Schlumberger

RESISTIVITY
GAMMA-RAY
CONDUCTIVITY

5" = 100'
FEET MD

COMPANY : GRIFFIN MANAGEMENT, LLC
WELL : TERESE #1H
FIELD : MEDICINE LODGE-BOGGS
COUNTY : BARBER
STATE : KS
COUNTRY : USA
API No.: 15-007-24322-01

COMPANY : GRIFFIN MANAGEMENT, LLC
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FIELD : MEDICINE LODGE-BOGGS
COUNTY : BARBER
STATE : KS
COUNTRY : USA
API WELL No.: 15-007-24322-01

WELL LOCATION

LAT:37°11'44"N LON:98°38'35"W
X:1,958,25 Y:192,665 NAD27

SEC: 8 TWP: 33S RANGE: 12W

OTHER SERVICES

DIRECTIONAL
ROP

DEPTH REF. : KELLY BUSHINGS
ELEVATION : 15.00 ft (KELLY BUSHINGS - GROUND LEVEL)
ALTITUDE : 1581.00 ft (GROUND LEVEL - MEAN SEA LEVEL)

BOREHOLE RECORD

HOLE SIZE in	FROM ft	TO ft
12 1/4	0	354
8 3/4	354	5183
6 1/8	5183	9100

DEVIATION RECORD

INCLINATION deg	FROM ft	TO ft
00+/-02	0	3557
02 - 90	3557	6247
90+/-04	6247	9100

CASING RECORD

CASING SIZE in	FROM ft	TO ft
9 5/8	0	354
7	0	5175

DRILLING Co.: WW DRILLING, LLC
RIG : WW14
LWD UNIT No.: TRAILER DISTRICT : OKC
SPUD DATE : 07-OCT-17
LWD START DATE : 12-NOV-17 DEPTH : 3985 ft
LWD END DATE : 22-NOV-17 DEPTH : 9100 ft
TOTAL DEPTH : 9100 ft

RUN DATA

RUN NUMBER	1	2
START DATE	12-NOV-17	16-NOV-17
START TIME	13:00	13:45
END DATE	15-NOV-17	22-NOV-17
END TIME	05:45	22:00
DEPTH IN ft	3985	5183
DEPTH OUT ft	5183	9100
LOG TOP ft	3985	5148
LOG BOTTOM ft	5148	9058
HOLE SIZE in	8 3/4	6 1/8
MUD DATA @ ft	4753	8611
MUD TYPE	WATER BASED	WATER BASED
DENSITY lb/gal	9.20	9.40
VISCOSITY s/qt	53	33
pH	10.0	7.0
FLUID LOSS cm3/30	0.6	0.5
SALINITY ppm	4000	65000
Rm ohmm @ deg F	@	0.113 @ 75
Rmf ohmm @ deg F	@	0.121 @ 73

MAX REC TEMP deg F	115	137				
Rm @ MAX TEMP ohmm		0.024				
LWD ENGINEER #1	M. ROSTEET	M. ROSTEET				
LWD ENGINEER #2	M. HEROY	M. HEROY				
LWD ENGINEER #3						

REMARKS

GRIFFIN MANAGEMENT, LLC
SCHLUMBERGER JOB #: 17OKC0467

ALL LOGGING DATA IS MEMORY UNLESS STATED OTHERWISE.
ALL REFERENCES TO LOG TOP, LOG BOTTOM OR LOGGING TOOL DEPTH REFER TO THE GAMMA-RAY SENSOR UNLESS STATED OTHERWISE. SENSOR OFFSETS FOR THE OTHER LOGGING TOOLS ARE SHOWN IN THE BHA ON THE LOG TRAILER.
ALL ANNOTAIONS IN THE DEPTH TRACK ARE REFERENCED TO BIT DEPTH.

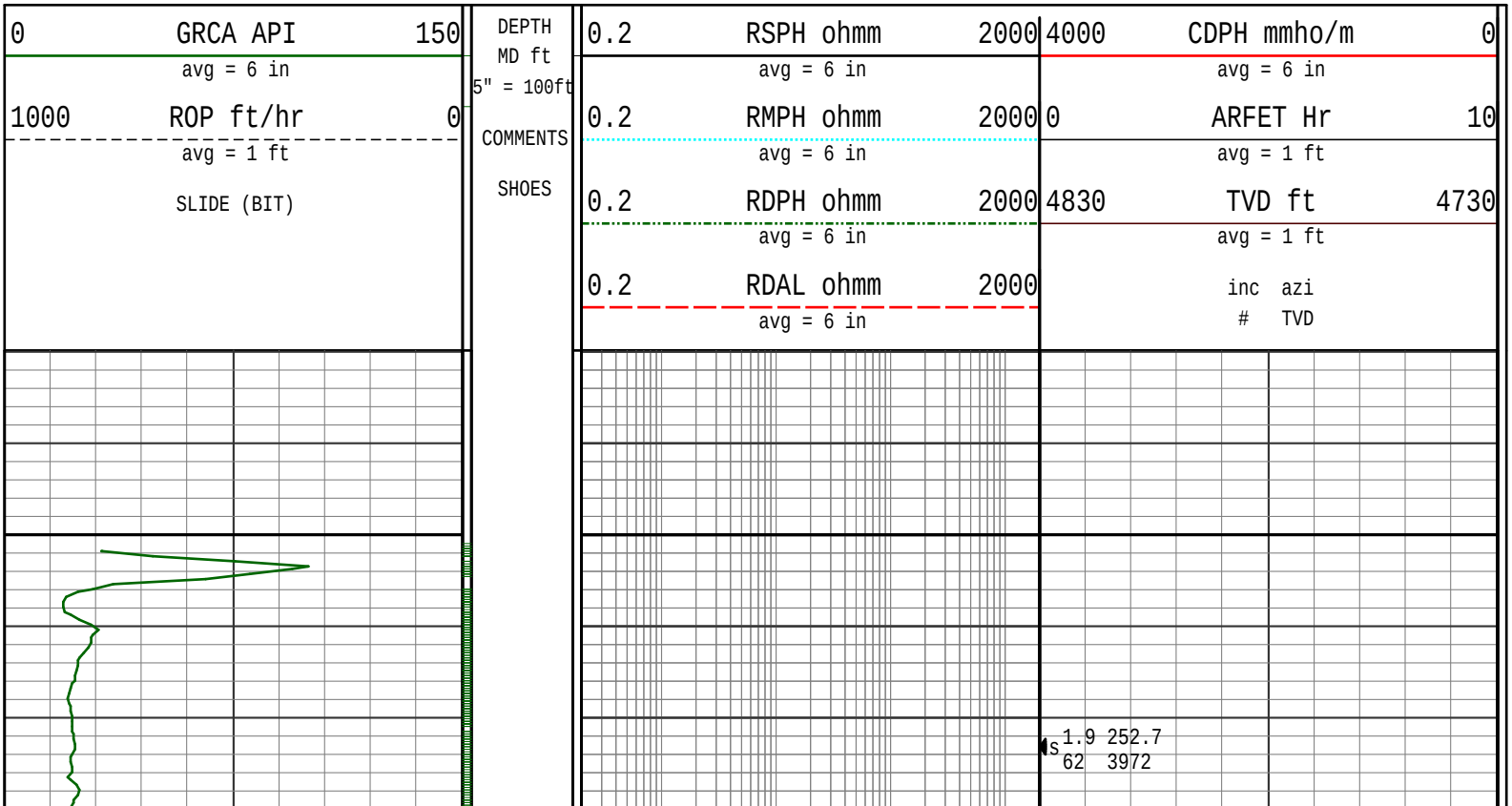
THIRD PARTY DEPTH TRACKING SERVICES PROVIDED BY PASON.

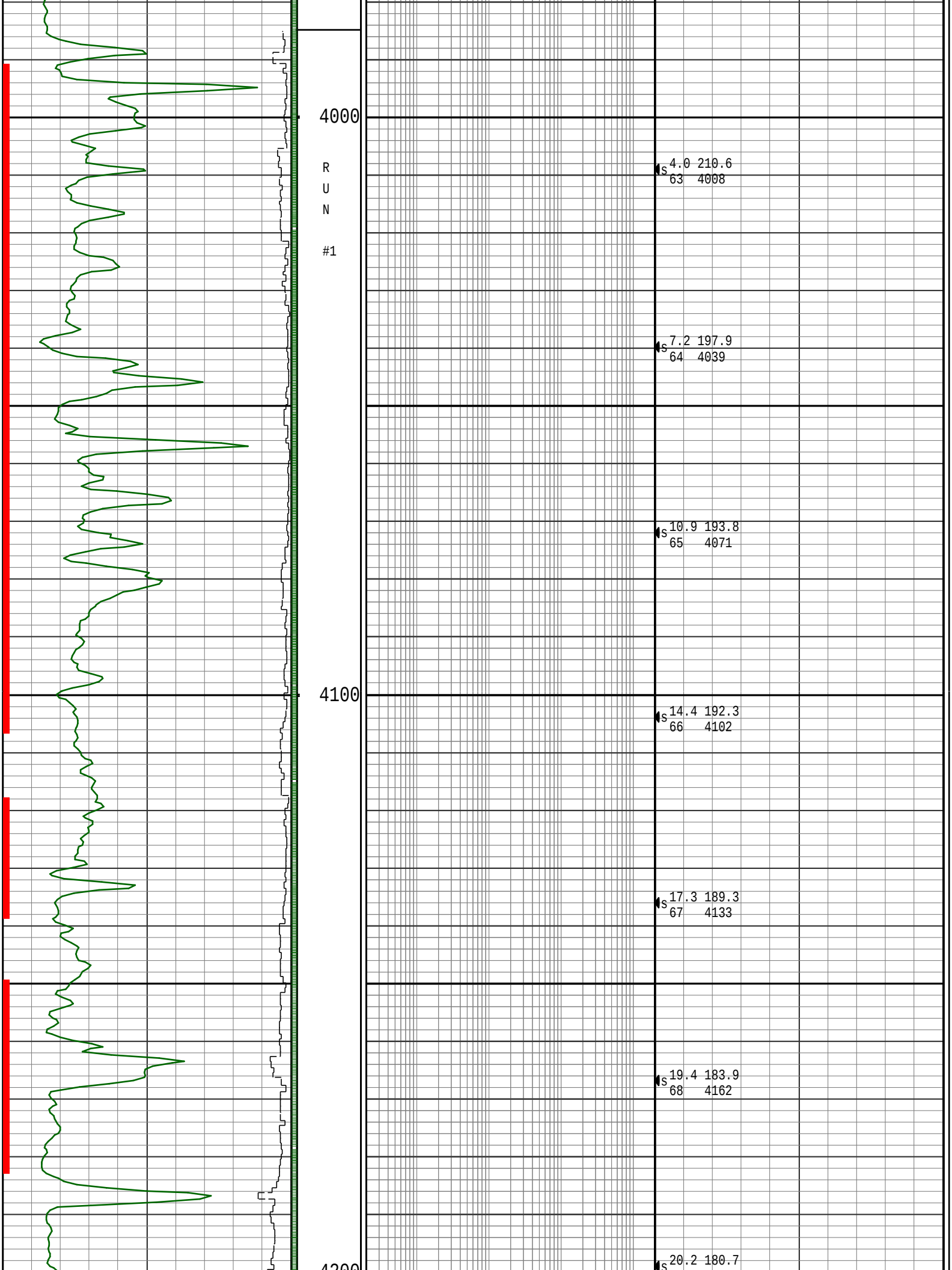
RUN #1: 6 3/4" TELEPACER/GAMMA LOGGING RUN.
RUN #2: 4 3/4" TELEPACER/AWR LOGGING RUN.

REMARK #1: GAMMA-RAY LOGGED TROUGH CASING FROM 5152'-5175'MD (4757'-4758'TVD).

THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE AND RELIANCE UPON THE RECORDED-DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA

