HALLIBURTON

ARRAY COMPENSATED TRUE RESISTIVITY LOG

COMPANY **OXY USA INC**

WELL **SMU #319**

FIELD **SEQUOYAH MORROW UNIT**

COUNTY **FINNEY** STATE **KANSAS**

OXY USA INC
SMU #319
SEQUOYAH MORROW UNIT
FINNEY
KANSAS
COMPANY
WELL
FIELD
COUNTY
STATE

API No. 15-055-22139

Location 2085' FSL & 1395' FEL

Sect. 22 Twp. 23S Rge. 34W

Other Services:
MICRO
DSNT / SDLT
BSAT

Permanent Datum	GROUND LEVEL	Elev. 2942.0 ft	Elev.: K.B. 2953.0 ft
Log measured from	KELLY BUSHING	, 11.0 ft above perm. Datum	D.F. 2952.0 ft
Drilling measured from	KELLY BUSHING		G.L. 2942.0 ft

Date		28-Apr-12					
Run No.		ONE					
Depth - Driller		4995.00 ft					
Depth - Logger		4976.0 ft					
Bottom - Logged Interval		4967.0 ft					
Top - Logged Interval		1829.0 ft					
Casing - Driller		9.625 in @ 1822.0 ft		@		@	
Casing - Logger		1829.0 ft					
Bit Size		7.875 in		@		@	
Type Fluid in Hole		WATER BASED MUD					
Density	Viscosity	9.0 ppg	48.00 s/qt				
PH	Fluid Loss	8.50 pH	9.4 cptm				
Source of Sample		FLOWLINE					
Rm @ Meas. Temperature		1.450 ohmm @ 82.00 degF		@		@	
Rmf @ Meas. Temperature		1.50 ohmm @ 67.00 degF		@		@	
Rmc @ Meas. Temperature		2.180 ohmm @ 67.00 degF		@		@	
Source Rmf	Rmc	MEASURED	MEASURED				
Rm @ BHT		0.72 ohmm @ 128.0 degF		@		@	
Time Since Circulation		12.2 hr					
Time on Bottom		28-Apr-12 21:13					
Max. Rec. Temperature		128.0 degF @ 4976.0 ft		@		@	
Equipment	Location	10782954	PV OK				
Recorded By		C. HAVERKAMP					
Witnessed By		A. GARNER		D. PRATT			

Fold here

Service Ticket No.: 9466909 API Serial No.: 15-055-22139 PGM Version: WL INSITE R3.4.2 (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
Run No.	ONE	ACRT	N/A	1.5" S.O.	N/A
Serial No.		I1256_S0784			
Model No.					
Diameter					
Log Type					
Source Type					
Serial No.					
Strength					

EQUIPMENT DATA

GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	ONE	Run No.		Run No.		Run No.	
Serial No.	10811258	Serial No.		Serial No.		Serial No.	
Model No.	GTET	Model No.		Model No.		Model No.	
Diameter	3.625"	No. of Cent.		Diameter		Diameter	
Detector Model No.	T-102	Spacing		Log Type		Log Type	
Type	SCINT	LSA [Y/N]		Source Type		Source Type	
Length	8"	FWDA [Y/N]		Serial No.		Serial No.	
Distance to Source	10'			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	4976	1829'	REC	0	150									

DIRECTIONAL INFORMATION

Maximum Deviation	@	KOP	@

Remarks: SP-GTET-DSNT-SDLT-BSAT-ACRT RAN IN COMBINATION.

ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING.

CHLORIDES REPORTED AT 1300 MG/L.

LCM REPORTED AT 2 LB/BBL.

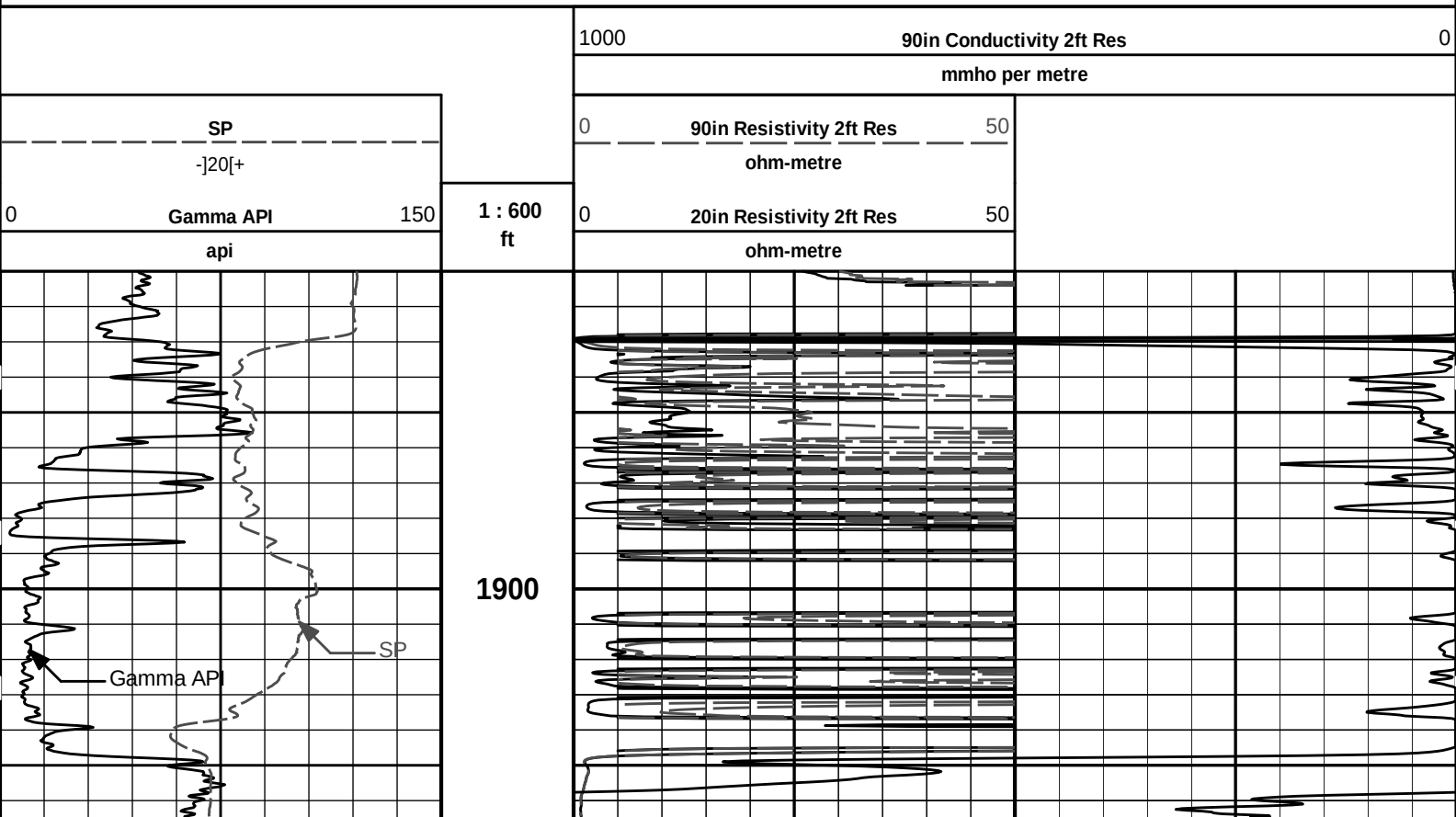
TODAY'S CREW: A. VAQUERA, B. TERRELL

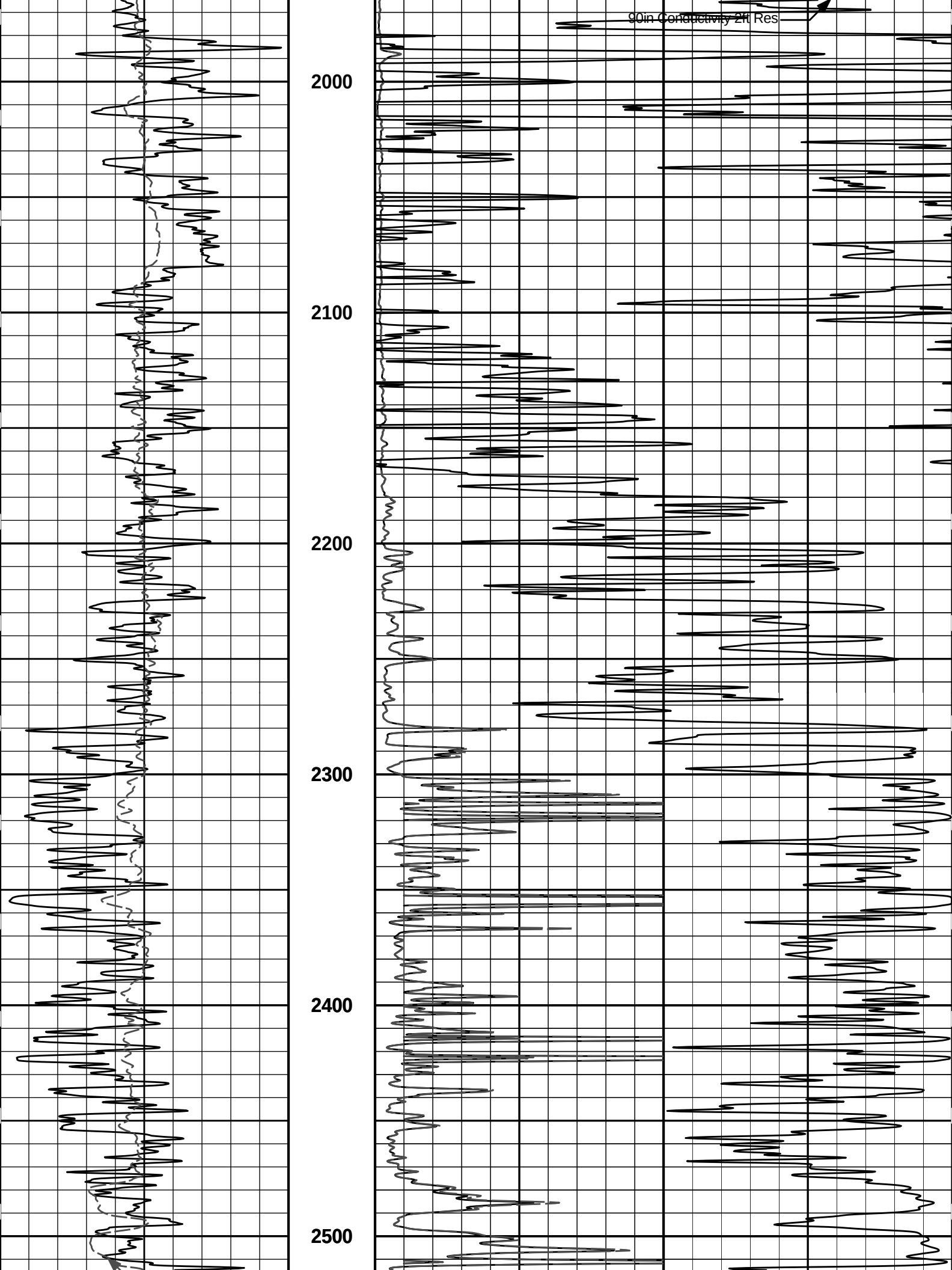
THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES. LIBERAL, KS 620-624-8123

