HALLIBURTON

SPECTRAL DENSITY DUAL SPACED NEUTRON LOG

COMPANY VAL ENERGY INC.
WELL NELSON 3-24
FIELD MAYBERRY NORTH
COUNTY BARBER
STATE KANSAS

Permanent Datum	GL
Log measured from	KB
Drilling measured from	KB
	Elev. 1346.0 ft
	5.0 ft above perm. Datum
Date	09-Sep-12
Run No.	ONE
Depth - Driller	5000.00 ft
Depth - Logger	4995.0 ft
Bottom - Logged Interval	3200
Top - Logged Interval	4963
Casing - Driller	8.625 in @ 218.0 ft
Casing - Logger	219.0 ft
Bit Size	7.875 in @
Type Fluid in Hole	WATER BASED MUD
Density / Viscosity	9.2 ppg / 46.00 s/qt
PH / Fluid Loss	10.50 pH / 9.6 cptm
Source of Sample	MUD PIT
Rm @ Meas. Temperature	0.353 ohmm @ 78.00 degF
Rmf @ Meas. Temperature	0.30 ohmm @ 78.00 degF
Rmc @ Meas. Temperature	0.405 ohmm @ 78.00 degF
Source Rmf / Rmc	CALC / CALC
Rm @ BHT	0.23 ohmm @ 124.0 degF
Max. Rec. Temperature	124.0 degF @ 4995.0 ft
Equipment / Location	10546696 / LIBERAL
Recorded By	S. INGERSOLL
Witnessed By	S. VANBUSKIRK

Sect. 24 Twp. 34S Rge. 11W

API No. 15-007-23930

Location (SHL) 2210' FSL & 1526' FWL

COMPANY VAL ENERGY INC.
WELL NELSON 3-24
FIELD MAYBERRY NORTH
COUNTY BARBER STATE KANSAS

Other Services:
DSN/SDL
ACRT
MICROLOG

Elev.: K.B.	1351.0 ft
D.F.	1350.0 ft
G.L.	1346.0 ft

Fold here

Service Ticket No.: 9803847 API Serial No.: 15-007-23930 PGM Version: WL INSITE R3.6.0 (Build 3)

CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE

Date	Sample No.				
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 SCALE CHANGES

Type Log	Depth	Scale Up Hole	Scale Down Hole

RESISTIVITY EQUIPMENT DATA

Run No.	Tool Type & No.	Pad Type	Tool Pos.	Other
ONE	ACRT	N/A	1.5" S.O.	
	I962_S909			

EQUIPMENT DATA

GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	ONE	Run No.		Run No.	ONE	Run No.	ONE
Serial No.	11048627	Serial No.		Serial No.	10950489	Serial No.	11055304
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.	GTET	Spacing		Log Type	GAM-GAM	Log Type	NEU-NEU
Type	SCINT			Source Type	CS-137	Source Type	AM-241BE
Length	8"	LSA [Y/N]		Serial No.	5168GW	Serial No.	DSN424
Distance to Source		FWDA [Y/N]		Strength	1.5 CI	Strength	15 CI

LOGGING DATA

GENERAL		GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Logging Unit No.	10546696	Logging Unit No.	10546696	Logging Unit No.	10546696	Logging Unit No.	10546696	Logging Unit No.	10546696
Logging Engineer	S. INGERSOLL	Logging Engineer	S. INGERSOLL	Logging Engineer	S. INGERSOLL	Logging Engineer	S. INGERSOLL	Logging Engineer	S. INGERSOLL
Logging Unit Location	LIBERAL	Logging Unit Location	LIBERAL	Logging Unit Location	LIBERAL	Logging Unit Location	LIBERAL	Logging Unit Location	LIBERAL
Logging Date	09-Sep-12	Logging Date	09-Sep-12	Logging Date	09-Sep-12	Logging Date	09-Sep-12	Logging Date	09-Sep-12
Logging Time	17:08	Logging Time	17:08	Logging Time	17:08	Logging Time	17:08	Logging Time	17:08
Max. Recorded Temp.	124.0 degF	Max. Recorded Temp.	124.0 degF	Max. Recorded Temp.	124.0 degF	Max. Recorded Temp.	124.0 degF	Max. Recorded Temp.	124.0 degF
Elapsed Time	5.0 hr	Elapsed Time	5.0 hr	Elapsed Time	5.0 hr	Elapsed Time	5.0 hr	Elapsed Time	5.0 hr
Max. Hole Deviation	0.0 deg	Max. Hole Deviation	0.0 deg	Max. Hole Deviation	0.0 deg	Max. Hole Deviation	0.0 deg	Max. Hole Deviation	0.0 deg
Time Logger on Bottom	09-Sep-12 17:08	Time Logger on Bottom	09-Sep-12 17:08	Time Logger on Bottom	09-Sep-12 17:08	Time Logger on Bottom	09-Sep-12 17:08	Time Logger on Bottom	09-Sep-12 17:08
Recorded By	S. INGERSOLL	Recorded By	S. INGERSOLL	Recorded By	S. INGERSOLL	Recorded By	S. INGERSOLL	Recorded By	S. INGERSOLL
Witnessed By	S. VANBUSKIRK	Witnessed By	S. VANBUSKIRK	Witnessed By	S. VANBUSKIRK	Witnessed By	S. VANBUSKIRK	Witnessed By	S. VANBUSKIRK

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	TD	CSG	REC	0	150				30	-10	2.71 gm/cc	30	-10	LIME

DIRECTIONAL INFORMATION

Maximum Deviation	@	KOP	@

Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING.

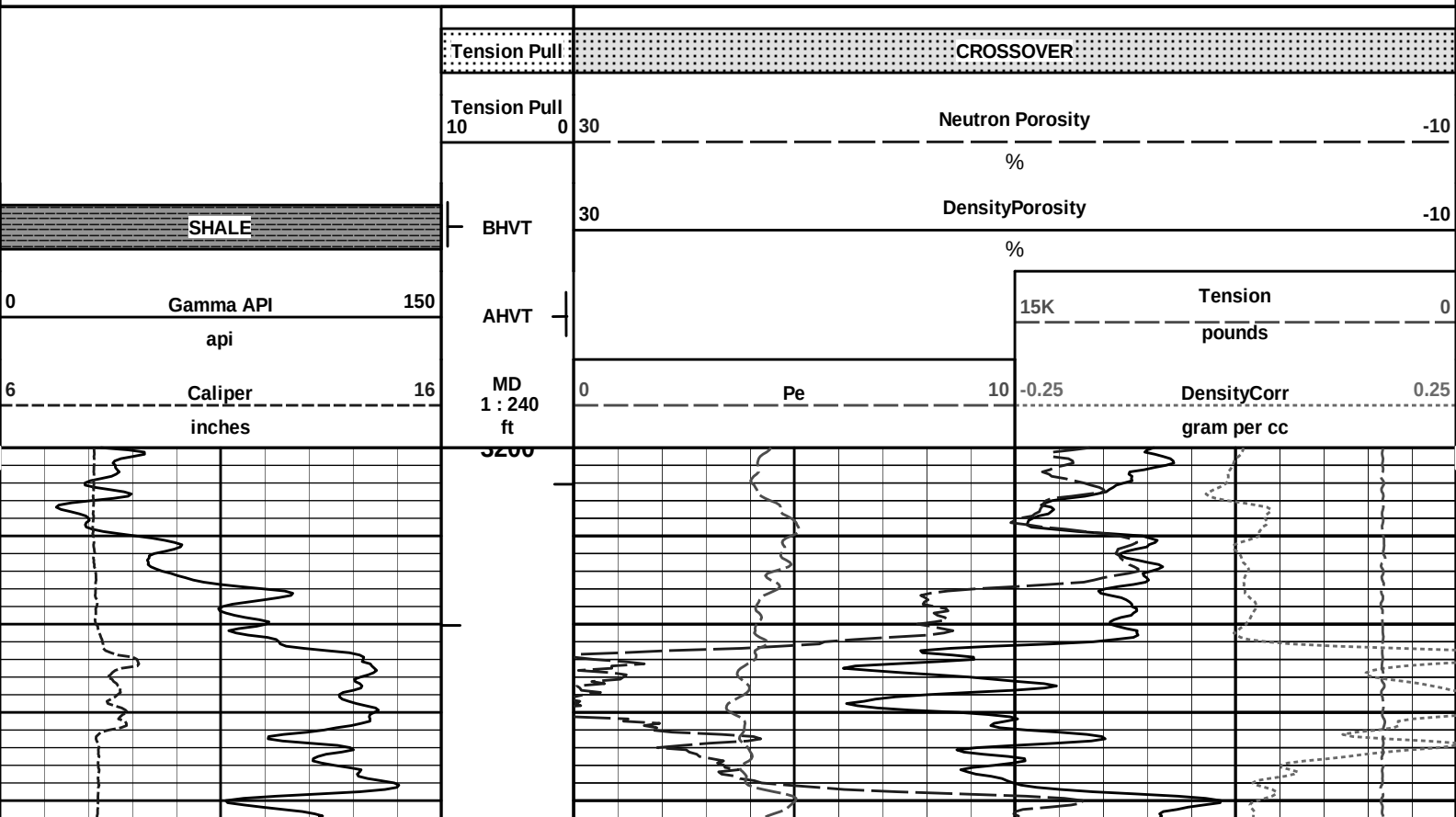
CHLORIDES REPORTED AT 4500 PPM.

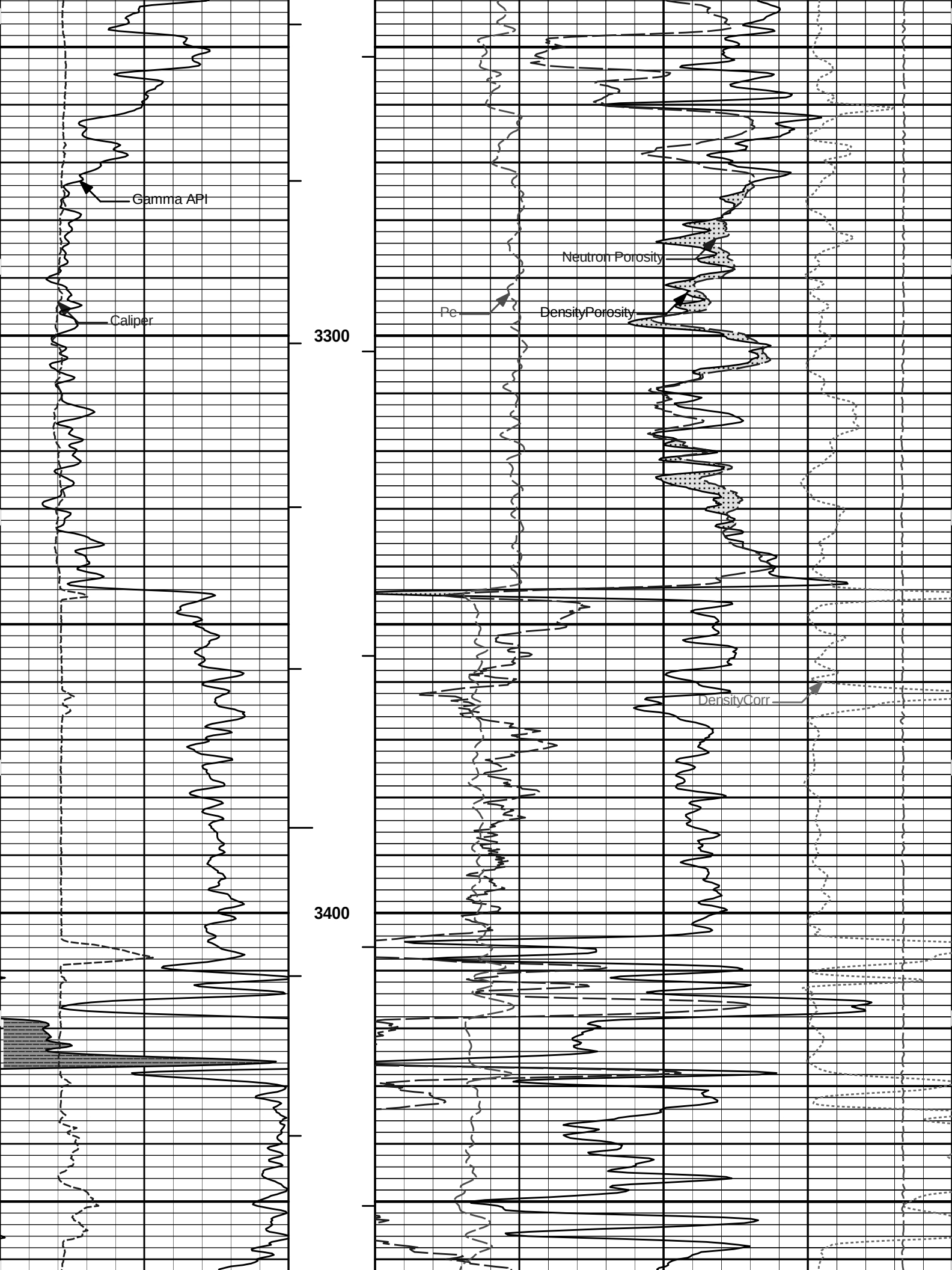
SP, GTET, DSNT, SDLT, ACRT RUN IN COMBINATION