Version No : RX5 V7.01C Release 17Dec2015
Plot Time : 23-Nov-2017 14:25

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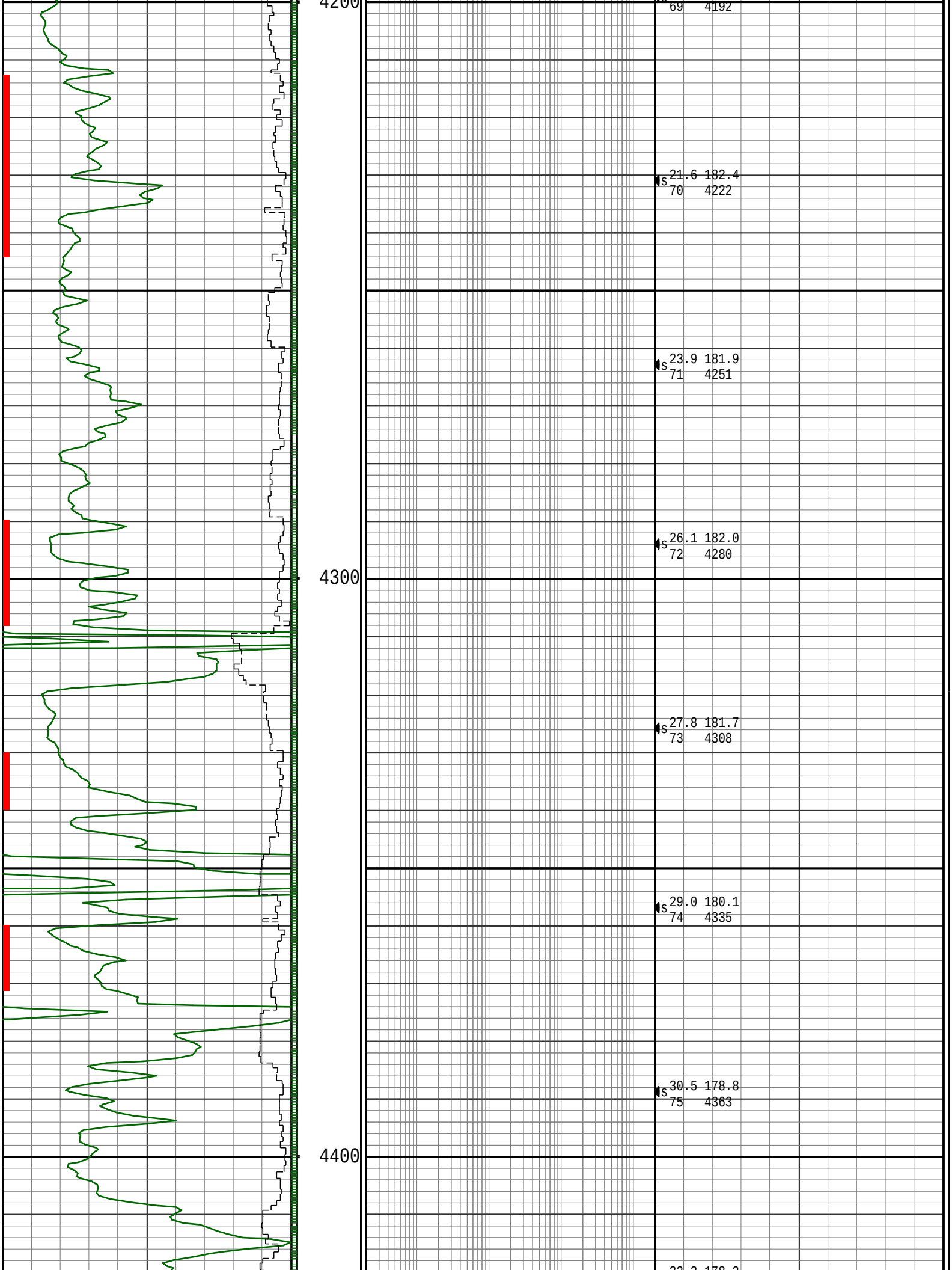
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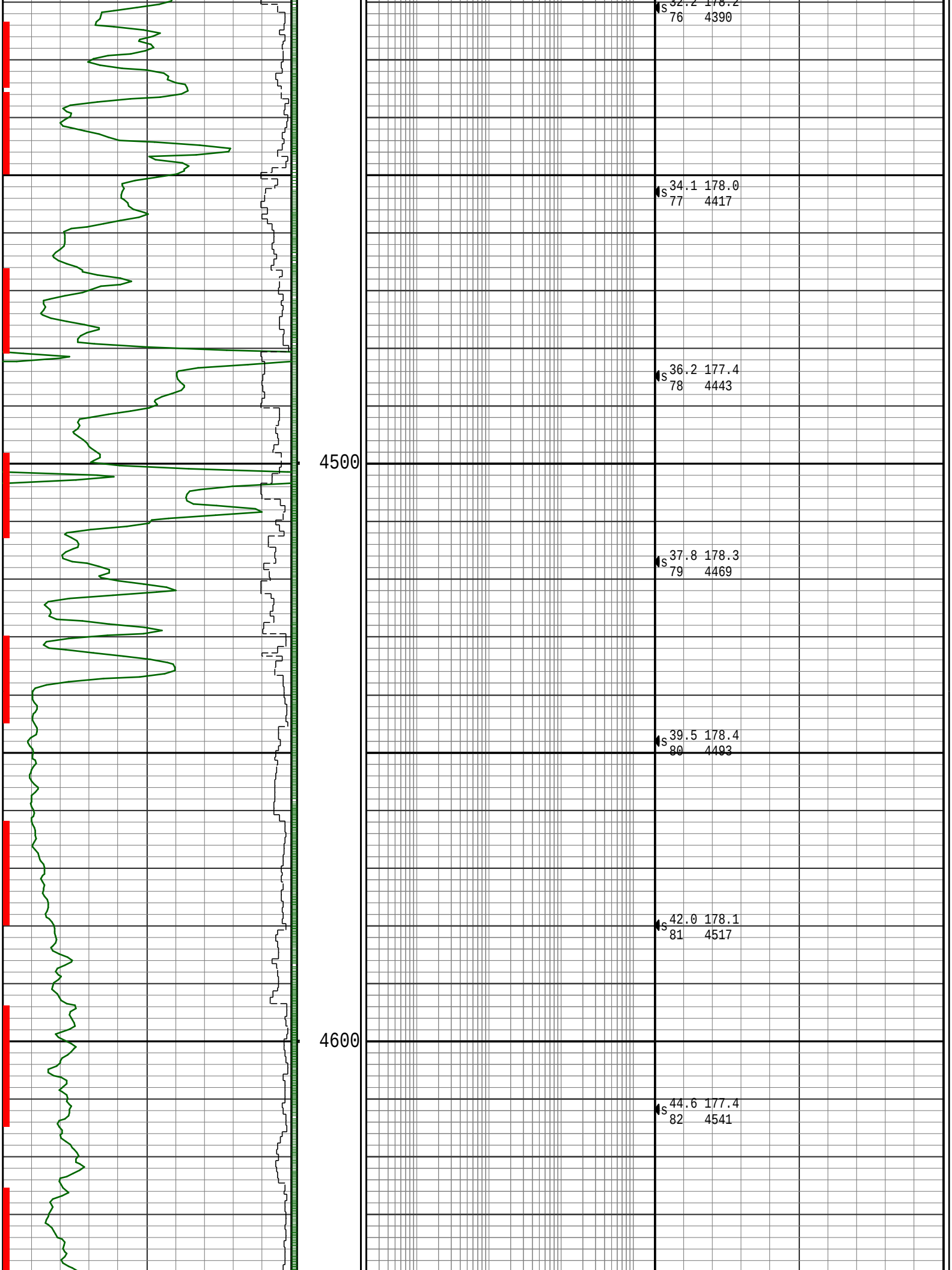
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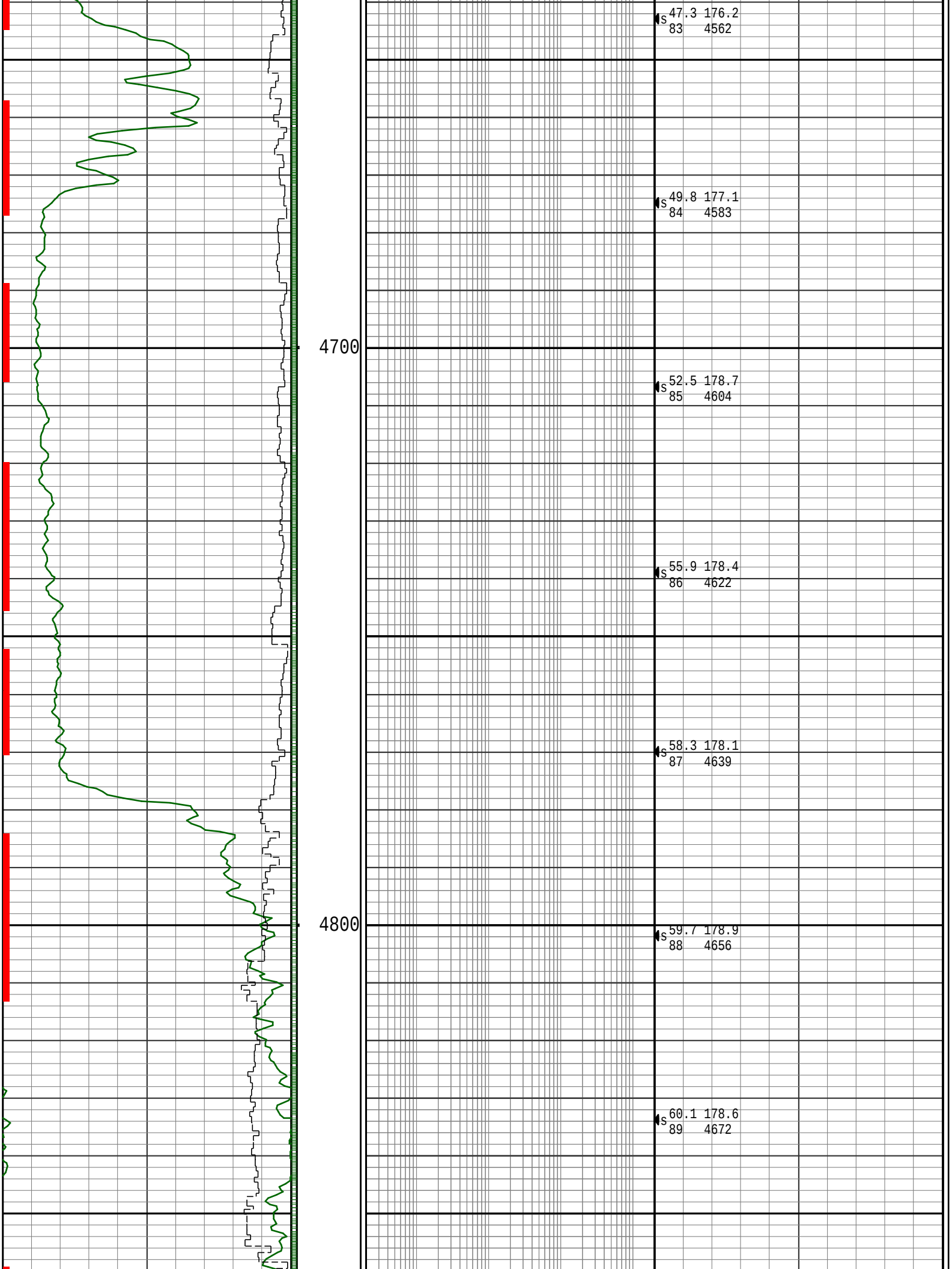
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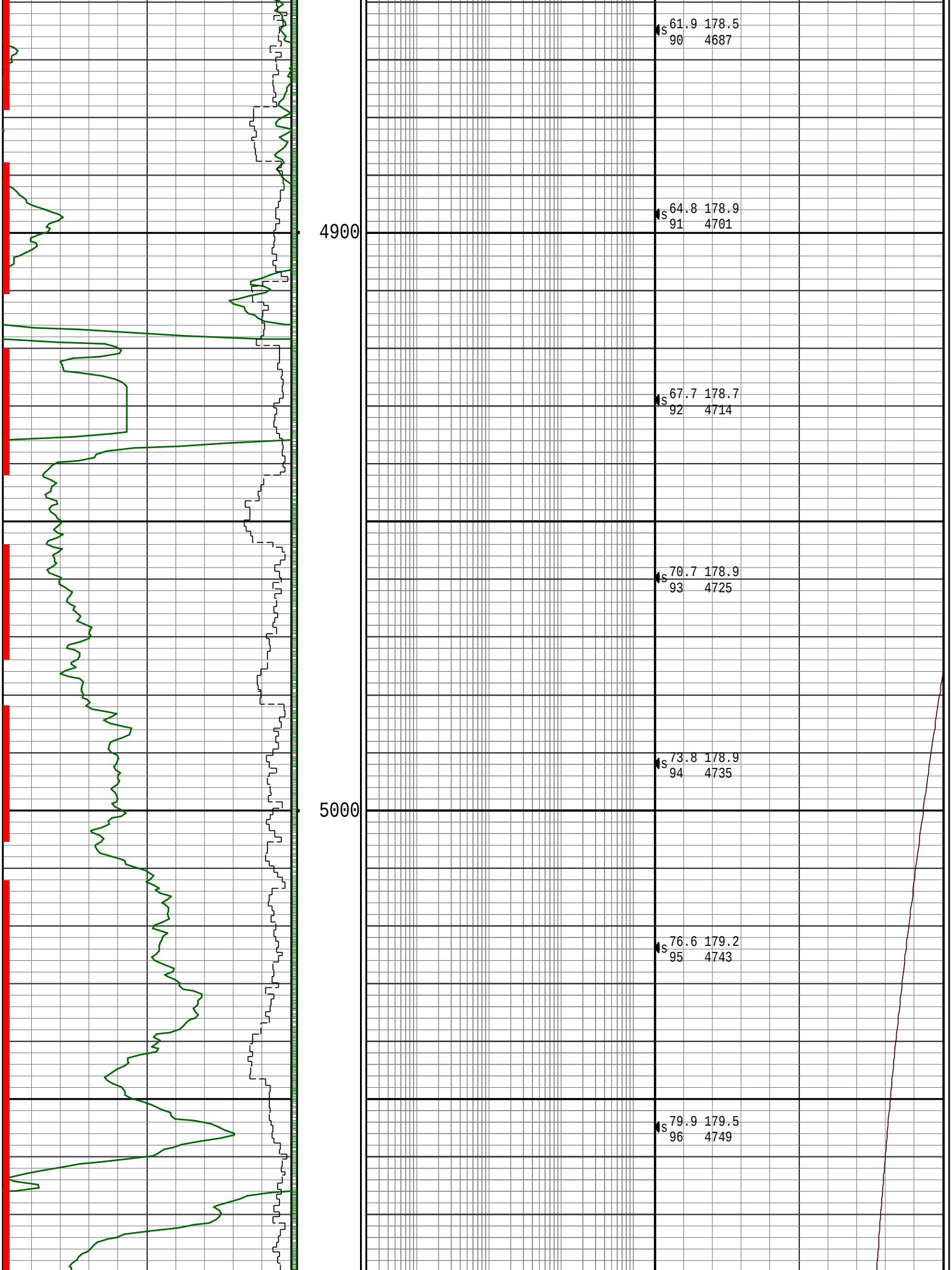