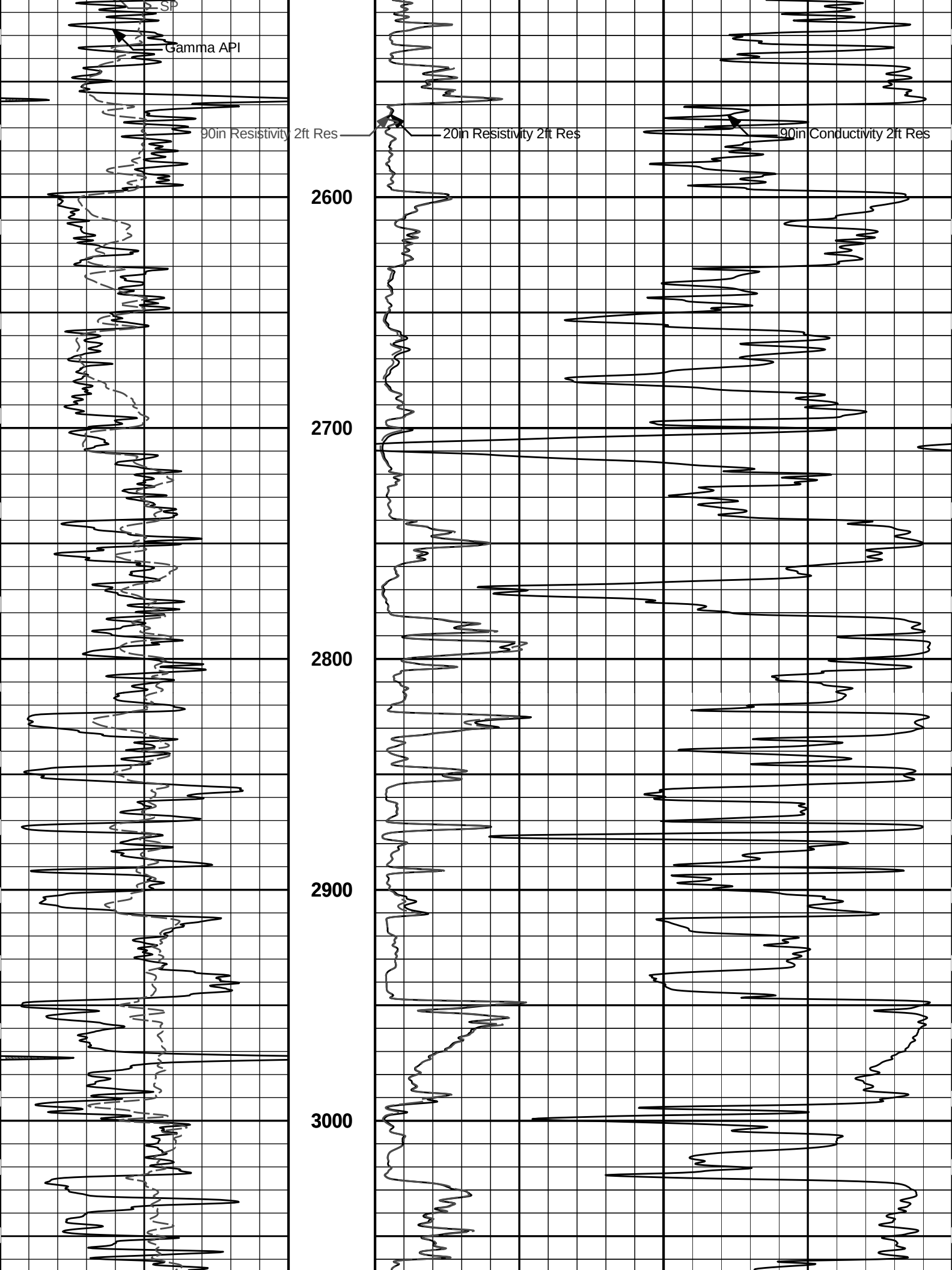
HALLIBURTON

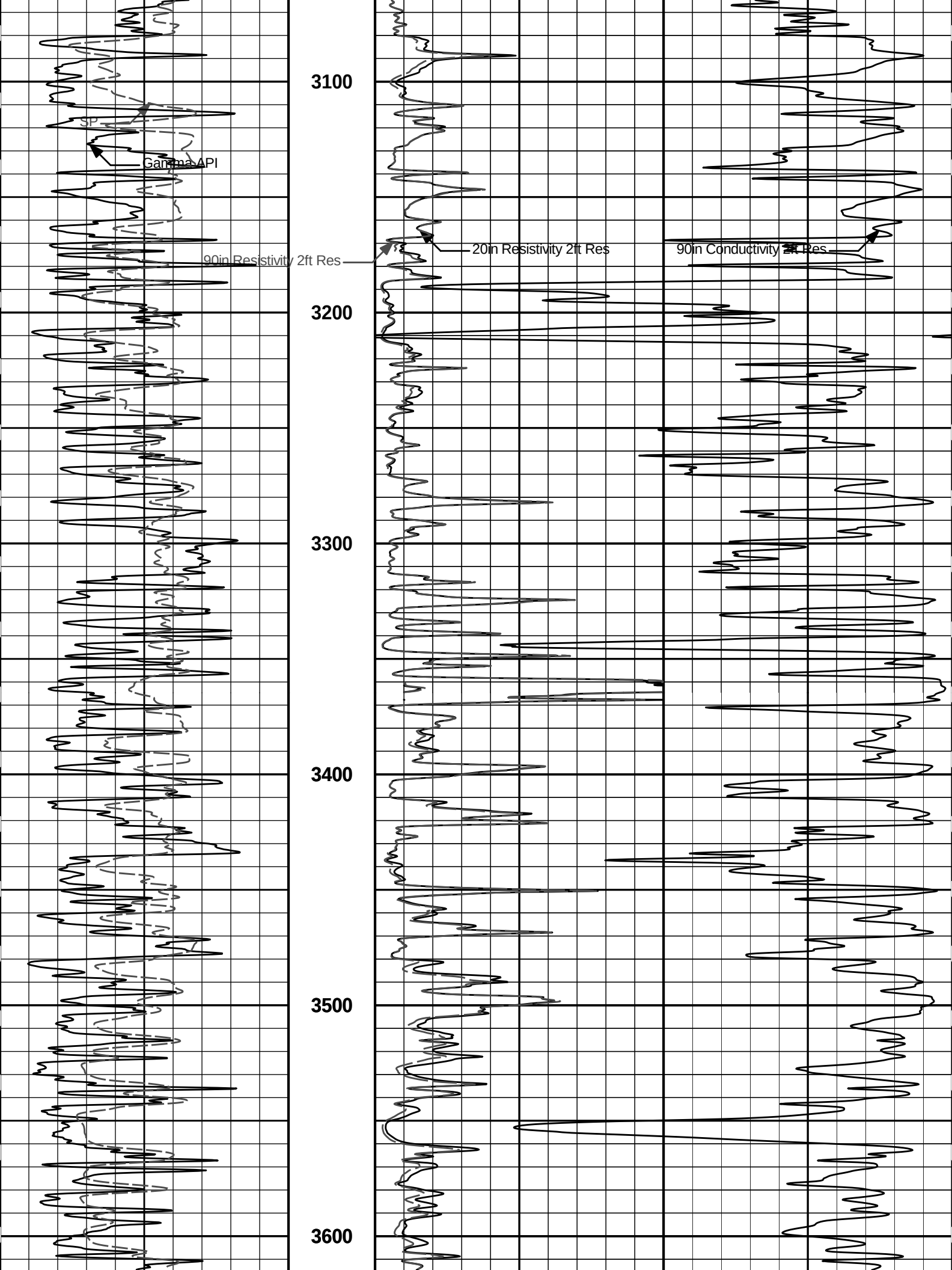
Plot Time: 28-Apr-12 23:09:43
Plot Range: 1810 ft to 4977.67 ft
Data: SMU_319\Well Based\QUAD_CASING
Plot File: \\-LOCAL-\SMU_319\0001 SP-GTET-DSN-SDL-BSAT-ACRT-CH\ACRT\ACRT_2_lib

