



OILFIELD RESEARCH LABORATORIES

P. O. BOX 647 - CHANUTE, KANSAS 66720 - PHONE (316) 431-2650

May 8, 1984

Mack C. Colt, Inc.
P. O. Box 388
Iola, Kansas 66749

Gentlemen:

Attached hereto are the results of tests run on the rotary core taken from the Louk Lease, Well No. 1-W, located 900' from the South Line and 25' from the East Line in the Northwest $\frac{1}{4}$ of Section 23, T-26S, R-14E, Woodson County, Kansas.

The core was sampled in the laboratory after being delivered unbagged by a representative of the client on May 2, 1984.

As requested, the permeability plugs and extracted saturation samples were returned with the core material.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES


Benjamin R. Pearman

BRP/ph

5 c to Iola, Kansas
1 c to John F. Arseneau, Tulsa, Oklahoma
1 c to Dan Busch, Tulsa, Oklahoma
1 c to Jim Regula, Chanute, Kansas

- REGISTERED ENGINEERS -

CORE ANALYSIS - WATER ANALYSIS - REPRESSURING ENGINEERING - SURVEYING & MAPPING - PROPERTY EVALUATION & OPERATION

OILFIELD RESEARCH LABORATORIES

LOGCompany Mack C. Colt, Inc. Lease Louk Well No. 1-W

<u>Depth Interval, Feet</u>	<u>Description</u>
<u>BARTLESVILLE SANDSTONE</u>	
1198.0 - 1199.9	Gray shale with scattered light gray sandstone partings.
1199.9 - 1200.2	Brown calcareous sandstone with shale partings.
1200.2 - 1200.6	Gray shale with scattered light gray sandstone partings.
1200.6 - 1200.8	Brown sandstone.
1200.8 - 1201.7	Grayish brown very shaly sandstone with scattered shale partings.
1201.7 - 1201.9	Gray shale with brown sandstone partings.
1201.9 - 1203.6	Brown sandstone with scattered shale partings.
1203.6 - 1204.2	Brown sandstone.
1204.2 - 1205.0	Brown slightly shaly sandstone with large shale partings.
1205.0 - 1207.0	Dark brown sandstone with scattered shale partings.
1207.0 - 1207.4	Dark gray shale.
1207.4 - 1208.0	Dark brown sandstone with scattered shale partings.
1208.0 - 1209.1	Gray shale with widely scattered light gray sandstone partings.
1209.1 - 1213.3	Dark brown sandstone with scattered mica inclusions.
1213.3 - 1213.7	Dark brown sandstone with scattered shale partings.
1213.7 - 1217.4	Dark brown sandstone with widely scattered mica inclusions.
1217.4 - 1219.7	Dark brown sandstone.
1219.7 - 1220.4	Gray shale with scattered brown sandstone partings.
1220.4 - 1220.8	Brown sandstone.
1220.8 - 1221.6	Gray shale with scattered brown sandstone partings.
1221.6 - 1222.0	Brown sandstone.

Continued

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LOGCompany Mack C. Colt, Inc. Lease Louk Well No. 1-W

<u>Depth Interval, Feet</u>	<u>Description</u>
1222.0 - 1223.5	Gray shale with widely scattered brown sandstone partings.
1223.5 - 1226.6	Brown sandstone.
1226.6 - 1226.9	Brown sandstone with scattered shale nodules.
1226.9 - 1230.9	Brown sandstone.
1230.9 - 1231.3	Gray shale.
1231.3 - 1236.0	Brown sandstone.
1236.0 - 1238.2	Brown sandstone (core badly broken).
1238.2 - 1243.7	Brown sandstone.
1243.7 - 1244.2	Gray shale with scattered brown sandstone partings.
1244.2 - 1244.5	Brown sandstone.
1244.5 - 1244.8	Gray shale with scattered brown sandstone partings.
1244.8 - 1246.7	Brown sandstone with scattered shale and mica partings.
1246.7 - 1248.7	Brown sandstone with widely scattered shale partings.
1249.0 - 1252.0	Dark brown sandstone.
1252.0 - 1254.0	Dark brown sandstone with scattered shale partings and shale inclusions.
1254.0 - 1259.0	Dark brown sandstone.
1259.0 - 1261.7	Brownish black slightly carbonaceous sandstone.
1261.7 - 1262.4	Gray shale.
1262.4 - 1262.6	Gray very shaly sandstone.
1262.6 - 1262.9	Gray shale.
1262.9 - 1264.0	Brownish black slightly shaly carbonaceous sandstone.
1264.0 - 1268.6	Grayish black shaly carbonaceous sandstone.
1268.6 - 1270.3	Grayish black shaly carbonaceous sandstone with scattered shale nodules.
1270.3 - 1276.3	Grayish black shaly carbonaceous sandstone.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1