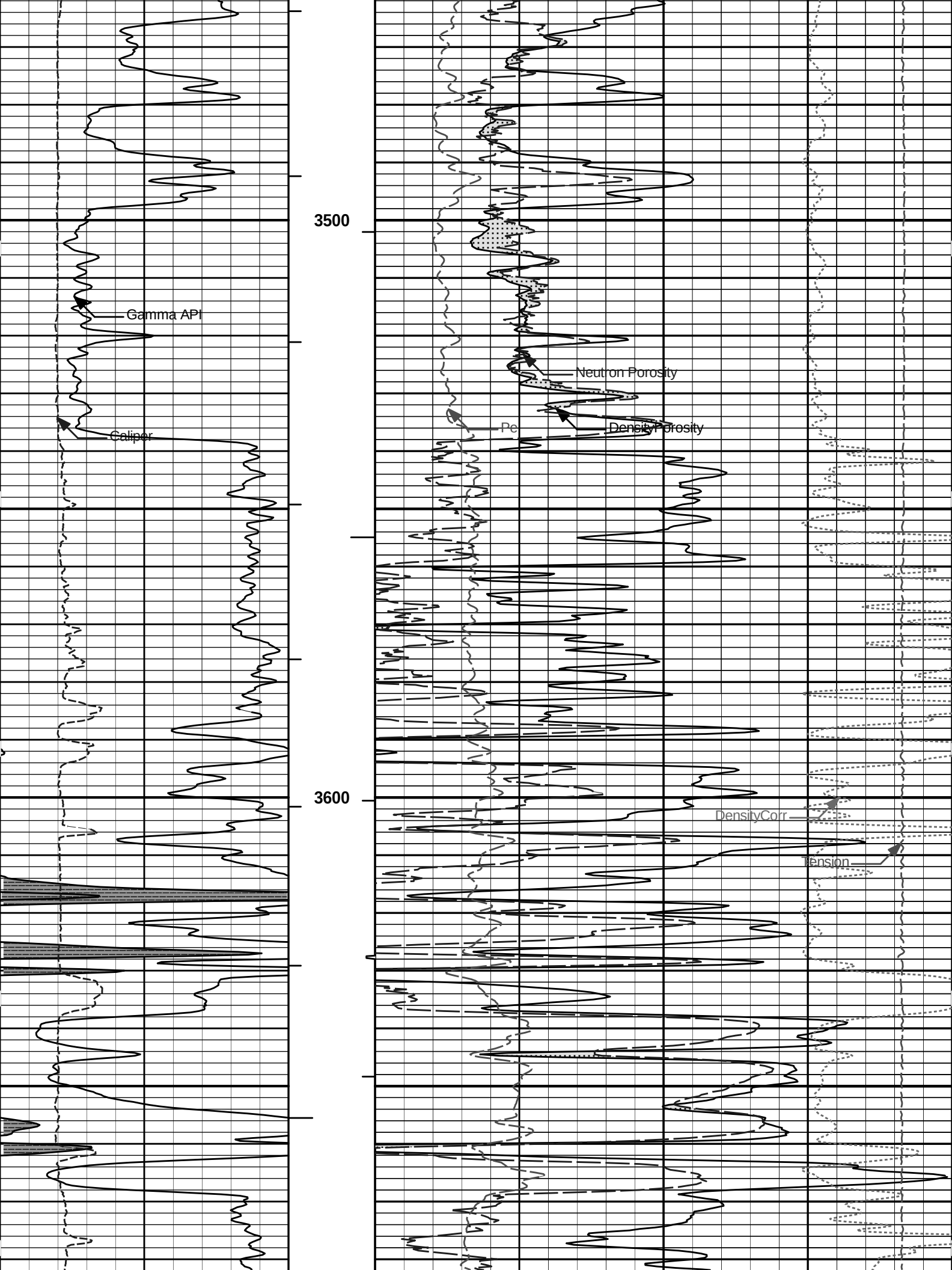
HALLIBURTON

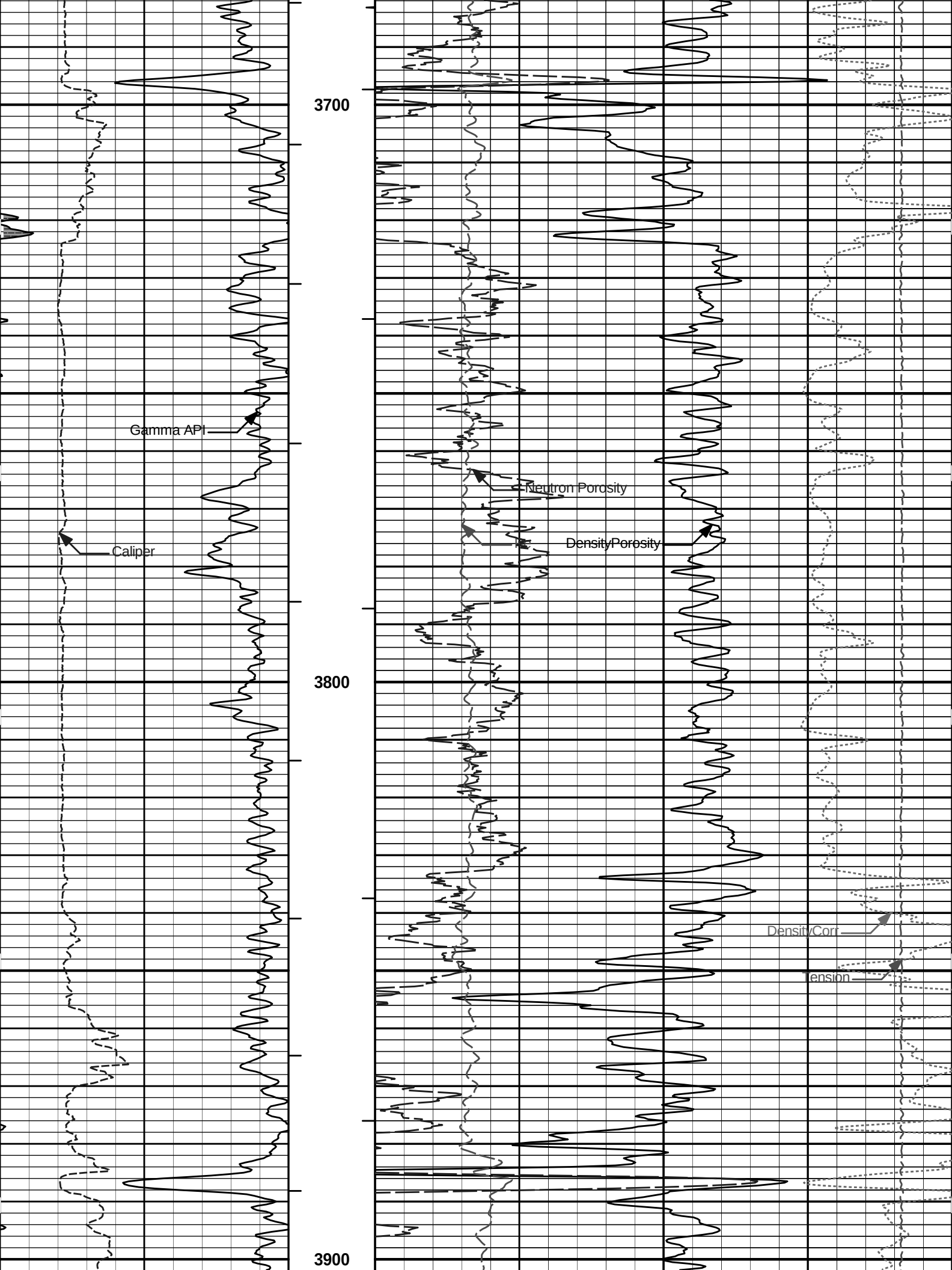
Plot Time: 09-Sep-12 20:51:44
Plot Range: 3200 ft to 4997 ft
Data: VAL_NELSON_3-24\Well Based\DAQ-0001-003.01
Plot File: \\PORO\Poro_IQ_5_MAIN_LIB

