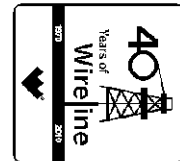




Weatherford[®]

**COMPACT TRIPLE COMBO
QUICKLOOK
LOG**

COMPANY BILL BARRETT CORPORATION
WELL KAUFMAN 31B-24-692
FIELD MAMM CREEK
PROVINCE/COUNTY GARFIELD
COUNTRY/STATE U.S.A. / COLORADO
LOCATION SHL: 1414' FNL & 2199' FEL
BHL: 856' FNL & 1958' FWL



| | | | | |
|------------------------|---------------------------|-----|----------------|--|
| SEC | TWP | RGE | Other Services | |
| 24 | 6S | 92W | | |
| API Number | 05-045-19921 | | | |
| Permit Number | | | | |
| Permanent Datum | G.L., Elevation 5763 feet | | | |
| Log Measured From | KB | | | |
| Drilling Measured From | K.B. @ 21 FEET | | | |
| Date | 24-SEP-2011 | | | |
| Run Number | ONE | | | |
| Depth Driller | 7435.00 | | feet | |
| Depth Logger | 7428.00 | | feet | |
| First Reading | 7425.00 | | | |
| Last Reading | 839.00 | | | |
| Casing Driller | 840.00 | | feet | |
| Casing Logger | 839.00 | | feet | |
| Bit Size | 7.875 | | inches | |
| Hole Fluid Type | LSND | | | |
| Density / Viscosity | 10.40 lb/USg | | 58.00 CP | |
| PH / Fluid Loss | 10.00 | | 7.00 ml/30Min | |
| Sample Source | FLOW LINE | | | |
| Rm @ Measured Temp | 2.70 @ 93.0 | | ohm-m | |
| Rmf @ Measured Temp | 2.16 @ 93.0 | | ohm-m | |
| Rmc @ Measured Temp | 3.24 @ 93.0 | | ohm-m | |
| Source Rmf / Rmc | CALC | | CALC | |
| Rm @ BHT | 1.40 @ 181.0 | | ohm-m | |
| Time Since Circulation | 5 HOURS | | | |
| Max Recorded Temp | 181.00 | | deg C | |
| Equipment Name | COMPACT | | | |
| Equipment / Base | 13173 | | GD JCT | |
| Recorded By | M.RICHINS | | | |
| Witnessed By | C.CROWTON | | | |
| Service Order | 3532401 | | | |

| | |
|-------------|---------|
| Elevations: | feet |
| KB | 5786.00 |
| DF | 5786.00 |
| GL | 5763.00 |

BOREHOLE RECORD

Last Edited: 24-SEP-2011 21:26

| Bit Size inches | Depth From feet | Depth To feet |
|--------------------|--------------------|------------------|
| 8.750 | 840.00 | 5404.00 |
| 7.880 | 5404.00 | 7435.00 |

CASING RECORD

| Type | Size inches | Depth From feet | Shoe Depth feet | Weight pounds/ft |
|---------|----------------|--------------------|--------------------|---------------------|
| SURFACE | 9.625 | 0.00 | 840.00 | 36.00 |

REMARKS

TOOLS: MCG, MDN, MPD, SKJ, MFE AND MAI RAN IN COMBINATION.

HARDWARE: MPD: 8 INCH PROFILE PLATE.
MAI: TWO 0.5 INCH STANDOFFS.
MDN: DUAL BOWSPRING.

2.68 G/CC DENSITY MATRIX USED TO CALCULATE POROSITY.

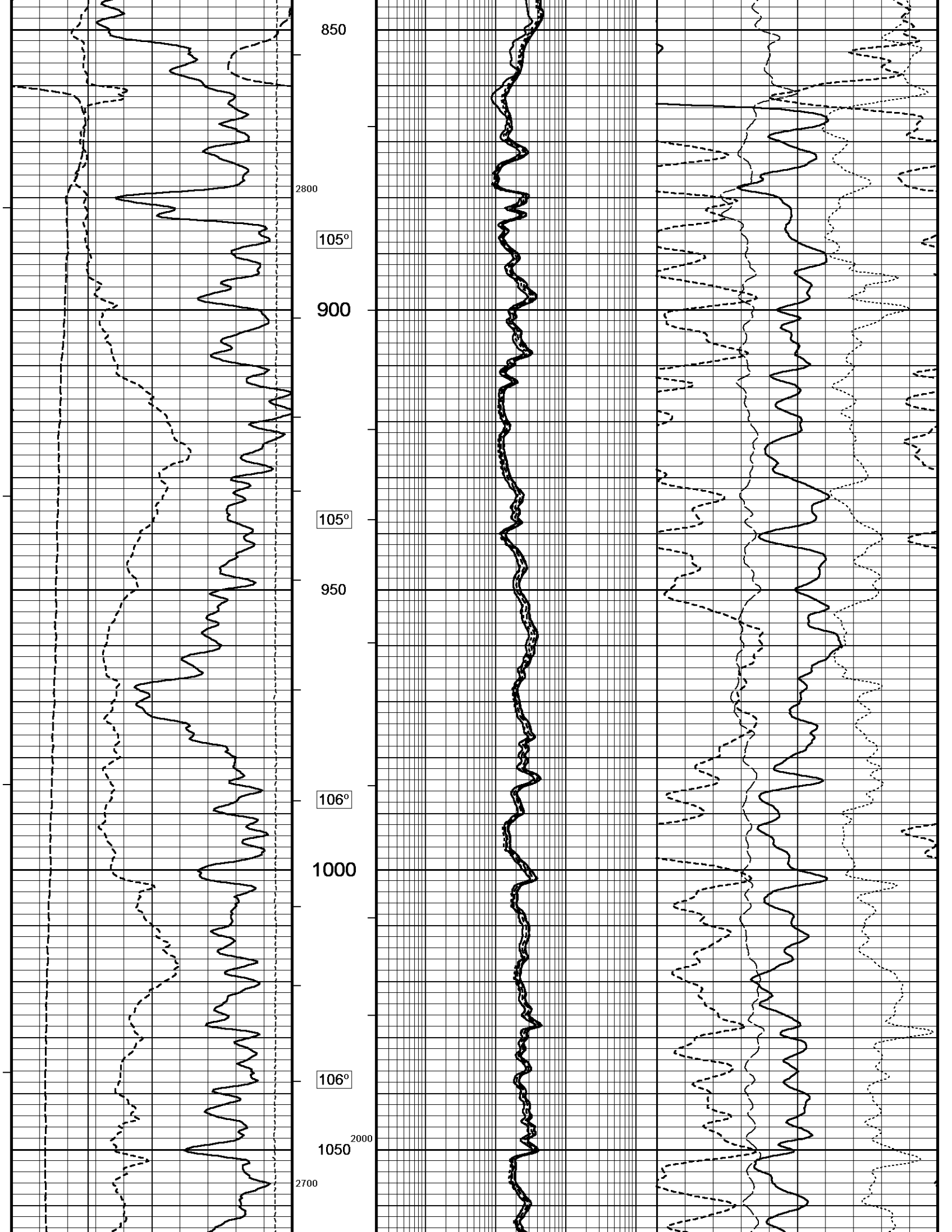
ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST.

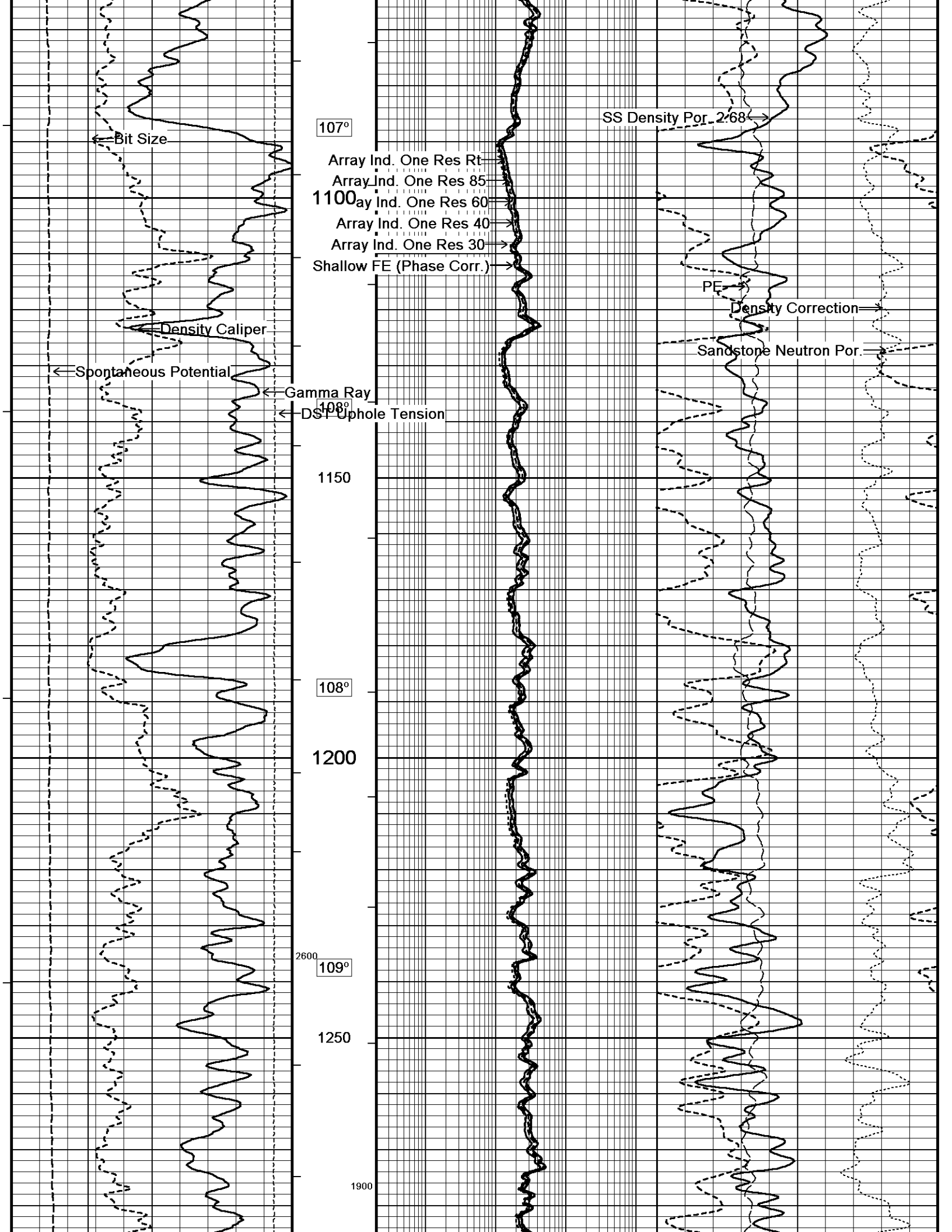
TIGHT PULLS, BOREHOLE SIZE, AND RUGOSITY WILL AFFECT REPEATABILITY AND DATA QUALITY.

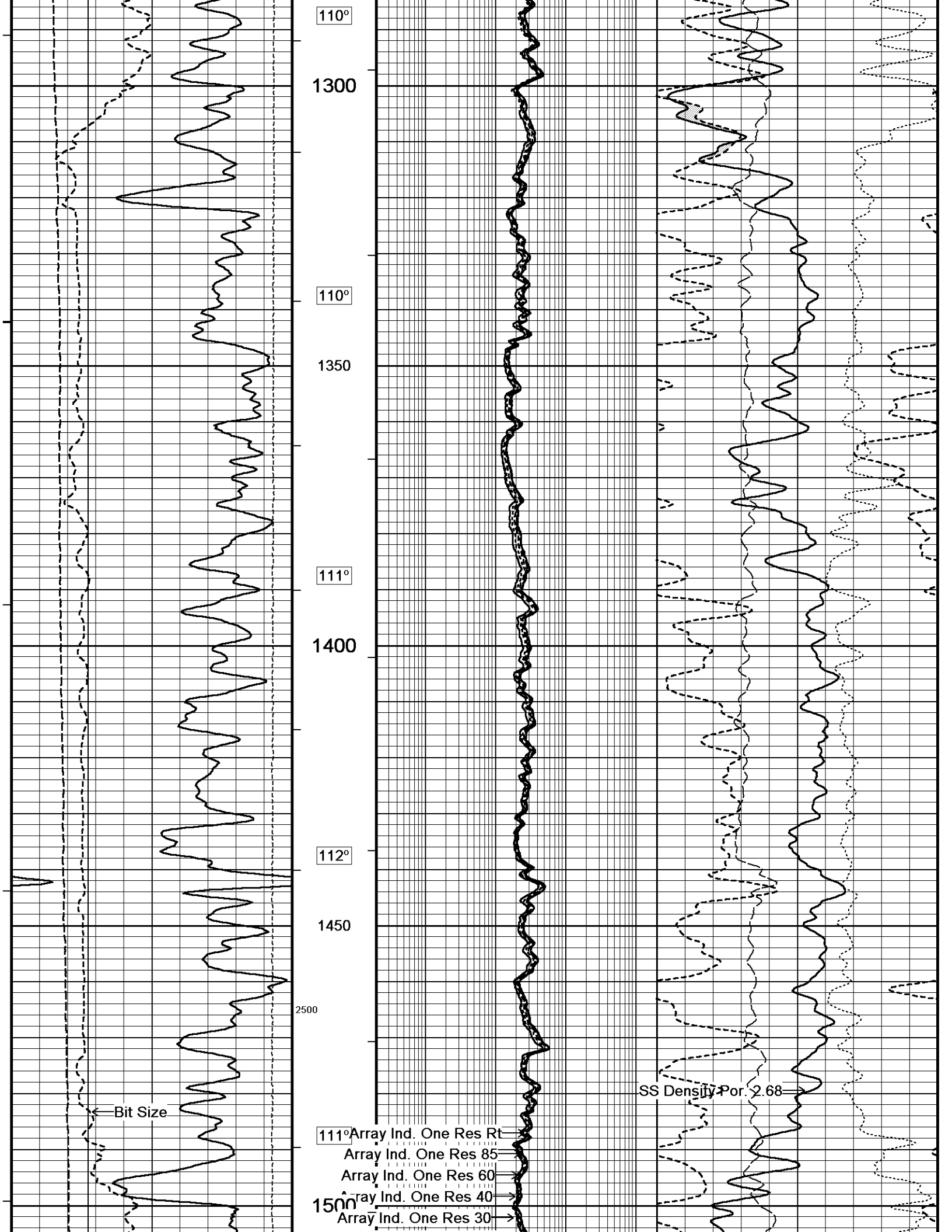
UNDERGAUGE CALIPER MESUREMENT AT 6700-6950 FEET REPEATED 3X WITH NO CHANGE IN TOOL RESPOSE.

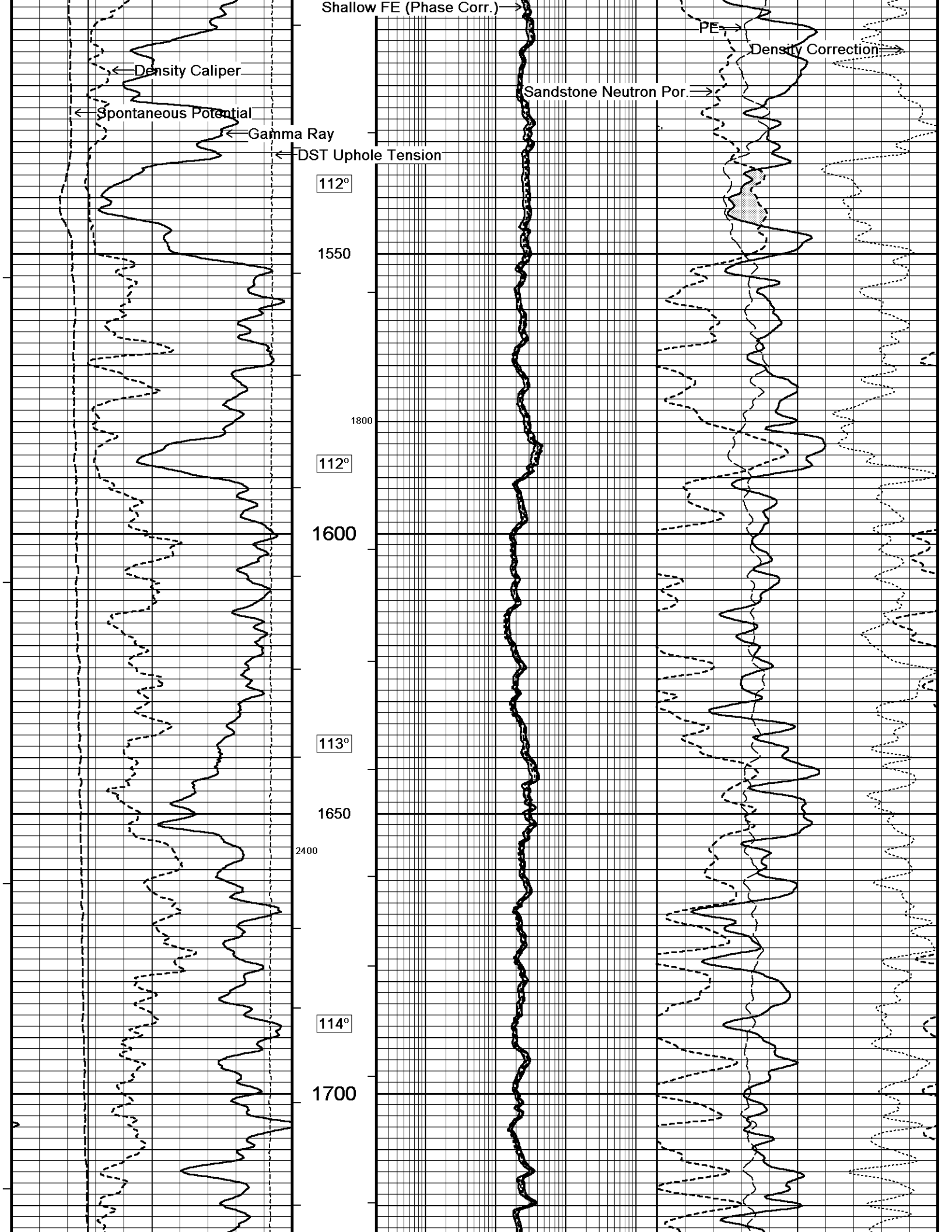
CALIPER CHECK IN CASING PRESENTED, REFERENCE I.D. = 8.92" (9 5/8", 36 LB/FT CASING).

