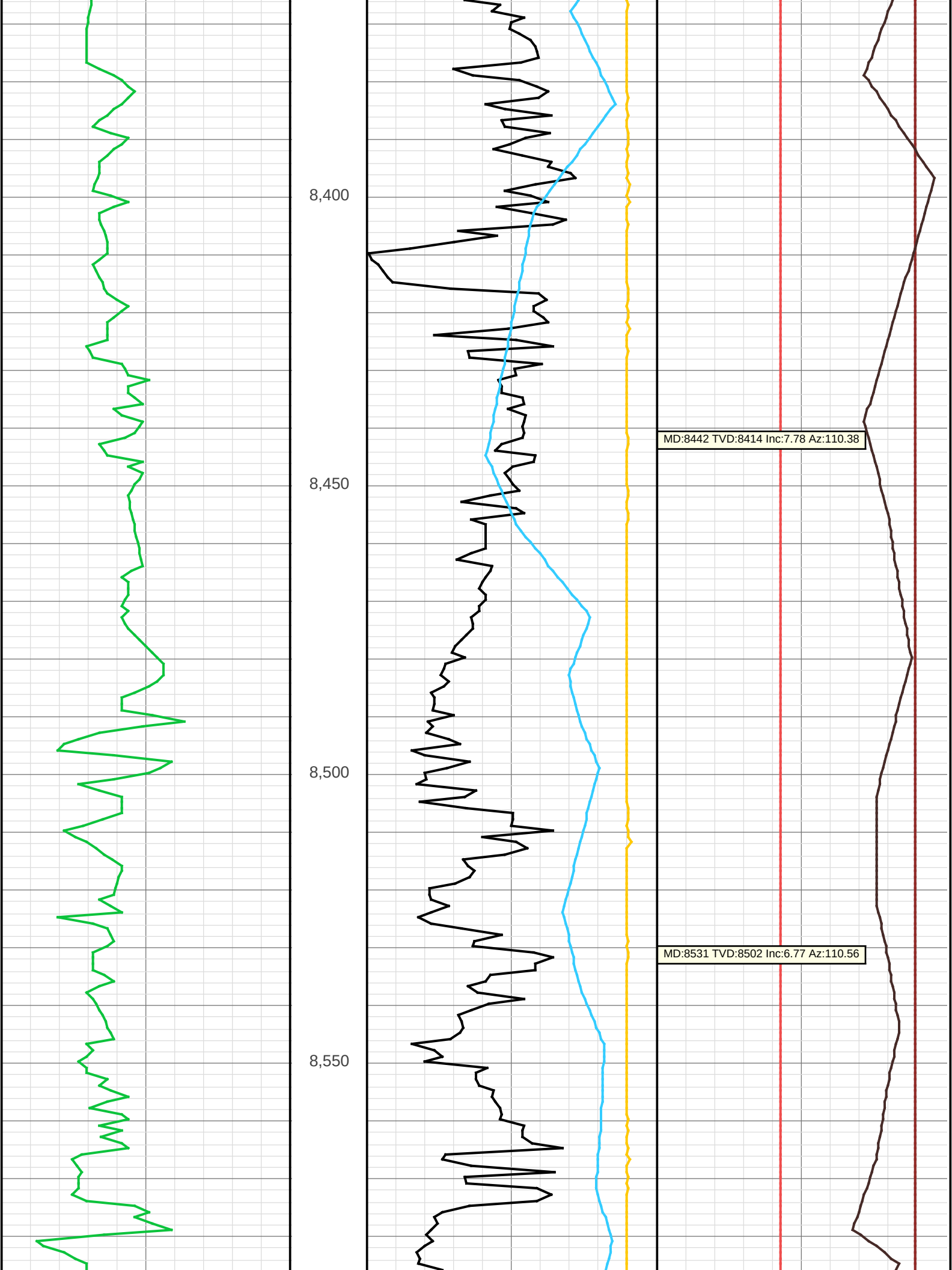
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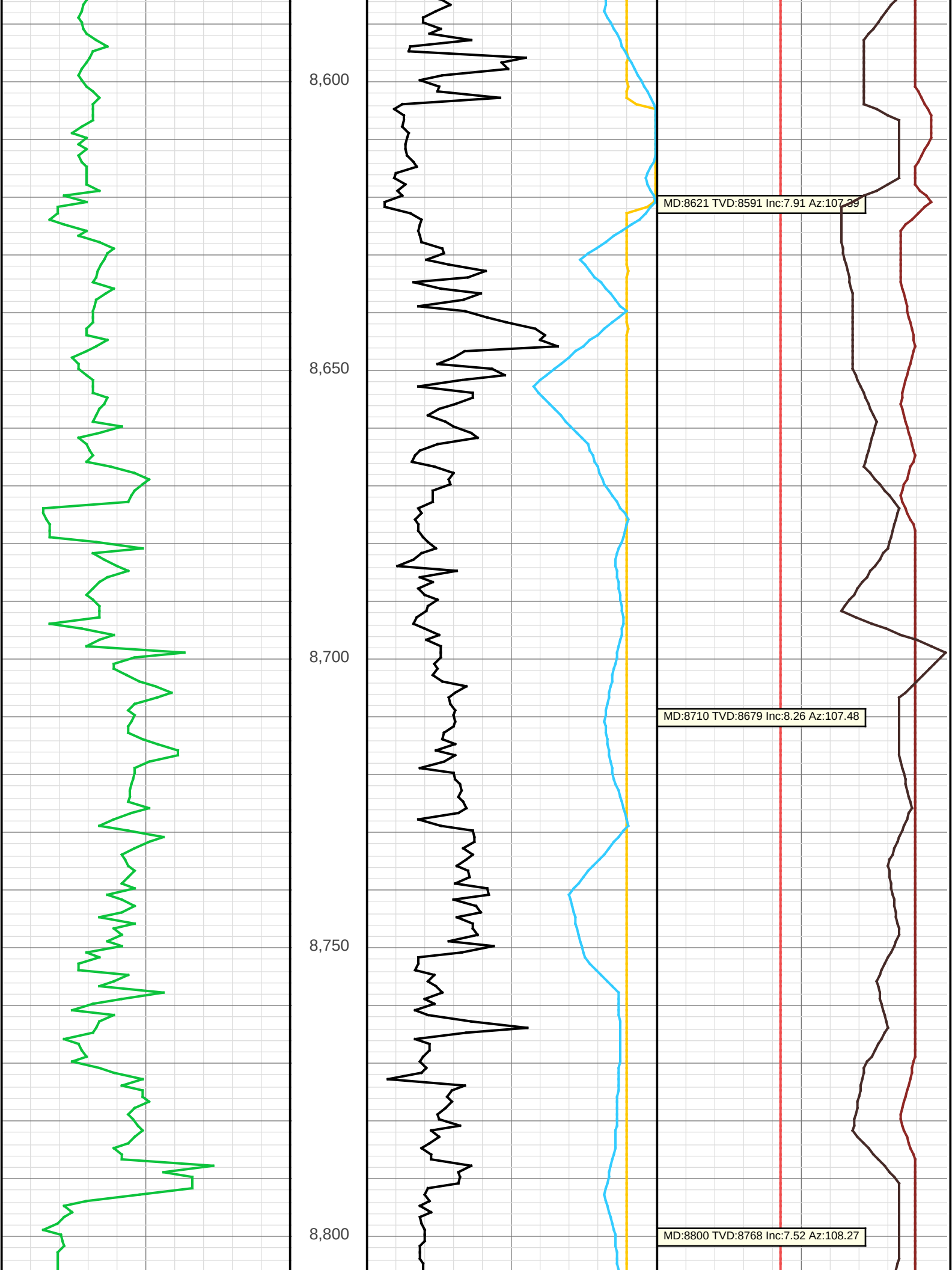
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8,750
8,800
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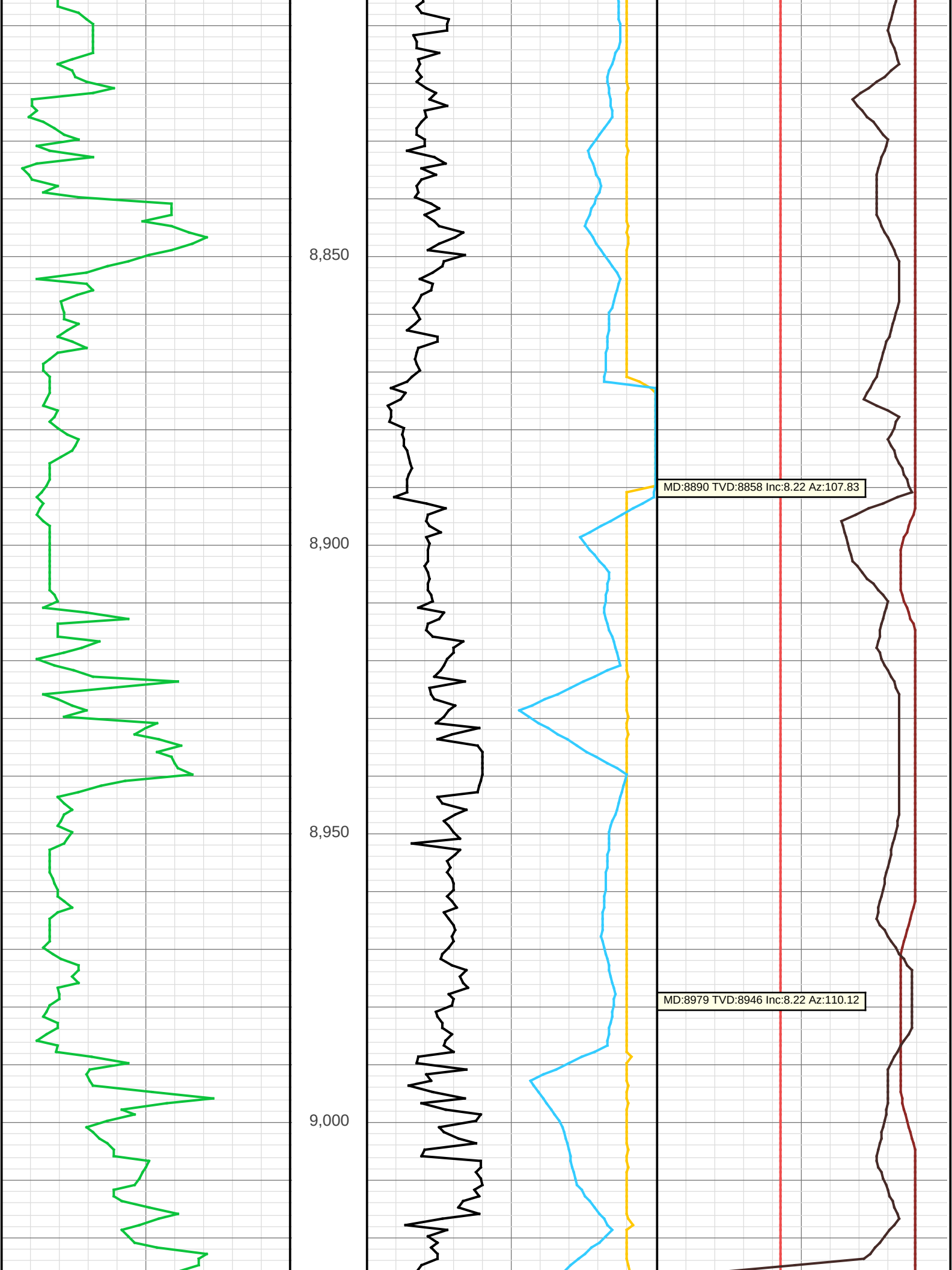
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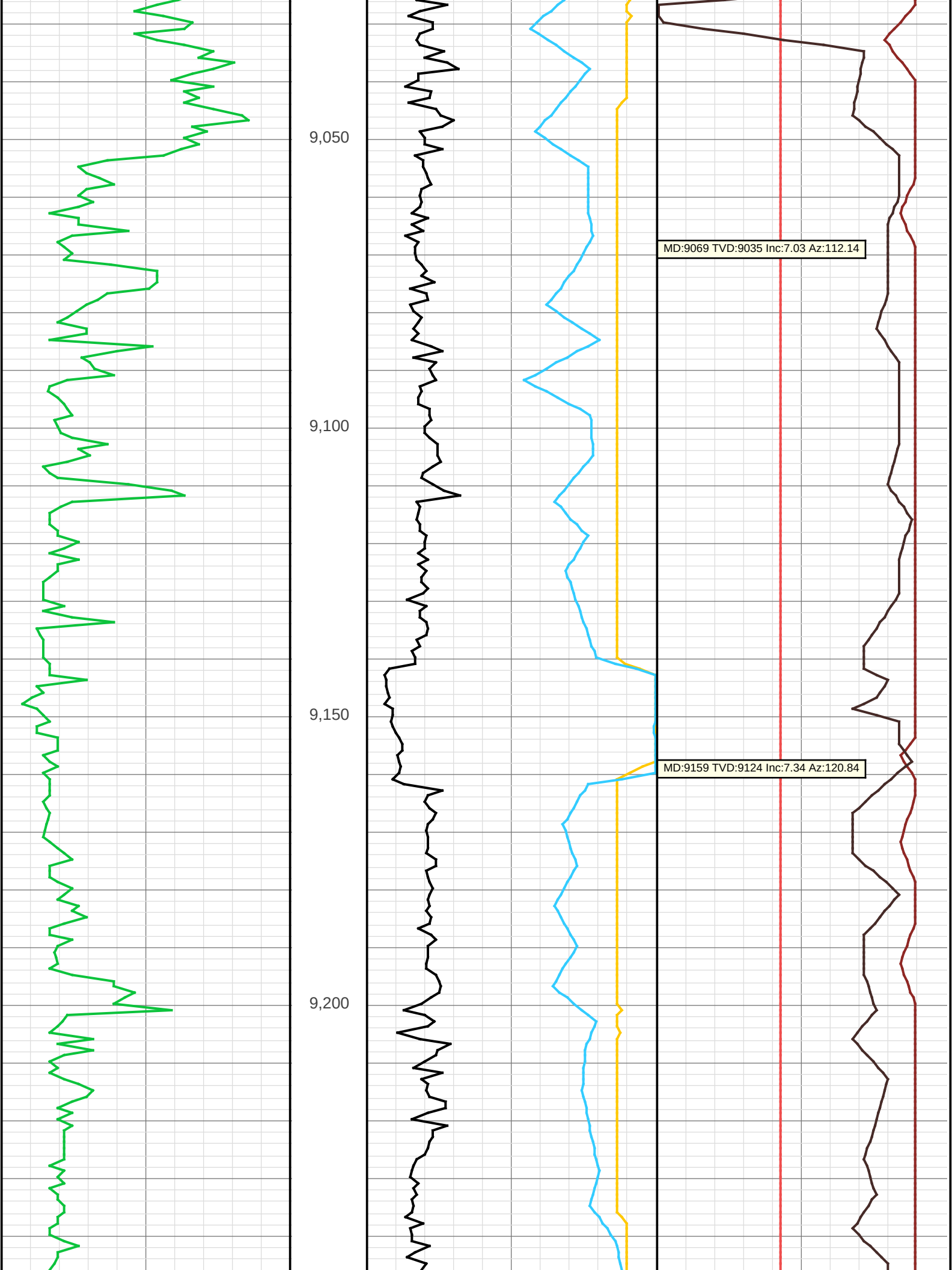
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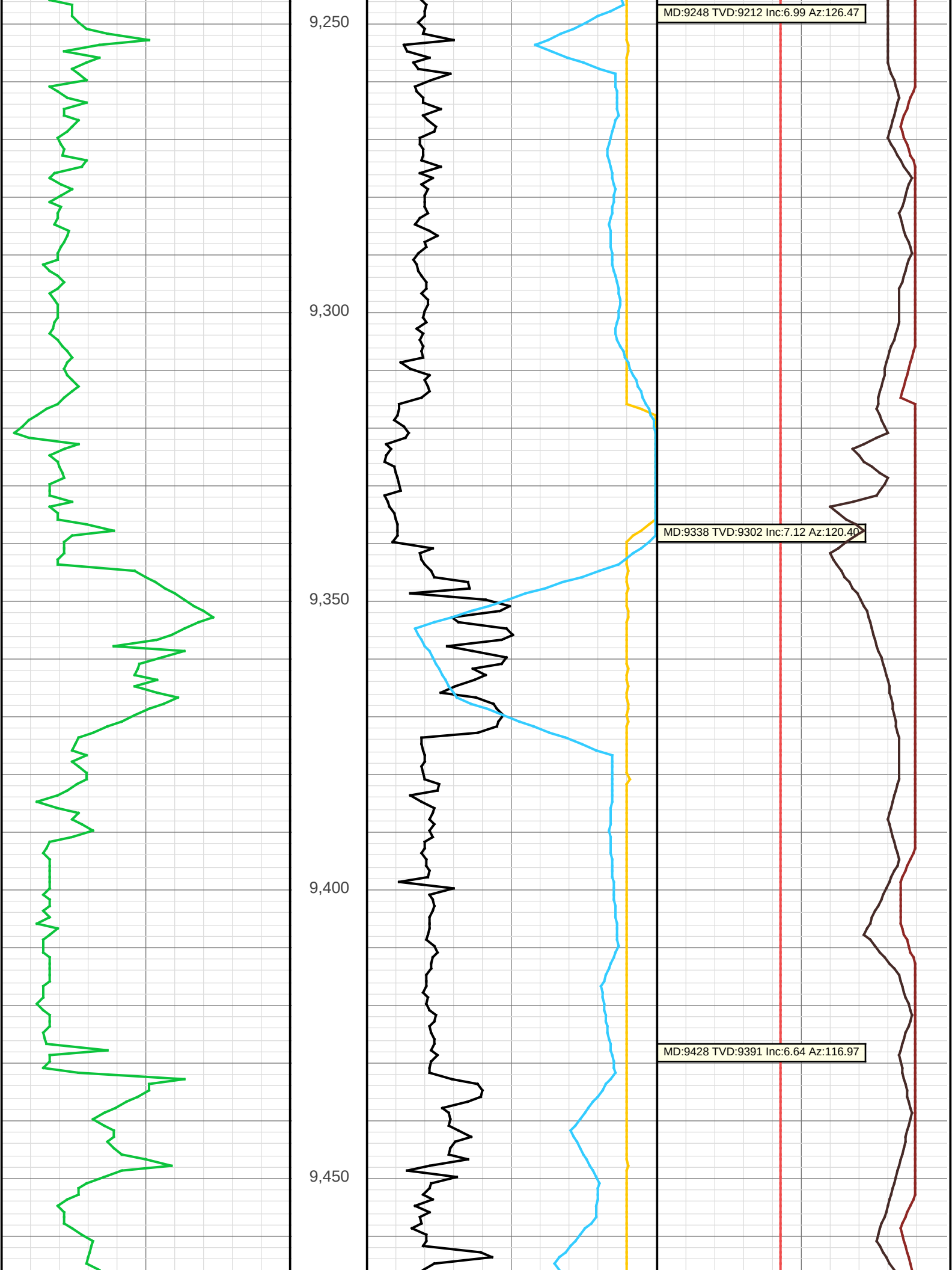
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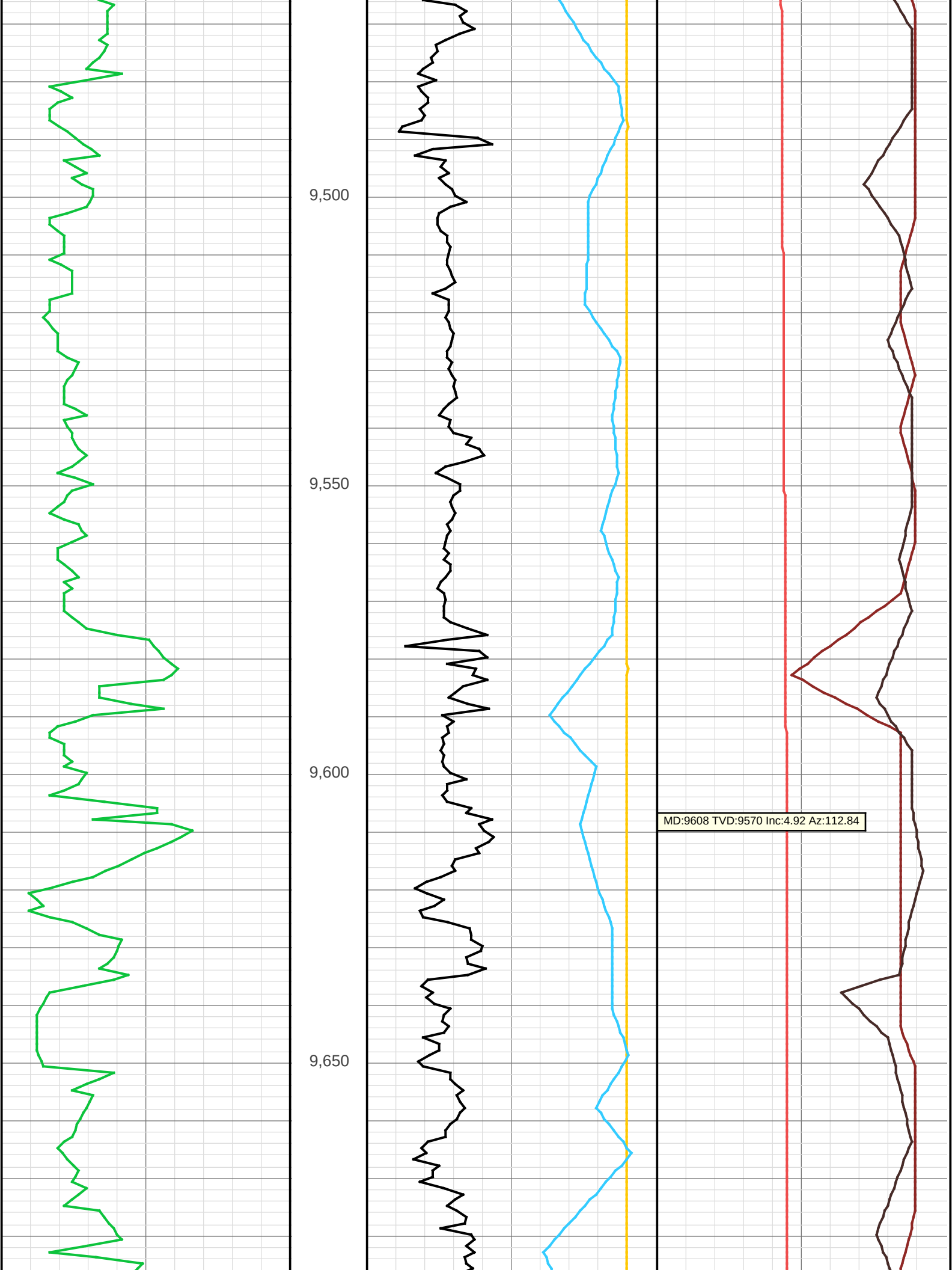
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9,650
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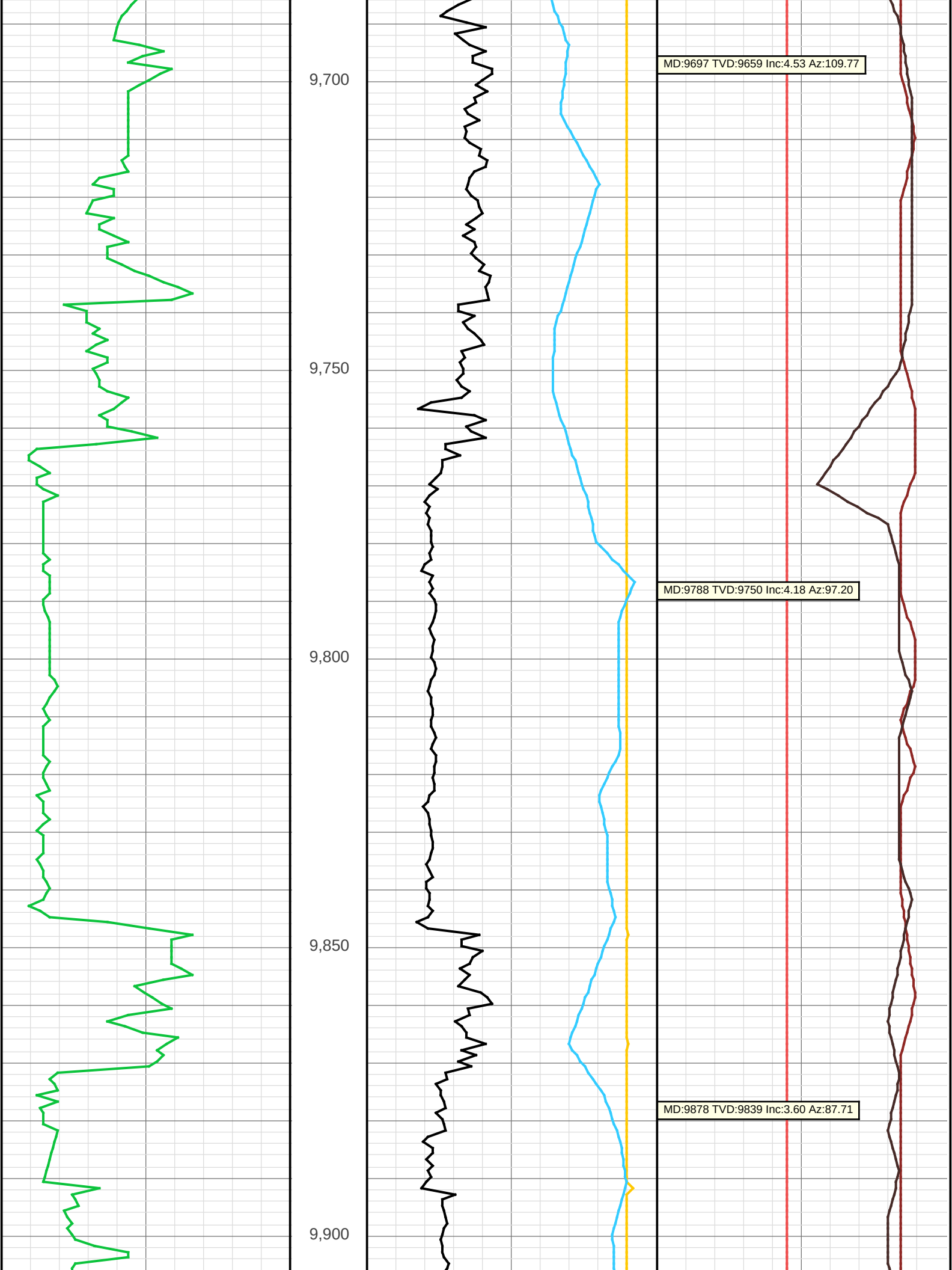
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9,750
9,800
9,850
9,900
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MD:9788 TVD:9750 Inc:4.18 Az:97.20
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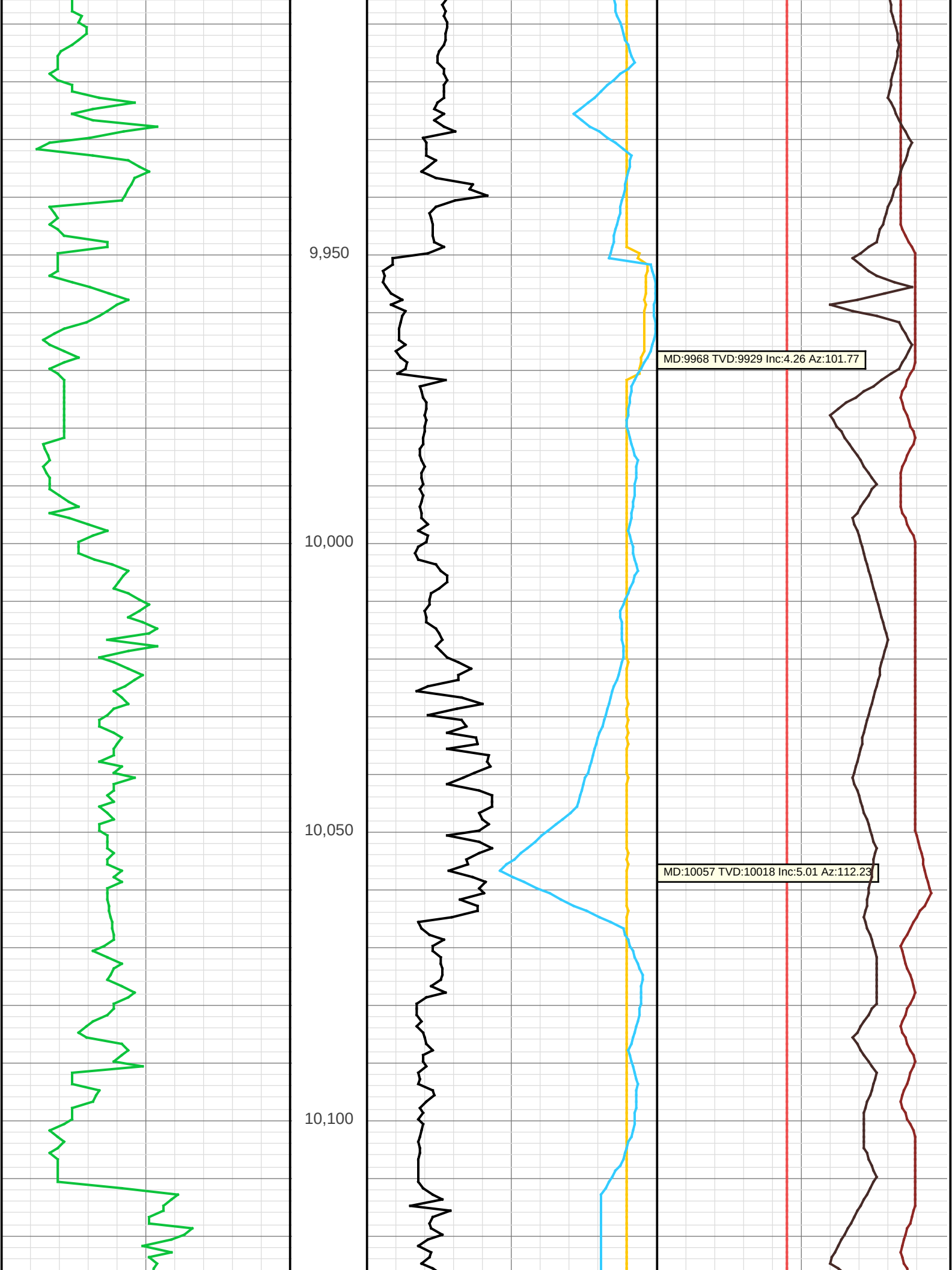
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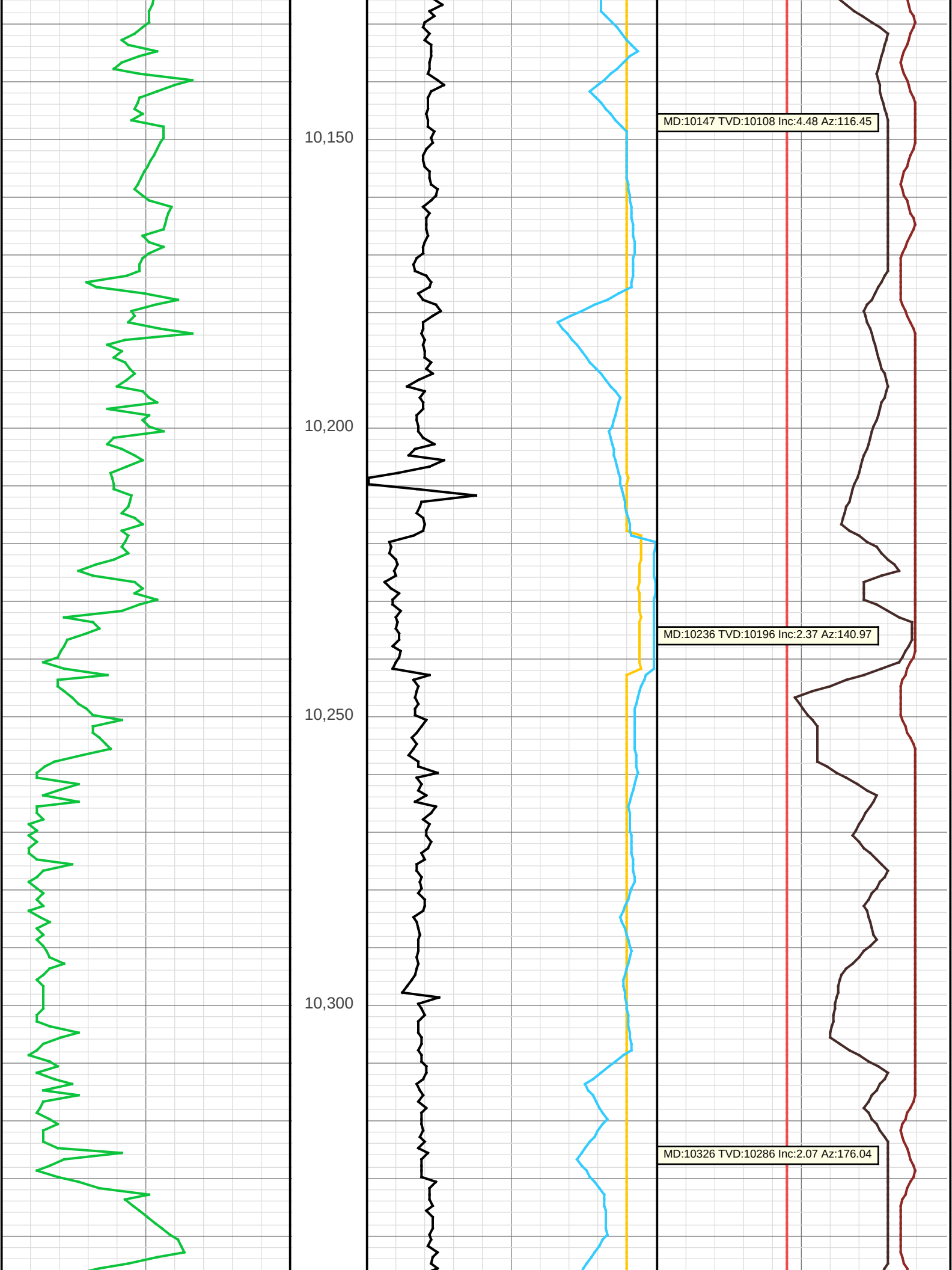
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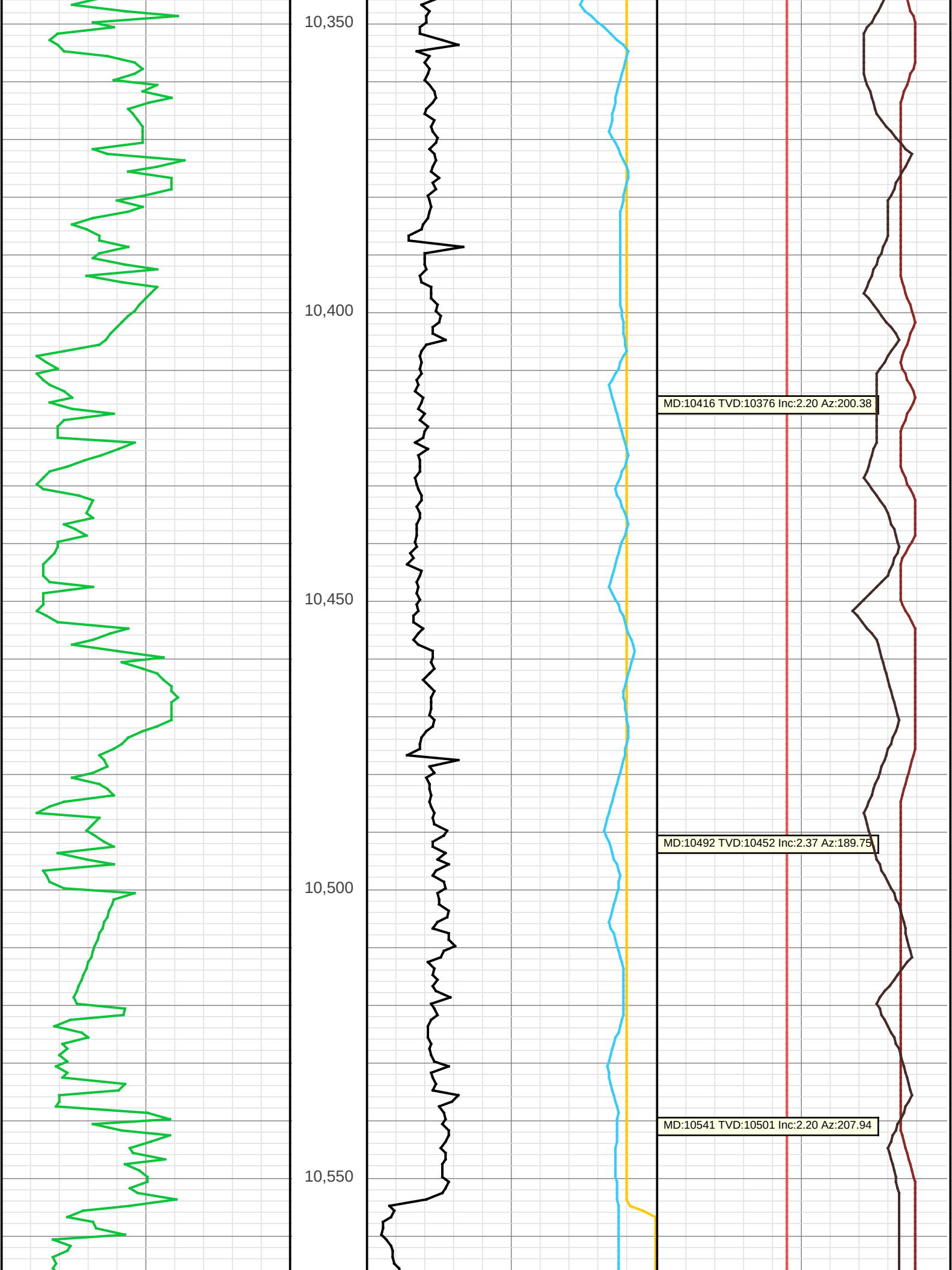
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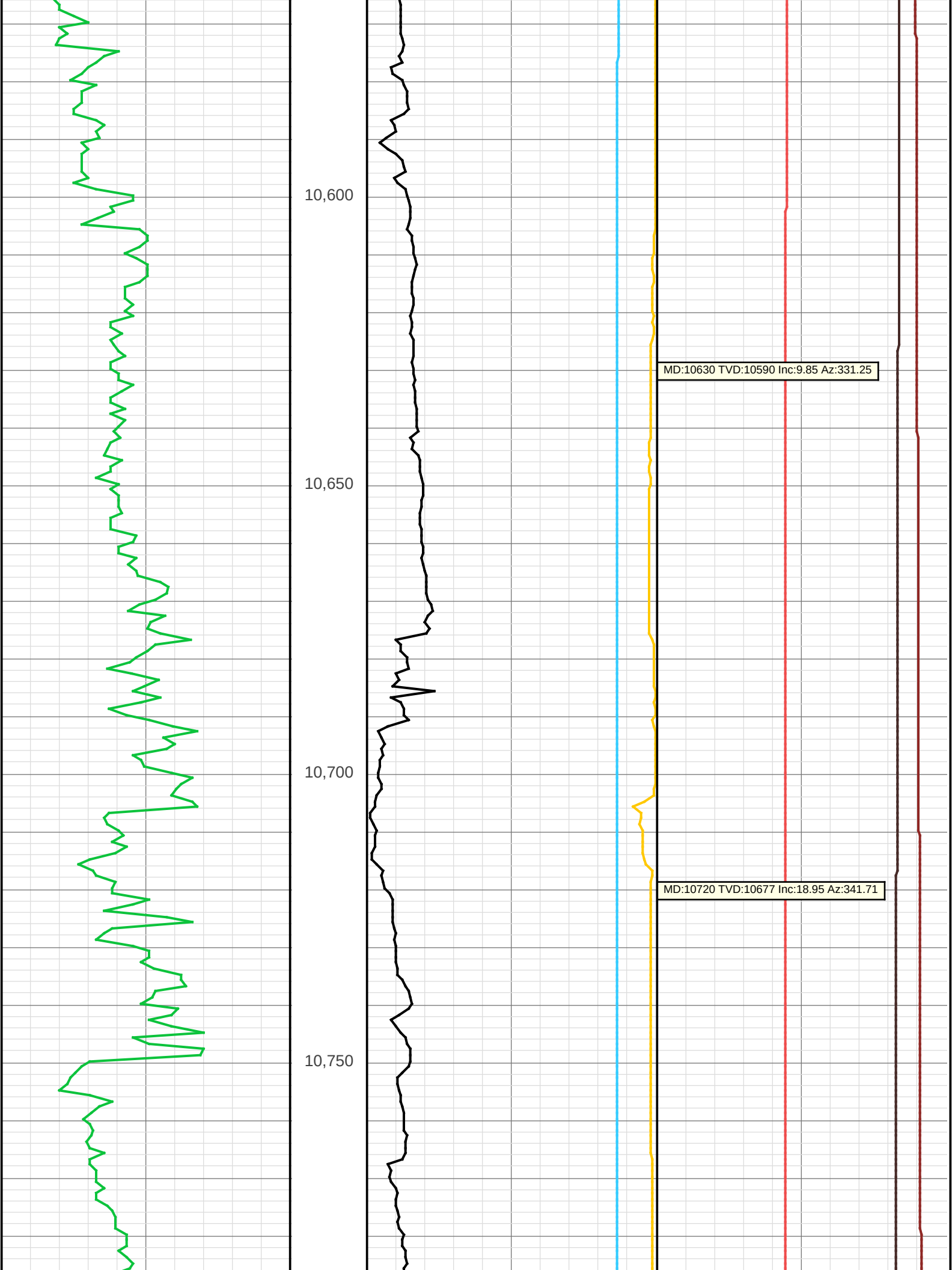