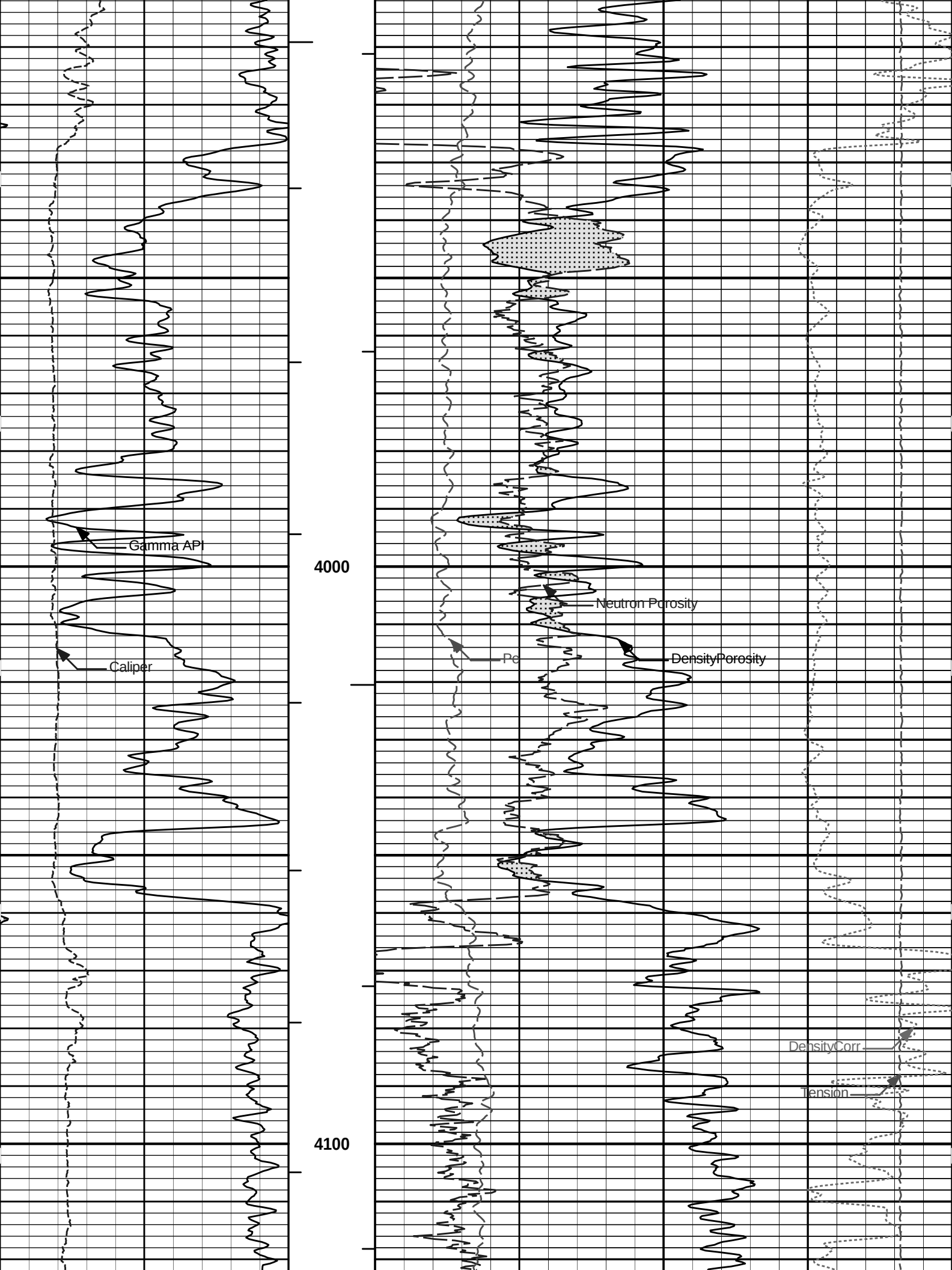
5 INCH MAIN LOG

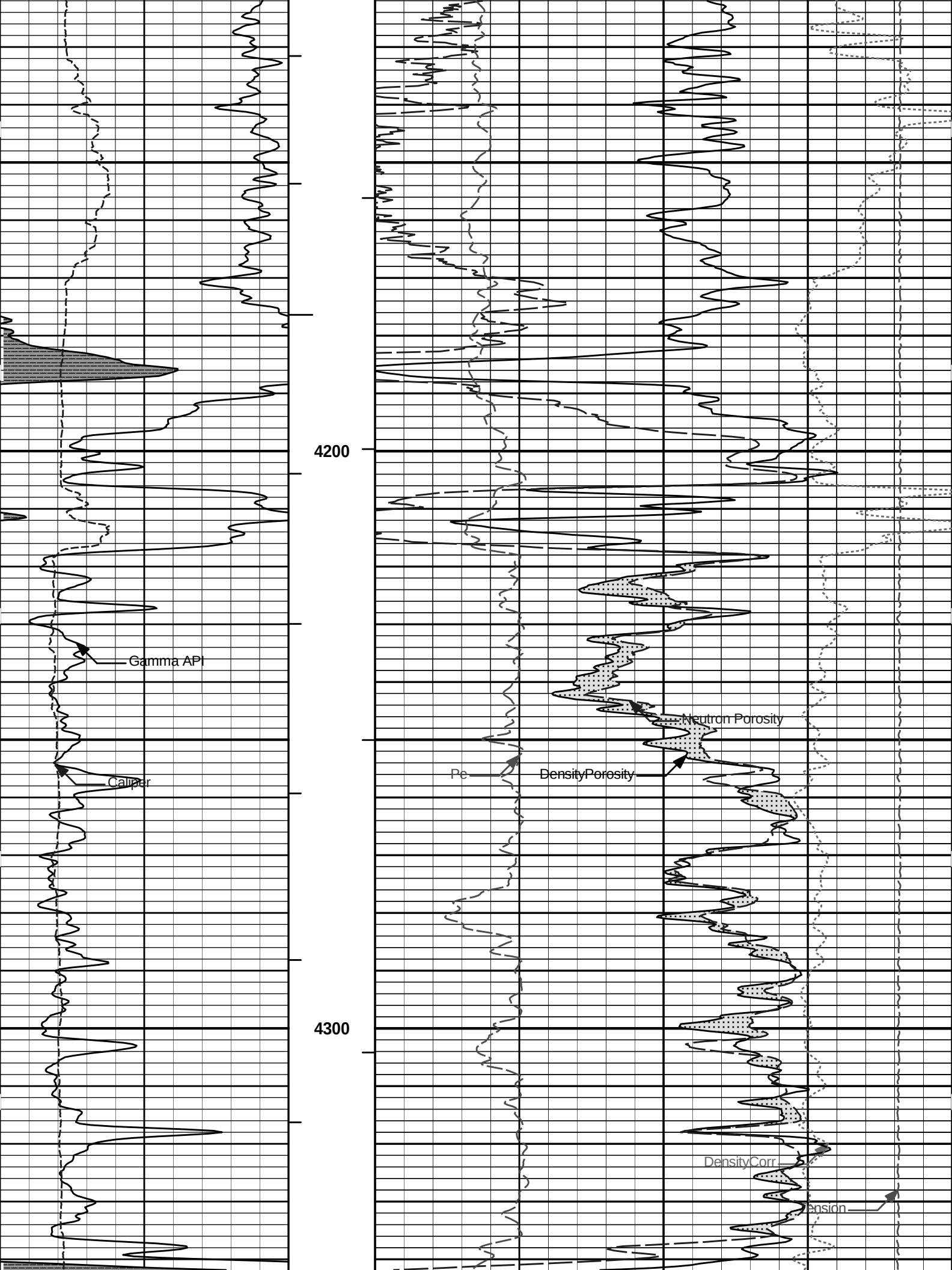


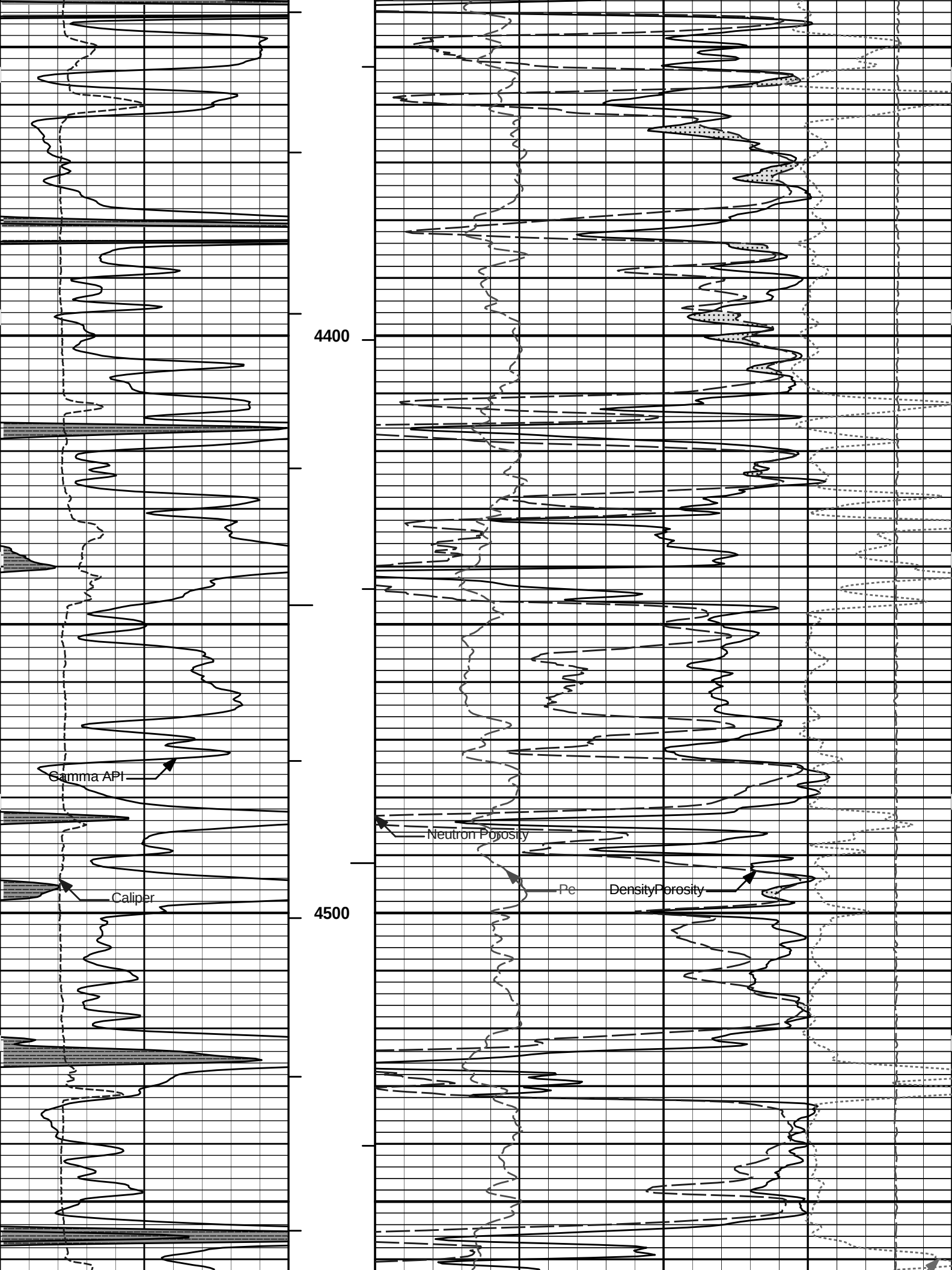

Gamma API
Caliper
Neutron Porosity
Pc
DensityPorosity
DensityCorr
3300
3400

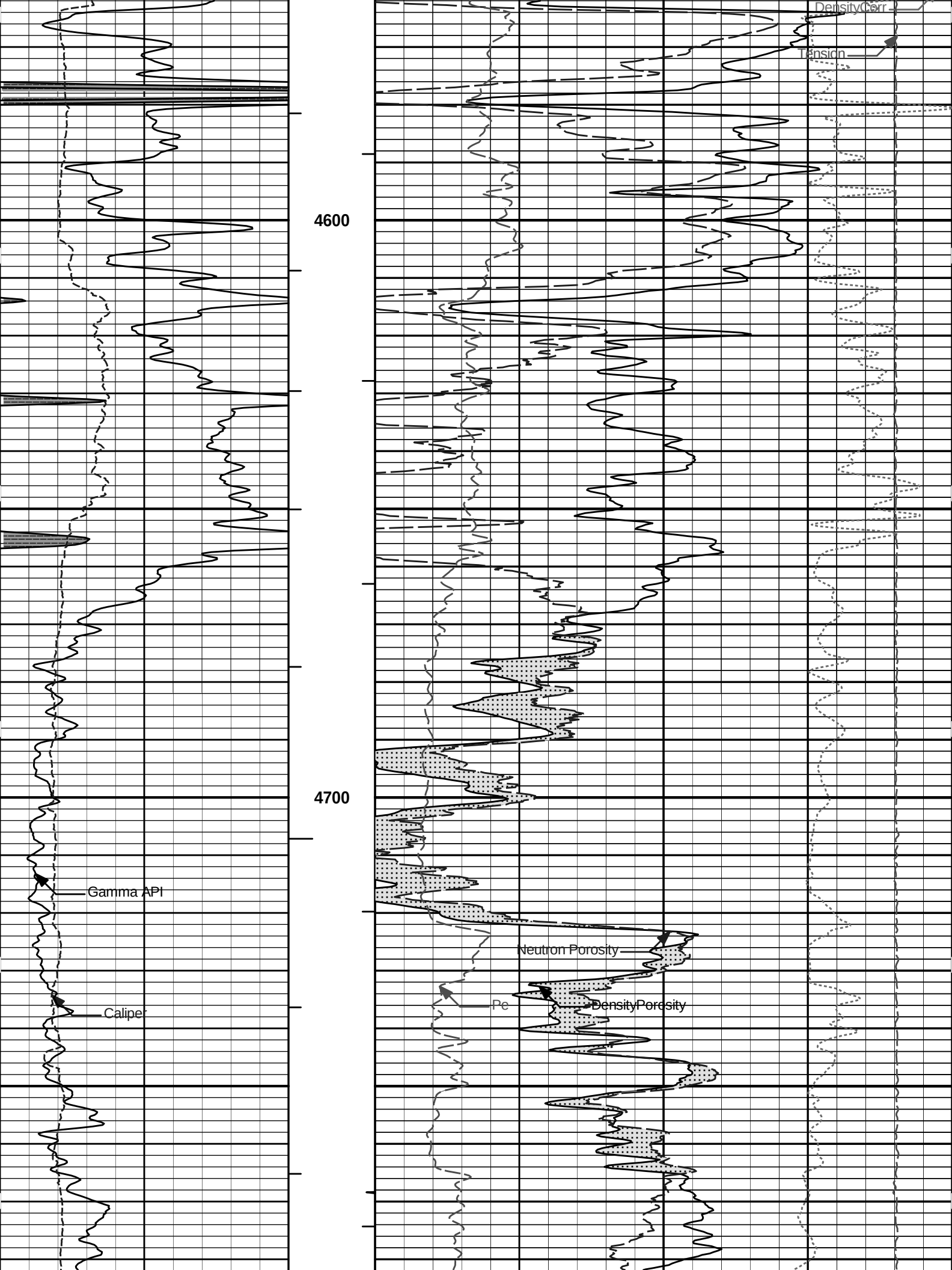

3500
3600
Gamma API
Caliper
Neutron Porosity
Pe
DensityPorosity
DensityCorr
Tension

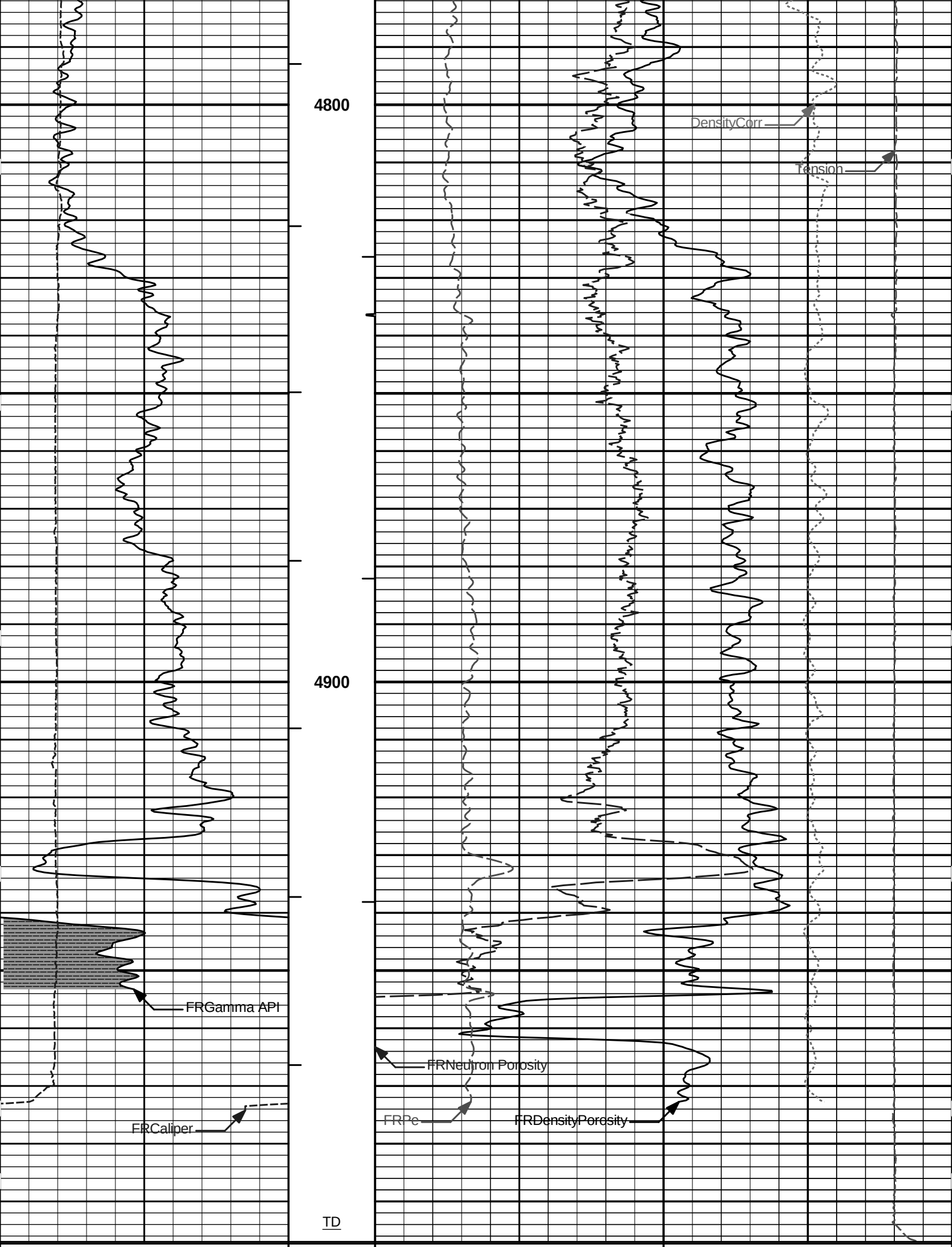

3700
3800
3900
Gamma API
Caliper
Neutron Porosity
DensityPorosity
DensityCorr
Tension

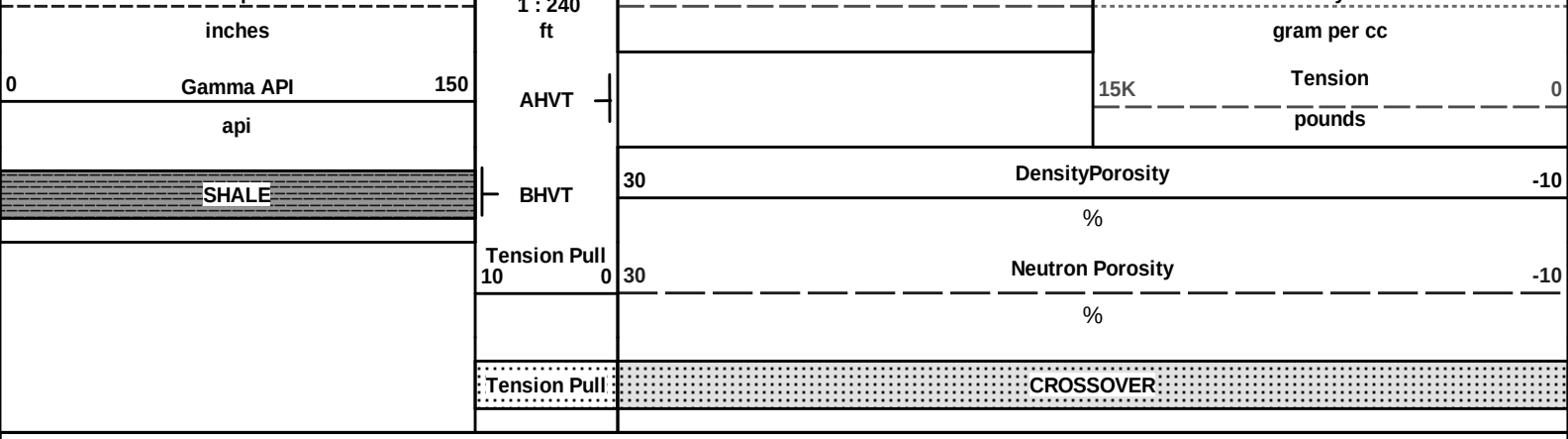

Gamma API
Caliper
4000
Neutron Porosity
Pe
DensityPorosity
DensityCorr
Tension
4100


4200
4300
Gamma API
Caliper
Neutron Porosity
Pe
DensityPorosity
DensityCorr
ension


4400
4500
Gamma API
Caliper
Neutron Porosity
Pe
DensityPorosity


DensityCorr
Tension
4600
4700
Gamma API
Caliper
Neutron Porosity
Pe
DensityPorosity


4800
4900
TD
DensityCorr
Tension
FRGamma API
FRCaliper
FRNeutron Porosity
FRPe
FRDensityPorosity
6
Caliper
16
MD
0
Pe
10
-0.25
DensityCorr
0.25



