

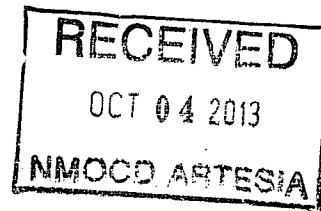


A GYRO TECHNOLOGIES INC. COMPANY

PO Box 261021
Corpus Christi, Texas 78426
(361) 767-0602 • (800) 606-GYRO • Fax (361) 767-0612

July 25, 2013

Devon Energy Production Co., LP
333 West Sheridan Ave
Oklahoma City, Oklahoma 73102-5010



Attn: Patti Riechers

Re: **Lone Tree Draw 13 State Com No 003H**

Please find enclosed a copy of the survey from 0' to 4,365' ran on the above referenced well.

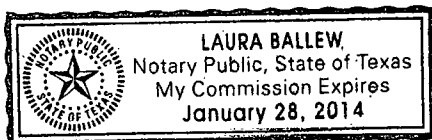
If I can be of any further service, please do not hesitate to call me at 800-606-4976.

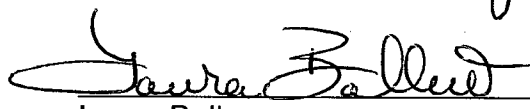
Sincerely,


Keith Havelka
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 25th day of July, A.D., 2013, by Keith Havelka.




Laura Ballew
Notary Public, State of Texas



Company: Devon Energy Production
Lease/Well: Lone Tree Draw 13 State Com/No 003H

Rig Name: McVay 6
State/County: New Mexico/Eddy
Latitude: 32.49, Longitude: -104.14
GRID North is 0.10 Degrees East of True North
VS-Azi: 0.00 Degrees



Depth Reference : RKB = 18 Feet

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: ...tate com 3h-de_gyro survey.ut

Minimum Curvature Method

Report Date/Time: 7/25/2013 / 13:41

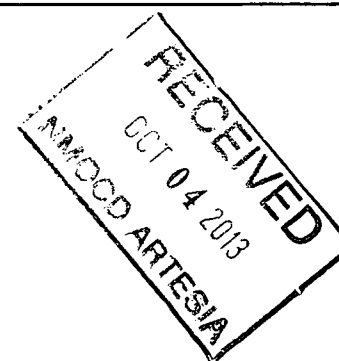
Vaughn Energy Services

Midland, Texas

432-563-5444

Surveyor: Gene Heiss

Lone Tree Draw 13 State Com No 003H / API 30-015-41134

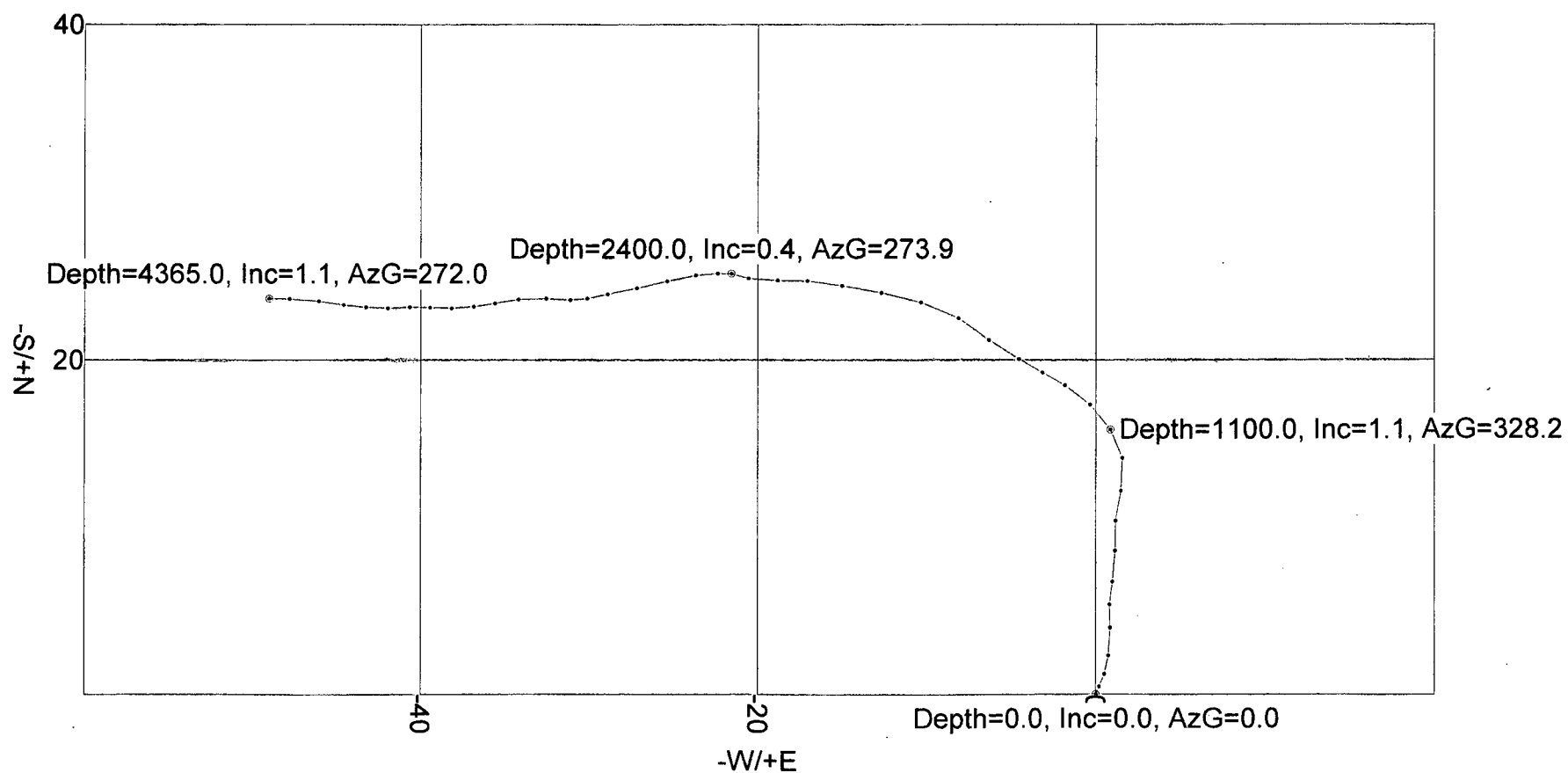


Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	0.58	23.52	100.00	0.46	0.20	0.46	0.51	23.52	0.58
200.00	0.34	19.54	199.99	1.21	0.50	1.21	1.31	22.62	0.24
300.00	0.98	9.03	299.99	2.33	0.74	2.33	2.45	17.53	0.65
400.00	0.94	357.74	399.97	4.00	0.84	4.00	4.08	11.85	0.19
500.00	0.66	359.33	499.96	5.39	0.80	5.39	5.45	8.43	0.28
600.00	0.93	13.03	599.95	6.76	0.98	6.76	6.83	8.21	0.33
700.00	1.21	358.77	699.94	8.60	1.14	8.60	8.67	7.52	0.38
800.00	0.85	3.18	799.92	10.39	1.15	10.39	10.46	6.33	0.36
900.00	1.24	15.05	899.90	12.18	1.48	12.18	12.27	6.91	0.44
1000.00	1.08	347.19	999.88	14.14	1.55	14.14	14.22	6.25	0.58
1100.00	1.06	328.18	1099.87	15.84	0.85	15.84	15.86	3.08	0.35
1200.00	1.15	314.40	1199.85	17.32	-0.35	17.32	17.33	358.85	0.28
1300.00	1.03	300.77	1299.83	18.48	-1.83	18.48	18.57	354.34	0.28
1400.00	0.74	298.03	1399.82	19.24	-3.17	19.24	19.50	350.65	0.29
1500.00	1.13	301.29	1499.81	20.06	-4.58	20.06	20.57	347.14	0.39
1600.00	1.30	304.29	1599.78	21.20	-6.35	21.20	22.13	343.32	0.18
1700.00	1.27	307.66	1699.76	22.52	-8.16	22.52	23.95	340.07	0.08
1800.00	1.57	280.54	1799.73	23.44	-10.39	23.44	25.64	336.10	0.73

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1900.00	1.18	287.98	1899.70	24.01	-12.72	24.01	27.17	332.09	0.43
2000.00	1.54	274.55	1999.67	24.44	-15.04	24.44	28.70	328.38	0.48
2100.00	0.82	284.32	2099.65	24.72	-17.08	24.72	30.05	325.36	0.75
2200.00	1.22	262.34	2199.63	24.76	-18.83	24.76	31.10	322.75	0.55
2300.00	0.83	291.11	2299.62	24.88	-20.56	24.88	32.27	320.43	0.63
2400.00	0.40	273.89	2399.61	25.16	-21.58	25.16	33.15	319.38	0.47
2500.00	0.53	268.13	2499.61	25.17	-22.39	25.17	33.69	318.35	0.14
2600.00	0.96	263.41	2599.60	25.06	-23.69	25.06	34.48	316.61	0.44
2700.00	1.02	254.14	2699.59	24.72	-25.38	24.72	35.43	314.25	0.17
2800.00	1.08	259.20	2799.57	24.30	-27.16	24.30	36.45	311.82	0.11
2900.00	0.96	257.35	2899.55	23.94	-28.91	23.94	37.54	309.62	0.13
3000.00	0.46	258.88	2999.54	23.68	-30.13	23.68	38.32	308.17	0.50
3100.00	0.68	268.71	3099.54	23.59	-31.12	23.59	39.04	307.16	0.24
3200.00	0.97	275.86	3199.53	23.66	-32.55	23.66	40.24	306.01	0.30
3300.00	0.92	261.58	3299.52	23.63	-34.18	23.63	41.56	304.65	0.24
3400.00	0.69	258.44	3399.51	23.39	-35.57	23.39	42.57	303.33	0.23
3500.00	0.77	263.48	3499.50	23.19	-36.83	23.19	43.52	302.20	0.10
3600.00	0.74	268.07	3599.49	23.09	-38.14	23.09	44.59	301.19	0.07
3700.00	0.71	276.38	3699.48	23.14	-39.40	23.14	45.70	300.43	0.11
3800.00	0.74	265.64	3799.47	23.16	-40.66	23.16	46.79	299.67	0.14
3900.00	0.77	269.24	3899.46	23.10	-41.98	23.10	47.91	298.83	0.06
4000.00	0.72	275.67	3999.46	23.16	-43.28	23.16	49.08	298.15	0.10
4100.00	0.82	276.42	4099.45	23.30	-44.62	23.30	50.34	297.57	0.10
4200.00	0.93	278.97	4199.44	23.51	-46.13	23.51	51.77	297.00	0.11
4300.00	1.10	270.87	4299.42	23.65	-47.88	23.65	53.40	296.28	0.22
4365.00	1.06	272.00	4364.41	23.68	-49.11	23.68	54.52	295.74	0.06



Vaughn Energy Services
Midland, Texas
432-563-5444
Surveyor: Gene Heiss
Lone Tree Draw 13 State Com No 003H / API 30-015-41134



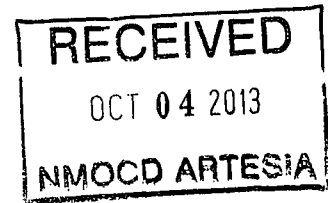
VES Survey Date: 07/16/2013



**DRILLING SERVICES
END OF WELL REPORT
FOR**

**Spencer Stuart
Devon Energy**

**Lone Tree Draw 13 State 3H
Eddy County, New Mexico**



Weatherford Drilling Services job start date : 7-15-2013

Weatherford Drilling Services job end date : 7-21-2013

Presented By:

4029916

Area Manager

Scott Dixon

Account Manager

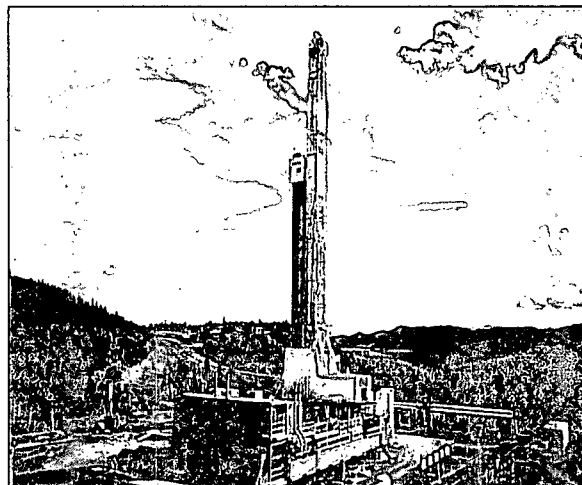
Orry Armendariz

Directional Drilling Coordinator

Jesse Aguilar

MWD Coordinator

McVay 6





10000 West County Road 116
P.O. Box 61028
Midland, Texas 79711
Phone (432) 561-8892

July 22, 2013

Spencer Stuart
333 W. Sherridan Ave
Oklahoma City, OK 73102

Reference Well Name : Lone Tree Draw 13 State 3H
Location : Eddy County, New Mexico
Wft Job # : 4029992
Rig : McVay 6

Dear Mr. Stuart

Thank you for allowing us the opportunity to provide our services on your Lone Tree Draw 13 State 3H in Eddy County, New Mexico.

Please find the final End Of Well (EOW) report enclosed behind this coverletter.

The EOW report contains the following information :

Section 1 - Weatherford (Wft) Final Definitive Survey & 8.5" x 11".

- * Note: This survey contains the Directional Survey's obtained by Weatherford Drilling Services via Weatherford MWD Services, and any gyro survey needed for Tie On (if required).

Section 2- Days vs. Feet Drilled (24 hrs) and Days vs. Depth Graphs

Section 3- Wft Gamma Logs

Section 4 - Wft Final BHA reports (BHA Graphic Reports, BHA Detail Reports, Motor Evaluation Reports, and BHA Slide Reports).

Section 5 - Wft Final Daily Drilling reports.

Section 6 - Wft Personnel list with contact numbers.

We at *Weatherford Drilling Services'* understand the importance of this project to you and hope that you were satisfied with our Directional Drilling and MWD services provided.

Please feel free to contact me if you have any questions.

Sincerely,

Damien Tarpley
Area Manager
Weatherford Drilling Services
Midland, TX (432) 561-8892



Weatherford

Devon Energy
Lone Tree Draw 13 State 3H
Eddy County, New Mexico

Section 1

Weatherford (Wft) Final Definitive

Plot & Survey



Lone Tree Draw 13 State 3H
Eddy County, New Mexico

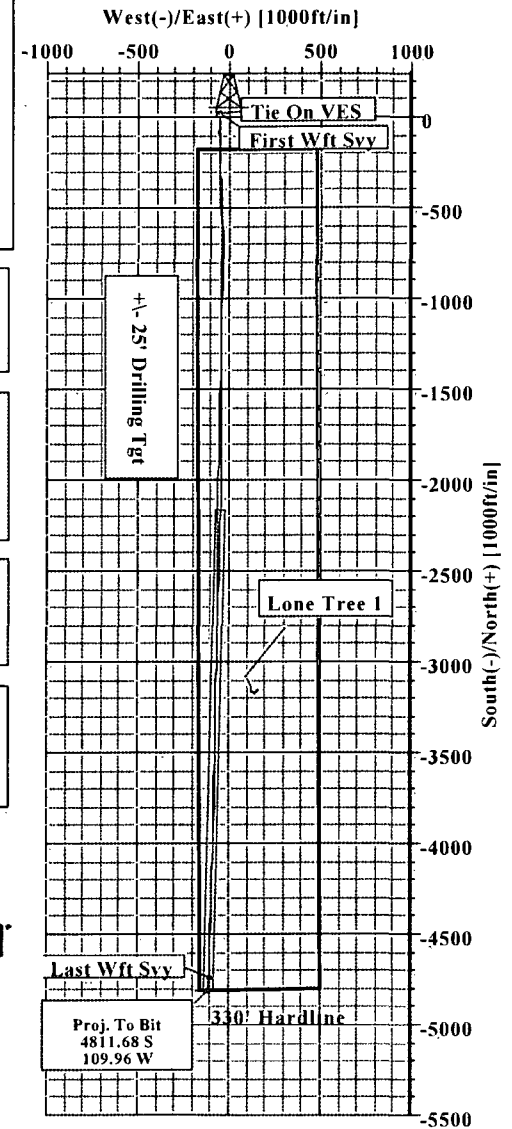
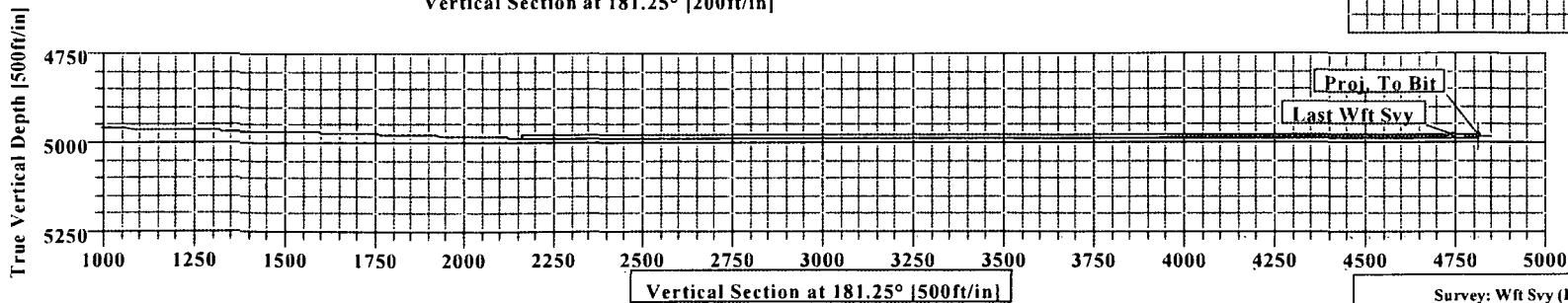
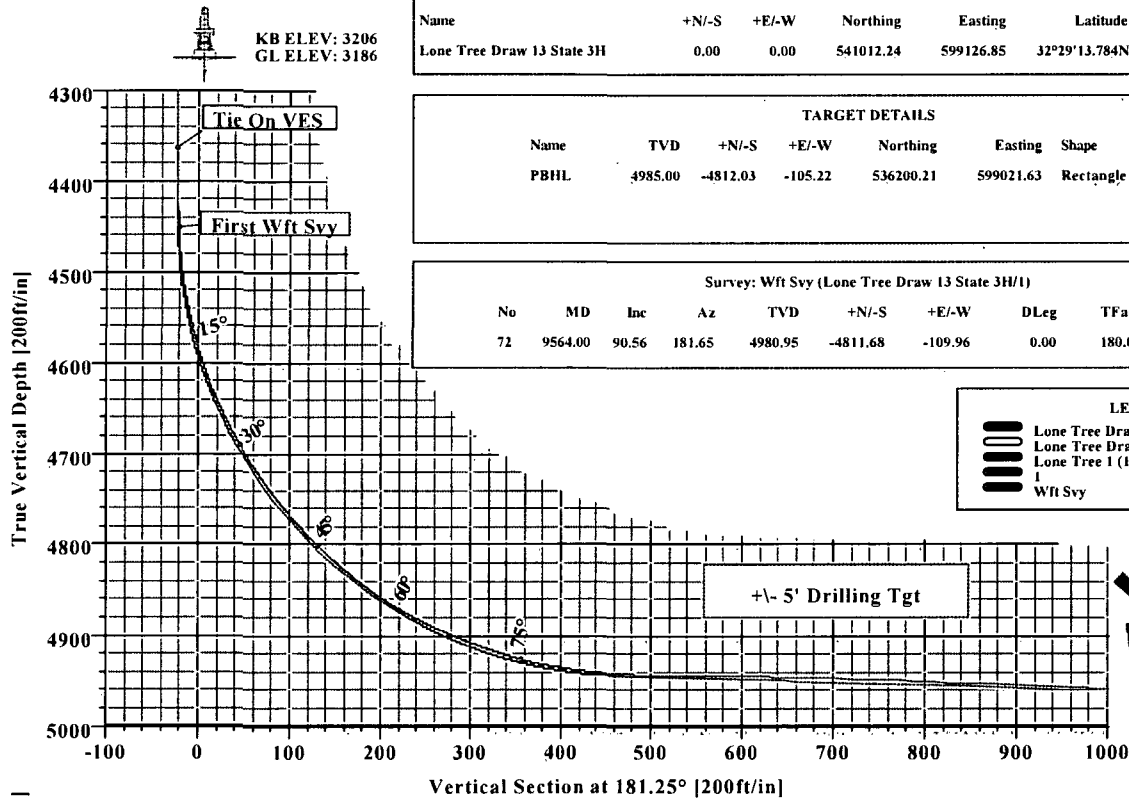
SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	6753.00	88.81	181.11	4983.61	-2001.51	-57.48	0.00	0.00	2002.29	
2	6777.60	89.53	180.97	4983.96	-2026.10	-57.93	3.00	349.06	2026.88	
3	6897.60	89.53	180.97	4984.94	-2146.08	-59.96	0.00	0.00	2146.87	
4	6913.11	90.00	180.97	4985.00	-2161.59	-60.22	3.00	0.32	2162.39	
5	9563.93	90.00	180.97	4985.00	-4812.03	-105.22	0.00	0.00	4813.18	PBHL

WELL DETAILS						
Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Lone Tree Draw 13 State 3H	0.00	0.00	541012.24	599126.85	32°29'13.784N	104°08'45.295W

TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL	4985.00	-4812.03	-105.22	536200.21	599021.63	Rectangle (2650x50)

Survey: Wft Svy (Lone Tree Draw 13 State 3H/1)									
No	MD	Inc	Az	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
72	9564.00	90.56	181.65	4980.95	-4811.68	-109.96	0.00	180.00	4812.93

LEGEND	
	Lone Tree Draw 13 State 3H,1,Plan #3
	Lone Tree Draw 13 State 3H,1,Gyro
	Lone Tree 1 (1)
	Wft Svy





Weatherford

Wft Survey Report X Y's.