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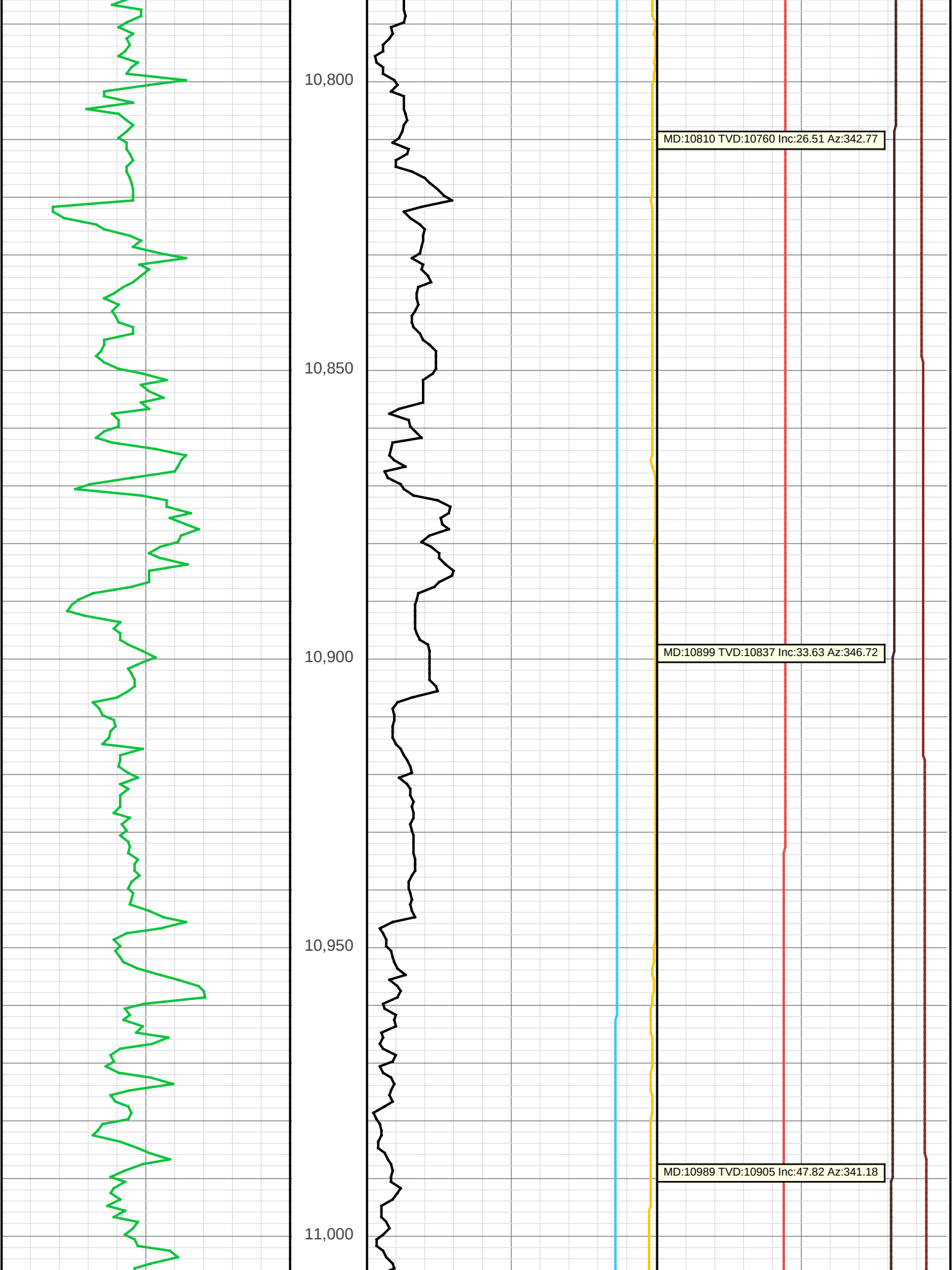
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10,900
10,950
11,000
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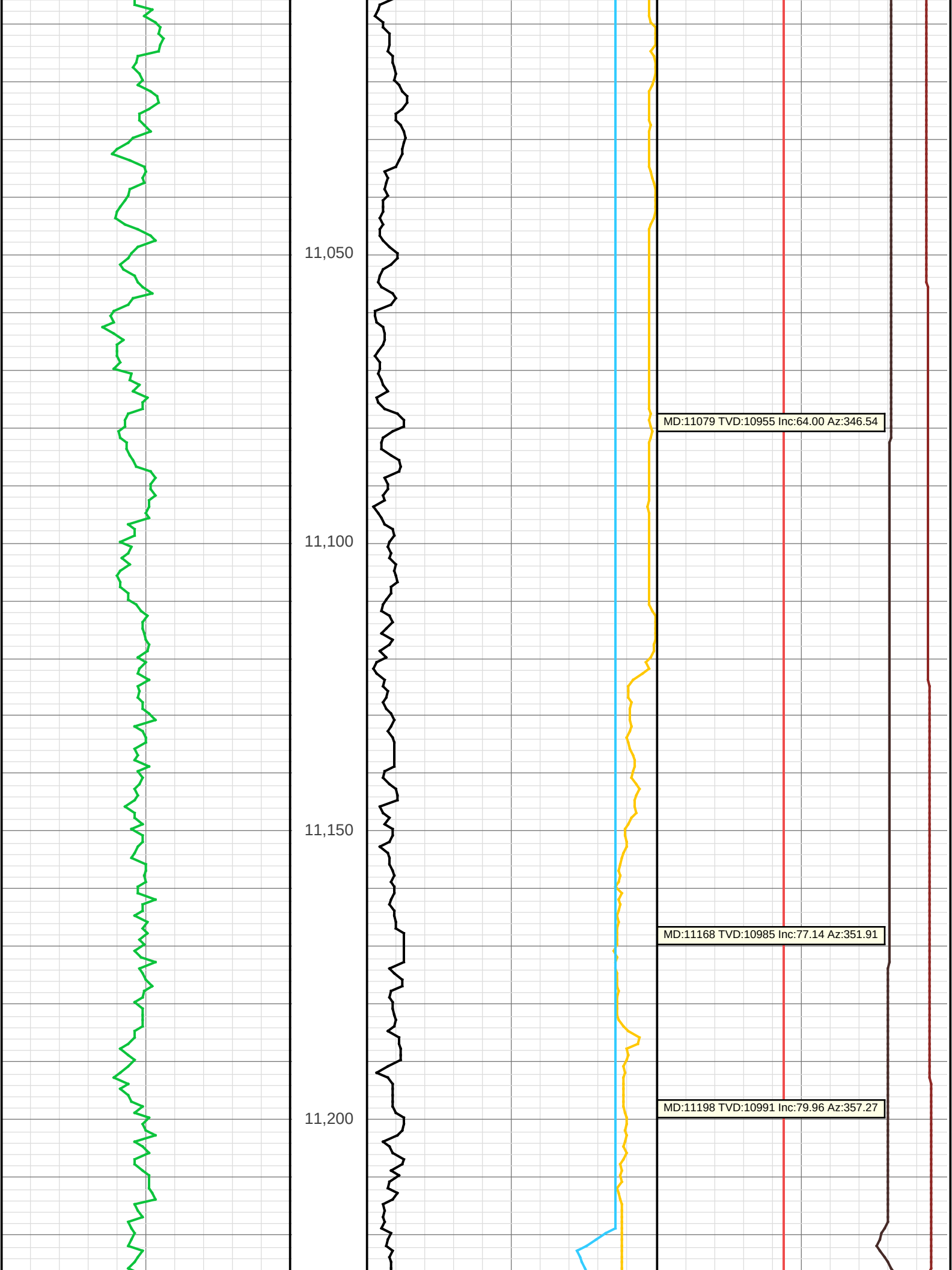
MD:10899 TVD:10837 Inc:33.63 Az:346.72
MD:10989 TVD:10905 Inc:47.82 Az:341.18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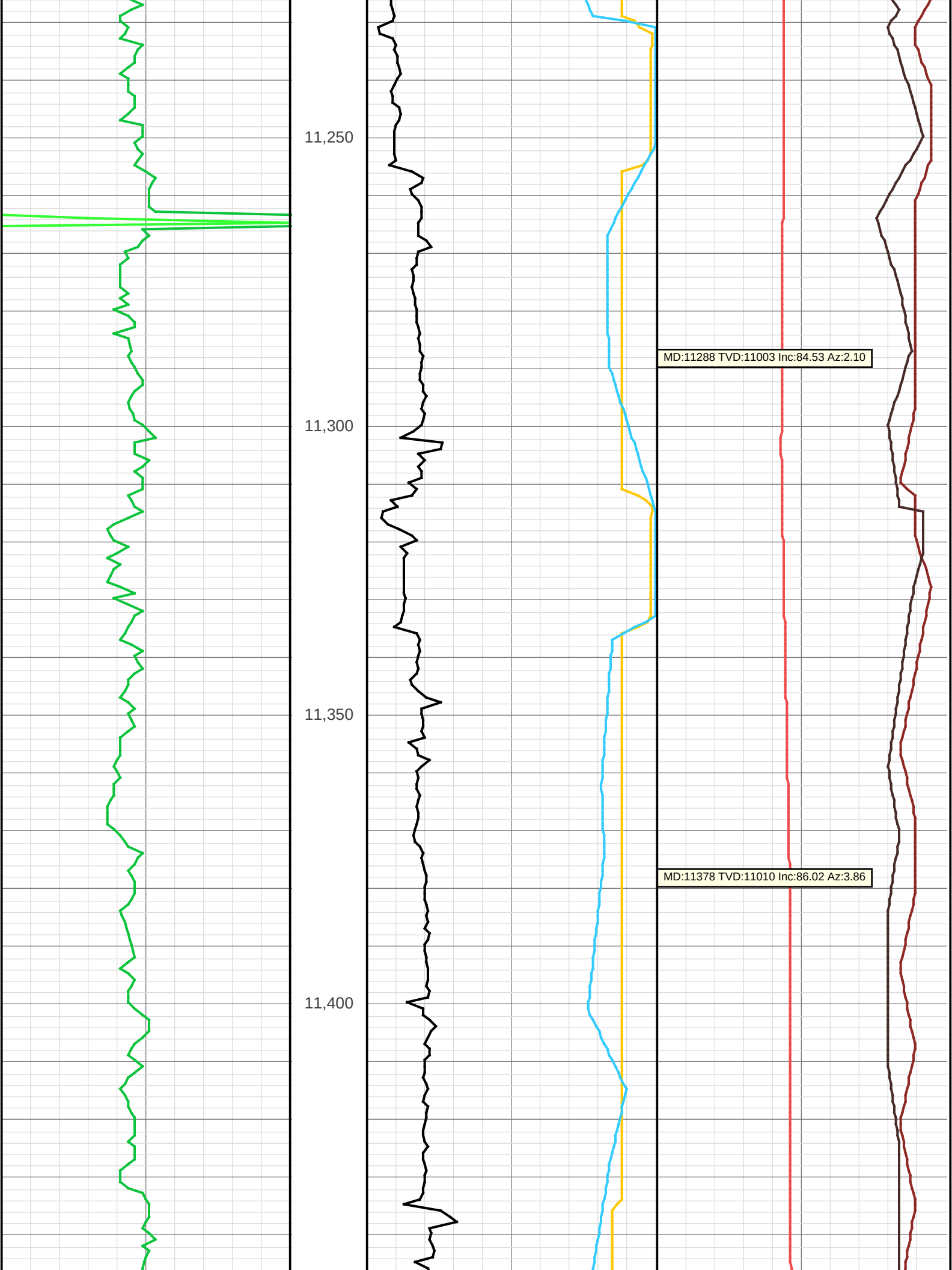
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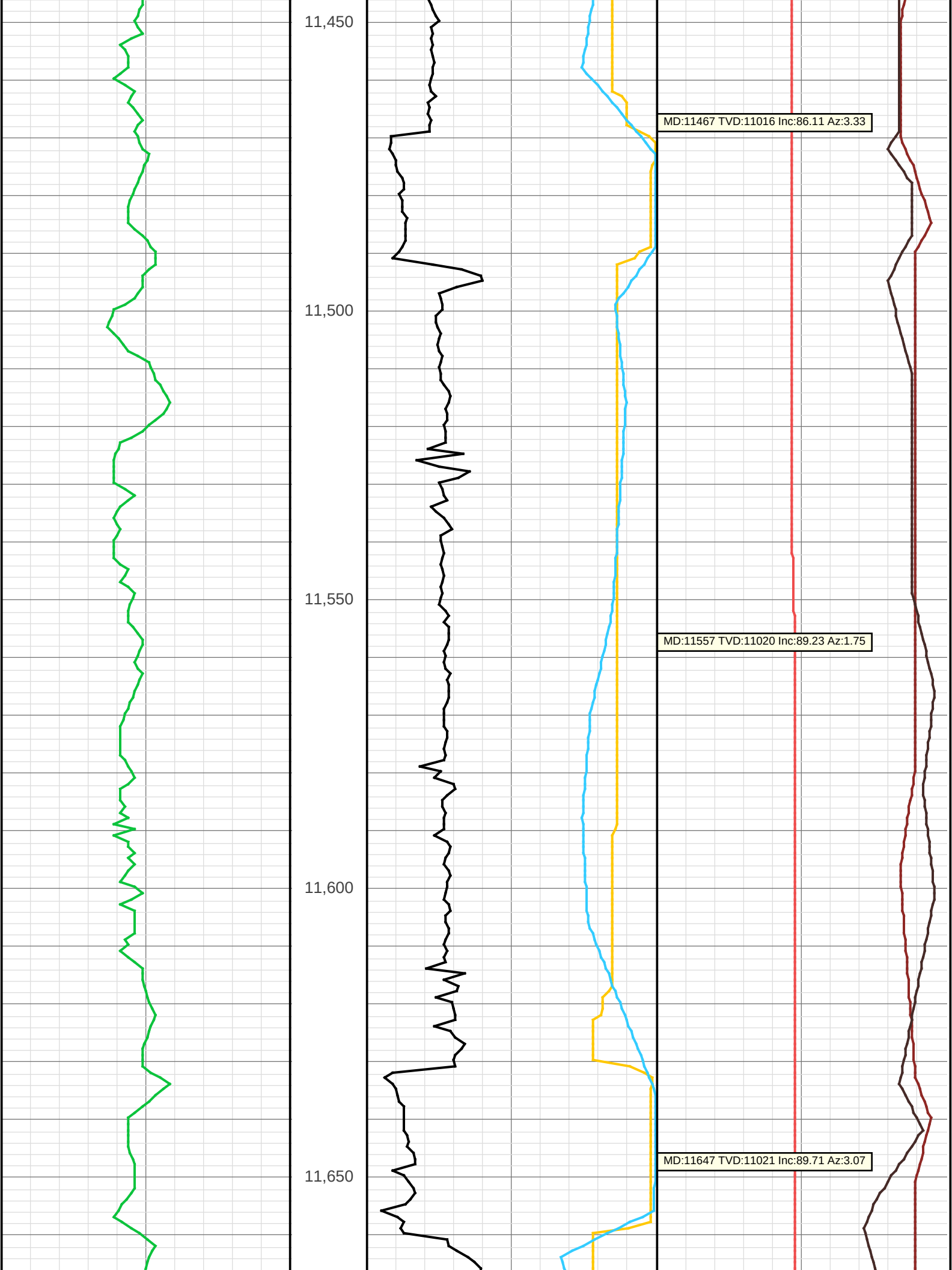
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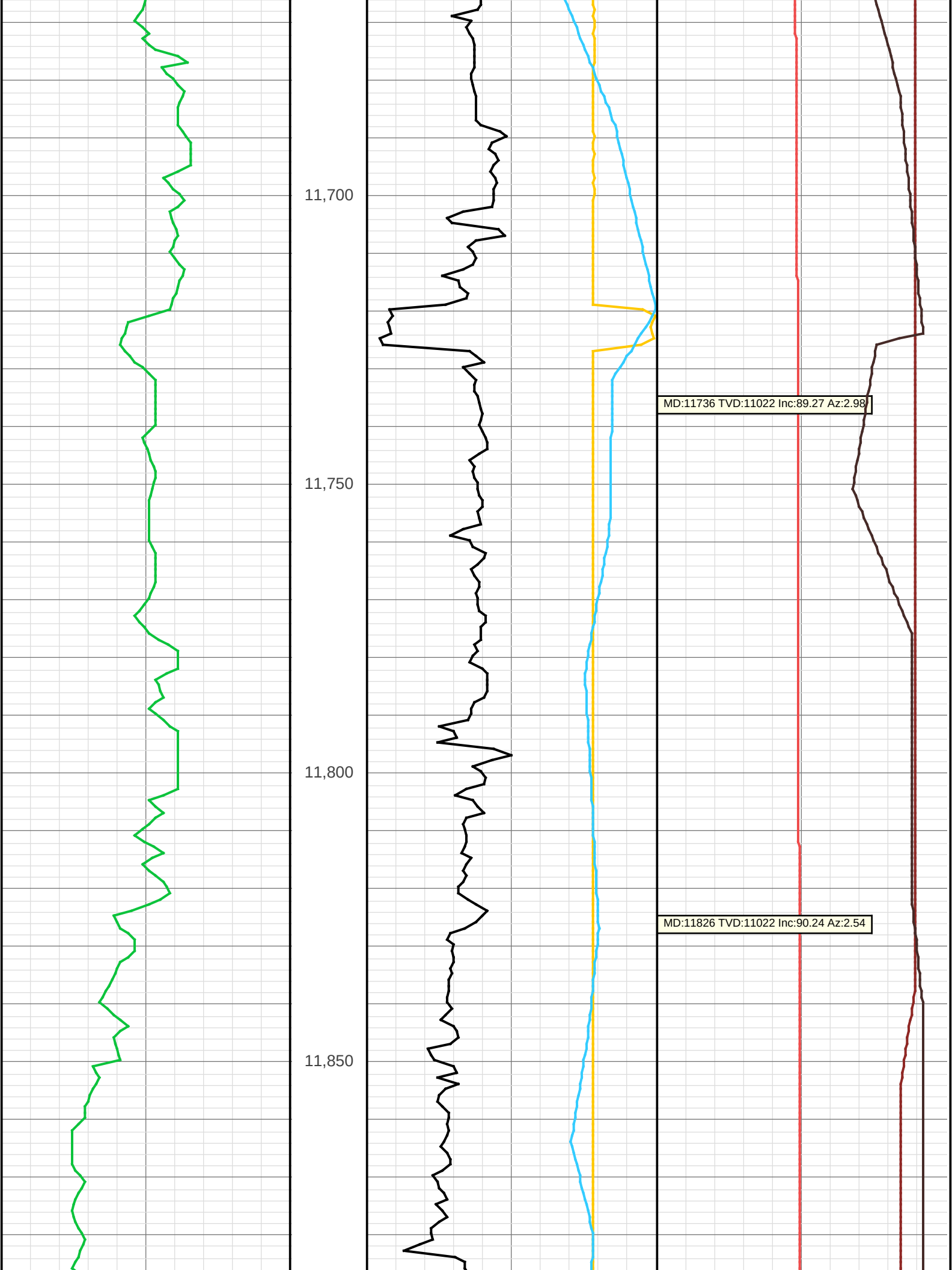
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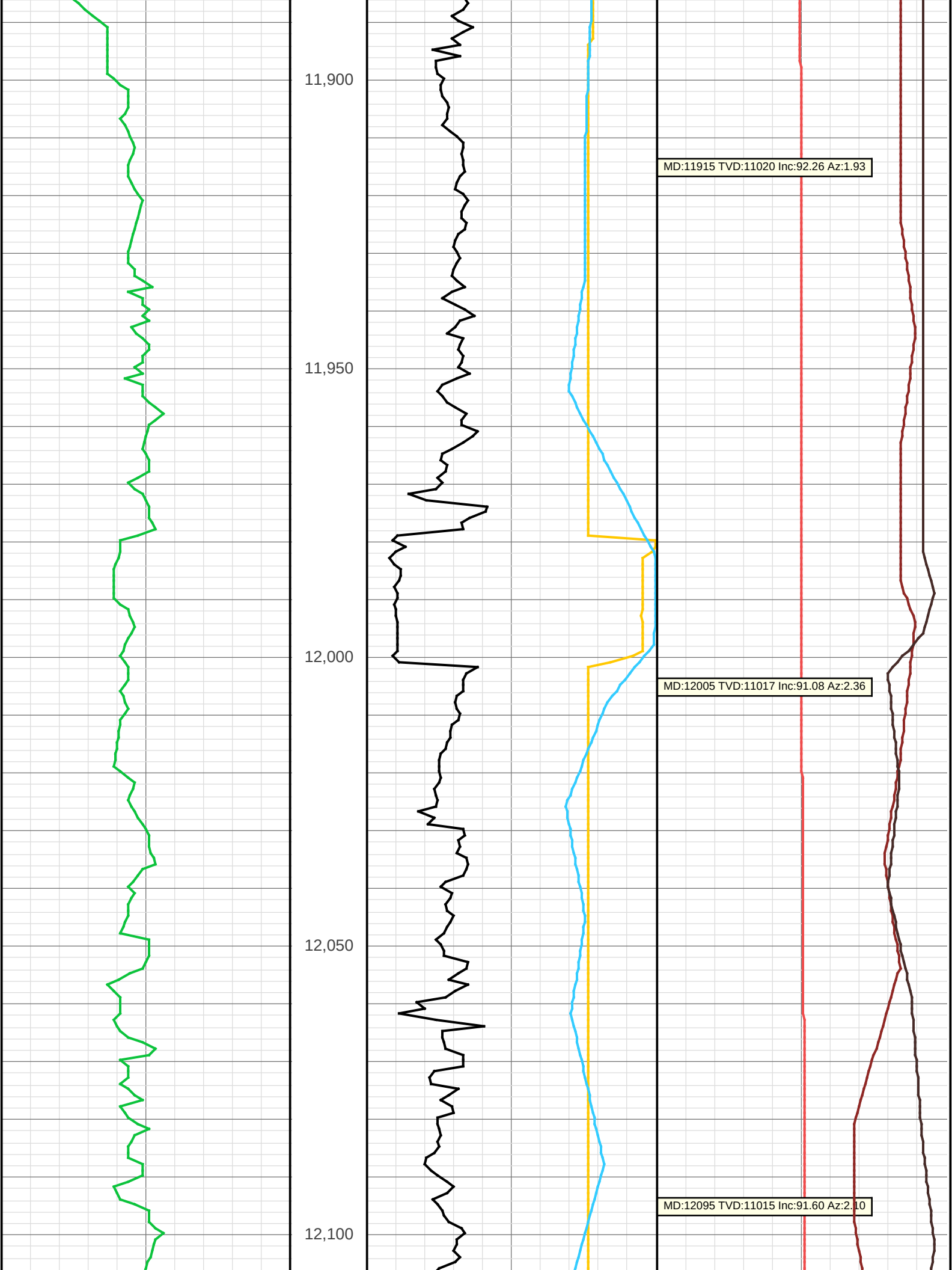
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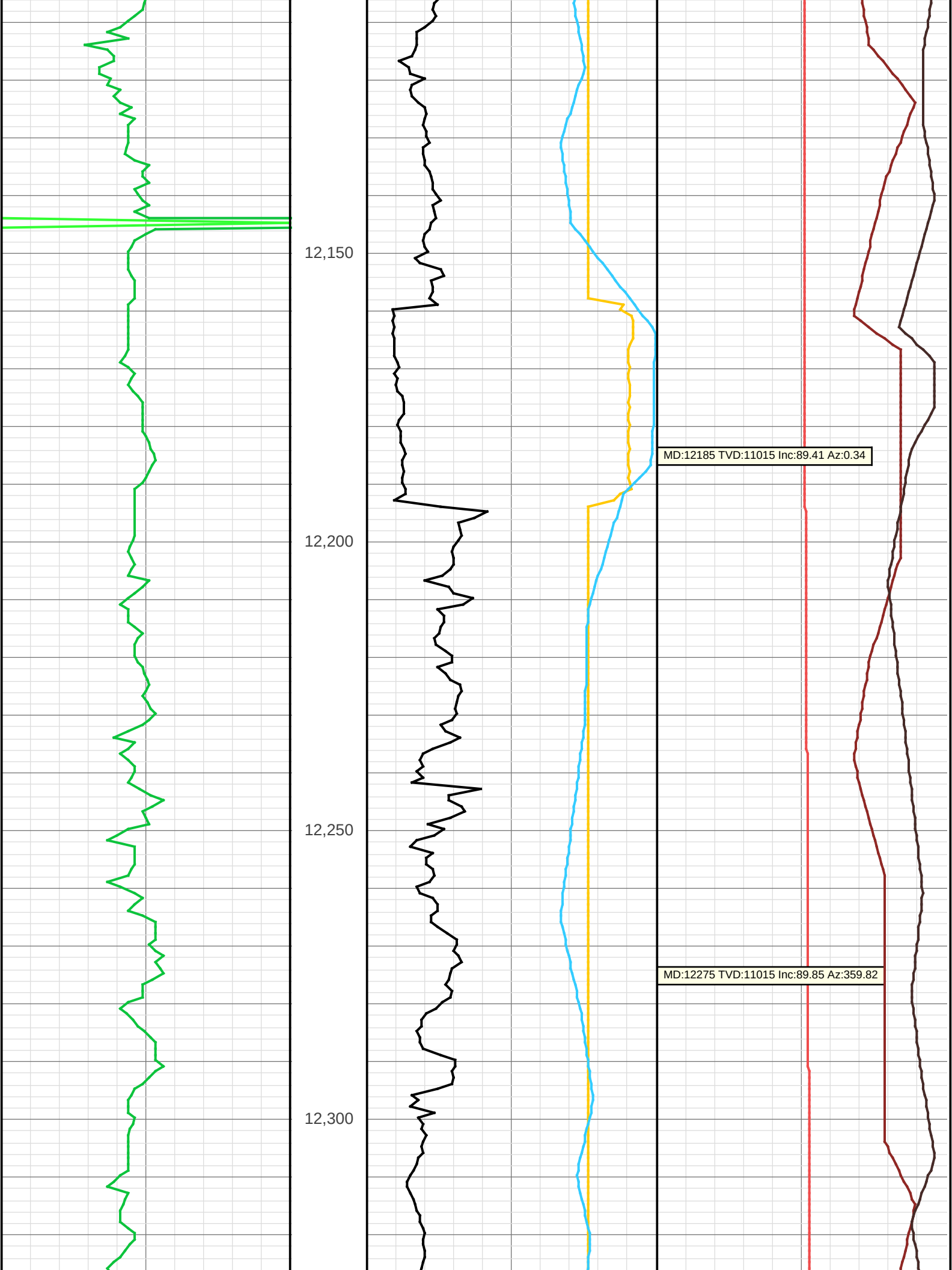
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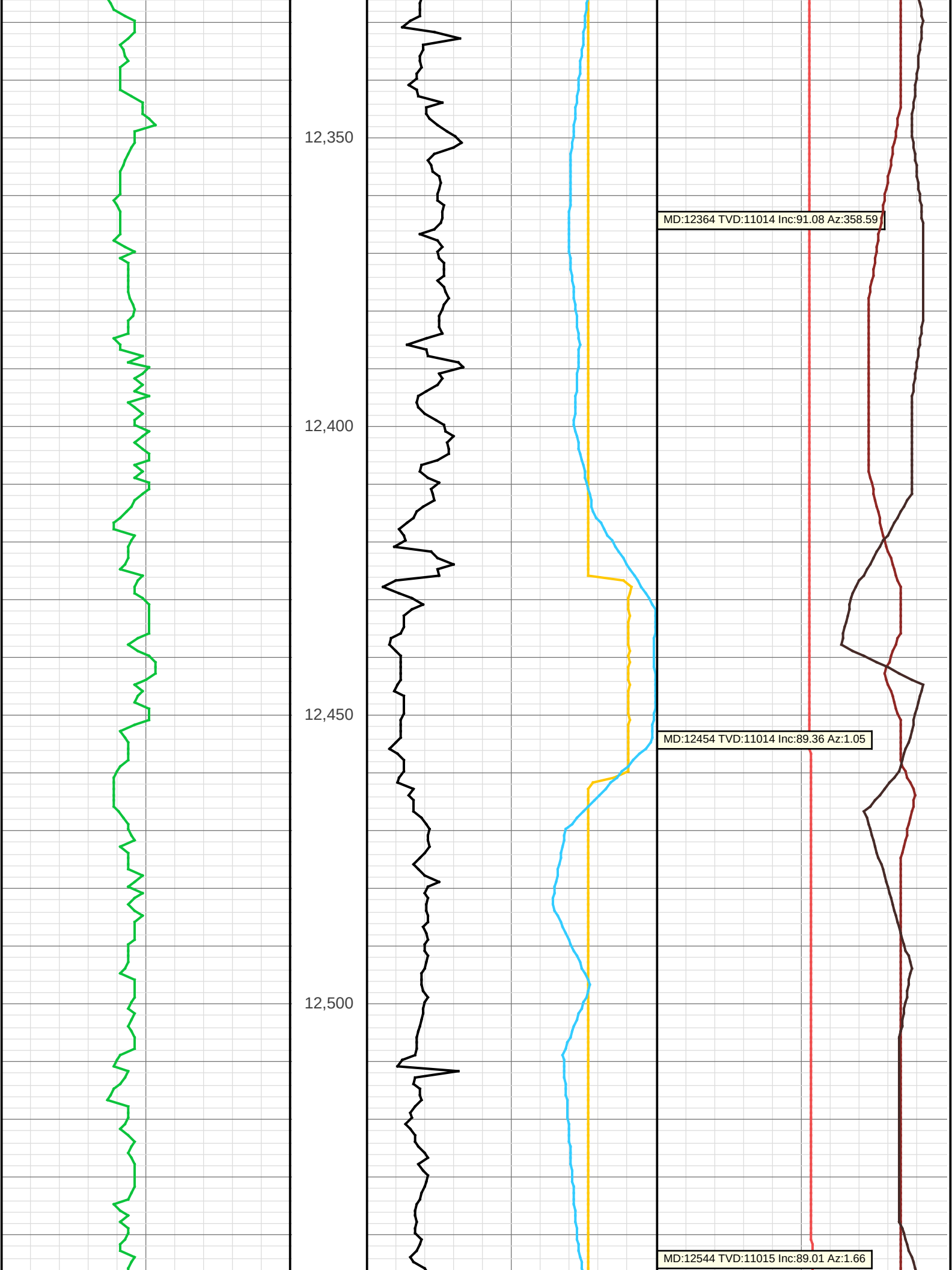
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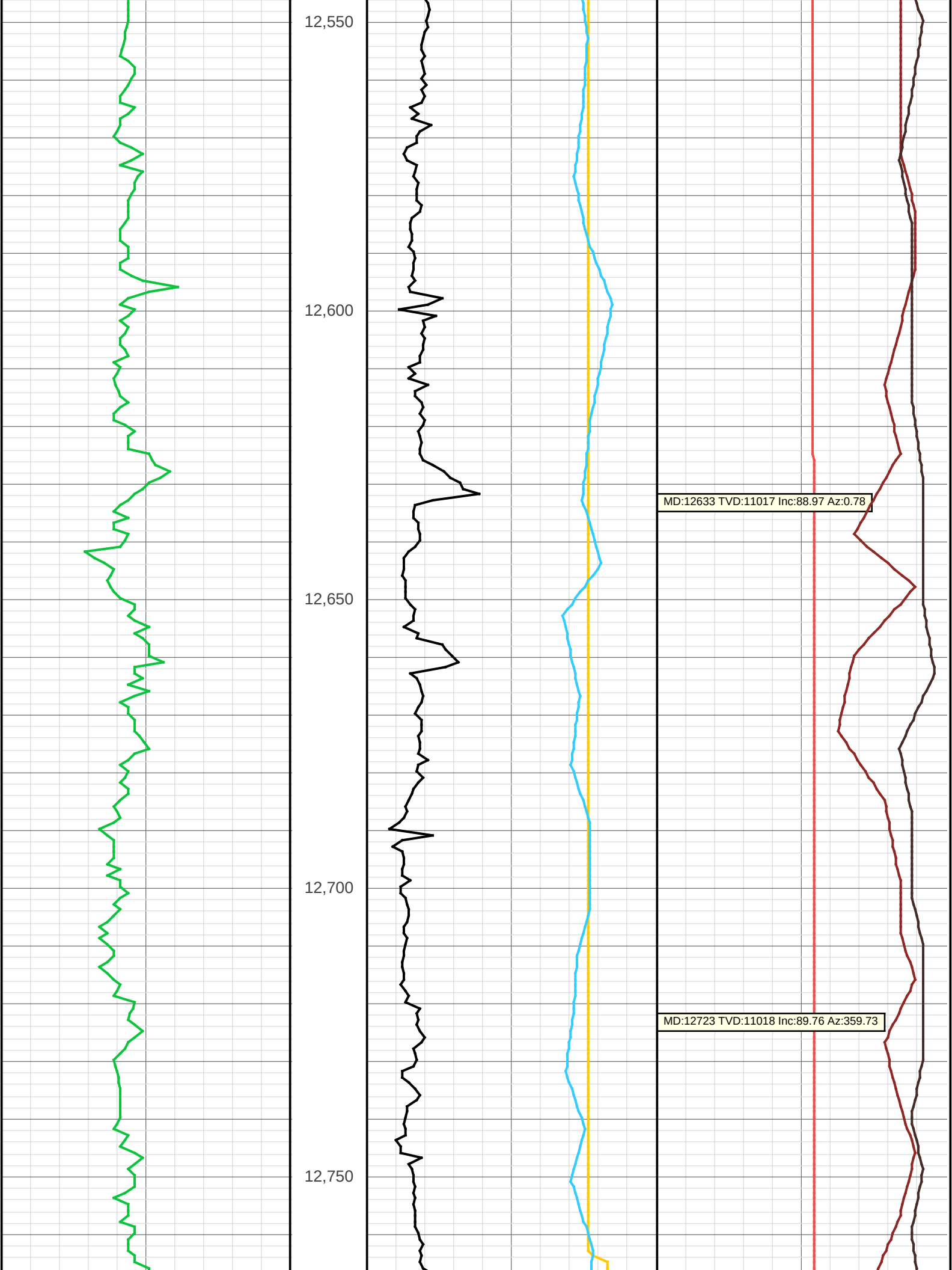
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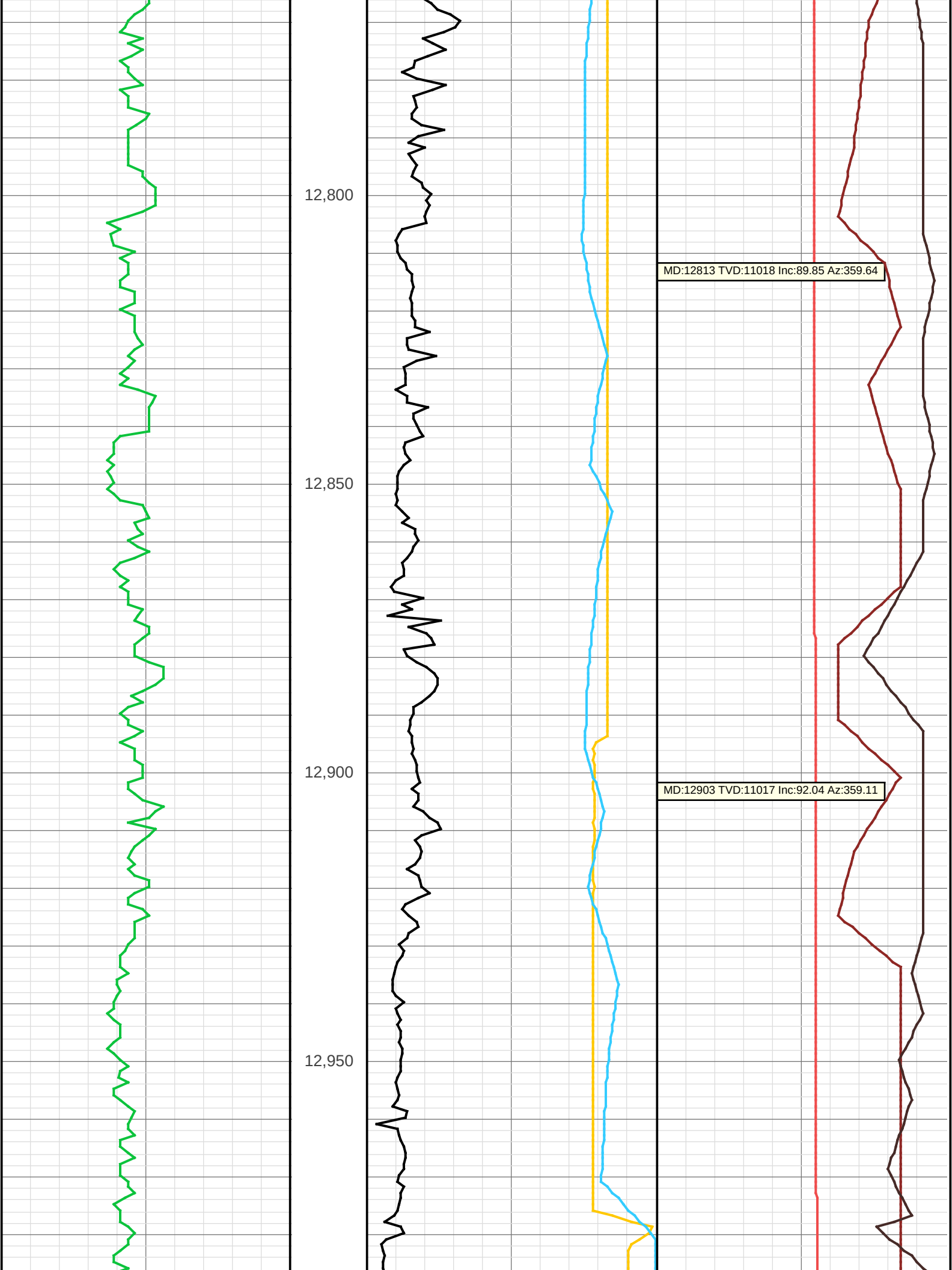
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12,850
12,900
12,950
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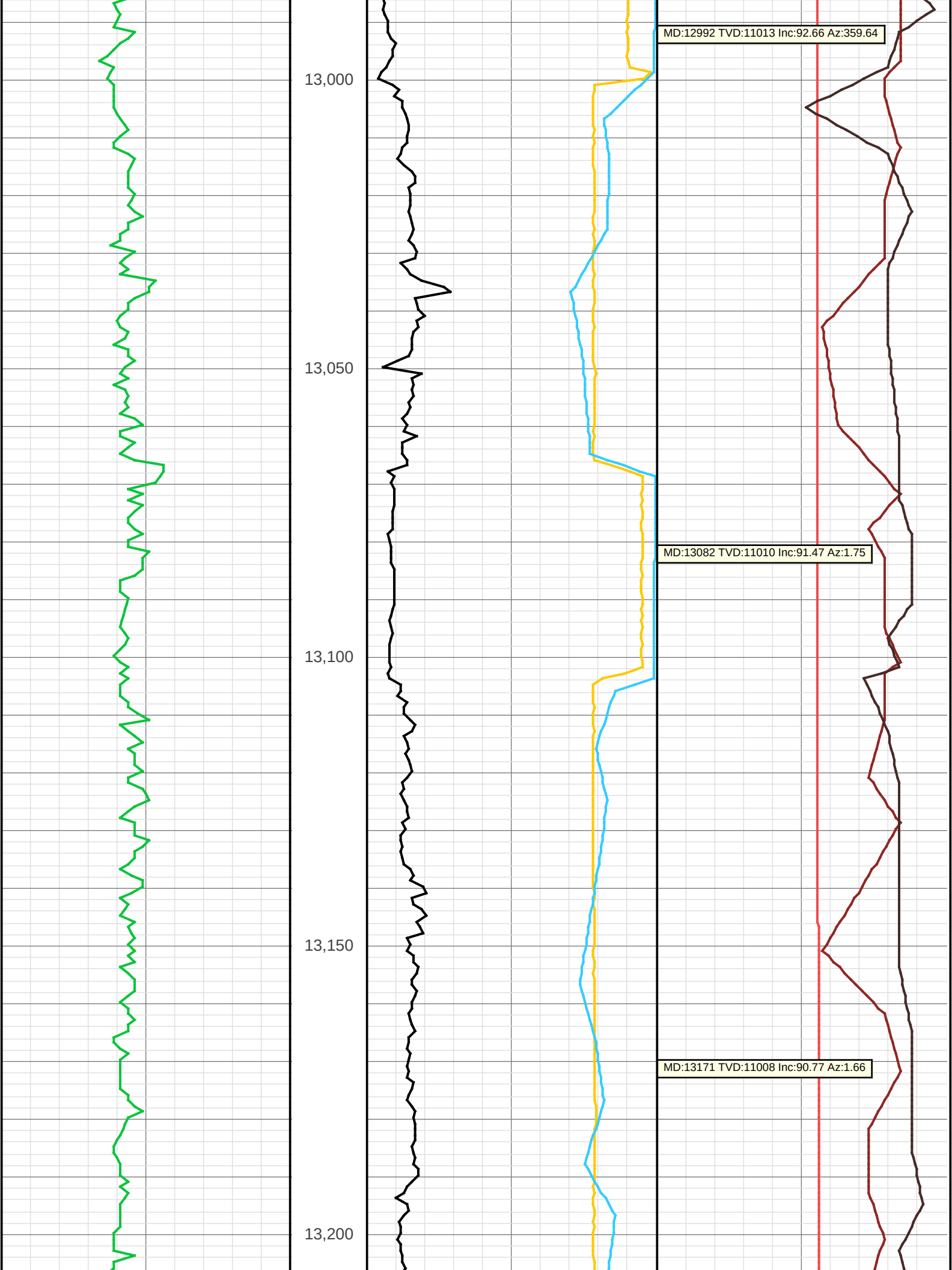
MD:12903 TVD:11017 Inc:92.04 Az:359.11