HALLIBURTON

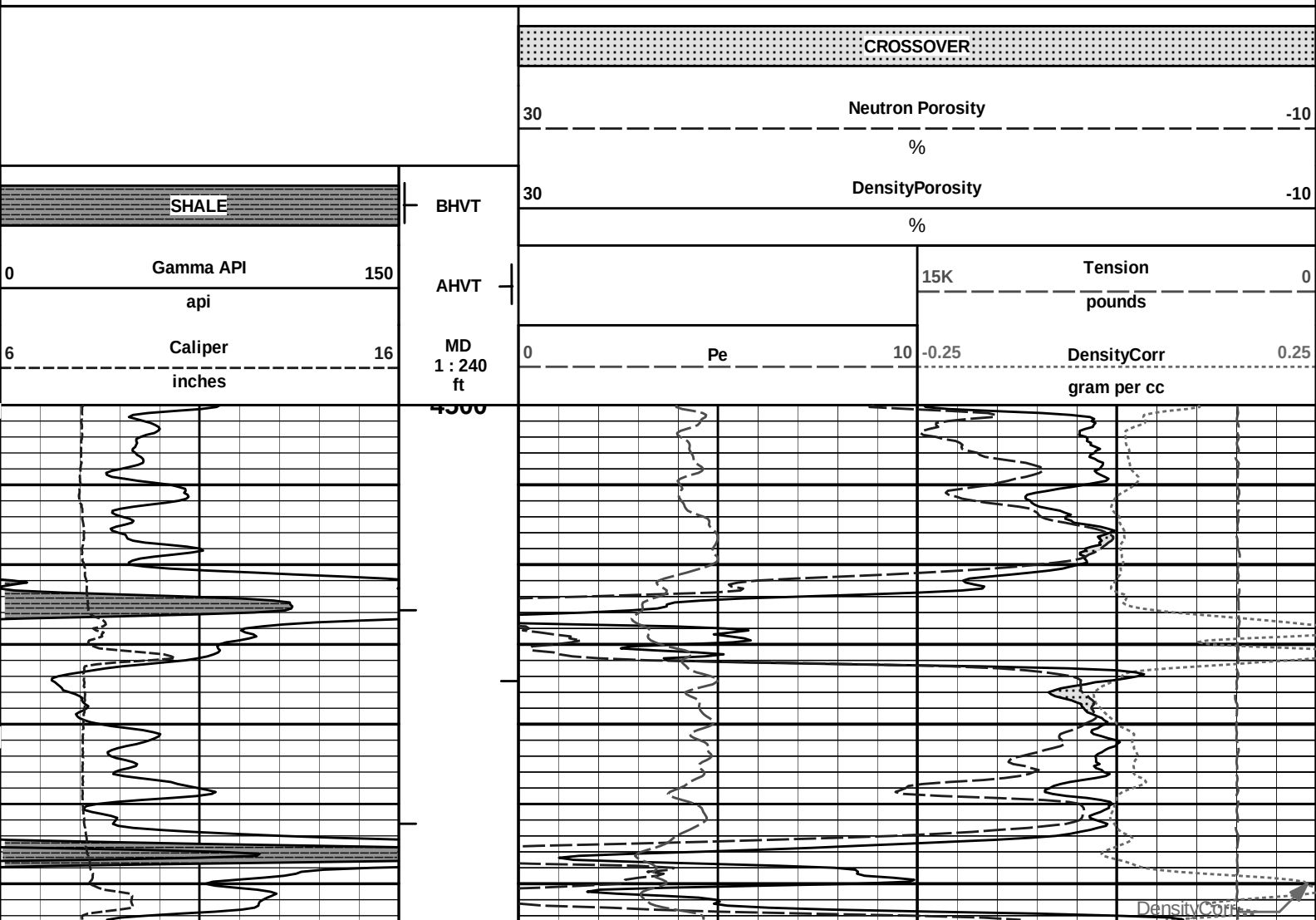
Plot Time: 09-Sep-12 20:51:52
Plot Range: 3200 ft to 4997 ft
Data: VAL_NELSON_3-24\Well Based\DAQ-0001-003.01\
Plot File: \\PORO\Poro_IQ_5_MAIN_LIB

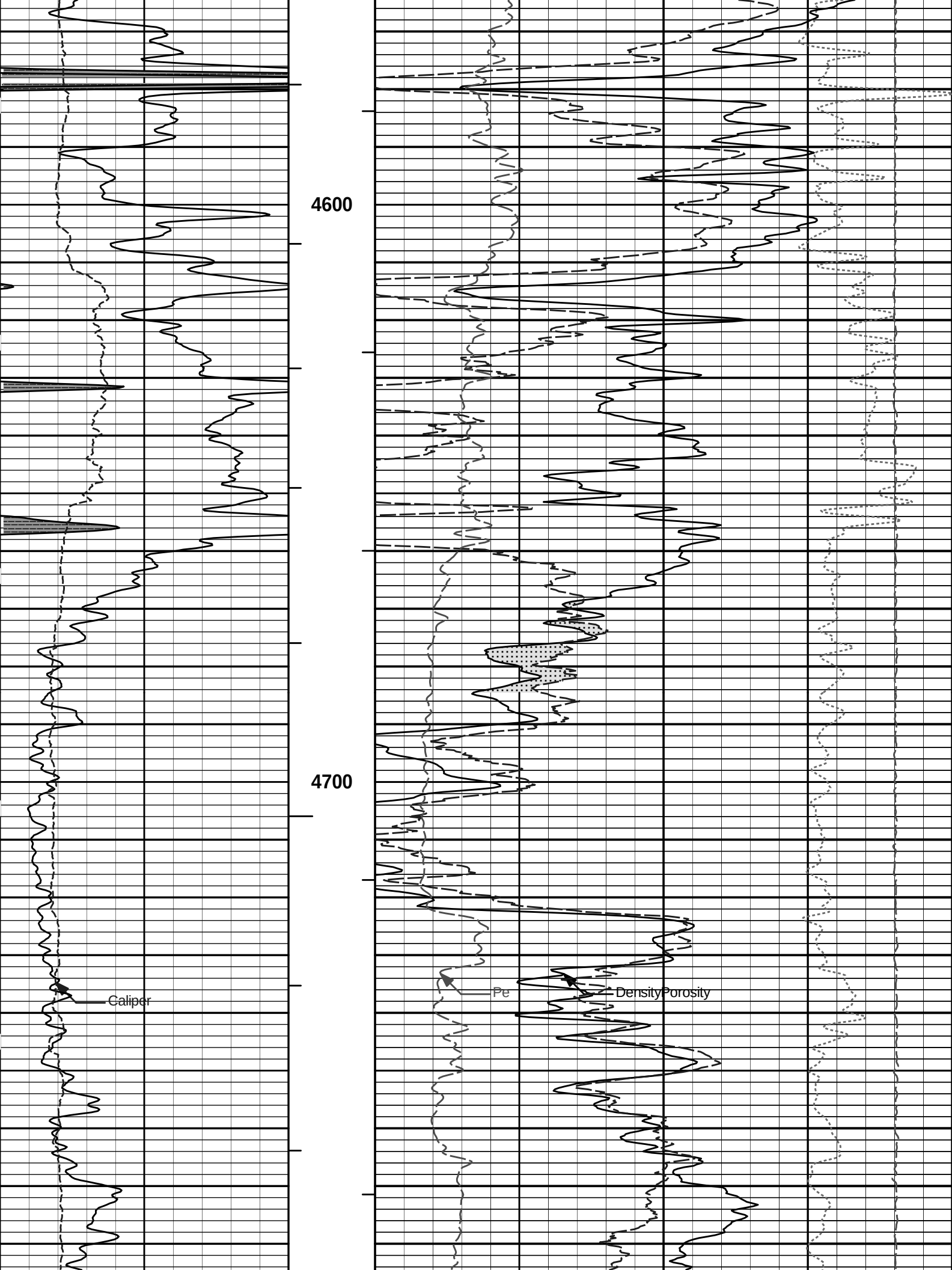
5 INCH MAIN LOG

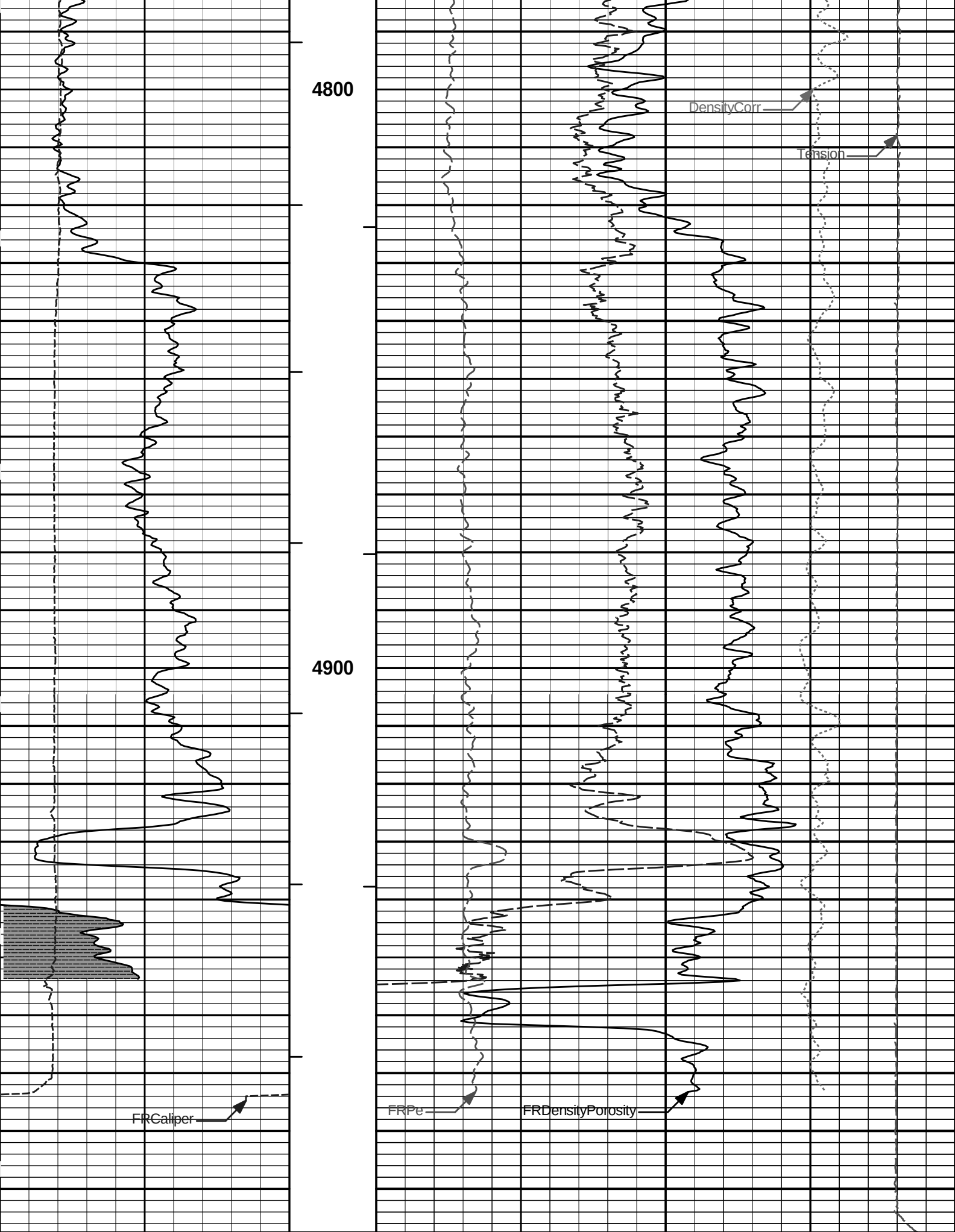
HALLIBURTON

Plot Time: 09-Sep-12 20:51:52
Plot Range: 4500 ft to 4997.5 ft
Data: VAL_NELSON_3-24\Well Based\REPEAT\
Plot File: \\PORO\Poro_IQ_5_REP_LIB

REPEAT SECTION




4600
4700
Caliper
Pe
DensityPorosity



6	Caliper	16	MD 1 : 240	0	Pe	10	-0.25	DensityCorr	0.25
	inches								

inches

ft

gram per cc

0 Gamma API 150

AHVT

15K Tension 0

api

pounds

SHALE

BHVT

30 DensityPorosity -10

%

30 Neutron Porosity -10

%

CROSSOVER

HALLIBURTON

Plot Time: 09-Sep-12 20:51:58
Plot Range: 4500 ft to 4997.5 ft
Data: VAL_NELSON_3-24\Well Based\REPEAT\
Plot File: \\PORO\Poro_IQ_5_REP_LIB

REPEAT SECTION

HALLIBURTON

Plot Time: 09-Sep-12 20:51:58
Plot Range: 3200 ft to 4997 ft
Data: VAL_NELSON_3-24\Well Based\DAQ-0001-003.01\
Plot File: \\-LOCAL-\VAL_NELSON_3-24\0001 SP-GTET-DSN-SDL-ACRT-CH\PORO\BULKD_5_MAIN_LIB

