

HALLIBURTON

REPEAT SECTION

OXY USA INC.
DRUSSEL G-1
DRUSSEL
FINNEY
KANSAS

COMPANY OXY USA INC.
WELL DRUSSEL G-1
FIELD/BLOCK DRUSSEL
COUNTY FINNEY
STATE KANSAS

API No. 1505522370000
 Location (SHL) 589' FEL & 2958' FSL

Sect. 4 Twp. 26S Rge. 33W

Other Services:
 DSN / SDL
 MICROLOG
 BSAT
 ACRT

COMPANY
 WELL
 FIELD/BLOCK
 COUNTY
 STATE

Permanent Datum
 Log measured from
 Drilling measured from

Date
 Run No.
 Depth - Driller
 Depth - Logger
 Bottom - Logged Interval
 Top - Logged Interval
 Casing - Driller
 Casing - Logger
 Bit Size

Type Fluid in Hole
 Density
 PH
 Source of Sample

Rm @ Meas. Temperature
 Rmf @ Meas. Temperature
 Rmc @ Meas. Temperature
 Source Rmf
 Rm @ BHT
 Time Since Circulation
 Time on Bottom

Equipment
 Recorded By
 Witnessed By

GL
 KB
 KB
 KB
 ONE
 5310.00 ft
 5306.0 ft
 8.625 in @ 1643.0 ft
 1643.0 ft
 7.875 in @
 WATER BASED MUD
 9.7 ppg 53.00 s/qt
 10.80 pH 7.6 cpHm
 MUD PIT
 0.690 ohmm @ 85.00 degF
 0.59 ohmm @ 85.00 degF
 0.790 ohmm @ 85.00 degF
 CALCULATED CALCULATED
 0.44 ohmm @ 136.0 degF
 12.0 hr
 24-Sep-13 07:27
 136.0 degF @ 5306.0 ft
 11230668 LIBERAL
 S. INGERSOLL
 G. FLAGG

Fold here

| | | | | | | | | | | | | | | | |
|---|------------|---|--|-------------------------------|----------|----------------------------|-----------------|---|-----------------|-------|--|-------------|----------|--|--|
| Service Ticket No.: 900762415 | | | | API Serial No.: 1505522370000 | | | | PGM Version: WL INSITE R3.8.4 (Build 5) | | | | | | | |
| 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. | | @ | | | @ | ONE | ACRT | N/A | CENT. | | | | | | |
| Rmc @ Meas. Temp. | | @ | | | @ | | 10929775 | | | | | | | | |
| Source Rmf | Rmc | | | | | | | | | | | | | | |
| Rm @ BHT | | @ | | | @ | | | | | | | | | | |
| Rmf @ BHT | | @ | | | @ | | | | | | | | | | |
| Rmc @ BHT | | @ | | | @ | | | | | | | | | | |
| EQUIPMENT DATA | | | | | | | | | | | | | | | |
| GAMMA | | | | ACOUSTIC | | | | DENSITY | | | | NEUTRON | | | |
| Run No. | ONE | | | Run No. | ONE | | | Run No. | ONE | | | Run No. | ONE | | |
| Serial No. | 10748374 | | | Serial No. | 10747684 | | | Serial No. | 10714945 | | | Serial No. | 10755066 | | |
| Model No. | GTET | | | Model No. | BSAT | | | Model No. | SDLT | | | Model No. | DSNT | | |
| Diameter | 3.625" | | | No. of Cent. | 2 | | | Diameter | 5.3" | | | Diameter | 3.625" | | |
| Detector Model No. | T-102 | | | Spacing | .5' | | | Log Type | GAM-GAM | | | Log Type | NEU-NEU | | |
| Type | SCINT | | | | | | | Source Type | CS-137 | | | Source Type | AM-241BE | | |
| Length | 8" | | | LSA [Y/N] | | | | Serial No. | 5073GW | | | Serial No. | DSN-436 | | |
| Distance to Source | N/A | | | FWDA [Y/N] | | | | Strength | 1.5 CI | | | Strength | 15 CI | | |
| LOGGING DATA | | | | | | | | | | | | | | | |

| 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 | | 1643 | REC | 0 | 150 | 30 | -10 | 47.6 us/ft | 30 | -10 | 2.71 gm/cc | 30 | -10 | LIME |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

DIRECTIONAL INFORMATION

Maximum Deviation @ KOP @

Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING.

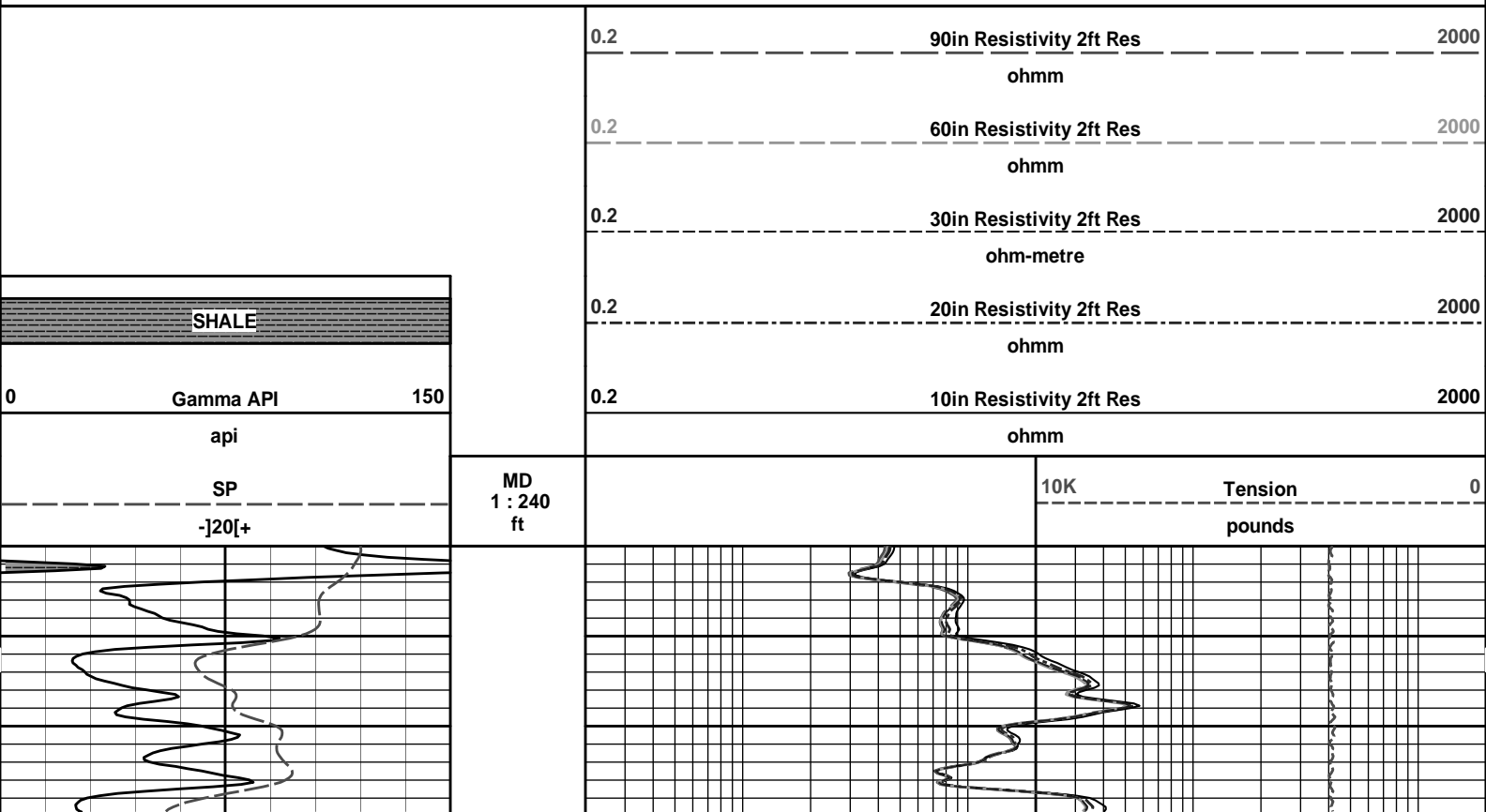
HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR 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.

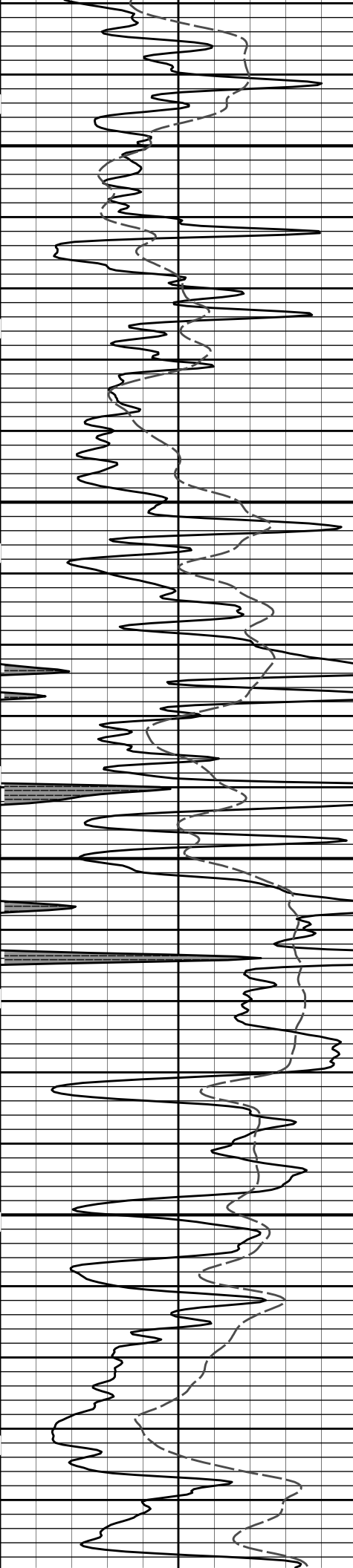
HALLIBURTON

HALLIBURTON

Plot Time: 24-Sep-13 07:54:17
 Plot Range: 4750 ft to 5310.92 ft
 Data: DRUSSEL G-1\Well Based\R1 REPEAT\
 Plot File: \\LOCAL\DRUSSEL G-1\Well Based\REPEAT\CRT_5_repeat_lib

