# HALLIBURTON

# ARRAY COMPENSATED TRUE RESISTIVITY LOG

RAYDON EXPLORATION, INC. | THORP 1-26R | KISMET | SEWARD | KANSAS

COMPANY | WELL | FIELD/BLOCK | COUNTY | STATE

COMPANY **RAYDON EXPLORATION, INC.**

WELL **THORP 1-26R**

FIELD/BLOCK **KISMET**

COUNTY **SEWARD** STATE **KANSAS**

API No. 15-175-22262-00-00

Location (SHL) 335' FNL & 335' FWL
SE NW NW NW

Sect. 26 Twp. 33S Rge. 31W

Other Services:
DSNT/SDLT
MICROLOG
BSAT
XRMI
ACRT

| | | | |
|---|---|---|---|
| Permanent Datum | GL | Elev. 2738.0 ft | Elev.: K.B. 2749.0 ft |
| Log measured from | KB | 11.0 ft above perm. Datum | D.F. 2749.0 ft |
| Drilling measured from | KB | | G.L. 2738.0 ft |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Date | | 12-Jul-18 | | | | | |
| Run No. | | ONE | | | | | |
| Depth - Driller | | 5880.0 ft | | | | | |
| Depth - Logger | | 5873.0 ft | | | | | |
| Bottom - Logged Interval | | 5864.00 ft | | | | | |
| Top - Logged Interval | | 1639.00 ft | | | | | |
| Casing - Driller | | 8.625 in | @ 1636.0 ft | @ | | @ | |
| Casing - Logger | | 1639.0 ft | | | | | |
| Bit Size | | 7.875 in | | @ | | @ | |
| Type Fluid in Hole | | Water Based Mud | | | | | |
| Density | Viscosity | 9.1 ppg | 55.00 s/qt | | | | |
| PH | Fluid Loss | 10.50 pH | 7.0 cptm | | | | |
| Source of Sample | | MUDPIT | | | | | |
| Rm @ Meas. Temperature | | 1.11 ohmm | @ 75.00 degF | @ | | @ | |
| Rmf @ Meas. Temperature | | 0.92 ohmm | @ 75.00 degF | @ | | @ | |
| Rmc @ Meas. Temperature | | 1.27 ohmm | @ 75.00 degF | @ | | @ | |
| Source Rmf | Rmc | MEAS | MEAS | | | | |
| Rm @ BHT | | 0.64 ohmm | @ 134.0 degF | @ | | @ | |
| Time Since Circulation | | 5.0 hr | | | | | |
| Time on Bottom | | 12-Jul-18 16:00 | | | | | |
| Max. Rec. Temperature | | 134.00 degF | @ 5873.0 ft | @ | | @ | |
| Equipment | Location | 12147634 | EL RENO, OK | | | | |
| Recorded By | | JORGE ORLANDO PEREZ | | | | | |
| Witnessed By | | TIM HEDDRICK | | | | | |

Fold here

Service Ticket No.: 904928072

API No.: 15-175-22262-00-00

PGM Version: WL INSITE R5.6.0 (Build 2)

CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE

RESISTIVITY SCALE CHANGES

| | Sample No. | | | Type Log | Depth | Scale Up Hole | Scale Down Hole |
|---|---|---|---|---|---|---|---|
| Date | | | | | | | |
| Depth-Driller | | | | | | | |
| Type Fluid in Hole | | | | | | | |
| Density | Viscosity | | | | | | |
| Ph | Fluid Loss | | | | | | |
| Source of Sample | | | | | | | |
| Rm @ Meas. Temp | | @ | | | | | |
| Rmf @ Meas. Temp. | | @ | | | | | |
| Rmc @ Meas. Temp. | | @ | | | | | |
| Source Rmf | Rmc | | | | | | |
| Rm @ BHT | | @ | | | | | |
| Rmf @ BHT | | @ | | | | | |
| Rmc @ BHT | | @ | | | | | |

RESISTIVITY EQUIPMENT DATA

| | Run No. | Tool Type & No. | Pad Type | Tool Pos. | Other |
|---|---|---|---|---|---|
| | @ | | | | |
| | @ | ACRT | N/A | CENT | N/A |
| | @ | I-12109517 | | | |
| | | S-12109515 | | | |
| | @ | | | | |
| | @ | | | | |
| | @ | | | | |

EQUIPMENT DATA

| GAMMA | | ACOUSTIC | | | | DENSITY | | | | NEUTRON | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Scale | | | | Scale | | | | Scale | |
| Run No. | ONE | Run No. | ONE | L | R | Run No. | ONE | L | R | Run No. | ONE | L | R |
| Serial No. | 11013114 | Serial No. | 10747686 | | | Serial No. | 12153220 | | | Serial No. | 10993115 | | |
| Model No. | GTET | Model No. | BSAT | | | Model No. | SDLT | | | Model No. | DSNT | | |
| Diameter | 3.625" | No. of Cent. | 2 | | | Diameter | 5.5" | | | Diameter | 3.625" | | |
| Detector Model No. | T-102 | Spacing | EVEN | | | Log Type | GAM-GAM | | | Log Type | NEU-NEU | | |
| Type | SCINT | | | | | Source Type | CS137 | | | Source Type | AM241BE | | |
| Length | 8" | LSA [Y/N] | | | | Serial No. | 5471GW | | | Serial No. | DSN-424 | | |
| Distance to Source | N/A | FWDA [Y/N ] | | | | Strength | 1.78 Ci | | | Strength | 15.0 Ci | | |

LOGGING DATA

| GENERAL | | | | GAMMA | | ACOUSTIC | | DENSITY | | NEUTRON | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Depth | | Speed | Scale | | Scale | | Matrix | | Matrix |
| Run No. | | From | To | ft/min | L R | | L R | | L R | | |
| ONE | TD | | CSG | REC | 150 | | 30 | | 30 | | LIME |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ONE | TD | CSG | REC | 0 | 150 | 30 | -10 | 47.6 uSec/ft | 30 | -10 | 2.71 gr/cc | 30 | -10 | LIME |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

DIRECTIONAL INFORMATION

| Maximum Deviation @ | KOP @ |
|---|---|

Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING

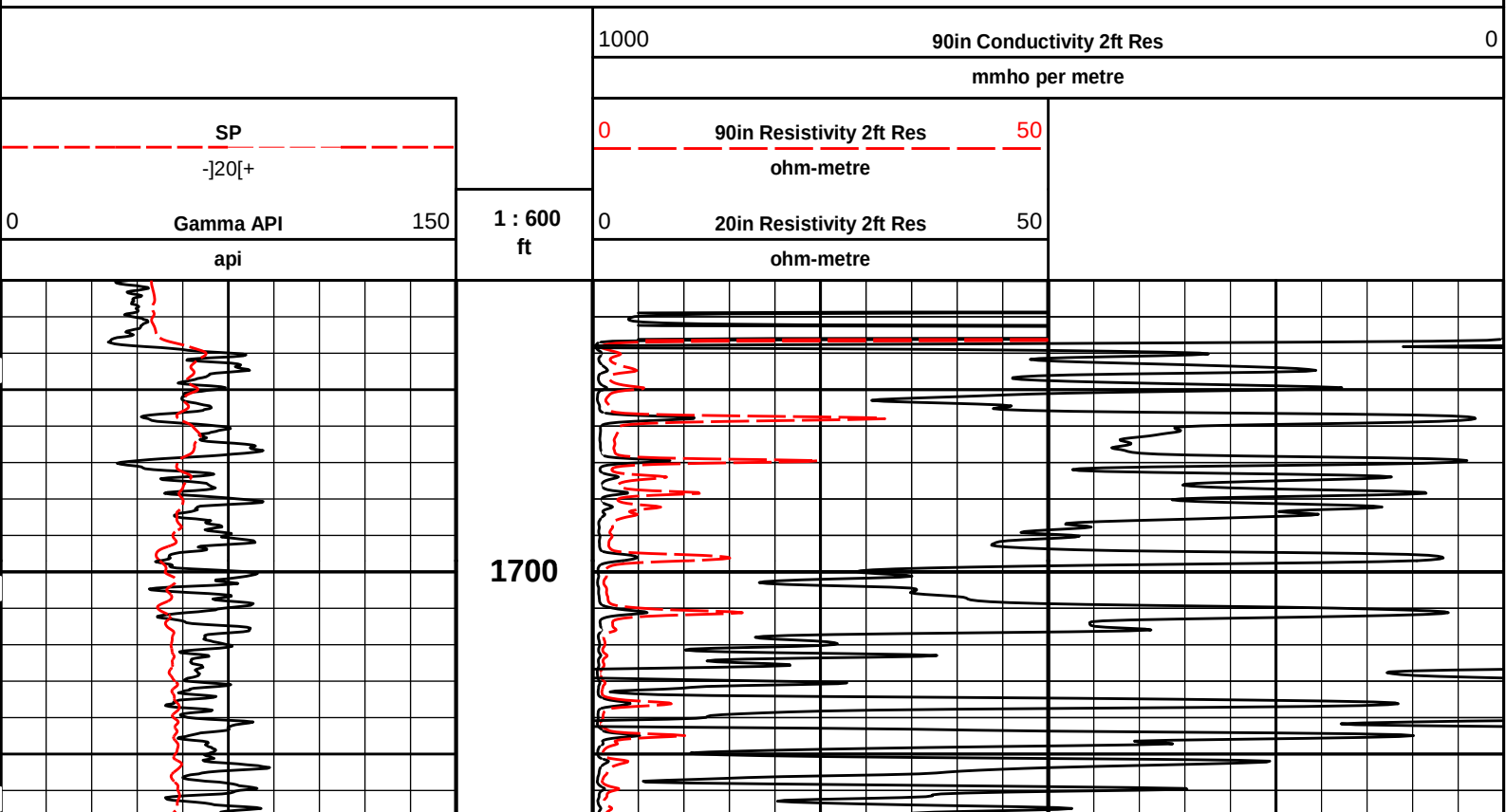


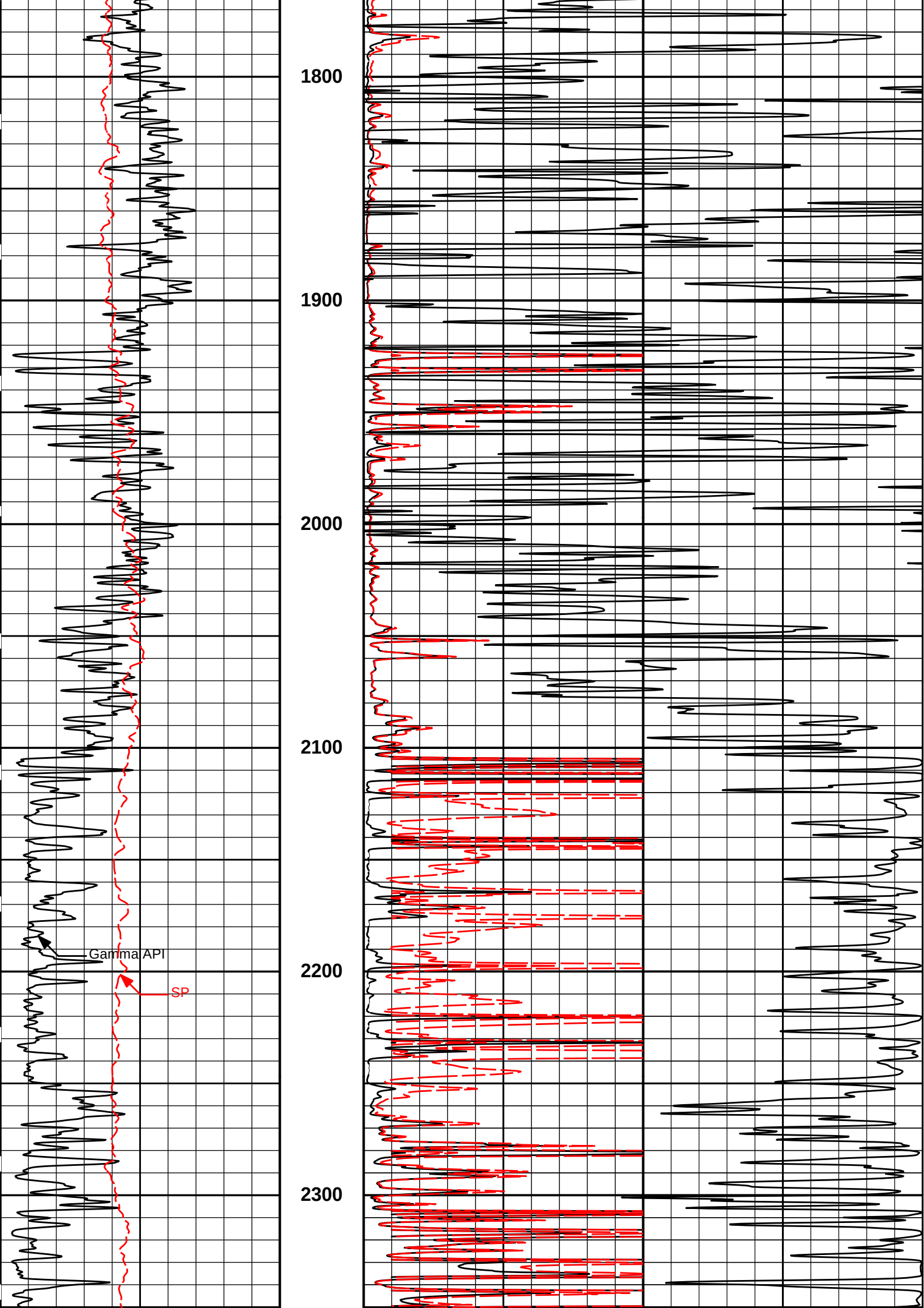
HALLIBURTON

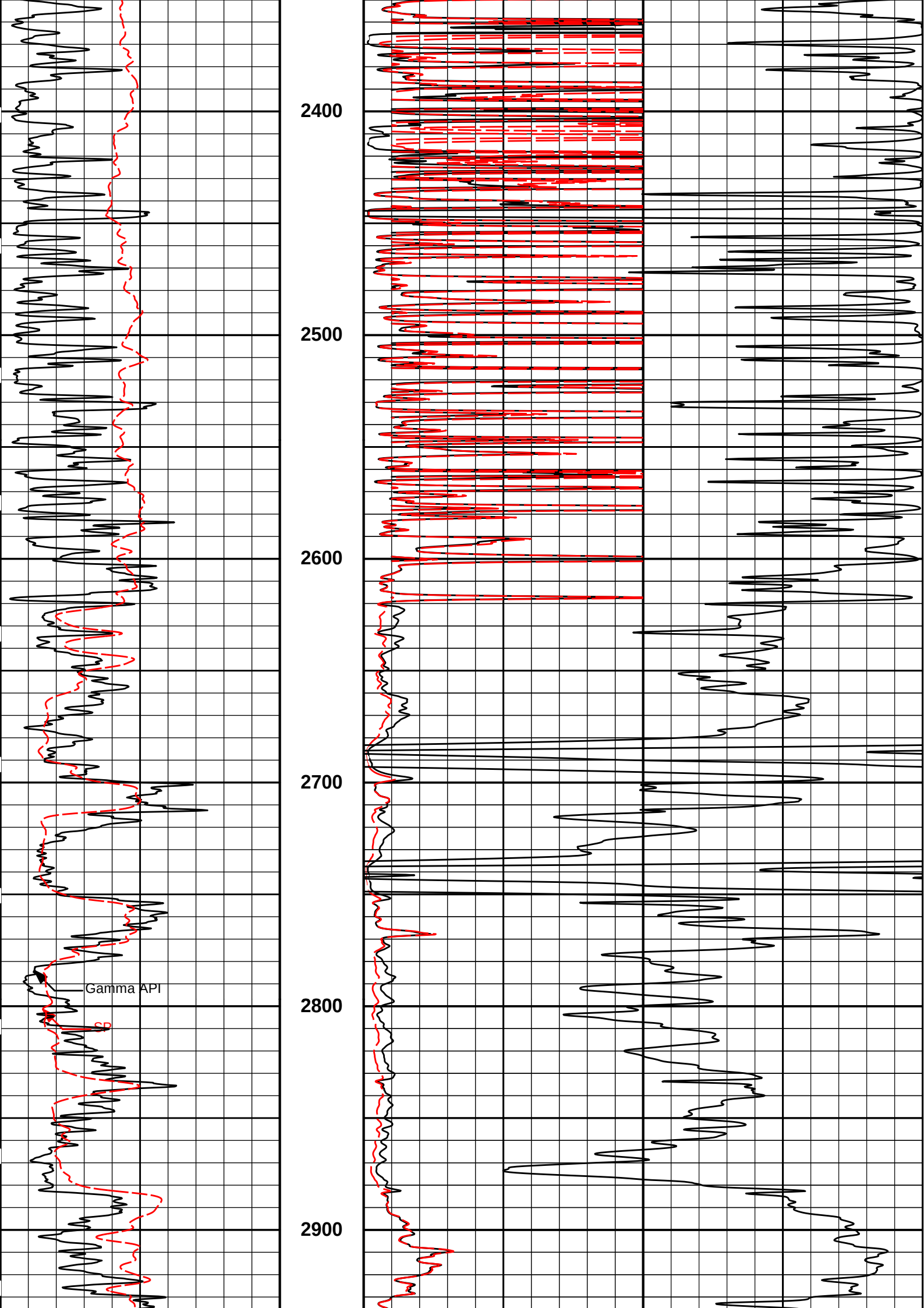
**Plot Time: 12-Jul-18 17:55:49**
**Plot Range: 1620 ft to 5874.75 ft**
**Data: THORP_1-26R\Well Based\MAIN**
**Plot File: \\-LOCAL-\THORP_1-26R\Well Based\ACRT\ACRT_2_main**