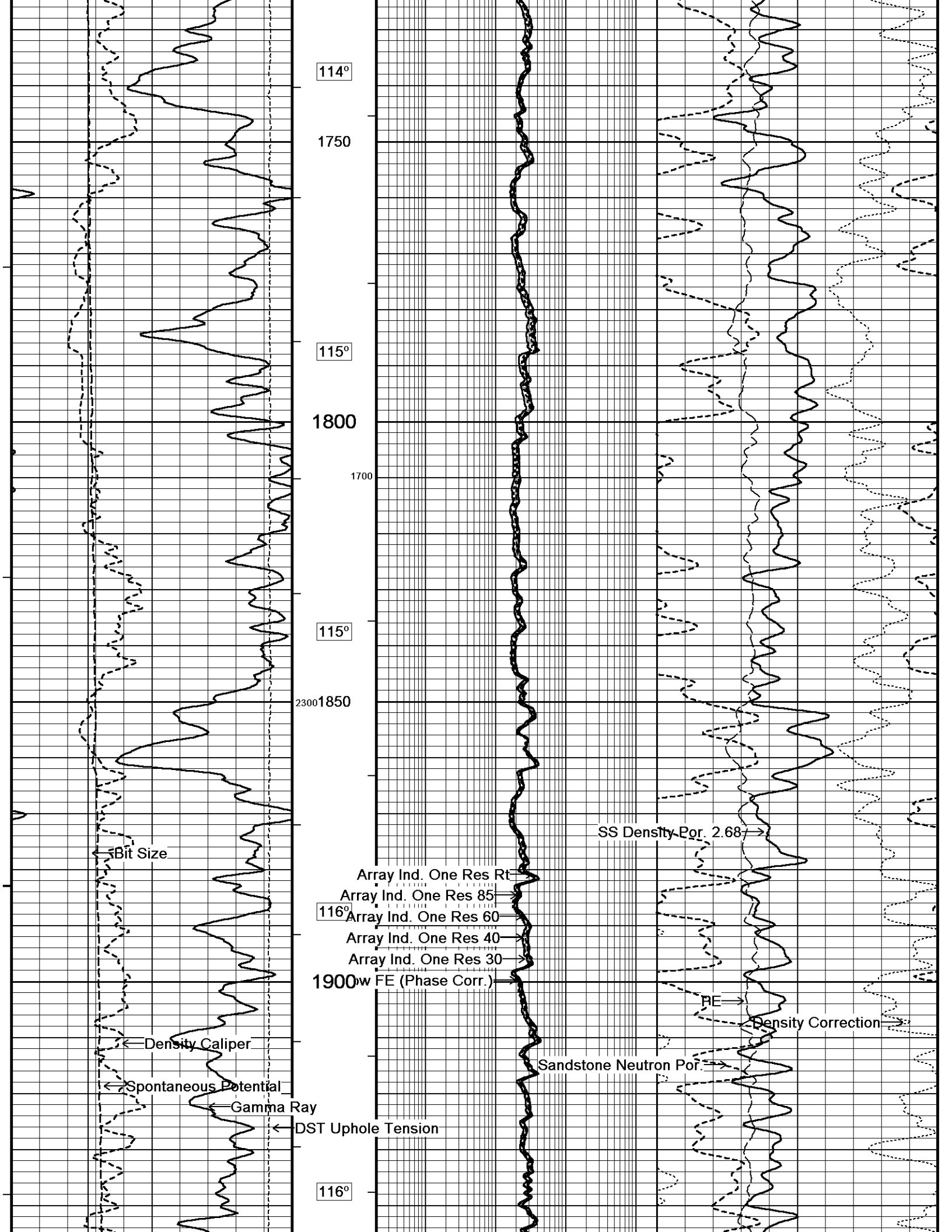
8.75 INCH BIT CHANGE MEASURED AT 5394 FT

