

HALLIBURTON

BORE HOLE  
SONIC ARRAY  
LOG

|                                                                |                                   |                          |          |          |                                 |
|----------------------------------------------------------------|-----------------------------------|--------------------------|----------|----------|---------------------------------|
| COMPANY                                                        |                                   | OSAGE RESOURCES LLC      |          |          |                                 |
| WELL                                                           |                                   | OSAGE 3314 13-09 SWD     |          |          |                                 |
| FIELD                                                          |                                   | MEDICINE LODGE BOGGS     |          |          |                                 |
| COUNTY                                                         |                                   | BARBER                   |          |          |                                 |
| STATE                                                          |                                   | KANSAS                   |          |          |                                 |
| Permanent Datum<br>Log measured from<br>Drilling measured from | GL<br>KB<br>KB                    | Sect. 13                 | Twp. 33S | Rge. 14W | Elev. 1875.0 ft<br>D.F.<br>G.L. |
|                                                                | 17.0 ft above perm. Datum<br>G.L. |                          |          |          |                                 |
| Date                                                           | 30-Aug-12                         |                          |          |          |                                 |
| Run No.                                                        | ONE                               |                          |          |          |                                 |
| Depth - Driller                                                | 5832.00 ft                        |                          |          |          |                                 |
| Depth - Logger                                                 | 5787.0 ft                         |                          |          |          |                                 |
| Bottom - Logged Interval                                       | 5735.0 ft                         |                          |          |          |                                 |
| Top - Logged Interval                                          | 204.0 ft                          |                          |          |          |                                 |
| Casing - Driller                                               | 13.375 in @ 205.0 ft              |                          |          |          |                                 |
| Casing - Logger                                                | 204.0 ft                          |                          |          |          |                                 |
| Bit Size                                                       | 8.750 in                          | 12.250 in @ 1200.00 ft @ |          |          |                                 |
| Type Fluid in Hole                                             | WATER BASED MUD                   |                          |          |          |                                 |
| Density                                                        | 9.3 ppq                           | 55.00 s/qt               |          |          |                                 |
| PH                                                             | 10.50 pH                          | 9.6 cp/m                 |          |          |                                 |
| Source of Sample                                               | FLOW LINE                         |                          |          |          |                                 |
| Rm @ Meas. Temperature                                         | 0.550 ohmm @ 75.00 degF           | @                        |          |          |                                 |
| Rmf @ Meas. Temperature                                        | 0.45 ohmm @ 75.00 degF            | @                        |          |          |                                 |
| Rmc @ Meas. Temperature                                        | 0.650 ohmm @ 75.00 degF           | @                        |          |          |                                 |
| Source Rmf                                                     | MEASURED                          | MEASURED                 |          |          |                                 |
| Rm @ BHT                                                       | 0.33 ohmm @ 129.0 degF            | @                        |          |          |                                 |
| Time Since Circulation                                         | 8.0 hr                            |                          |          |          |                                 |
| Time on Bottom                                                 | 31-Aug-12 00:37                   |                          |          |          |                                 |
| Max. Rec. Temperature                                          | 129.0 degF @ 5787.0 ft            | @                        |          |          |                                 |
| Equipment                                                      | 10546696                          | LIBERAL                  |          |          |                                 |
| Recorded By                                                    | T. HYDE                           |                          |          |          |                                 |
| Witnessed By                                                   | J. DALE                           |                          |          |          |                                 |

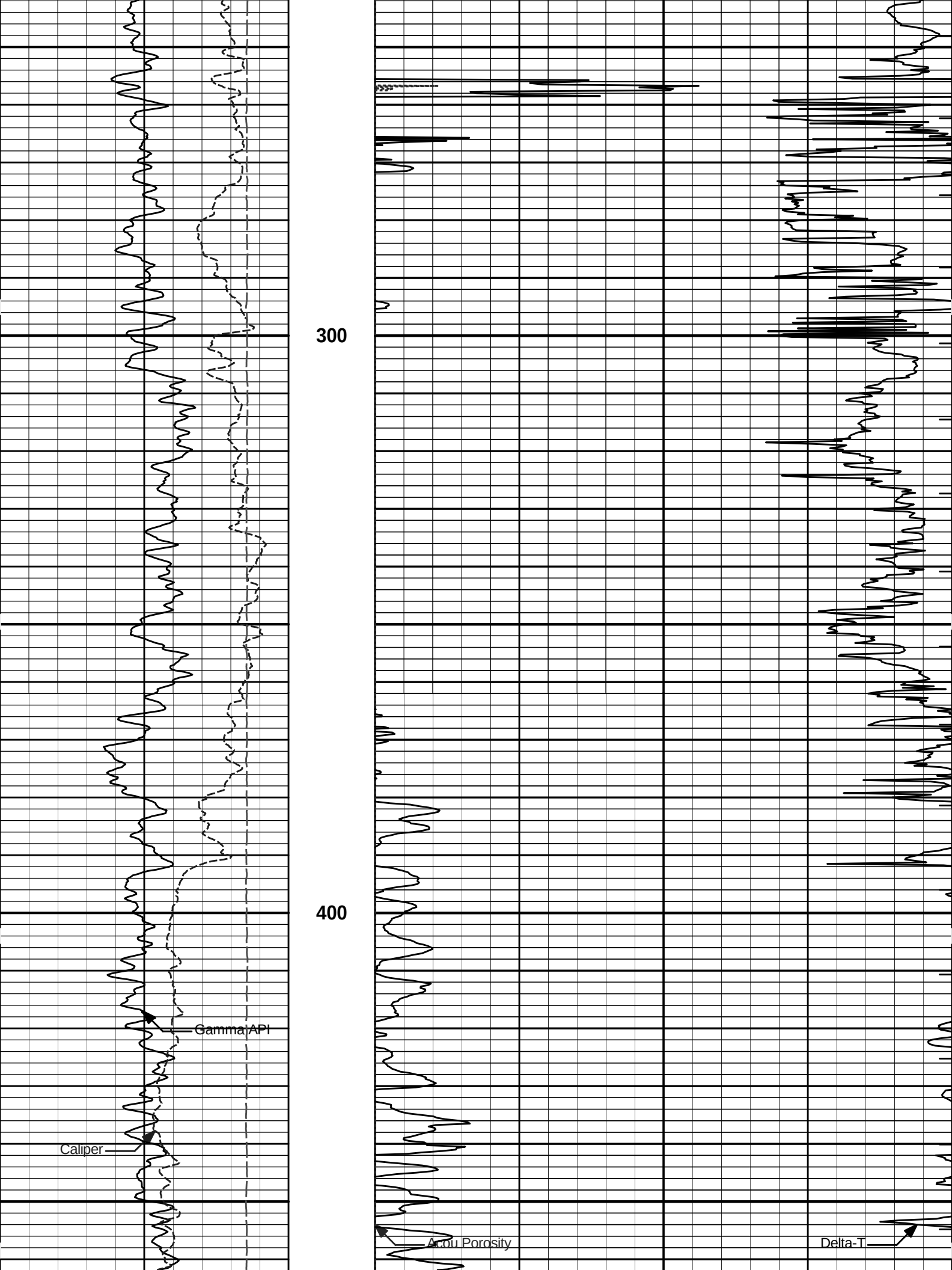
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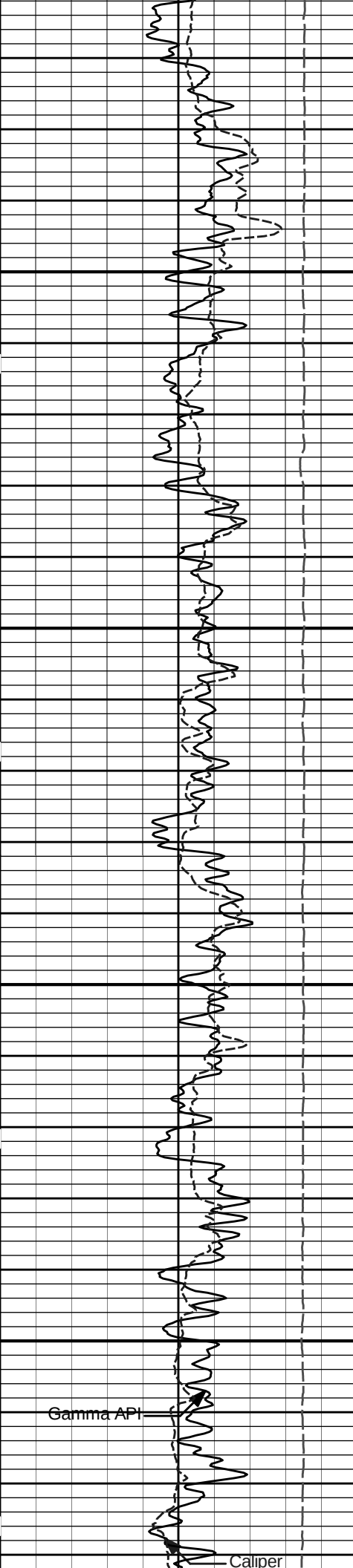
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|-----------------------------------------|--|------------|--|------------------------------------|--|----------------------------|--|-----------------------------------------|--|---------------|--|-----------------|--|-------|--|---------|--|--|--|
| Service Ticket No.: 9785632             |  |            |  | API Serial No.: 15-007-23917-00-00 |  |                            |  | PGM Version: WL INSITE R3.6.0 (Build 3) |  |               |  |                 |  |       |  |         |  |  |  |
| CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE |  |            |  |                                    |  | RESISTIVITY SCALE CHANGES  |  |                                         |  |               |  |                 |  |       |  |         |  |  |  |
| Date                                    |  | Sample No. |  |                                    |  | Type Log                   |  | Depth                                   |  | Scale Up Hole |  | Scale Down Hole |  |       |  |         |  |  |  |
| Depth-Driller                           |  |            |  |                                    |  |                            |  |                                         |  |               |  |                 |  |       |  |         |  |  |  |
| Type Fluid in Hole                      |  |            |  |                                    |  |                            |  |                                         |  |               |  |                 |  |       |  |         |  |  |  |
| Density                                 |  | Viscosity  |  |                                    |  |                            |  |                                         |  |               |  |                 |  |       |  |         |  |  |  |
| Ph                                      |  | Fluid Loss |  |                                    |  |                            |  |                                         |  |               |  |                 |  |       |  |         |  |  |  |
| Source of Sample                        |  |            |  |                                    |  | RESISTIVITY EQUIPMENT DATA |  |                                         |  |               |  |                 |  |       |  |         |  |  |  |
| Rm @ Meas. Temp                         |  | @          |  | @                                  |  | Run No.                    |  | Tool Type & No.                         |  | Pad Type      |  | Tool Pos.       |  | Other |  |         |  |  |  |
| Rmf @ Meas. Temp.                       |  | @          |  | @                                  |  |                            |  |                                         |  |               |  |                 |  |       |  |         |  |  |  |
| Rmc @ Meas. Temp.                       |  | @          |  | @                                  |  |                            |  |                                         |  |               |  |                 |  |       |  |         |  |  |  |
| Source Rmf                              |  | Rmc        |  |                                    |  |                            |  |                                         |  |               |  |                 |  |       |  |         |  |  |  |
| Rm @ BHT                                |  | @          |  | @                                  |  |                            |  |                                         |  |               |  |                 |  |       |  |         |  |  |  |
| Rmf @ BHT                               |  | @          |  | @                                  |  |                            |  |                                         |  |               |  |                 |  |       |  |         |  |  |  |
| Rmc @ BHT                               |  | @          |  | @                                  |  |                            |  |                                         |  |               |  |                 |  |       |  |         |  |  |  |
| EQUIPMENT DATA                          |  |            |  |                                    |  |                            |  |                                         |  |               |  |                 |  |       |  |         |  |  |  |
| GAMMA                                   |  |            |  | ACOUSTIC                           |  |                            |  | DENSITY                                 |  |               |  | NEUTRON         |  |       |  |         |  |  |  |
| Run No.                                 |  | ONE        |  | Run No.                            |  | ONE                        |  | Run No.                                 |  |               |  | Run No.         |  |       |  |         |  |  |  |
| Serial No.                              |  | 11048627   |  | Serial No.                         |  | 10747684                   |  | Serial No.                              |  |               |  | Serial No.      |  |       |  |         |  |  |  |
| Model No.                               |  | GTET       |  | Model No.                          |  | BSAT                       |  | Model No.                               |  |               |  | Model No.       |  |       |  |         |  |  |  |
| Diameter                                |  | 3.625"     |  | No. of Cent.                       |  | 2                          |  | Diameter                                |  |               |  | Diameter        |  |       |  |         |  |  |  |
| Detector Model No.                      |  | T-102      |  | Spacing                            |  | .5                         |  | Log Type                                |  |               |  | Log Type        |  |       |  |         |  |  |  |
| Type                                    |  | SCINT      |  |                                    |  |                            |  | Source Type                             |  |               |  | Source Type     |  |       |  |         |  |  |  |
| Length                                  |  | 8"         |  | LSA [Y/N]                          |  | Y                          |  | Serial No.                              |  |               |  | Serial No.      |  |       |  |         |  |  |  |
| Distance to Source                      |  | 10'        |  | FWDA [Y/N ]                        |  | Y                          |  | Strength                                |  |               |  | Strength        |  |       |  |         |  |  |  |
| LOGGING DATA                            |  |            |  |                                    |  |                            |  |                                         |  |               |  |                 |  |       |  |         |  |  |  |
| GENERAL                                 |  |            |  | GAMMA                              |  |                            |  | ACOUSTIC                                |  |               |  | DENSITY         |  |       |  | NEUTRON |  |  |  |

| GENERAL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |       |     | GAMMA  |       | ACOUSTIC |       | DENSITY |        | NEUTRON |   |        |       |   |        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----|--------|-------|----------|-------|---------|--------|---------|---|--------|-------|---|--------|
| Run                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Depth |     | Speed  | Scale |          | Scale |         | Matrix | Scale   |   | Matrix | Scale |   | Matrix |
| No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | From  | To  | ft/min | L     | R        | L     | R       |        | L       | R |        | L     | R |        |
| ONE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 5787  | 204 | REC    | 0     | 150      | 30    | -10     | 47.6   |         |   |        |       |   |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |     |        |       |          |       |         |        |         |   |        |       |   |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |     |        |       |          |       |         |        |         |   |        |       |   |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |     |        |       |          |       |         |        |         |   |        |       |   |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |     |        |       |          |       |         |        |         |   |        |       |   |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |     |        |       |          |       |         |        |         |   |        |       |   |        |
| DIRECTIONAL INFORMATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |       |     |        |       |          |       |         |        |         |   |        |       |   |        |
| Maximum Deviation @                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |       |     |        |       |          |       |         | KOP @  |         |   |        |       |   |        |
| Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 7 INCH CASING                                                                                                                                                                                                                                                                                                                                                                                                                                               |       |     |        |       |          |       |         |        |         |   |        |       |   |        |
| CHLORIDES REPORTED AT 4500 MG/L                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |     |        |       |          |       |         |        |         |   |        |       |   |        |
| LCM REPORTED AT 6 PPB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |     |        |       |          |       |         |        |         |   |        |       |   |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |     |        |       |          |       |         |        |         |   |        |       |   |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |     |        |       |          |       |         |        |         |   |        |       |   |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |     |        |       |          |       |         |        |         |   |        |       |   |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |     |        |       |          |       |         |        |         |   |        |       |   |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |     |        |       |          |       |         |        |         |   |        |       |   |        |
| TODAY'S CREW V. JAIME K. KING                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |       |     |        |       |          |       |         |        |         |   |        |       |   |        |
| THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES LIBERAL, KANSAS 620-624-8123                                                                                                                                                                                                                                                                                                                                                                                                                         |       |     |        |       |          |       |         |        |         |   |        |       |   |        |
| HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR RECOMMENDATIONS AGREES THAT HALLIBURTON IS NOT RESPONSIBLE EXCEPT WHERE DUE TO GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, FOR ANY LOSS, DAMAGES, OR EXPENSES RESULTING FROM THE USE THEREOF. |       |     |        |       |          |       |         |        |         |   |        |       |   |        |
| HALLIBURTON                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |     |        |       |          |       |         |        |         |   |        |       |   |        |