# 2 INCH MAIN LOG

# 2 INCH MAIN LOG




1800
1900
2000
2100
2200
2300
Gamma API
SP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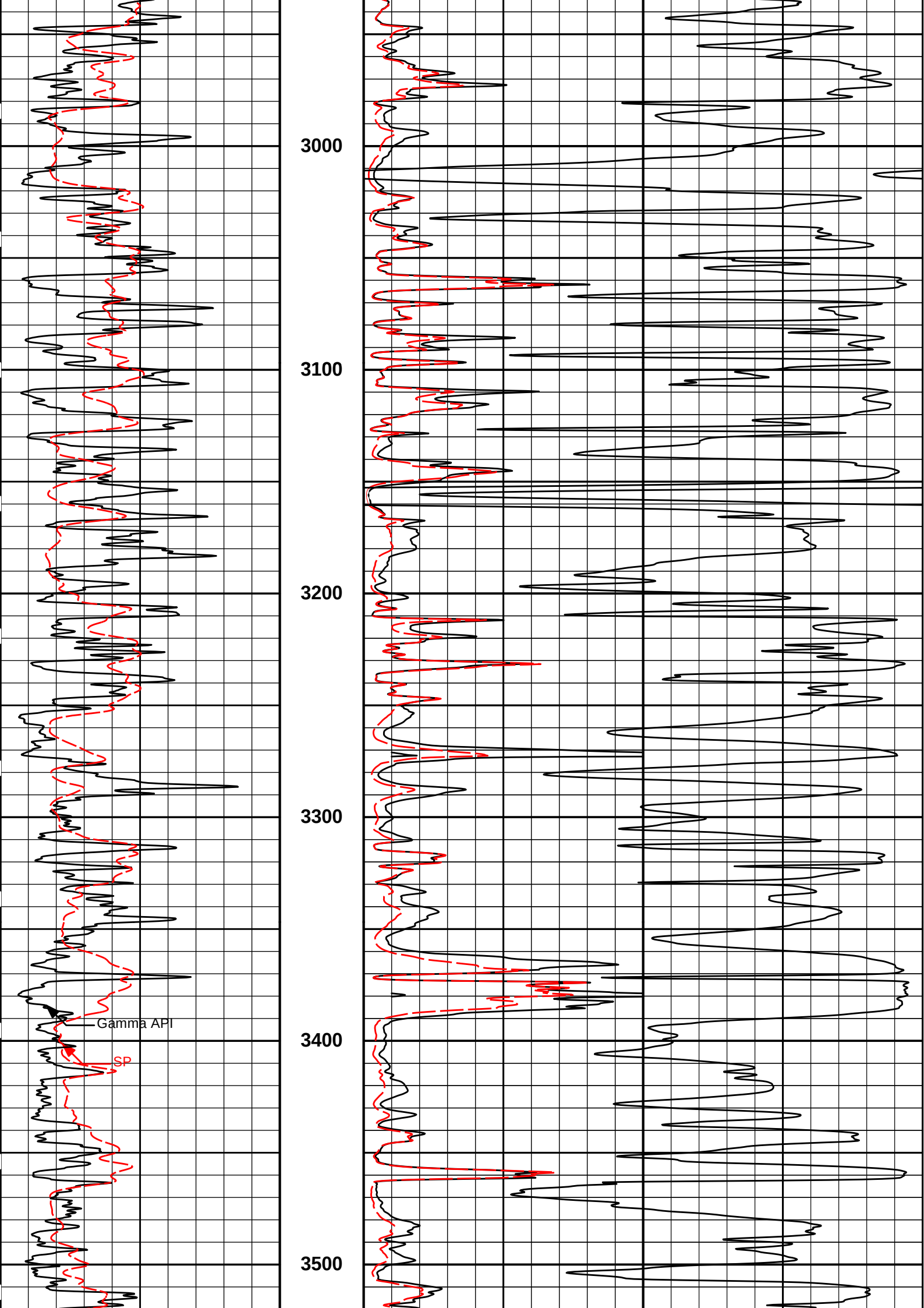
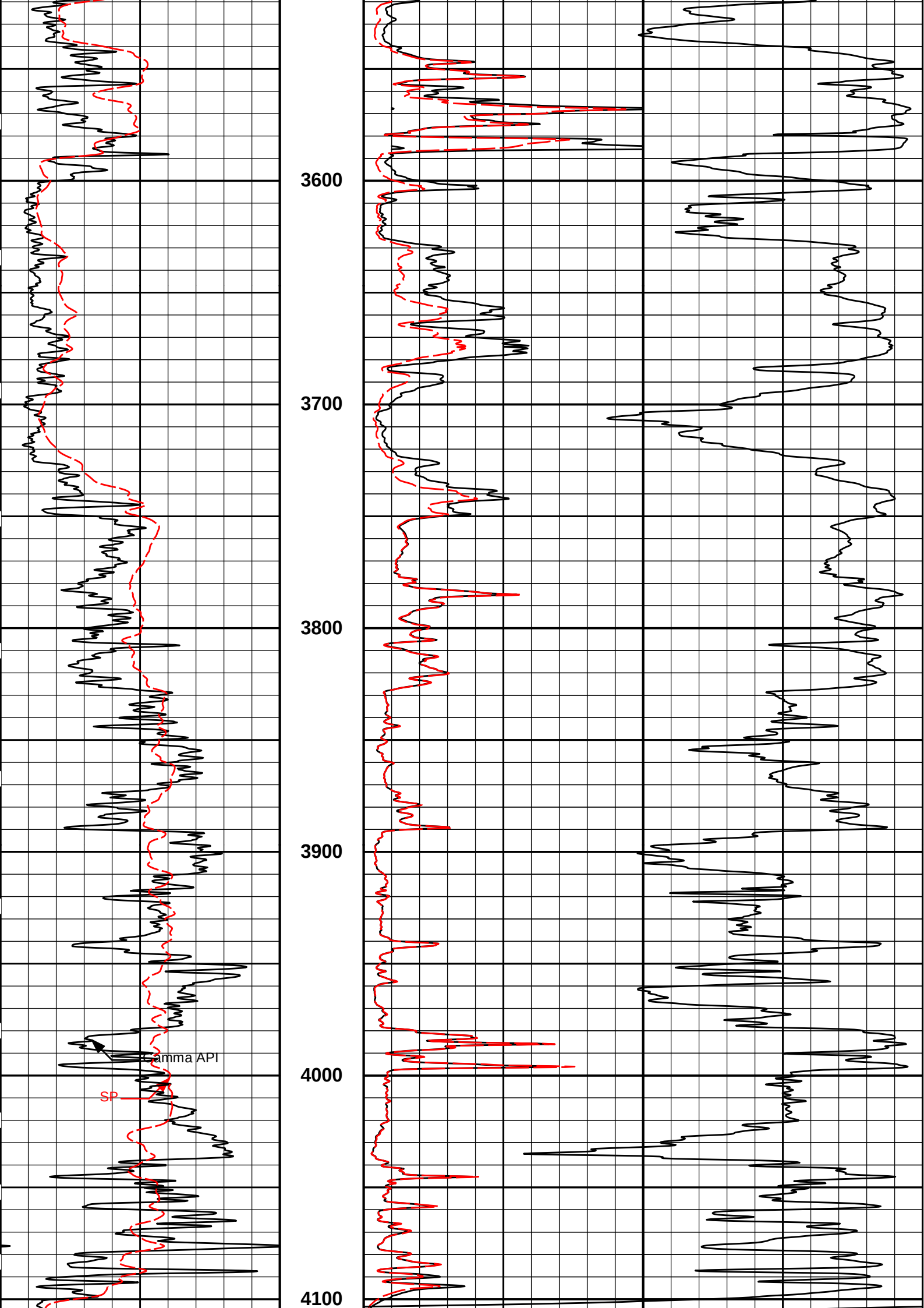
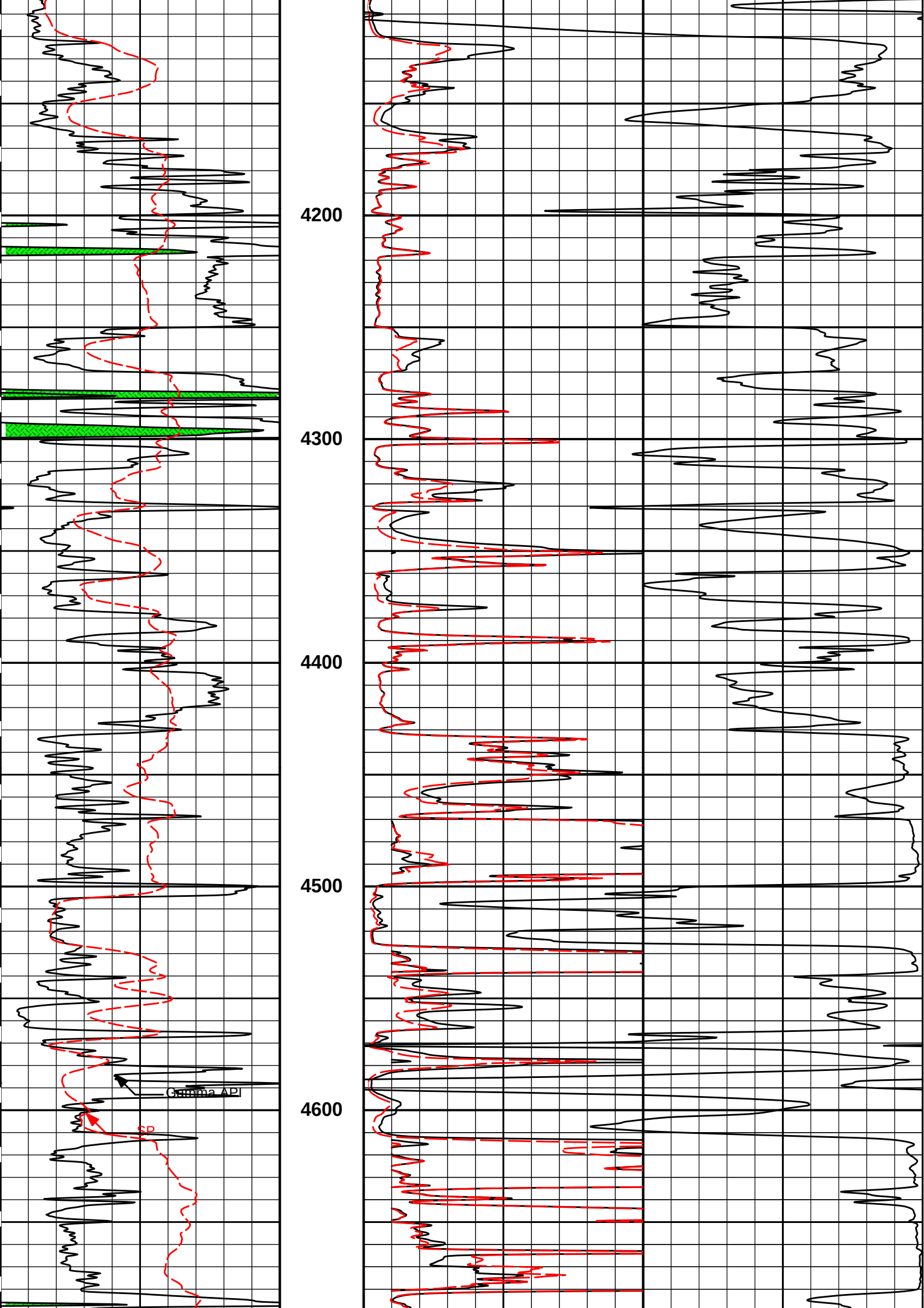
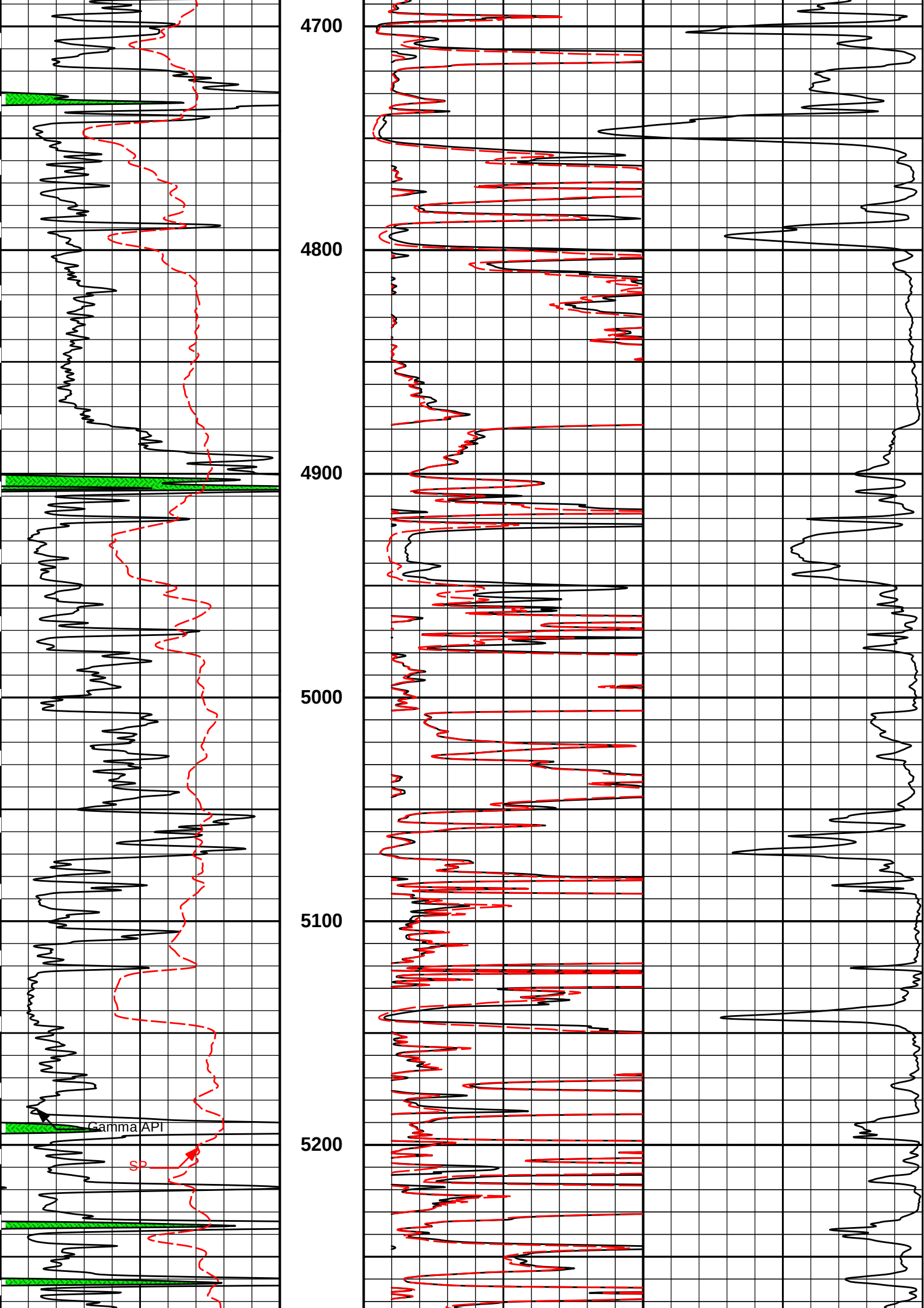
2500
2600
2700
2800
2900
Gamma API
SP


3000
3100
3200
3300
3400
3500
Gamma API
SP


3600
3700
3800
3900
4000
4100
Gamma API
SP


4200
4300
4400
4500
4600
Gamma API
SP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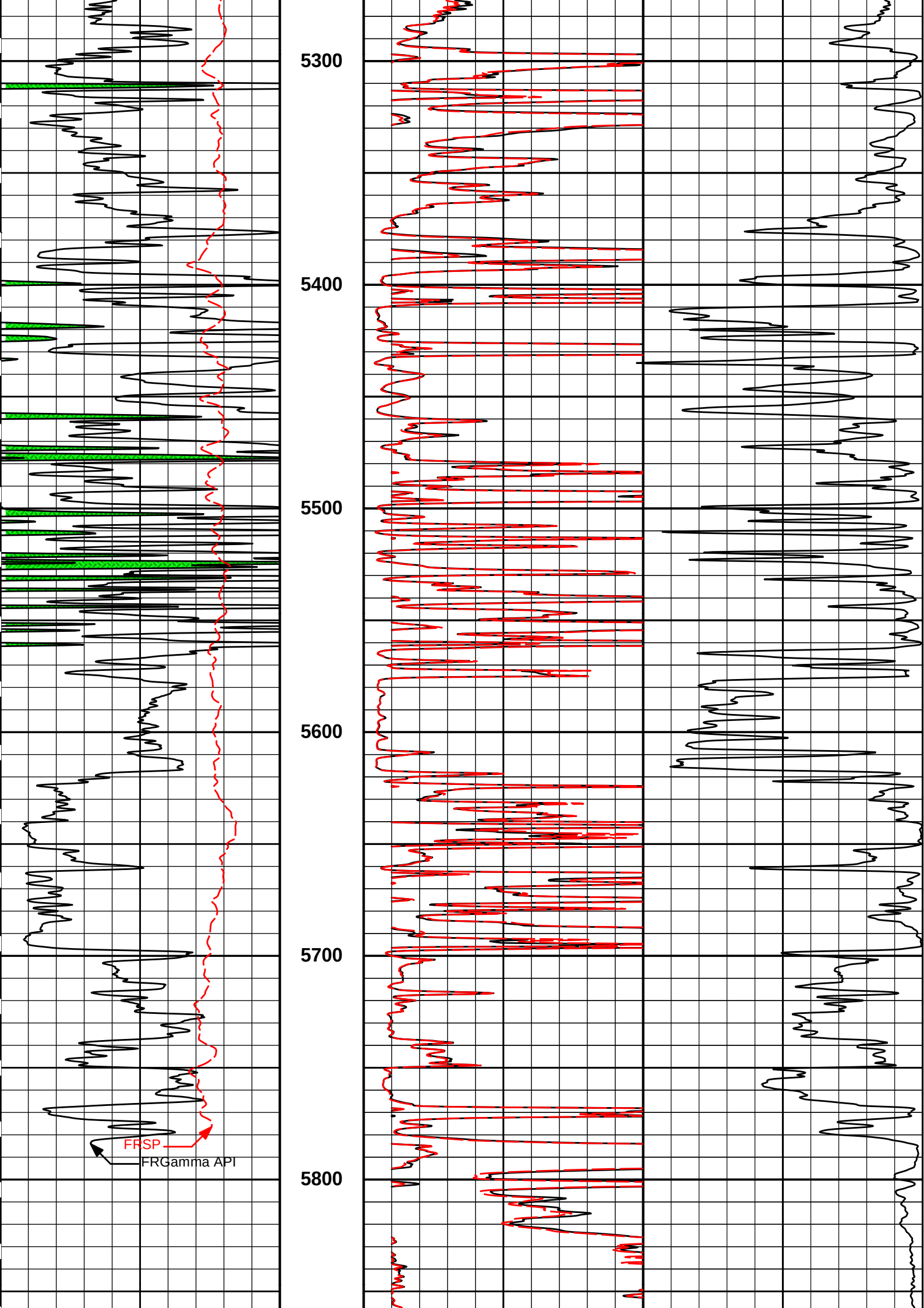
4800
4900
5000
5100
5200
Gamma API
SP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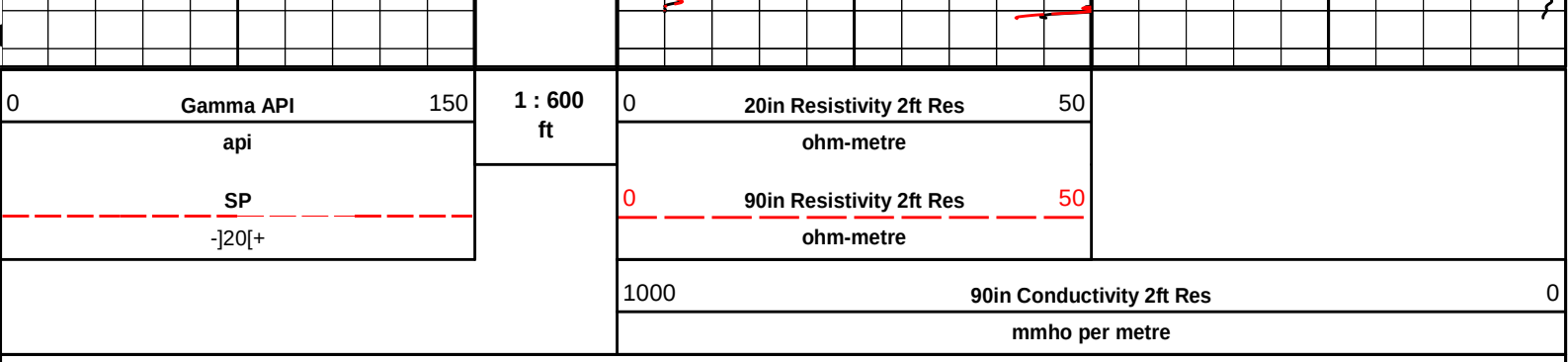
5400
5500
5600
5700
5800
FRSP
FRGamma API




HALLIBURTON

Plot Time: 12-Jul-18 17:55:52
Plot Range: 1620 ft to 5874.75 ft
Data: THORP_1-26R\Well Based\MAIN\
Plot File: \\-LOCAL-\THORP_1-26R\Well Based\ACRT\ACRT_2_main