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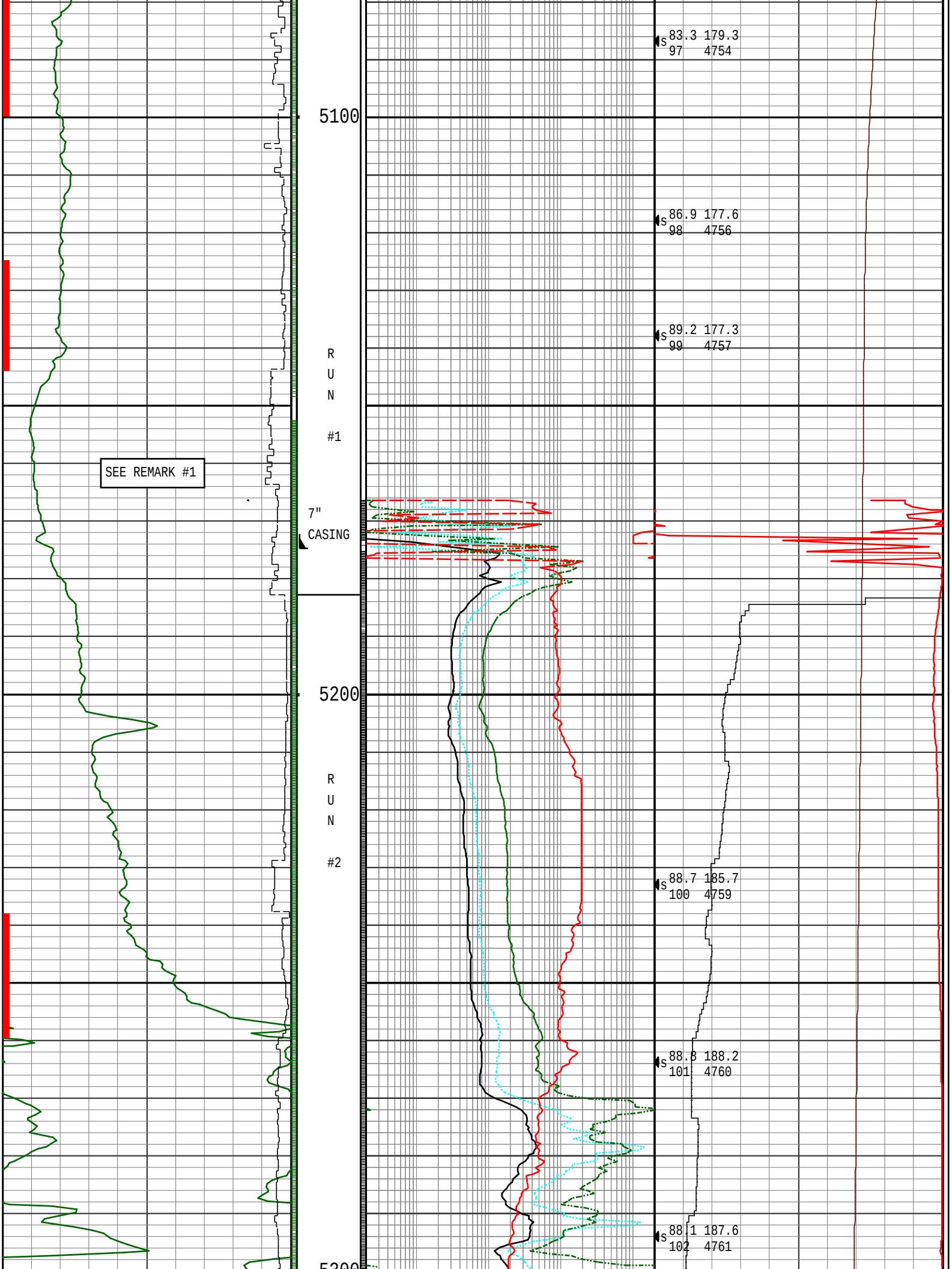
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5200
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N
#1
R
U
N
#2
7"
CASING
SEE REMARK #1
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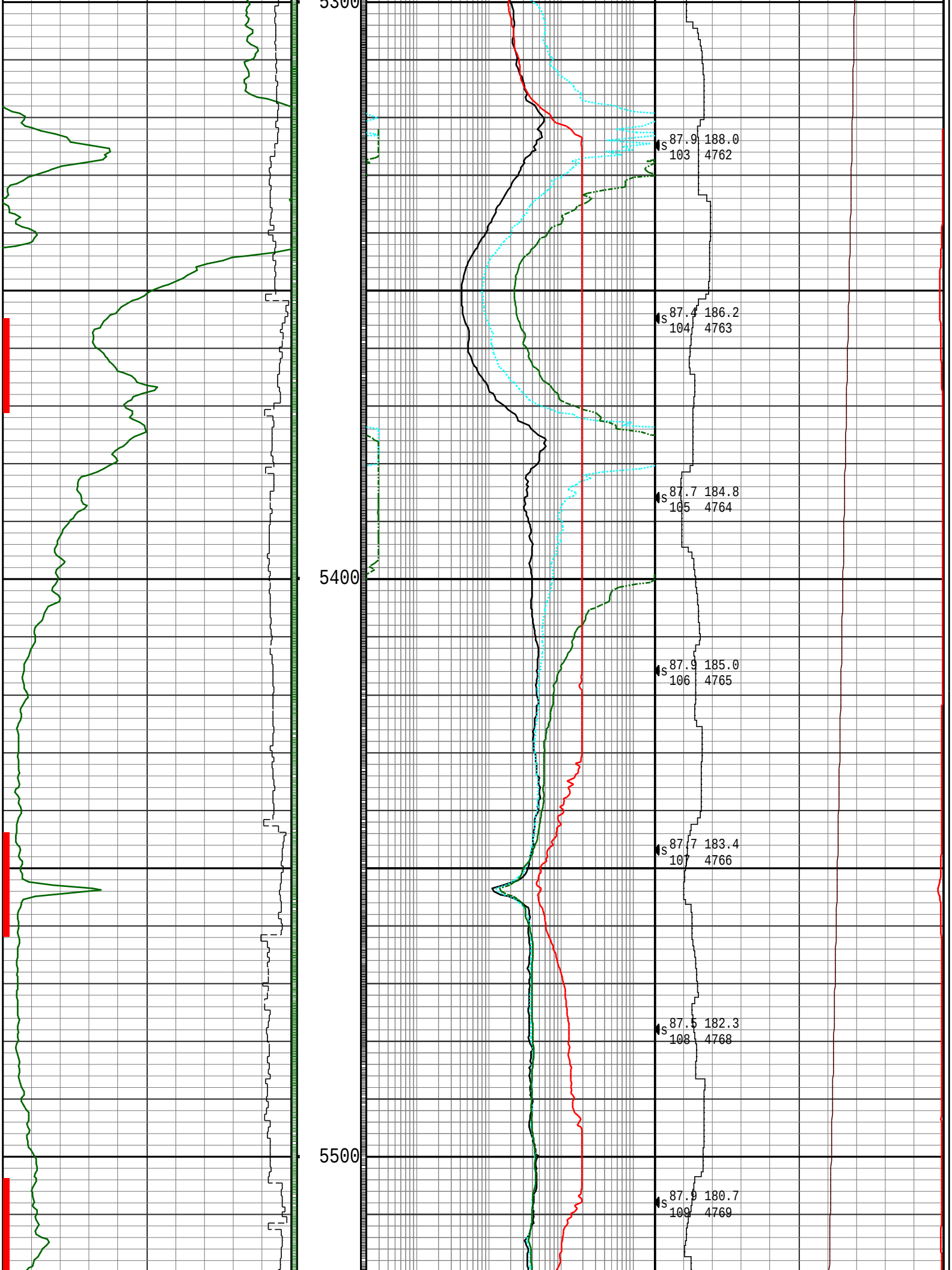
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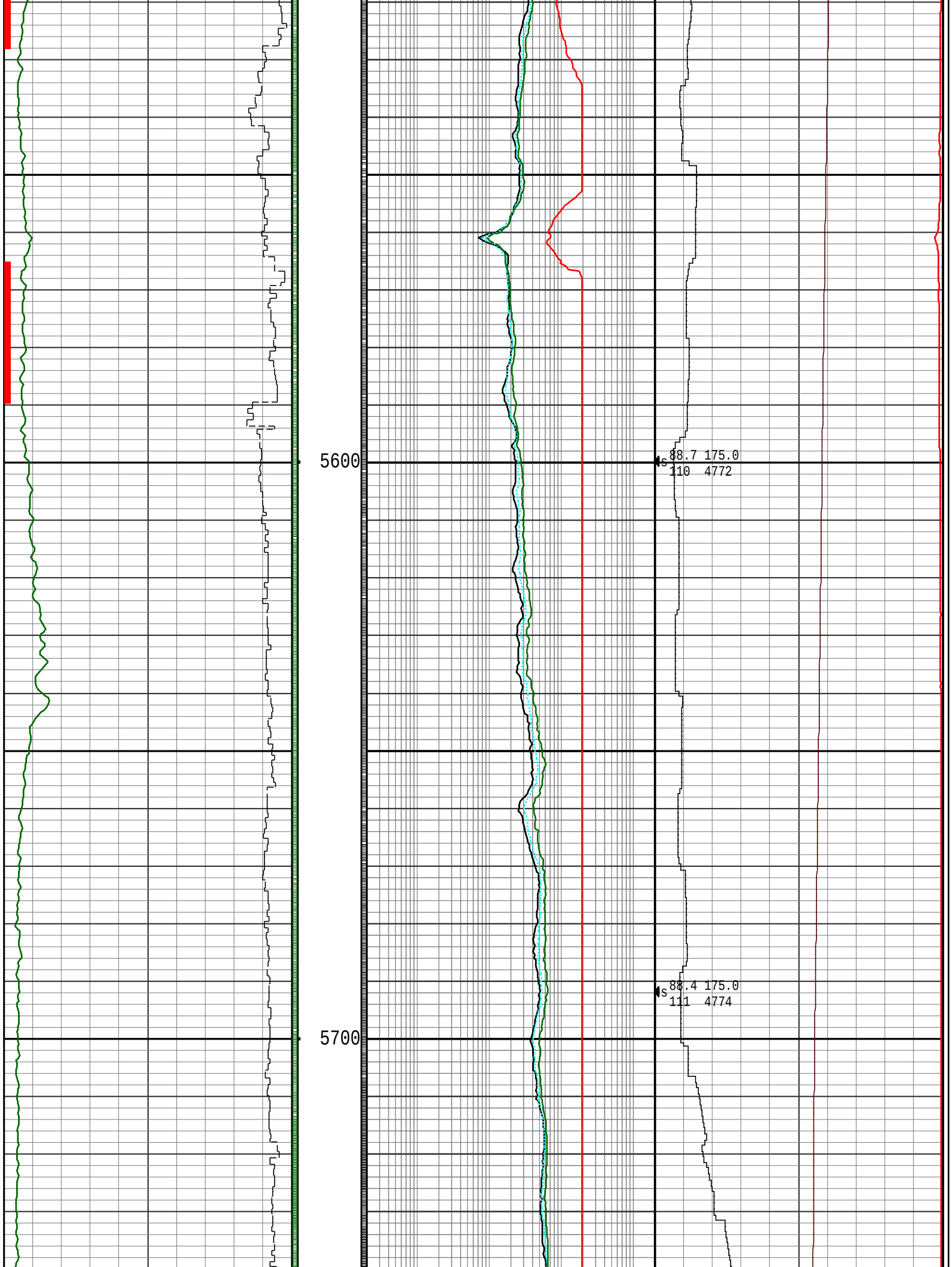
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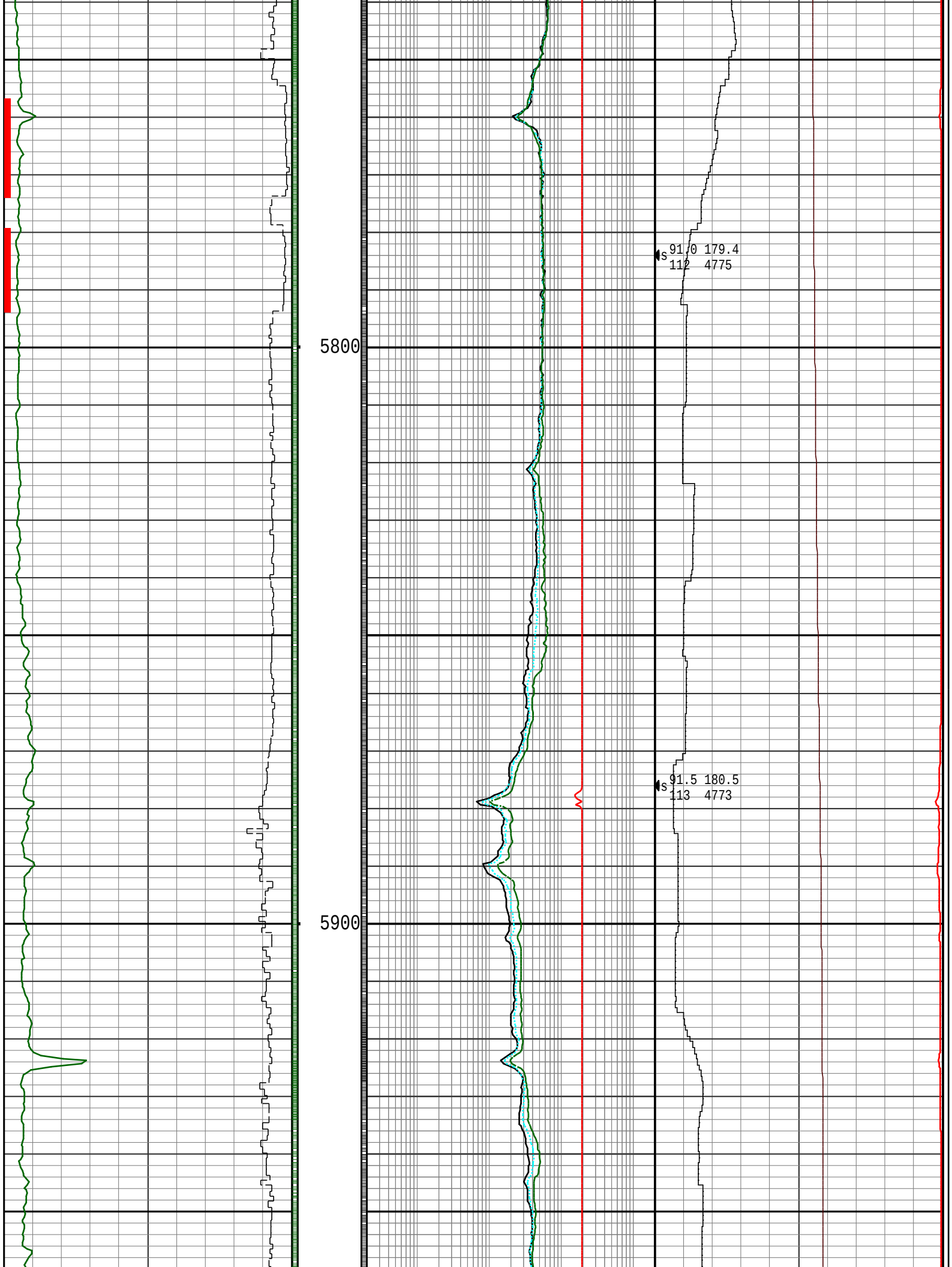