**Weatherford®**

Company: Devon Energy	Date: 7/22/2013	Time: 06:47:20	Page: 1
Field: Eddy Co., NM (NAD 83)	Co-ordinate(NE) Reference: Well: Lone Tree Draw 13 State 3H		
Site: Lone Tree Draw 13 State 3H	Vertical (TVD) Reference: SITE 3206.0		
Well: Lone Tree Draw 13 State 3H	Section (VS) Reference: Well (0.00N,0.00E,181.25Azi)		
Wellpath: 1	Survey Calculation Method: Minimum Curvature Db: Sybase		

Survey: Wft Svy	Start Date: 7/17/2013
Company: Weatherford	Engineer: Russell W. Joyner
Tool: MWD;MWD - Standard	Tied-to: User Defined

Site: Lone Tree Draw 13 State 3H

Site Position:	Northing: 541012.24 ft	Latitude: 32 29 13.784 N
From: Map	Easting: 599126.85 ft	Longitude: 104 8 45.295 W
Position Uncertainty: 0.00 ft		North Reference: Grid
Ground Level: 3186.00 ft		Grid Convergence: 0.10 deg

Well: Lone Tree Draw 13 State 3H	Slot Name:
Well Position: +N/-S 0.00 ft Northing: 541012.24 ft Latitude: 32 29 13.784 N	
+E/-W 0.00 ft Easting: 599126.85 ft Longitude: 104 8 45.295 W	
Position Uncertainty: 0.00 ft	

Wellpath: 1	Drilled From: Surface
Current Datum: SITE	Tie-on Depth: 0.00 ft
Magnetic Data: 3/15/2013	Above System Datum: Mean Sea Level
Field Strength: 48562 nT	Declination: 7.66 deg
Vertical Section: Depth From (TVD)	Mag Dip Angle: 60.29 deg
ft	+N/-S ft
0.00	0.00
	ft
	deg
	181.25

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	DLS deg/100ft	VS ft	MapN ft	MapE ft	Comment
4365.00	1.06	272.00	4364.41	23.68	-49.11	0.00	-22.60	541035.92	599077.74	Tie On VES First Wft Svy
4452.00	1.89	211.27	4451.38	22.48	-50.66	1.90	-21.37	541034.72	599076.19	
4484.00	5.31	193.00	4483.32	20.59	-51.26	11.14	-19.46	541032.83	599075.59	
4516.00	8.66	190.36	4515.07	16.77	-52.03	10.51	-15.63	541029.01	599074.82	
4547.00	11.95	185.13	4545.57	11.28	-52.74	11.02	-10.13	541023.52	599074.11	
4579.00	15.58	184.23	4576.65	3.69	-53.35	11.36	-2.53	541015.93	599073.50	
4610.00	19.39	182.99	4606.21	-5.60	-53.93	12.35	6.78	541006.64	599072.92	
4642.00	22.89	183.23	4636.05	-17.12	-54.55	10.94	18.31	540995.12	599072.30	
4674.00	26.70	184.61	4665.10	-30.51	-55.48	12.04	31.71	540981.73	599071.37	
4705.00	30.26	183.51	4692.34	-45.25	-56.52	11.61	46.47	540966.99	599070.33	
4736.00	33.81	181.26	4718.62	-61.68	-57.19	12.08	62.91	540950.56	599069.66	
4768.00	37.42	179.74	4744.63	-80.31	-57.34	11.61	81.54	540931.93	599069.51	
4800.00	40.49	178.10	4769.51	-100.42	-56.95	10.12	101.64	540911.82	599069.90	
4831.00	43.63	178.52	4792.52	-121.17	-56.34	10.17	122.37	540891.07	599070.51	
4862.00	47.09	179.58	4814.30	-143.22	-55.98	11.42	144.41	540869.02	599070.87	
4894.00	51.04	179.85	4835.26	-167.39	-55.86	12.36	168.57	540844.85	599070.99	
4926.00	55.30	179.78	4854.44	-193.00	-55.78	13.31	194.17	540819.24	599071.07	
4957.00	59.91	179.79	4871.04	-219.17	-55.68	14.87	220.33	540793.07	599071.17	
4989.00	64.37	179.53	4885.99	-247.45	-55.51	13.96	248.60	540764.79	599071.34	
5020.00	67.46	178.23	4898.64	-275.74	-54.96	10.68	276.88	540736.50	599071.89	
5051.00	69.56	177.02	4910.00	-304.56	-53.76	7.69	305.66	540707.68	599073.09	
5083.00	72.38	176.58	4920.43	-334.76	-52.07	8.91	335.82	540677.48	599074.78	
5115.00	76.49	177.29	4929.02	-365.54	-50.42	13.02	366.55	540646.70	599076.43	
5147.00	80.57	178.64	4935.38	-396.87	-49.31	13.40	397.85	540615.37	599077.54	
5179.00	83.33	178.91	4939.86	-428.55	-48.64	8.67	429.50	540583.69	599078.21	
5237.00	88.74	178.52	4943.87	-486.37	-47.34	9.35	487.29	540525.87	599079.51	
5332.00	89.65	179.38	4945.21	-581.34	-45.60	1.32	582.20	540430.90	599081.25	
5427.00	88.32	179.47	4946.89	-676.32	-44.65	1.40	677.13	540335.92	599082.20	
5522.00	87.97	179.45	4949.96	-771.27	-43.75	0.37	772.04	540240.97	599083.10	
5617.00	87.55	179.22	4953.68	-866.19	-42.65	0.50	866.91	540146.05	599084.20	



Weatherford

Wft Survey Report X Y's.



Company: Devon Energy Date: 7/22/2013 Time: 06:47:20 Page: 2
Field: Eddy Co., NM (NAD 83) Co-ordinate(NE) Reference: Well: Lone Tree Draw 13 State 3H
Site: Lone Tree Draw 13 State 3H Vertical (TVD) Reference: SITE 3206.0
Well: Lone Tree Draw 13 State 3H Section (VS) Reference: Well (0.00N,0.00E,181.25Azi)
Wellpath: 1 Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	DLS deg/100ft	VS ft	MapN ft	MapE ft	Comment
5711.00	87.62	178.89	4957.64	-960.09	-41.10	0.36	960.76	540052.15	599085.75	
5806.00	88.88	180.60	4960.54	-1055.04	-40.68	2.24	1055.68	539957.20	599086.17	
5901.00	88.67	180.51	4962.57	-1150.01	-41.60	0.24	1150.65	539862.23	599085.25	
5995.00	88.74	179.84	4964.69	-1243.99	-41.88	0.72	1244.61	539768.25	599084.97	
6090.00	89.09	180.89	4966.49	-1338.97	-42.49	1.16	1339.58	539673.27	599084.36	
6185.00	89.44	182.57	4967.71	-1433.91	-45.36	1.81	1434.56	539578.33	599081.49	
6280.00	88.53	182.53	4969.39	-1528.80	-49.58	0.96	1529.52	539483.44	599077.27	
6374.00	88.04	180.63	4972.21	-1622.72	-52.17	2.09	1623.47	539389.52	599074.68	
6469.00	88.25	181.14	4975.28	-1717.66	-53.64	0.58	1718.42	539294.58	599073.21	
6564.00	88.04	180.41	4978.36	-1812.60	-54.92	0.80	1813.37	539199.64	599071.93	
6658.00	88.39	180.79	4981.29	-1906.55	-55.91	0.55	1907.32	539105.69	599070.94	
6753.00	88.81	181.11	4983.61	-2001.51	-57.48	0.56	2002.29	539010.73	599069.37	
6847.00	87.97	180.69	4986.25	-2095.46	-58.96	1.00	2096.25	538916.78	599067.89	
6942.00	89.65	180.37	4988.22	-2190.43	-59.84	1.80	2191.21	538821.81	599067.01	
7036.00	89.79	180.28	4988.68	-2284.43	-60.37	0.18	2285.20	538727.81	599066.48	
7131.00	89.93	180.21	4988.91	-2379.43	-60.78	0.16	2380.19	538632.81	599066.07	
7225.00	90.14	180.74	4988.86	-2473.42	-61.56	0.61	2474.18	538538.82	599065.29	
7319.00	89.86	180.64	4988.86	-2567.42	-62.69	0.32	2568.17	538444.82	599064.16	
7413.00	89.93	180.83	4989.03	-2661.41	-63.89	0.22	2662.17	538350.83	599062.96	
7508.00	89.79	180.30	4989.26	-2756.40	-64.83	0.58	2757.16	538255.84	599062.02	
7603.00	89.58	180.27	4989.78	-2851.40	-65.30	0.22	2852.15	538160.84	599061.55	
7699.00	90.42	180.30	4989.78	-2947.40	-65.78	0.88	2948.13	538064.84	599061.07	
7795.00	90.42	181.24	4989.08	-3043.39	-67.07	0.98	3044.13	537968.85	599059.78	
7890.00	90.42	181.19	4988.38	-3138.36	-69.09	0.05	3139.12	537873.88	599057.76	
7985.00	90.35	181.38	4987.74	-3233.34	-71.22	0.21	3234.12	537778.90	599055.63	
8080.00	90.14	181.02	4987.34	-3328.31	-73.21	0.44	3329.12	537683.93	599053.64	
8175.00	89.86	180.27	4987.34	-3423.31	-74.27	0.84	3424.11	537588.93	599052.58	
8270.00	89.79	180.02	4987.63	-3518.31	-74.52	0.27	3519.09	537493.93	599052.33	
8365.00	89.86	180.19	4987.92	-3613.31	-74.69	0.19	3614.08	537398.93	599052.16	
8461.00	89.79	180.11	4988.21	-3709.31	-74.94	0.11	3710.06	537302.93	599051.91	
8556.00	90.42	181.93	4988.04	-3804.29	-76.63	2.03	3805.05	537207.95	599050.22	
8650.00	90.42	181.60	4987.35	-3898.24	-79.53	0.35	3899.05	537114.00	599047.32	
8744.00	90.35	181.56	4986.72	-3992.20	-82.12	0.09	3993.04	537020.04	599044.73	
8838.00	90.70	182.30	4985.85	-4086.14	-85.28	0.87	4087.03	536926.10	599041.57	
8933.00	91.05	182.86	4984.40	-4181.03	-89.56	0.70	4181.99	536831.21	599037.29	
9029.00	90.14	182.24	4983.41	-4276.93	-93.83	1.15	4277.96	536735.31	599033.02	
9124.00	90.00	181.68	4983.29	-4371.88	-97.08	0.61	4372.95	536640.36	599029.77	
9219.00	90.14	181.84	4983.18	-4466.83	-100.00	0.22	4467.95	536545.41	599026.85	
9314.00	90.28	181.70	4982.83	-4561.79	-102.93	0.21	4562.95	536450.45	599023.92	
9409.00	90.35	181.52	4982.30	-4656.75	-105.60	0.20	4657.94	536355.49	599021.25	
9497.00	90.56	181.65	4981.61	-4744.71	-108.04	0.28	4745.94	536267.53	599018.81	Last Wft Svy
9564.00	90.56	181.65	4980.95	-4811.68	-109.96	0.00	4812.93	536200.56	599016.89	Proj. To Bit

Annotation

MD ft	TVD ft	
4365.00	4364.41	Tie On VES
4452.00	4451.38	First Wft Svy
9497.00	4981.61	Last Wft Svy
9564.00	4980.95	Proj. To Bit



Weatherford

Devon Energy
Lone Tree Draw 13 State 3H
Eddy County, New Mexico

Section 2

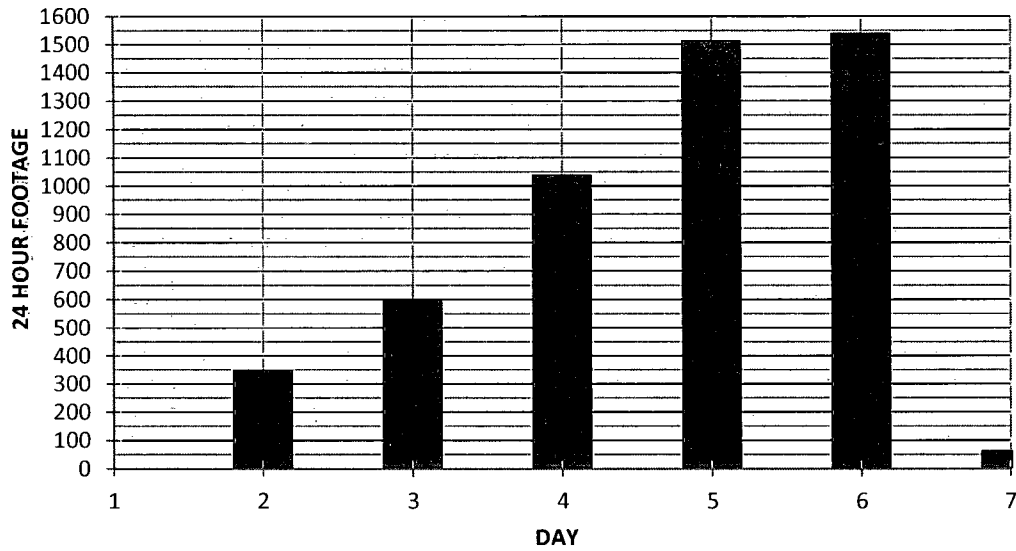
Days vs. Depth



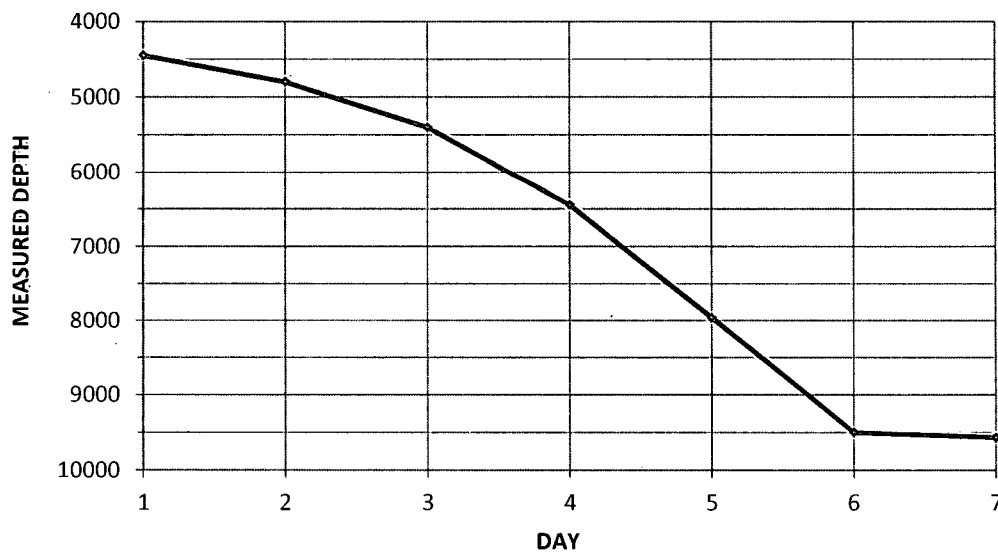
Devon Energy
Lone Tree Draw 13 State 3H
Eddy Co., New Mexico



DAYS VS FEET DRILLED /24 HOURS



DAYS VS DEPTH





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Devon Energy
Lone Tree Draw 13 State 3H
Eddy County, New Mexico

Section 3

Weatherford Gamma Logs



MWD Gamma Ray Log
5 Inch Measured Depth
Real Time Final Copy

Company: Devon Energy
Well: Lone Tree Draw 13 State 3H
Field: Eddy Co
Rig: McVay #6
State: NM Country: USA

COMPANY **Devon Energy**
WELL **Lone Tree Draw 13 State 3H**
FIELD **Eddy Co**
RIG **McVay #6**
STATE **NM** COUNTRY **USA**
API **30-015-41134**

Location
Latitude: 32.487170 °N
Longitude: 104.145910 °W
Other Services: Deviation Surveys
Mag Decl: 7.73 °
Grid Corr: 0.10 °
Total Corr: 7.63 °

Permanent Datum: Mean Sea Level
Log Measured From: Kelly Bushing @ 3206.00 ft above Permanent Datum
Depth Reference: Driller's Depth Total Depth: 9564.00 ft
Depth Logged: 4447.00 ft to 9654.00 ft
Date Logged: 16-Jul-13 to 21-Jul-13

Runs: 2
Spud Date: 3-Jul-13

Elevation
K.B. 3206.00 ft
G.L. 3186.00 ft
D.F. 3209.00 ft
W.D. n/a

Borehole Record			Casing Record			
Hole Size	From	To	Size	Weight	From	To
8.75 in	4447.00 ft	9564.00 ft	13.37 in	48.00 lb/ft	surface	322.00 ft

Borehole Deviation Record			Mud Record			
Hole Size	Min. Inc.	Max. Inc.	Type	Weight	From	To
8.75 in	2.89 °	91.82 °	Water	8.40 lb/gal	4447.00 ft	9564.00 ft

All interpretations of log data are opinions based on inferences from electrical or other measurements.
Weatherford Drilling Services does not guarantee the accuracy or correctness of any interpretation or recommendation and we shall not be liable or responsible for any loss, cost, damages or expenses incurred or sustained by anyone resulting from any interpretation or recommendation made by any of our employees or agents.

RUN SUMMARY

Run Number	1	2	3	4	5	6	7	8
Bit Size	8.750	8.750						
Bit Type	PDC	PDC						
Bit TFA	0.55	0.66						
Bit Start Depth	4447.00	5238.00						
Bit End Depth	5238.00	9564.00						
Top Log Interval	4404.00	5190.00						
Bottom Log Interval	5195.00	9517.00						
Begin Log Time	14:00	20:55						
Begin Log Date	16-Jul-13	17-Jul-13						
End Log Time	12:40	1:50						
End Log Date	17-Jul-13	21-Jul-13						



Weatherford

BHA Report

Drilling Services
v4.2.2674

BHA 1 - Curve Section

RUN SUMMARY

Drilled curve section with BHA. Average build rates were 12°/100'. No problems were encountered we landed curve 1' above target TVD. Motor drained strong with minimal slack on bit box. Bearing section within tolerance. Overall condition of BHA was good.



Weatherford

BHA Report

Drilling Services

v4.2.2674

BHA 2 - Lateral 1 Section

FILE #: 4029992

JOB TYPE: Horizontal

RIG & NO: Mcvay 6

WELL NAME: Lone Tree Draw 13 State 3H

COMPANY: Devon Energy Corp

SURFACE LOCATION: Eddy County

SERVICE CO.: Weatherford Directional Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Eddy County / NM / USA

Company Man: Jerry Butler, Don Bates, Brent Harris

DIR Supervisor: Geno Lujan, Josh Glosson

MWD Supervisor: Justin Nguyen, Shawn Snodgrass

BHA SURVEY TYPE: Positive Pulse MWD

HOLE SIZE: 8.75 in

QTY	COMPONENT	MANFCT.	SERIAL #	MODEL	O.D.	I.D.	F.N.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	PDC Bit	Halliburton	12160545	MM65R	8.75	0	0		4 1/2" REG Pin	1.00 ft	1.00 ft
1	Drilling Motor	WFT	675-3486	QLE7850	8.25	0	3.35	4 1/2" XH Box	4 1/2" IF Box	27.67 ft	28.67 ft
1	Nortrac Stab	Stabil Drill	SD20023	Stabilizer	6.5	2.5	2.1	4 1/2" IF Pin	4 1/2" IF Box	4.38 ft	33.05 ft
1	UBHO Sub	Weatherford	675-34162	UBHO Sub	6.45	3.125	0	4 1/2" IF Pin	4 1/2" IF Box	3.31 ft	36.36 ft
1	NMDC	Weatherford	675-38642	NMDC	6.85	3.25	0	4 1/2" IF Pin	4 1/2" IF Box	31.10 ft	67.46 ft
1	Flex NMDC	Weatherford	675-38550	Flex Monel	6.4	3.25	6.3	4 1/2" IF Pin	4 1/2" IF Box	29.71 ft	97.17 ft
1	Flex NMDC	Weatherford	675-9861	Flex Monel	6.55	3.25	2.91	4 1/2" IF Pin	4 1/2" IF Box	29.84 ft	127.01 ft
1	55 Stds Drill Pipe	Rig	Rig		0	0	0	4 1/2" IF Pin	4 1/2" IF Box	5212.88	5339.89 ft
1	30 Jts HWDP	Rig			0	0	0	4 1/2" IF Pin	4 1/2" IF Box	912.20 ft	6252.09 ft

(O.D. units are in; I.D. units are in; FNeck units are ft)

GENERAL INFORMATION

DATES RUN: 2013/07/17 TO 2013/07/21
 DEPTH IN: 5239.00 ft ANGLE IN: 88.74 °
 DEPTH OUT: 9564.00 ft ANGLE OUT: 90.56 °
 DRILL HRS: 53.75 BUILD: 1.82 °
 ORIENTING HRS: 5.25 HOLE MADE: 4325.00 ft
 ROTATING HRS: 48.50 AVG R.O.P.: 80.47 ft/hr

MOTOR INFORMATION

MANFCT. WFT
 SERIAL #: 675-3486
 MODEL: QLE7850
 LOBE CFG: 7/8
 BIT TO BEND: 6.18
 SETTING: 1.50 °
 KICK PAD: No
 STABILIZER: 8.25
 MOTOR HRS: 73.75

PUMP INFORMATION

PUMPS	PUMP 1	PUMP 2	PUMP 3
EFFICIENCY:	95.0%	95.0%	100.0%
S.P.M.:	60	60	0
STROKE VOLUME:	4.5112 gal/stk	4.5112 gal/stk	0.0 gal/stk
TOTAL FLOW RATE:	514.27312 gal/min		
PUMP PRESSURE:	OFF BTM: 1850 psi ON BTM: 2250 psi		

MUD INFORMATION

MUD TYPE: Water LIQUID BASE: Water
 DENSITY: 8.4 lb/gal TEMP: 100 °F
 VISCOSITY: 28 sec/qt pH: 10
 WTR LOSS: 0 cc/30min SAND: 0 LIQUID RATE: 0 gal/min
 PLAST VISC: 0 cP SOLIDS: 0.2 GAS TYPE:
 YIELD PT: 0 lb/100 ft² OIL: 0 GAS RATE: 0 cu ft/min

BIT INFORMATION

MANFCT: Halliburton TYPE: MM65R IADC BIT GRADE: 2 / 2 / CT / S / X / 1 / WT / TD
 NOZZLES: 0.663 in² TFA

REASON FOR BHA CHANGE

TD well

FORMATION CHARACTERISTICS

Sandstone

MWD COMMENTS

MWD performed well agitator settings were used due to noisy pumps. Signal strength was moderate. Battery consumption was 24.71. Orifice size was 30°



Weatherford

BHA Report

Drilling Services
v4.2.2674

BHA 2 - Lateral 1 Section

SIDETRACKING PROCEDURE COMMENTS

RUN SUMMARY

Drilled lateral section with BHA. Average build rates were 8°/100'. No problems were encountered with run. Overall condition of BHA was good.

**Weatherford**

Motor / RSS Evaluation Report

Drilling Services

v4.2.2674

BHA 1 - Curve Section, Motor #675-3632

FILE #: 4029992

JOB TYPE: Horizontal

RIG & NO: Mcvay 6

WELL NAME: Lone Tree Draw 13 State 3H

COMPANY: Devon Energy Corp

SURFACE LOCATION: Eddy County

SERVICE CO.: Weatherford Directional Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Eddy County / NM / USA

Company Man: Don Bates, Brent Harris
 DIR Supervisor: Geno Lujan, Josh Glosson
 MWD Supervisor: Justin Nguyen, Shawn Snodgrass

BHA SURVEY TYPE: Positive Pulse MWD

HOLE SIZE: 8.75 in

GENERAL INFORMATION:

BHA #: 1
 DATE IN: 2013/07/16
 DATE OUT: 2013/07/17
 ANGLE IN: 1.15 °
 ANGLE OUT: 83.33 °
 ORIENTING HRS: 11.75
 START DEPTH: 4446.00 ft
 END DEPTH: 5239.00 ft
 HOLE MADE: 793.00 ft
 AVG ROP: 58.74 ft/hr
 ROTATING HRS: 1.75

MOTOR INFORMATION:

MANFCT: WFT
 SERIAL #: 675-3632
 MODEL: QLE7850
 LOBE: 7/8
 SETTING: 2.12 °
 BIT TO BEND: 6.18 ft
 KICKPAD: No
 STABILIZER: 8 1/4

DRILLING INFORMATION:

BIT TYPE: MMD55DM
 BIT PRESS DROP: 0.00 psi
 MTR PRESS DROP: 0.00 psi
 IADC BIT GRADE: 1 / 2 / WT / G / X / I / NO / BHA
 TOTAL FLOW RATE: 514.27 gal/min
 NOZZLES: 0.55 in² TFA
 PUMP PRESS: (OFF) 1800.00 psi
 (ON) 2000.00 psi

MUD INFORMATION:

MUD TYPE: Water
 DENSITY: 8 lb/gal
 SAND: 0.000
 SOLIDS: 0.200
 OIL: 0.000
 TEMP: 100 °F
 LIQUID BASE: Water
 VISCOSITY: 28 sec/qt
 WATER LOSS: 0.00 cc/30min
 PLASTIC VISC: 0.0 cP
 YIELD POINT: 0.0 lb/100 ft²
 pH: 10.0
 LIQUID RATE: 0.00 gal/min
 GAS TYPE:
 GAS RATE: 0.00 cu ft/min
 (All units are imperial.)

TIME INFORMATION:

CIRCULATING HOURS: 7.00
 REAMING HOURS: 0.00
 TIME DRILL HOURS: 0.00
 MOTOR DRILL HOURS: 13.50
 MOTOR HOURS THIS RUN: 20.50
 PREVIOUS HOURS: 0.00
 TOTAL MOTOR HOURS: 20.50
 TOTAL BRT HOURS: 20.50

MOTOR EVALUATION COMMENTS:

Motor drained strong with minimal slack on bit box. Bearing section within tolerance. Average build rates were 12"/100'.

REASON FOR BHA CHANGE:

Pickup lateral assembly

COMMENTS FROM LAST DAY RAN:

Drill in curve section. 1230 - Land curve section. 1730 - RIH (picked up 25stds of push pipe in order to get all of heavy weight pipe in hole. We will drill to 6,200'MD and POOH to move more pipe down to get to TD, as per engineers orders.)

