



OPEN HOLE

GUARD
SIDEWALL NEUTRON
LOG

COMP: CALVIN NORR
WELL: HOLZHAUER NO 1
FIELD N.A.
COUNTY: GRAHAM ST. KANSAS

COMPANY: CALVIN NORR
WELL: HOLZHAUER NO 1
FIELD: N.A.
COUNTY: GRAHAM
API NO.: 15-065-22-269
LOCATION: 50 M OF NE SE NW
STATE: KANSAS
OTHER SERVICES: CML

SEC 26
GROUND LEVEL: KELLY BUSHING
ELEV.: 2159 FT. ABOVE PERM. DATUM
TMP. 10 S
RCE. 21 M
ELEV.: K.B. 2167
D.F. 2165
G.L. 2159

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------|-------------------|------------------------|----------|---------|---------------|-------------|-----------------|----------------|----------------|--------------|----------|--------------------|---------------|-----------------|------------------|------------------|-------------------|-------------------|------------------|----------|--------------------|----------------|-----------------|-------------------|-------------|--------------|
| PERMANT DATUM | LOG MEASURED FROM | DRILLING MEASURED FROM | DATE | RUN NO. | DEPTH-DRILLER | DEPTH-MELEX | BTM. LOG INTER. | TOP LOG INTER. | CASING-DRILLER | CASING-MELEX | BIT SIZE | TYPE FLUID IN HOLE | DENS. : VISC. | PH : FLUID LOSS | SOURCE OF SAMPLE | RM # MERS. TEMP. | RHF # MERS. TEMP. | RMC # MERS. TEMP. | SOURCE RMF : RMC | RM # BHT | TIME CIRC. STOPPED | TIME ON BOTTOM | MHX. REC. TEMP. | EQUIP. : LOCATION | RECORDED BY | WITNESSED BY |
| | | | 12/04/85 | GRAHAM | 3800 | 3800 | 3804 | 3776 | CASING | 8 5/8 | 250 | STARCH | 9.7 | NR | FLUORINE | 26 | 22 | 31 | CALC. | 16 | 5:30 PM | 8:00 PM | 113 | 1932 | M. JOHNSON | MR. NORR |
| | | | 12/04/85 | NEUTRON | 3800 | 3800 | 3804 | 3789 | CASING | | | GUARD | | | | | | | | | | | | | | |

FOLD HERE

SERVICE TICKET NO.: 283684 API SERIAL NO.: 15-065-22-269 PCM VERSION: V1.06 09/06/85

| CHANGE IN MUD TYPE OR ADDITIONAL SAMPLES | | | | RESISTIVITY SCALE CHANGES | | | | | |
|------------------------------------------|----------|-------|----|---------------------------|---------|-------------------|-----------------|---------------|-------|
| DATE : SAMPLE NO. | : | : | : | TYPE LOG | DEPTH | SCALE UP HOLE | SCALE DOWN HOLE | | |
| DEPTH-DRILLER | SAVE | | | GUARD-GUARD-SMN | 3804 | NO CHANGES | | | |
| TYPE FLUID IN HOLE | AS ABOVE | | | | | | | | |
| DENS. : VISC. | | | | | | | | | |
| PH : FLUID LOSS | | ML | ML | | | | | | |
| RESISTIVITY EQUIPMENT DATA | | | | | | | | | |
| RM # MERS. TEMP. | e | F | e | F | RUN NO. | TOOL TYPE AND NO. | PRD TYPE | TOOL POSITION | OTHER |
| RHF # MERS. TEMP. | e | F | e | F | ONE | 901 98613 | NEU. | DECENTRALIZED | |
| RMC # MERS. TEMP. | e | F | e | F | | | | | |
| SOURCE : RMF : RMC | | | | | | | | | |
| RM # BHT | .16 | e 113 | F | e | F | | | | |
| RHF # BHT | .14 | e 113 | F | e | F | | | | |
| RMC # BHT | .19 | e 113 | F | e | F | | | | |

| EQUIPMENT DATA | | | | | | | |
|--------------------|-------|--------------|--|------------|--|------------|-----------|
| GAMMA | | ACOUSTIC | | DENSITY | | NEUTRON | |
| RUN NO. | ONE | RUN NO. | | RUN NO. | | RUN NO. | ONE |
| SERIAL NO. | 24042 | SERIAL NO. | | SERIAL NO. | | SERIAL NO. | 26674 |
| MODEL NO. | 518 | MODEL NO. | | MODEL NO. | | MODEL NO. | 106 |
| DIAMETER | 3 5/8 | NO. OF CENT. | | DIAMETER | | DIAMETER | 4" |
| DETECTOR MODEL NO. | 102A | SPACING | | LOG TYPE | | LOG TYPE | NEU.-NEU. |

| | | | | | | | |
|--------------------|--------|------|--------|-------------|--|-------------|-----------|
| TYPE | SCINT. | | | SOURCE TYPE | | SOURCE TYPE | FM-241-BE |
| LENGTH | 4" | LSR | YES NO | SERIAL NO. | | SERIAL NO. | M-125 |
| DISTANCE TO SOURCE | | FMDR | YES NO | STRENGTH | | STRENGTH | 5 CURRIES |