# HALLIBURTON

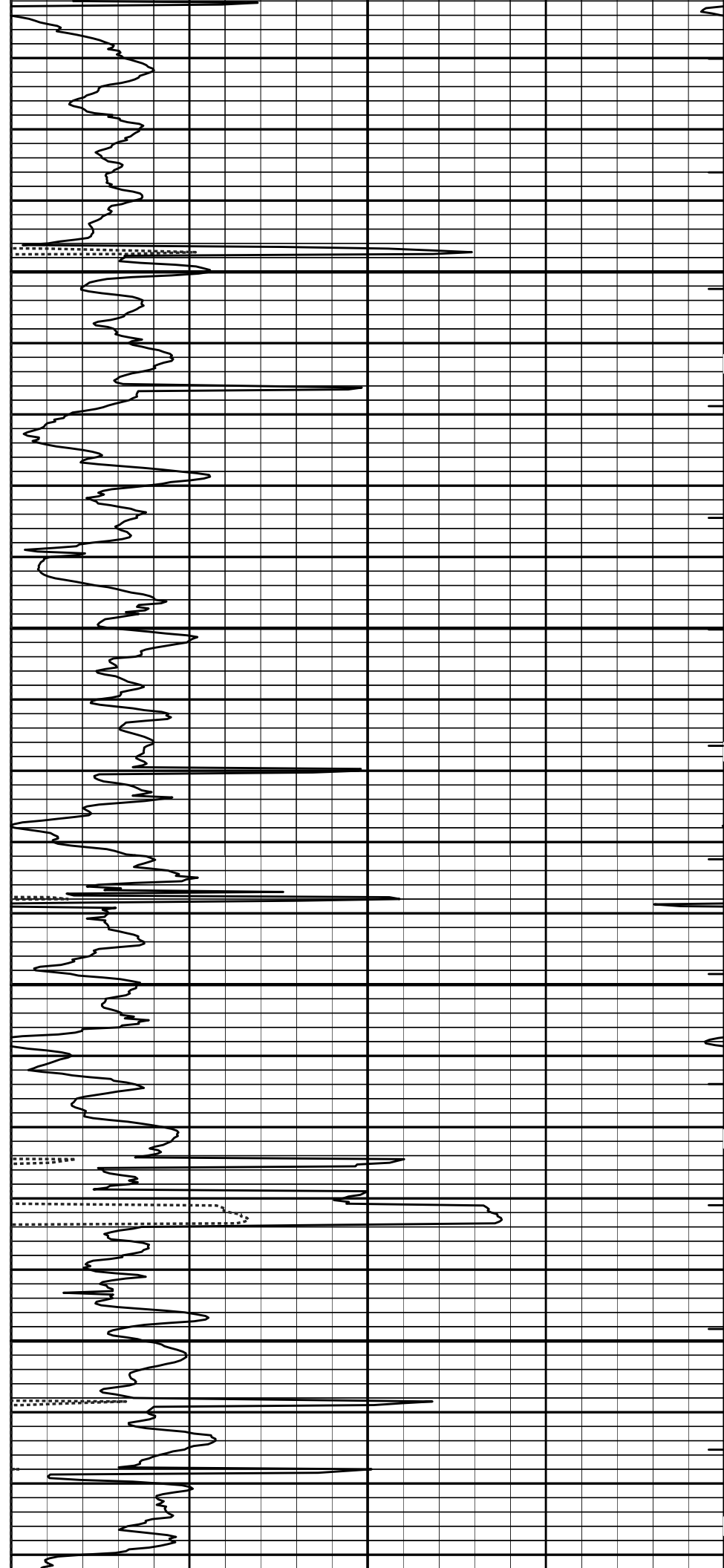
# 5 INCH MAIN LOG

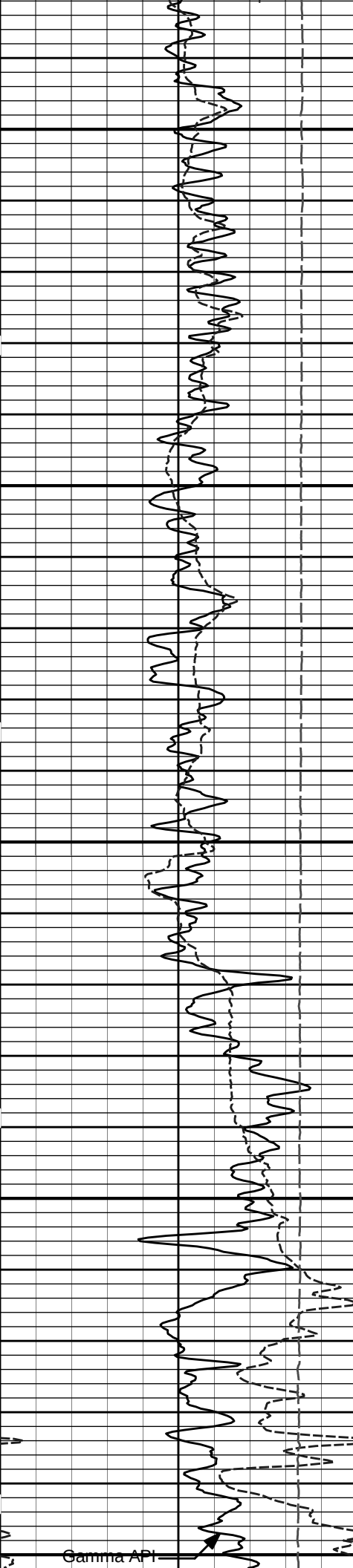




500

600

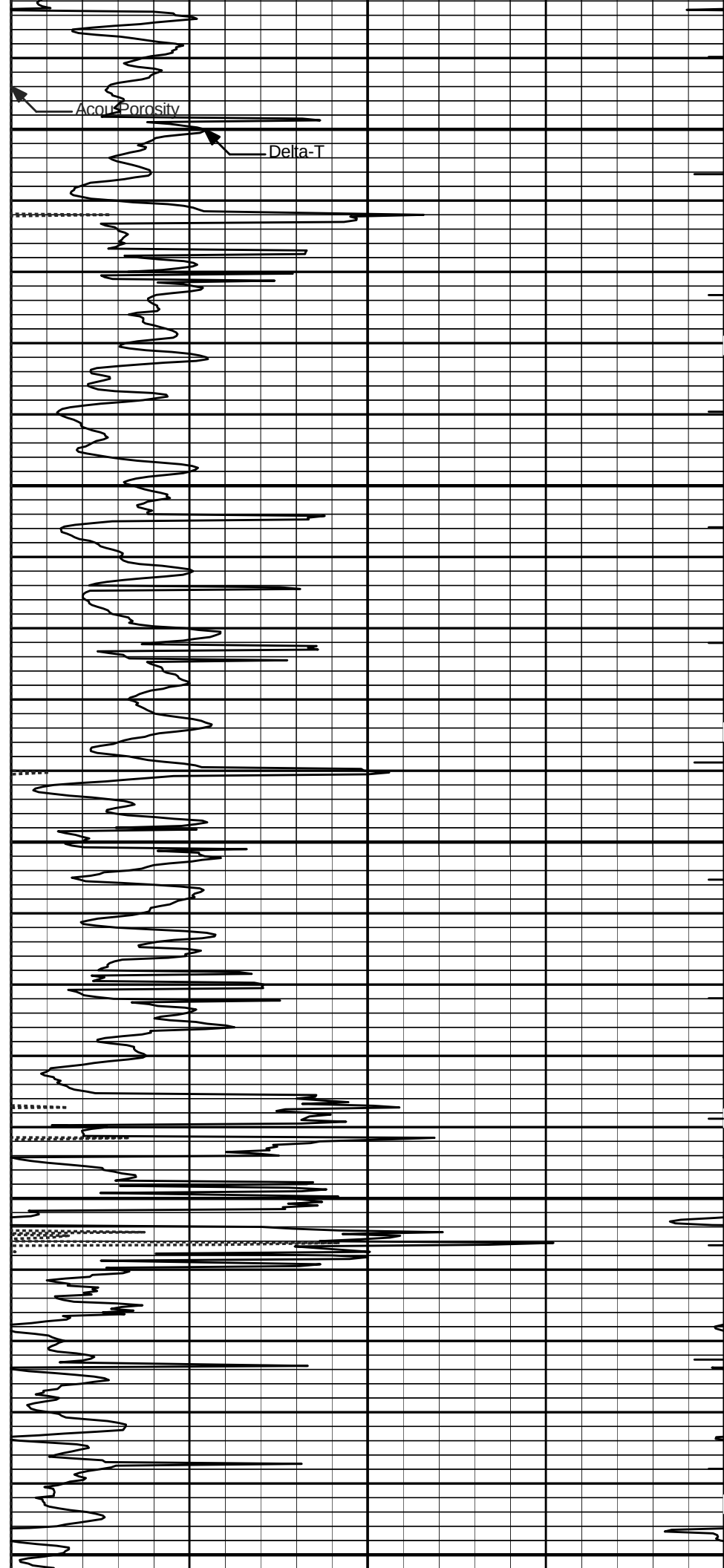




700

800

900



Acoustic Porosity

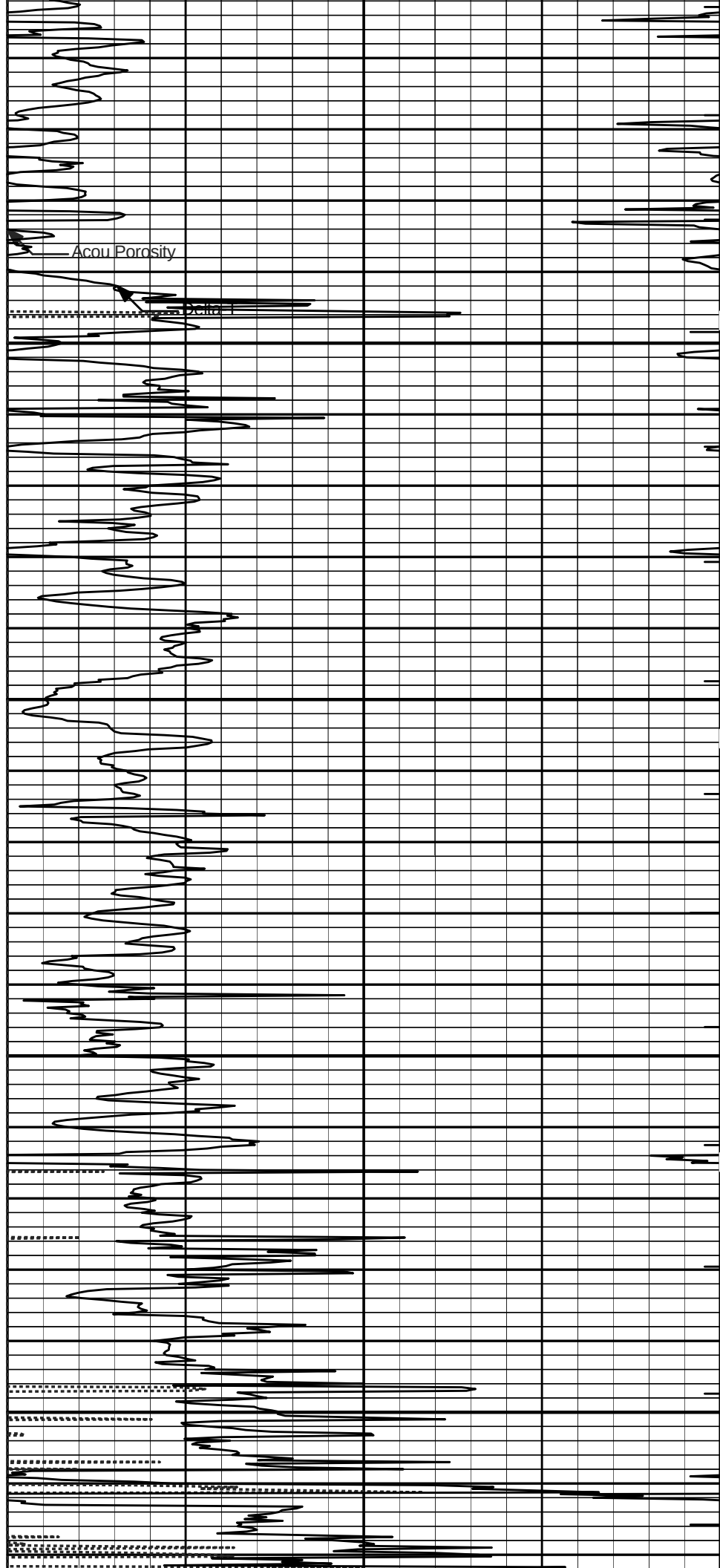
Delta-T

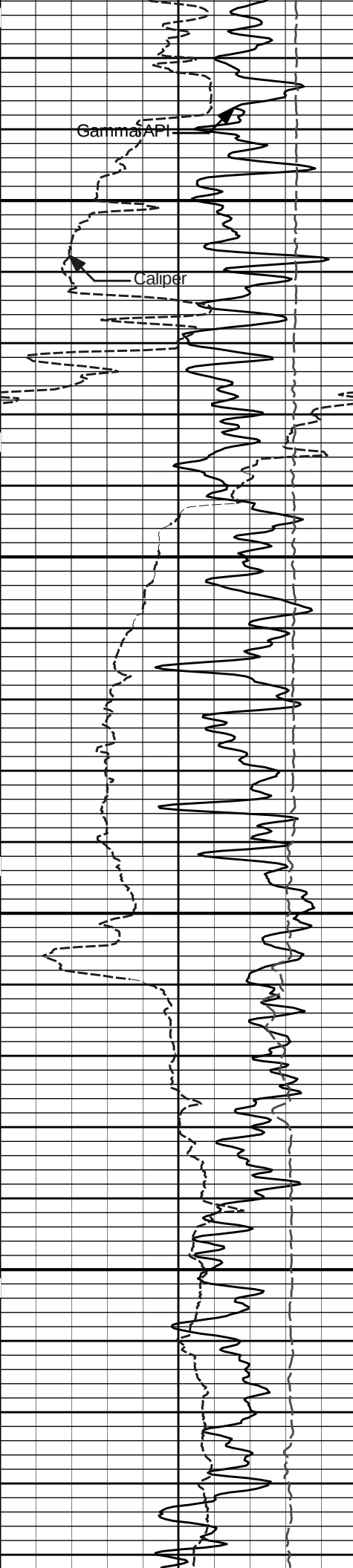
Gamma API



1000

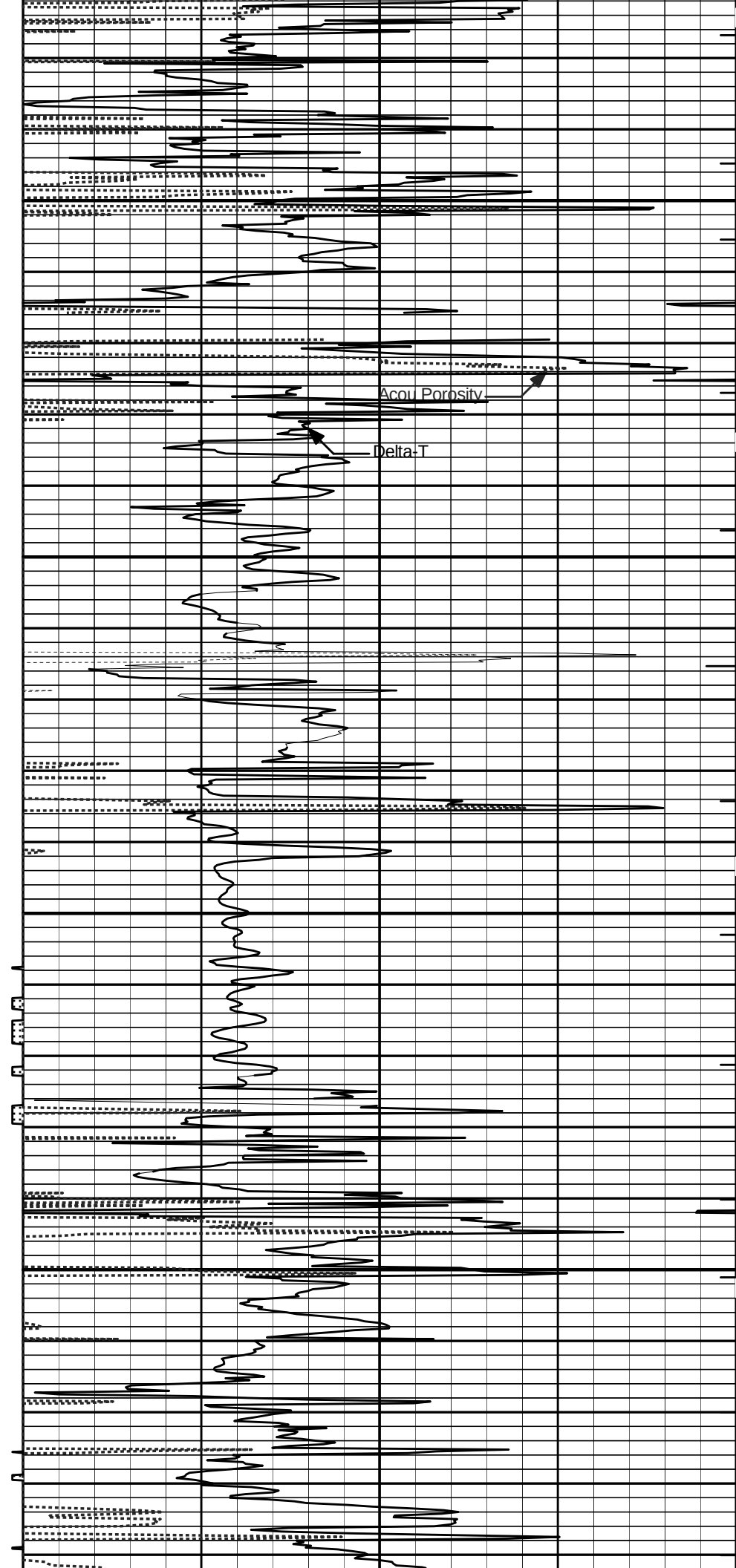
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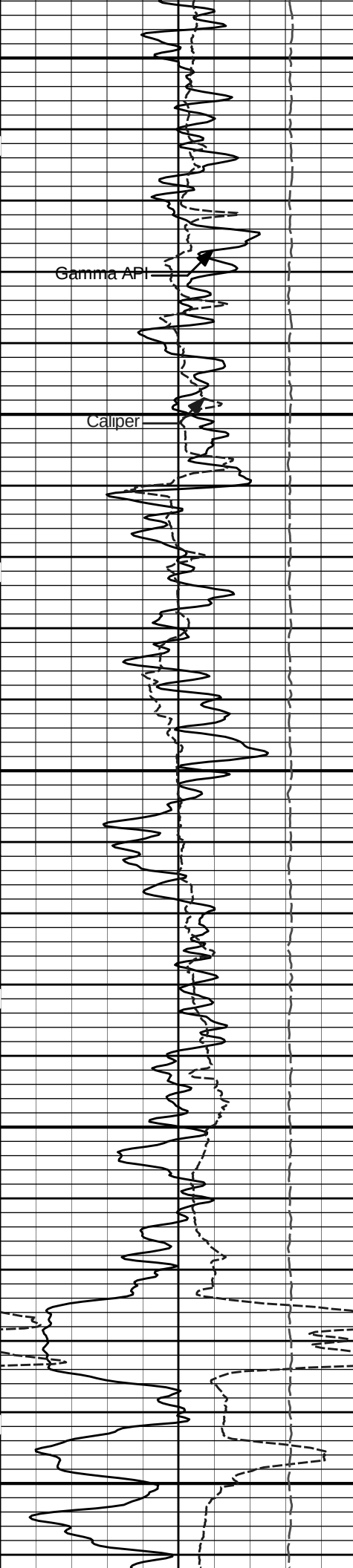




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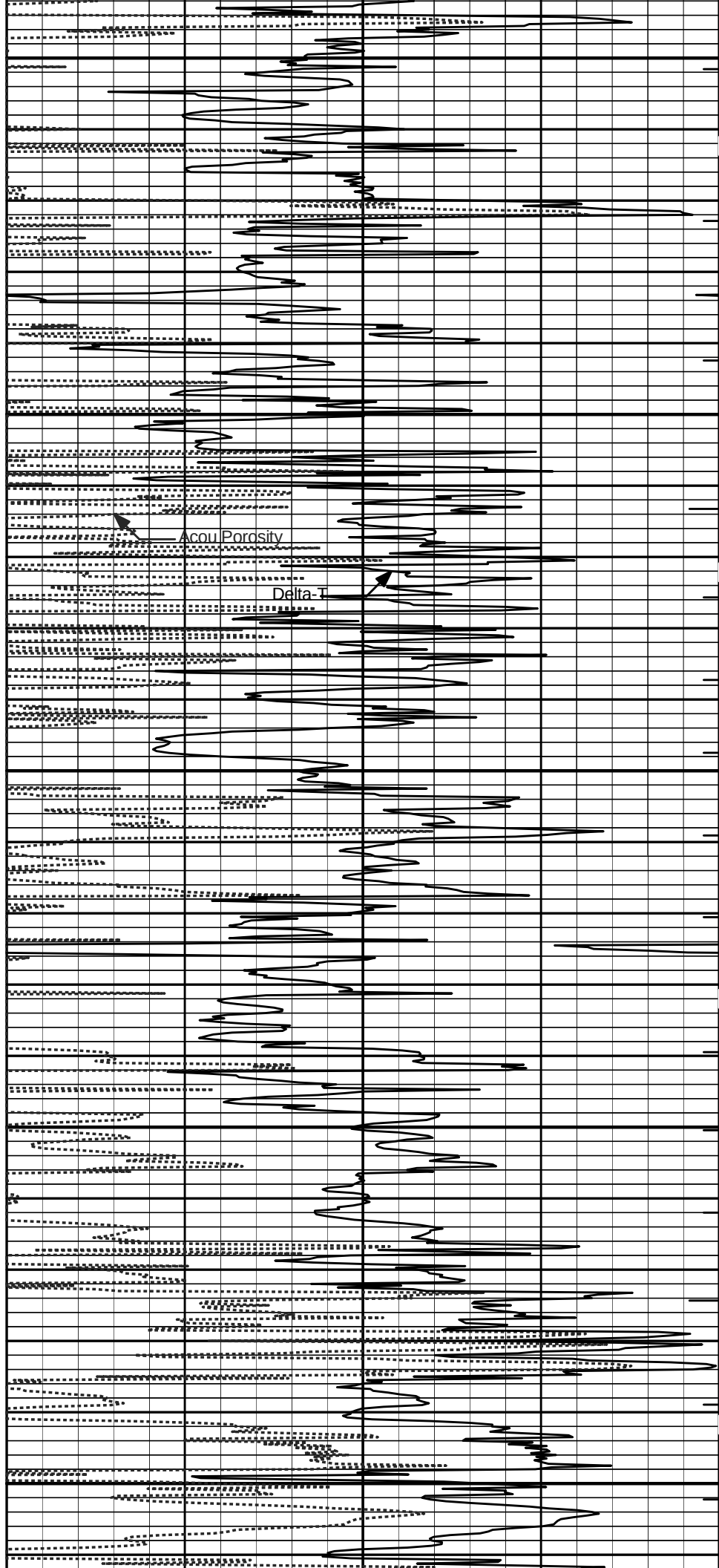
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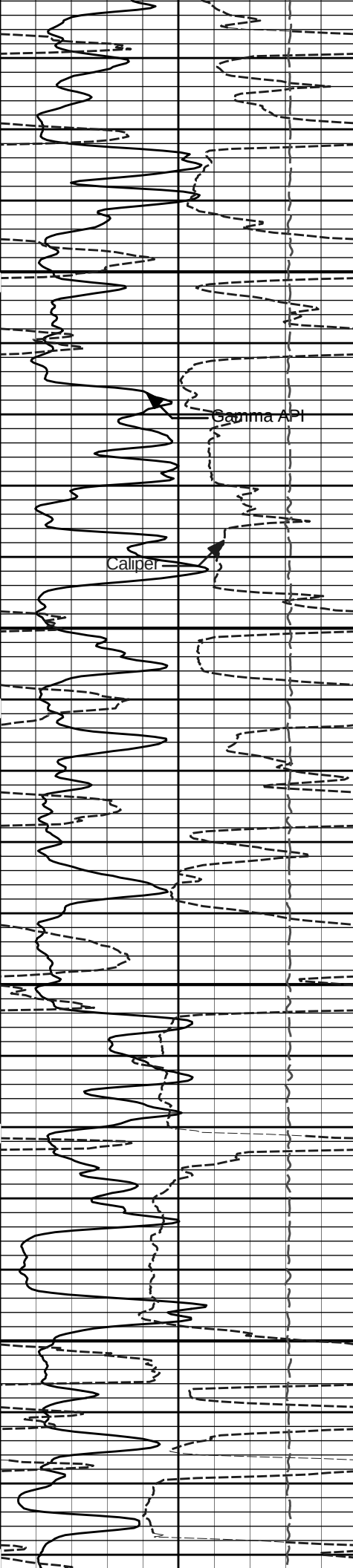


1400

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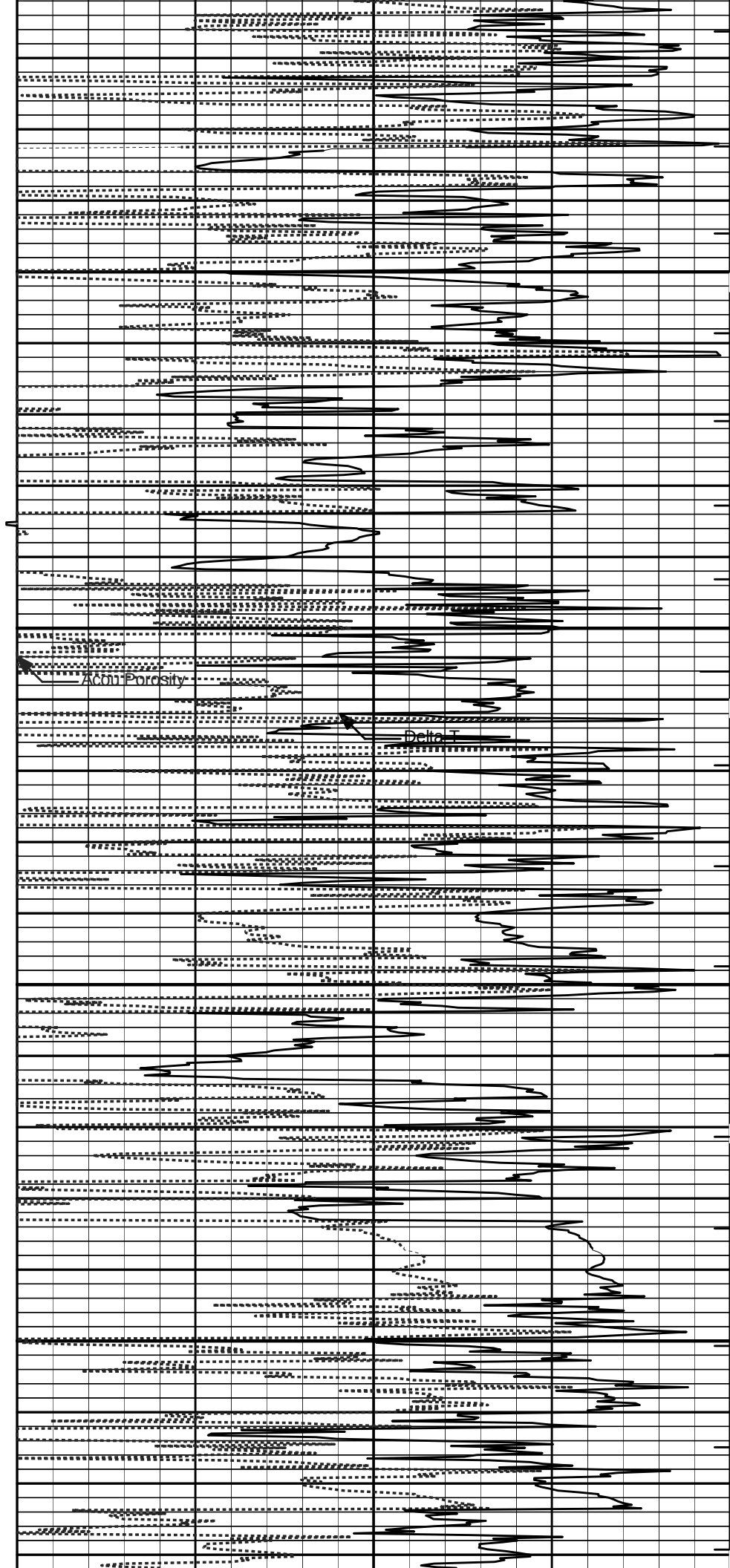


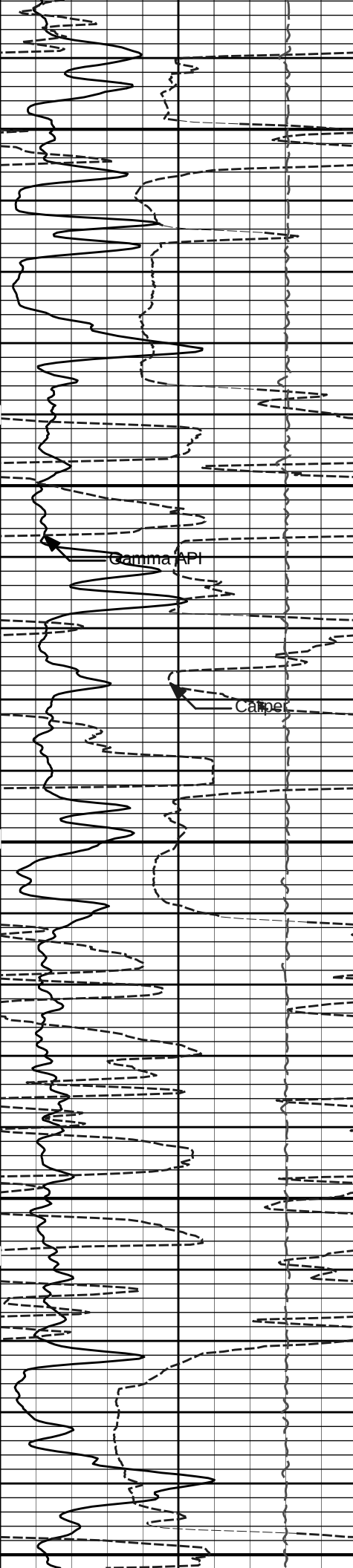




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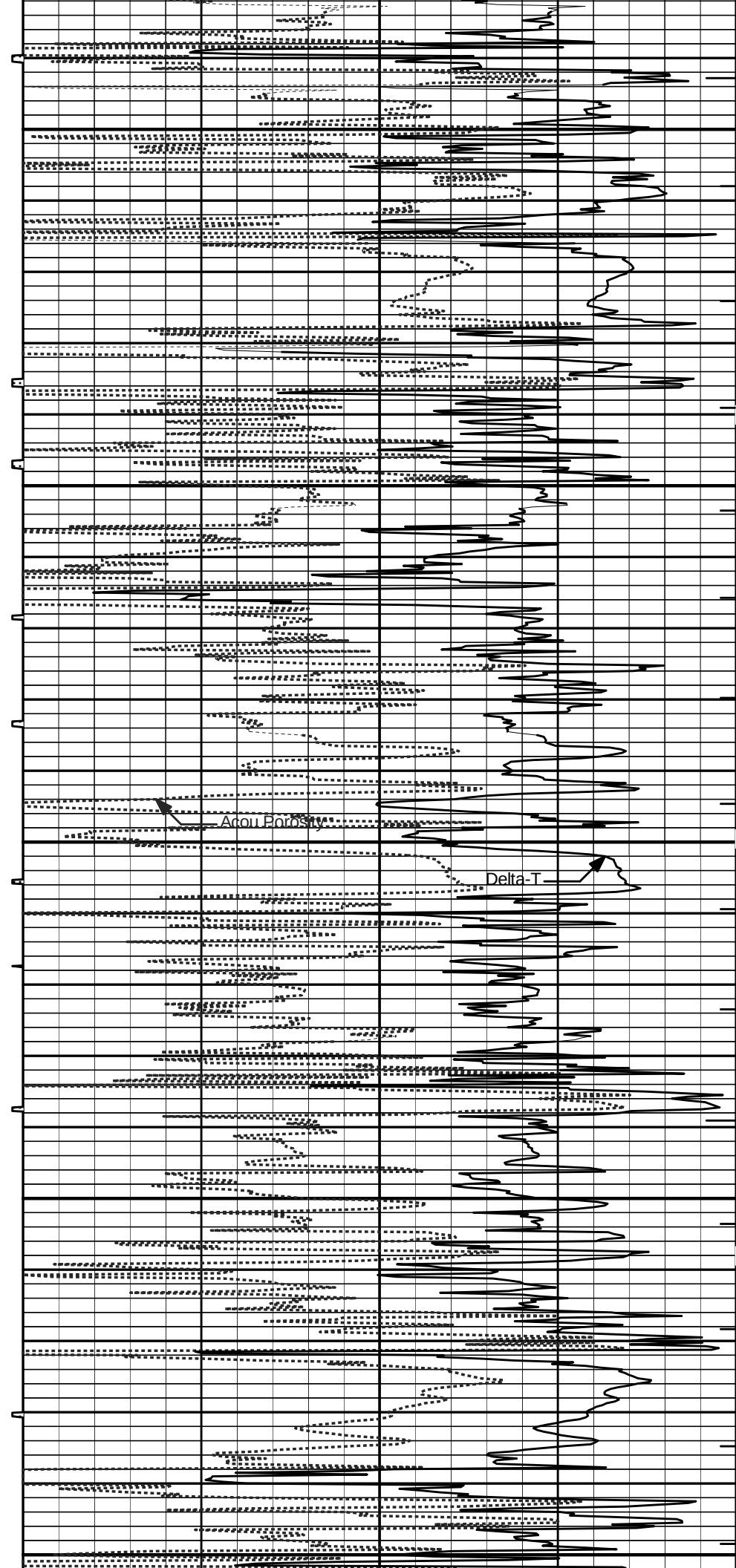


