



DUAL LATEROLOG

| | | |
|--|--|---|
| FILING NO. API# 15-135-22896 | COMPANY <u>SOUTHERN STATES OIL COMPANY</u> | |
| | WELL <u>MAUCH NO. 2-16</u> | |
| | FIELD <u>EAST PAWNEE VALLEY</u> | |
| COUNTY <u>NESS</u> STATE <u>KANSAS</u> | | |
| LOCATION: SEC <u>16</u> TWP <u>20S</u> RGE <u>23W</u> | | |
| Permanent Datum <u>GL</u> Elev. <u>2257</u> | | Other Services <u>CDL/CNS/GR/CAL</u> <u>MOP</u> |
| Log Measured from <u>KB</u> <u>6</u> Ft. Above Perm. Datum | | Elev.: K.B. <u>2263</u> D.F. <u>2261</u> G.L. <u>2257</u> |
| Drilling Measured from <u>KB</u> | | |

| | | | |
|------------------------|--------------|--------|------|
| Date | 8-10-85 | | |
| Run No. | One | | |
| Depth-Driller | 4490 | | |
| Depth-Logger | 4478 | | |
| Bottom Logged Interval | 4464 | | |
| Top Logged Interval | 642 | | |
| Casing-Driller | 8 5/8 @ 642 | @ | @ |
| Casing-Logger | 642 | | |
| Bit Size | 7 7/8 | | |
| Type Fluid in Hole | Chem Gel | | |
| Density | 9.3 | 50 | |
| Viscosity | | | |
| ph | | | |
| Fluid Loss | - | 6.8 cc | cc |
| Source of Sample | Flowline | | |
| Rm @ Meas. Temp. | .26 @ 73 °F | @ °F | @ °F |
| Rmf @ Meas. Temp. | .19 @ 72 °F | @ °F | @ °F |
| Rmc @ Meas. Temp. | .34 @ 72 °F | @ °F | @ °F |
| Source of Rmf | M | C | |
| Rm @ BHT | .15 @ 120 °F | @ °F | @ °F |
| Time | | | |
| End Circulation | 2320 Hours | | |
| Logger on bottom | 0254 Hours | | |

| Sample No. | Mud Type or Additional Samples | | Type Log | | Depth | | Scale Up Hole | | Scale Down Hole | |
|------------------|--------------------------------|-----------|---------------|---------|----------|-----------|---------------|-----------|-----------------|-------|
| | Filter | d in Hole | | | | | | | | |
| Visc. | | | | | | | | | | |
| Fluid Loss | | cc | | | | | | | | |
| Sample | | | | | | | | | | |
| Gas. Temp. | @ °F | @ °F | @ °F | @ °F | | | | | | |
| Gas. Temp. | @ °F | @ °F | @ °F | @ °F | | | | | | |
| Rmf Rmc | @ °F | @ °F | @ °F | @ °F | | | | | | |
| TT | @ °F | @ °F | @ °F | @ °F | | | | | | |
| TT | @ °F | @ °F | @ °F | @ °F | | | | | | |
| EQUIPMENT DATA | | | | | | | | | | |
| DUAL LATEROLOG | | | | | | | | | | |
| Tool No. | Run No. | Tool Type | Tool Position | S. O. | Tool No. | Tool Type | Tool No. | GAMMA RAY | OTHER | |
| 15053 | One | DLT-BA | Cent | BOW | 33061 | UGR-DG | 18028 | | | |
| CALIBRATION DATA | | | | | | | | | | |
| LLD High | LLD Low | LLD Gain | LLS High | LLS Low | LLS Gain | MSFL | MSFL | GAMMA RAY | | |
| 8400 | 1280 | - | 83100 | 1900 | - | 992 | 1.2 | API Scale | BKG. | STD. |
| | | | | | | | | 15 | 152.2 | 610.6 |

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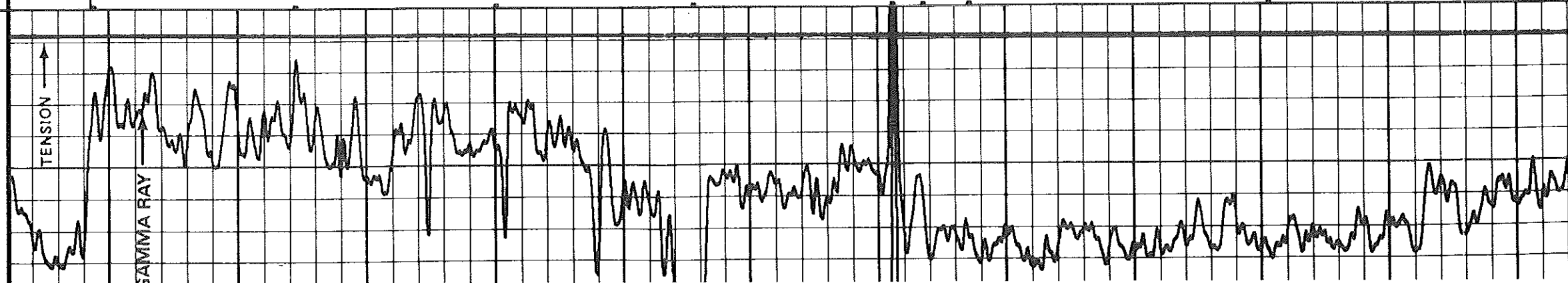
B-10-85 08:01 611.0 322476 0093-60 0 0001-19 0