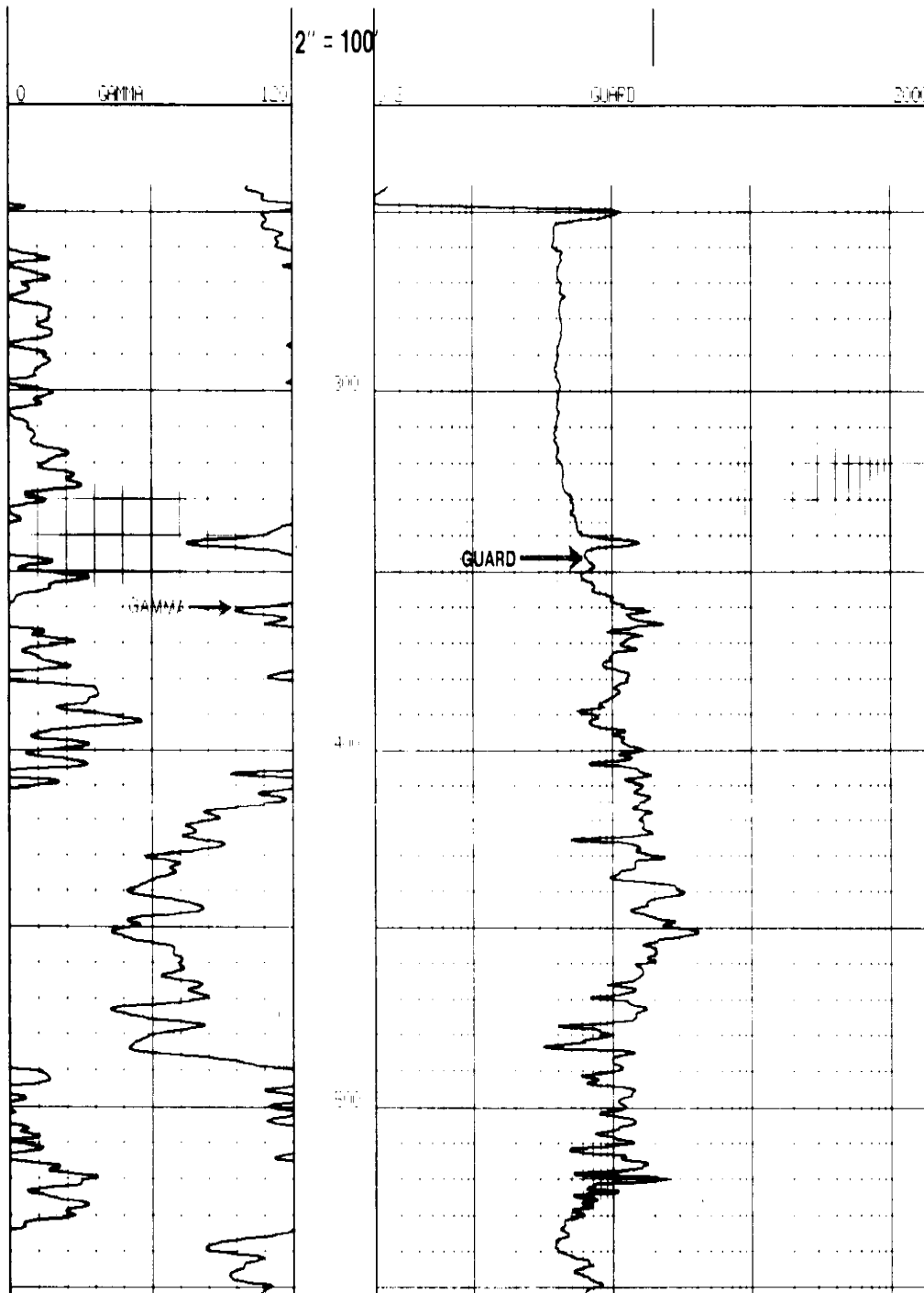
LOGGING DATA

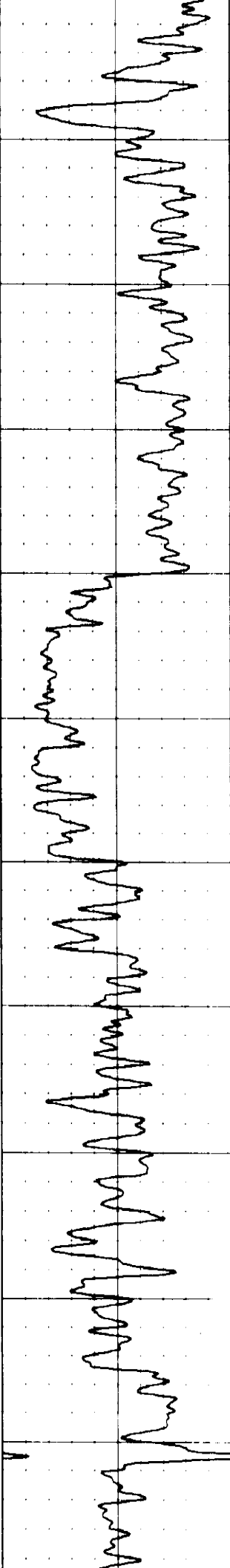
| GENERAL | | | GAMMA | | ACOUSTIC | | | DENSITY | | | NEUTRON | | | |
|---------|-------|------|--------|-------|----------|-------|---|---------|-------|-------|---------|-------|------|--------|
| RUN NO. | DEPTH | | SPEED | SCALE | | SCALE | | | SCALE | | | SCALE | | |
| | FROM | TO | FT/MIN | L | R | L | R | MATRIX | L | R | MATRIX | L | R | MATRIX |
| ONE | 3004 | 3150 | 30 | 0 | 120 | | | | 30.0 | -10.0 | LIME | 363 | 3653 | |
| | | | | | | | | | 2.0 | 3.0 | | | | |

REMARKS: CLORIDES=APPROX. 25,000

CREW: WBSINGER, AUGUSTINE

MELEX DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS, OR RECOMMENDATIONS WHICH MAY BE GIVEN BY MELEX PERSONNEL OR WHICH MAY APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, OR CONVERSIONS, OR RECOMMENDATIONS AGREES THAT MELEX IS NOT RESPONSIBLE, EXCEPT WHERE DUE TO GROSS NEGLIGENCE OR WILLFULL MISCONDUCT FOR ANY LOSS, DAMAGES, OR EXPENSES RESULTING FROM THE USE THEREOF.