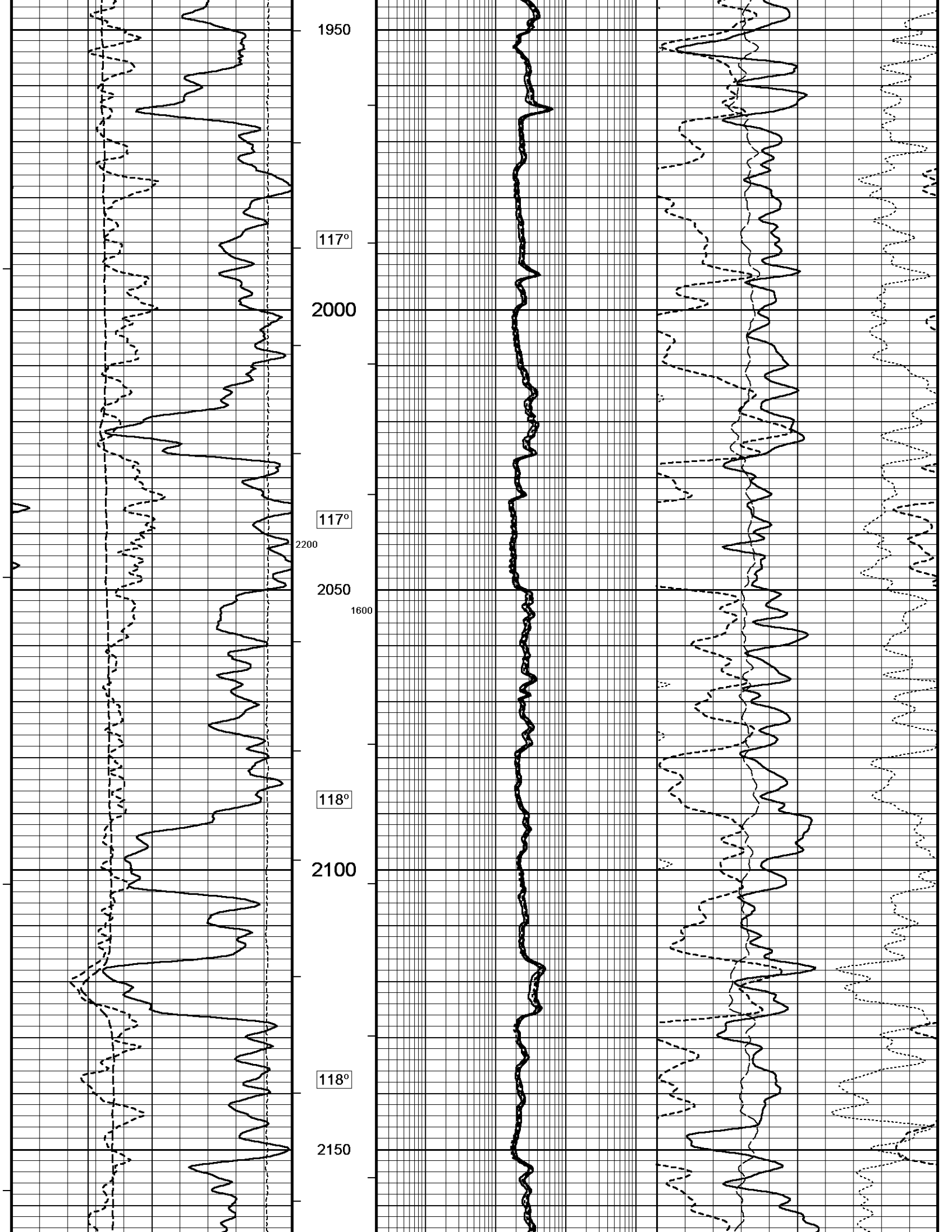


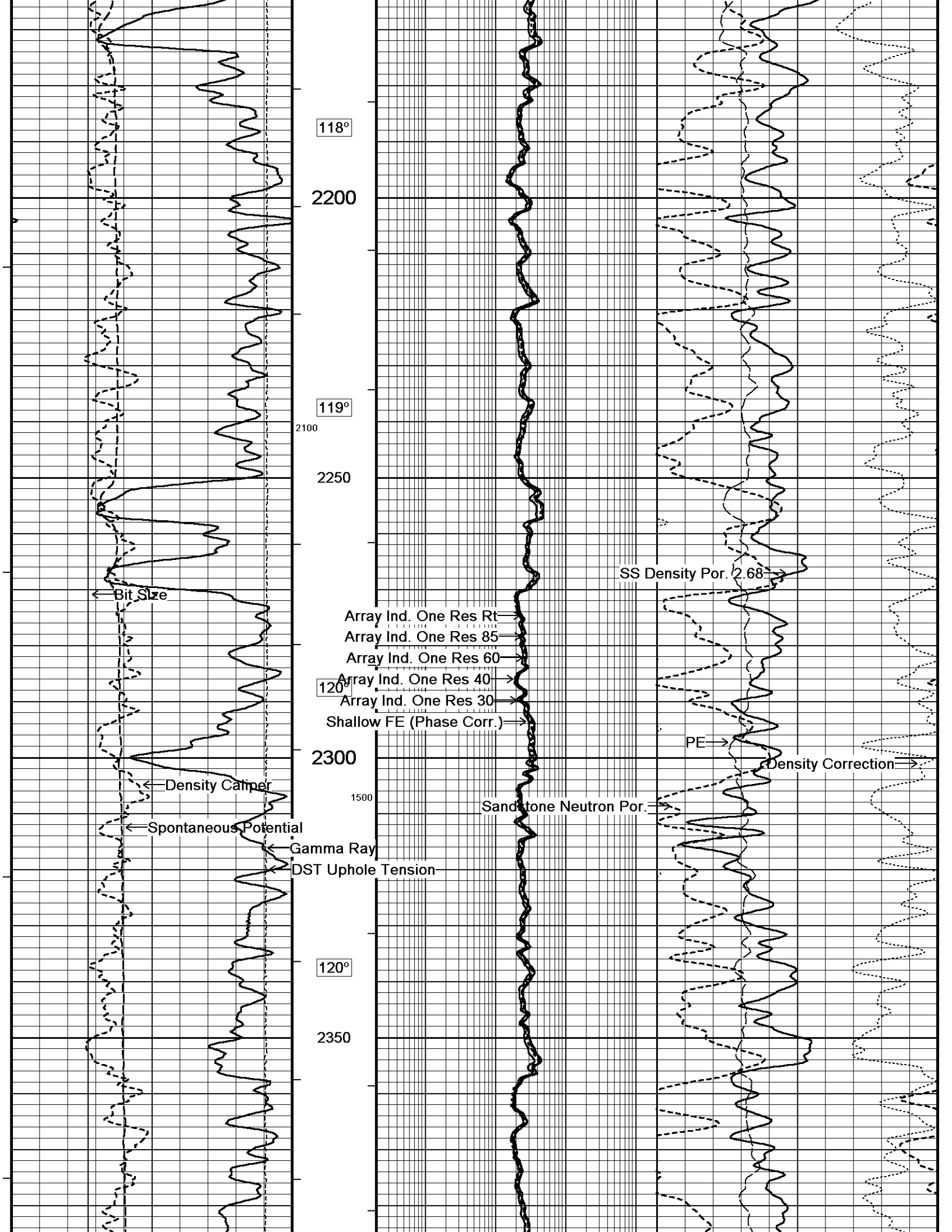


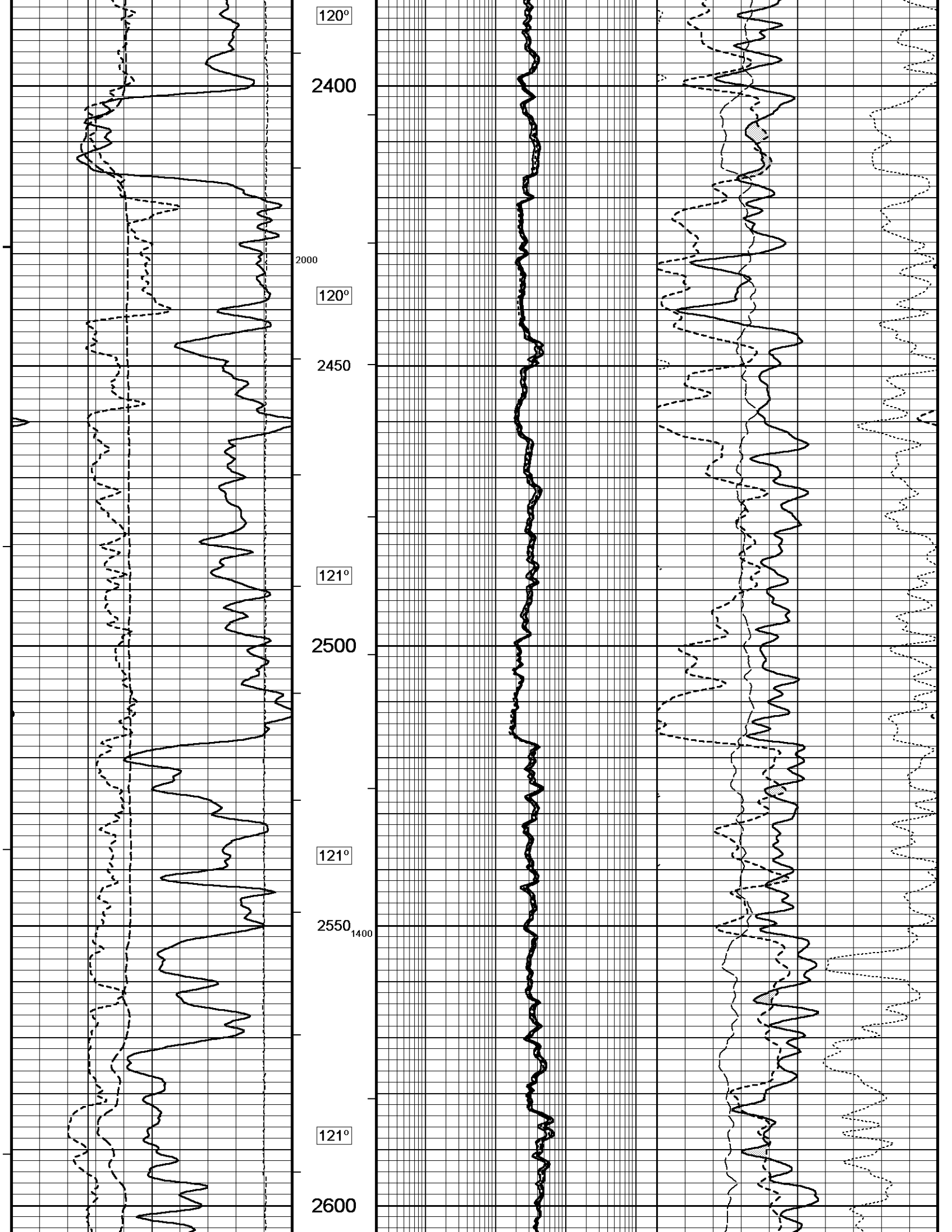


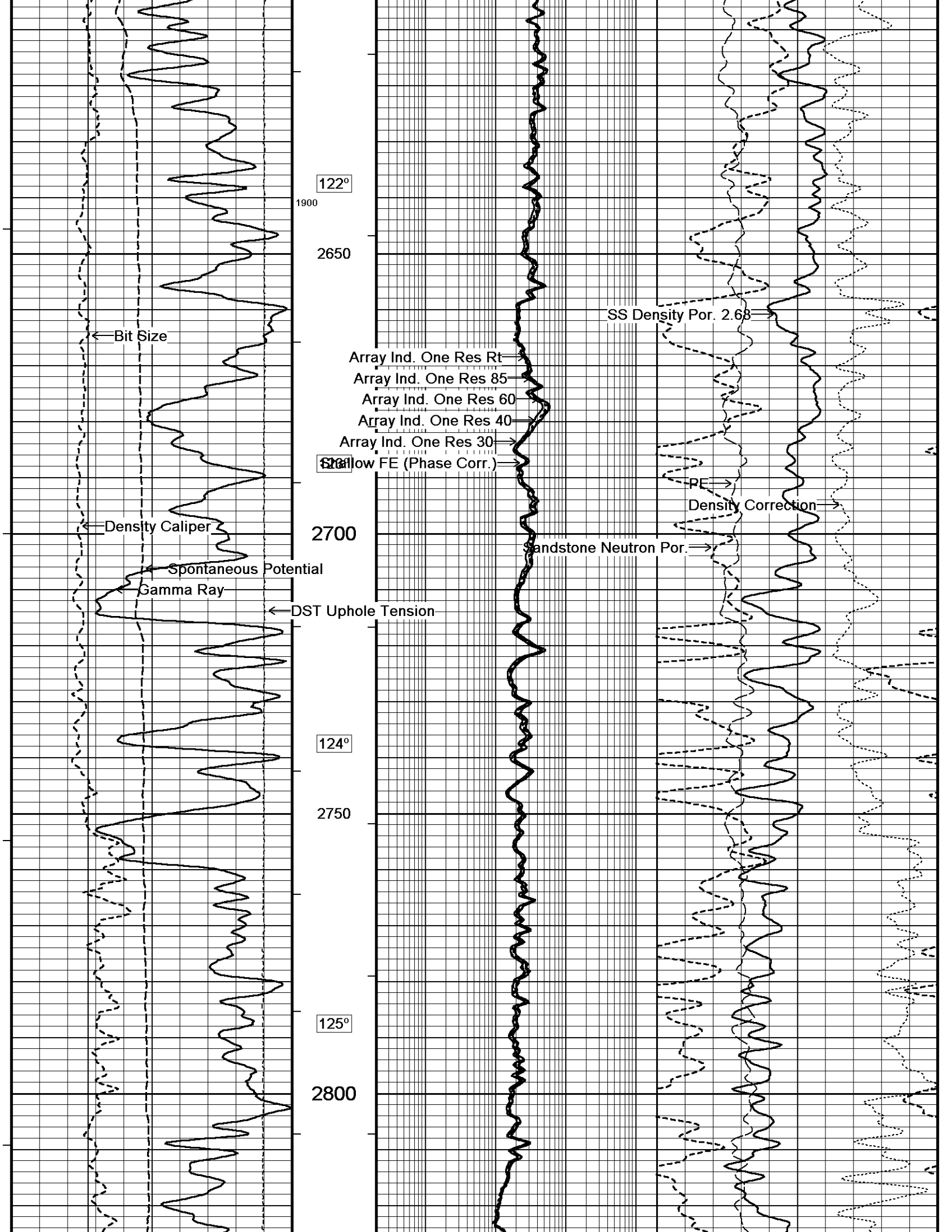


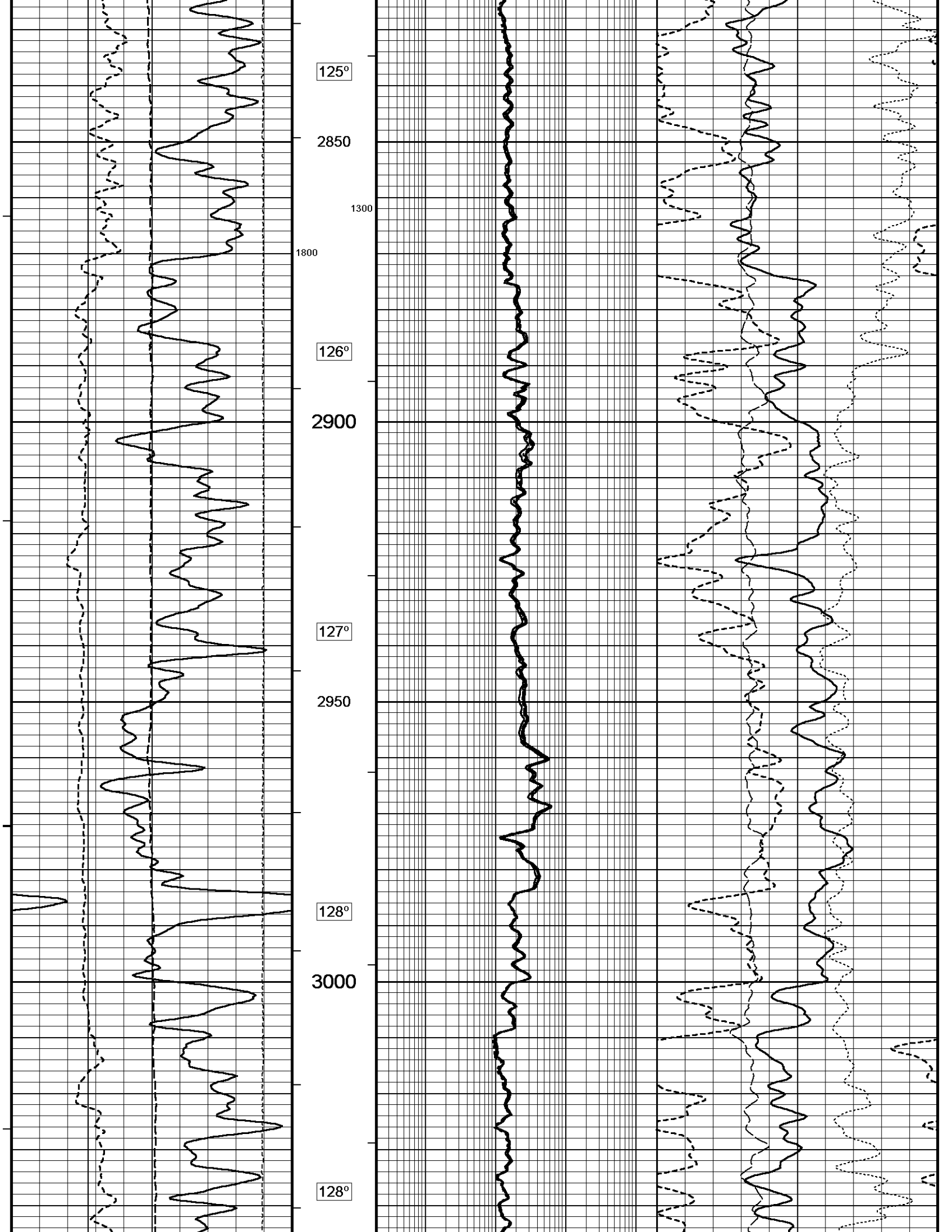


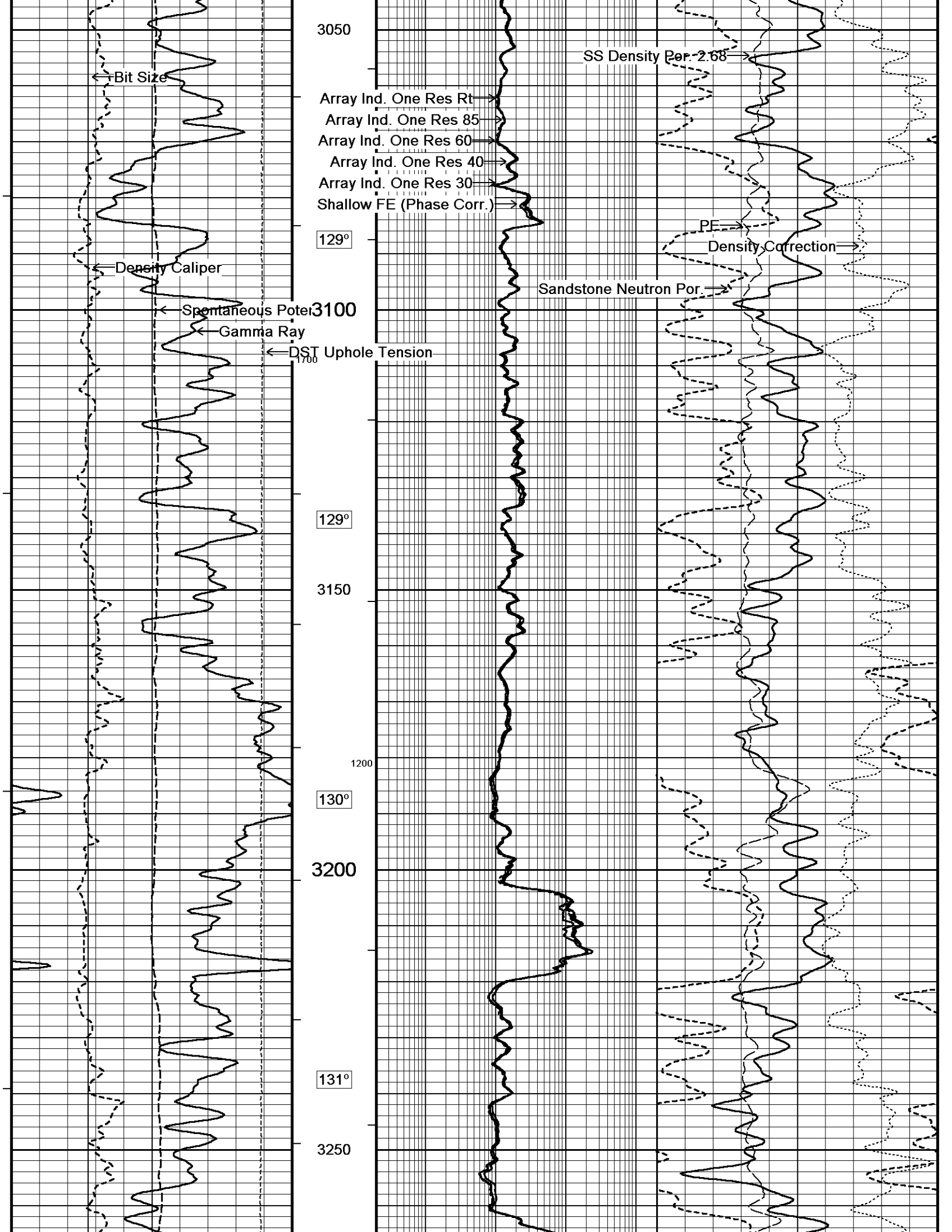


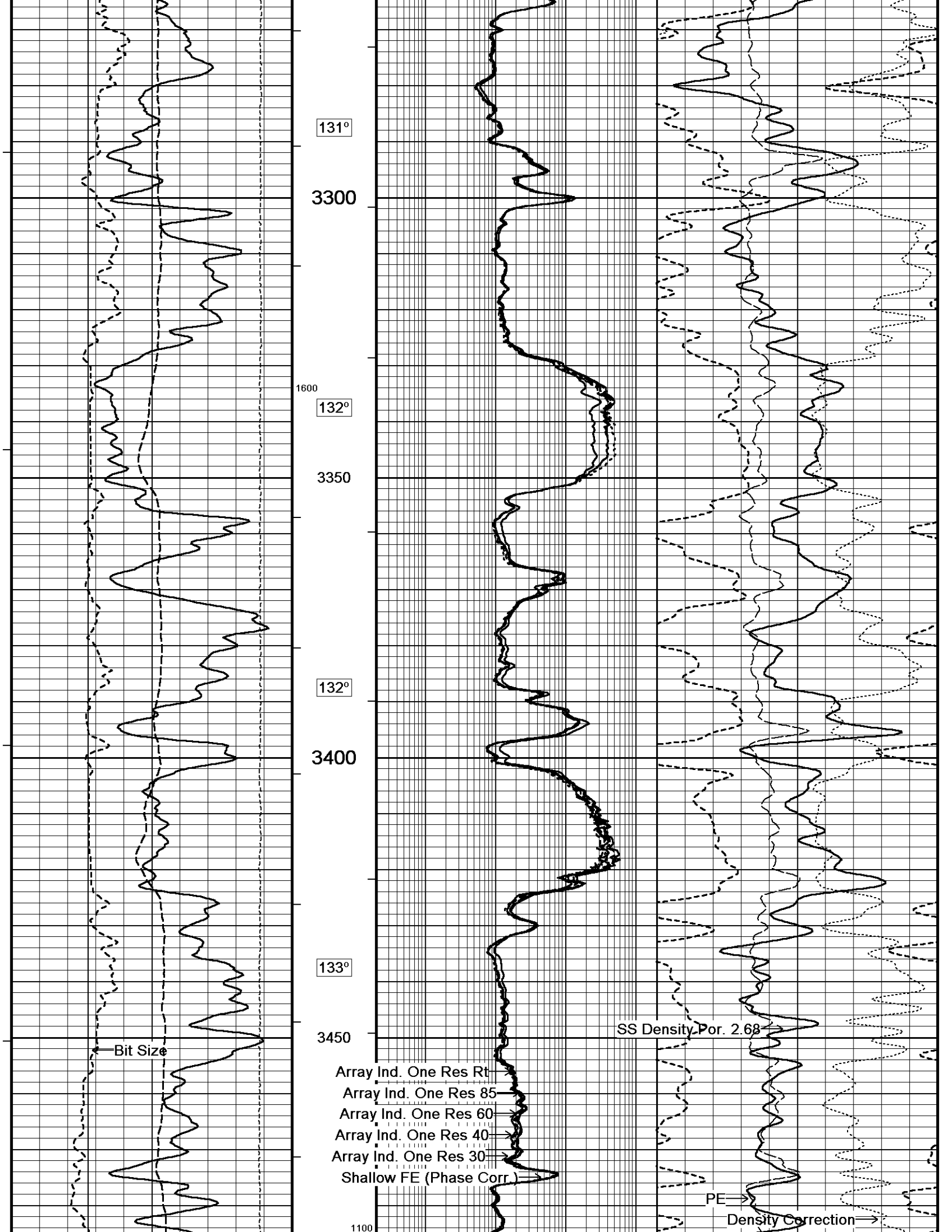