REPEAT SECTION

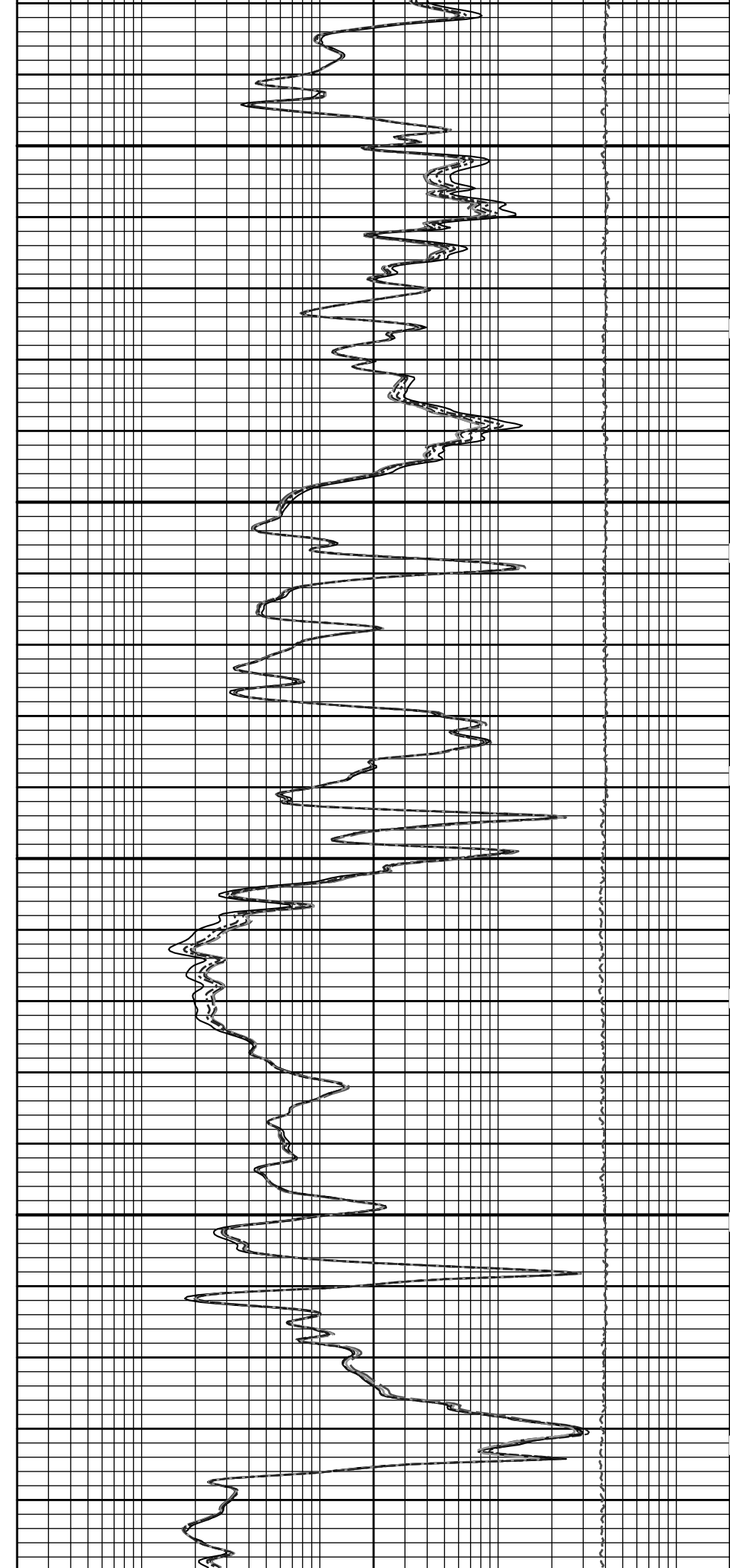


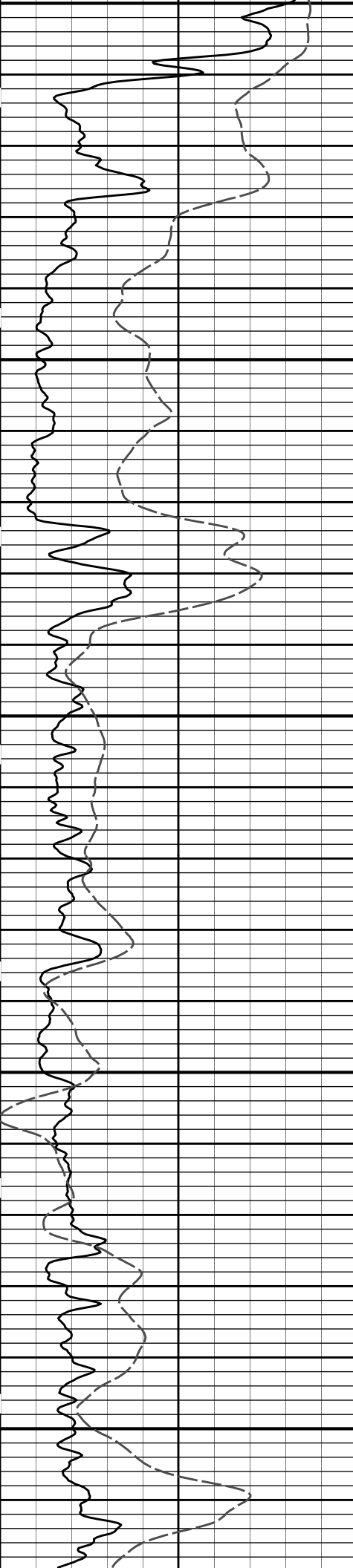


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4900

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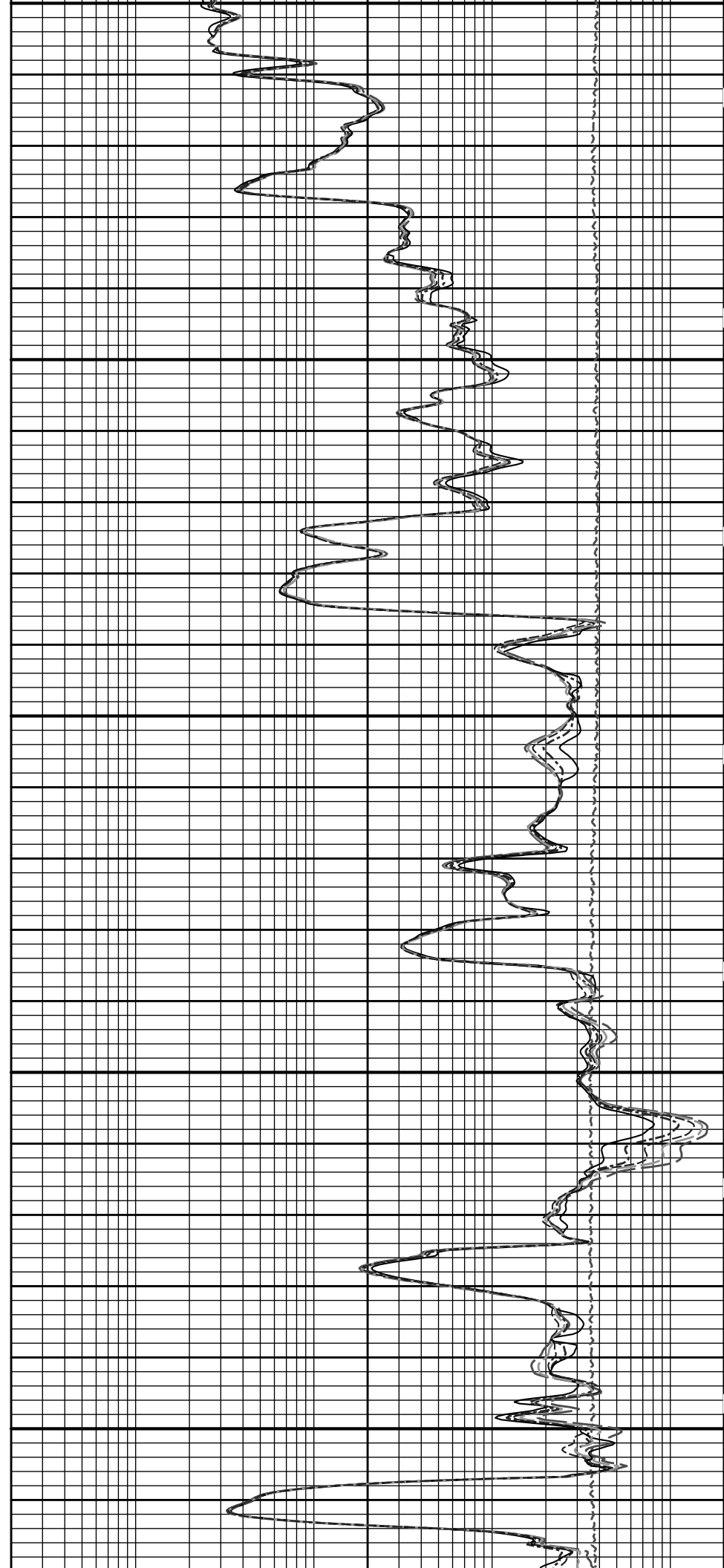