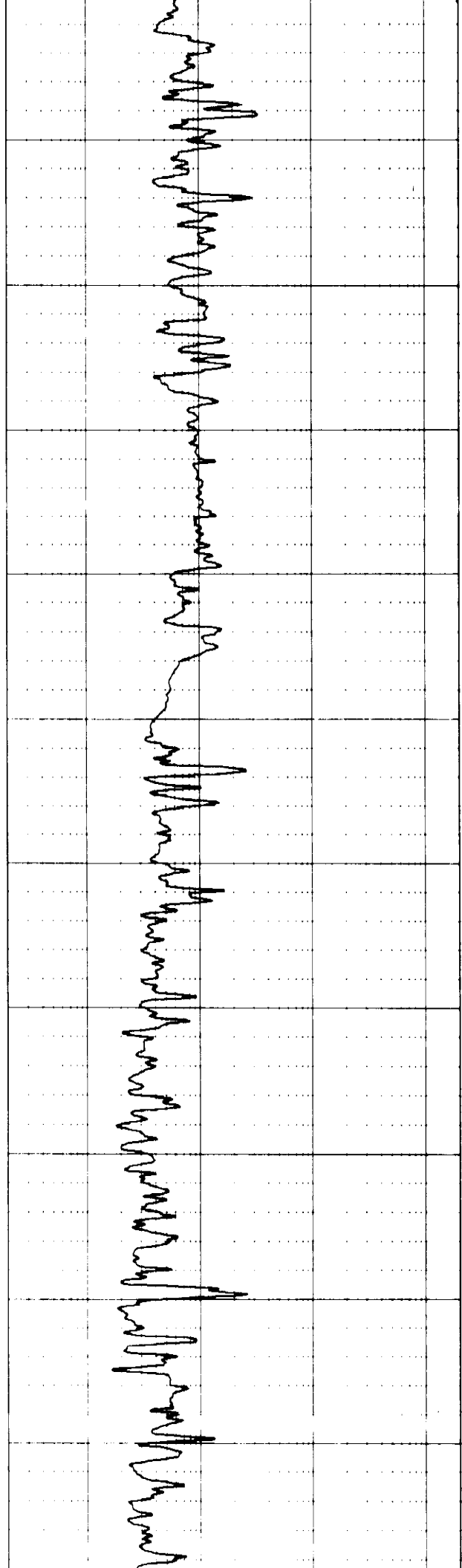


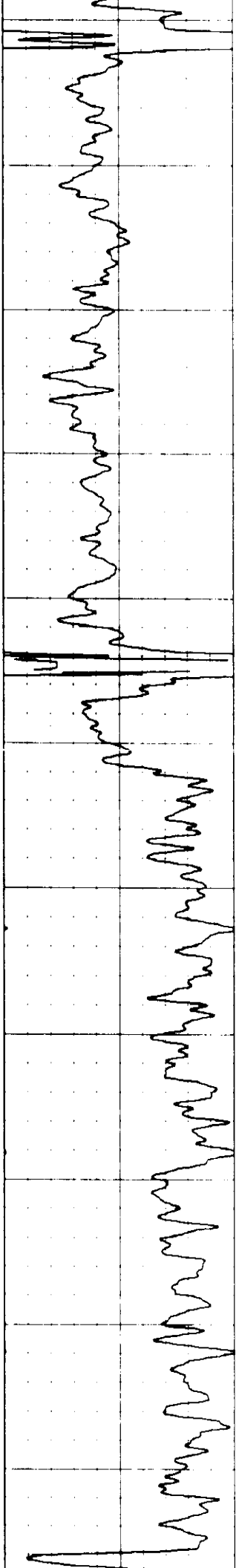
500

25

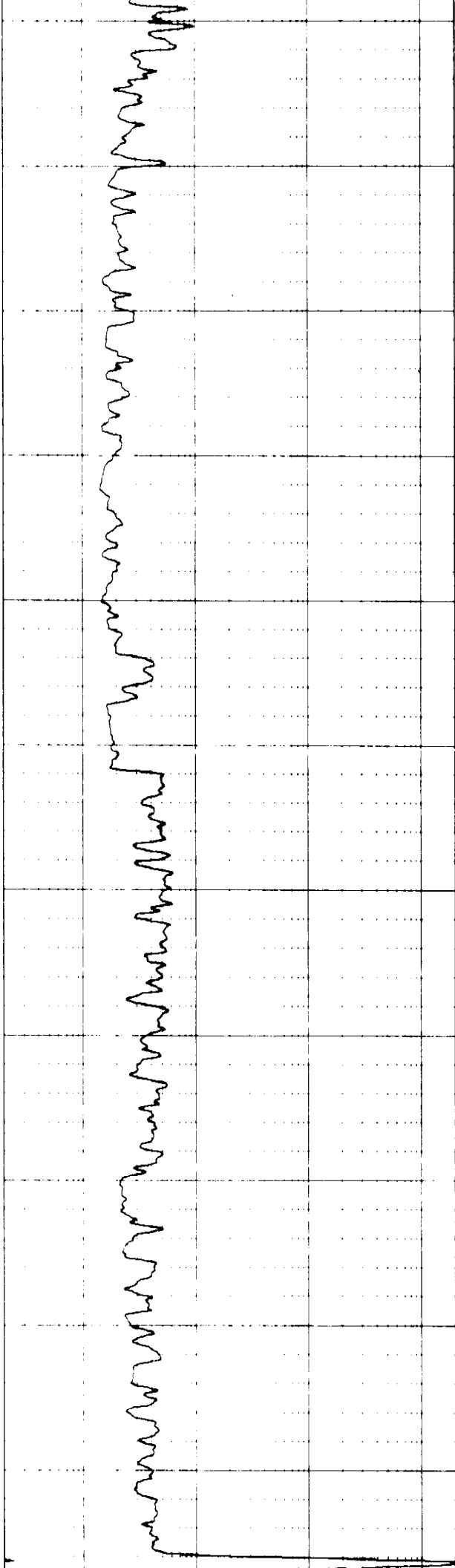
50

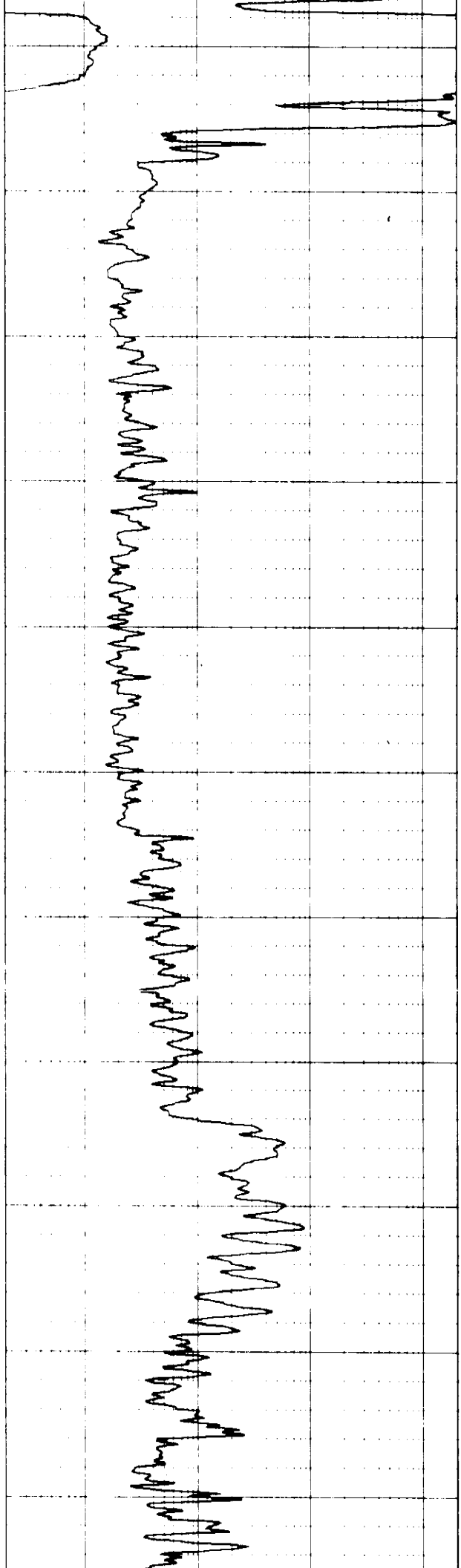
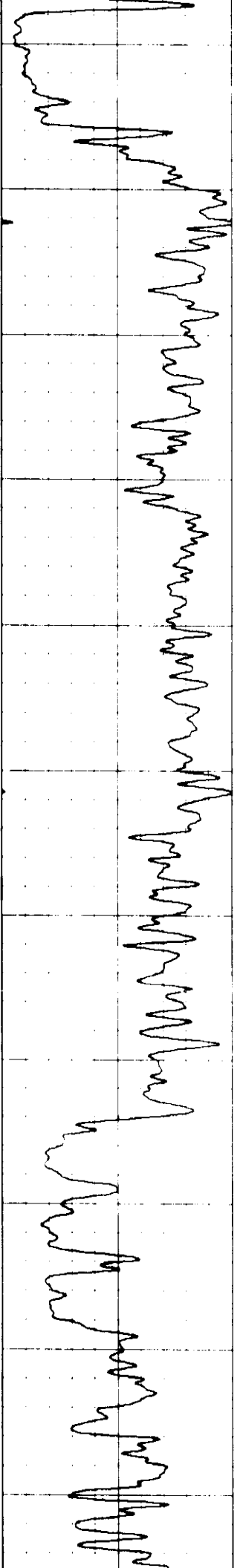
+

