

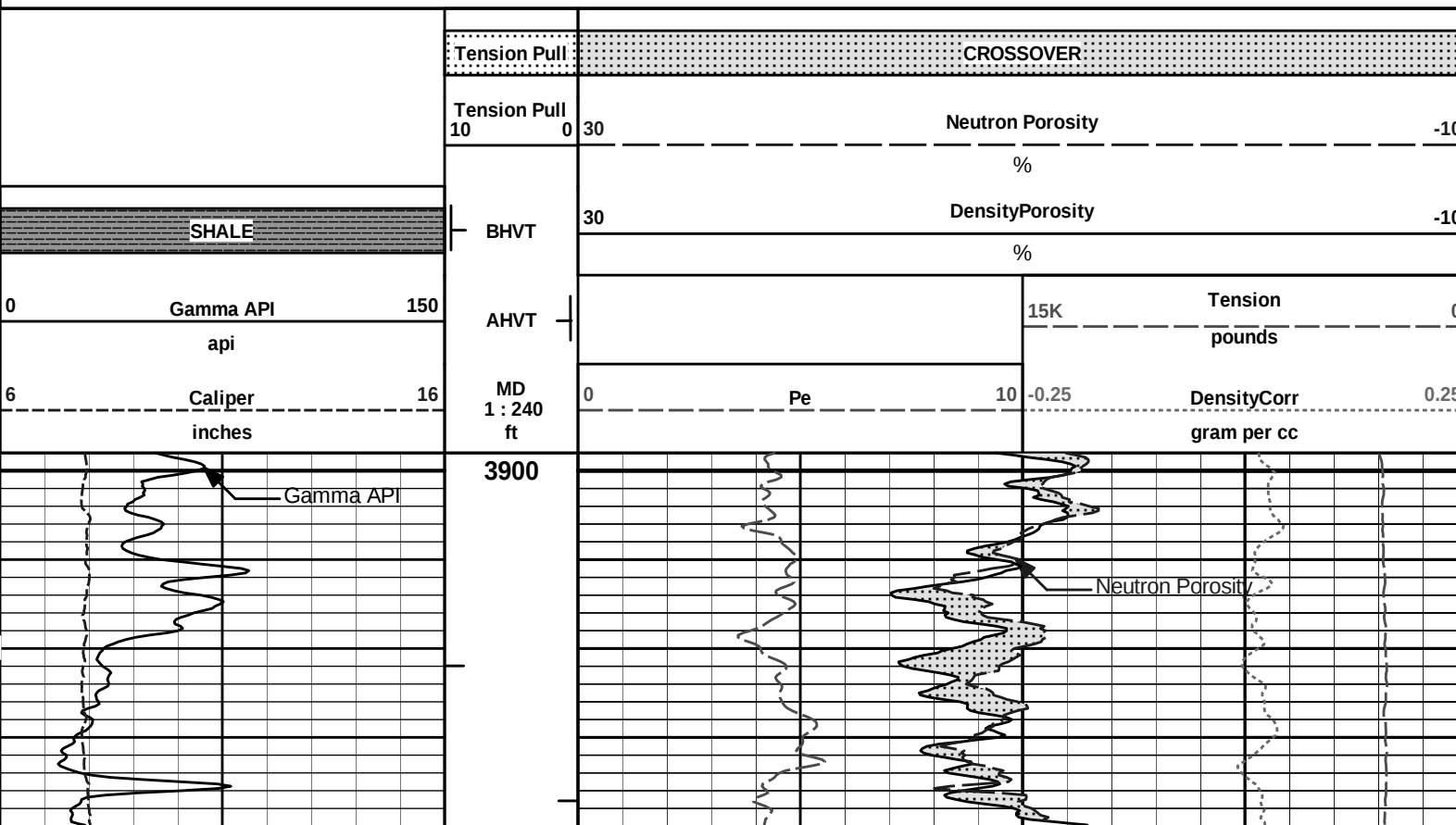
HALLIBURTON

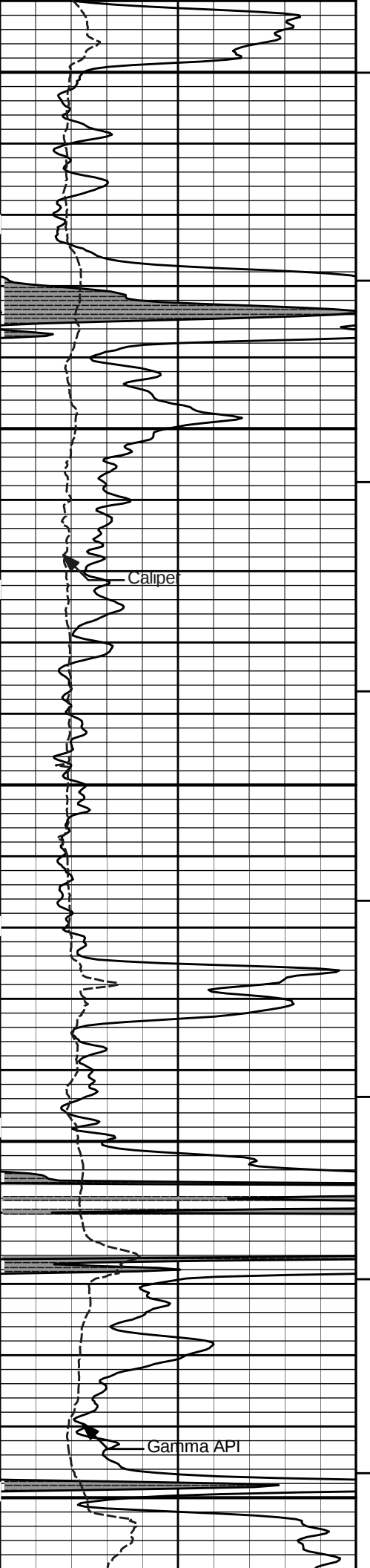
DUAL SPACED NEUTRON SPECTRAL DENSITY LOG

COMPANY		HERMAN L LOEB	
WELL		CHARLES EINSEL 3-21	
FIELD		FRALICK WEST	
COUNTY		KIOWA	
STATE		KANSAS	
Permanent Datum Log measured from Drilling measured from	GL KB KB	Sect. 21 Twp. 27S Rge. 20W	Elev. 2295.0 ft D.F. G.L. 2306.0 ft 2305.0 ft 2295.0 ft
	16-Feb-12 ONE		
Depth - Driller		5000.00 ft	
Depth - Logger		4996.0 ft	
Bottom - Logged Interval		4974.0 ft	
Top - Logged Interval		3900.0 ft	
Casing - Driller		8.625 in @ 595.0 ft	
Casing - Logger		595.0 ft	
Bit Size		7.875 in @	
Type Fluid in Hole		WATER BASED MUD	
Density	Viscosity	9.3 ppq	49.00 s/qt
PH	Fluid Loss	10.00 pH	8.0 cpm
Source of Sample		FLOW LINE	
Rm @ Meas. Temperature		0.400 ohmm @ 70.00 degF	@
Rmf @ Meas. Temperature		0.34 ohmm @ 70.00 degF	@
Rmc @ Meas. Temperature		0.464 ohmm @ 70.00 degF	@
Source Rmf	Rmc	MEAS	MEAS
Rm @ BHT		0.26 ohmm @ 110.0 degF	@
Time Since Circulation		4.5 hr	
Time on Bottom		16-Feb-12 18:56	
Max. Rec. Temperature		110.0 degF @ 5000.0 ft	@
Equipment	Location	10546696	LIBERAL
Recorded By		C.PARKER	
Witnessed By		T. PRONOLD	

Fold here

Service Ticket No.: 9291693						API Serial No.: 15-097-21716						PGM Version: WL INSITE R3.4.2 (Build 2)																	
CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE												RESISTIVITY SCALE CHANGES																	
Date		Sample No.										Type Log		Depth		Scale Up Hole				Scale Down Hole									
Depth-Driller																													
Type Fluid in Hole																													
Density		Viscosity																											
Ph		Fluid Loss																											
Source of Sample												RESISTIVITY EQUIPMENT DATA																	
Rm @ Meas. Temp				@				@				Run No.		Tool Type & No.				Pad Type				Tool Pos.				Other			
Rmf @ Meas. Temp.				@				@				ONE		MICRO M469				RUBBER				ADJ				N/A			
Rmc @ Meas. Temp.				@				@																					
Source Rmf		Rmc																											
Rm @ BHT				@				@																					
Rmf @ BHT				@				@																					
Rmc @ BHT				@				@																					
EQUIPMENT DATA																													
GAMMA						ACOUSTIC						DENSITY						NEUTRON											
Run No.		ONE				Run No.						Run No.		ONE				Run No.		ONE									
Serial No.		11039640				Serial No.						Serial No.		I43_M469				Serial No.		11019643									
Model No.		GTET				Model No.						Model No.		SDLT				Model No.		DSNT									
Diameter		3.625"				No. of Cent.						Diameter		4.5"				Diameter		3.625									
Detector Model No.		T-102				Spacing						Log Type		GAM-GAM				Log Type		NEU-NEU									
Type		SCINT										Source Type		Cs-137				Source Type		Am241Be									
Length		8"				LSA [Y/N]						Serial No.		5168 GW				Serial No.		DSN-424									
Distance to Source		10'				FWDA [Y/N]						Strength		1.5Ci				Strength		15Ci									