Company Mack C. Colt, Inc. Lease Louk Well No. 1-W

Sample No.	Depth, Feet	Porosity Percent	Percent Saturation			Oil Content Bbls. / A. Ft.	Permeability, Millidarcys
			Oil	Water	Total		
1	1201.6	8.8	31	67	98	212	Imp.
2	1202.5	14.3	24	44	68	266	29.
3	1203.5	16.6	38	27	65	489	60.
4	1204.6	14.8	44	44	88	505	9.6
5	1205.5	15.9	67	29	96	827	56.
6	1206.4	19.4	67	24	91	1008	59.
7	1207.5	16.9	39	27	66	511	20.
8	1209.5	15.2	55	36	91	649	10.
9	1210.3	19.0	70	19	89	1032	43.
10	1211.4	18.1	67	21	88	941	44.
11	1212.5	15.3	67	26	93	795	7.1
12	1213.5	13.3	69	25	94	712	2.4
13	1214.6	18.6	68	23	91	981	55.
14	1215.5	19.1	71	17	88	1052	86.
15	1216.3	18.1	73	24	97	1025	32.
16	1217.5	21.7	49	28	77	825	203.
17	1218.5	22.0	54	29	83	922	141.
18	1219.3	20.8	40	38	78	646	78.
19	1220.5	15.4	46	32	78	550	7.1
20	1221.7	16.3	44	35	79	556	19.
21	1223.6	19.8	45	32	77	691	122.
22	1224.6	19.1	34	36	70	504	131.
23	1225.3	19.6	56	38	94	852	31.
24	1226.3	21.4	31	54	85	515	110.
25	1227.7	17.9	41	56	96	569	13.
26	1228.5	20.9	42	44	86	681	109.
27	1229.5	20.6	52	32	84	831	96.
28	1230.4	20.6	53	35	88	847	158.
29	1231.5	21.8	59	29	88	998	172.
30	1232.5	21.3	47	33	80	777	172.
31	1233.4	21.6	47	31	78	788	212.
32	1234.3	21.7	39	42	81	657	228.
33	1235.5	21.8	35	46	81	592	135.
34	1236.5	22.2	32	47	79	551	79.
35	1237.5	22.4	32	40	72	556	133.
36	1238.5	21.6	35	50	85	587	128.
37	1239.5	23.0	38	49	87	678	161.
38	1240.5	21.1	28	60	88	458	178.
39	1241.5	19.7	36	52	88	550	123.
40	1242.5	19.4	40	52	92	602	125.
41	1243.4	23.4	33	52	85	599	253.
42	1245.5	16.8	45	45	90	587	29.
43	1246.6	10.3	59	39	98	472	1.6
44	1247.6	18.5	41	38	79	588	101.
	Continued						

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RESULTS OF SATURATION & PERMEABILITY TESTS

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TABLE 1

Company Mack C. Colt, Inc. Lease Louk Well No. 1-W

Sample No.	Depth, Feet	Porosity Percent	Percent Saturation			Oil Content Bbls. / A. Ft.	Permeability, Millidarcys
			Oil	Water	Total		
45	1248.3	17.6	56	36	92	765	40.
46	1249.5	19.6	34	46	80	517	103.
47	1250.5	20.1	48	36	84	749	118.
48	1251.5	20.5	51	35	86	811	149.
49	1252.6	8.3	36	61	97	232	Imp.
50	1253.6	19.8	47	39	86	722	80.
51	1254.6	20.3	50	36	86	787	101.
52	1255.5	19.9	50	39	89	772	97.
53	1256.5	20.5	59	30	89	938	82.
54	1257.5	20.4	50	32	82	791	175.
55	1258.5	19.7	51	35	86	779	105.
56	1259.5	20.0	58	23	81	900	101.
57	1260.5	20.1	63	22	85	982	97.
58	1261.4	21.7	72	20	92	1212	163.
59	1262.5	5.6	8	89	97	35	Imp.
60	1263.4	20.6	77	21	98	1231	7.8
61	1264.5	17.1	76	22	98	1008	3.3
62	1265.5	17.4	82	15	97	1107	3.3
63	1266.5	16.0	80	16	96	993	1.8
64	1267.5	16.8	82	15	97	1069	1.3
65	1268.5	17.0	81	17	98	1068	3.7
66	1269.5	17.3	78	20	98	1047	2.9
67	1270.5	15.4	65	28	93	777	2.9
68	1271.5	16.8	78	20	98	1017	2.8
69	1272.4	16.3	73	25	98	923	2.0
70	1273.4	15.3	63	30	93	748	2.6
71	1274.5	17.2	82	16	98	1094	2.4
72	1275.5	17.8	73	24	97	1008	3.6