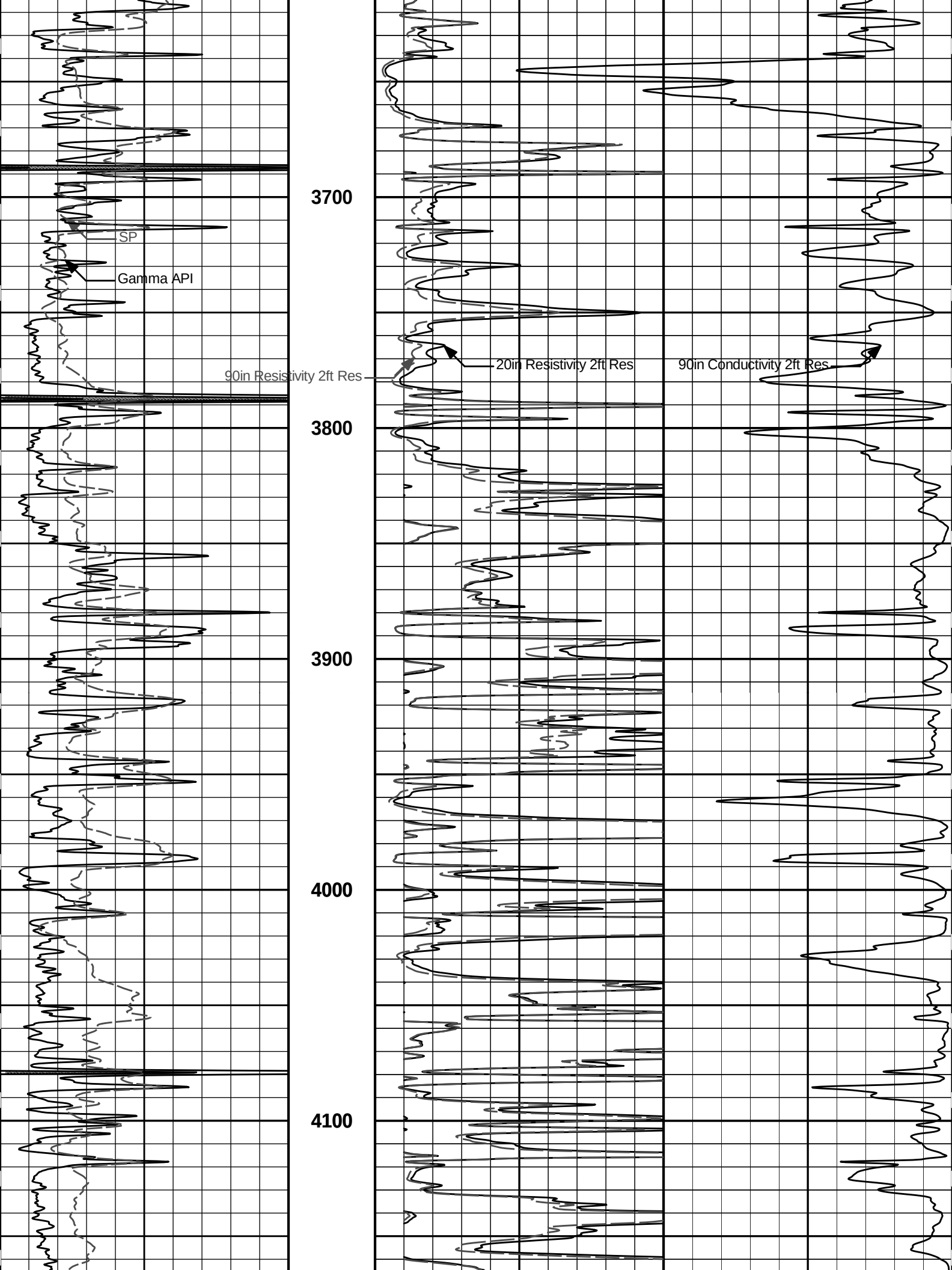
2 INCH MAIN LOG

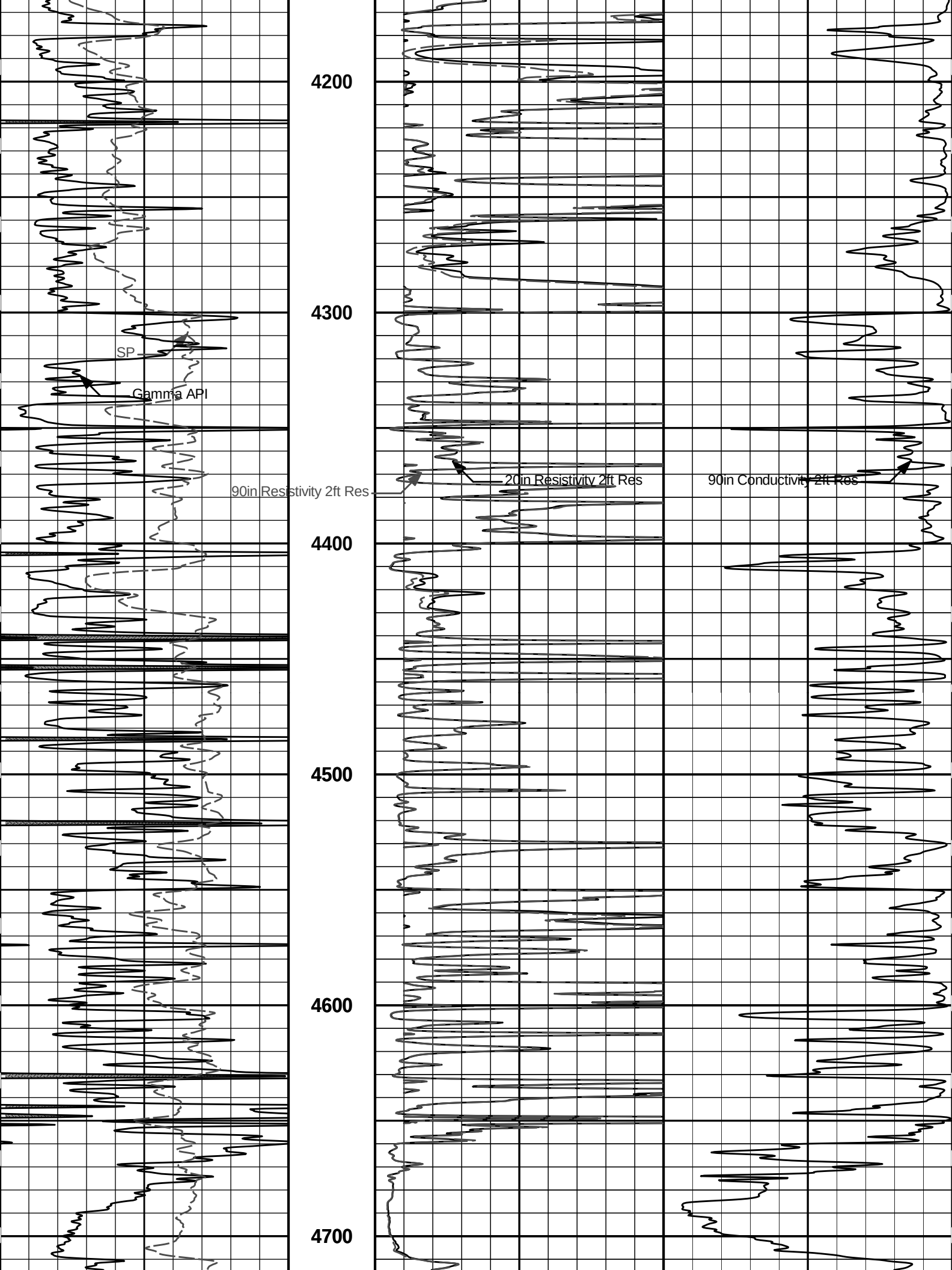


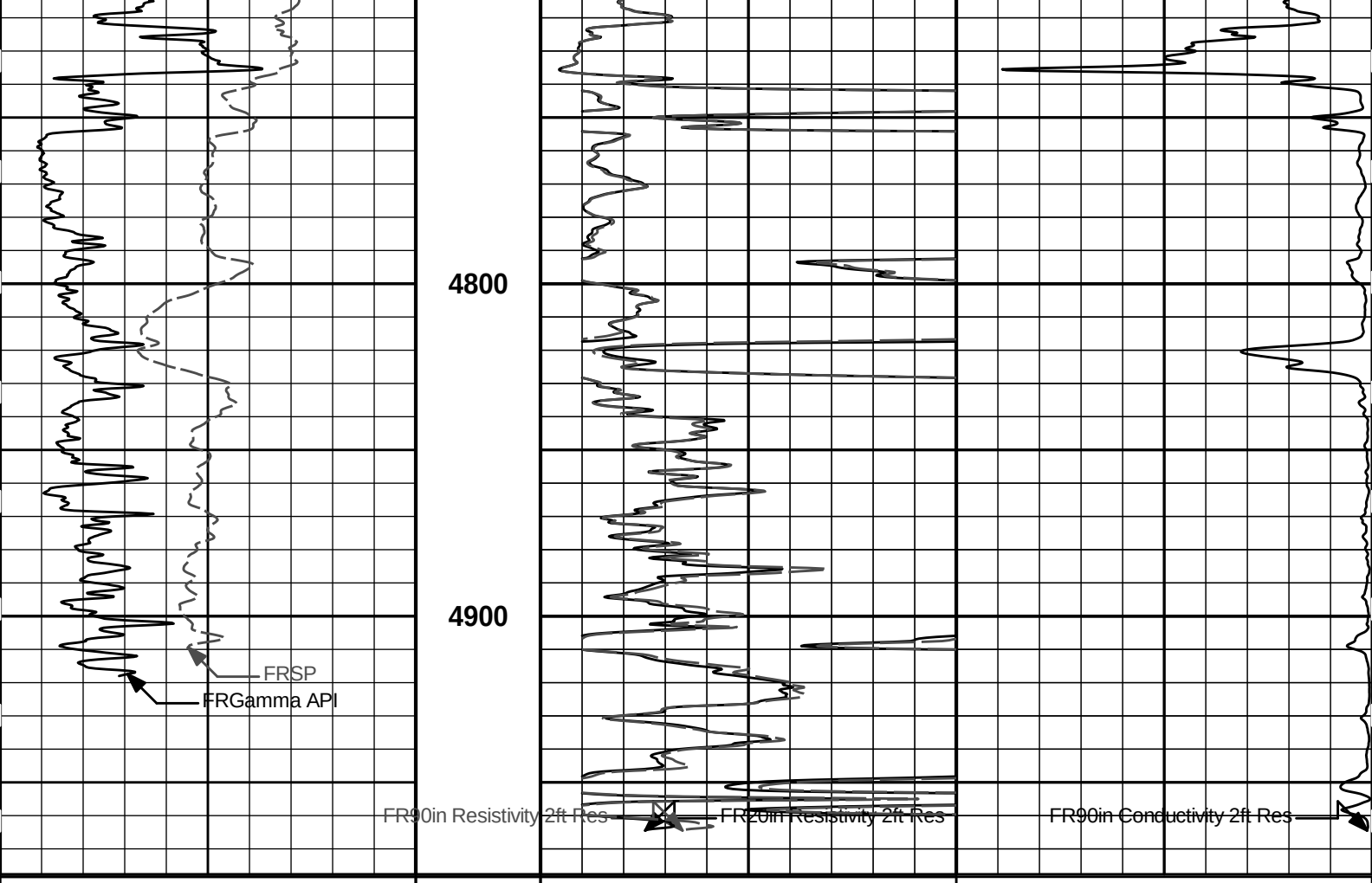

90in Conductivity 2ft Res
2000
2100
2200
2300
2400
2500


SP
Gamma API
90in Resistivity 2ft Res
20in Resistivity 2ft Res
90in Conductivity 2ft Res
2600
2700
2800
2900
3000


3100
3200
3300
3400
3500
3600
SP
Gamma API
90in Resistivity 2ft Res
20in Resistivity 2ft Res
90in Conductivity 2ft Res


3700
3800
3900
4000
4100
SP
Gamma API
90in Resistivity 2ft Res
20in Resistivity 2ft Res
90in Conductivity 2ft Res


4200
4300
SP
Gamma API
90in Resistivity 2ft Res
20in Resistivity 2ft Res
90in Conductivity 2ft Res
4400
4500
4600
4700



0 **Gamma API** 150	**1 : 600 ft**	0 **20in Resistivity 2ft Res** 50
api		**ohm-metre**
SP		0 **90in Resistivity 2ft Res** 50
-]20[+		**ohm-metre**
		1000 **90in Conductivity 2ft Res** 0
		mmho per metre

HALLIBURTON

Plot Time: 28-Apr-12 23:10:08
Plot Range: 1810 ft to 4977.67 ft
Data: SMU_319\Well Based\QUAD_CASING
Plot File: \\-LOCAL-\SMU_319\0001 SP-GTET-DSN-SDL-BSAT-ACRT-CH\ACRT\ACRT_2_lib