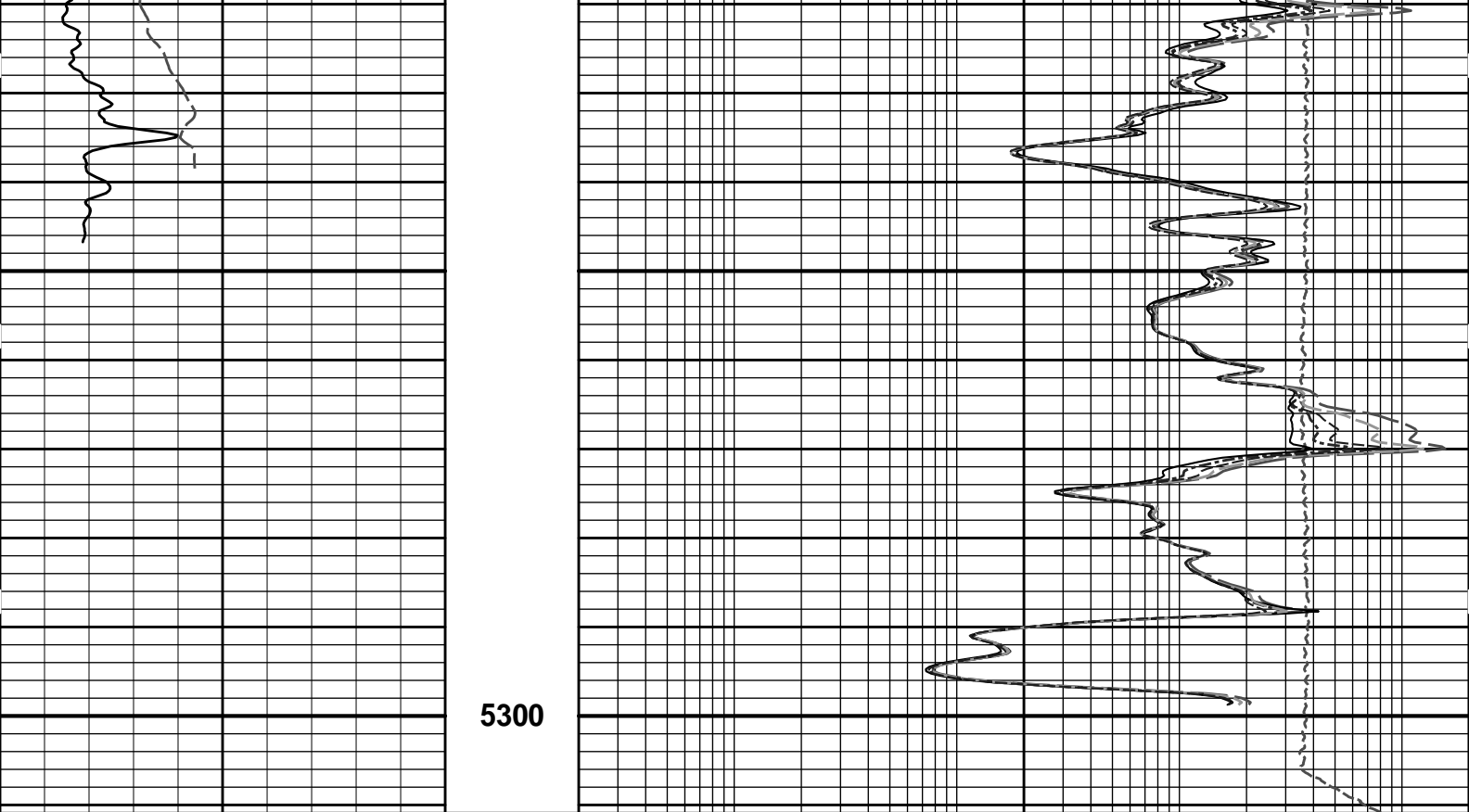


5000

5100

5200





5300

| | | | | |
|--------------|--------------------------|------|-------------------|---|
| SP -]20[+ | MD 1 : 240 ft | 10K | Tension pounds | 0 |
| 0 | Gamma API | 150 | | |
| api | | | | |
| SHALE | | | | |
| 0.2 | 10in Resistivity 2ft Res | 2000 | | |
| ohmm | | | | |
| 0.2 | 20in Resistivity 2ft Res | 2000 | | |
| ohmm | | | | |
| 0.2 | 30in Resistivity 2ft Res | 2000 | | |
| ohm-metre | | | | |
| 0.2 | 60in Resistivity 2ft Res | 2000 | | |
| ohmm | | | | |
| 0.2 | 90in Resistivity 2ft Res | 2000 | | |
| ohmm | | | | |

HALLIBURTON

Plot Time: 24-Sep-13 07:54:18
 Plot Range: 4750 ft to 5310.92 ft
 Data: DRUSSEL G-1\Well Based\R1 REPEAT\
 Plot File: \\LOCAL\DRUSSEL G-1\Well Based\REPEAT\CRT_5_repeat.lib

REPEAT SECTION

HALLIBURTON

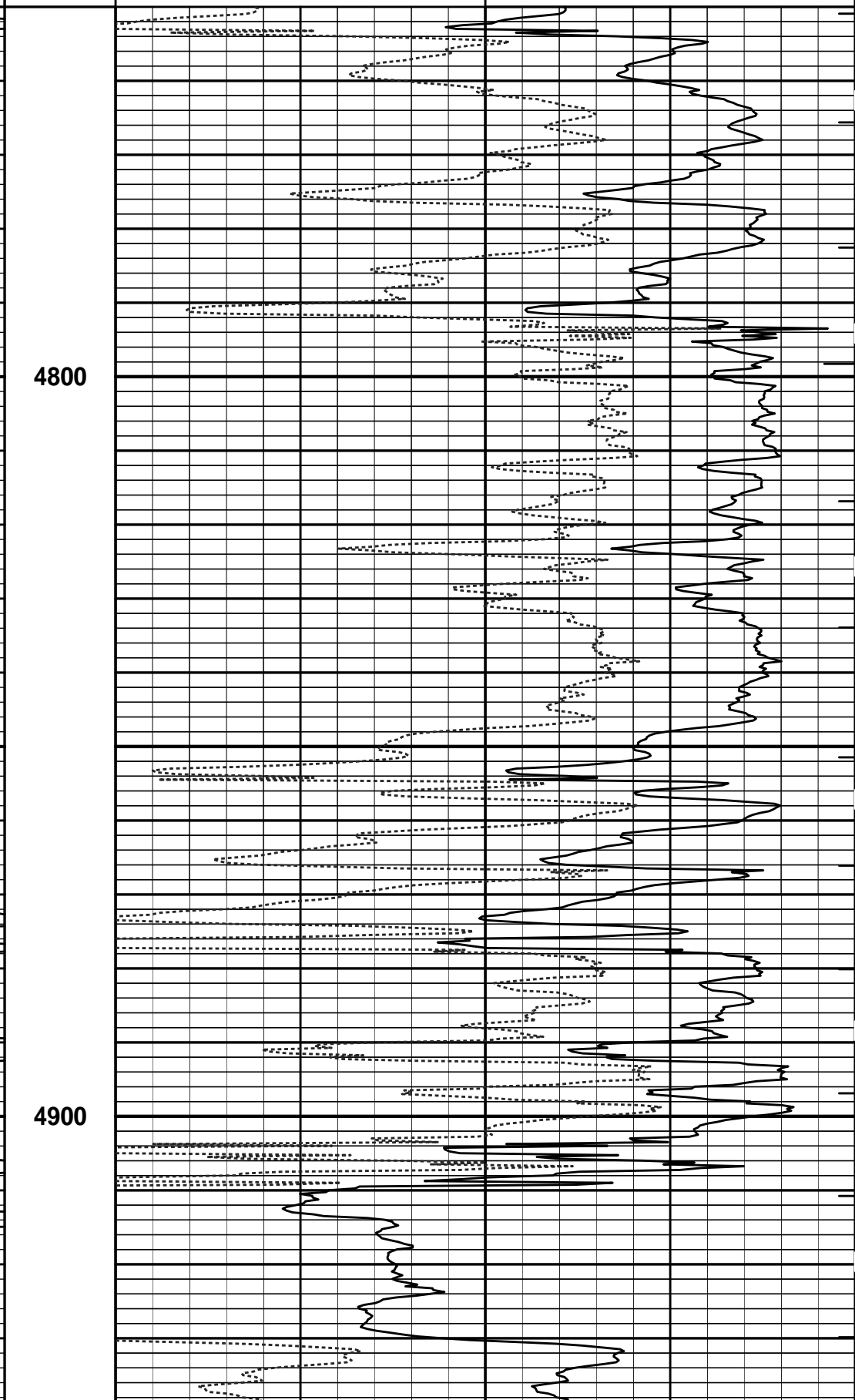
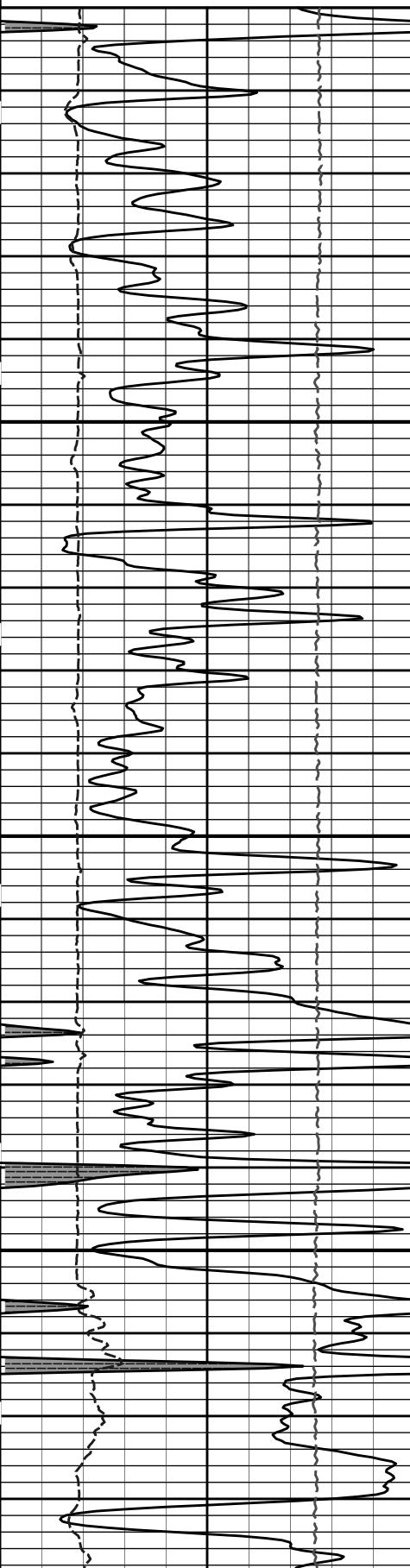
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 Plot Range: 4750 ft to 5310.92 ft
 Data: DRUSSEL G-1\Well Based\R1 REPEAT\
 Plot File: \\REPEAT\BSAT_5_REP_LIB