**Weatherford**

Motor / RSS Evaluation Report

Drilling Services

v4.2.2674

BHA 2 - Lateral 1 Section, Motor #675-3486

FILE #: 4029992

JOB TYPE: Horizontal

RIG & NO: Mcvay 6

WELL NAME: Lone Tree Draw 13 State 3H

COMPANY: Devon Energy Corp

SURFACE LOCATION: Eddy County

SERVICE CO.: Weatherford Directional Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Eddy County / NM / USA

Company Man: Jerry Butler, Don Bates, Brent Harris

DIR Supervisor: Geno Lujan, Josh Glosson

MWD Supervisor: Justin Nguyen, Shawn Snodgrass

BHA SURVEY TYPE: Positive Pulse MWD

HOLE SIZE: 8.75 in

GENERAL INFORMATION:

BHA #:	2	START DEPTH:	5239.00 ft
DATE IN:	2013/07/17	END DEPTH:	9564.00 ft
DATE OUT:	2013/07/21	HOLE MADE:	4325.00 ft
ANGLE IN:	88.74 °	AVG ROP:	80.47 ft/hr
ANGLE OUT:	90.56 °		
ORIENTING HRS:	5.25	ROTATING HRS:	48.50

MOTOR INFORMATION:

MANFCT:	WFT		
SERIAL #:	675-3486		
MODEL:	QLE7850		
LOBE:	7/8	BIT TO BEND:	6.18 ft
SETTING:	1.50 °	KICKPAD:	No
		STABILIZER:	8.25

DRILLING INFORMATION:

BIT TYPE:	MM65R	IADC BIT GRADE:	2 / 2 / CT / S / X / 1 / WT / TD		
BIT PRESS DROP:	0.00 psi	TOTAL FLOW RATE:	514.27 gal/min	PUMP PRESS:	(OFF) 1850.00 psi
MTR PRESS DROP:	0.00 psi	NOZZLES:	0.663 in ² TFA		(ON) 2250.00 psi

MUD INFORMATION:

MUD TYPE:	Water	LIQUID BASE:	Water	(All units are imperial.)	
DENSITY:	8 lb/gal	VISCOSITY:	28 sec/qt		
SAND:	0.000	WATER LOSS:	0.00 cc/30min	LIQUID RATE:	0.00 gal/min
SOLIDS:	0.200	PLASTIC VISC:	0.0 cP	GAS TYPE:	
OIL:	0.000	YIELD POINT:	0.0 lb/100 ft ²	GAS RATE:	0.00 cu ft/min
TEMP:	100 °F	pH:	10.0		

TIME INFORMATION:

CIRCULATING HOURS:	20.00
REAMING HOURS:	0.00
TIME DRILL HOURS:	0.00
MOTOR DRILL HOURS:	53.75
MOTOR HOURS THIS RUN:	73.75
PREVIOUS HOURS:	0.00
TOTAL MOTOR HOURS:	73.75
TOTAL BRT HOURS:	73.75

MOTOR EVALUATION COMMENTS:

Motor drained strong with minimal slack on bit box. Bearings within tolerance.

REASON FOR BHA CHANGE:

TD well

COMMENTS FROM LAST DAY RAN:



Slide Sheet Report

BHA 1 - 2013/07/16 TO 2013/07/17

Drilling Services
v4.2.2674

FILE #: 4029992
JOB TYPE: Horizontal
RIG & NO: Mcvay 6

WELL NAME: Lone Tree Draw 13 State 3H
COMPANY: Devon Energy Corp
SURFACE LOCATION: Eddy County

SERVICE CO.: Weatherford Directional Services
SURVEY TYPE: Positive Pulse MWD
FIELD / LOCATION: Eddy County / NM / USA

Company Man: Don Bates, Brent Harris
DIR Supervisor: Geno Lujan, Josh Glosson
MWD Supervisor: Justin Nguyen, Shawn Snodgrass

BHA NO: 1	DATES RUN: 2013/07/16 TO 2013/07/17	SECTION: Curve	TOOLFACE OFFSET: 18.4 °	SURVEY OFFSET: 60 ft
MOTOR SETTING: 2.12 °	KICKPAD: No	STABILIZER: 8 1/4	MODEL: QLE7850	SERIAL NO: 675-3632
			BHA SURVEY TYPE: Positive Pulse MWD	

(Distances are shown in feet.)

BIT		SURVEY				ORIENTING			ROTATING			SLIDE	BUR	BUR	COMMENTS
DEPTH	DRILLED	DEPTH	INC	AZM	TF	FROM	TO	FEET	FROM	TO	FEET	SEEN	/ft	/100ft	
4446.00	66.00	4386.00	1.15	278.18	178MTF	4446.00	4512.00	66.00	4512.00	4512.00	0.00	0.00	0.00	0.00	
4512.00	32.00	4452.00	1.89	211.27	178MTF	4512.00	4544.00	32.00	4544.00	4544.00	0.00	6.00	0.12	1.12	
4544.00	32.00	4484.00	5.31	193.00	20L	4544.00	4576.00	32.00	4576.00	4576.00	0.00	32.00	0.11	10.69	
4576.00	31.00	4516.00	8.66	190.36	HS	4576.00	4607.00	31.00	4607.00	4607.00	0.00	32.00	0.10	10.47	
4607.00	32.00	4547.00	11.95	185.13	HS	4607.00	4639.00	32.00	4639.00	4639.00	0.00	31.00	0.11	10.61	
4639.00	31.00	4579.00	15.58	184.23	HS	4639.00	4670.00	31.00	4670.00	4670.00	0.00	32.00	0.11	11.34	
4670.00	32.00	4610.00	19.39	182.99	HS	4670.00	4702.00	32.00	4702.00	4702.00	0.00	31.00	0.12	12.29	
4702.00	32.00	4642.00	22.89	183.23	HS	4702.00	4734.00	32.00	4734.00	4734.00	0.00	32.00	0.11	10.94	
4734.00	31.00	4674.00	26.70	184.61	15L	4734.00	4765.00	31.00	4765.00	4765.00	0.00	32.00	0.12	11.91	
4765.00	31.00	4705.00	30.26	183.51	25L	4765.00	4796.00	31.00	4796.00	4796.00	0.00	31.00	0.11	11.48	
4796.00	32.00	4736.00	33.81	181.26	25L	4796.00	4828.00	32.00	4828.00	4828.00	0.00	31.00	0.11	11.45	
4828.00	32.00	4768.00	37.42	179.74	20R	4828.00	4860.00	32.00	4860.00	4860.00	0.00	32.00	0.11	11.28	
4860.00	31.00	4800.00	40.49	178.10	HS	4860.00	4891.00	31.00	4891.00	4891.00	0.00	32.00	0.10	9.59	
4891.00	31.00	4831.00	43.63	178.52	HS	4891.00	4922.00	31.00	4922.00	4922.00	0.00	31.00	0.10	10.13	
4922.00	32.00	4862.00	47.09	179.58	20L	4922.00	4954.00	32.00	4954.00	4954.00	0.00	31.00	0.11	11.16	
4954.00	32.00	4894.00	51.04	179.85	HS	4954.00	4986.00	32.00	4986.00	4986.00	0.00	32.00	0.12	12.34	
4986.00	31.00	4926.00	55.30	179.78	20L	4986.00	5017.00	31.00	5017.00	5017.00	0.00	32.00	0.13	13.31	
5017.00	32.00	4957.00	59.91	179.79	20L	5017.00	5035.00	18.00	5035.00	5049.00	14.00	31.00	0.15	14.87	
5049.00	31.00	4989.00	64.37	179.53	20L	5049.00	5067.00	18.00	5067.00	5080.00	13.00	32.00	0.14	13.94	
5080.00	31.00	5020.00	67.46	178.23	HS	5080.00	5111.00	31.00	5111.00	5111.00	0.00	31.00	0.10	9.97	
5111.00	32.00	5051.00	69.56	177.02	HS	5111.00	5143.00	32.00	5143.00	5143.00	0.00	17.00	0.12	6.77	
5143.00	32.00	5083.00	72.38	176.58	10R	5143.00	5159.00	16.00	5159.00	5175.00	16.00	19.00	0.15	8.81	
5175.00	32.00	5115.00	76.49	177.29	HS	5175.00	5197.00	22.00	5197.00	5207.00	10.00	32.00	0.13	12.84	
5207.00	32.00	5147.00	80.57	178.64	10L	5207.00	5234.00	27.00	5234.00	5239.00	5.00	32.00	0.13	12.75	



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(Distances are shown in feet.)

Slide Sheet Report

BHA 1 - 2013/07/16 TO 2013/07/17

Drilling Services
v4.2.2674

BIT		SURVEY			----- ORIENTING -----			----- ROTATING -----			SLIDE	BUR	BUR		
DEPTH	DRILLED	DEPTH	INC	AZM	TF	FROM	TO	FEET	FROM	TO	FEET	SEEN	/ft	/100ft	COMMENTS
5239.00	0.00	5179.00	83.33	178.91		5239.00	5239.00	0.00	5239.00	5239.00	0.00	16.00	0.17	8.63	

Totals:	735.00 ft	58.00 ft
Percentages:	92.7%	7.3%
Time:	11.75 hrs	1.75 hrs
Percentages:	87.0%	13.0%



Slide Sheet Report

BHA 2 - 2013/07/17 TO 2013/07/21

Drilling Services
v4.2.2674

FILE #: 4029992
JOB TYPE: Horizontal
RIG & NO: Mcvay 6

WELL NAME: Lone Tree Draw 13 State 3H
COMPANY: Devon Energy Corp
SURFACE LOCATION: Eddy County

SERVICE CO.: Weatherford Directional Services
SURVEY TYPE: Positive Pulse MWD
FIELD / LOCATION: Eddy County / NM / USA

Company Man: Jerry Butler, Don Bates, Brent Harris
DIR Supervisor: Geno Lujan, Josh Glosso
MWD Supervisor: Justin Nguyen, Shawn Snodgrass

BHA NO: 2	DATES RUN: 2013/07/17 TO 2013/07/21	SECTION: Lateral 1	TOOLFACE OFFSET: 266 °	SURVEY OFFSET: 67 ft
MOTOR SETTING: 1.50 °	KICKPAD: No	STABILIZER: 8.25	MODEL: QLE7850	SERIAL NO: 675-3486
			BHA SURVEY TYPE: Positive Pulse MWD	

(Distances are shown in feet.)

BIT DEPTH DRILLED	SURVEY				ORIENTING			ROTATING			SLIDE SEEN	BUR /ft	BUR /100ft	COMMENTS
	DEPTH	INC	AZM	TF	FROM	TO	FEET	FROM	TO	FEET				
5304.00	95.00	5237.00	88.74	178.52	5304.00	5304.00	0.00	5304.00	5399.00	95.00	0.00	0.00	0.00	
5399.00	95.00	5332.00	89.65	179.38	5399.00	5409.00	10.00	5409.00	5494.00	85.00	0.00	0.00	0.96	
5494.00	95.00	5427.00	88.32	179.47	5494.00	5494.00	0.00	5494.00	5589.00	95.00	10.00	-0.13	-1.40	
5589.00	95.00	5522.00	87.97	179.45	5589.00	5589.00	0.00	5589.00	5684.00	95.00	0.00	0.00	-0.37	
5684.00	95.00	5617.00	87.55	179.22	5684.00	5684.00	0.00	5684.00	5779.00	95.00	0.00	0.00	-0.44	
5779.00	94.00	5712.00	87.62	178.89	5779.00	5796.00	17.00	5796.00	5873.00	77.00	0.00	0.00	0.07	
5873.00	95.00	5806.00	88.88	180.60	5873.00	5873.00	0.00	5873.00	5968.00	95.00	17.00	0.07	1.34	
5968.00	94.00	5901.00	88.67	180.51	5968.00	5968.00	0.00	5968.00	6062.00	94.00	0.00	0.00	-0.22	
6062.00	95.00	5995.00	88.74	179.84	6062.00	6062.00	0.00	6062.00	6157.00	95.00	0.00	0.00	0.07	
6157.00	95.00	6090.00	89.09	180.89	6157.00	6164.00	7.00	6164.00	6252.00	88.00	0.00	0.00	0.37	
6252.00	95.00	6185.00	89.44	182.57	6252.00	6262.00	10.00	6262.00	6347.00	85.00	7.00	0.05	0.37	
6347.00	94.00	6280.00	88.53	182.53	6347.00	6355.00	8.00	6355.00	6441.00	86.00	10.00	-0.09	-0.96	
6441.00	95.00	6374.00	88.04	180.63	6441.00	6441.00	0.00	6441.00	6536.00	95.00	8.00	-0.06	-0.52	
6536.00	95.00	6469.00	88.25	181.14	6536.00	6536.00	0.00	6536.00	6631.00	95.00	0.00	0.00	0.22	
6631.00	94.00	6564.00	88.04	180.44	6631.00	6631.00	0.00	6631.00	6725.00	94.00	0.00	0.00	-0.22	
6725.00	95.00	6658.00	88.39	180.79	6725.00	6725.00	0.00	6725.00	6820.00	95.00	0.00	0.00	0.37	
6820.00	94.00	6753.00	88.81	181.11	6820.00	6832.00	12.00	6832.00	6914.00	82.00	0.00	0.00	0.44	
6914.00	95.00	6847.00	87.97	180.69	6914.00	6935.00	21.00	6935.00	7009.00	74.00	12.00	-0.07	-0.89	TVD Change
7009.00	94.00	6942.00	89.65	180.37	7009.00	7009.00	0.00	7009.00	7103.00	94.00	21.00	0.08	1.77	
7103.00	95.00	7036.00	89.79	180.28	7103.00	7103.00	0.00	7103.00	7198.00	95.00	0.00	0.00	0.15	
7198.00	94.00	7131.00	89.93	180.21	7198.00	7198.00	0.00	7198.00	7292.00	94.00	0.00	0.00	0.15	
7292.00	94.00	7225.00	90.14	180.74	7292.00	7292.00	0.00	7292.00	7386.00	94.00	0.00	0.00	0.22	
7386.00	94.00	7319.00	89.86	180.64	7386.00	7386.00	0.00	7386.00	7480.00	94.00	0.00	0.00	-0.30	
7480.00	95.00	7413.00	89.93	180.83	7480.00	7480.00	0.00	7480.00	7575.00	95.00	0.00	0.00	0.07	



(Distances are shown in feet.)

Slide Sheet Report

BHA 2 - 2013/07/17 TO 2013/07/21

Drilling Services
v4.2.2674

BIT		SURVEY				ORIENTING			ROTATING			SLIDE	BUR	BUR	COMMENTS
DEPTH	DRILLED	DEPTH	INC	AZM	TF	FROM	TO	FEET	FROM	TO	FEET	SEEN	/ft	/100ft	
7575.00	95.00	7508.00	89.79	180.30	20R	7575.00	7575.00	0.00	7575.00	7670.00	95.00	0.00	0.00	-0.15	
7670.00	96.00	7603.00	89.58	180.27		7670.00	7685.00	15.00	7685.00	7766.00	81.00	0.00	0.00	-0.22	
7766.00	96.00	7699.00	90.42	180.30		7766.00	7766.00	0.00	7766.00	7862.00	96.00	15.00	0.06	0.88	
7862.00	95.00	7795.00	90.42	181.24		7862.00	7862.00	0.00	7862.00	7957.00	95.00	0.00	0.00	0.00	
7957.00	95.00	7890.00	90.42	181.19		7957.00	7957.00	0.00	7957.00	8052.00	95.00	0.00	0.00	0.00	
8052.00	95.00	7985.00	90.35	181.38		8052.00	8052.00	0.00	8052.00	8147.00	95.00	0.00	0.00	-0.07	
8147.00	95.00	8080.00	90.14	181.02		8147.00	8147.00	0.00	8147.00	8242.00	95.00	0.00	0.00	-0.22	
8242.00	95.00	8175.00	89.86	180.27		8242.00	8242.00	0.00	8242.00	8337.00	95.00	0.00	0.00	-0.29	
8337.00	95.00	8270.00	89.79	180.02		8337.00	8337.00	0.00	8337.00	8432.00	95.00	0.00	0.00	-0.07	
8432.00	96.00	8365.00	89.81	180.19		8432.00	8432.00	0.00	8432.00	8528.00	96.00	0.00	0.00	0.02	
8528.00	95.00	8461.00	89.79	180.11	60R	8528.00	8540.00	12.00	8540.00	8623.00	83.00	0.00	0.00	-0.02	
8623.00	94.00	8556.00	90.42	181.93		8623.00	8623.00	0.00	8623.00	8717.00	94.00	12.00	0.05	0.66	
8717.00	94.00	8650.00	90.42	181.60		8717.00	8717.00	0.00	8717.00	8811.00	94.00	0.00	0.00	0.00	
8811.00	94.00	8744.00	90.35	181.56		8811.00	8811.00	0.00	8811.00	8905.00	94.00	0.00	0.00	-0.07	
8905.00	95.00	8838.00	90.70	182.30		8905.00	8905.00	0.00	8905.00	9000.00	95.00	0.00	0.00	0.37	
9000.00	96.00	8933.00	91.05	182.86	160L	9000.00	9011.00	11.00	9011.00	9096.00	85.00	0.00	0.00	0.37	
9096.00	95.00	9029.00	90.14	182.24		9096.00	9096.00	0.00	9096.00	9191.00	95.00	11.00	-0.08	-0.95	
9191.00	95.00	9124.00	90.00	181.68		9191.00	9191.00	0.00	9191.00	9286.00	95.00	0.00	0.00	-0.15	
9286.00	95.00	9219.00	90.14	181.84		9286.00	9286.00	0.00	9286.00	9381.00	95.00	0.00	0.00	0.15	
9381.00	95.00	9314.00	90.28	181.70		9381.00	9381.00	0.00	9381.00	9476.00	95.00	0.00	0.00	0.15	
9476.00	88.00	9409.00	90.35	181.52		9476.00	9476.00	0.00	9476.00	9564.00	88.00	0.00	0.00	0.07	
9564.00	0.00	9497.00	90.56	181.65		9564.00	9564.00	0.00	9564.00	9564.00	0.00	0.00	0.00	0.24	TD

Totals:	123.00 ft	4137.00 ft
Percentages:	2.9%	97.1%
Time:	5.25 hrs	48.50 hrs
Percentages:	9.8%	90.2%



Drilling Systems & MWD Personnel

Damien Tarpley	Area Manager	Office (432) 561-8892 Cell (806) 549-0900
Orry Armendariz	Directional Drilling Coordinator Supervise Directional Drillers and daily rig operations.	Office (432) 561-8892 Cell (432) 290-1644
Jesse Aguilar	MWD Coordinator Supervise MWD Personnel and daily rig operations.	Office (432) 561-8892 Cell (432) 202-1807
Scott Dixon	Account Manager Customer support at its best.	Office (405) 720-4270
Jayne Wilson	Administrative Assistant Customer billing/invoicing_Midland, TX	Office (432) 561-8892

Russell W. Joyner	Well Planning	Office (281) 260-1419 Cell (713) 303-5511
Responsible for well preplanning and provide technical support during job.		

Sammy Dominguez	R&M Shop Services	Office (432) 561-8892 (432) 661-5939
Responsible for monitoring downhole tool performance and evaluating field incidents.		

Drill or Wipe or Both.		Drill	Drill						
Flow Rate	gal/min	510	510						
Min Inc @ Depth	deg @ ft	1.89@4452	87.55@5617						
Max Inc @ Depth	deg @ ft	83.33@5179	91.05@9133						
MUD DATA									
Depth	ft	4450	9520						
Fluid Type		Water	Water						
Mud Weight	lb/gal	8.40	8.40						
Viscosity	sec/qt	28	28						
Solids / Sand	%	0.1 / 0	0.1 / 0						
pH / Fluid Loss	ml/30 min	10	10						
Max Tool Temp / Tool	deg F	114	131						
Client Representative		Don Bates	Jerry Butler						
Weatherford Engineer		Justin Nguyen	Justin Nguyen						

EQUIPMENT SUMMARY

Run Number	1	2	3	4	5	6	7	8
BTR / CDS Serial Number	827 / 761	827 / 761						
Battery Serial Number	404007680	404007680						
Gamma Ray Serial Number	2747	2747						
Pressure Probe Serial Number	N/A	N/A						
CMS Serial Number	51346	51346						
Pulser Serial Number	43921	43921						

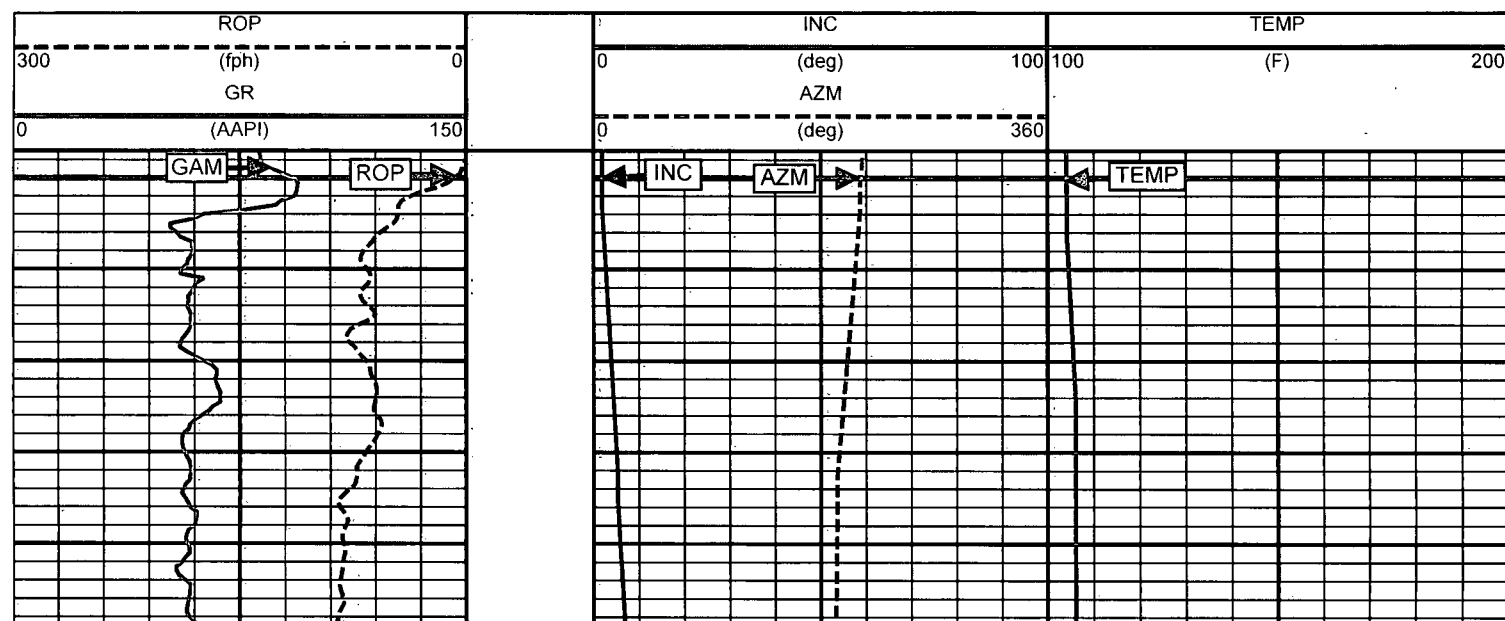
Bit to Sensor Offsets

Directional	ft	57.68	61.92		:				
Gamma Ray	ft	43.47	47.71						

Other Information

BHA Assembly Type		Steerable	Steerable							
Run Circulating Time	hrs	22.48	76.00							
Run Drilling Time	hrs	20.60	45.17							