# 2 INCH MAIN LOG

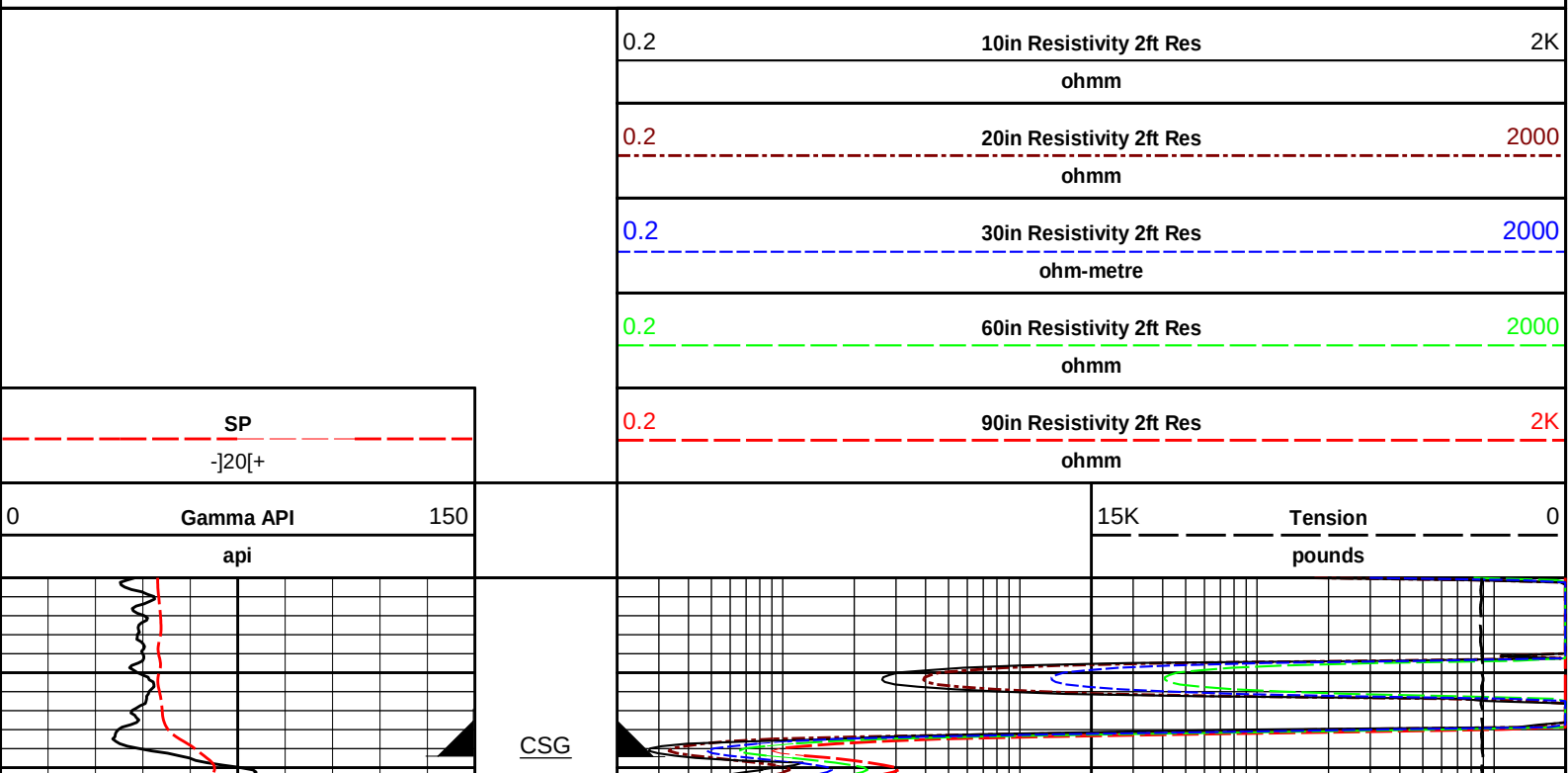

# 2 INCH MAIN LOG

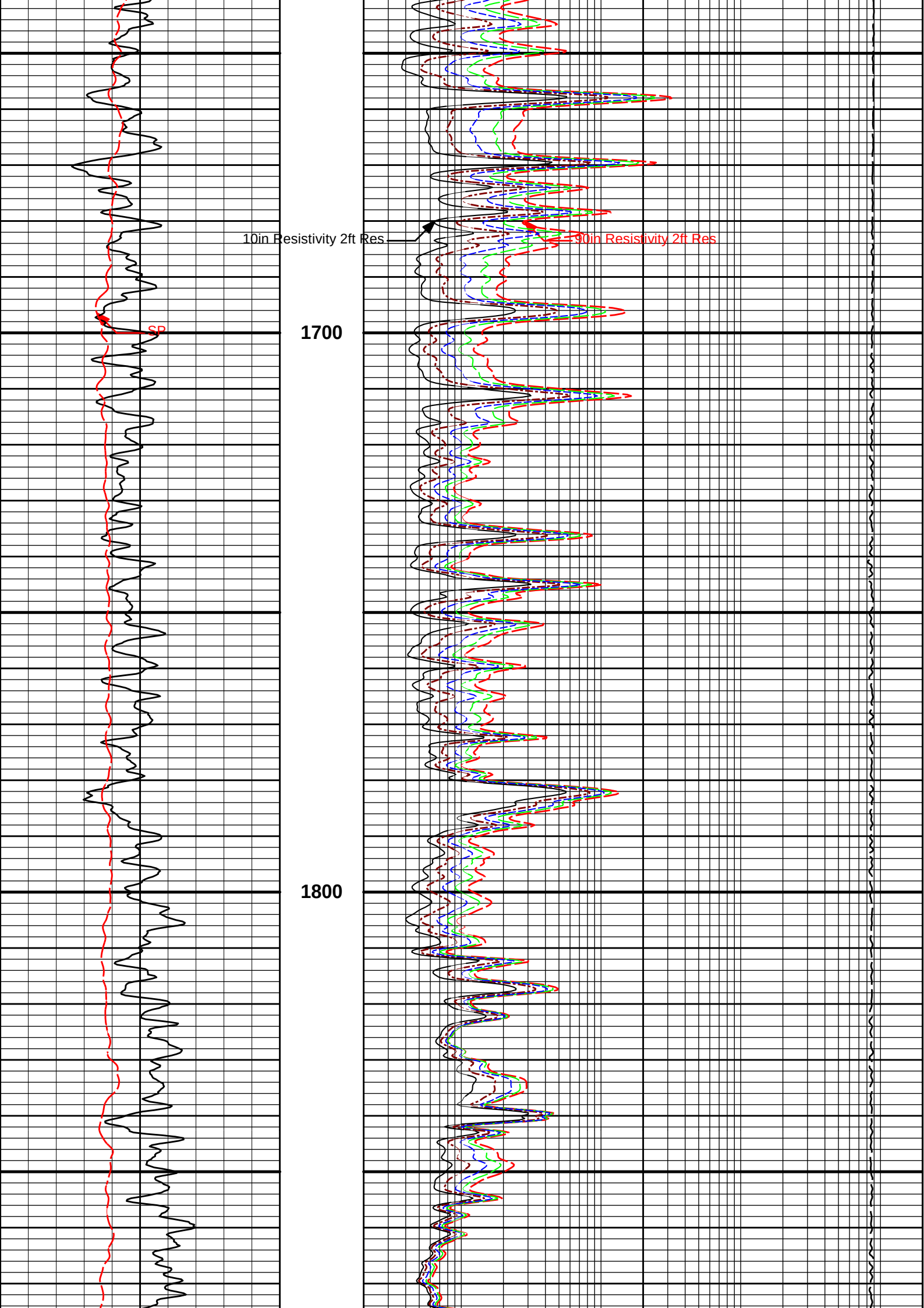

HALLIBURTON

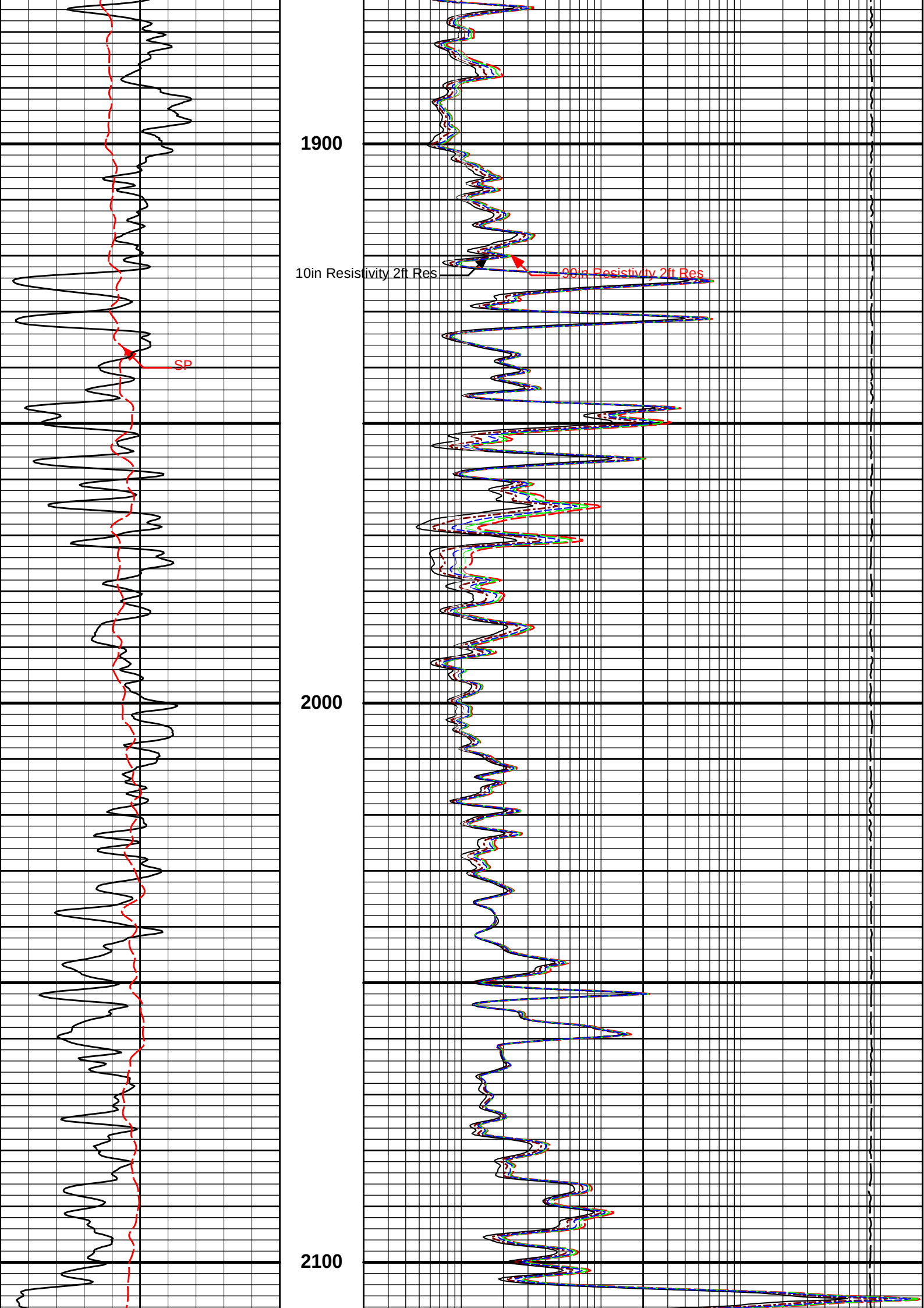
Plot Time: 12-Jul-18 17:55:52
Plot Range: 1620 ft to 5874.75 ft
Data: THORP_1-26R\Well Based\MAIN\
Plot File: \\-LOCAL-\THORP_1-26R\Well Based\ACRT\ACRT_5inch_main