GR API 150

D.2 R(LLS) Q-M 2000

O.2 R(LLD) Q-M 2000

GR API 150



0.2

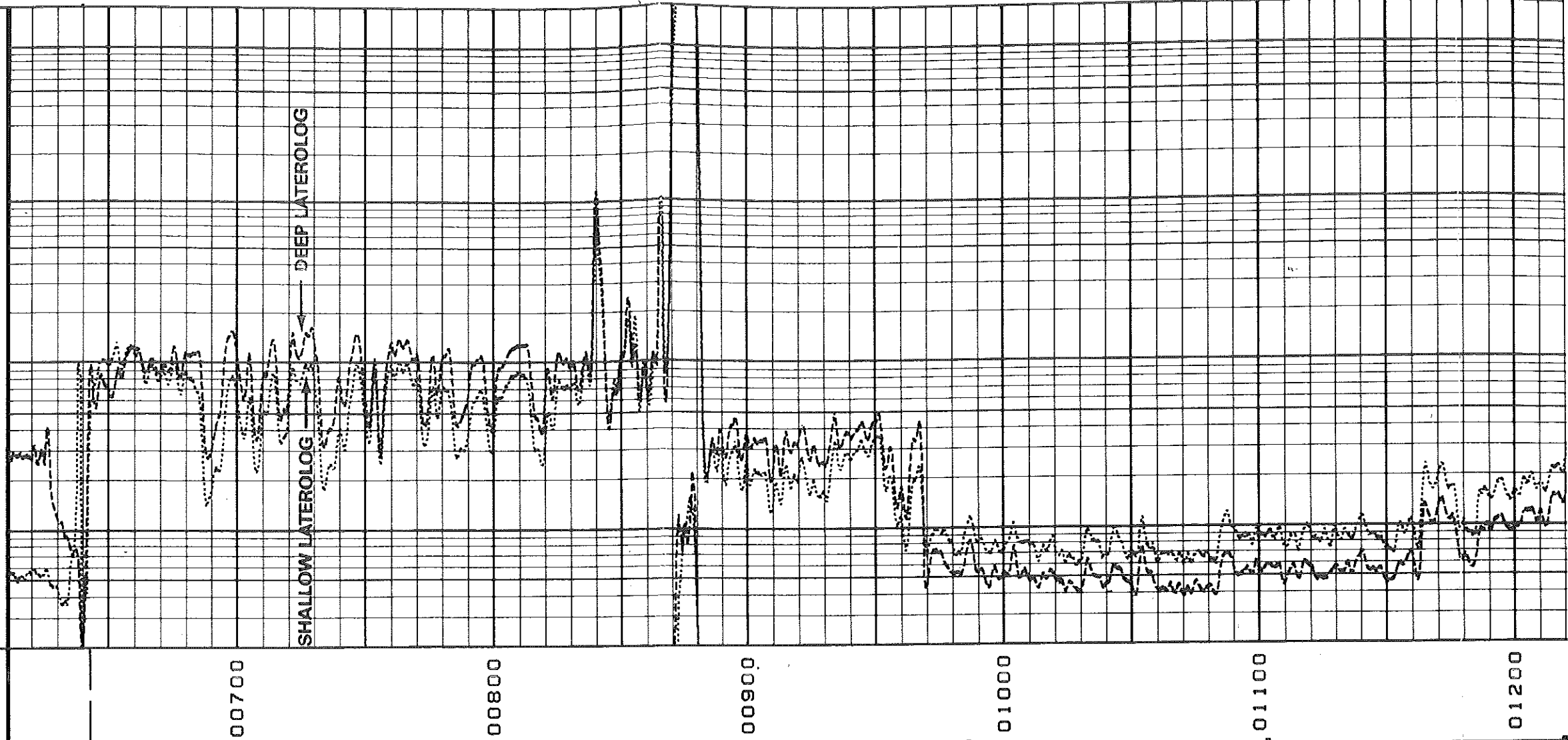
R(LLS) Ω-M

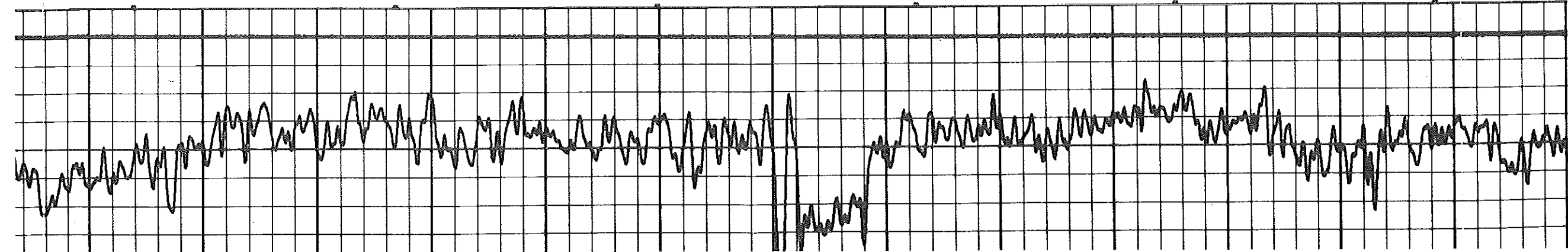
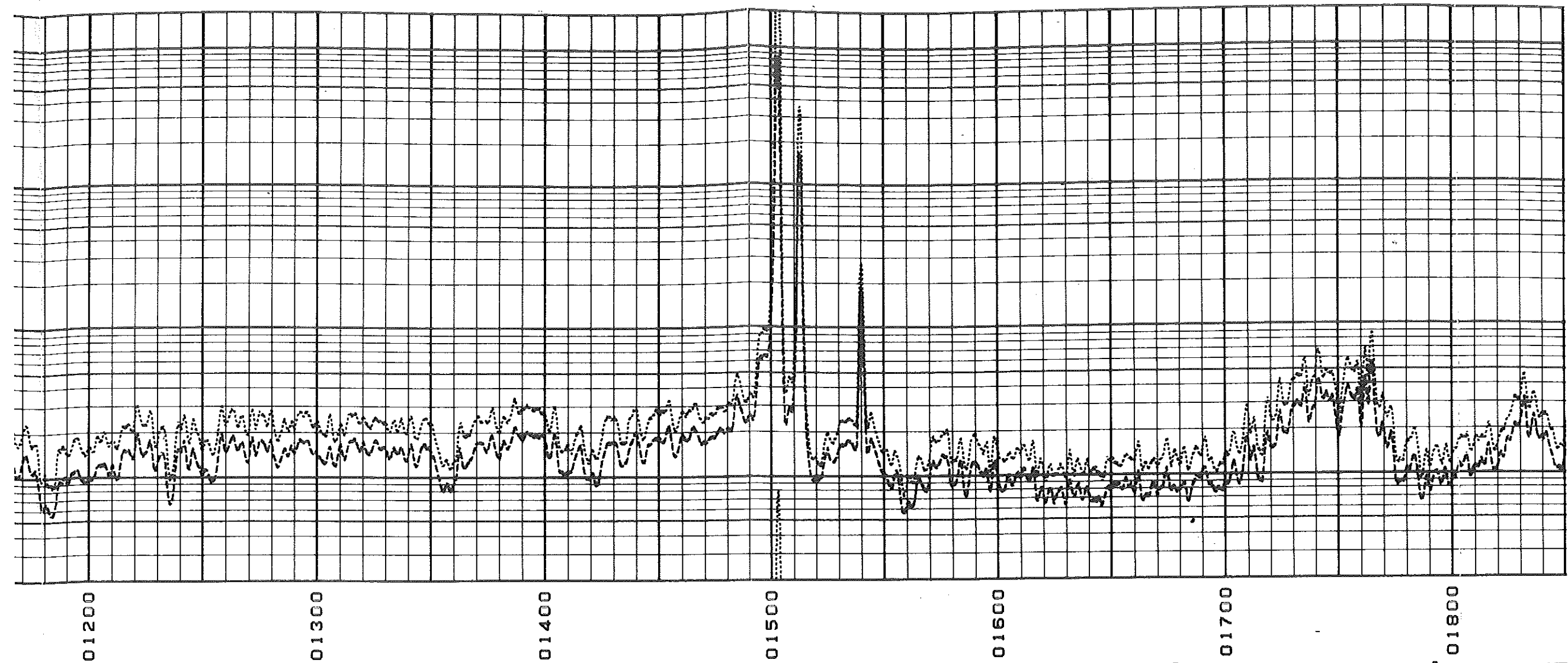
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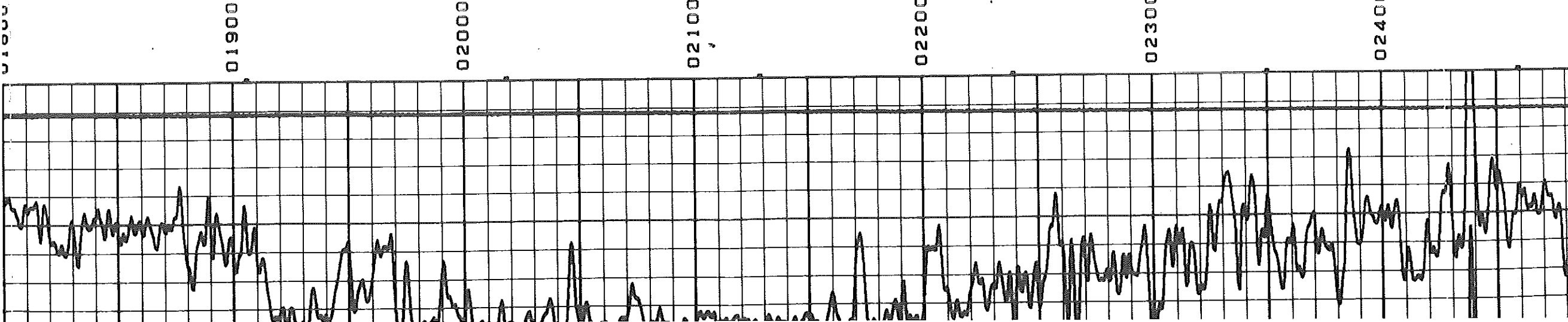
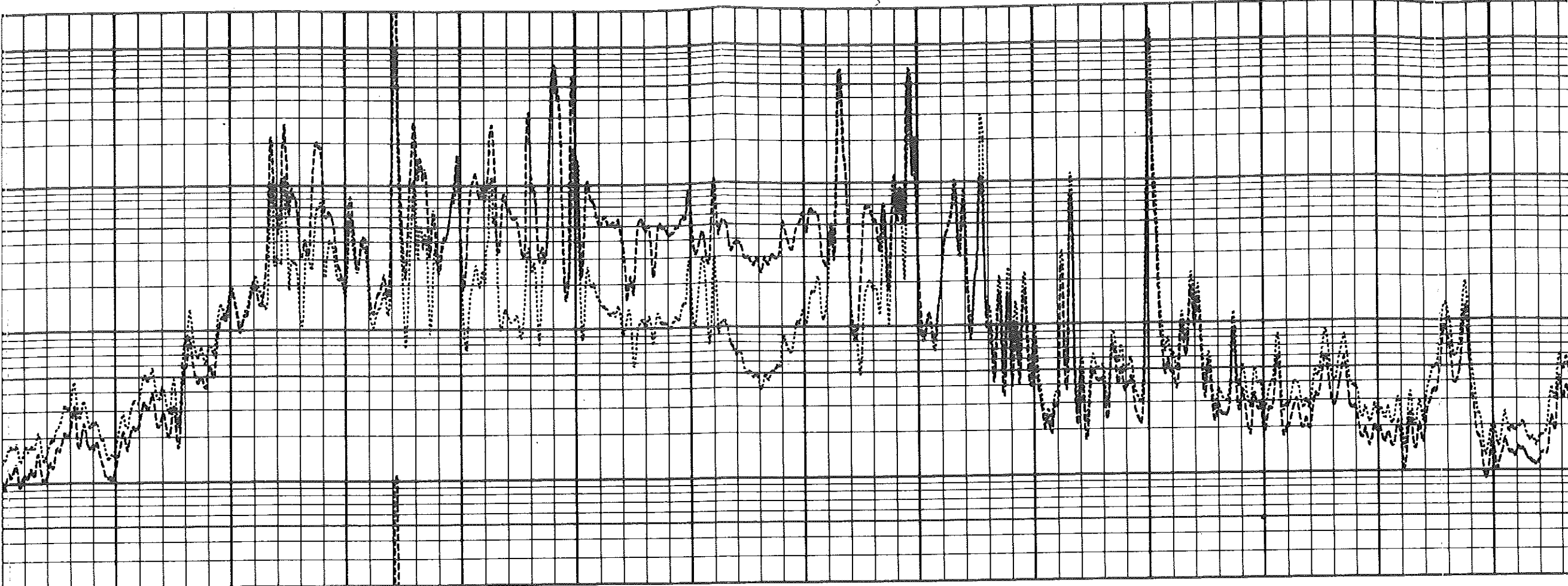
0.2