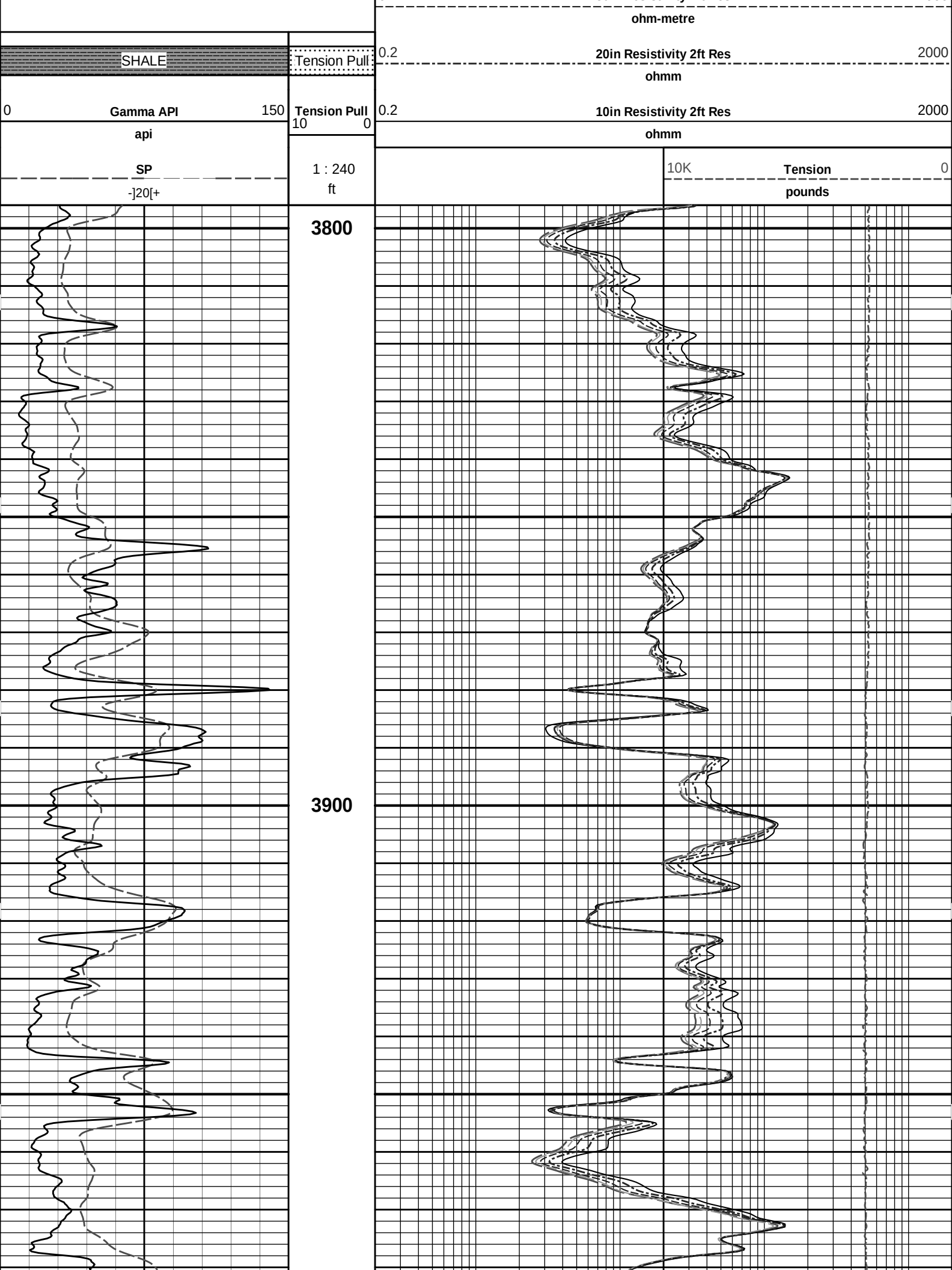
2 INCH MAIN LOG

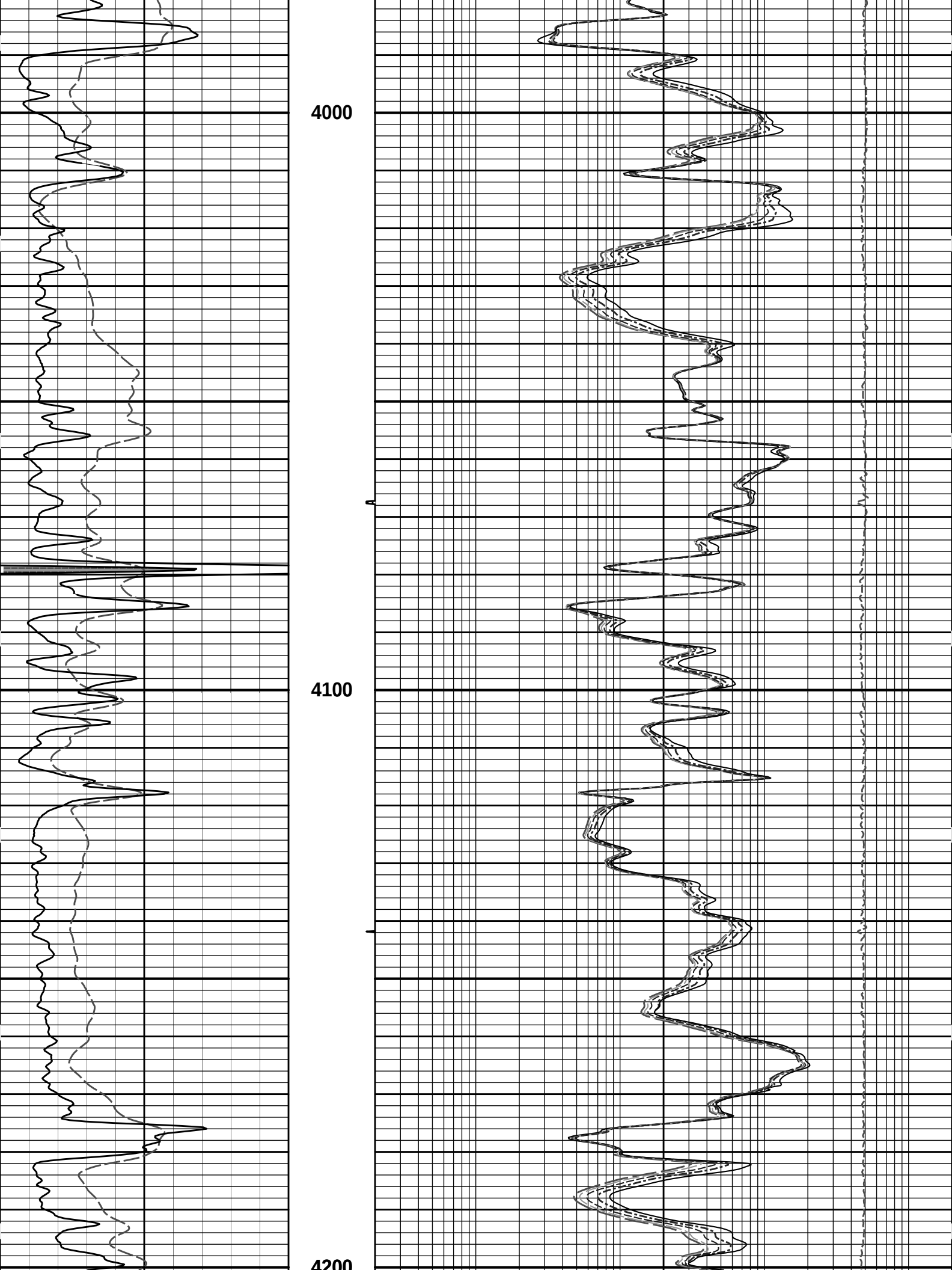
HALLIBURTON

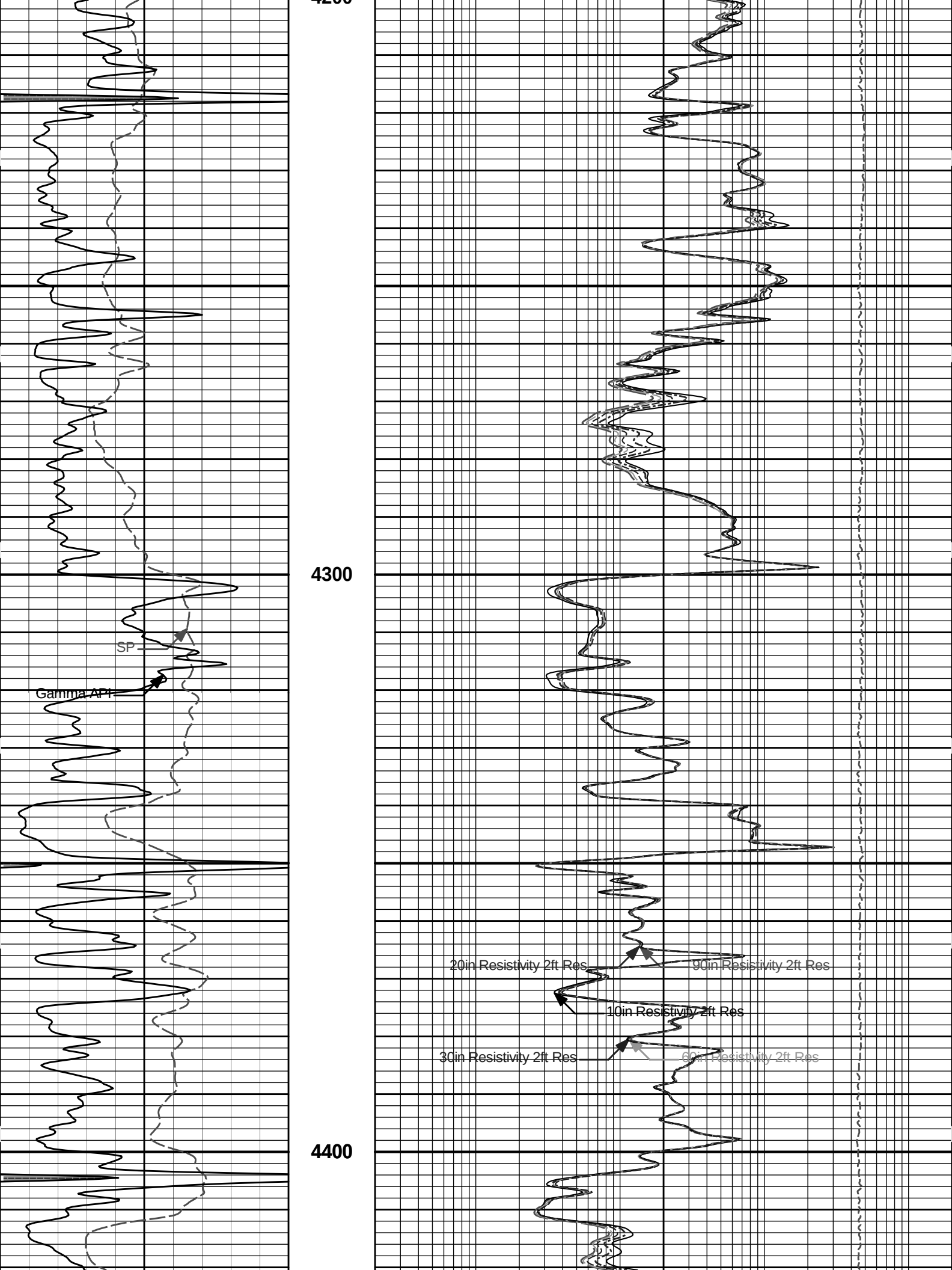
Plot Time: 28-Apr-12 23:10:08
Plot Range: 3796 ft to 4977.67 ft
Data: SMU_319\Well Based\QUAD_DETAIL
Plot File: \\-LOCAL-\SMU_319\0001 SP-GTET-DSN-SDL-BSAT-ACRT-CH\ACRT\ACRT_5_main_lib