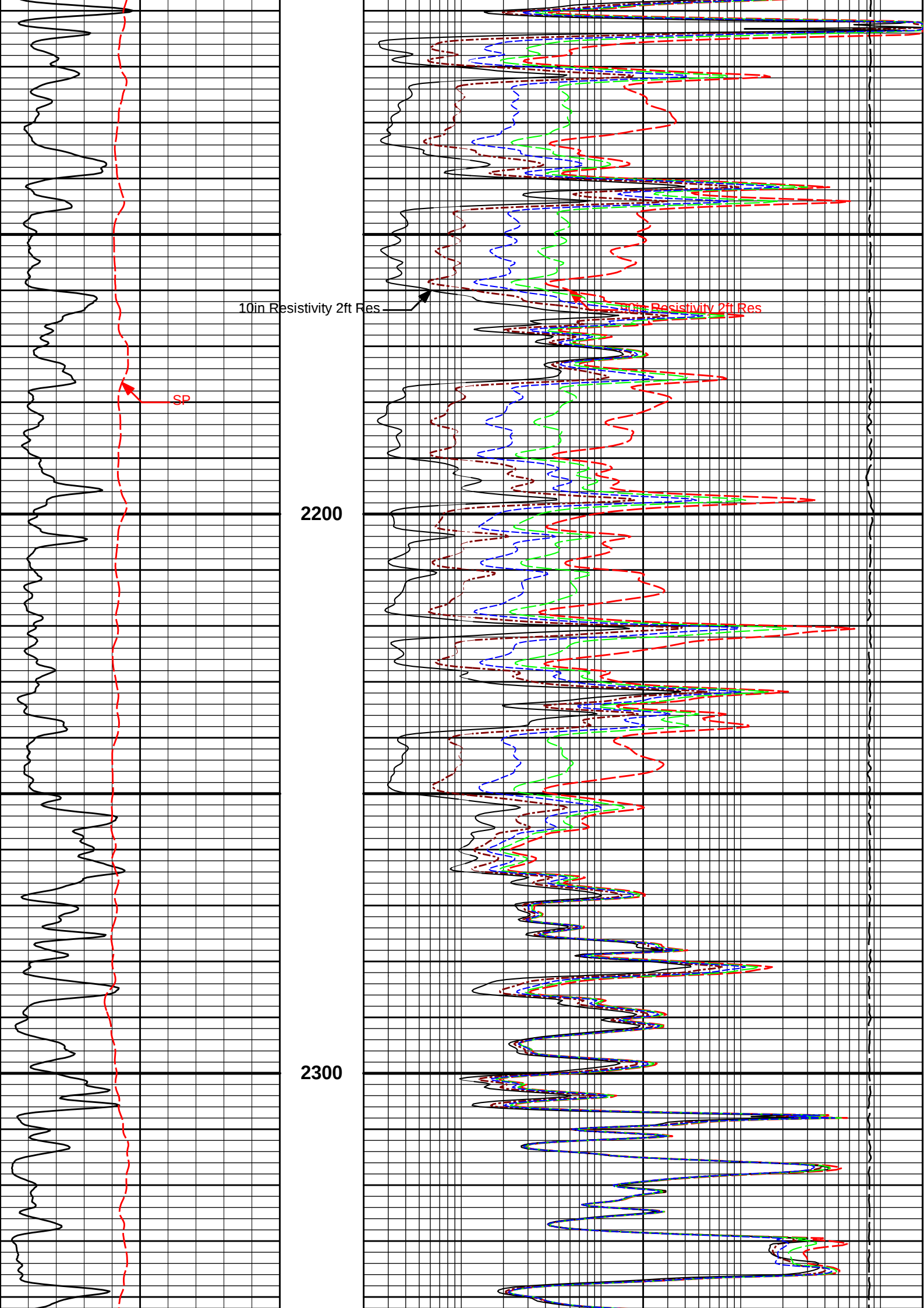
# 5 INCH MAIN LOG

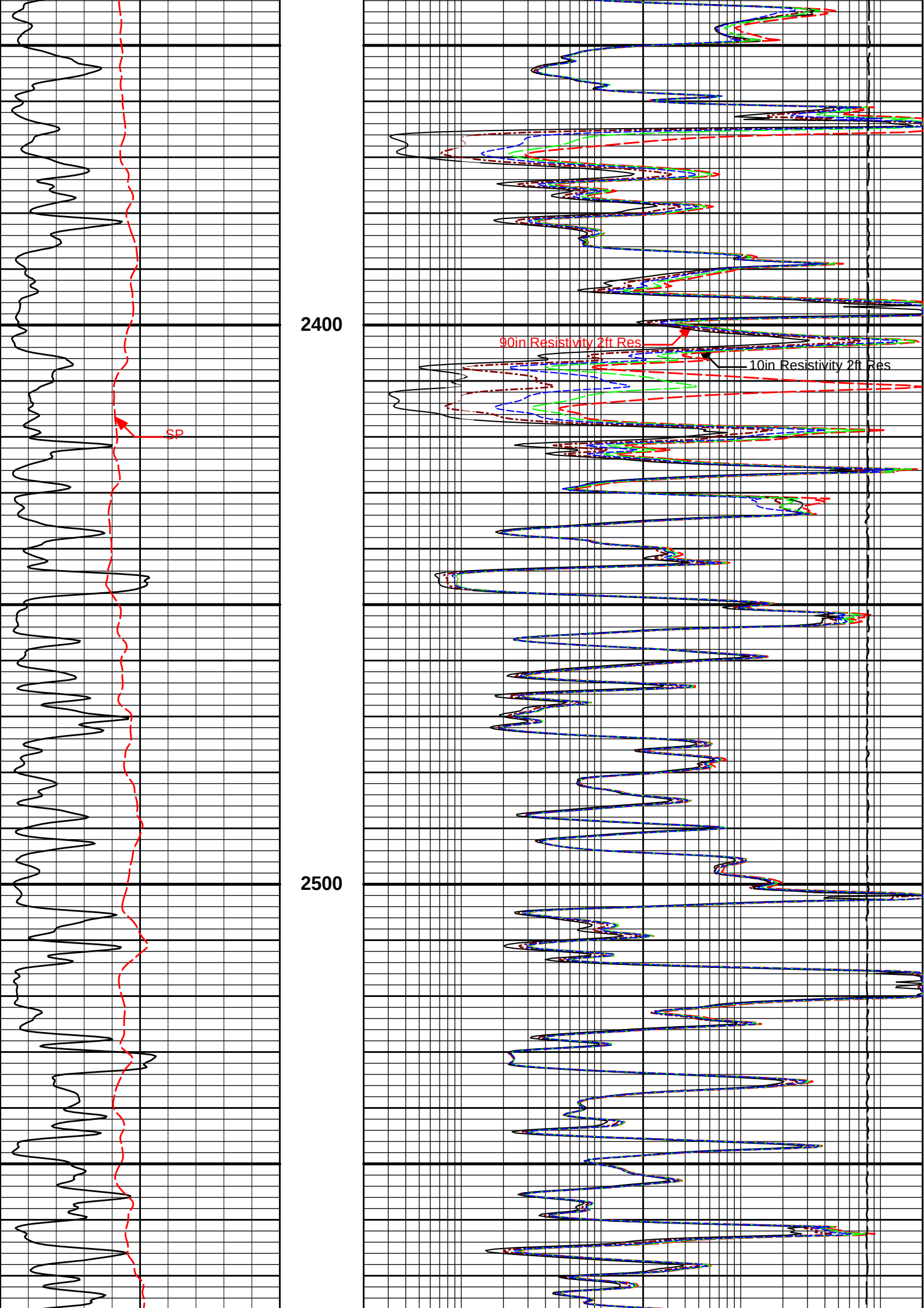

# 5 INCH MAIN LOG

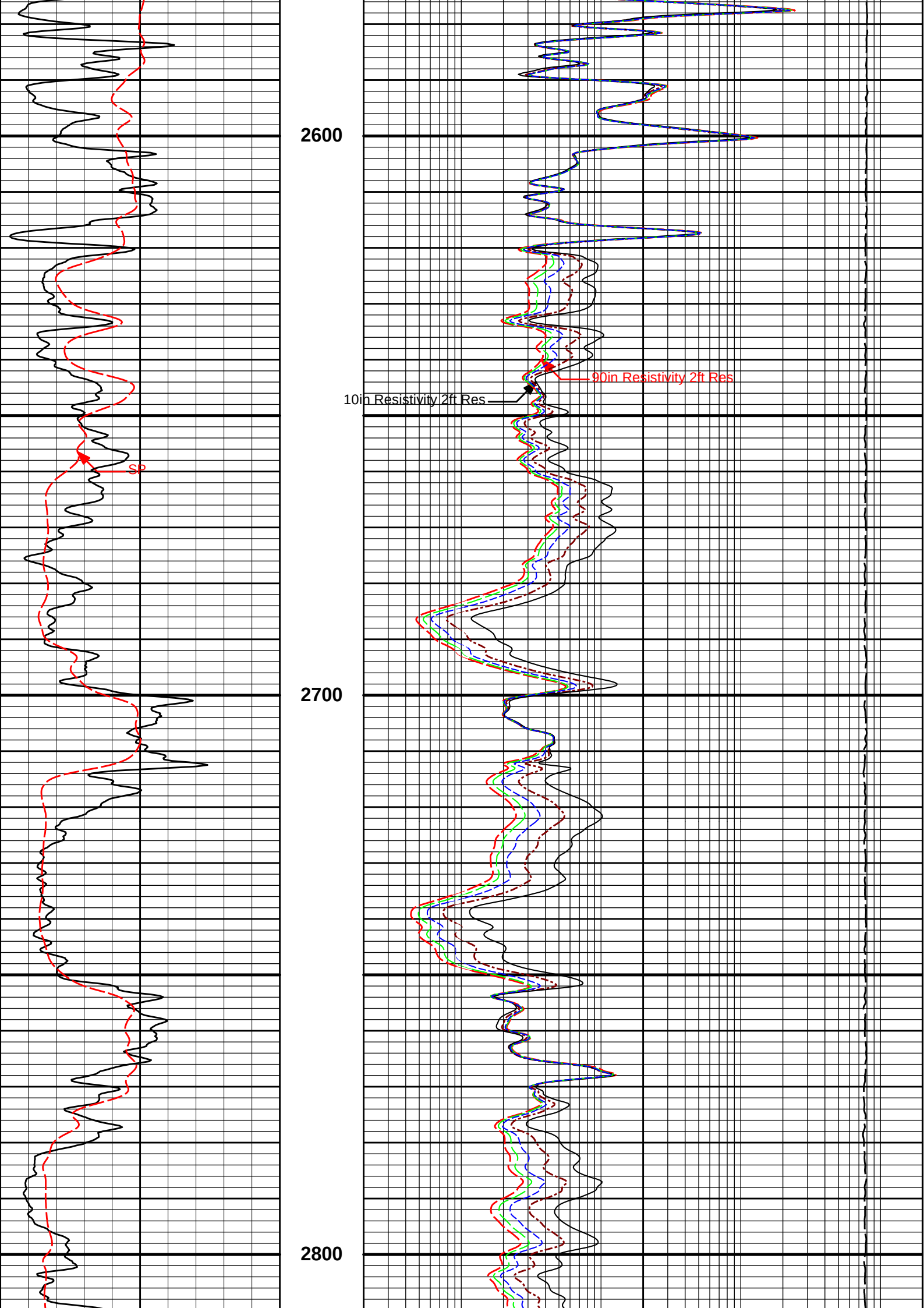



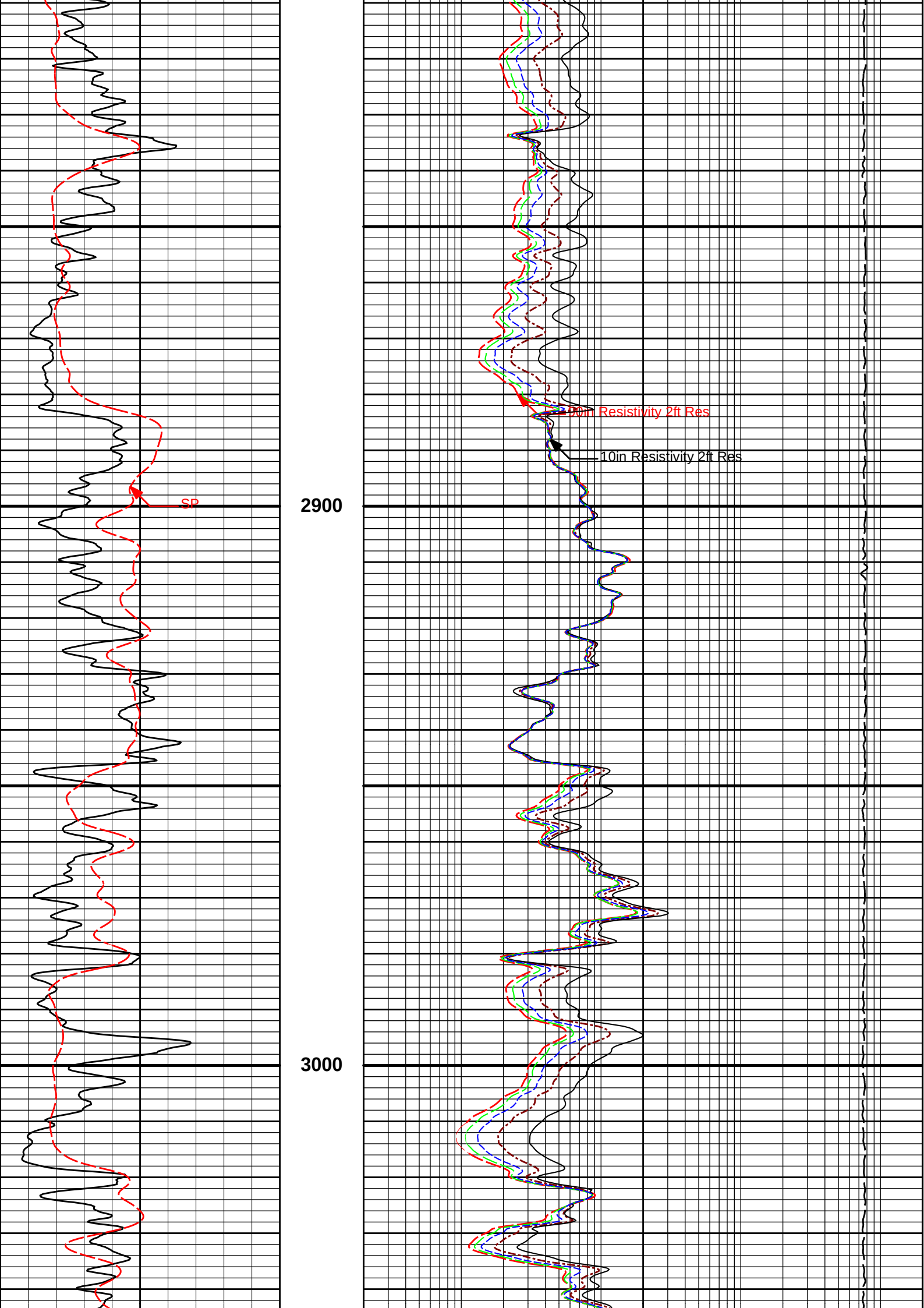

10in Resistivity 2ft Res
90in Resistivity 2ft Res
SP
1700
1800

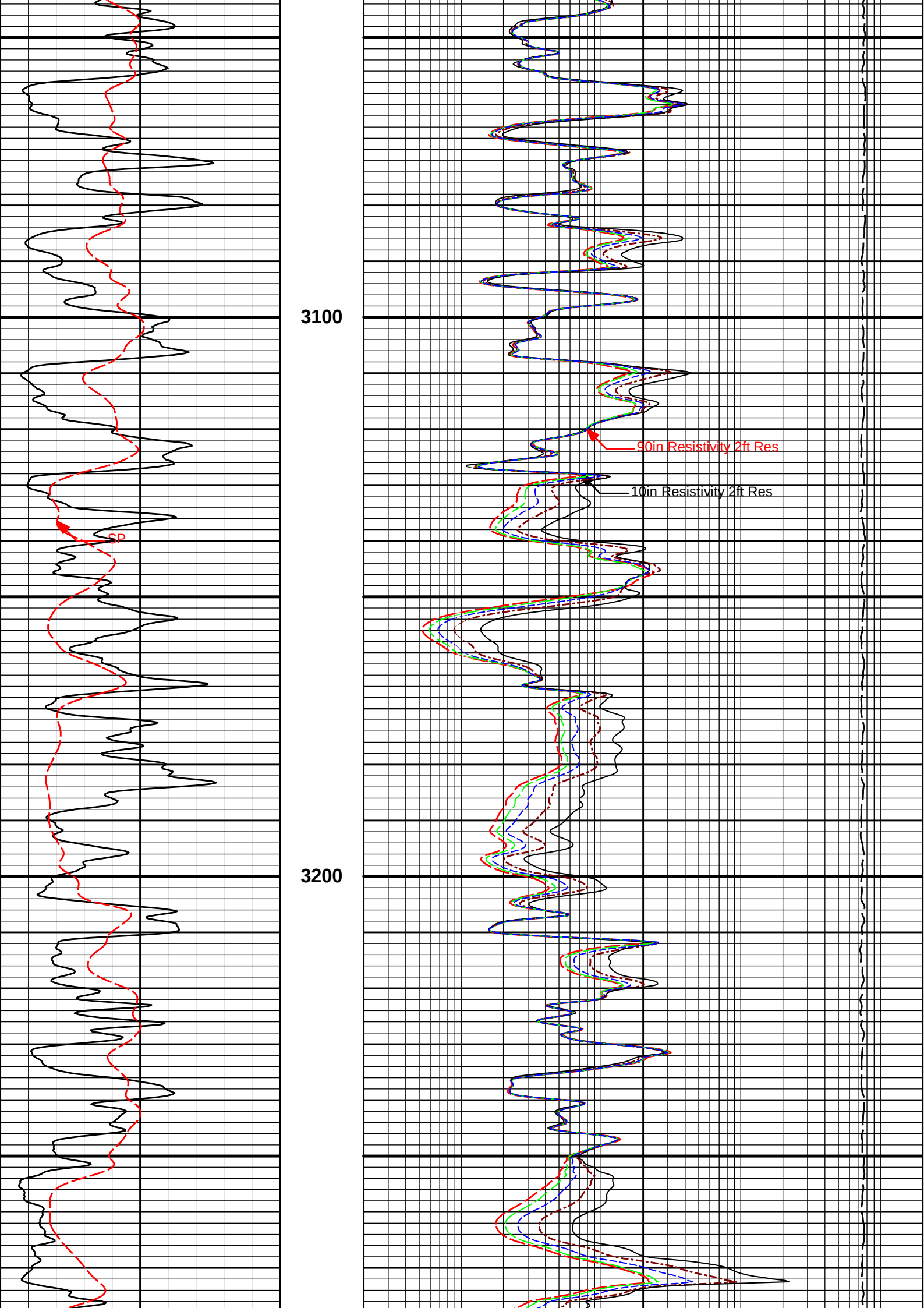

1900
10in Resistivity 2ft Res
90in Resistivity 2ft Res
SP
2000
2100

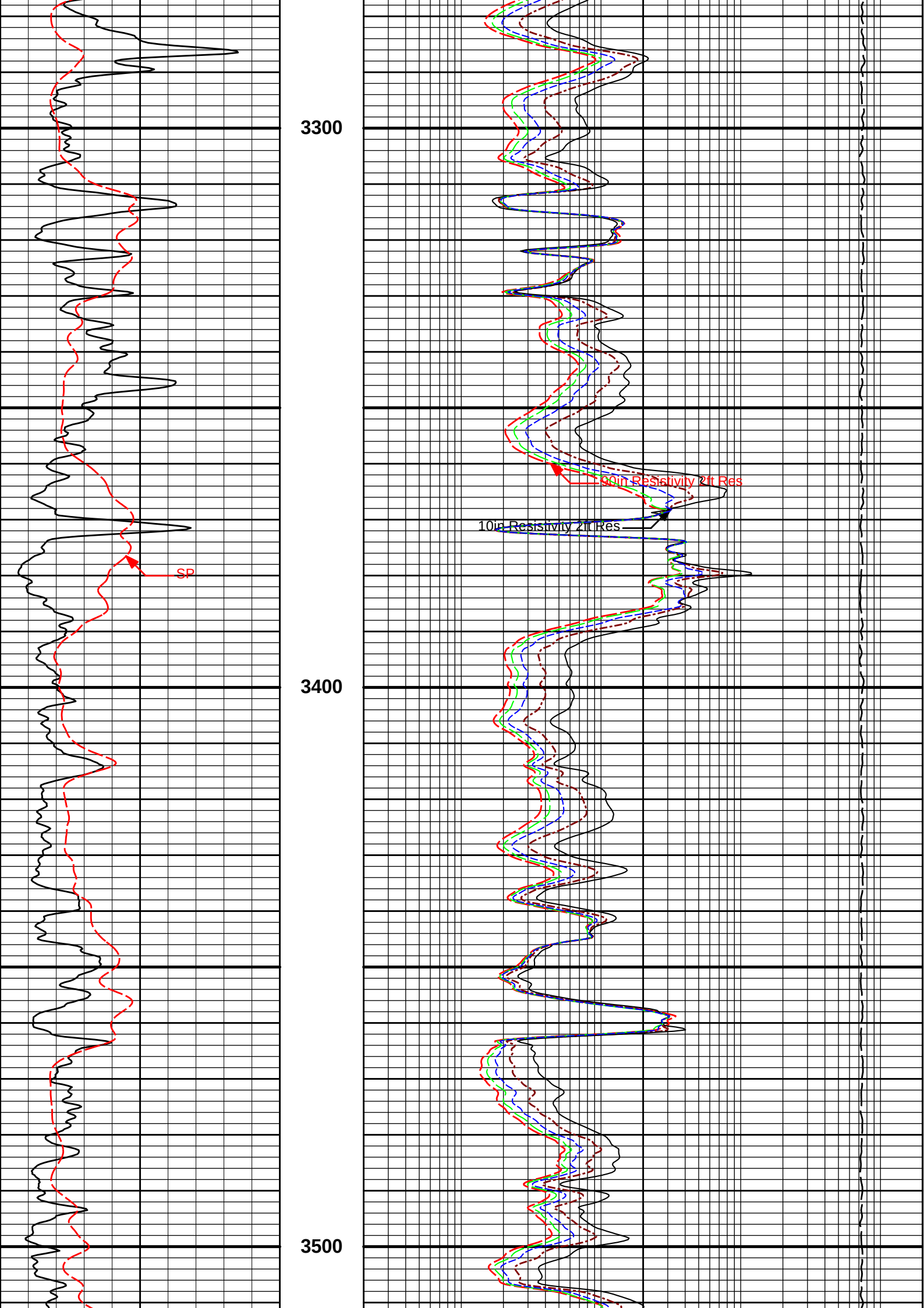

10in Resistivity 2ft Res
90in Resistivity 2ft Res
SP
2200
2300

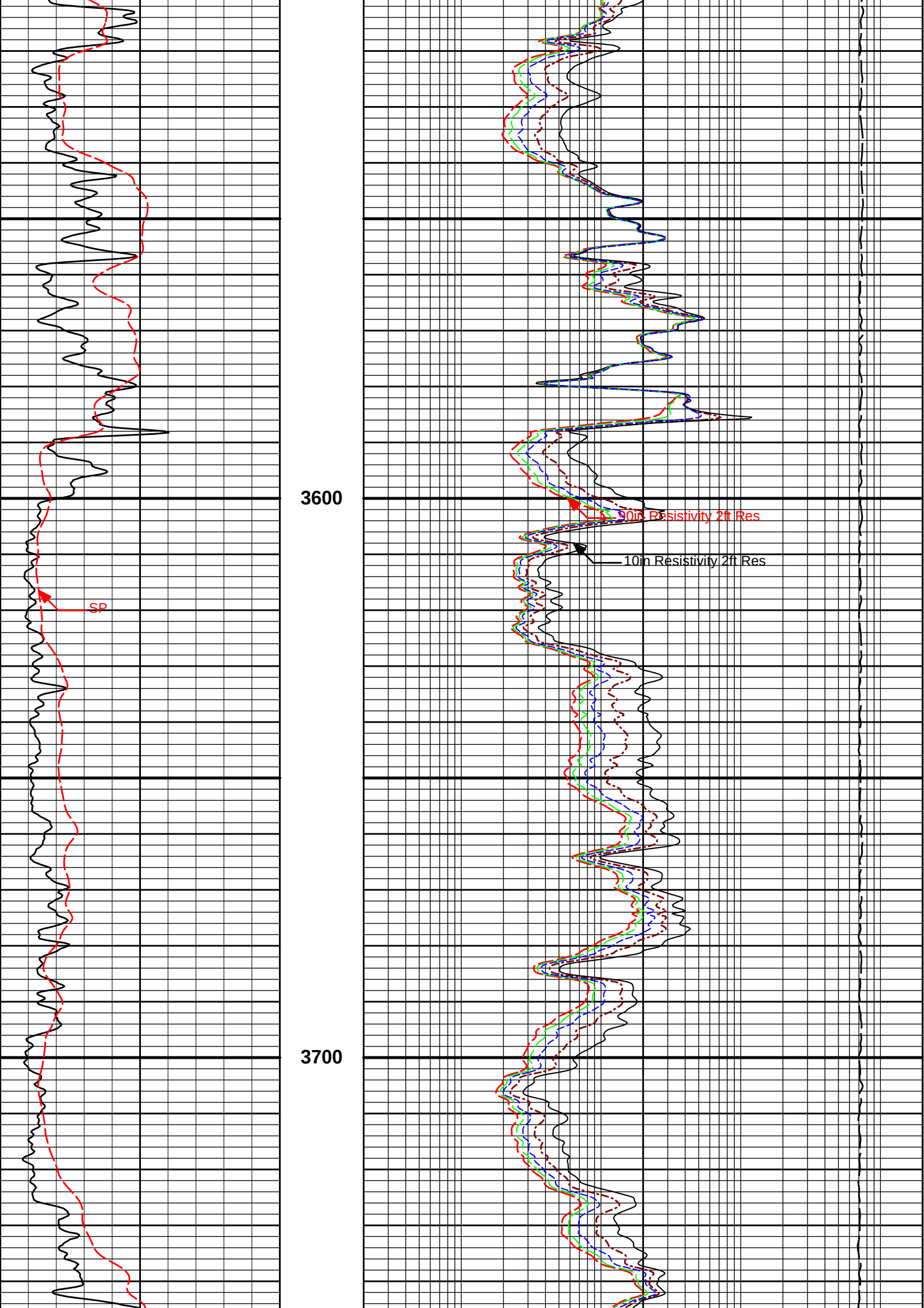

2400
2500
SP
90in Resistivity 2ft Res
10in Resistivity 2ft Res

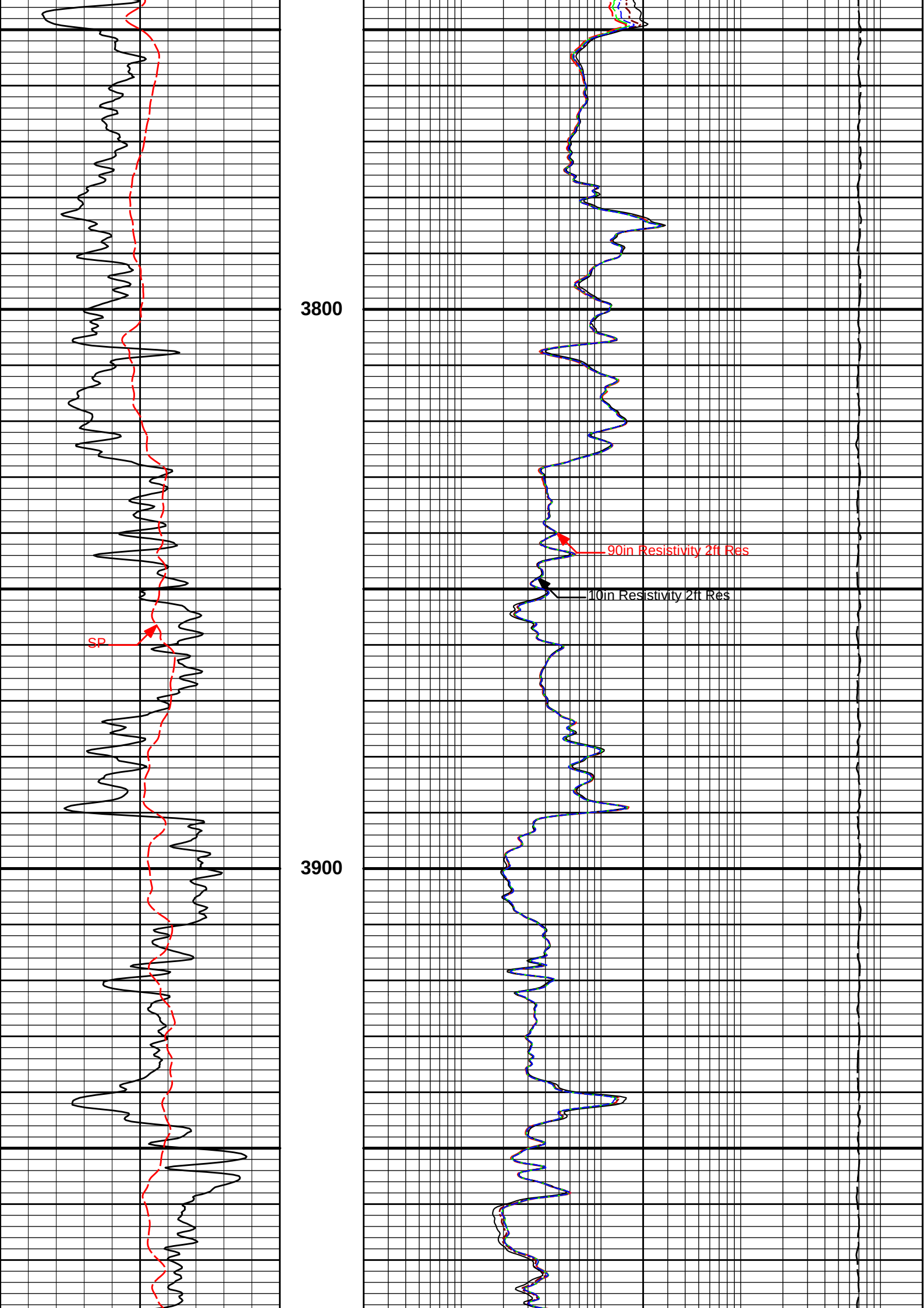

2600
2700
2800
90in Resistivity 2ft Res
10in Resistivity 2ft Res
SP

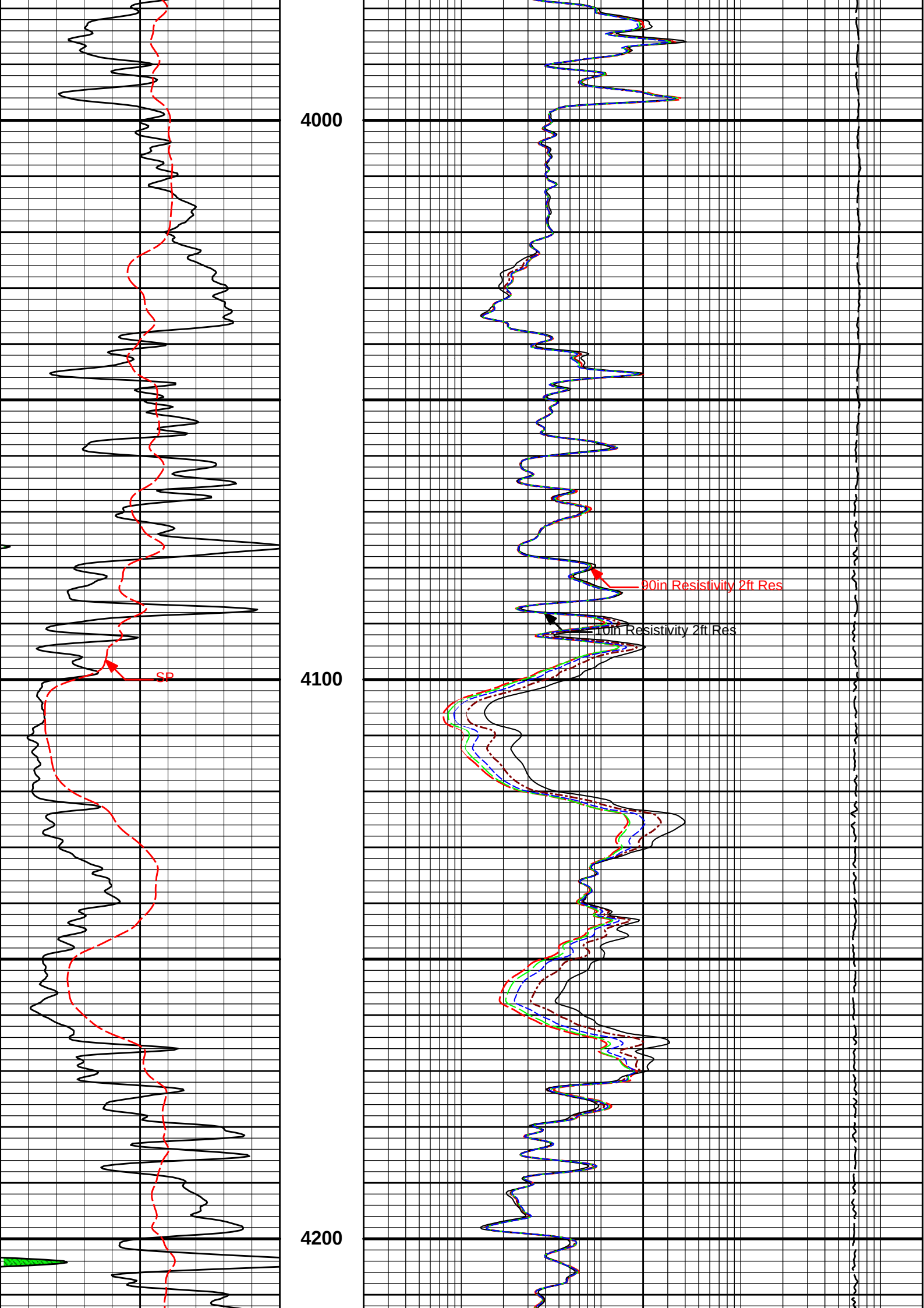

90in Resistivity 2ft Res
10in Resistivity 2ft Res
SP
2900
3000

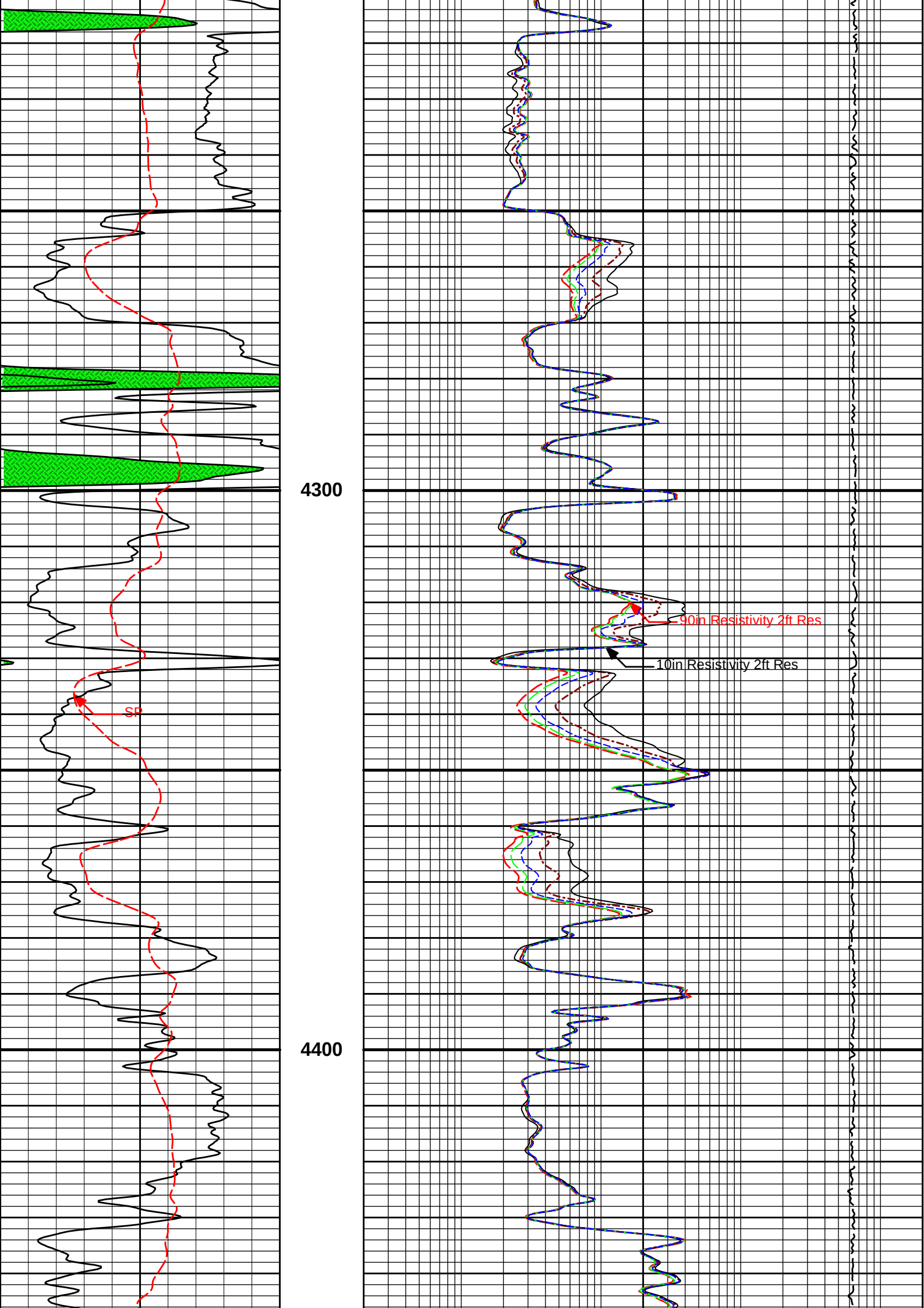

3100
3200
90in Resistivity 2ft Res
10in Resistivity 2ft Res
SP

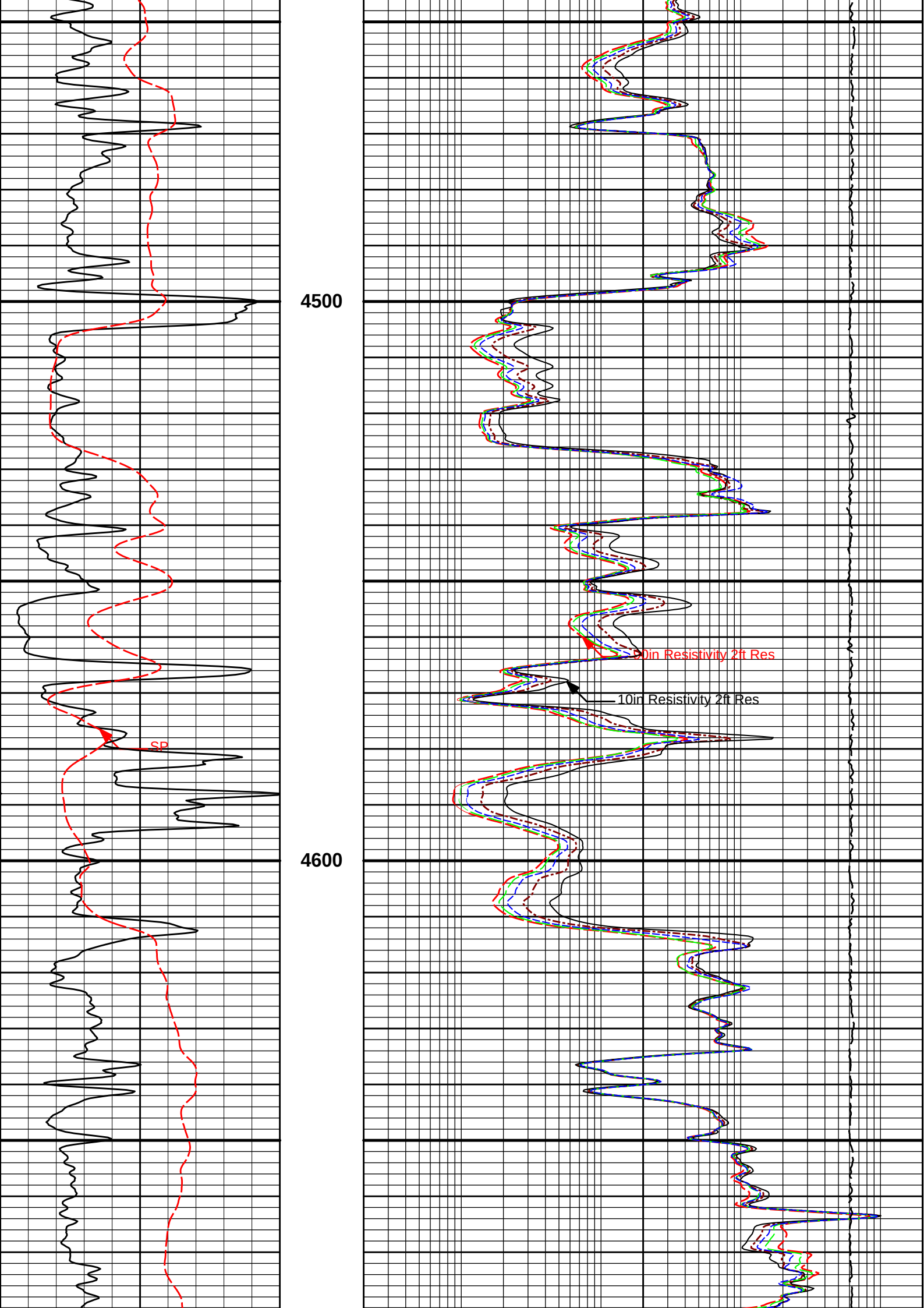

3300
3400
3500
SP
90in Resistivity 2ft Res
10in Resistivity 2ft Res

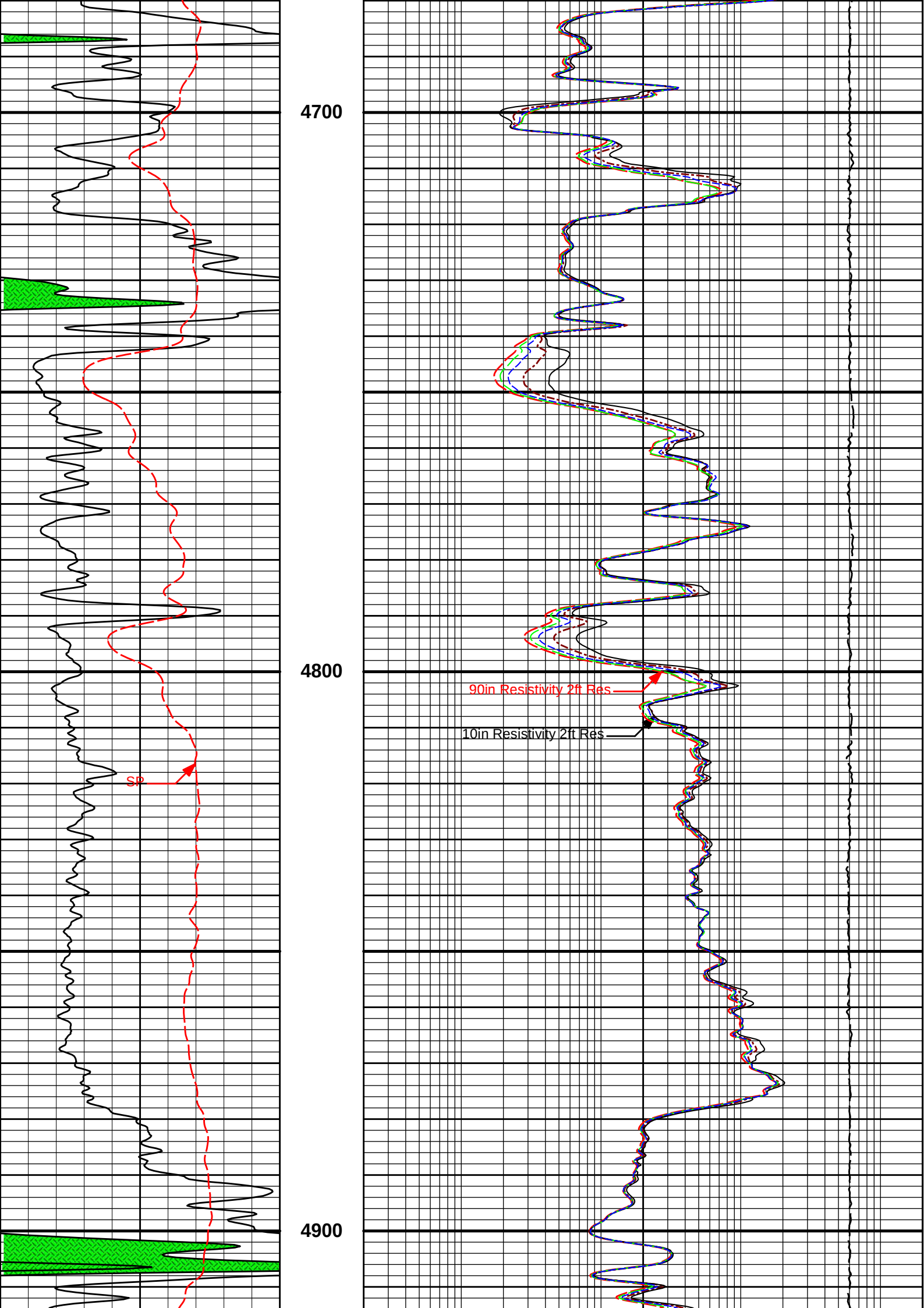

3600
3700
SP
10in Resistivity 2ft Res
10in Resistivity 2ft Res

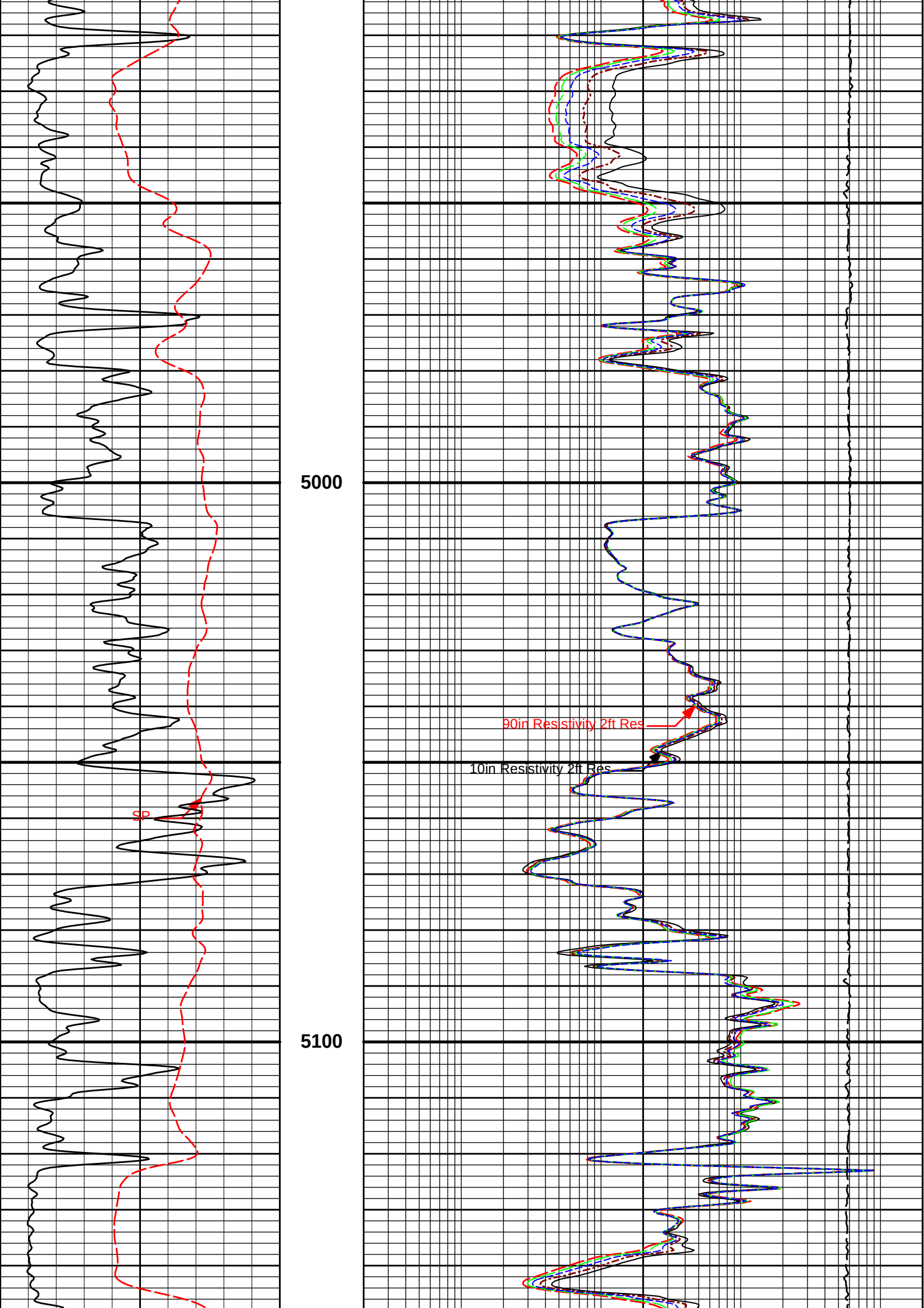

3800
3900
SP
90in Resistivity 2ft Res
10in Resistivity 2ft Res

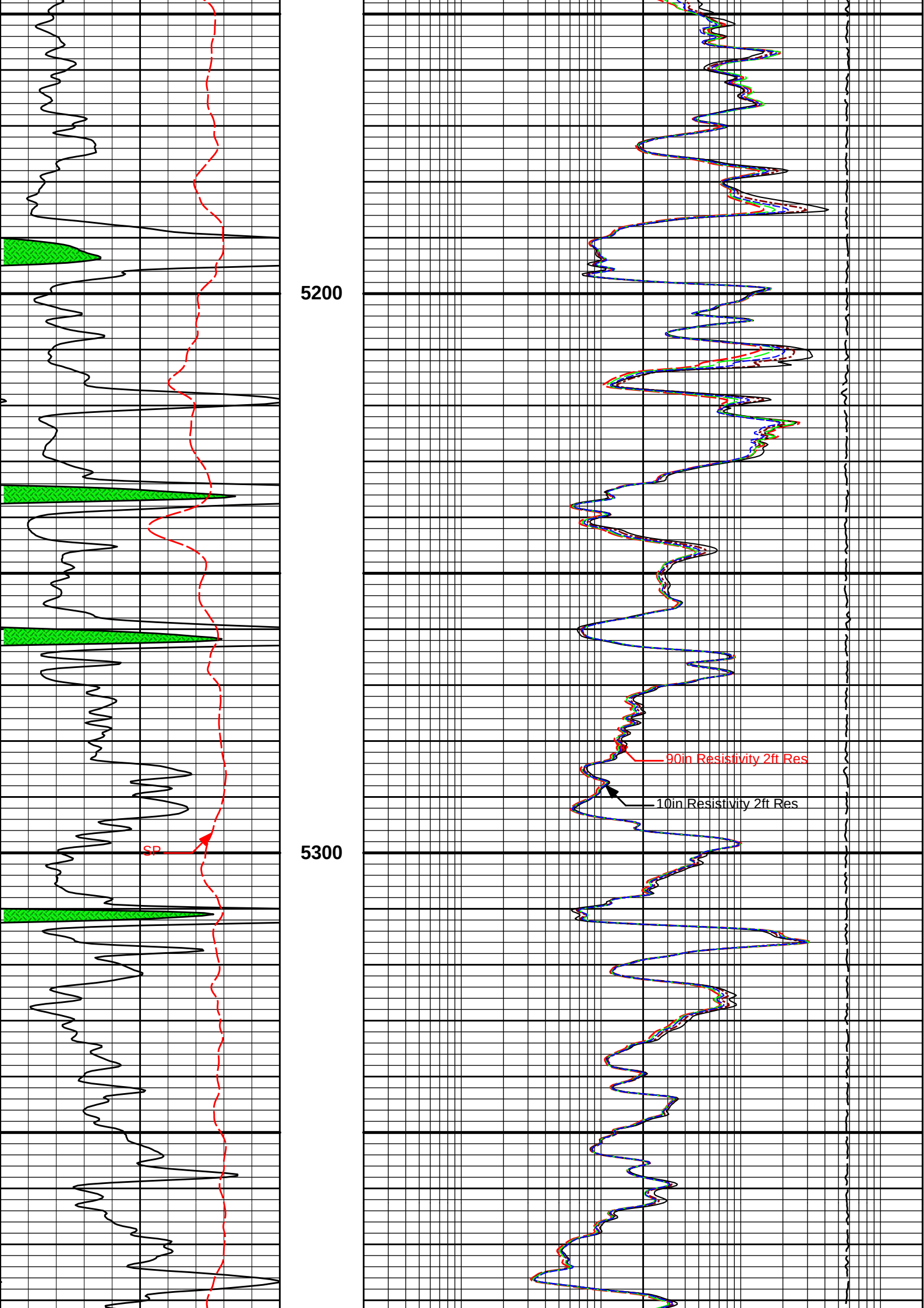

4000
4100
4200
90in Resistivity 2ft Res
10in Resistivity 2ft Res
SP

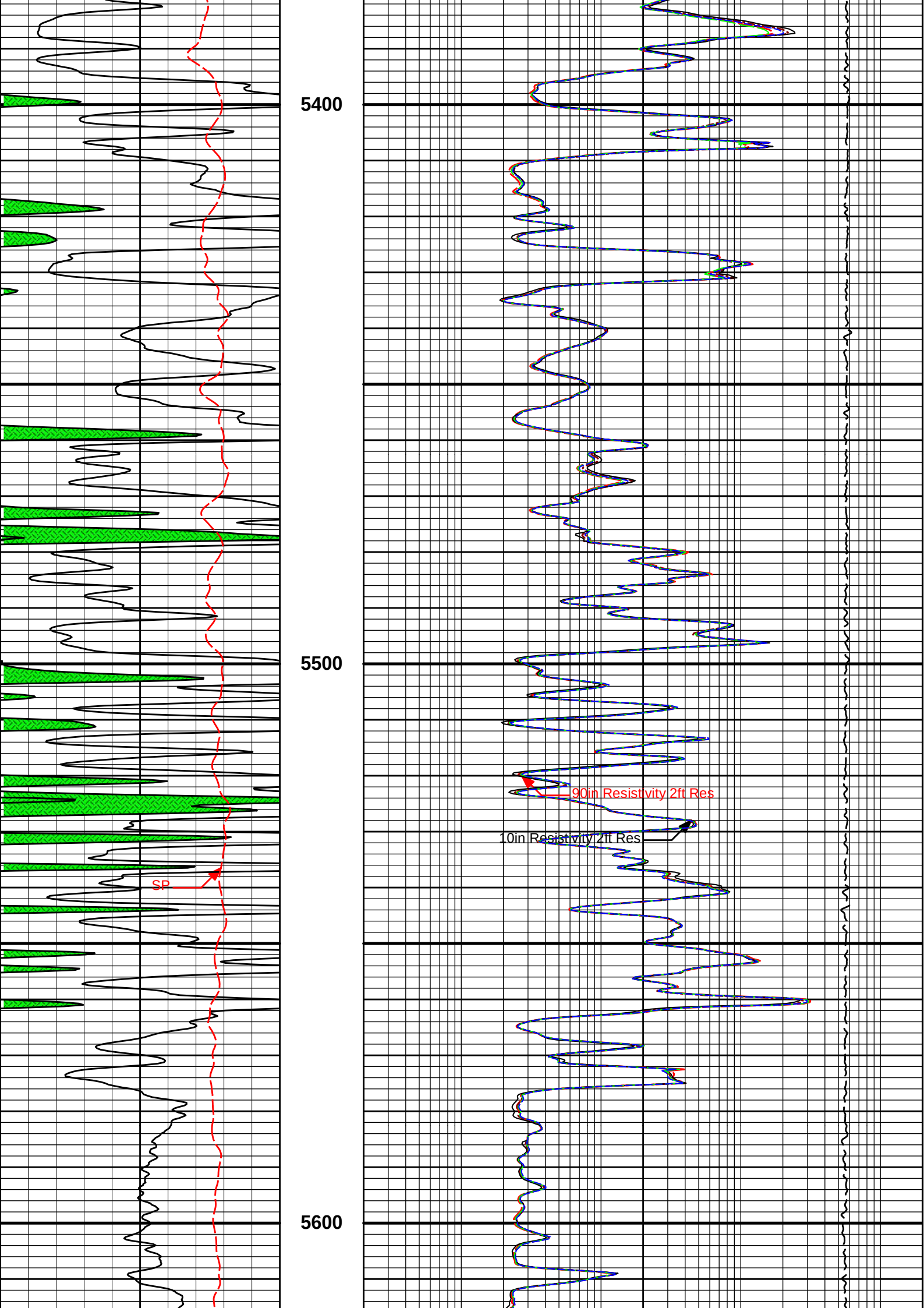

4300
4400
90in Resistivity 2ft Res
10in Resistivity 2ft Res
SP

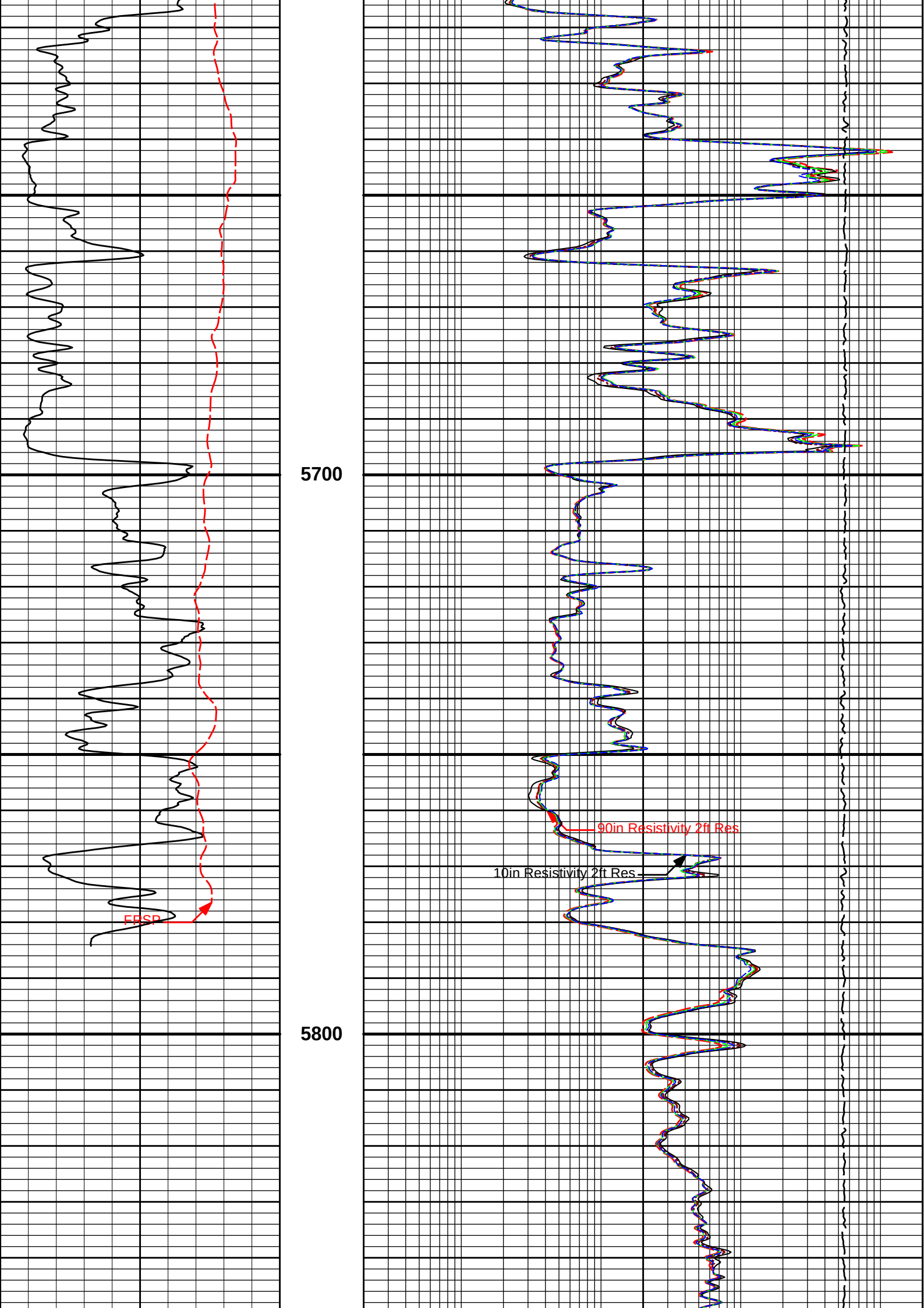

4500
4600
SP
10in Resistivity 2ft Res

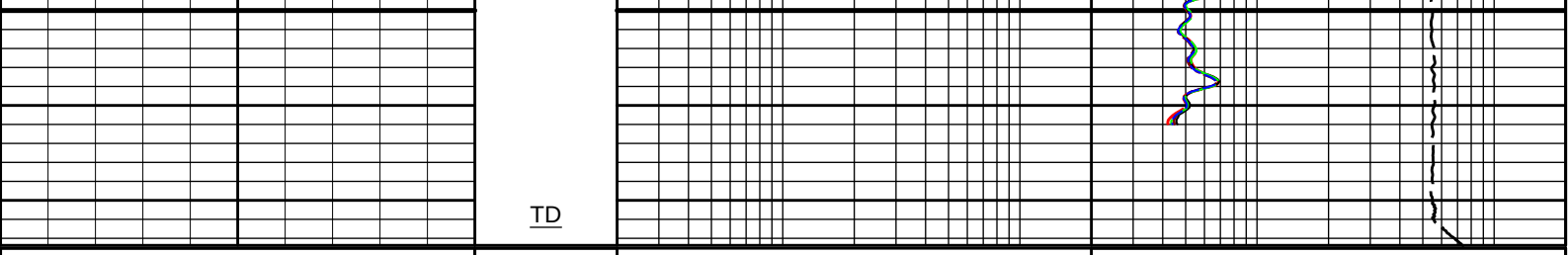

4700
4800
4900
90in Resistivity 2ft Res
10in Resistivity 2ft Res
SP


5000
5100
90in Resistivity 2ft Res
10in Resistivity 2ft Res
SP


5200
5300
SP
90in Resistivity 2ft Res
10in Resistivity 2ft Res


5400
5500
5600
90in Resistivity 2ft Res
10in Resistivity 2ft Res
SP


5700
5800
90in Resistivity 2ft Res
10in Resistivity 2ft Res
FRSP




| | | |
|---|---|---|
| 0 | Gamma API | 150 |
| | api | |
| | SP | |
| | -]20[+ | |

| | | |
|---|---|---|
| 15K | Tension | 0 |
| | pounds | |
| 0.2 | 90in Resistivity 2ft Res | 2K |
| | ohmm | |
| 0.2 | 60in Resistivity 2ft Res | 2000 |
| | ohmm | |
| 0.2 | 30in Resistivity 2ft Res | 2000 |
| | ohm-metre | |
| 0.2 | 20in Resistivity 2ft Res | 2000 |
| | ohmm | |
| 0.2 | 10in Resistivity 2ft Res | 2K |
| | ohmm | |

HALLIBURTON