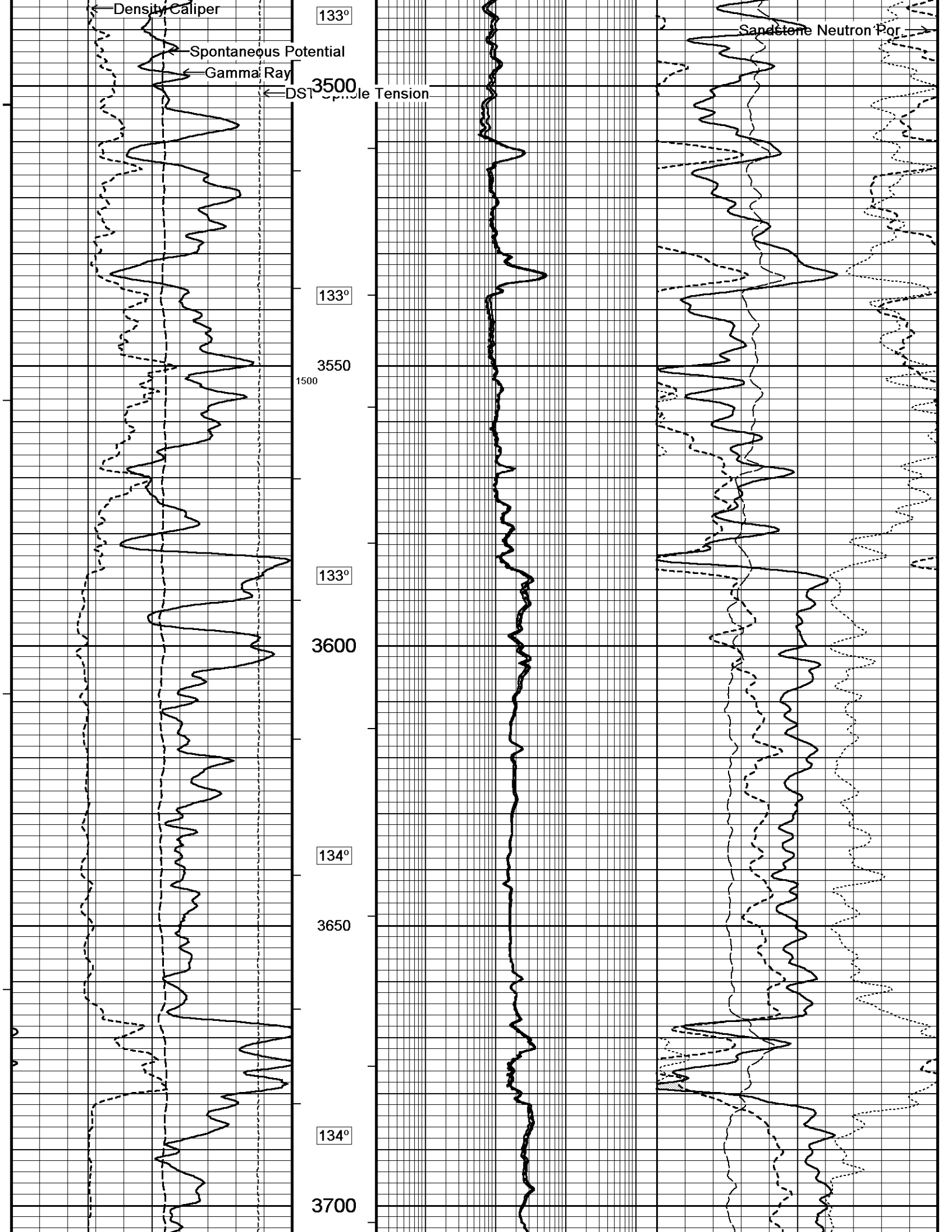


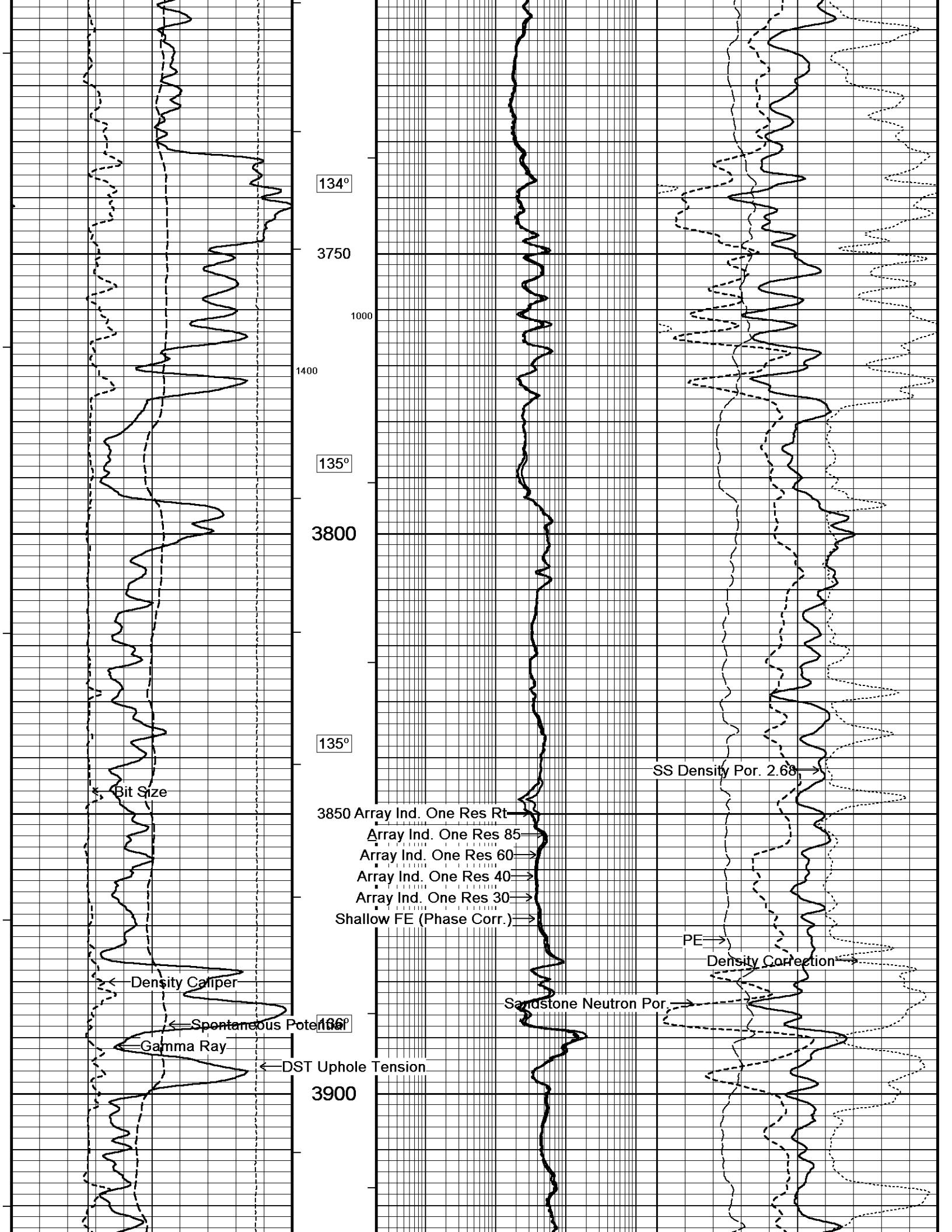


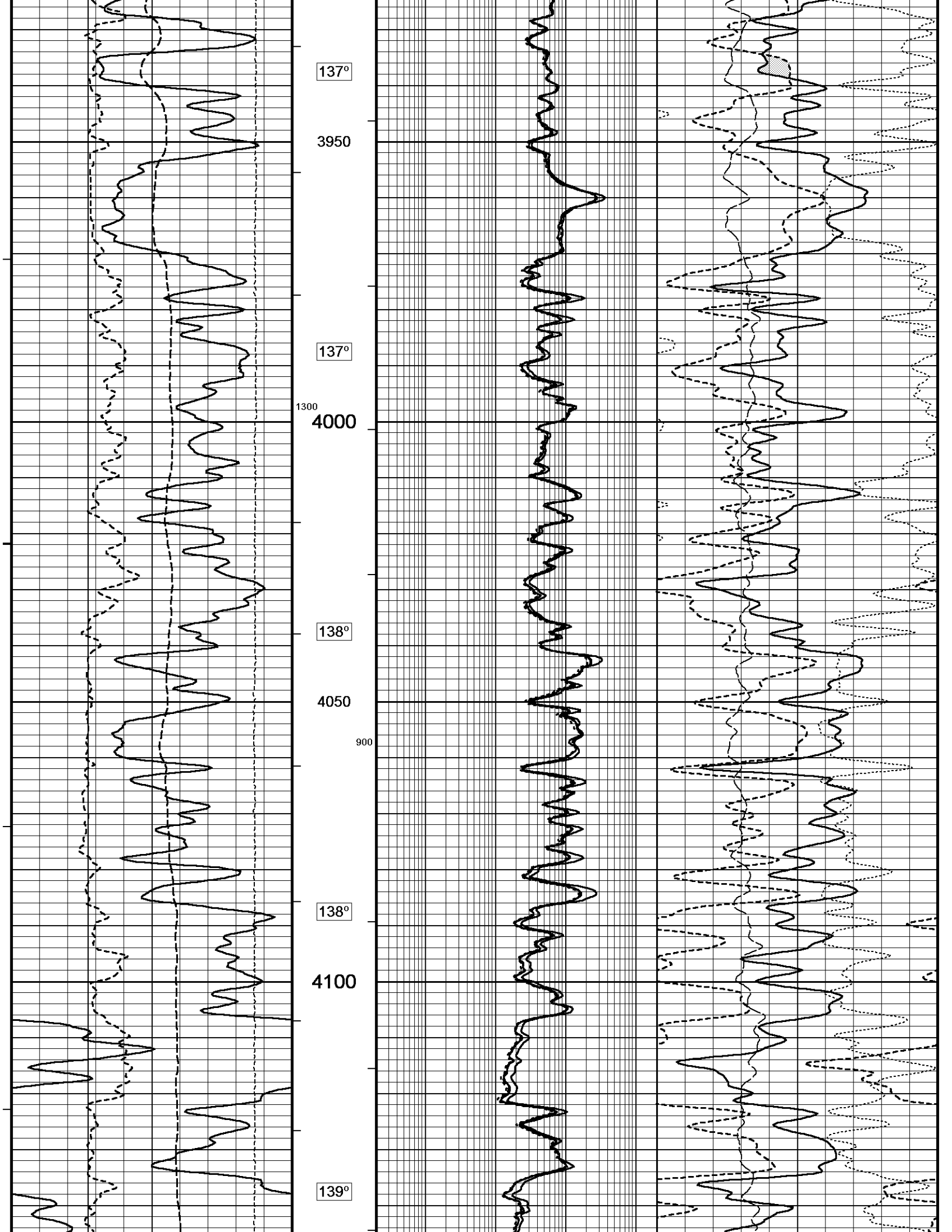


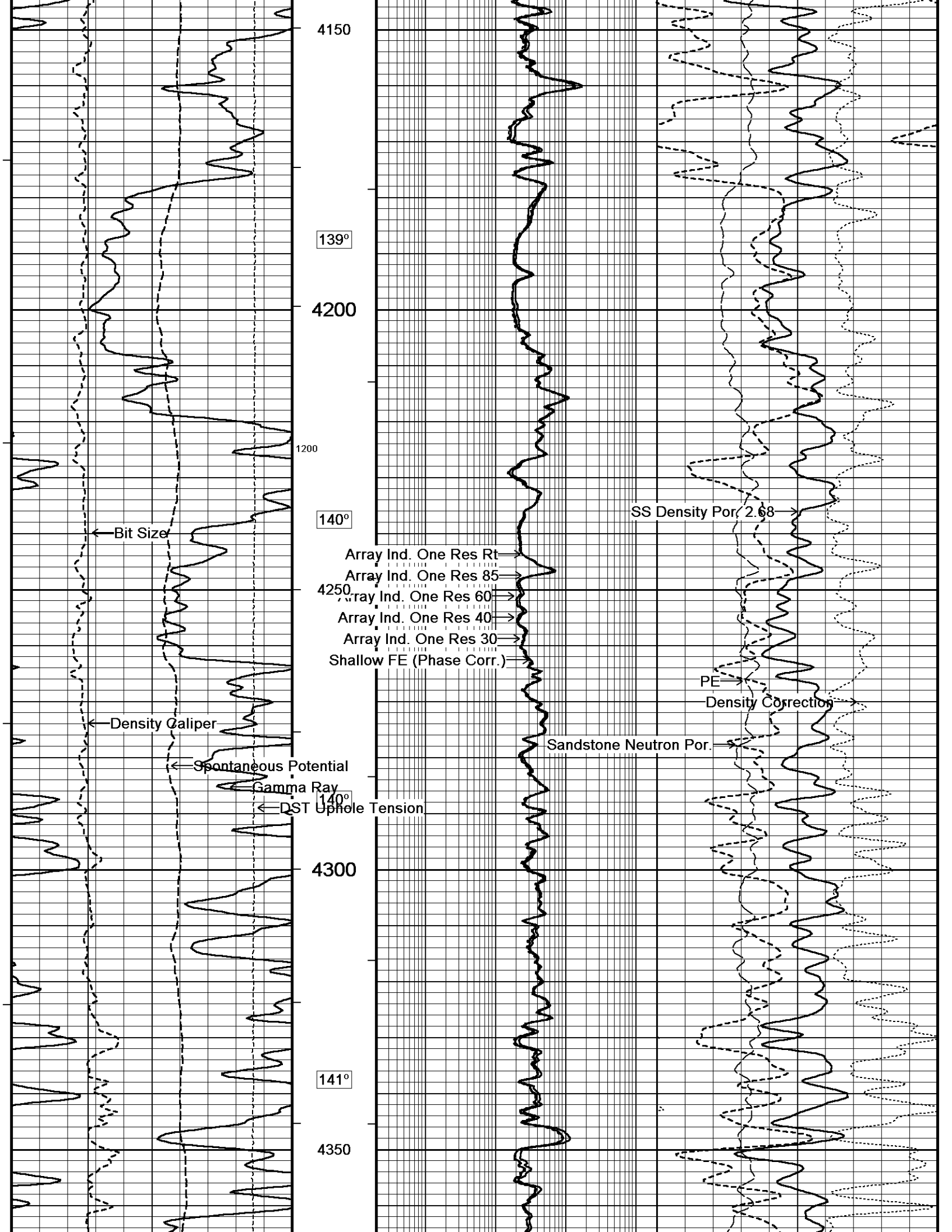


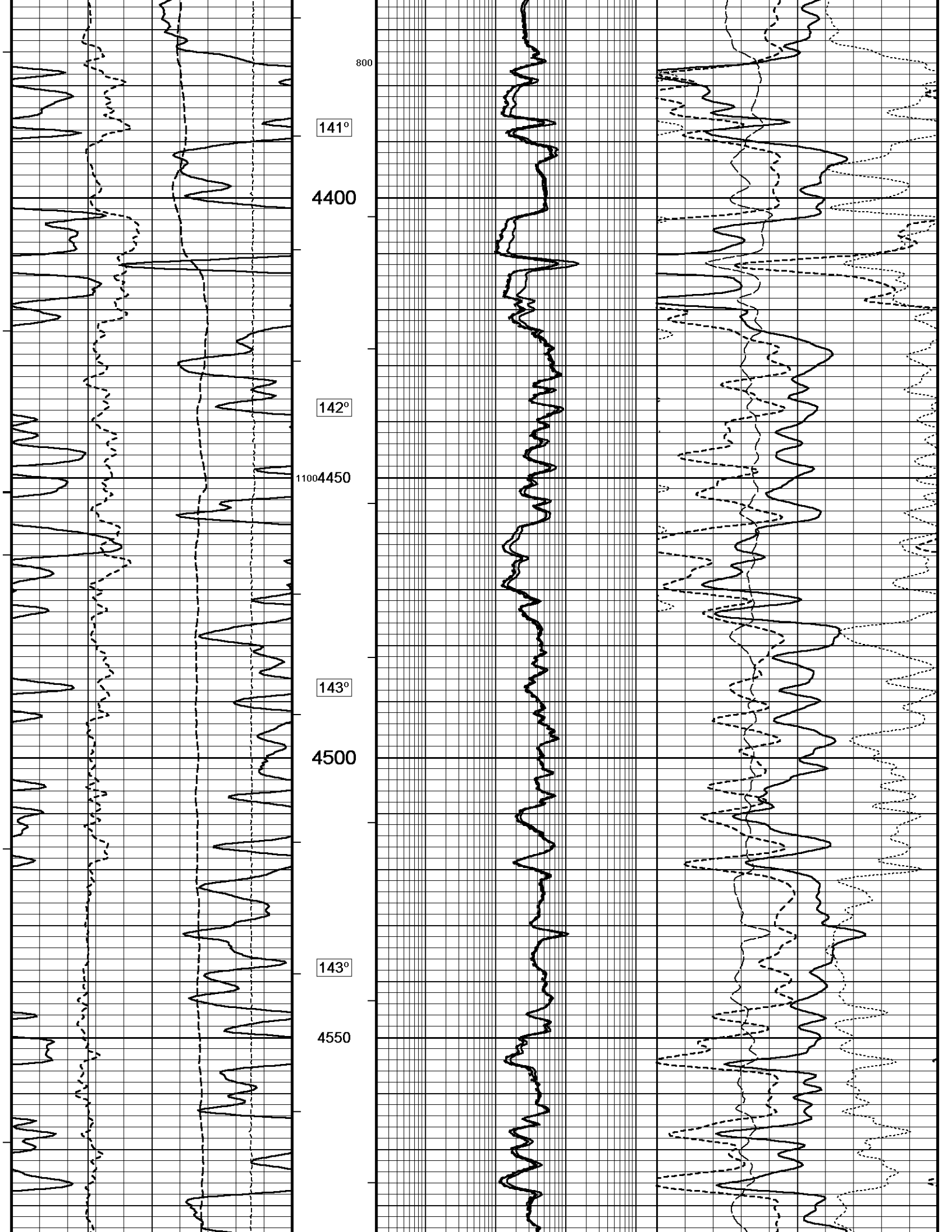


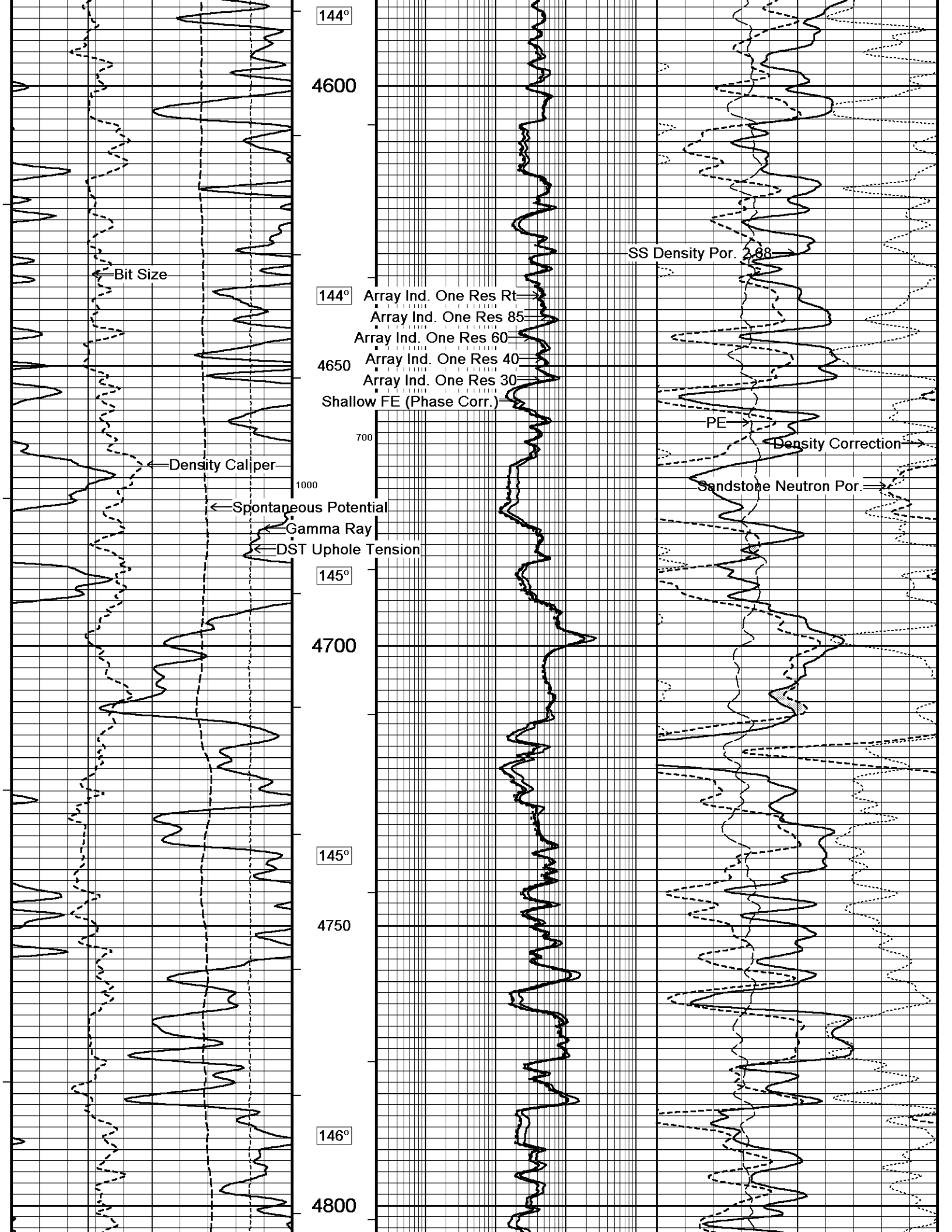


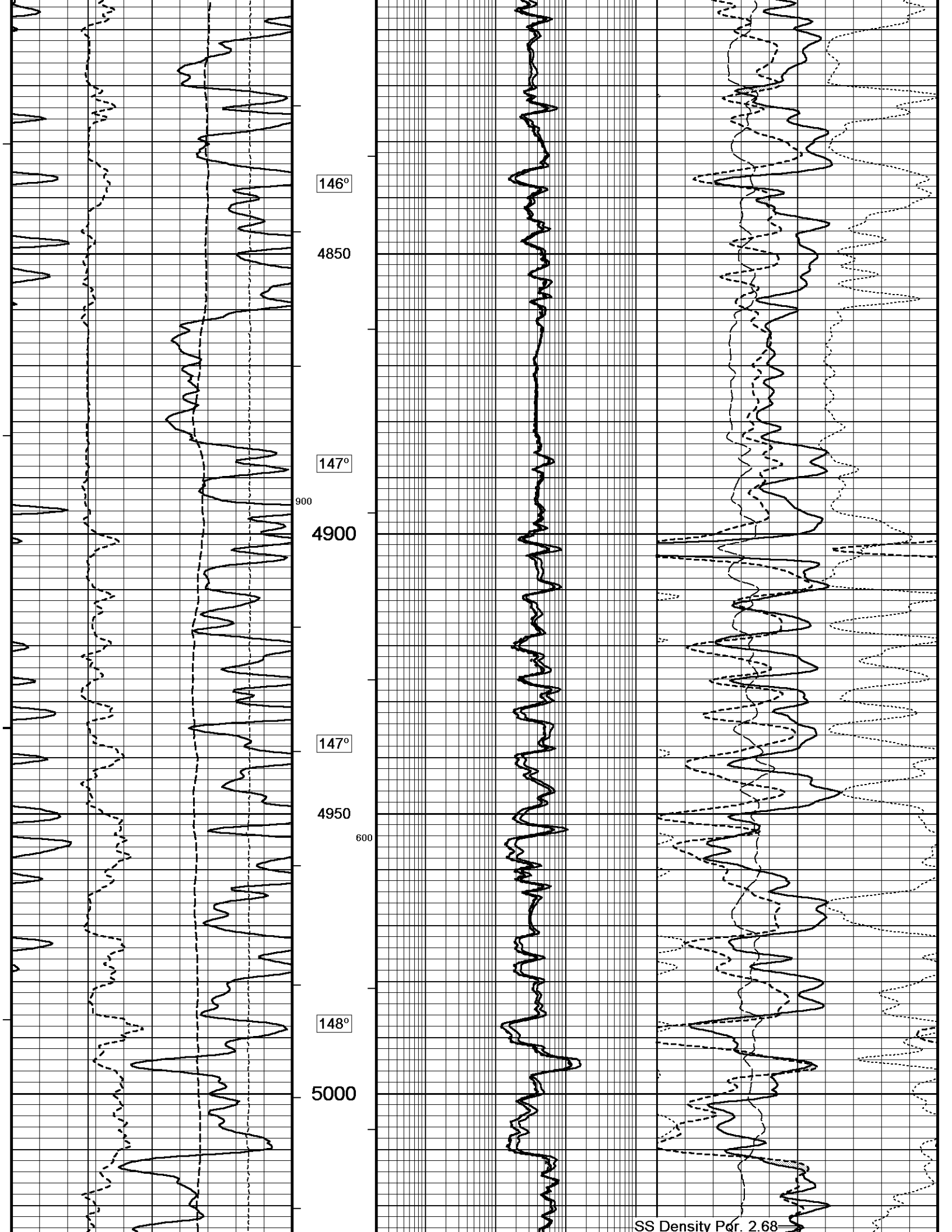