R(LLD) Ω-M

2000







01900

02000

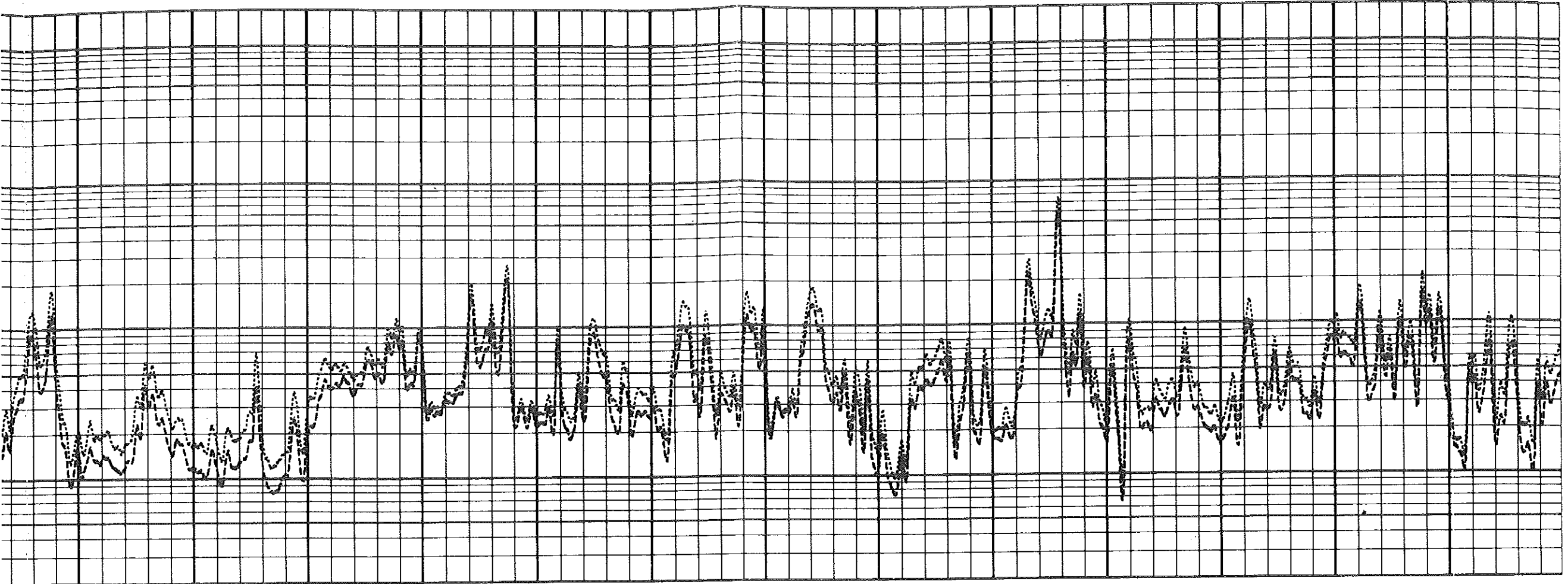
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02200

02300

02400

U1000



02500

02600

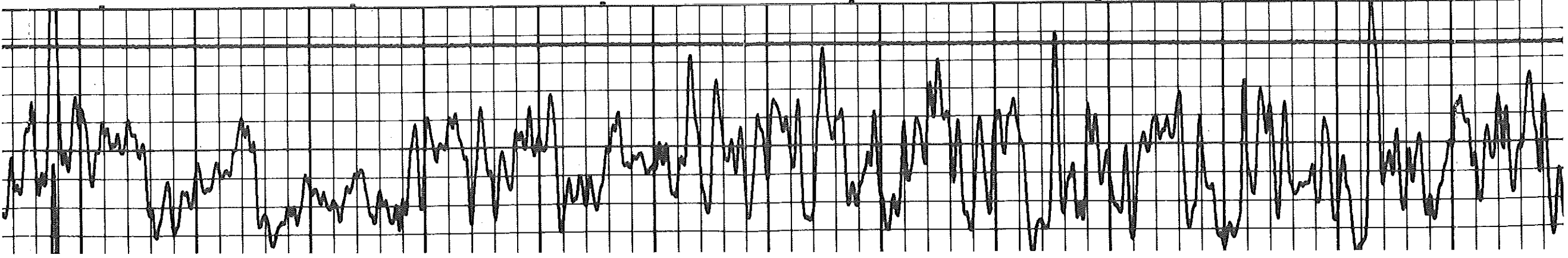
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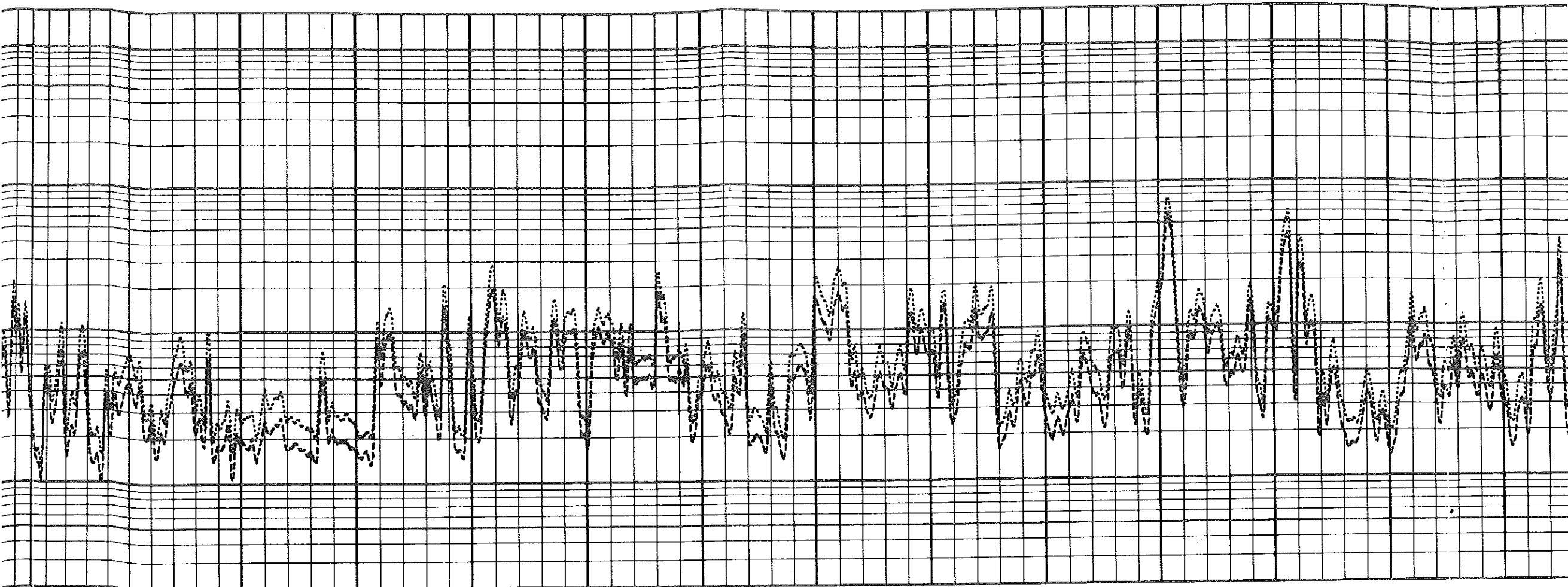
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02900