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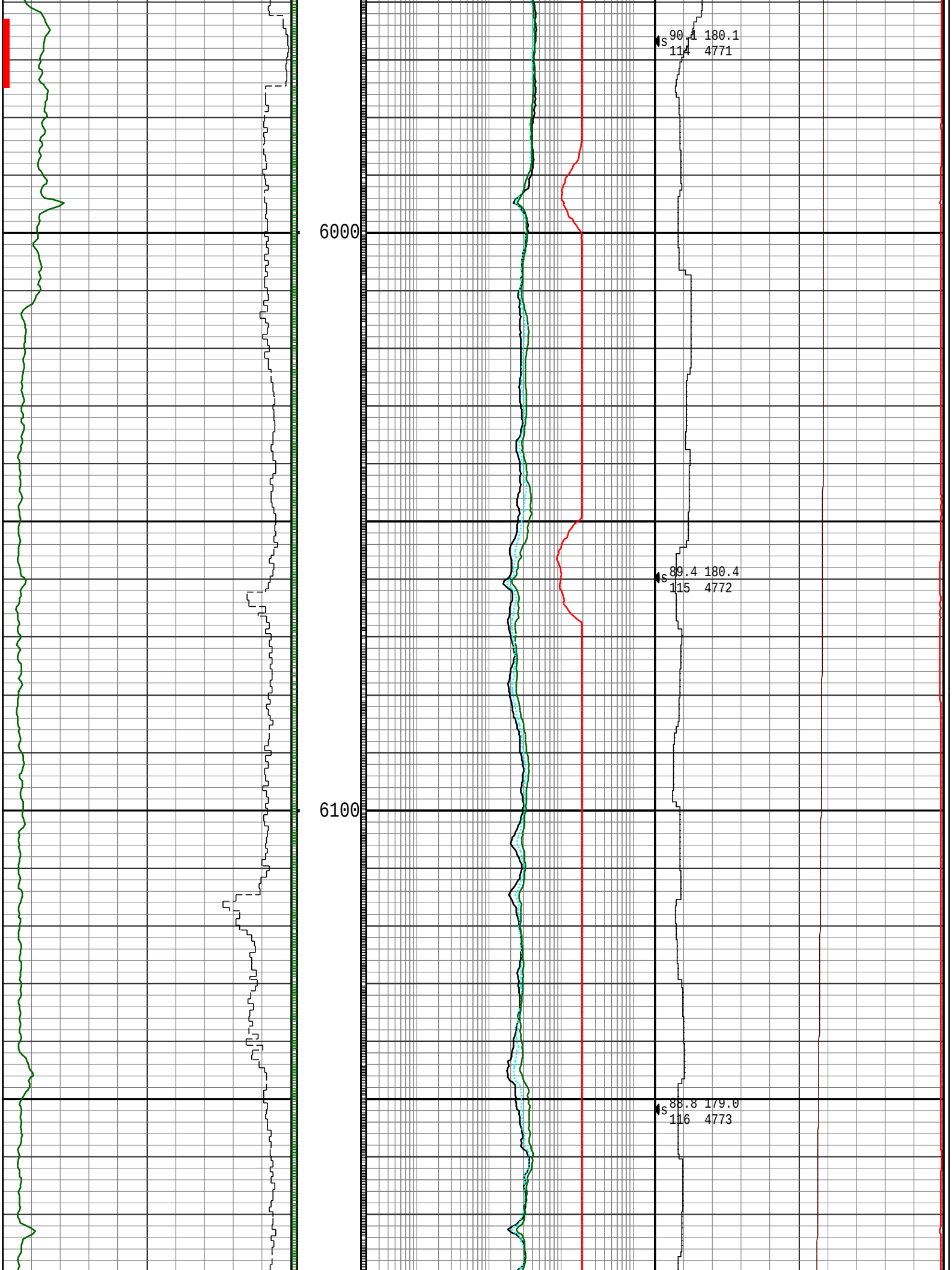
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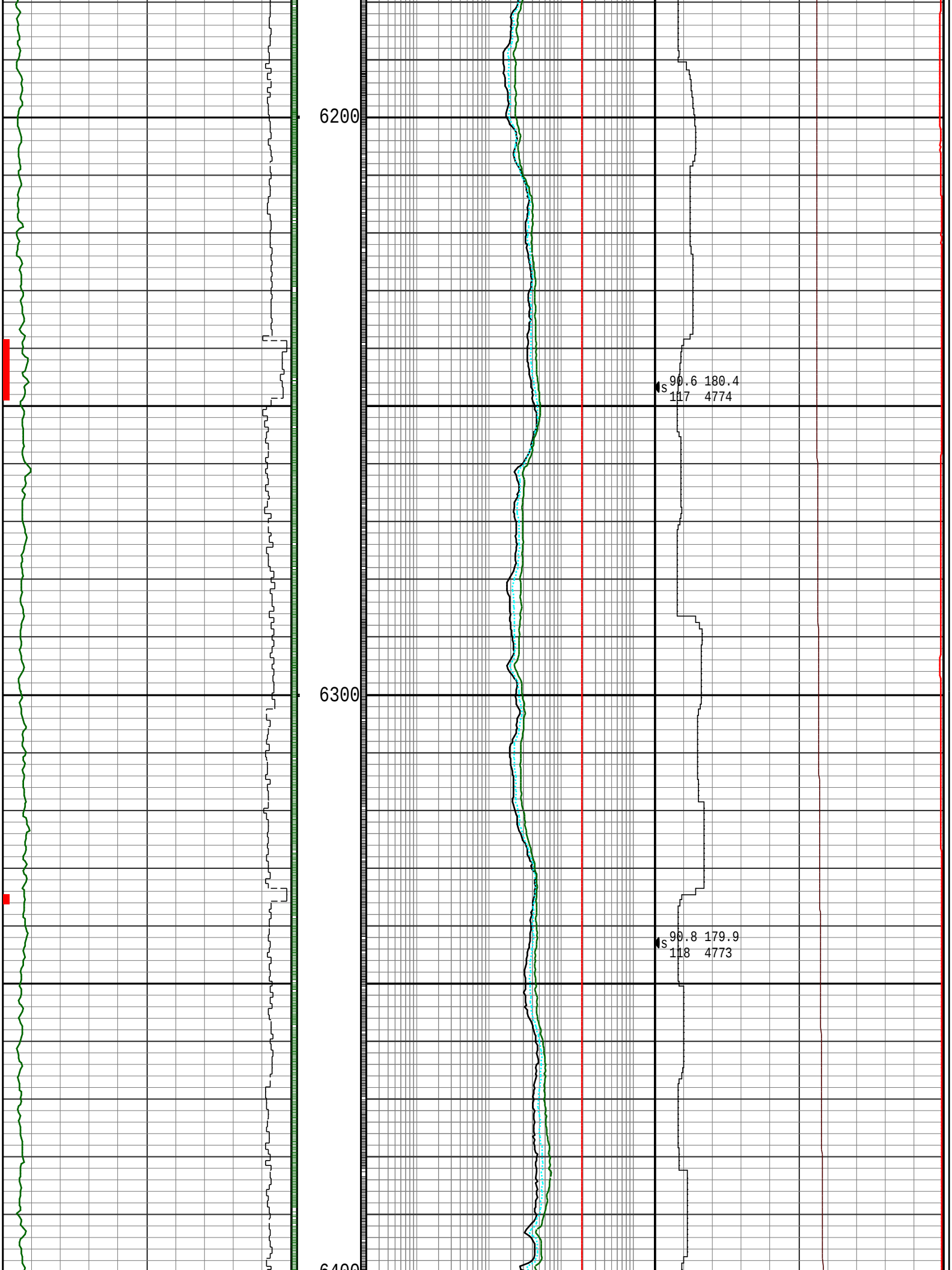
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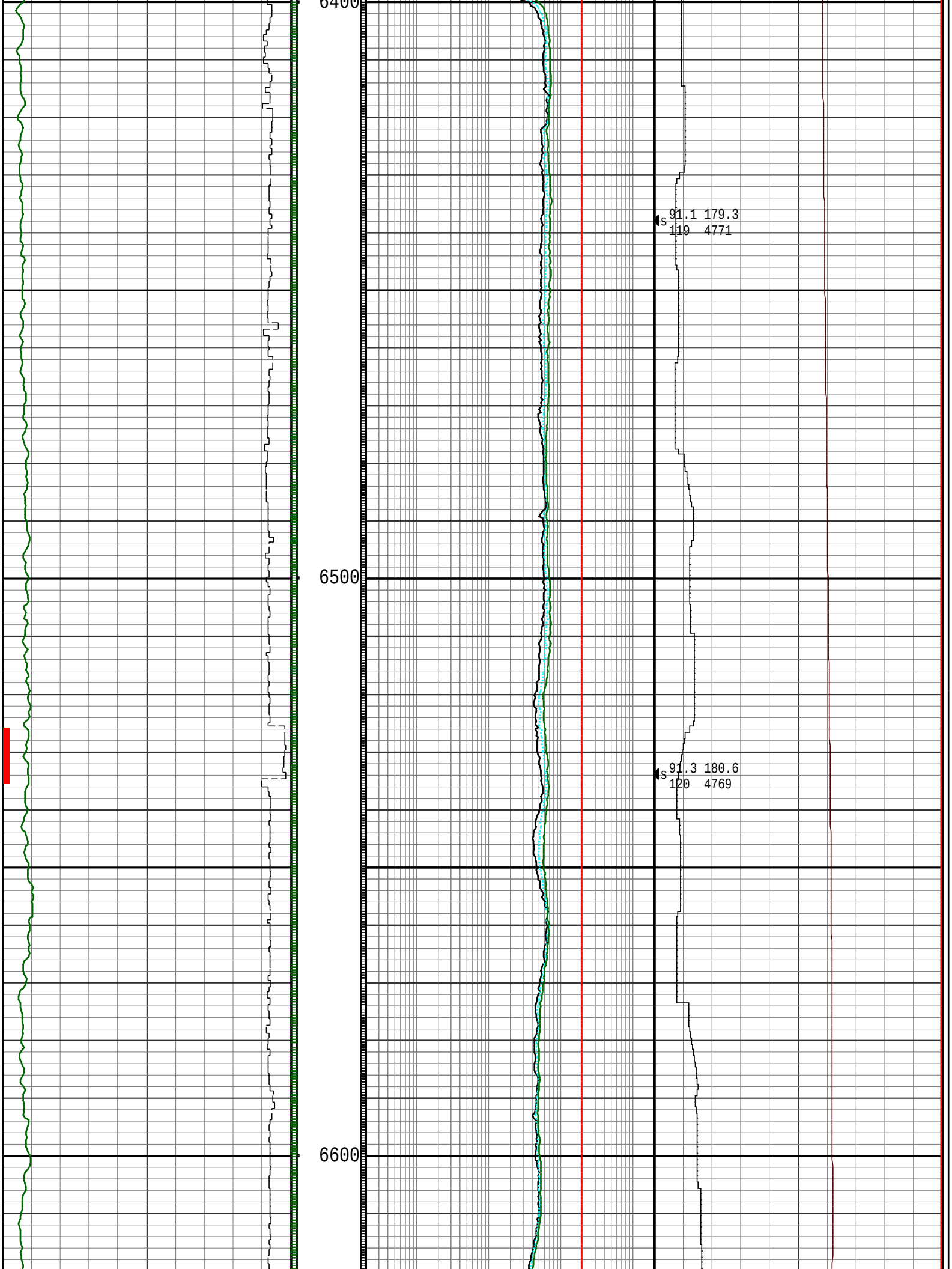
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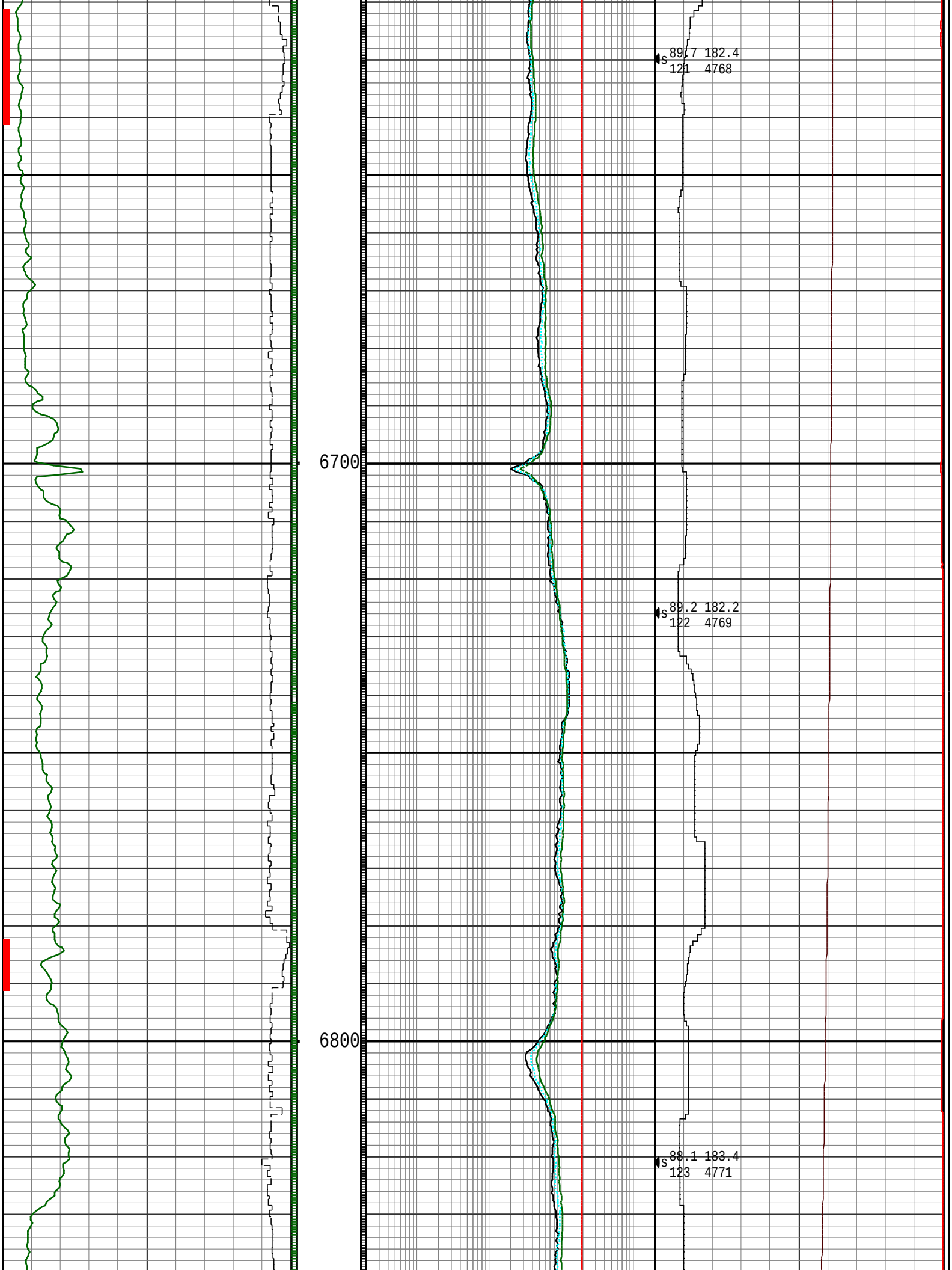
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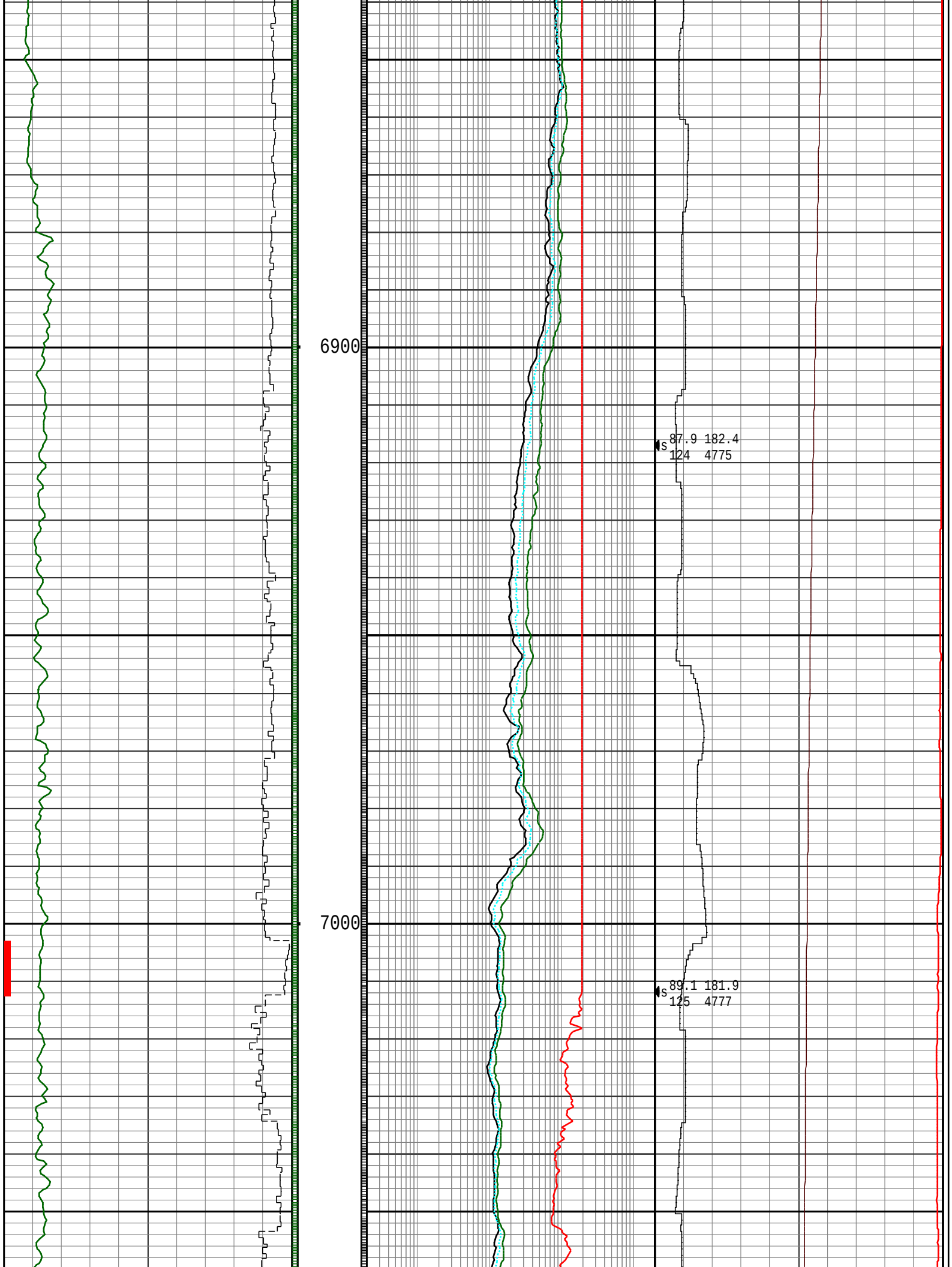