RADIOACTIVITY LOG

FILING NO.		COMPANY <u>MACK COLT</u>	
WELL <u>LOUK NO. #111</u>		FIELD <u>WOODSON</u>	
COUNTY <u>WOODSON</u>		STATE <u>KANSAS</u>	
LOCATION: <u>900' FSL</u>		OTHER SERVICES:	
SEC. <u>23</u> TWP. <u>26S</u> RGE. <u>14E</u>			
PERMANENT DATUM: <u>G.L.</u> ELEV. <u> </u>		ELEV.: K.B. <u> </u>	
LOG MEASURED FROM <u>G.L.</u> FT. ABOVE PERM. DATUM <u> </u>		D.F. <u> </u>	
DRILLING MEASURED FROM <u>G.L.</u>		G.L. <u> </u>	
DATE	<u>5-29-84</u>	DATE	<u>5-29-84</u>
RUN NO.	<u>1 NW</u>	RUN NO.	<u>1 NW</u>
TYPE LOG	<u>GAMMA RAY</u>	TYPE LOG	<u>NEUTRON</u>
DEPTH-DRILLER	<u>1551.0'</u>	DEPTH-DRILLER	<u>1551.0'</u>
DEPTH-LOGGER	<u>1545.2'</u>	DEPTH-LOGGER	<u>1550.0'</u>
BOTTOM LOGGED INTERVAL	<u>50.0'</u>	BOTTOM LOGGED INTERVAL	<u>55.0'</u>
TOP LOGGED INTERVAL	<u> </u>	TOP LOGGED INTERVAL	<u> </u>
TYPE FLUID IN HOLE	<u>WATER</u>	TYPE FLUID IN HOLE	<u>WATER</u>
SALINITY, PPM CL	<u> </u>	SALINITY, PPM CL	<u> </u>
DENSITY	<u> </u>	DENSITY	<u> </u>
LEVEL	<u>235.0'</u>	LEVEL	<u>235.0'</u>
MAX. REC. TEMP., DEG F.	<u> </u>	MAX. REC. TEMP., DEG F.	<u> </u>
OPERATING RIG TIME	<u> </u>	OPERATING RIG TIME	<u> </u>
RECORDED BY	<u>GORMLEY, R.</u>	RECORDED BY	<u>GORMLEY, R.</u>
WITNESSED BY	<u>VINCENT, G.</u>	WITNESSED BY	<u>VINCENT, G.</u>
BORE-HOLE RECORD		CASING RECORD	
RUN NO.	BIT	FROM	TO
		SIZE	WGT.
		<u>7 7/8"</u>	<u> </u>
		FROM	TO
		<u> </u>	<u>T.D.</u>

FOLD HERE THIS HEADING AND LOG CONFORMS TO API RP 33

EQUIPMENT DATA											
GAMMA RAY						NEUTRON					
RUN NO.	<u>1 NW</u>					RUN NO.	<u>1 NW</u>				
TOOL MODEL NO.	<u>9205</u>					LOG TYPE	<u>NEU/NEU</u>				
DIAMETER	<u>1-11/16"</u>					TOOL MODEL NO.	<u>9205</u>				
DETECTOR MODEL NO.	<u>95SC</u>					DIAMETER	<u>1-11/16"</u>				
TYPE	<u>SCINT.</u>					DETECTOR MODEL NO.	<u>95HE</u>				
LENGTH	<u>1"x4"</u>					TYPE	<u>He₃</u>				
DISTANCE TO N. SOURCE	<u>8.5'</u>					LENGTH	<u>1"x6"</u>				
GENERAL						SOURCE MODEL NO.	<u>AC</u>				
HOIST TRUCK NO.	<u>104</u>					SERIAL NO.	<u>MRC415</u>				
INSTRUMENT TRUCK NO.	<u>104</u>					SPACING	<u>13"</u>				
TOOL SERIAL NO.	<u>1C</u>					TYPE	<u>Am/Be</u>				
						STRENGTH	<u>6.7x10⁶</u>				

LOGGING DATA											
GENERAL			GAMMA RAY					NEUTRON			
RUN NO.	DEPTHS		SPEED FT./MIN.	T.C. SEC.	SENS. SETTINGS	ZERO DIV. L OR R	API G.R. UNITS PER LOG DIV.	T.C. SEC.	SENS. SETTINGS	ZERO DIV. L OR R	API N. UNITS PER LOG DIV.
	FROM	TO									
<u>1</u>	<u>1550.0'</u>	<u>50.0'</u>	<u>25</u>	<u>2.5</u>	<u>10-.0</u>	<u>2L</u>	<u>20</u>	<u>2.0</u>	<u>0-.35</u>	<u>4L</u>	