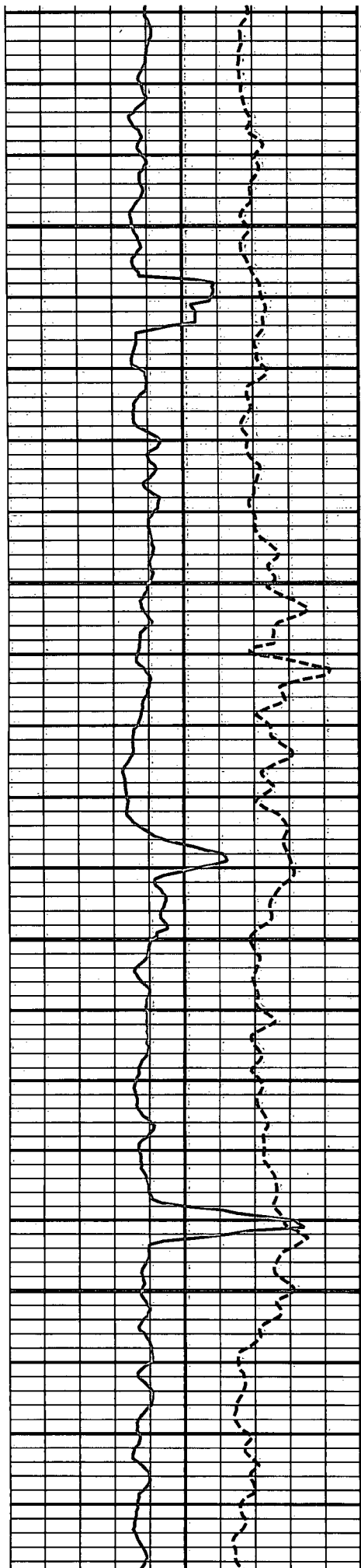
5 Inch - Measured Depth



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MD

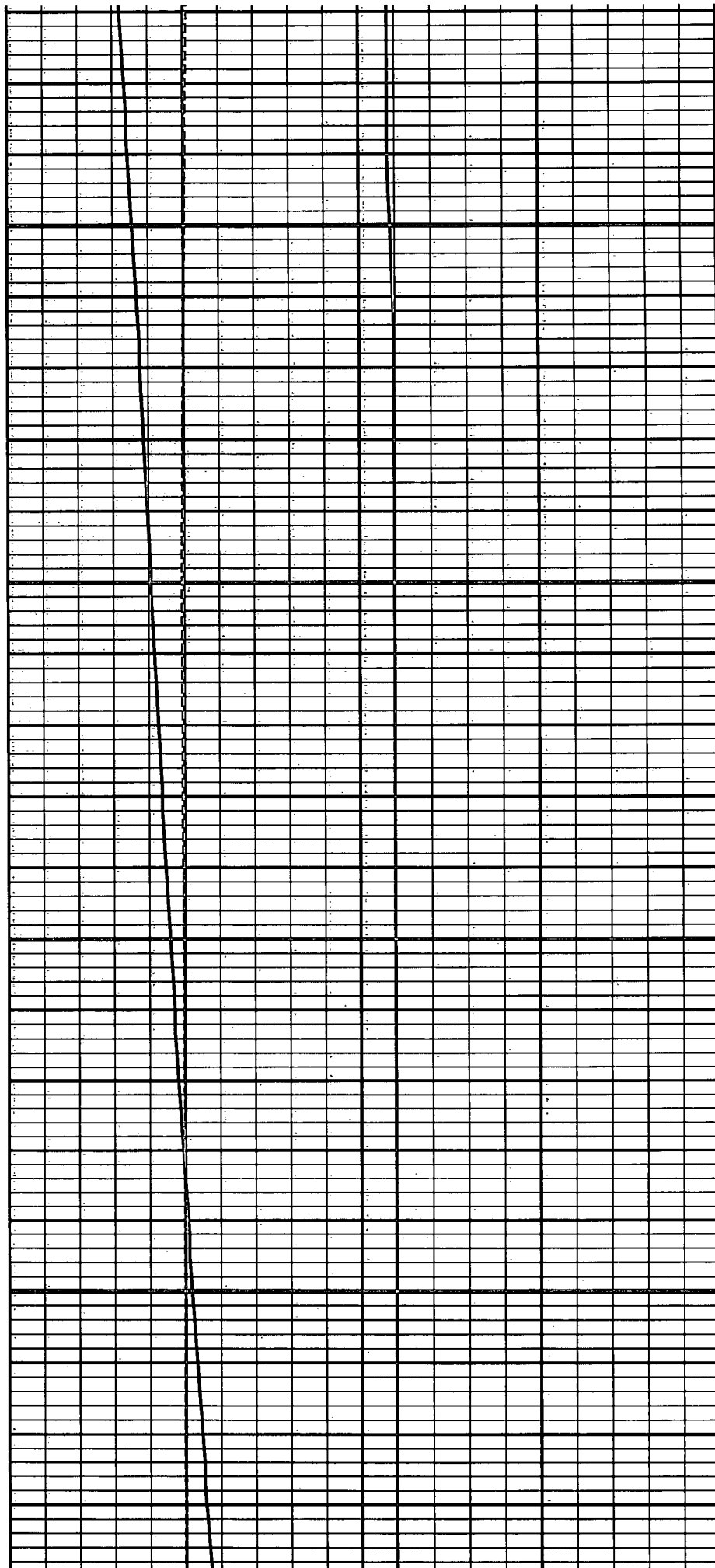
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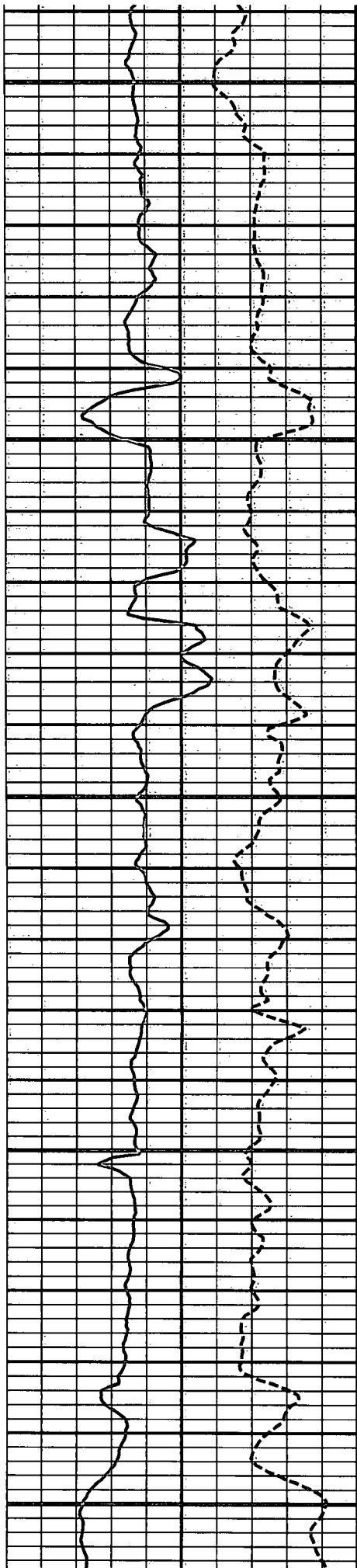
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4800
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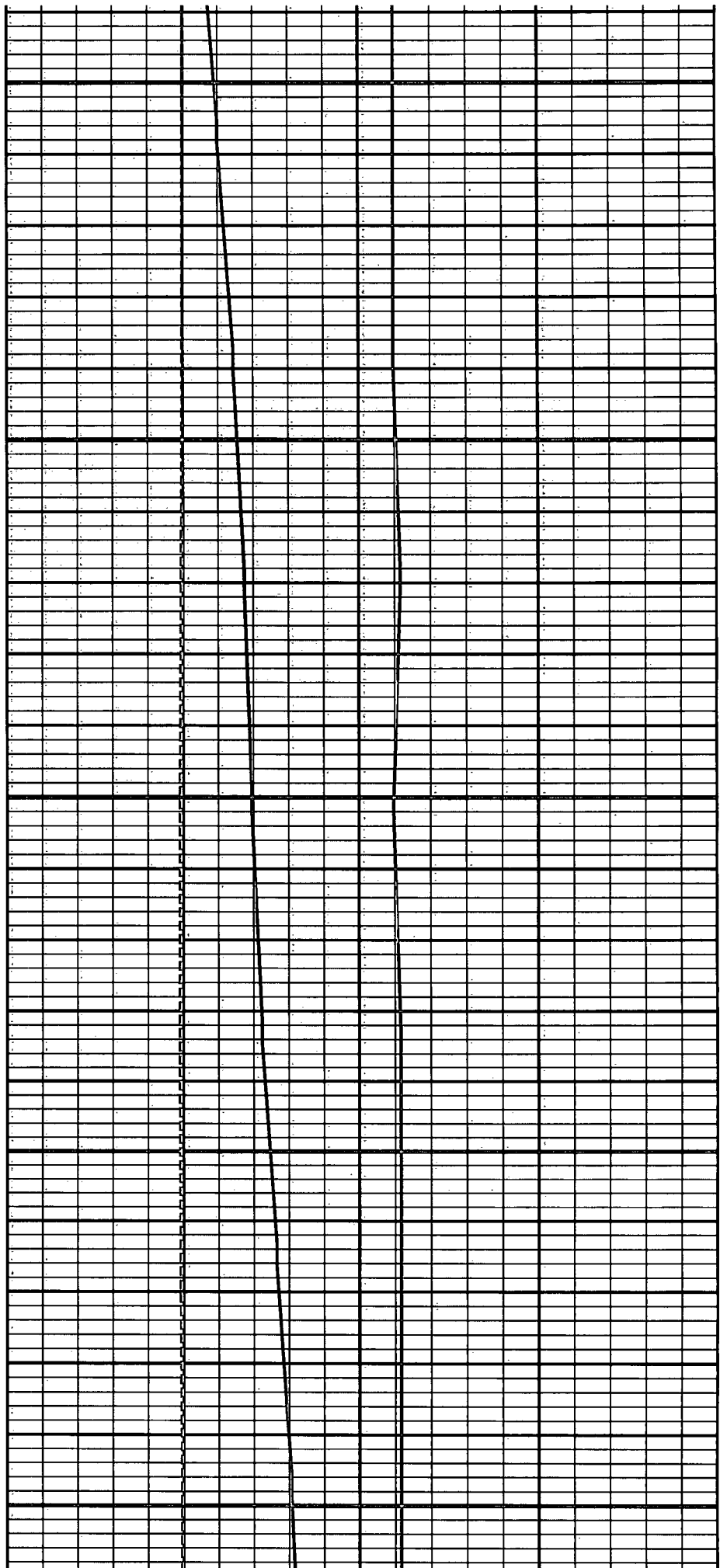
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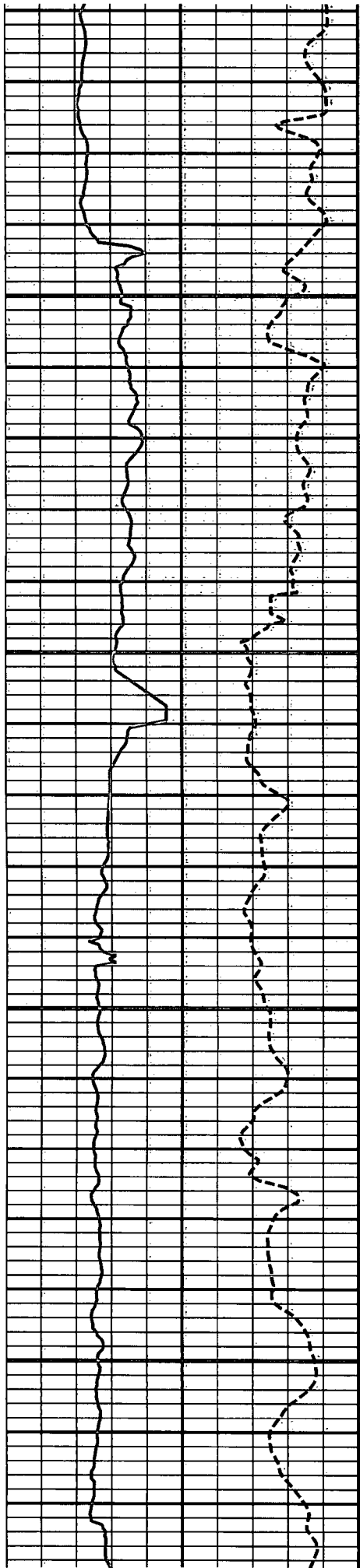




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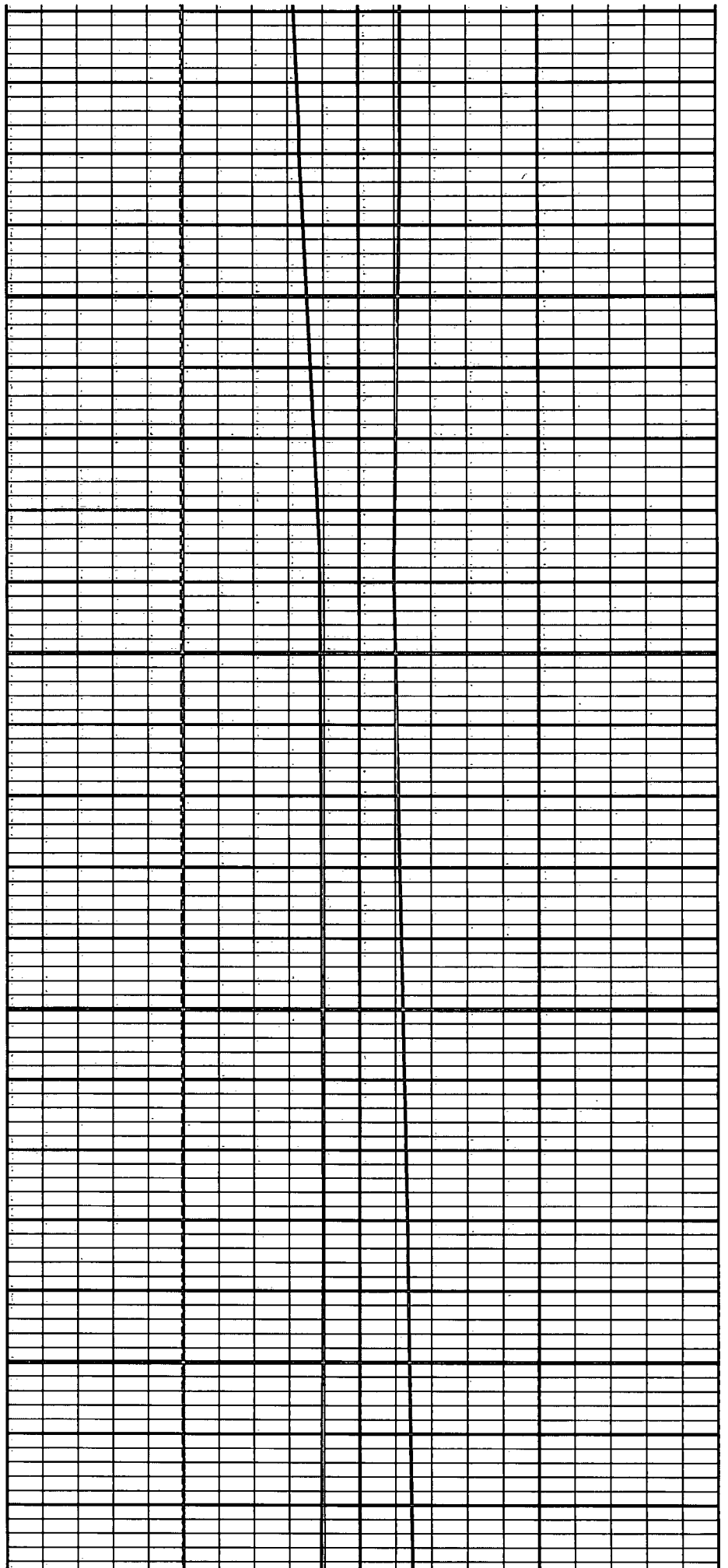
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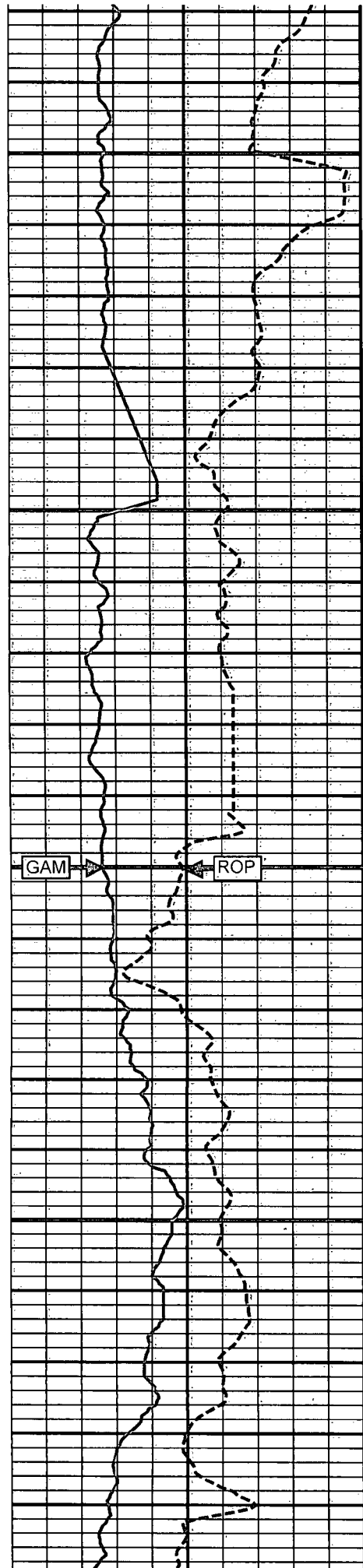




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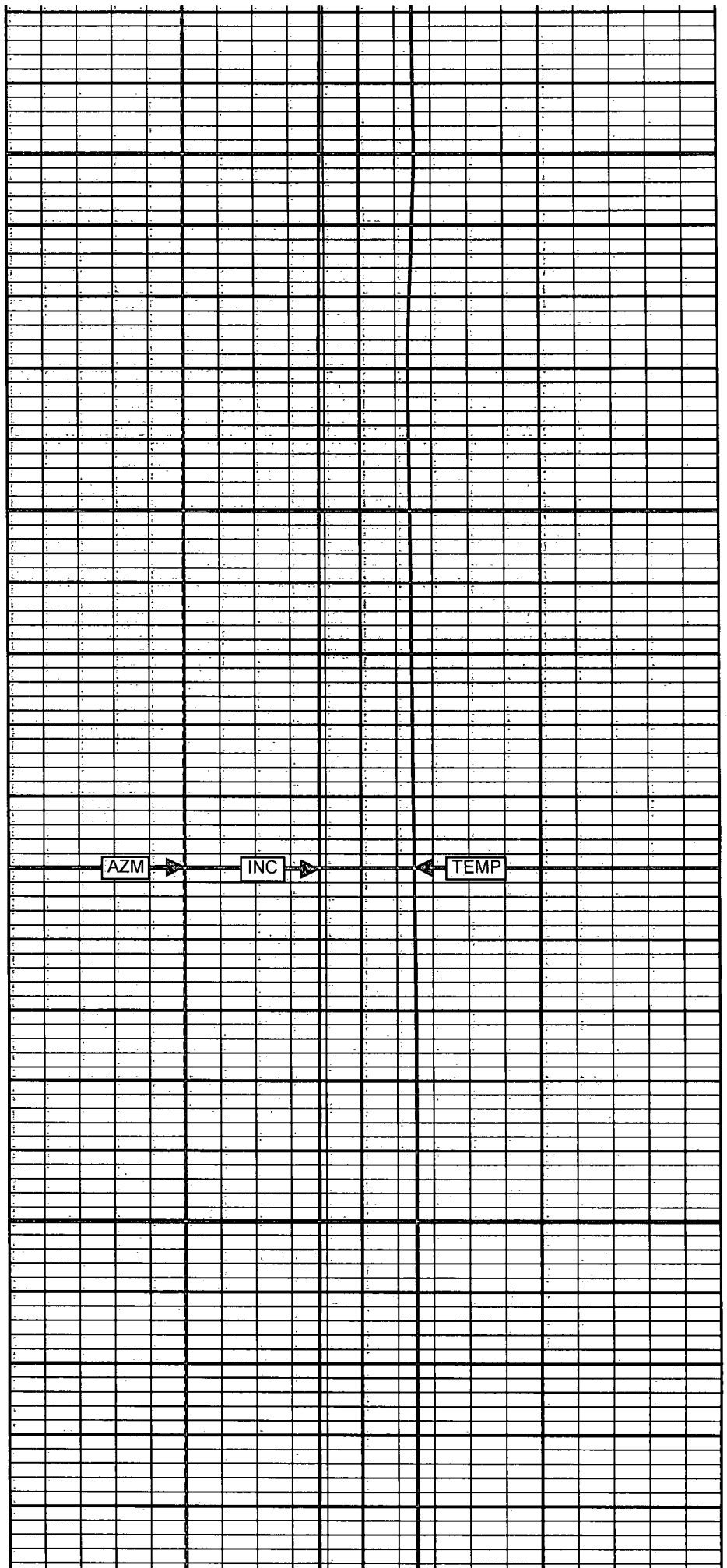
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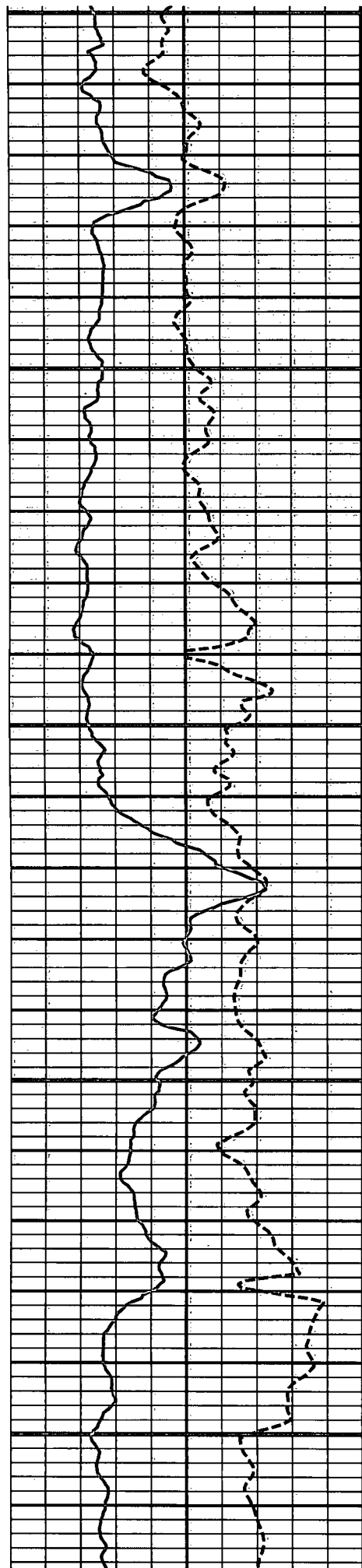




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5500
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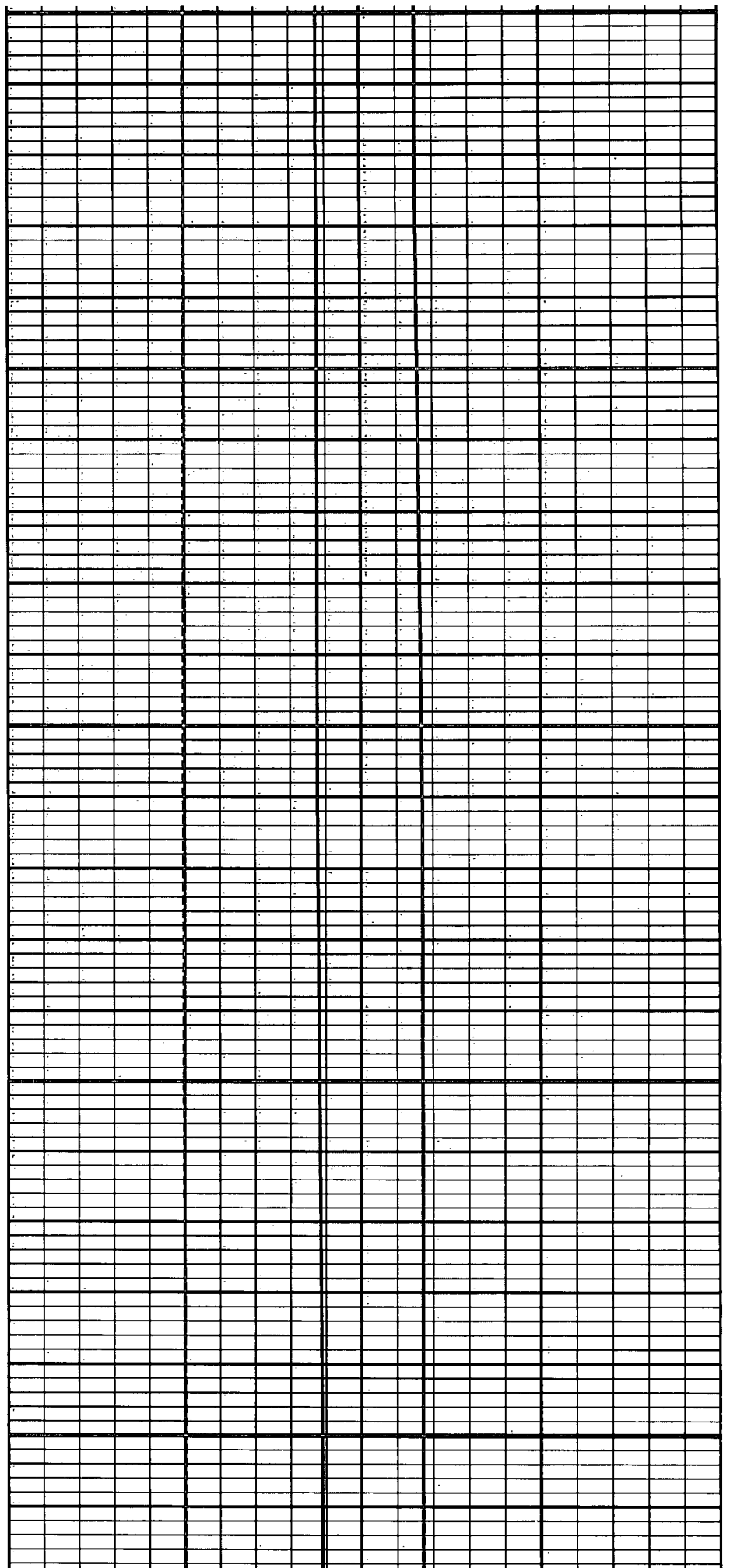