MD:12992 TVD:11013 Inc:92.66 Az:359.64
13,000
13,050
MD:13082 TVD:11010 Inc:91.47 Az:1.75
13,100
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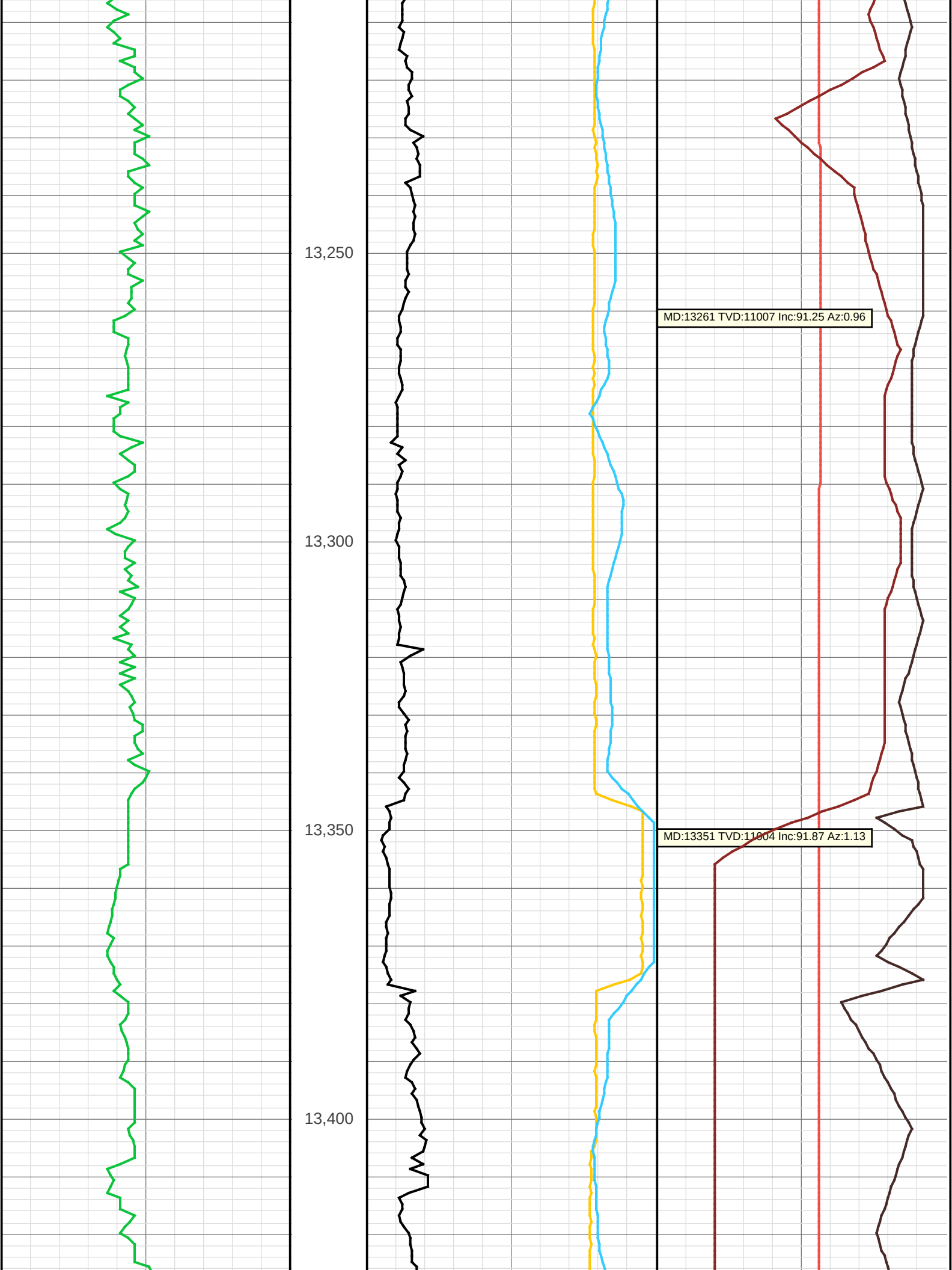
MD:13171 TVD:11008 Inc:90.77 Az:1.66
13,200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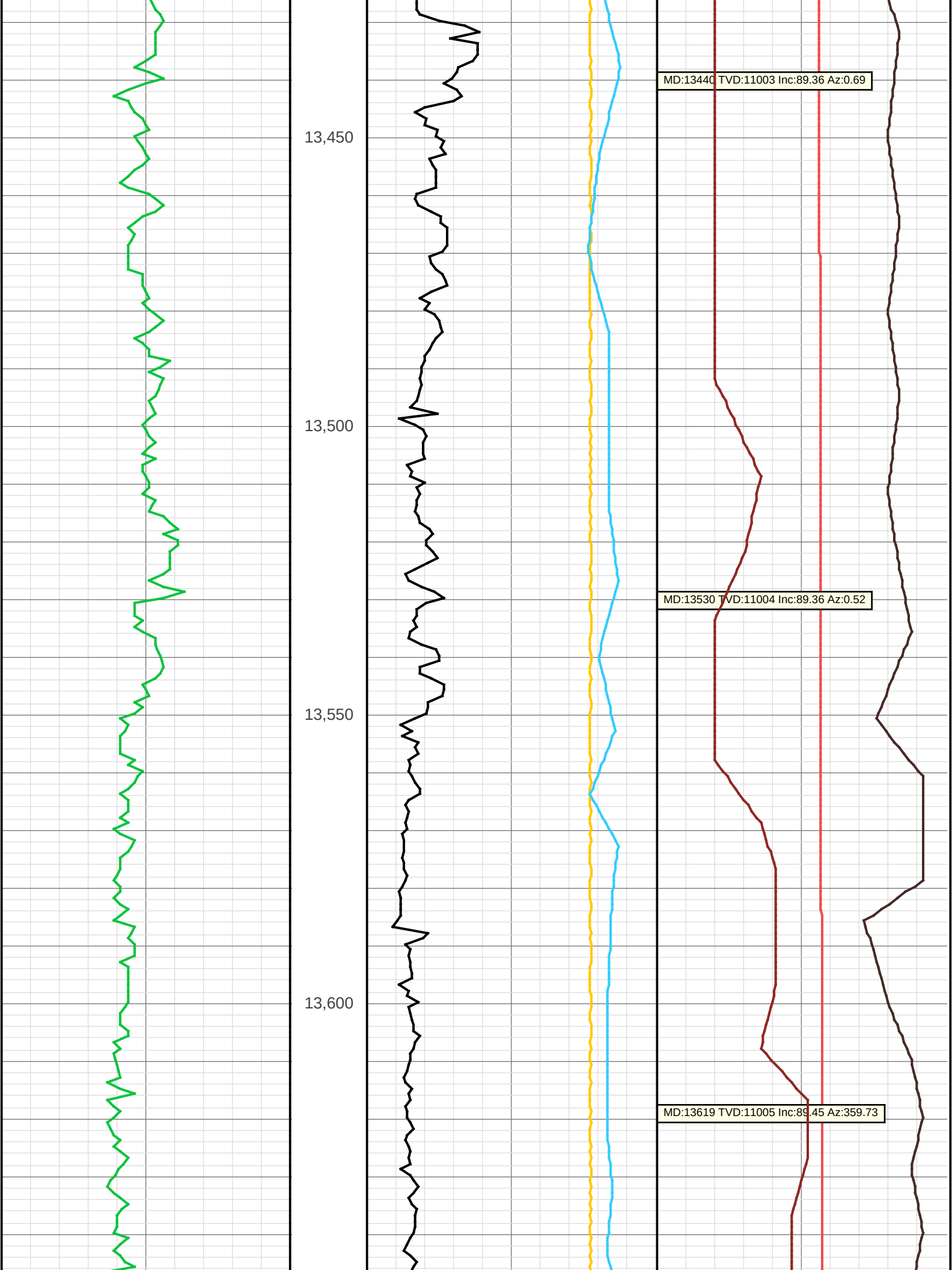
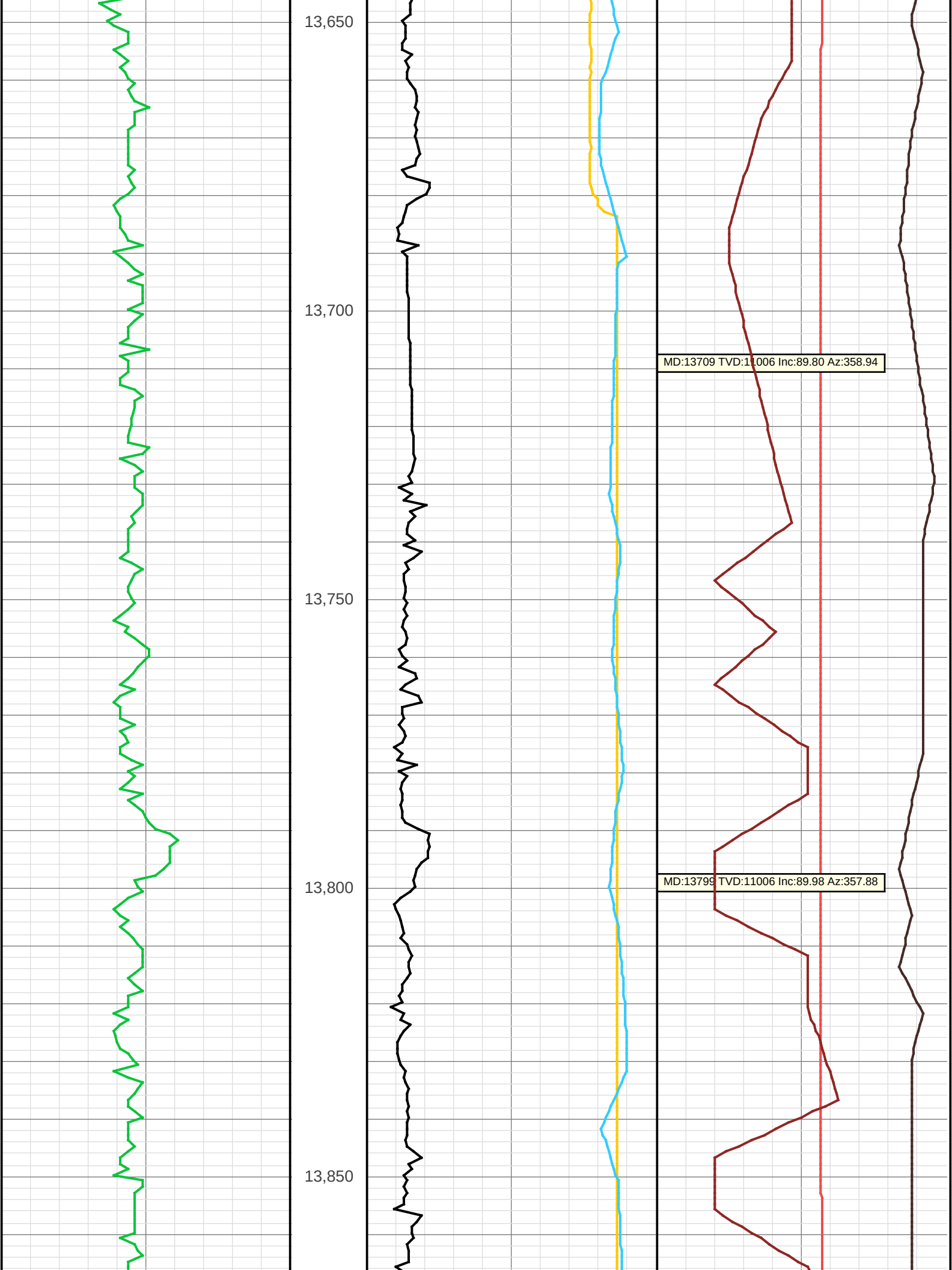
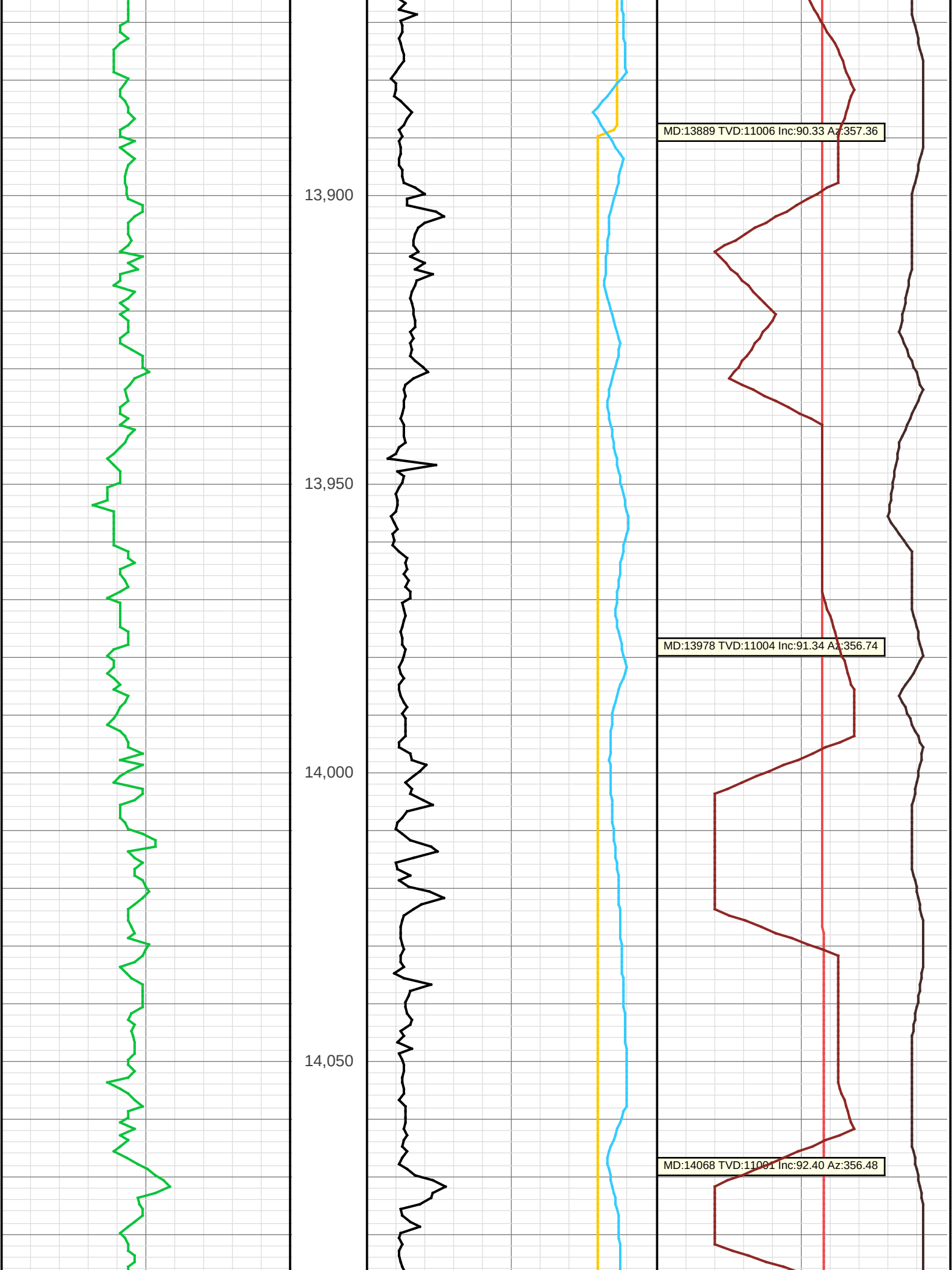
13,300
13,350
13,400
MD:13261 TVD:11007 Inc:91.25 Az:0.96
MD:13351 TVD:11004 Inc:91.87 Az:1.13