**Plot Time: 12-Jul-18 17:55:57**
**Plot Range: 1620 ft to 5874.75 ft**
**Data: THORP_1-26R\Well Based\MAIN**
**Plot File: \\-LOCAL-\THORP_1-26R\Well Based\ACRT\ACRT_5inch_main**

# 5 INCH MAIN LOG


# 5 INCH MAIN LOG

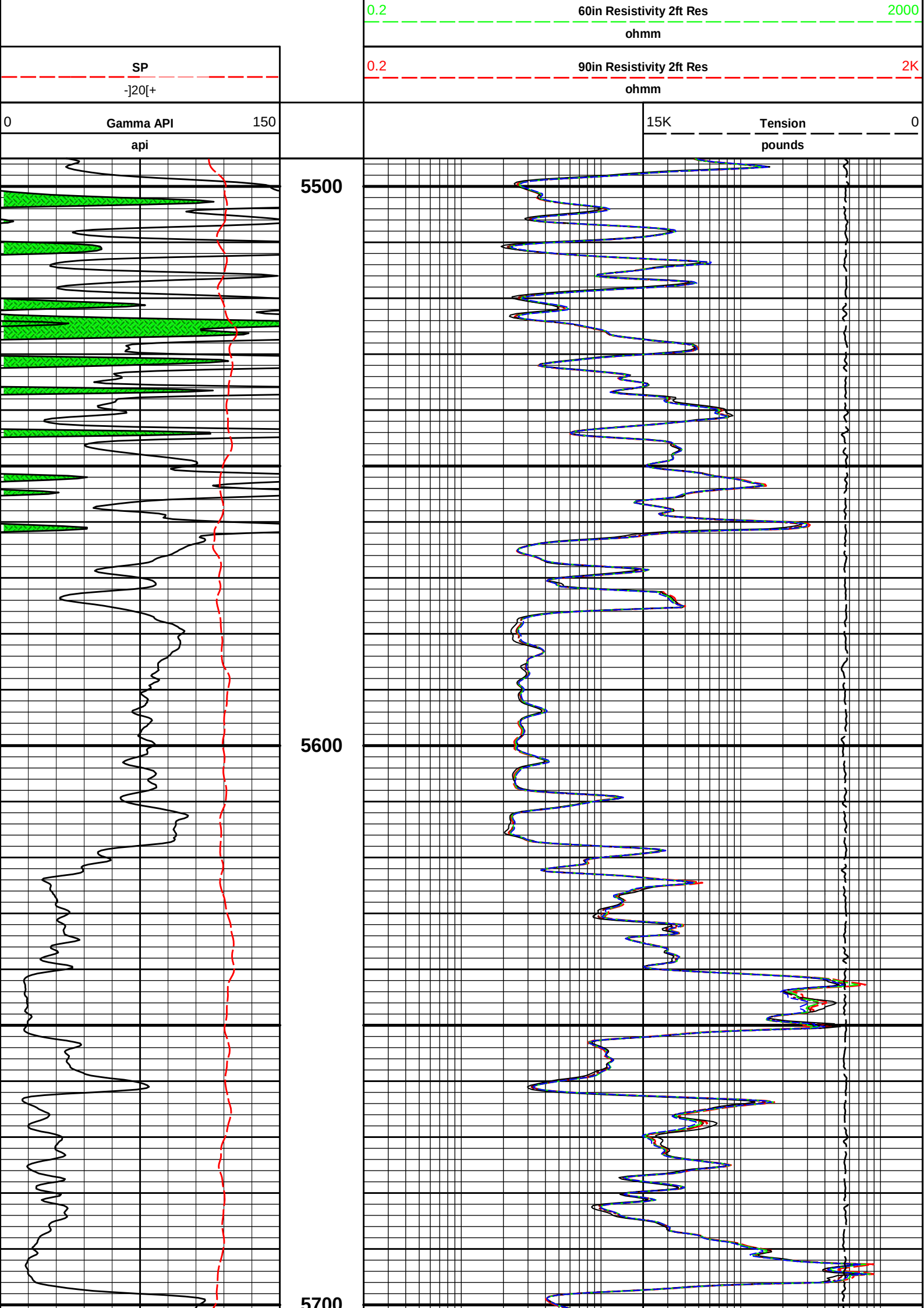

HALLIBURTON

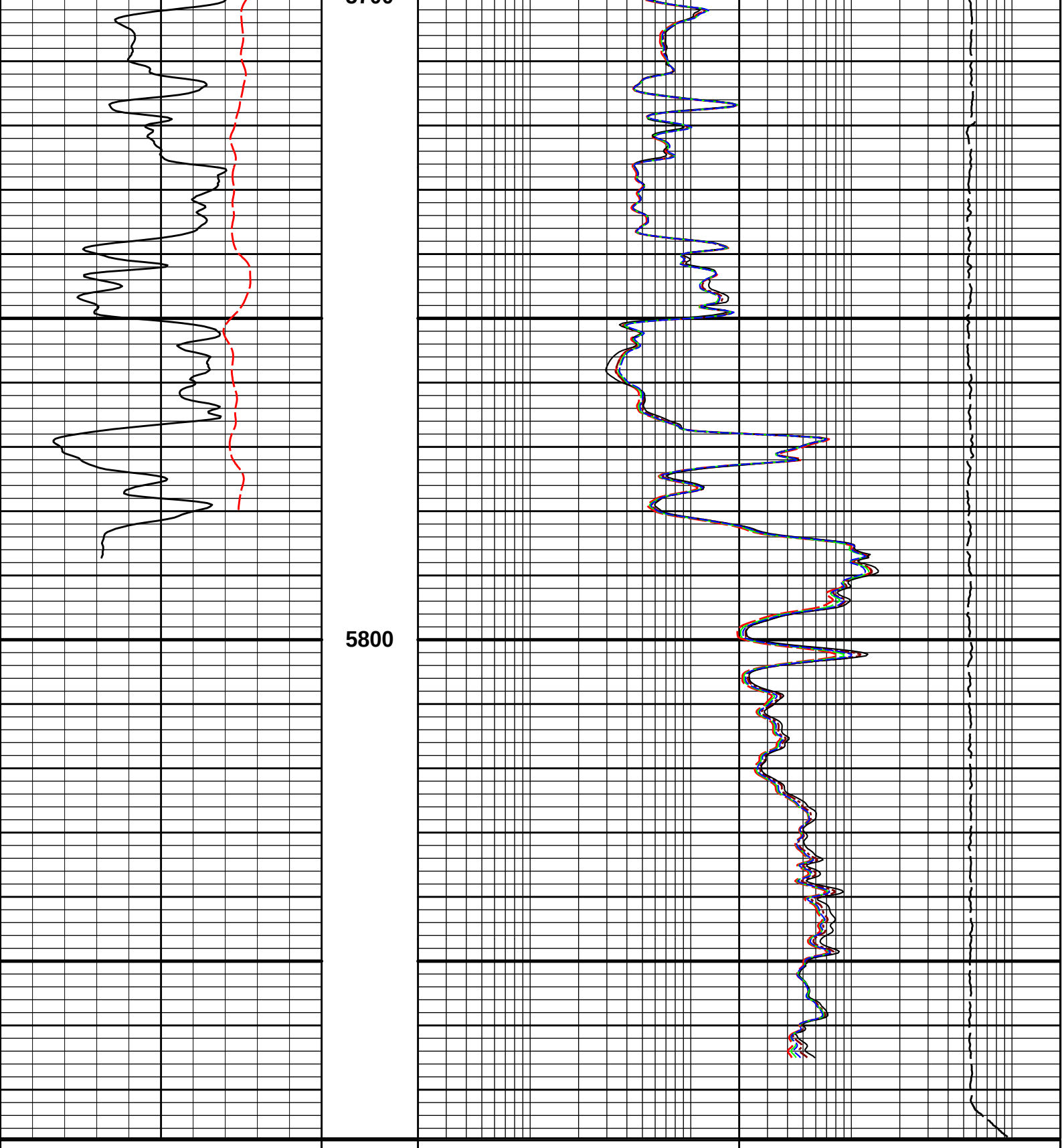
**Plot Time: 12-Jul-18 17:55:57**
**Plot Range: 5495 ft to 5877.58 ft**
**Data: THORP_1-26R\Well Based\REPEAT**
**Plot File: \\-LOCAL-\THORP_1-26R\Well Based\ACRT\ACRT_5inch_REPEAT**

# 5 INCH MAIN LOG

# 5 INCH REPEAT LOG

| | | |
|---|---|---|
| 0.2 | 10in Resistivity 2ft Res | 2K |
| | ohmm | |
| 0.2 | 20in Resistivity 2ft Res | 2000 |
| | ohmm | |
| 0.2 | 30in Resistivity 2ft Res | 2000 |
| | ohm-metre | |


SP
-]20[+
0
Gamma API
150
api
0.2
60in Resistivity 2ft Res
2000
ohmm
0.2
90in Resistivity 2ft Res
2K
ohmm
15K
Tension
0
pounds
5500
5600
5700




| | | |
|---|---|---|
| 0 | Gamma API | 150 |
| | api | |
| | SP | |
| | -]20[+ | |

| | | |
|---|---|---|
| 15K | Tension | 0 |
| | pounds | |
| 0.2 | 90in Resistivity 2ft Res | 2K |
| | ohmm | |
| 0.2 | 60in Resistivity 2ft Res | 2000 |
| | ohmm | |
| 0.2 | 30in Resistivity 2ft Res | 2000 |
| | ohm-metre | |
| 0.2 | 20in Resistivity 2ft Res | 2000 |
| | ohmm | |
| 0.2 | 10in Resistivity 2ft Res | 2K |

ohmm

HALLIBURTON

Plot Time: 12-Jul-18 17:55:59
Plot Range: 5495 ft to 5877.58 ft
Data: THORP_1-26R\Well Based\REPEAT\
Plot File: \\-LOCAL-\THORP_1-26R\Well Based\ACRT\ACRT_5inch_REPEAT

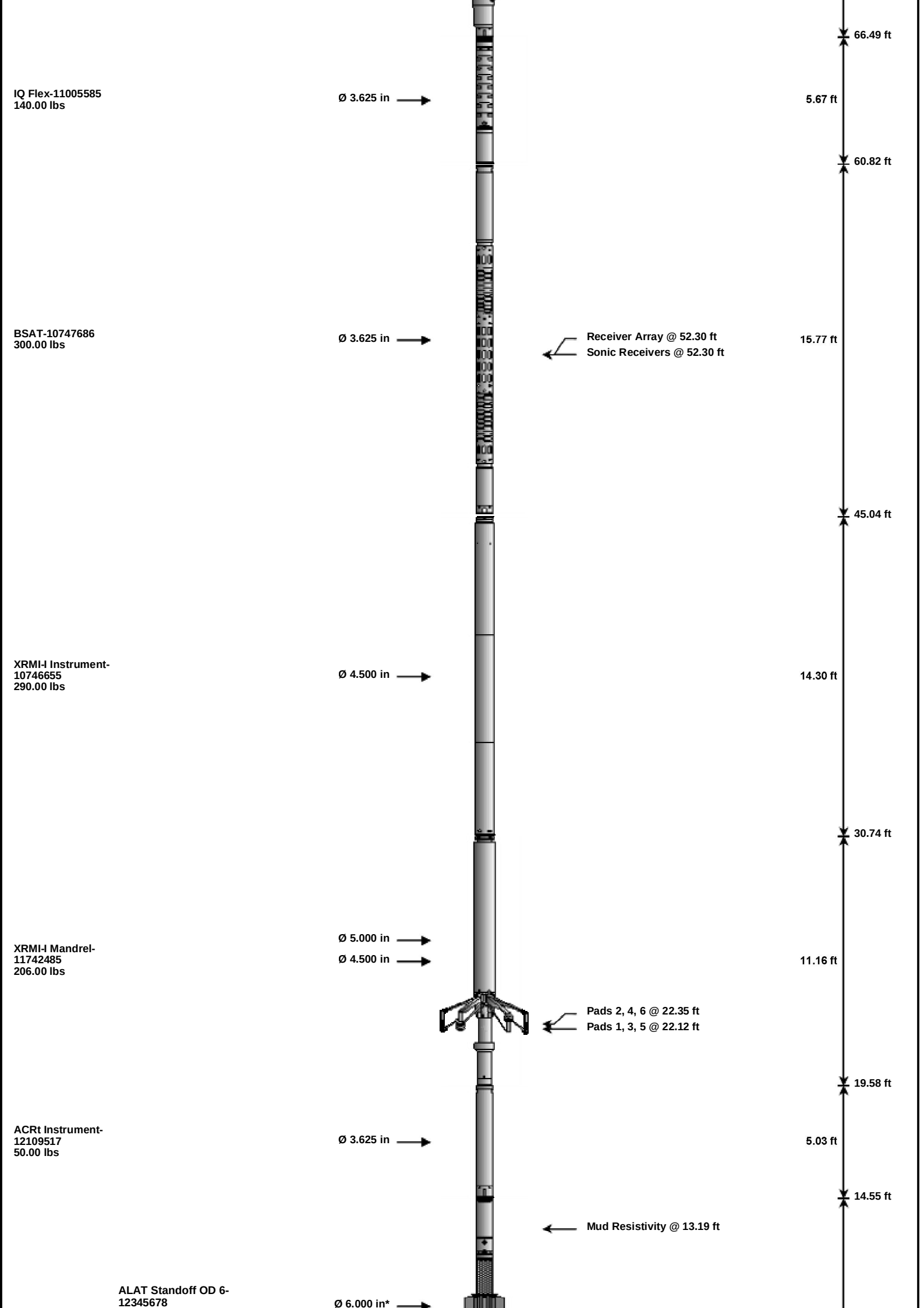
# 5 INCH MAIN LOG

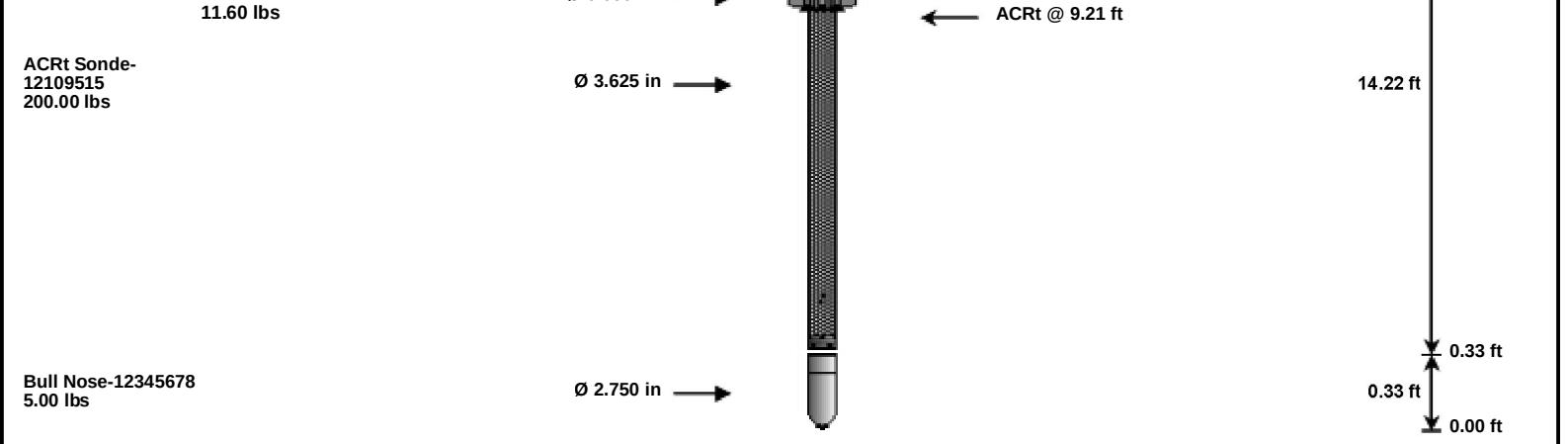
# 5 INCH REPEAT LOG

HALLIBURTON

## TOOL STRING DIAGRAM REPORT

| Description | Overbody Description | O.D. | Diagram | Sensors @ Delays | Length | Accumulated Length |
|---|---|---|---|---|---|---|
| | | | | | | 103.23 ft |
| CH_HOS-11459024<br>37.50 lbs | | Ø 2.750 in | | Temperature @ 102.20 ft | 3.03 ft | |
| | | | | | | 100.20 ft |
| XOHD-11572809<br>20.00 lbs | | Ø 2.750 in<br>Ø 3.625 in | | | 0.95 ft | |
| | | | | | | 99.25 ft |
| SP Sub-11153357<br>60.00 lbs | | Ø 3.625 in | | SP @ 97.47 ft | 3.74 ft | |
| | | | | Z-Accelerometer @ 95.06 ft | | 95.51 ft |
| GTET-11013114<br>165.00 lbs | | Ø 3.625 in | | | 8.52 ft | |
| | | | | GammaRay @ 89.45 ft | | |
| | | | | | | 86.99 ft |
| DSNT2-10993115<br>174.00 lbs | DSN Decentralizer-10993115<br>6.60 lbs | Ø 5.000 in*<br>Ø 3.625 in | | DSN Far @ 80.05 ft<br>DSN Near @ 79.30 ft | 9.69 ft | |