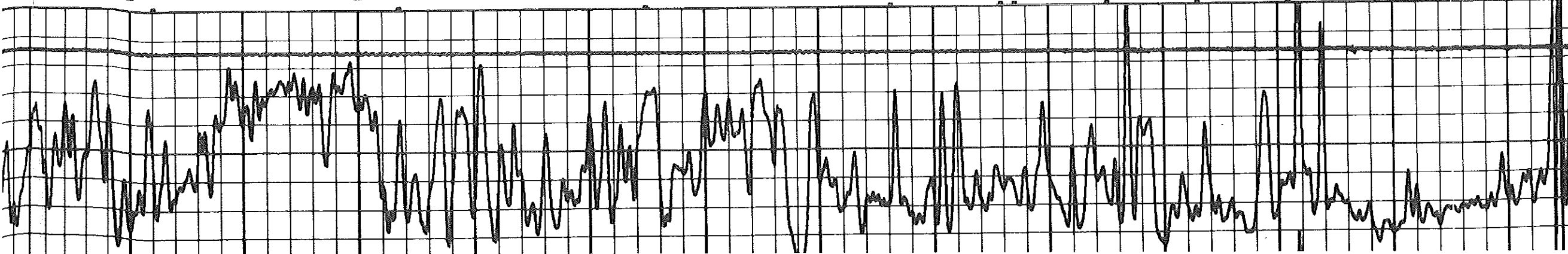
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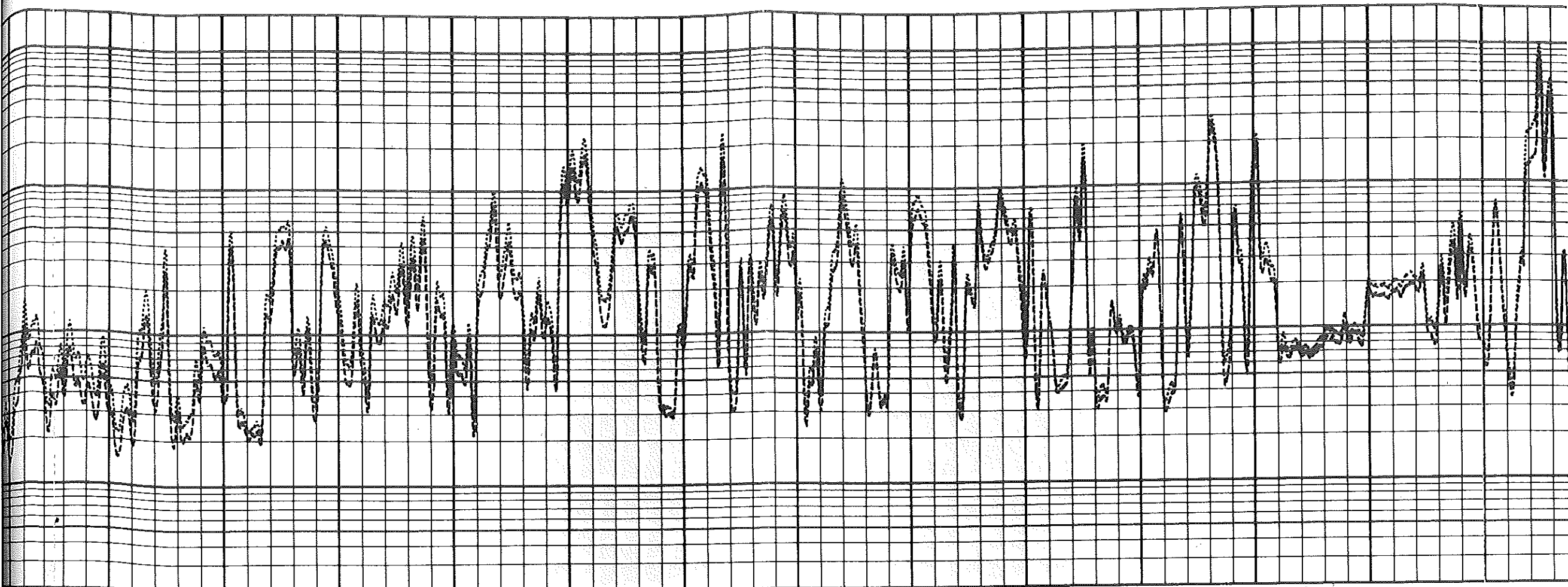
03100