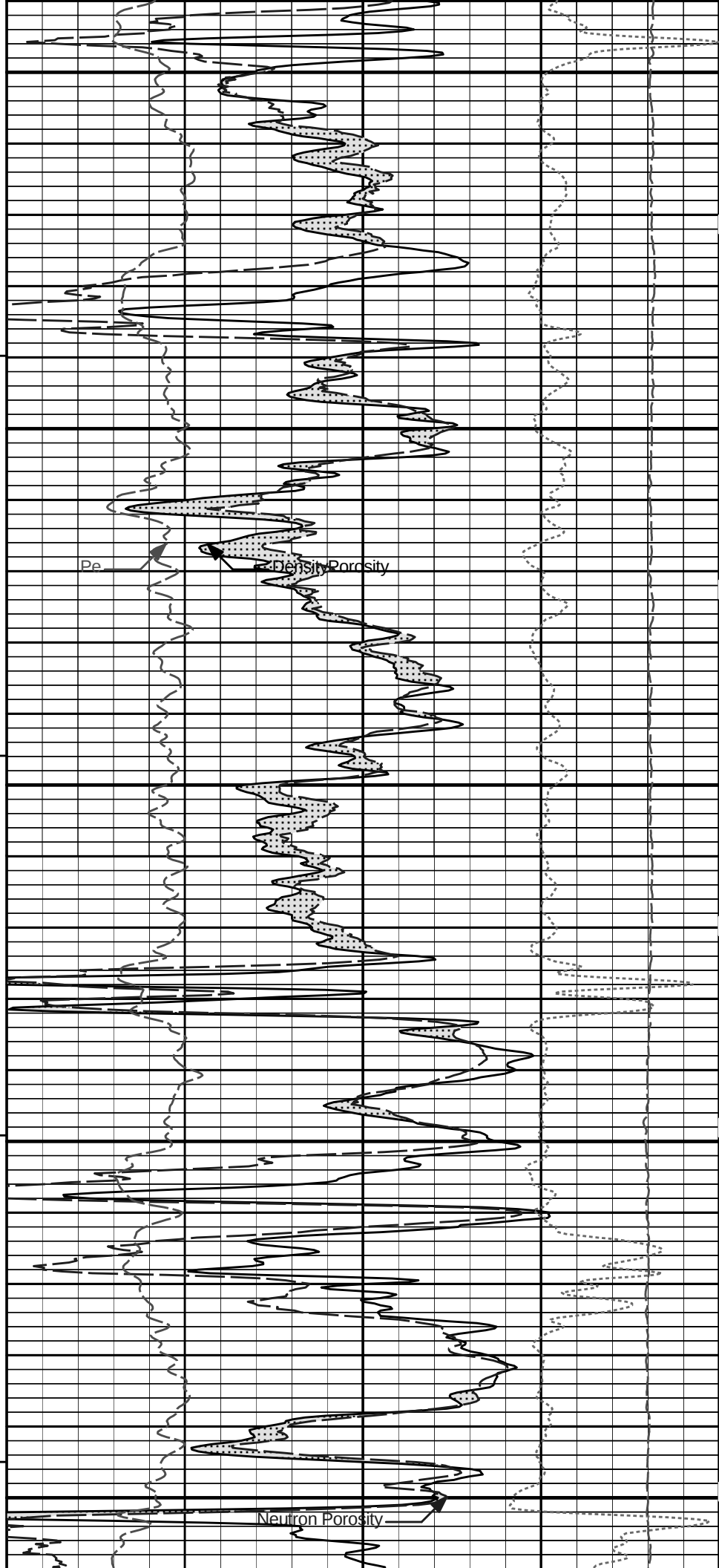


4000

Caliper

4100

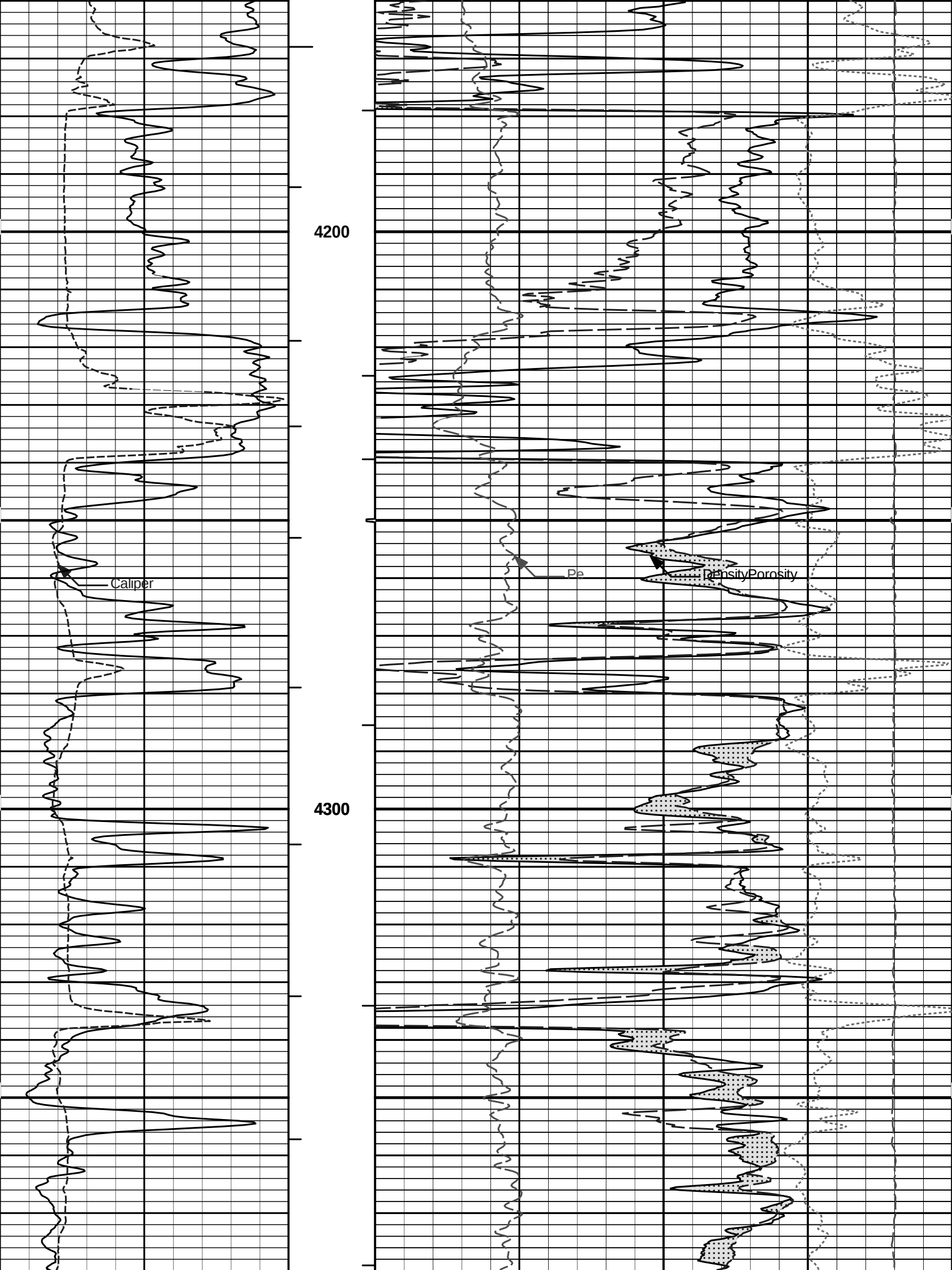
Gamma API

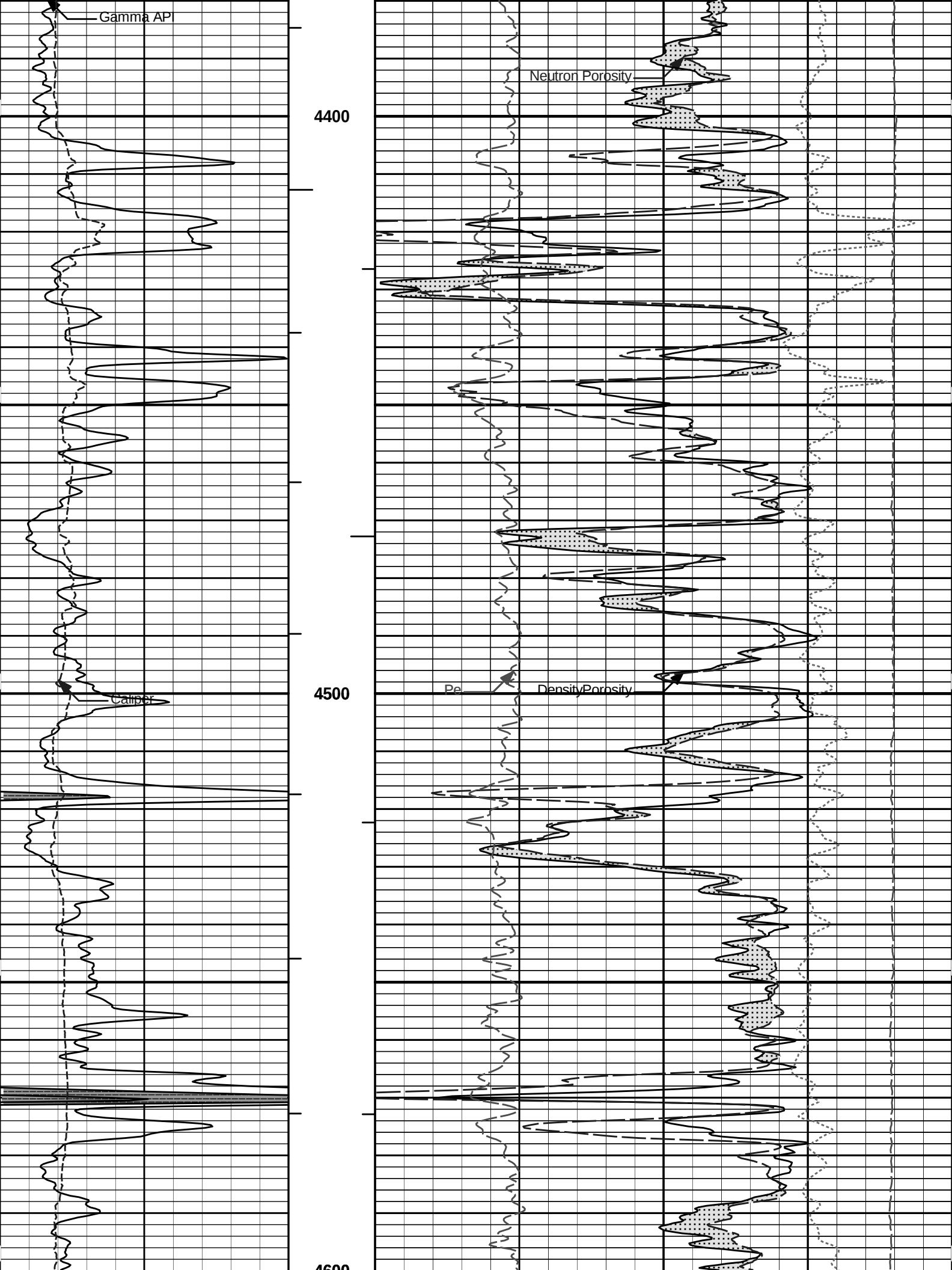


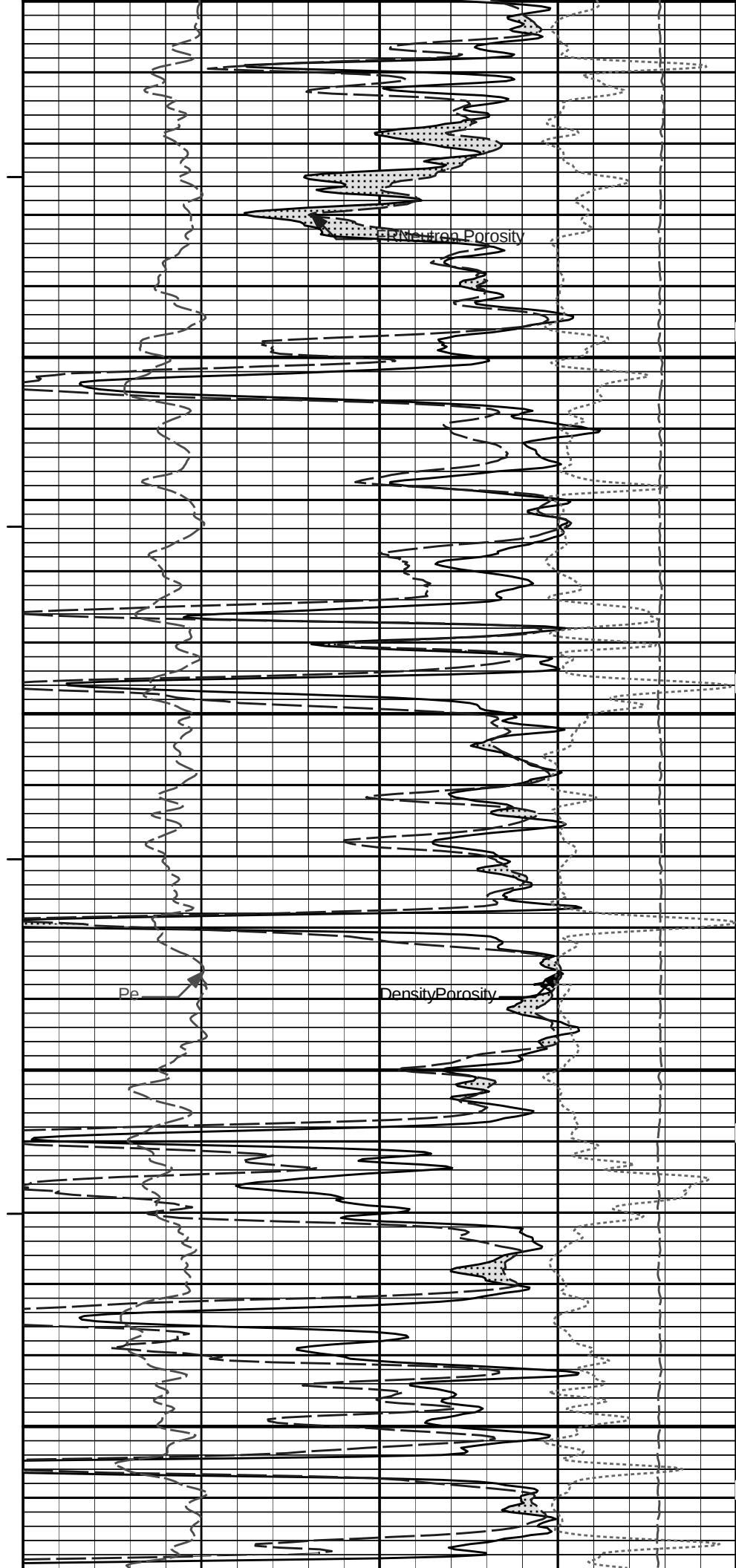
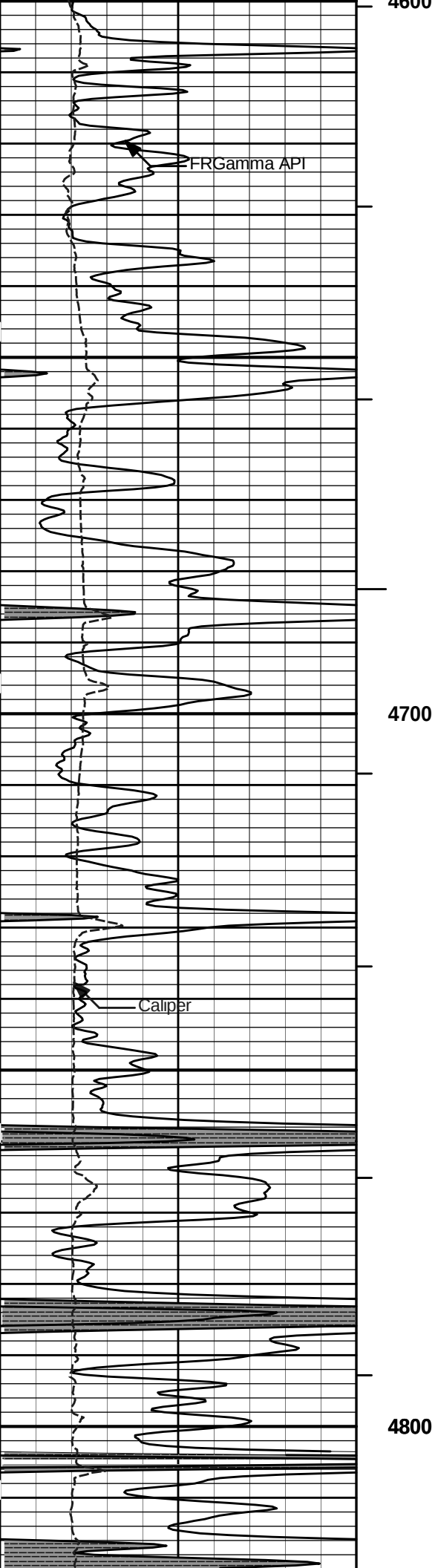
Pe