REPEAT SECTION

SHALE

0 Gamma API 150
api
6 Caliper 16
inches
15K Tension 0
pounds

30 Acou Porosity -10
percent
140 Delta-T 40
microsec per ft
MD 1 : 240 ft ITT



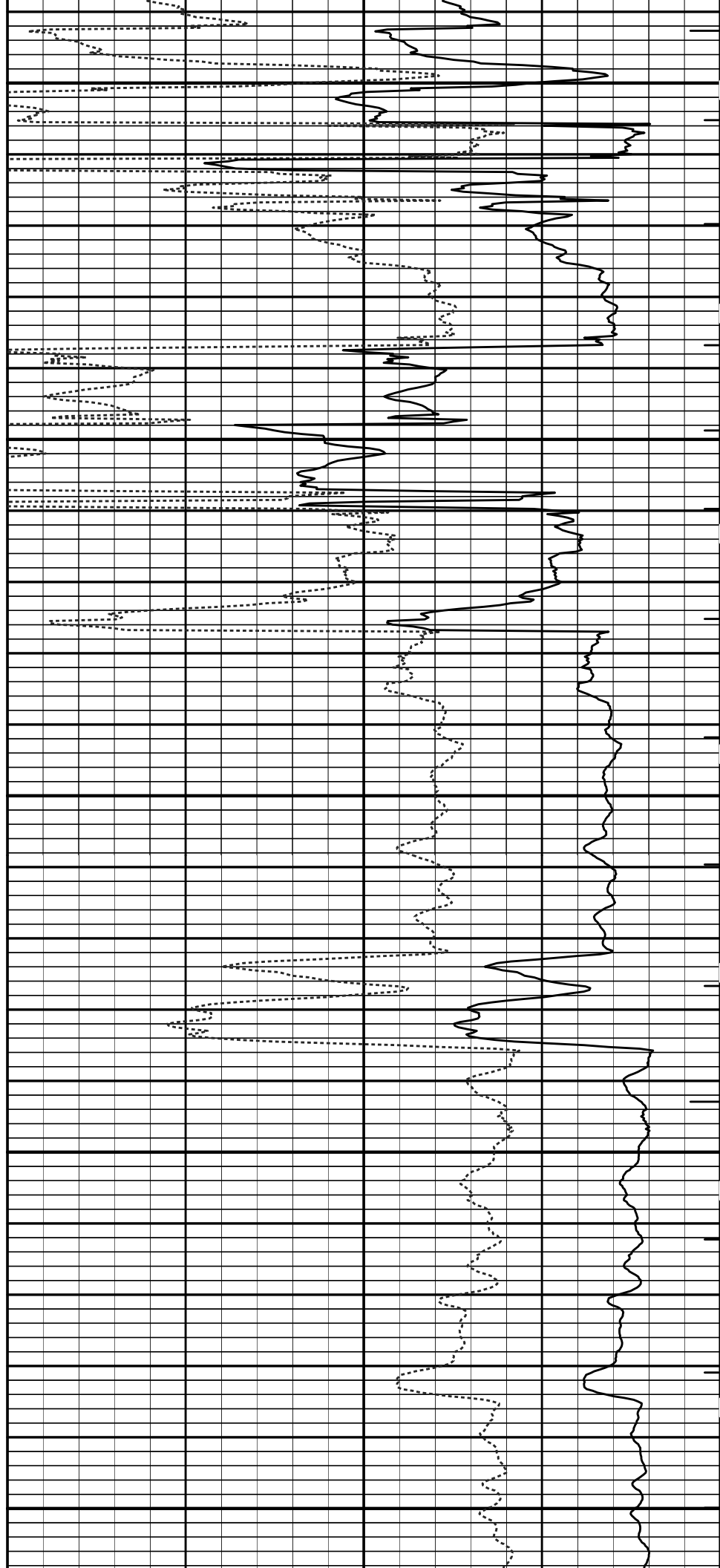
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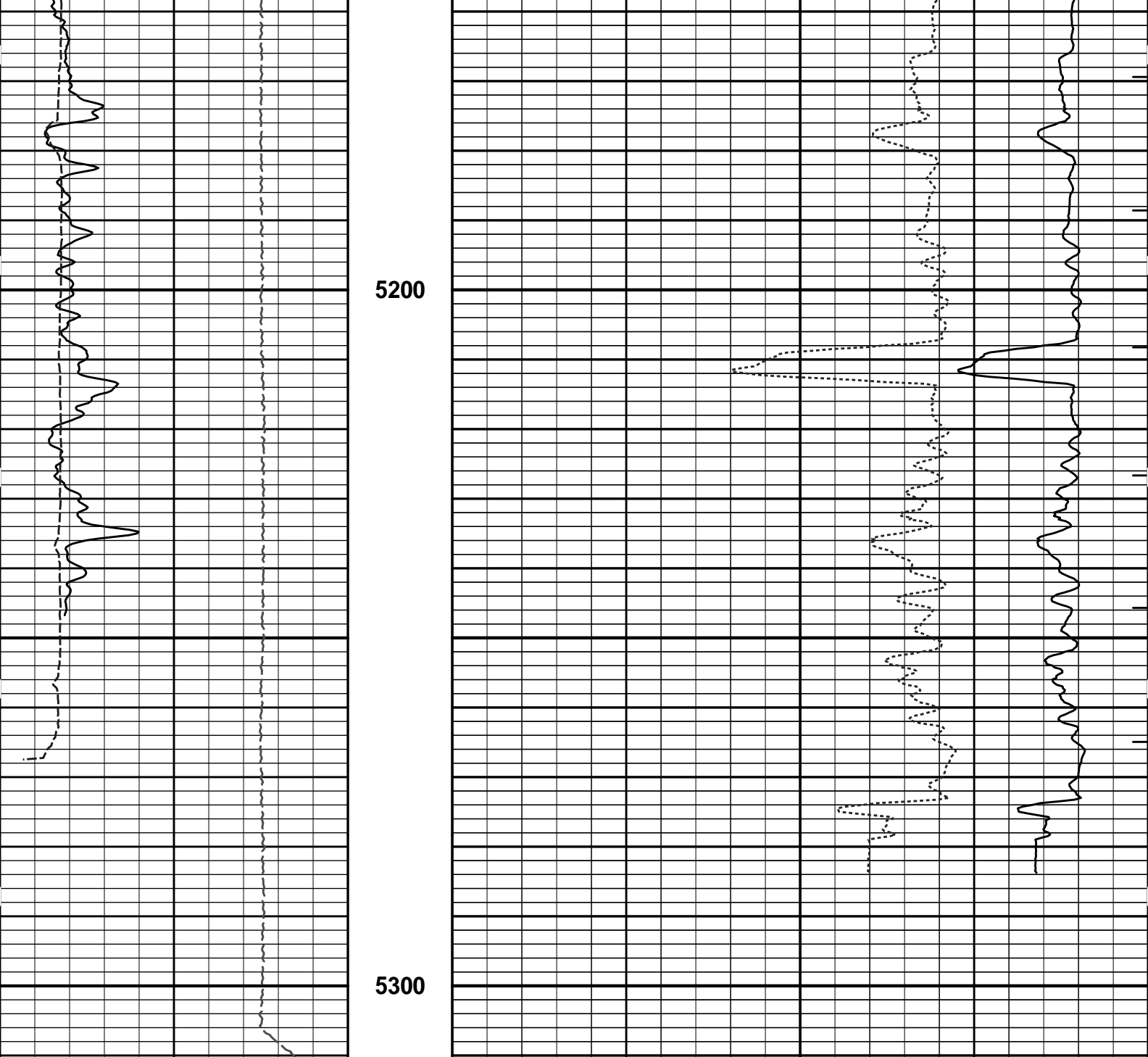
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5000

5100





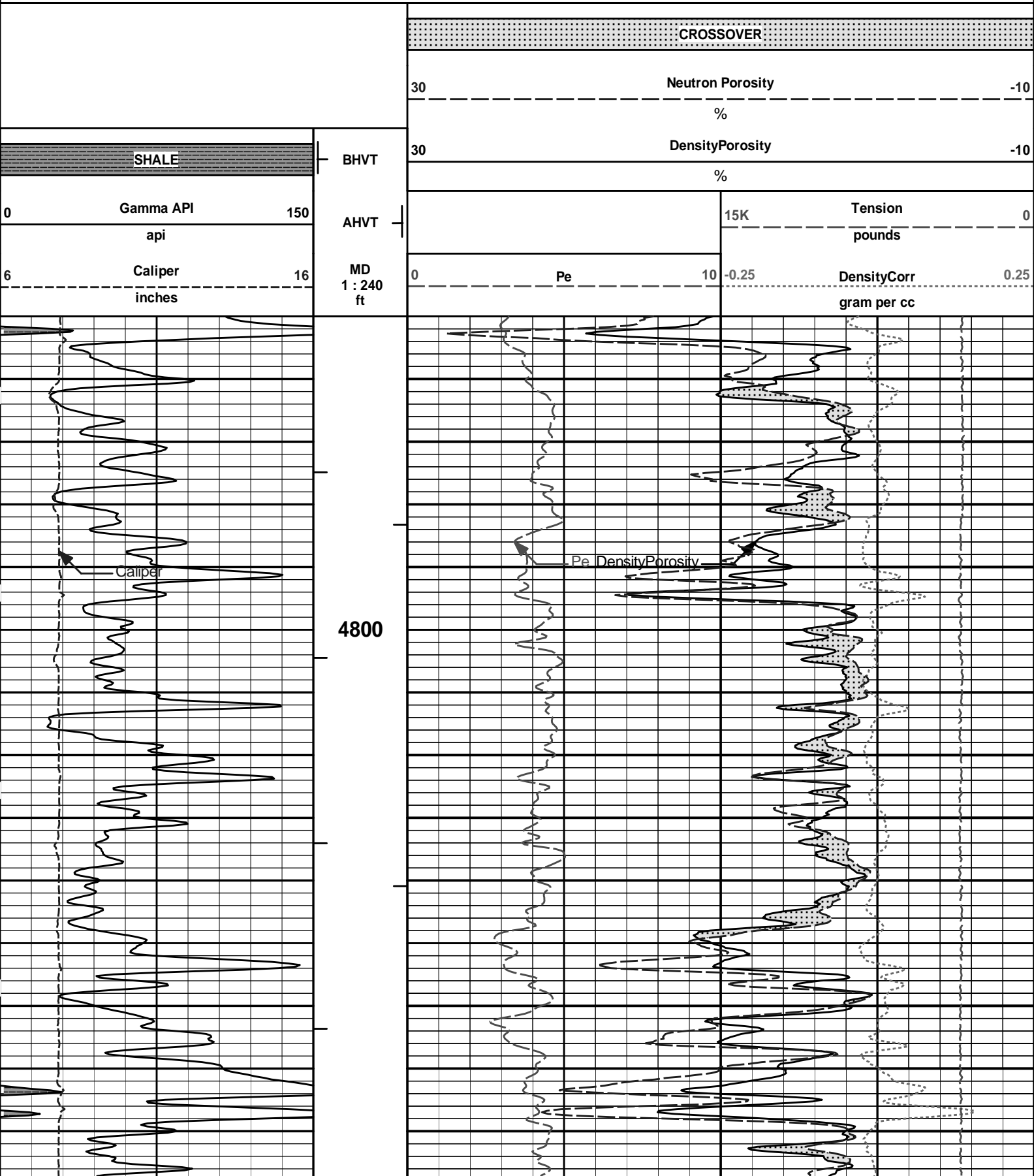
| | | | | | |
|-----|-----------|-----|---------|-----|-----------------|
| 15K | Tension | 0 | MD | | ITTT |
| | pounds | | 1 : 240 | | |
| | | | ft | | |
| 6 | Caliper | 16 | | 140 | Delta-T |
| | inches | | | | microsec per ft |
| 0 | Gamma API | 150 | | 30 | Acou Porosity |
| | api | | | | percent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