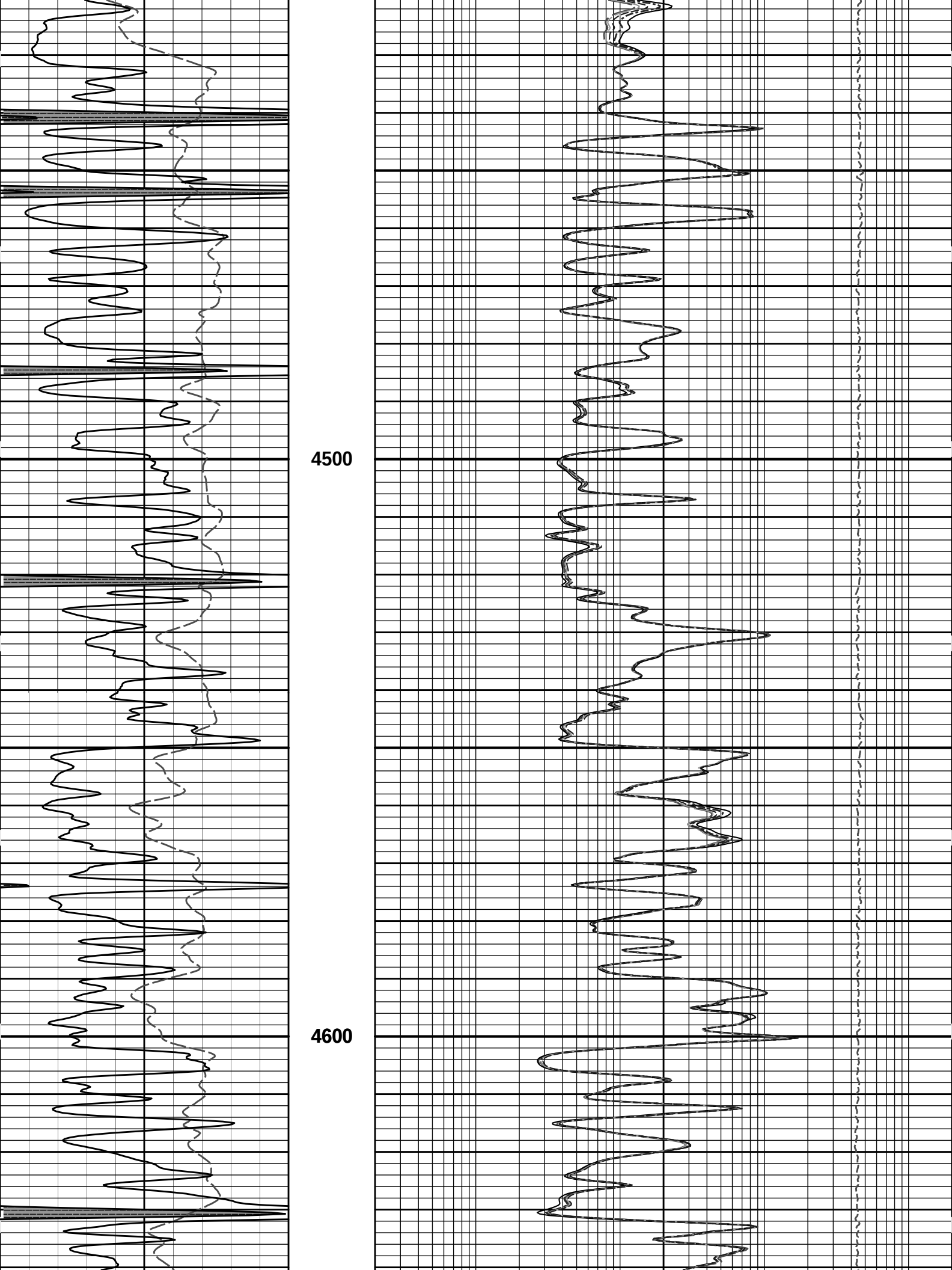
5 INCH MAIN LOG

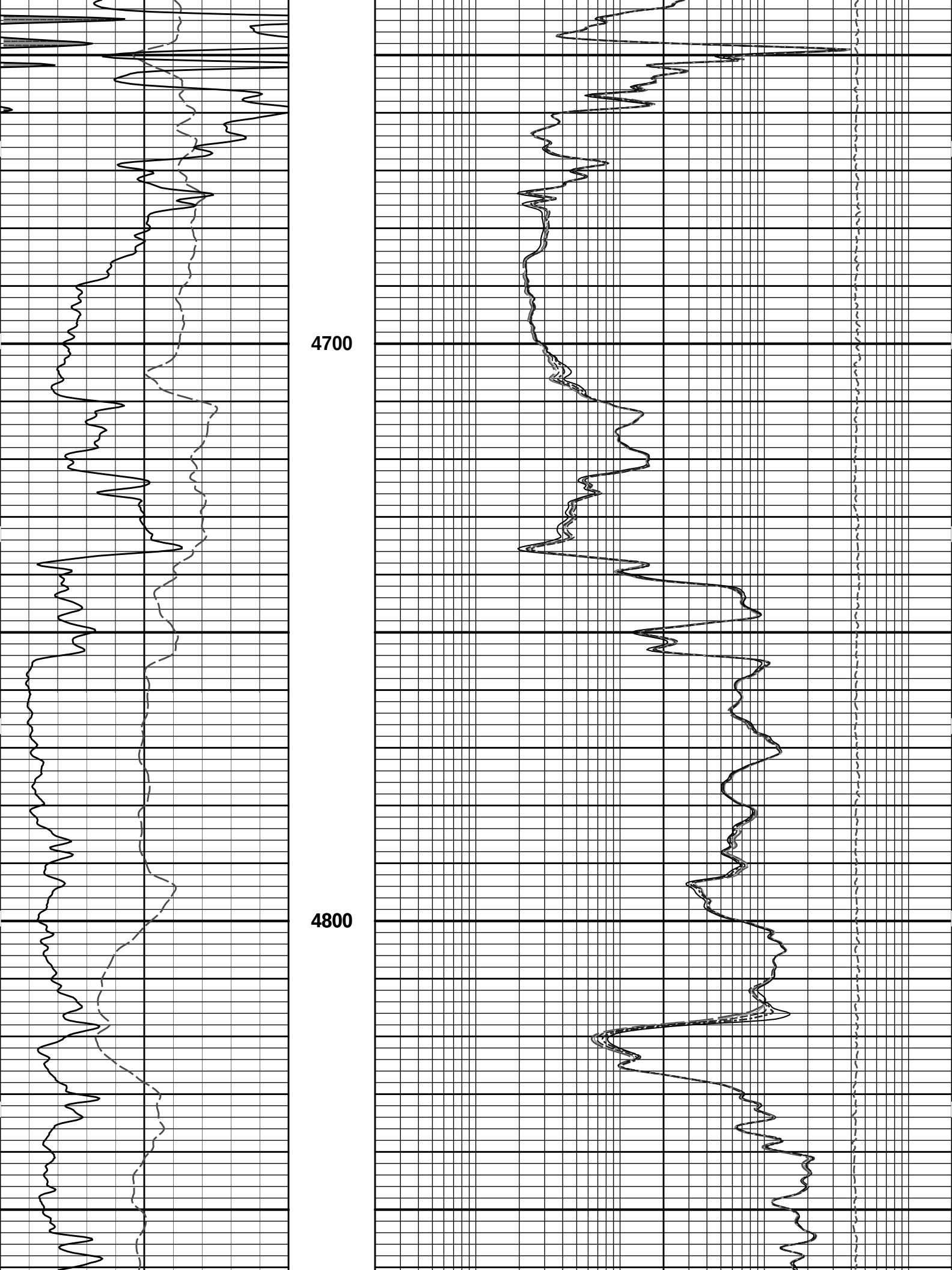
	0.2 **90in Resistivity 2ft Res** 2000
	ohmm
	0.2 **60in Resistivity 2ft Res** 2000
	ohmm
	0.2 **30in Resistivity 2ft Res** 2000

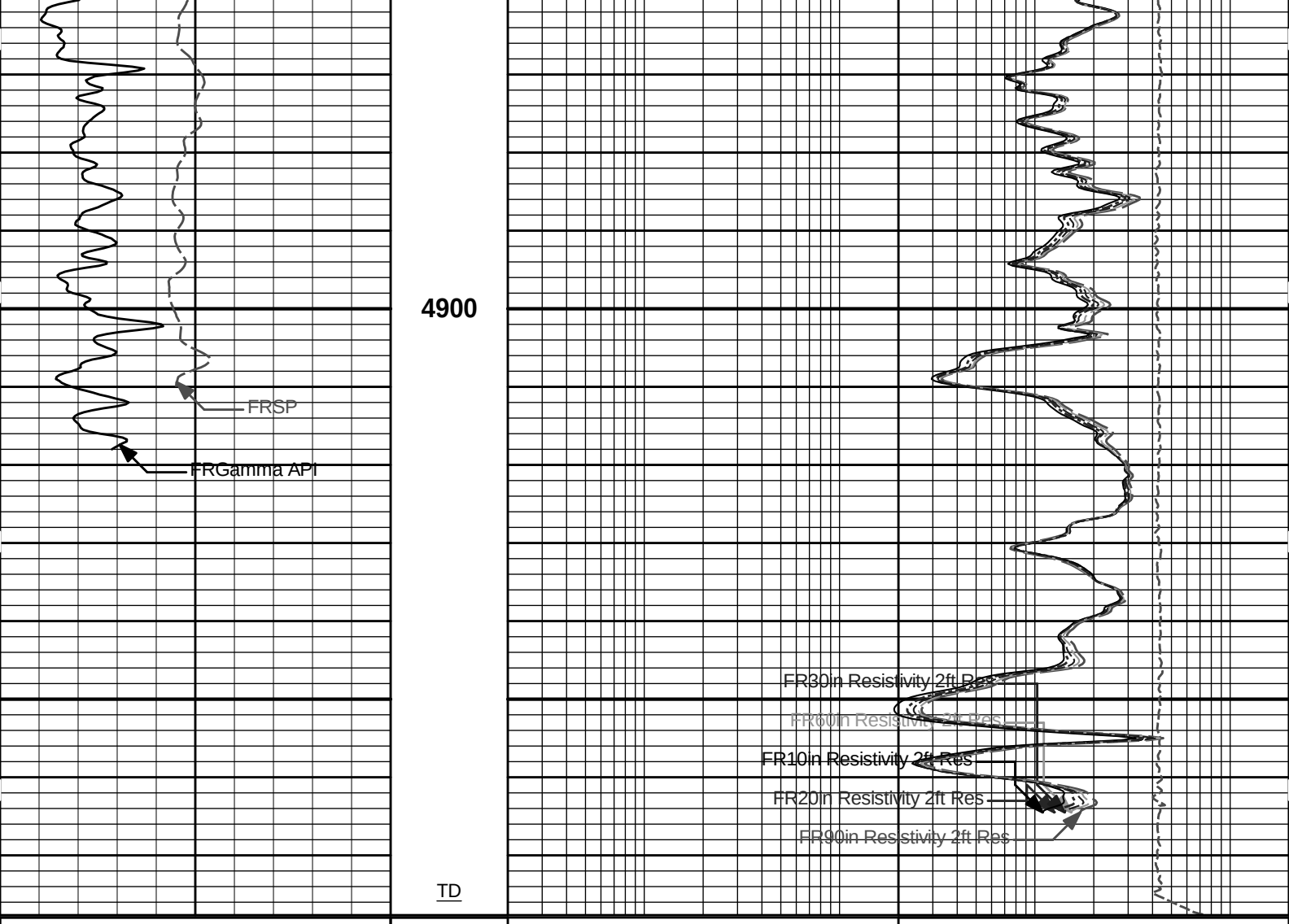

ohm-metre
SHALE
Tension Pull
0.2
20in Resistivity 2ft Res
2000
ohmm
0
Gamma API
150
Tension Pull
10
0
0.2
10in Resistivity 2ft Res
2000
ohmm
api
SP
-]20[+
1 : 240
ft
10K
Tension
0
pounds
3800
3900


4000
4100
4200


4300
SP
Gamma API
20in Resistivity 2ft Res
90in Resistivity 2ft Res
10in Resistivity 2ft Res
30in Resistivity 2ft Res
60in Resistivity 2ft Res
4400