| | | | | | | 77.30 ft |
| SDLT2-12153520<br>360.00 lbs | SDLT Pad2-10809130<br>65.00 lbs<br>Microlog Pad2-12153520<br>8.00 lbs | Ø 4.500 in<br>Ø 4.500 in*<br>Ø 4.750 in* | | Microlog @ 69.49 ft<br>SDL Caliper @ 69.30 ft<br>SDL @ 69.29 ft | 10.81 ft | |


66.49 ft
IQ Flex-11005585
140.00 lbs
Ø 3.625 in
5.67 ft
60.82 ft
BSAT-10747686
300.00 lbs
Ø 3.625 in
Receiver Array @ 52.30 ft
Sonic Receivers @ 52.30 ft
15.77 ft
45.04 ft
XRMI-I Instrument-
10746655
290.00 lbs
Ø 4.500 in
14.30 ft
30.74 ft
Ø 5.000 in
XRMI-I Mandrel-
11742485
206.00 lbs
Ø 4.500 in
11.16 ft
Pads 2, 4, 6 @ 22.35 ft
Pads 1, 3, 5 @ 22.12 ft
19.58 ft
ACRt Instrument-
12109517
50.00 lbs
Ø 3.625 in
5.03 ft
14.55 ft
Mud Resistivity @ 13.19 ft
ALAT Standoff OD 6-
12345678
Ø 6.000 in*




| Mnemonic | Tool Name | Serial Number | Weight (lbs) | Length (ft) | | Accumulated Length (ft) | Max.Log. Speed (fpm) |
|---|---|---|---|---|---|---|---|
| CH_HOS | Hostile Cable Head with Load Cell | 11459024 | 37.50 | 3.03 | | 100.20 | 300.00 |
| XOHD | Hostile to Dits Cross Over | 11572809 | 20.00 | 0.95 | | 99.25 | 300.00 |
| SP | SP Sub | 11153357 | 60.00 | 3.74 | | 95.51 | 300.00 |
| GTET | Gamma Telemetry Tool | 11013114 | 165.00 | 8.52 | | 86.99 | 60.00 |
| DSNT | Dual Spaced Neutron | 10993115 | 174.00 | 9.69 | | 77.30 | 60.00 |
| DCNT | DSN Decentralizer | 10993115 | 6.60 | 5.13 | * | 80.63 | 300.00 |
| SDLT | Spectral Density Tool | 12153520 | 360.00 | 10.81 | | 66.49 | 60.00 |
| SDLP | Density Insite Pad | 10809130 | 65.00 | 2.55 | * | 68.70 | 60.00 |
| MICP | Microlog Pad | 12153520 | 8.00 | 1.00 | * | 68.99 | 60.00 |
| IQF | IQ Flex tool | 11005585 | 140.00 | 5.67 | | 60.82 | 300.00 |
| BSAT | Borehole Sonic Array Tool | 10747686 | 300.00 | 15.77 | | 45.04 | 60.00 |
| XRMI | XRMI Navigation - Insite | 10746655 | 290.00 | 14.30 | | 30.74 | 30.00 |
| XRMI-I | XRMI Imager - Insite | 11742485 | 206.00 | 11.16 | | 19.58 | 30.00 |
| ACRt | Array Compensated True Resistivity Instrument Section | 12109517 | 50.00 | 5.03 | | 14.55 | 120.00 |
| ACRt | Array Compensated True Resistivity Sonde Section | 12109515 | 200.00 | 14.22 | | 0.33 | 120.00 |
| ALATS | Array Laterolog Tool OD 6 Standoff | 12345678 | 11.60 | 1.00 | * | 9.23 | 60.00 |
| BLNS | Bull Nose | 12345678 | 5.00 | 0.33 | | 0.00 | 300.00 |
| **Total** | | | **2,098.70** | **103.23** | | | |

* Not included in Total Length and Length Accumulation.