REFERENCE LITERATURE: _____

REMARKS _____

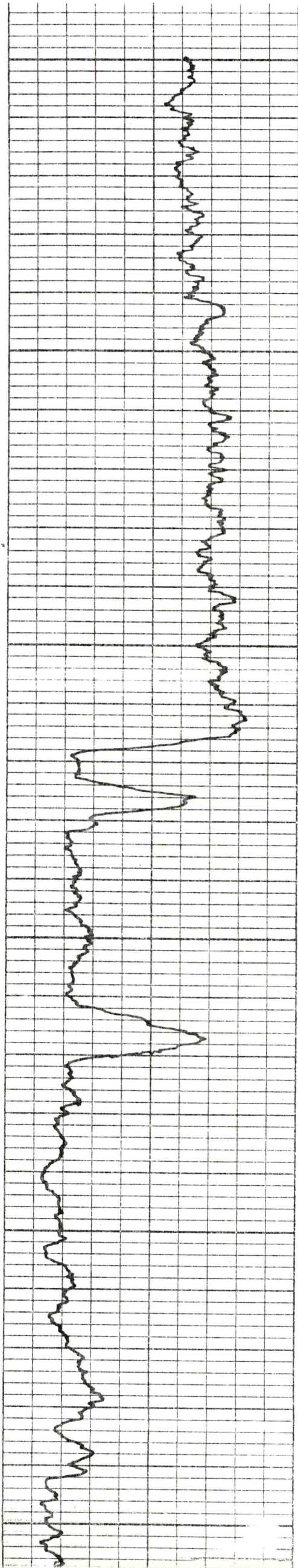
GAMMA RAY

NEUTRON

API UNITS

DEPTH AND CASING COLLARS

API UNITS



50

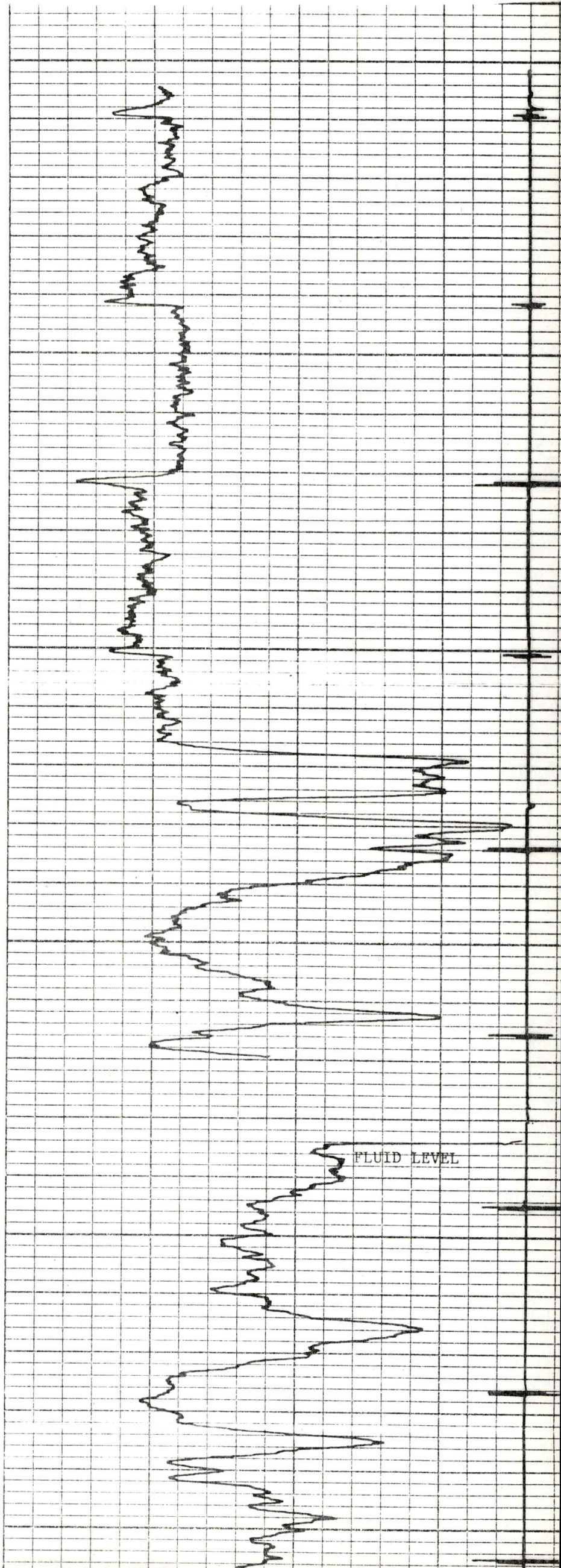
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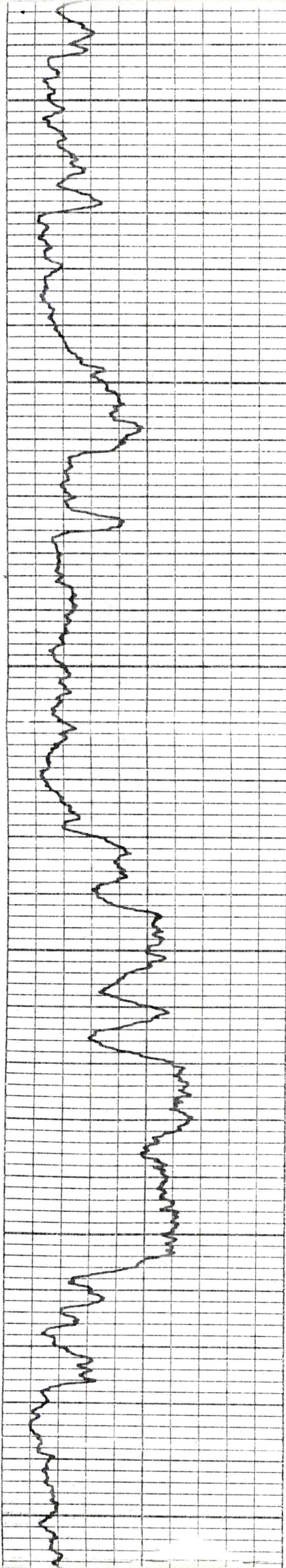
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250