5 INCH MAIN LOG

SHALE

Tension Pull

Tension Pull

0 Gamma Ray 150

10 0

api

18 FarQuality -2

BHV ft3

2 Bulk Density 3

g/cc

-18 NearQuality 2

AHV ft3

15K Tension 0

pounds

6 Caliper 16

MD 1 : 240 ft

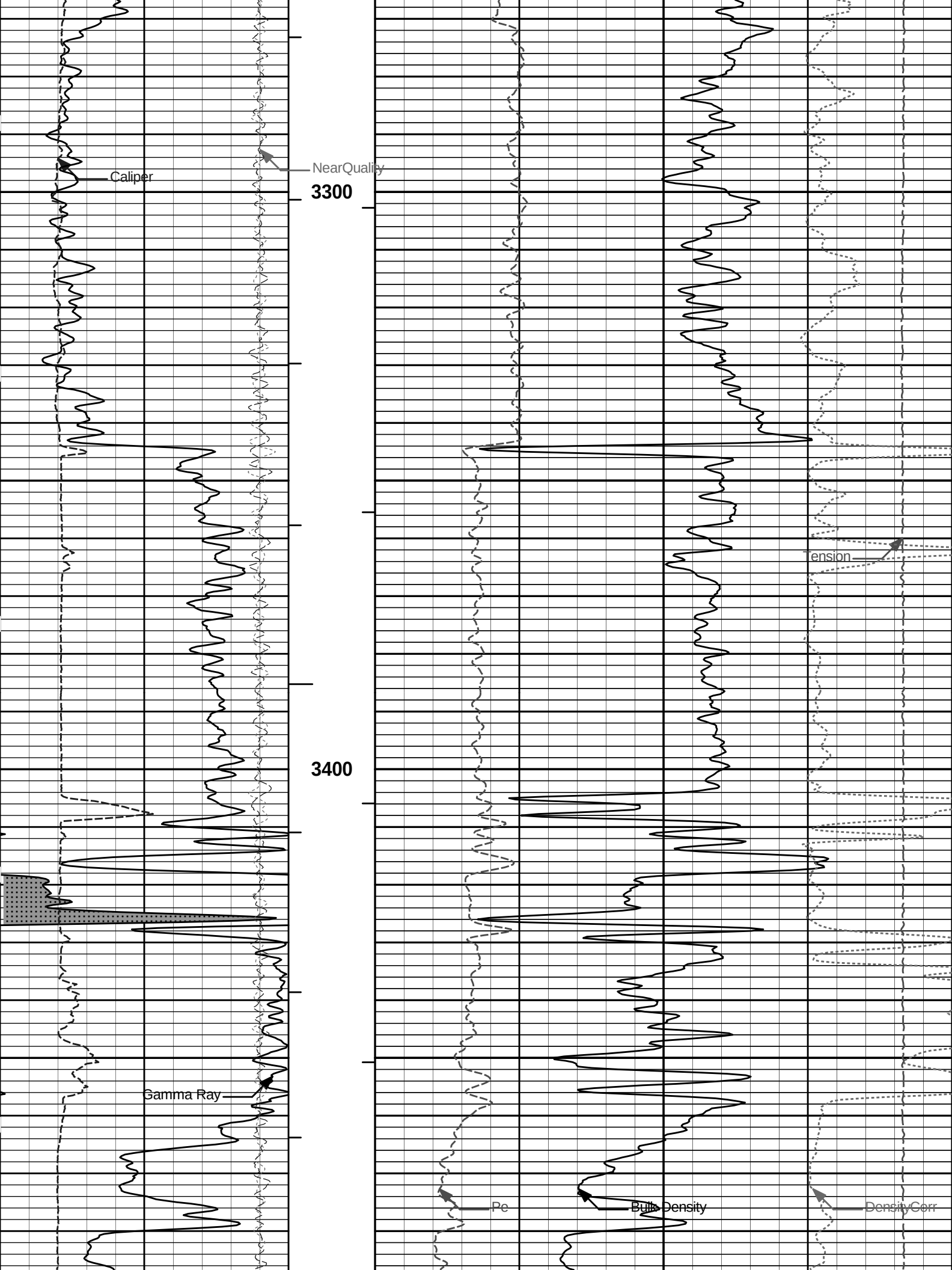
0 Pe 10

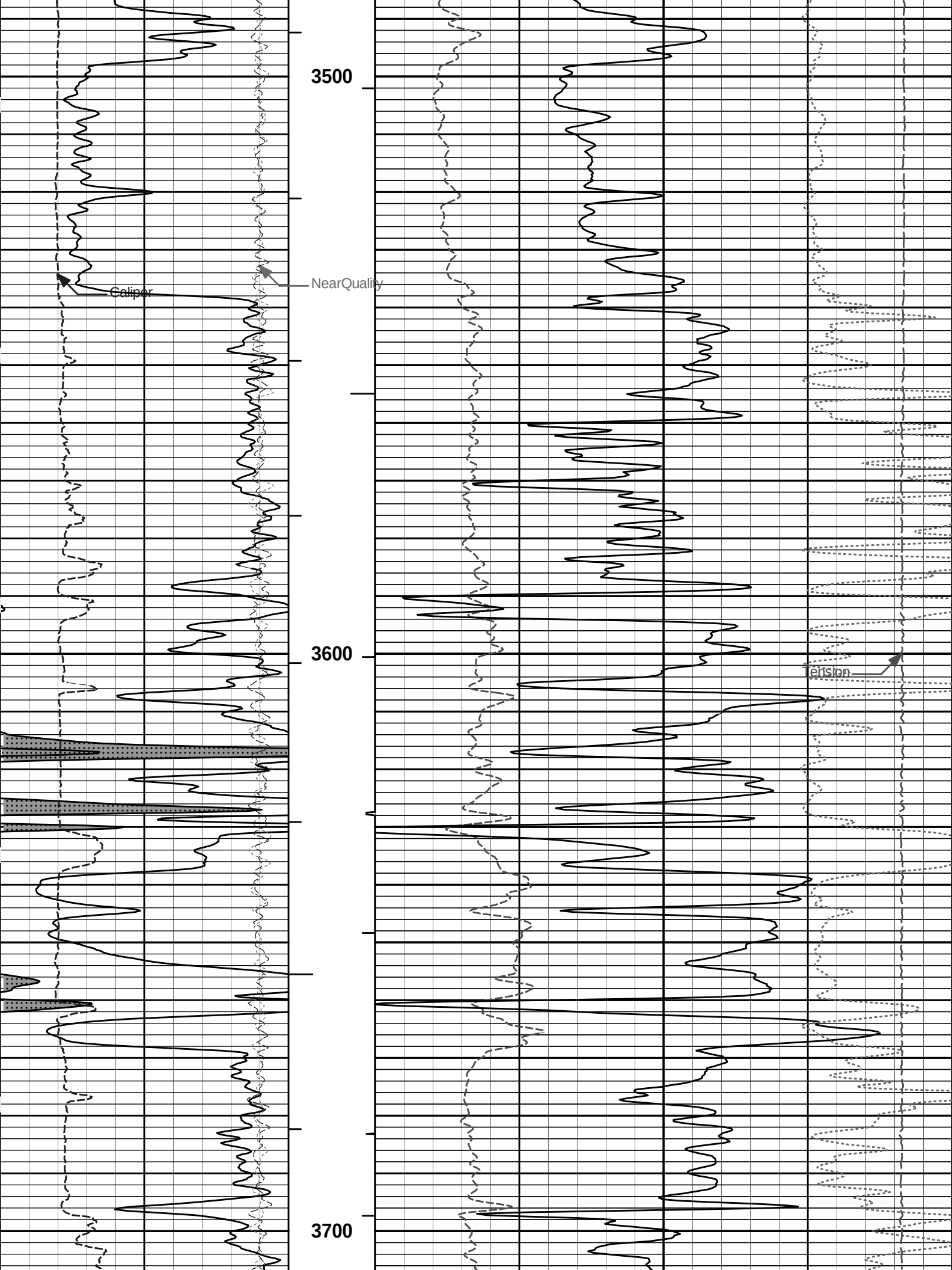
-0.25 DensityCorr 0.25

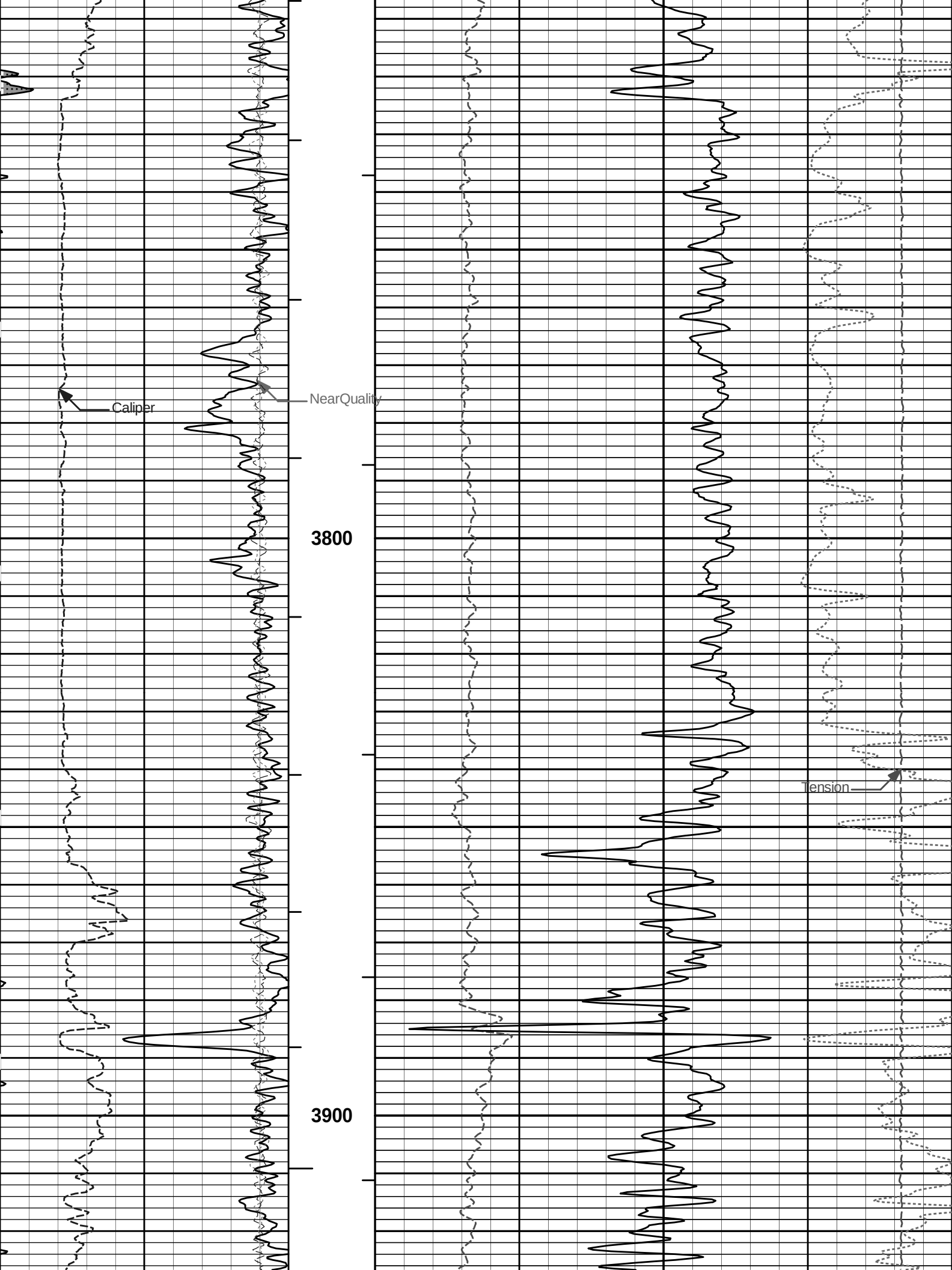
inches

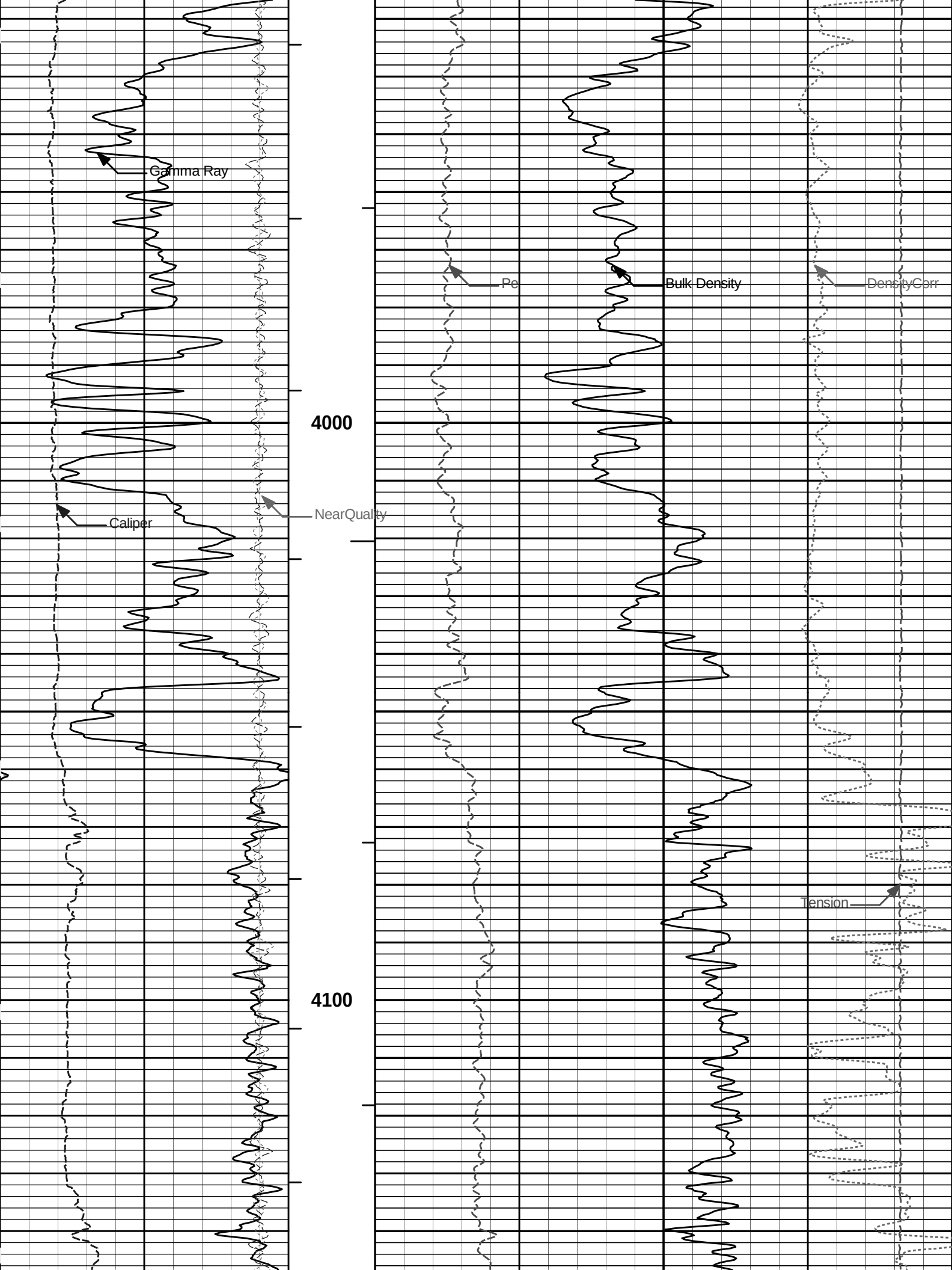
g/cc

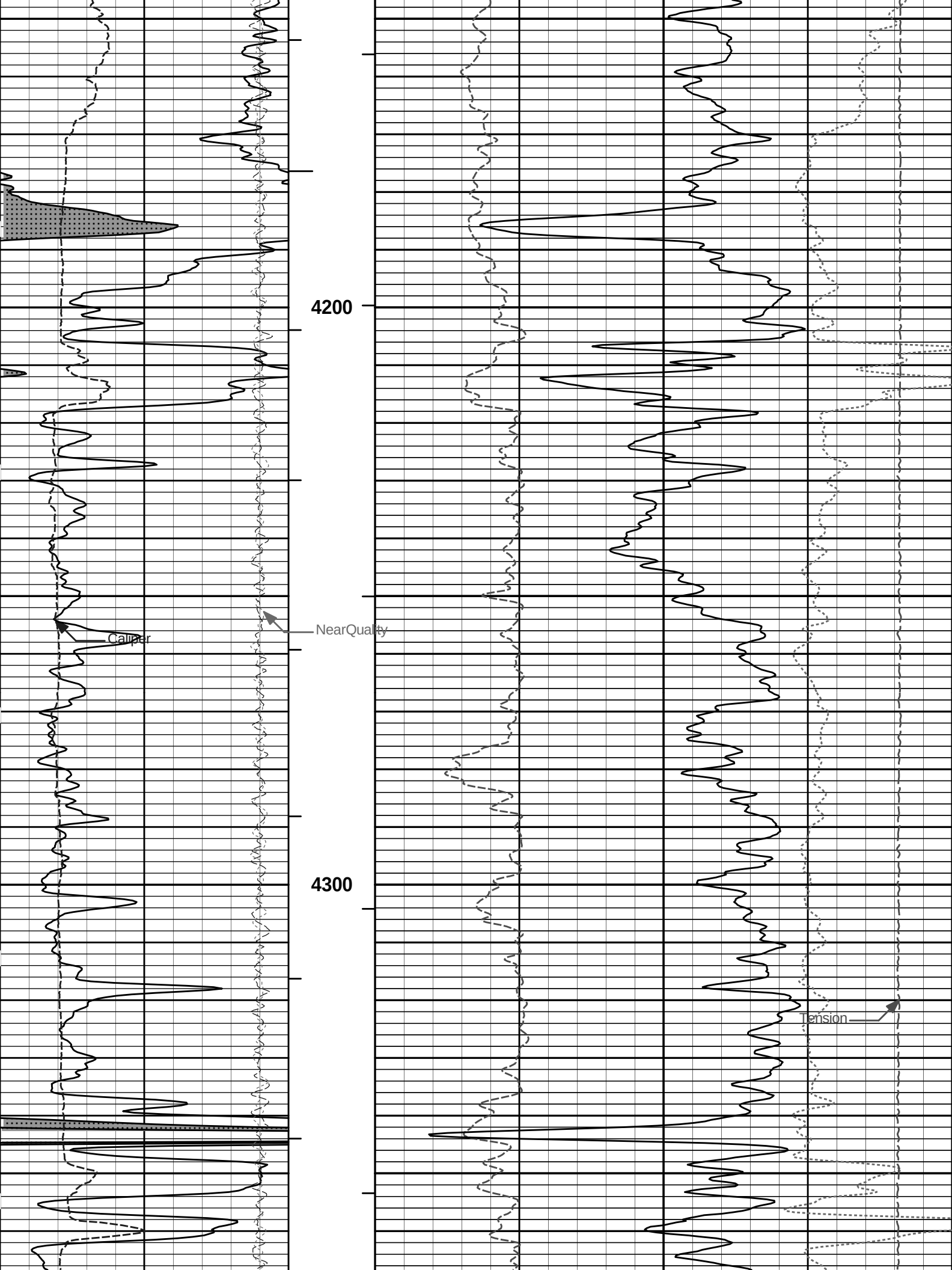
3200

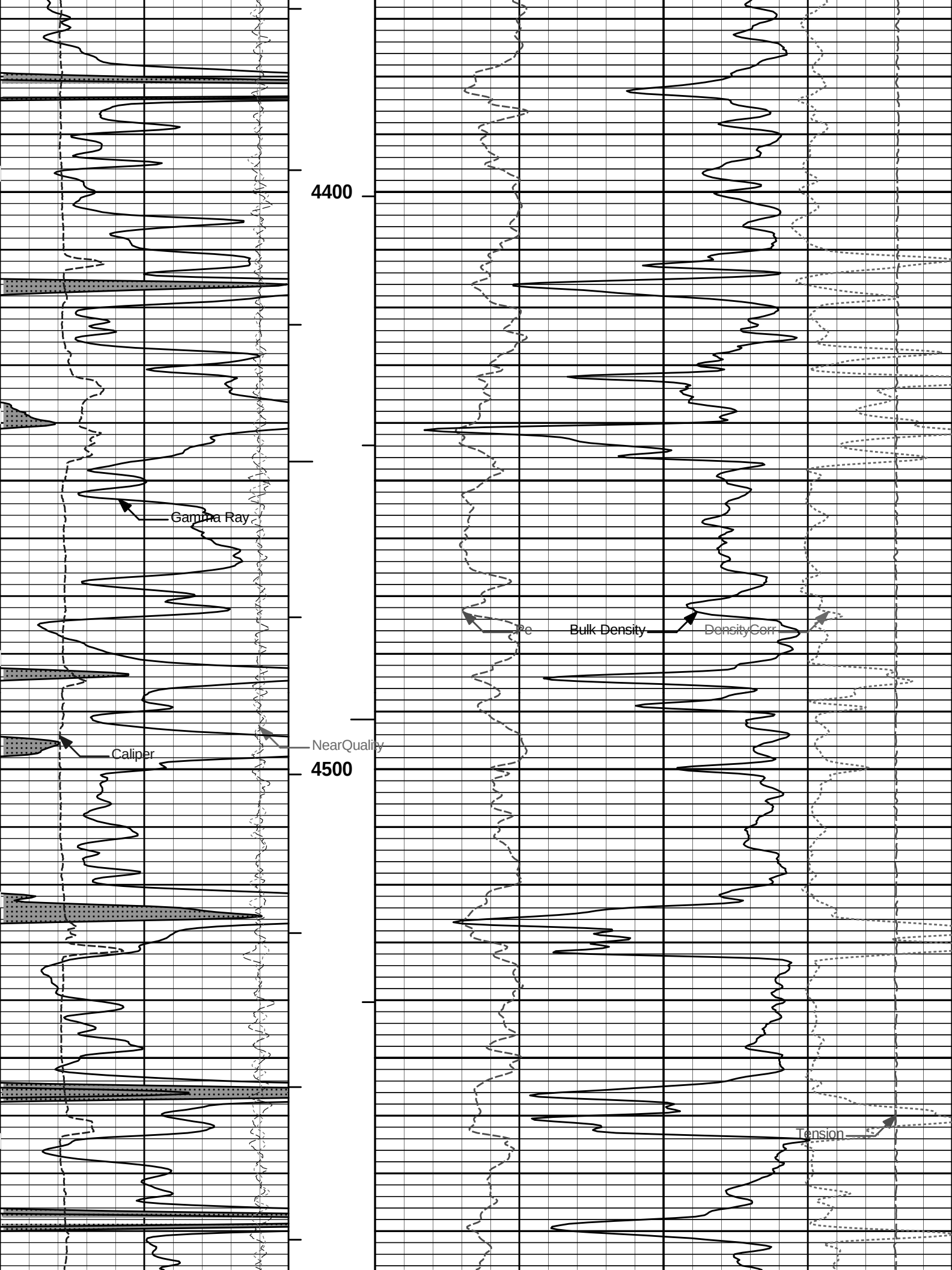

Caliper
NearQuality
3300
Tension
3400
Gamma Ray
Pe
Bulk Density
DensityCorr

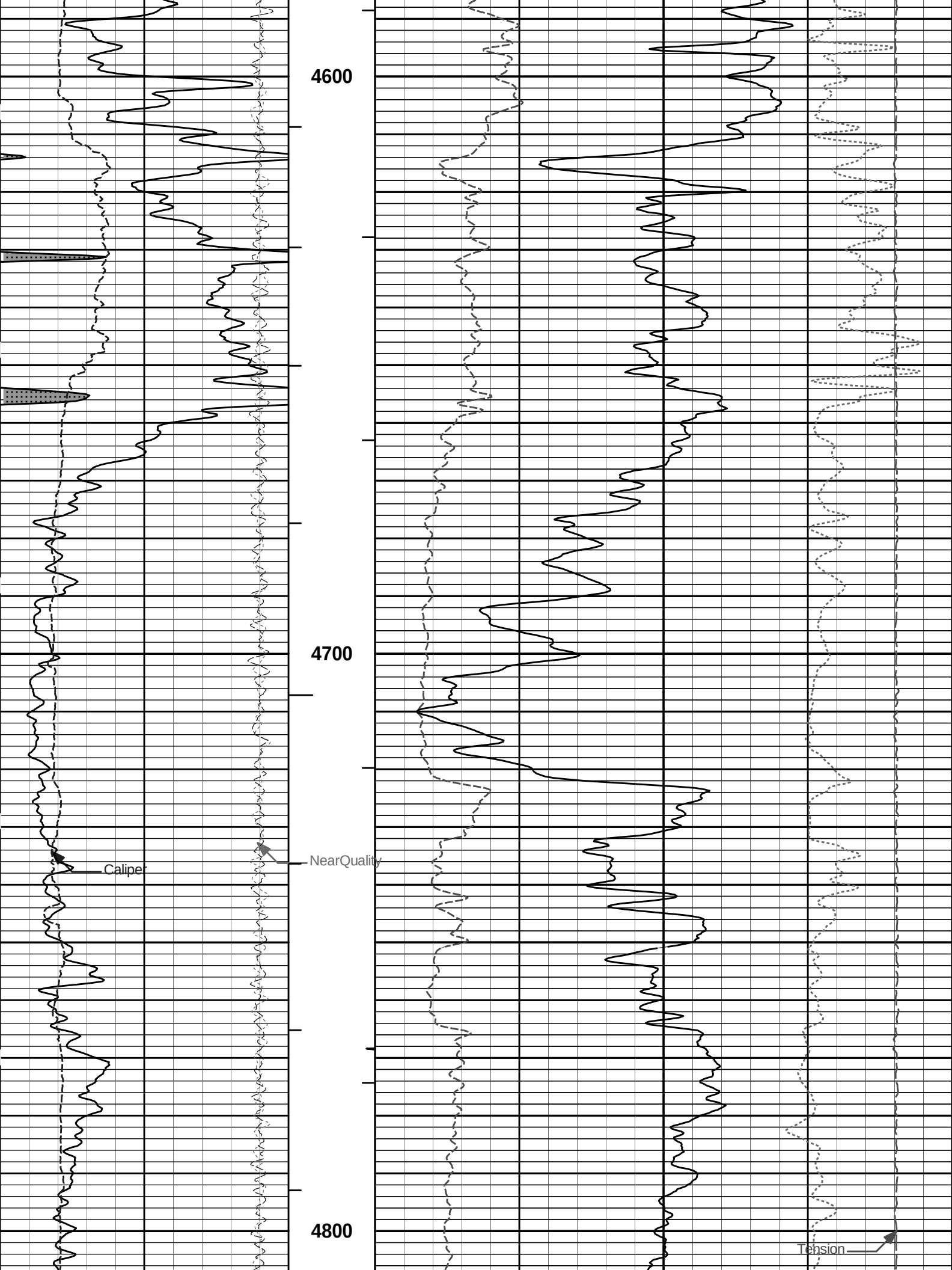

3500
3600
3700
Caliper
NearQuality
Tension

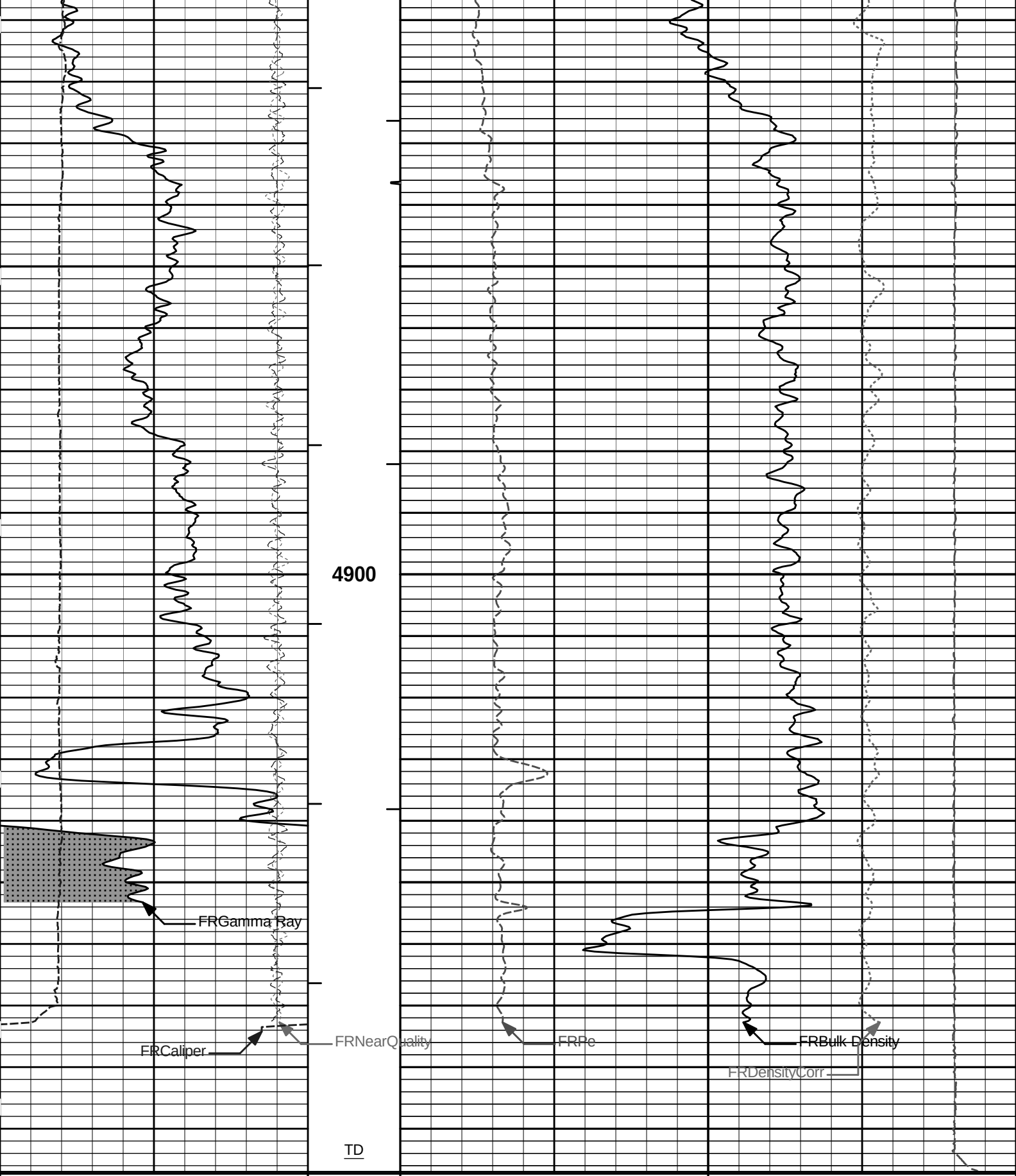

Caliper
NearQuality
3800