13,450
13,500
13,550
13,600
MD:13440 TVD:11003 Inc:89.36 Az:0.69
MD:13530 TVD:11004 Inc:89.36 Az:0.52
MD:13619 TVD:11005 Inc:89.45 Az:359.73


13,650
13,700
13,750
13,800
13,850
MD:13709 TVD:11006 Inc:89.80 Az:358.94
MD:13799 TVD:11006 Inc:89.98 Az:357.88


13,900
13,950
14,000
14,050
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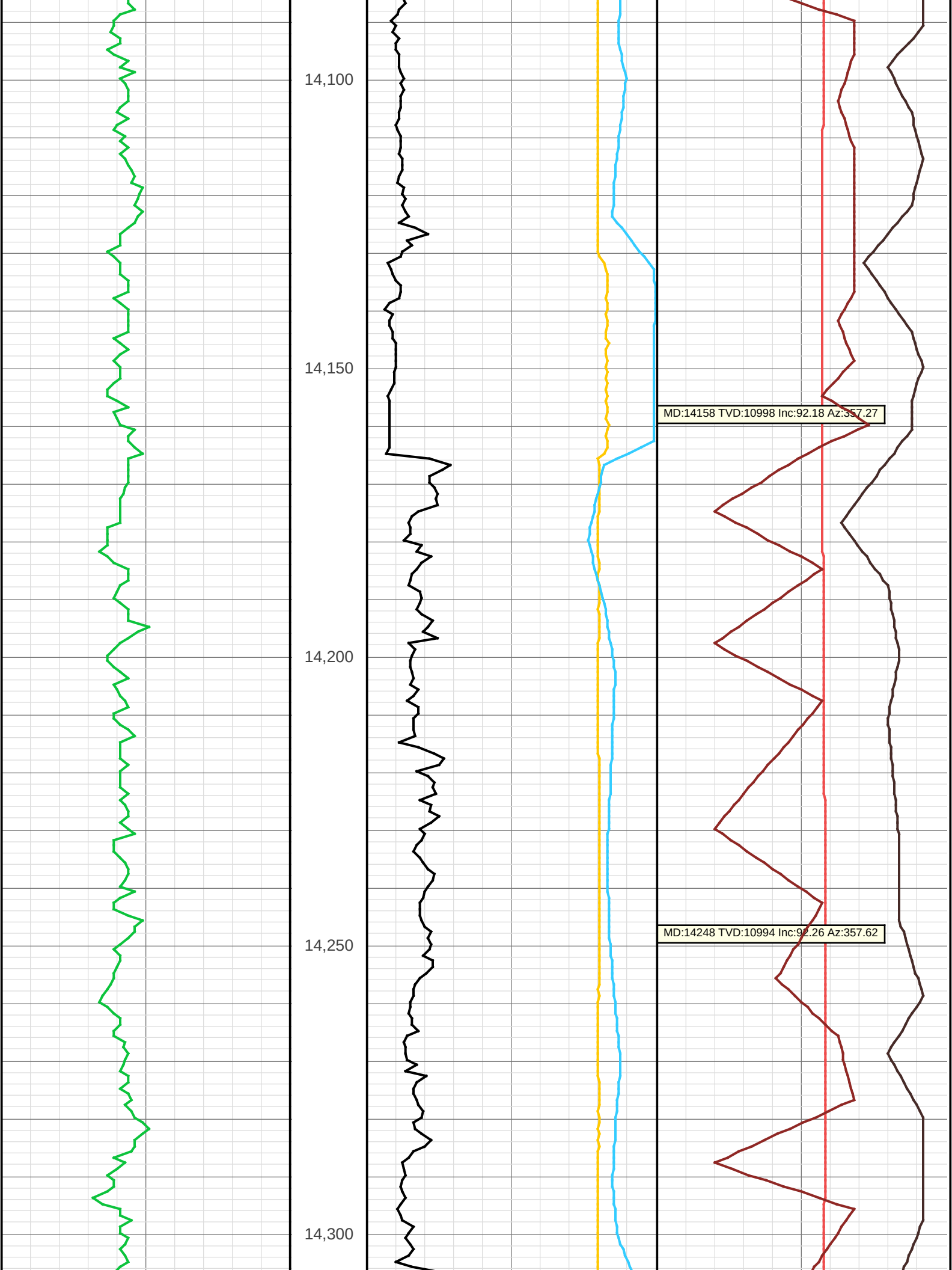
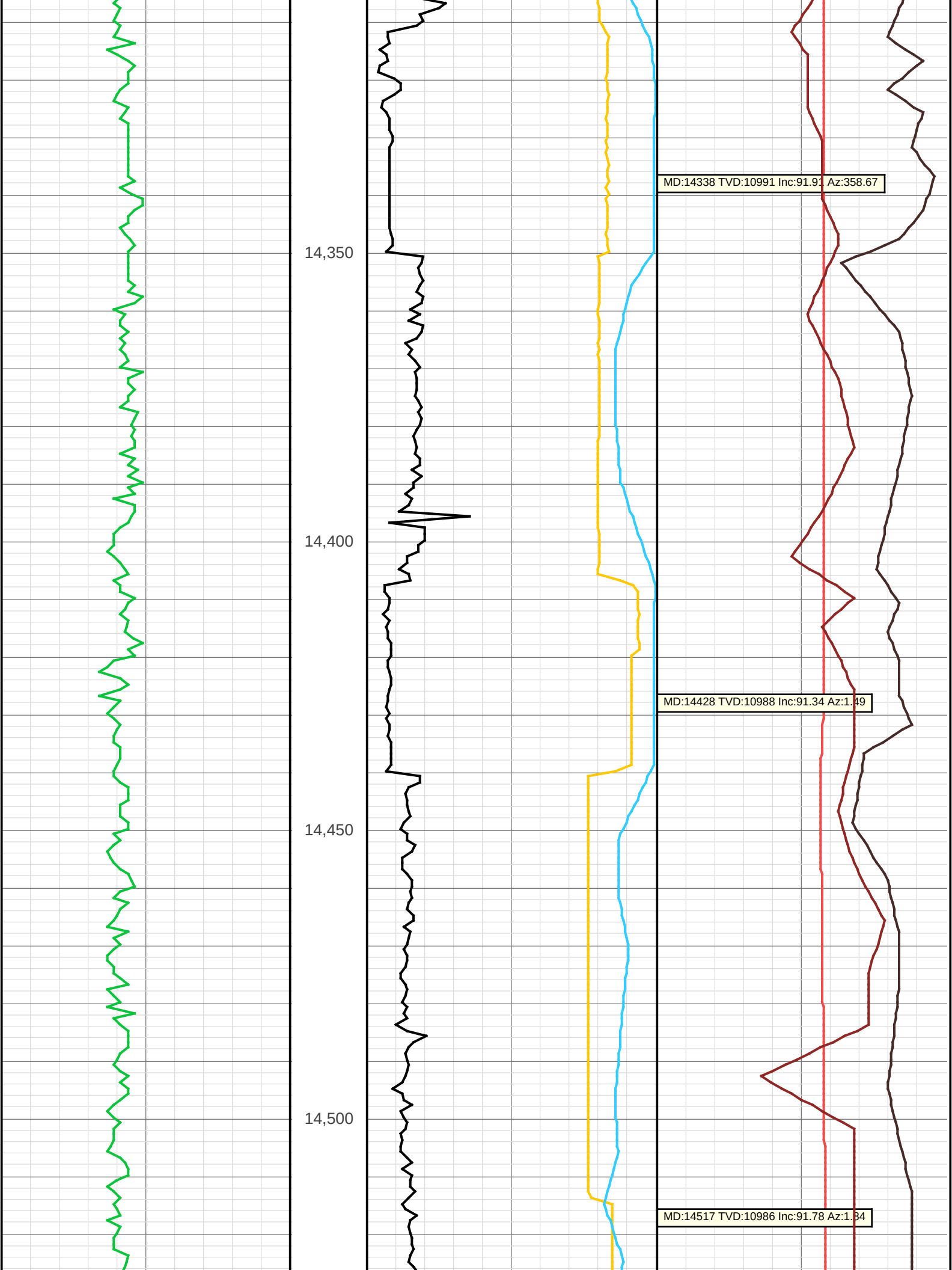
MD:13978 TVD:11004 Inc:91.34 Az:356.74
MD:14068 TVD:11001 Inc:92.40 Az:356.48