0310 0320 0330 0340 0350 0360 0370





03700

03800

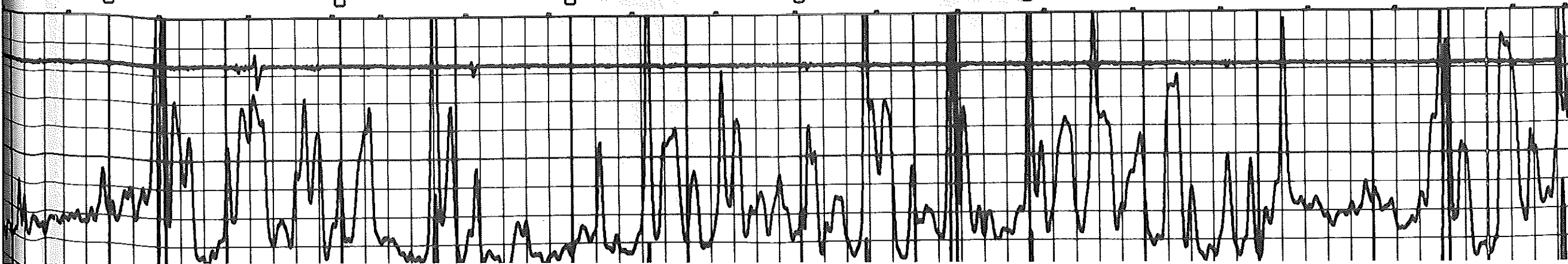
03900

04000

04100

04200

04300



04300

DEEP LATEROLOG

04400

TENSION

GAMMA RAY

SHALLOW LATEROLOG

GR API 150

0.2 R(LLS) Ω-M 2000

0.2 R(LLD) Ω-M 2000

8-10-85 03:05 4490.0 322476 0093-60 0 0001-19 0

8-10-85 04:26 3493.5 322476 0093-60 0 0001-19 0

CALIPER 16

0.2 R(RX0) Ω-M 2000

GR API 150

0.2 R(LLS) Ω-M 2000

0.2 R(LLD) Ω-M 2000

03500

GAMMA RAY

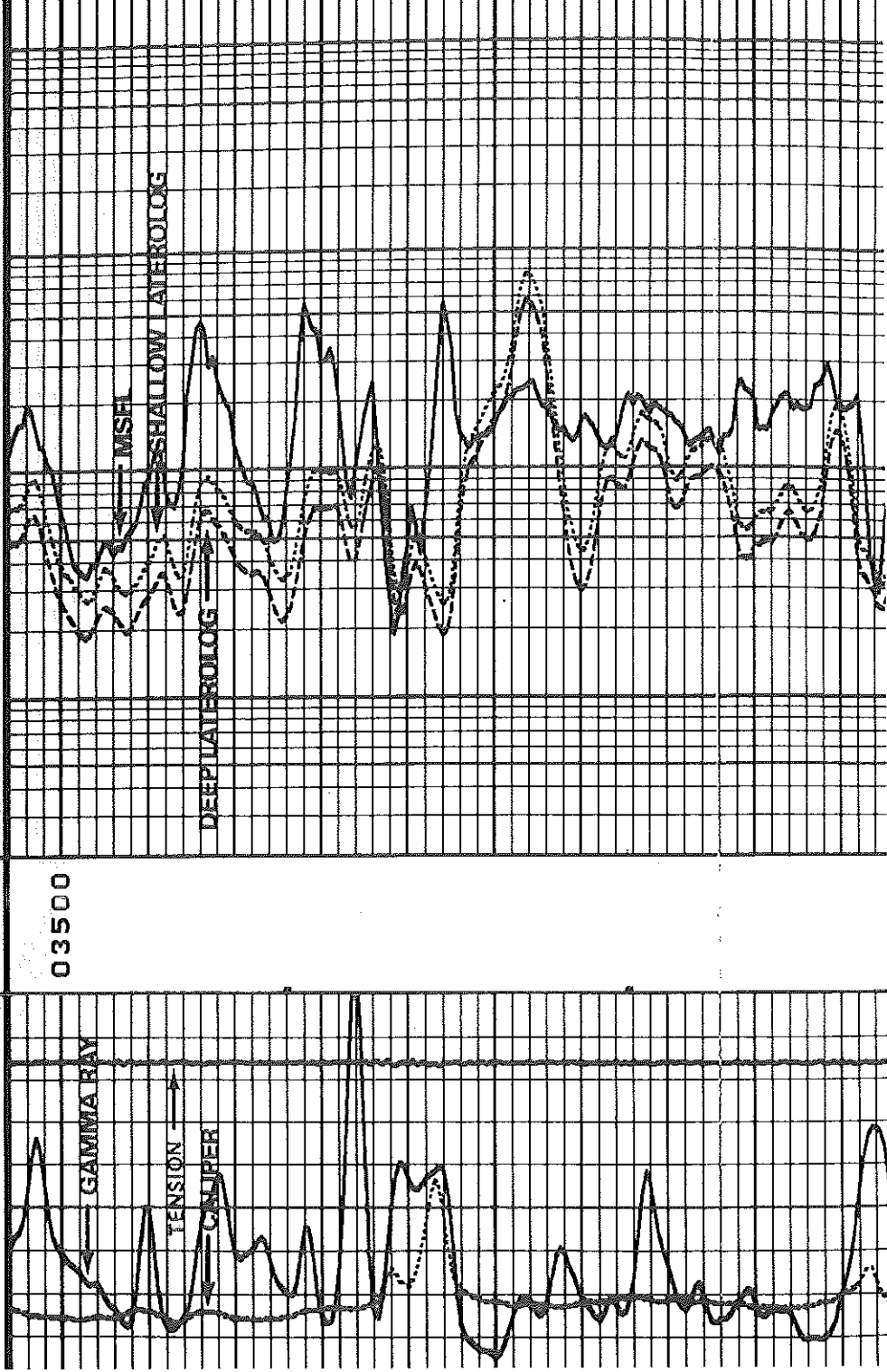
TENSION

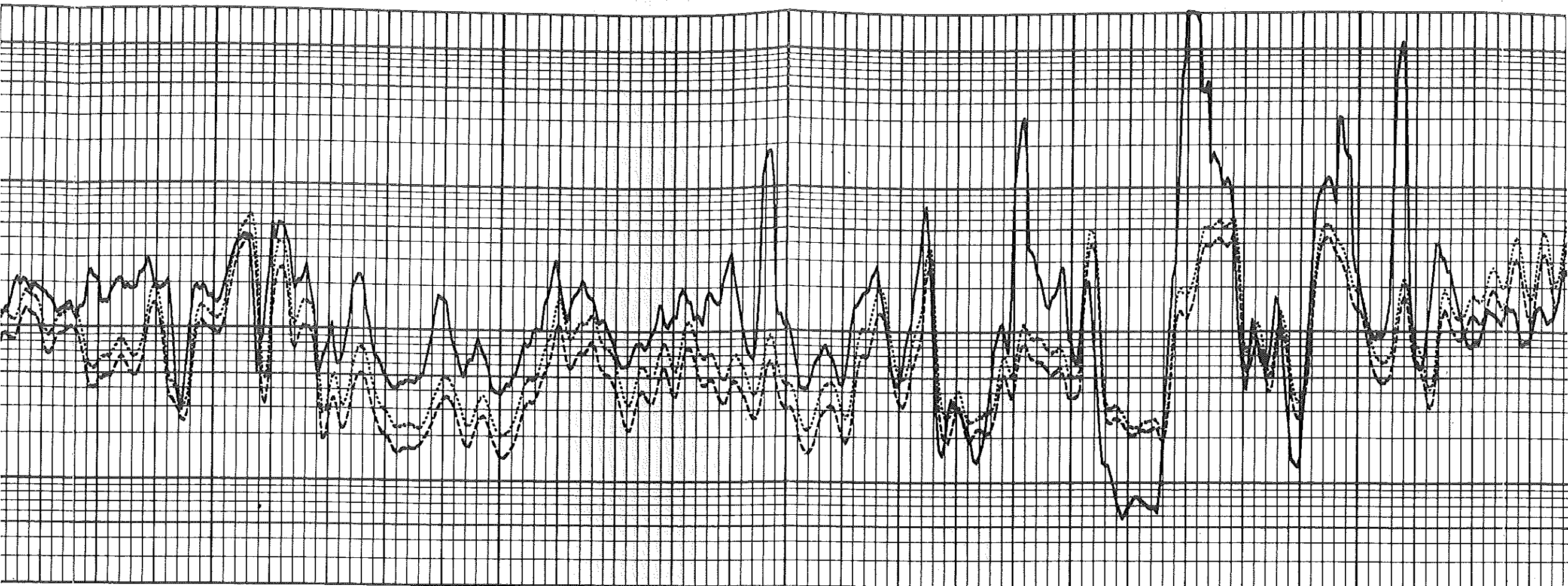
CALIPER

TMSH

SHALLOW LATEROLOG

DEEP LATEROLOG

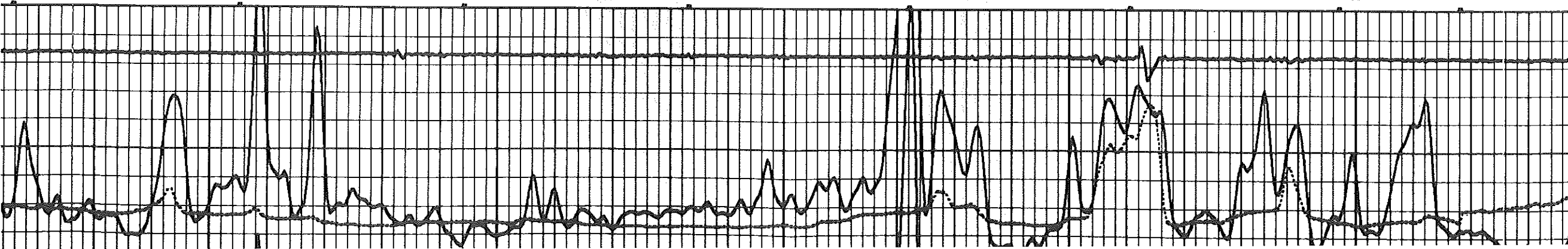


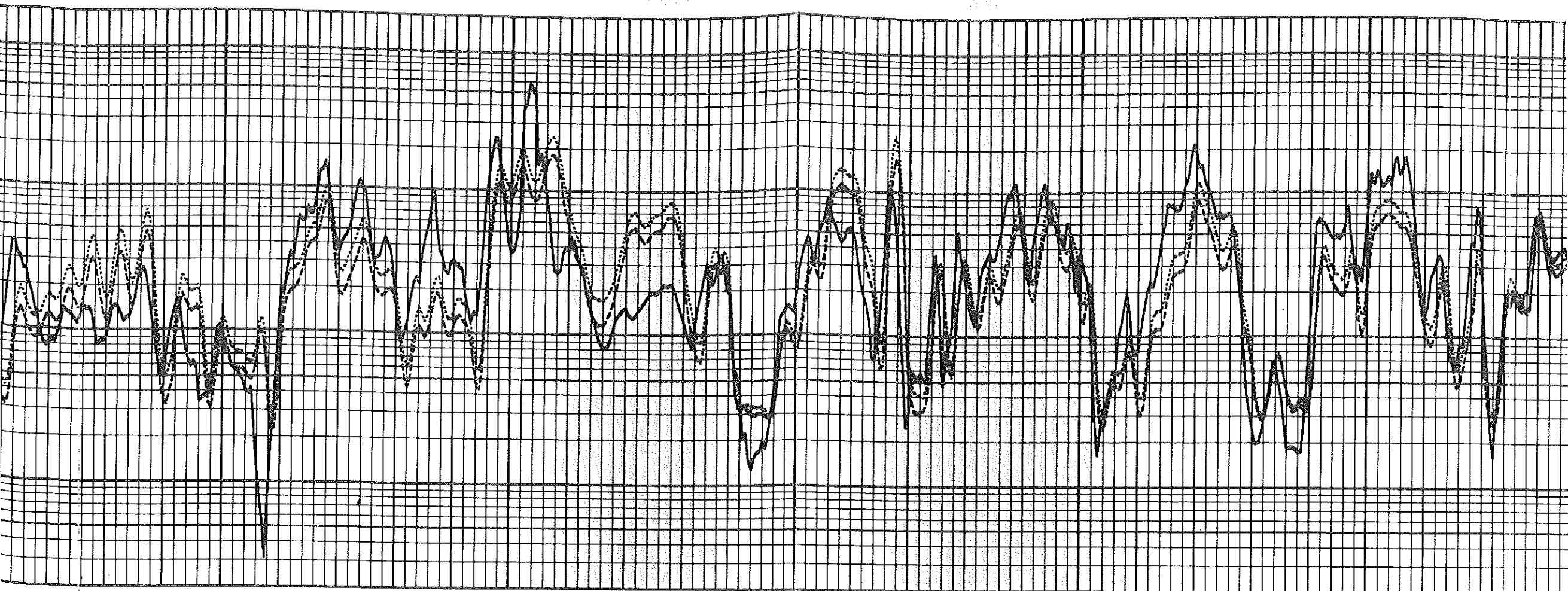


03600

03700

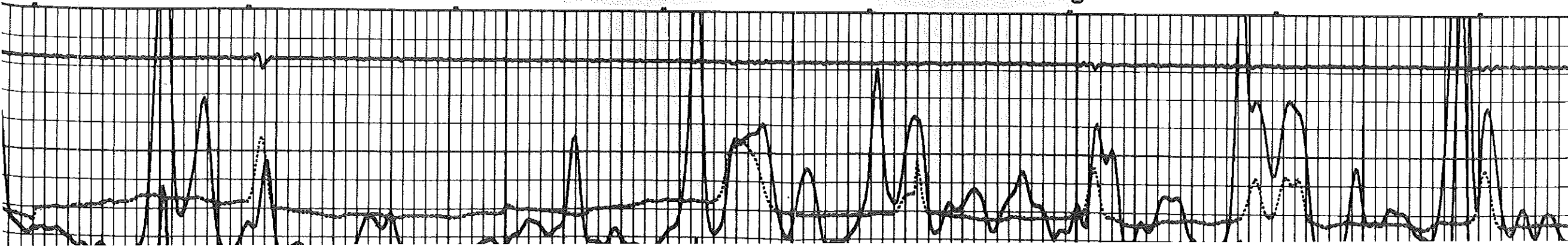
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03900