4500
4600


4700
4800



SP -]20[+	1 : 240 ft	10K Tension 0 pounds
0 Gamma API 150 api	Tension Pull 10 0	0.2 10in Resistivity 2ft Res 2000 ohmm
SHALE	Tension Pull	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: 28-Apr-12 23:10:10
Plot Range: 3796 ft to 4977.67 ft
Data: SMU_319\Well Based\QUAD_DETAIL\
Plot File: \\-LOCAL-\SMU_319\0001 SP-GTET-DSN-SDL-BSAT-ACRT-CH\ACRT\ACRT_5_main_lib

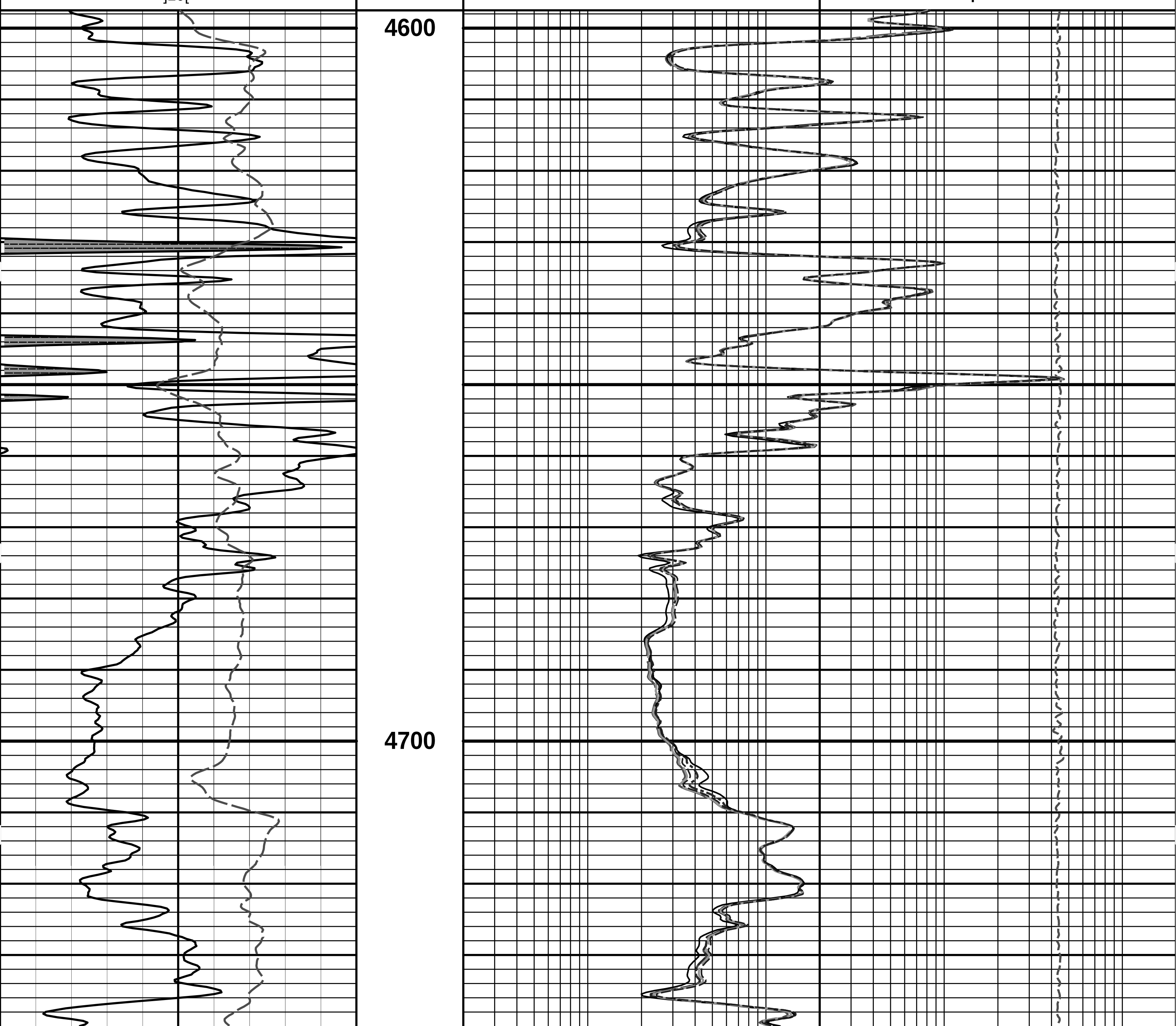
5 INCH MAIN LOG

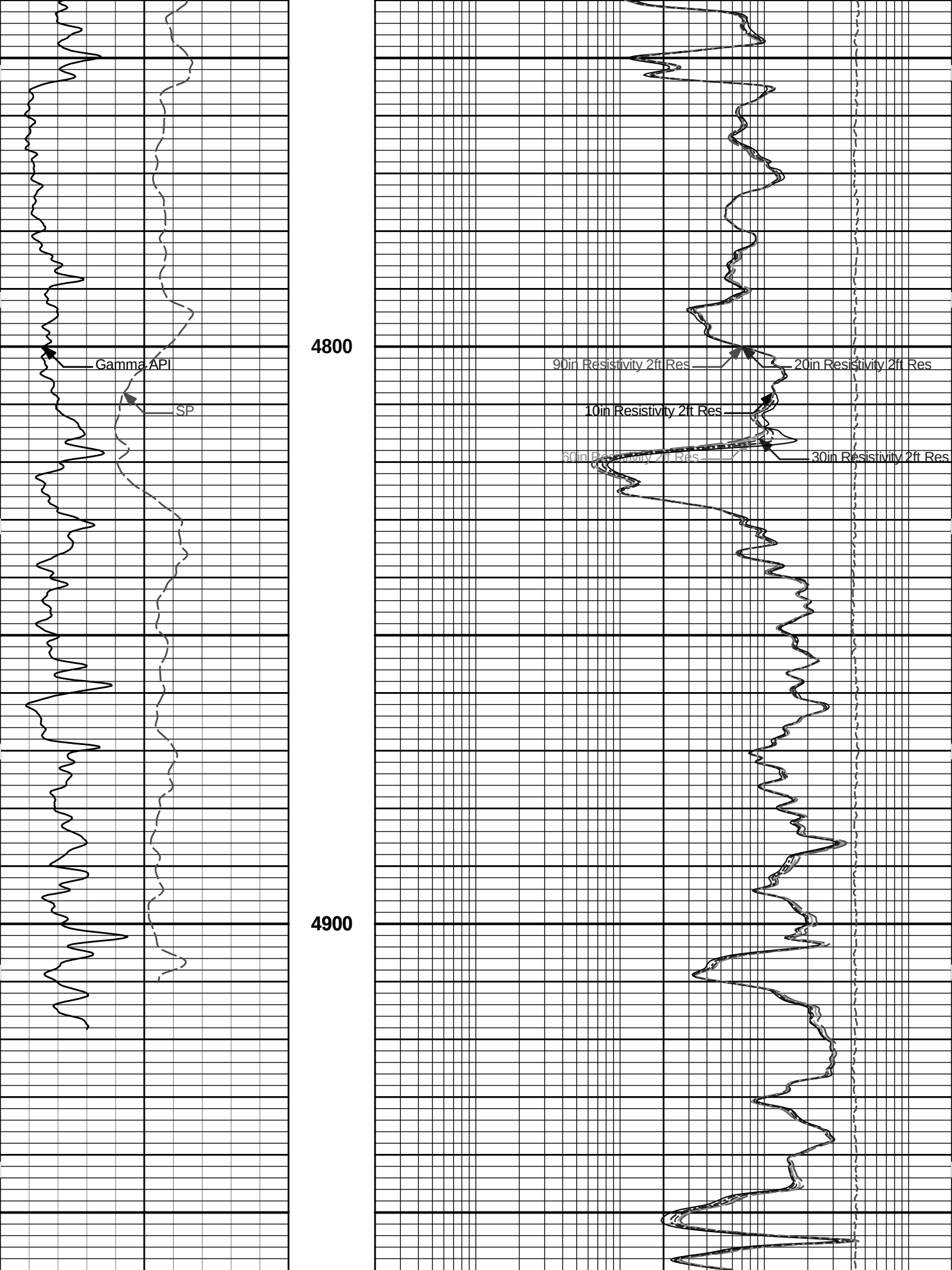
HALLIBURTON

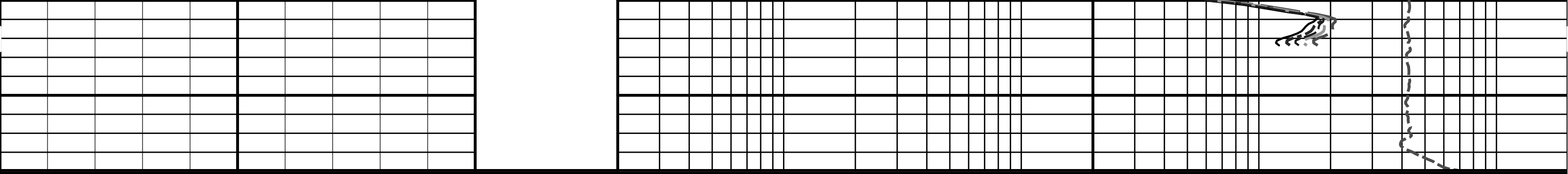
Plot Time: 28-Apr-12 23:10:10
Plot Range: 4597.5 ft to 4977.92 ft
Data: SMU_319\Well Based\QUAD_REPEAT\
Plot File: \\-LOCAL-\SMU_319\0001 SP-GTET-DSN-SDL-BSAT-ACRT-CH\ACRT\ACRT_5_repeat_lib

REPEAT SECTION

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




4800
4900
Gamma API
SP
90in Resistivity 2ft Res
20in Resistivity 2ft Res
10in Resistivity 2ft Res
60in Resistivity 2ft Res
30in Resistivity 2ft Res



SP	1 : 240 ft		10K Tension 0
-]20[+			pounds
0 Gamma API 150		0.2 10in Resistivity 2ft Res 2000	
api		ohmm	
SHALE		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

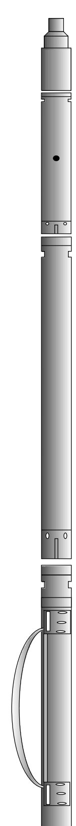
Plot Time: 28-Apr-12 23:10:13
Plot Range: 4597.5 ft to 4977.92 ft
Data: SMU_319\Well Based\QUAD_REPEAT
Plot File: \\-LOCAL-\SMU_319\0001 SP-GTET-DSN-SDL-BSAT-ACRT-CH\ACRT\ACRT_5_repeat_lib

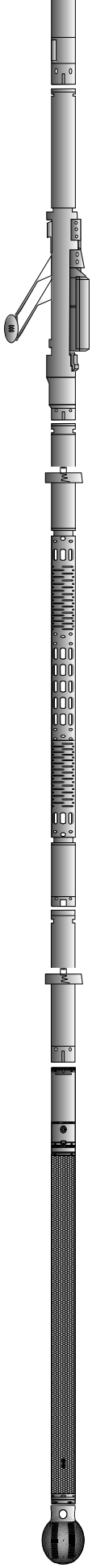
REPEAT SECTION

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
						70.28 ft
Cable Head-PROT01 30.00 lbs		Ø 3.625 in			1.92 ft	68.36 ft
SP Sub-11441709 60.00 lbs		Ø 3.625 in		SP @ 66.59 ft	3.74 ft	64.63 ft
GTET-10811258 165.00 lbs		Ø 3.625 in		GammaRay @ 58.56 ft	8.52 ft	56.11 ft
DSNT-10755066 174.00 lbs	DSN Decentralizer-10735145 6.60 lbs	Ø 5.000 in* Ø 3.625 in			9.69 ft	