300



FLUID LEVEL



300

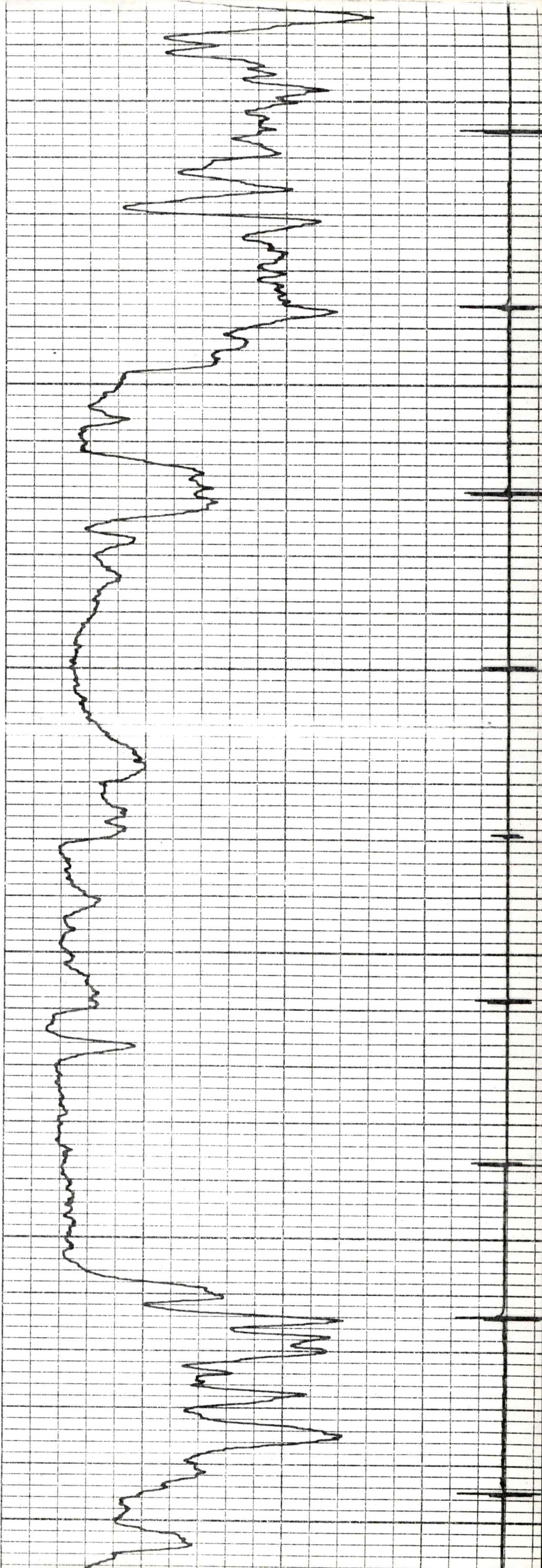
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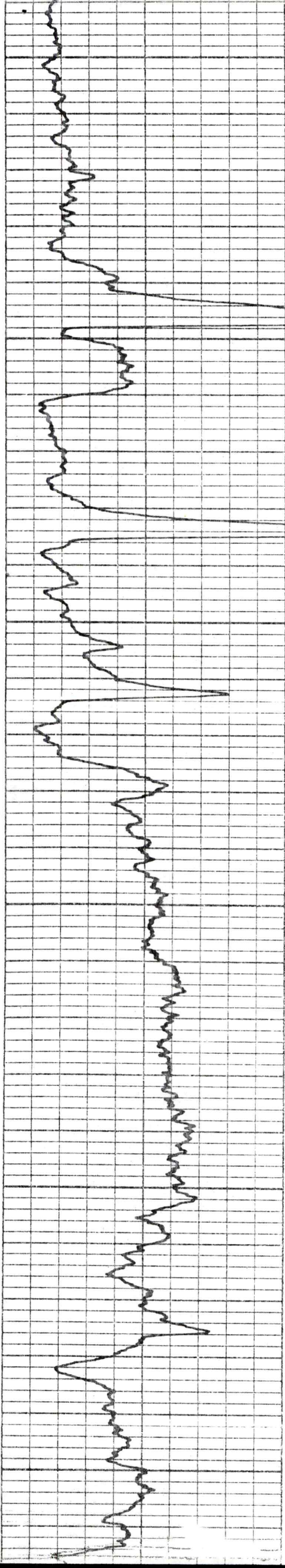
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450