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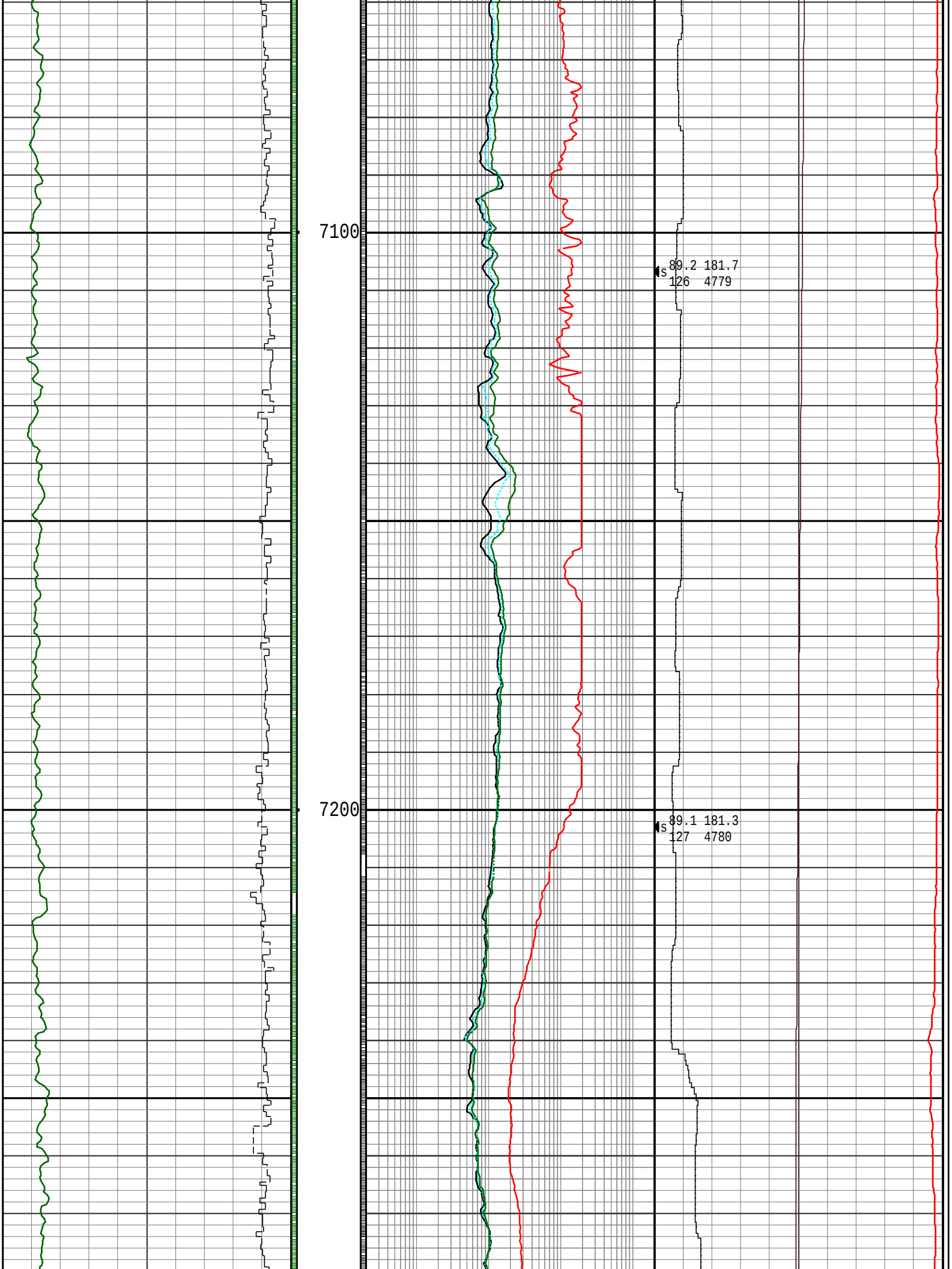
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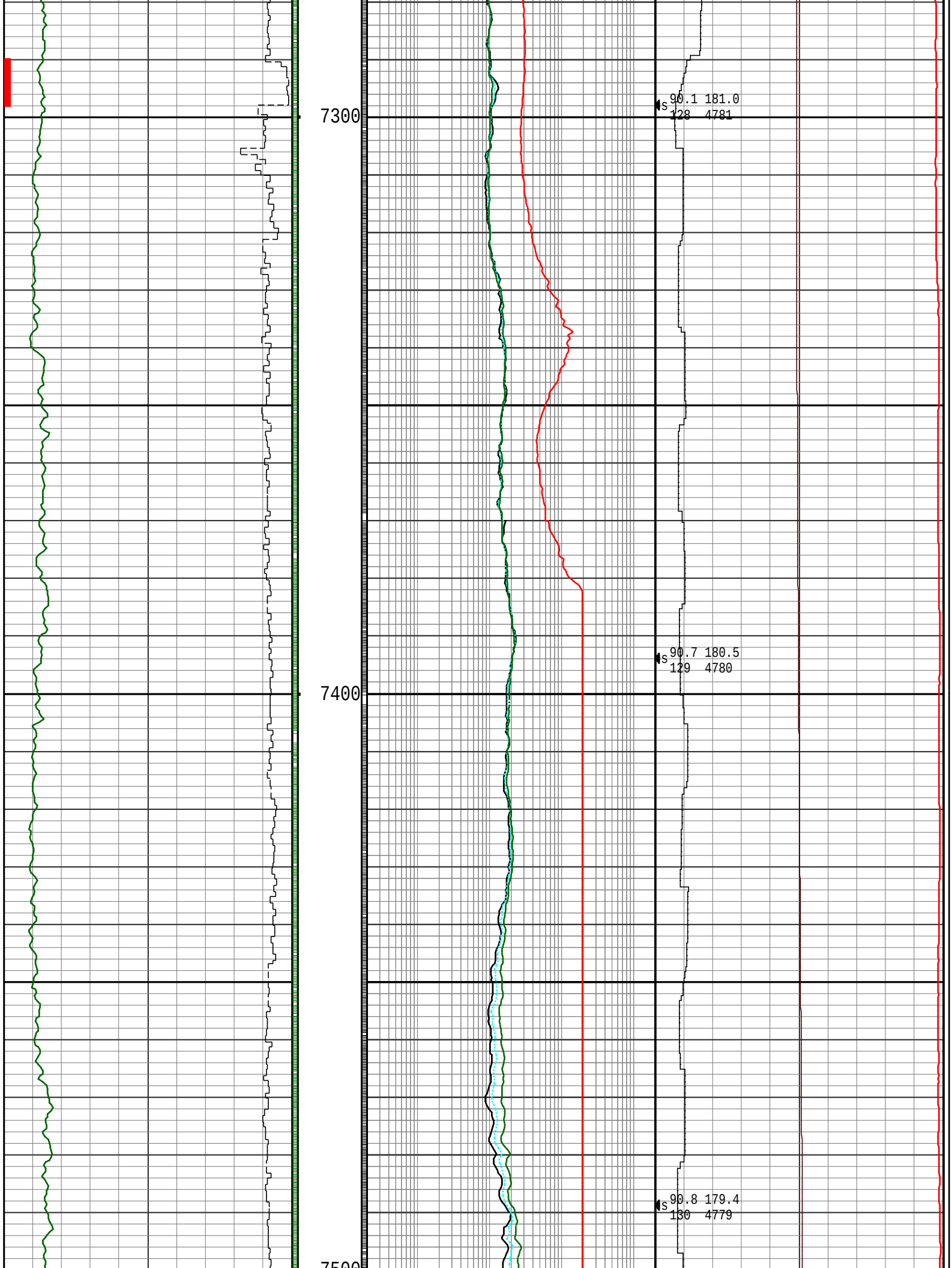
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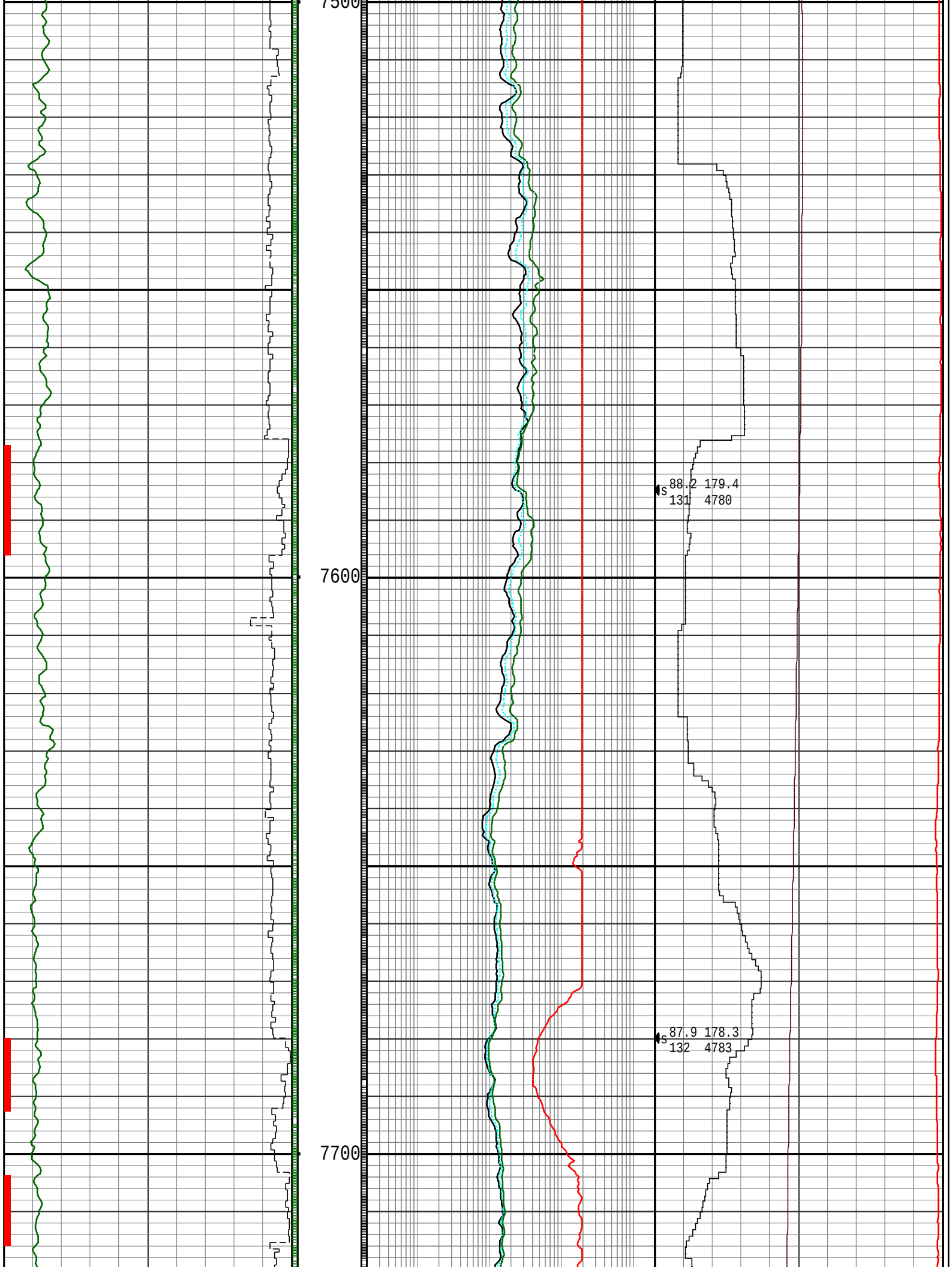
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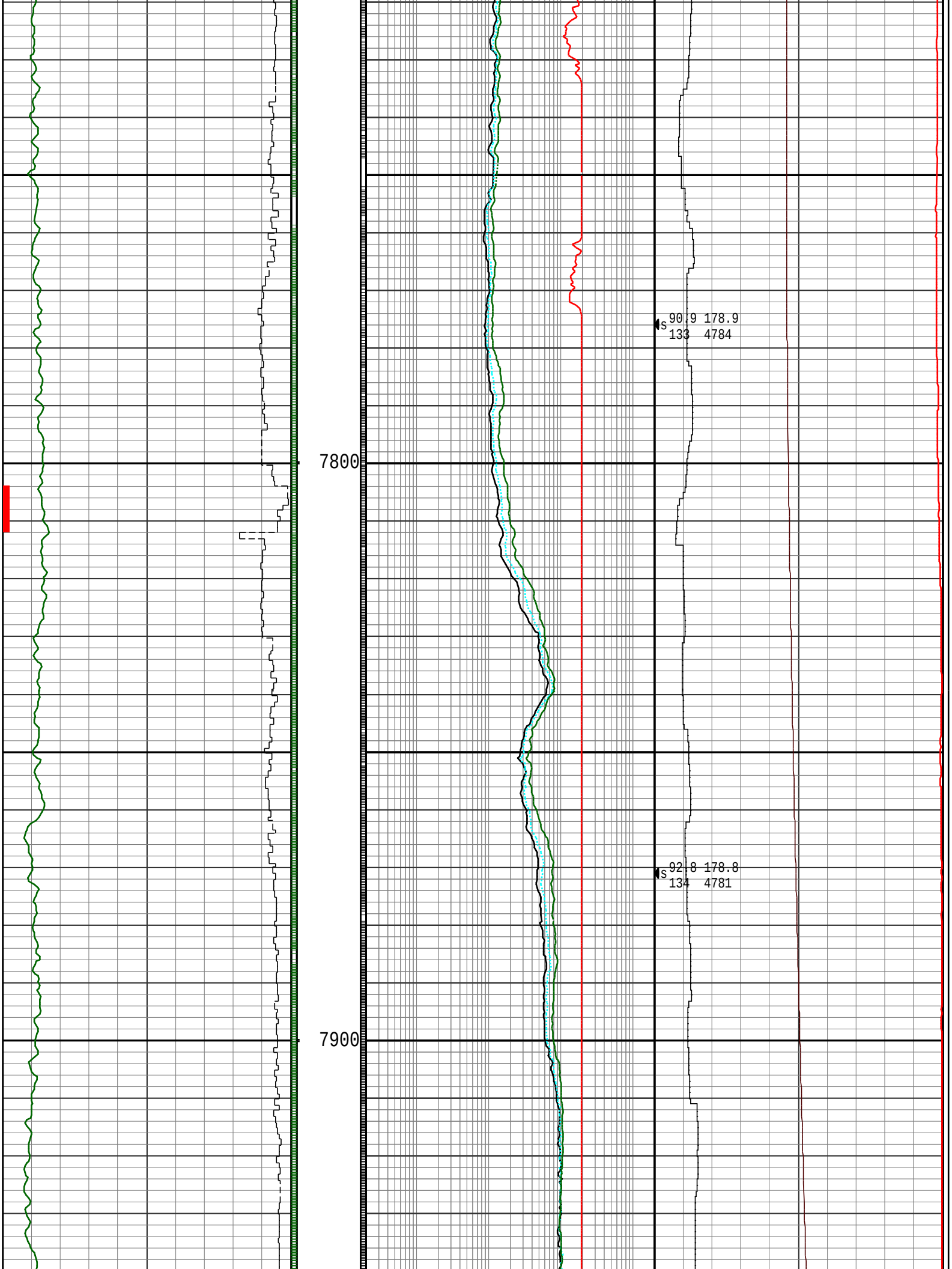
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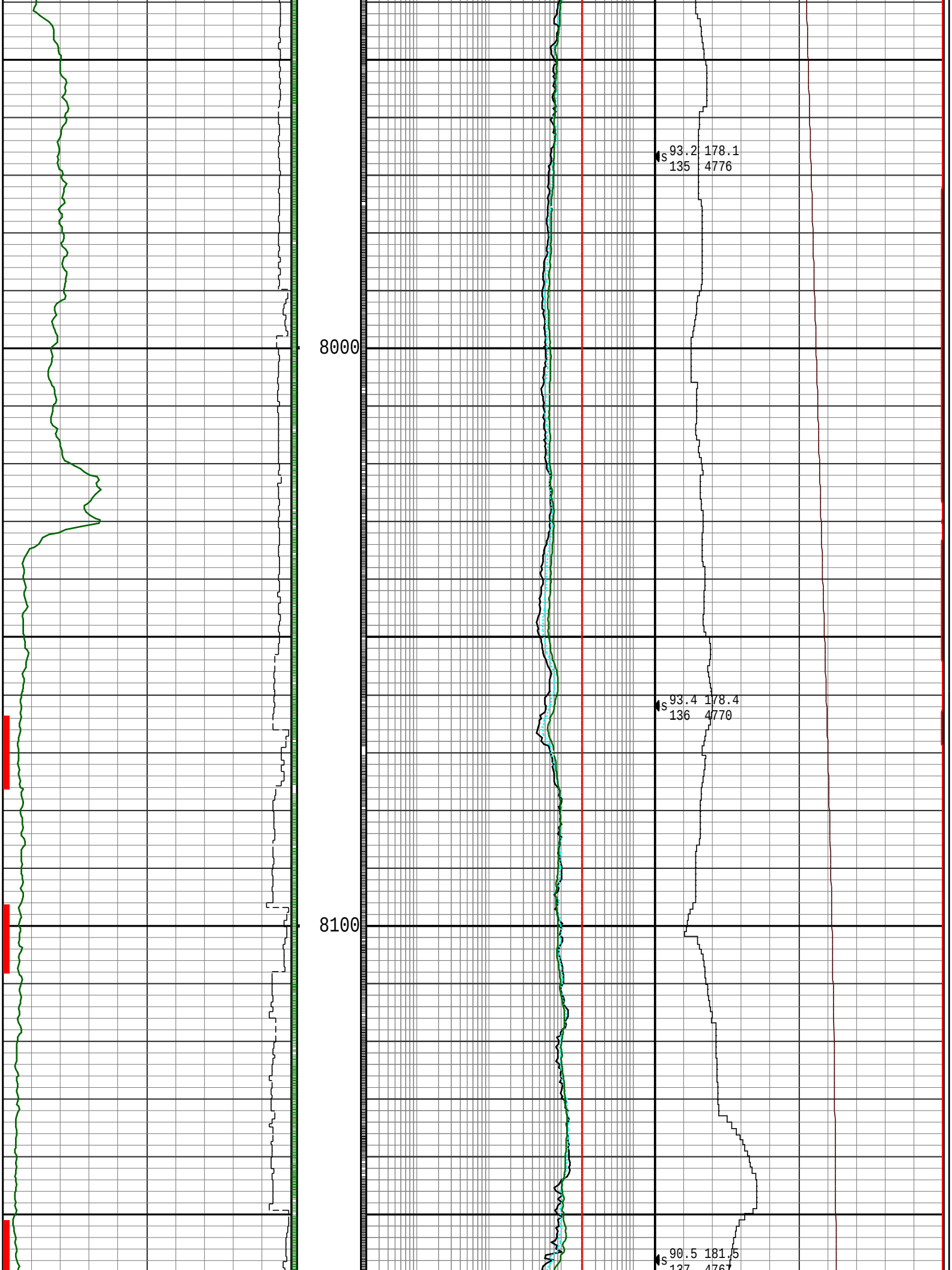