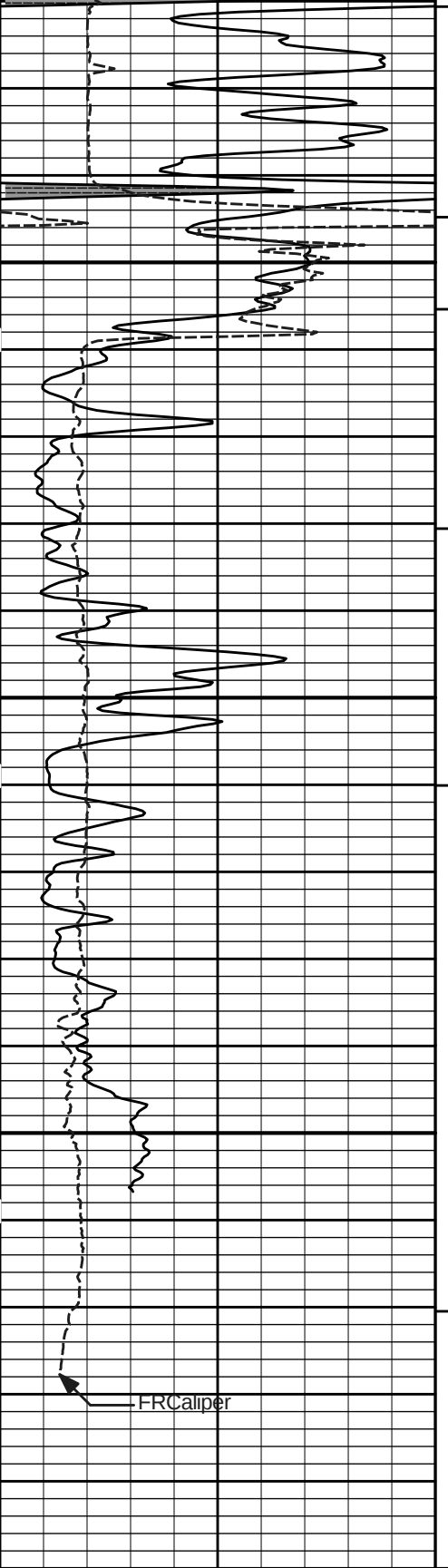
Density Porosity

Neutron Porosity



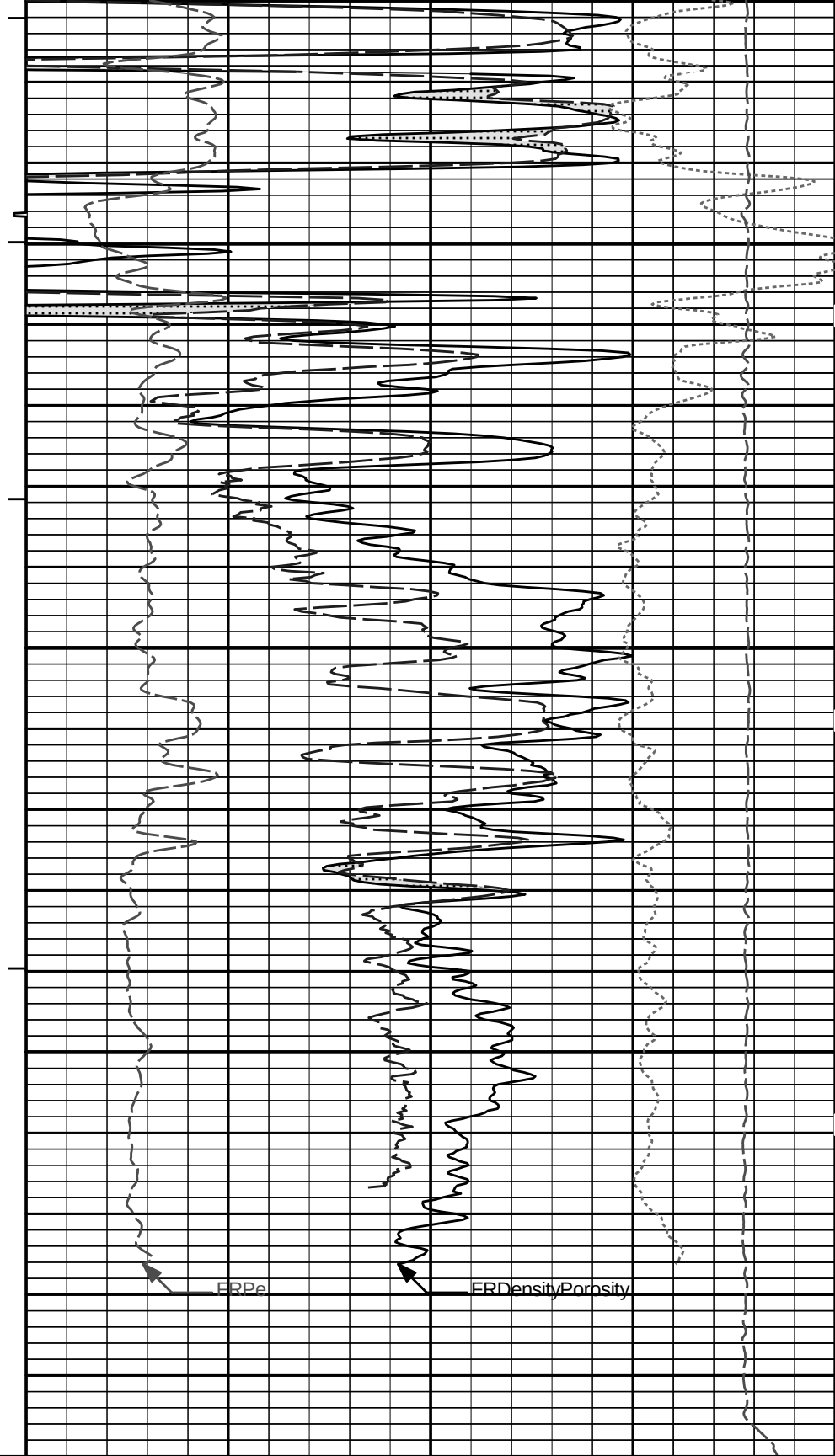






4900

5000



6	Caliper	16
inches		
0	Gamma API	150
api		
SHALE		

MD	1 : 240
ft	
AHVT	
BHVT	
Tension Pull	10 0

0	Pe	10	-0.25	DensityCorr	0.25
			gram per cc		
			15K	Tension	0
			pounds		
30	DensityPorosity				-10
%					
30	Neutron Porosity				-10
%					

Tension Pull

CROSSOVER

HALLIBURTON

Plot Time: 17-Feb-12 11:41:12
Plot Range: 3898 ft to 5000 ft
Data: CHARLES_EINSEL\Well Based\MAIN\
Plot File: \\PORO\Poros_IQ_5_MAIN_LIB

5 INCH MAIN LOG

HALLIBURTON

Plot Time: 17-Feb-12 11:41:12
Plot Range: 4650 ft to 4936.17 ft
Data: CHARLES_EINSEL\Well Based\DAQ-0001-002\
Plot File: \\PORO\Poros_IQ_5_REP_LIB