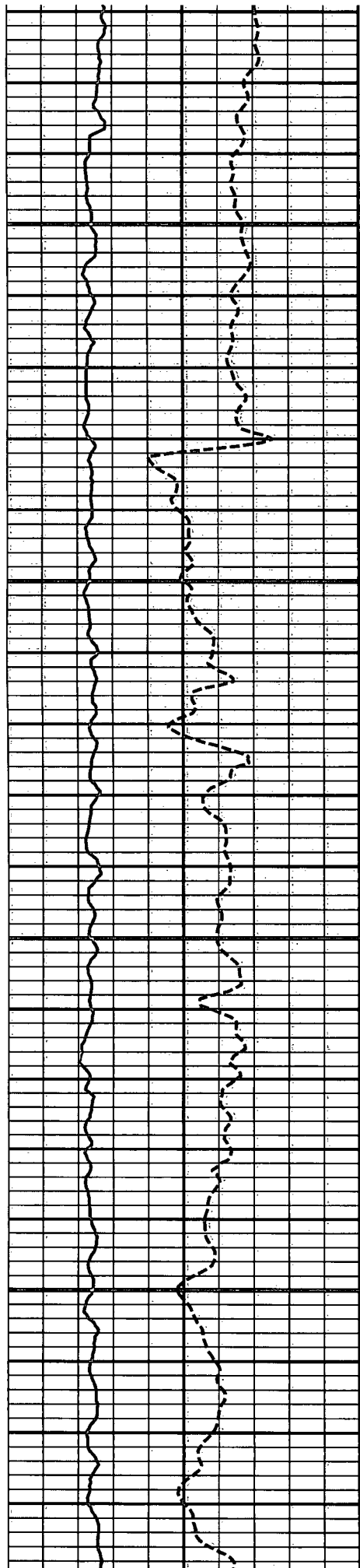


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5700
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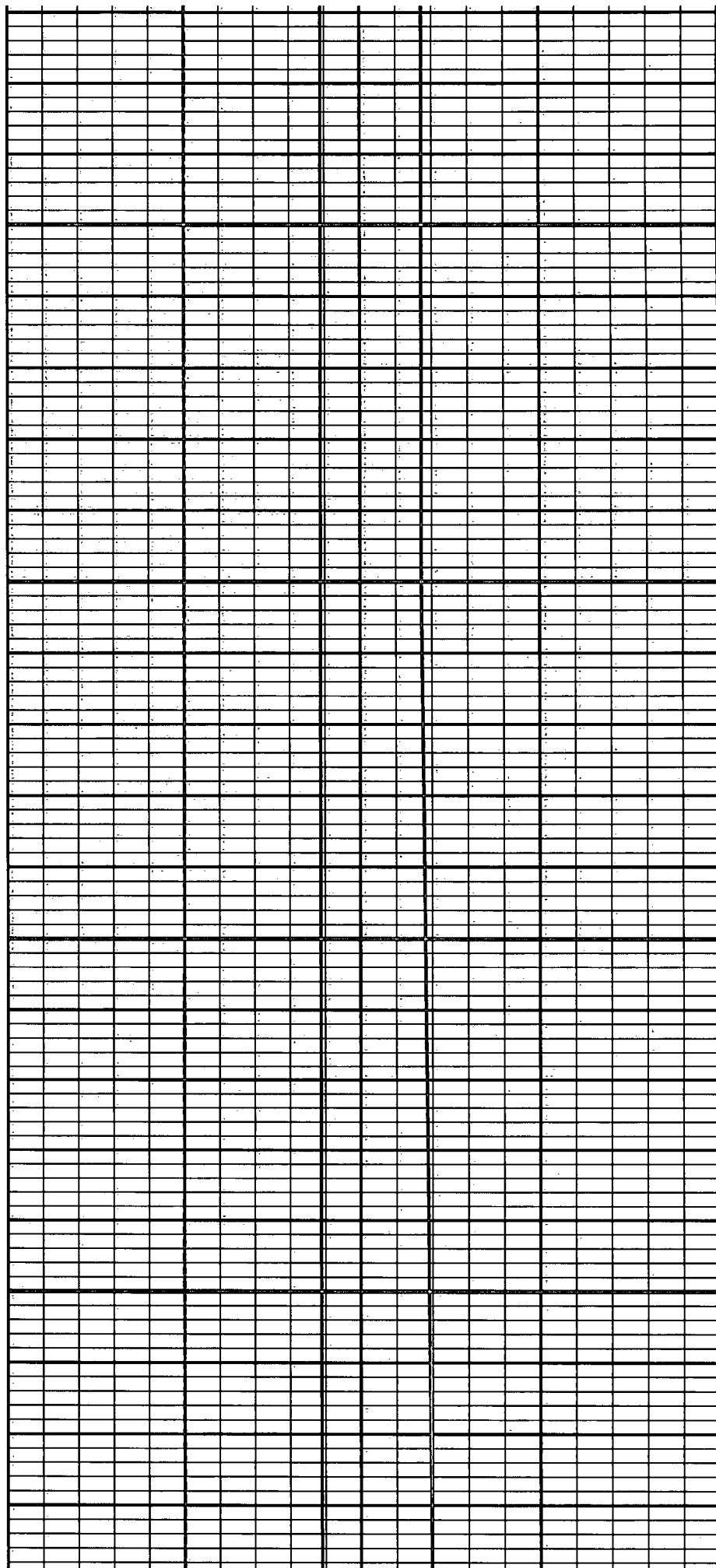
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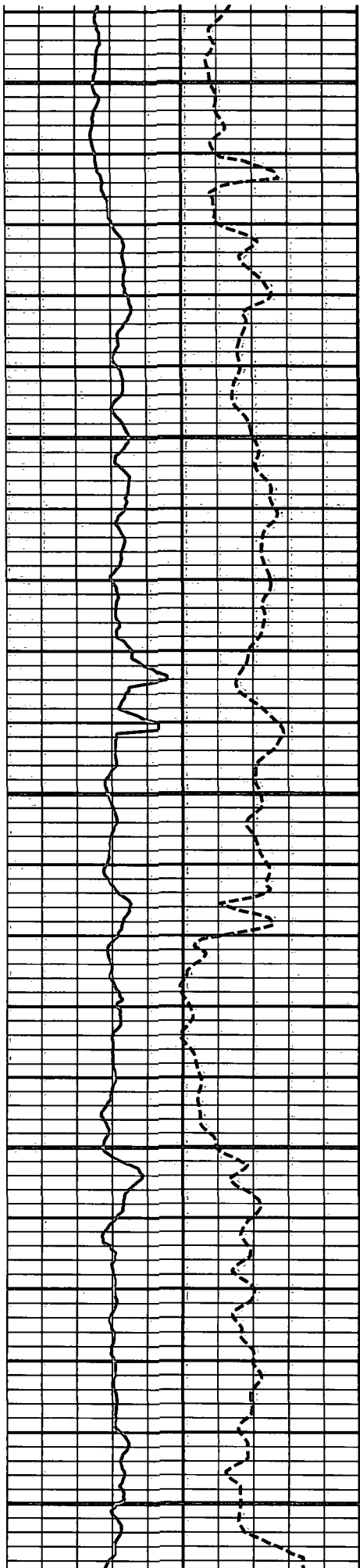




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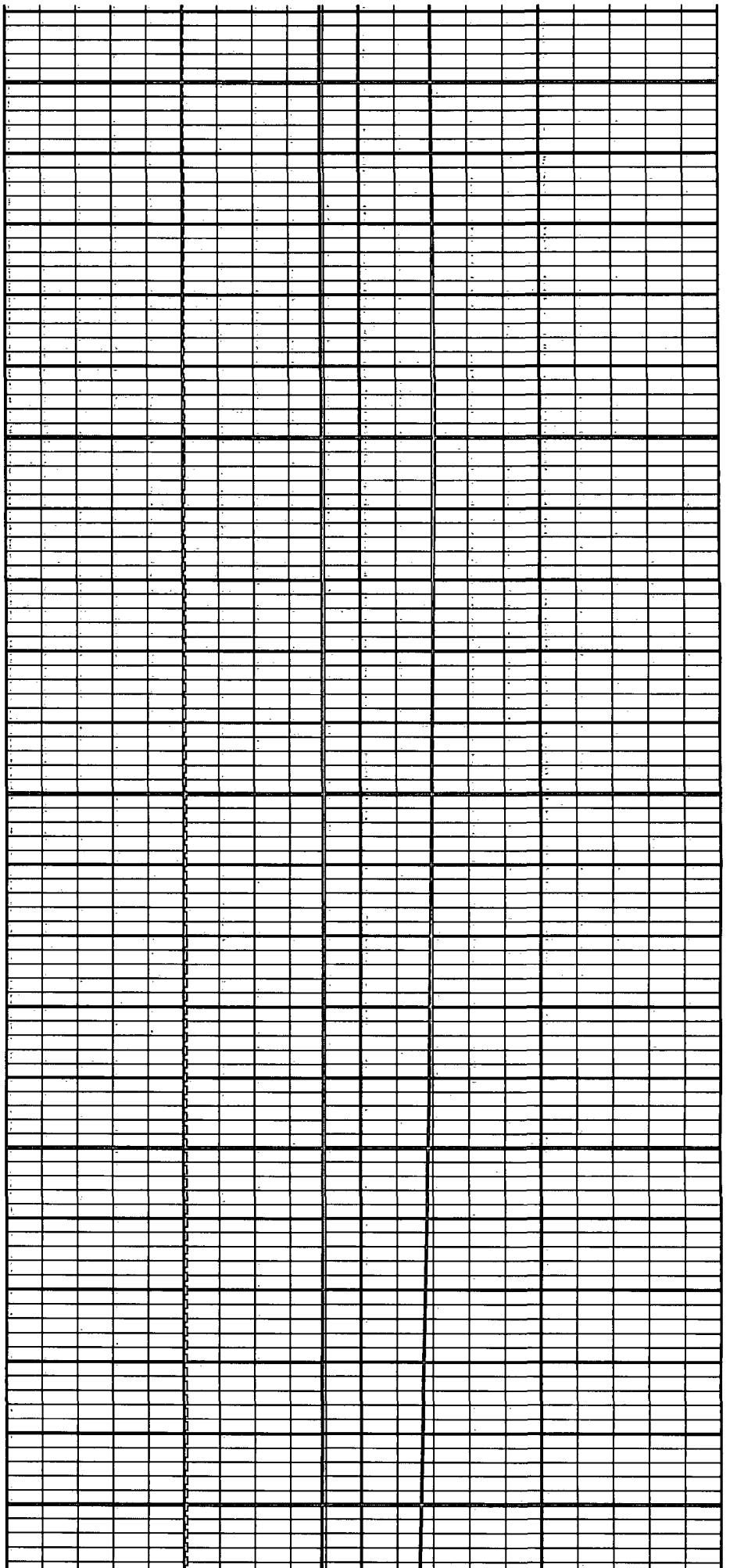
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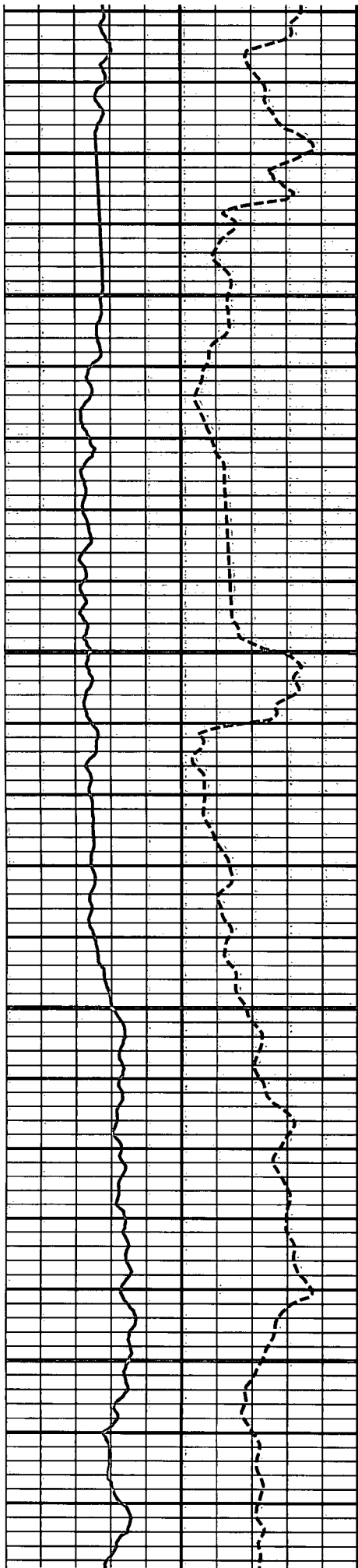




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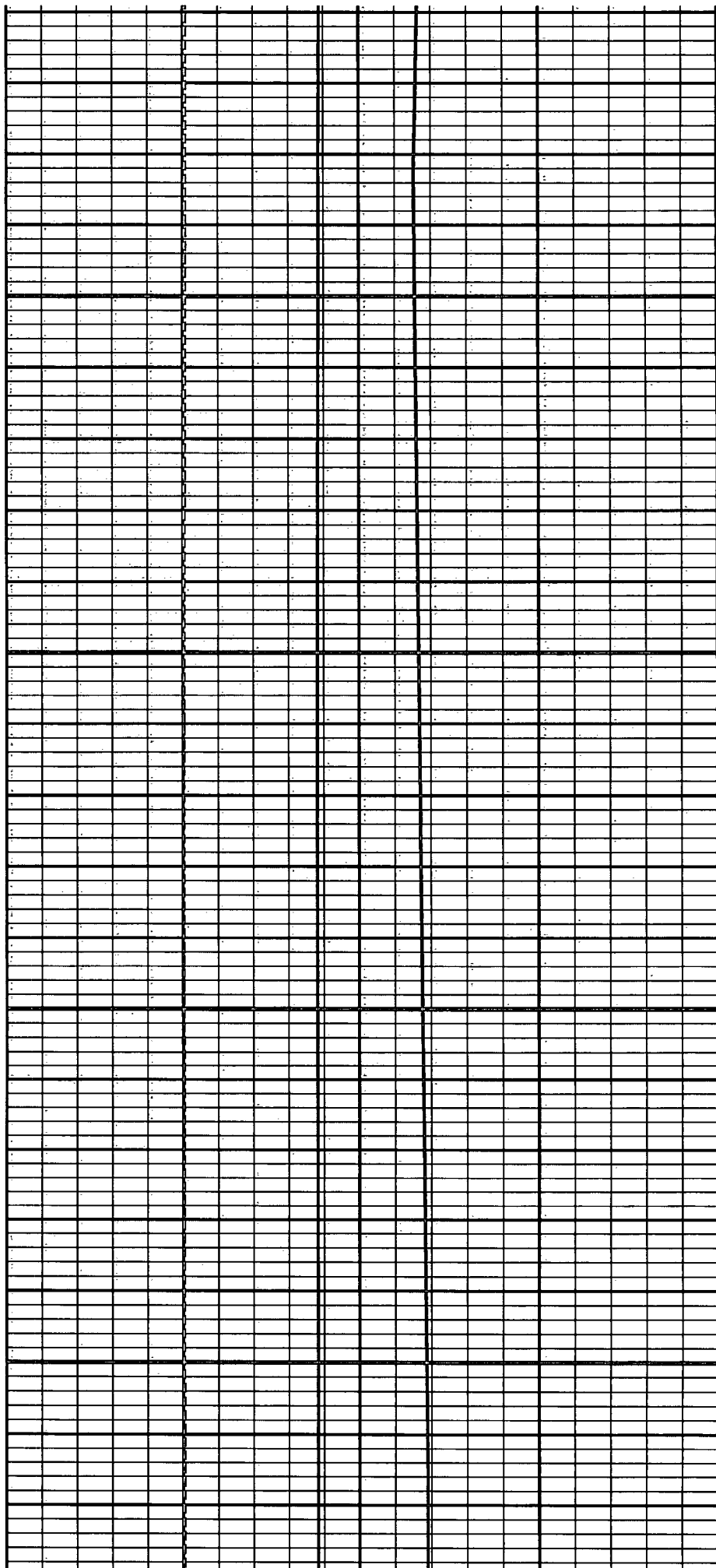
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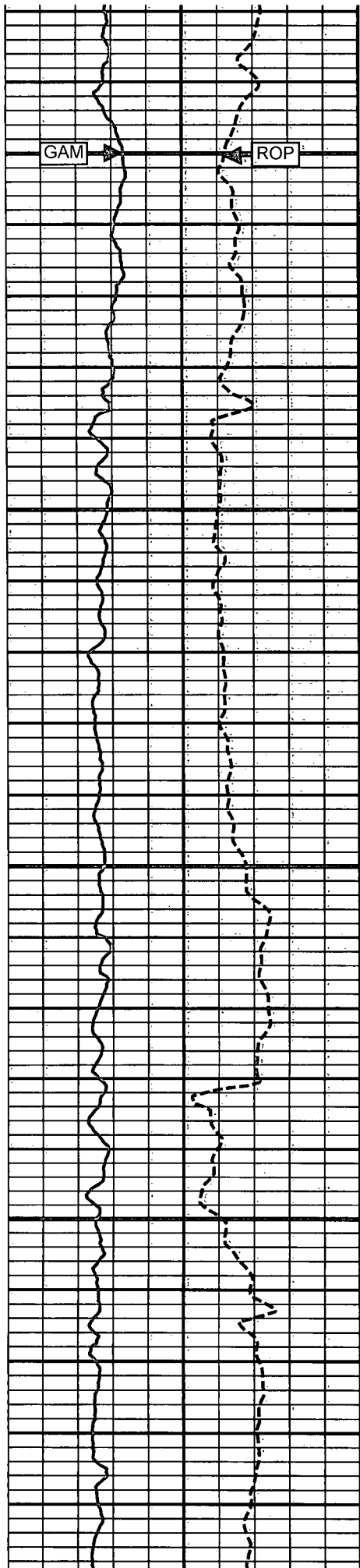




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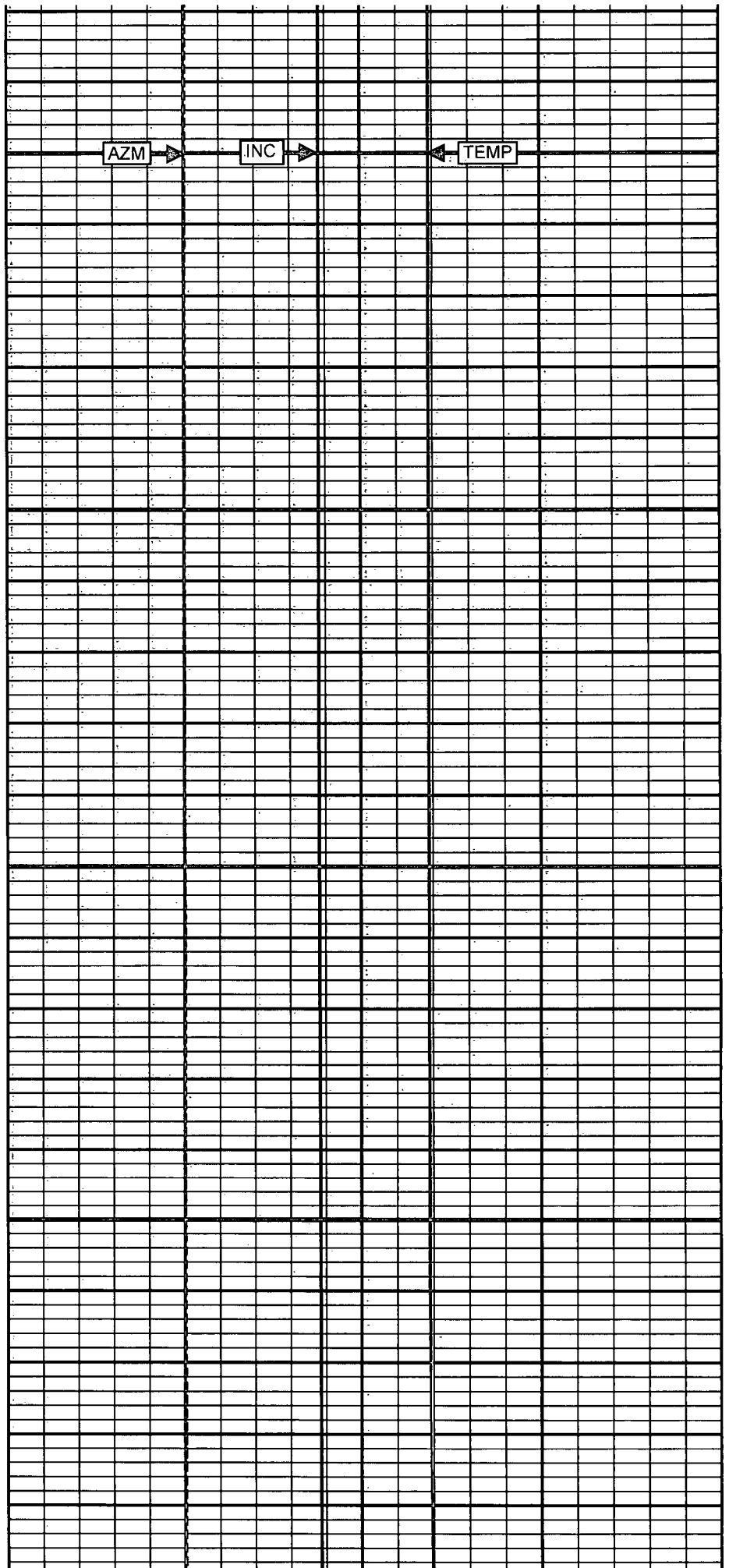
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6500
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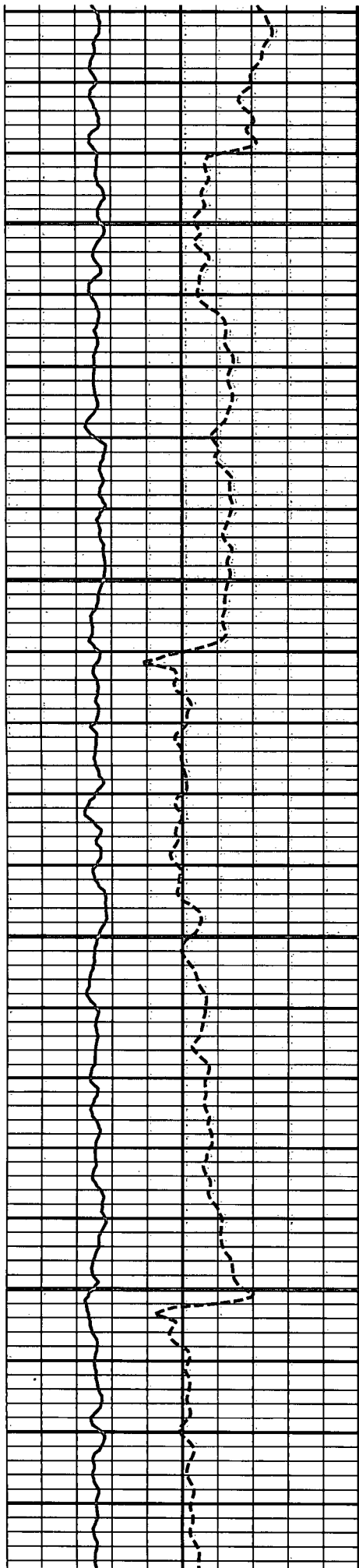
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6700
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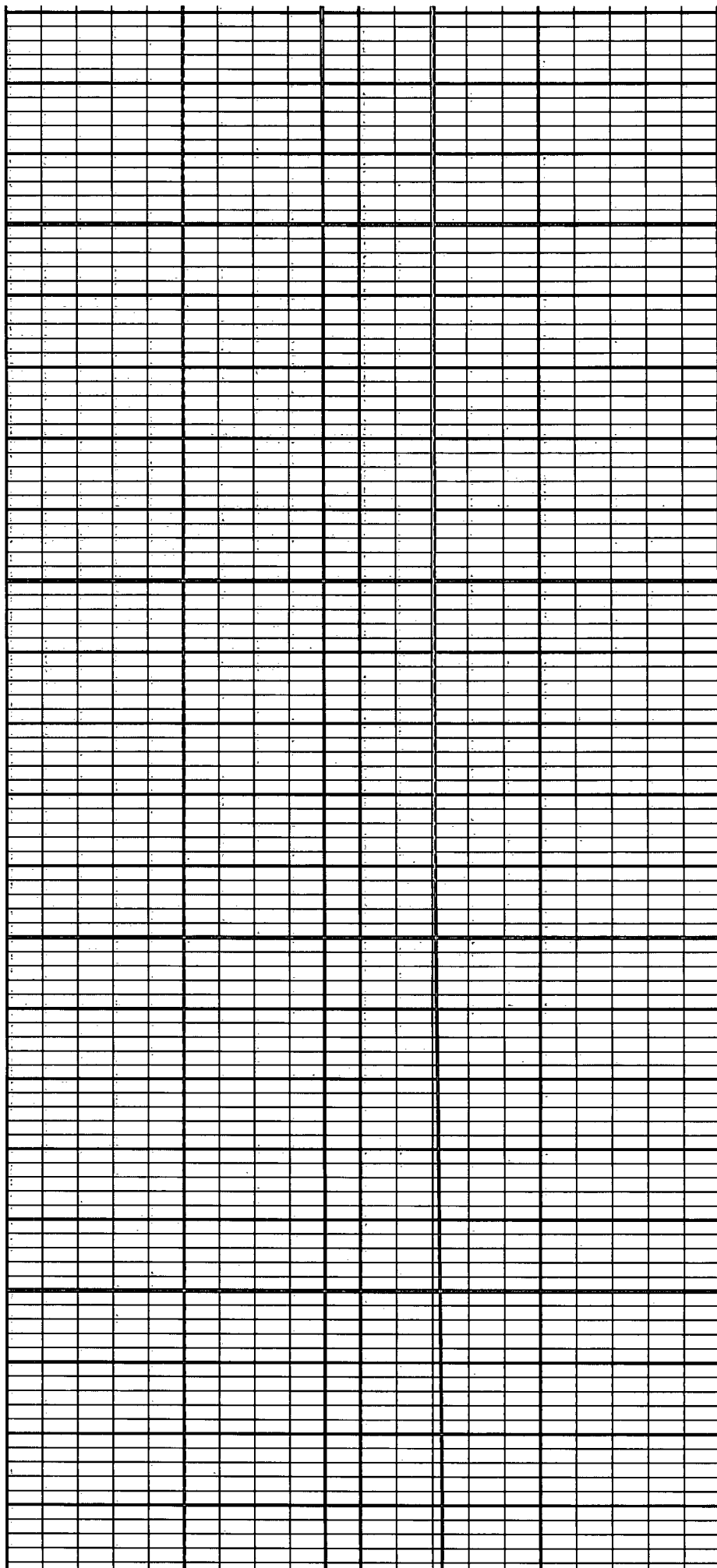
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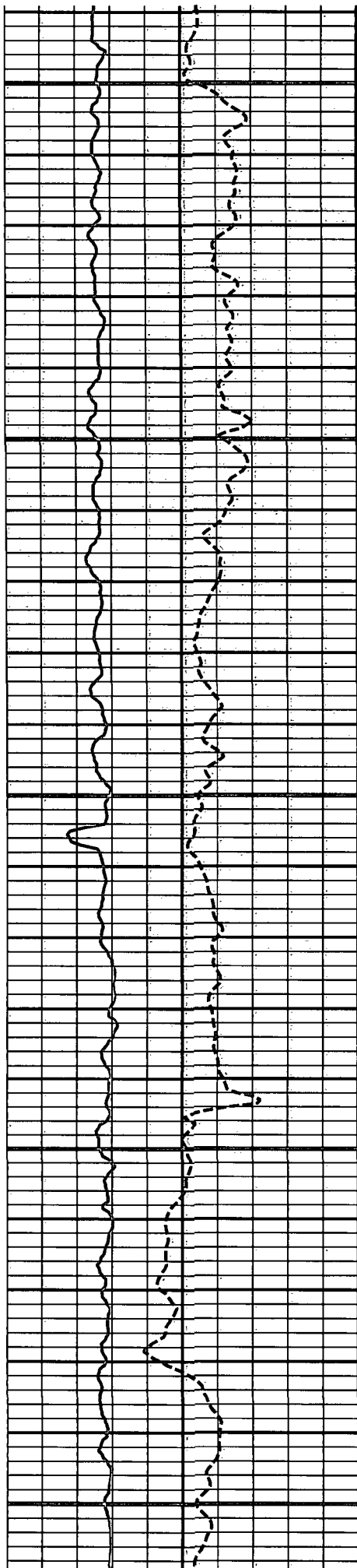
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MD