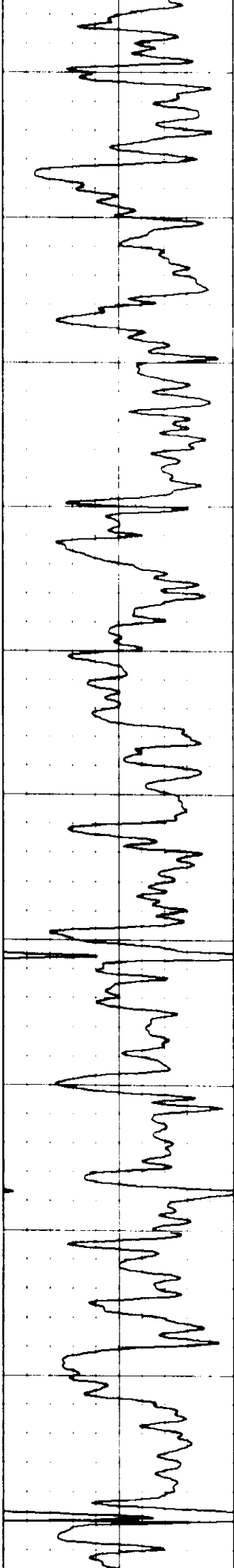




12/11/11 12:00

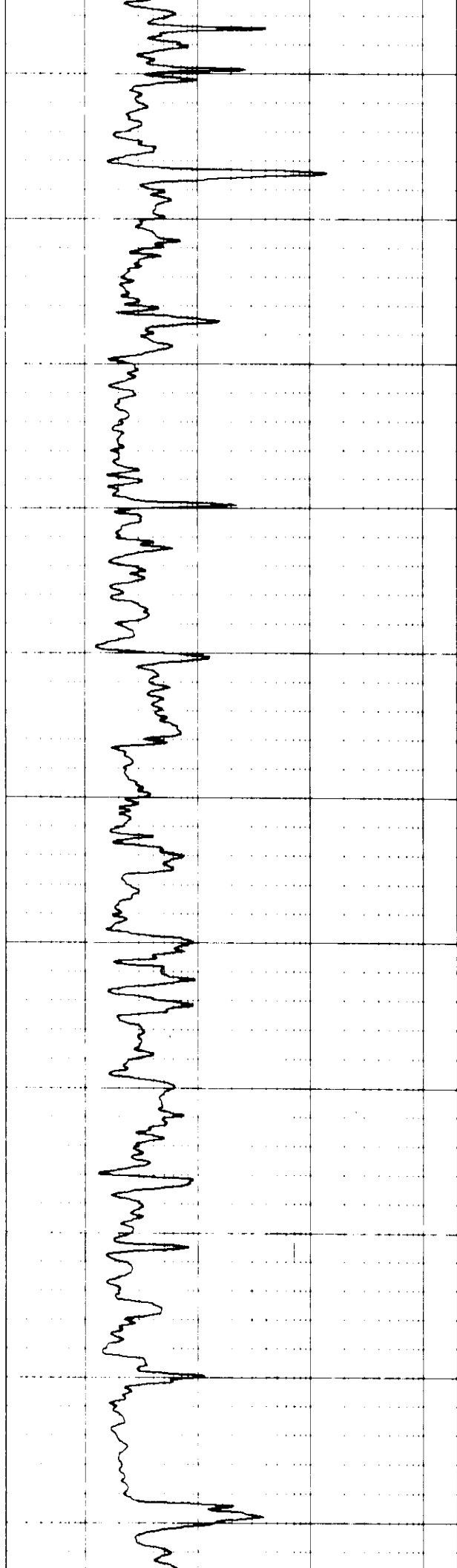


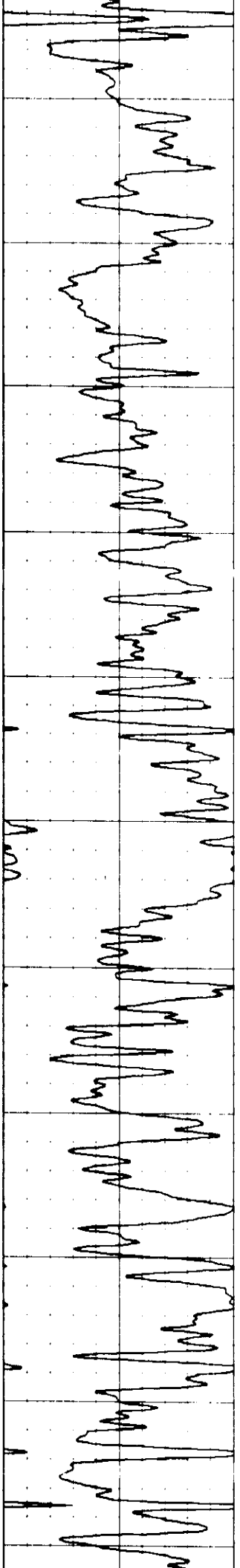




4

5



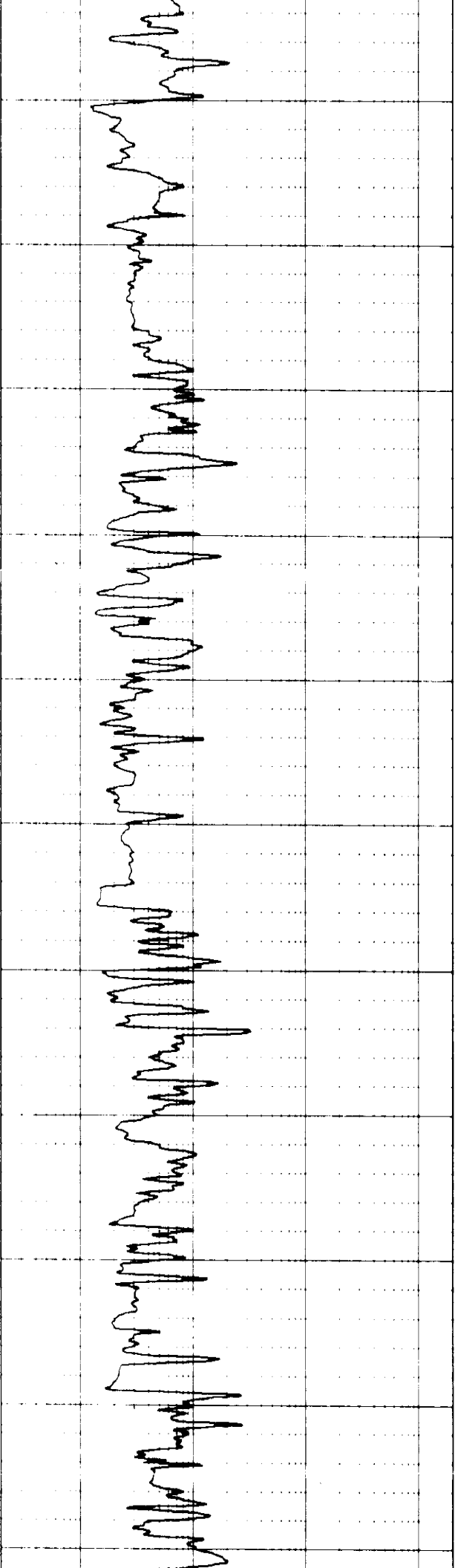


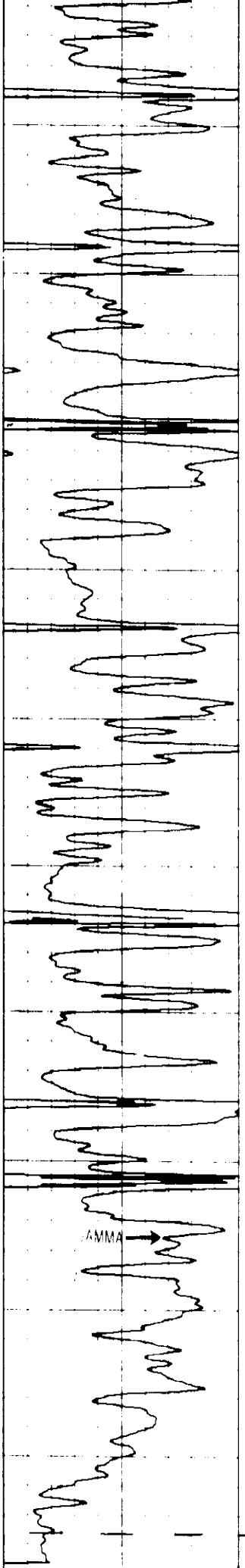
50

40

30

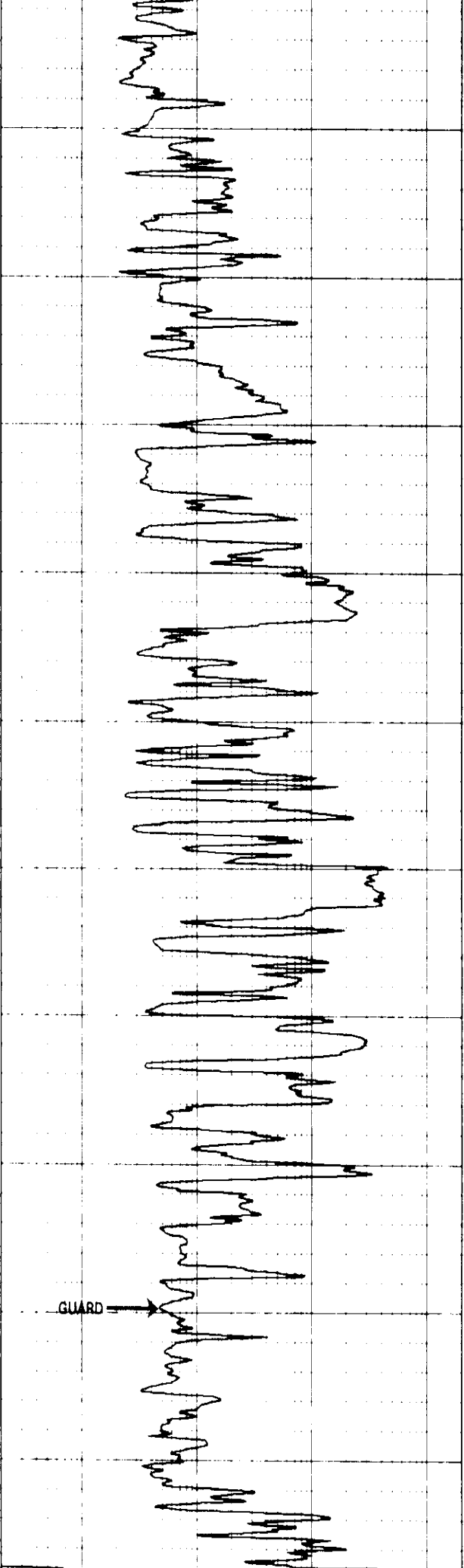
20