500

550





550

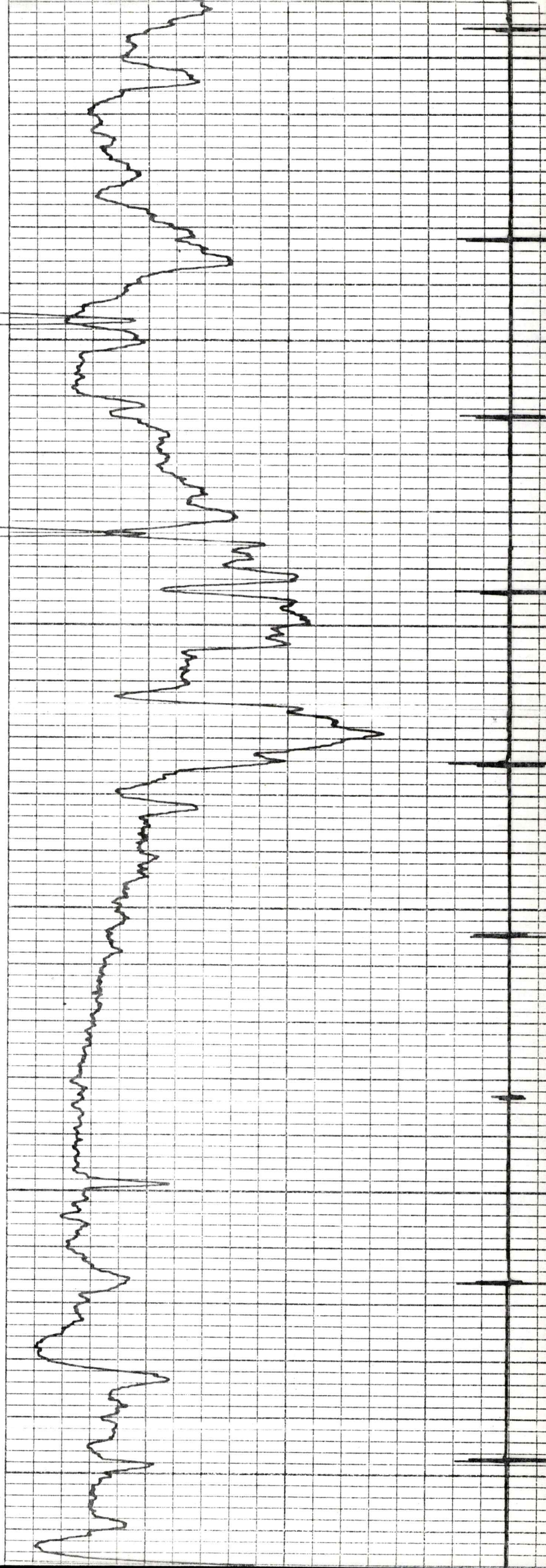
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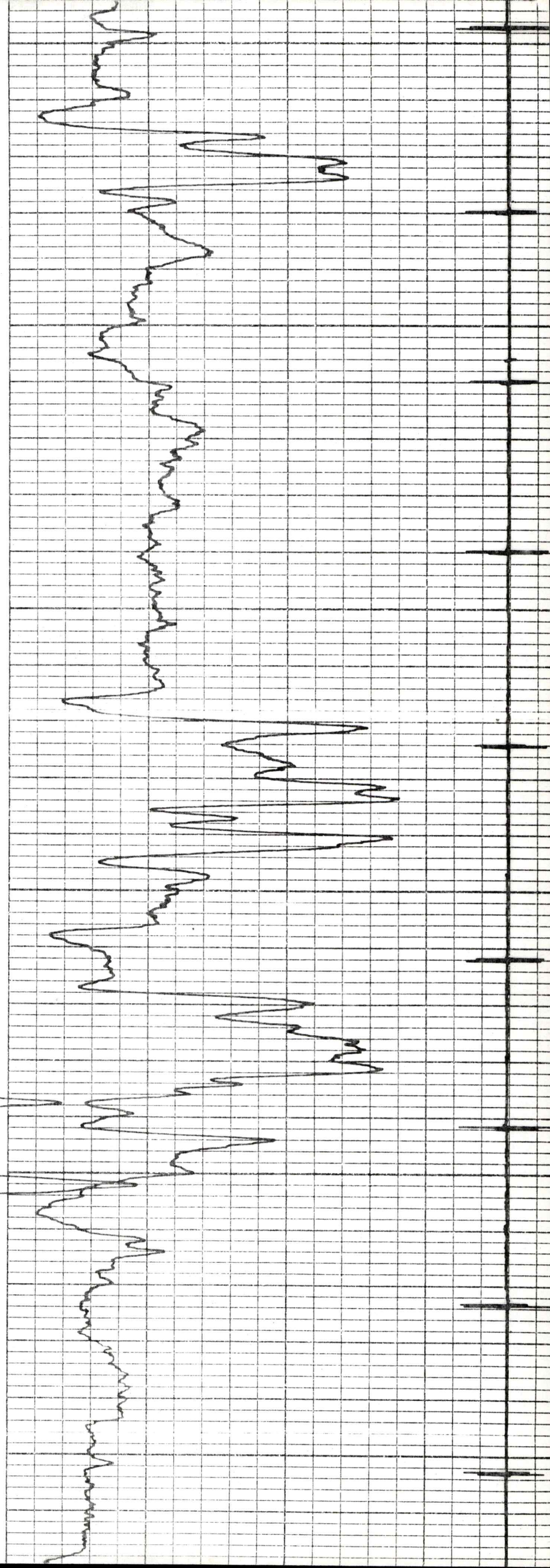