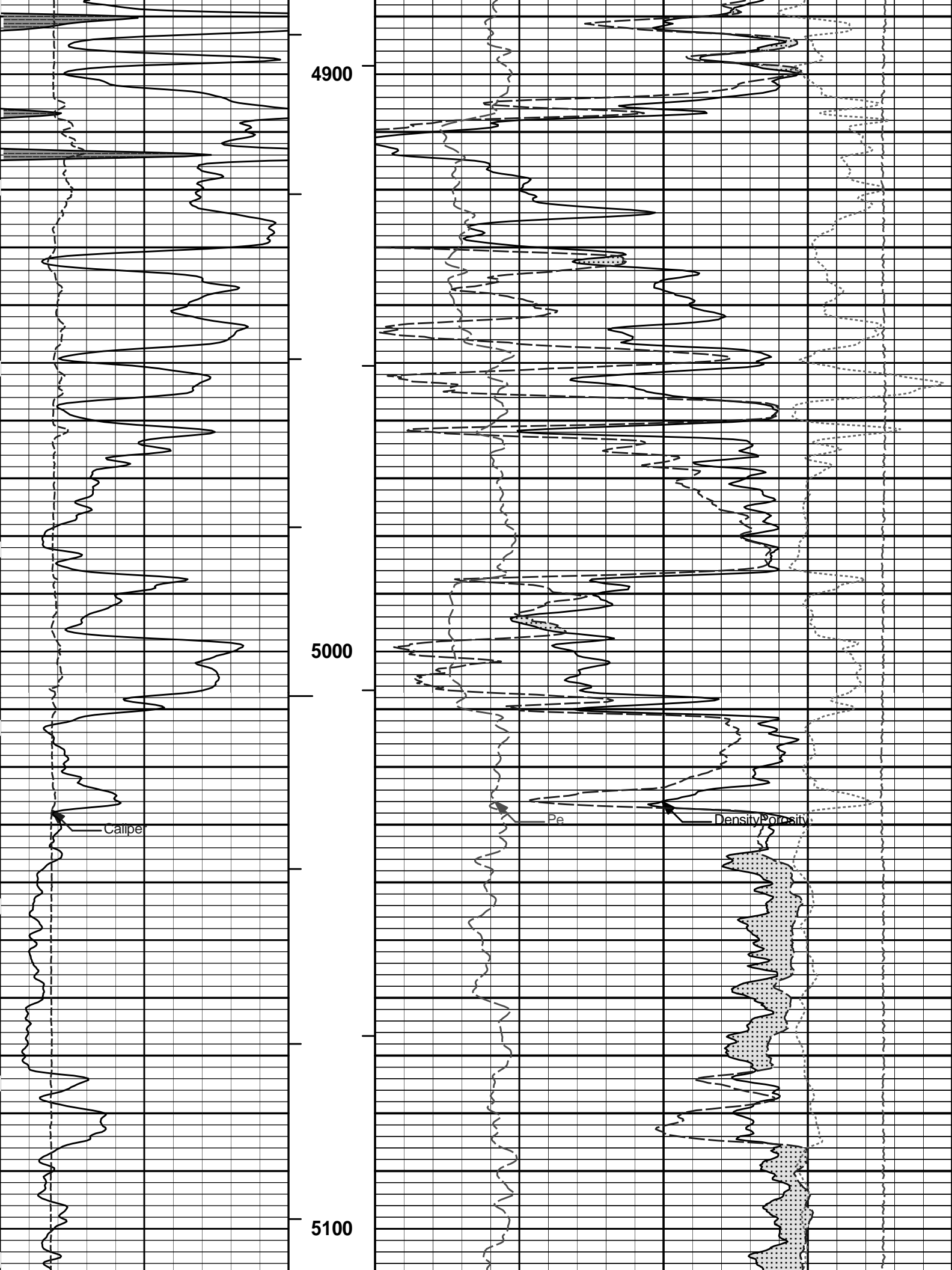
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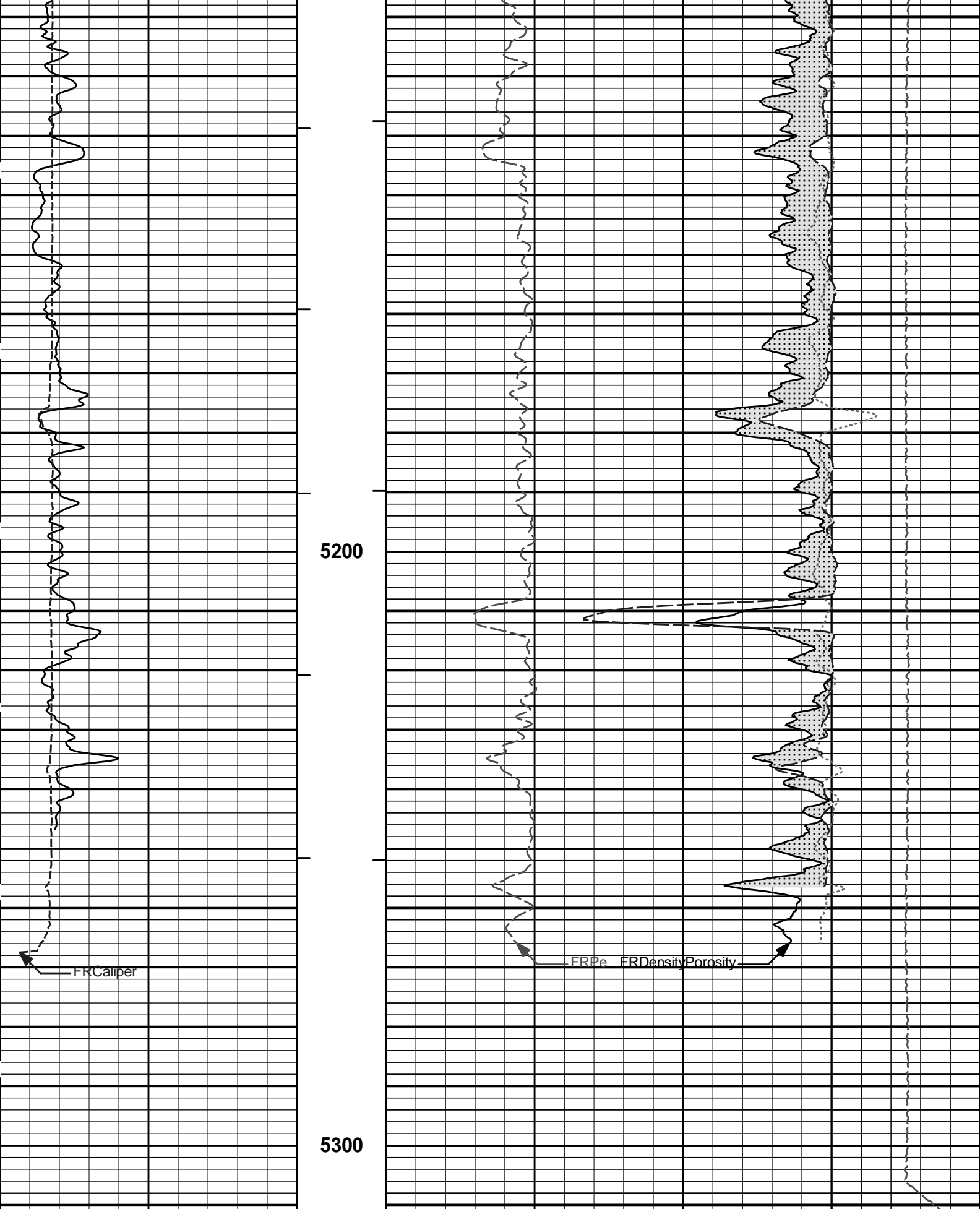
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 Plot Range: 4750 ft to 5310.92 ft
 Data: DRUSSEL G-1\Well Based\R1 REPEAT\
 Plot File: \\REPEAT\BSAT_5_REP_LIB