REPEAT SECTION

CROSSOVER

30 Neutron Porosity -10

%

30 Density Porosity -10

%

15K Tension 0
pounds

0 Pe 10 -0.25 Density Corr 0.25
gram per cc

SHALE

BHVT

Gamma API

150

AHVT

api

Caliper

16

inches

MD
1 : 240
ft

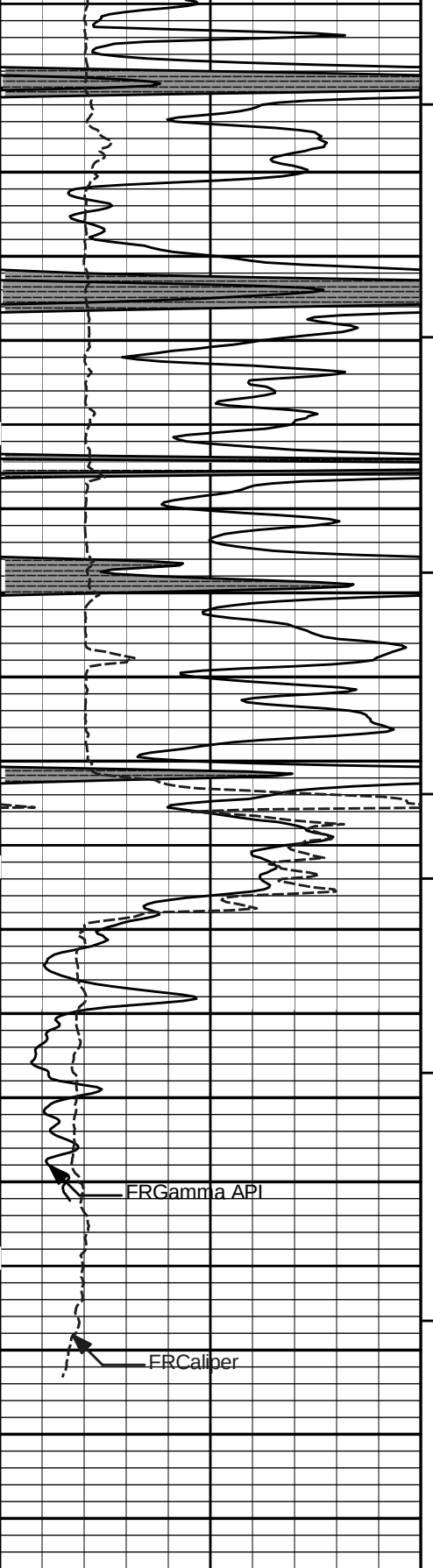
4700

Neutron Porosity

Pe

Density Porosity

Caliper



4800

4900

FRGamma API

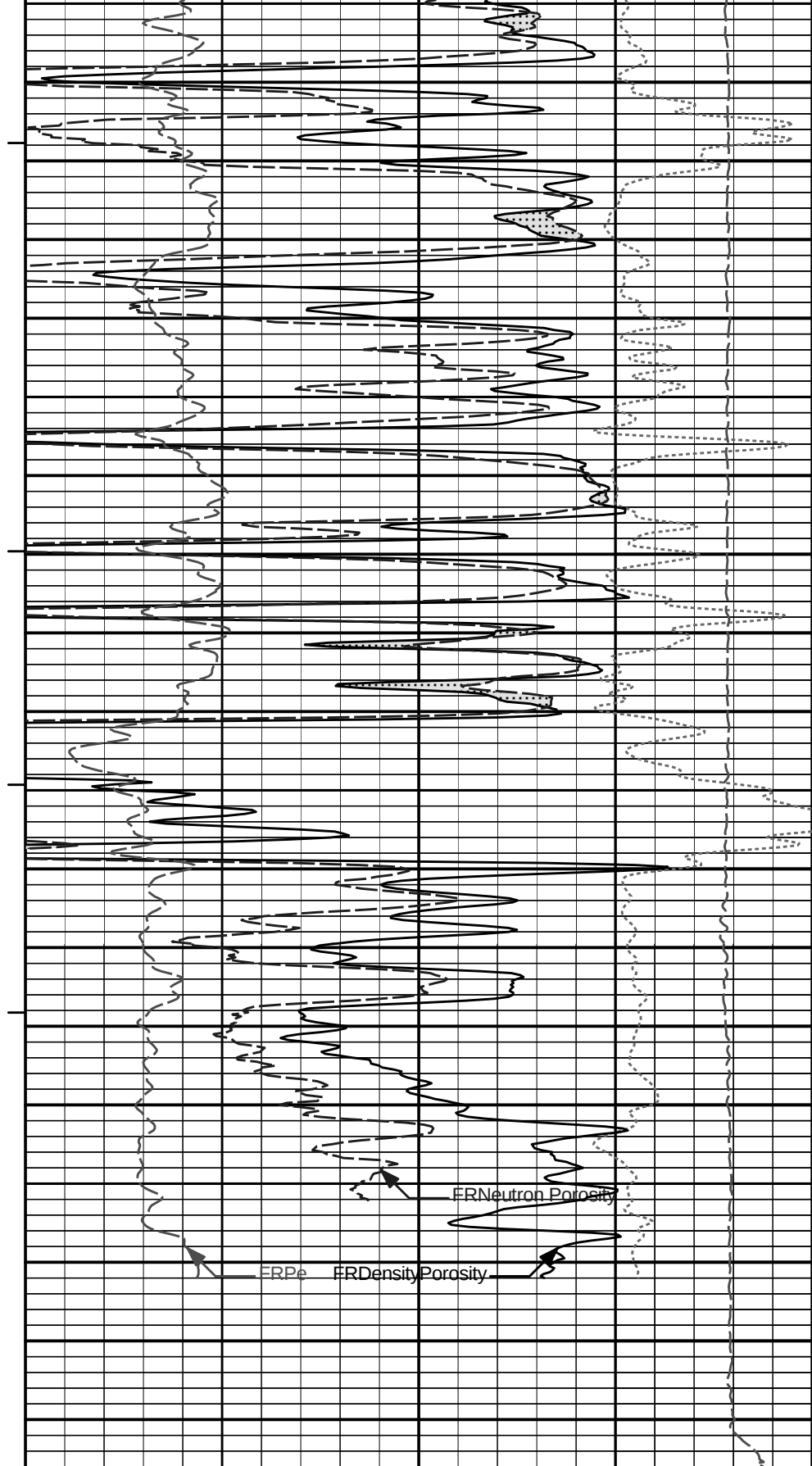
FRCaliber

6	Caliper	16
inches		
0	Gamma API	150
api		
SHALE		

MD
1 : 240
ft

AHVT

BHVT



Pe

10

-0.25

DensityCorr

gram per cc

Tension

pounds

15K

0

DensityPorosity

-10

%

Neutron Porosity

%

CROSSOVER

HALLIBURTON

Plot Time: 17-Feb-12 11:41:15

Plot Range: 4650 ft to 4936.17 ft

Data: CHARLES_EINSEL\Well Based\DAQ-0001-002\

Plot File: \\PORO\Poro_IQ_5_REP_LIB

REPEAT SECTION

HALLIBURTON