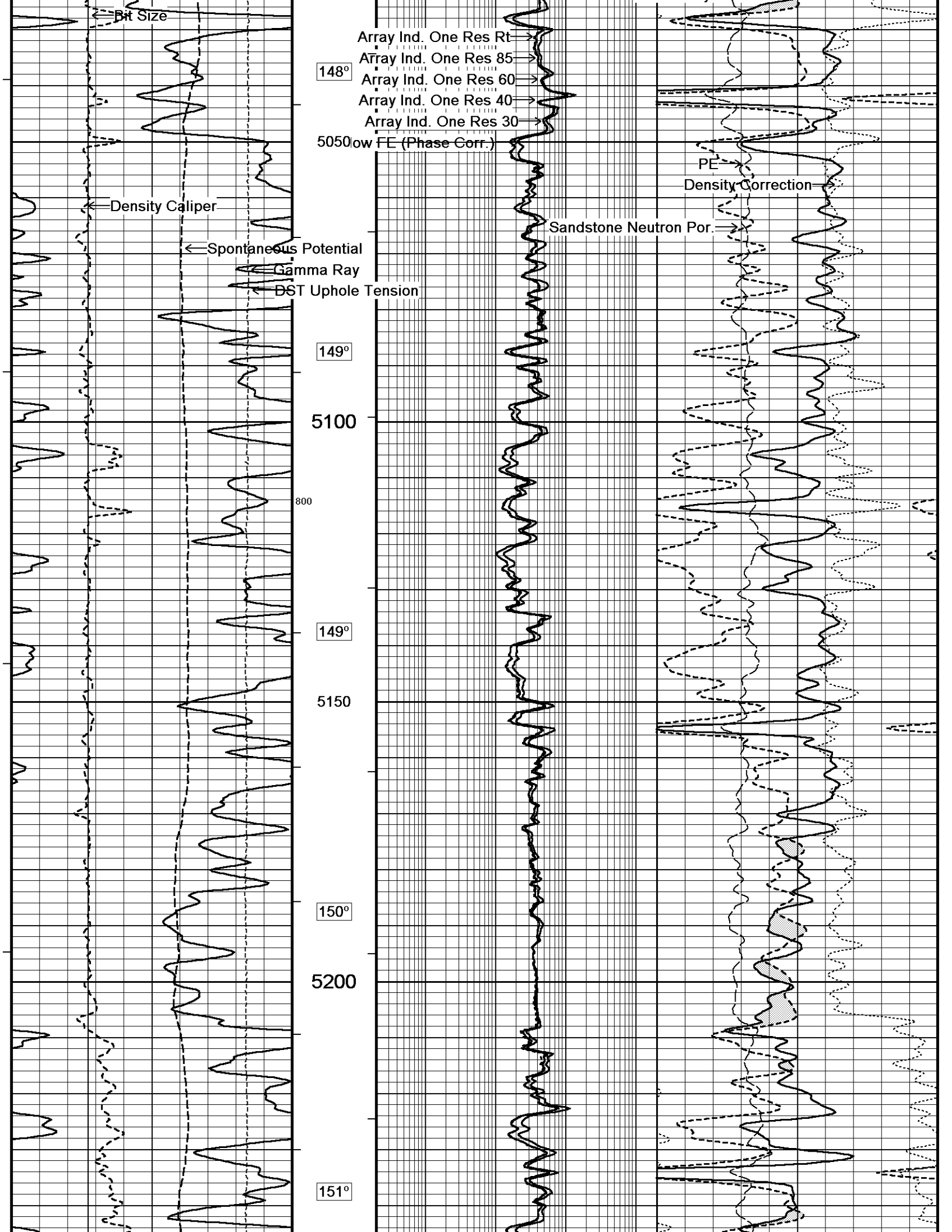


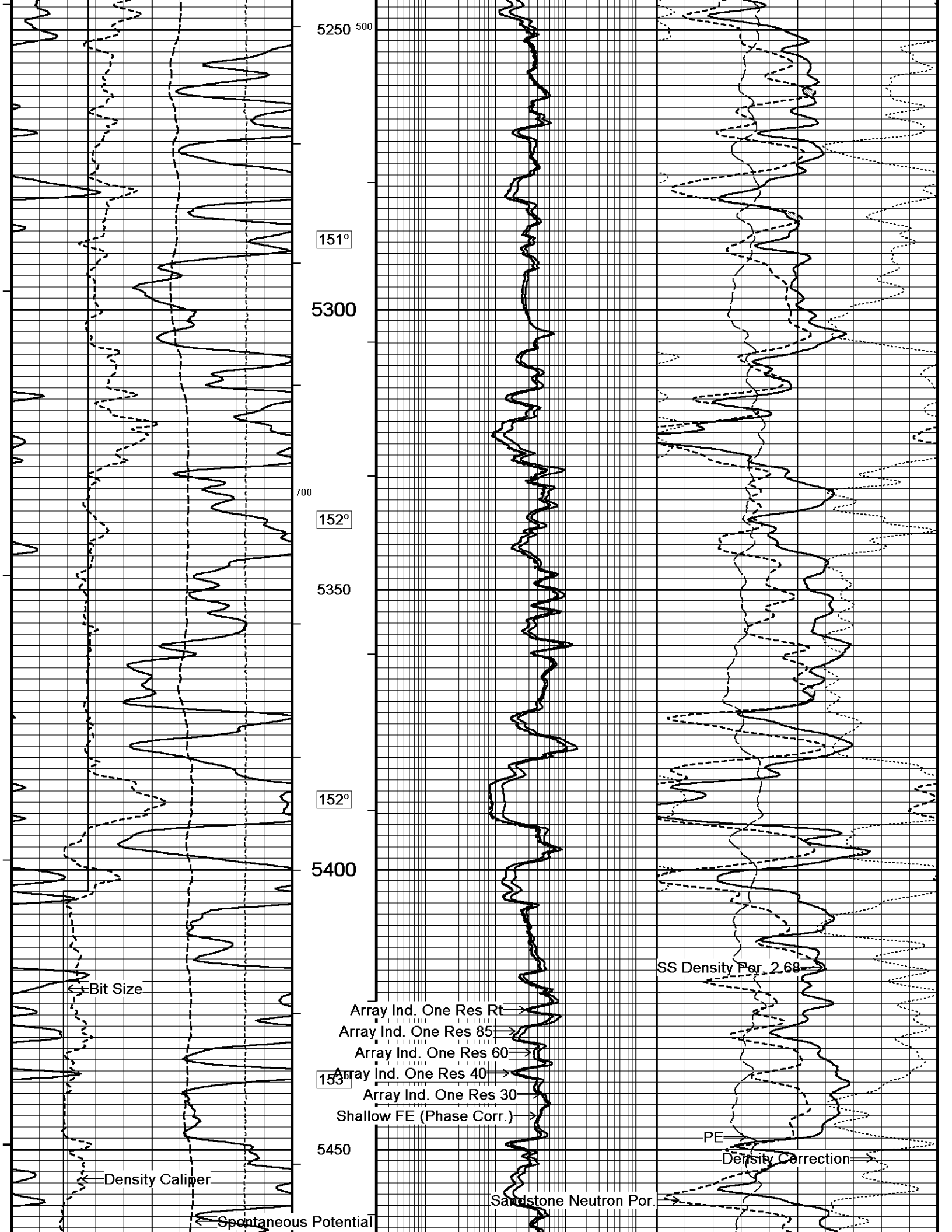




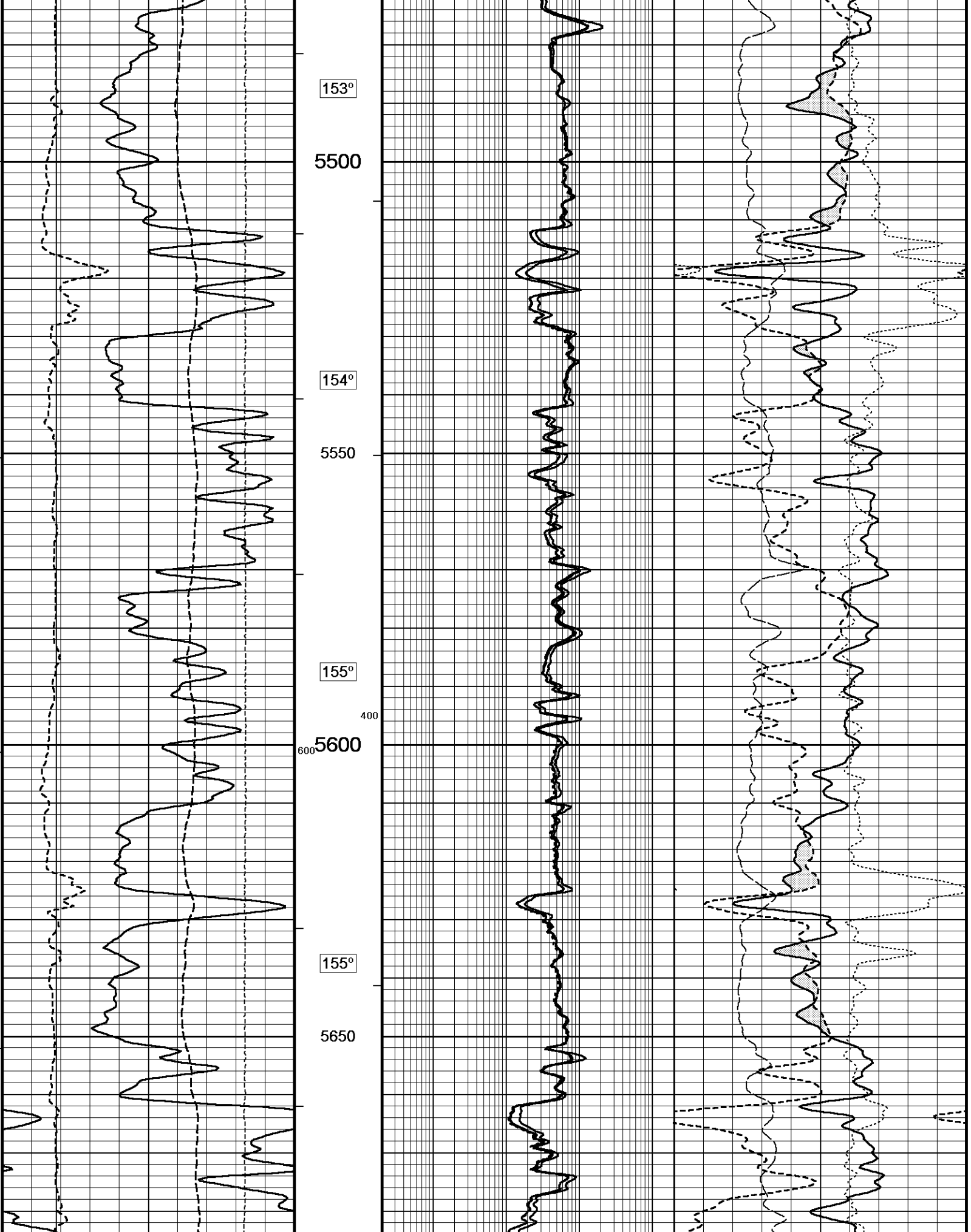


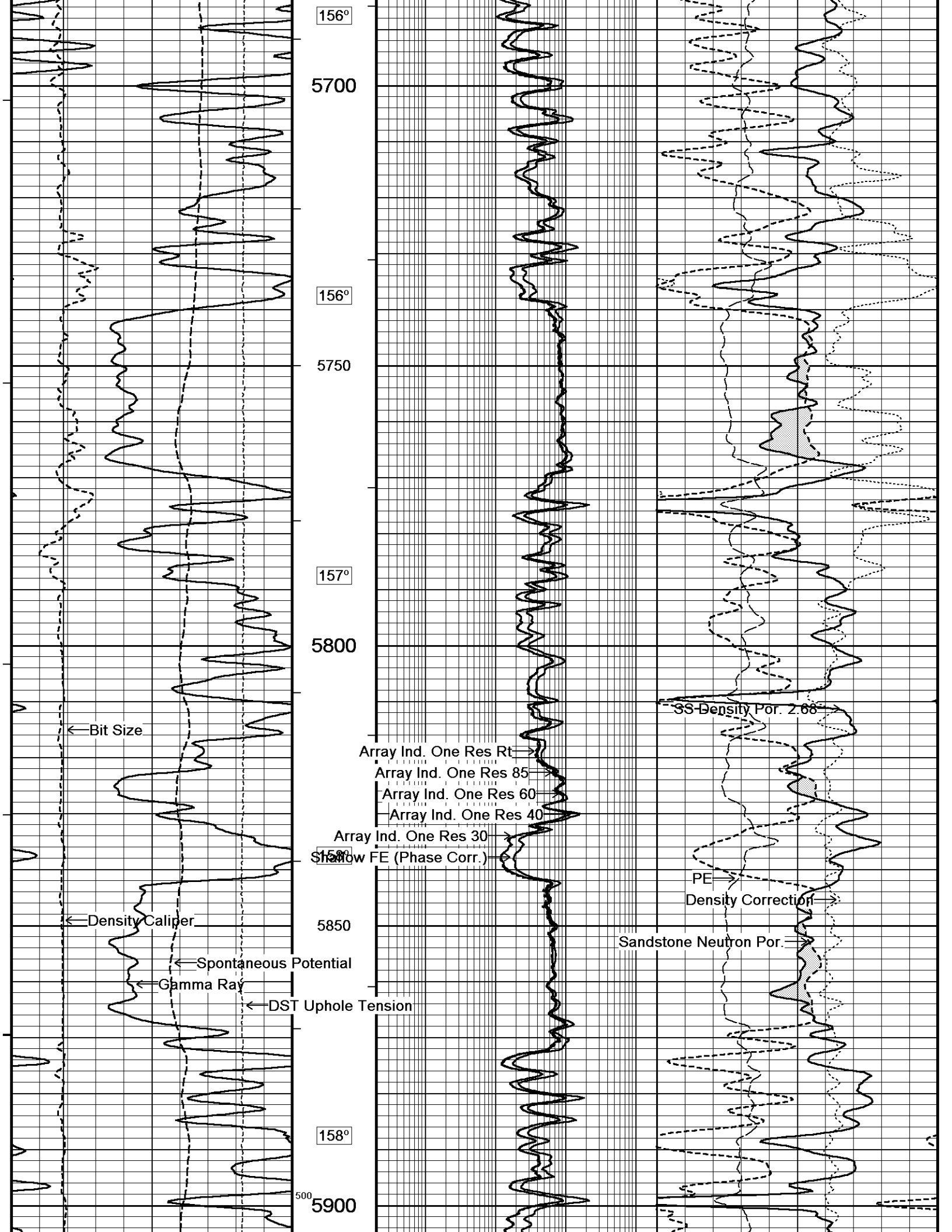


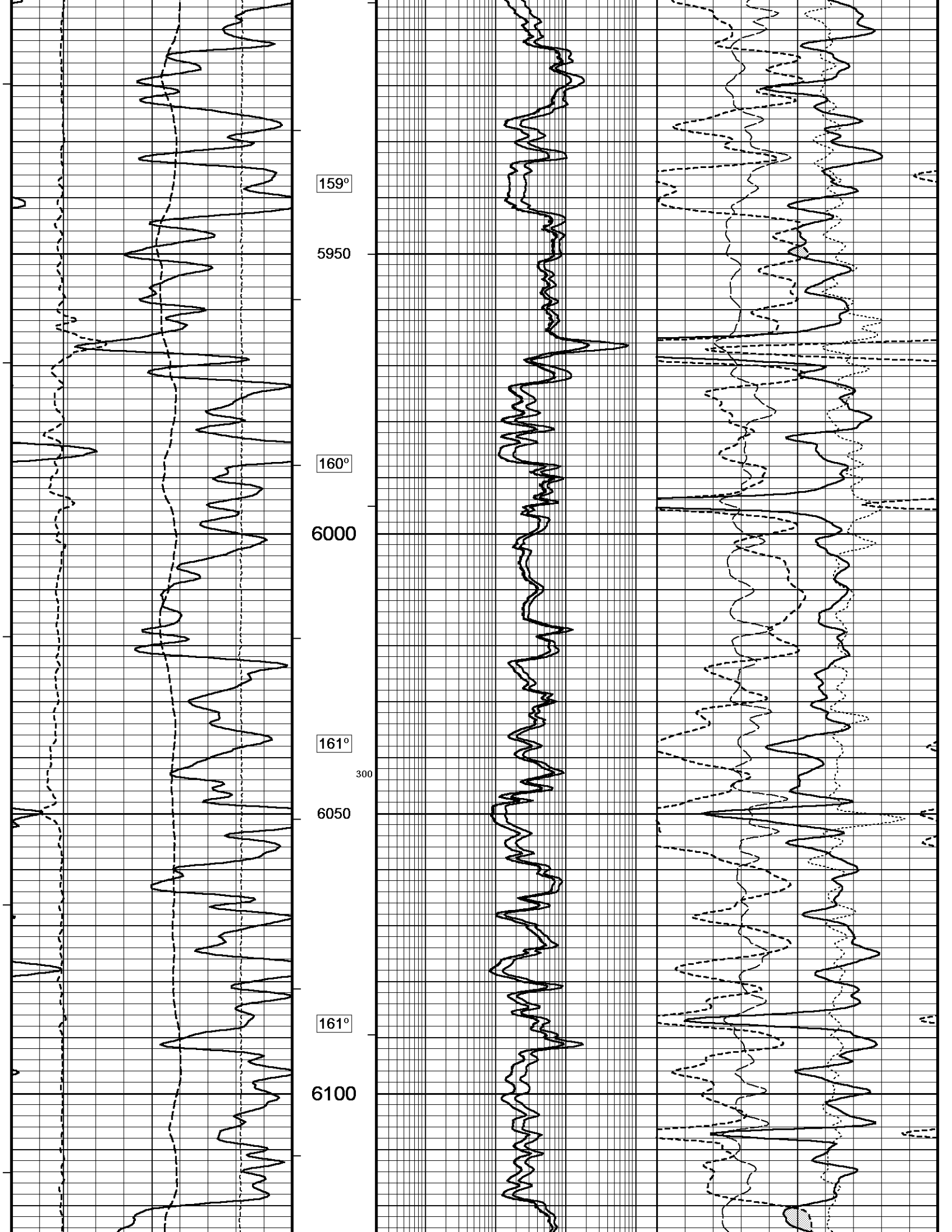


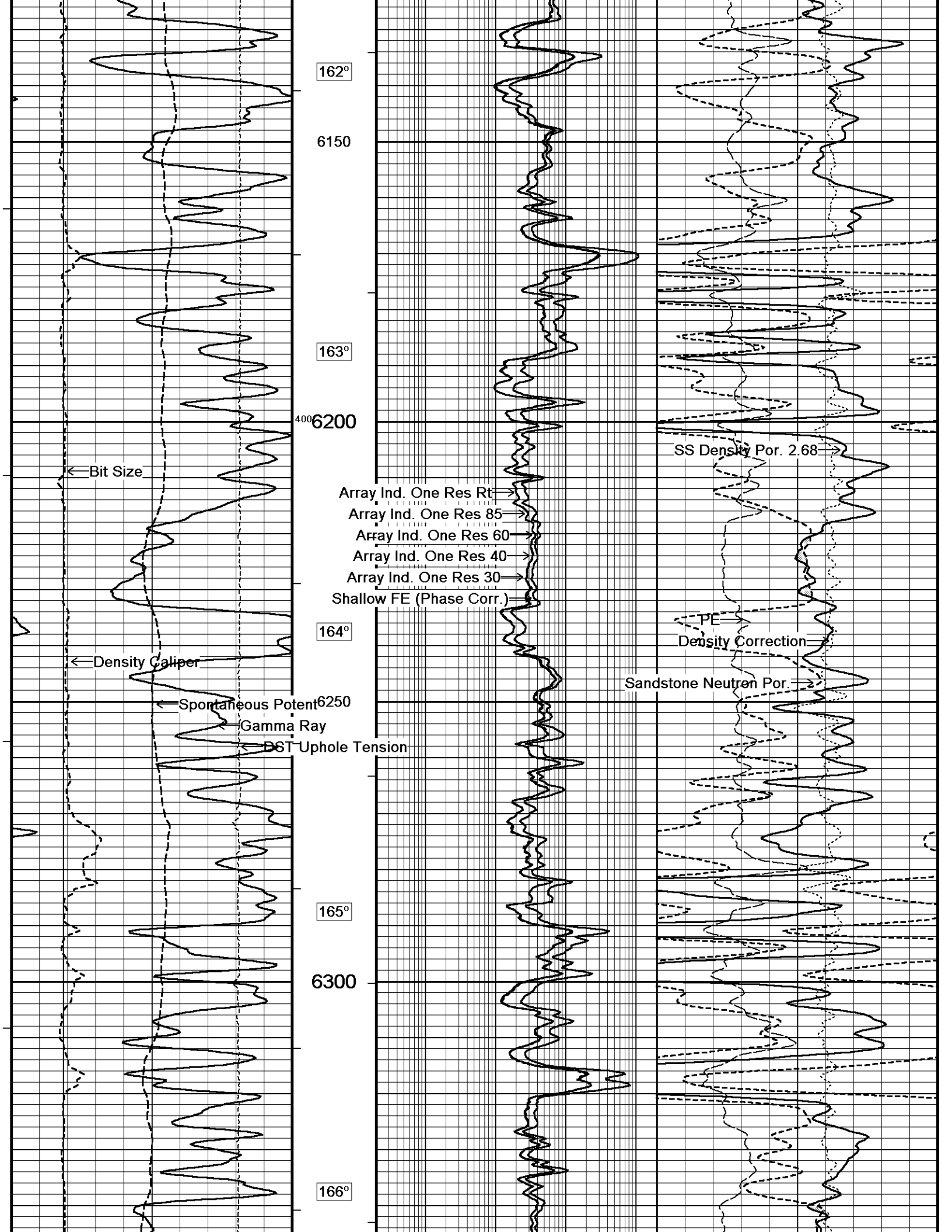