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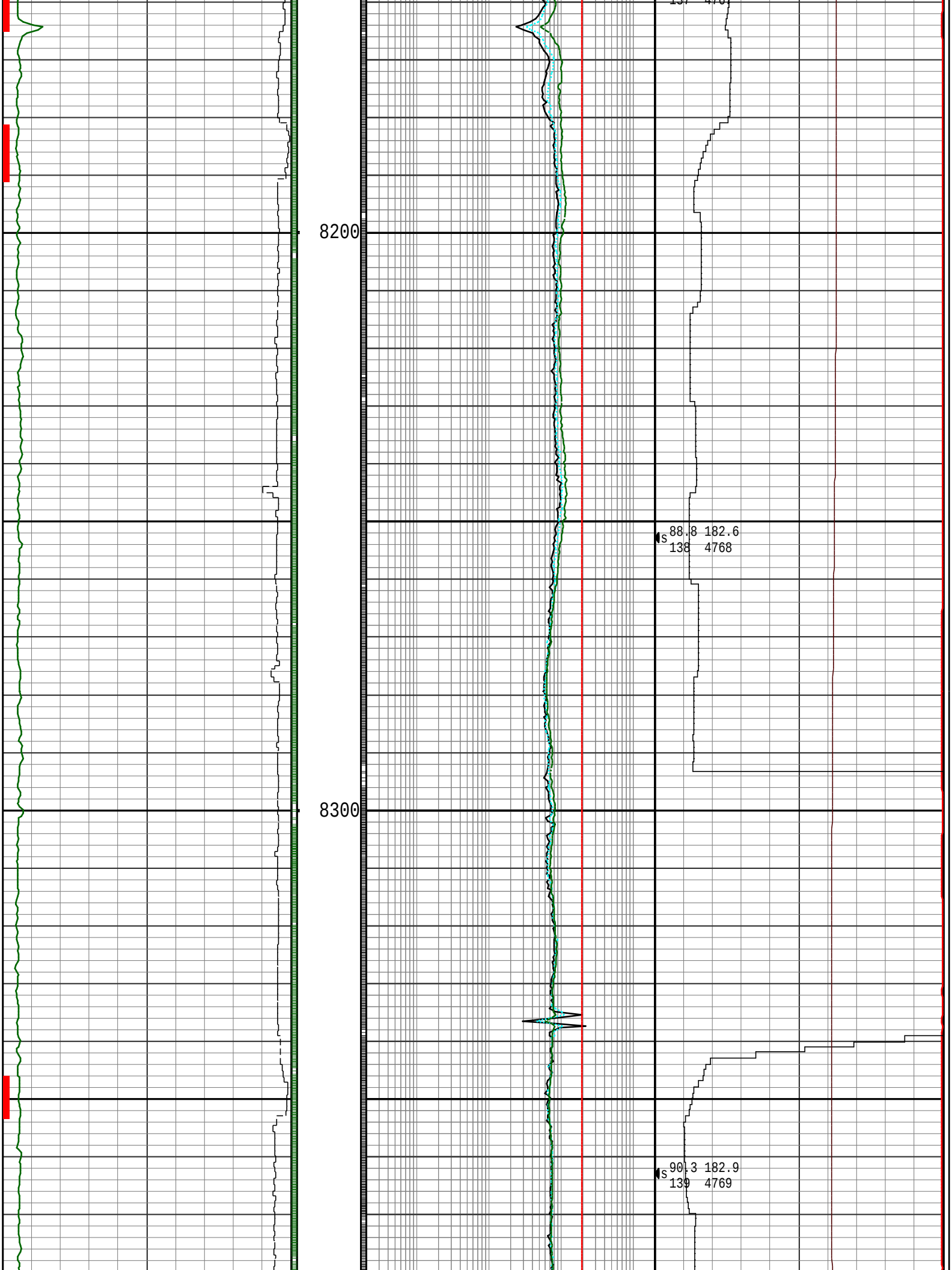
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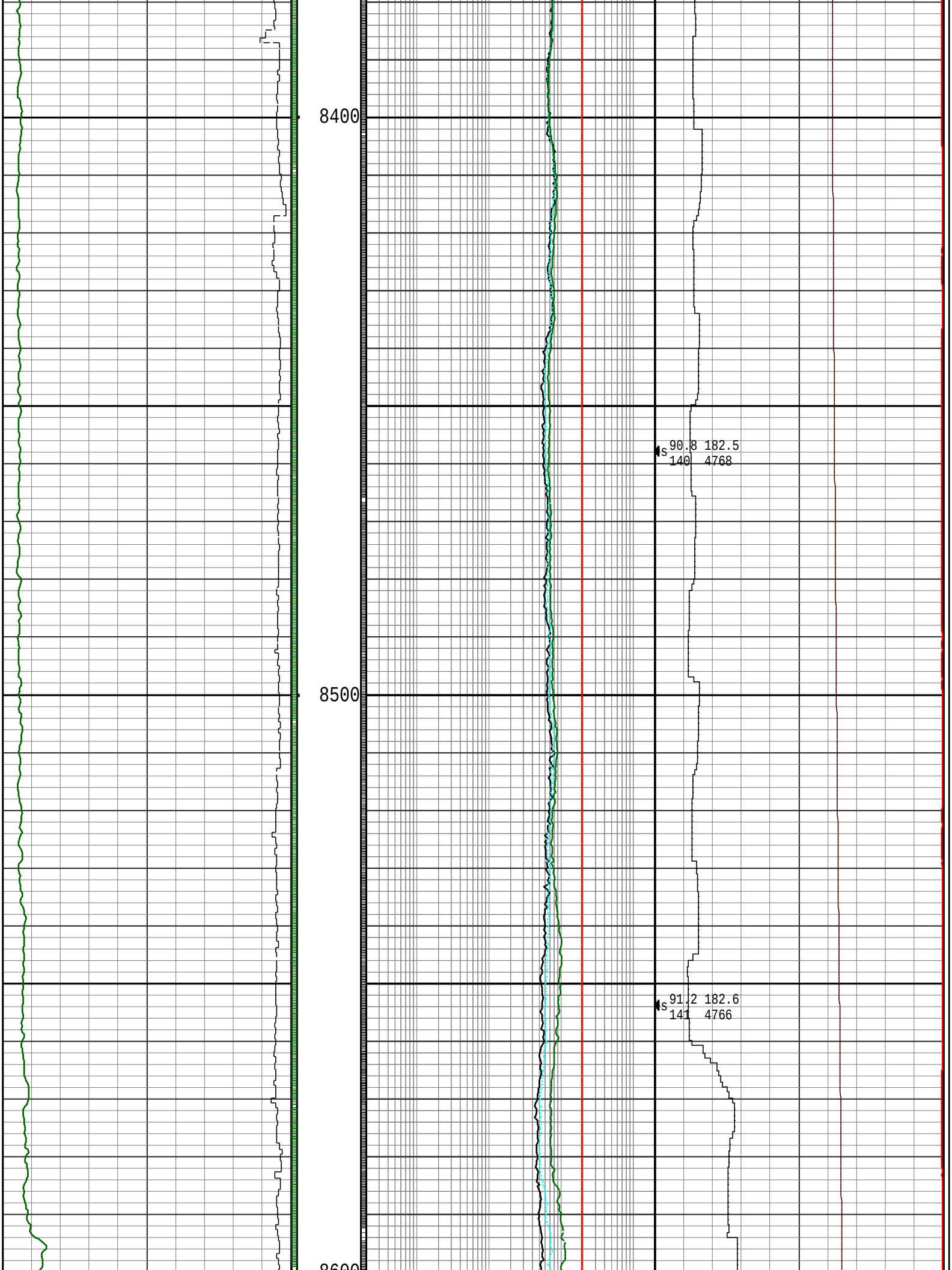
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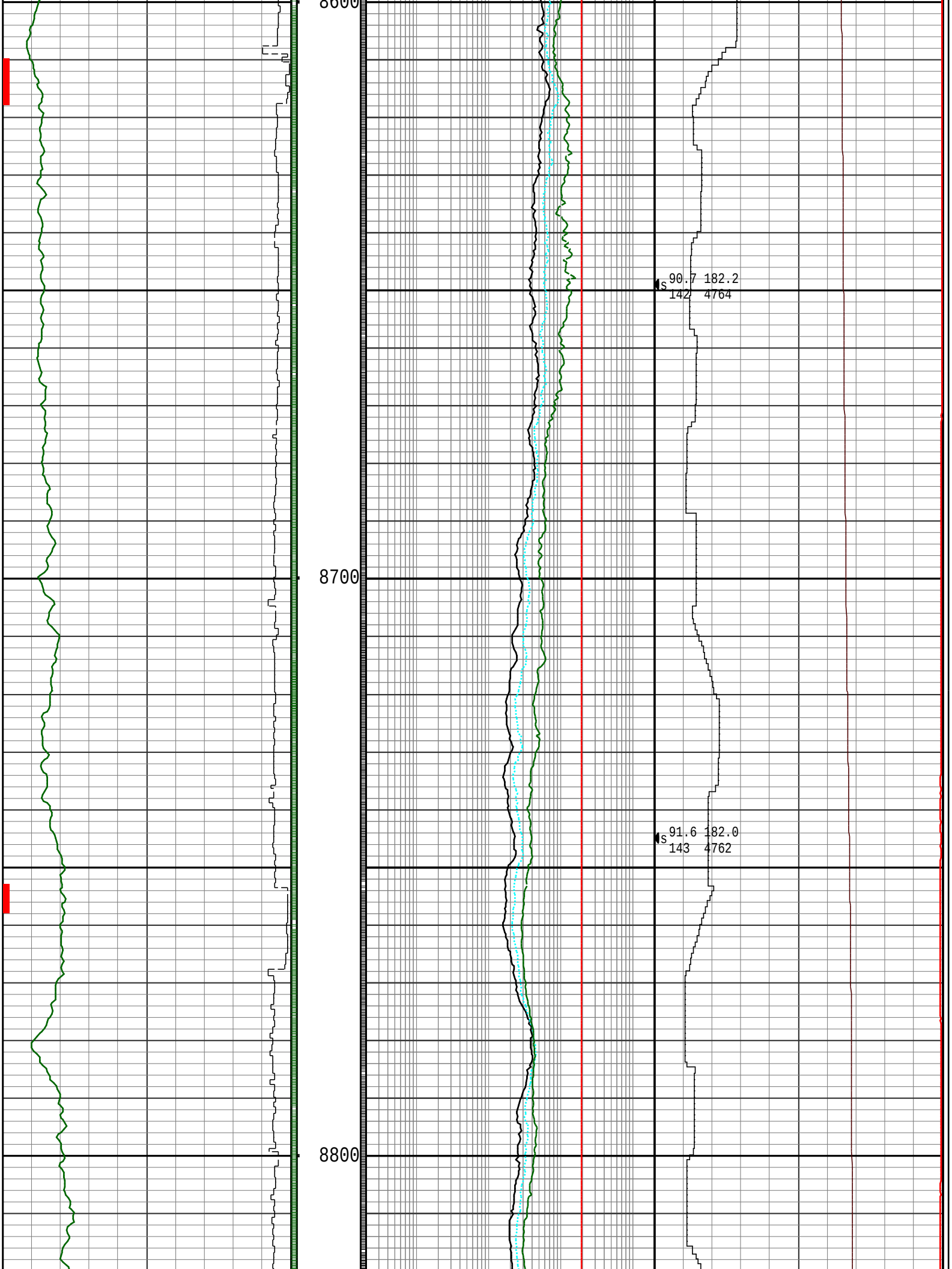
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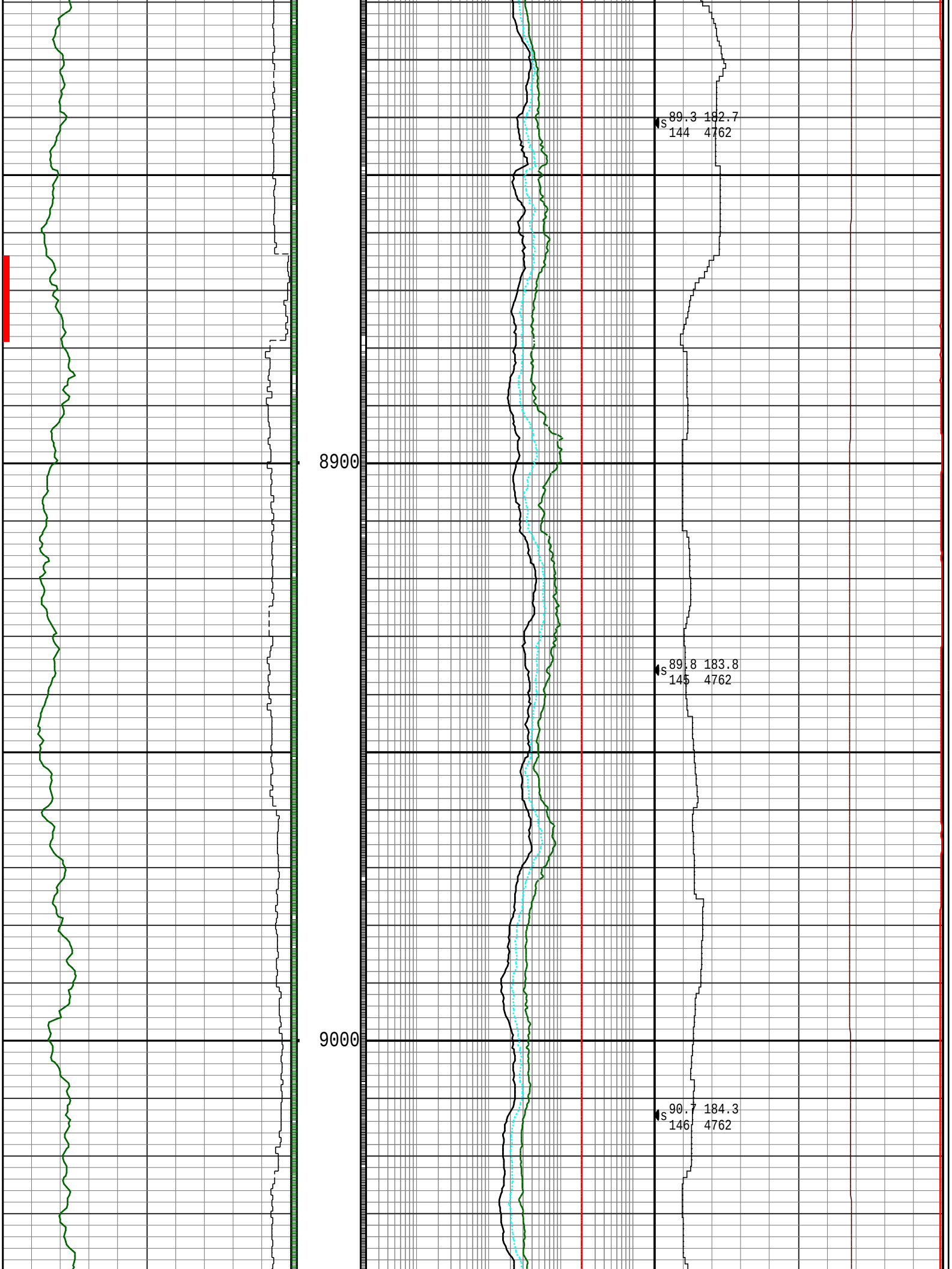
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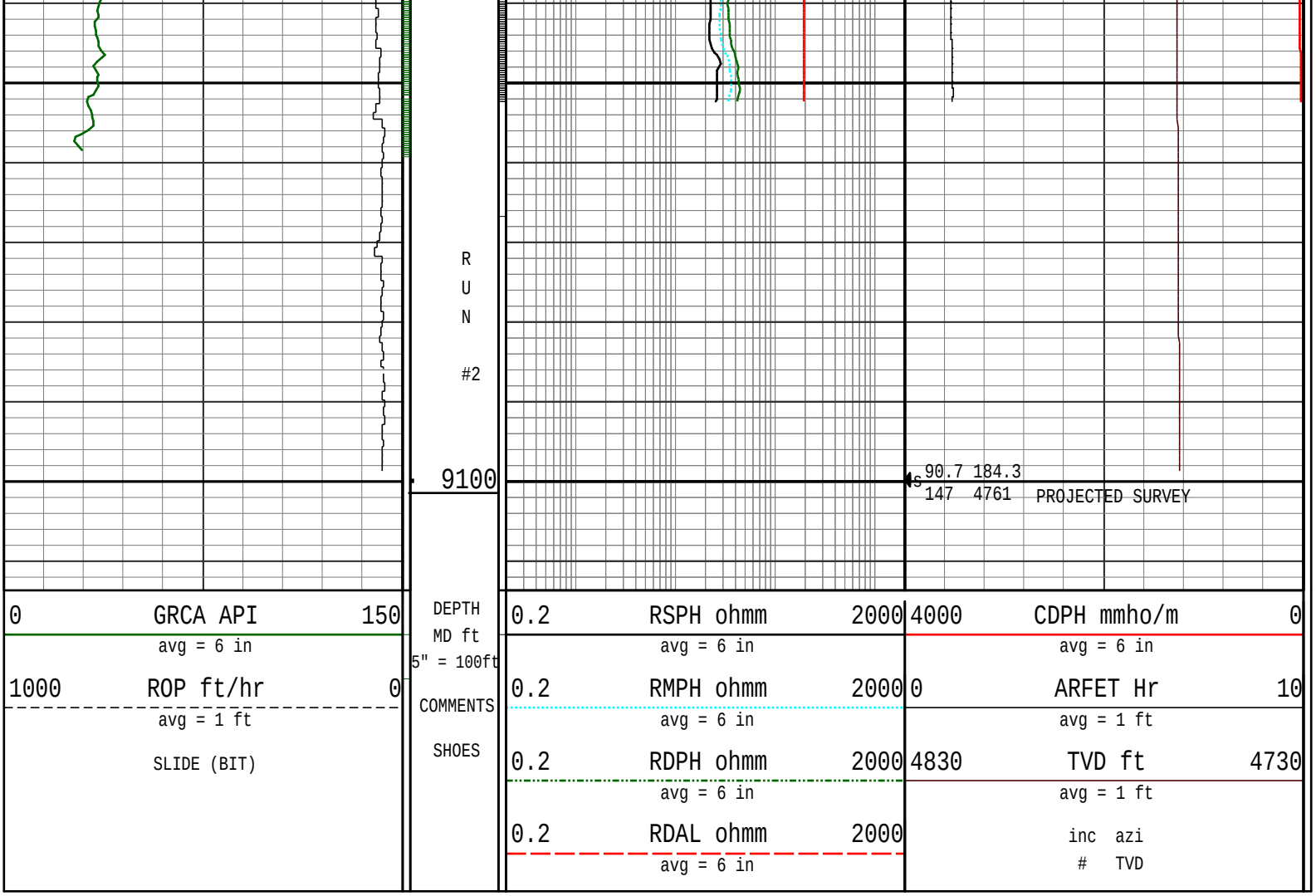