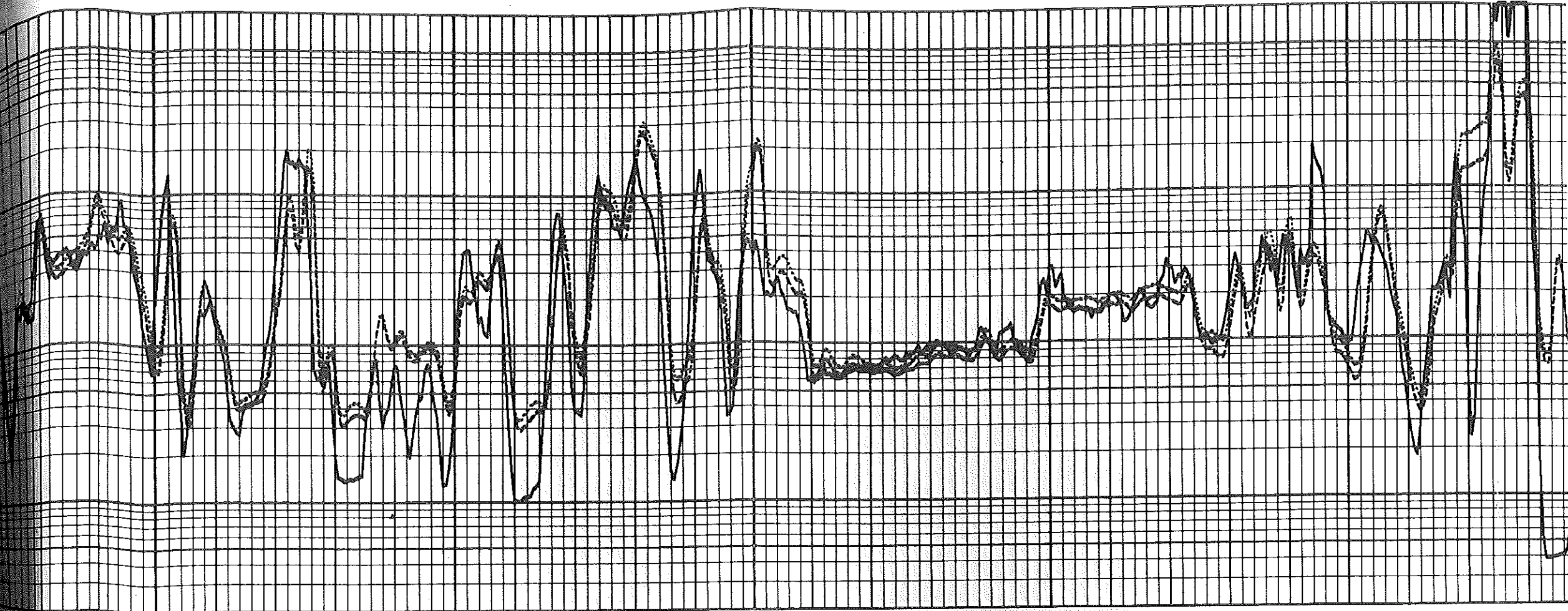
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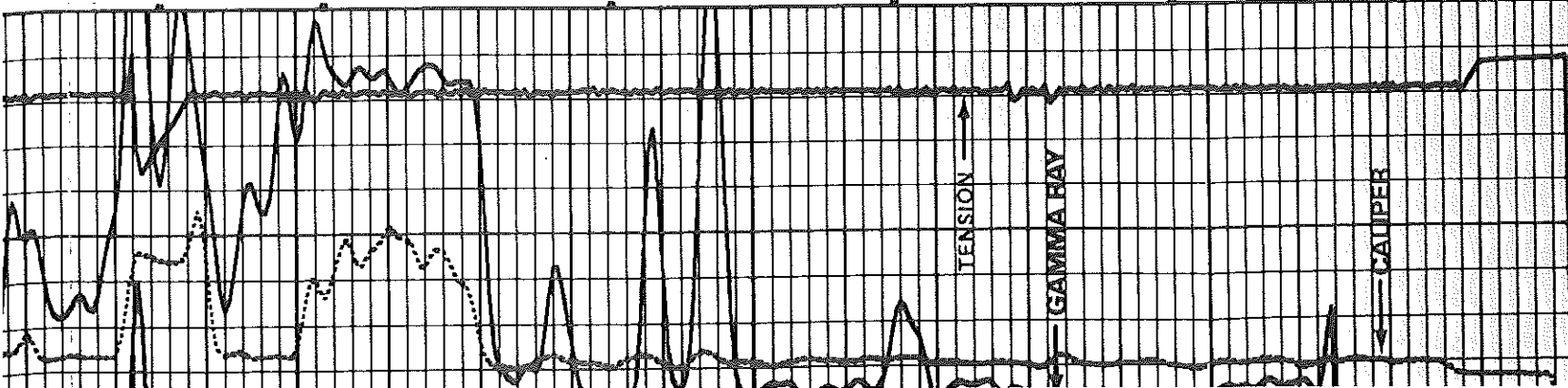


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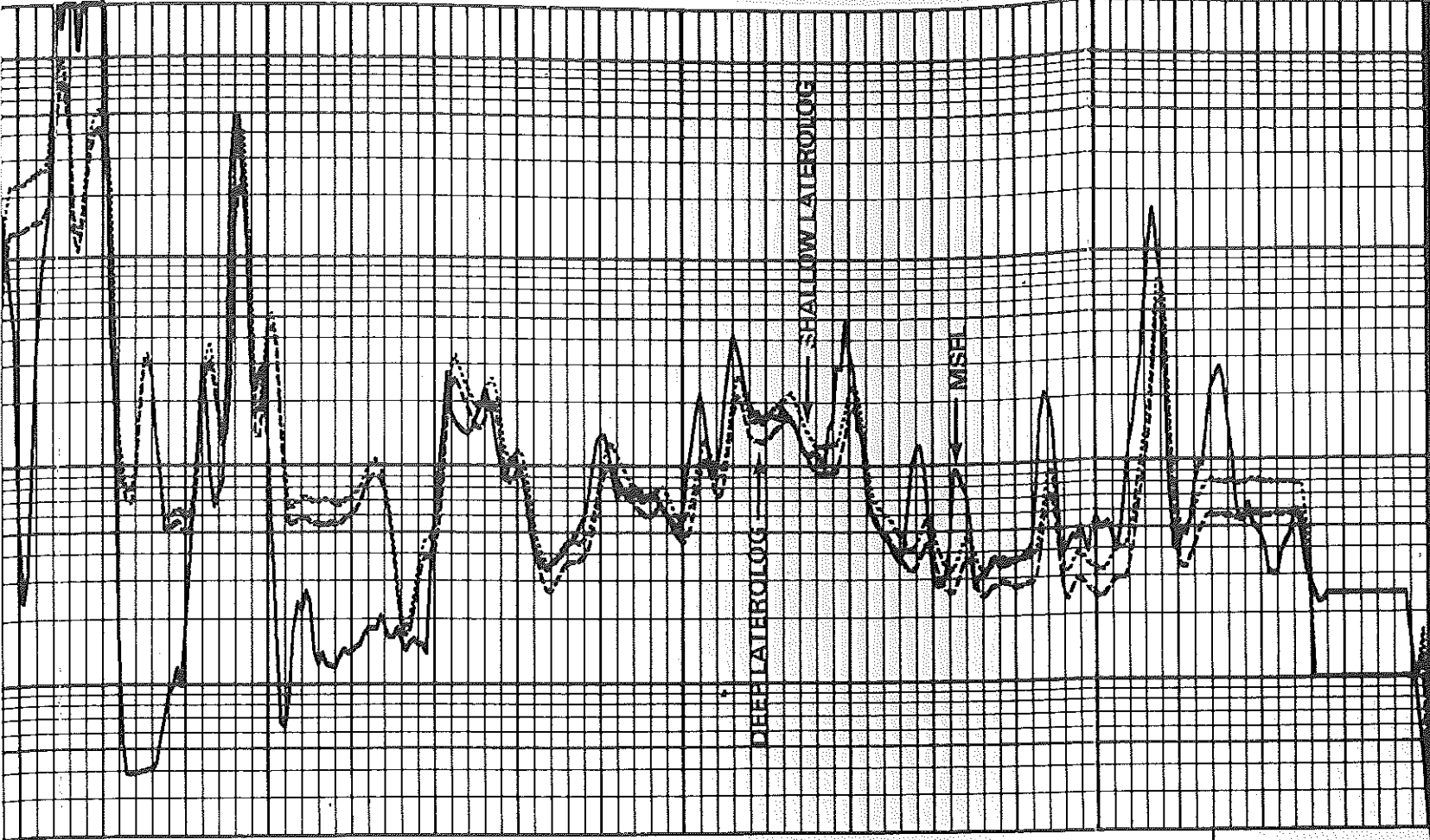
04200

04300





04400



CALIPER 16

GR API 150

0.2 R (RXO) Ω-M 2000

0.2 R (LLS) Ω-M 2000

0.2 R (LLD) Ω-M 2000

3-10-85 03:05 4490.0 322476 0093-60 0 0001-19 0

company SOUTHERN STATES OIL COMPANY
 well MAUCH NO. 2-16
 field EAST PAWNEE VALLEY
 county NESS State KANSAS
 Elev: KB 2263
 DF 2261
 GL 2257