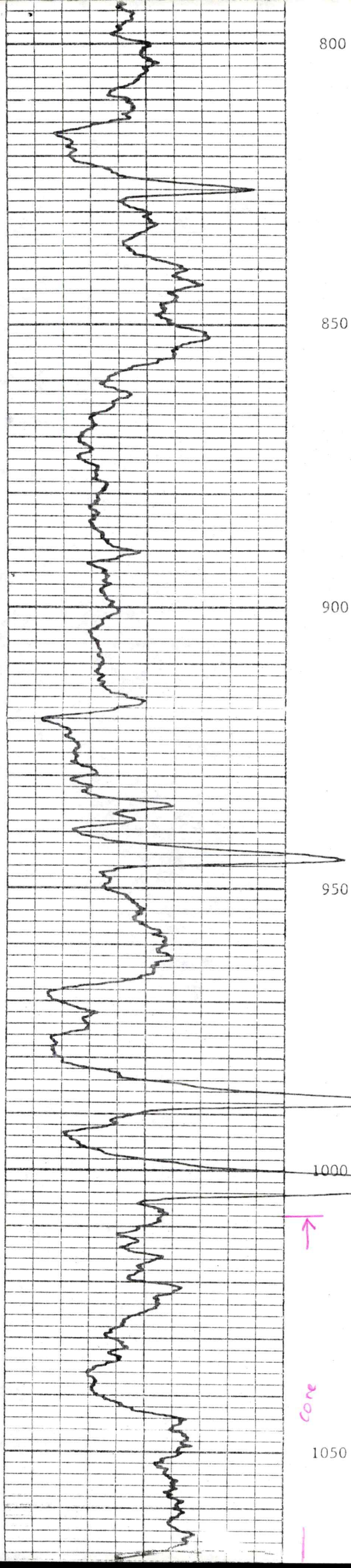
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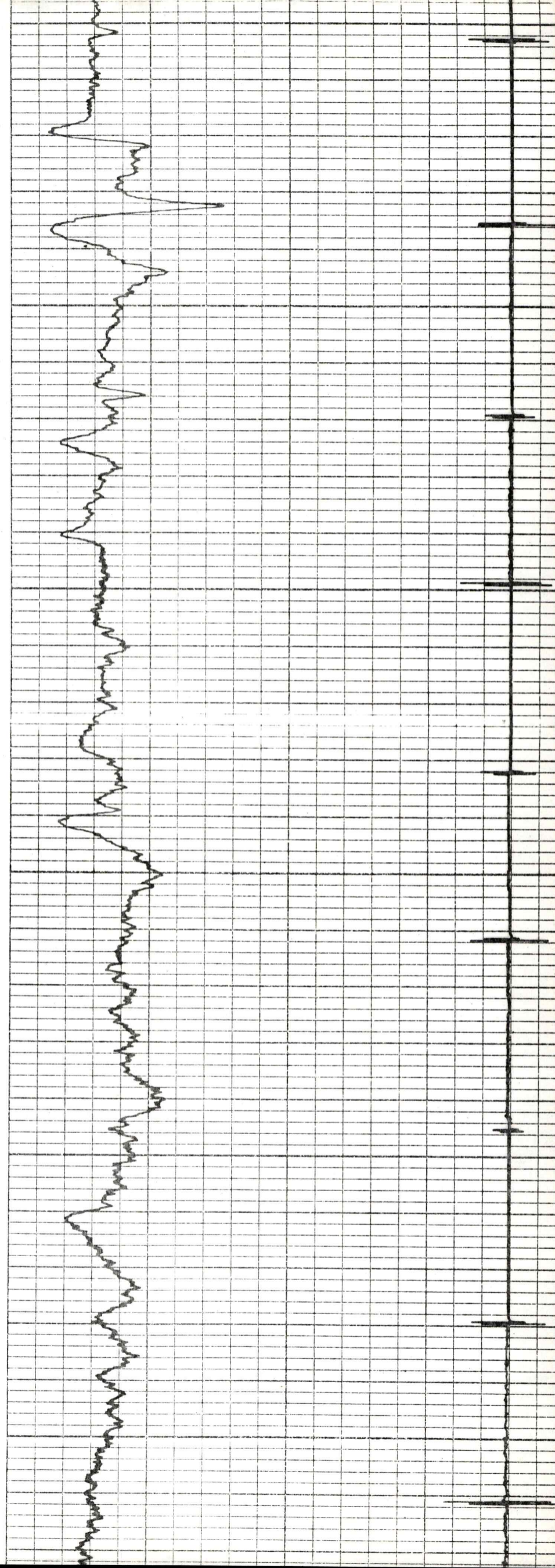