DSN Far @ 49.17 ft
DSN Near @ 48.42 ft
46.42 ft
SDLT-I066_M85803_P45
360.00 lbs
Ø 4.500 in
10.81 ft
SDLT Pad-45
65.00 lbs
Microlog Pad-I066_M85803_P45
8.00 lbs
Ø 4.750 in*
Ø 4.750 in*
Microlog @ 38.61 ft
SDL Caliper @ 38.42 ft
SDL @ 38.41 ft
35.61 ft
Regal Standoff 6_75-02
2.00 lbs
Ø 5.625 in*
BSAT-10747683
300.00 lbs
Ø 3.625 in
15.77 ft
Sonic Receivers @ 27.09 ft
19.83 ft
Regal Standoff 6_75-01
2.00 lbs
Ø 5.625 in*
ACRt Instrument-I256
50.00 lbs
Ø 3.625 in
5.03 ft
14.80 ft
Mud Resistivity @ 13.44 ft
ACRt @ 9.46 ft
ACRt Sonde-I1256_S0784
200.00 lbs
Ø 3.625 in
14.22 ft
0.58 ft
Cabbage Head-TRK954
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	68.36	300.00
SP	SP Sub	11441709	60.00	3.74	64.63	300.00

GTET	Gamma Telemetry Tool	10811258	165.00	8.52		56.11	60.00
DSNT	Dual Spaced Neutron	10755066	174.00	9.69		46.42	60.00
DCNT	DSN Decentralizer	10735145	6.60	5.13	*	49.75	300.00
SDLT	Spectral Density Tool	I066_M85803_P45	360.00	10.81		35.61	60.00
MICP	Microlog Pad	I066_M85803_P45	8.00	1.00	*	38.11	60.00
SDLP	Density Insite Pad	45	65.00	2.55	*	37.82	60.00
BSAT	Borehole Sonic Array Tool	10747683	300.00	15.77		19.83	60.00
RSOF	Regal Standoff 6.75in	02	2.00	0.52	*	33.63	300.00
ACRt	Array Compensated True Resistivity Instrument Section	I256	50.00	5.03		14.80	300.00
RSOF	Regal Standoff 6.75in	01	2.00	0.52	*	17.40	300.00
ACRt	Array Compensated True Resistivity	I1256_S0784	200.00	14.22		0.58	300.00
CBHD	Cabbage Head	TRK954	10.00	0.58		0.00	300.00
Total			**1,432.60**	**70.28**			

* Not included in Total Length and Length Accumulation.

Data: SMU_319\0001 SP-GTET-DSN-SDL-BSAT-ACRT-CH\IDLE **Date: 28-Apr-12 19:37:04**

HALLIBURTON

CALIBRATION REPORT

ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION

Tool Name: ACRt Sonde - I1256_S0784 **Reference Calibration Date:** 21-Apr-12 12:49:10

Engineer: C. HAVERKAMP **Calibration Date:** 21-Apr-12 13:10:51

Software Version: WL INSITE R3.4.2 (Build 2) **Calibration Version:** 1

TYPICAL GAIN RANGE

Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	1.0197	1.05	0.95	1.0188	1.05	0.95	1.0045	1.05
A2 (50")	0.95	1.0447	1.05	0.95	1.0465	1.05	0.95	1.0371	1.05
A3 (29")	0.95	1.0002	1.05	0.95	1.0012	1.05	0.95	0.9900	1.05
A4 (17")	0.95	1.0087	1.05	0.95	1.0083	1.05	0.95	1.0012	1.05
A5 (10")	N/A	N/A	N/A	0.95	1.0878	1.05	0.95	1.0796	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.9997	1.05	0.95	0.9920	1.05

TYPICAL SONDE OFFSET RANGE

Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	-5	-0.633	2	-6	-3.832	-2	-8	-4.665	-2
A2 (50")	-7	-1.998	-1	-6	-3.797	-2	-7	-4.385	-2
A3 (29")	-27	-16.405	-9	-9	-4.721	-3	-7	-3.332	-1
A4 (17")	-180	-97.481	-60	-45	-32.702	-15	-39	-26.879	-13
A5 (10")	N/A	N/A	N/A	-150	-106.065	-50	-80	-53.274	-10
A6 (6")	N/A	N/A	N/A	175	298.995	525	90	158.288	270

TRANSMITTER CURRENT GAIN

Signal	Lower	R	Upper
12K	0.6	0.8860	1.3
36K	1.0	1.2039	2.0
72K	1.0	1.5389	2.0

R-MUD VERIFICATION

Signal	Lower (ohm-m)	Measured (ohm-m)	Upper (ohm-m)
Mud Cell	0.95	1.001	1.05

CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
ACRt Sonde-I1256_S0784						
Mud Cell	1.001	----------	----------	0.000	----------	ohm-m

Data: SMU_319\0001 SP-GTET-DSN-SDL-BSAT-ACRT-CH\IDLE **Date: 28-Apr-12 19:39:36**

HALLIBURTON

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	9.000	ppg
	SHARED	WAGT	Weighting Agent	Natural	
	SHARED	BSAL	Borehole salinity	1300.00	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	ST	Surface Temperature	75.0	degF
	SHARED	TD	Total Well Depth	4995.00	ft
	SHARED	BHT	Bottom Hole Temperature	125.0	degF
	SHARED	SVTM	Navigation and Survey Master Tool	NONE	
	SHARED	AZTM	High Res Z Accelerometer Master Tool	GTET	
	SHARED	TEMM	Temperature Master Tool	NONE	
	SHARED	BHSM	Borehole Size Master Tool	NONE	
	Rwa / CrossPlot	XPOK	Process Crossplot?	No	
	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	DNSO	DSN Standoff - 0.25 in (6.35 mm) Recommended	0.250	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	
	SDLT Pad	DNOK	Process Density?	Yes	
	SDLT Pad	DNOK	Process Density EVR?	No	

	SDLT Pad	DNOR	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
	Microlog Pad	MLOK	Process MicroLog Outputs?	Yes	
	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	
	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	RMIN	Maximum Resistivity for MAP	200.00	ohmm
	ACRt Sonde	THQY	Threshold Quality	0.50	
BOTTOM					

Data: SMU_319\0001 SP-GTET-DSN-SDL-BSAT-ACRT-CH\IDLE **Date: 28-Apr-12 19:37:55**

HALLIBURTON

INPUTS, DELAYS AND FILTERS TABLE

Mnemonic	Input Description	Delay (ft)	Filter Type	Filter Length (ft)
	Depth Panel			
TENS	Tension	0.00	NO	
	SP Sub			
PLTC	Plot Control Mask	66.58	NO	
SP	Spontaneous Potential	66.58	BLK	1.250
SPR	Raw Spontaneous Potential	66.58	NO	
SPO	Spontaneous Potential Offset	66.58	NO	
	GTET			
TPUL	Tension Pull	58.56	NO	
GR	Natural Gamma Ray API	58.56	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API	58.56	NO	
EGR	Natural Gamma Ray API with Enhanced Vertical Resolution	58.56	W	1.416 , 0.750
ACCZ	Accelerometer Z	0.00	BLK	0.083
DEVI	Inclination	0.00	NO	
	DSNT			
TPUL	Tension Pull	48.32	NO	
RNDS	Near Detector Telemetry Counts	48.42	BLK	1.417
RFDS	Far Detector Telemetry Counts	49.17	TRI	0.583
DNTT	DSN Tool Temperature	48.42	NO	
DSNS	DSN Tool Status	48.32	NO	
ERND	Near Detector Telemetry Counts EVR	48.42	BLK	0.000

ERND	Near Detector Telemetry Counts EVR	48.42	BLK	0.000
ERFD	Far Detector Telemetry Counts EVR	49.17	BLK	0.000
ENTM	DSN Tool Temperature EVR	48.42	NO	
	SDLT			
TPUL	Tension Pull	38.42	NO	
PCAL	Pad Caliper	38.42	TRI	0.250
ACAL	Arm Caliper	38.42	TRI	0.250
	BSAT			
TPUL	Tension Pull	27.09	NO	
STAT	Status	27.09	NO	
DLYT	Delay Time	27.09	NO	
SI	Sample Interval	27.09	NO	
TXRX	Raw Telemetry 10 Receivers	27.09	NO	
FRMC	Tool Frame Count	27.09	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

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	

SDLT Pad

TPUL	Tension Pull	38.41	NO	
NAB	Near Above	38.24	BLK	0.920
NHI	Near Cesium High	38.24	BLK	0.920
NLO	Near Cesium Low	38.24	BLK	0.920
NVA	Near Valley	38.24	BLK	0.920
NBA	Near Barite	38.24	BLK	0.920
NDE	Near Density	38.24	BLK	0.920
NPK	Near Peak	38.24	BLK	0.920
NLI	Near Lithology	38.24	BLK	0.920
NBAU	Near Barite Unfiltered	38.24	BLK	0.250
NLIU	Near Lithology Unfiltered	38.24	BLK	0.250
FAB	Far Above	38.58	BLK	0.250
FHI	Far Cesium High	38.58	BLK	0.250
FLO	Far Cesium Low	38.58	BLK	0.250
FVA	Far Valley	38.58	BLK	0.250
FBA	Far Barite	38.58	BLK	0.250
FDE	Far Density	38.58	BLK	0.250
FPK	Far Peak	38.58	BLK	0.250
FLI	Far Lithology	38.58	BLK	0.250
PTMP	Pad Temperature	38.42	BLK	0.920
NHV	Near Detector High Voltage	37.81	NO	
FHV	Far Detector High Voltage	37.81	NO	
ITMP	Instrument Temperature	37.81	NO	
DDHV	Detector High Voltage	37.81	NO	

Microlog Pad

TPUL	Tension Pull	38.60	NO	
MINV	Microlog Lateral	38.60	BLK	0.750
MNOR	Microlog Normal	38.60	BLK	0.750

Data: SMU_319\0001 SP-GTET-DSN-SDL-BSAT-ACRT-CH\IDLE **Date: 28-Apr-12 19:37:35**

COMPANY	**OXY USA INC**
WELL	**SMU #319**
FIELD	**SEQUOYAH MORROW UNIT**
COUNTY	**FINNEY** STATE **KANSAS**

HALLIBURTON

Plot Time: 28-Apr-12 23:10:13
Plot Range: 1810 ft to 4964.5 ft
Data: SMU_319\Well Based\QUAD_CASING\
Plot File: \\-LOCAL-\SMU_319\0001 SP-GTET-DSN-SDL-BSAT-ACRT-CH\ACRT\ACRT_1_lib