Survey Report

Vertical Section Plane: 180.60°	Total Correction: 5.09° East to Grid
Calculation Method: Minimum Curvature	Survey Reference: Wellhead
North Aligned to: Grid North	Well: TERESE #1H
RKB: 15' KELLY BUSHING TO GROUND LEVEL	FIELD: MEDICINE LODGE-BOGGS

Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	Rect Co-ord North (ft)	Rect Co-ord East (ft)	Closure Distance (ft)	Closure Direction (deg)	Dog-leg Severity (dg/hft)	Temp (deg F)
ORIGIN OF WELL AT SURFACE.											
0.00	0.00	0.00	0.00		-0.00	0.00 N	0.00 E	0.00	0.00		
78.50	0.83	83.55	78.50	78.50	-0.07	0.06 N	0.56 E	0.57	83.55	1.06	
138.50	0.87	104.52	138.49	60.00	-0.01	0.00 S	1.44 E	1.44	90.06	0.52	
197.97	0.72	119.28	197.96	59.47	0.27	0.30 S	2.20 E	2.22	97.70	0.42	
260.15	0.74	133.36	260.13	62.18	0.73	0.76 S	2.83 E	2.93	105.09	0.29	
320.06	0.95	130.19	320.03	59.91	1.31	1.35 S	3.49 E	3.75	111.13	0.36	
378.40	1.31	153.36	378.36	58.34	2.21	2.26 S	4.16 E	4.74	118.48	0.98	
437.19	1.36	156.86	437.14	58.79	3.45	3.50 S	4.74 E	5.89	126.46	0.16	
498.87	1.31	159.70	498.80	61.68	4.78	4.84 S	5.27 E	7.15	132.53	0.13	
562.57	1.37	163.95	562.48	63.70	6.19	6.25 S	5.73 E	8.48	137.47	0.18	
626.28	1.48	161.88	626.17	63.71	7.70	7.76 S	6.20 E	9.94	141.39	0.19	
689.91	1.21	155.79	689.79	63.63	9.09	9.16 S	6.73 E	11.37	143.68	0.48	
753.37	1.00	146.60	753.23	63.46	10.15	10.23 S	7.31 E	12.57	144.45	0.43	
817.00	1.10	164.68	816.85	63.63	11.20	11.28 S	7.78 E	13.70	145.42	0.54	
880.38	1.36	167.23	880.22	63.38	12.52	12.60 S	8.10 E	14.98	147.26	0.42	
944.03	1.06	165.92	943.85	63.65	13.82	13.91 S	8.41 E	16.26	148.83	0.47	
1007.40	1.14	175.86	1007.21	63.37	15.02	15.11 S	8.60 E	17.39	150.34	0.33	
1071.01	0.97	163.87	1070.81	63.61	16.16	16.26 S	8.80 E	18.49	151.58	0.44	
1134.39	1.14	177.06	1134.18	63.38	17.31	17.40 S	8.98 E	19.58	152.71	0.47	
1198.01	0.94	175.86	1197.79	63.62	18.46	18.55 S	9.05 E	20.64	154.00	0.32	
1261.32	0.77	201.69	1261.09	63.31	19.37	19.47 S	8.93 E	21.42	155.36	0.66	
1324.69	0.76	211.89	1324.46	63.37	20.13	20.22 S	8.55 E	21.95	157.08	0.21	
1388.27	0.61	206.30	1388.03	63.58	20.80	20.88 S	8.18 E	22.43	158.61	0.26	
1451.86	0.67	211.24	1451.62	63.59	21.42	21.50 S	7.83 E	22.89	159.98	0.13	
1515.41	0.41	238.78	1515.17	63.55	21.86	21.94 S	7.45 E	23.17	161.25	0.57	
1578.88	0.46	306.97	1578.64	63.47	21.83	21.90 S	7.05 E	23.01	162.16	0.77	
1642.42	1.42	345.24	1642.17	63.54	20.92	20.99 S	6.65 E	22.02	162.43	1.73	
1706.13	0.85	329.72	1705.86	63.71	19.75	19.82 S	6.21 E	20.77	162.61	1.01	
1769.80	0.33	278.64	1769.53	63.67	19.32	19.38 S	5.79 E	20.23	163.38	1.09	

1833.34	0.15	250.41	1833.07	63.54	19.32	19.38 S	5.53 E	20.15	164.08	0.33	
1896.82	0.64	215.50	1896.55	63.48	19.64	19.70 S	5.24 E	20.38	165.09	0.83	
1960.36	0.86	190.69	1960.08	63.54	20.40	20.46 S	4.95 E	21.05	166.40	0.61	
2023.80	1.12	177.70	2023.51	63.44	21.49	21.54 S	4.89 E	22.09	167.22	0.54	
2087.18	1.25	173.22	2086.88	63.38	22.80	22.85 S	4.99 E	23.39	167.68	0.25	
2150.82	1.06	186.13	2150.51	63.64	24.07	24.12 S	5.01 E	24.64	168.27	0.50	
2214.34	1.34	190.12	2214.01	63.52	25.39	25.44 S	4.82 E	25.89	169.28	0.46	
2277.69	1.11	186.30	2277.35	63.35	26.73	26.78 S	4.62 E	27.17	170.21	0.38	
2341.34	1.24	196.32	2340.99	63.65	28.00	28.05 S	4.36 E	28.39	171.17	0.38	
2405.06	1.21	220.30	2404.69	63.72	29.19	29.23 S	3.73 E	29.46	172.73	0.80	
2468.65	1.09	222.16	2468.27	63.59	30.15	30.19 S	2.89 E	30.32	174.53	0.20	
2532.33	0.85	219.61	2531.94	63.68	30.97	31.00 S	2.18 E	31.08	175.97	0.38	
2596.04	0.94	215.84	2595.64	63.71	31.77	31.79 S	1.58 E	31.83	177.16	0.17	
2659.62	0.60	202.55	2659.22	63.58	32.50	32.52 S	1.14 E	32.54	177.99	0.60	
2723.29	0.93	217.62	2722.88	63.67	33.23	33.23 S	0.70 E	33.24	178.80	0.60	
2786.57	0.89	200.45	2786.15	63.28	34.10	34.10 S	0.21 E	34.10	179.64	0.43	
2850.12	0.84	202.21	2849.69	63.55	35.00	35.00 S	0.13 W	35.00	180.22	0.09	
2913.51	0.86	216.65	2913.08	63.39	35.81	35.81 S	0.59 W	35.81	180.95	0.34	
2977.23	0.73	219.72	2976.79	63.72	36.51	36.50 S	1.14 W	36.52	181.79	0.21	
3040.74	0.91	224.30	3040.30	63.51	37.19	37.18 S	1.75 W	37.22	182.70	0.30	
3104.28	1.15	236.13	3103.82	63.54	37.92	37.89 S	2.63 W	37.98	183.97	0.50	
3167.50	0.97	242.88	3167.03	63.22	38.53	38.49 S	3.64 W	38.66	185.40	0.35	
3230.86	1.25	238.67	3230.38	63.36	39.14	39.09 S	4.70 W	39.38	186.86	0.46	
3294.27	1.49	250.10	3293.77	63.41	39.79	39.73 S	6.07 W	40.19	188.68	0.57	
3357.80	2.05	258.30	3357.27	63.53	40.33	40.25 S	7.96 W	41.02	191.19	0.97	
3421.35	2.35	262.58	3420.78	63.55	40.75	40.64 S	10.36 W	41.94	194.30	0.54	
3484.86	2.39	259.72	3484.23	63.51	41.18	41.05 S	12.96 W	43.04	197.52	0.20	
3548.20	2.53	263.14	3547.51	63.34	41.61	41.45 S	15.64 W	44.31	200.68	0.32	
3611.52	1.97	269.01	3610.78	63.32	41.82	41.64 S	18.12 W	45.41	203.52	0.96	
3674.78	1.88	261.11	3674.01	63.26	42.03	41.82 S	20.23 W	46.45	205.82	0.44	
3738.24	1.90	259.87	3737.44	63.46	42.39	42.16 S	22.30 W	47.69	207.87	0.07	
3801.00	1.31	259.41	3800.17	62.76	42.73	42.48 S	24.03 W	48.80	209.49	0.94	
3865.25	1.33	246.46	3864.40	64.25	43.17	42.91 S	25.43 W	49.88	210.65	0.46	
TIE IN TO GYRODATA DIRECTIONAL SURVEY AT 3973.3'MD.											
3973.30	1.89	252.70	3972.41	108.05	44.23	43.94 S	28.28 W	52.26	212.77	0.54	
THE FOLLOWING ARE SCHLUMBERGER MWD SURVEYS.											
4009.00	3.97	210.59	4008.06	35.70	45.49	45.18 S	29.47 W	53.94	213.12	8.02	101.02
4040.00	7.19	197.91	4038.92	31.00	48.27	47.95 S	30.62 W	56.89	212.56	11.06	104.64
4072.00	10.91	193.83	4070.51	32.00	53.13	52.80 S	31.96 W	61.72	211.19	11.79	104.64
4104.00	14.45	192.34	4101.73	32.00	59.99	59.64 S	33.53 W	68.42	209.35	11.11	104.64
4136.00	17.33	189.26	4132.50	32.00	68.61	68.25 S	35.16 W	76.77	207.25	9.37	104.64