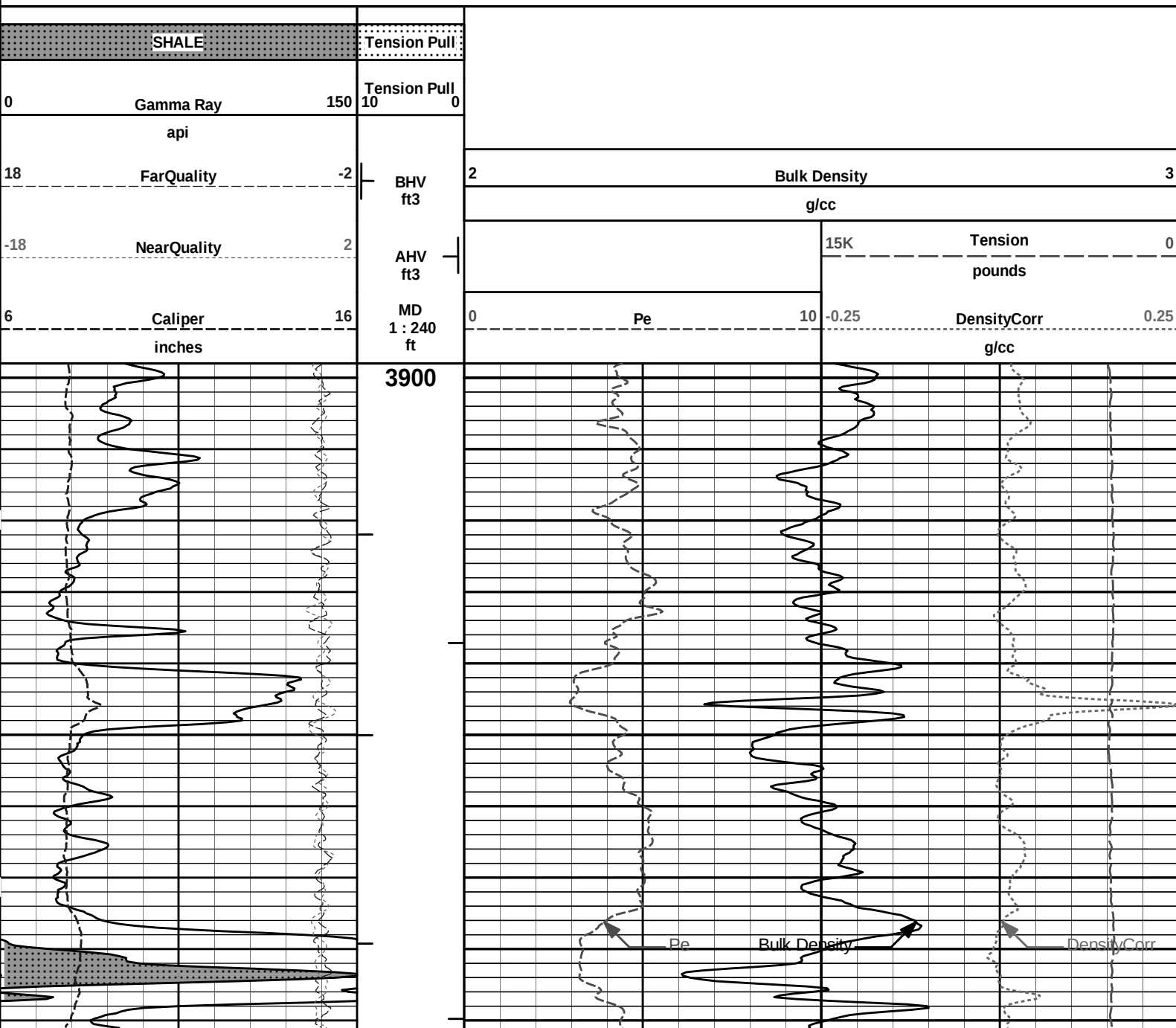
Plot Time: 17-Feb-12 11:41:16

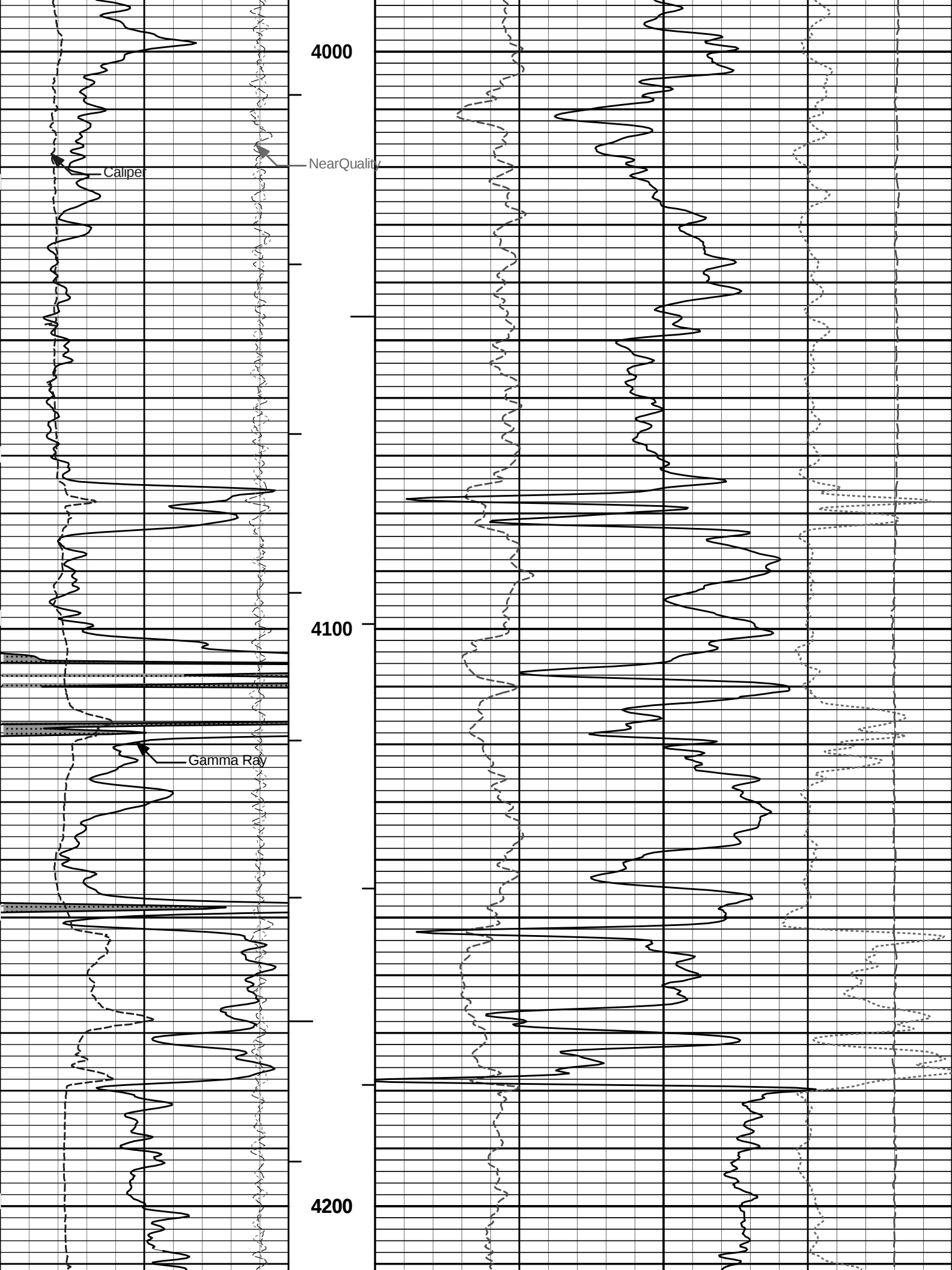
Plot Range: 3898 ft to 5000 ft

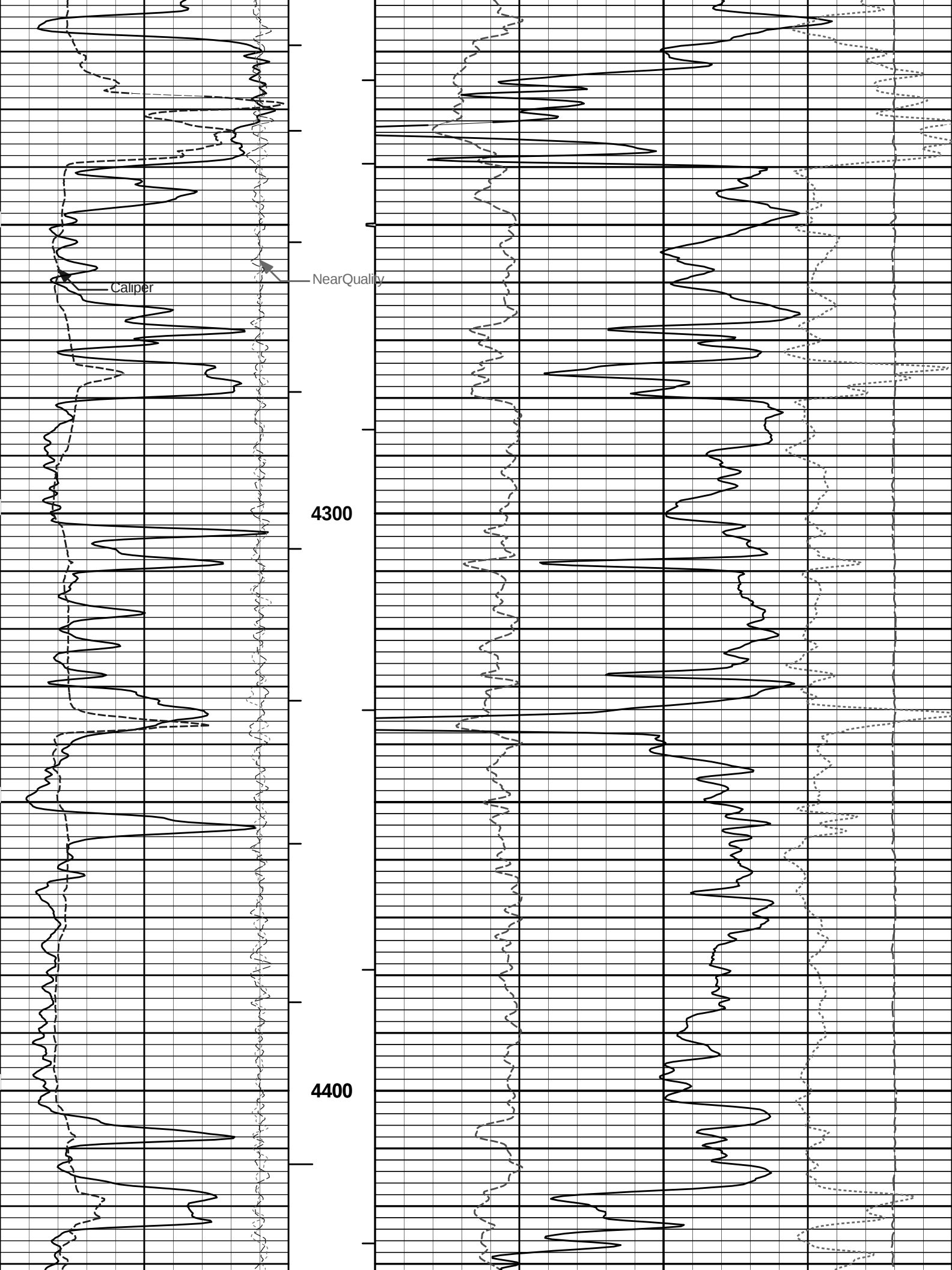
Data: CHARLES_EINSEL\Well Based\MAIN\

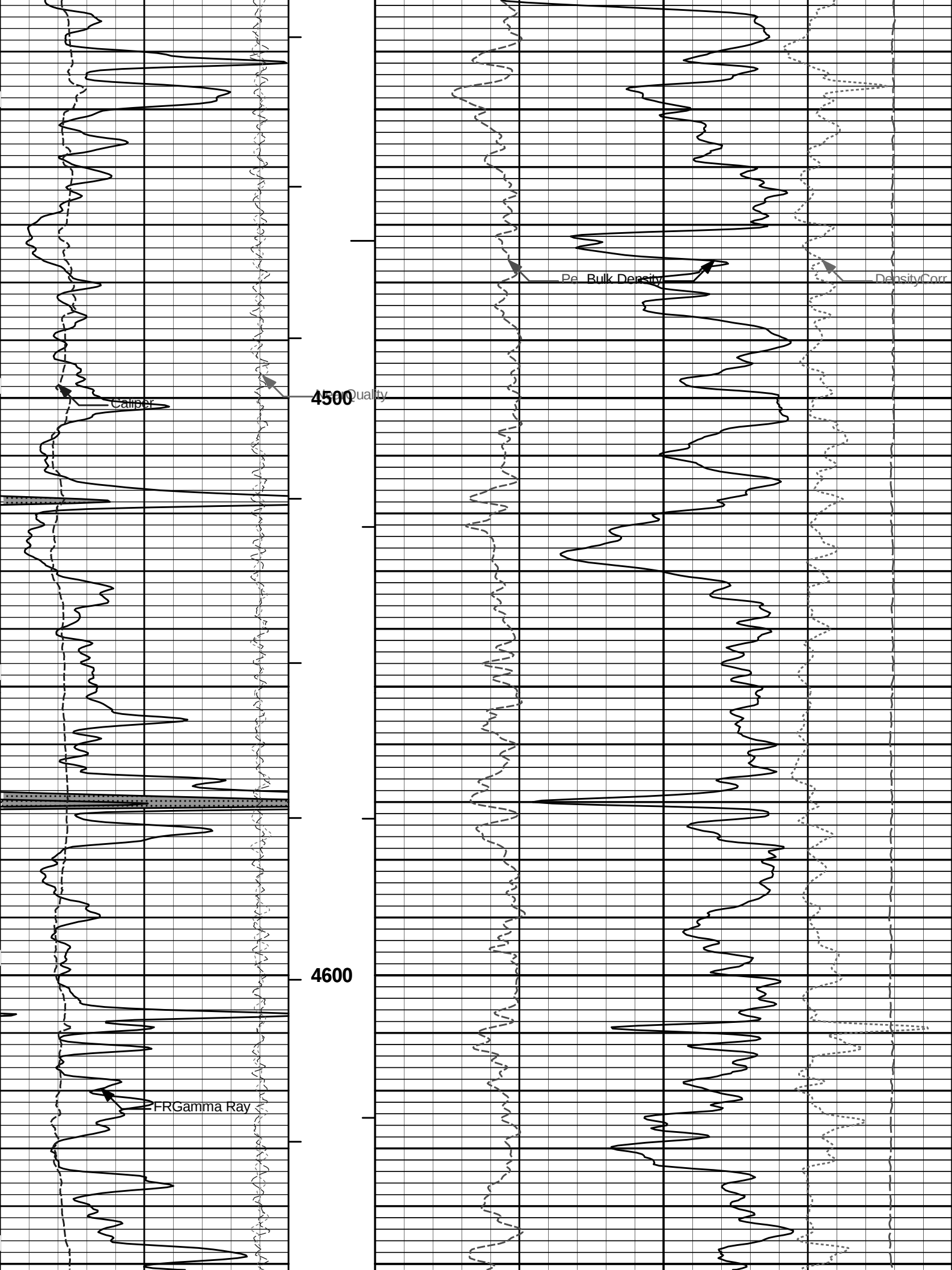
Plot File: \\-LOCAL-\\CHARLES_EINSEL\\0001 SP-GTET-DSN-SDL-BSAT-ACRT-CH\\PORO\\BULKD_5_MAIN_LIB

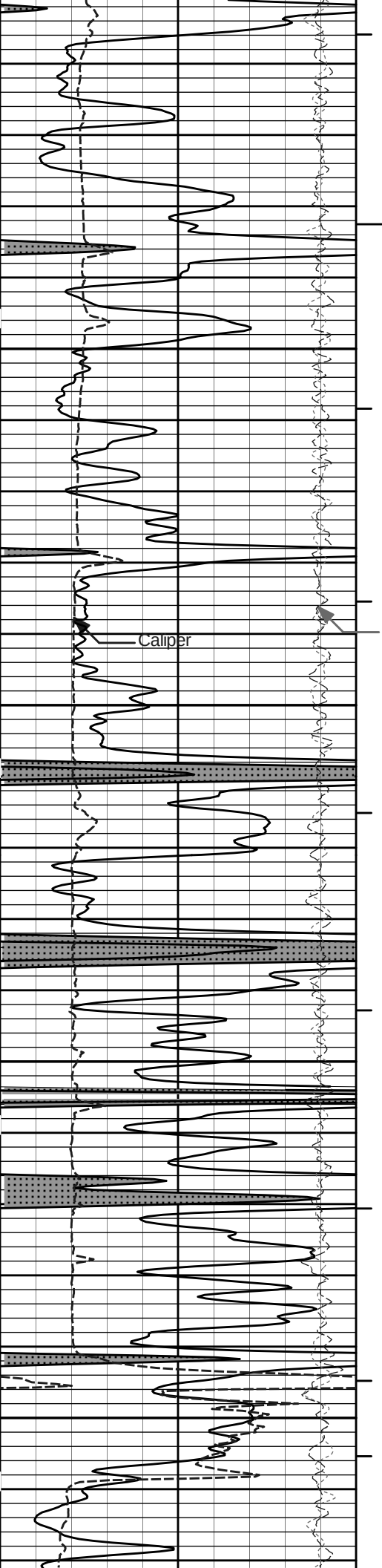
5 INCH MAIN LOG







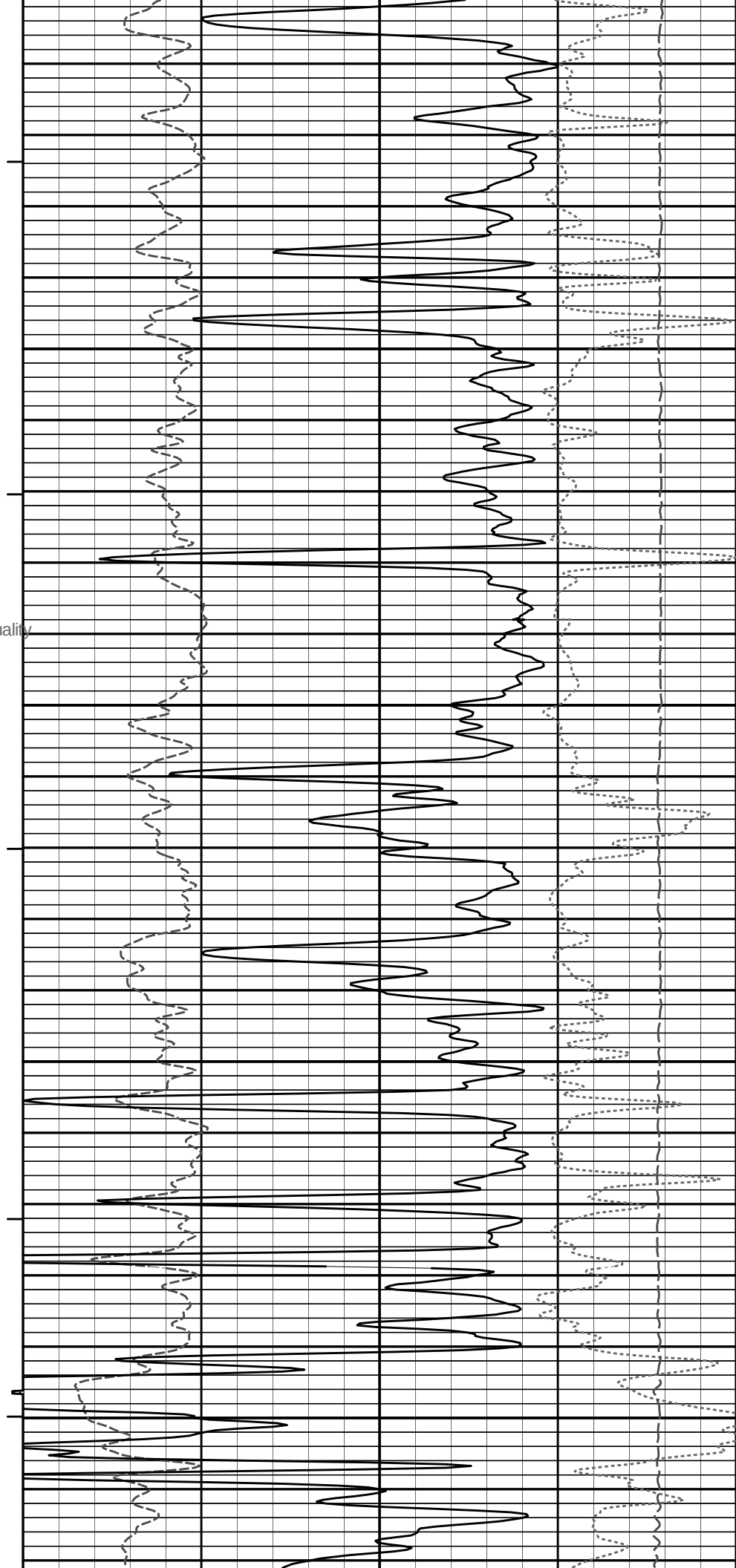


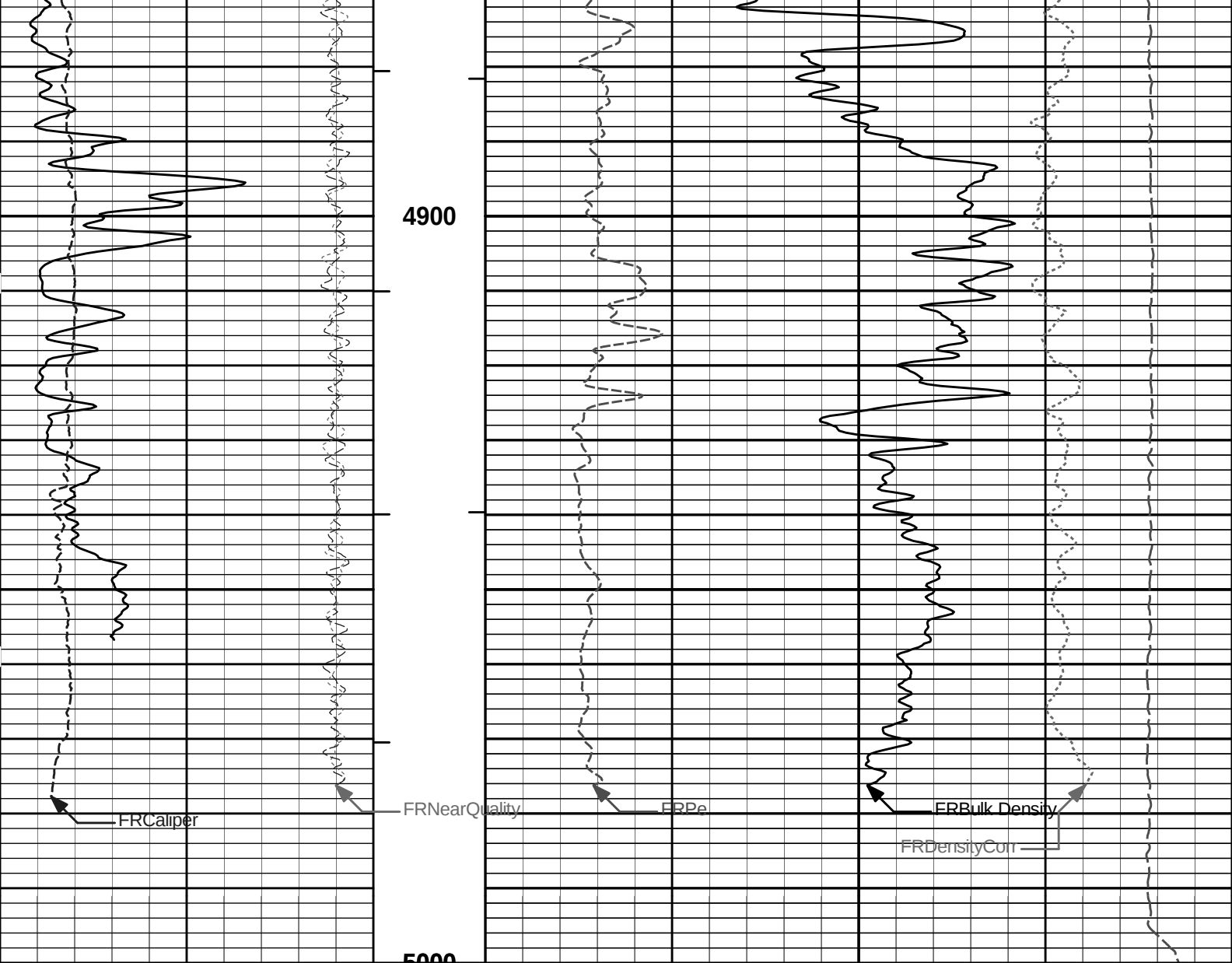


4700

NearQuality

4800





6	Caliper	16	MD	0	Pe	10	-0.25	DensityCorr	0.25
	inches		1 : 240					g/cc	
-18	NearQuality	2	AHV				15K	Tension	0
			ft3					pounds	
18	FarQuality	-2	BHV	2	Bulk Density				
			ft3		g/cc				
0	Gamma Ray	150	Tension Pull						
	api		10	0					
SHALE			Tension Pull						