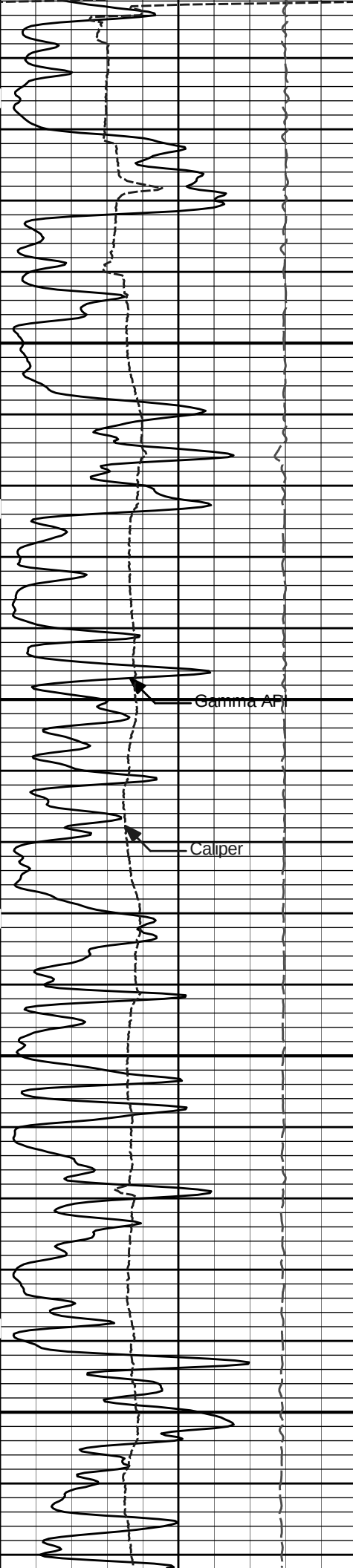


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1900

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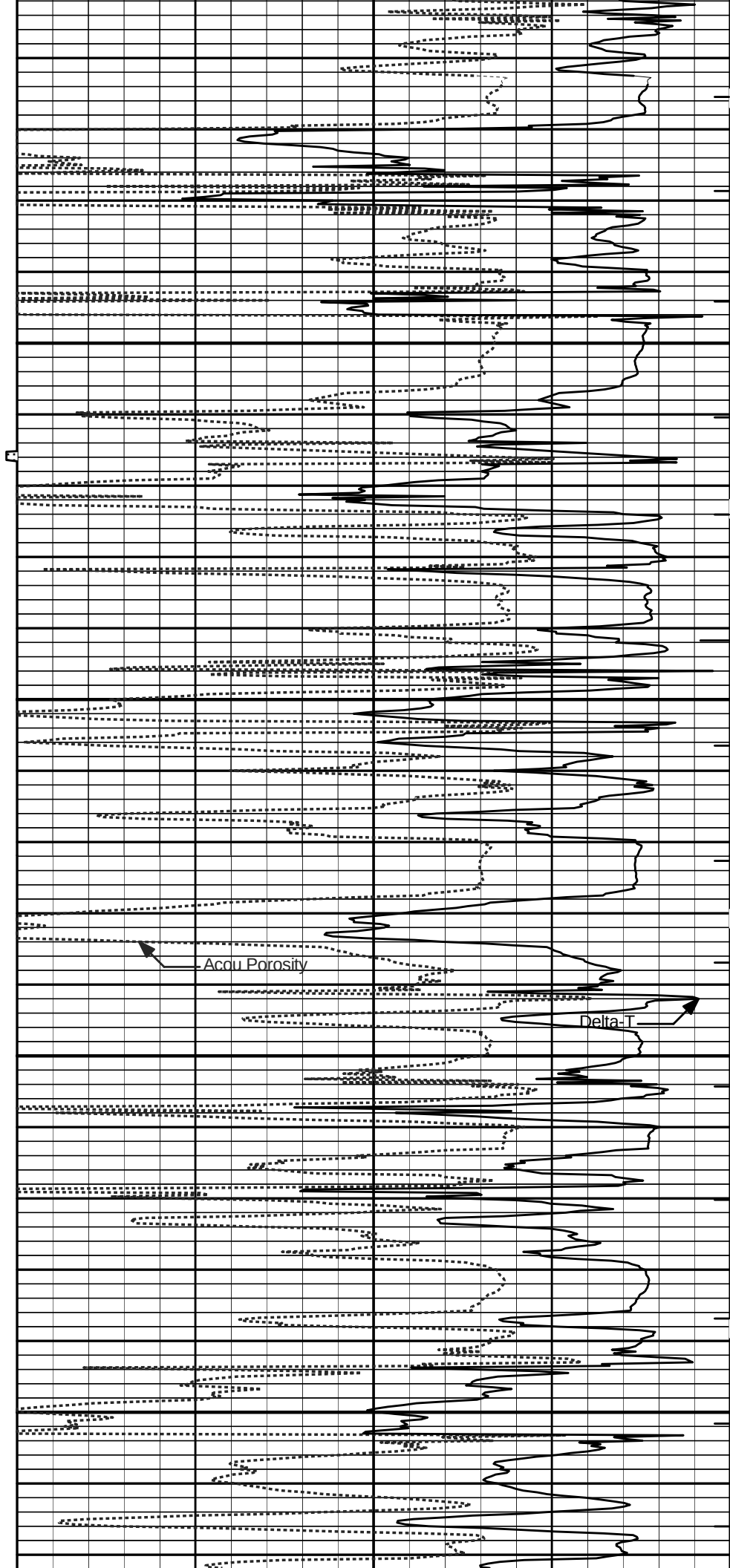


Gamma AP

Caliper

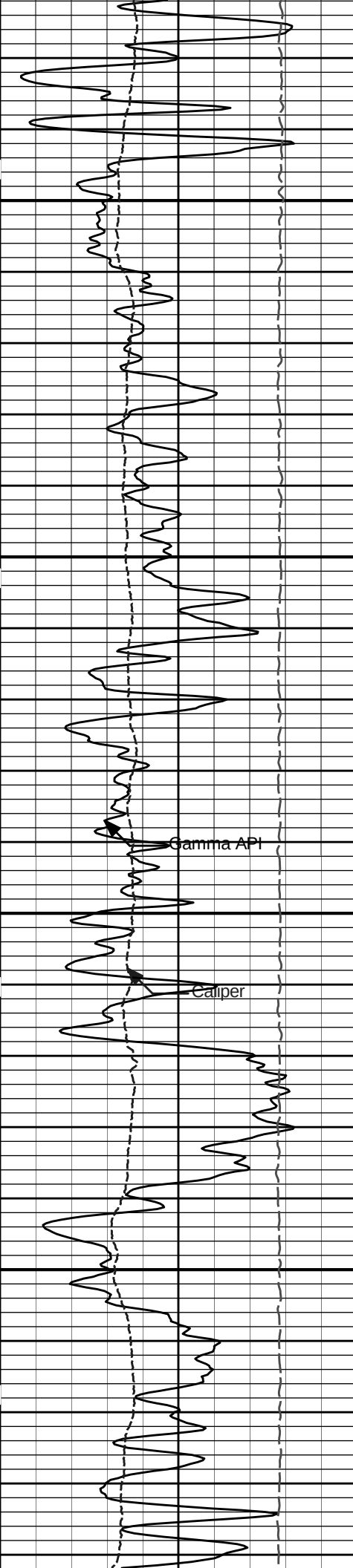
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2200



Acou Porosity

Delta T

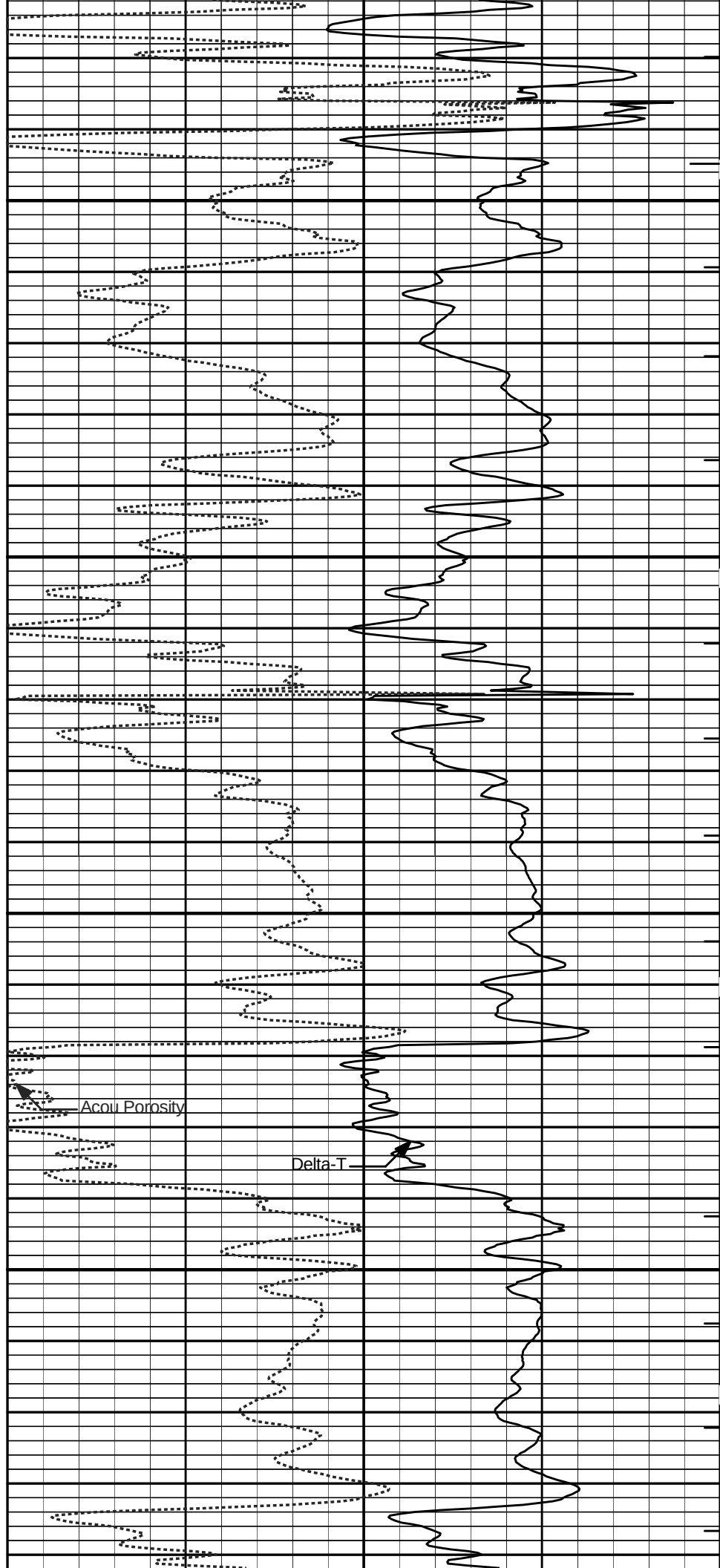


2300

Gamma API

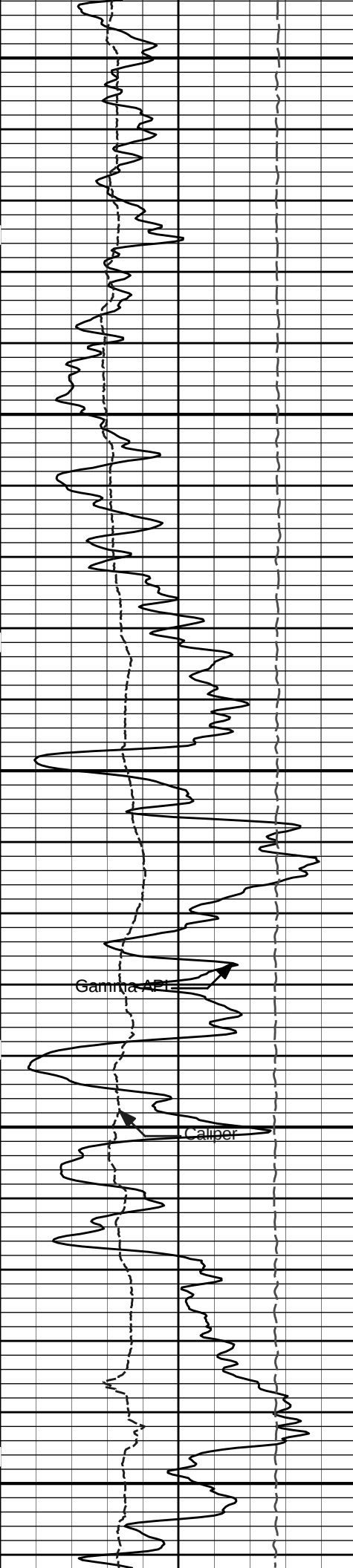
Caliper

2400



Acou Porosity

Delta-T

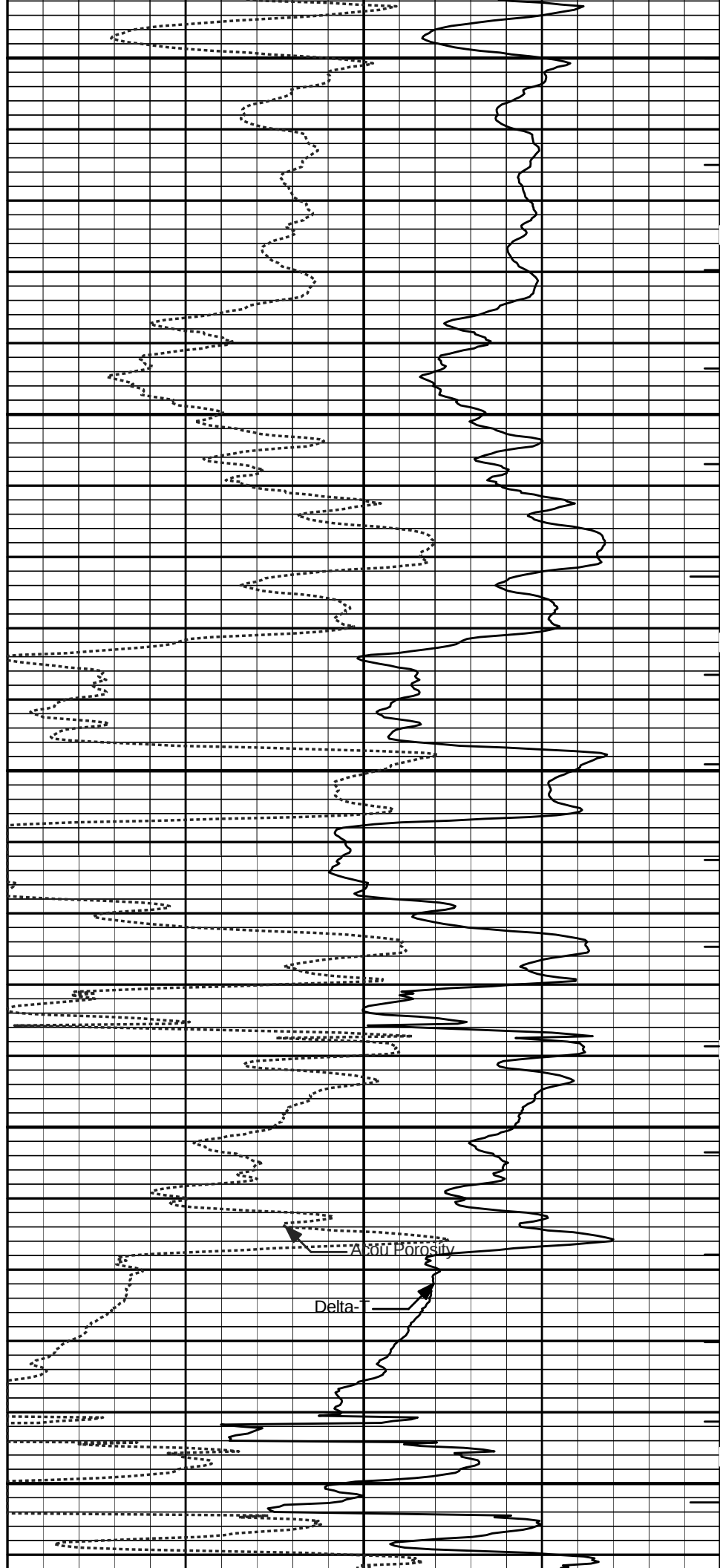


2500

2600

Gamma API

Caliper



Acoustic Porosity

Delta-T

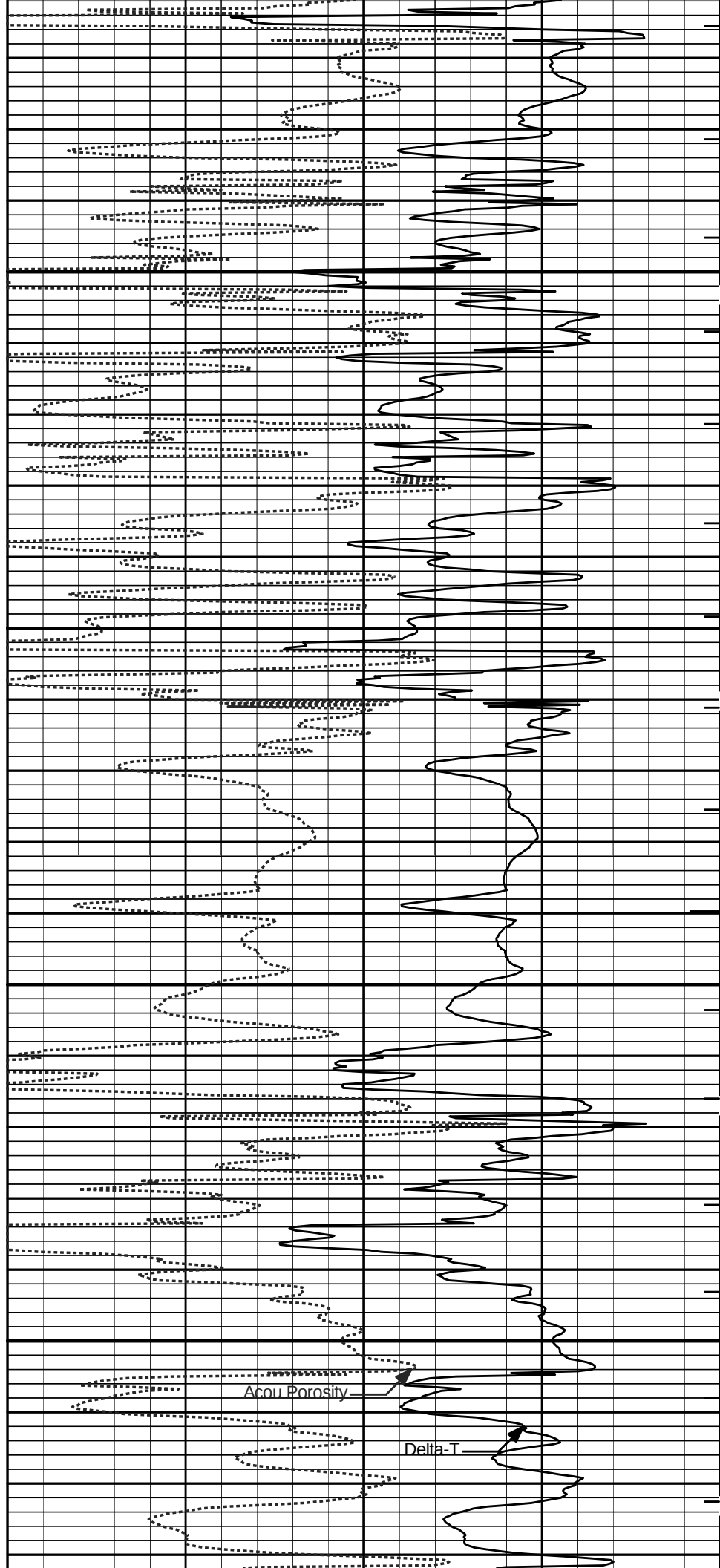


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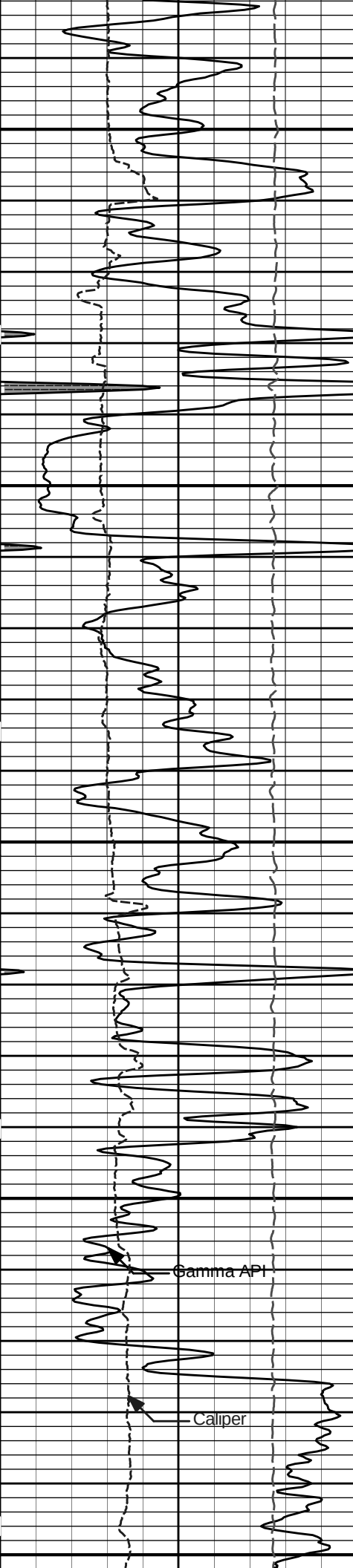
Gamma API