**Data: THORP_1-26R\0001 GTET-DSNT-SDLT-FLEX-BSAT-XRMI-ACRT\IDLE** **Date: 12-Jul-18 14:54:59**

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# PARAMETERS REPORT

| Depth (ft) | Tool Name | Mnemonic | Description | Value | Units |
|---|---|---|---|---|---|
| TOP | | | | | |
| | SHARED | BS | Bit Size | 7.875 | in |
| | SHARED | UBS | Use Bit Size instead of Caliper for all applications. | No | |
| | SHARED | MDBS | Mud Base | Water | |
| | SHARED | MDWT | Borehole Fluid Weight | 9.600 | 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 | 5.500 | in |
| | SHARED | CSTR | Compressive Strength | 1000.00 | psia |
| | SHARED | ST | Surface Temperature | 75.0 | degF |
| | SHARED | TD | Total Well Depth | 5880.00 | ft |
| | SHARED | BHT | Bottom Hole Temperature | 135.0 | degF |
| | SHARED | SVTM | Navigation and Survey Master Tool | XRMI-I Instrument | |
| | SHARED | AZTM | High Res Z Accelerometer Master Tool | XRMI-I Instrument | |

| | | | | |
|---|---|---|---|---|
| SHARED | AZTM | High Res Z Accelerometer Master Tool | XRMI-I Instrument | |
| SHARED | TEMM | CBM Temperature Master Tool | GTET | |
| SHARED | SOCI | Source of Casing Information | Parameters | |
| SHARED | MSAL | Water-base mud filtrate salinity | 0.00 | ppm |
| 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 | |
| Rwa / CrossPlot | BHSM | Borehole Size Source Tool | XRMI-I Mandrel | |
| Rwa / CrossPlot | ROIN | Input for RO Calculation | Rwa | |
| GTET | GROK | Process Gamma Ray? | Yes | |
| GTET | GEOK | Process Gamma Ray EVR? | No | |
| GTET | TPOS | Tool Position for Gamma Ray Tools. | Eccentered | |
| GTET | BHSM | Borehole Size Source Tool | XRMI-I Mandrel | |
| DSNT2 | DNOK | Process DSN? | Yes | |
| DSNT2 | DEOK | Process DSN EVR? | No | |
| DSNT2 | NLIT | Neutron Lithology | Limestone | |
| DSNT2 | DNSO | DSN Standoff - 0.25 in (6.35 mm) Recommended | 0.250 | in |
| DSNT2 | DNTT | Temperature Correction Type | None | |
| DSNT2 | DPRS | DSN Pressure Correction Type | None | |
| DSNT2 | SHCO | View More Correction Options | No | |
| DSNT2 | UTVD | Use TVD for Gradient Corrections? | No | |
| DSNT2 | LHWT | Logging Horizontal Water Tank? | No | |
| DSNT2 | UCLA | Classic Neutron Parameter utilized? | No | |
| DSNT2 | BHSM | Borehole Size Source Tool | XRMI-I Mandrel | |
| SDLT2 | CLOK | Process Caliper Outputs? | Yes | |
| Microlog Pad2 | MLOK | Process MicroLog Outputs? | Yes | |
| SDLT Pad2 | DNOK | Process Density? | Yes | |
| SDLT Pad2 | DNOK | Process Density EVR? | No | |
| SDLT Pad2 | CB | Logging Calibration Blocks? | No | |
| SDLT Pad2 | SPVT | SDLT Pad Temperature Valid? | Yes | |
| SDLT Pad2 | DTWN | Disable temperature warning | No | |
| SDLT Pad2 | DMA | Formation Density Matrix | 2.710 | g/cc |
| SDLT Pad2 | DFL | Formation Density Fluid | 1.000 | g/cc |
| SDLT Pad2 | BHSM | Borehole Size Source Tool | SDLT2 | |
| 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 Pore Fluid | 189.00 | uspf |
| BSAT | DTMT | Delta -T Matrix Type | Limestone 47.6 | |
| 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 Instrument | AO | Angular Offset Between Imaging Tools | 0 | deg |
| XRMI-I Mandrel | DIMG | Process XRMI? | Yes | |
| XRMI-I Mandrel | ALMT | Image Alignment Method | TOOL | |
| XRMI-I Mandrel | AGN | Use Button Auto Gain? | Yes | |
| XRMI-I Mandrel | BGLR | Button Auto Gain Color | 127 | |

| | | | | |
|---|---|---|---|---|
| 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 | BHSM | Borehole Size Source Tool | XRMI-I Mandrel | |
| 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 | |
| XRMI-I Mandrel | BHVC | Radius type for borehole volume calcuations | Elliptical | |
| XRMI-I Mandrel | CCL | Caliper Correction Algorithm | None | |
| 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 | Free Hanging | |
| ACRt Sonde | RMOP | Rmud Source | Mud Cell | |
| ACRt Sonde | RMIN | Minimum Resistivity for MAP | 0.20 | ohmm |
| ACRt Sonde | RMAX | Maximum Resistivity for MAP | 200.00 | ohmm |
| ACRt Sonde | THQY | Threshold Quality | 0.50 | |
| ACRt Sonde | MRFX | Fixed mud resistivity | 2000 | ohmm |
| ACRt Sonde | BHSM | Borehole Size Source Tool | XRMI-I Mandrel | |
| ACRt Sonde | MBFL | Apply Corkscrew Effect? | No | |

BOTTOM



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# CALIBRATION REPORT

## NATURAL GAMMA RAY TOOL SHOP CALIBRATION

| | | | |
|---|---|---|---|
| **Tool Name:** | **GTET - 11013114** | **Reference Calibration Date:** | **20-May-18 14:50:21** |
| **Engineer:** | **JORGE ORLANDO PEREZ** | **Calibration Date:** | **05-Jun-18 11:57:37** |
| **Software Version:** | **WL INSITE R5.6.0 (Build 2)** | **Calibration Version:** | **1** |

Calibrator Source S/N: TB-146
Calibrator API Reference:225.00 api
Equivalent Calibrator API Reference:228.9 api

| Measurement | Measured | Calibrated | Units |
|---|---|---|---|
| Background | 35.2 | 35.7 | api |
| Background + Calibrator | 260.9 | 264.7 | api |
| Calibrator | 225.7 | 228.9 | api |

## NATURAL GAMMA RAY TOOL FIELD CALIBRATION

| | | | |
|---|---|---|---|
| **Tool Name:** | **GTET - 11013114** | **Reference Calibration Date:** | **05-Jun-18 11:57:37** |
| **Engineer:** | **JORGE ORLANDO PEREZ** | **Calibration Date:** | **06-Jul-18 09:11:08** |
| **Software Version:** | **WL INSITE R5.6.0 (Build 2)** | **Calibration Version:** | **1** |

Calibrator Source S/N: TB-146
Calibrator API Reference:225.00 api
Equivalent Calibrator API Reference:228.9 api

| Field Verification | Shop | Field | Units |
|---|---|---|---|
| Background | 35.7 | 25.5 | api |
| Background + Calibrator | 264.7 | 253.6 | api |
| Calibrator | 228.9 | 228.1 | api |

| Shop | Field | Difference | Tolerance |
|---|---|---|---|
| 228.9 | 228.1 | 0.8 | +/- 9.00 |

## ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION

| | | | |
|---|---|---|---|
| **Tool Name:** | **ACRt Sonde - 12109515** | **Reference Calibration Date:** | **06-Jun-18 10:26:27** |
| **Engineer:** | **JORGE ORLANDO PEREZ** | **Calibration Date:** | **06-Jun-18 10:38:36** |
| **Software Version:** | **WL INSITE R5.6.3 (Build 4)** | **Calibration Version:** | **1** |
| **Host Tool Name:** | **ACRt Instrument - 12109517** | | |

### TYPICAL GAIN RANGE

| Subarray | R12KHz | | | R36KHz | | | R72KHz | | |
|---|---|---|---|---|---|---|---|---|---|
| | Lower | (mmho/m) | Upper | Lower | (mmho/m) | Upper | Lower | (mmho/m) | Upper |
| A1 (80") | 0.95 | 1.0437 | 1.05 | 0.95 | 1.0237 | 1.05 | 0.95 | 1.0174 | 1.05 |
| A2 (50") | 0.95 | 1.0457 | 1.05 | 0.95 | 1.0299 | 1.05 | 0.95 | 1.0276 | 1.05 |
| A3 (29") | 0.95 | 1.0363 | 1.05 | 0.95 | 1.0179 | 1.05 | 0.95 | 1.0133 | 1.05 |
| A4 (17") | 0.95 | 1.0304 | 1.05 | 0.95 | 1.0114 | 1.05 | 0.95 | 1.0081 | 1.05 |
| A5 (10") | N/A | N/A | N/A | 0.95 | 1.0117 | 1.05 | 0.95 | 1.0066 | 1.05 |
| A6 (6") | N/A | N/A | N/A | 0.95 | 0.9910 | 1.05 | 0.95 | 0.9865 | 1.05 |

### SONDE OFFSET

| Subarray | R12KHz | R36KHz | R72KHz |
|---|---|---|---|
| | (mmho/m) | (mmho/m) | (mmho/m) |
| A1 (80") | 0.991 | -4.535 | -5.661 |
| A2 (50") | -0.134 | -3.921 | -4.995 |
| A3 (29") | -13.787 | -4.734 | -3.442 |
| A4 (17") | -110.417 | -33.771 | -25.565 |
| A5 (10") | N/A | -91.375 | -40.562 |
| A6 (6") | N/A | 301.031 | 154.231 |

### TRANSMITTER CURRENT GAIN

| Signal | Lower | R | Upper |
|---|---|---|---|
| 12K | 0.6 | 0.94 | 1.3 |
| 36K | 1.0 | 1.91 | 2.0 |
| 72K | 1.0 | 1.17 | 2.0 |

### R-MUD VERIFICATION

| Signal | Lower (ohm-m) | Measured (ohm-m) | Upper (ohm-m) |
|---|---|---|---|
| Mud Cell | 0.95 | 1.00 | 1.05 |

### PASS/FAIL SUMMARY

| | |
|---|---|
| GAIN RANGE CHK | PASS |
| SONDE OFFSET CHK | PASS |

TOOL OK TO LOG

## CALIBRATION SUMMARY

| Sensor | Shop | Field | Post | Difference | Tolerance | Units |
|---|---|---|---|---|---|---|
| **GTET-11013114** | | | | | | |
| Gamma Ray Calibrator | 228.9 | 228.1 | ---------- | 0.8 | +/- 9.00 | api |
| **ACRt Sonde-12109515** | | | | | | |
| Mud Cell | 1.00 | ---------- | ---------- | 0 | ---------- | ohm-m |

**Data: THORP_1-26R\0001 GTET-DSNT-SDLT-FLEX-BSAT-XRMI-ACRT\IDLE** **Date: 12-Jul-18 17:05:54**

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## INPUTS, DELAYS AND FILTERS TABLE

| Mnemonic | Input Description | Delay (ft) | Filter Type | Filter Length (ft) |
|---|---|---|---|---|

| | | (ft) | | (ft) |
|---|---|---|---|---|
| **Depth Panel** | | | | |
| TENS | Tension | 0.00 | NO | |
| **Rwa / CrossPlot** | | | | |
| TPUL | Tension Pull | 103.22 | NO | |
| BS | Bit Size | 103.22 | NO | |
| HDIA | Measured Hole Diameter | 0.00 | NO | |
| **CH_HOS** | | | | |
| DHTN | DownholeTension | 0.00 | BLK | 0.000 |
| **SP Sub** | | | | |
| PLTC | Plot Control Mask | 97.47 | NO | |
| SP | Spontaneous Potential | 97.47 | BLK | 1.250 |
| SPR | Raw Spontaneous Potential | 97.47 | NO | |
| SPO | Spontaneous Potential Offset | 97.47 | NO | |
| **GTET** | | | | |
| TPUL | Tension Pull | 89.45 | NO | |
| GR | Natural Gamma Ray API | 89.45 | TRI | 1.750 |
| GRU | Unfiltered Natural Gamma Ray API | 89.45 | NO | |
| EGR | Natural Gamma Ray API with Enhanced Vertical Resolution | 89.45 | W | 1.416 , 0.750 |
| HDIA | Measured Hole Diameter | 0.00 | NO | |
| ACCZ | Accelerometer Z | 0.00 | BLK | 0.083 |
| DEVI | Inclination | 0.00 | NO | |
| **DSNT2** | | | | |
| TPUL | Tension Pull | 79.20 | NO | |
| RNDS | Near Detector Telemetry Counts | 79.30 | BLK | 1.417 |
| RFDS | Far Detector Telemetry Counts | 80.05 | TRI | 0.583 |
| DNTT | DSN Tool Temperature | 79.30 | NO | |
| DSNS | DSN Tool Status | 79.20 | NO | |
| ERND | Near Detector Telemetry Counts EVR | 79.30 | BLK | 0.000 |
| ERFD | Far Detector Telemetry Counts EVR | 80.05 | BLK | 0.000 |
| ENTM | DSN Tool Temperature EVR | 79.30 | NO | |
| HDIA | Measured Hole Diameter | 0.00 | NO | |
| **SDLT2** | | | | |
| TPUL | Tension Pull | 69.30 | NO | |
| PCAL | Pad Caliper | 69.30 | TRI | 0.250 |
| ACAL | Arm Caliper | 69.30 | TRI | 0.250 |
| **BSAT** | | | | |
| TPUL | Tension Pull | 52.30 | NO | |
| STAT | Status | 52.30 | NO | |
| DLYT | Delay Time | 52.30 | NO | |
| SI | Sample Interval | 52.30 | NO | |
| TXRX | Raw Telemetry 10 Receivers | 52.30 | NO | |
| FRMC | Tool Frame Count | 52.30 | NO | |
| GMOD | Gain processing mode | 45.04 | NO | |
| **XRMI-I Mandrel** | | | | |
| TPUL | Tension Pull | 22.35 | NO | |
| PAD1 | XRMI Pad 1 values | 22.12 | NO | |
| PAD2 | XRMI Pad 2 values | 22.12 | NO | |
| PAD3 | XRMI Pad 3 values | 22.12 | NO | |
| PAD4 | XRMI Pad 4 values | 22.12 | NO | |
| PAD5 | XRMI Pad 5 values | 22.12 | NO | |
| PAD6 | XRMI Pad 6 values | 22.12 | NO | |
| OD1 | EMI Odd Button Values Pad 1 | 22.12 | NO | |

| | | | | |
|---|---|---|---|---|
| OD2 | EMI Odd Button Values Pad 2 | 22.35 | NO | |
| OD3 | EMI Odd Button Values Pad 3 | 22.12 | NO | |
| OD4 | EMI Odd Button Values Pad 4 | 22.35 | NO | |
| OD5 | EMI Odd Button Values Pad 5 | 22.12 | NO | |
| OD6 | EMI Odd Button Values Pad 6 | 22.35 | NO | |
| EV1 | EMI Even Button Values Pad 1 | 22.14 | NO | |
| EV2 | EMI Even Button Values Pad 2 | 22.32 | NO | |
| EV3 | EMI Even Button Values Pad 3 | 22.14 | NO | |
| EV4 | EMI Even Button Values Pad 4 | 22.32 | NO | |
| EV5 | EMI Even Button Values Pad 5 | 22.14 | NO | |
| EV6 | EMI Even Button Values Pad 6 | 22.32 | NO | |
| ITMP | Instrument Temperature | 19.58 | NO | |
| EMIM | Tool Mode | 19.58 | NO | |
| HAZI | Hole Azimuth | 21.87 | NO | |
| HAZD | Hole Azimuth - Down Delay | 22.37 | NO | |
| ACCZ | Accelerometer Z | 22.12 | NO | |
| RB | Relative Bearing | 21.87 | NO | |
| RBD | Relative Bearing Down | 22.37 | NO | |
| TPUL | Tension Pull | 22.35 | NO | |
| FIR1 | Current Button R - Pad 1 | 22.12 | NO | |
| FIR2 | Current Button R - Pad 2 | 22.35 | NO | |
| FIR3 | Current Button R - Pad 3 | 22.12 | NO | |
| FIR4 | Current Button R - Pad 4 | 22.35 | NO | |
| FIR5 | Current Button R - Pad 5 | 22.12 | NO | |
| FIR6 | Current Button R - Pad 6 | 22.35 | NO | |
| FIX1 | Current Button X - Pad 1 | 22.12 | NO | |
| FIX2 | Current Button X - Pad 2 | 22.35 | NO | |
| FIX3 | Current Button X - Pad 3 | 22.12 | NO | |
| FIX4 | Current Button X - Pad 4 | 22.35 | NO | |
| FIX5 | Current Button X - Pad 5 | 22.12 | NO | |
| FIX6 | Current Button X - Pad 6 | 22.35 | NO | |
| SIR1 | Current Slow Button R - Pad 1 | 22.12 | BLK | 3.000 |
| SIR2 | Current Slow Button R - Pad 2 | 22.35 | BLK | 3.000 |
| SIR3 | Current Slow Button R - Pad 3 | 22.12 | BLK | 3.000 |
| SIR4 | Current Slow Button R - Pad 4 | 22.35 | BLK | 3.000 |
| SIR5 | Current Slow Button R - Pad 5 | 22.12 | BLK | 3.000 |
| SIR6 | Current Slow Button R - Pad 6 | 22.35 | BLK | 3.000 |
| SIX1 | Current Slow Button X - Pad 1 | 22.12 | BLK | 3.000 |
| SIX2 | Current Slow Button X - Pad 2 | 22.35 | BLK | 3.000 |
| SIX3 | Current Slow Button X - Pad 3 | 22.12 | BLK | 3.000 |
| SIX4 | Current Slow Button X - Pad 4 | 22.35 | BLK | 3.000 |
| SIX5 | Current Slow Button X - Pad 5 | 22.12 | BLK | 3.000 |
| SIX6 | Current Slow Button X - Pad 6 | 22.35 | BLK | 3.000 |
| EMMR | Phasor Voltage - Real Part | 22.12 | NO | |
| EMMX | Phasor Voltage - Imaginary Part | 22.12 | NO | |
| PADV | Pad Voltage | 19.58 | BLK | 0.250 |
| ITMP | Instrument Temperature | 19.58 | BLK | 0.000 |
| CON1 | Conductivity Pad 1 | 22.12 | BLK | 3.000 |
| CON2 | Conductivity Pad 2 | 22.35 | BLK | 3.000 |
| CON3 | Conductivity Pad 3 | 22.12 | BLK | 3.000 |
| CON4 | Conductivity Pad 4 | 22.35 | BLK | 3.000 |
| CON5 | Conductivity Pad 5 | 22.12 | BLK | 3.000 |
| CON6 | Conductivity Pad 6 | 22.35 | BLK | 3.000 |
| UIR2 | Current Button R No Delay - Pad 2 | 22.12 | NO | |
| UIR4 | Current Button R No Delay - Pad 4 | 22.12 | NO | |
| UIR6 | Current Button R No Delay - Pad 6 | 22.12 | NO | |
| UIX2 | Current Button X No Delay - Pad 2 | 22.12 | NO | |
| UIX4 | Current Button X No Delay - Pad 4 | 22.12 | NO | |
| UIX6 | Current Button X No Delay - Pad 6 | 22.12 | NO | |

| | | | | |
|---|---|---|---|---|
| HDIA | Measured Hole Diameter | 0.00 | NO | |
| TPUL | Tension Pull | 22.35 | NO | |
| ARM1 | Caliper 1 measurement | 22.12 | BLK | 0.000 |
| ARM2 | Caliper 2 measurement | 22.12 | BLK | 0.000 |
| ARM3 | Caliper 3 measurement | 22.12 | BLK | 0.000 |
| ARM4 | Caliper 4 measurement | 22.12 | BLK | 0.000 |
| ARM5 | Caliper 5 measurement | 22.12 | BLK | 0.000 |
| ARM6 | Caliper 6 measurement | 22.12 | BLK | 0.000 |
| MOTV | Motor Voltage 1 | 22.12 | BLK | 0.000 |
| PRES | Caliper percentage of total compression of the spring | 19.58 | BLK | 0.000 |
| HAZI | Hole Azimuth | 22.12 | NO | |
| RB | Relative Bearing | 22.12 | NO | |
| AZI1 | PAD1 Azimuth | 22.12 | NO | |
| DEVI | Inclination | 22.12 | NO | |