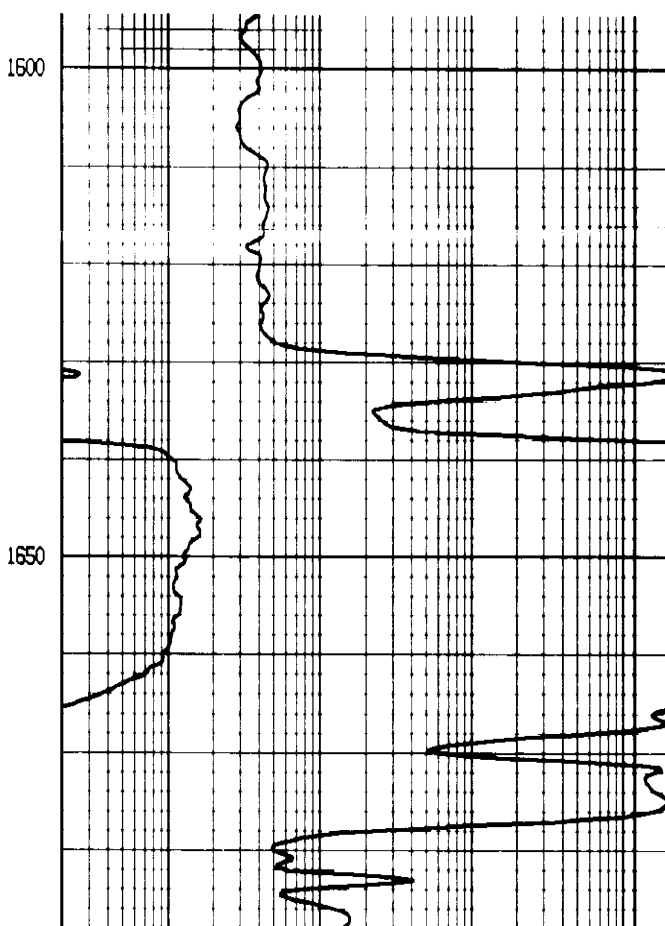
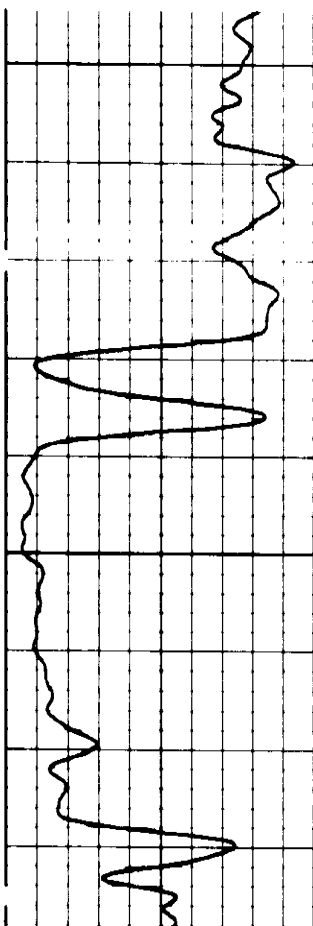
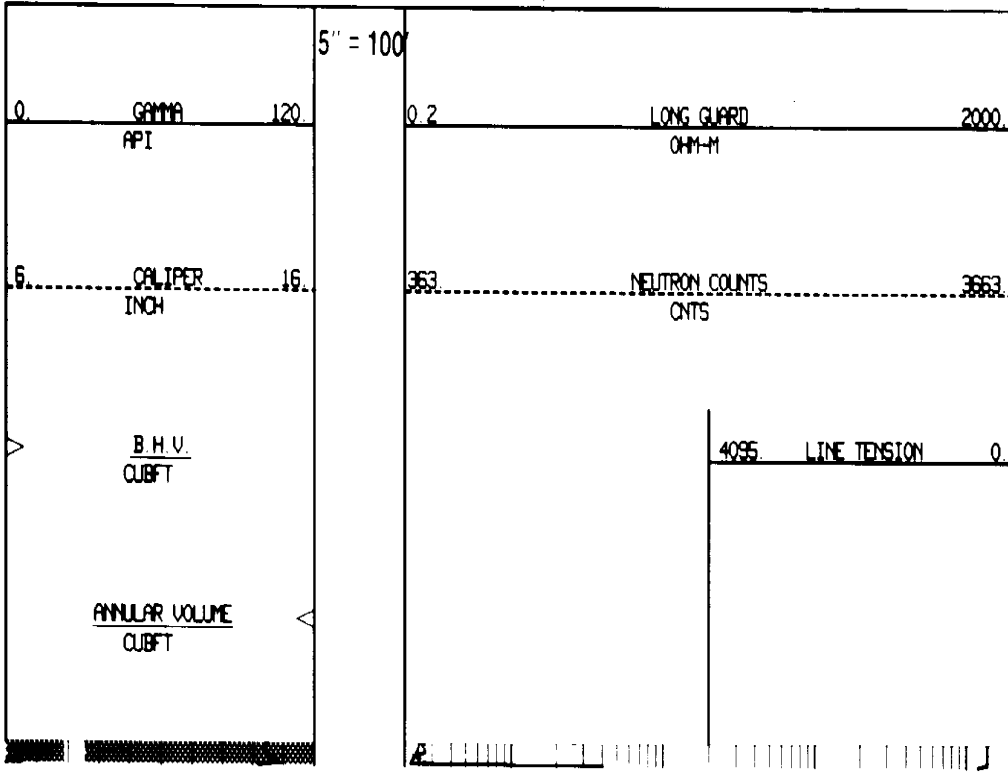
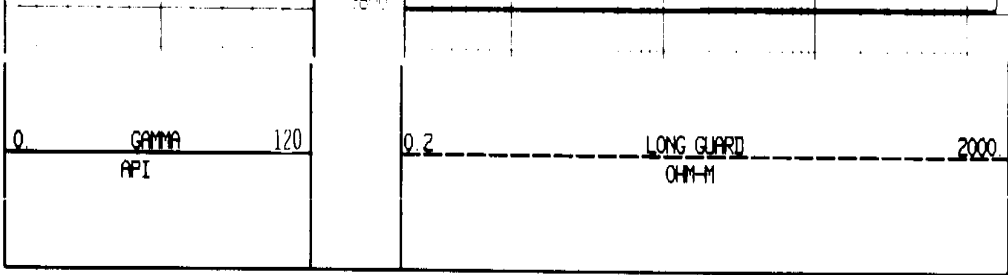


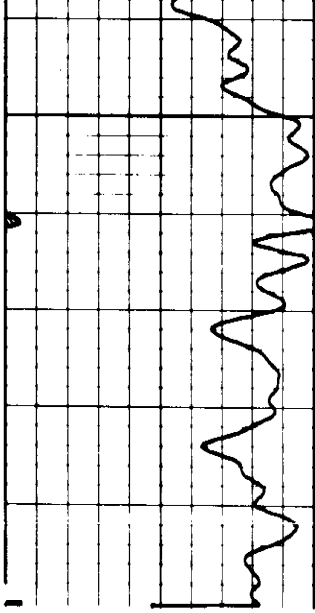
124

4

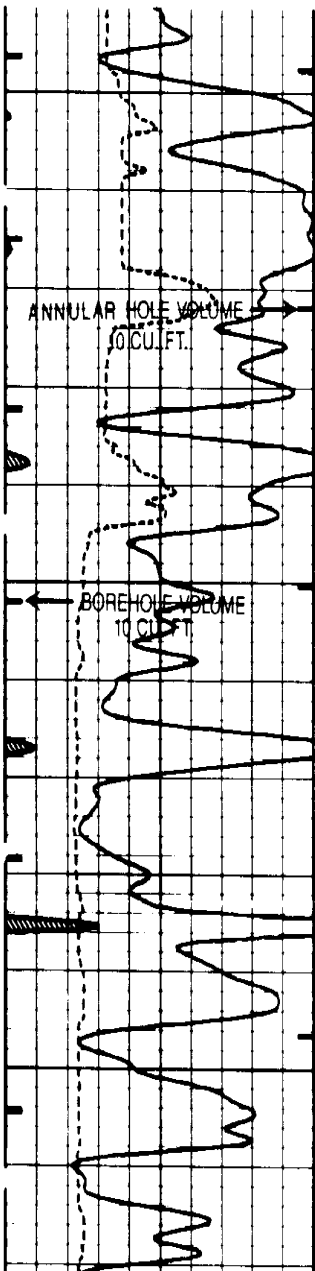
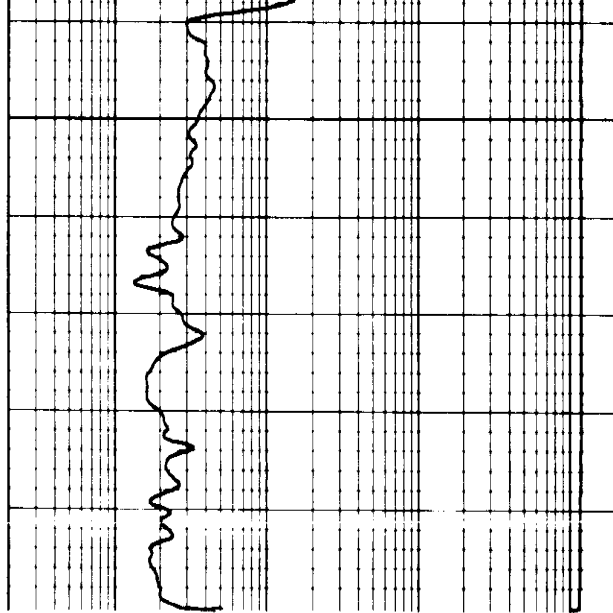