REPEAT SECTION

REPEAT SECTION







5200

5300

FRCaliper

FRPe FRDensityPorosity

| | | |
|---|-----------|-----|
| 6 | Caliper | 16 |
| | inches | |
| 0 | Gamma API | 150 |

| | | |
|------|---------|----|
| MD | 1 : 240 | ft |
| AHVT | | |

| | | |
|-------|-------------|------|
| 0 | Pe | 10 |
| -0.25 | DensityCorr | 0.25 |
| | gram per cc | |
| 15K | Tension | 0 |

| | | | | | |
|-------|------|----|------------------|--|--------|
| api | | | | | pounds |
| SHALE | BHVT | 30 | DensityPorosity | | -10 |
| | | | % | | |
| | | 30 | Neutron Porosity | | -10 |
| | | | % | | |
| | | | CROSSOVER | | |

HALLIBURTON

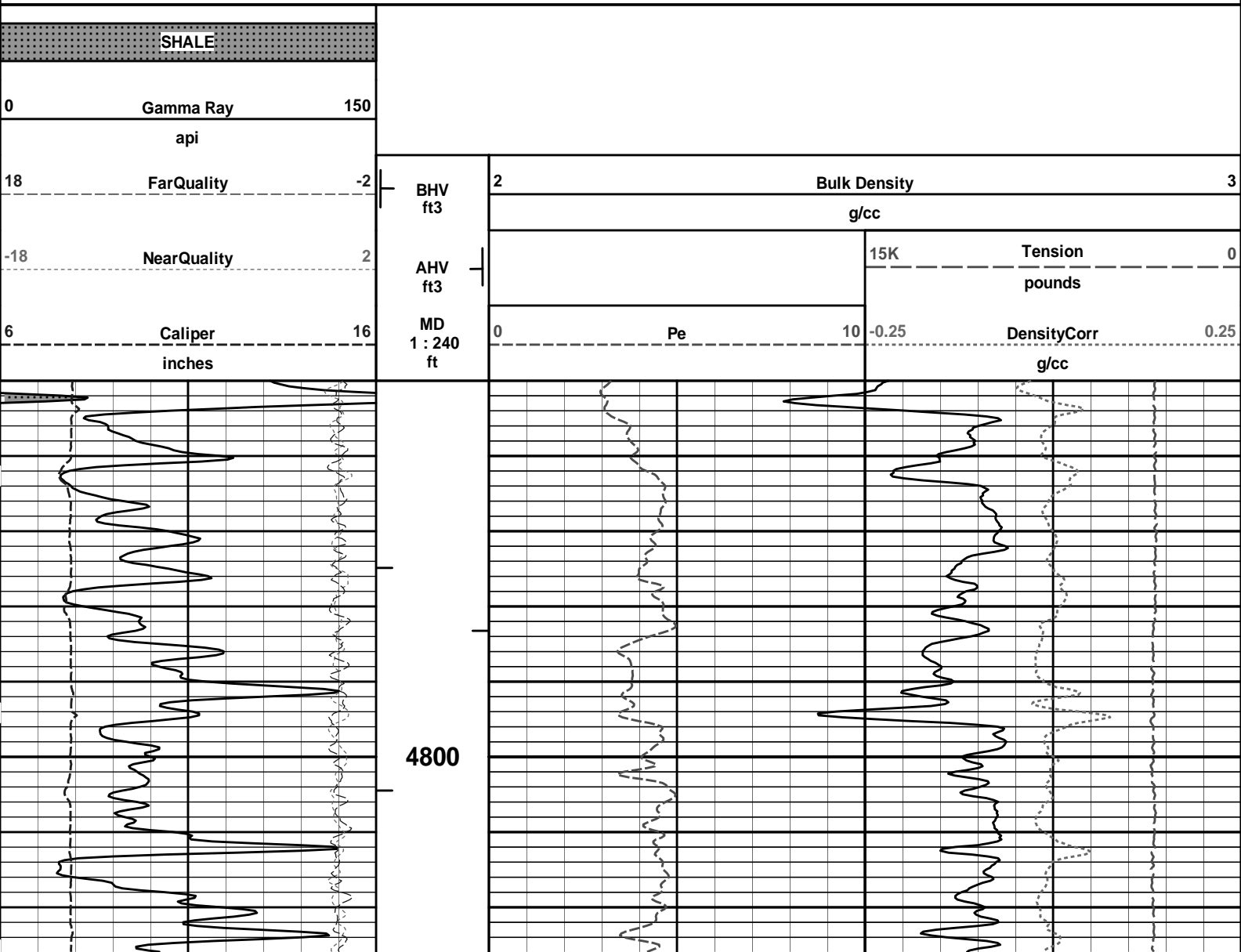
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 Plot Range: 4750 ft to 5310.92 ft
 Data: DRUSSEL G-1\Well Based\R1 REPEAT\
 Plot File: \\REPEAT\Poro_IQ_5_REP_LIB