3-10-85 03:00 4276.5 322476 0093-60 0 0001-19 2

-10-85 03:00 4276.5 322476 093-60 0 0001-19 2

CALIPER 16

GR API 150

0.2

0.2

0.2

R (RXO) Ω -M

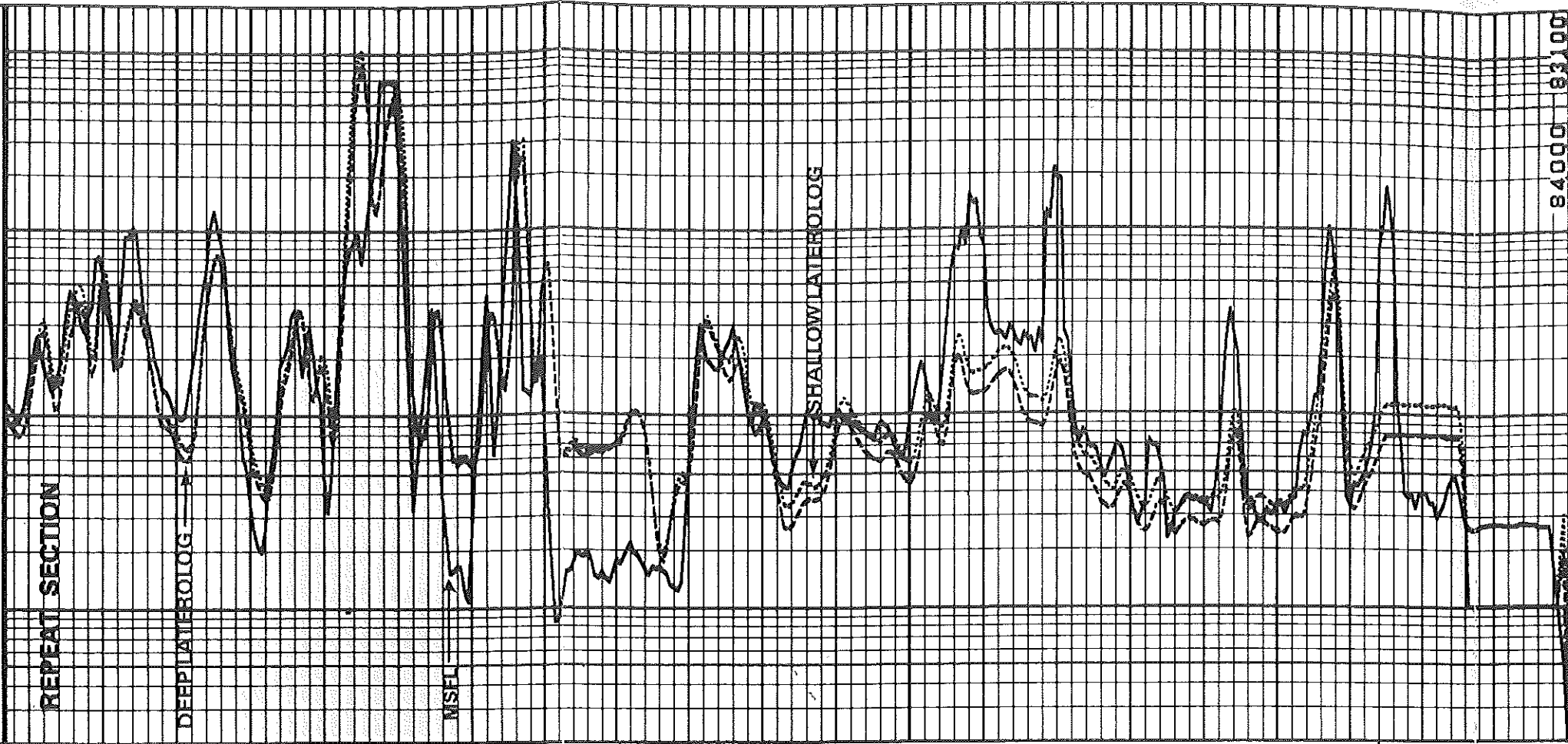
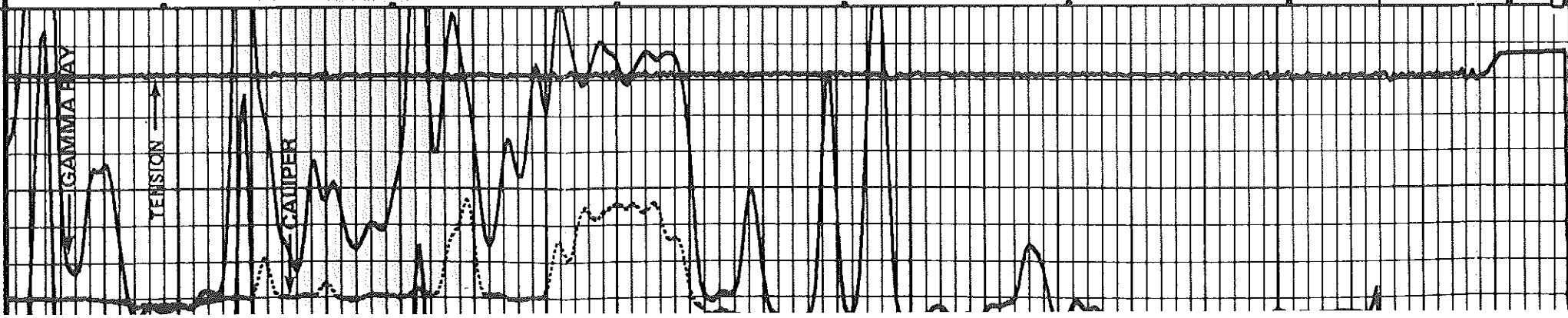
R (LLS) Ω -M

R (LLD) Ω -M

2000

2000

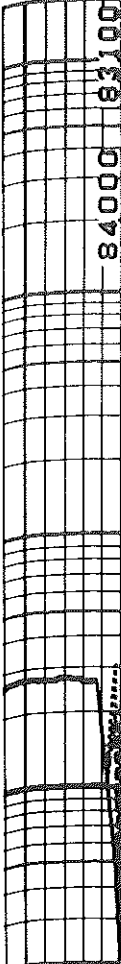
2000



04300

04400

84000 83100



| | | | |
|---------|-----|-------------|------|
| CALIPER | 16 | R (RXO) Ω-M | 2000 |
| GR API | 150 | R (LLS) Ω-M | 2000 |
| | | R (LLD) Ω-M | 2000 |

| | | | | | | | |
|--------|-------|--------|--------|---------|---|---------|---|
| -10-85 | 02:54 | 4490.0 | 322476 | 0093-60 | 0 | 0001-19 | 2 |
| -10-85 | 08:04 | 799.0 | 322476 | 0093-60 | 0 | 0001-19 | 1 |

MICRO-SPHERICALLY FOCUSED AFTER SURVEY CALIBRATION

SISTIVITY

| | LOW | HIGH | | |
|--------|-------|--------|-------|-------|
| BEFORE | AFTER | BEFORE | AFTER | |
| ISFL | 0.0 | 0.0 | 499.9 | 500.4 |
| | | | | MM/M |

| | | | | | | | |
|--------|-------|-------|--------|---------|---|---------|---|
| -10-85 | 08:04 | 799.0 | 322476 | 0093-60 | 0 | 0001-19 | 1 |
|--------|-------|-------|--------|---------|---|---------|---|

DUAL LATEROLOG AFTER SURVEY CALIBRATION

100 OHM-METER MEASUREMENT

| RESISTIVITY | BEFORE | AFTER | UNITS |
|-------------|--------|-------|-------|
| LLD | 100 | 100 | OHM-M |
| LLS | 100 | 102 | OHM-M |

| | | | | | | | |
|--------|-------|-------|--------|---------|---|---------|---|
| -10-85 | 02:25 | 542.0 | 322476 | 0093-60 | 0 | 0001-19 | 0 |
|--------|-------|-------|--------|---------|---|---------|---|

MICRO-SPHERICALLY FOCUSED BEFORE SURVEY CALIBRATION

SISTIVITY

| MEASURED | CALIBRATED | |
|----------|------------|-------|
| LOW | HIGH | UNITS |
| ISFL | 1.5 | 497.5 |
| | 0.0 | 499.9 |
| | | MM/M |

| | | | | | | | |
|--------|-------|-------|--------|---------|---|---------|---|
| -10-85 | 02:25 | 542.0 | 322476 | 0093-60 | 0 | 0001-19 | 0 |
|--------|-------|-------|--------|---------|---|---------|---|

DUAL LATEROLOG BEFORE SURVEY CALIBRATION

100 OHM-METER CAL

| MEASURED | CALIBRATED | UNITS |
|----------|------------|-------|
|----------|------------|-------|

DUAL LATEROLOG BEFORE SURVEY CALIBRATION

100 OHM-METER CAL

| | MEASURED | CALIBRATED | UNITS |
|-----|----------|------------|-------|
| LLD | 107 | 100 | OHM-M |
| LLS | 108 | 100 | OHM-M |