Caliper



Acou Porosity

Delta-T



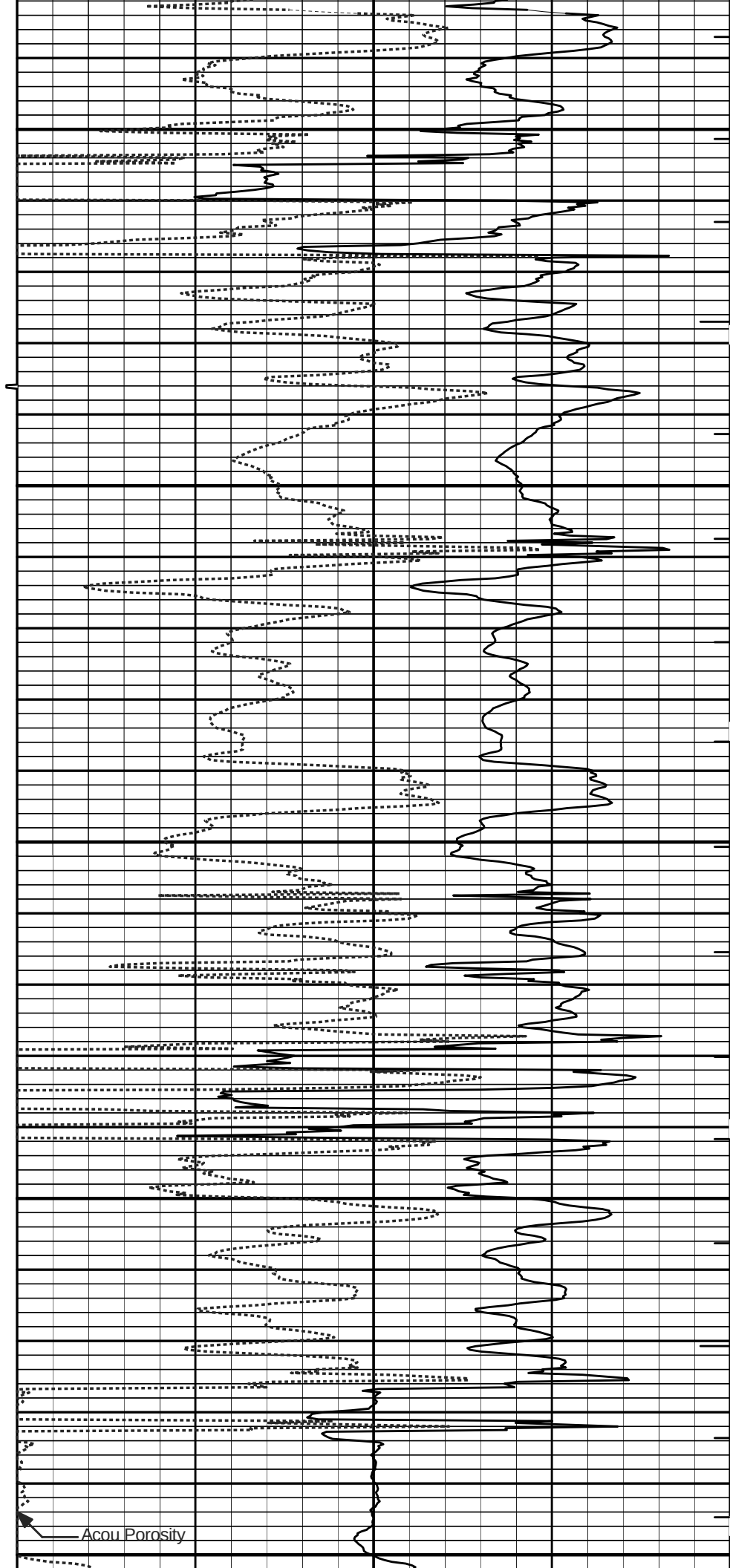
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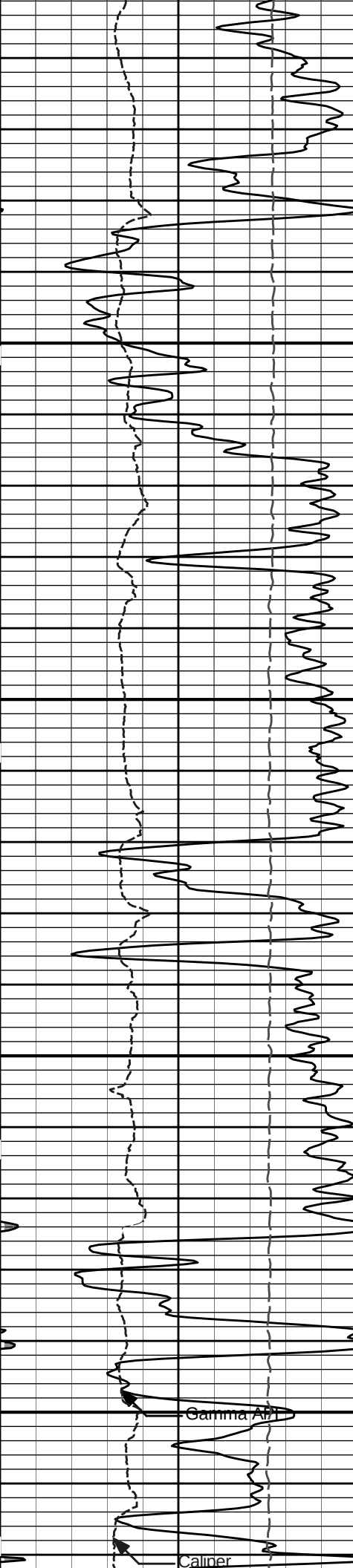
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Gamma API

Caliper

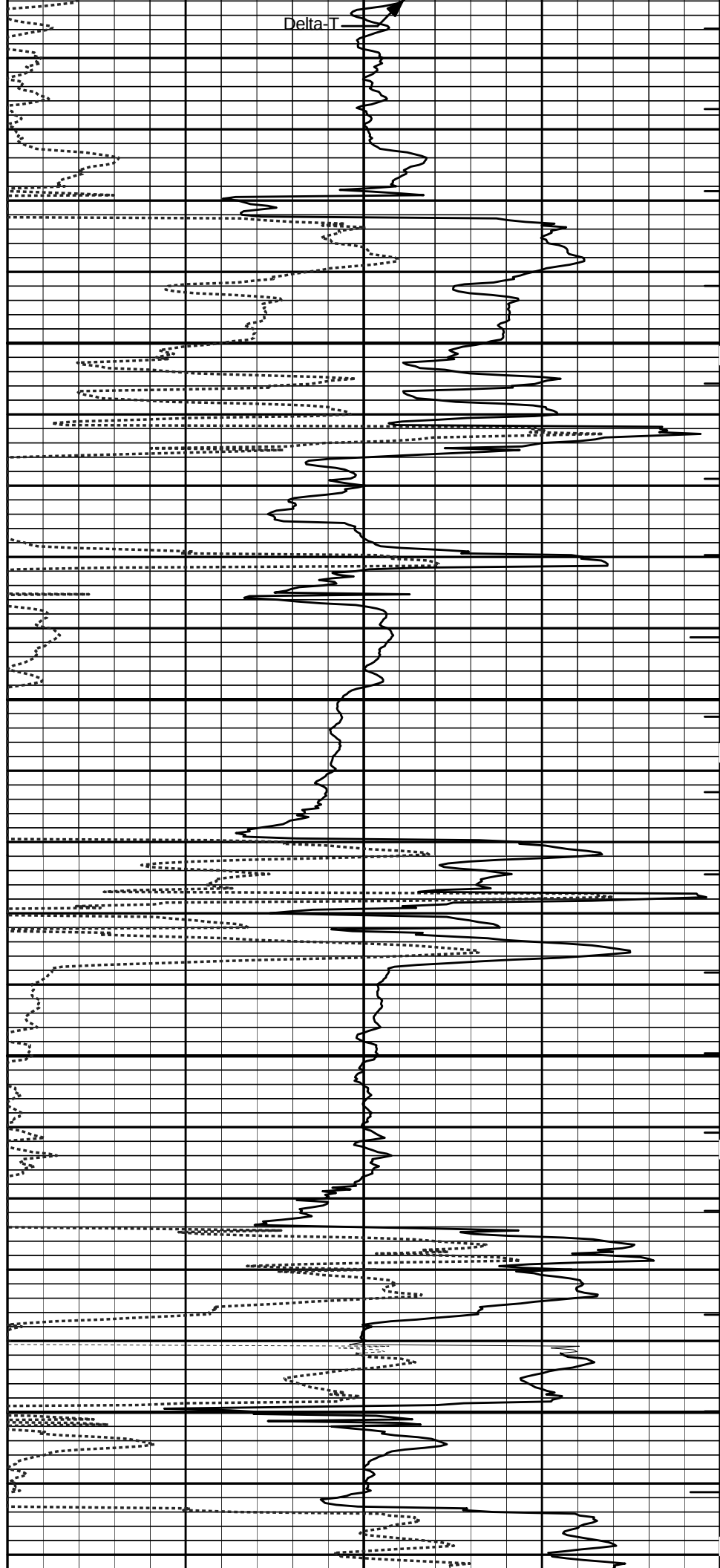


Acou Porosity

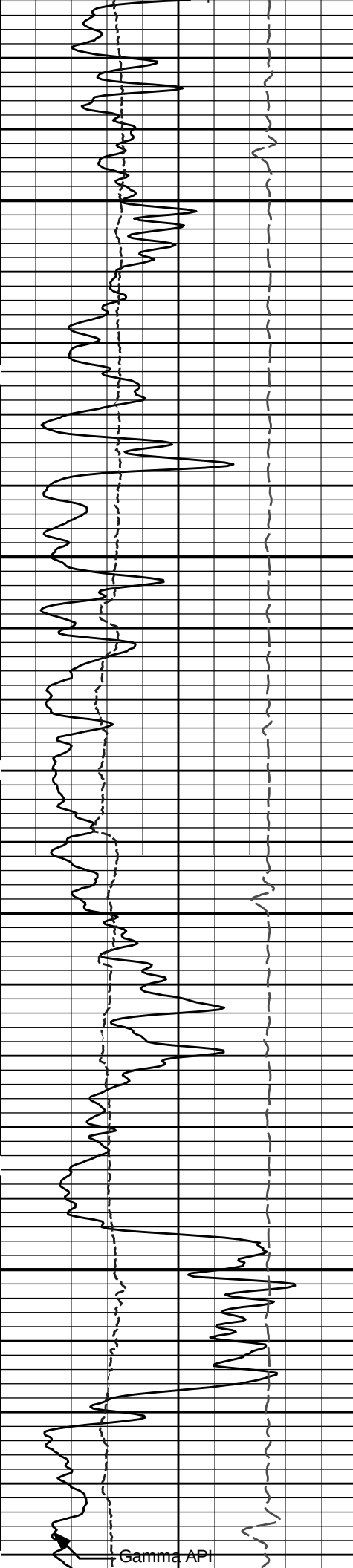


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3300

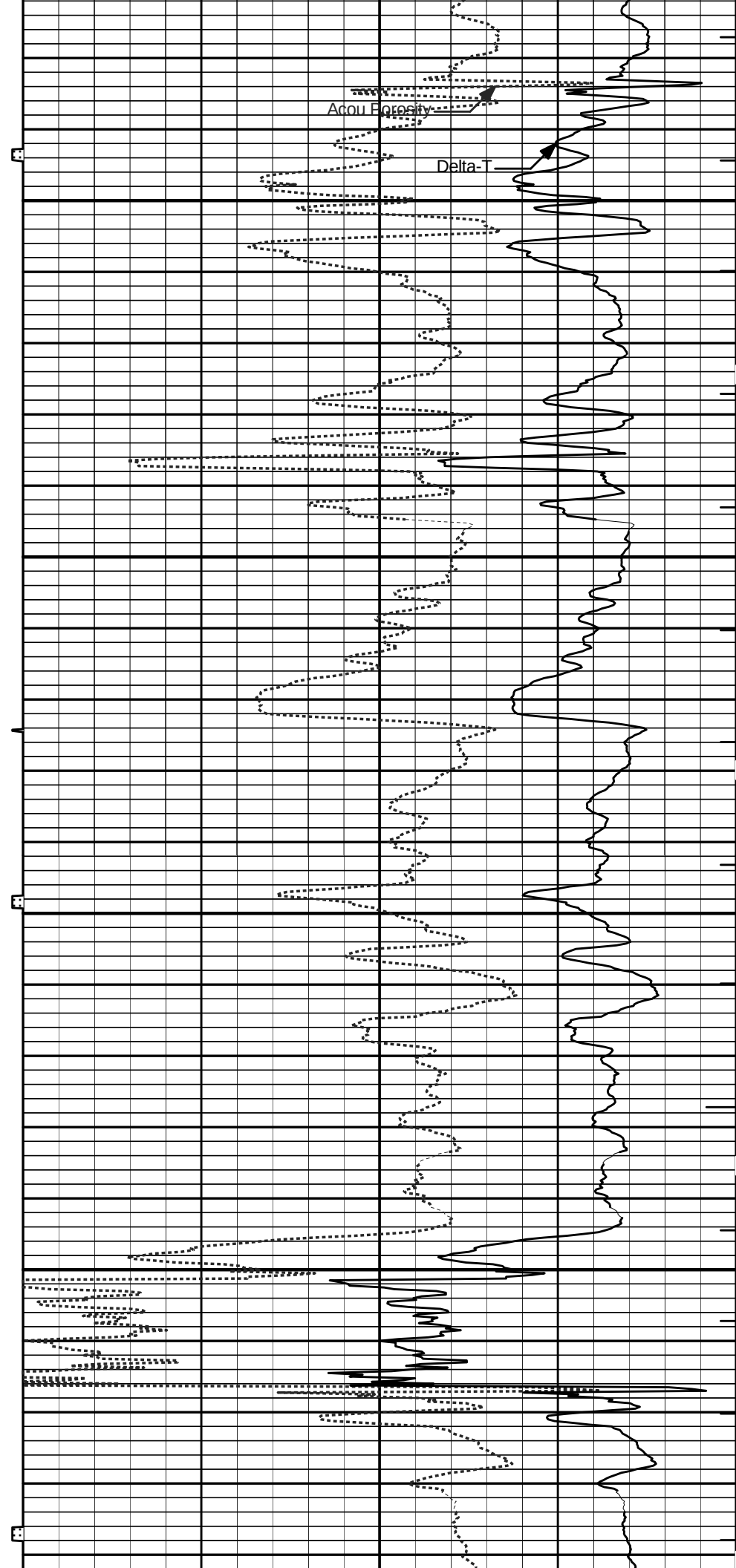






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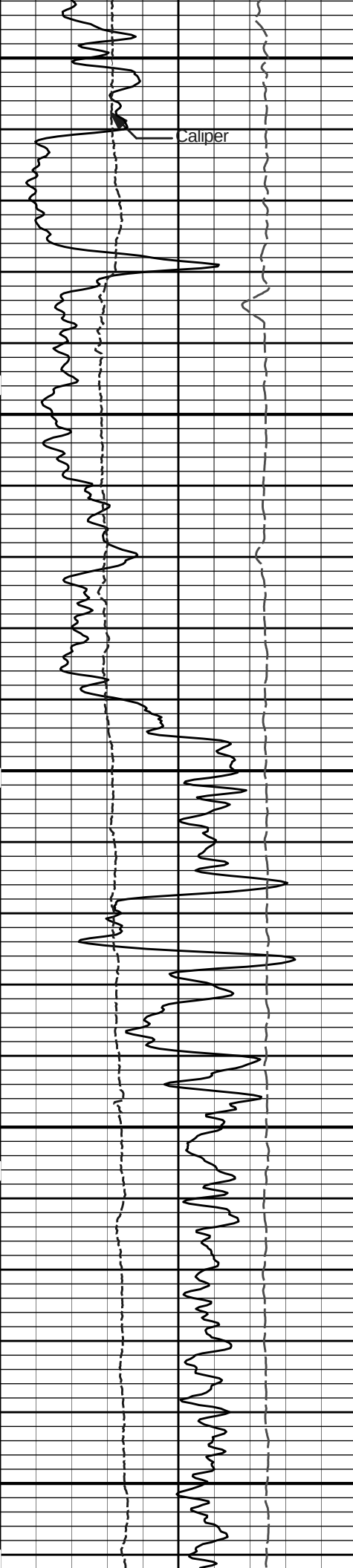
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Acou Imp

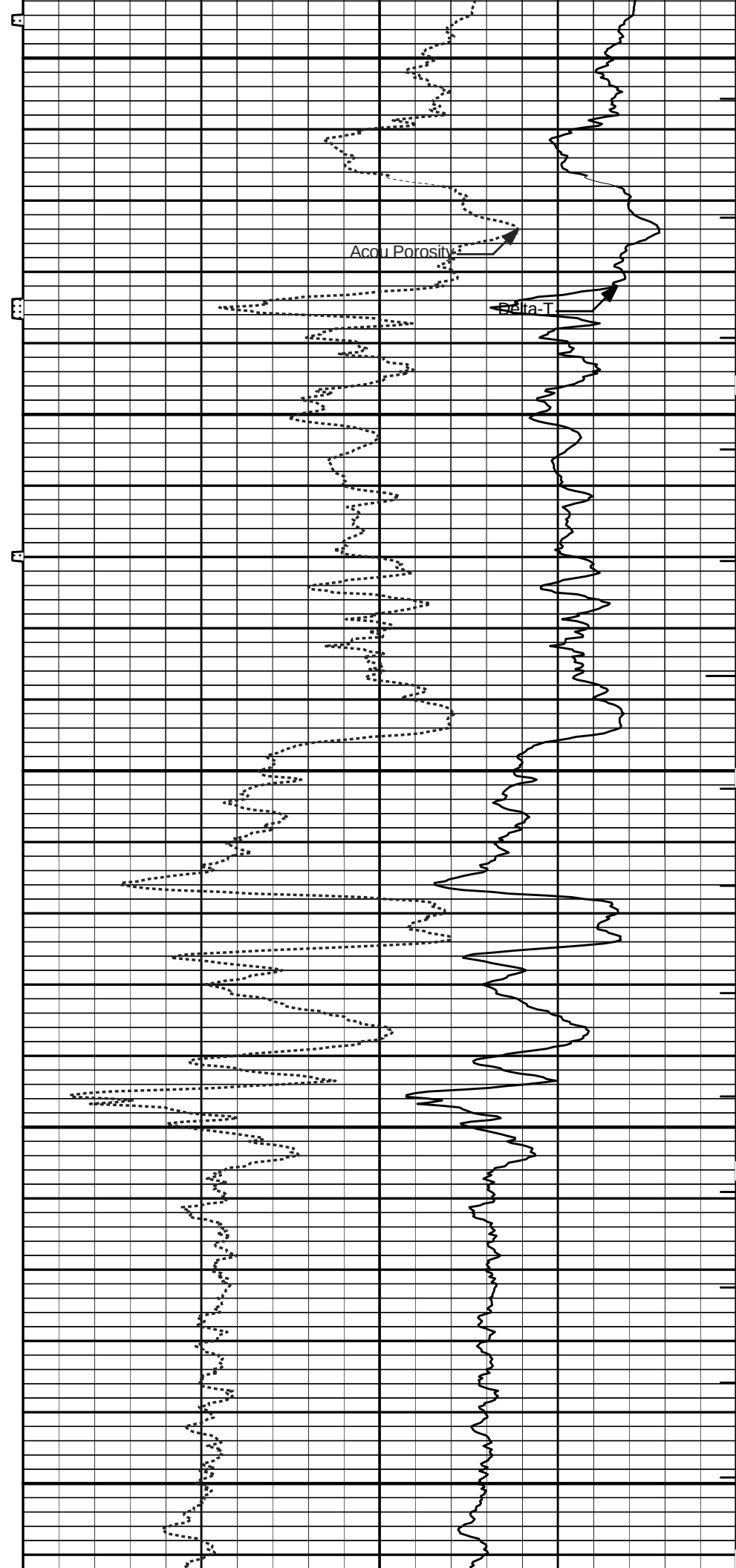
Delta-T

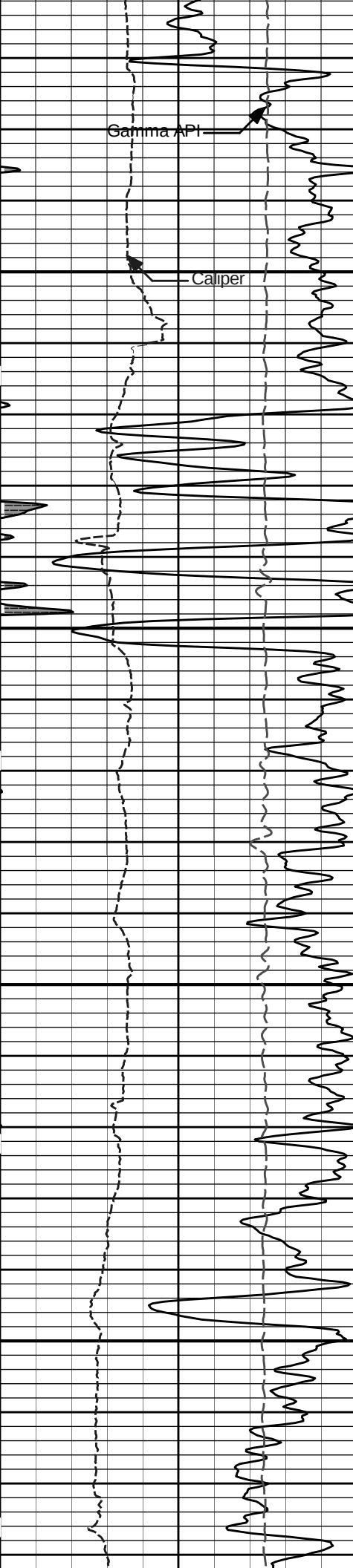
Gamma API



3600

3700

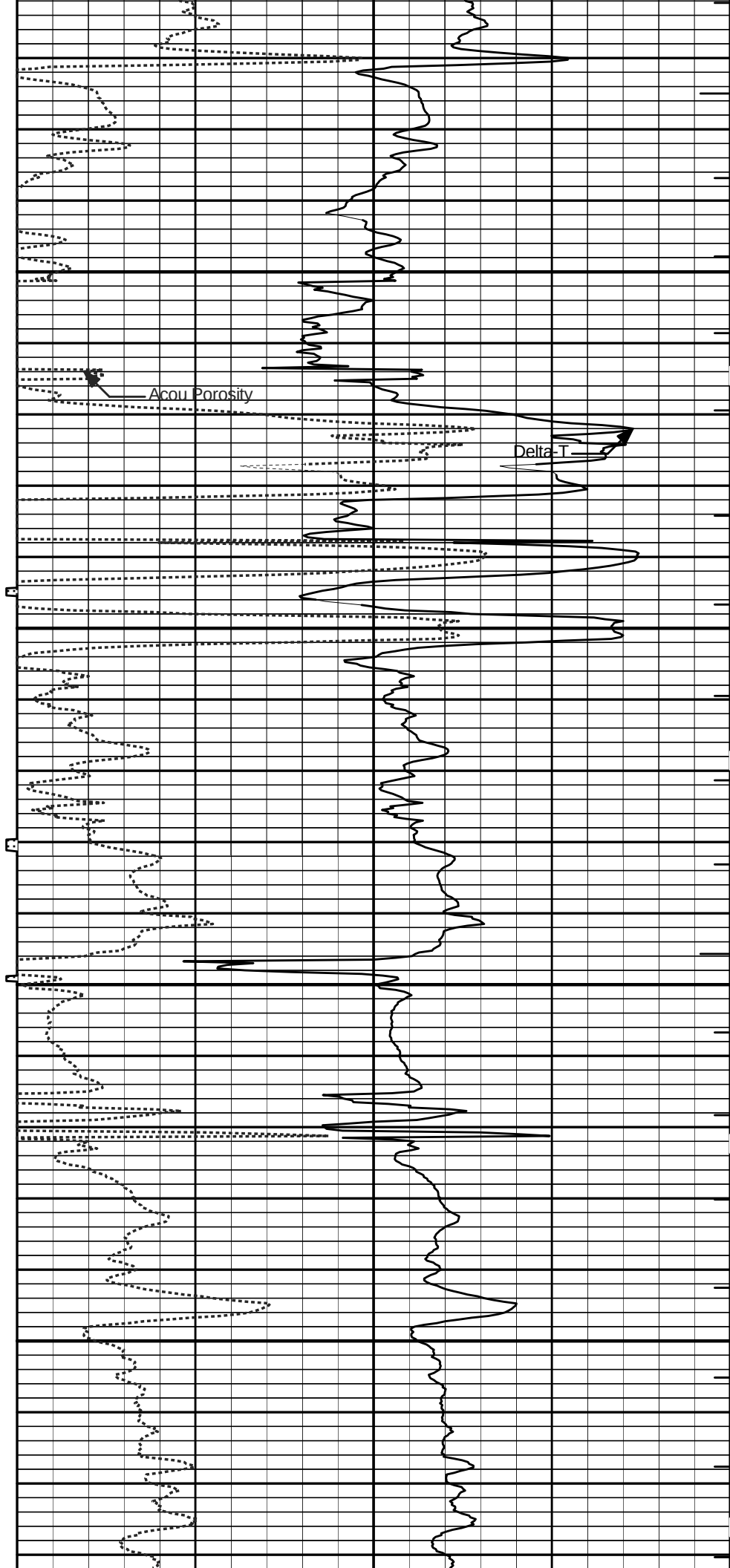




Gamma API

Caliper

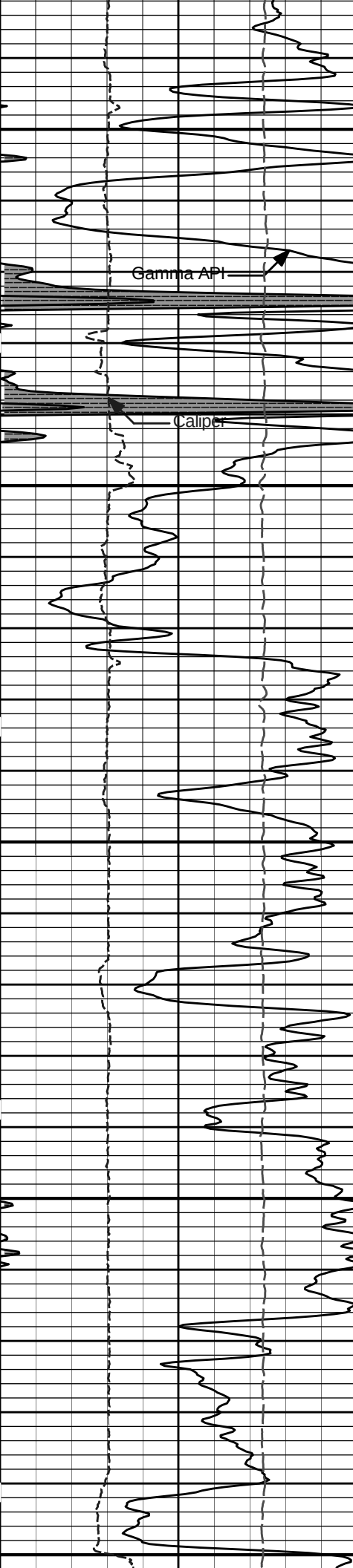
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Acou Porosity