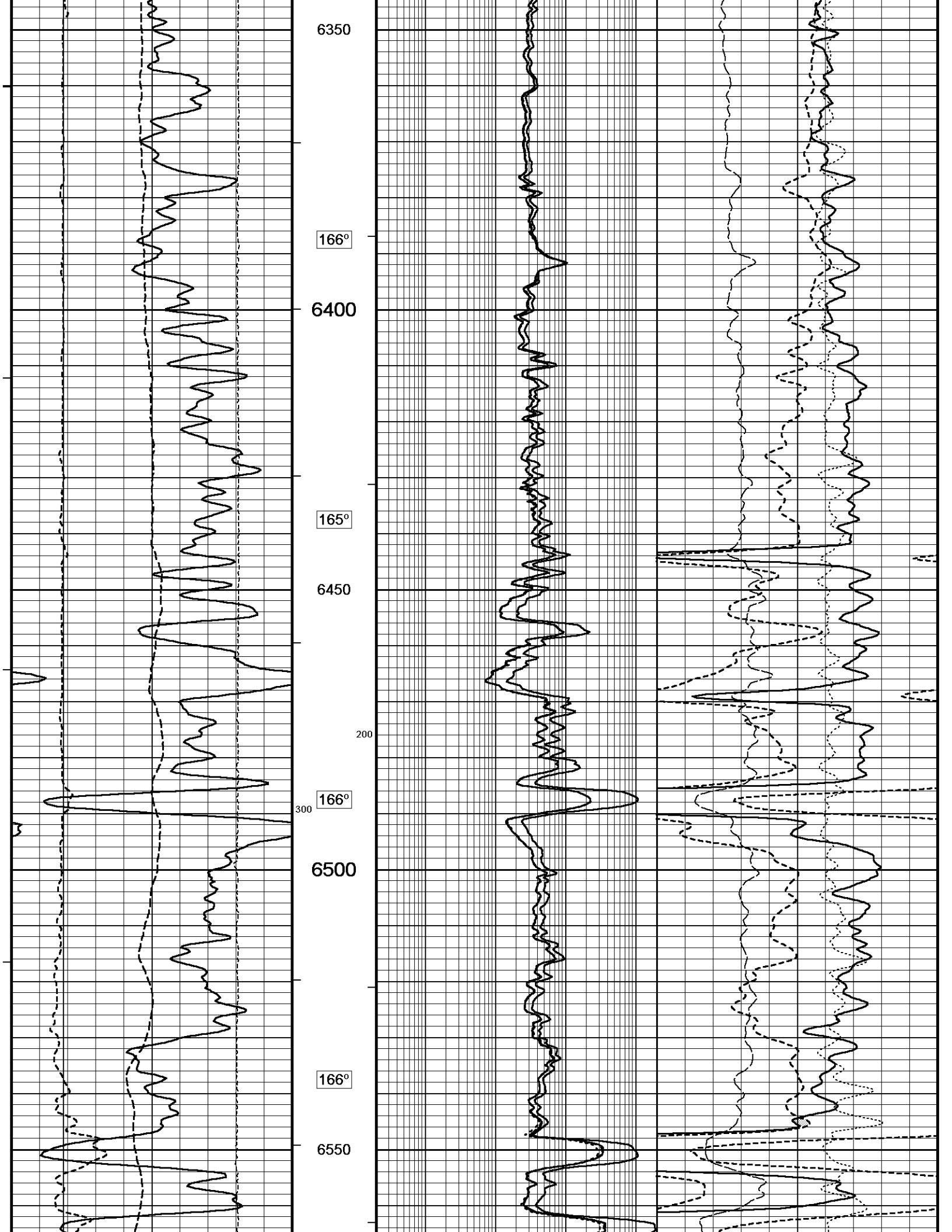
Gamma Ray
DST Uphole Tension

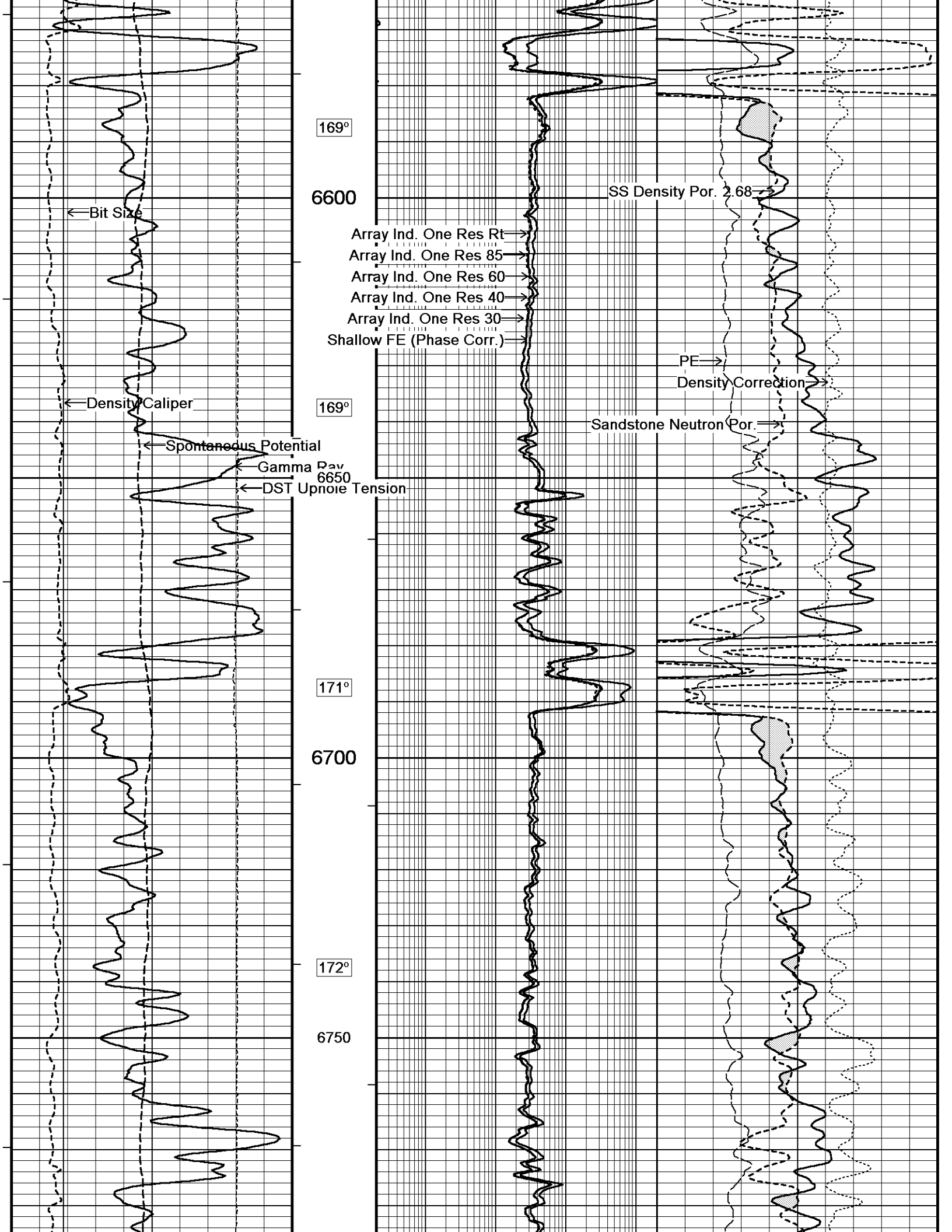


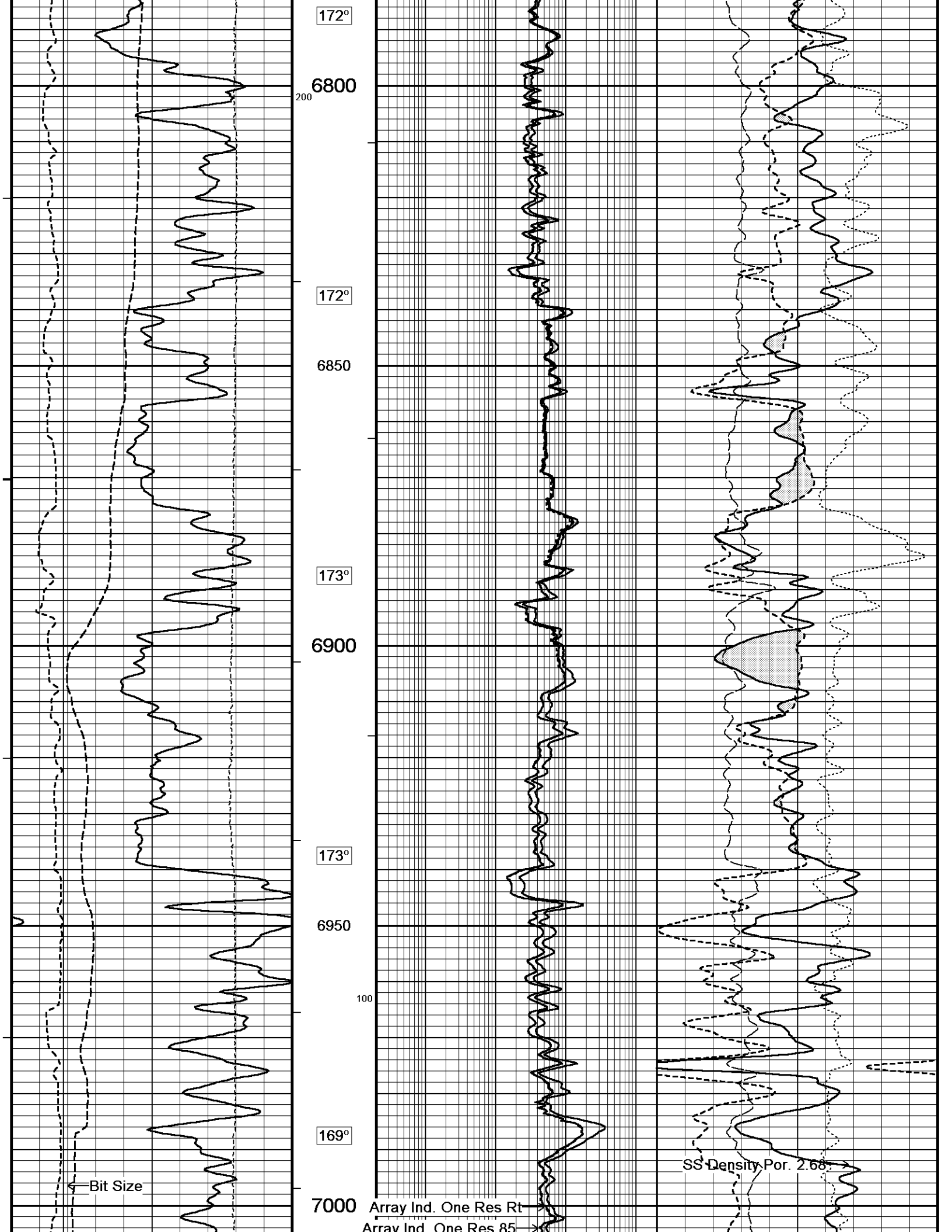












Array Ind. One Res 60
Array Ind. One Res 40
Array Ind. One Res 30
Shallow FE (Phase Corr.)

PE
Density Correction

Sandstone Neutron Por.