7000
MD

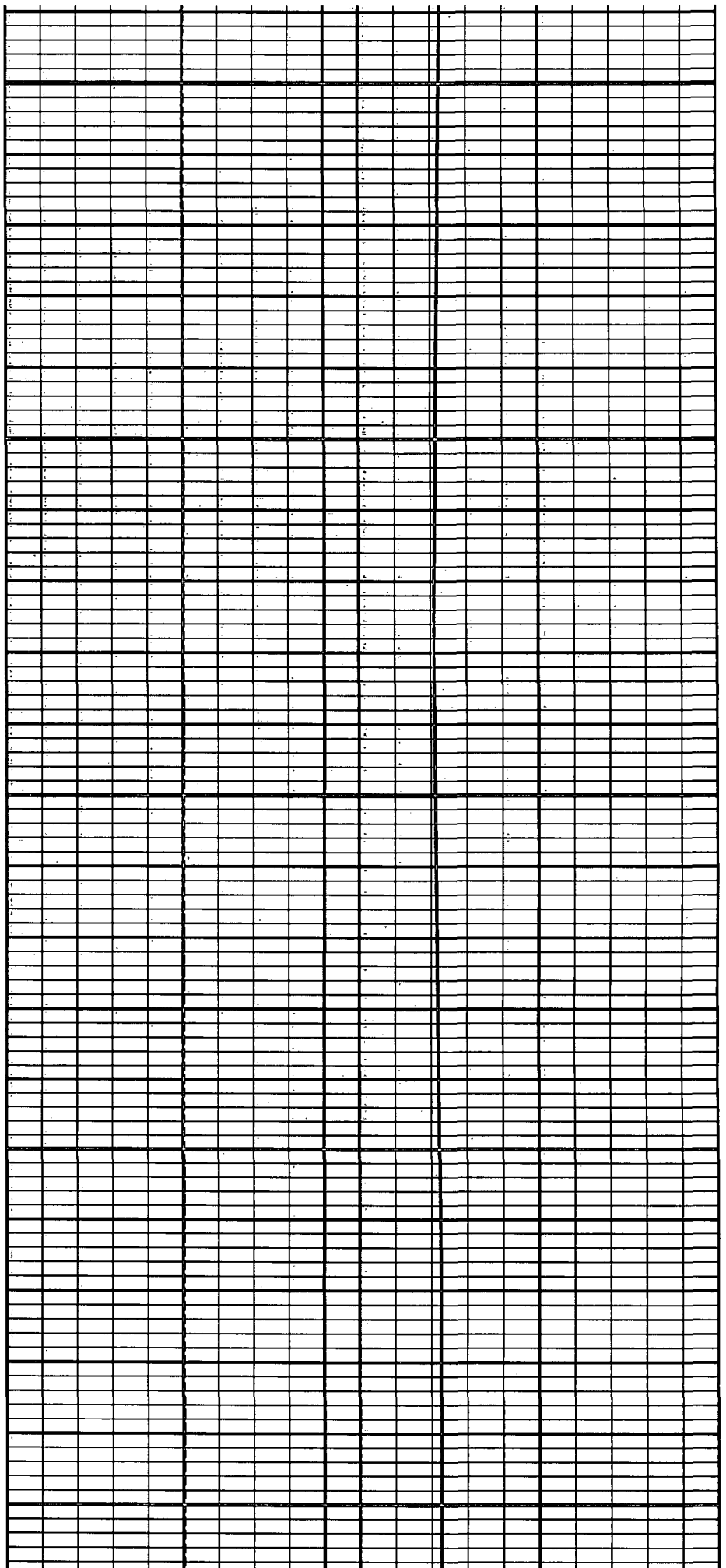
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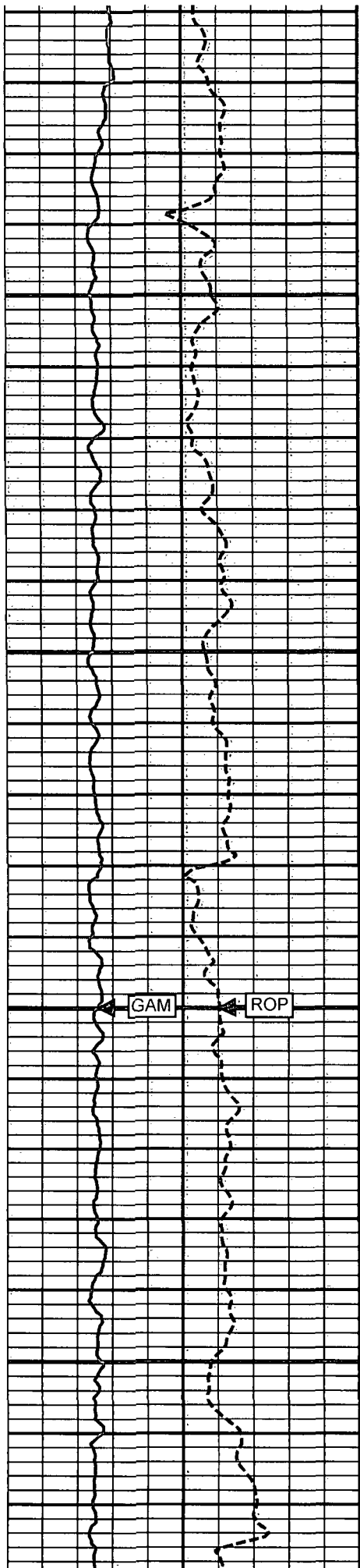




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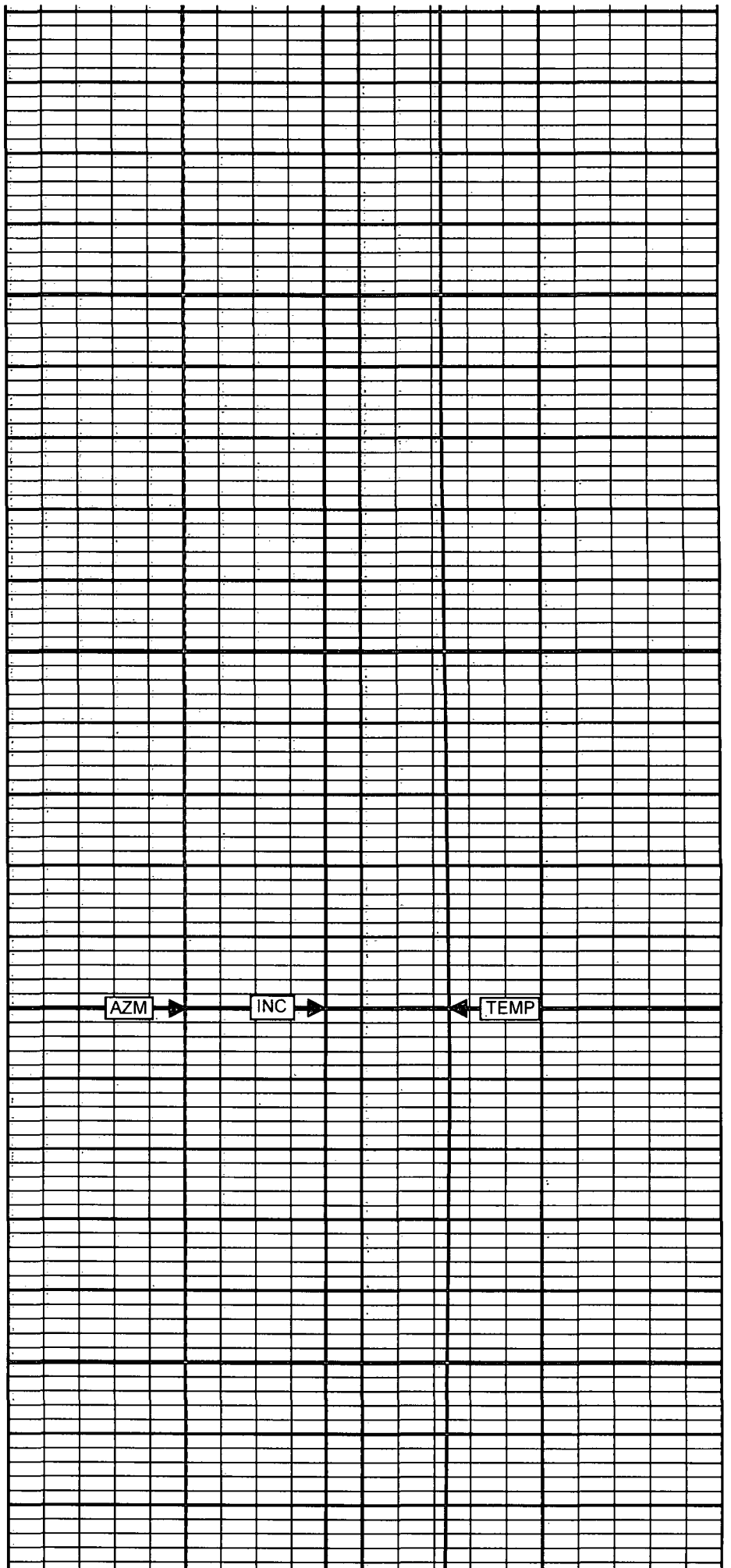
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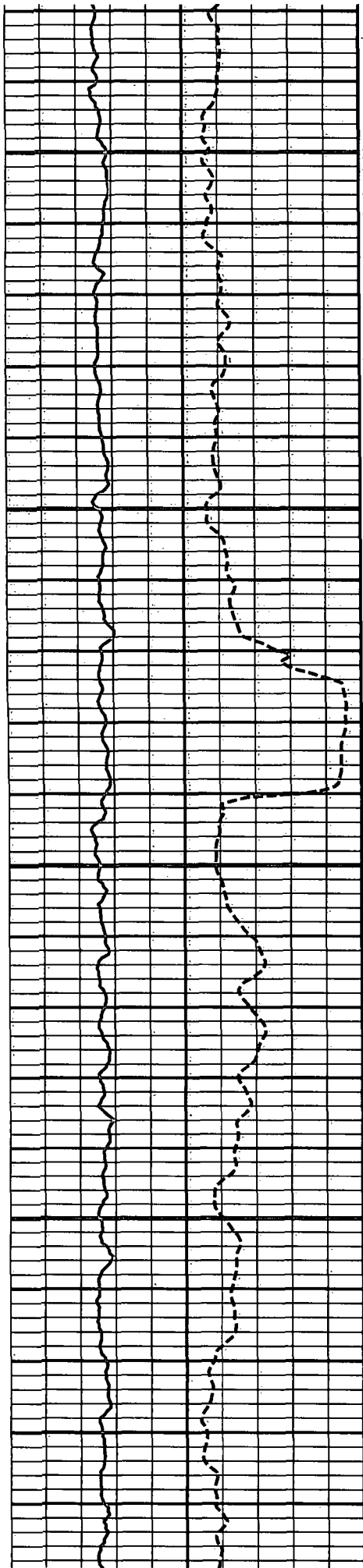




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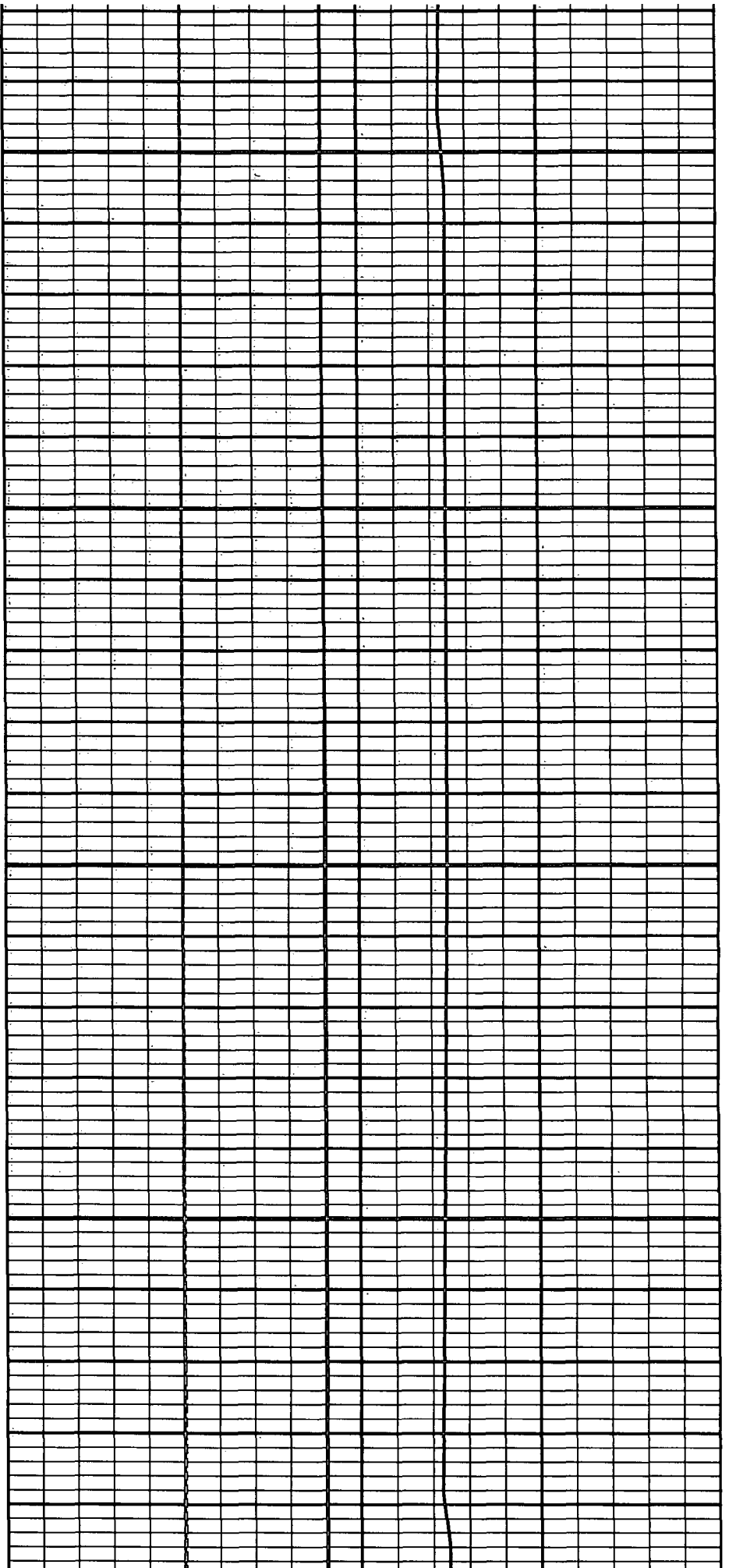
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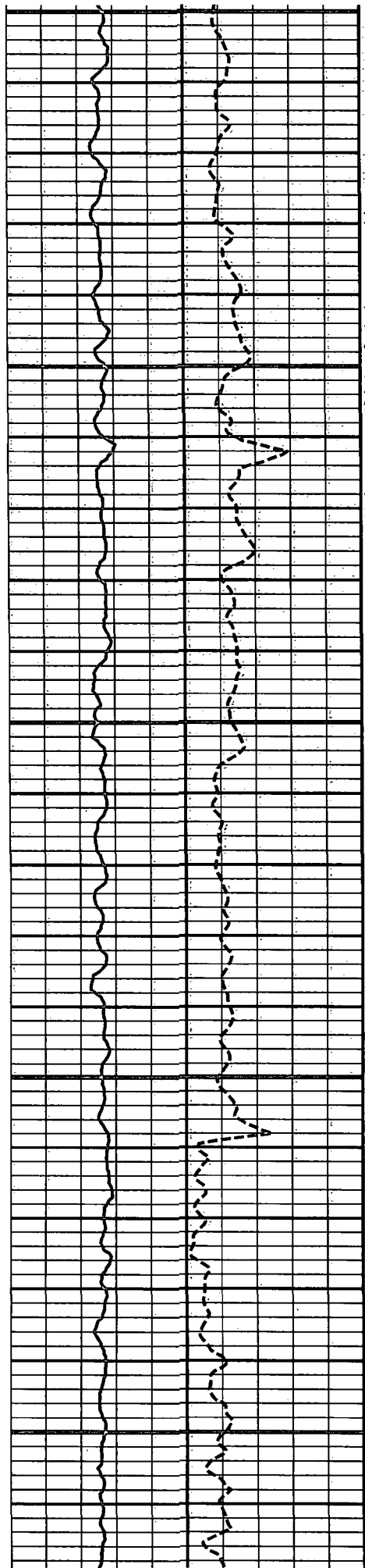