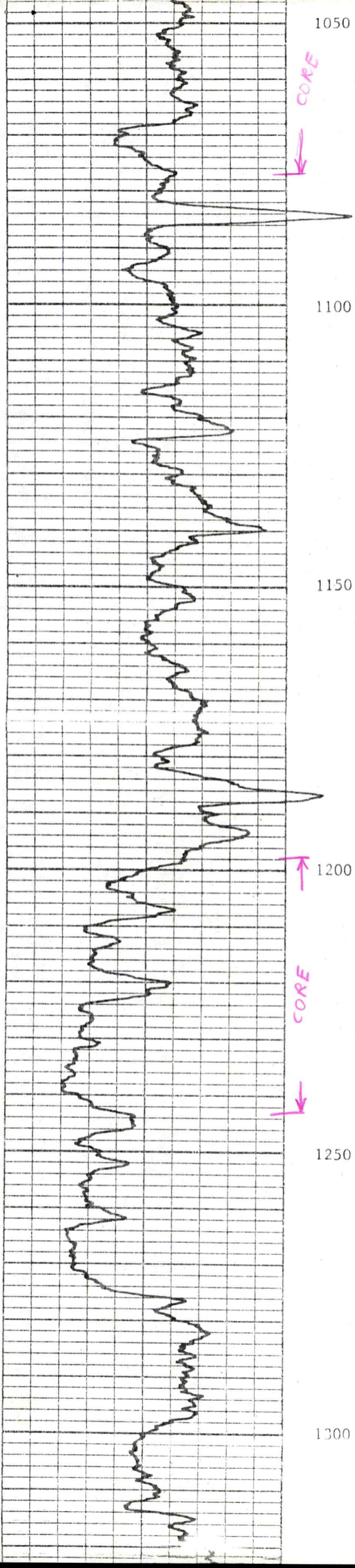
700

750

800







Burgess

1350

1400

1450

1500

-1550-

R.D. 1545.2'
T.D. 1551.2'

R.D. 1550.0'
T.D. 1551.0'