Density Caliper
Spontaneous Potential
Gamma Ray

DST Uphole Tension

171°

175°

178°

180°

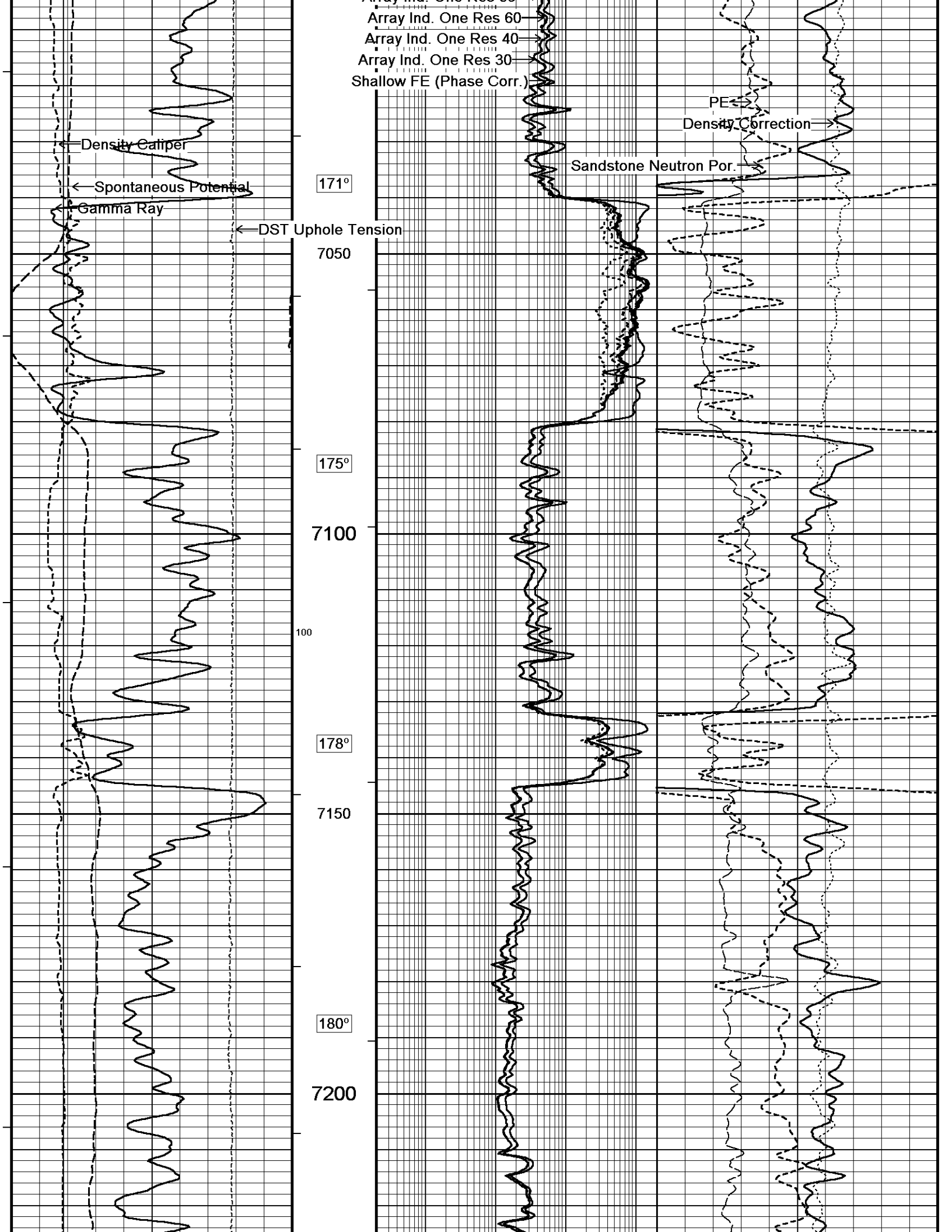
7050

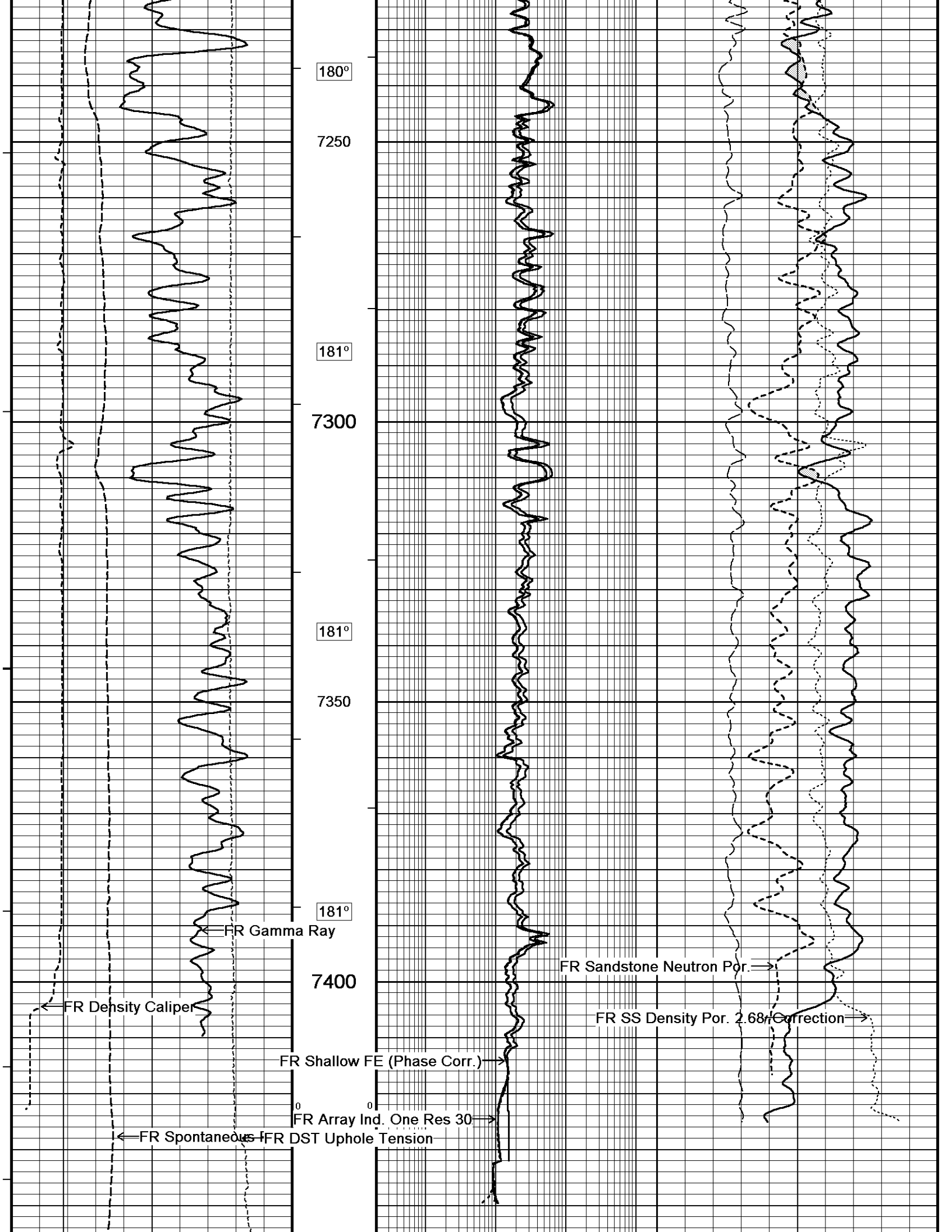
7100

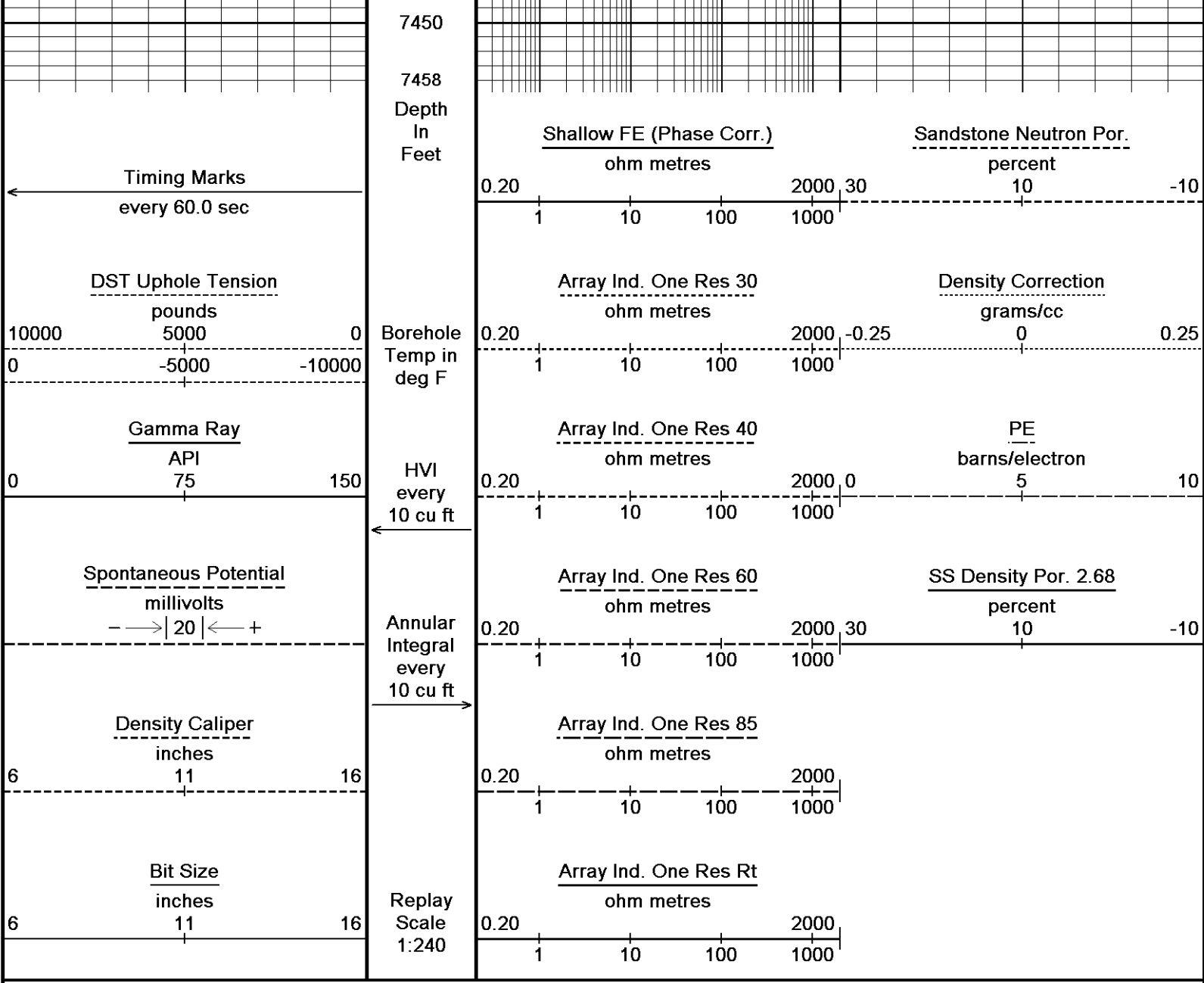
7150

7200

100





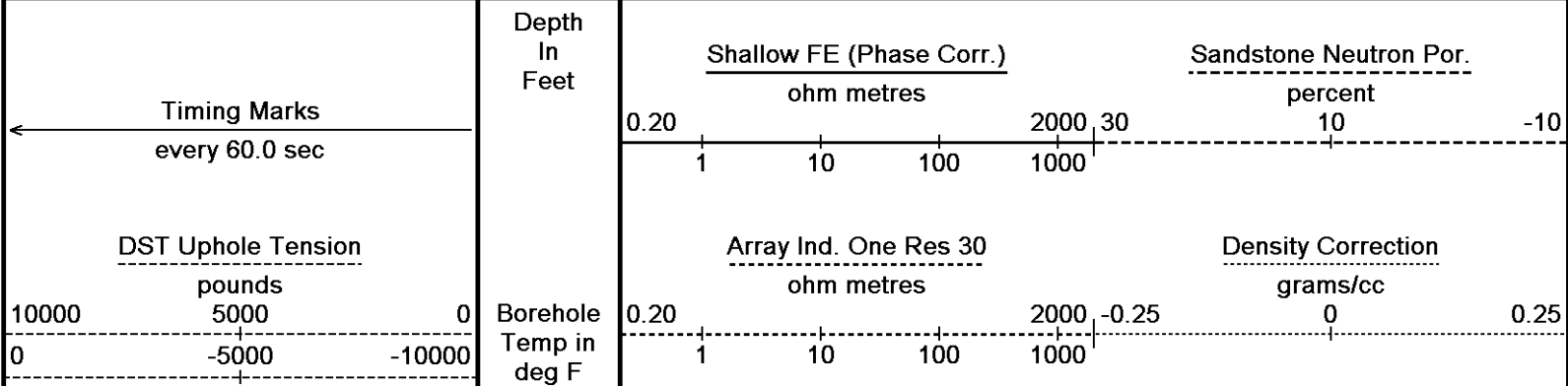


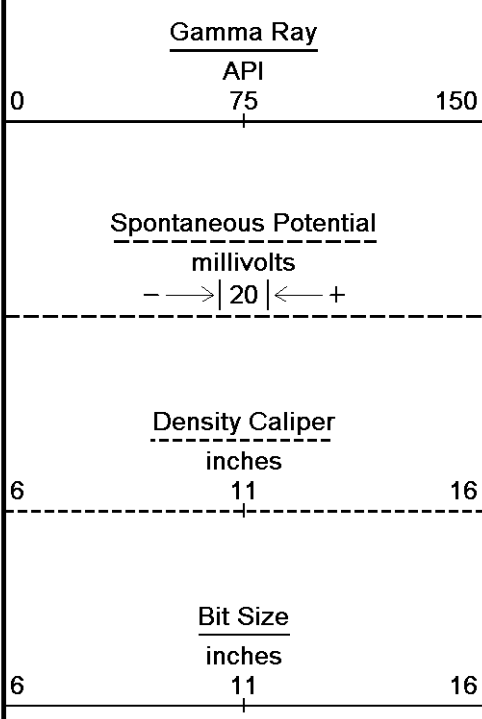
Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 25-SEP-2011 05:31
 Filename: C:\LOGS\Bill Barrett\Kaufman 31B-24-692\setup4.dta
 Recorded on 24-SEP-2011 22:38
 System Versions: Logged with 12.02.4401 Plotted with 12.02.4401

5 INCH MAIN LOG

OVERLAY

Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 25-SEP-2011 05:31
 Filename: C:\LOGS\Bill Barrett\Kaufman 31B-24-692\setup4.dta
 Recorded on 24-SEP-2011 22:38
 Filename: C:\LOGS\Bill Barrett\Kaufman 31B-24-692\setup2.dta
 Recorded on 24-SEP-2011 21:31
 System Versions: Logged with 12.02.4401 Plotted with 12.02.4401





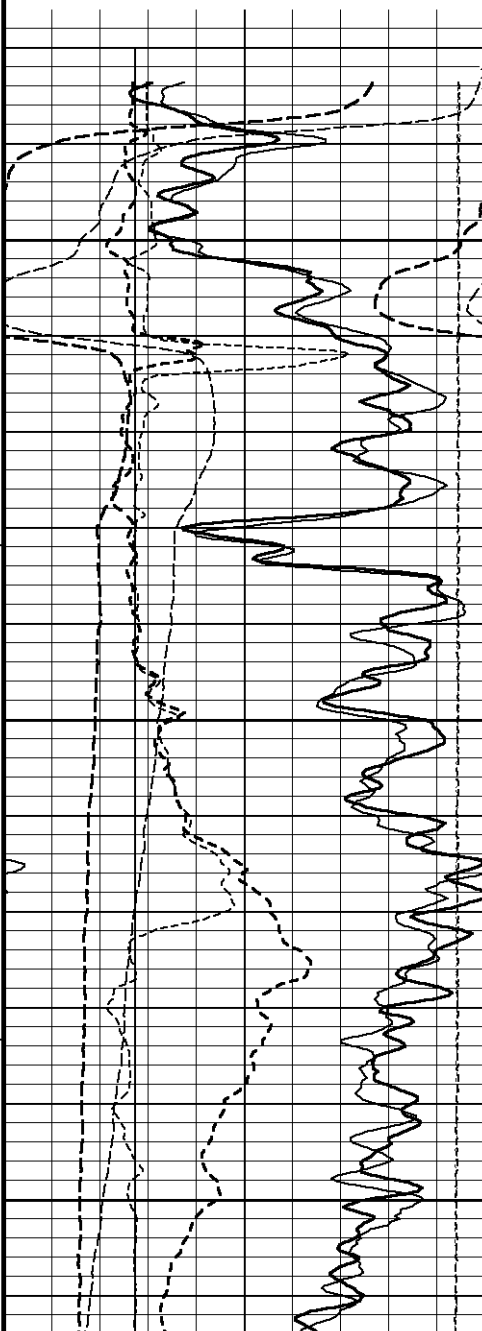
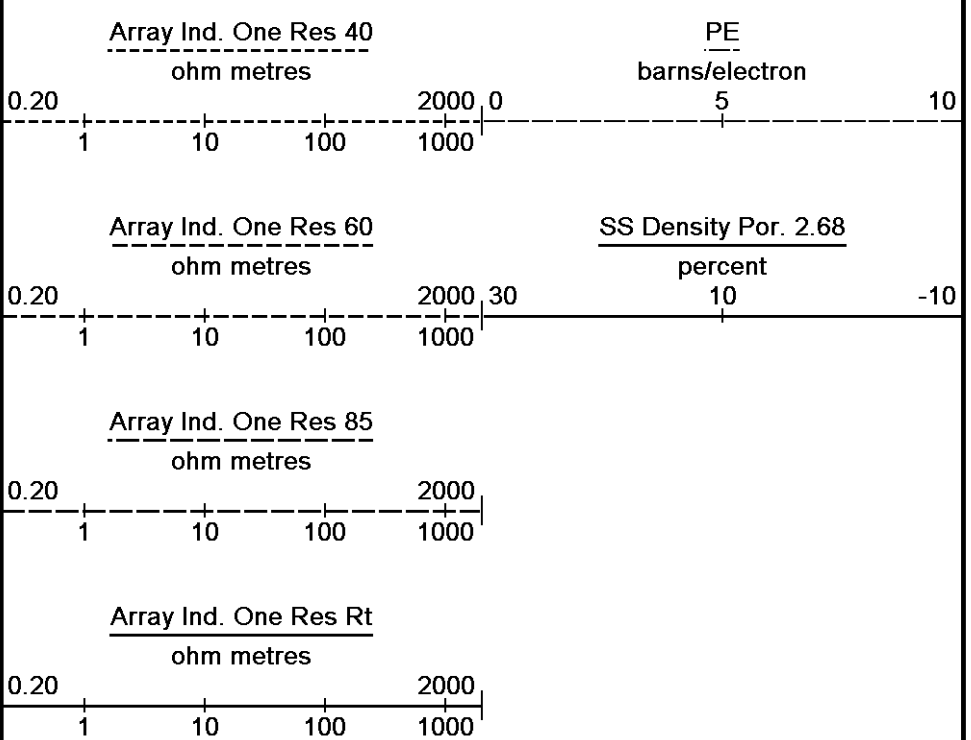
HVI
every
10 cu ft

←

Annular
Integral
every
10 cu ft

→

Replay
Scale
1:240



828

Casing
Shoe

100

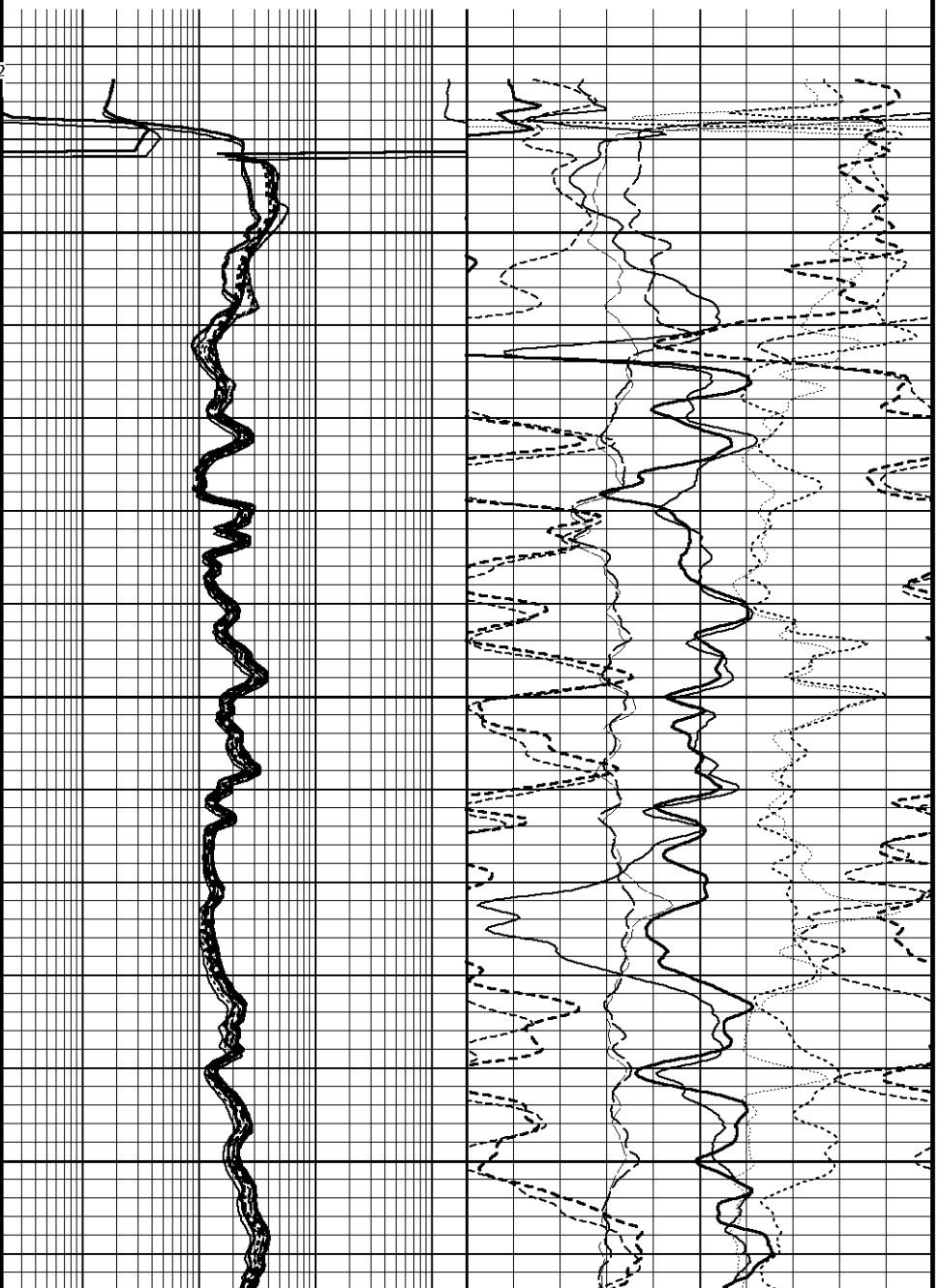
850

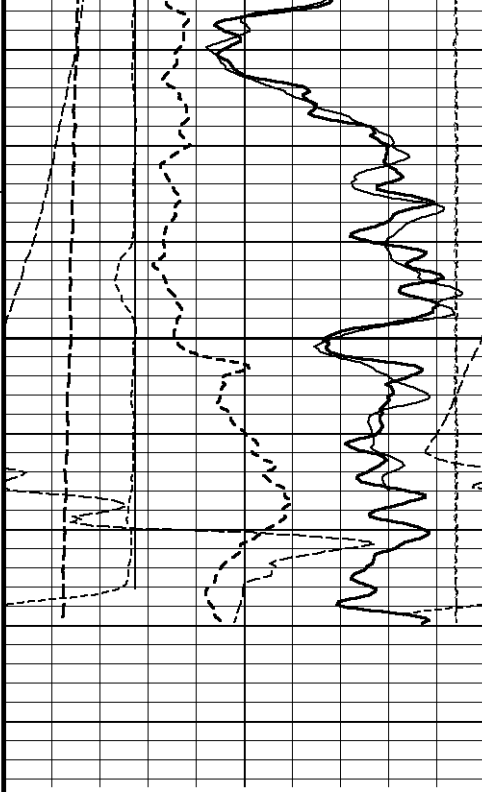
105°

900

105°

950





106°

1000

106°

1044

Depth
In
Feet

← Timing Marks
every 60.0 sec

DST Uphole Tension
pounds
10000 5000 0
0 -5000 -10000

Gamma Ray
API
0 75 150

Spontaneous Potential
millivolts
- -> | 20 | <- +

Density Caliper
inches
6 11 16

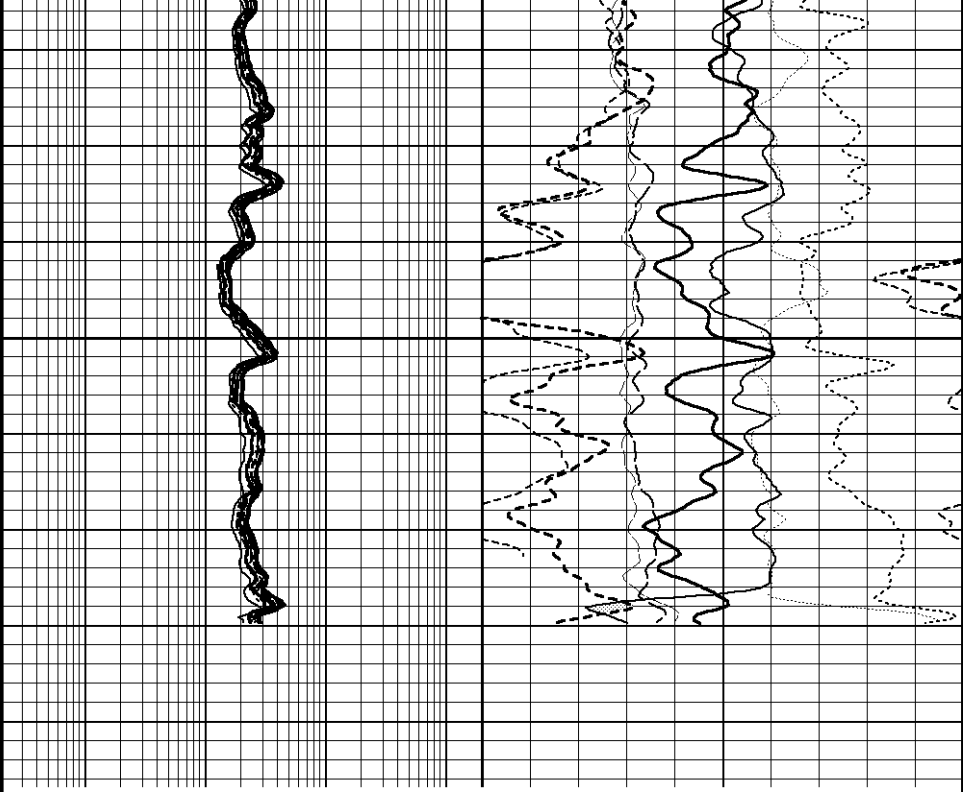
Bit Size
inches
6 11 16

Borehole
Temp in
deg F

HVI
every
10 cu ft
←

Annular
Integral
every
10 cu ft
→

Replay
Scale
1:240



Shallow FE (Phase Corr.)
ohm metres

Sandstone Neutron Por.
percent

0.20 2000 30
1 10 100 1000

10 -10

Array Ind. One Res 30
ohm metres

Density Correction
grams/cc

0.20 2000 -0.25
1 10 100 1000

0 0.25

Array Ind. One Res 40
ohm metres

PE
barns/electron

0.20 2000 0
1 10 100 1000

5 10

Array Ind. One Res 60
ohm metres

SS Density Por. 2.68
percent

0.20 2000 30
1 10 100 1000

10 -10

Array Ind. One Res 85
ohm metres

0.20 2000
1 10 100 1000

Array Ind. One Res Rt
ohm metres

0.20 2000
1 10 100 1000

BEFORE SURVEY CALIBRATION

C:\LOGS\Bill Barrett\Kaufman 31B-24-692\setup4.dta

General Constants All 000

Last Edited on 24-SEP-2011 21:26

General Parameters

| | | |
|-----------------------------|----------|------------|
| Mud Resistivity | 2.700 | ohm-metres |
| Mud Resistivity Temperature | 93.000 | degrees F |
| Water Level | 0.000 | feet |
| Density/Neutron Processing | Wet Hole | |