**ACRt Sonde**

| | | | | |
|---|---|---|---|---|
| TPUL | Tension Pull | 2.73 | NO | |
| F1R1 | ACRT 12KHz - 80in R value | 8.98 | BLK | 0.000 |
| F1X1 | ACRT 12KHz - 80in X value | 8.98 | BLK | 0.000 |
| F1R2 | ACRT 12KHz - 50in R value | 6.48 | BLK | 0.000 |
| F1X2 | ACRT 12KHz - 50in X value | 6.48 | BLK | 0.000 |
| F1R3 | ACRT 12KHz - 29in R value | 4.98 | BLK | 0.000 |
| F1X3 | ACRT 12KHz - 29in X value | 4.98 | BLK | 0.000 |
| F1R4 | ACRT 12KHz - 17in R value | 3.98 | BLK | 0.000 |
| F1X4 | ACRT 12KHz - 17in X value | 3.98 | BLK | 0.000 |
| F1R5 | ACRT 12KHz - 10in R value | 3.48 | BLK | 0.000 |
| F1X5 | ACRT 12KHz - 10in X value | 3.48 | BLK | 0.000 |
| F1R6 | ACRT 12KHz - 6in R value | 3.23 | BLK | 0.000 |
| F1X6 | ACRT 12KHz - 6in X value | 3.23 | BLK | 0.000 |
| F2R1 | ACRT 36KHz - 80in R value | 8.98 | BLK | 0.000 |
| F2X1 | ACRT 36KHz - 80in X value | 8.98 | BLK | 0.000 |
| F2R2 | ACRT 36KHz - 50in R value | 6.48 | BLK | 0.000 |
| F2X2 | ACRT 36KHz - 50in X value | 6.48 | BLK | 0.000 |
| F2R3 | ACRT 36KHz - 29in R value | 4.98 | BLK | 0.000 |
| F2X3 | ACRT 36KHz - 29in X value | 4.98 | BLK | 0.000 |
| F2R4 | ACRT 36KHz - 17in R value | 3.98 | BLK | 0.000 |
| F2X4 | ACRT 36KHz - 17in X value | 3.98 | BLK | 0.000 |
| F2R5 | ACRT 36KHz - 10in R value | 3.48 | BLK | 0.000 |
| F2X5 | ACRT 36KHz - 10in X value | 3.48 | BLK | 0.000 |
| F2R6 | ACRT 36KHz - 6in R value | 3.23 | BLK | 0.000 |
| F2X6 | ACRT 36KHz - 6in X value | 3.23 | BLK | 0.000 |
| F3R1 | ACRT 72KHz - 80in R value | 8.98 | BLK | 0.000 |
| F3X1 | ACRT 72KHz - 80in X value | 8.98 | BLK | 0.000 |
| F3R2 | ACRT 72KHz - 50in R value | 6.48 | BLK | 0.000 |
| F3X2 | ACRT 72KHz - 50in X value | 6.48 | BLK | 0.000 |
| F3R3 | ACRT 72KHz - 29in R value | 4.98 | BLK | 0.000 |
| F3X3 | ACRT 72KHz - 29in X value | 4.98 | BLK | 0.000 |
| F3R4 | ACRT 72KHz - 17in R value | 3.98 | BLK | 0.000 |
| F3X4 | ACRT 72KHz - 17in X value | 3.98 | BLK | 0.000 |
| F3R5 | ACRT 72KHz - 10in R value | 3.48 | BLK | 0.000 |
| F3X5 | ACRT 72KHz - 10in X value | 3.48 | BLK | 0.000 |
| F3R6 | ACRT 72KHz - 6in R value | 3.23 | BLK | 0.000 |
| F3X6 | ACRT 72KHz - 6in X value | 3.23 | BLK | 0.000 |
| RMUD | Mud Resistivity | 12.52 | BLK | 0.000 |
| F1RT | Transmitter Reference 12 KHz Real Signal | 2.73 | BLK | 0.000 |
| F1XT | Transmitter Reference 12 KHz Imaginary Signal | 2.73 | BLK | 0.000 |
| F2RT | Transmitter Reference 36 KHz Real Signal | 2.73 | BLK | 0.000 |
| F2XT | Transmitter Reference 36 KHz Imaginary Signal | 2.73 | BLK | 0.000 |
| F3RT | Transmitter Reference 72 KHz Real Signal | 2.73 | BLK | 0.000 |

| | | | | |
|---|---|---|---|---|
| F3RT | Transmitter Reference 72 KHz Real Signal | 2.73 | BLK | 0.000 |
| F3XT | Transmitter Reference 72 KHz Imaginary Signal | 2.73 | BLK | 0.000 |
| TFPU | Upper Feedpipe Temperature Calculated | 2.73 | BLK | 0.000 |
| TFPL | Lower Feedpipe Temperature Calculated | 2.73 | BLK | 0.000 |
| ITMP | Instrument Temperature | 2.73 | BLK | 0.000 |
| TCVA | Temperature Correction Values Loop Off | 2.73 | NO | |
| TIDV | Instrument Temperature Derivative | 2.73 | NO | |
| TUDV | Upper Temperature Derivative | 2.73 | NO | |
| TLDV | Lower Temperature Derivative | 2.73 | NO | |
| TRBD | Receiver Board Temperature | 2.73 | NO | |
| HDIA | Measured Hole Diameter | 0.00 | NO | |

**Microlog Pad2**

| | | | | |
|---|---|---|---|---|
| TPUL | Tension Pull | 69.49 | NO | |
| MINV | Microlog Lateral | 69.49 | BLK | 0.750 |
| MNOR | Microlog Normal | 69.49 | BLK | 0.750 |

**SDLT Pad2**

| | | | | |
|---|---|---|---|---|
| TPUL | Tension Pull | 69.29 | NO | |
| NAB | Near Above | 69.12 | BLK | 0.920 |
| NHI | Near Cesium High | 69.12 | BLK | 0.920 |
| NLO | Near Cesium Low | 69.12 | BLK | 0.920 |
| NVA | Near Valley | 69.12 | BLK | 0.920 |
| NBA | Near Barite | 69.12 | BLK | 0.920 |
| NDE | Near Density | 69.12 | BLK | 0.920 |
| NPK | Near Peak | 69.12 | BLK | 0.920 |
| NLI | Near Lithology | 69.12 | BLK | 0.920 |
| NBAU | Near Barite Unfiltered | 69.12 | BLK | 0.250 |
| NLIU | Near Lithology Unfiltered | 69.12 | BLK | 0.250 |
| FAB | Far Above | 69.47 | BLK | 0.250 |
| FHI | Far Cesium High | 69.47 | BLK | 0.250 |
| FLO | Far Cesium Low | 69.47 | BLK | 0.250 |
| FVA | Far Valley | 69.47 | BLK | 0.250 |
| FBA | Far Barite | 69.47 | BLK | 0.250 |
| FDE | Far Density | 69.47 | BLK | 0.250 |
| FPK | Far Peak | 69.47 | BLK | 0.250 |
| FLI | Far Lithology | 69.47 | BLK | 0.250 |
| PTMP | Pad Temperature | 69.30 | BLK | 0.920 |
| NHV | Near Detector High Voltage | 68.70 | NO | |
| FHV | Far Detector High Voltage | 68.70 | NO | |
| ITMP | Instrument Temperature | 68.70 | NO | |
| DDHV | Detector High Voltage | 68.70 | NO | |
| HDIA | Measured Hole Diameter | 0.00 | NO | |



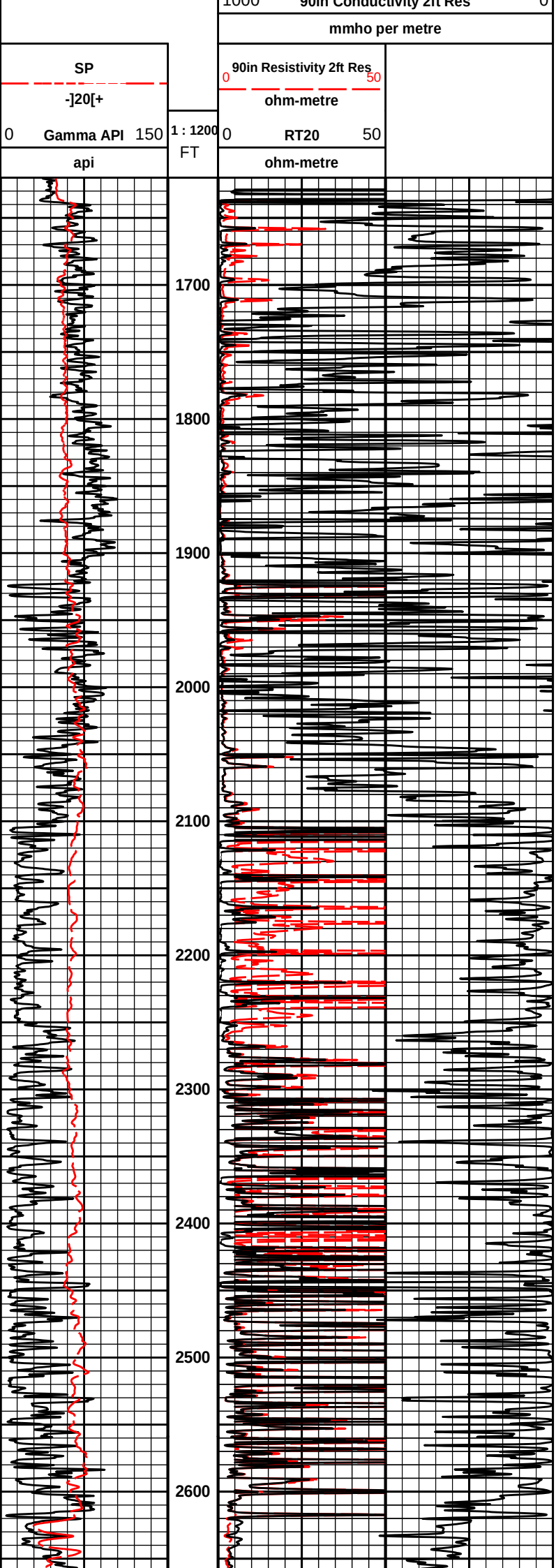
HALLIBURTON

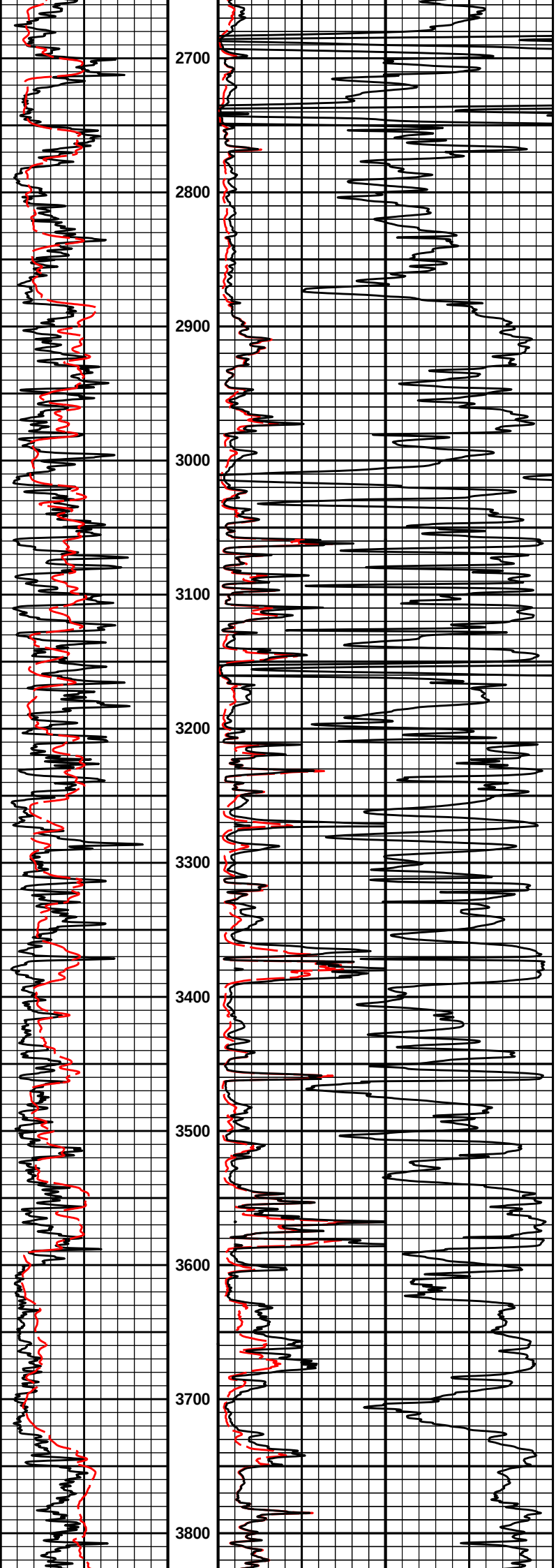
**Plot Time: 12-Jul-18 17:56:05**
**Plot Range: 1620 ft to 5862 ft**
**Data: THORP_1-26R\Well Based\MAIN**
**Plot File: \\-LOCAL-\THORP_1-26R\Well Based\ACRT\ACRT_1_main**

# 1 INCH MAIN LOG

1 INCH CORRELATION LOG

| | | | |
|---|---|---|---|
| | 1000 | 90in Conductivity 2ft Res | 0 |


1000
90in Conductivity 2ft Res
0
mmho per metre
SP
-]20[+
0
Gamma API
150
api
90in Resistivity 2ft Res
0
50
ohm-metre
1 : 1200
FT
0
RT20
50
ohm-metre
1700
1800
1900
2000
2100
2200
2300
2400
2500
2600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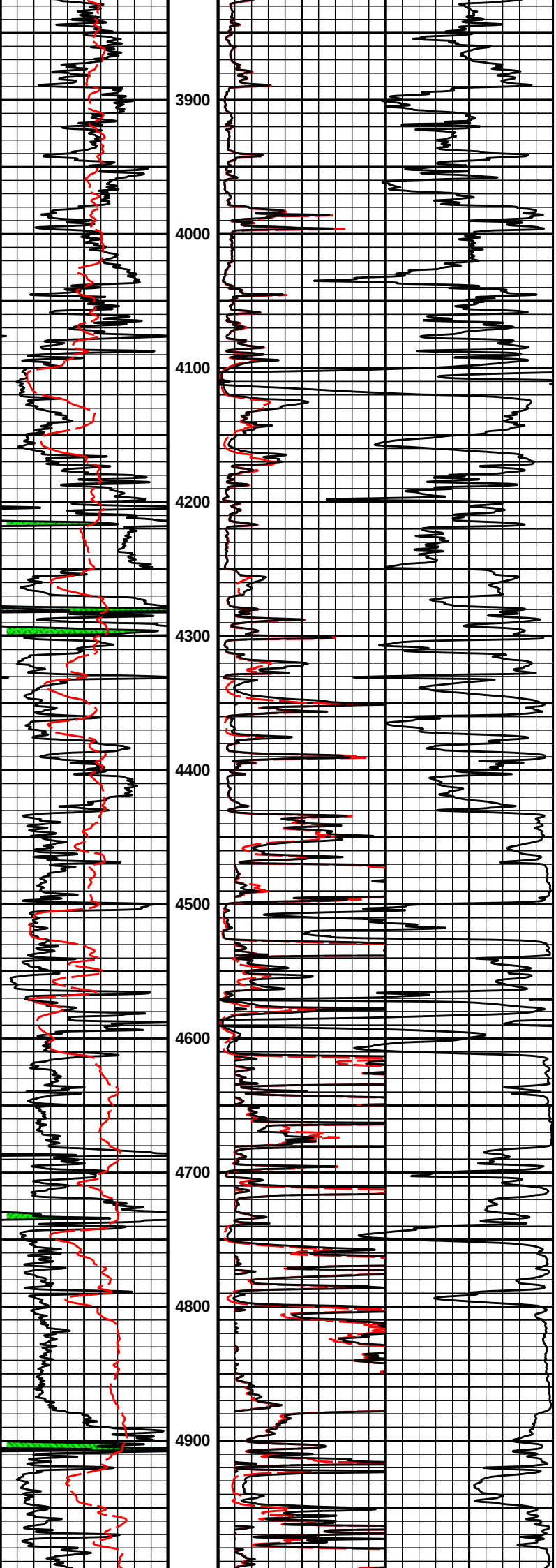
3200
3300
3400
3500
3600
3700
3800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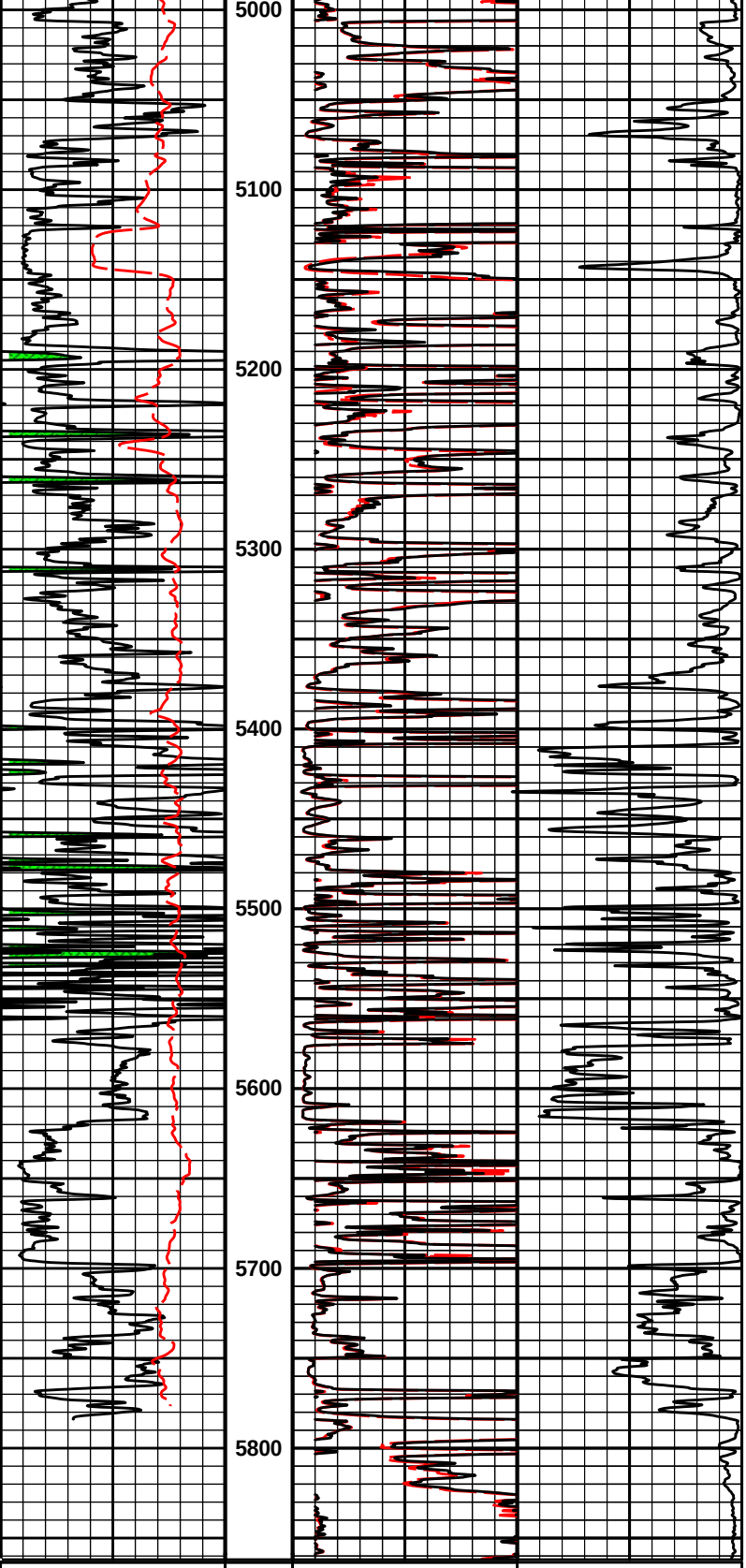
4000
4100
4200
4300
4400
4500
4600
4700
4800
4900




| | | |
|---|---|---|
| 0 Gamma API 150 | 1 : 1200 FT | 0 RT20 50 |
| api | | ohm-metre |
| SP | | 90in Resistivity 2ft Res |
| -]20[+ | | 0 50 ohm-metre |
| | | 1000 90in Conductivity 2ft Res 0 |
| | | mmho per metre |

HALLIBURTON

Plot Time: 12-Jul-18 17:56:07
Plot Range: 1620 ft to 5862 ft
Data: THORP_1-26R\Well Based\MAIN\
Plot File: \\-LOCAL-\THORP_1-26R\Well Based\ACRT\ACRT_1_main

# 1 INCH MAIN LOG

1 INCH CORRELATION LOG

| | | | |
|---|---|---|---|
| COMPANY | **RAYDON EXPLORATION, INC.** | | |
| WELL | **THORP 1-26R** | | |
| FIELD | **KISMET** | | |
| COUNTY | **SEWARD** | STATE | **KANSAS** |

HALLIBURTON

**ARRAY COMPENSATED TRUE RESISTIVITY LOG**