14,100
14,150
14,200
14,250
14,300
MD:14158 TVD:10998 Inc:92.18 Az:357.27
MD:14248 TVD:10994 Inc:92.26 Az:357.62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14,400
14,450
14,500
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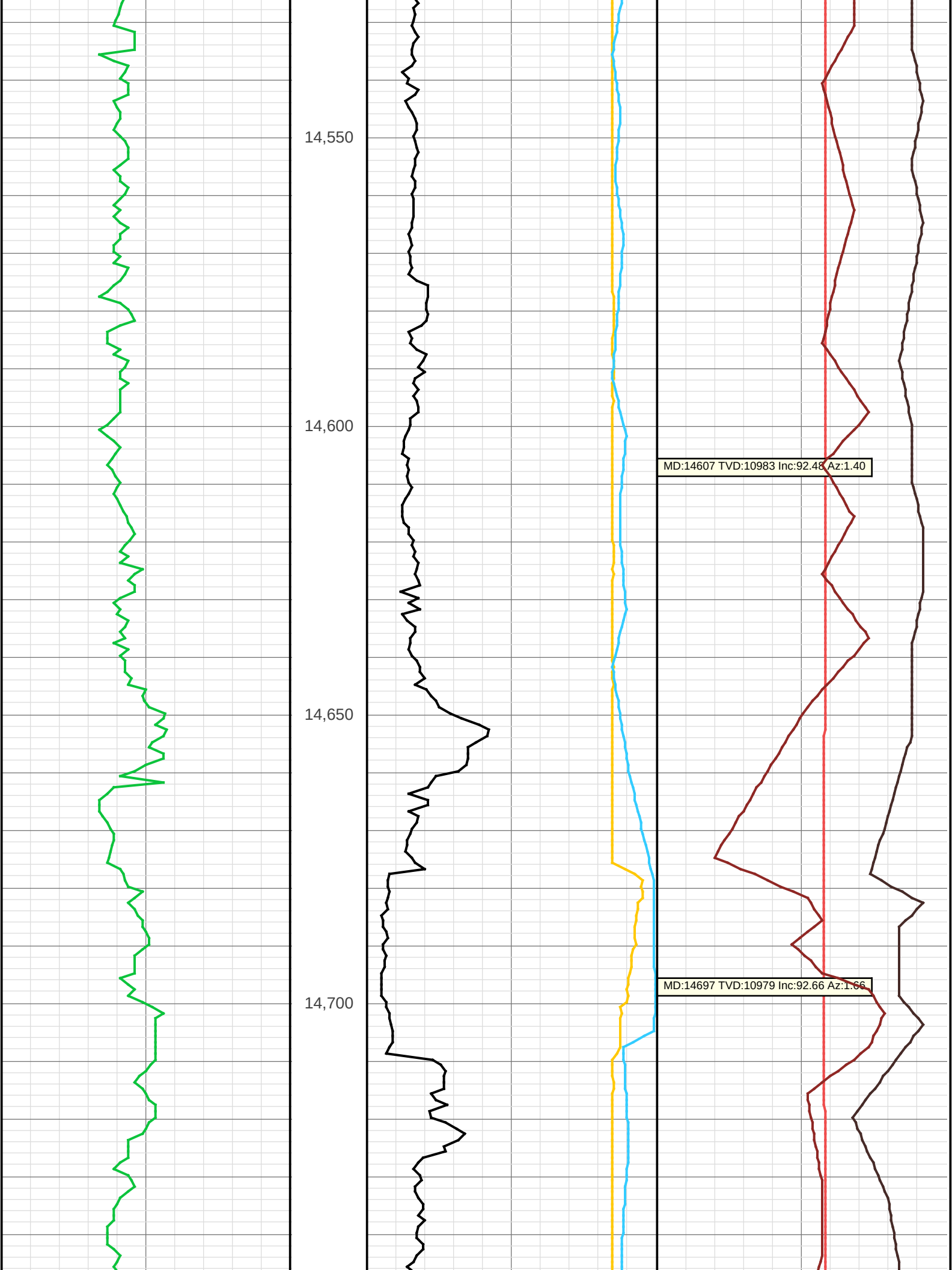
MD:14428 TVD:10988 Inc:91.34 Az:1.49
MD:14517 TVD:10986 Inc:91.78 Az:1.84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14,600
14,650
14,700
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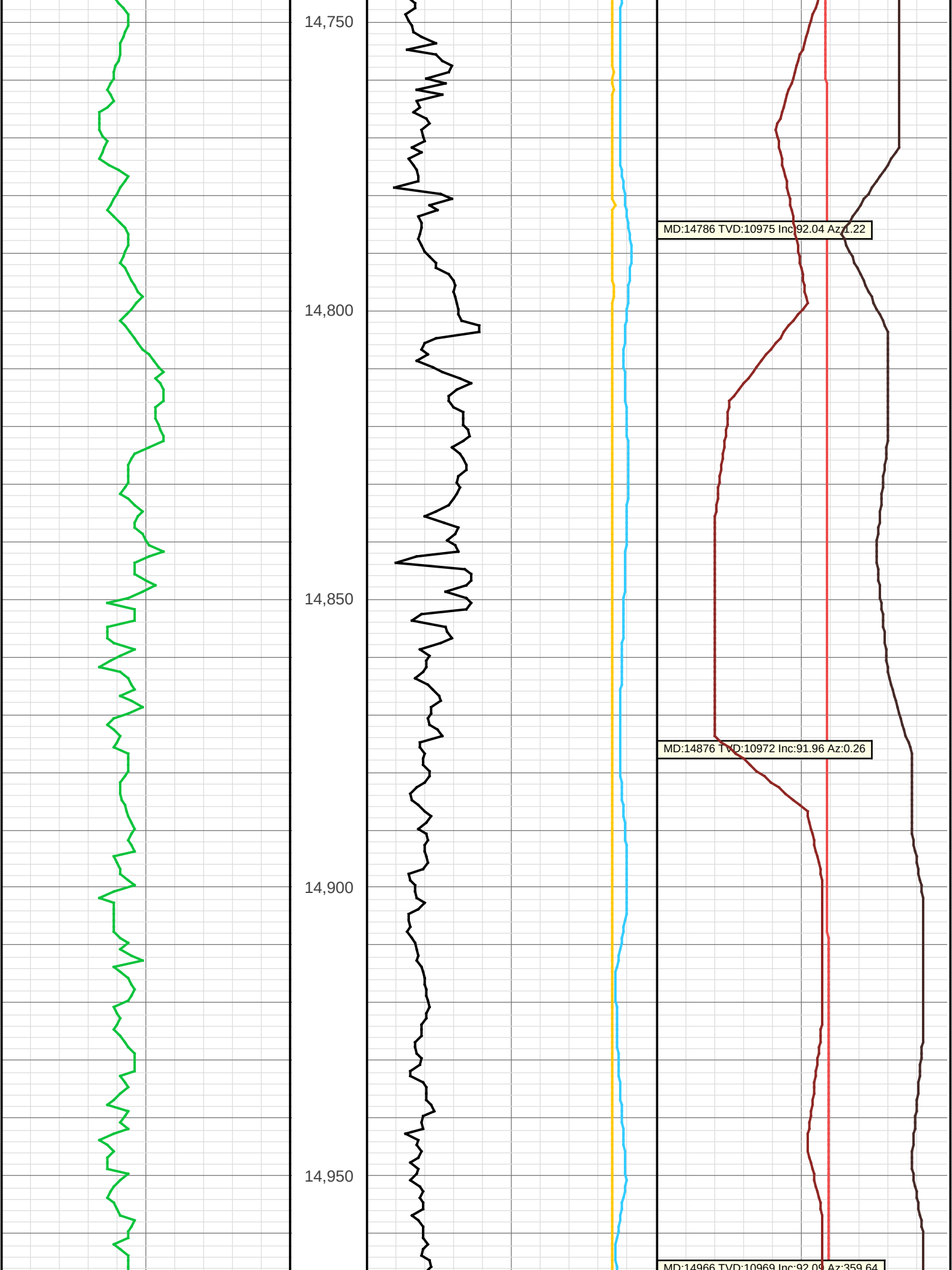
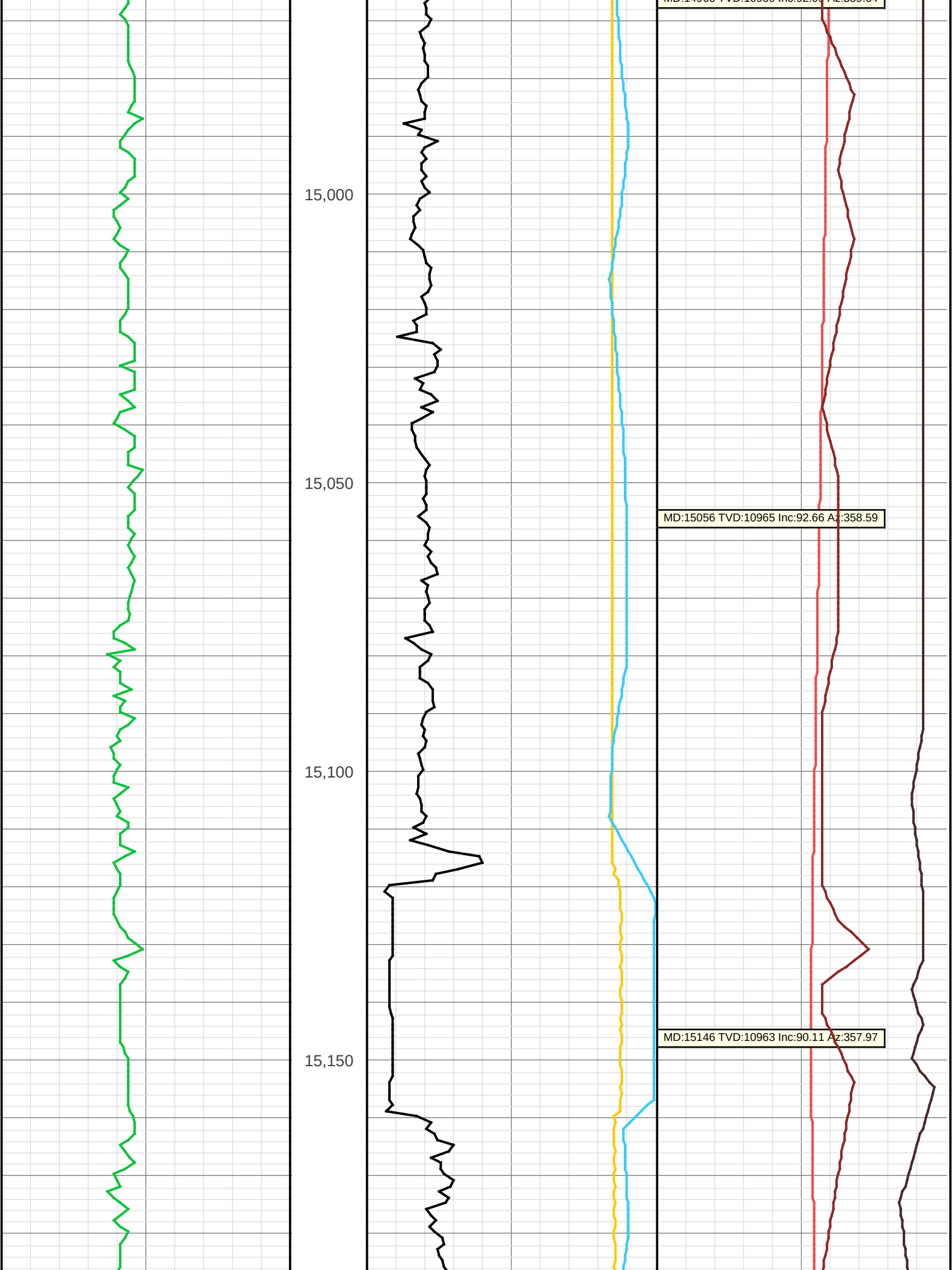
MD:14697 TVD:10979 Inc:92.66 Az:1.66


14,750
14,800
14,850
14,900
14,950
MD:14786 TVD:10975 Inc:92.04 Az:1.22
MD:14876 TVD:10972 Inc:91.96 Az:0.26
MD:14966 TVD:10969 Inc:92.09 Az:359.64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15,050
15,100
15,150
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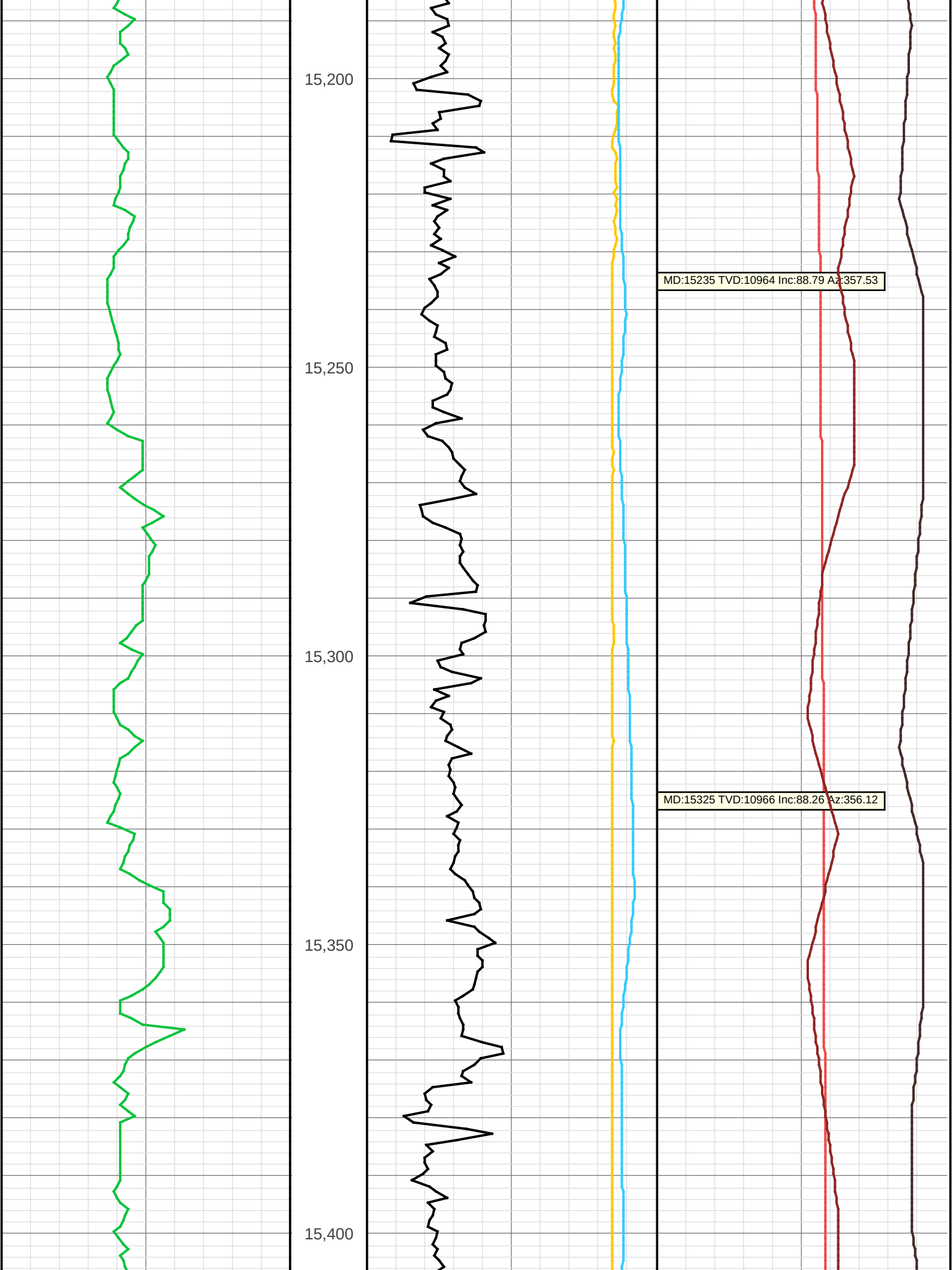
MD:15146 TVD:10963 Inc:90.11 Az:357.97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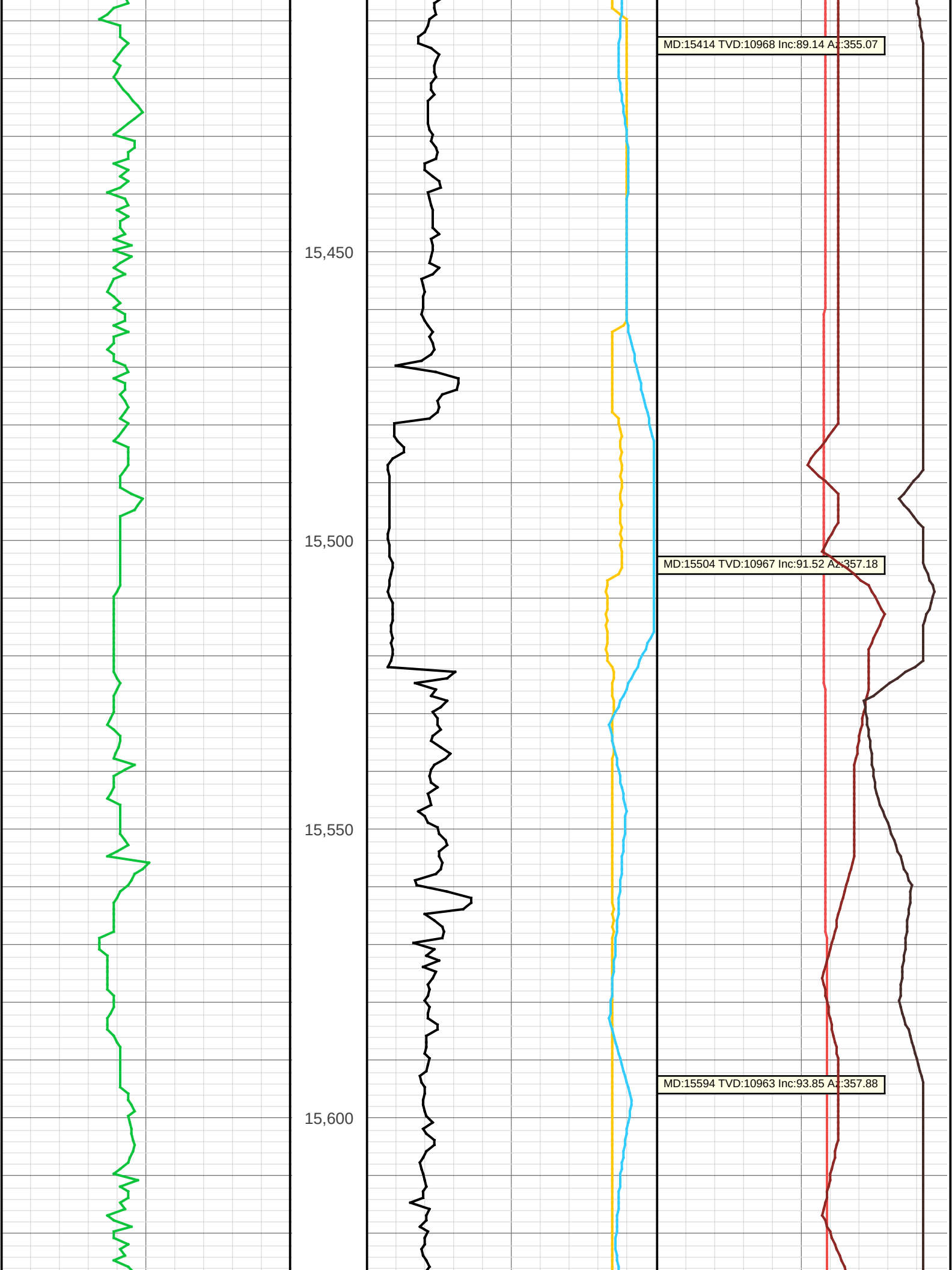
15,250
15,300
15,350
15,400
MD:15235 TVD:10964 Inc:88.79 Az:357.53
MD:15325 TVD:10966 Inc:88.26 Az:356.12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15,500
15,550
15,600
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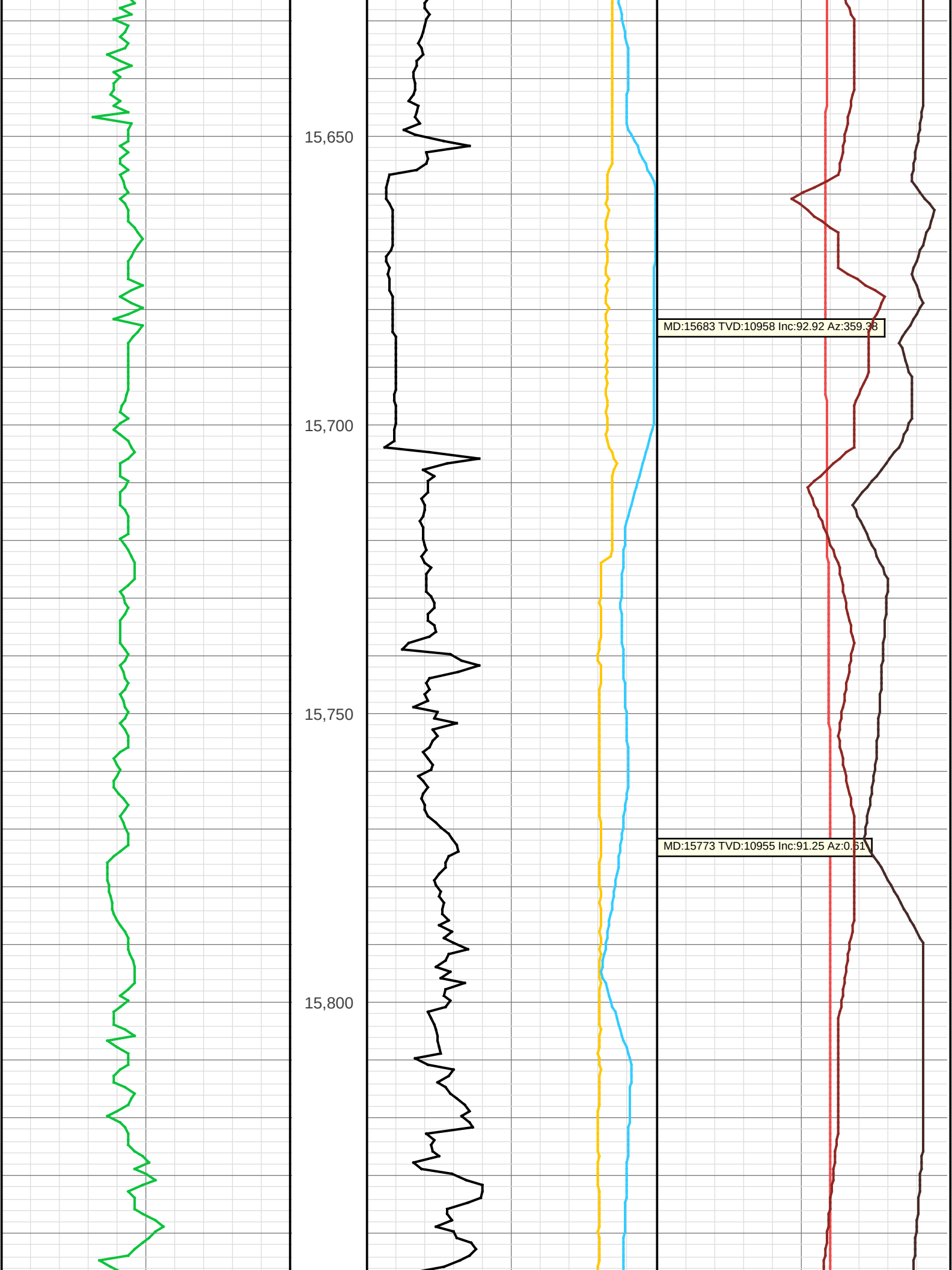
MD:15504 TVD:10967 Inc:91.52 Az:357.18
MD:15594 TVD:10963 Inc:93.85 Az:357.88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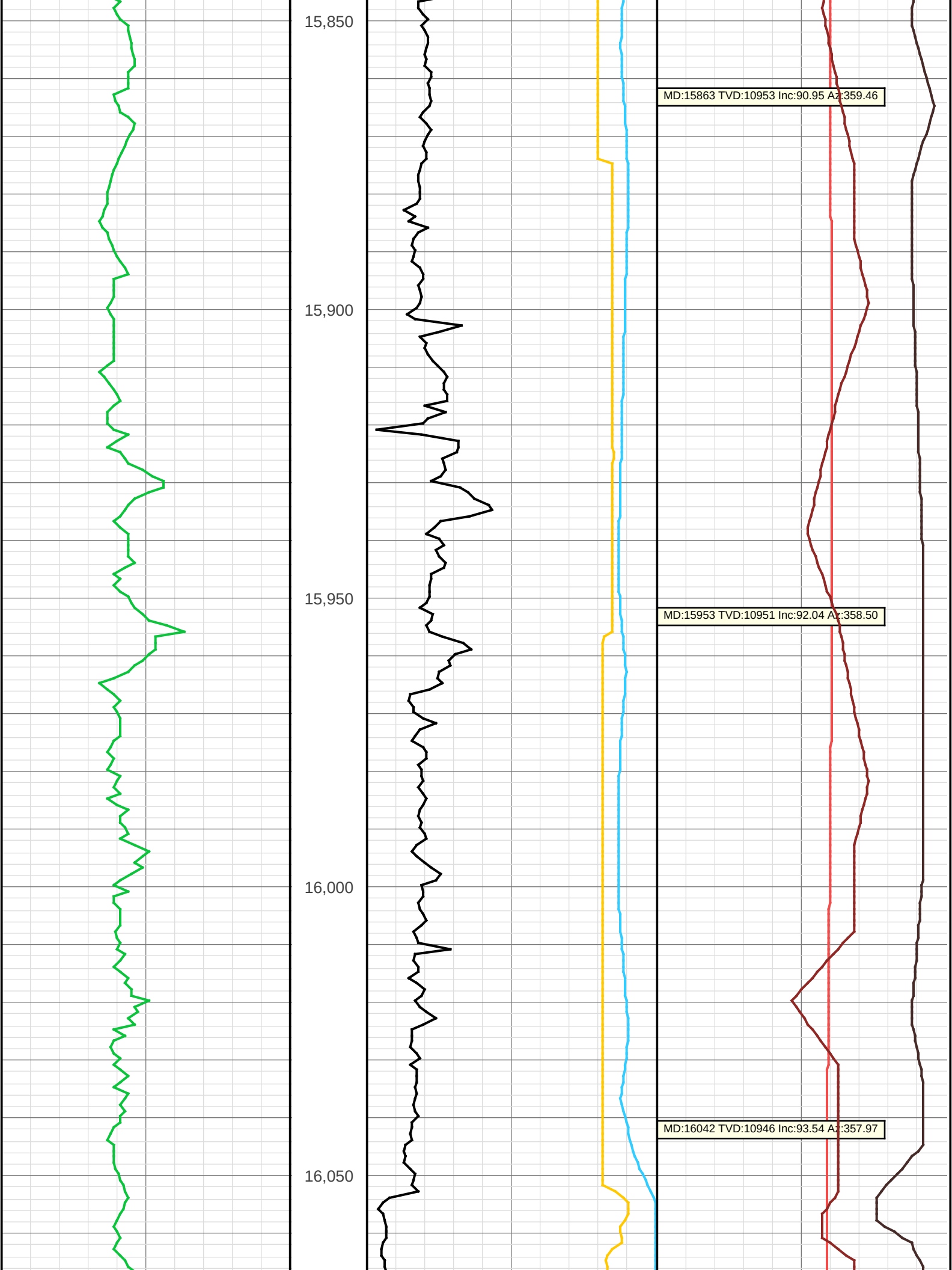
15,700
15,750
15,800
MD:15683 TVD:10958 Inc:92.92 Az:359.38
MD:15773 TVD:10955 Inc:91.25 Az:0.61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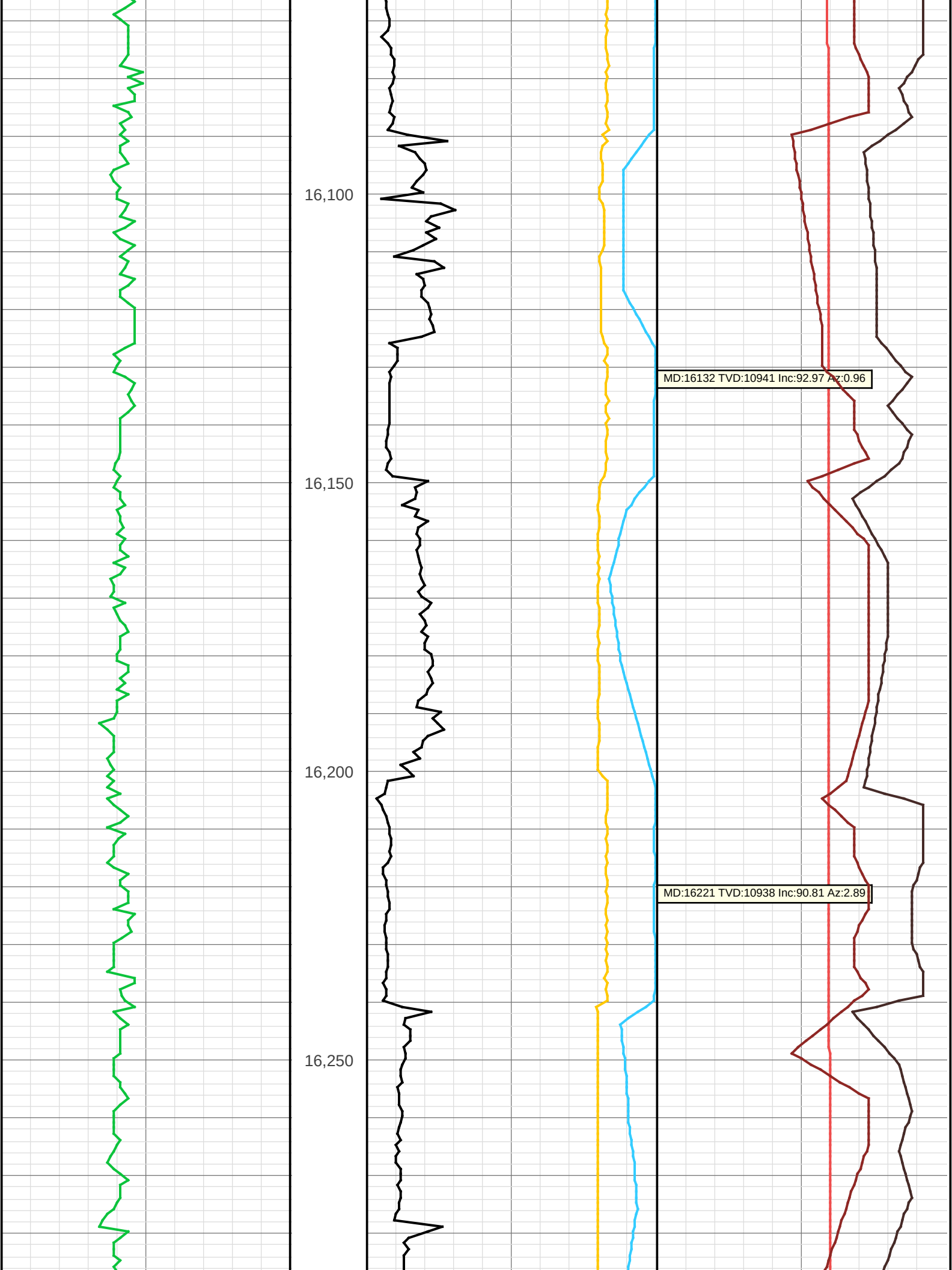
15,900
15,950
16,000
16,050
MD:15863 TVD:10953 Inc:90.95 Az:359.46
MD:15953 TVD:10951 Inc:92.04 Az:358.50
MD:16042 TVD:10946 Inc:93.54 Az:357.97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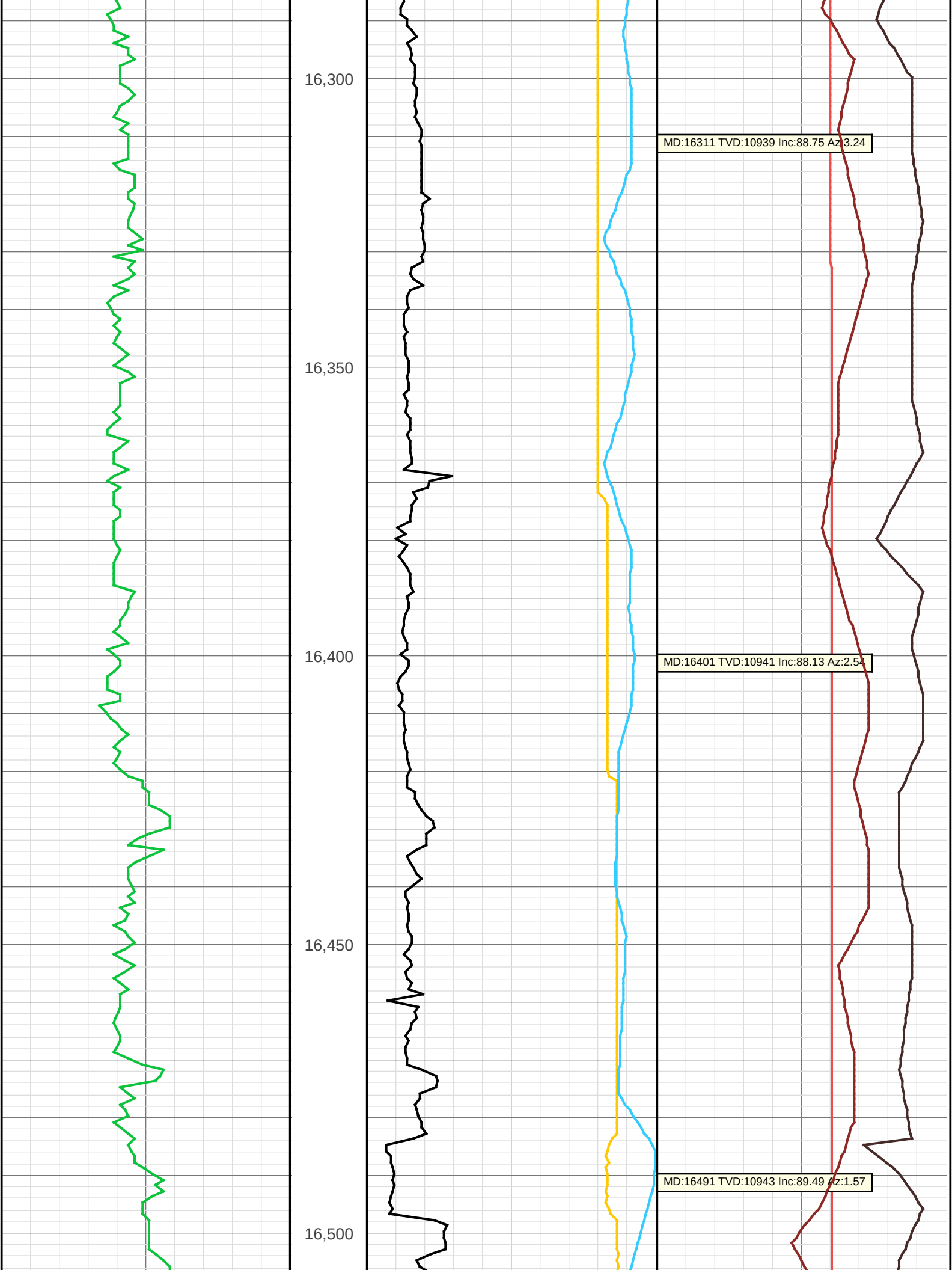
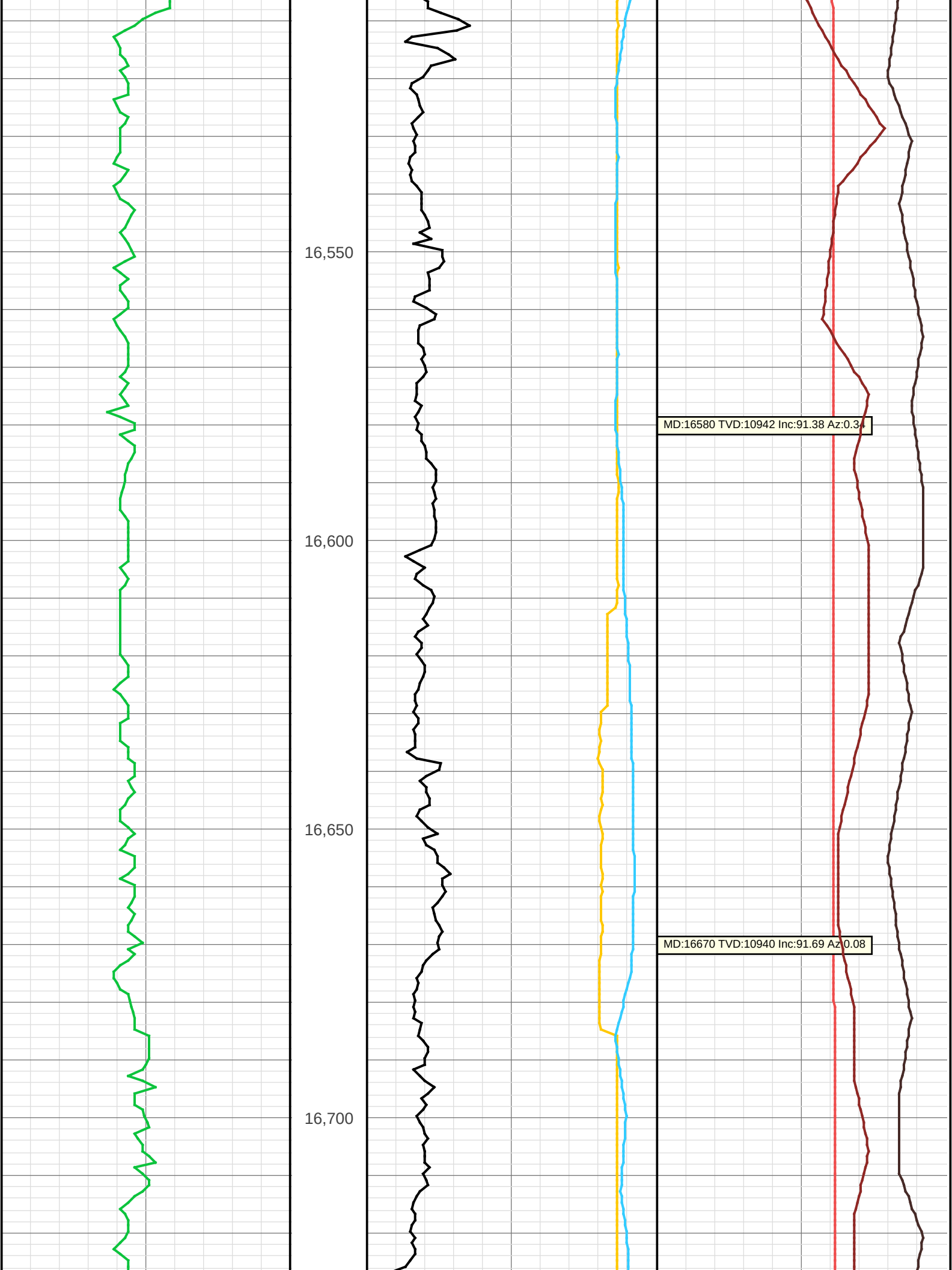
16,150
16,200
16,250
MD:16132 TVD:10941 Inc:92.97 Az:0.96
MD:16221 TVD:10938 Inc:90.81 Az:2.89