TD LOGGED
2000.00

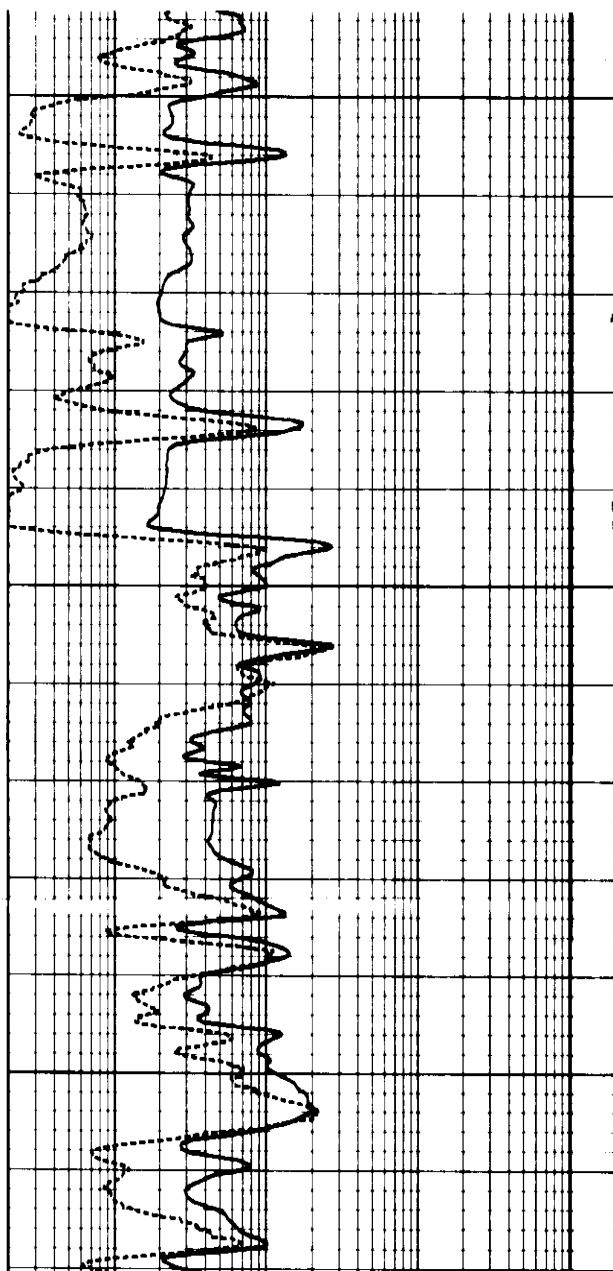




1700

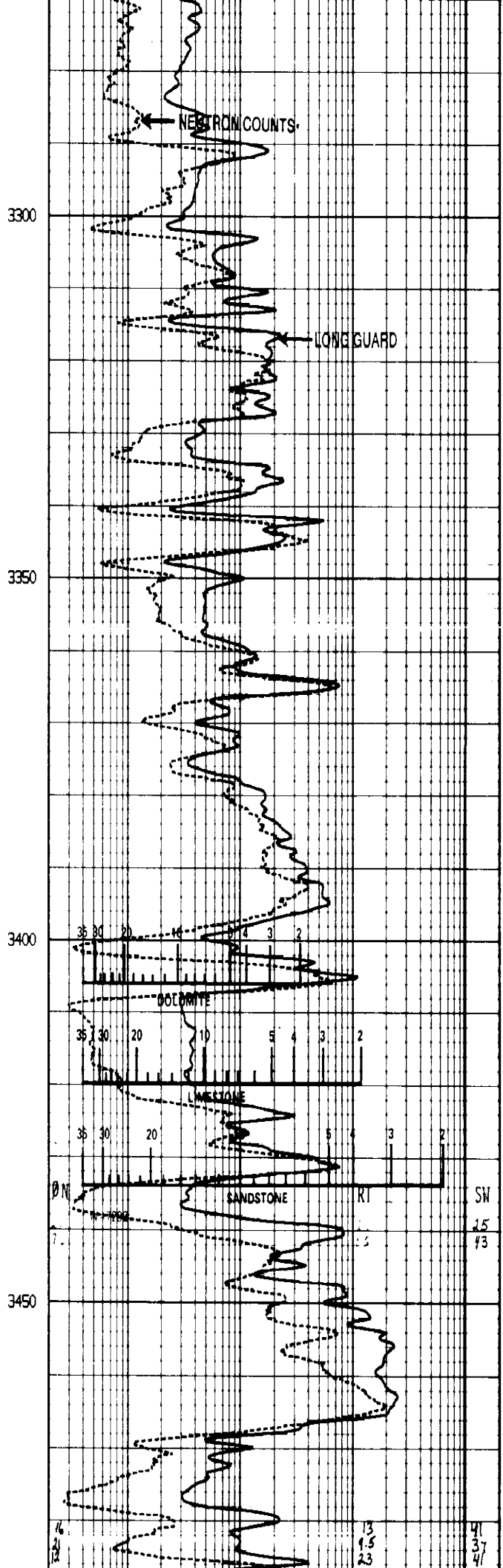
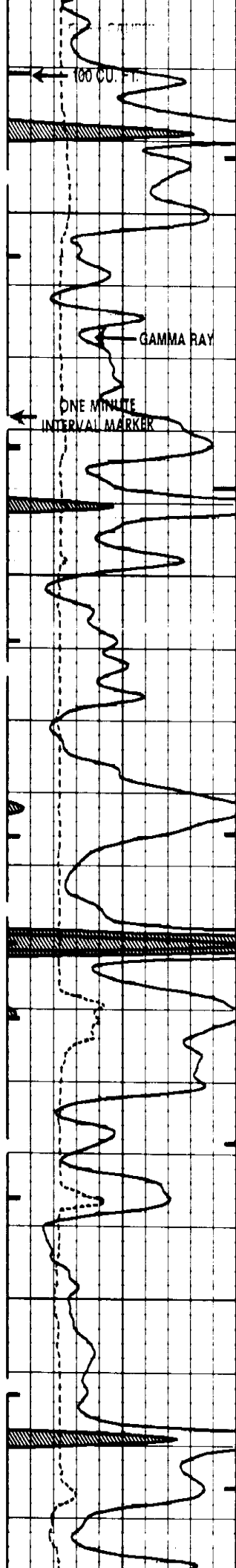