Delta-T

3900



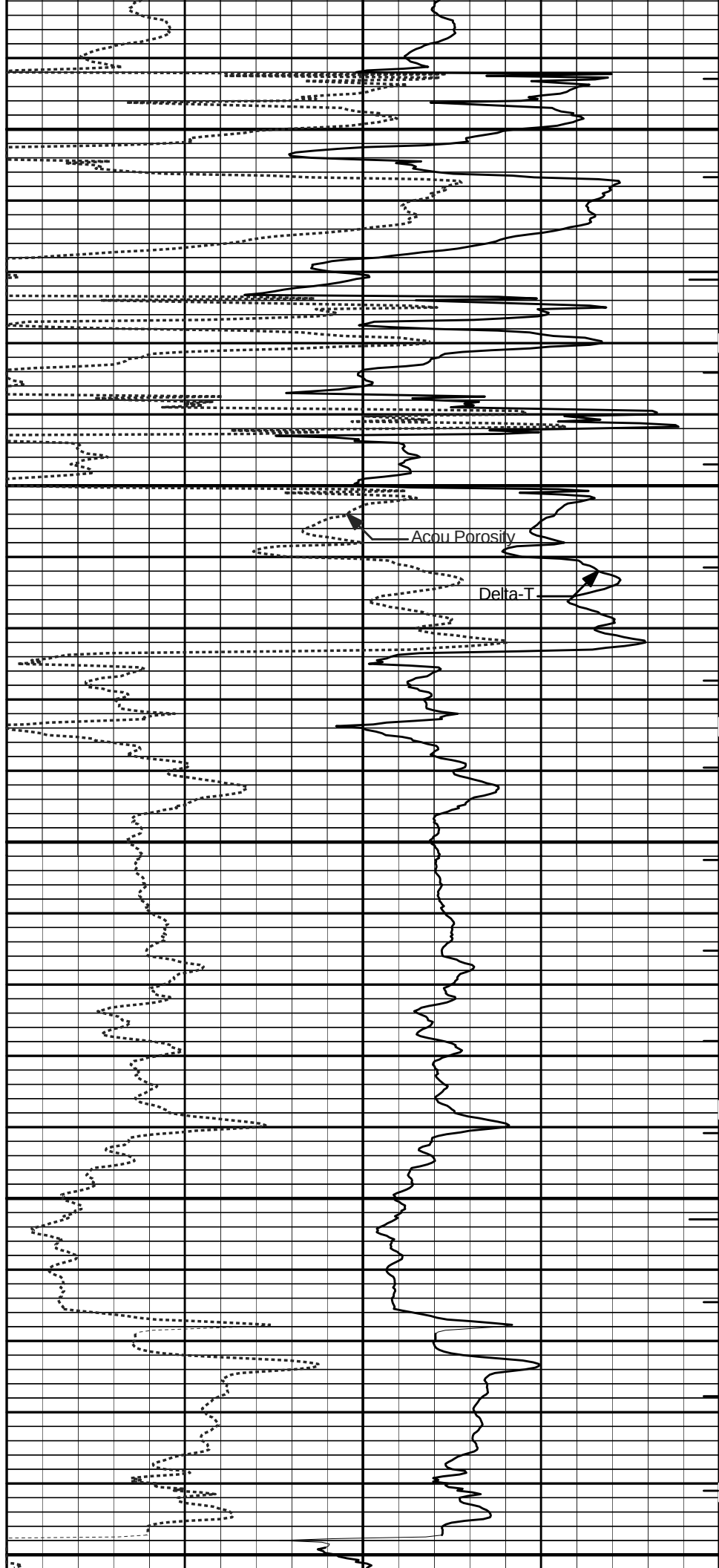
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Gamma API

Caliper

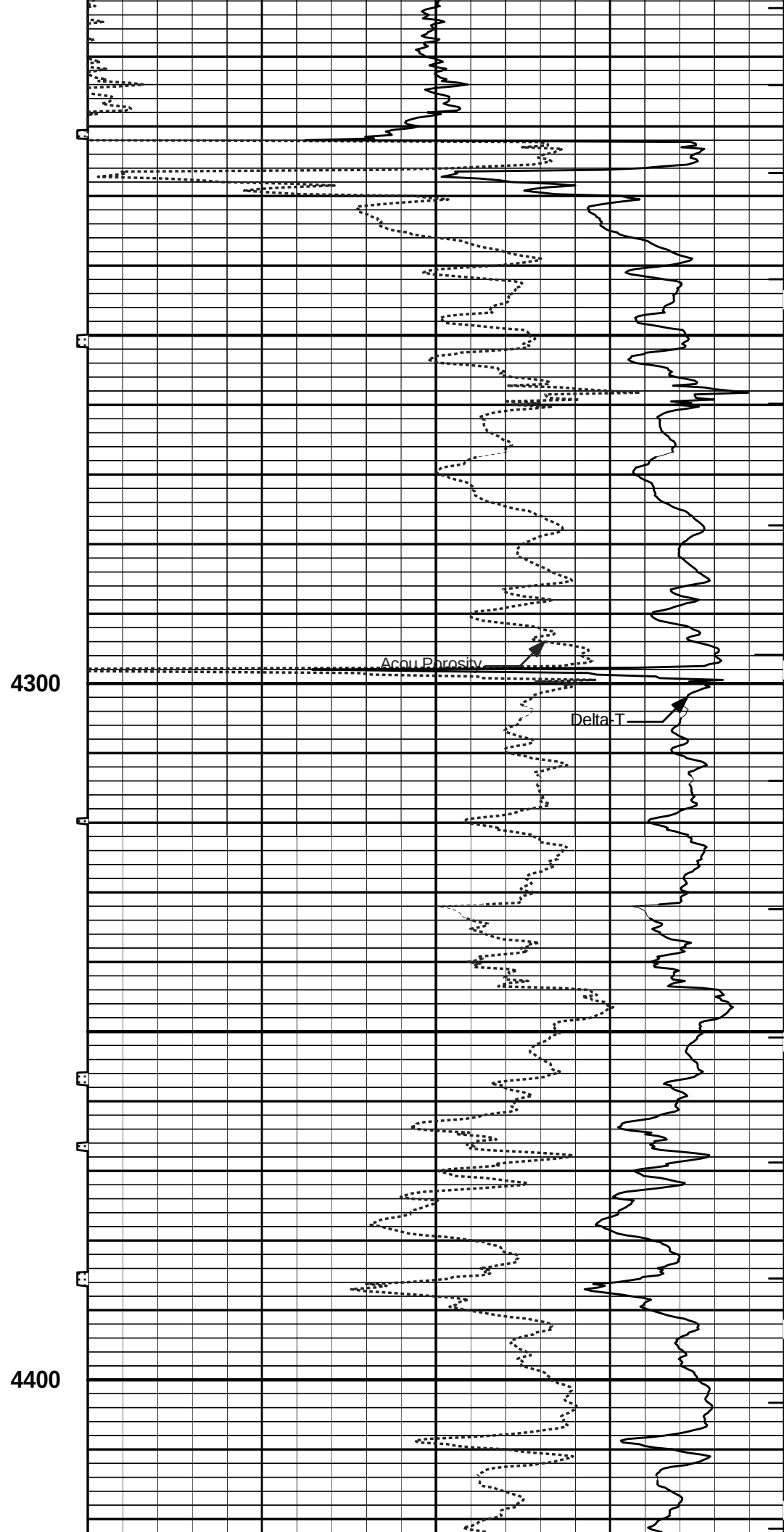
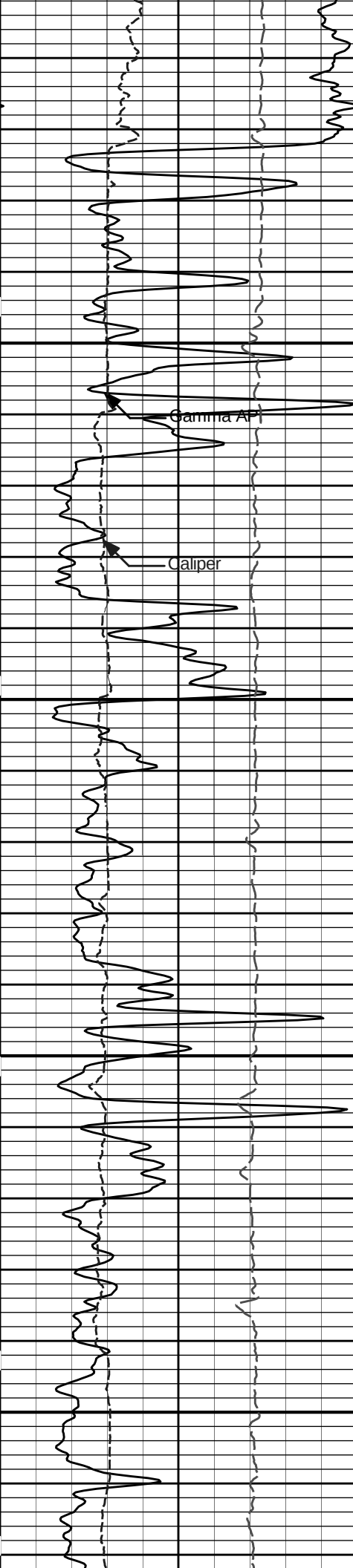
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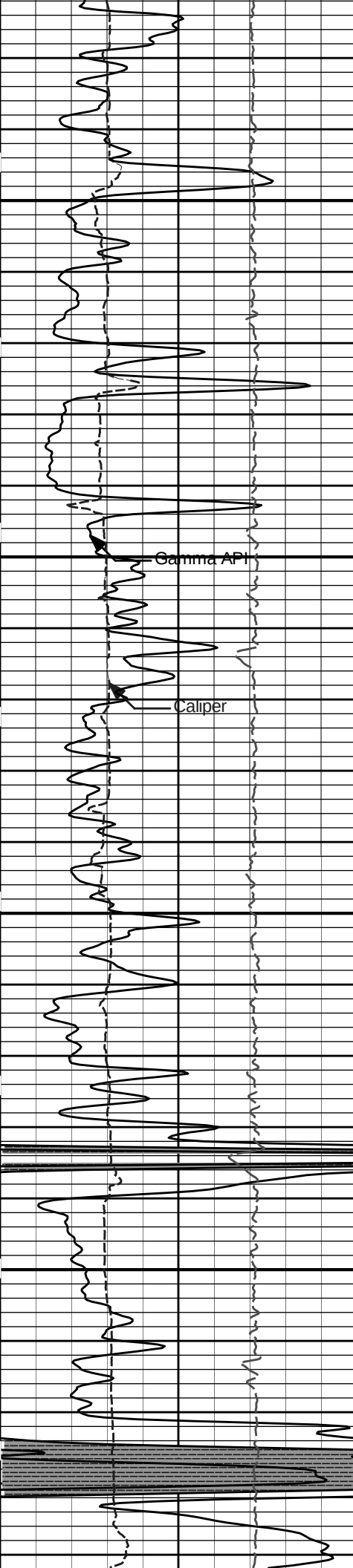
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Acoustic Porosity

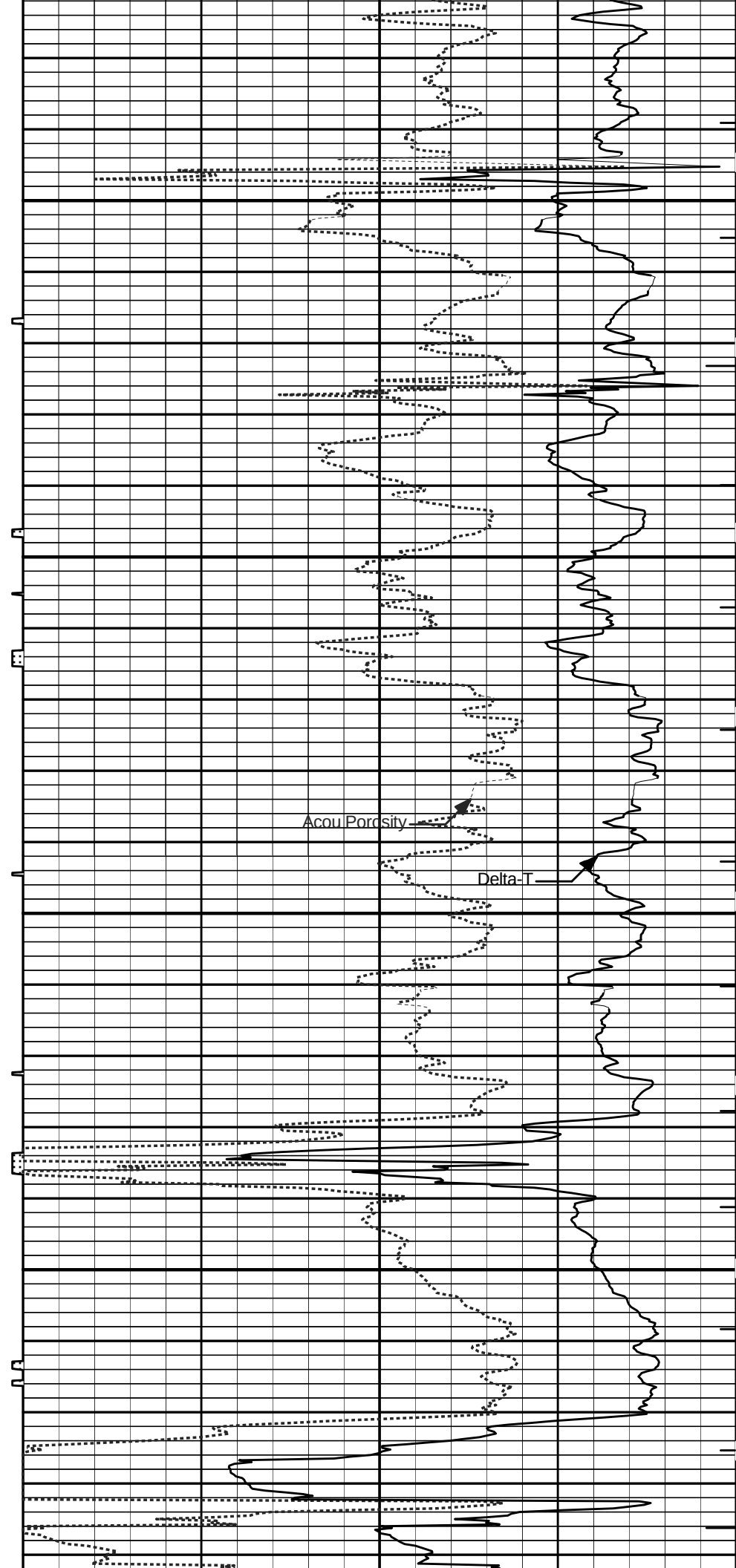
Delta-T

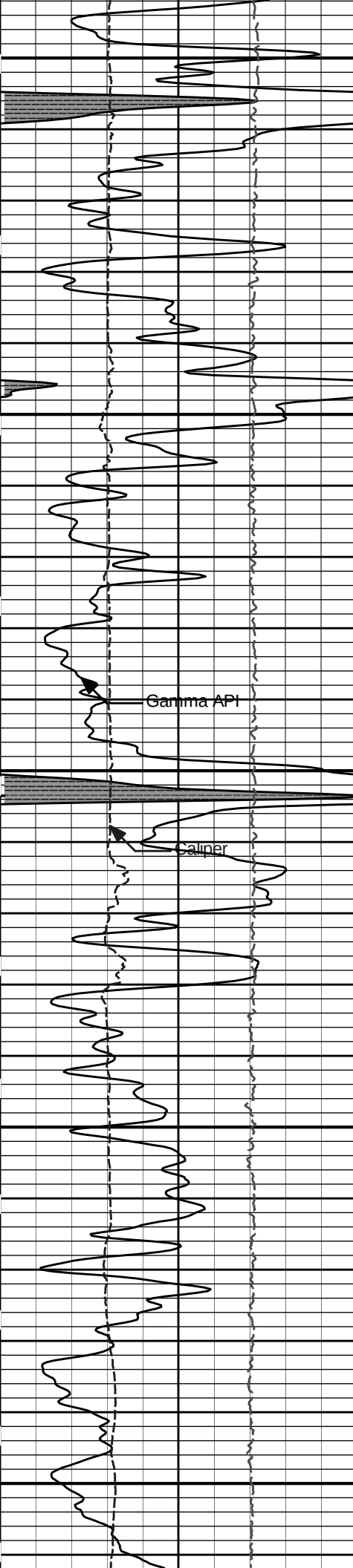




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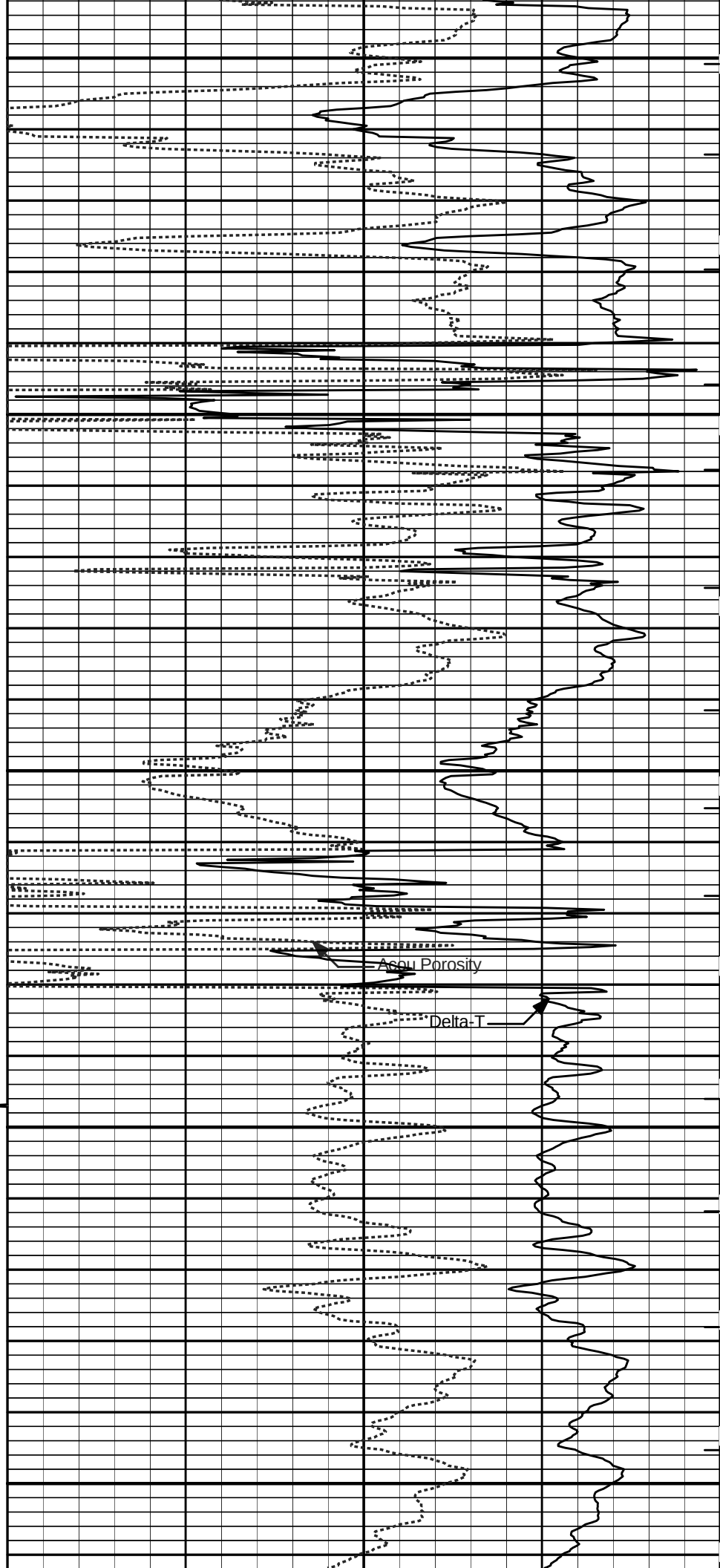
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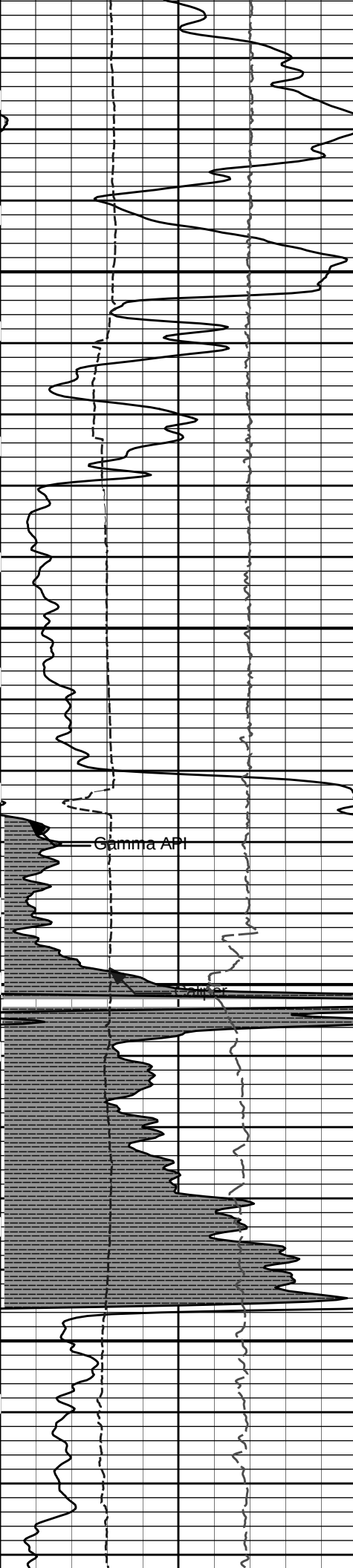