Tension
3900


Gamma Ray
Caliper
NearQuality
Pe
Bulk Density
DensityCorr
Tension
4000
4100


4200
4300
Caliper
NearQuality
Tension


4400
4500
Gamma Ray
Caliper
NearQuality
Pe
Bulk Density
DensityCorr
Tension


4600
4700
4800
Caliper
NearQuality
Tension



6 Caliper 16 inches	MD 1 : 240 ft	0 Pe 10
-18 NearQuality 2	AHV ft3	
18 FarQuality -2	BHV ft3	2 Bulk Density 3 g/cc

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

HALLIBURTON

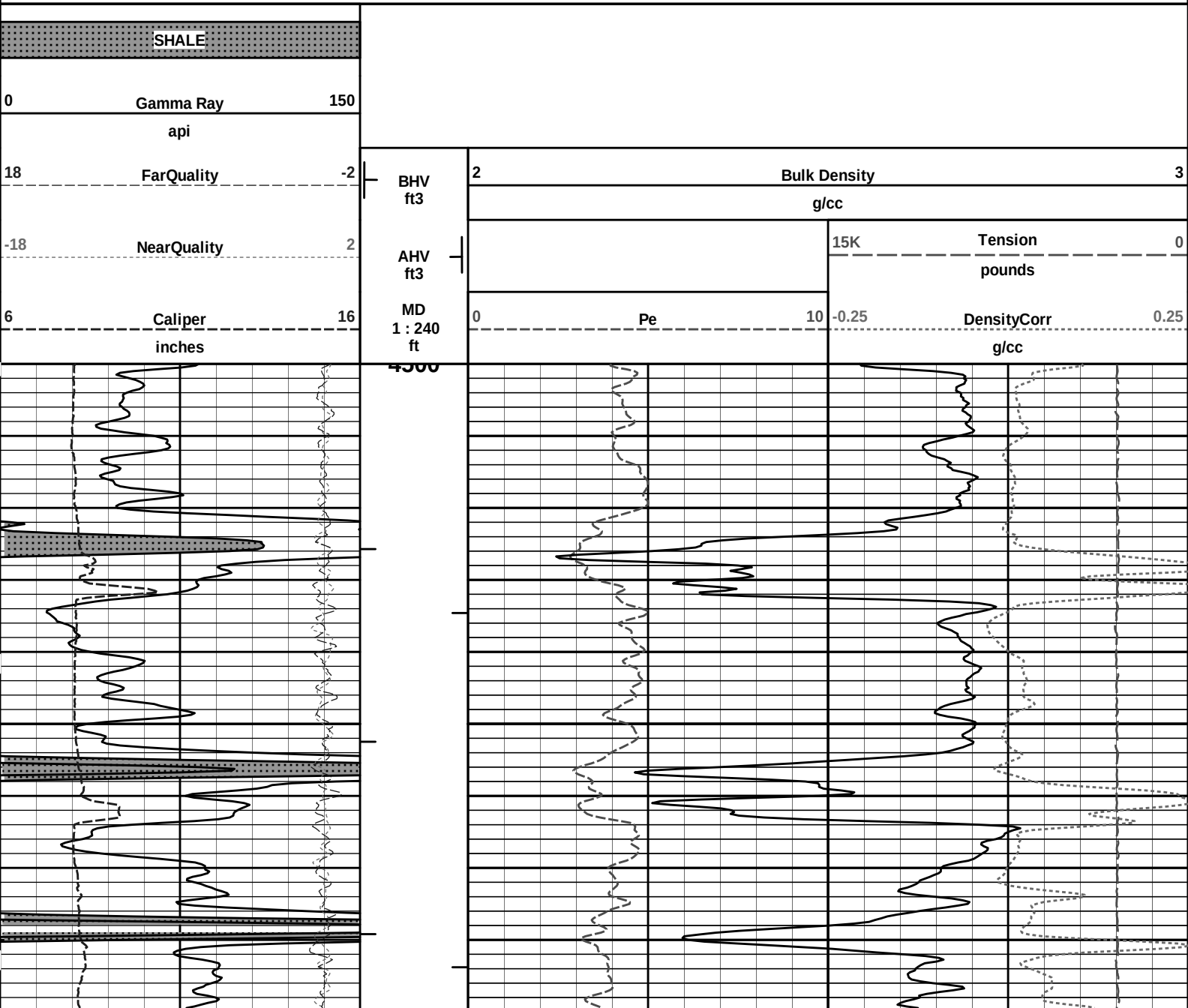
Plot Time: 09-Sep-12 20:52:02
Plot Range: 3200 ft to 4997 ft
Data: VAL_NELSON_3-24\Well Based\DAQ-0001-003.01\
Plot File: \\-LOCAL-\VAL_NELSON_3-24\0001 SP-GTET-DSN-SDL-ACRT-CH\PORO\BULKD_5_MAIN_LIB

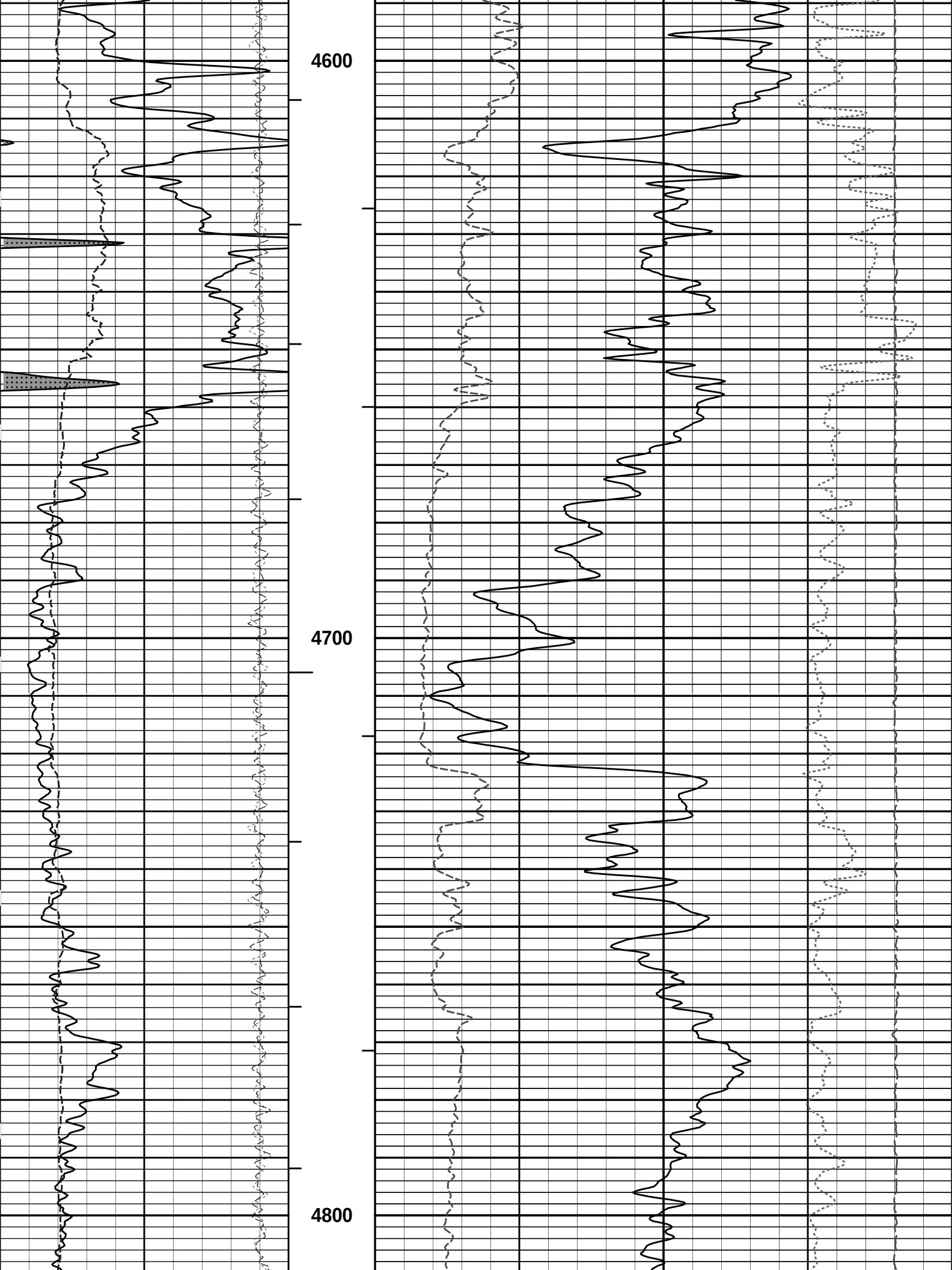
5 INCH MAIN LOG