Hole/Annular Volume and Differential Caliper Parameters

| | | |
|----------------------------------|-----------------|--------|
| HVOL Method | Single Caliper | |
| HVOL Caliper 1 | Density Caliper | |
| HVOL Caliper 2 | N/A | |
| Annular Volume Diameter | 4.500 | inches |
| Caliper for Differential Caliper | None | |

Rwa Parameters

| | |
|------------------|-----------------------|
| Porosity used | Base Density Porosity |
| Resistivity used | Array Ind. One Res Rt |
| RWA Constant A | 0.610 |
| RWA Constant M | 2.150 |

Down-hole Tension Calibration SMS 0

Field Calibration on 24-SEP-2011 21:16

| Reading No | Measured | Calibrated (lbs) |
|------------|----------|------------------|
| 1 | 14429.64 | 0.00 |
| 2 | 15219.21 | 370.00 |

High Resolution Temperature Calibration MCG-D.A 287

Field Calibration on 24-SEP-2011 21:27

| | Measured | Calibrated(Deg F) |
|-------|----------|-------------------|
| Lower | 10.00 | 10.00 |
| Upper | 50.00 | 50.00 |

High Resolution Temperature Constants MCG-D.A 287

Last Edited on 24-SEP-2011 21:27

Pre-filter Length 11

SP Calibration MCG-D.A 287

Field Calibration on 24-SEP-2011 21:27

| | Measured | Calibrated (mV) |
|-------------|----------|-----------------|
| Reference 1 | 100.9 | 100.0 |
| Reference 2 | -100.2 | -100.0 |

Gamma Calibration MCG-D.A 287

Field Calibration on 24-SEP-2011 19:39

| | Measured | Calibrated (API) |
|--------------------|----------|------------------|
| Background | 131 | 87 |
| Calibrator (Gross) | 1511 | 999 |
| Calibrator (Net) | 1380 | 912 |

Gamma Constants MCG-D.A 287

Last Edited on 21-SEP-2011 07:44

| | | |
|-------------------------------|-----------------|-------|
| Gamma Calibrator Number | GRC-072 | |
| Mud Density | 1.00 | gm/cc |
| Caliper Source for Processing | Density Caliper | |
| Tool Position | Eccentred | |
| Concentration of KCl | 0.00 | kppm |

Neutron Calibration MDN-A.B 160

Base Calibration on 19-SEP-2011 12:14

Field Check on 24-SEP-2011 19:46

Base Calibration

| | Measured | | Calibrated (cps) | |
|-------|----------|-----|------------------|-----|
| | Near | Far | Near | Far |
| Ratio | 3277 | 101 | 3714 | 110 |
| | 32.553 | | 33.764 | |

Field Calibrator at Base

Calibrated (cps)

| | | | |
|-------------|------------------|------|-------|
| Ratio | 1248 | 1863 | 0.670 |
| Field Check | Calibrated (cps) | | |
| | 1294 | 1935 | |
| Ratio | 0.669 | | |

| | | | |
|---------------------------------|-----------------|----------------------------------|--|
| Neutron Constants MDN-A.B 160 | | Last Edited on 21-SEP-2011 14:52 | |
| Neutron Source Id | 1056 | | |
| Neutron Jig Number | 5922 | | |
| Epithermal Neutron | No | | |
| Caliper Source for Processing | Density Caliper | | |
| Stand-off | 0.00 | inches | |
| Mud Density | 1.00 | gm/cc | |
| Limestone Sigma | 7.10 | cu | |
| Sandstone Sigma | 7.00 | cu | |
| Dolomite Sigma | 4.70 | cu | |
| Formation Pressure Source | None | | |
| Formation Pressure | N/A | kpsi | |
| Temperature Source | None | | |
| Temperature | N/A | degrees F | |
| Mud Salinity | 0.00 | kppm | |
| Formation Fluid Salinity Source | None | | |
| Formation Fluid Salinity | N/A | kppm | |
| Barite Mud Correction | Not Applied | | |
| Salinity Correction | Not Applied | | |

| | | | |
|---------------------------|----------|---------------------------------------|--|
| FE Calibration MFE-A.A 85 | | Base Calibration on 15-SEP-2011 10:14 | |
| | | Field Check on 24-SEP-2011 20:07 | |
| Base Calibration | | | |
| | Measured | Calibrated (ohm-m) | |
| Reference 1 | 0.0 | 0.0 | |
| Reference 2 | 965.6 | 126.8 | |
| Base Check | | 281.7 | |
| Field Check | | 281.6 | |

| | | | |
|----------------------------------|--------------------------|----------------------------------|--|
| FE Constants MFE-A.A 85 | | Last Edited on 24-SEP-2011 21:27 | |
| Running Mode | No Sleeve | | |
| MFE K Factor | 0.1268 | | |
| Caliper Source for FE correction | Density Caliper | | |
| Caliper Value for FE correction | N/A | inches | |
| Rm Source for FE correction | Temperature Corr | | |
| Temp. for Rm Corr. | MCG External Temperature | | |
| Stand-off | 0.5 | inches | |

| | | | |
|---|----------|--|--|
| High Resolution Temperature Calibration MAI-B.A 213 | | Field Calibration on 10-SEP-2011 18:20 | |
| | Measured | Calibrated(Deg F) | |
| Lower | 10.00 | 50.00 | |
| Upper | 100.00 | 212.00 | |

| | | | |
|---|----|----------------|--|
| High Resolution Temperature Constants MAI-B.A 213 | | Last Edited on | |
| Pre-filter Length | 11 | | |

| | | | | | |
|-----------------------------------|---------------------|---------------------------------------|----------------------|---------------------|--|
| Induction Calibration MAI-B.A 213 | | Base Calibration on 22-JAN-2007 12:35 | | | |
| | | Field Check on | | | |
| Base Calibration | | | | | |
| Test Loop Calibration | | Measured | | Calibrated (mmho/m) | |
| Channel | Low | High | Low | High | |
| 1 | 16.8 | 462.4 | 9.3 | 966.2 | |
| 2 | 6.2 | 381.7 | 7.6 | 821.4 | |
| 3 | 3.6 | 254.8 | 5.2 | 566.0 | |
| 4 | 2.3 | 132.3 | 2.6 | 279.2 | |
| Array Temperature | 73.6 | Deg F | | | |
| Channel | Base Check (mmho/m) | | Field Check (mmho/m) | | |
| | Low | High | Low | High | |

| | | | | |
|-------------------|-----|-----|-----|-------|
| 1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2 | 0.0 | 0.0 | 0.0 | 0.0 |
| 3 | 0.0 | 0.0 | 0.0 | 0.0 |
| 4 | 0.0 | 0.0 | 0.0 | 0.0 |
| Deep | 0.0 | 0.0 | 0.0 | 0.0 |
| Medium | 0.0 | 0.0 | 0.0 | 0.0 |
| Shallow | 0.0 | 0.0 | 0.0 | 0.0 |
| Array Temperature | | 0.0 | 0.0 | Deg F |

Induction Constants MAI-B.A 213

Last Edited on 24-SEP-2011 21:28

| | | | | |
|--|--------------------------|------------------|-------------|--------|
| Induction Model | | RtAP-WBM | | |
| Caliper for Borehole Corr. | | Density Caliper | | |
| Hole Size for Borehole Correction | | N/A | inches | |
| Tool Centred | | No | | |
| Stand-off Type | | Fins | | |
| Stand-off | | 0.50 | inches | |
| Number of Fins on Stand-off | | 6.0000 | | |
| Stand-off Fin Angle | | 60.00 | degrees | |
| Stand-off Fin Width | | 0.7500 | inches | |
| Borehole Corr. Rm Source | | Temperature Corr | | |
| Temp. for Rm Corr. | MCG External Temperature | | | |
| Squasher Start | | 0.0020 | mhos/metre | |
| Squasher Offset | | N/A | mhos/metre | |
| Borehole Normalisation | | | | |
| DRM1 | 0.0000 | DRC1 | | 0.0000 |
| DRM2 | 0.0000 | DRC2 | | 0.0000 |
| MRM1 | 0.0000 | MRC1 | | 0.0000 |
| MRM2 | 0.0000 | MRC2 | | 0.0000 |
| SRM1 | 0.0000 | SRC1 | | 0.0000 |
| SRM2 | 0.0000 | SRC2 | | 0.0000 |
| Calibration Site Corrections | | | | |
| Channel 1 | | 0.00 | mmhos/metre | |
| Channel 2 | | 0.00 | mmhos/metre | |
| Channel 3 | | 0.00 | mmhos/metre | |
| Channel 4 | | 0.00 | mmhos/metre | |
| Apparent Porosity and Water Saturation Constants | | | | |
| Archie Constant (A) | | 1.00 | | |
| Cementation Exponent (M) | | 2.00 | | |
| Saturation Exponent (N) | | 2.00 | | |
| Saturation of Water for Apor | | 100.00 | percent | |
| Resistivity of Water for Apor and Sw | | 0.05 | ohm-m | |
| Resistivity of Mud Filtrate for Sw | | 0.00 | ohm-m | |
| Source for Rt | | 0.00 | | |
| Source for Rxo | | 0.00 | | |

Photo Density Calibration MPD-C.A 219

Base Calibration on 21-SEP-2011 08:56

Field Check on 24-SEP-2011 19:59

| | | | | |
|---------------------|-------|----------|------------------|-------|
| Density Calibration | | | | |
| Base Calibration | | Measured | Calibrated (sdu) | |
| | Near | Far | Near | Far |
| Reference 1 | 47909 | 15670 | 53237 | 19445 |
| Reference 2 | 21629 | 1826 | 25135 | 2545 |
| Field Check at Base | | | | |
| | 614.2 | 694.0 | | |
| Field Check | | | | |
| | 615.9 | 685.0 | | |
| PE Calibration | | | | |
| Base Calibration | | Measured | Calibrated | |
| | WS | WH | Ratio | Ratio |
| Background | 114 | 547 | | |
| Reference 1 | 16623 | 47802 | 0.349 | 0.320 |
| Reference 2 | 6159 | 21554 | 0.288 | 0.274 |

Field Check at Base 113.7 547.2

Field Check 113.2 551.8

Density Constants MPD-C.A 219

Last Edited on 24-SEP-2011 19:52

Density Source Id P50561B
 Nylon Calibrator Number 532
 Aluminium Calibrator Number 532
 Density Shoe Profile 8 inch
 Caliper Source for Processing Density Caliper
 PE Correction to Density Not Applied
 Mud Density 1.24 gm/cc
 Mud Density Z/A Multiplier 1.11
 Mud Filtrate Density 1.00 gm/cc
 Dry Hole Mud Filtrate Density 1.00 gm/cc
 DNCT 0.00 gm/cc
 CRCT 0.00 gm/cc
 Density Z/A Correction Hybrid

| Matrix Density (gm/cc) | Depth (ft) |
|------------------------|------------|
| 2.68 | 0.00 |
| 0.00 | 0.00 |
| 0.00 | 0.00 |
| 0.00 | 0.00 |
| 0.00 | 0.00 |
| 0.00 | 0.00 |
| 0.00 | 0.00 |
| 0.00 | 0.00 |
| 0.00 | 0.00 |

Caliper Calibration MPD-C.A 219

Base Calibration on 19-SEP-2011 10:49
 Field Calibration on 19-SEP-2011 10:51

Base Calibration

| Reading No | Measured | Calibrator Size (in) |
|------------|----------|----------------------|
| 1 | 18784 | 3.98 |
| 2 | 27488 | 5.96 |
| 3 | 35253 | 7.97 |
| 4 | 43344 | 9.84 |
| 5 | 52785 | 11.91 |
| 6 | N/A | N/A |

Field Calibration

| Measured Caliper (in) | Actual Caliper (in) |
|-----------------------|---------------------|
| 7.97 | 7.97 |

AFTER SURVEY CALIBRATION

C:\LOGS\Bill Barrett\Kaufman 31B-24-692\setup4.dta

FE Check MFE-A.A 85

Before Survey Check 24-SEP-2011 20:07
 After Survey Check on 25-SEP-2011 01:16

| Before (ohm-m) | After (ohm-m) |
|----------------|---------------|
| 281.6 | 281.3 |

Induction Check MAI-B.A 213

Before Survey Check on
 After Survey Check on 25-SEP-2011 01:14

| Channel | Before Survey (mmho/m) | | After Survey (mmho/m) | |
|-------------------|------------------------|------|-----------------------|--------|
| | Low | High | Low | High |
| 1 | 0.0 | 0.0 | 15.3 | 3936.4 |
| 2 | 0.0 | 0.0 | 30.5 | 3540.0 |
| 3 | 0.0 | 0.0 | 29.0 | 3113.8 |
| 4 | 0.0 | 0.0 | 19.1 | 2096.1 |
| Deep | 0.0 | 0.0 | 17.5 | 2077.5 |
| Medium | 0.0 | 0.0 | 42.6 | 4088.1 |
| Shallow | 0.0 | 0.0 | 46.0 | 5160.3 |
| Array Temperature | | 0.0 | | 88.4 |

Photo Density Check MPD-C.A 219

Before Survey Check on 24-SEP-2011 19:59

Density Check

| | Near | | Far | |
|--|--------|-------|--------|-------|
| | Before | After | Before | After |
| | 615.9 | 607.2 | 685.0 | 685.5 |

PE Check

| | Before | After |
|----|--------|-------|
| WS | 113.2 | 111.5 |
| WH | 551.8 | 541.1 |

DOWNHOLE EQUIPMENT

C:\LOGS\Bill Barrett\Kaufman 31B-24-692\setup4.dta

3/8" Triple Cone Cable Head (MCB C A)
 MCB-C.A 5 LG: 1.58 ft WT: 15.4 lb OD: 2.24 in

SHA-F Compact Swivel Head Adaptor
 SHA-F 82 LG: 2.74 ft WT: 26.5 lb OD: 2.24 in

Compact Comms Gamma
 MCG-D.A 287 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

Compact Neutron
 MDN-A.B 160 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

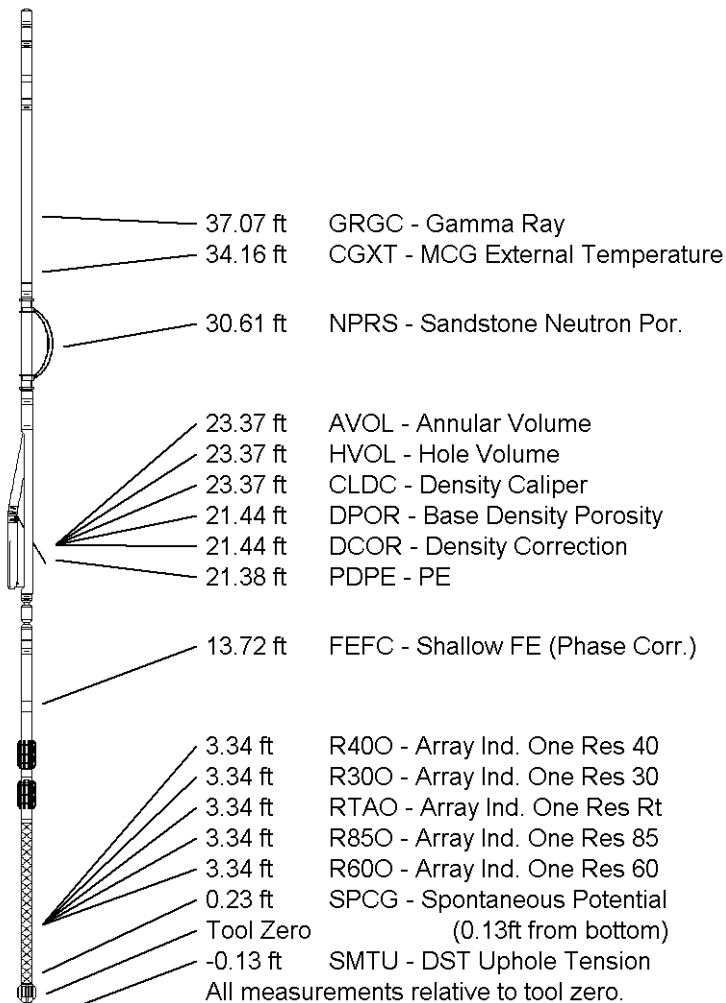
Compact Density/Caliper
 MPD-C.A 219 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

SKJ-D.A Compact Knuckle Joint
 SKJ-D.A 114 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

Compact Focussed Electric
 MFE-A.A 85 LG: 6.05 ft WT: 48.5 lb OD: 2.24 in

Compact Induction
 MAI-B.A 213 LG: 10.81 ft WT: 48.5 lb OD: 2.24 in

Total Length: 46.67 ft Weight: 368.2 lb



| | |
|-----------------|--------------------------|
| COMPANY | BILL BARRETT CORPORATION |
| WELL | KAUFMAN 31B-24-692 |
| FIELD | MAMM CREEK |
| PROVINCE/COUNTY | GARFIELD |
| COUNTRY/STATE | U.S.A. / COLORADO |

| | | | | |
|-------------------------|---------|------|---------------|--------------|
| Elevation Kelly Bushing | 5786.00 | feet | First Reading | 7425.00 |
| Elevation Drill Floor | 5786.00 | feet | Depth Driller | 7435.00 feet |
| Elevation Ground Level | 5763.00 | feet | Depth Logger | 7428.00 feet |



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