7600
MD

7700
MD

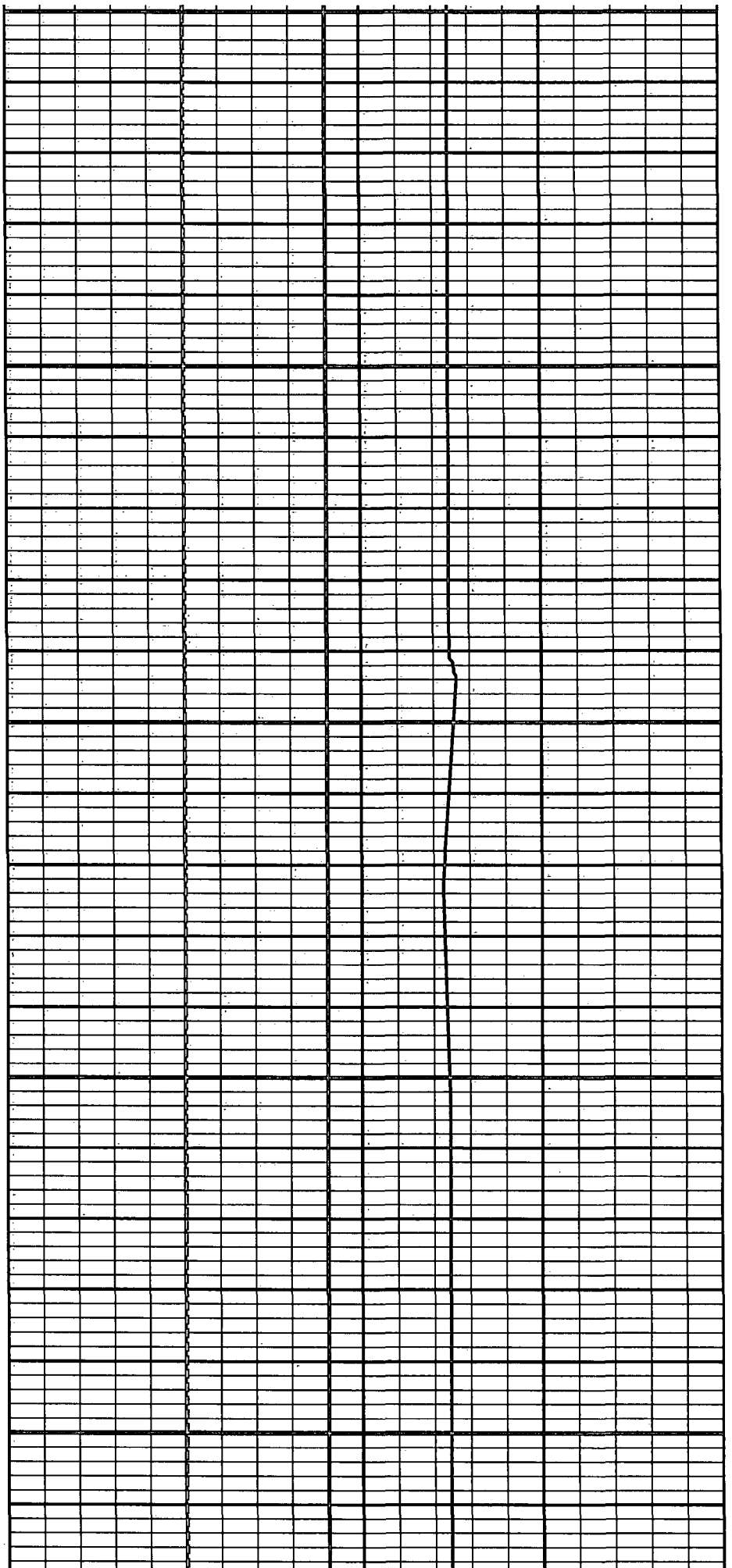


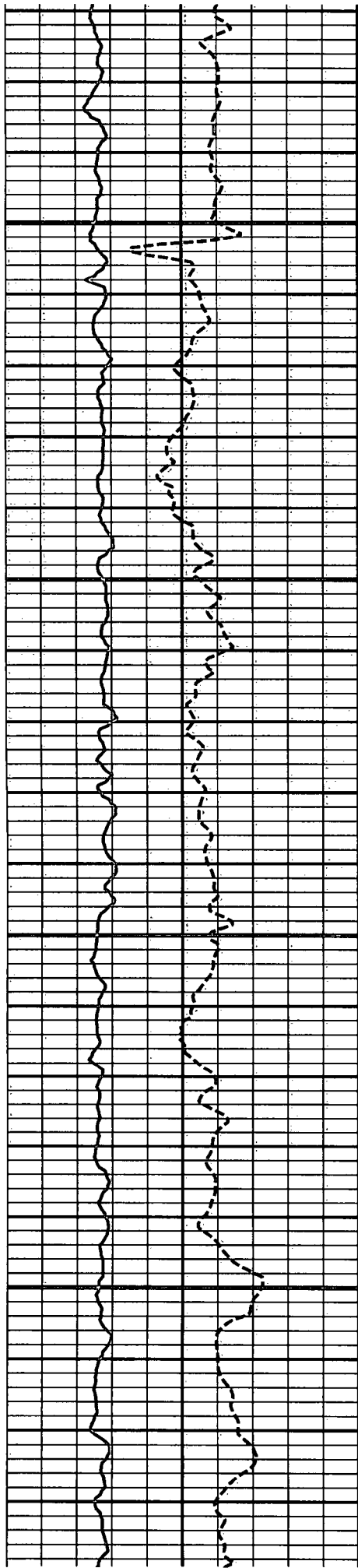


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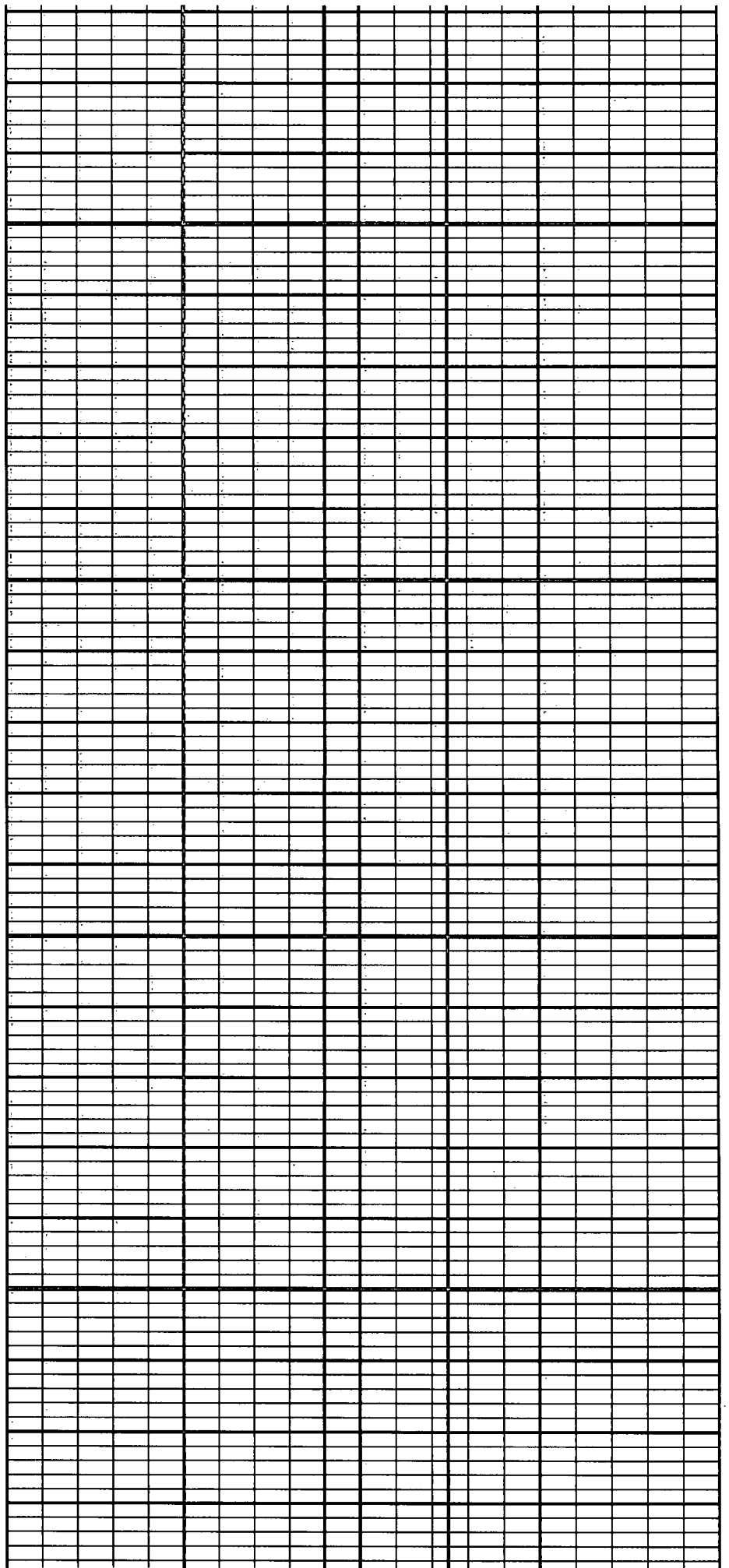
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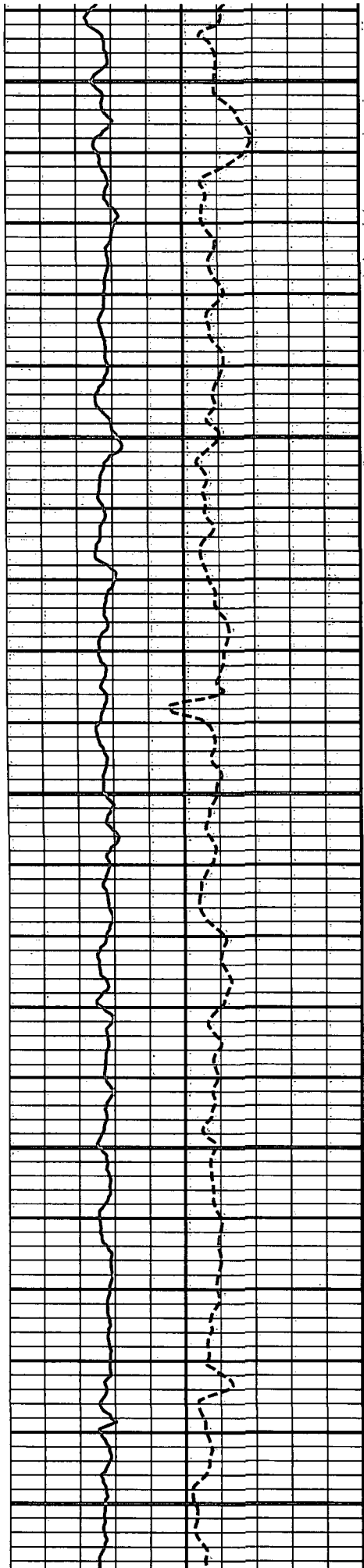




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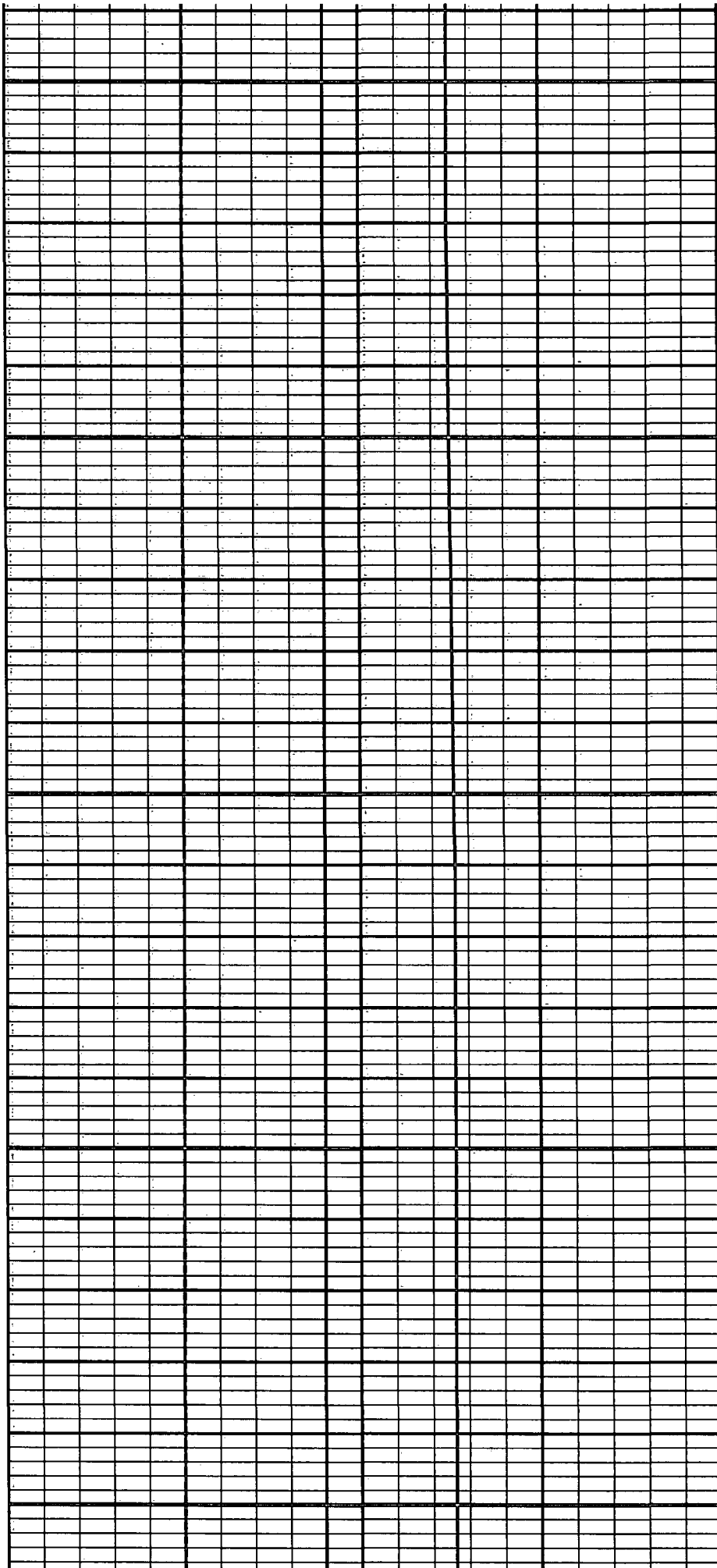
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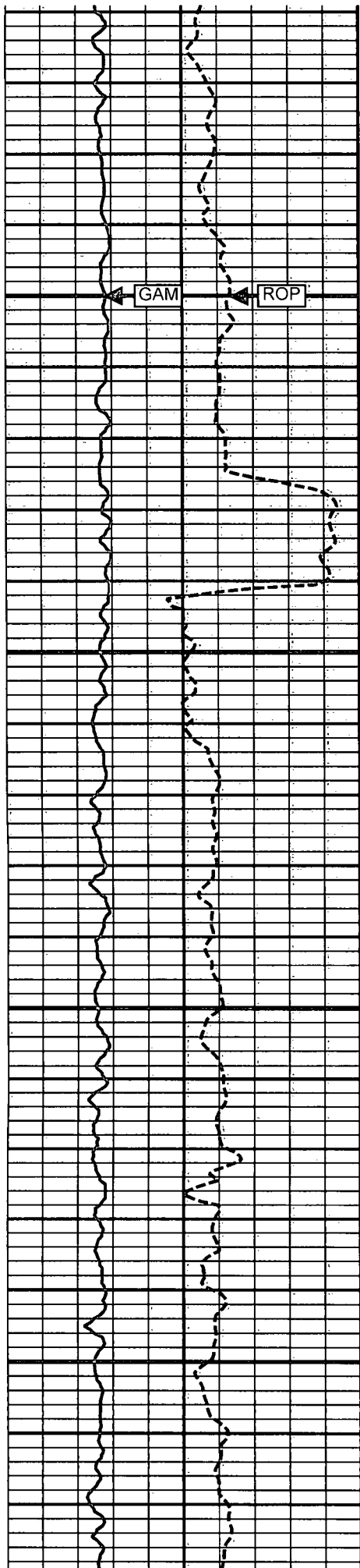




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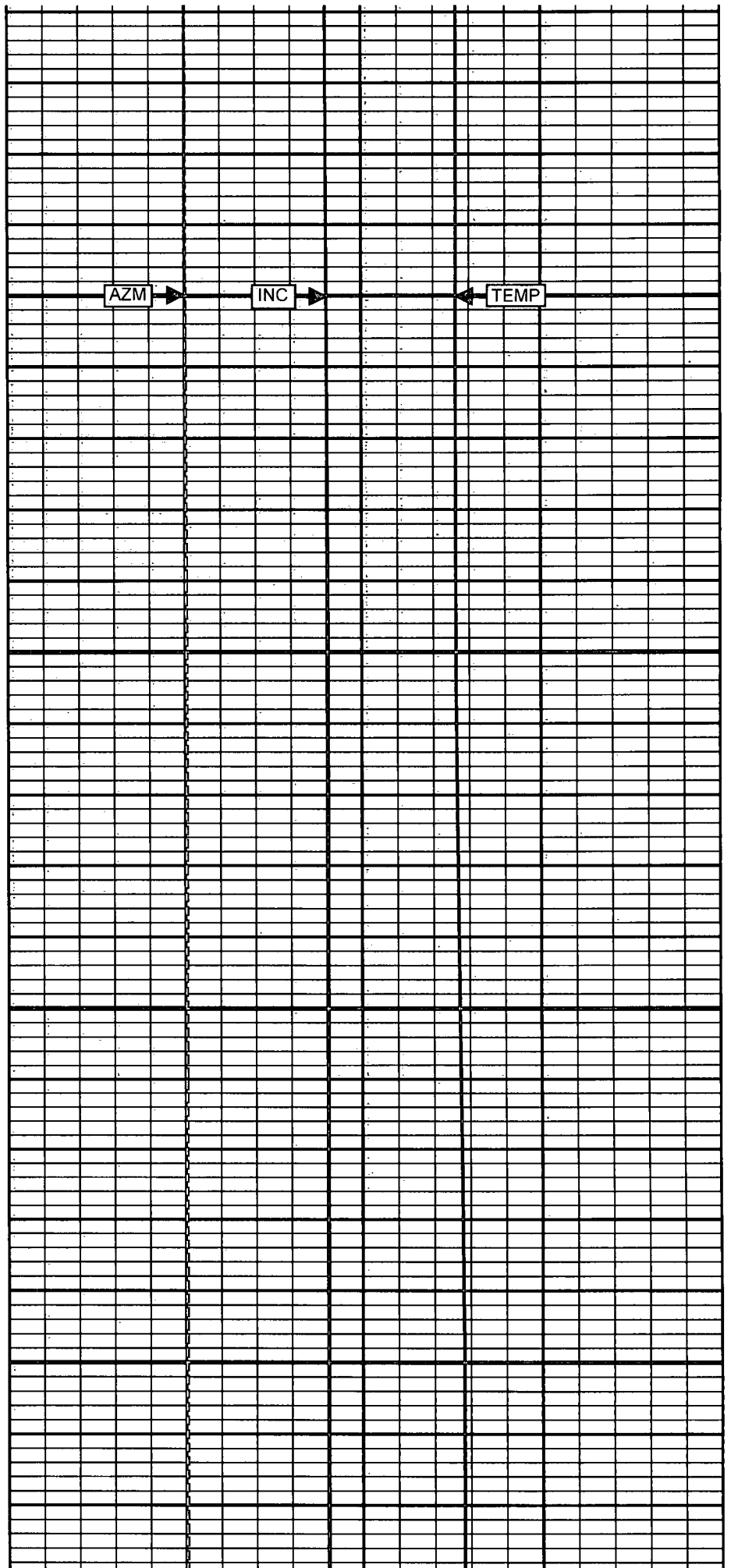
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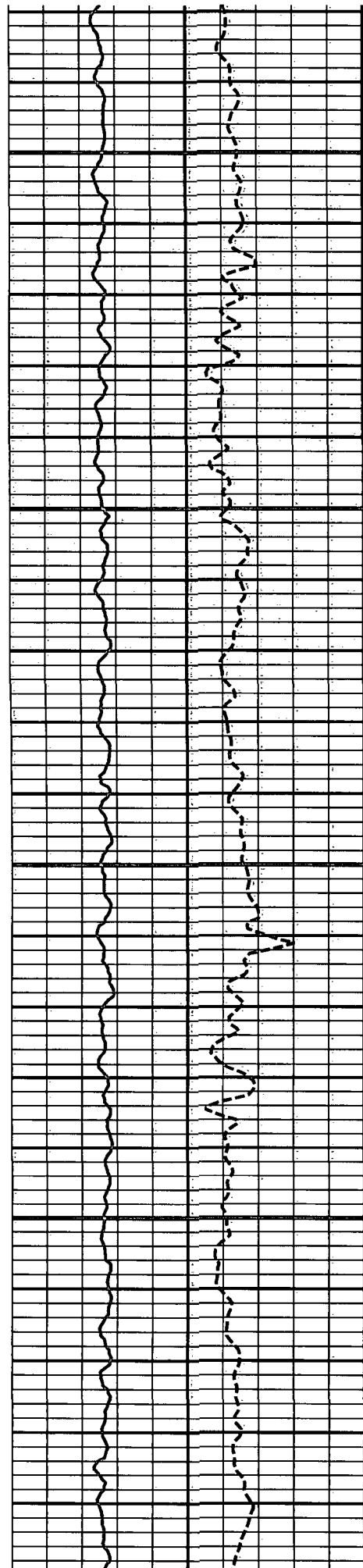




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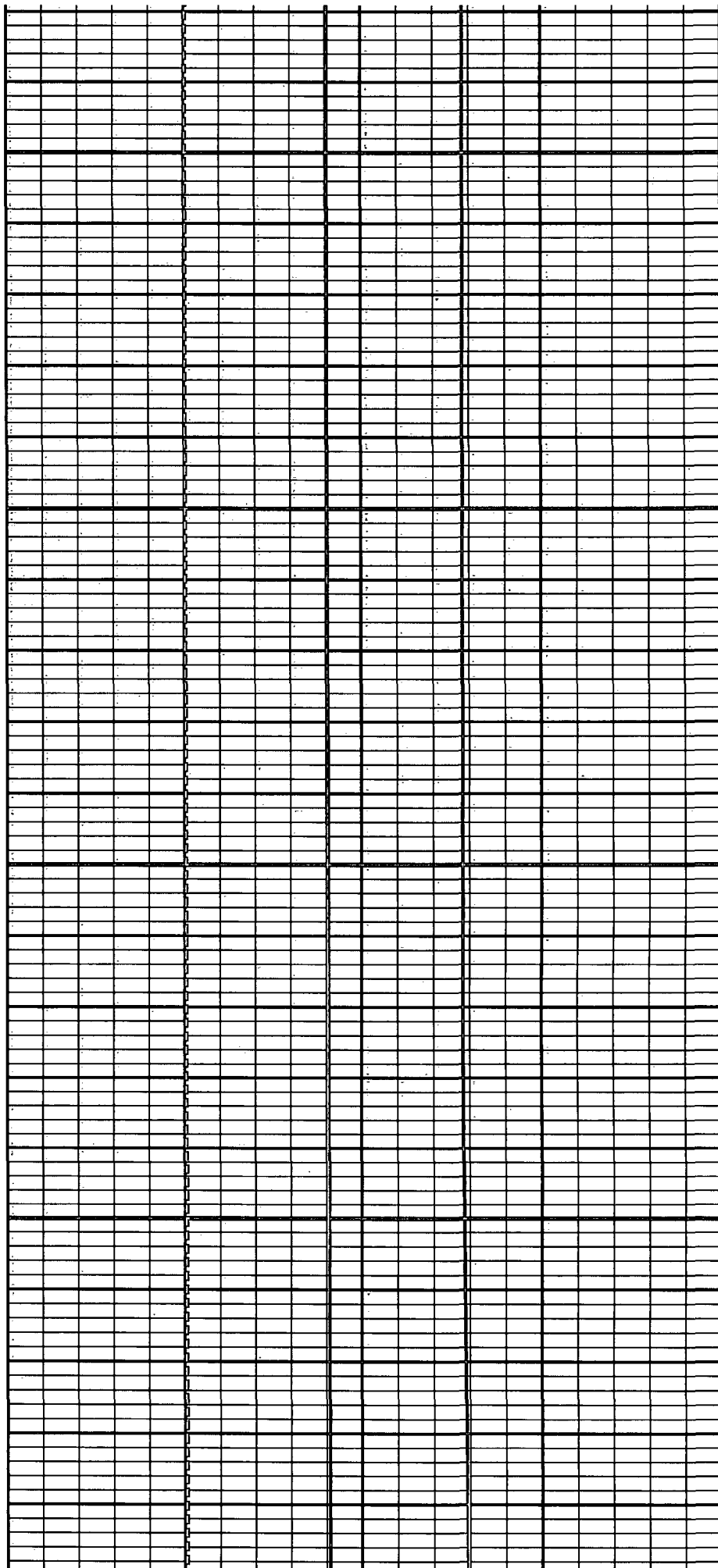
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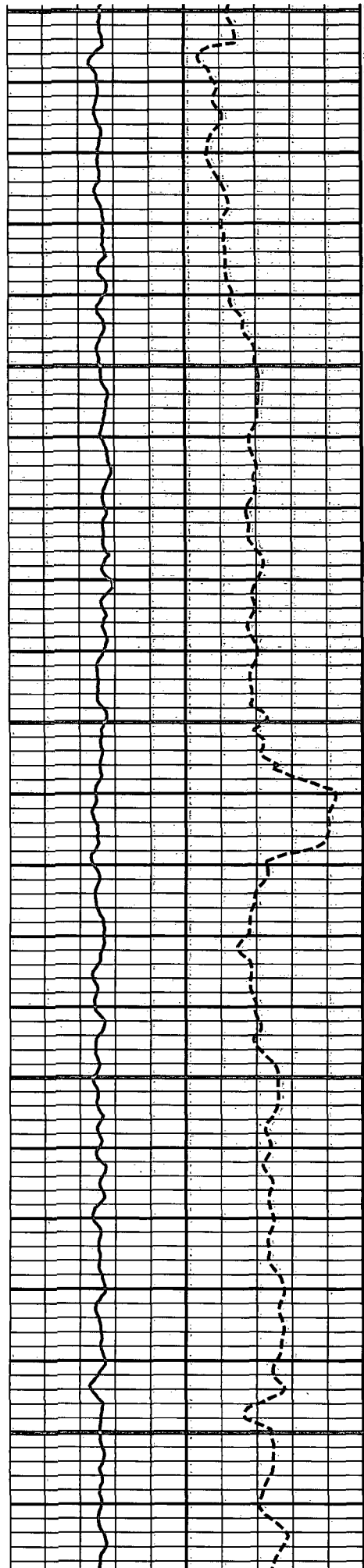