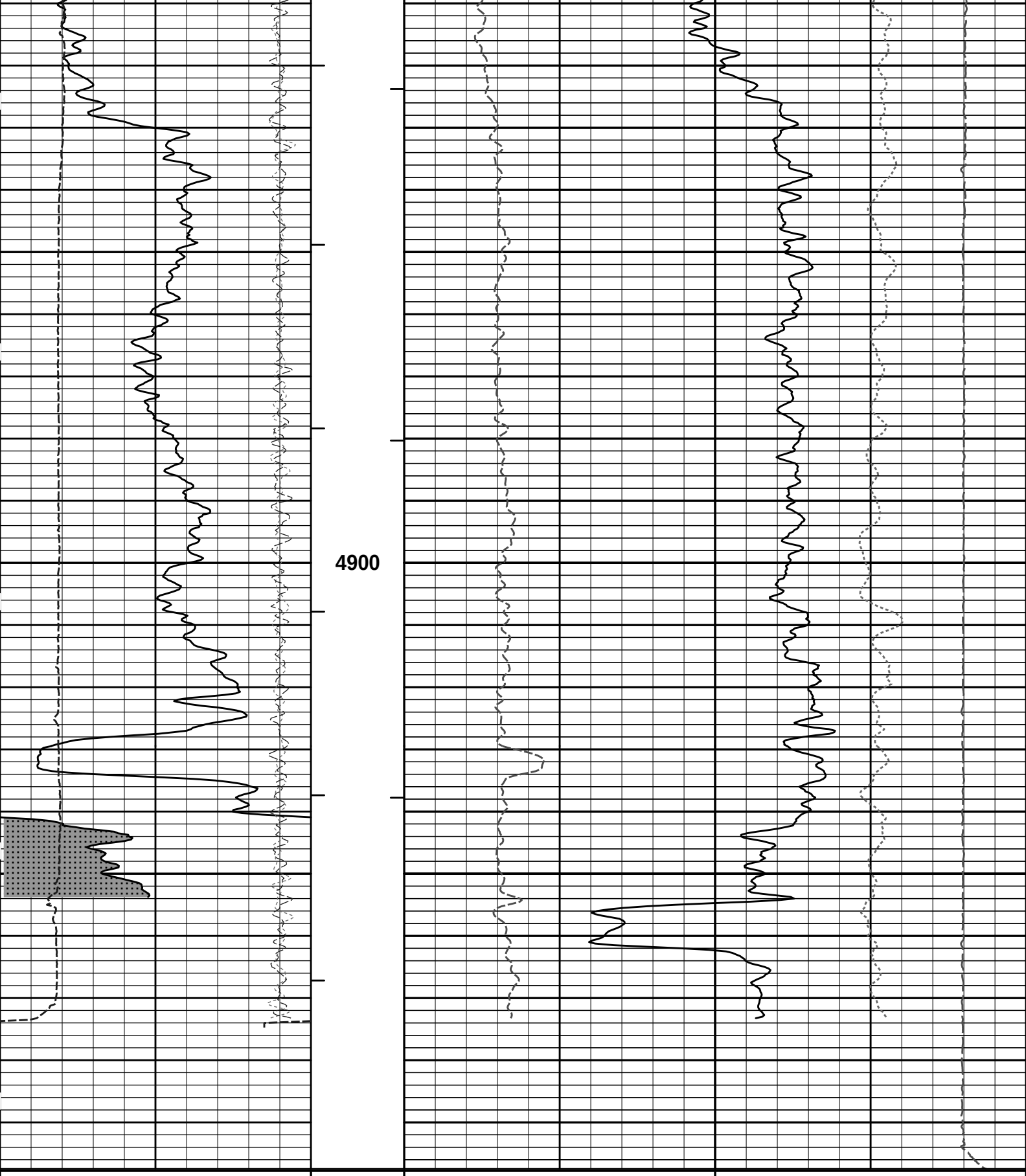
HALLIBURTON

Plot Time: 09-Sep-12 20:52:02
Plot Range: 4500 ft to 4997.5 ft
Data: VAL_NELSON_3-24\Well Based\REPEAT\
Plot File: \\-LOCAL-\VAL_NELSON_3-24\0001 SP-GTET-DSN-SDL-ACRT-CH\PORO\BULKD_5_REP_LIB

REPEAT SECTION




4600
4700
4800



6 Caliper 16	MD 1 : 240 ft	0 Pe 10
inches		
-18 NearQuality 2	AHV ft3	
18 FarQuality -2	BHV ft3	2 Bulk Density 3
		g/cc

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

0	Gamma Ray	150
	api	
	SHALE	

HALLIBURTON

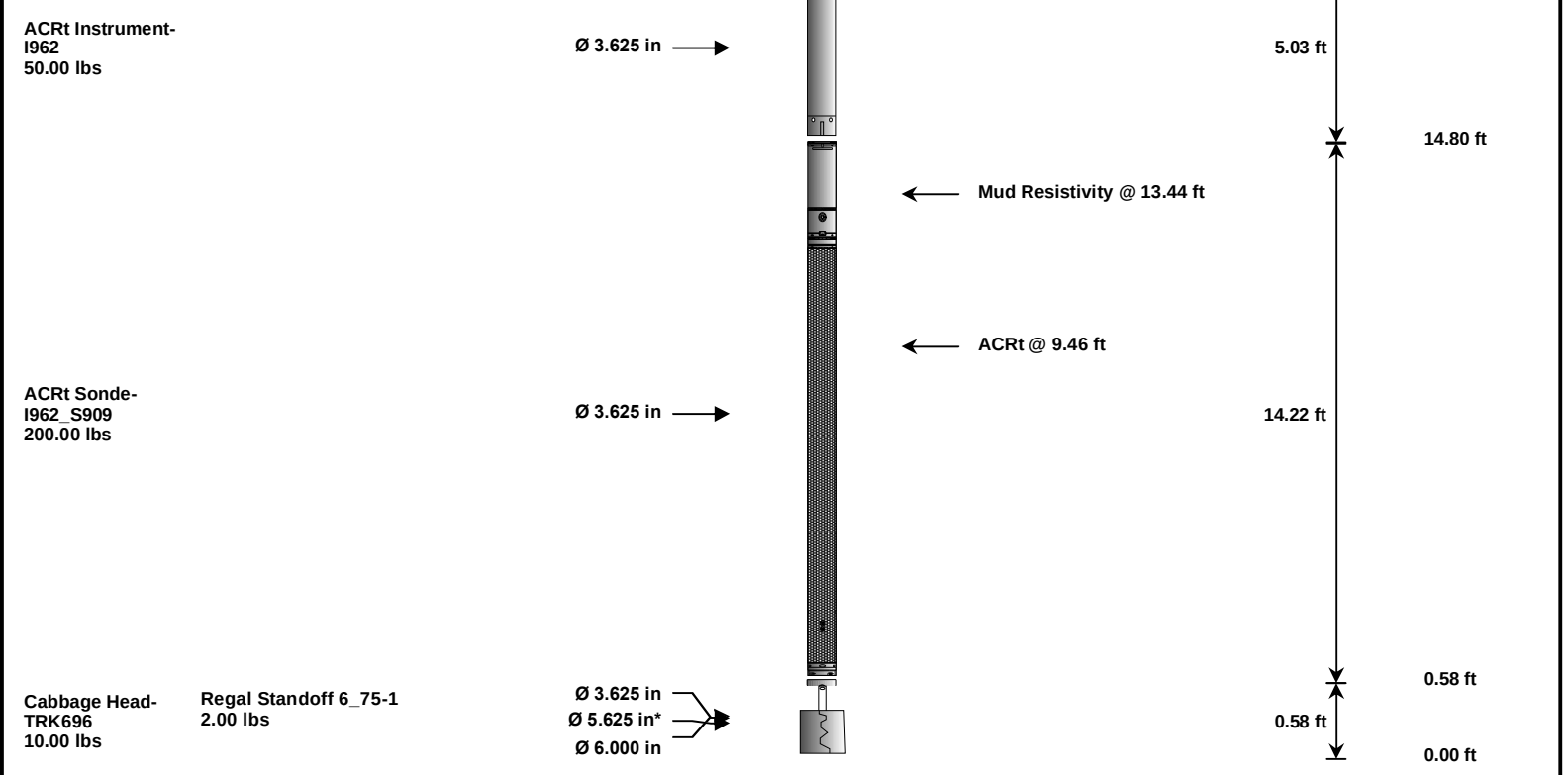
Plot Time: 09-Sep-12 20:52:03
Plot Range: 4500 ft to 4997.5 ft
Data: VAL_NELSON_3-24\Well Based\REPEAT\
Plot File: \\-LOCAL-\VAL_NELSON_3-24\0001 SP-GTET-DSN-SDL-ACRT-CH\PORO\BULKD_5_REP_LIB