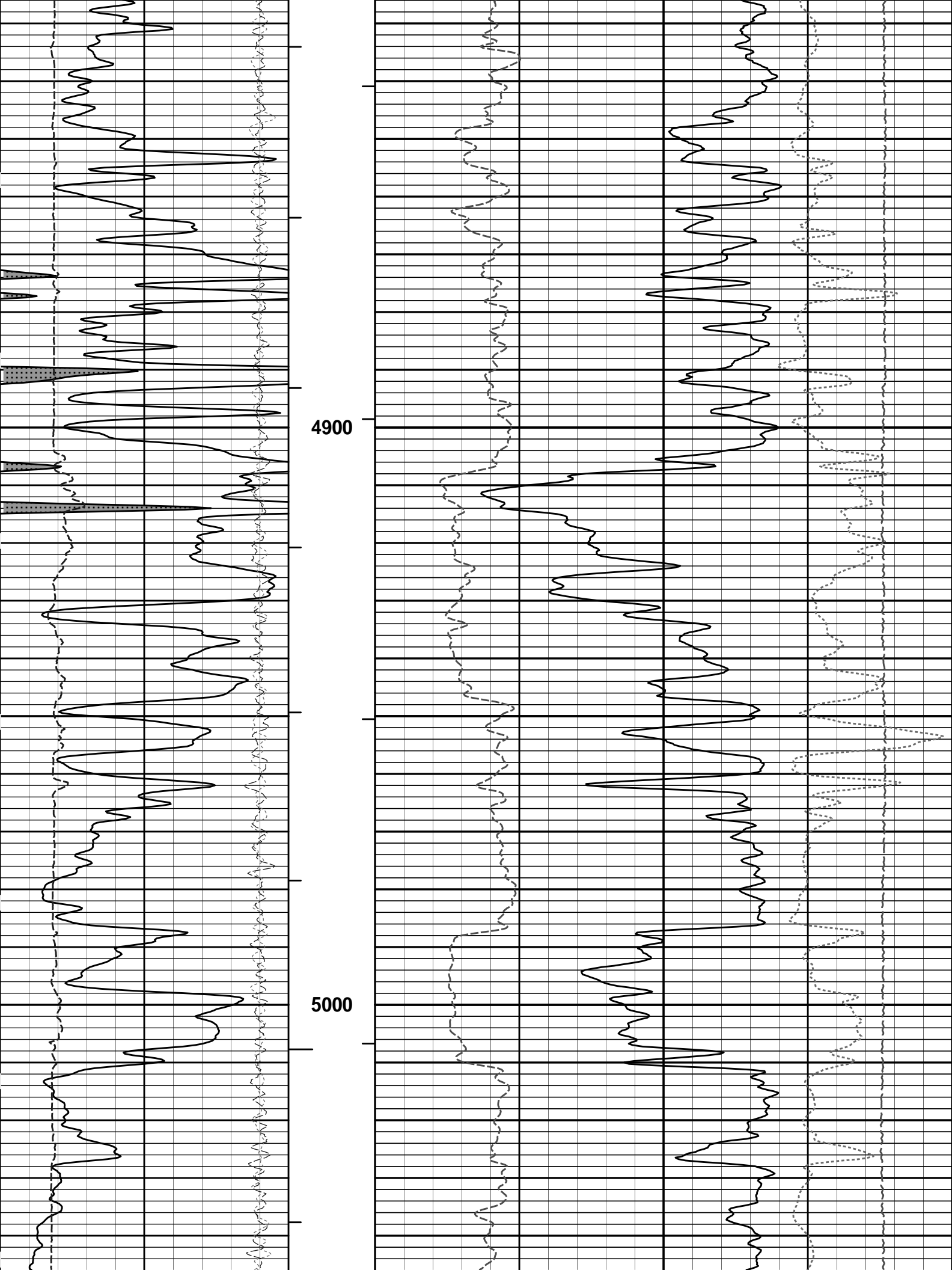
REPEAT SECTION

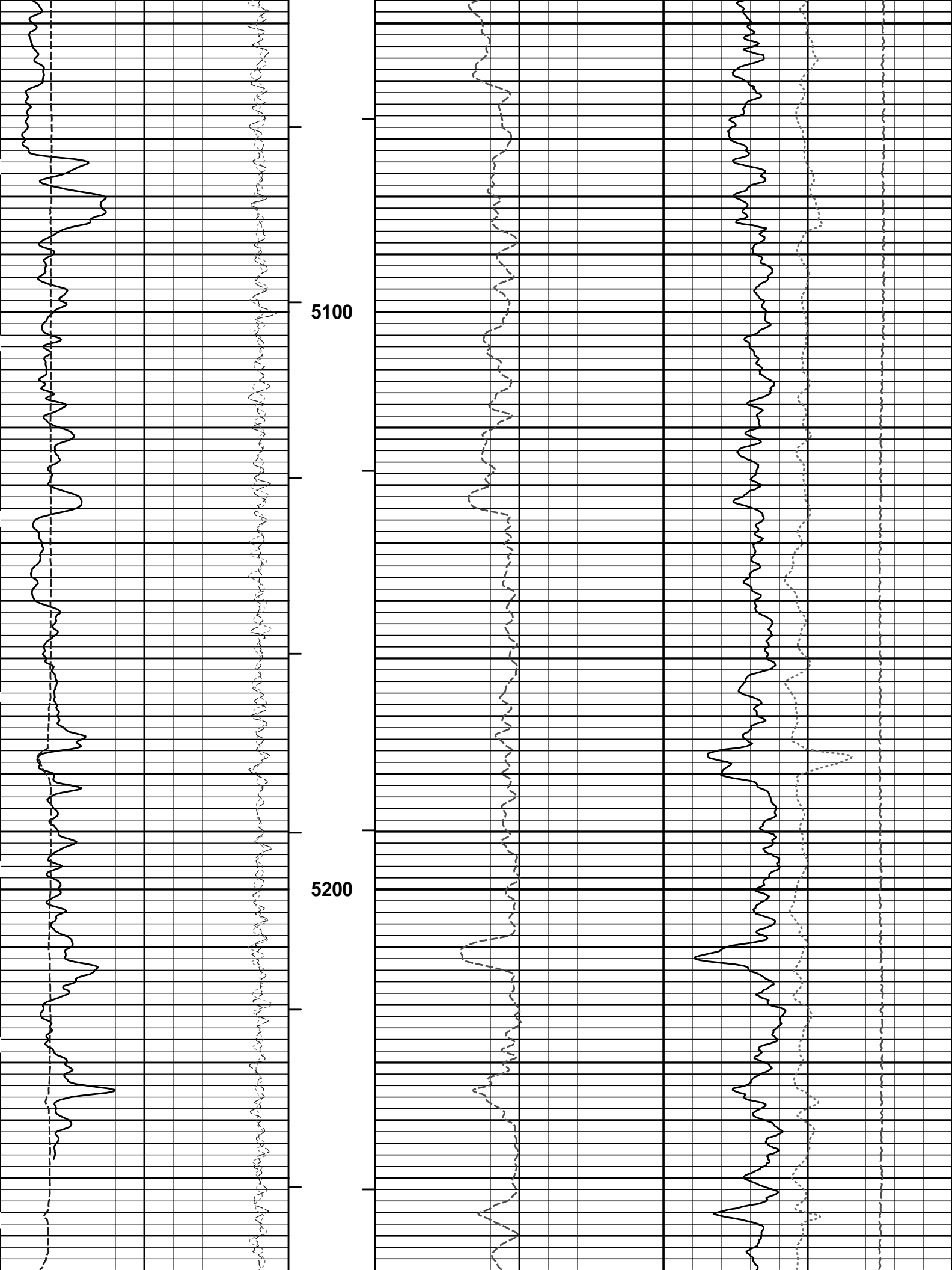
HALLIBURTON

Plot Time: 24-Sep-13 07:54:22
 Plot Range: 4750 ft to 5310.92 ft
 Data: DRUSSEL G-1\Well Based\R1 REPEAT\
 Plot File: \\LOCAL\DRUSSEL G-1\Well Based\REPEAT\BULKD_5_REP_LIB

REPEAT SECTION







5300

| | | |
|-------|-------------|-----|
| 6 | Caliper | 16 |
| | inches | |
| -18 | NearQuality | 2 |
| 18 | FarQuality | -2 |
| 0 | Gamma Ray | 150 |
| | api | |
| SHALE | | |

| | | |
|-----|---------|----|
| MD | 1 : 240 | ft |
| AHV | ft3 | |
| BHV | ft3 | |

| | | |
|---|--------------|----|
| 0 | Pe | 10 |
| 2 | Bulk Density | |
| | g/cc | |

| | | |
|-------|-------------|------|
| -0.25 | DensityCorr | 0.25 |
| | g/cc | |
| 15K | Tension | 0 |
| | pounds | |

HALLIBURTON

Plot Time: 24-Sep-13 07:54:23
 Plot Range: 4750 ft to 5310.92 ft
 Data: DRUSSEL G-1\Well Based\R1 REPEAT\
 Plot File: \\-LOCAL-DRUSSEL G-1\Well Based\REPEAT\BULKD_5_REP_LIB

REPEAT SECTION

HALLIBURTON

Plot Time: 24-Sep-13 07:54:24
 Plot Range: 4750 ft to 5310.92 ft
 Data: DRUSSEL G-1\Well Based\R1 REPEAT\
 Plot File: \\-LOCAL-DRUSSEL G-1\Well Based\REPEAT\Microlog_IQ_5_rep_lib

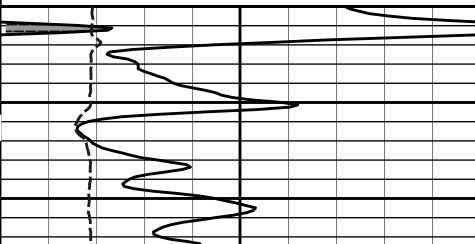
REPEAT SECTION

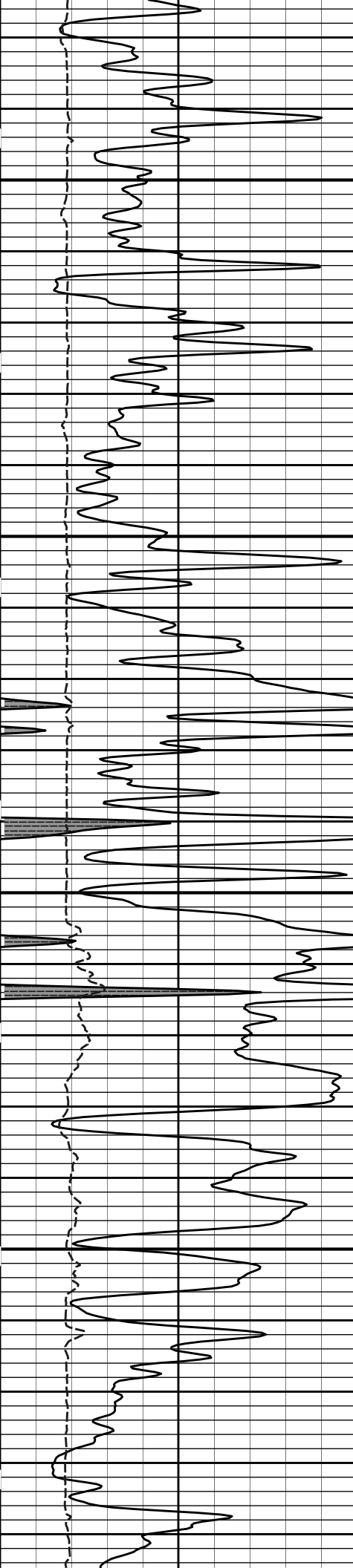
| | | |
|-------|-----------|-----|
| SHALE | | |
| 0 | Gamma API | 150 |
| | api | |
| 6 | Caliper | 16 |
| | inches | |

| | | |
|----|---------|----|
| MD | 1 : 240 | ft |
|----|---------|----|

| | | |
|-----------|-----------------|----|
| PERMEABLE | | |
| 0 | MicrologNormal | 20 |
| | ohm-metre | |
| 0 | MicrologLateral | 20 |
| | ohm-metre | |

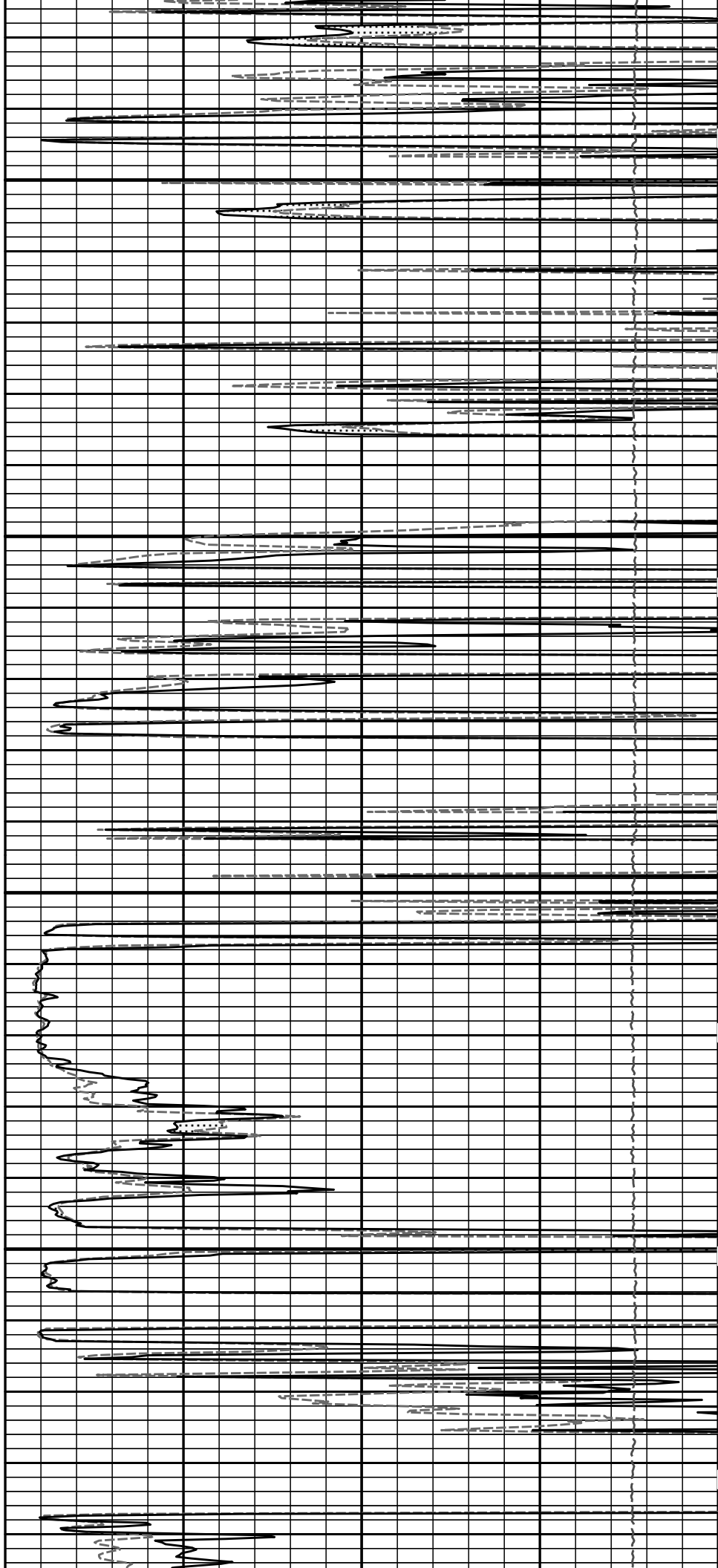
| | | |
|-----|---------|---|
| 15K | Tension | 0 |
| | pounds | |