10-85 02:10 542.0 322476 0093-60 0 0001-19 0

MMA RAY

BACKGROUND CALIBRATOR STANDARD UNITS
 152.2 610.6 140.0 GAPI

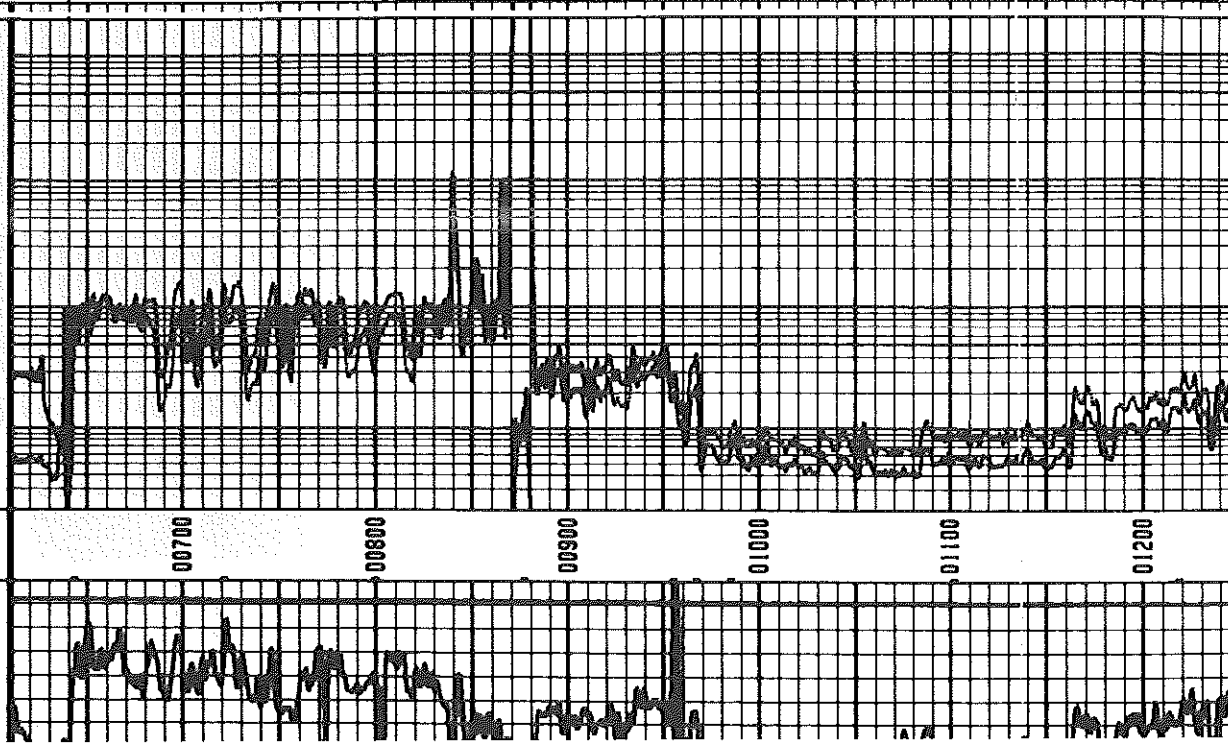
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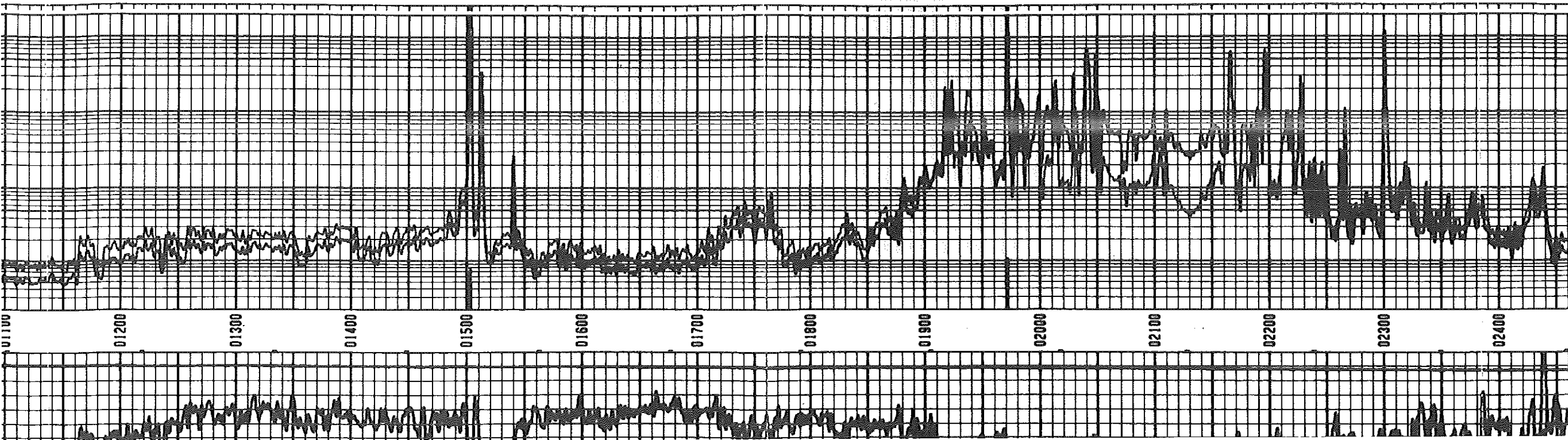
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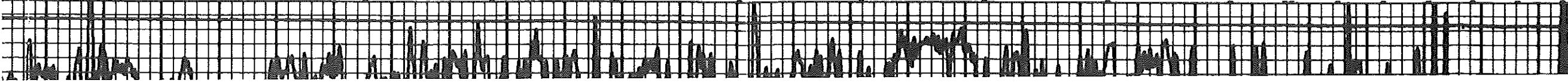
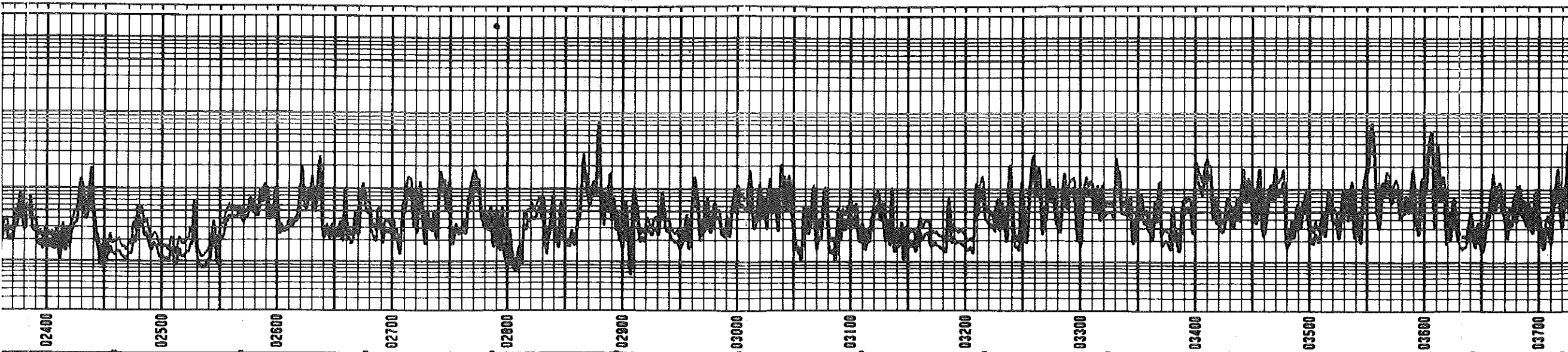
GR API 150

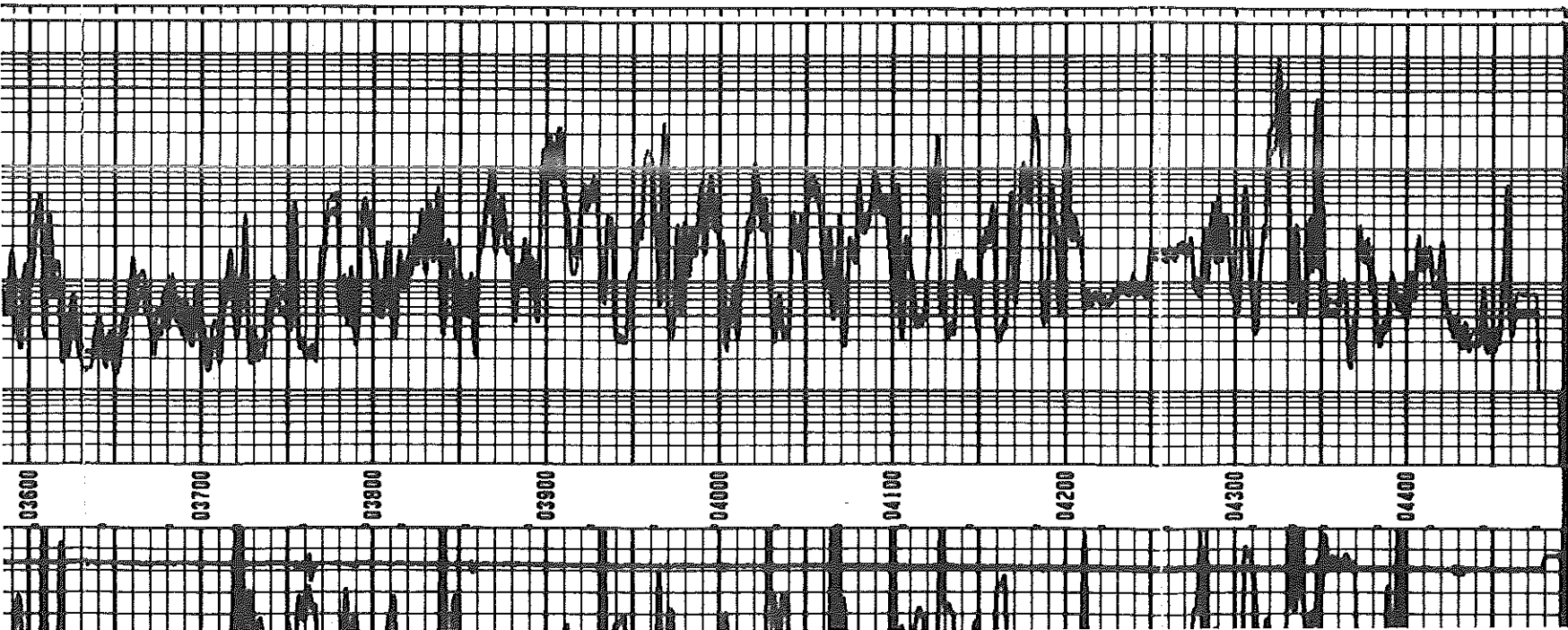
0.2 R(LLS) Q-M 2000

0.2 R(LLD) Q-M 2000









| | | | |
|---|-----|------------|--------|
| PI 150 | 0.2 | R(LLS) R-M | 2000 J |
| | 0.2 | R(LLD) R-M | 2000 J |
| 03:06 4490.0 322476 0093-60 0 0001-19 0 | | | |