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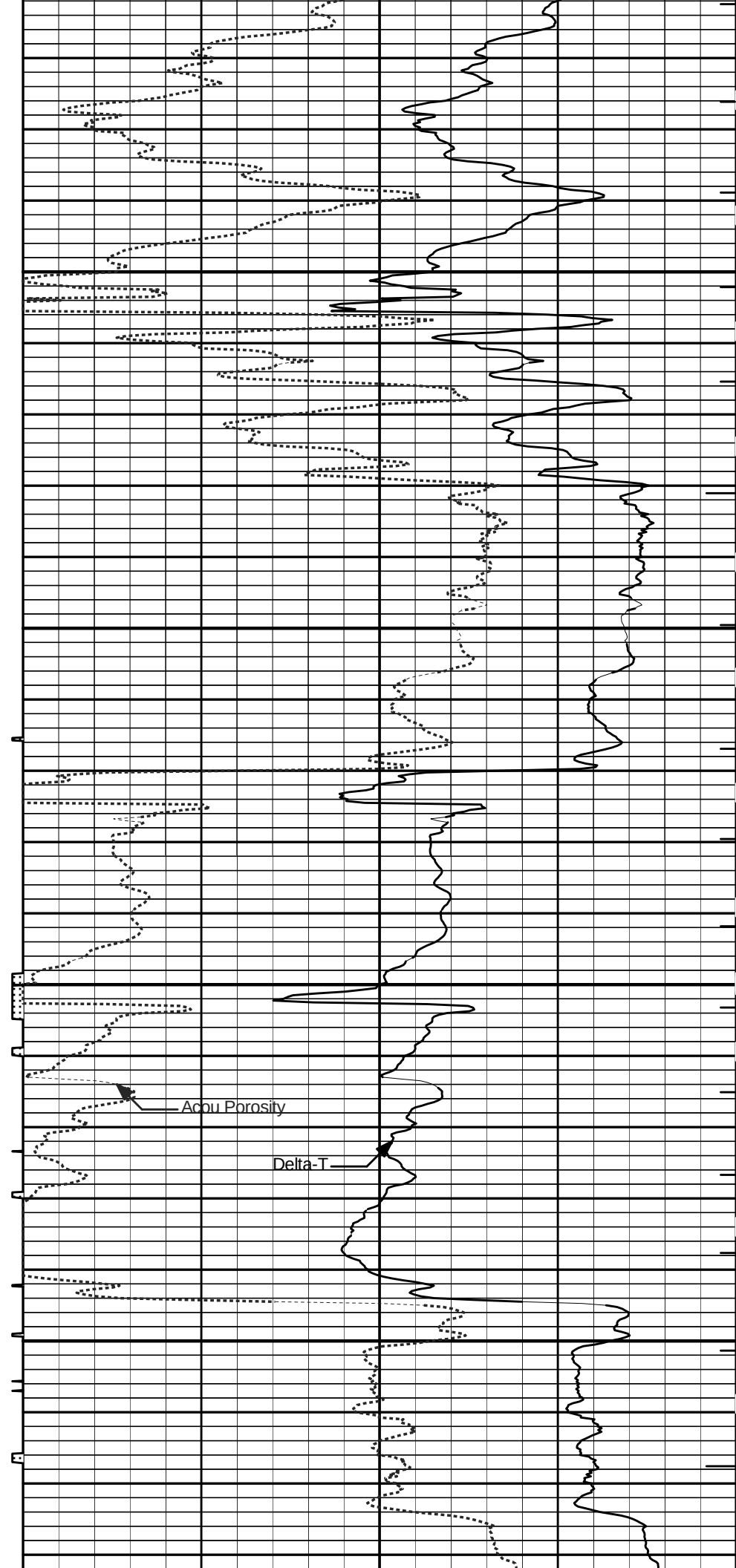
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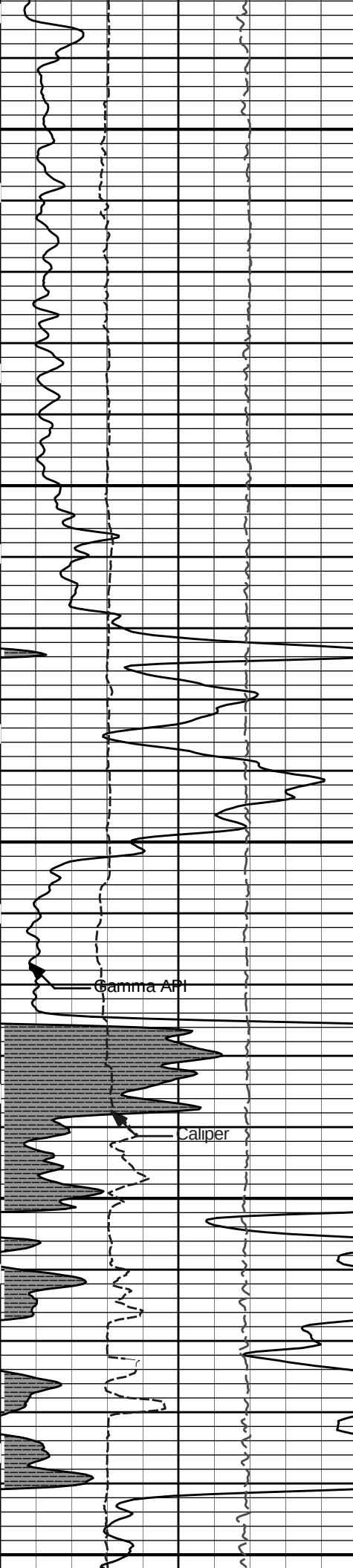


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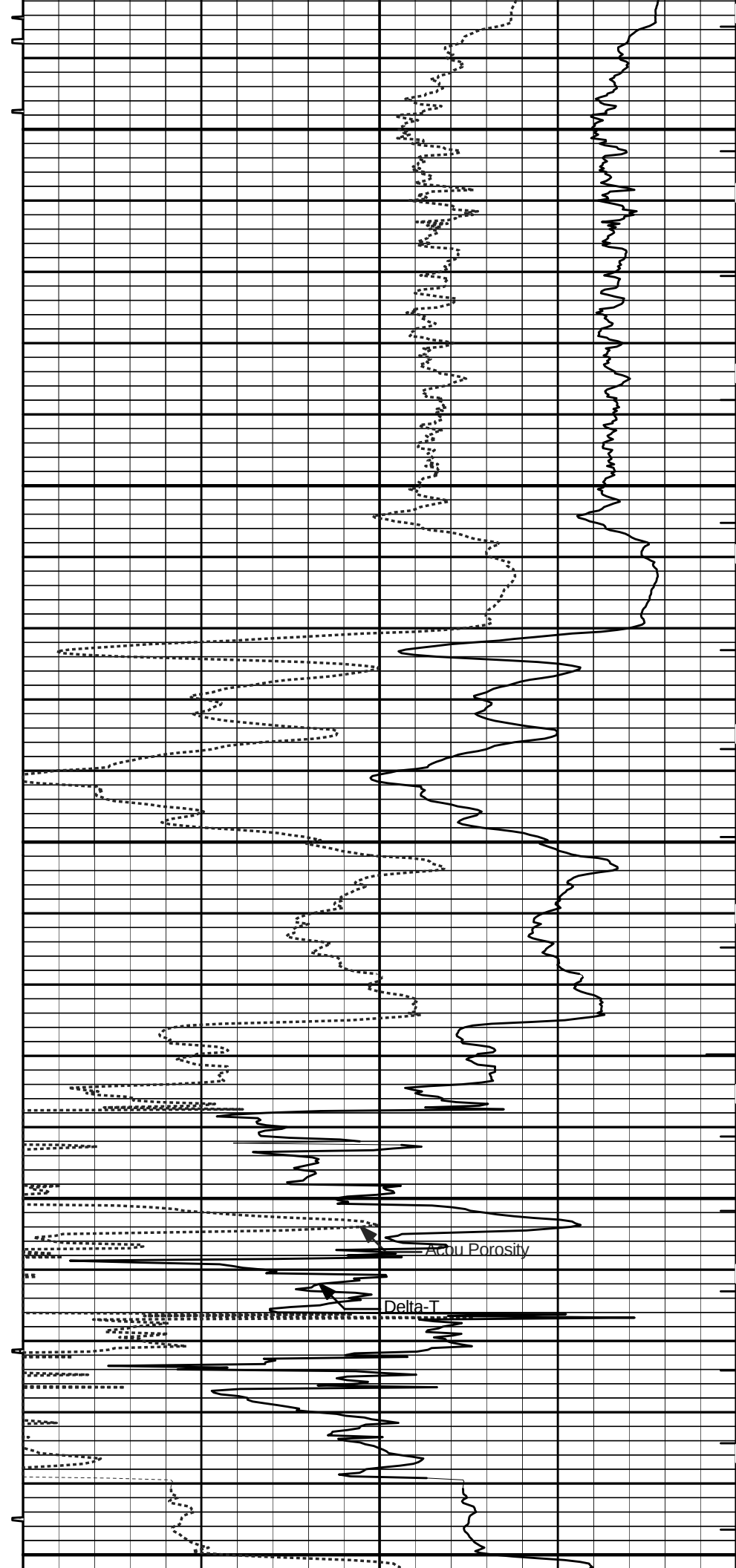




5100

5200

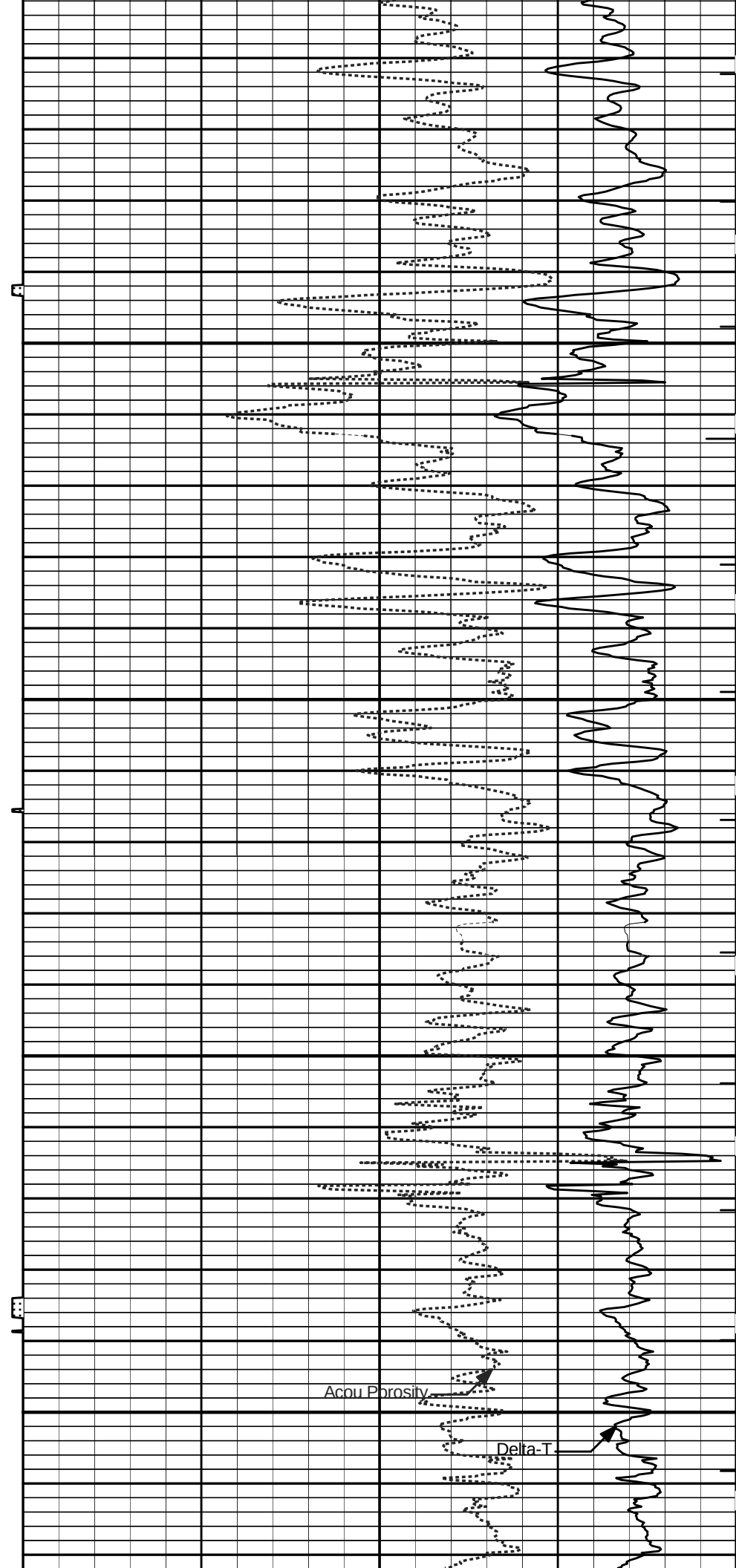
5300





5400

5500



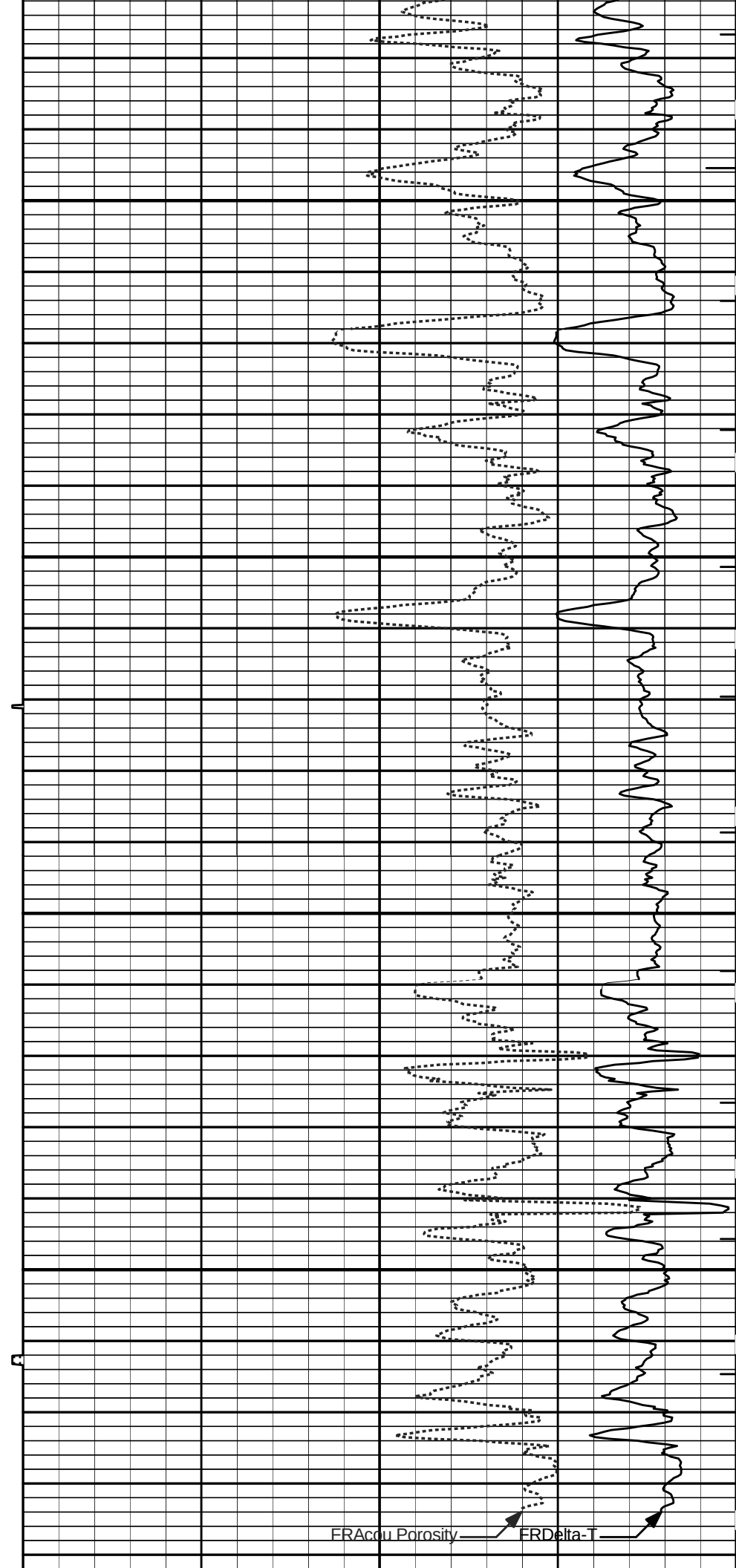
Acou Porosity

Delta-T

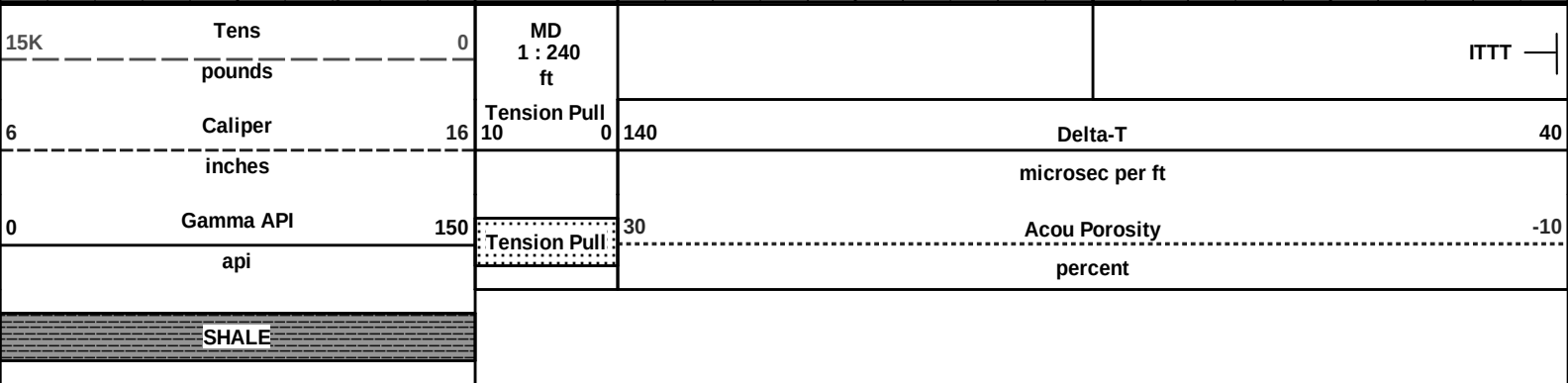
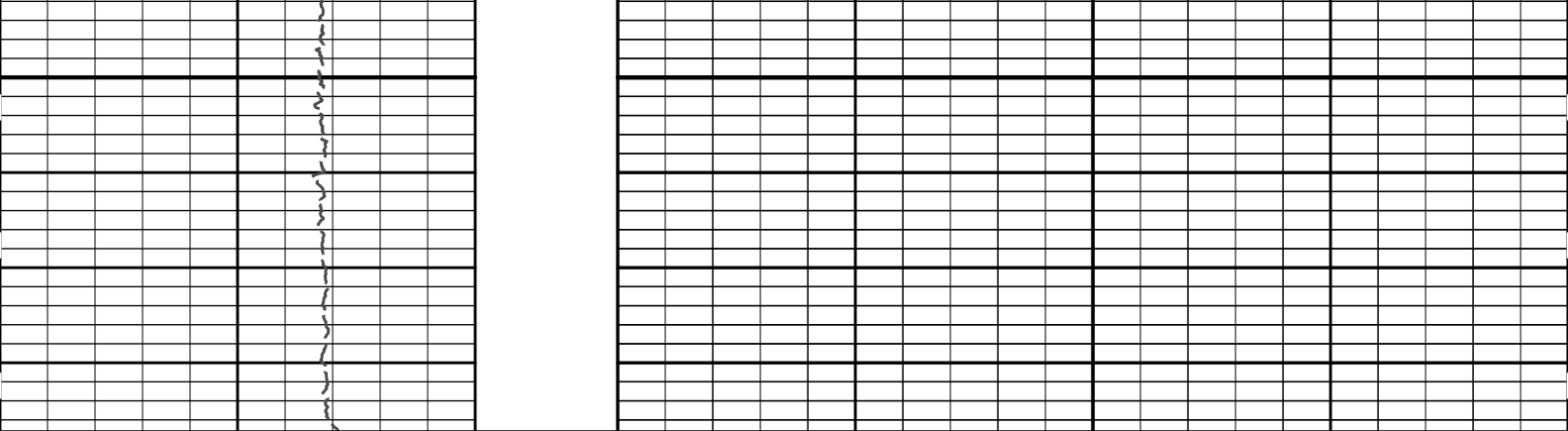


5600

5700



FRAccu Porosity FRCaliper FRCgamma API



HALLIBURTON

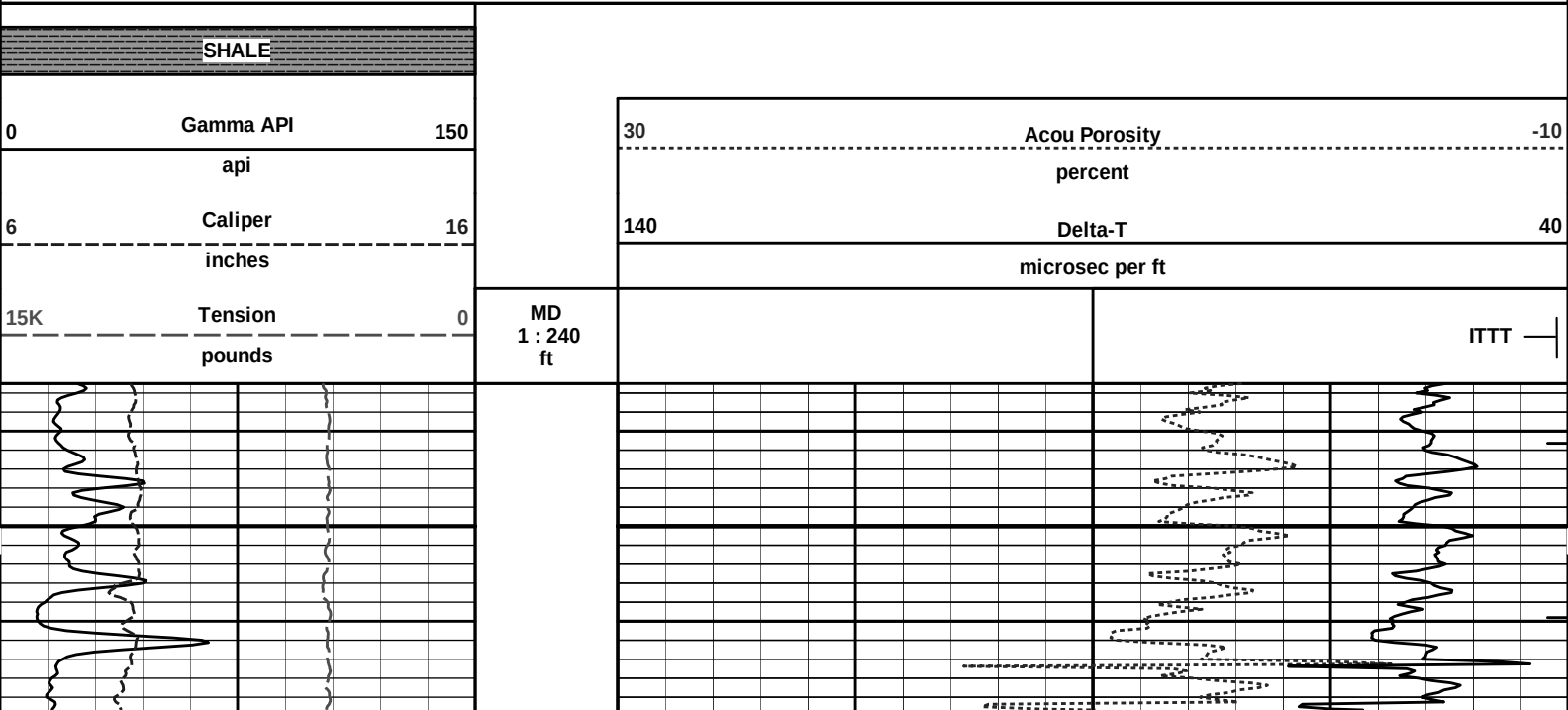
Plot Time: 31-Aug-12 03:05:50  
Plot Range: 190 ft to 5787.25 ft  
Data: OSAGE\_3314\_13\_0\Well Based\DAQ-0001-006\  
Plot File: \BSAT\BSAT\_5\_MAIN\_LIB

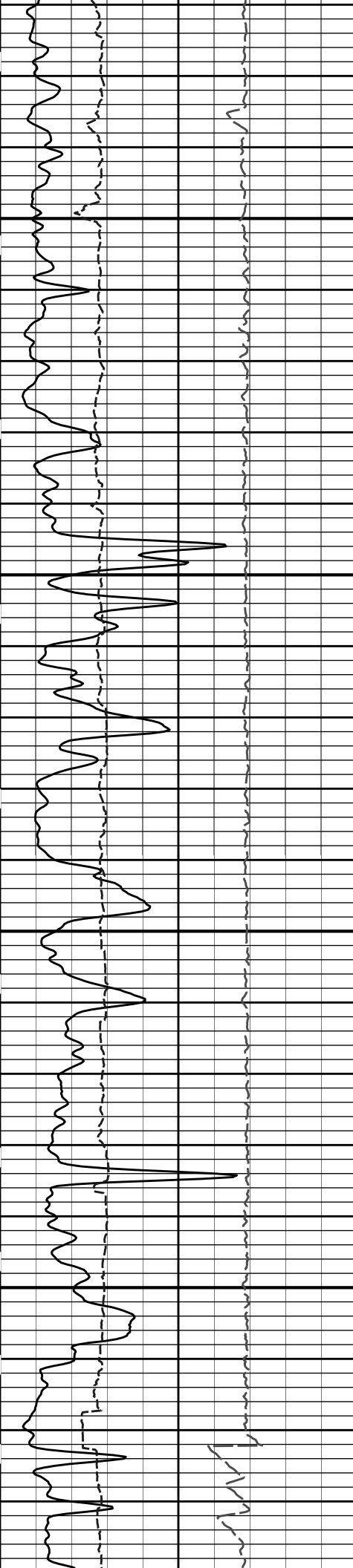
5 INCH MAIN LOG

HALLIBURTON

Plot Time: 31-Aug-12 03:05:50  
Plot Range: 5435 ft to 5793 ft  
Data: OSAGE\_3314\_13\_0\Well Based\DAQ-0001-005\  
Plot File: \BSAT\BSAT\_5\_REP\_LIB