HALLIBURTON

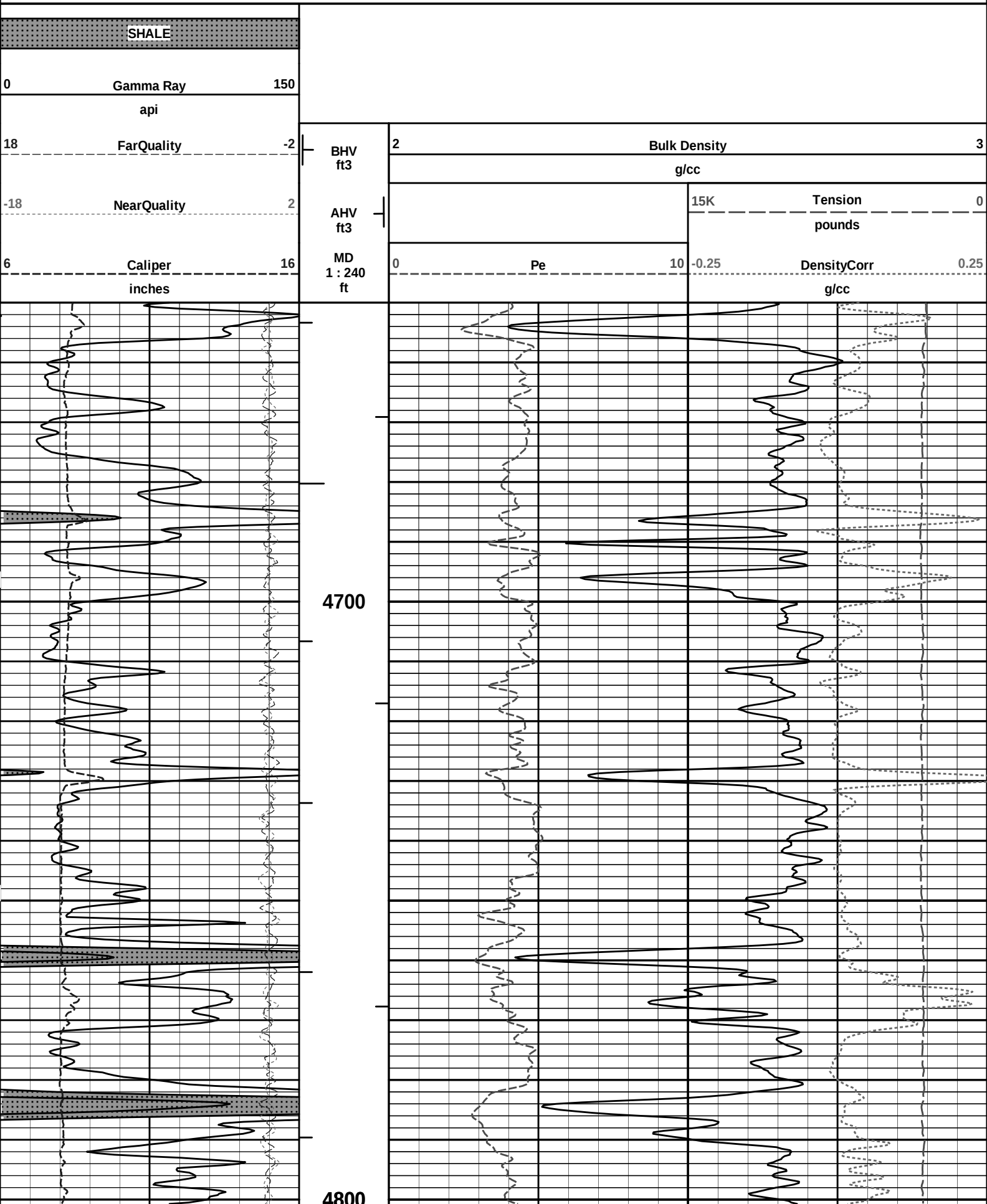
Plot Time: 17-Feb-12 11:41:17
Plot Range: 3898 ft to 5000 ft
Data: CHARLES_EINSEL\Well Based\MAIN\
Plot File: \\-LOCAL-\\CHARLES_EINSEL\0001 SP-GTET-DSN-SDL-BSAT-ACRT-CHIPORO\BULKD_5_MAIN_LIB

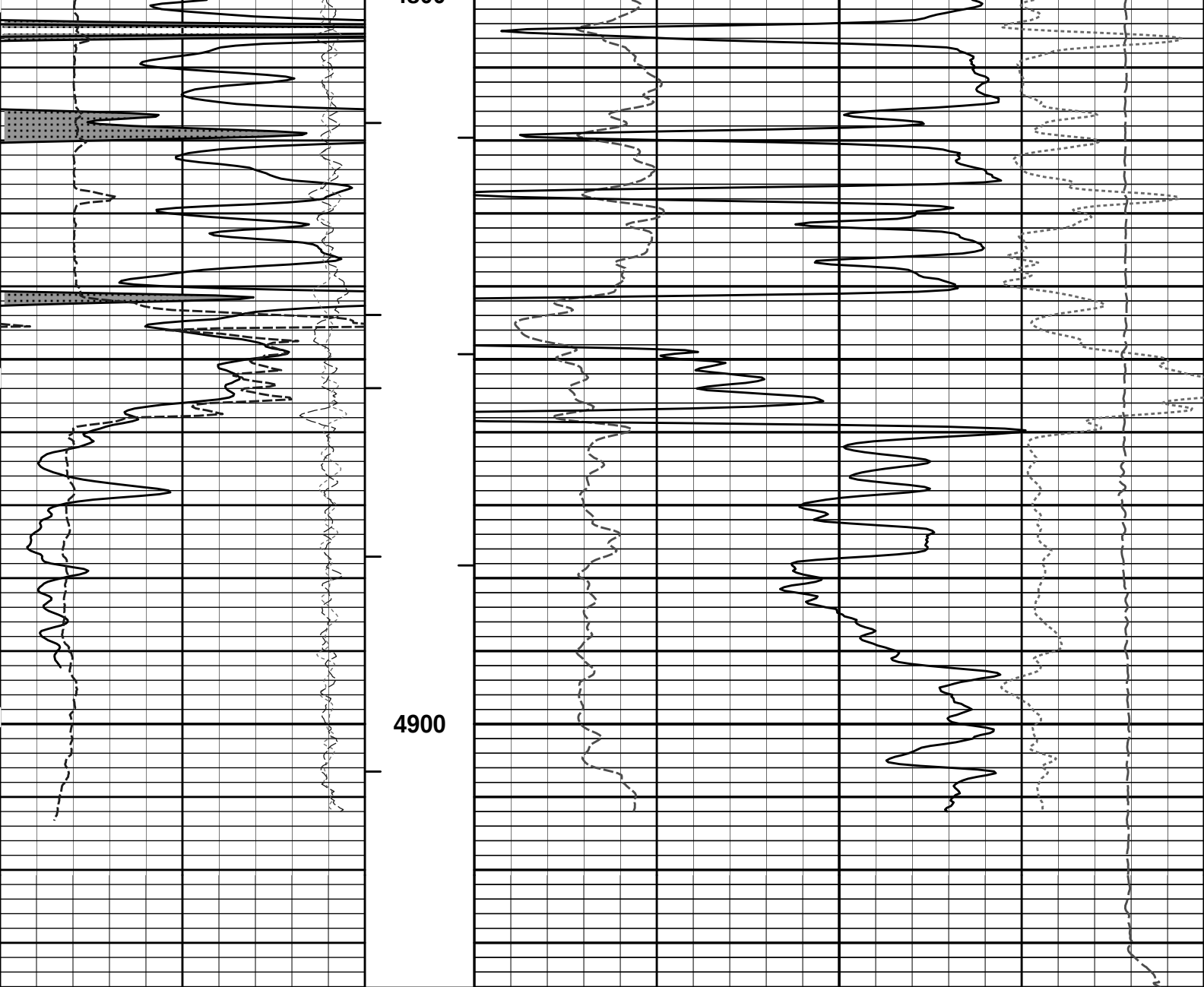
5 INCH MAIN LOG

HALLIBURTON

Plot Time: 17-Feb-12 11:41:17
Plot Range: 4650 ft to 4936.17 ft
Data: CHARLES_EINSEL\Well Based\DAQ-0001-002\

REPEAT SECTION





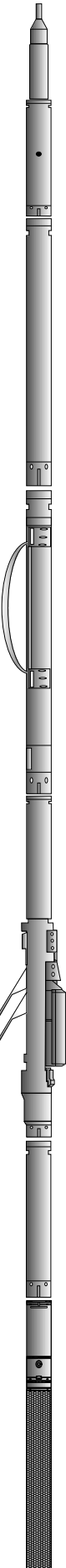
6	Caliper	16	MD 1 : 240 ft	0	Pe	10	-0.25	DensityCorr	0.25
-18	NearQuality	2	AHV ft3	15K	Bulk Density	2	g/cc	Tension	0
18	FarQuality	-2	BHV ft3	3	Gamma Ray	0	api	150	SHALE

HALLIBURTON

Plot Time: 17-Feb-12 11:41:18
Plot Range: 4650 ft to 4936.17 ft
Data: CHARLES_EINSEL\Well Based\DAQ-0001-002\
Plot File: \\-LOCAL-CHARLES_EINSEL\0001 SP-GTET-DSN-SDL-BSAT-ACRT-CHIPORO\BULKD_5_REP_LIB

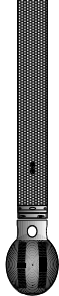
REPEAT SECTION

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
CH_HOS-CH_696 37.50 lbs		Ø 2.750 in →		← Temperature @ 54.59 ft	3.03 ft	55.62 ft
SP Sub-001 60.00 lbs		Ø 3.625 in →		← SP @ 50.81 ft	3.74 ft	52.59 ft
GTET-11039640 165.00 lbs		Ø 3.625 in →		← GammaRay @ 42.79 ft	8.52 ft	48.85 ft
DSNT-11019643 174.00 lbs	DSN Decentralizer- 11005605 6.60 lbs	Ø 5.000 in* → Ø 3.625 in →		← DSN Far @ 33.39 ft ← DSN Near @ 32.64 ft	9.69 ft	40.33 ft
SDLT-I43_M469 360.00 lbs	SDLT Pad-P81 65.00 lbs Microlog Pad-M469 8.00 lbs	Ø 4.500 in → Ø 4.750 in* → Ø 4.750 in* →		Microlog @ 22.83 ft SDL Caliper @ 22.65 ft SDL @ 22.64 ft	10.81 ft	30.64 ft
ACRt Instrument- I962 50.00 lbs		Ø 3.625 in →		← Mud Resistivity @ 13.44 ft	5.03 ft	19.83 ft
ACRt Sonde- I962_S909 200.00 lbs		Ø 3.625 in →		← ACRt @ 9.46 ft	14.22 ft	14.80 ft

Cabbage Head-
TRK696
10.00 lbs

Ø 3.625 in
Ø 6.000 in



0.58 ft
0.58 ft
0.00 ft

Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max.Log. Speed (fpm)
CH_HOS	Hostile Cable Head with Load Cell	CH_696	37.50	3.03	52.59	300.00
SP	SP Sub	001	60.00	3.74	48.85	300.00
GTET	Gamma Telemetry Tool	11039640	165.00	8.52	40.33	60.00
DSNT	Dual Spaced Neutron	11019643	174.00	9.69	30.64	60.00
DCNT	DSN Decentralizer	11005605	6.60	5.13	*	33.97
SDLT	Spectral Density Tool	I43_M469	360.00	10.81	19.83	60.00
MICP	Microlog Pad	M469	8.00	1.00	*	22.33
SDLP	Density Insite Pad	P81	65.00	2.55	*	22.04
ACRt	Array Compensated True Resistivity Instrument Section	I962	50.00	5.03	14.80	300.00
ACRt	Array Compensated True Resistivity	I962_S909	200.00	14.22	0.58	300.00
CBHD	Cabbage Head	TRK696	10.00	0.58	0.00	300.00
Total			1,136.10	55.62		
* Not included in Total Length and Length Accumulation.						
Data: CHARLES_EINSEL\0001 SP-GTET-DSN-SDL-BSAT-ACRT-CH\IDLE					Date: 16-Feb-12 18:23:02	

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION			
Tool Name:	GTET - 11039640	Reference Calibration Date:	14-Dec-11 07:20:08
Engineer:	C. HAVERKAMP	Calibration Date:	27-Jan-12 07:52:04
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1
Calibrator Source S/N: TB146			
Calibrator API Reference:265.00 api			
Equivalent Calibrator API Reference:269.6 api			
Measurement	Measured	Calibrated	Units
Background	24.3	24.2	api
Background + Calibrator	295.6	293.8	api
Calibrator	271.3	269.6	api
NATURAL GAMMA RAY TOOL FIELD CALIBRATION			
Tool Name:	GTET - 11039640	Reference Calibration Date:	27-Jan-12 07:52:04
Engineer:	C.PARKER	Calibration Date:	04-Feb-12 19:32:49
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1
Calibrator Source S/N: TB146			
Calibrator API Reference:265.00 api			
Equivalent Calibrator API Reference:269.6 api			
Field Verification	Shop	Field	Units
Background	24.2	48.4	api
Background + Calibrator	293.8	317.2	api
Calibrator	269.6	268.8	api