16,300
16,350
16,400
16,450
16,500
MD:16311 TVD:10939 Inc:88.75 Az:3.24
MD:16401 TVD:10941 Inc:88.13 Az:2.54
MD:16491 TVD:10943 Inc:89.49 Az:1.57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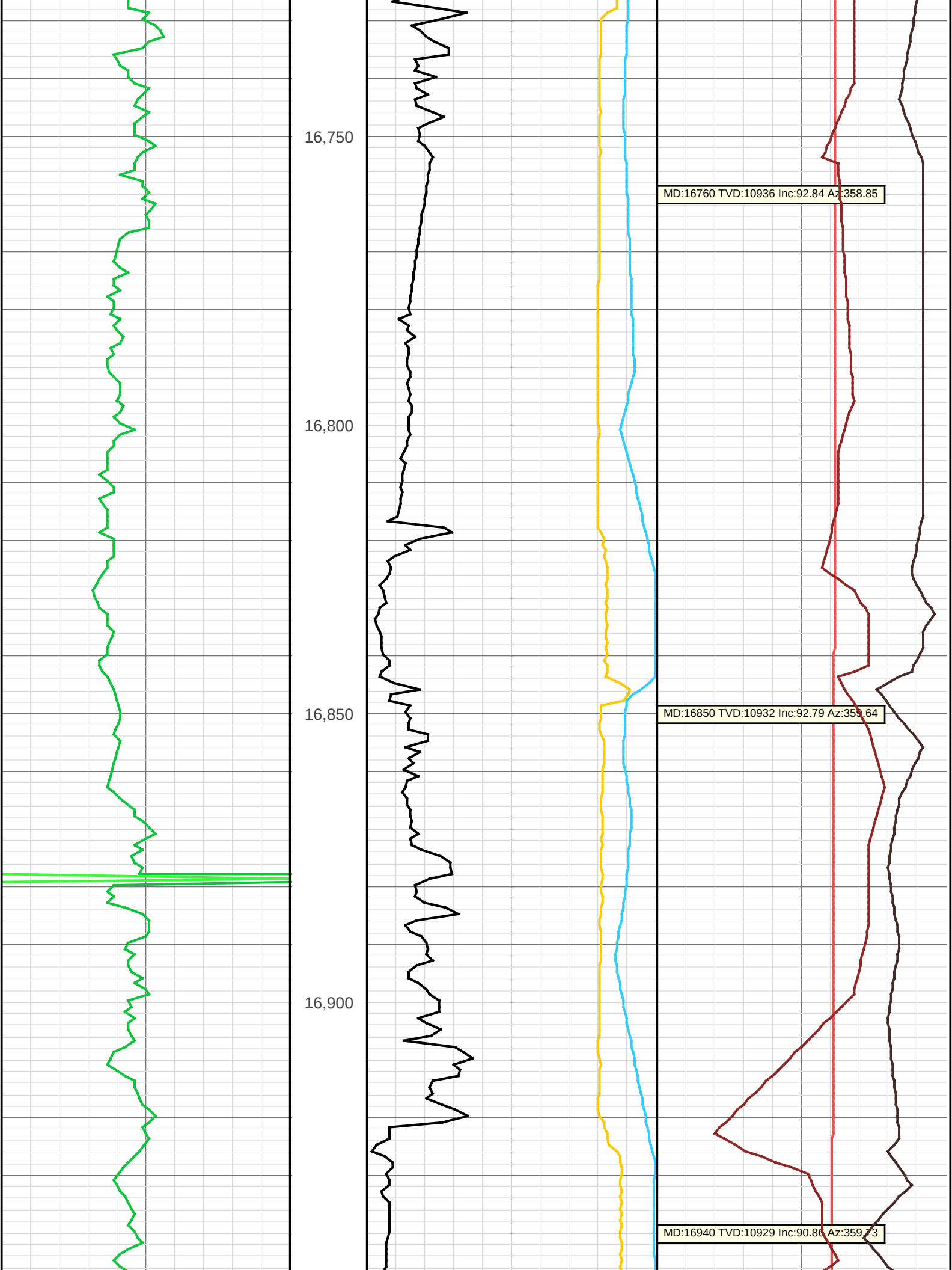
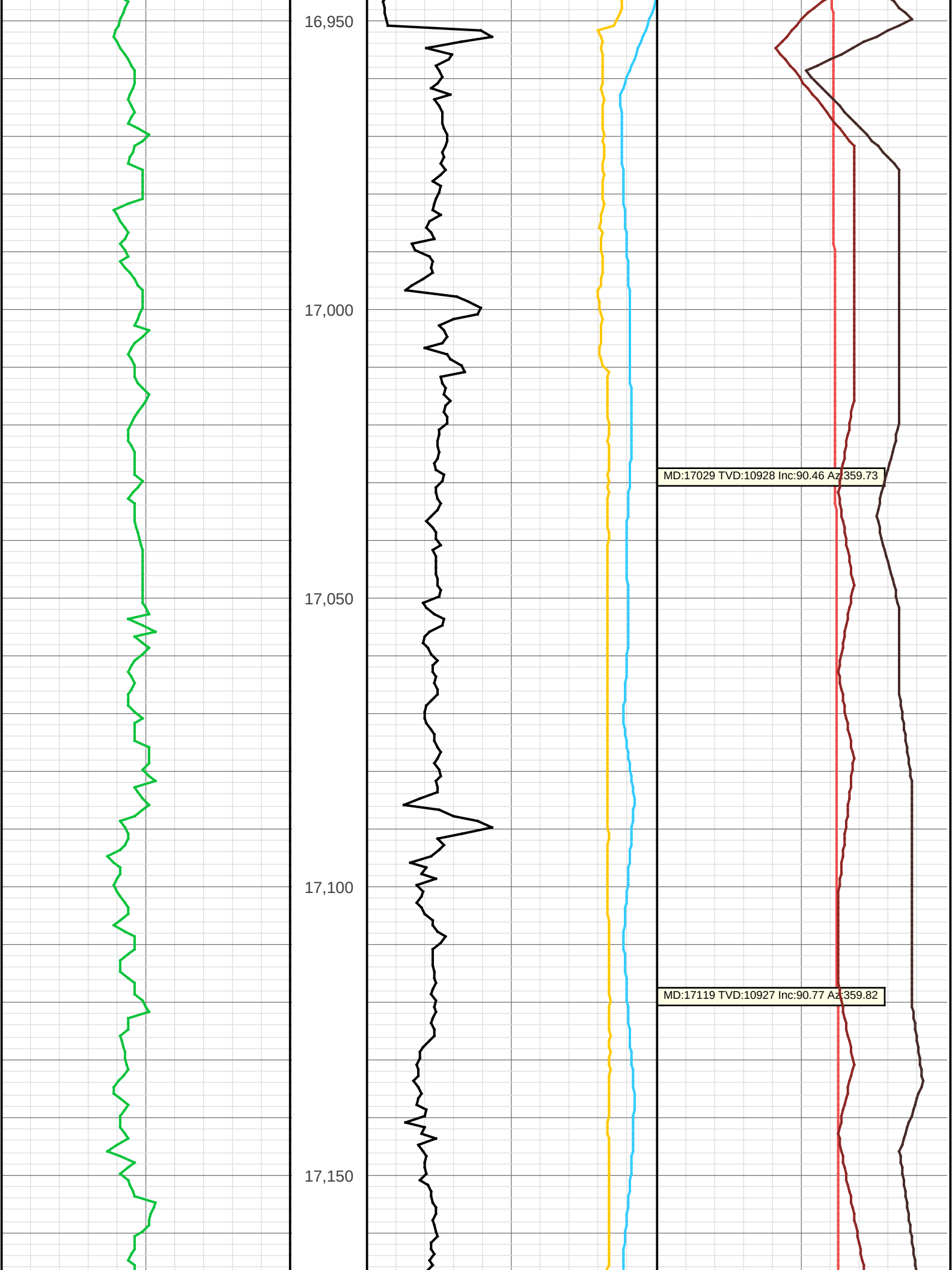
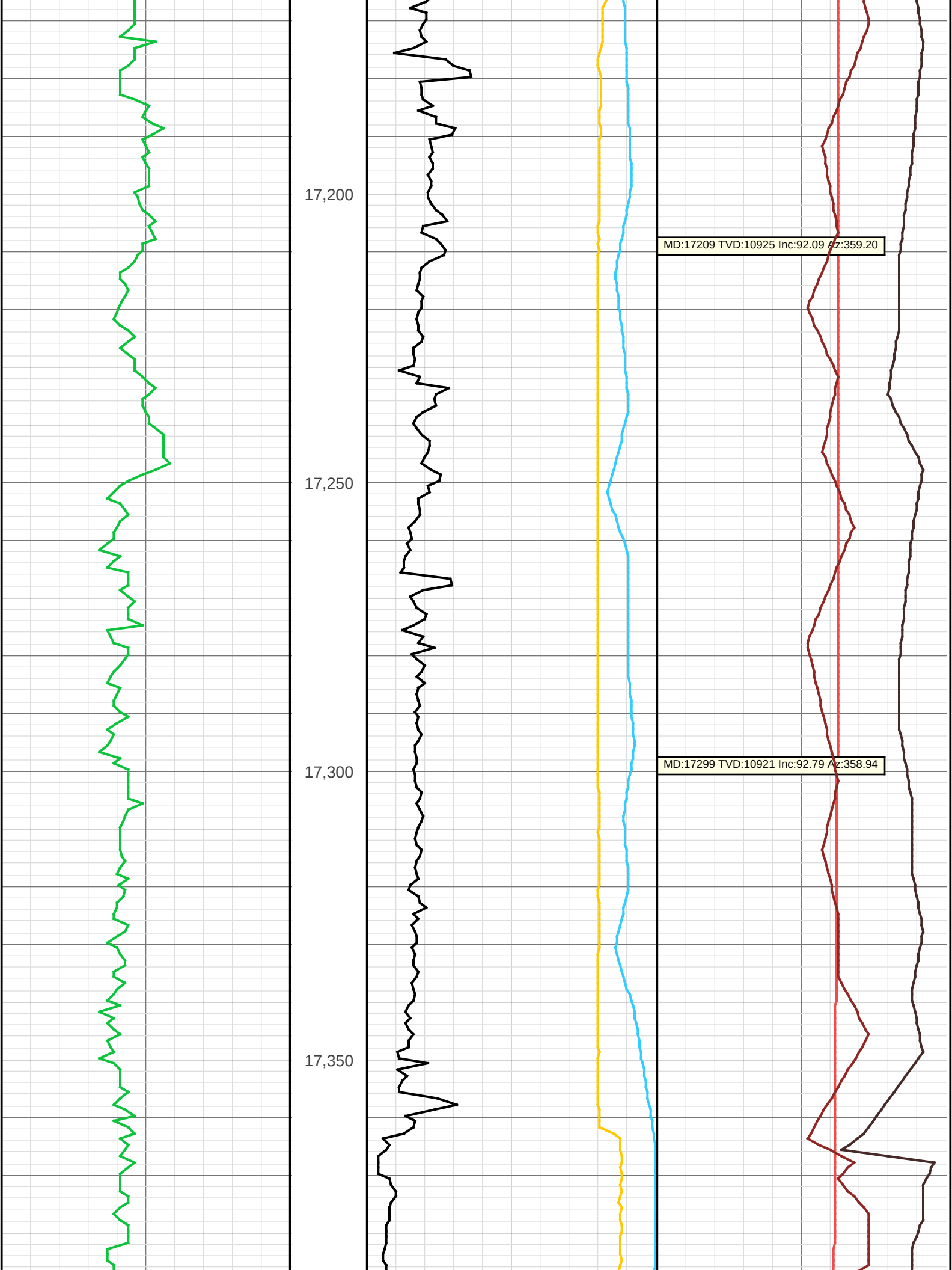
16,600
16,650
16,700
MD:16580 TVD:10942 Inc:91.38 Az:0.34
MD:16670 TVD:10940 Inc:91.69 Az:0.08


16,750
16,800
16,850
16,900
MD:16760 TVD:10936 Inc:92.84 Az:358.85
MD:16850 TVD:10932 Inc:92.79 Az:359.64
MD:16940 TVD:10929 Inc:90.86 Az:359.73


16,950
17,000
17,050
17,100
17,150
MD:17029 TVD:10928 Inc:90.46 Az:359.73
MD:17119 TVD:10927 Inc:90.77 Az:359.82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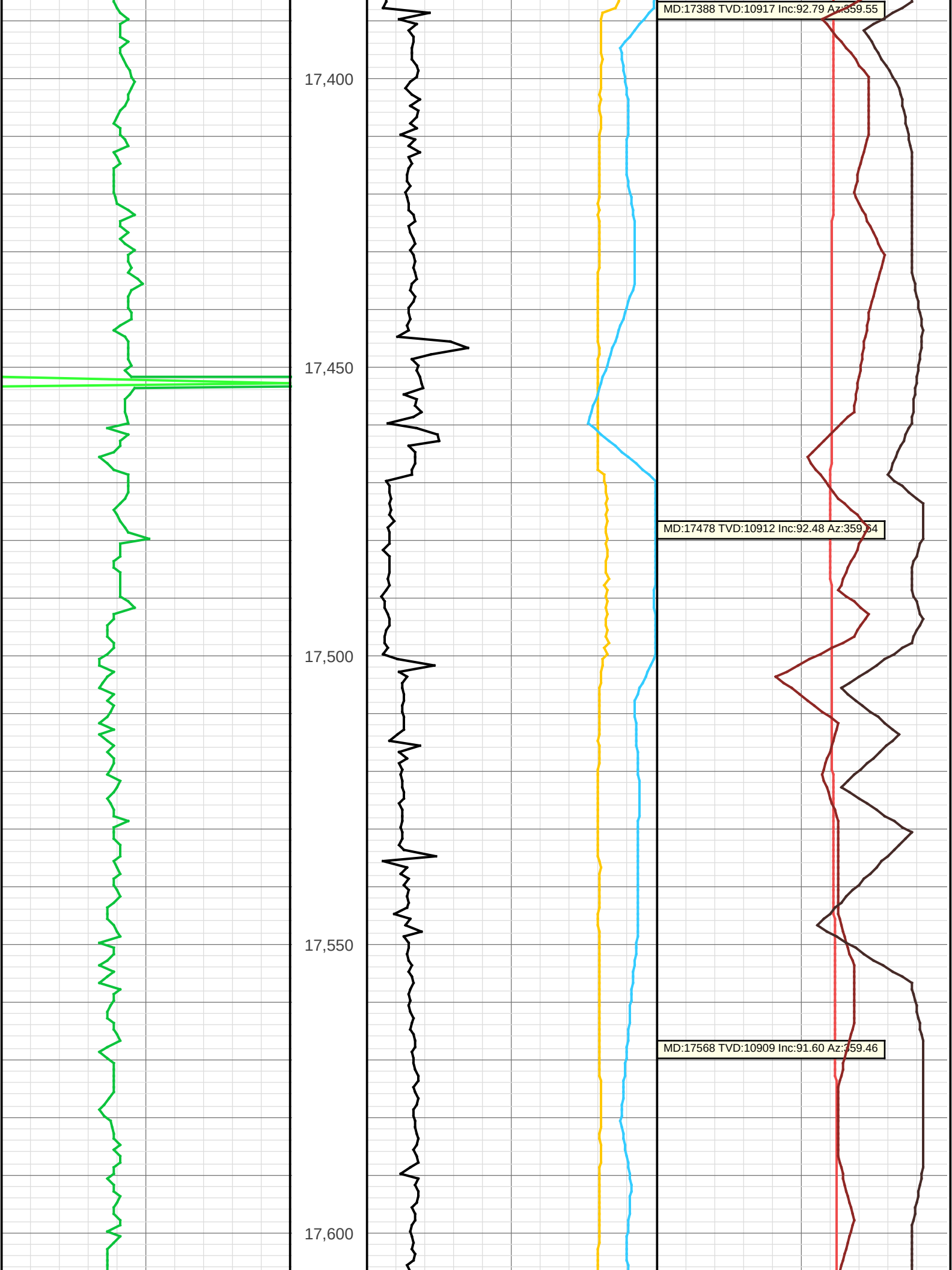
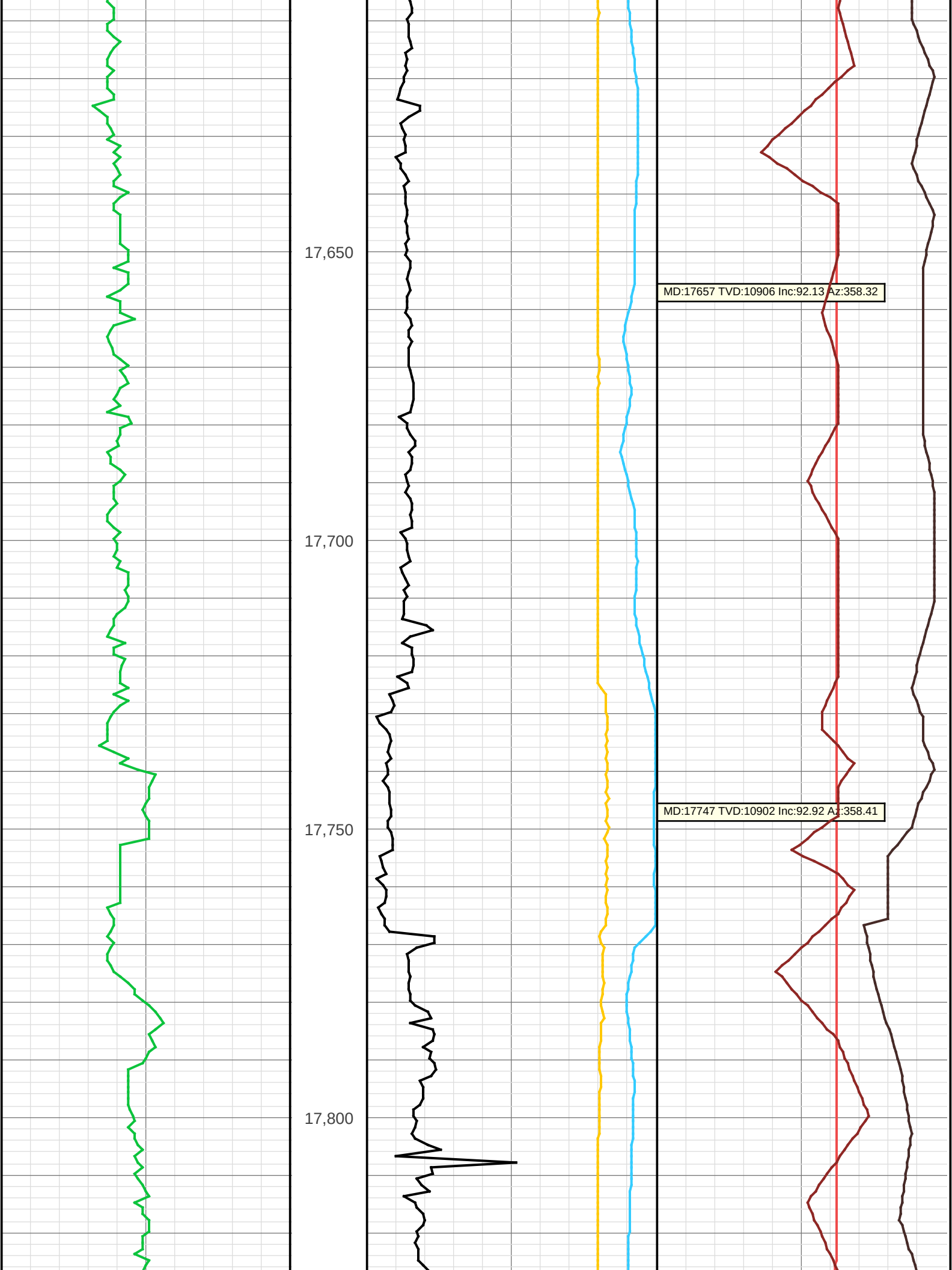
17,250
17,300
17,350
MD:17209 TVD:10925 Inc:92.09 Az:359.20
MD:17299 TVD:10921 Inc:92.79 Az:358.94


17,400
17,450
17,500
17,550
17,600
MD:17388 TVD:10917 Inc:92.79 Az:359.55
MD:17478 TVD:10912 Inc:92.48 Az:359.64
MD:17568 TVD:10909 Inc:91.60 Az:359.46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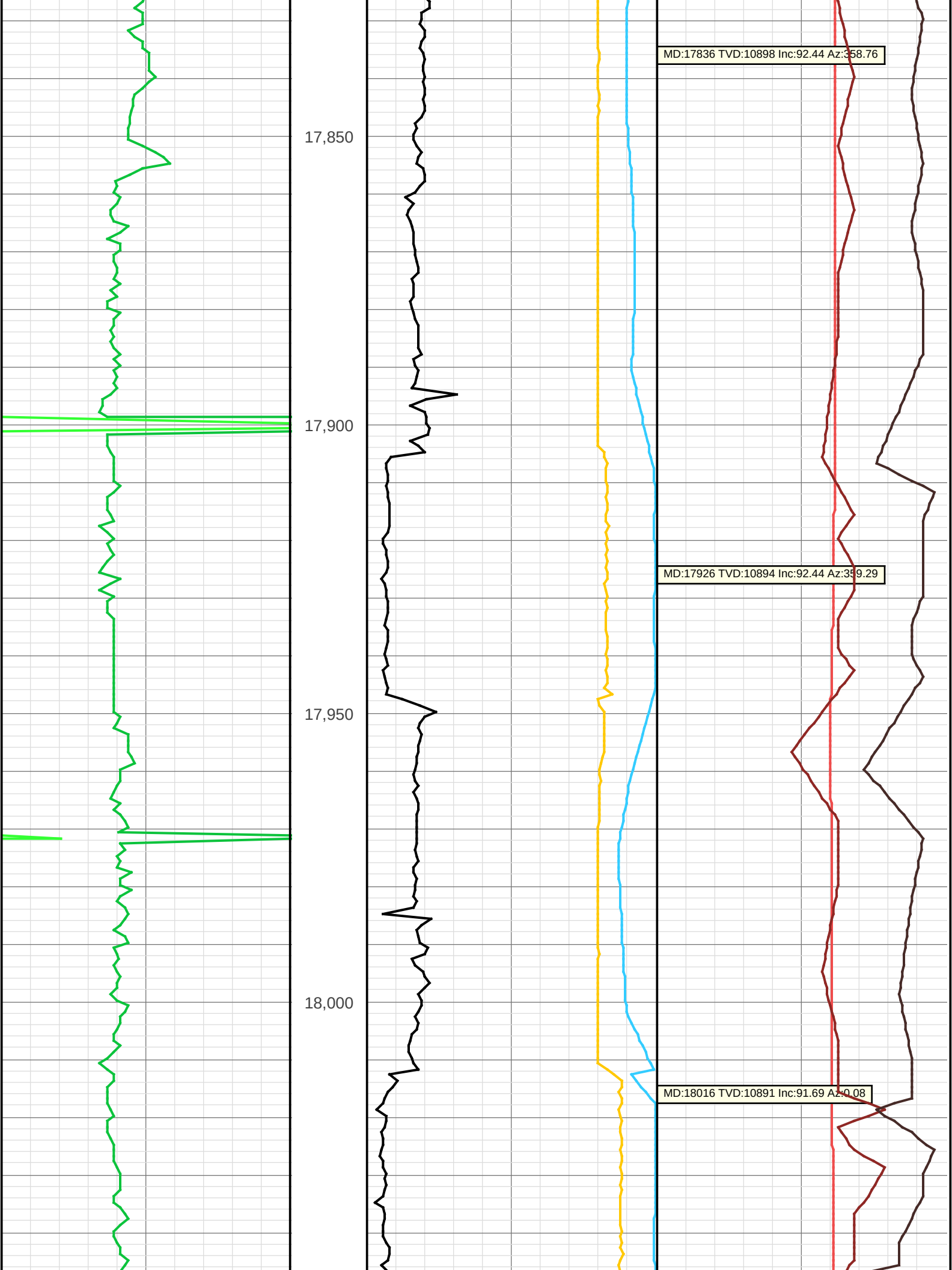
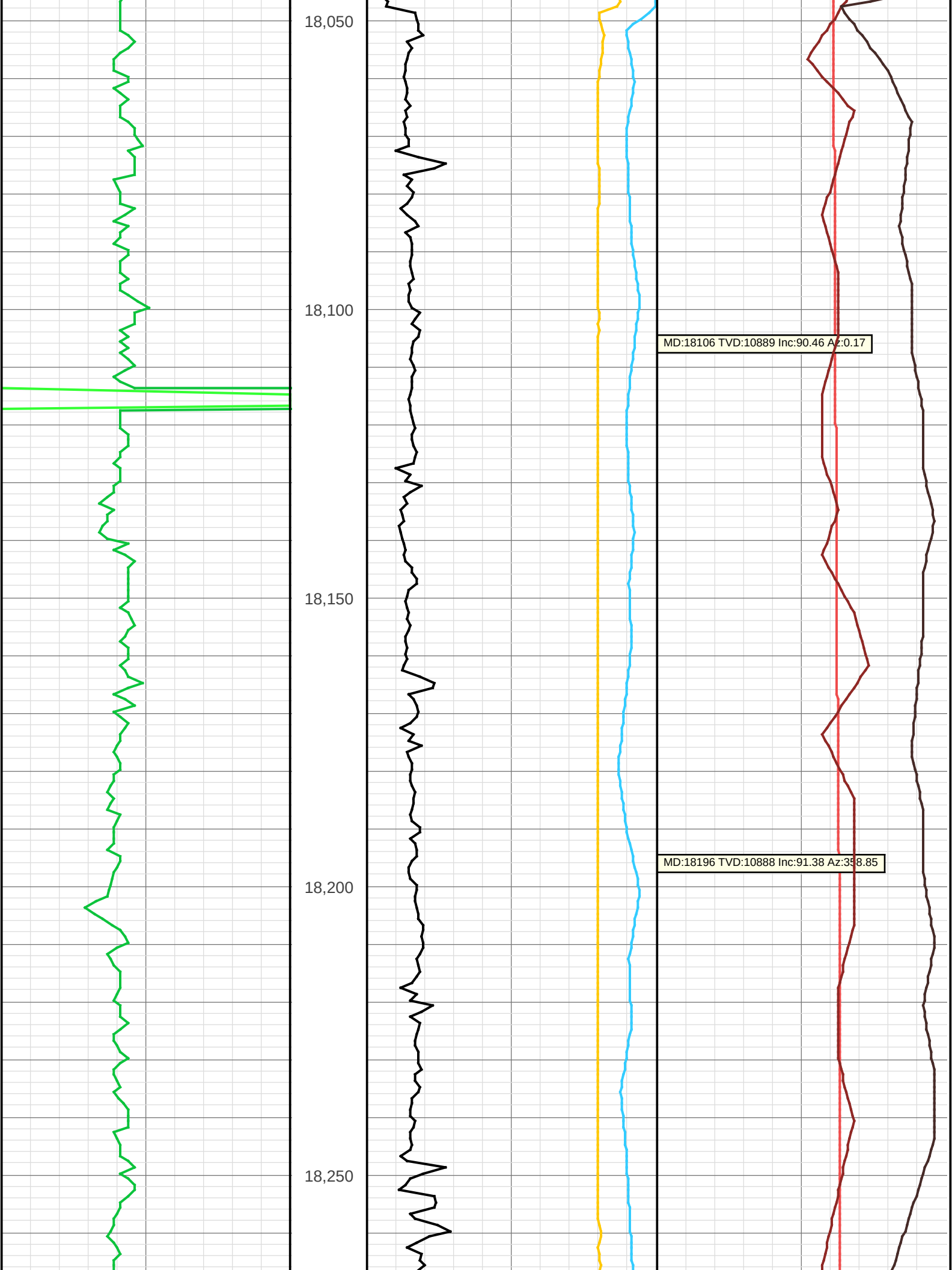
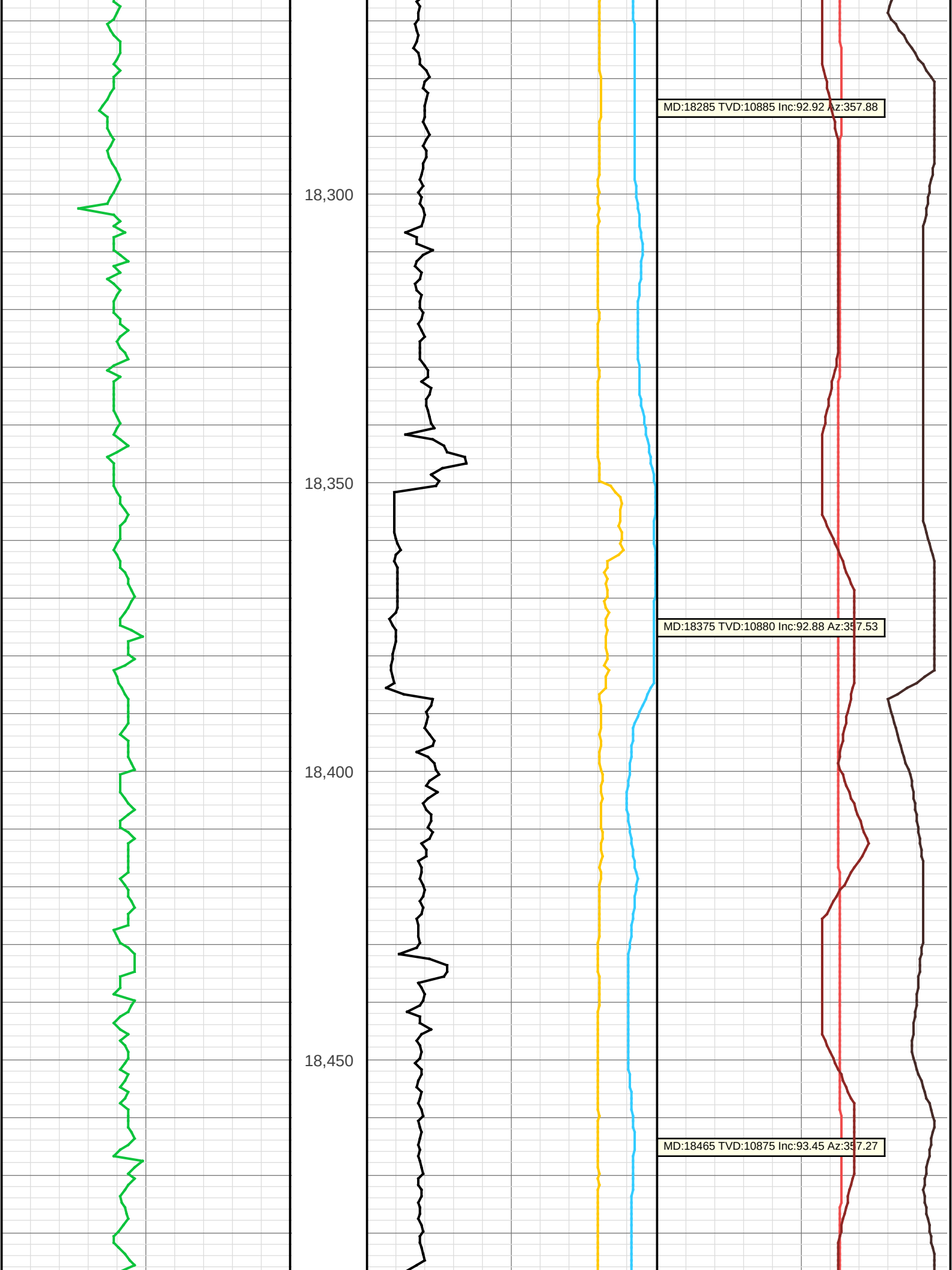
17,700
17,750
17,800
MD:17657 TVD:10906 Inc:92.13 Az:358.32
MD:17747 TVD:10902 Inc:92.92 Az:358.41


MD:17836 TVD:10898 Inc:92.44 Az:358.76
17,850
17,900
MD:17926 TVD:10894 Inc:92.44 Az:359.29
17,950
18,000
MD:18016 TVD:10891 Inc:91.69 Az:0.08


18,050
18,100
18,150
18,200
18,250
MD:18106 TVD:10889 Inc:90.46 Az:0.17
MD:18196 TVD:10888 Inc:91.38 Az:358.85


MD:18285 TVD:10885 Inc:92.92 Az:357.88
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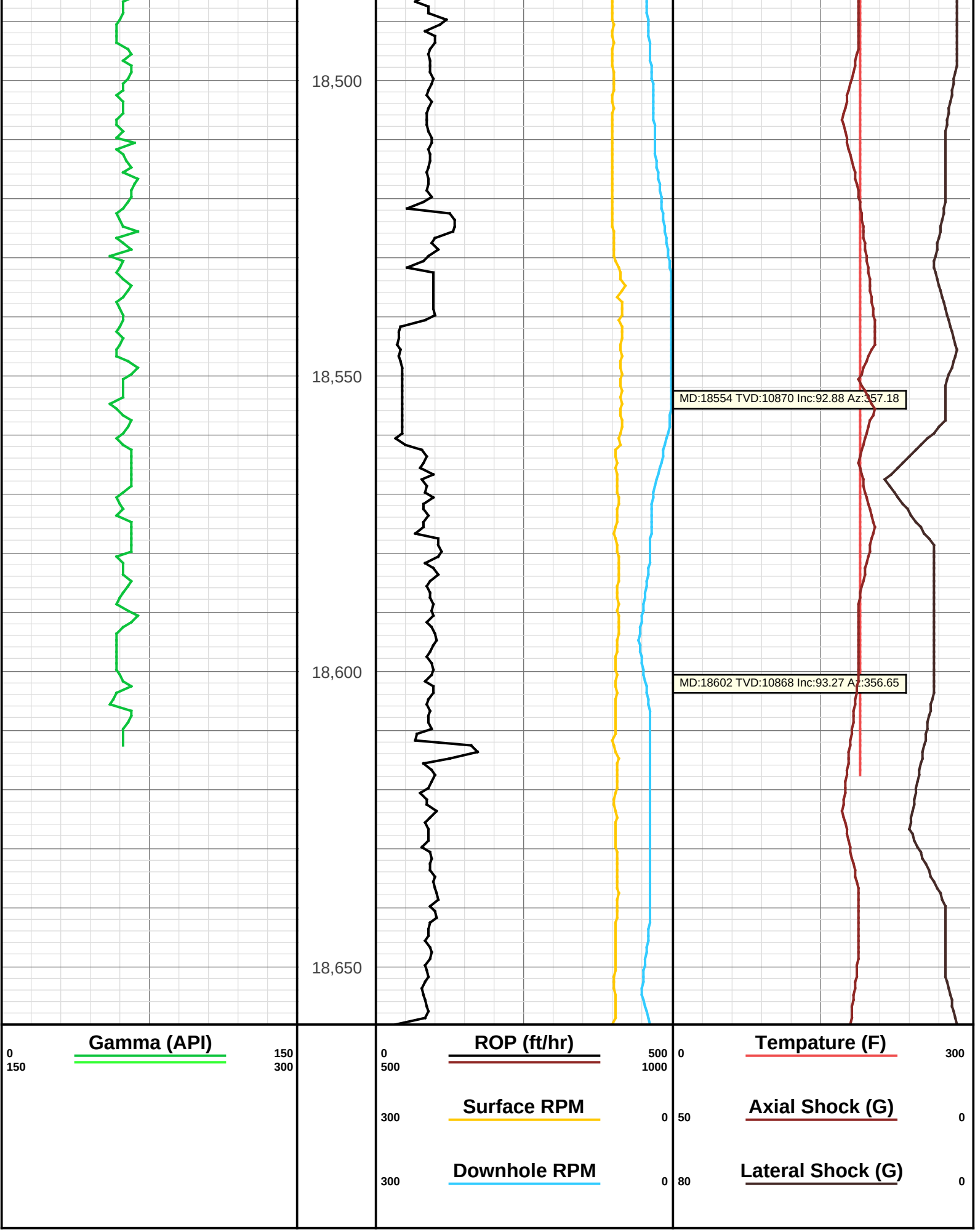
18,350
MD:18375 TVD:10880 Inc:92.88 Az:357.53
18,400
18,450
MD:18465 TVD:10875 Inc:93.45 Az:357.27


18,500
18,550
18,600
18,650
MD:18554 TVD:10870 Inc:92.88 Az:357.18
MD:18602 TVD:10868 Inc:93.27 Az:356.65
Gamma (API)
0
150
150
300
ROP (ft/hr)
0
500
500
1000
Surface RPM
300
0
Downhole RPM
300
0
Tempature (F)
0
300
Axial Shock (G)
50
0
Lateral Shock (G)
80
0

Gamma Ray

INTREPID
Directional Drilling Specialists

Intrepid-DDS
10314 TX-191
Midland,TX 79707

5" = 100'
TVD FT

Company: AEP
Well: Wool Head 20 State Com #512H
Field: Delaware Basin
API: 30-025-46492
County: Lea
State: New Mexico
Country: USA
Rig: HP 466
AFE: NM0093
Job: ID2389

Company: AEP
Well: Wool Head 20 State Com #512H
Field: Delaware Basin
API: 30-025-46492
County: Lea
State: New Mexico
Country: USA
Rig: HP 466

Well Location NAD 1927
Latitude: 32° 27' 29.103 N Longitude: 103° 35' 19.292 W
Y: 531183.00 X: 771015.1

Section: 20 Twnship: 21-S Rnge: 33-E

Permanent Datum: Mean Sea Level Kelly Bushing Elev: N/A
Log Measured From: Rotary Table Drill Floor Elev: 3752.5
Height of Reference: 26.5 Ground Level Elev: 3726

Depth Drilled: 1.0 to: 18660.0
Depth Logged: 5100.0 to: 18660.01
Date Logged: 13 Nov 2019 23:53 to: 14 Jan 2020 10:33

Disclaimer: Intrepid DDS uses its best efforts to provide customers with accurate information and interpretations with services performed but does not warranty the accuracy of information or interpretations.