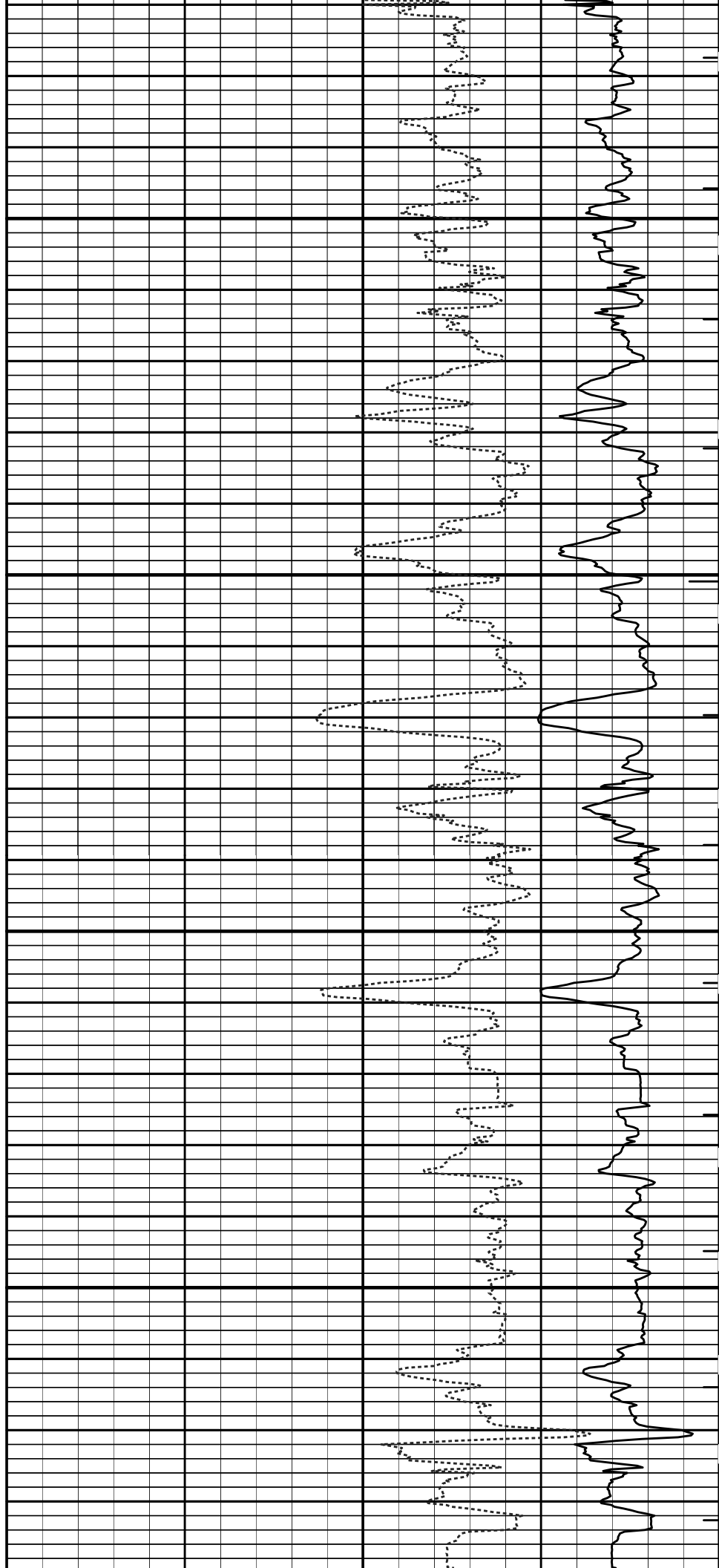
REPEAT SECTION

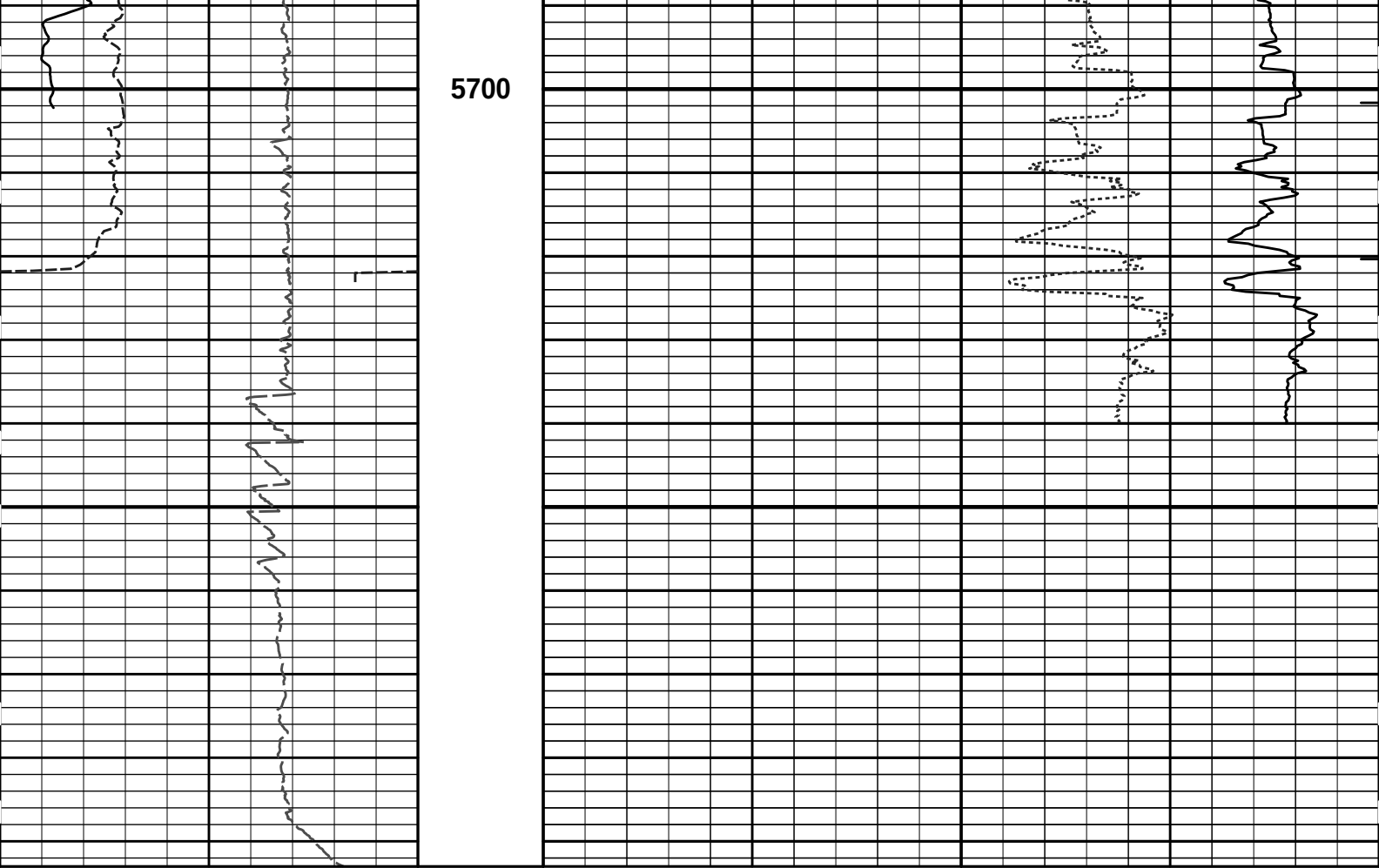




5500

5600





|       |           |     |         |     |                 |
|-------|-----------|-----|---------|-----|-----------------|
| 15K   | Tension   | 0   | MD      |     | ITTT            |
|       | pounds    |     | 1 : 240 |     |                 |
|       |           |     | ft      |     |                 |
| 6     | Caliper   | 16  |         | 140 | Delta-T         |
|       | inches    |     |         |     | microsec per ft |
| 0     | Gamma API | 150 |         | 30  | Acou Porosity   |
|       | api       |     |         |     | percent         |
| SHALE |           |     |         |     |                 |

HALLIBURTON

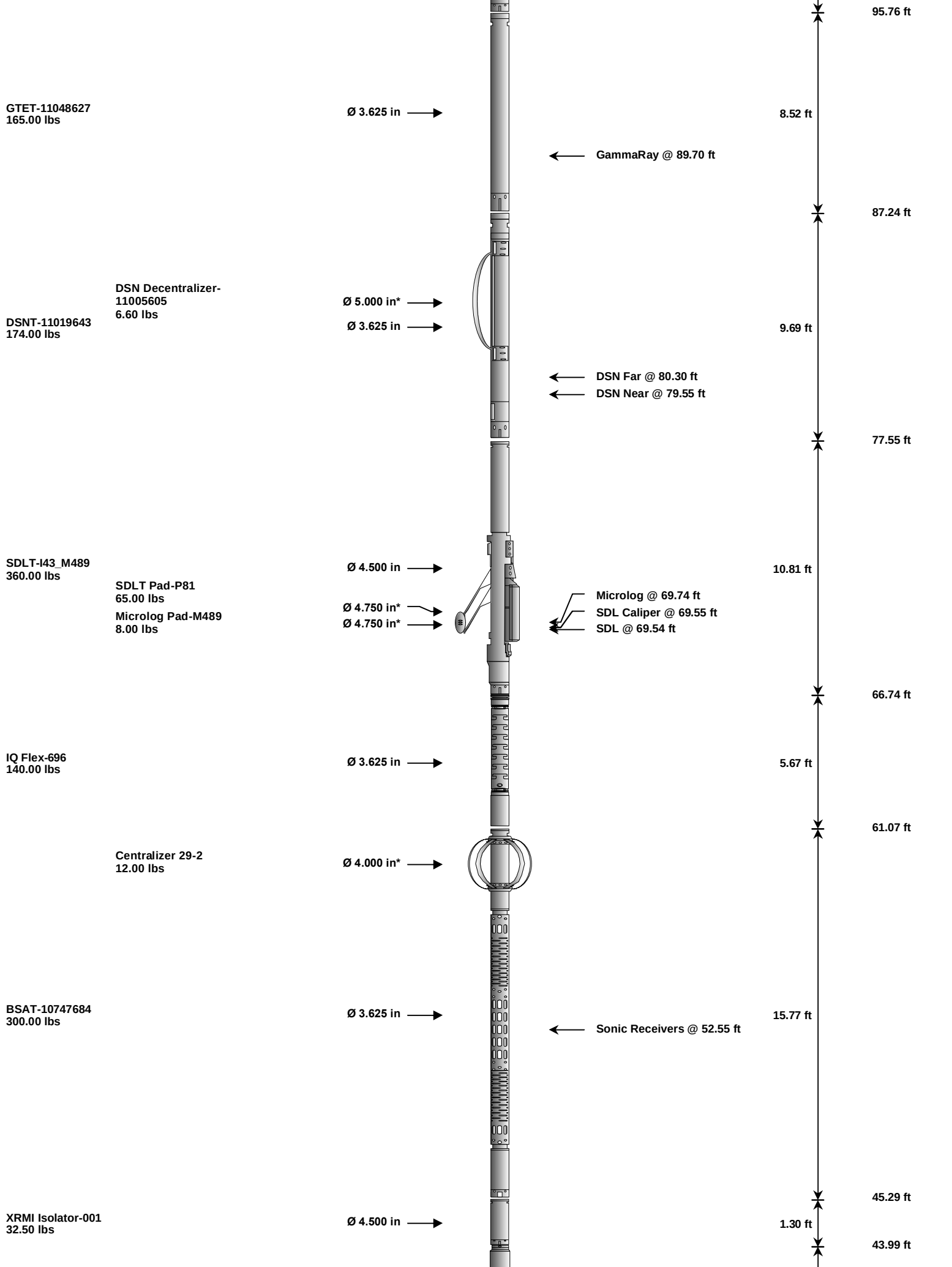
Plot Time: 31-Aug-12 03:05:53  
Plot Range: 5435 ft to 5793 ft  
Data: OSAGE\_3314\_13\_0\Well Based\DAQ-0001-005\  
Plot File: \\BSAT\BSAT\_5\_REP\_LIB

REPEAT SECTION

HALLIBURTON

TOOL STRING DIAGRAM REPORT

| Description                        | Overbody Description | O.D.         | Diagram | Sensors @ Delays | Length  | Accumulated Length |
|------------------------------------|----------------------|--------------|---------|------------------|---------|--------------------|
| Cable Head-<br>PROT01<br>30.00 lbs |                      | Ø 3.625 in → |         |                  | 1.92 ft | 101.42 ft          |
|                                    |                      |              |         |                  |         | 99.50 ft           |
| SP Sub-001<br>60.00 lbs            |                      | Ø 3.625 in → |         | ← SP @ 97.72 ft  | 3.74 ft |                    |



XRMI-I Instrument-  
262-90296662  
290.00 lbs

Ø 4.500 in →

13.00 ft

30.99 ft

XRMI-I Mandrel-  
262-90296662  
206.00 lbs

Ø 5.000 in →

Ø 4.500 in →

11.16 ft

Pads 2, 4, 6 @ 22.60 ft

Pads 1, 3, 5 @ 22.37 ft

19.83 ft

ACRt Instrument-  
I5059\_S8385  
50.00 lbs

Centralizer 25-002  
8.00 lbs

Ø 4.000 in\*  
Ø 3.625 in →

5.03 ft

Regal Standoff 6\_75-1  
2.00 lbs

Ø 5.625 in\* →

14.80 ft

← Mud Resistivity @ 13.44 ft

← ACRt @ 9.46 ft

ACRt Sonde-  
I5059\_S8385  
200.00 lbs

Ø 3.625 in →

14.22 ft

0.58 ft

Cabbage Head-  
TRK696  
10.00 lbs

Ø 3.625 in  
Ø 6.000 in →

0.58 ft

0.00 ft

| Mnemonic |                           | Tool Name | Serial Number | Weight (lbs) | Length (ft) | Accumulated Length (ft) | Max.Log. Speed (fpm) |
|----------|---------------------------|-----------|---------------|--------------|-------------|-------------------------|----------------------|
| CH       | Standard OH Cable Head    |           | PROT01        | 30.00        | 1.92        | 99.50                   | 300.00               |
| SP       | SP Sub                    |           | 001           | 60.00        | 3.74        | 95.76                   | 300.00               |
| GTET     | Gamma Telemetry Tool      |           | 11048627      | 165.00       | 8.52        | 87.24                   | 60.00                |
| DSNT     | Dual Spaced Neutron       |           | 11019643      | 174.00       | 9.69        | 77.55                   | 60.00                |
| DCNT     | DSN Decentralizer         |           | 11005605      | 6.60         | 5.13        | * 80.88                 | 300.00               |
| SDLT     | Spectral Density Tool     |           | I43_M489      | 360.00       | 10.81       | 66.74                   | 60.00                |
| SDLP     | Density Insite Pad        |           | P81           | 65.00        | 2.55        | * 68.95                 | 60.00                |
| MICP     | Microlog Pad              |           | M489          | 8.00         | 1.00        | * 69.24                 | 60.00                |
| IQF      | IQ Flex tool              |           | 696           | 140.00       | 5.67        | 61.07                   | 300.00               |
| BSAT     | Borehole Sonic Array Tool |           | 10747684      | 300.00       | 15.77       | 45.29                   | 60.00                |



|                                                                         |                                                       |              |                 |               |   |       |                                 |
|-------------------------------------------------------------------------|-------------------------------------------------------|--------------|-----------------|---------------|---|-------|---------------------------------|
| OBCEN                                                                   | Centralizer - 29 in.Overbody                          | 2            | 12.00           | 2.42          | * | 58.34 | 300.00                          |
|                                                                         | Isolator for the XRFI tool                            | 001          | 32.50           | 1.30          |   | 43.99 | 300.00                          |
| XRMI                                                                    | XRMI Navigation - Insite                              | 262-90296662 | 290.00          | 13.00         |   | 30.99 | 30.00                           |
| XRMI-I                                                                  | XRMI Imager - Insite                                  | 262-90296662 | 206.00          | 11.16         |   | 19.83 | 30.00                           |
| ACRT                                                                    | Array Compensated True Resistivity Instrument Section | I5059_S8385  | 50.00           | 5.03          |   | 14.80 | 300.00                          |
| OBCEN                                                                   | Centralizer - 25 in. Overbody                         | 002          | 8.00            | 2.08          | * | 16.30 | 300.00                          |
| ACRT                                                                    | Array Compensated True Resistivity Sonde Section      | I5059_S8385  | 200.00          | 14.22         |   | 0.58  | 300.00                          |
| RSOF                                                                    | Regal Standoff 6.75in                                 | 1            | 2.00            | 0.52          | * | 13.38 | 300.00                          |
| CBHD                                                                    | Cabbage Head                                          | TRK696       | 10.00           | 0.58          |   | 0.00  | 300.00                          |
| <b>Total</b>                                                            |                                                       |              | <b>2,119.10</b> | <b>101.42</b> |   |       |                                 |
| * Not included in Total Length and Length Accumulation.                 |                                                       |              |                 |               |   |       | <b>Date: 30-Aug-12 21:54:38</b> |
| <b>Data: OSAGE_3314_13_0I0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CHIDLE</b> |                                                       |              |                 |               |   |       |                                 |

# HALLIBURTON

## CALIBRATION REPORT

| NATURAL GAMMA RAY TOOL SHOP CALIBRATION |                                   |                                    |                           |
|-----------------------------------------|-----------------------------------|------------------------------------|---------------------------|
| <b>Tool Name:</b>                       | <b>GTET - 11048627</b>            | <b>Reference Calibration Date:</b> | <b>09-Aug-12 10:44:30</b> |
| <b>Engineer:</b>                        | <b>T. HYDE</b>                    | <b>Calibration Date:</b>           | <b>09-Aug-12 10:50:33</b> |
| <b>Software Version:</b>                | <b>WL INSITE R3.6.0 (Build 3)</b> | <b>Calibration Version:</b>        | <b>1</b>                  |

| Calibrator Source S/N: TB146                  |          |            |       |
|-----------------------------------------------|----------|------------|-------|
| Calibrator API Reference:265.00 api           |          |            |       |
| Equivalent Calibrator API Reference:269.6 api |          |            |       |
| Measurement                                   | Measured | Calibrated | Units |
| Background                                    | 57.5     | 57.1       | api   |
| Background + Calibrator                       | 328.7    | 326.8      | api   |
| Calibrator                                    | 271.3    | 269.6      | api   |

| NATURAL GAMMA RAY TOOL FIELD CALIBRATION |                                   |                                    |                           |
|------------------------------------------|-----------------------------------|------------------------------------|---------------------------|
| <b>Tool Name:</b>                        | <b>GTET - 11048627</b>            | <b>Reference Calibration Date:</b> | <b>09-Aug-12 10:50:33</b> |
| <b>Engineer:</b>                         | <b>T. HYDE</b>                    | <b>Calibration Date:</b>           | <b>30-Aug-12 22:01:40</b> |
| <b>Software Version:</b>                 | <b>WL INSITE R3.6.0 (Build 3)</b> | <b>Calibration Version:</b>        | <b>1</b>                  |

| Calibrator Source S/N: TB146                  |       |            |           |
|-----------------------------------------------|-------|------------|-----------|
| Calibrator API Reference:265.00 api           |       |            |           |
| Equivalent Calibrator API Reference:269.6 api |       |            |           |
| Field Verification                            | Shop  | Field      | Units     |
| Background                                    | 57.1  | 41.6       | api       |
| Background + Calibrator                       | 326.8 | 316.1      | api       |
| Calibrator                                    | 269.6 | 274.5      | api       |
| Shop                                          | Field | Difference | Tolerance |
| 269.6                                         | 274.5 | -4.9       | +/- 9.00  |

| BSAT FIELD CASING CHECK  |                                   |                             |                           |
|--------------------------|-----------------------------------|-----------------------------|---------------------------|
| <b>Tool Name:</b>        | <b>BSAT - 10747684</b>            | <b>Calibration Date:</b>    | <b>30-Aug-12 22:46:20</b> |
| <b>Engineer:</b>         | <b>T. HYDE</b>                    |                             |                           |
| <b>Software Version:</b> | <b>WL INSITE R3.6.0 (Build 3)</b> | <b>Calibration Version:</b> | <b>1</b>                  |

| Pre-Log Check       | Check Depth | Shop  | Field | Difference | Tolerance | Units |
|---------------------|-------------|-------|-------|------------|-----------|-------|
| Delta-T Compensated | 194.84      | 57.00 | 57.50 | -0.5000    | 1.00      | uspf  |