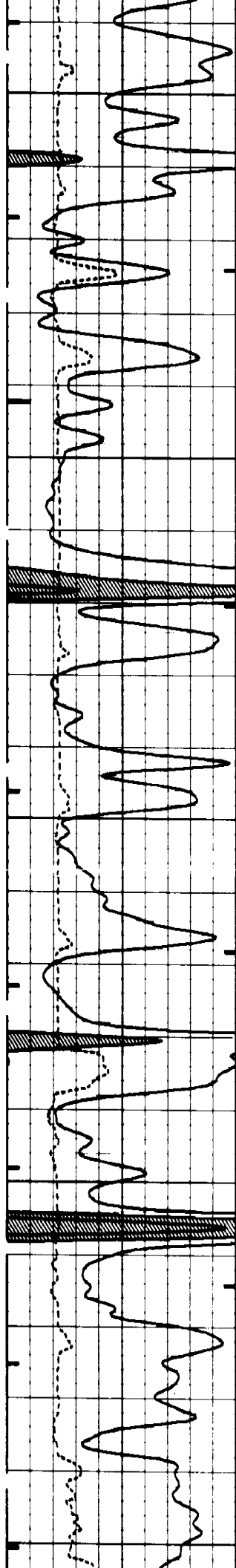
3150



3200

3250





3500

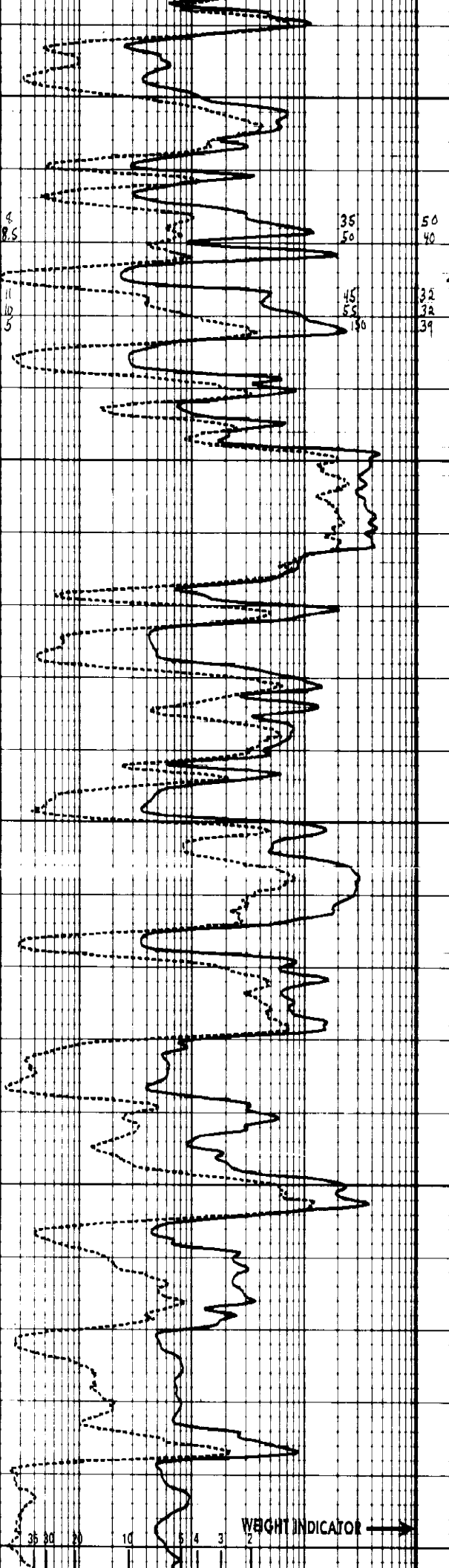
RW = .057

3550

3600

3650

3700



8.5
11
10
5

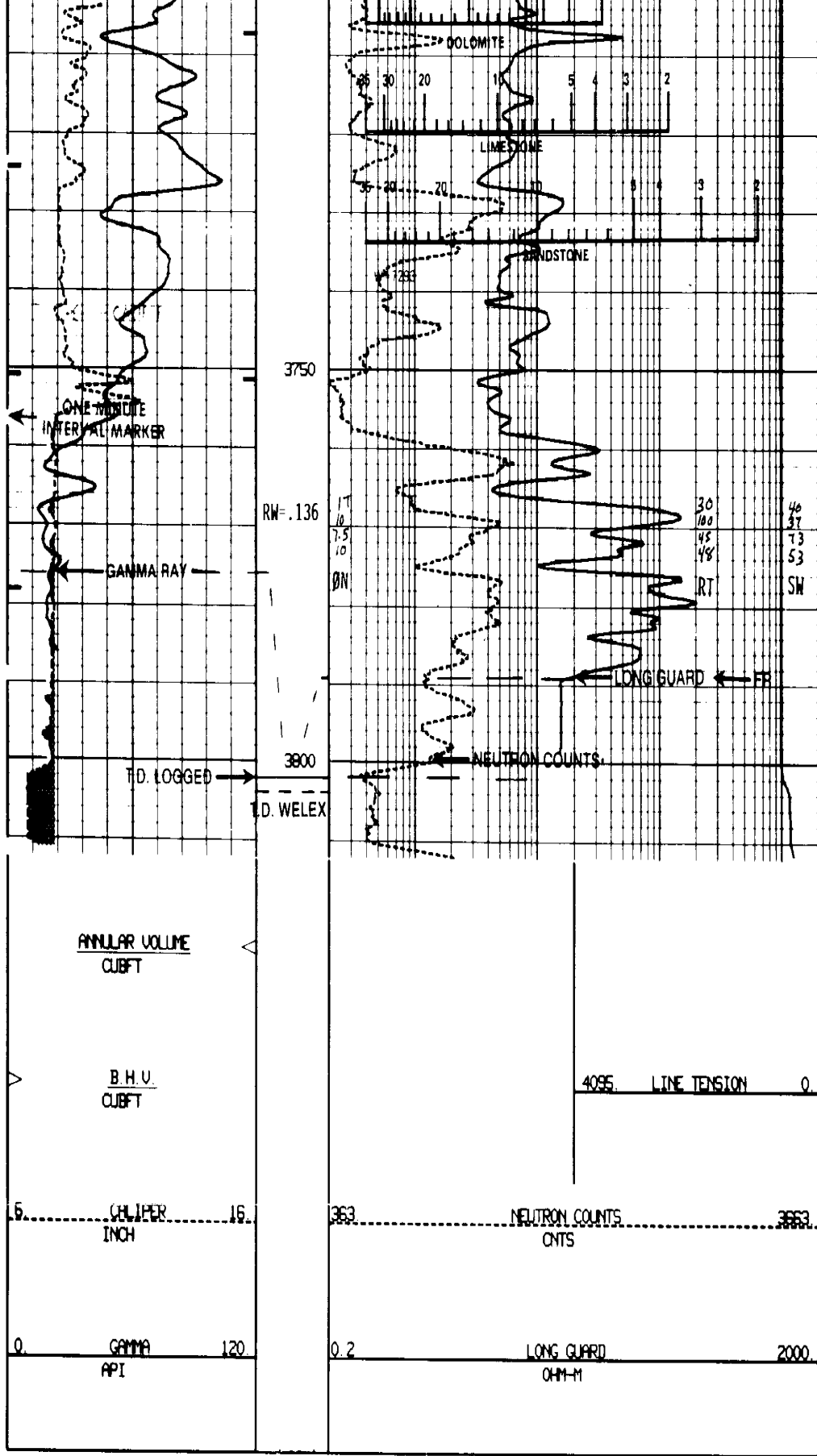
35
50
50
40

45
55
30

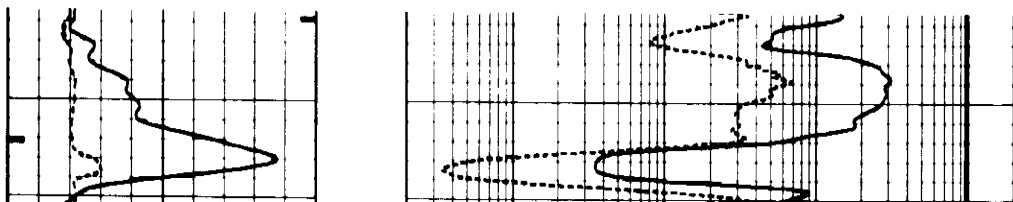
32
32
39

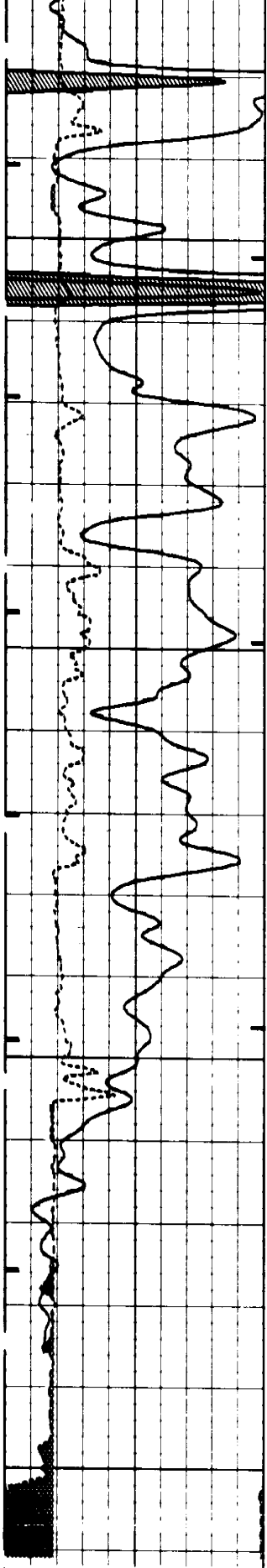
36 30 20 10 5 4 3 2

WEIGHT INDICATOR →



REPEAT SECTION



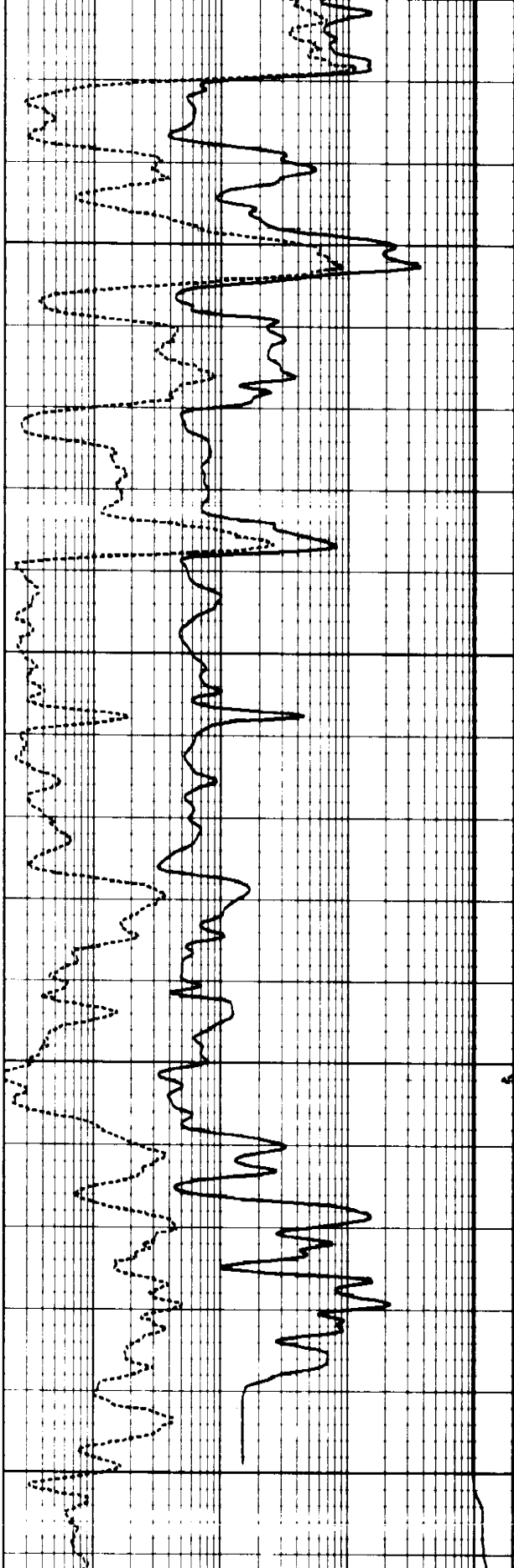


3650

3700

3750

3800



ANNUAL VOLUME
CUBFT

| | | | |
|------------------------|-----|------------------------|------|
| B.H.V. CUBFT | | 4095 LINE TENSION 0. | |
| 6. CALIPER 16. INCH | 353 | NEUTRON COUNTS CNTS | 3653 |
| 0. GAMMA 120 API | 0.2 | LONG GUARD OHM-M | 2000 |

WELL LOCATION 26-10S-21W

WELL NAME : HOLZHAUER NO. 1

TM
WELEX DLS ENG V1.86 09/06/85 DUAL GUARD MICRO GUARD DEN-NEU

LOG TAPE ID 42507001

DATE 11/04/85

AFTER LOG GAMMA RAY CALIBRATION SUMMARY

PERFORMED 11/04/85 LAST SHOP CALIB 11/21/85
PROGRAM VERSION V1.86

| | BEFORE | AFTER | UNITS |
|------------|--------|--------|-------|
| BACKGROUND | 28 356 | 29 466 | GAPI |
| CALIBRATE | 178 | 179 72 | GAPI |

SER # 24842 MOD # 510 SRC # D-80 FLD CAL. # 0

BEFORE LOG GAMMA RAY CALIBRATION

PERFORMED 11/04/85 LAST SHOP CALIB 11/21/85
PROGRAM VERSION V1.86

| | MEASURED | CALIBRATED | UNITS |
|------------|----------|------------|-------|
| BACKGROUND | 27 68 | 28 356 | GAPI |
| CALIBRATE | 173 76 | 178 | GAPI |

SER # 24842 MOD # 510 SRC # D-80 FLD CAL. # 0

SNV AFTER LOG CALIBRATION

PERFORMED 11/04/85
PROGRAM VERSION V1.86

ITEM

ENG. UNITS UNIT

ITEM
 ZERO(SW ONLY)
 BACKGROUND
 CALIBRATOR 1
 CALIBRATOR 2
 POROSITY 1
 POROSITY 2

BEFORE AFTER
 0.907 0. API CPS
 2700. 2719. API CPS
 0. 0. API CPS
 1.66 1.66 PERCENT
 0. 0. PERCENT

SER # D26674 MOD # 166 SRC # M-125 FLD CAL # 9010

GLD BEFORE LOG CALIBRATION

PERFORMED 12/04/85
 PROGRAM VERSION V1.86

| | MEASURED | CALIBRATE | UNITS |
|----------|----------|-----------|-------|
| INT. CAL | 19.933 | 19.853 | OHMM |

SER # 98613 MOD # 901 SRC # 0 FLD CAL # 0

SWN SHOP CALIBRATION

PERFORMED 11/04/85 LAST SHOP CALIB 11/21/85
 PROGRAM VERSION V1.86

| ITEM | MEASURED | CALIBRATED | UNIT |
|---------------|----------|------------|---------|
| ZERO(SW ONLY) | 0 | 0 | API CPS |