Hole Data			Casing Data		
Size	From (MD)	To (MD)	Size	From (MD)	To (MD)
17.5	100	1838	13 3/8	100	1838
12 1/4	1838	5282	9 5/8	1838	5282
8.5	5282	18660	5 1/2	5282	18660

Report:AEP_7 Curve Log_DRPM Date: Jan 14 2020 10:33 Filter: AF1 Software: 10.7.9

Run Data

Run Name	MWD Run 1	MWD Run 2	MWD Run 3	MWD Run 4	MWD Run 5	MWD Run 6	MWD Run 7			
Start Date	13 Nov 2019	21 Nov 2019	1 Dec 2019	5 Jan 2020	7 Jan 2020	8 Jan 2020	9 Jan 2020			
Start Time	1:45	08:45	7:30	23:00	2:15	04:00	03:45			
End Date	14 Nov 2019	22 Nov 2019	3 Dec 2019	7 Jan 2019	8 Jan 2020	9 Jan 2020	14 Jan 2019			
End Time	22:00	22:15	05:00	1:45	2:30	2:15	02:30			
Depth In	1.0	1852	5282	10555	10715	10908	11214			
Depth Out	1838	5282	10555	10715	10908	11214	18660			
Log Top			5217	10502	10680	10872	11177			
Log Bottom			10502	10680	10872	11177	18613			
Hole Size	17.5	12.25	8.5	8.5	8.5	8.5	8.5			

Tool Data

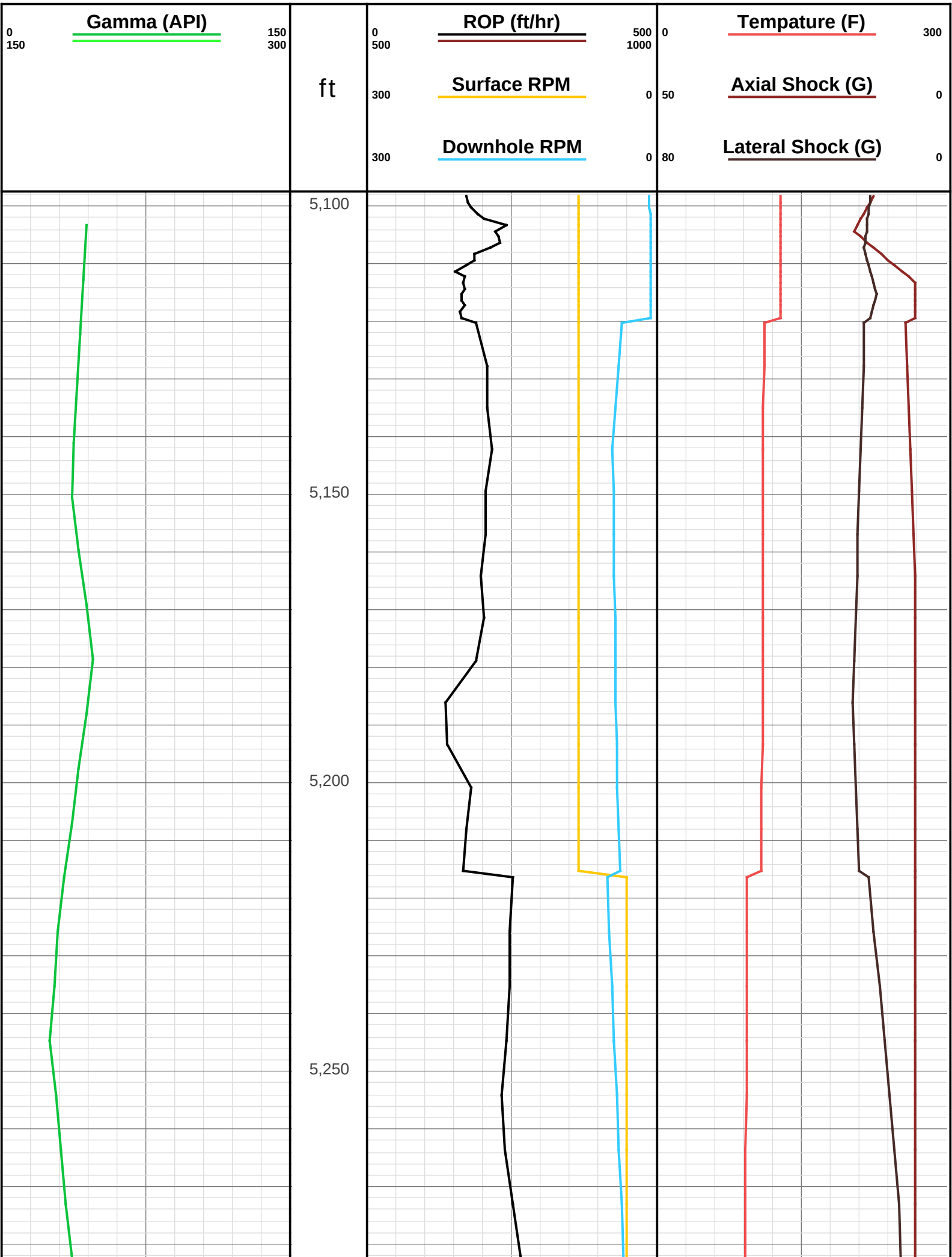
Run Name	MWD Run 1	MWD Run 2	MWD Run 3	MWD Run 4	MWD Run 5	MWD Run 6	MWD Run 7	
Directional Sensor SN	20125-R	20125-R	20120-R	20129-R	20129-R	20129	20124	
Directional Offset	68	65	63	47	47	48	58	
Gamma Sensor SN	N/A	N/A	352-R	691-R	688-R	617	688	
Gamma Offset			53	35	36	37	47	
Gamma Corr. Factor	1.0	1.0	3.661	3.79	3.82	3.65	3.65	

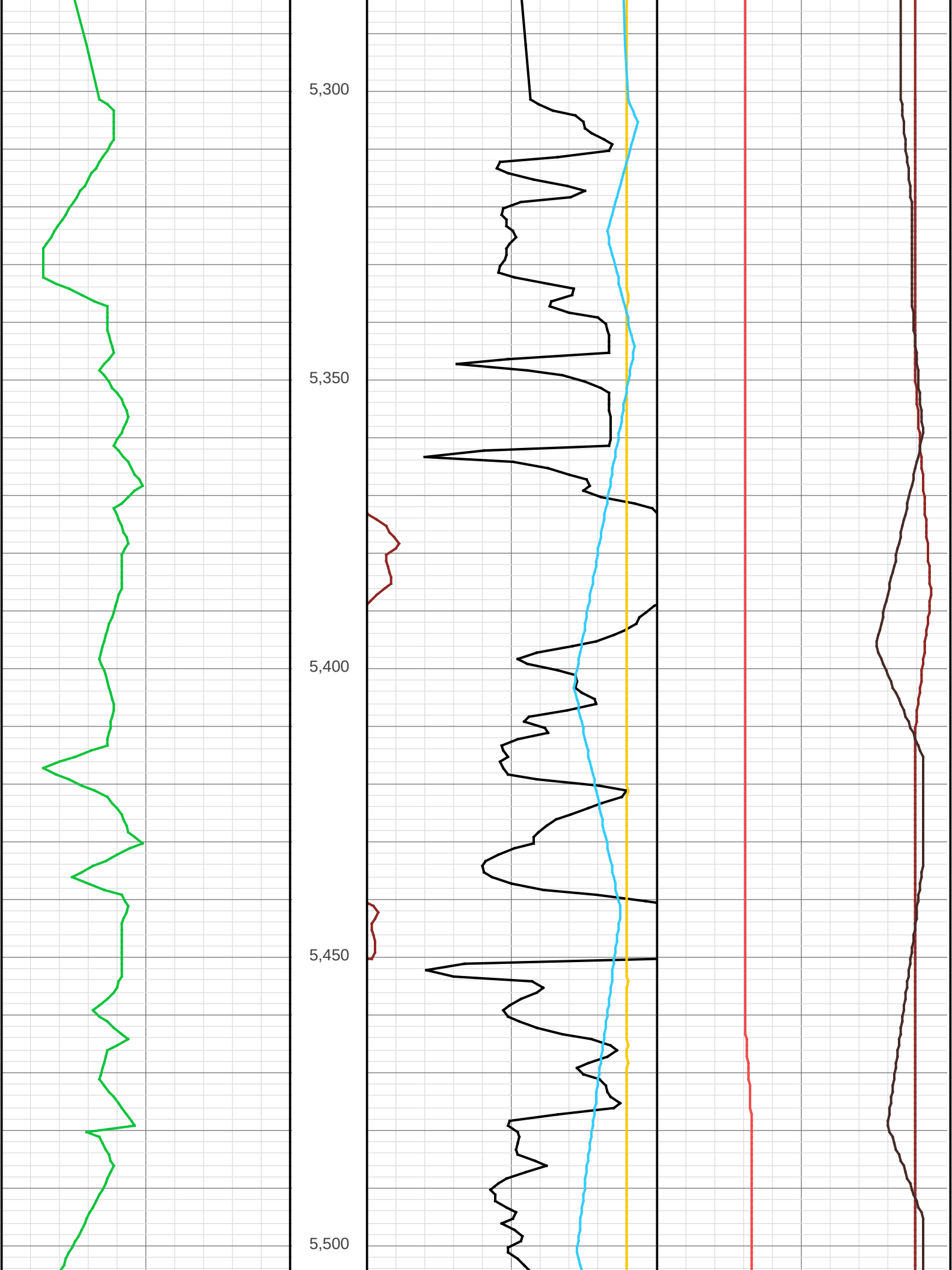
Mud Data

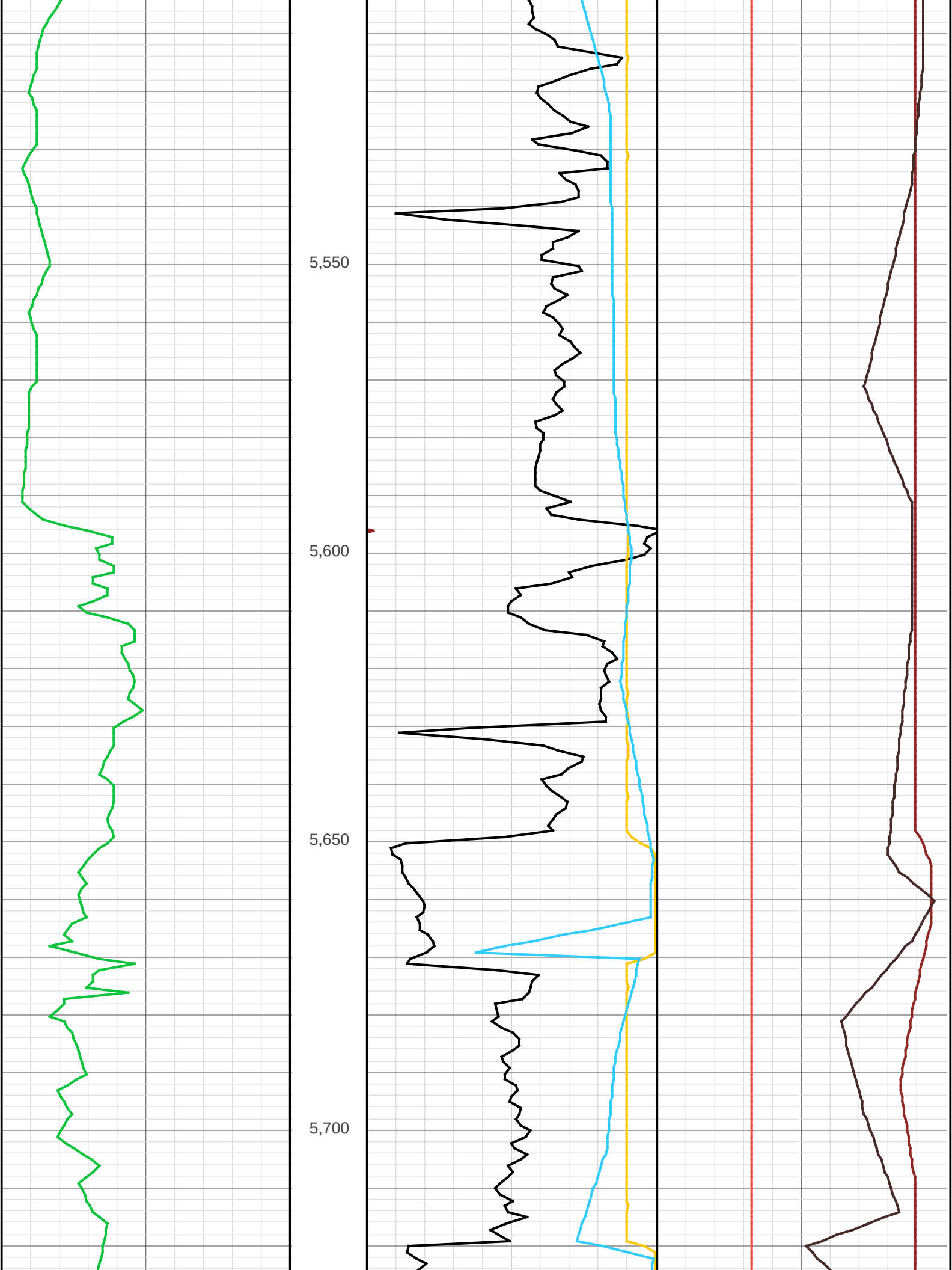
Run Name	MWD Run 1	MWD Run 2	MWD Run 3	MWD Run 4	MWD Run 5	MWD Run 6	MWD Run 7	
Mud Type	Water Based	Water Based	Water Based	Oil Based	Oil Based	Oil Based	Oil Based	
Mud Density (lb/gal)	10.0	10.4	9.2	9.6	9.6	9.7	9.5	
Funnel Visc. (s/qt)	41	29	1	61	61	70	65	
Plastic Visc. (cP)	4	2	1	14	14	17	15	
pH	8.1	10.2	11	N/A	N/A	NA		
Chlor. Whole Mud (mg/L)	1800	188000	73,000	48,000	48,000	45000	46000	
API Filtrate (cm3/30)	99	99	99/2	N/A	N/A	99/2	7.8	
Max MWD Temp (F)	370.6	420.6	142.0	122.0	120.2	122.0	190.8	

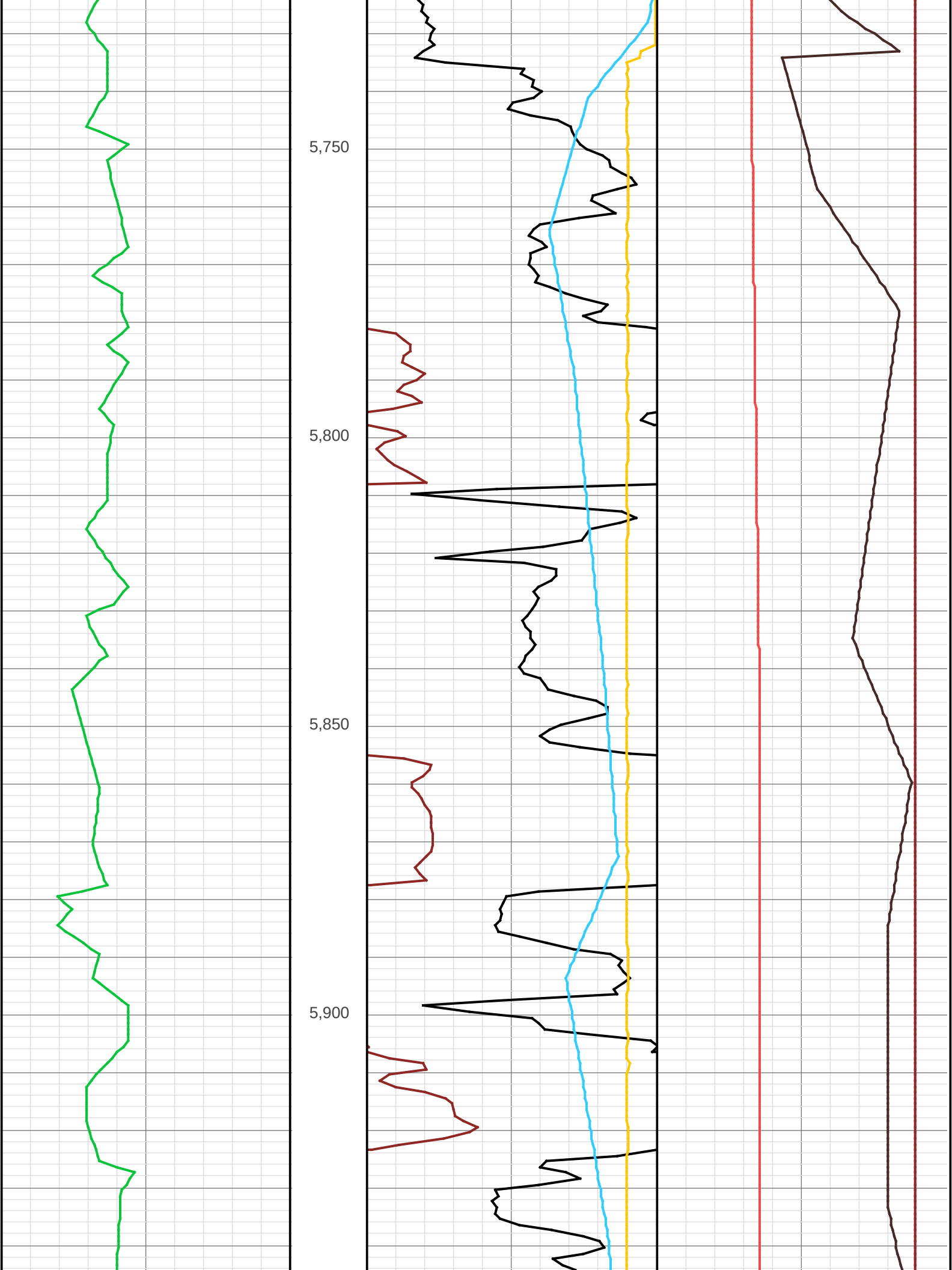
Personnel

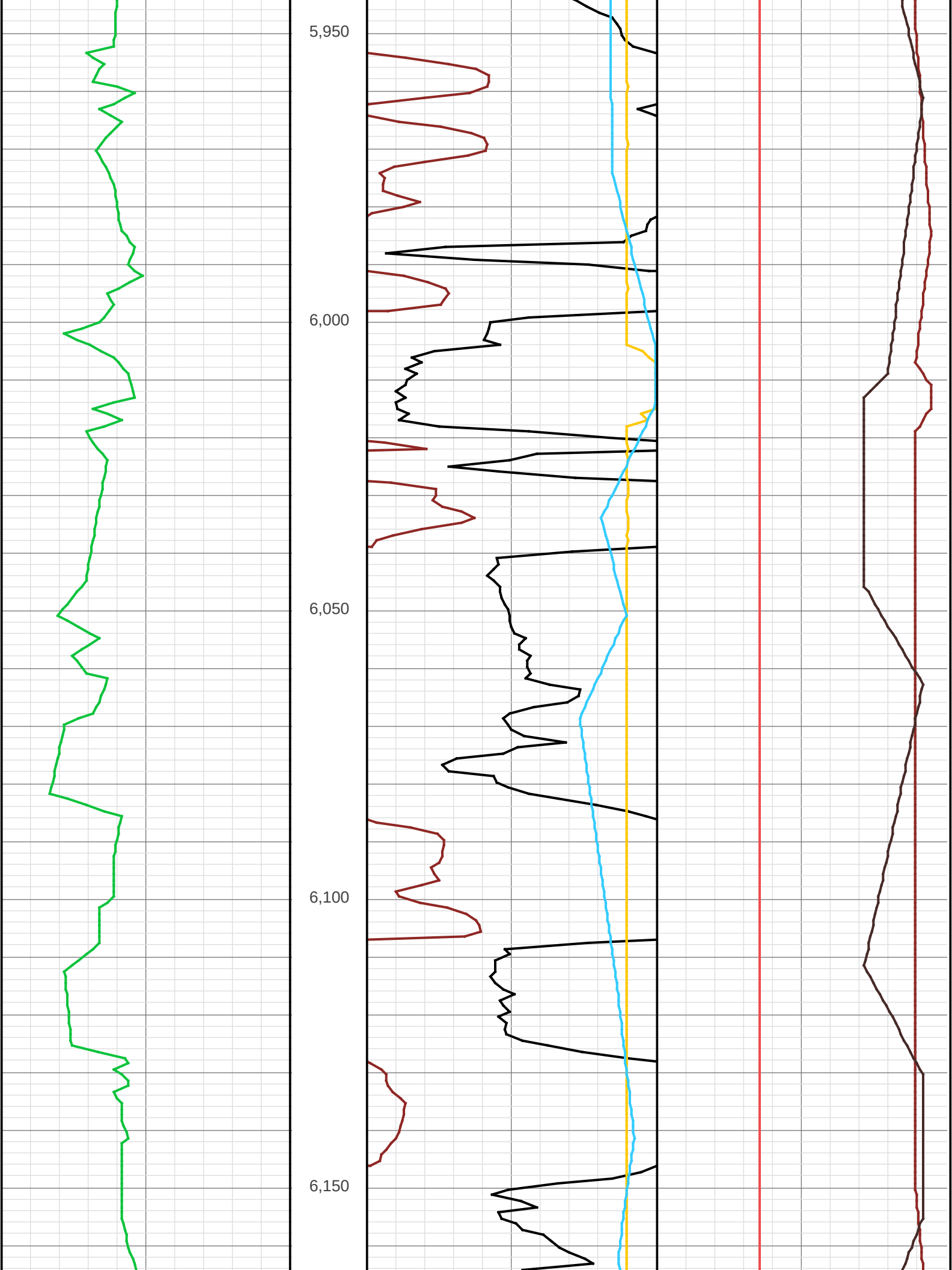
Run Name	MWD Run 1	MWD Run 2	MWD Run 3	MWD Run 4	MWD Run 5	MWD Run 6	MWD Run 7	
MWD Operator 1	Ben Wallace	Michael Walton	Michael Walton	Michael Walton	Michael Walton	Ben Wallace	Ben Wallace	
MWD Operator 2	Mike Walton	Jospeh Hatley	Jospeh Hatley	Dustin Loomis	Dustin Loomis	Joe Hatley	Joe Hatley	
MWD Operator 3								

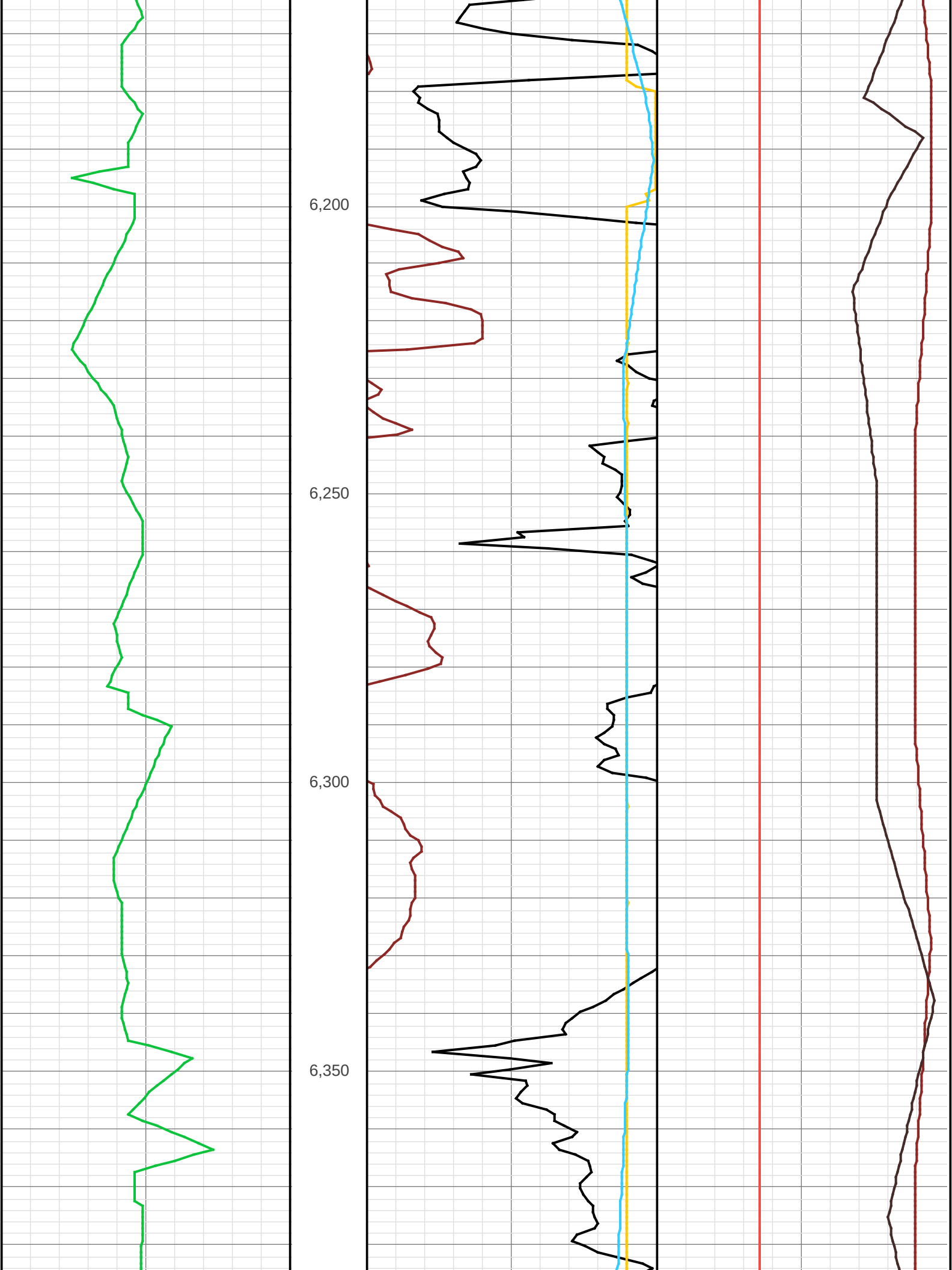

Gamma (API)
0
150
150
300
ft
ROP (ft/hr)
0
500
500
1000
Surface RPM
300
0
Downhole RPM
300
0
Tempature (F)
0
300
Axial Shock (G)
50
0
Lateral Shock (G)
80
0
5,100
5,150
5,200
5,250