## CALIBRATION SUMMARY

| Sensor                                                           | Shop            | Field    | Post                                                  | Difference        | Tolerance                | Units |
|------------------------------------------------------------------|-----------------|----------|-------------------------------------------------------|-------------------|--------------------------|-------|
| GTET-11048627                                                    |                 |          |                                                       |                   |                          |       |
| Gamma Ray Calibrator                                             | 269.6           | 274.5    | -----                                                 | -4.9              | +/- 9.00                 | api   |
| Data: OSAGE_3314_13_00001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CH\IDLE |                 |          |                                                       |                   | Date: 30-Aug-12 23:27:01 |       |
| <div>HALLIBURTON</div> <div>PARAMETERS REPORT</div>              |                 |          |                                                       |                   |                          |       |
| Depth (ft))                                                      | Tool Name       | Mnemonic | Description                                           | Value             | Units                    |       |
| TOP                                                              |                 |          |                                                       |                   |                          |       |
|                                                                  | XRMI-I Mandrel  | DIMG     | Process XRMI?                                         | No                |                          |       |
| 4200.00                                                          |                 |          |                                                       |                   |                          |       |
|                                                                  | SHARED          | BS       | Bit Size                                              | 8.750             | in                       |       |
|                                                                  | SHARED          | UBS      | Use Bit Size instead of Caliper for all applications. | No                |                          |       |
|                                                                  | SHARED          | MDBS     | Mud Base                                              | Water             |                          |       |
|                                                                  | SHARED          | MDWT     | Borehole Fluid Weight                                 | 9.300             | ppg                      |       |
|                                                                  | SHARED          | WAGT     | Weighting Agent                                       | Natural           |                          |       |
|                                                                  | SHARED          | BSAL     | Borehole salinity                                     | 0.00              | ppm                      |       |
|                                                                  | SHARED          | FSAL     | Formation Salinity NaCl                               | 0.00              | ppm                      |       |
|                                                                  | SHARED          | KPCT     | Percent K in Mud by Weight?                           | 0.00              | %                        |       |
|                                                                  | SHARED          | RMUD     | Mud Resistivity                                       | 2.000             | ohmm                     |       |
|                                                                  | SHARED          | TRM      | Temperature of Mud                                    | 75.0              | degF                     |       |
|                                                                  | SHARED          | CSD      | Logging Interval is Cased?                            | No                |                          |       |
|                                                                  | SHARED          | ICOD     | AHV Casing OD                                         | 7.000             | in                       |       |
|                                                                  | SHARED          | ST       | Surface Temperature                                   | 75.0              | degF                     |       |
|                                                                  | SHARED          | TD       | Total Well Depth                                      | 5832.00           | ft                       |       |
|                                                                  | SHARED          | BHT      | Bottom Hole Temperature                               | 200.0             | degF                     |       |
|                                                                  | SHARED          | SVTM     | Navigation and Survey Master Tool                     | XRMI-I Instrument |                          |       |
|                                                                  | SHARED          | AZTM     | High Res Z Accelerometer Master Tool                  | XRMI-I Instrument |                          |       |
|                                                                  | SHARED          | TEMM     | Temperature Master Tool                               | NONE              |                          |       |
|                                                                  | SHARED          | BHSM     | Borehole Size Master Tool                             | NONE              |                          |       |
|                                                                  | Rwa / CrossPlot | XPOK     | Process Crossplot?                                    | Yes               |                          |       |
|                                                                  | Rwa / CrossPlot | FCHO     | Select Source of F                                    | Automatic         |                          |       |
|                                                                  | Rwa / CrossPlot | AFAC     | Archie A factor                                       | 0.6200            |                          |       |
|                                                                  | Rwa / CrossPlot | MFAC     | Archie M factor                                       | 2.1500            |                          |       |
|                                                                  | Rwa / CrossPlot | RMFR     | Rmf Reference                                         | 0.10              | ohmm                     |       |
|                                                                  | Rwa / CrossPlot | TMFR     | Rmf Ref Temp                                          | 75.00             | degF                     |       |
|                                                                  | Rwa / CrossPlot | RWA      | Resistivity of Formation Water                        | 0.05              | ohmm                     |       |
|                                                                  | Rwa / CrossPlot | ADP      | Use Air Porosity to calculate CrossplotPhi            | No                |                          |       |
|                                                                  | GTET            | GROK     | Process Gamma Ray?                                    | Yes               |                          |       |
|                                                                  | GTET            | GRSO     | Gamma Tool Standoff                                   | 0.000             | in                       |       |
|                                                                  | GTET            | GEOK     | Process Gamma Ray EVR?                                | No                |                          |       |
|                                                                  | GTET            | TPOS     | Tool Position for Gamma Ray Tools.                    | Eccentered        |                          |       |
|                                                                  | DSNT            | DNOK     | Process DSN?                                          | Yes               |                          |       |
|                                                                  | DSNT            | DEOK     | Process DSN EVR?                                      | No                |                          |       |
|                                                                  | DSNT            | NLIT     | Neutron Lithology                                     | Limestone         |                          |       |
|                                                                  | DSNT            | DSNO     | DSN Standoff - 0.25 in (6.35 mm) Recommended          | 0.250             | in                       |       |

|                   |      |                                            |                   |      |
|-------------------|------|--------------------------------------------|-------------------|------|
| DSNT              | DNCS | DSN Standard 0.25 in (6.35 mm) Recommended | 0.200             | in   |
| DSNT              | DNTP | Temperature Correction Type                | None              |      |
| DSNT              | DPRS | DSN Pressure Correction Type               | None              |      |
| DSNT              | SHCO | View More Correction Options               | No                |      |
| DSNT              | UTVD | Use TVD for Gradient Corrections?          | No                |      |
| DSNT              | LHWT | Logging Horizontal Water Tank?             | No                |      |
| SDLT              | CLOK | Process Caliper Outputs?                   | Yes               |      |
| Microlog Pad      | MLOK | Process MicroLog Outputs?                  | Yes               |      |
| SDLT Pad          | DNOK | Process Density?                           | Yes               |      |
| SDLT Pad          | DNOK | Process Density EVR?                       | No                |      |
| SDLT Pad          | CB   | Logging Calibration Blocks?                | No                |      |
| SDLT Pad          | SPVT | SDLT Pad Temperature Valid?                | Yes               |      |
| SDLT Pad          | DTWN | Disable temperature warning                | No                |      |
| SDLT Pad          | DMA  | Formation Density Matrix                   | 2.710             | g/cc |
| SDLT Pad          | DFL  | Formation Density Fluid                    | 1.000             | g/cc |
| BSAT              | MBOK | Compute BCAS Results?                      | Yes               |      |
| BSAT              | FLLO | Frequency Filter Low Pass Value?           | 5000              | Hz   |
| BSAT              | FLHI | Frequency Filter High Pass Value?          | 27000             | Hz   |
| BSAT              | DTFL | Delta -T Fluid                             | 189.00            | uspf |
| BSAT              | DTMT | Delta -T Matrix Type                       | User define       |      |
| BSAT              | DTMA | Delta -T Matrix                            | 47.60             | uspf |
| BSAT              | DTSH | Delta -T Shale                             | 100.00            | uspf |
| BSAT              | SPEQ | Acoustic Porosity Equation                 | Wylie             |      |
| XRMI-I Instrument | WRTI | Survey Writing Interval                    | 30                | ft   |
| XRMI-I Instrument | SOPT | Smoothing Option                           | None              |      |
| XRMI-I Mandrel    | DIMG | Process XRMI?                              | Yes               |      |
| XRMI-I Mandrel    | ROTI | Rotate Image (N-E-S-W-N)?                  | Yes               |      |
| XRMI-I Mandrel    | AGN  | Use Button Auto Gain?                      | Yes               |      |
| XRMI-I Mandrel    | BCLR | Button Auto Gain Color                     | 127               |      |
| XRMI-I Mandrel    | BFIL | Button Auto Gain Filter                    | 0.020             |      |
| XRMI-I Mandrel    | BGAN | Button Gain Value                          | 0.001             |      |
| XRMI-I Mandrel    | BOFF | Button Offset                              | 0                 |      |
| XRMI-I Mandrel    | DIPE | Process Dipmeter Calculations?             | Yes               |      |
| XRMI-I Mandrel    | BHCS | Process Borehole Corrections?              | Yes               |      |
| XRMI-I Mandrel    | CLOK | Process Caliper Outputs?                   | Yes               |      |
| XRMI-I Mandrel    | CMAX | Caliper Maximum Limit                      | 100.0             | in   |
| XRMI-I Mandrel    | CMIN | Caliper Mimimum Limit                      | 3.5               | in   |
| XRMI-I Mandrel    | NAVS | Navigation Source Tool                     | XRMI-I Instrument |      |
| ACRt Sonde        | RTOK | Process ACRt?                              | Yes               |      |
| ACRt Sonde        | MNSO | Minimum Tool Standoff                      | 1.50              | in   |
| ACRt Sonde        | TCS1 | Temperature Correction Source              | FP Lwr & FP Upr   |      |
| ACRt Sonde        | TPOS | Tool Position                              | Centered          |      |
| ACRt Sonde        | RMOP | Rmud Source                                | Mud Cell          |      |
| ACRt Sonde        | RMIN | Minimum Resistivity for MAP                | 0.20              | ohmm |

| Mnemonic       |                                                         | Input Description | Delay (ft) | Filter Type | Filter Length (ft) |
|----------------|---------------------------------------------------------|-------------------|------------|-------------|--------------------|
| Depth Panel    |                                                         |                   |            |             |                    |
| TENS           | Tension                                                 |                   | 0.00       | NO          |                    |
| SP Sub         |                                                         |                   |            |             |                    |
| PLTC           | Plot Control Mask                                       |                   | 97.72      | NO          |                    |
| SP             | Spontaneous Potential                                   |                   | 97.72      | BLK         | 1.250              |
| SPR            | Raw Spontaneous Potential                               |                   | 97.72      | NO          |                    |
| SPO            | Spontaneous Potential Offset                            |                   | 97.72      | NO          |                    |
| GTET           |                                                         |                   |            |             |                    |
| TPUL           | Tension Pull                                            |                   | 89.70      | NO          |                    |
| GR             | Natural Gamma Ray API                                   |                   | 89.70      | TRI         | 1.750              |
| GRU            | Unfiltered Natural Gamma Ray API                        |                   | 89.70      | NO          |                    |
| EGR            | Natural Gamma Ray API with Enhanced Vertical Resolution |                   | 89.70      | W           | 1.416 , 0.750      |
| ACCZ           | Accelerometer Z                                         |                   | 0.00       | BLK         | 0.083              |
| DEVI           | Inclination                                             |                   | 0.00       | NO          |                    |
| DSNT           |                                                         |                   |            |             |                    |
| TPUL           | Tension Pull                                            |                   | 79.45      | NO          |                    |
| RNDS           | Near Detector Telemetry Counts                          |                   | 79.55      | BLK         | 1.417              |
| RFDS           | Far Detector Telemetry Counts                           |                   | 80.30      | TRI         | 0.583              |
| DNTT           | DSN Tool Temperature                                    |                   | 79.55      | NO          |                    |
| DSNS           | DSN Tool Status                                         |                   | 79.45      | NO          |                    |
| ERND           | Near Detector Telemetry Counts EVR                      |                   | 79.55      | BLK         | 0.000              |
| ERFD           | Far Detector Telemetry Counts EVR                       |                   | 80.30      | BLK         | 0.000              |
| ENTM           | DSN Tool Temperature EVR                                |                   | 79.55      | NO          |                    |
| SDLT           |                                                         |                   |            |             |                    |
| TPUL           | Tension Pull                                            |                   | 69.55      | NO          |                    |
| PCAL           | Pad Caliper                                             |                   | 69.55      | TRI         | 0.250              |
| ACAL           | Arm Caliper                                             |                   | 69.55      | TRI         | 0.250              |
| BSAT           |                                                         |                   |            |             |                    |
| TPUL           | Tension Pull                                            |                   | 52.55      | NO          |                    |
| STAT           | Status                                                  |                   | 52.55      | NO          |                    |
| DLYT           | Delay Time                                              |                   | 52.55      | NO          |                    |
| SI             | Sample Interval                                         |                   | 52.55      | NO          |                    |
| TXRX           | Raw Telemetry 10 Receivers                              |                   | 52.55      | NO          |                    |
| FRMC           | Tool Frame Count                                        |                   | 52.55      | NO          |                    |
| GMOD           | Gain processing mode                                    |                   | 45.29      | NO          |                    |
| XRMI-I Mandrel |                                                         |                   |            |             |                    |
| TPUL           | Tension Pull                                            |                   | 22.60      | NO          |                    |
| PAD1           | XRMI Pad 1 values                                       |                   | 22.36      | NO          |                    |
| PAD2           | XRMI Pad 2 values                                       |                   | 22.36      | NO          |                    |
| PAD3           | XRMI Pad 3 values                                       |                   | 22.36      | NO          |                    |
| PAD4           | XRMI Pad 4 values                                       |                   | 22.36      | NO          |                    |
| PAD5           | XRMI Pad 5 values                                       |                   | 22.36      | NO          |                    |
| PAD6           | XRMI Pad 6 values                                       |                   | 22.36      | NO          |                    |
| OD1            | EMI Odd Button Values Pad 1                             |                   | 22.36      | NO          |                    |
| OD2            | EMI Odd Button Values Pad 2                             |                   | 22.60      | NO          |                    |
| OD3            | EMI Odd Button Values Pad 3                             |                   | 22.36      | NO          |                    |
| OD4            | EMI Odd Button Values Pad 4                             |                   | 22.60      | NO          |                    |
| OD5            | EMI Odd Button Values Pad 5                             |                   | 22.36      | NO          |                    |

|      |                                   |       |     |       |
|------|-----------------------------------|-------|-----|-------|
| OD6  | EMI Odd Button Values Pad 6       | 22.60 | NO  |       |
| EV1  | EMI Even Button Values Pad 1      | 22.39 | NO  |       |
| EV2  | EMI Even Button Values Pad 2      | 22.57 | NO  |       |
| EV3  | EMI Even Button Values Pad 3      | 22.39 | NO  |       |
| EV4  | EMI Even Button Values Pad 4      | 22.57 | NO  |       |
| EV5  | EMI Even Button Values Pad 5      | 22.39 | NO  |       |
| EV6  | EMI Even Button Values Pad 6      | 22.57 | NO  |       |
| ITMP | Instrument Temperature            | 19.83 | NO  |       |
| EMIM | Tool Mode                         | 19.83 | NO  |       |
| HAZI | Hole Azimuth                      | 22.11 | NO  |       |
| HAZI | Hole Azimuth - Down Delay         | 22.61 | NO  |       |
| ZACC | Accelerometer Z                   | 22.36 | NO  |       |
| TPUL | Tension Pull                      | 22.60 | NO  |       |
| FIR1 | Current Button R - Pad 1          | 22.36 | NO  |       |
| FIR2 | Current Button R - Pad 2          | 22.60 | NO  |       |
| FIR3 | Current Button R - Pad 3          | 22.36 | NO  |       |
| FIR4 | Current Button R - Pad 4          | 22.60 | NO  |       |
| FIR5 | Current Button R - Pad 5          | 22.36 | NO  |       |
| FIR6 | Current Button R - Pad 6          | 22.60 | NO  |       |
| FIX1 | Current Button X - Pad 1          | 22.36 | NO  |       |
| FIX2 | Current Button X - Pad 2          | 22.60 | NO  |       |
| FIX3 | Current Button X - Pad 3          | 22.36 | NO  |       |
| FIX4 | Current Button X - Pad 4          | 22.60 | NO  |       |
| FIX5 | Current Button X - Pad 5          | 22.36 | NO  |       |
| FIX6 | Current Button X - Pad 6          | 22.60 | NO  |       |
| SIR1 | Current Slow Button R - Pad 1     | 22.36 | BLK | 3.000 |
| SIR2 | Current Slow Button R - Pad 2     | 22.60 | BLK | 3.000 |
| SIR3 | Current Slow Button R - Pad 3     | 22.36 | BLK | 3.000 |
| SIR4 | Current Slow Button R - Pad 4     | 22.60 | BLK | 3.000 |
| SIR5 | Current Slow Button R - Pad 5     | 22.36 | BLK | 3.000 |
| SIR6 | Current Slow Button R - Pad 6     | 22.60 | BLK | 3.000 |
| SIX1 | Current Slow Button X - Pad 1     | 22.36 | BLK | 3.000 |
| SIX2 | Current Slow Button X - Pad 2     | 22.60 | BLK | 3.000 |
| SIX3 | Current Slow Button X - Pad 3     | 22.36 | BLK | 3.000 |
| SIX4 | Current Slow Button X - Pad 4     | 22.60 | BLK | 3.000 |
| SIX5 | Current Slow Button X - Pad 5     | 22.36 | BLK | 3.000 |
| SIX6 | Current Slow Button X - Pad 6     | 22.60 | BLK | 3.000 |
| EMMR | Phasor Voltage - Real Part        | 22.36 | NO  |       |
| EMMX | Phasor Voltage - Imaginary Part   | 22.36 | NO  |       |
| PADV | Pad Voltage                       | 19.83 | BLK | 0.250 |
| ITMP | Instrument Temperature            | 19.83 | BLK | 0.000 |
| CON1 | Conductivity Pad 1                | 22.36 | BLK | 3.000 |
| CON2 | Conductivity Pad 2                | 22.60 | BLK | 3.000 |
| CON3 | Conductivity Pad 3                | 22.36 | BLK | 3.000 |
| CON4 | Conductivity Pad 4                | 22.60 | BLK | 3.000 |
| CON5 | Conductivity Pad 5                | 22.36 | BLK | 3.000 |
| CON6 | Conductivity Pad 6                | 22.60 | BLK | 3.000 |
| UIR2 | Current Button R No Delay - Pad 2 | 22.36 | NO  |       |
| UIR4 | Current Button R No Delay - Pad 4 | 22.36 | NO  |       |
| UIR6 | Current Button R No Delay - Pad 6 | 22.36 | NO  |       |
| UIX2 | Current Button X No Delay - Pad 2 | 22.36 | NO  |       |
| UIX4 | Current Button X No Delay - Pad 4 | 22.36 | NO  |       |
| UIX6 | Current Button X No Delay - Pad 6 | 22.36 | NO  |       |
| TPUL | Tension Pull                      | 22.60 | NO  |       |
| ARM1 | Caliper 1 measurement             | 22.36 | BLK | 0.000 |
| ARM2 | Caliper 2 measurement             | 22.36 | BLK | 0.000 |

|            |                                                       |       |     |       |
|------------|-------------------------------------------------------|-------|-----|-------|
| ARM3       | Caliper 3 measurement                                 | 22.36 | BLK | 0.000 |
| ARM4       | Caliper 4 measurement                                 | 22.36 | BLK | 0.000 |
| ARM5       | Caliper 5 measurement                                 | 22.36 | BLK | 0.000 |
| ARM6       | Caliper 6 measurement                                 | 22.36 | BLK | 0.000 |
| MOTV       | Motor Voltage Monitor 1                               | 22.36 | BLK | 0.000 |
| PRES       | Caliper percentage of total compression of the spring | 19.83 | BLK | 0.000 |
| HAZI       | Hole Azimuth                                          | 22.36 | NO  |       |
| RB         | Relative Bearing                                      | 22.36 | NO  |       |
| AZI1       | PAD1 Azimuth                                          | 22.36 | NO  |       |
| DEVI       | Inclination                                           | 22.36 | NO  |       |
| ACRt Sonde |                                                       |       |     |       |
| TPUL       | Tension Pull                                          | 2.97  | NO  |       |
| F1R1       | ACRT 12KHz - 80in R value                             | 9.22  | BLK | 0.000 |
| F1X1       | ACRT 12KHz - 80in X value                             | 9.22  | BLK | 0.000 |
| F1R2       | ACRT 12KHz - 50in R value                             | 6.72  | BLK | 0.000 |
| F1X2       | ACRT 12KHz - 50in X value                             | 6.72  | BLK | 0.000 |
| F1R3       | ACRT 12KHz - 29in R value                             | 5.22  | BLK | 0.000 |
| F1X3       | ACRT 12KHz - 29in X value                             | 5.22  | BLK | 0.000 |
| F1R4       | ACRT 12KHz - 17in R value                             | 4.22  | BLK | 0.000 |
| F1X4       | ACRT 12KHz - 17in X value                             | 4.22  | BLK | 0.000 |
| F1R5       | ACRT 12KHz - 10in R value                             | 3.72  | BLK | 0.000 |
| F1X5       | ACRT 12KHz - 10in X value                             | 3.72  | BLK | 0.000 |
| F1R6       | ACRT 12KHz - 6in R value                              | 3.47  | BLK | 0.000 |
| F1X6       | ACRT 12KHz - 6in X value                              | 3.47  | BLK | 0.000 |
| F2R1       | ACRT 36KHz - 80in R value                             | 9.22  | BLK | 0.000 |
| F2X1       | ACRT 36KHz - 80in X value                             | 9.22  | BLK | 0.000 |
| F2R2       | ACRT 36KHz - 50in R value                             | 6.72  | BLK | 0.000 |
| F2X2       | ACRT 36KHz - 50in X value                             | 6.72  | BLK | 0.000 |
| F2R3       | ACRT 36KHz - 29in R value                             | 5.22  | BLK | 0.000 |
| F2X3       | ACRT 36KHz - 29in X value                             | 5.22  | BLK | 0.000 |
| F2R4       | ACRT 36KHz - 17in R value                             | 4.22  | BLK | 0.000 |
| F2X4       | ACRT 36KHz - 17in X value                             | 4.22  | BLK | 0.000 |
| F2R5       | ACRT 36KHz - 10in R value                             | 3.72  | BLK | 0.000 |
| F2X5       | ACRT 36KHz - 10in X value                             | 3.72  | BLK | 0.000 |
| F2R6       | ACRT 36KHz - 6in R value                              | 3.47  | BLK | 0.000 |
| F2X6       | ACRT 36KHz - 6in X value                              | 3.47  | BLK | 0.000 |
| F3R1       | ACRT 72KHz - 80in R value                             | 9.22  | BLK | 0.000 |
| F3X1       | ACRT 72KHz - 80in X value                             | 9.22  | BLK | 0.000 |
| F3R2       | ACRT 72KHz - 50in R value                             | 6.72  | BLK | 0.000 |
| F3X2       | ACRT 72KHz - 50in X value                             | 6.72  | BLK | 0.000 |
| F3R3       | ACRT 72KHz - 29in R value                             | 5.22  | BLK | 0.000 |
| F3X3       | ACRT 72KHz - 29in X value                             | 5.22  | BLK | 0.000 |
| F3R4       | ACRT 72KHz - 17in R value                             | 4.22  | BLK | 0.000 |
| F3X4       | ACRT 72KHz - 17in X value                             | 4.22  | BLK | 0.000 |
| F3R5       | ACRT 72KHz - 10in R value                             | 3.72  | BLK | 0.000 |
| F3X5       | ACRT 72KHz - 10in X value                             | 3.72  | BLK | 0.000 |
| F3R6       | ACRT 72KHz - 6in R value                              | 3.47  | BLK | 0.000 |
| F3X6       | ACRT 72KHz - 6in X value                              | 3.47  | BLK | 0.000 |
| RMUD       | Mud Resistivity                                       | 12.76 | BLK | 0.000 |
| F1RT       | Transmitter Reference 12 KHz Real Signal              | 2.97  | BLK | 0.000 |
| F1XT       | Transmitter Reference 12 KHz Imaginary Signal         | 2.97  | BLK | 0.000 |
| F2RT       | Transmitter Reference 36 KHz Real Signal              | 2.97  | BLK | 0.000 |
| F2XT       | Transmitter Reference 36 KHz Imaginary Signal         | 2.97  | BLK | 0.000 |
| F3RT       | Transmitter Reference 72 KHz Real Signal              | 2.97  | BLK | 0.000 |
| F3XT       | Transmitter Reference 72 KHz Imaginary Signal         | 2.97  | BLK | 0.000 |

|                                                                  |                                        |       |                          |       |
|------------------------------------------------------------------|----------------------------------------|-------|--------------------------|-------|
| TFPU                                                             | Upper Feedpipe Temperature Calculated  | 2.97  | BLK                      | 0.000 |
| TFPL                                                             | Lower Feedpipe Temperature Calculated  | 2.97  | BLK                      | 0.000 |
| ITMP                                                             | Instrument Temperature                 | 2.97  | BLK                      | 0.000 |
| TCVA                                                             | Temperature Correction Values Loop Off | 2.97  | NO                       |       |
| TIDV                                                             | Instrument Temperature Derivative      | 2.97  | NO                       |       |
| TUDV                                                             | Upper Temperature Derivative           | 2.97  | NO                       |       |
| TLDV                                                             | Lower Temperature Derivative           | 2.97  | NO                       |       |
| TRBD                                                             | Receiver Board Temperature             | 2.97  | NO                       |       |
| Microlog Pad                                                     |                                        |       |                          |       |
| TPUL                                                             | Tension Pull                           | 69.74 | NO                       |       |
| MINV                                                             | Microlog Lateral                       | 69.74 | BLK                      | 0.750 |
| MNOR                                                             | Microlog Normal                        | 69.74 | BLK                      | 0.750 |
| SDLT Pad                                                         |                                        |       |                          |       |
| TPUL                                                             | Tension Pull                           | 69.54 | NO                       |       |
| NAB                                                              | Near Above                             | 69.37 | BLK                      | 0.920 |
| NHI                                                              | Near Cesium High                       | 69.37 | BLK                      | 0.920 |
| NLO                                                              | Near Cesium Low                        | 69.37 | BLK                      | 0.920 |
| NVA                                                              | Near Valley                            | 69.37 | BLK                      | 0.920 |
| NBA                                                              | Near Barite                            | 69.37 | BLK                      | 0.920 |
| NDE                                                              | Near Density                           | 69.37 | BLK                      | 0.920 |
| NPK                                                              | Near Peak                              | 69.37 | BLK                      | 0.920 |
| NLI                                                              | Near Lithology                         | 69.37 | BLK                      | 0.920 |
| NBAU                                                             | Near Barite Unfiltered                 | 69.37 | BLK                      | 0.250 |
| NLIU                                                             | Near Lithology Unfiltered              | 69.37 | BLK                      | 0.250 |
| FAB                                                              | Far Above                              | 69.72 | BLK                      | 0.250 |
| FHI                                                              | Far Cesium High                        | 69.72 | BLK                      | 0.250 |
| FLO                                                              | Far Cesium Low                         | 69.72 | BLK                      | 0.250 |
| FVA                                                              | Far Valley                             | 69.72 | BLK                      | 0.250 |
| FBA                                                              | Far Barite                             | 69.72 | BLK                      | 0.250 |
| FDE                                                              | Far Density                            | 69.72 | BLK                      | 0.250 |
| FPK                                                              | Far Peak                               | 69.72 | BLK                      | 0.250 |
| FLI                                                              | Far Lithology                          | 69.72 | BLK                      | 0.250 |
| PTMP                                                             | Pad Temperature                        | 69.55 | BLK                      | 0.920 |
| NHV                                                              | Near Detector High Voltage             | 68.95 | NO                       |       |
| FHV                                                              | Far Detector High Voltage              | 68.95 | NO                       |       |
| ITMP                                                             | Instrument Temperature                 | 68.95 | NO                       |       |
| DDHV                                                             | Detector High Voltage                  | 68.95 | NO                       |       |
| Data: OSAGE_3314_13_010001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CH1DLE |                                        |       | Date: 30-Aug-12 23:27:40 |       |

|             |                      |                                 |        |
|-------------|----------------------|---------------------------------|--------|
| COMPANY     | OSAGE RESOURCES LLC  |                                 |        |
| WELL        | OSAGE 3314 13-09 SWD |                                 |        |
| FIELD       | MEDICINE LODGE BOGGS |                                 |        |
| COUNTY      | BARBER               | STATE                           | KANSAS |
| HALLIBURTON |                      | BORE HOLE<br>SONIC ARRAY<br>LOG |        |