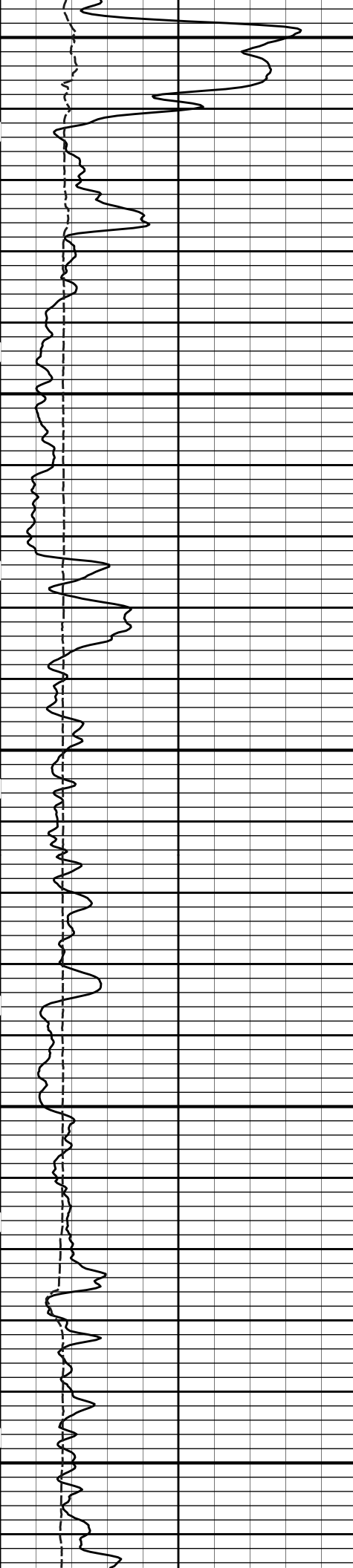




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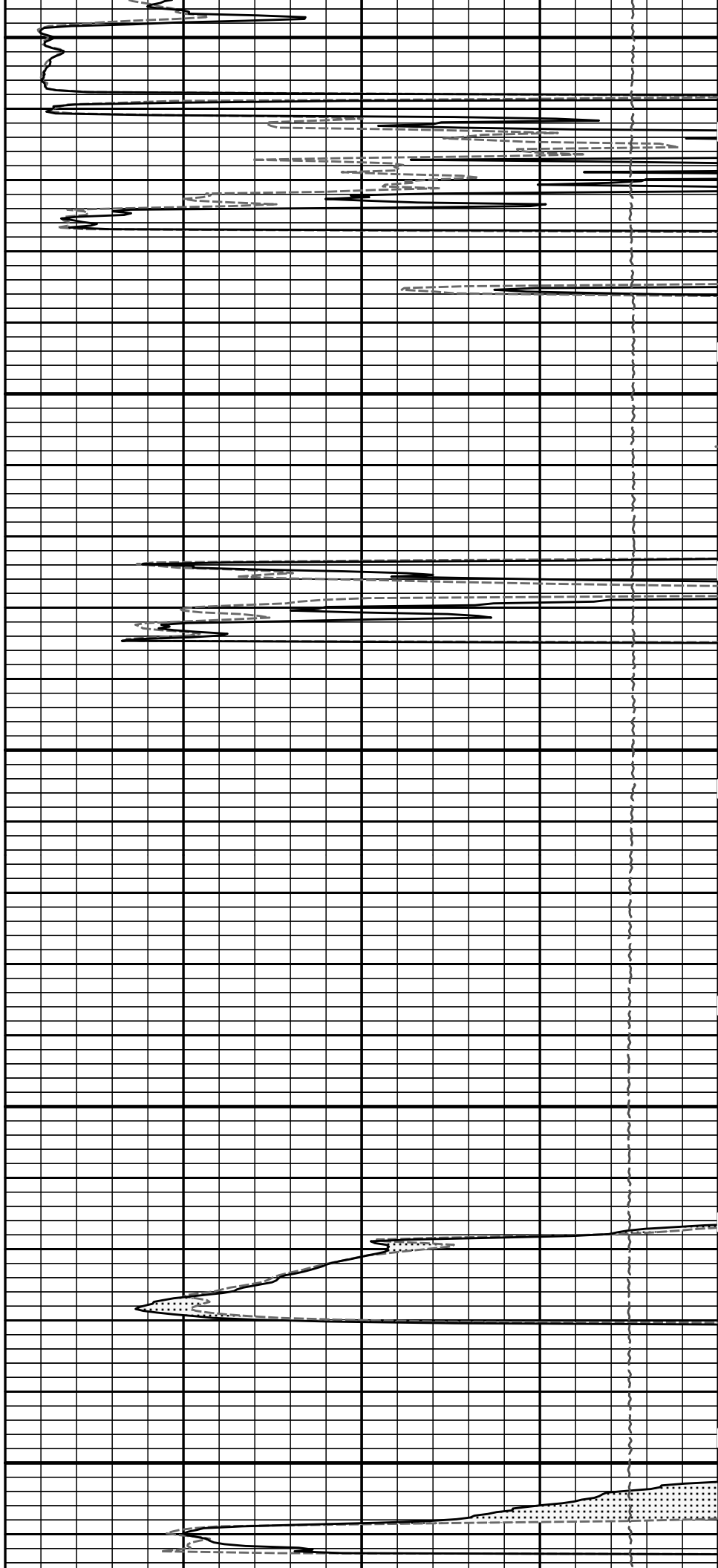




5000

5100

5200



SP Sub-12345678
60.00 lbs

Ø 3.625 in →

← SP @ 72.01 ft

3.74 ft

70.05 ft

GTET-10748374
165.00 lbs

Ø 3.625 in →

8.52 ft

61.53 ft

DSN Decentralizer -
Large Hole-00000001
6.60 lbs

Ø 5.000 in* →

DSNT-10755066
174.00 lbs

Ø 3.625 in →

9.69 ft

51.84 ft

← DSN Far @ 54.59 ft

← DSN Near @ 53.84 ft

SDLT-10685803
360.00 lbs

SDLT Pad-10714945
65.00 lbs
Microlog Pad-10685803
8.00 lbs

Ø 4.500 in →

Ø 4.750 in*

Ø 4.750 in*

10.81 ft

41.03 ft

Microlog @ 44.03 ft
SDL Caliper @ 43.84 ft
SDL @ 43.83 ft

IQ Flex-10000954
140.00 lbs

Ø 3.625 in →

5.67 ft

35.36 ft

Centralizer 25-00000002
8.00 lbs

Ø 4.000 in* →

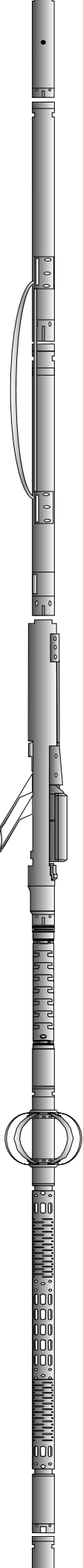
BSAT-10747684
300.00 lbs

Ø 3.625 in →

15.77 ft

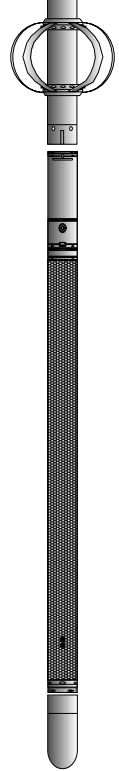
19.58 ft

← Sonic Receivers @ 26.84 ft



ACRt Instrument- 10929776 50.00 lbs
 Centralizer 25-00000003 8.00 lbs

Ø 3.625 in
 Ø 4.000 in*



5.03 ft
 14.55 ft
 14.22 ft
 0.33 ft
 0.00 ft

ACRt Sonde- 10929775 200.00 lbs

Ø 3.625 in

Bull Nose-00000001 5.00 lbs

Ø 2.750 in

| Mnemonic | Tool Name | Serial Number | Weight (lbs) | Length (ft) | Accumulated Length (ft) | Max.Log. Speed (fpm) |
|--------------|---|---------------|-----------------|--------------|-------------------------|----------------------|
| RWCH | Releasable Wireline Cable Head | 12027542 | 135.00 | 6.25 | 73.79 | 300.00 |
| SP | SP Sub | 12345678 | 60.00 | 3.74 | 70.05 | 300.00 |
| GTET | Gamma Telemetry Tool | 10748374 | 165.00 | 8.52 | 61.53 | 60.00 |
| DSNT | Dual Spaced Neutron | 10755066 | 174.00 | 9.69 | 51.84 | 60.00 |
| DCNT | DSN Decentralizer Large Hole | 00000001 | 6.60 | 9.42 * | 55.17 | 300.00 |
| SDLT | Spectral Density Tool | 10685803 | 360.00 | 10.81 | 41.03 | 60.00 |
| MICP | Microlog Pad | 10685803 | 8.00 | 1.00 * | 43.53 | 60.00 |
| SDLP | Density Insite Pad | 10714945 | 65.00 | 2.55 * | 43.24 | 60.00 |
| IQF | IQ Flex tool | 10000954 | 140.00 | 5.67 | 35.36 | 300.00 |
| BSAT | Borehole Sonic Array Tool | 10747684 | 300.00 | 15.77 | 19.58 | 60.00 |
| OBCEN | Centralizer - 25 in. Overbody | 00000002 | 8.00 | 2.08 * | 32.51 | 300.00 |
| ACRt | Array Compensated True Resistivity Instrument Section | 10929776 | 50.00 | 5.03 | 14.55 | 300.00 |
| OBCEN | Centralizer - 25 in. Overbody | 00000003 | 8.00 | 2.08 * | 15.87 | 300.00 |
| ACRt | Array Compensated True Resistivity Sonde Section | 10929775 | 200.00 | 14.22 | 0.33 | 300.00 |
| BLNS | Bull Nose | 00000001 | 5.00 | 0.33 | 0.00 | 300.00 |
| Total | | | 1,684.60 | 80.04 | | |

* Not included in Total Length and Length Accumulation.

Data: DRUSSEL G-1\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-BNIDLE

Date: 24-Sep-13 06:20:34