| BACKGROUND | 0 | 0 | API CPS |
| CALIBRATOR 1 | 2674 | 2700 | API CPS |
| CALIBRATOR 2 | 0 | 0 | API CPS |
| POROSITY 1 | 1.7727 | 1.66 | PERCENT |
| POROSITY 2 | 0 | 0 | PERCENT |

SER # D26674 MOD # 166 SRC # M-125 FLD CAL # 9010

SWN BEFORE LOG FULL FIELD CALIBRATION

PERFORMED 11/04/85 LAST SHOP CALIB 11/21/85
 PROGRAM VERSION V1.86

| ITEM | MEASURED | CALIBRATED | UNIT |
|---------------|----------|------------|---------|
| ZERO(SW ONLY) | 0 | 0.907 | API CPS |
| BACKGROUND | 0 | 0 | API CPS |
| CALIBRATOR 1 | 2697.3 | 2700 | API CPS |
| CALIBRATOR 2 | 0 | 0 | API CPS |
| POROSITY 1 | 1.6719 | 1.66 | PERCENT |
| POROSITY 2 | 0 | 0 | PERCENT |

SER # D26674 MOD # 166 SRC # M-125 FLD CAL # 9010

SWN BEFORE LOG FULL FIELD CALIBRATION

PERFORMED 11/04/85 LAST SHOP CALIB 11/21/85
 PROGRAM VERSION V1.86

| ITEM | TOOL VALUE | MEASURED | CALIBRATED | UNIT |
|---------------|------------|----------|------------|---------|
| ZERO(SW ONLY) | 3547 | 0 | 0.907 | API CPS |
| BACKGROUND | 3548 | 0 | 0 | API CPS |
| CALIBRATOR 1 | 3549 | 2697.3 | 2700 | API CPS |

| | | | | |
|--------------|-----------|-------------|----------------|---------|
| CALIBRATOR 1 | 6525 | 2857.5 | 2700. | API CPS |
| CALIBRATOR 2 | 0 | 0 | 0 | PERCENT |
| POROSITY 1 | | 1.6719 | 1.66 | PERCENT |
| POROSITY 2 | | 0 | 0 | PERCENT |
| NORMALIZER | | 0.906 | 0.907 | |
| INTERCEPT | | 0 | 0 | |
| SER # D26674 | MOD # 166 | SRC # M-125 | FLD CAL # 9010 | |

GLD AFTER LOG CALIBRATION

PERFORMED 12/04/85 LAST SHOP CALIB 11/21/85
 PROGRAM VERSION V1.86

CALIBRATED UNITS

BEFORE AFTER

INT. CAL 19.933 19.924 OHMM

SER # 98613 MOD # 901 SRC # 0 FLD CAL # 0

AFTER LOG CALI CALIBRATION SUMMARY

PERFORMED 12/04/85 LAST SHOP CALIB 11/21/85
 PROGRAM VERSION V1.86

| | BEFORE | AFTER | UNITS |
|---------|--------|--------|-------|
| VALUE 1 | 6. | 6.8021 | INCH |
| VALUE 2 | 16. | 16.726 | INCH |

SER # 29459 MOD # 123 SRC # 0 FLD CAL # 9010

BEFORE LOG CALI CALIBRATION

PERFORMED 12/04/85 LAST SHOP CALIB 11/21/85
 PROGRAM VERSION V1.86

| | MEASURED | CALIBRATED | UNITS |
|---------|----------|------------|-------|
| VALUE 1 | 6.2357 | 6. | INCH |
| VALUE 2 | 16.007 | 16. | INCH |

SER # 29459 MOD # 123 SRC # 0 FLD CAL # 9010