Shop	Field	Difference	Tolerance
269.6	268.8	0.8	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION			
Tool Name:	DSNT - 11019643	Reference Calibration Date:	16-Feb-12 08:54:03
Engineer:	C.PARKER	Calibration Date:	16-Feb-12 09:05:04
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1

Logging Source S/N: 696
 Tank Serial Number: LIBERAL_NEUTRON
 Reference value assigned to Tank: 51.680
 Snow Block S/N: 696
 Calibration Tank Water Temperature: 62 degF
 Min. Tool Housing Outside Diameter: 3.625 in

CALIBRATION CONSTANTS			
Measurement	Prev. Value	New Value	Control Limit On New Value

Gain:	0.955	0.956	0.900 - 1.100
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WATER TANK SUMMARY (Horizontal Water Tank)				
Measurement	Current Reading (Previous Coef.)	Calibrated (New Coef.)	Change	Control Limit On Change

Porosity (decp):	0.2107	0.2110	0.0002	+/- 0.0020
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Calibrated Ratio:	9.72	9.73	0.007	+/- 0.050
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VERIFIER		
Measurement	Value	Control Limit

Snow-Block Porosity (decp):	0.0734	0.02000 - 0.09000
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PASS/FAIL SUMMARY	
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Background Check:	Passed
-------------------	--------

Gain-Range Check:	Passed
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Snow-Block Check:	Passed
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DUAL SPACED NEUTRON FIELD CALIBRATION			
Tool Name:	DSNT - 11019643	Reference Calibration Date:	16-Feb-12 09:05:04
Engineer:	C.PARKER	Calibration Date:	16-Feb-12 09:09:09
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1

Logging Source S/N: 696
 Snow Block S/N: 696

NEUTRON FIELD-CHECK SUMMARY				
	Shop	Field	Difference	Control Limit On Change

Snow-Block Porosity (decp):	0.0734	0.0597	-0.0137	+/- 0.0150
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PASS/FAIL SUMMARY	
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Block Change Check:	Passed
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Snow Block Stat Check:	Passed
------------------------	--------

Temperature Check:	Passed
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DENSITY CALIPER SHOP CALIBRATION			
Tool Name:	SDLT - I43_M469	Reference Calibration Date:	16-Feb-12 10:03:14
Engineer:	C.PARKER	Calibration Date:	16-Feb-12 10:07:21

Engineer: C.PARKER

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

Calibration Date: 16-Feb-12 10:07:31

Calibration Version: 1

Measurement

Previous Value

New Value

Control Limit On New Value

Pad Offset

-1784.89

-1917.62

-7000.00 - -1000.00

Pad Gain

0.0003910

0.0003971

0.000200 - 0.000600

Arm Offset

-330.31

-137.08

-5000.00 - 3000.00

Arm Gain

0.0005187

0.0005069

0.000300 - 0.000700

Arm Power

-0.000006098

-0.000005316

-0.000010 - 0.000010

The ring diameter is computed from: DIAMETER = PAD EXTENSION + ARM EXTENSION + TOOL DIAMETER

Tool Diameter: 4.50 in

Measurement

Current Reading (Previous Coeff.)

Calibrated (New Coeff.)

Change

Control Limit On New Value

PAD EXTENSION:

Small Ring (in)

2.02

2.00

-0.02

+/- 0.20

Medium Ring (in)

3.74

3.75

0.01

+/- 0.20

RING DIAMETER:

Small Ring (in)

6.50

6.50

0.00

+/- 0.20

Medium Ring (in)

8.28

8.25

-0.03

+/- 0.20

Large Ring (in)

15.00

15.00

0.00

+/- 0.20

PASS/FAIL SUMMARY

Calibration-Coefficients Range Check: Passed

Ring-Measurement Check: Passed

PASS/FAIL SUMMARY

Calibration-Coefficients Range Check: Passed

Tool Name: SDLT - I43_M469

Engineer: C.PARKER

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

Reference Calibration Date: 16-Feb-12 10:07:31

Calibration Date: 16-Feb-12 10:12:14

Calibration Version: 1

Measurement

Shop

Field

Change

Control Limit On New Value

Pad Extension

3.75

3.74

-0.01

+/- 0.10

Ring Diameter

8.25

8.22

-0.03

+/- 0.15

PASS/FAIL SUMMARY

Pad Extension Check: Passed

Diameter Check: Passed

Tool Name: SDLT Pad - P81

Engineer: C.PARKER

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

Reference Calibration Date: 16-Feb-12 09:32:29

Calibration Date: 16-Feb-12 09:50:51

Calibration Version: 1

Logging Source S/N: 5168GW

Aluminum Block S/N: LIBERAL

Magnesium Block S/N: LIBERAL

Density: 2.598g/cc

Density: 1.684g/cc

Pe: 3.170

Pe: 2.598

Measurement

Previous Value

New Value

Control Limit

Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0007	1.0390	0.90 - 1.10
Near Dens Gain	0.9863	1.0240	0.90 - 1.10
Near Peak Gain	0.9638	1.0214	0.90 - 1.10
Near Lith Gain	0.9505	0.9895	0.90 - 1.10
Far Bar Gain	1.0070	1.0126	0.90 - 1.10
Far Dens Gain	0.9953	1.0029	0.90 - 1.10
Far Peak Gain	0.9892	0.9950	0.90 - 1.10
Far Lith Gain	0.9673	0.9741	0.90 - 1.10
Near Bar Offset	0.1494	-0.1966	NONE
Near Dens Offset	0.2613	-0.0657	NONE
Near Peak Offset	0.4387	-0.0378	NONE
Near Lith Offset	0.5394	0.2188	NONE
Far Bar Offset	0.0283	-0.0164	NONE
Far Dens Offset	0.1237	0.0609	NONE
Far Peak Offset	0.1380	0.0956	NONE
Far Lith Offset	0.2818	0.2321	NONE
Near Bar Background	823.63	824.58	700 - 1450
Near Dens Background	269.31	269.85	230 - 480
Near Peak Background	117.39	117.18	100 - 210
Near Lith Background	146.50	146.84	125 - 260
Far Bar Background	536.19	537.63	450 - 900
Far Dens Background	209.96	210.26	175 - 345
Far Peak Background	83.75	84.87	70 - 140
Far Lith Background	88.57	87.09	75 - 145

CALIBRATION BLOCK SUMMARY				
Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.679	1.684	0.005	+/- 0.015
Pe	2.565	2.557	-0.008	+/- 0.150
ALUMINUM				
Density (g/cc)	2.597	2.598	0.001	+/- 0.01500
Pe	3.116	3.126	0.010	+/- 0.150

TOOL SUMMARY				
Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	0.0011	+/- 0.0110	0.0000	+/- 0.0140
Magnesium Block	-0.0008	+/- 0.0110	-0.0013	+/- 0.0140
Aluminum Block	-0.0006	+/- 0.0110	-0.0011	+/- 0.0140
Resolution	9.43	6.00 - 11.50	8.92	6.00 - 11.50
Internal Verifier(B+D+P+L)	1358	1200 - 2700	920	800 - 1700

PASS/FAIL SUMMARY	
Background Quality Check:	Passed
Background Range Check:	Passed
Background Resolution Check:	Passed
Background Verification Check:	Passed
Magnesium Quality Check:	Passed

Aluminum Quality Check:Passed

Gains Check:Passed

Changes in Calibration Blocks:Passed

SPECTRAL DENSITY FIELD CHECK

Tool Name:SDLT Pad - P81Reference Calibration Date:16-Feb-12 09:50:51

Engineer:C.PARKERCalibration Date:16-Feb-12 10:15:35

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

Pad Temperature: 71.7 degF

DENSITY FIELD CALIBRATION SUMMARY

Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1358.449	1364.271	5.822	14.900
Far (B+D+P+L) cps	919.854	921.204	1.350	16.438
Near Resolution	9.43	9.30	-0.130	0.50
Far Resolution	8.92	8.92	0.000	1.00

PASS/FAIL SUMMARY

Bkg Quality Check:Passed

Bkg Resolution Check:Passed

Bkg Verification Check:Passed

CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11039640						
Gamma Ray Calibrator	269.6	268.8	-----	0.8	+/- 9.00	api
DSNT-11019643						
Snow-Block Porosity	0.0734	0.0597	-----	0.0137	+/- 0.0150	decp
SDLT-I43_M469						
Pad Extension	3.75	3.74	-----	0.01	+/-0.10	in
Ring Diameter	8.25	8.22	-----	0.030	+/-0.15	in
SDLT Pad-P81						
Near(B+D+P+L)	1358.449	1364.271	-----	-5.822	+/-14.900	cps
Far(B+D+P+L)	919.854	921.204	-----	-1.350	+/-16.438	cps

Data: CHARLES_EINSEL\0001 SP-GTET-DSN-SDL-BSAT-ACRT-CH\IDLE

Date: 16-Feb-12 19:11:21

HALLIBURTON

PARAMETERS REPORT

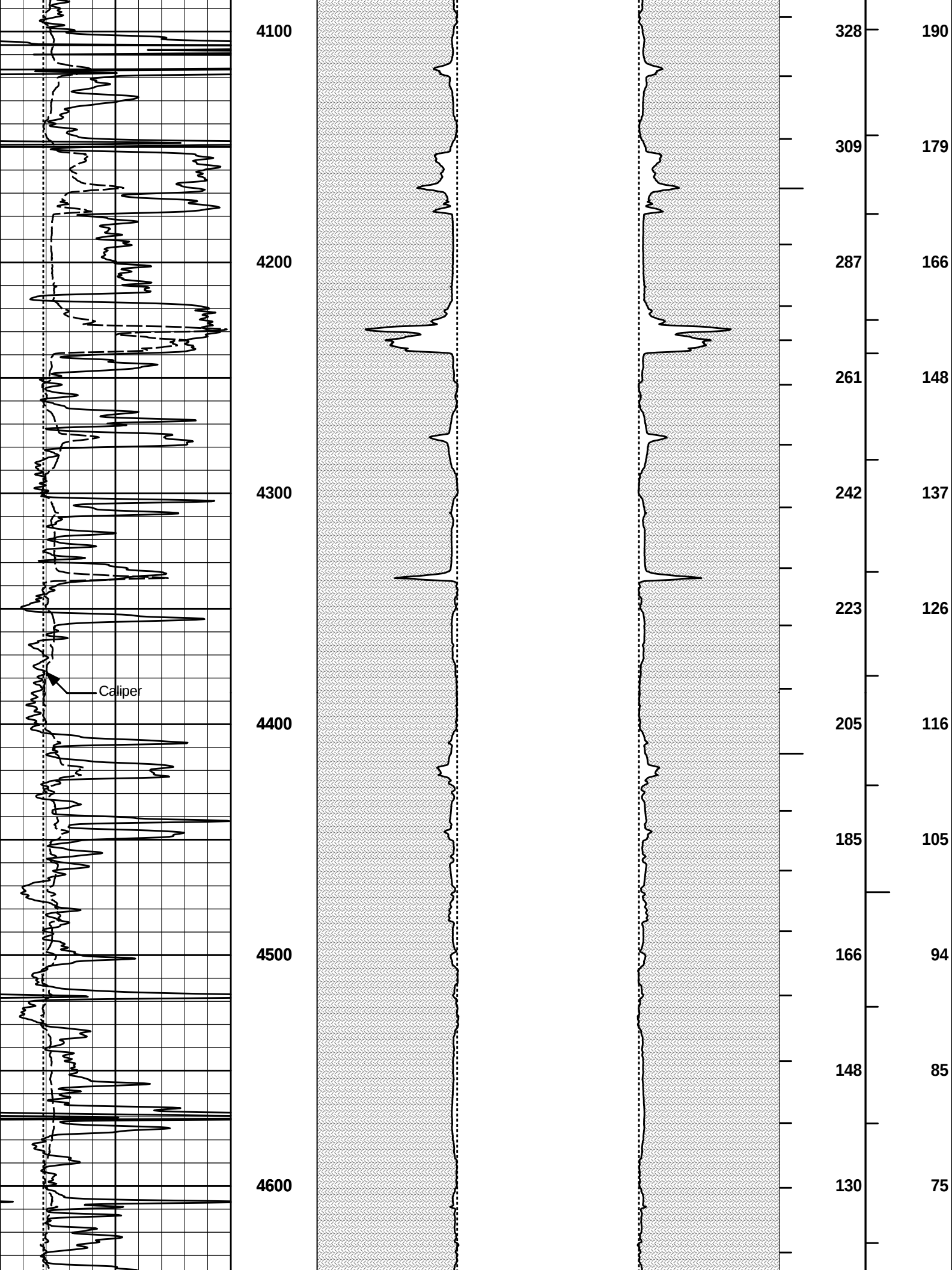
Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	DSNT	DNOK	Process DSN?	No	
	SDLT	CLOK	Process Caliper Outputs?	No	
	SDLT Pad	DNOK	Process Density?	No	
	Microlog Pad	MLOK	Process MicroLog Outputs?	No	
3840.00					
	SHARED	BS	Bit Size	7.875	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDBS	Mud Base	Water	
	SHARED	MDWT	Borehole Fluid Weight	9.350	ppg