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MD

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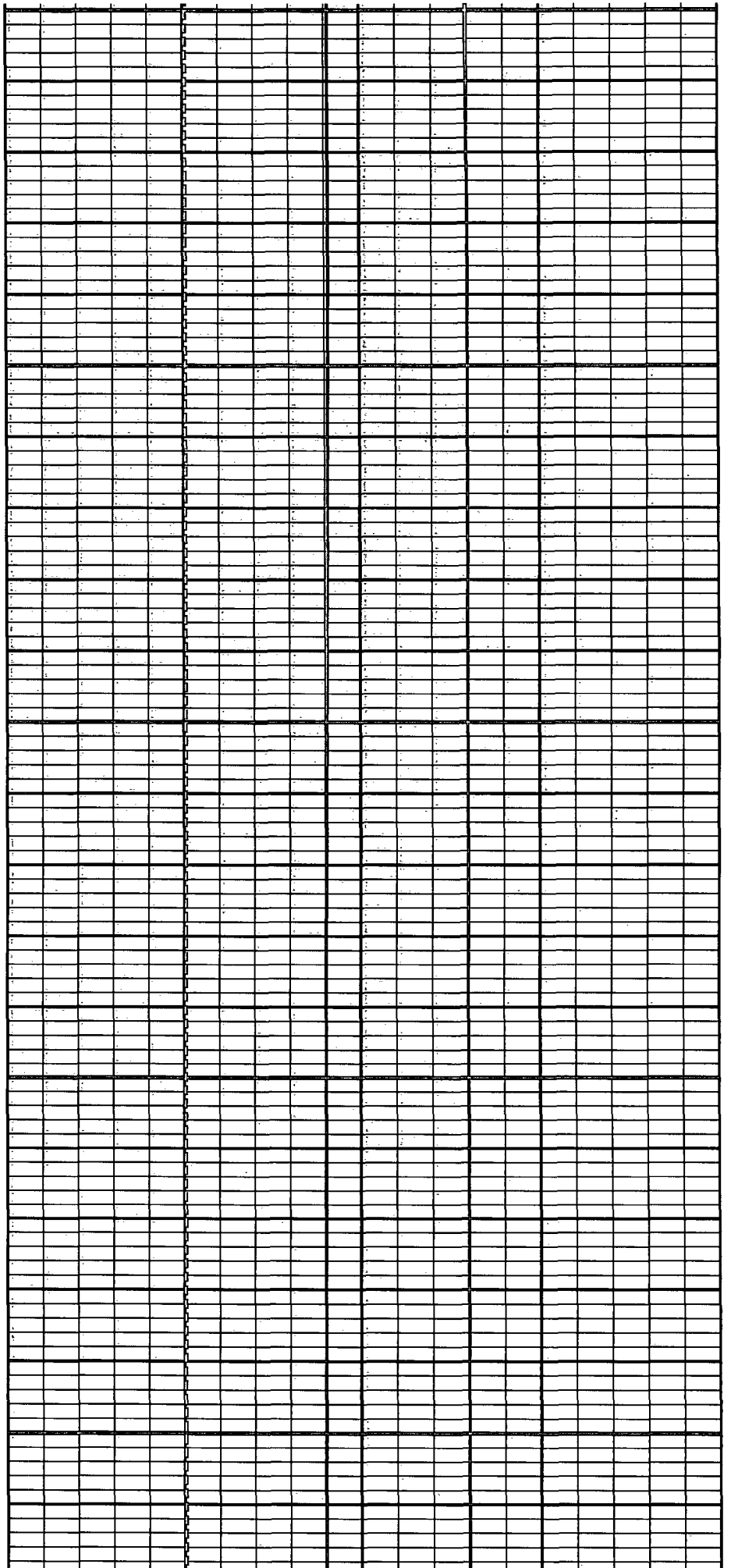


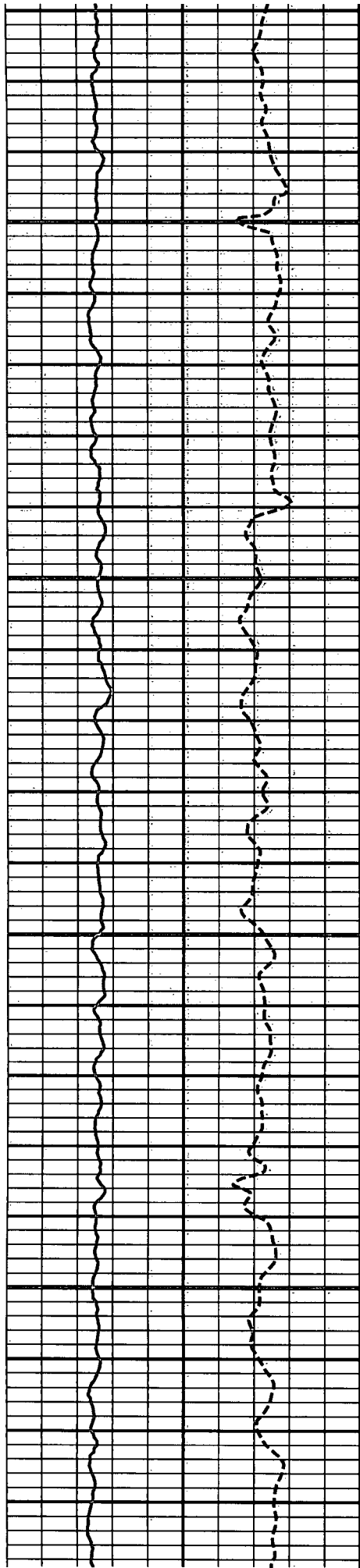


8900
MD

9000
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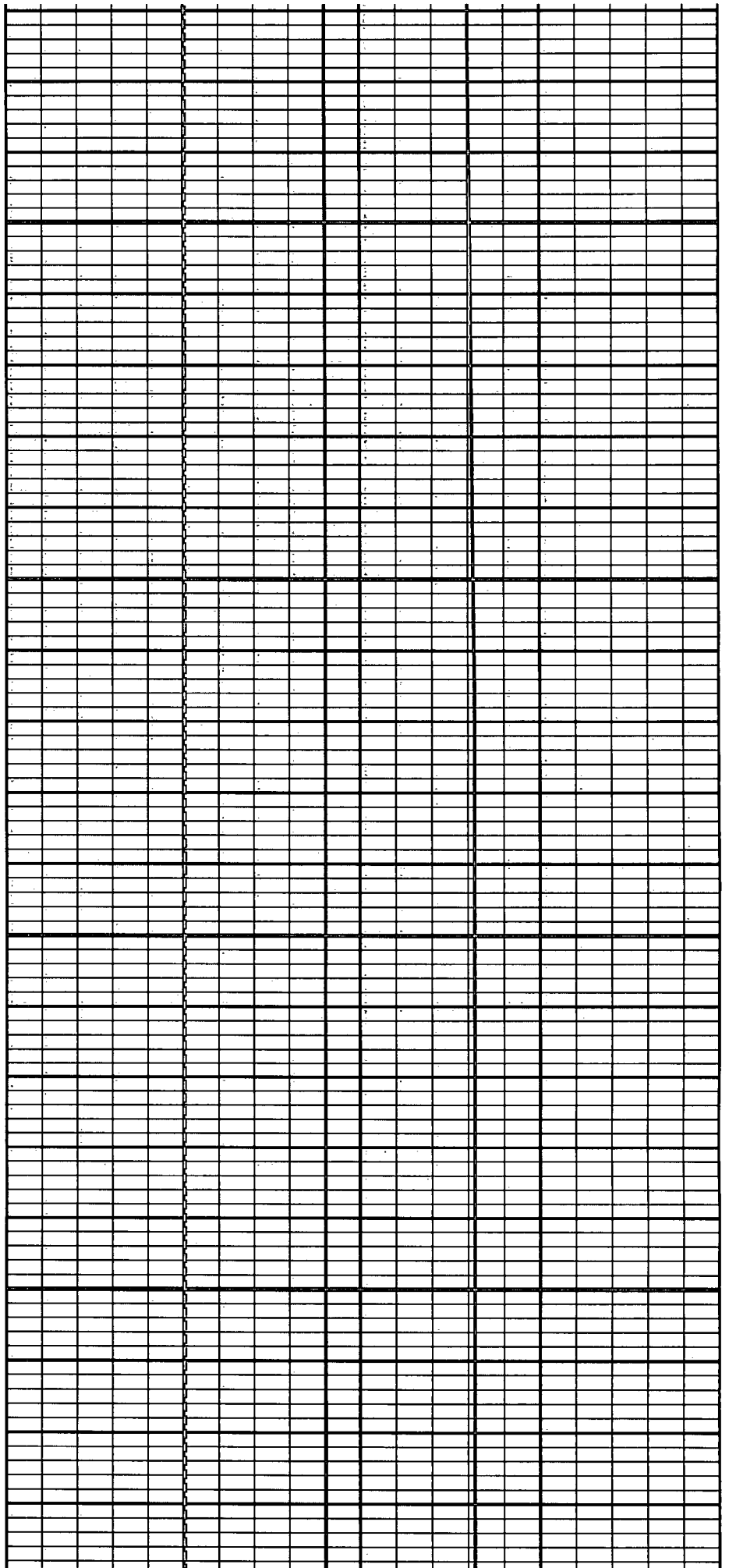
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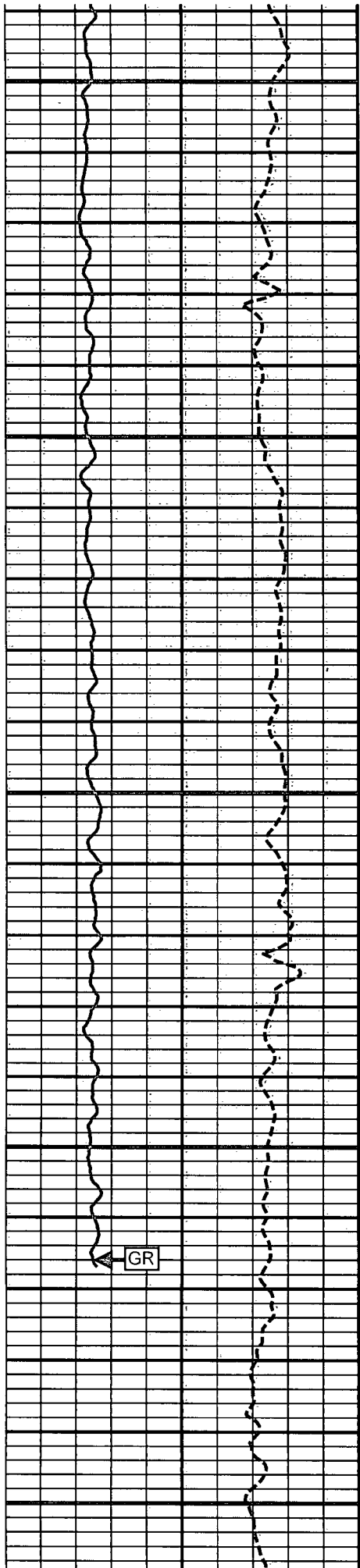




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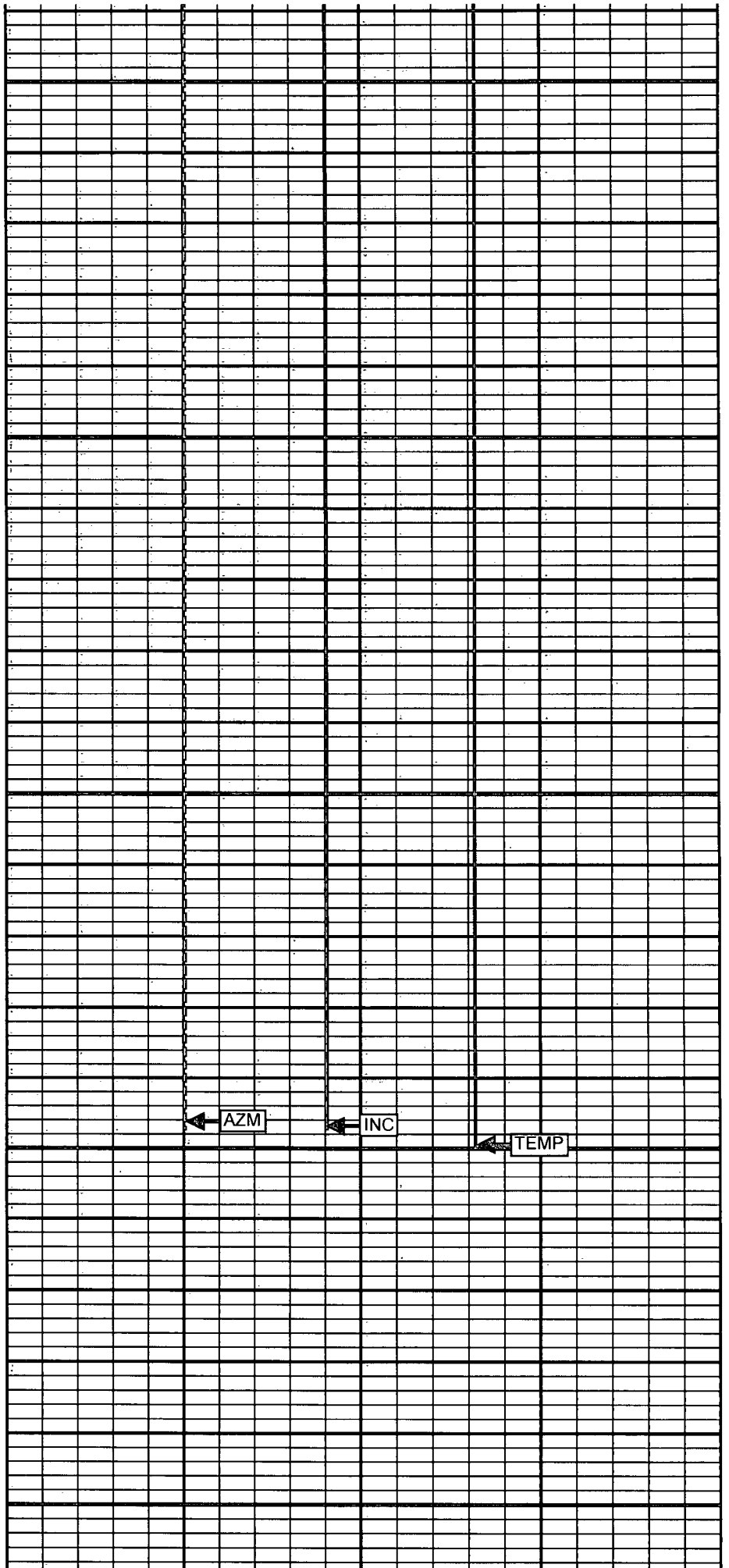
9300
MD





9400
MD

9500
MD



ROP	
300	0
(fph)	
GR	
0	150
(AAPI)	

INC		TEMP	
0	100		
(deg)			
AZM			
0	360	100	200
(deg)		(F)	



5 Inch Measured Depth

COMPANY Devon Energy

WELL Lone Tree Draw 13 State 3H

FIELD Eddy Co

RIG McVay #6

STATE NM CNTRY USA



Weatherford

Devon Energy
Lone Tree Draw 13 State 3H
Eddy County, New Mexico

Section 4

Weatherford Final BHA Reports



Devon Energy Corp

Lone Tree Draw 13 State 3H

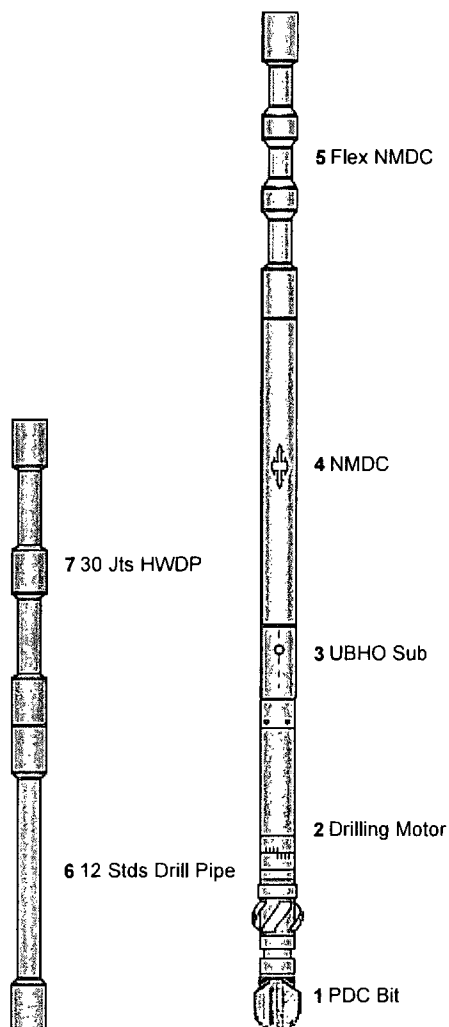
Drilling Services
v4.2.2674

BHA NO.: 1

ITEM#	QTY	COMPONENT	SERIAL #	DETAIL	BOT OD	TOP OD	I.D.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	1	PDC Bit	12192380		0	8.75	0		4 1/2" REG Pin	1.00 ft	1.00 ft
2	1	Drilling Motor	675-3632	6 3/4" (171mm)	0	8.1	0	4 1/2" IF Box	4 1/2" IF Box	27.87 ft	28.87 ft
3	1	UBHO Sub	675-34162	6.45	6.45	6.45	3.125	4 1/2" IF Pin	4 1/2" IF Box	3.31 ft	32.18 ft
4	1	NMDC	675-38642	6.85	6.85	6.75	3.25	4 1/2" IF Pin	4 1/2" IF Box	31.10 ft	63.28 ft
5	1	Flex NMDC	675-38550	6.4	6	6.4	3.25	4 1/2" IF Pin	4 1/2" IF Box	29.71 ft	92.99 ft
6	1	12 Stds Drill Pipe			0	0	0	4 1/2" IF Pin	4 1/2" IF Box	1136.24	1229.23 ft
7	1	30 Jts HWDP			0	0	0	4 1/2" IF Pin	4 1/2" IF Box	912.20 ft	2141.43 ft

(O.D. units are in; I.D. units are in; FNeck units are ft)

TOTAL: 2141.43 ft



COMMENTS



Devon Energy Corp

Lone Tree Draw 13 State 3H

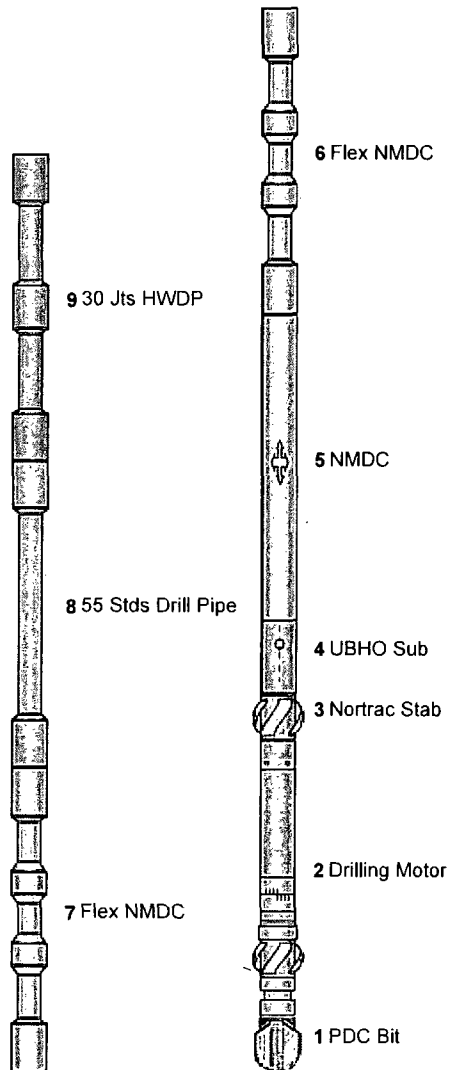
Drilling Services
v4.2.2674

BHA NO.: 2

ITEM#	QTY	COMPONENT	SERIAL #	DETAIL	BOT OD	TOP OD	I.D.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	1	PDC Bit	12160545		0	8.75	0		4 1/2" REG Pin	1.00 ft	1.00 ft
2	1	Drilling Motor	675-3486	6 3/4" (171mm)	0	8.25	0	4 1/2" XH Box	4 1/2" IF Box	27.67 ft	28.67 ft
3	1	Nortrac Stab	SD20023	8.25	6.5	6.5	2.5	4 1/2" IF Pin	4 1/2" IF Box	4.38 ft	33.05 ft
4	1	UBHO Sub	675-34162	6.45	6.45	6.45	3.125	4 1/2" IF Pin	4 1/2" IF Box	3.31 ft	36.36 ft
5	1	NMDC	675-38642	6.85	6.85	6.75	3.25	4 1/2" IF Pin	4 1/2" IF Box	31.10 ft	67.46 ft
6	1	Flex NMDC	675-38550	6.4	6	6.4	3.25	4 1/2" IF Pin	4 1/2" IF Box	29.71 ft	97.17 ft
7	1	Flex NMDC	675-9861	6.55	6.4	6.55	3.25	4 1/2" IF Pin	4 1/2" IF Box	29.84 ft	127.01 ft
8	1	55 Stds Drill Pipe	Rig		0	0	0	4 1/2" IF Pin	4 1/2" IF Box	5212.88	5339.89 ft
9	1	30 Jts HWDP			0	0	0	4 1/2" IF Pin	4 1/2" IF Box	912.20 ft	6252.09 ft

(O.D. units are in; I.D. units are in; FNeck units are ft)

TOTAL: 6252.09 ft



COMMENTS

**Weatherford**

BHA Report

Drilling Services

v4.2.2674

BHA 1 - Curve Section

FILE #: 4029992

JOB TYPE: Horizontal

RIG & NO: Mcvay 6

WELL NAME: Lone Tree Draw 13 State 3H

COMPANY: Devon Energy Corp

SURFACE LOCATION: Eddy County

SERVICE CO.: Weatherford Directional Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: Eddy County / NM / USA

Company Man: Don Bates, Brent Harris

DIR Supervisor: Geno Lujan, Josh Glosson

MWD Supervisor: Justin Nguyen, Shawn Snodgrass

BHA SURVEY TYPE: Positive Pulse MWD

HOLE SIZE: 8.75 in

QTY	COMPONENT	MANFCT.	SERIAL #	MODEL	O.D.	I.D.	F.N.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	PDC Bit	Security	12192380	MMD55DM	8.75	0	0		4 1/2" REG Pin	1.00 ft	1.00 ft
1	Drilling Motor	WFT	675-3632	QLE7850	8.1	0	3.33	4 1/2" IF Box	4 1/2" IF Box	27.87 ft	28.87 ft
1	UBHO Sub	Weatherford	675-34162	UBHO Sub	6.45	3.125	0	4 1/2" IF Pin	4 1/2" IF Box	3.31 ft	32.18 ft
1	NMDC	Weatherford	675-38642	NMDC	6.85	3.25	0	4 1/2" IF Pin	4 1/2" IF Box	31.10 ft	63.28 ft
1	Flex NMDC	Weatherford	675-38550	Flex Monei	6.4	3.25	6.3	4 1/2" IF Pin	4 1/2" IF Box	29.71 ft	92.99 ft
1	12 Stds Drill Pipe	Rental			0	0	0	4 1/2" IF Pin	4 1/2" IF Box	1136.24	1229.23 ft
1	30 Jts HWDP	Rig			0	0	0	4 1/2" IF Pin	4 1/2" IF Box	912.20 ft	2141.43 ft

(O.D. units are in; I.D. units are in; FNeck units are ft)

GENERAL INFORMATION

DATES RUN: 2013/07/16 TO 2013/07/17
 DEPTH IN: 4446.00 ft ANGLE IN: 1.15 °
 DEPTH OUT: 5239.00 ft ANGLE OUT: 83.33 °
 DRILL HRS: 13.50 BUILD: 82.18 °
 ORIENTING HRS: 11.75 HOLE MADE: 793.00 ft
 ROTATING HRS: 1.75 AVG R.O.P.: 58.74 ft/hr

MOTOR INFORMATION

MANFCT. WFT SETTING: 2.12 °
 SERIAL #: 675-3632 KICK PAD: No
 MODEL: QLE7850 STABILIZER: 8 1/4
 LOBE CFG: 7/8 MOTOR HRS: 20.50
 BIT TO BEND: 6.18

PUMP INFORMATION

PUMPS	PUMP 1	PUMP 2	PUMP 3
EFFICIENCY:	95.0%	95.0%	100.0%
S.P.M.:	60	60	0
STROKE VOLUME:	4.5112 gal/stk	4.5112 gal/stk	0.0 gal/stk
TOTAL FLOW RATE:	514.27312 gal/min		
PUMP PRESSURE:	OFF BTM: 1800 psi ON BTM: 2000 psi		

MUD INFORMATION

MUD TYPE: Water LIQUID BASE: Water
 DENSITY: 8.4 lb/gal TEMP: 100 °F
 VISCOSITY: 28 sec/qt pH: 10
 WTR LOSS: 0 cc/30min SAND: 0 LIQUID RATE: 0 gal/min
 PLAST VISC: 0 cP SOLIDS: 0.2 GAS TYPE:
 YIELD PT: 0 lb/100 ft² OIL: 0 GAS RATE: 0 cu ft/min

BIT INFORMATION

MANFCT: Security TYPE: MMD55DM IADC BIT GRADE: 1 / 2 / WT / G / X / I / NO / BHA
 NOZZLES: 0.55 in² TFA

REASON FOR BHA CHANGE

Pickup lateral assembly

FORMATION CHARACTERISTICS

Sandstone, Shale

MWD COMMENTS

MWD performed well, agitator settings were used due to noisy pumps. Signal strength was good. Downhole temp was 128°F.
 Battery consumption was 14.01. Orifice used was 30°.

SIDETRACKING PROCEDURE COMMENTS

N/A