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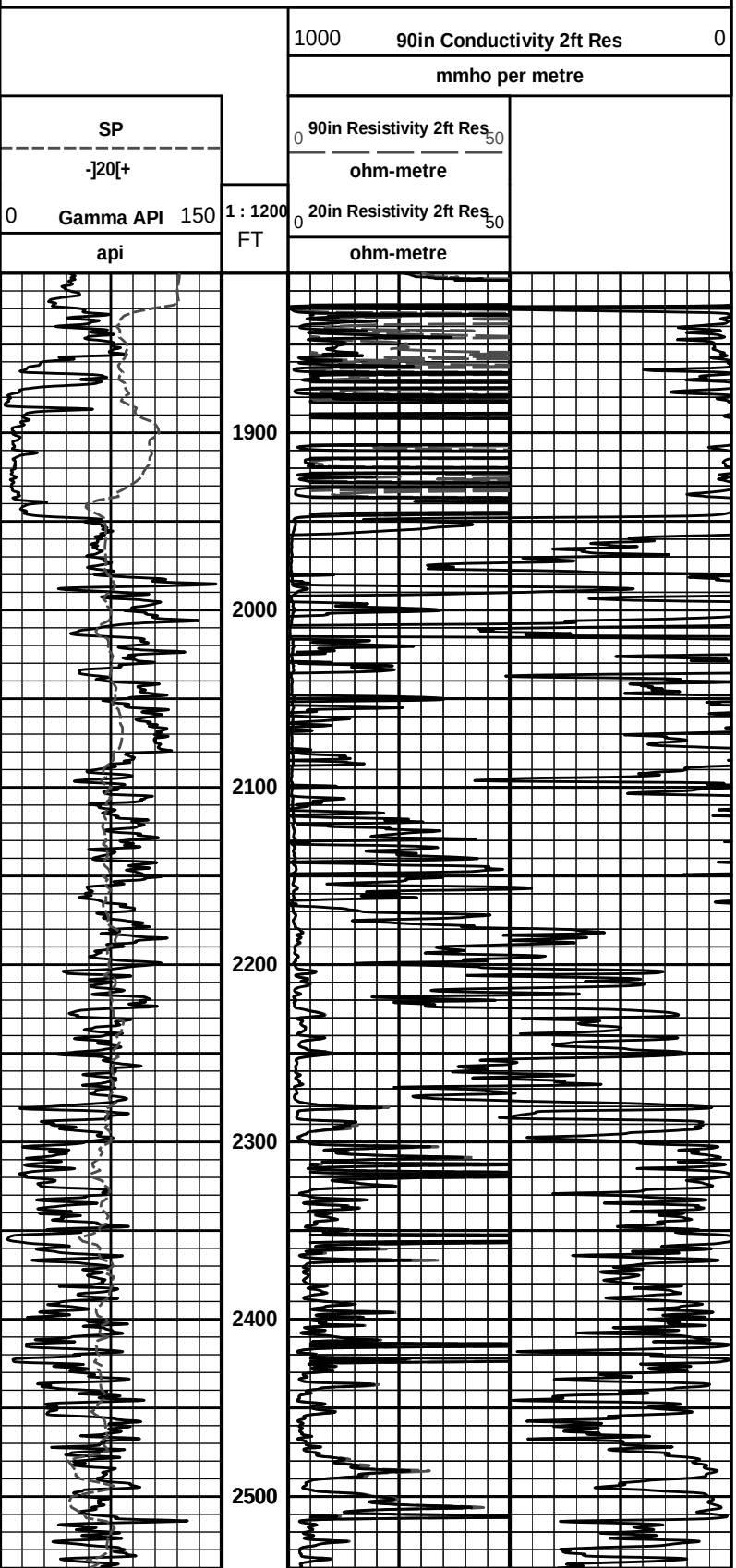

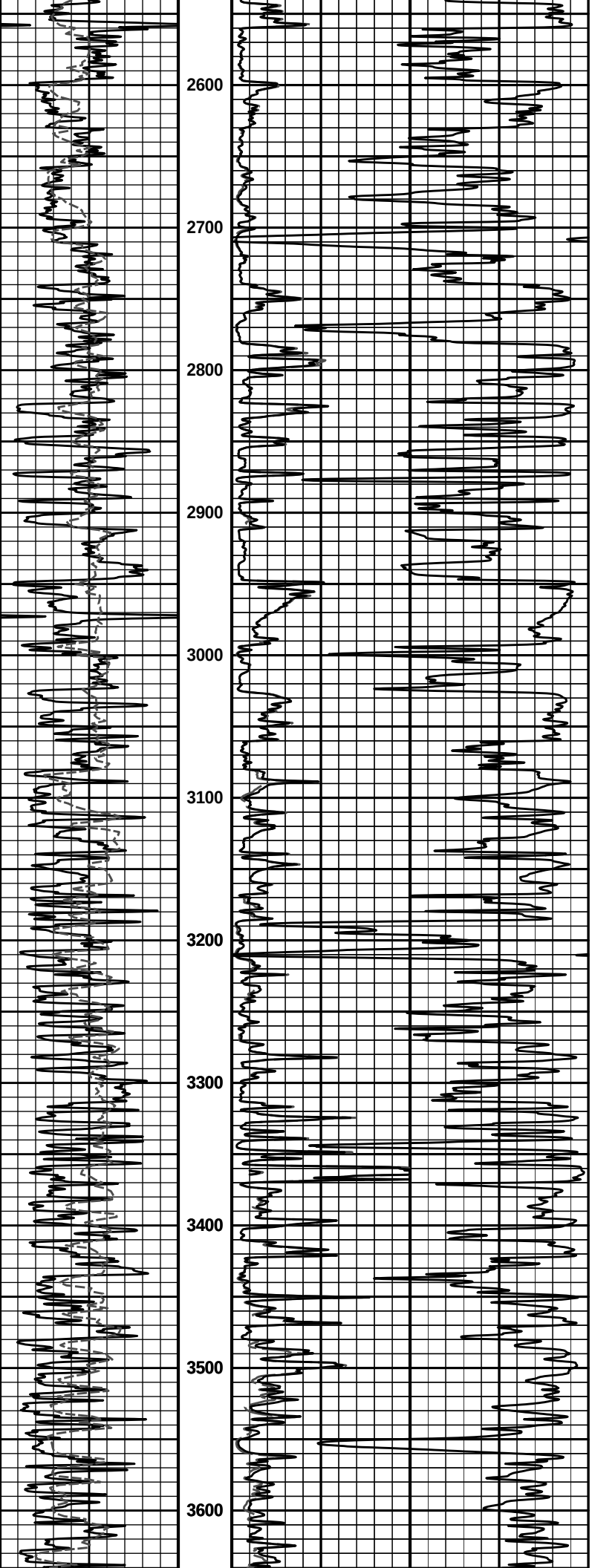
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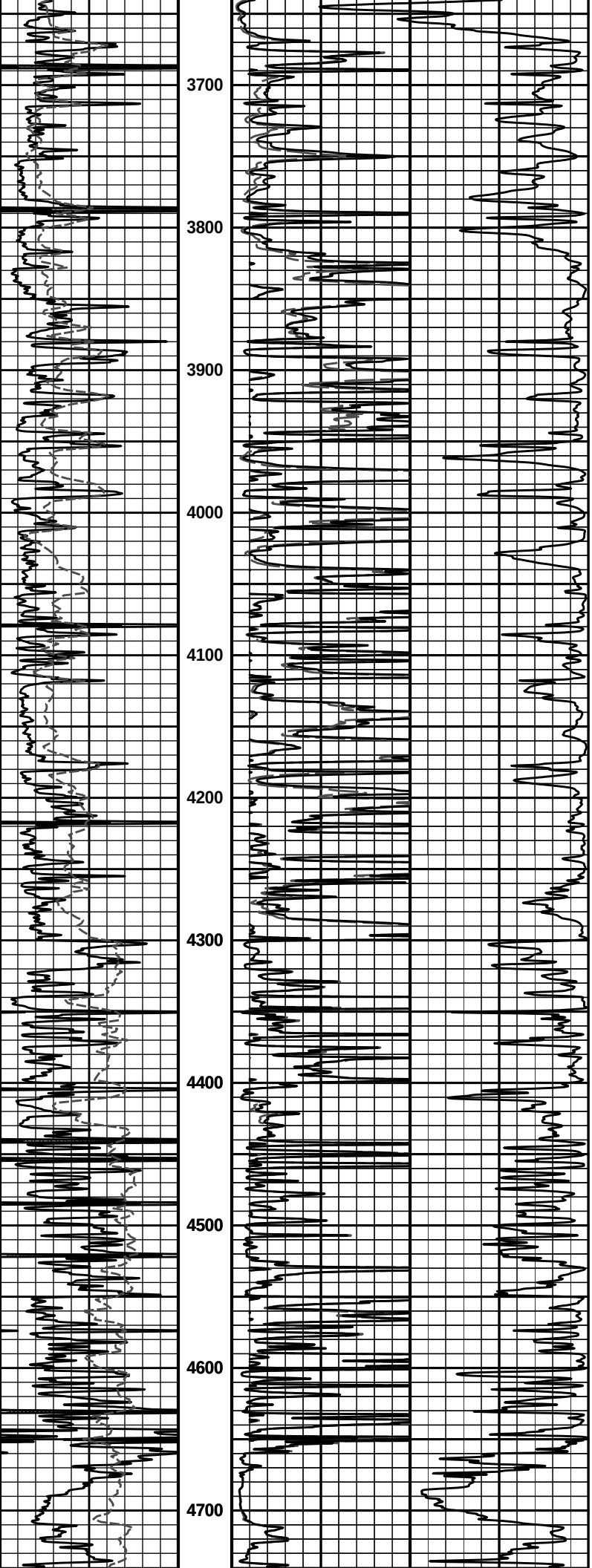
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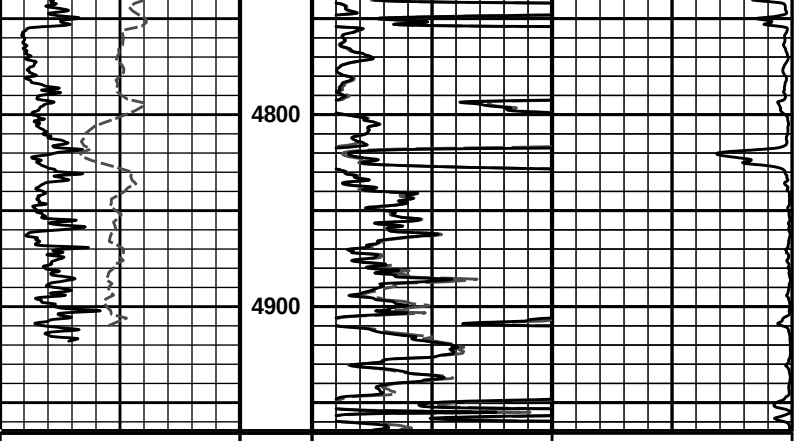

0 Gamma API 150	1 : 1200 FT	0 20in Resistivity 2ft Res 50
api		ohm-metre
SP		0 90in Resistivity 2ft Res 50
-]20[+		ohm-metre
		1000 90in Conductivity 2ft Res 0
		mmho per metre

HALLIBURTON

Plot Time: 28-Apr-12 23:10:15
Plot Range: 1810 ft to 4964.5 ft
Data: SMU_319\Well Based\QUAD_CASING
Plot File: \\-LOCAL-\SMU_319\0001 SP-GTET-DSN-SDL-BSAT-ACRT-CH\ACRT\ACRT_1_lib

1 INCH MAIN LOG