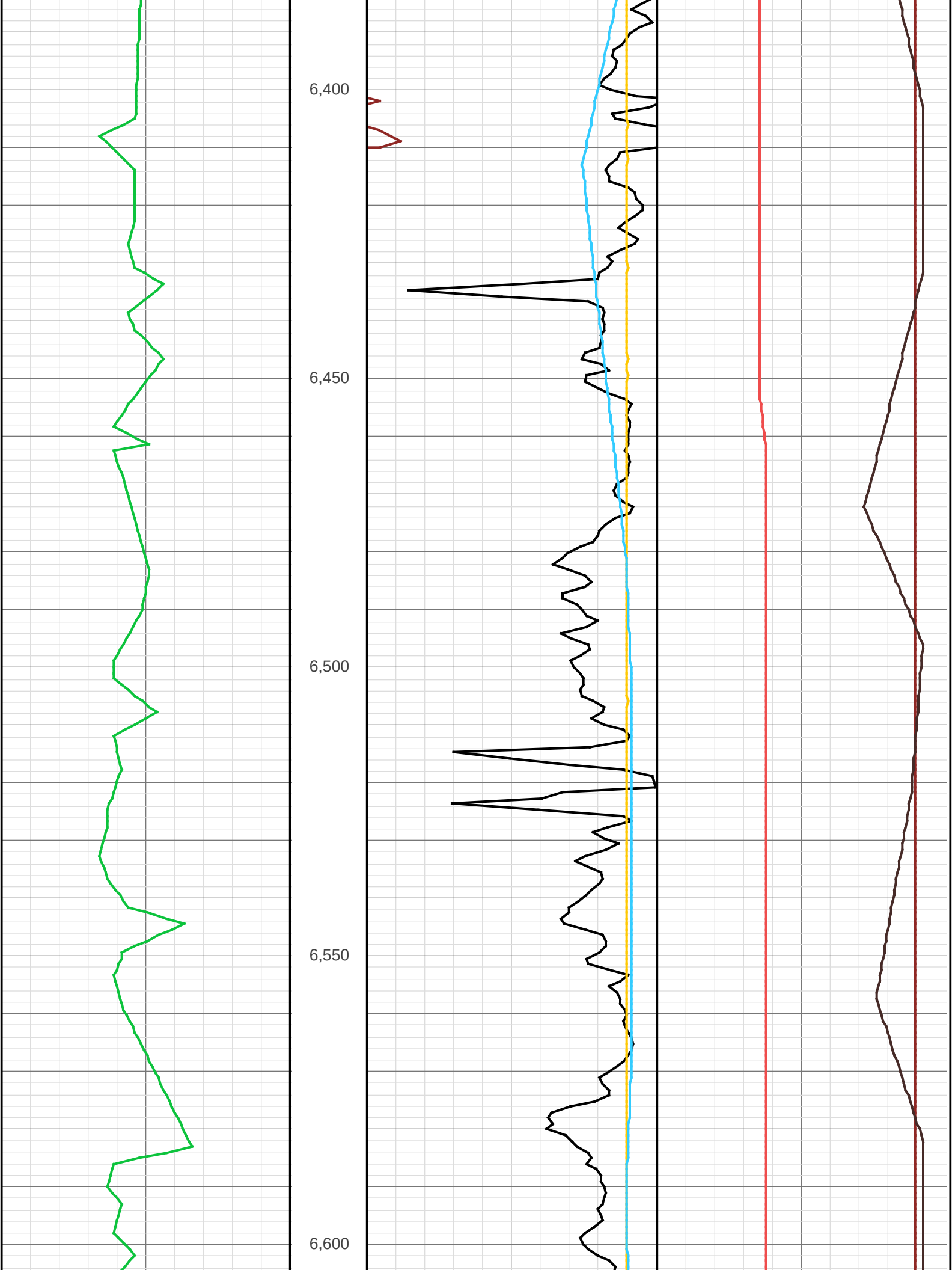

5,300
5,350
5,400
5,450
5,500

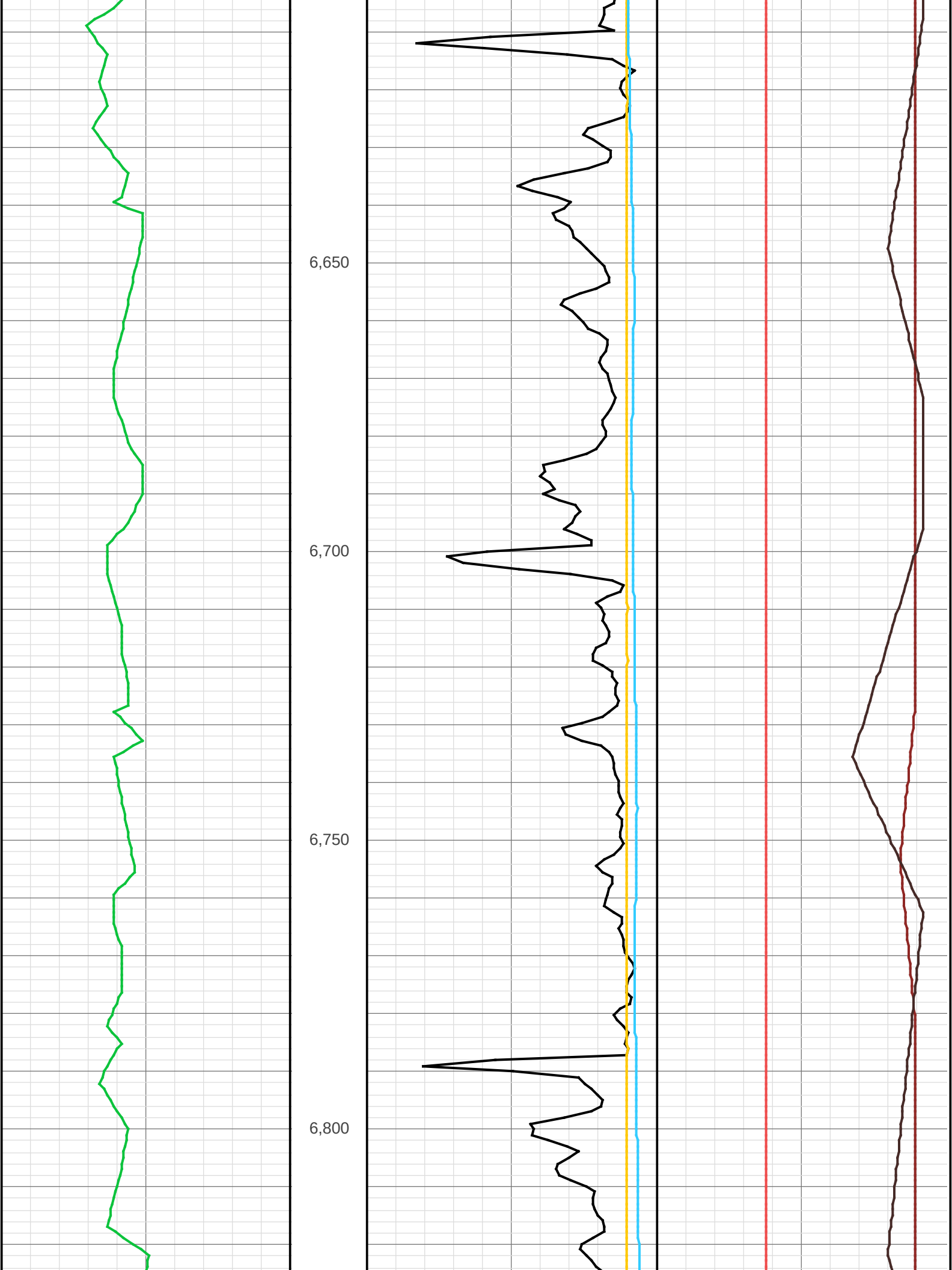

5,550
5,600
5,650
5,700

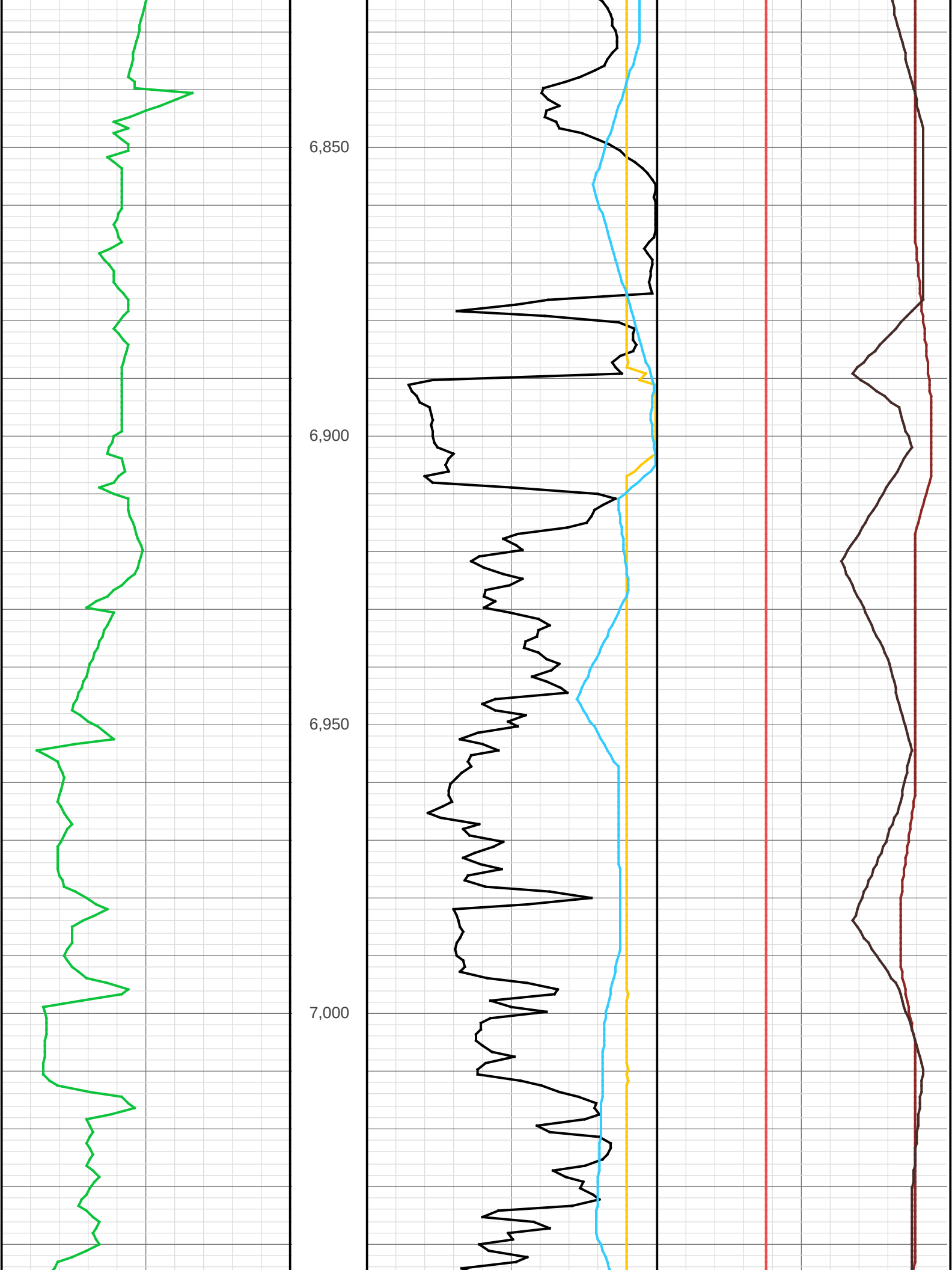

5,750
5,800
5,850
5,900


5,950
6,000
6,050
6,100
6,150


6,200
6,250
6,300
6,350


6,400
6,450
6,500
6,550
6,600


6,650
6,700
6,750
6,800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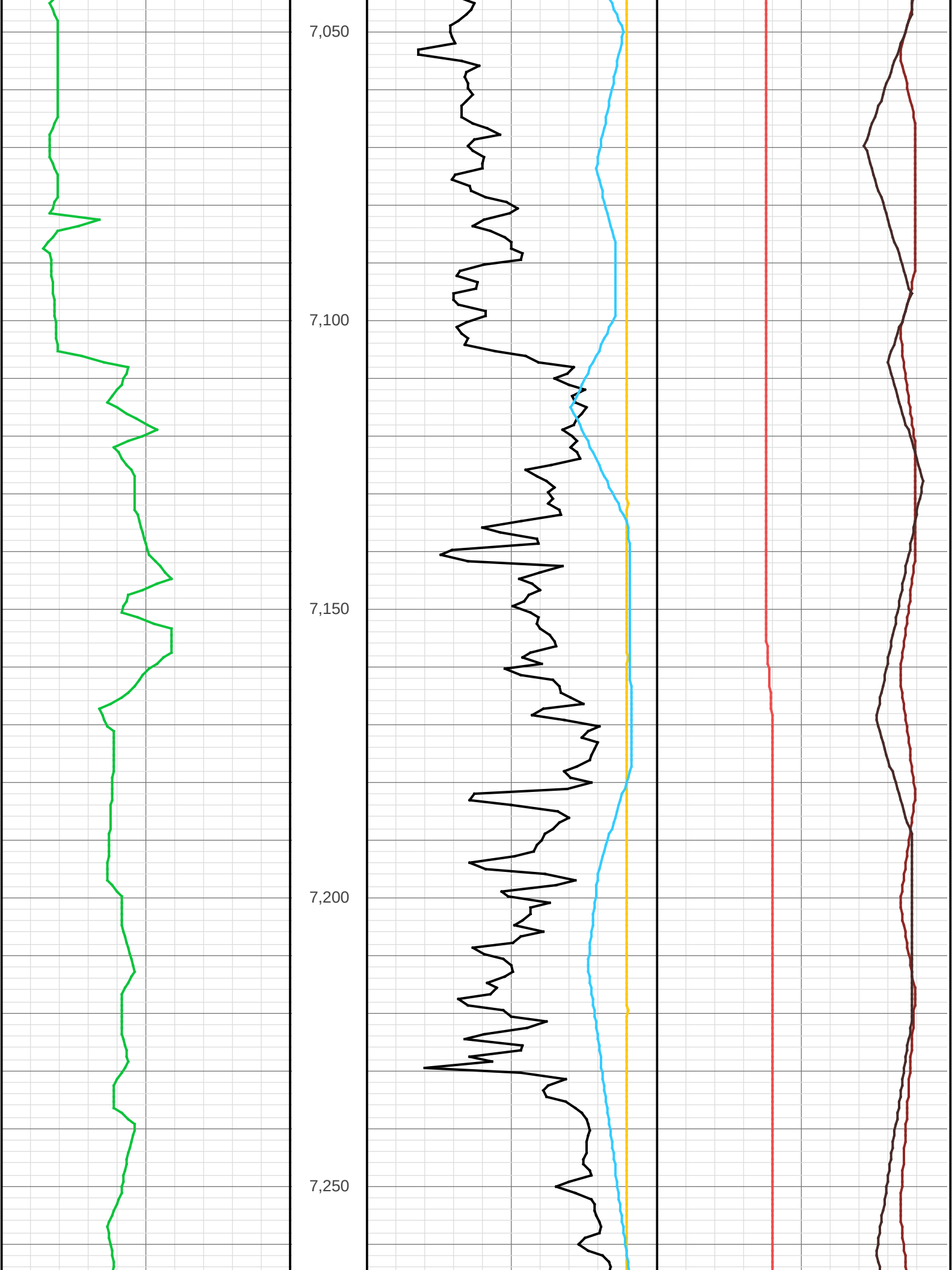
6,900
6,950
7,000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7,150
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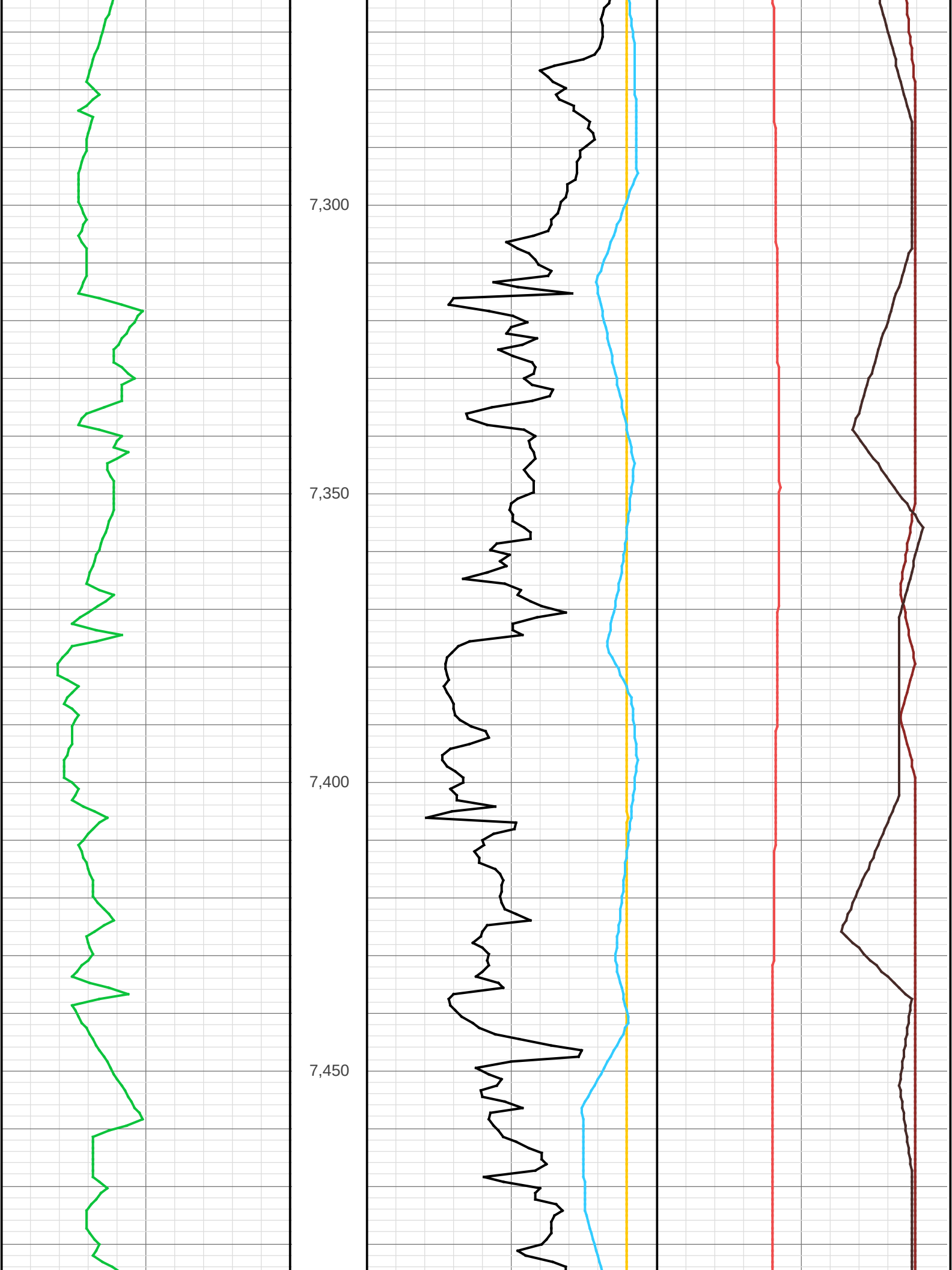
7,250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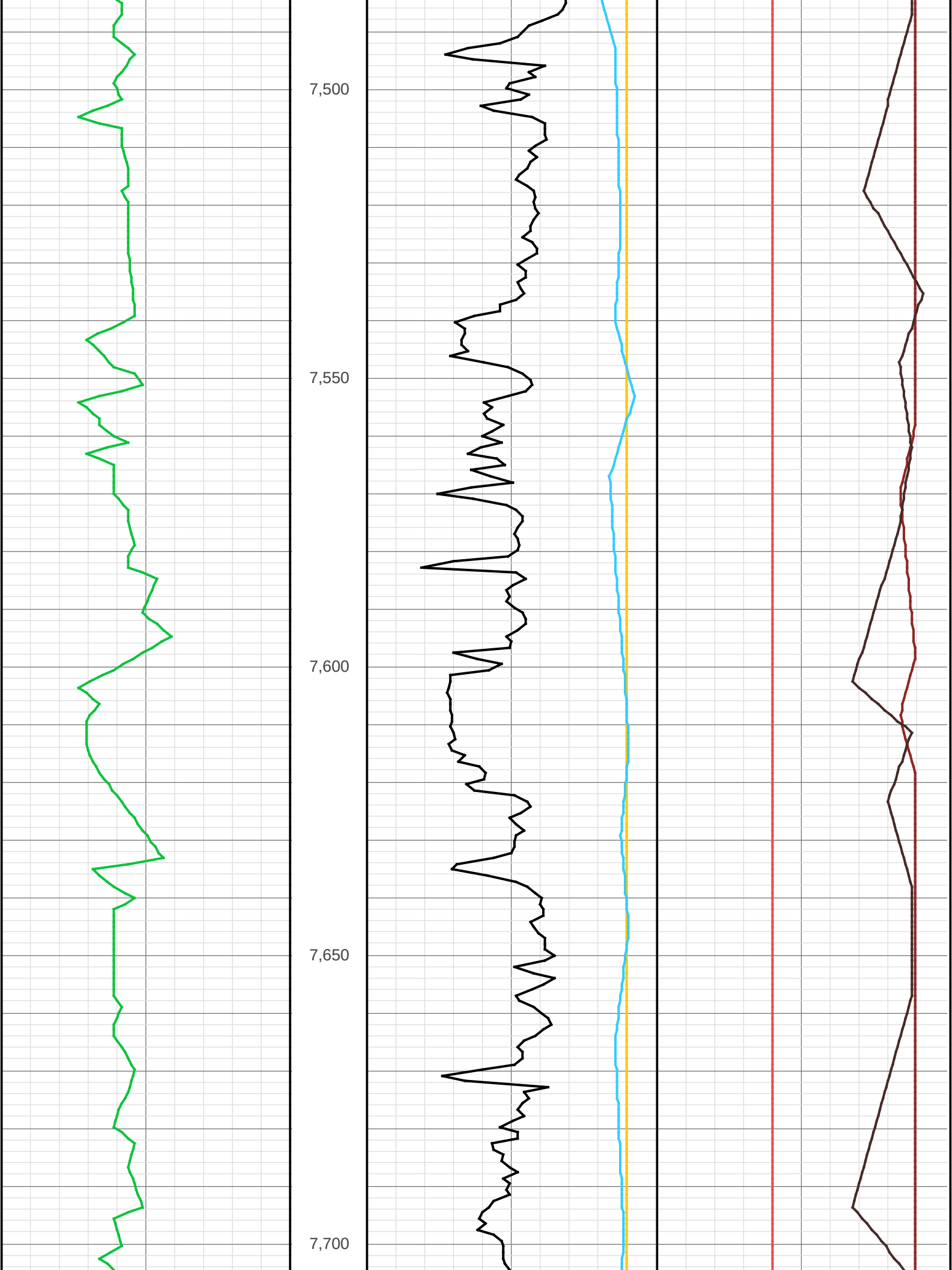
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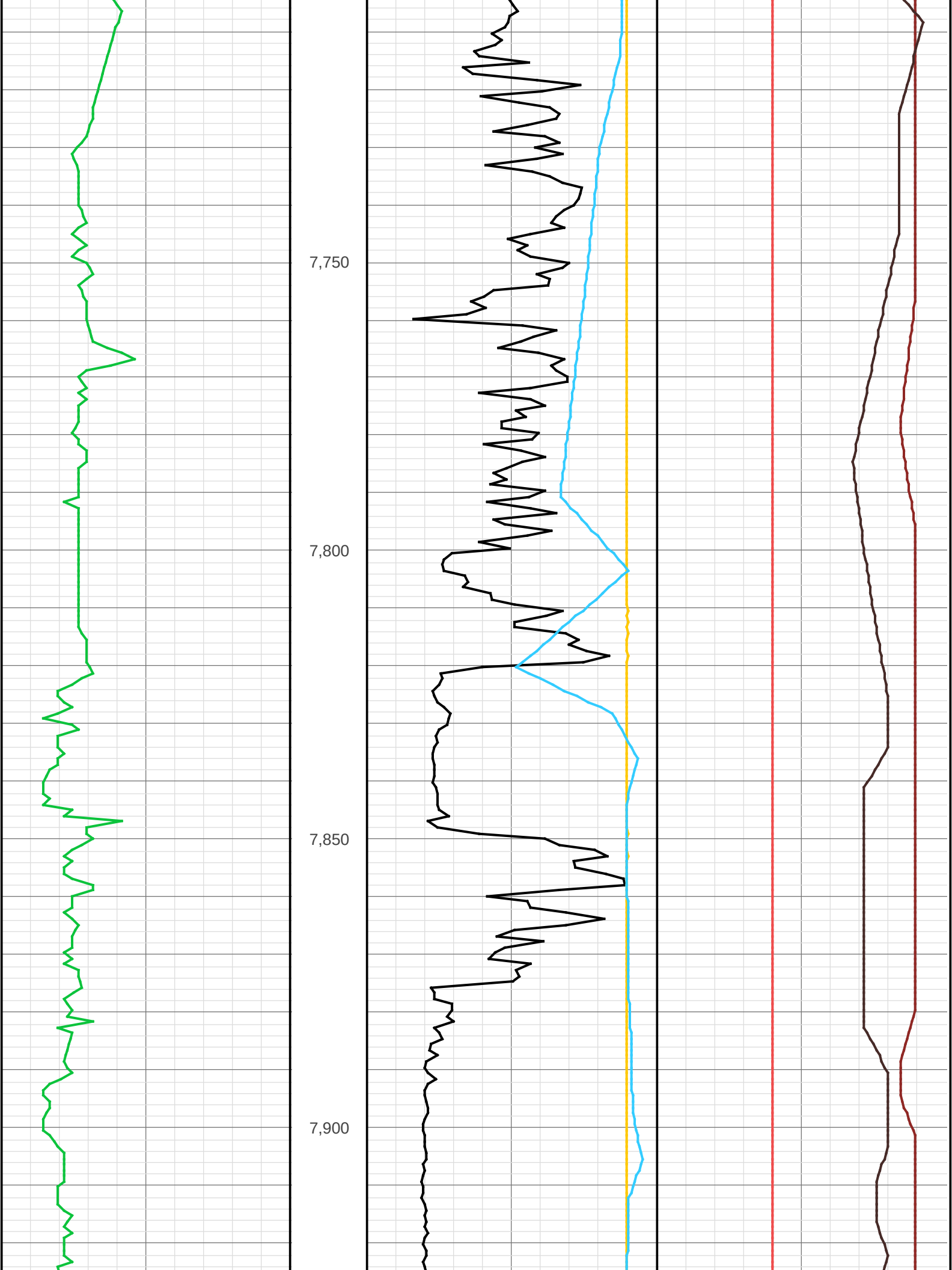
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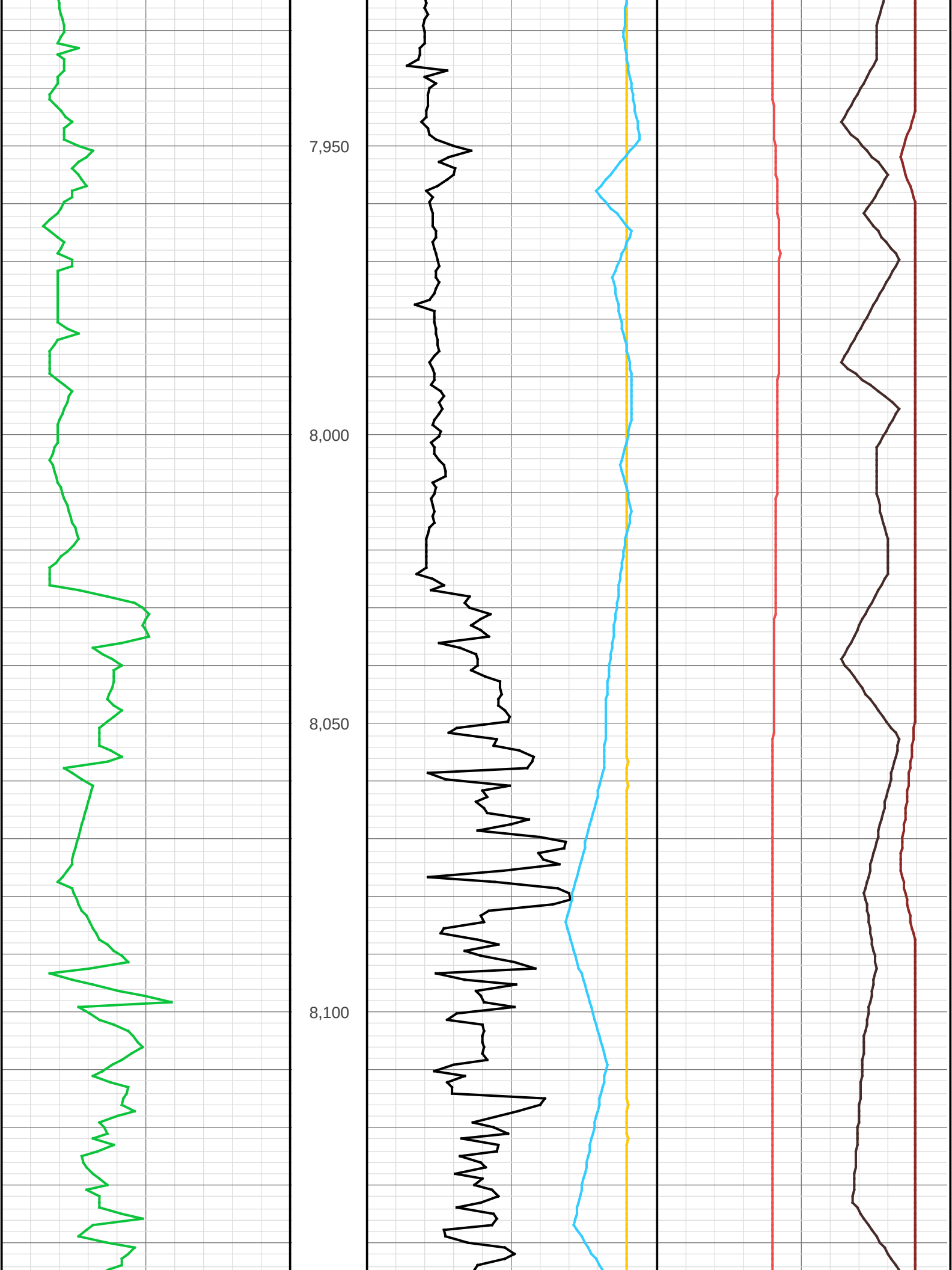
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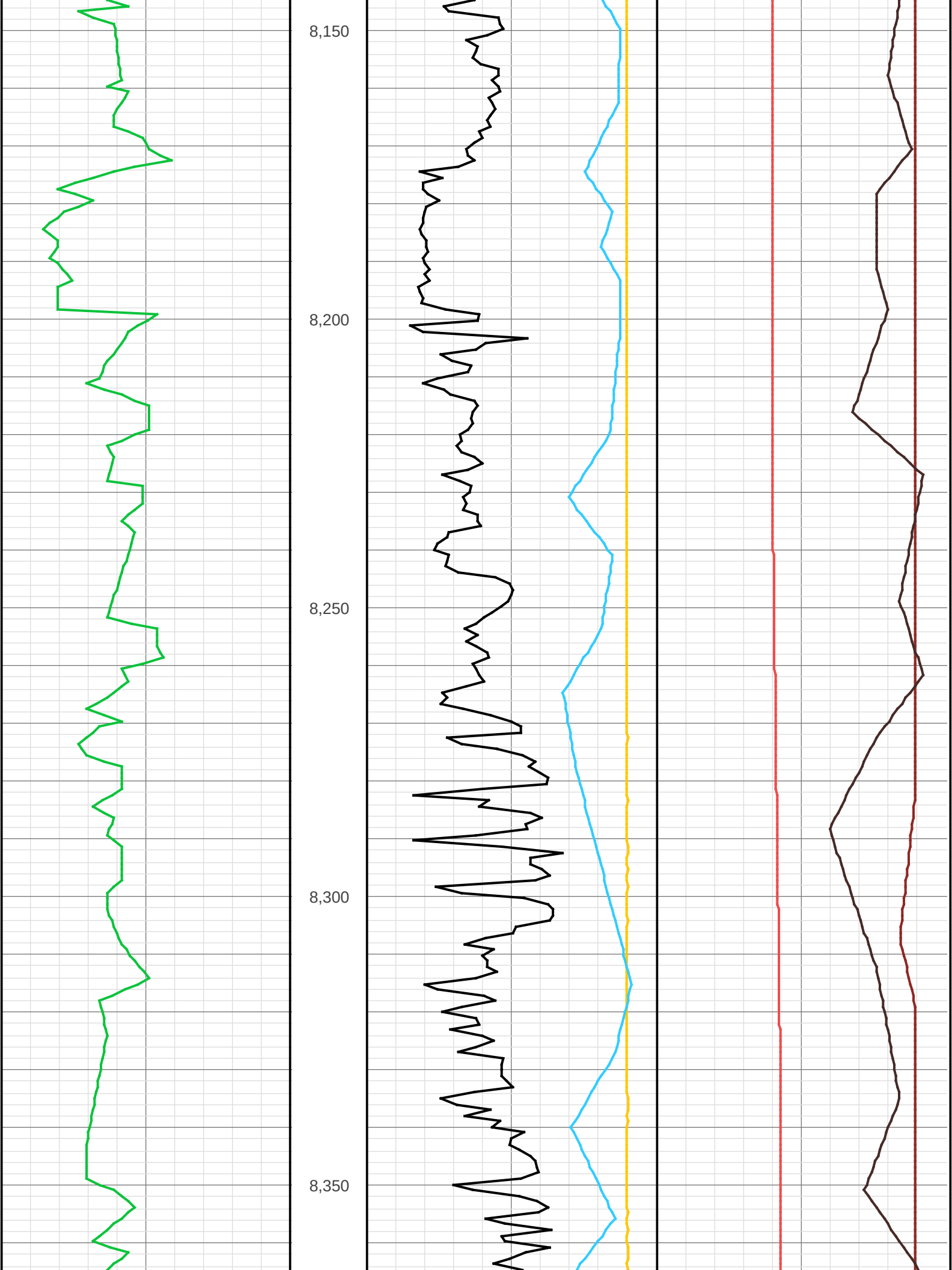
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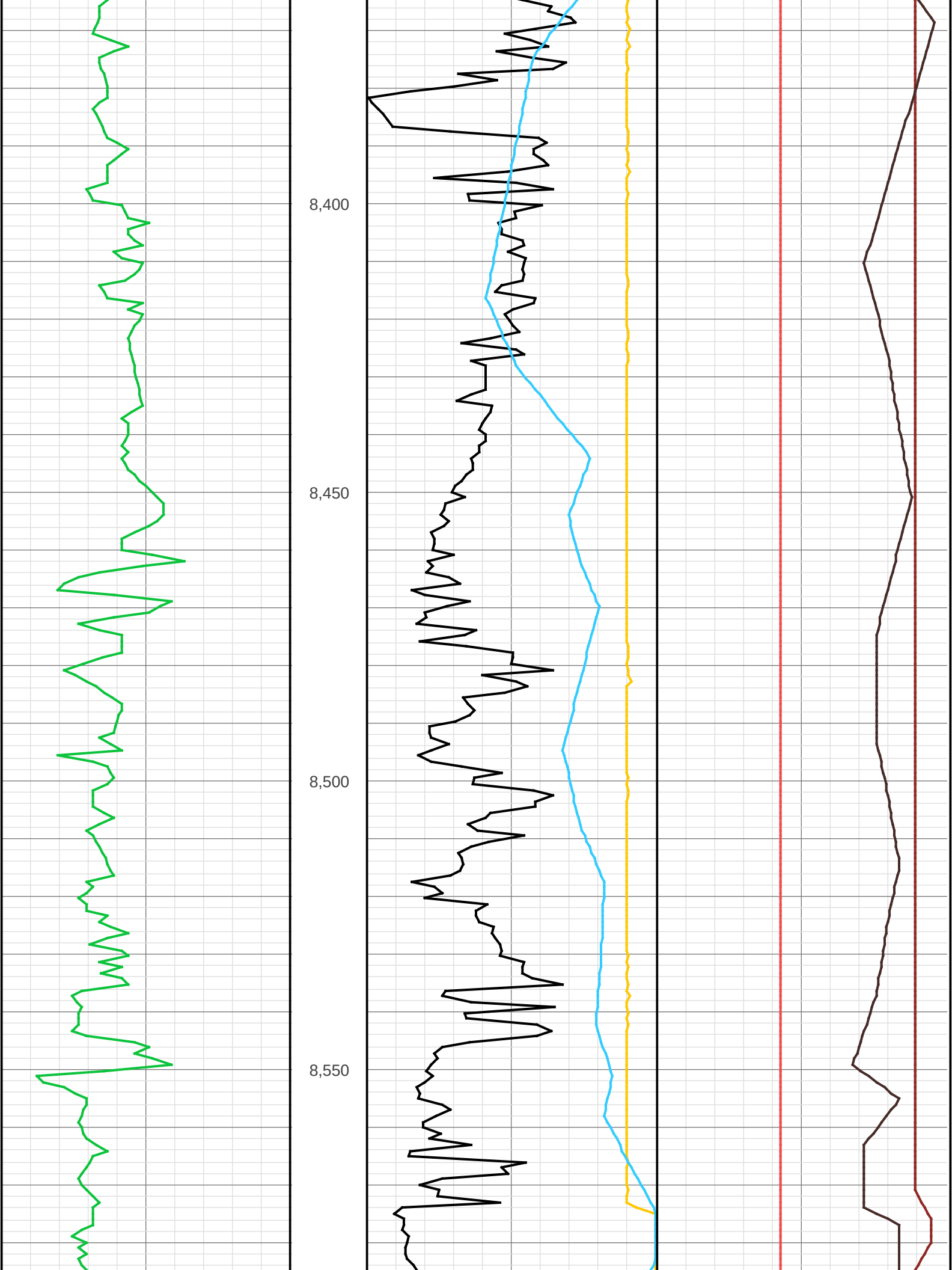
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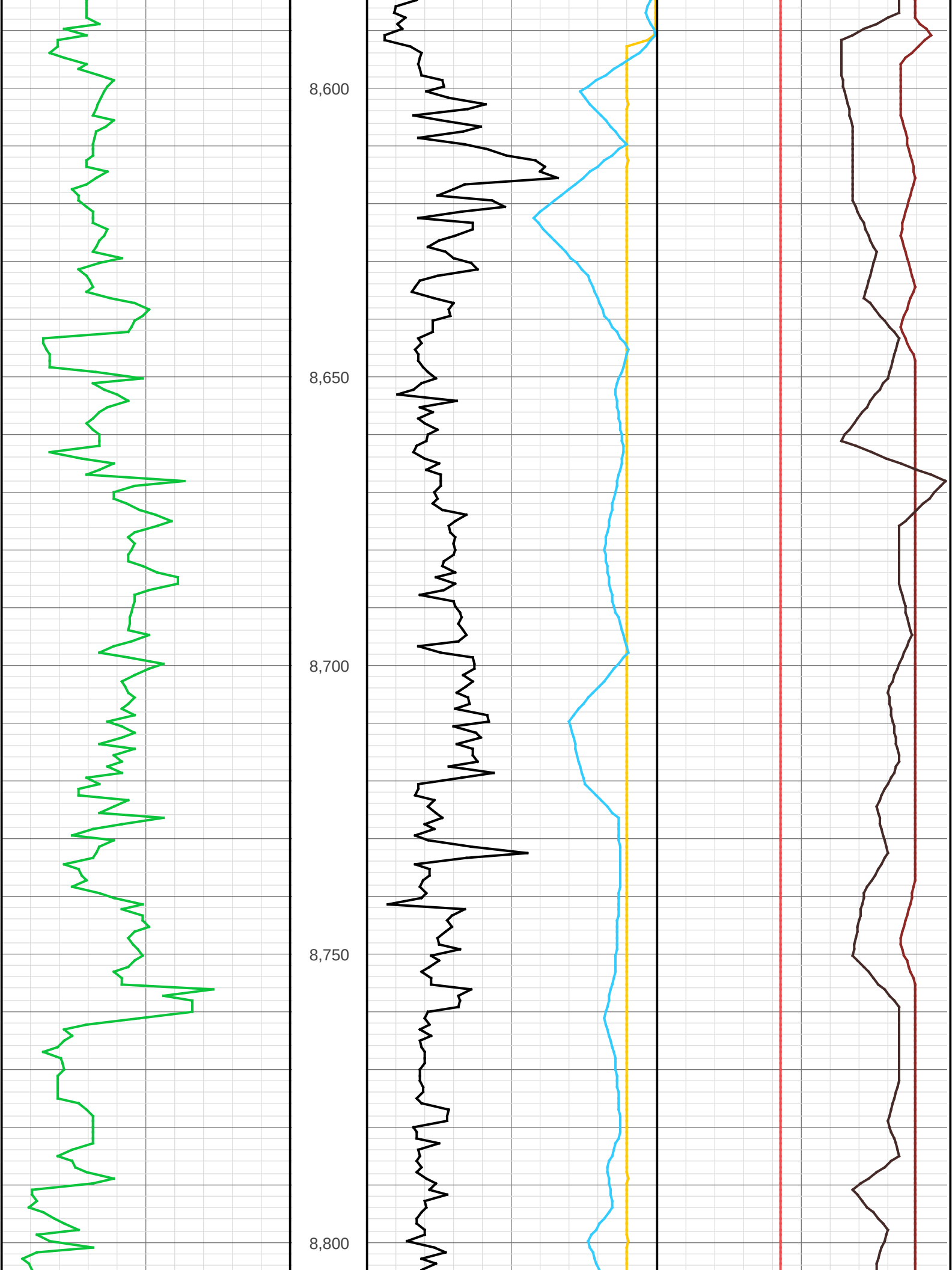
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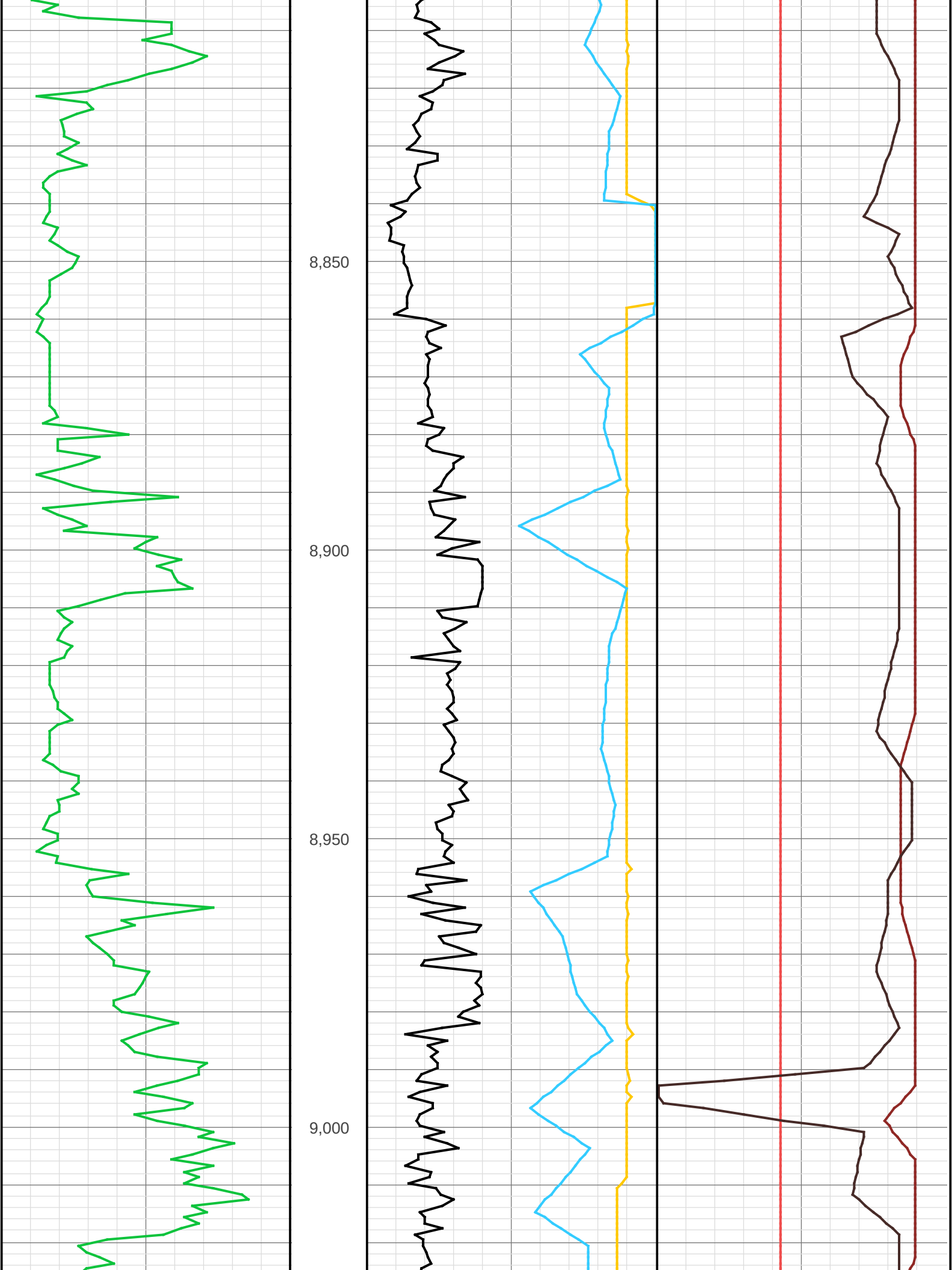
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8,900
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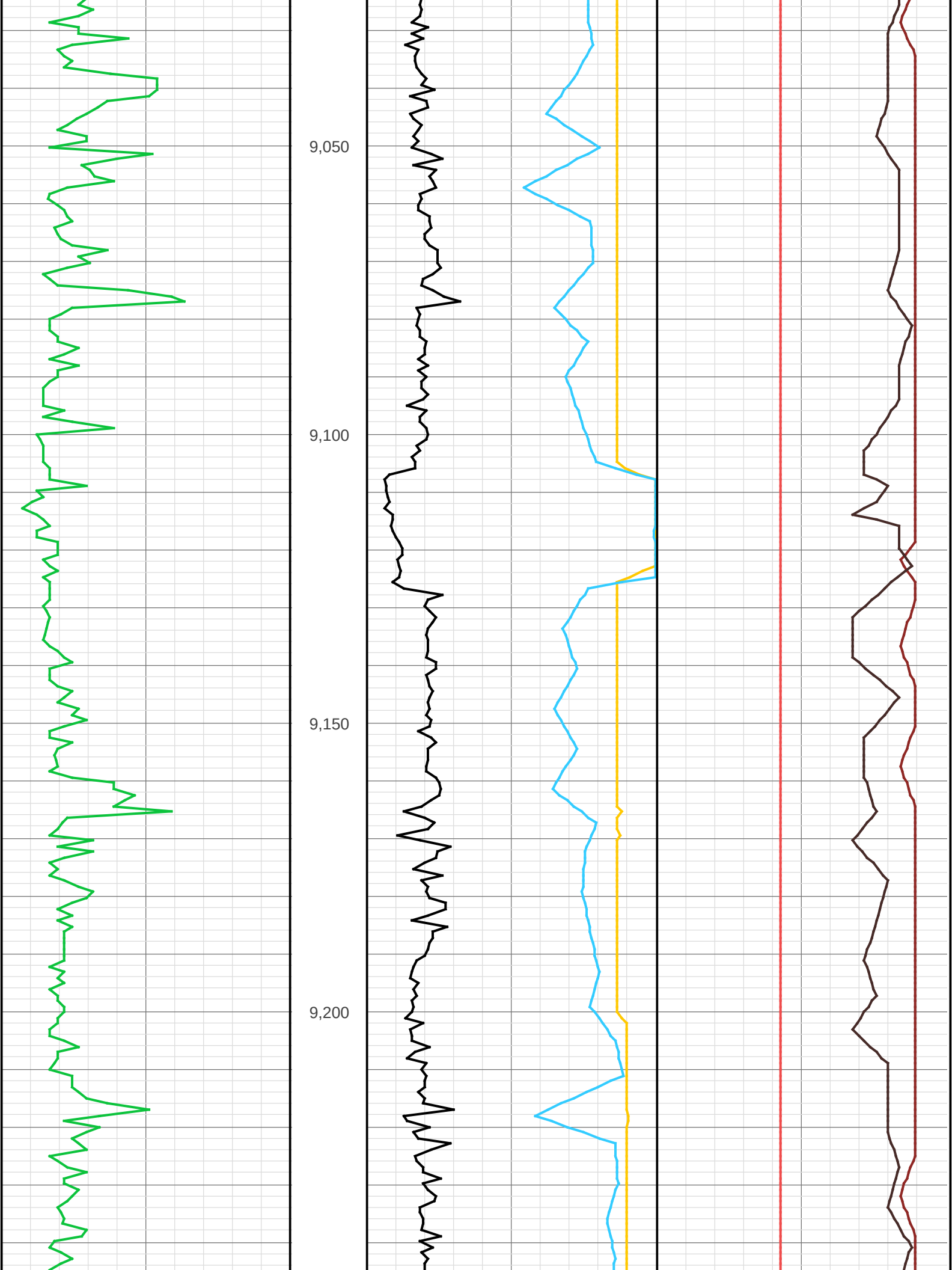
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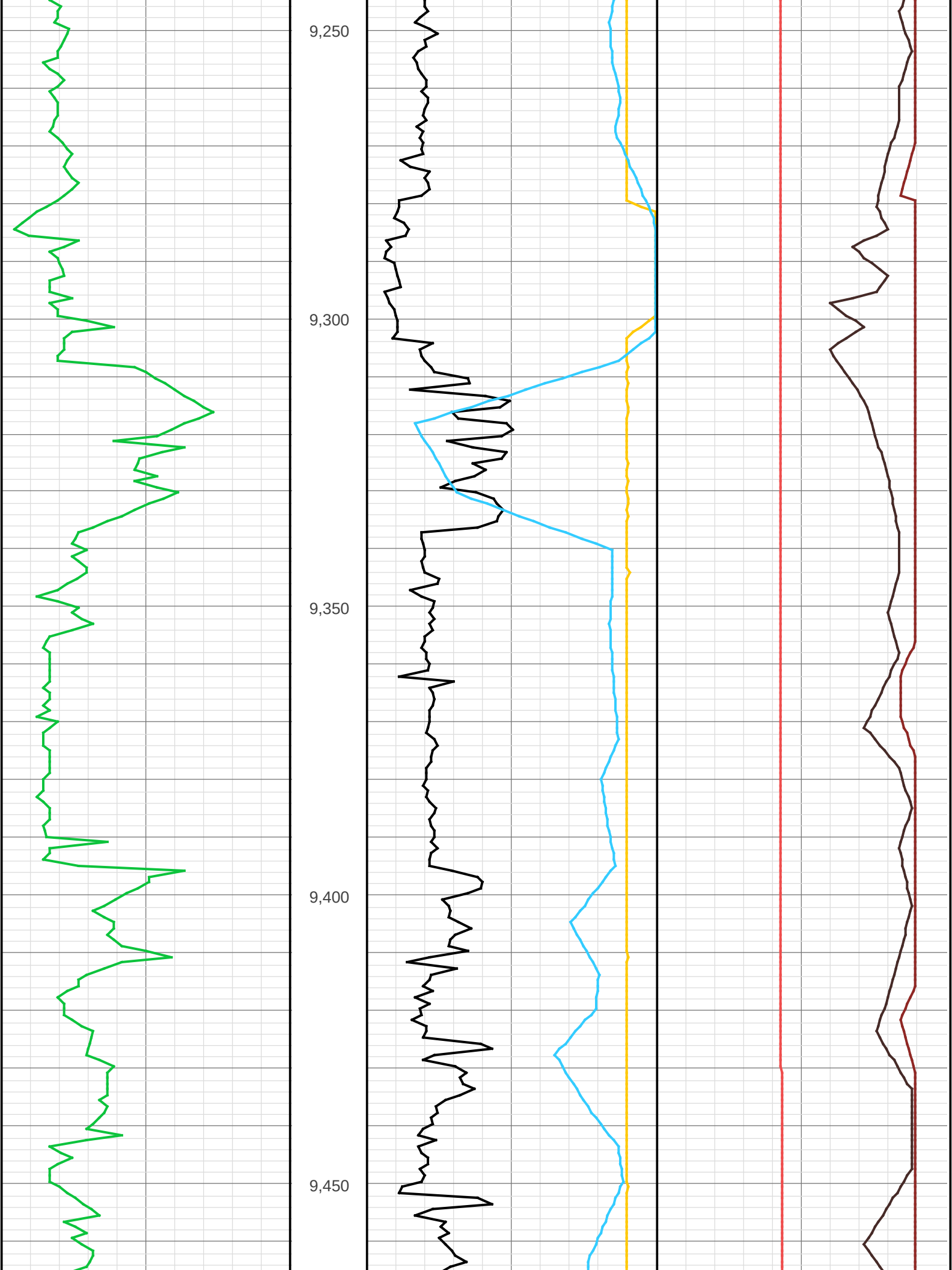
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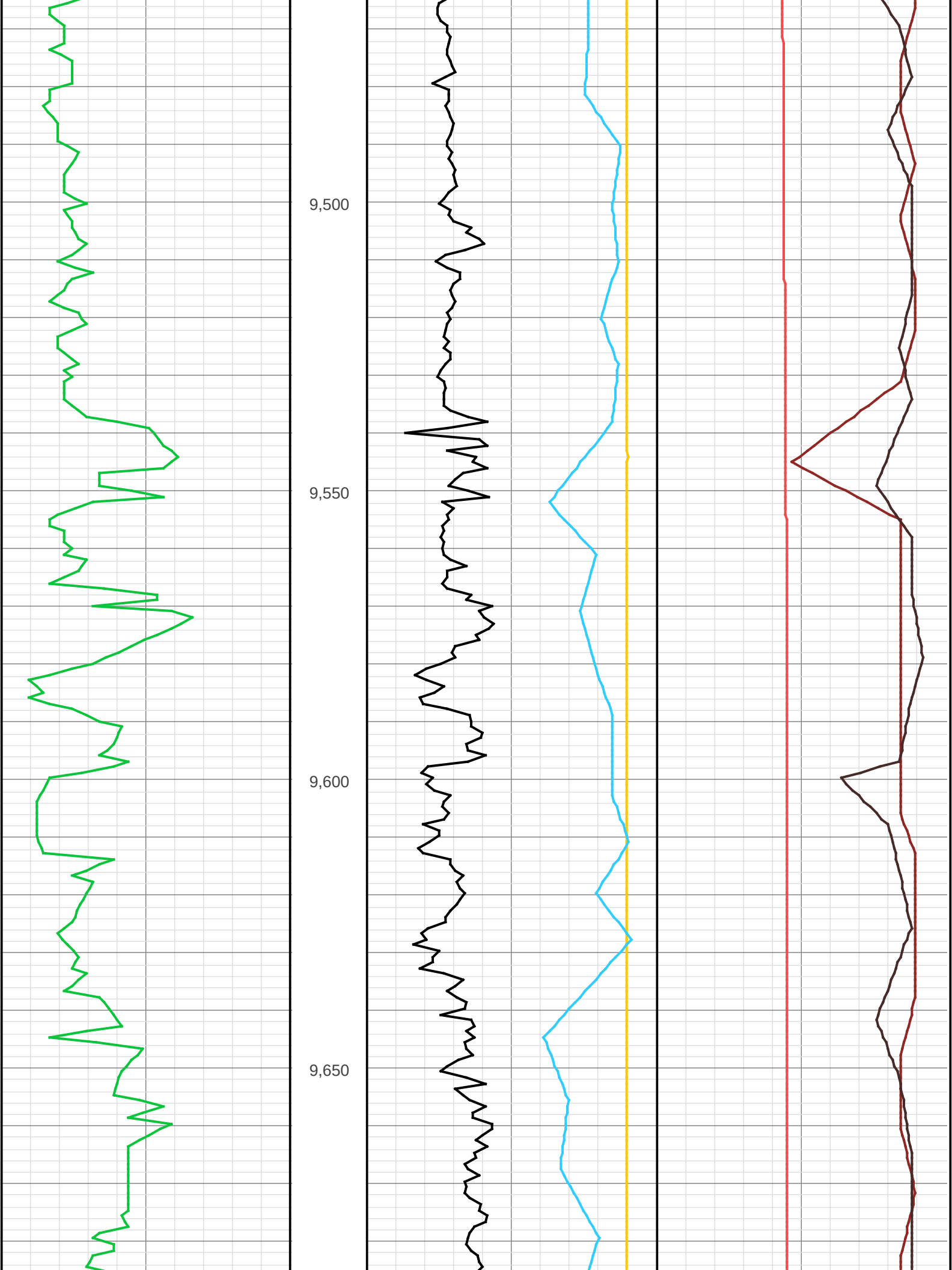
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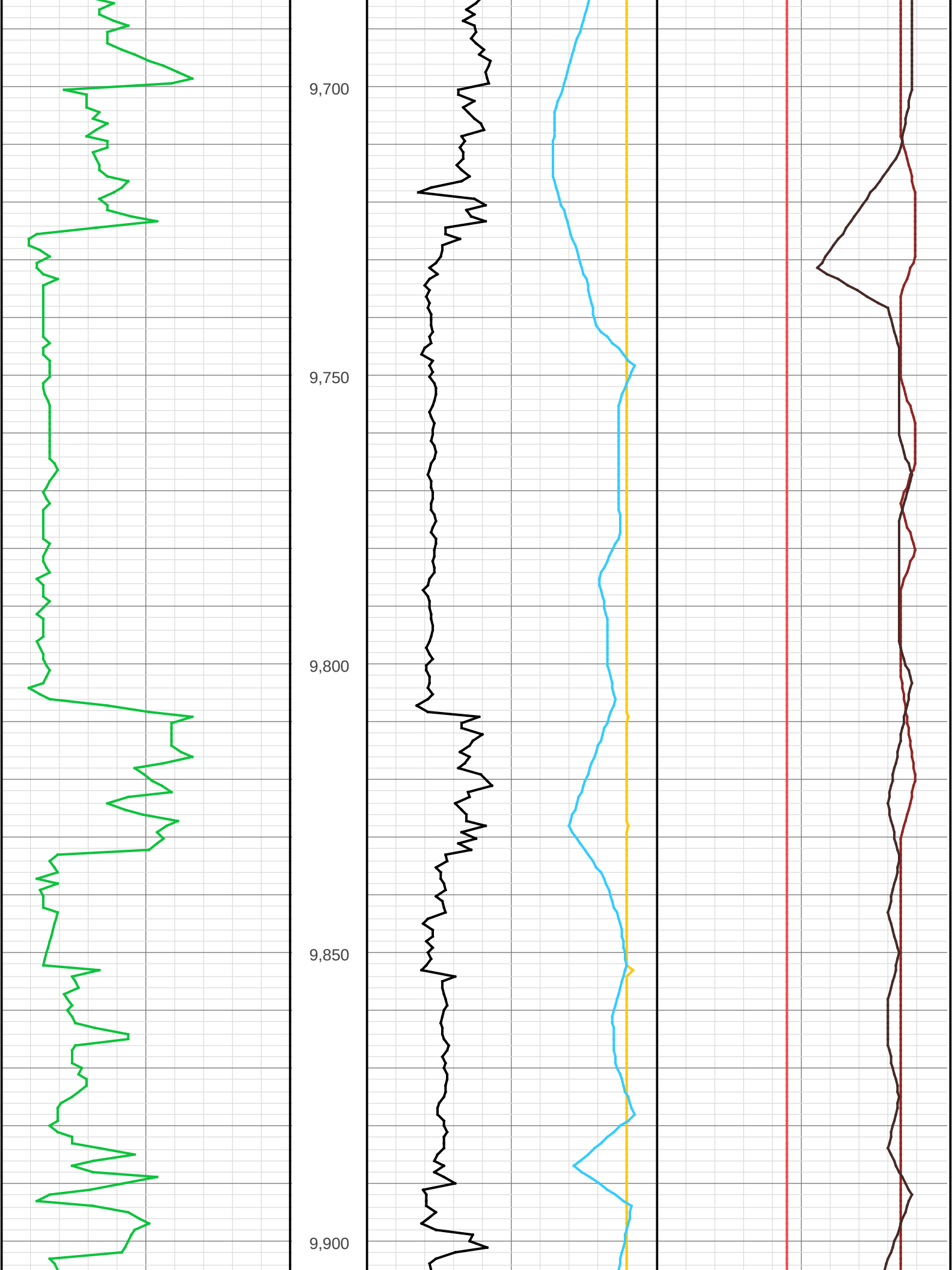
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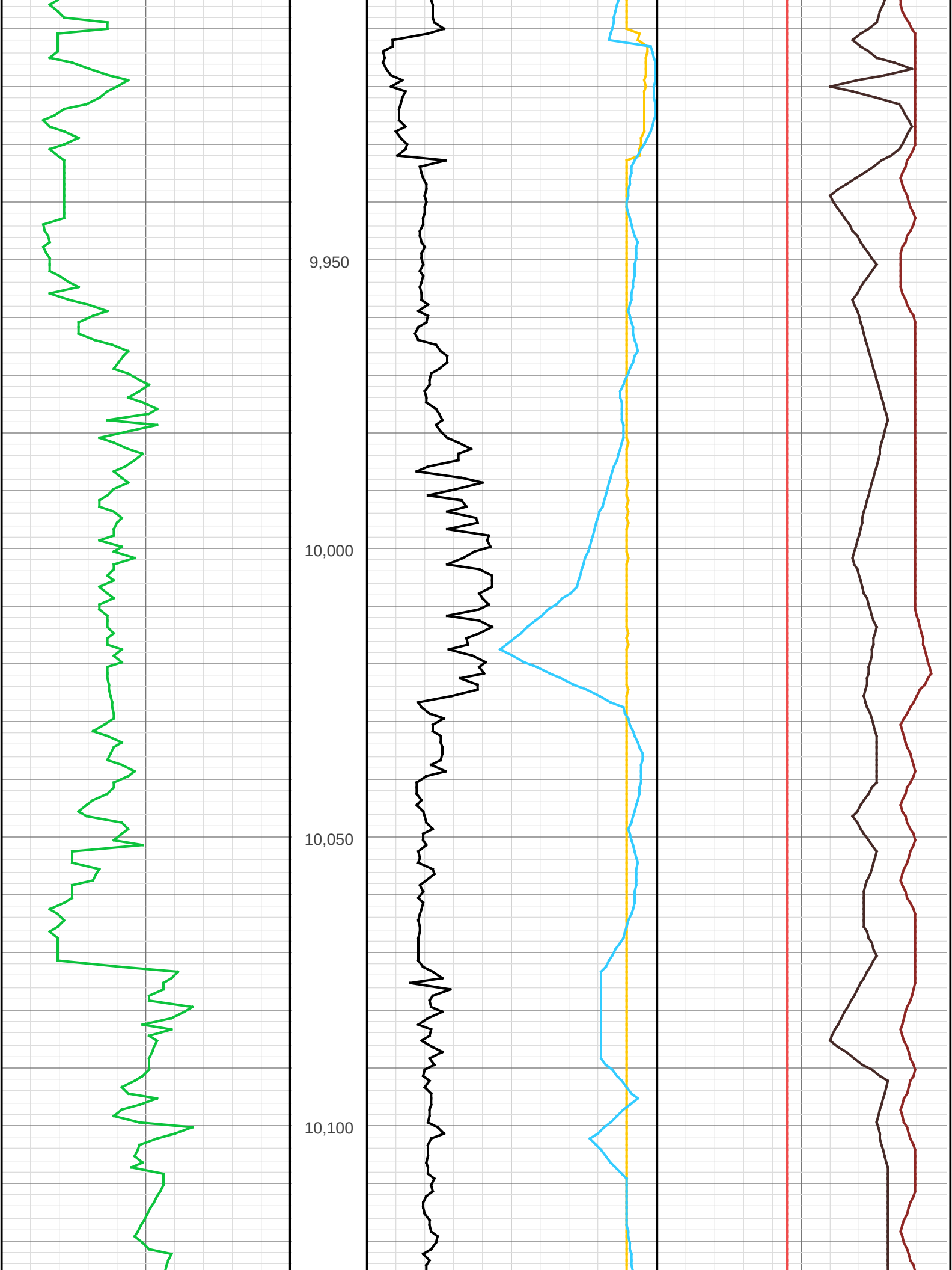
9,900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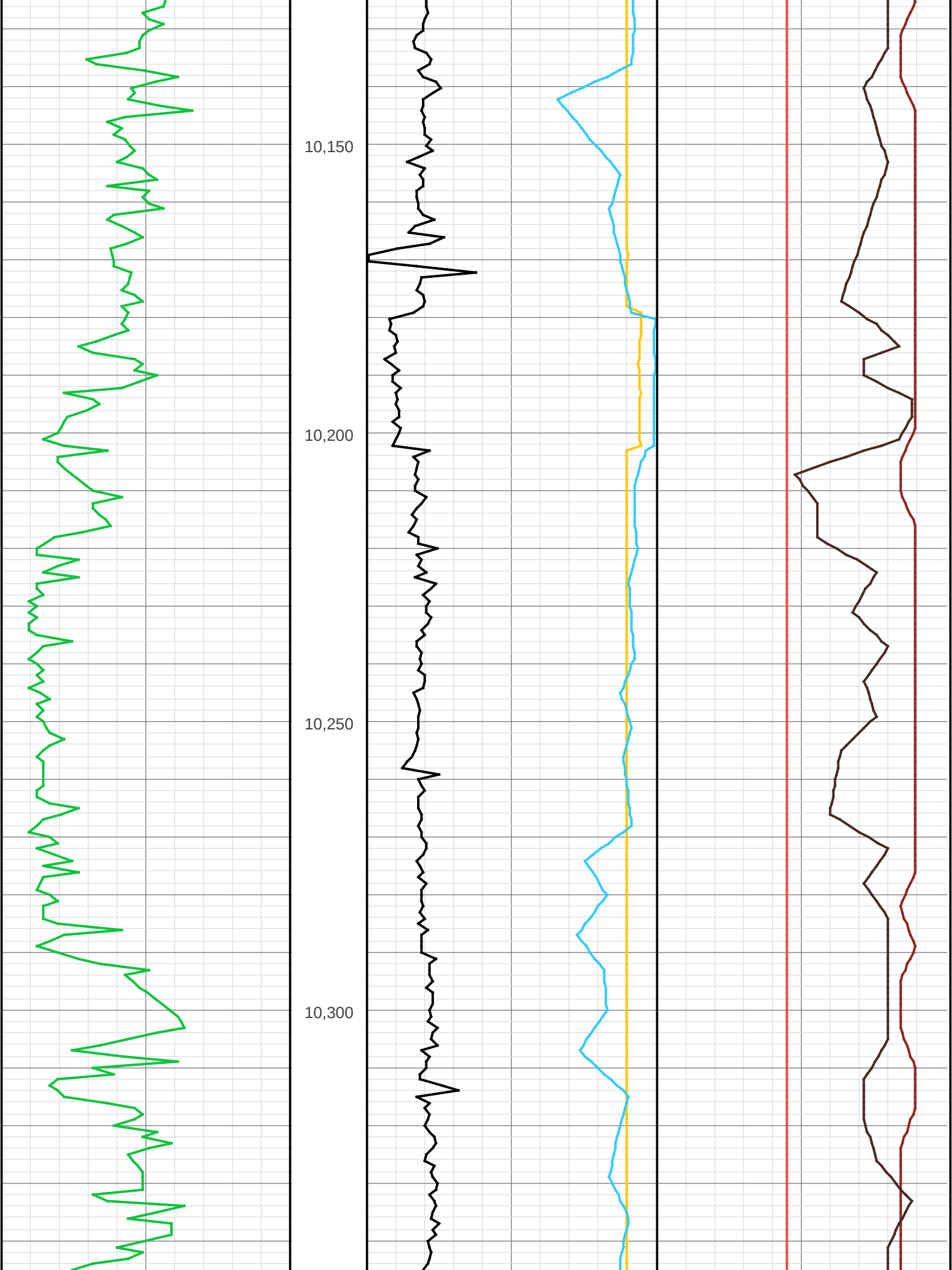
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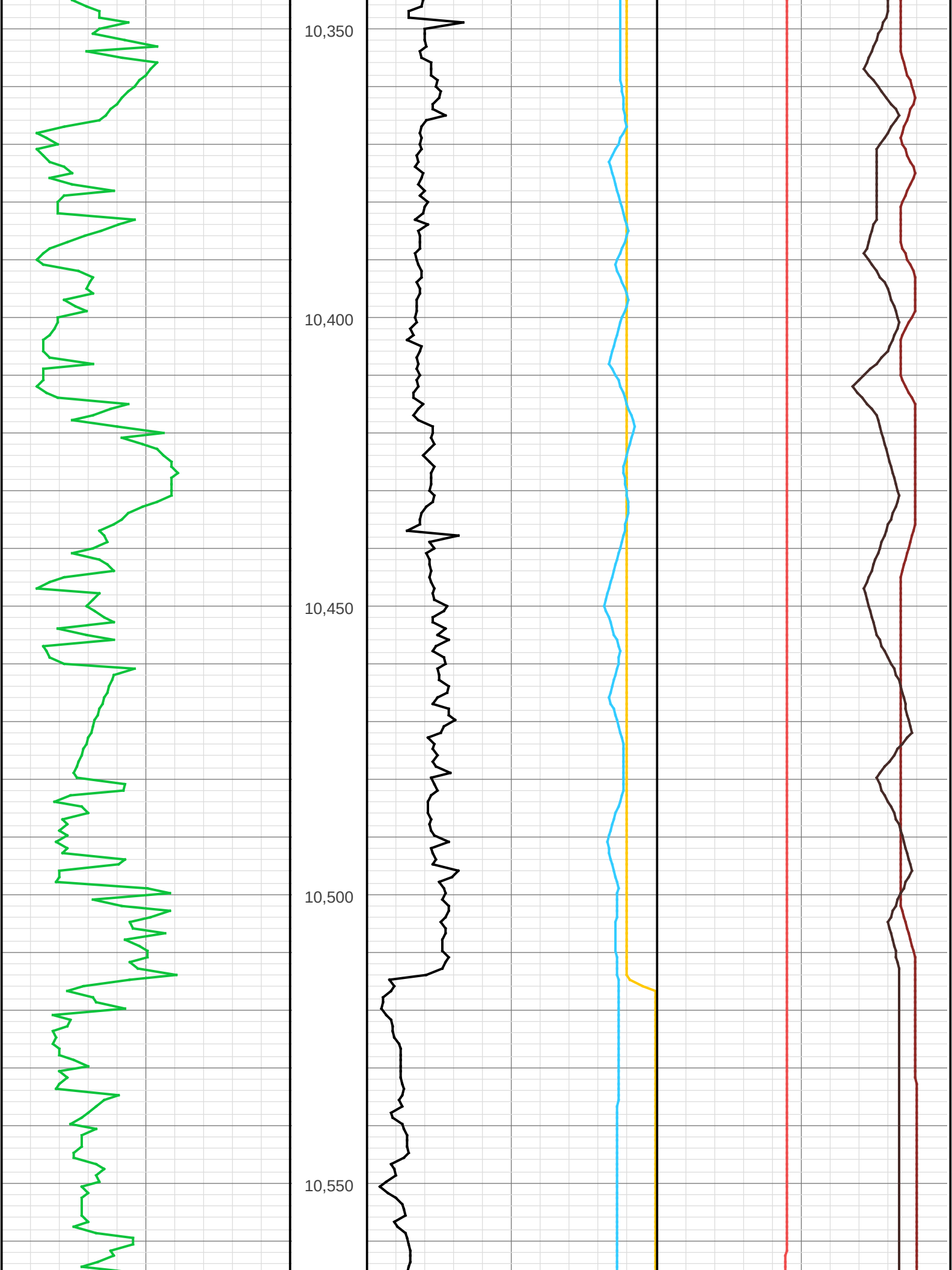
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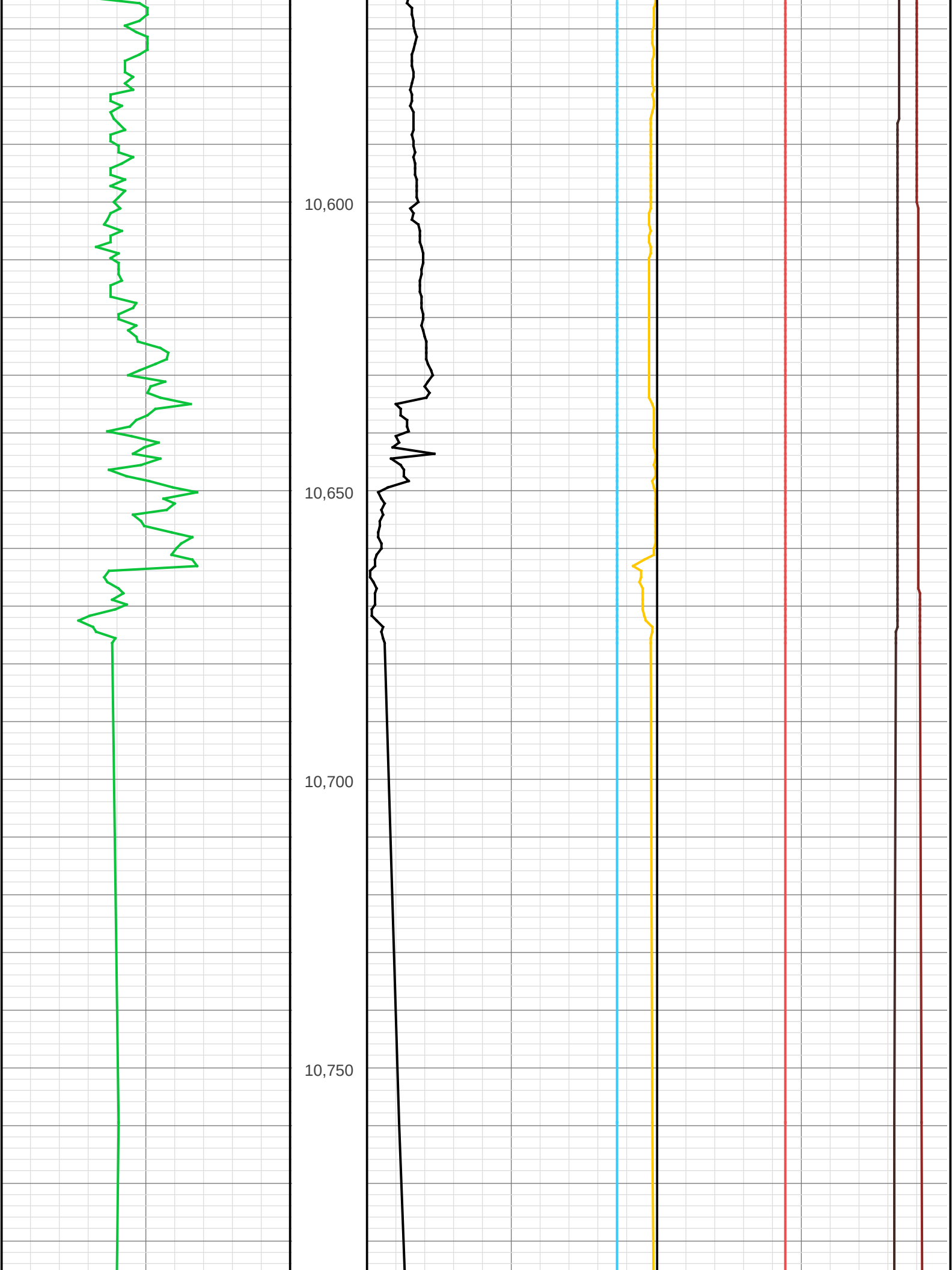
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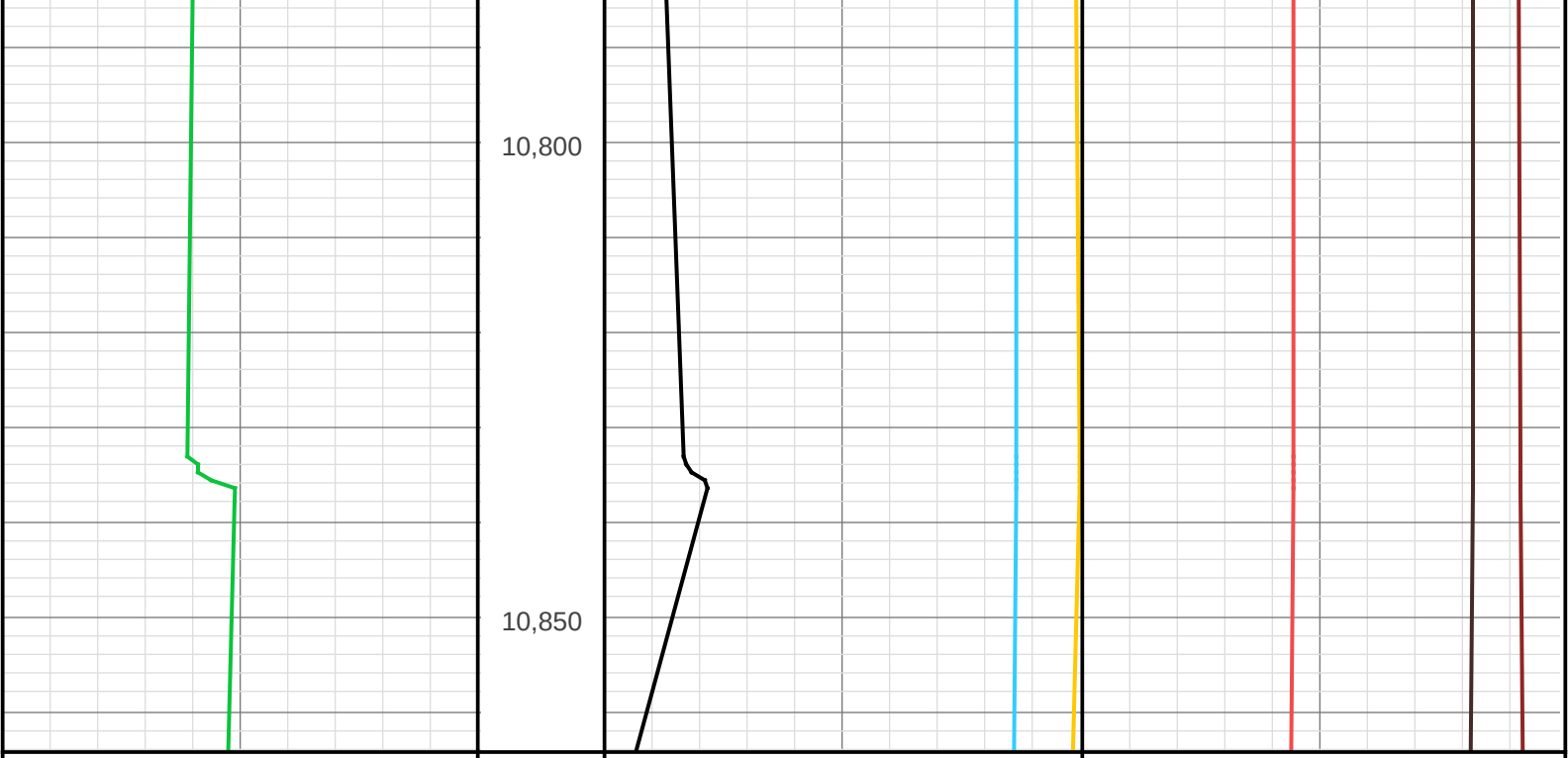

Gamma (API)		ROP (ft/hr)	Tempature (F)
0	150	0	500	0	300
150	300	500	1000		
		300	0	50	0
		Surface RPM	Axial Shock (G)	
		300	0	80	0
		Downhole RPM	Lateral Shock (G)	