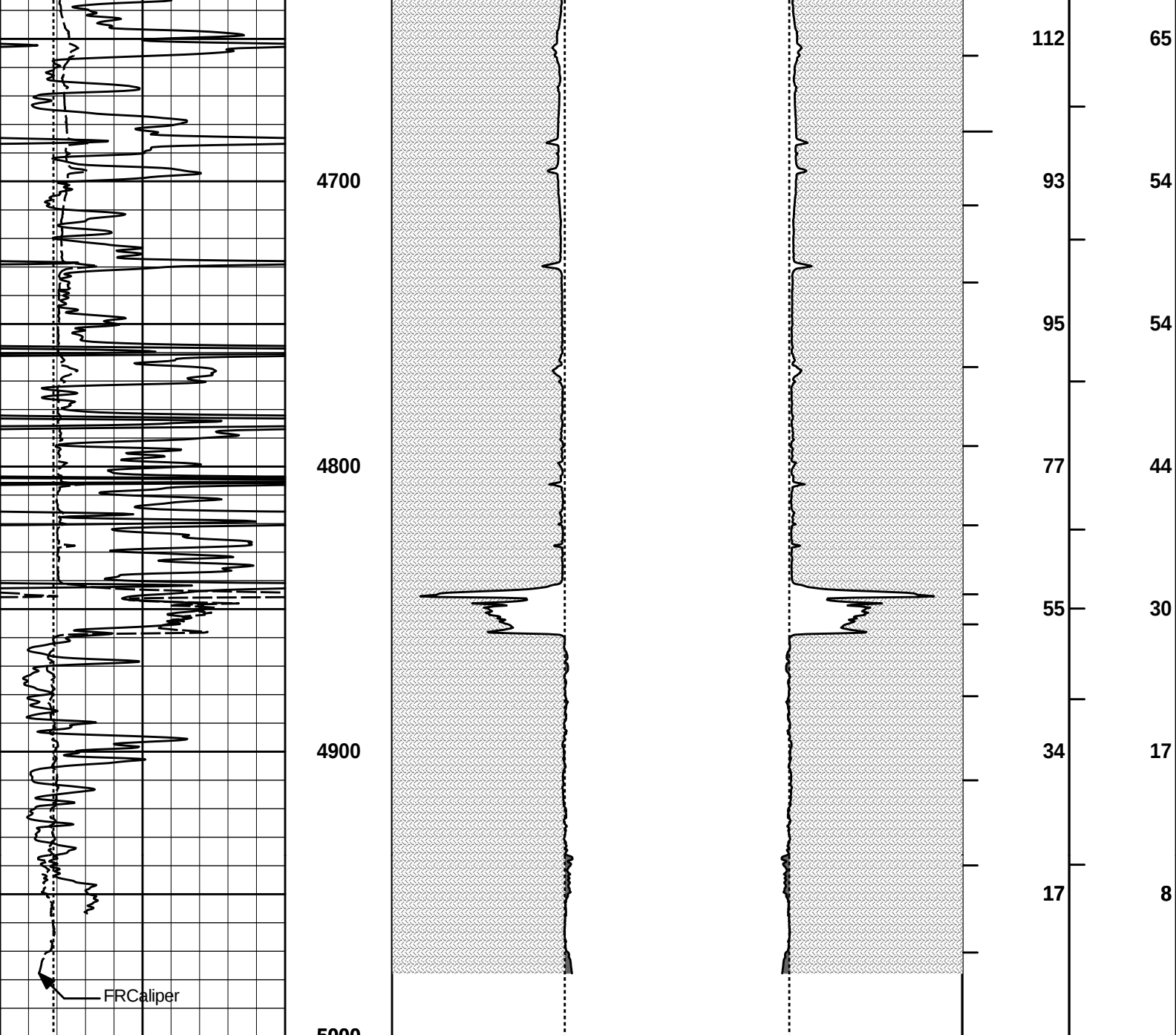
SHARED	WAGT	Weighting Agent	Natural	
SHARED	BSAL	Borehole salinity	0.00	ppm
SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
SHARED	RMUD	Mud Resistivity	2.000	ohmm
SHARED	TRM	Temperature of Mud	75.0	degF
SHARED	CSD	Logging Interval is Cased?	No	
SHARED	ICOD	AHV Casing OD	5.500	in
SHARED	ST	Surface Temperature	75.0	degF
SHARED	TD	Total Well Depth	4932.00	ft
SHARED	BHT	Bottom Hole Temperature	110.0	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?	Yes	
Rwa / CrossPlot	FCHO	Select Source of F	Automatic	
Rwa / CrossPlot	AFAC	Archie A factor	0.6200	
Rwa / CrossPlot	MFAC	Archie M factor	2.1500	
Rwa / CrossPlot	RMFR	Rmf Reference	0.10	ohmm
Rwa / CrossPlot	TMFR	Rmf Ref Temp	75.00	degF
Rwa / CrossPlot	RWA	Resistivity of Formation Water	0.05	ohmm
Rwa / CrossPlot	ADP	Use Air Porosity to calculate CrossplotPhi	No	
GTET	GROK	Process Gamma Ray?	Yes	
GTET	GRSO	Gamma Tool Standoff	0.000	in
GTET	GEOK	Process Gamma Ray EVR?	No	
GTET	TPOS	Tool Position for Gamma Ray Tools.	Eccentered	
DSNT	DNOK	Process DSN?	Yes	
DSNT	DEOK	Process DSN EVR?	No	
DSNT	NLIT	Neutron Lithology	Limestone	
DSNT	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	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	
ACRt Sonde	RTOK	Process ACRt?	Yes	
ACRt Sonde	MNSO	Minimum Tool Standoff	1.50	in
ACRt Sonde	TCS1	Temperature Correction Source	FP Lwr & FP Up	
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	RMIN	Maximum Resistivity for MAI	200.00	Ohm-in
ACRt Sonde	THQY	Threshold Quality	0.50	
BOTTOM				
Data: CHARLES_EINSEL\0001 SP-GTET-DSN-SDL-BSAT-ACRT-CHIDLE			Date: 16-Feb-12 19:10:42	

HALLIBURTON				
INPUTS, DELAYS AND FILTERS TABLE				
Mnemonic	Input Description	Delay (ft)	Filter Type	Filter Length (ft)
Depth Panel				
TENS	Tension	0.00	NO	
CH_HOS				
DHTN	DownholeTension	0.00	BLK	0.000
SP Sub				
PLTC	Plot Control Mask	50.81	NO	
SP	Spontaneous Potential	50.81	BLK	1.250
SPR	Raw Spontaneous Potential	50.81	NO	
SPO	Spontaneous Potential Offset	50.81	NO	
GTET				
TPUL	Tension Pull	42.79	NO	
GR	Natural Gamma Ray API	42.79	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API	42.79	NO	
EGR	Natural Gamma Ray API with Enhanced Vertical Resolution	42.79	W	1.416 , 0.750
ACCZ	Accelerometer Z	0.00	BLK	0.083
DEVI	Inclination	0.00	NO	
DSNT				
TPUL	Tension Pull	32.54	NO	
RNDS	Near Detector Telemetry Counts	32.64	BLK	1.417
RFDS	Far Detector Telemetry Counts	33.39	TRI	0.583
DNTT	DSN Tool Temperature	32.64	NO	
DSNS	DSN Tool Status	32.54	NO	
ERND	Near Detector Telemetry Counts EVR	32.64	BLK	0.000
ERFD	Far Detector Telemetry Counts EVR	33.39	BLK	0.000
ENTM	DSN Tool Temperature EVR	32.64	NO	
SDLT				
TPUL	Tension Pull	22.65	NO	
PCAL	Pad Caliper	22.65	TRI	0.250
ACAL	Arm Caliper	22.65	TRI	0.250
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

F1X4	ACRT 12KHz - 17in X value	4.22	BLK	0.000
F1R5	ACRT 12KHz - 10in R value	3.72	BLK	0.000
F1X5	ACRT 12KHz - 10in X value	3.72	BLK	0.000
F1R6	ACRT 12KHz - 6in R value	3.47	BLK	0.000
F1X6	ACRT 12KHz - 6in X value	3.47	BLK	0.000
F2R1	ACRT 36KHz - 80in R value	9.22	BLK	0.000
F2X1	ACRT 36KHz - 80in X value	9.22	BLK	0.000
F2R2	ACRT 36KHz - 50in R value	6.72	BLK	0.000
F2X2	ACRT 36KHz - 50in X value	6.72	BLK	0.000
F2R3	ACRT 36KHz - 29in R value	5.22	BLK	0.000
F2X3	ACRT 36KHz - 29in X value	5.22	BLK	0.000
F2R4	ACRT 36KHz - 17in R value	4.22	BLK	0.000
F2X4	ACRT 36KHz - 17in X value	4.22	BLK	0.000
F2R5	ACRT 36KHz - 10in R value	3.72	BLK	0.000
F2X5	ACRT 36KHz - 10in X value	3.72	BLK	0.000
F2R6	ACRT 36KHz - 6in R value	3.47	BLK	0.000
F2X6	ACRT 36KHz - 6in X value	3.47	BLK	0.000
F3R1	ACRT 72KHz - 80in R value	9.22	BLK	0.000
F3X1	ACRT 72KHz - 80in X value	9.22	BLK	0.000
F3R2	ACRT 72KHz - 50in R value	6.72	BLK	0.000
F3X2	ACRT 72KHz - 50in X value	6.72	BLK	0.000
F3R3	ACRT 72KHz - 29in R value	5.22	BLK	0.000
F3X3	ACRT 72KHz - 29in X value	5.22	BLK	0.000
F3R4	ACRT 72KHz - 17in R value	4.22	BLK	0.000
F3X4	ACRT 72KHz - 17in X value	4.22	BLK	0.000
F3R5	ACRT 72KHz - 10in R value	3.72	BLK	0.000
F3X5	ACRT 72KHz - 10in X value	3.72	BLK	0.000
F3R6	ACRT 72KHz - 6in R value	3.47	BLK	0.000
F3X6	ACRT 72KHz - 6in X value	3.47	BLK	0.000
RMUD	Mud Resistivity	12.76	BLK	0.000
F1RT	Transmitter Reference 12 KHz Real Signal	2.97	BLK	0.000
F1XT	Transmitter Reference 12 KHz Imaginary Signal	2.97	BLK	0.000
F2RT	Transmitter Reference 36 KHz Real Signal	2.97	BLK	0.000
F2XT	Transmitter Reference 36 KHz Imaginary Signal	2.97	BLK	0.000
F3RT	Transmitter Reference 72 KHz Real Signal	2.97	BLK	0.000
F3XT	Transmitter Reference 72 KHz Imaginary Signal	2.97	BLK	0.000
TFPU	Upper Feedpipe Temperature Calculated	2.97	BLK	0.000
TFPL	Lower Feedpipe Temperature Calculated	2.97	BLK	0.000
ITMP	Instrument Temperature	2.97	BLK	0.000
TCVA	Temperature Correction Values Loop Off	2.97	NO	
TIDV	Instrument Temperature Derivative	2.97	NO	
TUDV	Upper Temperature Derivative	2.97	NO	
TLDV	Lower Temperature Derivative	2.97	NO	
TRBD	Receiver Board Temperature	2.97	NO	
SDLT Pad				
TPUL	Tension Pull	22.64	NO	
NAB	Near Above	22.46	BLK	0.920
NHI	Near Cesium High	22.46	BLK	0.920
NLO	Near Cesium Low	22.46	BLK	0.920
NVA	Near Valley	22.46	BLK	0.920
NBA	Near Barite	22.46	BLK	0.920
NDE	Near Density	22.46	BLK	0.920
NPK	Near Peak	22.46	BLK	0.920
NLI	Near Lithology	22.46	BLK	0.920
NBAU	Near Barite Unfiltered	22.46	BLK	0.250





6	Caliper	16	MD 1 : 600 ft	20	Caliper	0 0	20	BHVT	AHVT
	inches				inches				
	Bit Size	16		20	Bit Size	0 0	20		
	inches								
0	Gamma API	150							
	api								
MUDCAKE									

HALLIBURTON

Plot Time: 17-Feb-12 11:41:20
Plot Range: 3897 ft to 5000 ft
Data: CHARLES_EINSEL\Well Based\MAIN\
Plot File: \\LOCAL-CHARLES_EINSEL\0001 SP-GTET-DSN-SDL-BSAT-ACRT-CHIPORO\AHV_2_IQ_LIB

ANNULAR HOLE VOLUME PLOT

COMPANY	HERMAN L LOEB
WELL	CHARLES EINSEL 3-21

FIELD	FRALICK WEST		
COUNTY	KIOWA	STATE	KANSAS
HALLIBURTON		DUAL SPACED NEUTRON SPECTRAL DENSITY LOG	