Survey Report

Vertical Section Plane: 180.60°	Total Correction: 5.09° East to Grid
Calculation Method: Minimum Curvature	Survey Reference: Wellhead
North Aligned to: Grid North	Well: TERESE #1H
RKB: 15' KELLY BUSHING TO GROUND LEVEL	FIELD: MEDICINE LODGE-BOGGS

Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	Rect Co-ord North (ft)	Rect Co-ord East (ft)	Closure Distance (ft)	Closure Direction (deg)	Dog-leg Severity (dg/hft)	Temp (deg F)
4167.00	19.35	183.88	4161.93	31.00	78.30	77.93 S	36.25 W	85.95	204.94	8.50	108.25
4199.00	20.16	180.72	4192.04	32.00	89.11	88.73 S	36.67 W	96.01	202.46	4.19	108.25
4231.00	21.65	182.43	4221.94	32.00	100.53	100.15 S	36.99 W	106.76	200.27	5.03	104.64
4263.00	23.91	181.88	4251.44	32.00	112.91	112.53 S	37.46 W	118.60	198.41	7.09	104.64
4294.00	26.15	181.99	4279.53	31.00	126.02	125.63 S	37.90 W	131.23	196.79	7.23	108.25
4326.00	27.75	181.74	4308.05	32.00	140.52	140.13 S	38.37 W	145.29	195.31	5.01	108.25
4357.00	29.04	180.07	4335.32	31.00	155.26	154.87 S	38.60 W	159.60	194.00	4.89	108.25
4389.00	30.49	178.75	4363.10	32.00	171.14	170.75 S	38.43 W	175.02	192.68	4.97	108.25
4421.00	32.19	178.22	4390.43	32.00	187.78	187.39 S	37.99 W	191.20	191.46	5.38	108.25
4453.00	34.13	178.01	4417.22	32.00	205.26	204.88 S	37.41 W	208.27	190.35	6.07	108.25
4485.00	36.23	177.45	4443.37	32.00	223.67	223.30 S	36.68 W	226.29	189.33	6.64	108.25
4517.00	37.78	178.28	4468.92	32.00	242.91	242.55 S	35.97 W	245.20	188.43	5.09	108.25
4548.00	39.50	178.38	4493.14	31.00	262.25	261.90 S	35.40 W	264.28	187.70	5.55	104.64
4580.00	41.96	178.06	4517.38	32.00	283.11	282.76 S	34.75 W	284.89	187.01	7.72	108.25
4612.00	44.57	177.37	4540.68	32.00	305.01	304.68 S	33.87 W	306.55	186.34	8.29	108.25
4643.00	47.32	176.20	4562.24	31.00	327.24	326.92 S	32.62 W	328.54	185.70	9.28	111.87
4675.00	49.75	177.11	4583.43	32.00	351.16	350.85 S	31.22 W	352.24	185.09	7.89	111.87
4707.00	52.52	178.67	4603.50	32.00	376.05	375.75 S	30.31 W	376.97	184.61	9.45	111.87
4739.00	55.90	178.38	4622.22	32.00	401.98	401.69 S	29.64 W	402.79	184.22	10.59	115.48
4770.00	58.35	178.06	4639.04	31.00	427.99	427.71 S	28.83 W	428.69	183.86	7.95	115.48
4802.00	59.71	178.88	4655.51	32.00	455.41	455.14 S	28.10 W	456.01	183.53	4.79	111.87
4834.00	60.06	178.62	4671.56	32.00	483.08	482.82 S	27.50 W	483.60	183.26	1.30	111.87
4865.00	61.86	178.52	4686.61	31.00	510.16	509.91 S	26.82 W	510.61	183.01	5.81	111.87
4897.00	64.80	178.89	4700.97	32.00	538.74	538.49 S	26.18 W	539.13	182.78	9.25	111.87
4929.00	67.73	178.71	4713.85	32.00	568.01	567.78 S	25.56 W	568.35	182.58	9.17	111.87
4960.00	70.66	178.87	4724.86	31.00	596.98	596.75 S	24.95 W	597.27	182.39	9.46	115.48
4992.00	73.78	178.90	4734.63	32.00	627.43	627.21 S	24.36 W	627.68	182.22	9.75	115.48
5024.00	76.55	179.17	4742.82	32.00	658.35	658.13 S	23.84 W	658.57	182.07	8.70	115.48
5055.00	79.88	179.51	4749.15	31.00	688.68	688.48 S	23.49 W	688.88	181.95	10.80	115.48
5087.00	83.27	179.34	4753.84	32.00	720.33	720.12 S	23.17 W	720.50	181.84	10.61	115.48
5118.00	86.92	177.60	4756.49	31.00	751.19	750.99 S	22.35 W	751.32	181.70	13.03	115.48
5138.00	89.16	177.32	4757.18	20.00	771.14	770.96 S	21.46 W	771.26	181.59	11.29	115.48
5233.00	88.66	185.68	4758.99	95.00	866.03	865.83 S	23.94 W	866.16	181.58	8.81	111.87

5264.00	88.77	188.23	4759.68	31.00	896.83	896.59 S	27.70 W	897.01	181.77	8.23	111.87
5294.00	88.10	187.64	4760.50	30.00	926.57	926.29 S	31.84 W	926.84	181.97	2.98	111.87
5325.00	87.87	187.96	4761.59	31.00	957.31	956.98 S	36.04 W	957.66	182.16	1.27	115.48
5355.00	87.42	186.21	4762.82	30.00	987.09	986.73 S	39.74 W	987.53	182.31	6.02	115.48
5386.00	87.70	184.77	4764.14	31.00	1017.95	1017.56 S	42.70 W	1018.45	182.40	4.73	115.48
5416.00	87.93	184.99	4765.29	30.00	1047.84	1047.43 S	45.25 W	1048.40	182.47	1.06	115.48
5447.00	87.65	183.44	4766.48	31.00	1078.76	1078.32 S	47.53 W	1079.36	182.52	5.08	115.48
5478.00	87.48	182.30	4767.80	31.00	1109.70	1109.25 S	49.08 W	1110.34	182.53	3.71	115.48
5508.00	87.87	180.67	4769.02	30.00	1139.67	1139.21 S	49.86 W	1140.30	182.51	5.58	115.48
5600.00	88.66	175.01	4771.81	92.00	1231.49	1231.07 S	46.39 W	1231.94	182.16	6.21	119.09
5692.00	88.43	174.97	4774.14	92.00	1323.02	1322.69 S	38.36 W	1323.24	181.66	0.25	119.09
5784.00	91.01	179.37	4774.59	92.00	1414.82	1414.54 S	33.82 W	1414.95	181.37	5.54	122.71
5876.00	91.46	180.49	4772.61	92.00	1506.79	1506.52 S	33.71 W	1506.90	181.28	1.31	122.71
5967.00	90.06	180.10	4771.40	91.00	1597.78	1597.51 S	34.17 W	1597.87	181.23	1.60	122.71
6060.00	89.44	180.40	4771.81	93.00	1690.78	1690.51 S	34.58 W	1690.86	181.17	0.74	122.71
6152.00	88.82	179.03	4773.20	92.00	1782.75	1782.49 S	34.12 W	1782.82	181.10	1.63	126.32
6247.00	90.56	180.41	4773.72	95.00	1877.73	1877.48 S	33.66 W	1877.79	181.03	2.34	126.32
6343.00	90.84	179.91	4772.55	96.00	1973.72	1973.48 S	33.93 W	1973.77	180.98	0.60	122.71
6438.00	91.07	179.27	4770.96	95.00	2068.69	2068.46 S	33.25 W	2068.73	180.92	0.72	122.71
6534.00	91.29	180.57	4768.99	96.00	2164.67	2164.44 S	33.11 W	2164.69	180.88	1.37	122.71
6630.00	89.66	182.37	4768.19	96.00	2260.64	2260.40 S	35.58 W	2260.68	180.90	2.53	122.71
6726.00	89.16	182.24	4769.18	96.00	2356.60	2356.31 S	39.44 W	2356.64	180.96	0.54	122.71
6821.00	88.10	183.44	4771.45	95.00	2451.49	2451.17 S	44.14 W	2451.56	181.03	1.69	126.32
6917.00	87.93	182.43	4774.77	96.00	2547.35	2546.98 S	49.05 W	2547.45	181.10	1.07	126.32
7012.00	89.10	181.94	4777.24	95.00	2642.28	2641.88 S	52.67 W	2642.40	181.14	1.34	126.32
7107.00	89.16	181.74	4778.68	95.00	2737.25	2736.82 S	55.72 W	2737.39	181.17	0.22	126.32
7203.00	89.05	181.32	4780.18	96.00	2833.23	2832.77 S	58.29 W	2833.37	181.18	0.45	126.32
7298.00	90.11	181.03	4780.87	95.00	2928.22	2927.75 S	60.24 W	2928.37	181.18	1.16	126.32
7394.00	90.73	180.54	4780.17	96.00	3024.21	3023.74 S	61.55 W	3024.36	181.17	0.82	129.94
7489.00	90.84	179.44	4778.87	95.00	3119.20	3118.72 S	61.53 W	3119.33	181.13	1.16	129.94
7585.00	88.21	179.40	4779.67	96.00	3215.17	3214.71 S	60.56 W	3215.28	181.08	2.74	129.94
7680.00	87.87	178.32	4782.91	95.00	3310.07	3309.63 S	58.67 W	3310.15	181.02	1.19	129.94
7776.00	90.95	178.95	4783.90	96.00	3405.99	3405.59 S	56.39 W	3406.05	180.95	3.27	129.94
7871.00	92.75	178.76	4780.84	95.00	3500.89	3500.52 S	54.49 W	3500.94	180.89	1.91	129.94
7967.00	93.19	178.15	4775.86	96.00	3596.70	3596.35 S	51.91 W	3596.73	180.83	0.78	133.55
8062.00	93.42	178.40	4770.39	95.00	3691.46	3691.15 S	49.05 W	3691.48	180.76	0.36	133.55
8158.00	90.50	181.48	4767.10	96.00	3787.38	3787.07 S	48.95 W	3787.39	180.74	4.42	129.94
8253.00	88.77	182.60	4767.71	95.00	3882.34	3882.00 S	52.33 W	3882.36	180.77	2.17	133.55

Survey Report

Vertical Section Plane: 180.60°	Total Correction: 5.09° East to Grid
Calculation Method: Minimum Curvature	Survey Reference: Wellhead
North Aligned to: Grid North	Well: TERESE #1H
RKB: 15' KELLY BUSHING TO GROUND LEVEL	FIELD: MEDICINE LODGE-BOGGS

Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	Rect Co-ord North (ft)	Rect Co-ord East (ft)	Closure Distance (ft)	Closure Direction (deg)	Dog-leg Severity (dg/hft)	Temp (deg F)
8363.00	90.34	182.90	4768.56	110.00	3992.26	3991.87 S	57.61 W	3992.29	180.83	1.45	129.94
8458.00	90.84	182.50	4767.58	95.00	4087.19	4086.76 S	62.09 W	4087.23	180.87	0.67	133.55
8554.00	91.18	182.65	4765.89	96.00	4183.11	4182.65 S	66.40 W	4183.18	180.91	0.39	133.55
8649.00	90.73	182.22	4764.31	95.00	4278.05	4277.55 S	70.43 W	4278.13	180.94	0.65	133.55
8745.00	91.62	181.98	4762.34	96.00	4374.00	4373.46 S	73.95 W	4374.09	180.97	0.96	133.55
8841.00	89.33	182.68	4761.54	96.00	4469.94	4469.37 S	77.85 W	4470.05	181.00	2.49	137.17
8936.00	89.83	183.84	4762.24	95.00	4564.84	4564.21 S	83.26 W	4564.97	181.05	1.33	137.17
9013.00	90.67	184.26	4761.90	77.00	4641.70	4641.02 S	88.69 W	4641.87	181.09	1.22	137.17
STRAIGHT LINE PROJECTION TO BIT AT 9100'MD.											
9100.00	90.67	184.26	4760.89	87.00	4728.51	4727.77 S	95.16 W	4728.73	181.15	0.00	

EQUIPMENT DATA

RUN NUMBER	2					
RES DTA	4567					
RES MANDREL	R47M567					
RES SIZE in	4 3/4					
RES VERIFIER						
API BLANKET	0013					
HDS-1M DTA						
HDS-1M MANDREL						
HDS-1M SIZE in						
DNSC DTA						
DNSC MANDREL						

DNSC SIZE in						
DENSITY SOURCE NO.						
NEUTRON SOURCE NO.						
CLSS DTA						
CLSS MANDREL						
CLSS SIZE in						
DPM DTA						
DPM SIZE in						
DFT DTA						
DFT MANDREL						
DFT SIZE in						
PZIG UXM DTA						
PZIG LXM DTA						
PZIG SIZE in						

BOTTOM HOLE ASSEMBLY RECORD

RUN #1	ft	RUN #2	ft				
8 3/4" PDC BIT	1.00	6 1/8" PDC BIT	1.00				
2.12° MUD MOTOR	25.95	1.50° MUD MOTOR	27.48				
NM X/0	3.44	5 7/8" STAB	4.84				
TELEPACER DIR/GR	29.72	AWR (RES/GR)	19.93				
NM FLEX DC	29.67	ABS (BATTERY)	15.36				
X/0	4.17	TELEPACER (DIR)	29.97				
FILTER SUB	3.49	NMDC	31.16				
X/O	2.44	FILTER SUB	3.30				
DP X 34	1080.06	X/O	3.01				
DC X 15	450.15	DP X 77	4898.87				
		HWDP X 38	1163.84				
TOTAL BHA:	1630.09	TOTAL BHA:	6198.76				
		SENSOR OFFSETS:					
		AWR INCLINATION	40.30				
SENSOR OFFSETS:		GAMMA-RAY	40.70				
GAMMA-RAY	35.41	RESISTIVITY	47.40				
DIRECTIONAL	43.49	DIRECTIONAL	85.41				

Schlumberger

RESISTIVITY
GAMMA-RAY
CONDUCTIVITY

5" = 100'
FEET MD