REPEAT SECTION

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
						54.51 ft
Cable Head-PROT01 30.00 lbs		Ø 3.625 in			1.92 ft	
						52.59 ft
SP Sub-11441455 60.00 lbs		Ø 3.625 in		SP @ 50.81 ft	3.74 ft	
						48.85 ft
GTET-11048627 165.00 lbs		Ø 3.625 in		GammaRay @ 42.79 ft	8.52 ft	
						40.33 ft
DSNT-11055304 174.00 lbs	DSN Decentralizer-10755066 6.60 lbs	Ø 5.000 in* Ø 3.625 in		DSN Far @ 33.39 ft DSN Near @ 32.64 ft	9.69 ft	
						30.64 ft
SDLT-I43_M489 360.00 lbs	SDLT Pad-P81 65.00 lbs Microlog Pad-M489 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	
						19.83 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		52.59	300.00
SP	SP Sub	11441455	60.00	3.74		48.85	300.00
GTET	Gamma Telemetry Tool	11048627	165.00	8.52		40.33	60.00
DSNT	Dual Spaced Neutron	11055304	174.00	9.69		30.64	60.00
DCNT	DSN Decentralizer	10755066	6.60	5.13	*	33.97	300.00
SDLT	Spectral Density Tool	I43_M489	360.00	10.81		19.83	60.00
SDLP	Density Insite Pad	P81	65.00	2.55	*	22.04	60.00
MICP	Microlog Pad	M489	8.00	1.00	*	22.33	60.00
ACRt	Array Compensated True Resistivity Instrument Section	I962	50.00	5.03		14.80	300.00
ACRt	Array Compensated True Resistivity Sonde Section	I962_S909	200.00	14.22		0.58	300.00
CBHD	Cabbage Head	TRK696	10.00	0.58		0.00	300.00
RSOF	Regal Standoff 6.75in	1	2.00	0.52	*	0.00	300.00
Total			**1,130.60**	**54.51**			

* Not included in Total Length and Length Accumulation.

Data: VAL_NELSON_3-24\0001 SP-GTET-DSN-SDL-ACRT-CH\IDLE **Date: 09-Sep-12 16:43:54**

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name:	**GTET - 11048627**	**Reference Calibration Date:**	**09-Aug-12 10:44:30**
Engineer:	**T. HYDE**	**Calibration Date:**	**09-Aug-12 10:50:33**
Software Version:	**WL INSITE R3.6.0 (Build 3)**	**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	57.5	57.1	api
Background + Calibrator	328.7	326.8	api
Calibrator	271.3	269.6	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name:	**GTET - 11048627**	**Reference Calibration Date:**	**09-Aug-12 10:50:33**
Engineer:	**S. INGERSOLL**	**Calibration Date:**	**09-Sep-12 09:53:50**
Software Version:	**WL INSITE R3.6.0 (Build 3)**	**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	57.1	55.0	api
Background + Calibrator	326.8	326.2	api
Calibrator	269.6	271.2	api

Shop	Field	Difference	Tolerance
269.6	271.2	-1.6	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name:	**DSNT - 11055304**	**Reference Calibration Date:**	**05-Sep-12 14:27:57**
Engineer:	**T. HYDE**	**Calibration Date:**	**05-Sep-12 14:46:31**
Software Version:	**WL INSITE R3.6.0 (Build 3)**	**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: 68 degF
Min. Tool Housing Outside Diameter: 3.620 in

CALIBRATION CONSTANTS			
Measurement	**Prev. Value**	**New Value**	**Control Limit On New Value**
Gain:	0.987	0.989	0.900 - 1.100

WATER TANK SUMMARY (Horizontal Water Tank)				
Measurement	**Current Reading (Previous Coef.)**	**Calibrated (New Coef.)**	**Change**	**Control Limit On Change**
Porosity (decp):	0.2101	0.2107	0.0006	+/- 0.0020
Calibrated Ratio:	9.70	9.72	0.019	+/- 0.050

VERIFIER		
Measurement	**Value**	**Control Limit**
Snow-Block Porosity (decp):	0.0691	0.02000 - 0.09000

PASS/FAIL SUMMARY	
Background Check:	Passed
Gain-Range Check:	Passed
Snow-Block Check:	Passed

DUAL SPACED NEUTRON FIELD CALIBRATION

Tool Name:	**DSNT - 11055304**	**Reference Calibration Date:**	**05-Sep-12 14:46:31**
Engineer:	**S. INGERSOLL**	**Calibration Date:**	**09-Sep-12 10:02:22**
Software Version:	**WL INSITE R3.6.0 (Build 3)**	**Calibration Version:**	**1**

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

Snow Block S/N: 090

NEUTRON FIELD-CHECK SUMMARY				
	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0691	0.0807	0.0115	+/- 0.0150

PASS/FAIL SUMMARY	
Block Change Check:	Passed
Snow Block Stat Check:	Passed
Temperature Check:	Passed

DENSITY CALIPER SHOP CALIBRATION

Tool Name: SDLT - I43_M489 **Reference Calibration Date:** 01-Jan-70 00:00:00

Engineer: S. INGERSOLL **Calibration Date:** 06-Sep-12 07:33:37

Software Version: WL INSITE R3.6.0 (Build 3) **Calibration Version:** 1

Host Tool Name: DSNT - 11055304

CALIBRATION COEFFICIENTS			
Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-2153.99	-2153.99	-7000.00 - -1000.00
Pad Gain	0.0003997	0.0003997	0.000200 - 0.000600
Arm Offset	1430.46	1430.46	-5000.00 - 3000.00
Arm Gain	0.0003851	0.0003851	0.000300 - 0.000700
Arm Power	0.000004432	0.000004432	-0.000010000 - 0.000010000

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

Tool Diameter: 4.50 in

CALIBRATION RINGS				
Measurement	Current Reading (Previous Coeff.)	Calibrated (New Coeff.)	Change	Control Limit On New Value
PAD EXTENSION:				
Small Ring (in)	2.00	2.00	0.00	+/- 0.20
Medium Ring (in)	3.75	3.75	0.00	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.50	6.50	0.00	+/- 0.20
Medium Ring (in)	8.25	8.25	0.00	+/- 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

SPECTRAL DENSITY SHOP CALIBRATION

Tool Name: SDLT Pad - P81 **Reference Calibration Date:** 10-Aug-12 11:31:26

Engineer: T. HYDE **Calibration Date:** 10-Aug-12 11:49:11

Software Version: WL INSITE R3.6.0 (Build 3) **Calibration Version:** 1

Logging Source S/N: 5168GW

Aluminum Block S/N: LIBERAL Density: 2.598g/cc Pe: 3.170

Magnesium Block S/N: LIBERAL Density: 1.684g/cc Pe: 2.598

DENSITY CALIBRATION SUMMARY			
Measurement	Previous Value	New Value	Control Limit

Near Bar Gain	1.0481	1.0562	0.90 - 1.10
Near Dens Gain	1.0278	1.0364	0.90 - 1.10
Near Peak Gain	1.0245	1.0524	0.90 - 1.10
Near Lith Gain	1.0006	1.0234	0.90 - 1.10
Far Bar Gain	1.0186	1.0128	0.90 - 1.10
Far Dens Gain	1.0024	1.0012	0.90 - 1.10
Far Peak Gain	0.9960	0.9928	0.90 - 1.10
Far Lith Gain	0.9724	0.9721	0.90 - 1.10
Near Bar Offset	-0.2447	-0.3186	NONE
Near Dens Offset	-0.0693	-0.1422	NONE
Near Peak Offset	-0.0351	-0.2659	NONE
Near Lith Offset	0.1493	-0.0358	NONE
Far Bar Offset	-0.0284	0.0226	NONE
Far Dens Offset	0.1035	0.1123	NONE
Far Peak Offset	0.1312	0.1570	NONE
Far Lith Offset	0.2924	0.2917	NONE
Near Bar Background	816.13	814.50	700 - 1450
Near Dens Background	266.21	267.82	230 - 480
Near Peak Background	117.08	115.74	100 - 210
Near Lith Background	143.90	144.47	125 - 260
Far Bar Background	532.29	535.49	450 - 900
Far Dens Background	209.58	211.26	175 - 345
Far Peak Background	84.04	84.43	70 - 140
Far Lith Background	86.02	87.66	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	2.603	2.564	-0.039	+/- 0.150
ALUMINUM				
Density (g/cc)	2.599	2.598	-0.001	+/- 0.01500
Pe	3.142	3.133	-0.009	+/- 0.150

TOOL SUMMARY

Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	0.0014	+/- 0.0110	0.0016	+/- 0.0140
Magnesium Block	-0.0003	+/- 0.0110	-0.0021	+/- 0.0140
Aluminum Block	0.0000	+/- 0.0110	-0.0003	+/- 0.0140
Resolution	9.31	6.00 - 11.50	8.82	6.00 - 11.50
Internal Verifier(B+D+P+L)	1343	1200 - 2700	919	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

Aluminum Quality Check:	Passed
Gains Check:	Passed
Changes in Calibration Blocks:	Passed

SPECTRAL DENSITY FIELD CHECK

Tool Name: SDLT Pad - P81 **Reference Calibration Date:** 10-Aug-12 11:49:11

Engineer: S. INGERSOLL **Calibration Date:** 09-Sep-12 09:53:07

Software Version: WL INSITE R3.6.0 (Build 3) **Calibration Version:** 1

Pad Temperature: 75.2 degF

DENSITY FIELD CALIBRATION SUMMARY

Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1342.531	1343.195	0.664	14.818
Far (B+D+P+L) cps	918.840	913.800	-5.040	16.432
Near Resolution	9.31	9.33	0.020	0.50
Far Resolution	8.82	8.92	0.100	1.00

PASS/FAIL SUMMARY

Bkg Quality Check:	Passed
Bkg Resolution Check:	Passed
Bkg Verification Check:	Passed

MICRO LOG SHOP CALIBRATION

Tool Name: Microlog Pad - M489 **Reference Calibration Date:** 01-Jan-70 00:00:00

Engineer: C.PARKER **Calibration Date:** 01-Nov-11 03:10:56

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

Host Tool Name: DSNT - 11055304

CALIBRATION COEFFICIENT SUMMARY

Measurement	Micro Log Normal		Micro Log Lateral		
	Measured	Calibrated	Measured	Calibrated	Units
Tool Zero	-0.07	-0.07	-0.01	-0.01	ohmm
Calibration Point #1	0.00	0.00	0.00	0.00	ohmm
Calibration Point #2	20.00	20.00	20.00	20.00	ohmm
Internal Reference	19.94	19.94	20.01	20.01	ohmm

Measurement	Micro Log Normal Tool Value	Micro Log Lateral Tool Value	Units
Tool Zero	0.47	-0.57	V
Calibration Point #1	20.48	2.51	V
Calibration Point #2	5369.32	7024.07	V
Internal Reference	5352.53	7028.02	V

MICRO LOG FIELD CHECK

Tool Name: Microlog Pad - M489 **Reference Calibration Date:** 01-Nov-11 03:10:56

Engineer: S. INGERSOLL **Calibration Date:** 09-Sep-12 09:52:23

Software Version: WL INSITE R3.6.0 (Build 3) **Calibration Version:** 1

Measurement	Micro Log Normal		Micro Log Lateral		
	Shop	Field	Shop	Field	Units
Tool Zero	-0.07	-0.08	-0.01	-0.01	ohmm
Internal Reference	19.94	19.64	20.01	19.57	ohmm

Summary

Signal	Shop	Field	Difference	Tolerance
Microlog Normal	19.94	19.64	0.30	+/- 0.80
Microlog Lateral	20.01	19.57	0.44	+/- 0.80

SDLT CALIPER FIELD CALIBRATION

Tool Name: SDLT - I43_M489
Reference Calibration Date: 06-Sep-12 07:33:37
Engineer: S. INGERSOLL
Calibration Date: 09-Sep-12 09:58:33
Software Version: WL INSITE R3.6.0 (Build 3)
Calibration Version: 1

MEASURED CALIPER VALUES

Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.77	0.02	+/- 0.10
Ring Diameter	8.25	8.29	0.04	+/- 0.15

PASS/FAIL SUMMARY

Pad Extension Check:	Passed
Diameter Check:	Passed

ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION

Tool Name: ACRt Sonde - I962_S909
Reference Calibration Date: 11-Jul-12 14:10:58
Engineer: T. HYDE
Calibration Date: 23-Aug-12 19:00:08
Software Version: WL INSITE R3.6.0 (Build 3)
Calibration Version: 1
Host Tool Name: ACRt Instrument - I962

TYPICAL GAIN RANGE

Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	1.04	1.05	0.95	1.04	1.05	0.95	1.04	1.05
A2 (50")	0.95	1.01	1.05	0.95	1.02	1.05	0.95	1.02	1.05
A3 (29")	0.95	1.01	1.05	0.95	1.01	1.05	0.95	1.01	1.05
A4 (17")	0.95	1.00	1.05	0.95	1.01	1.05	0.95	1.01	1.05
A5 (10")	N/A	N/A	N/A	0.95	1.00	1.05	0.95	1.00	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.99	1.05	0.95	0.98	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	-0.64	2	-6	-3.61	-2	-8	-5.12	-2
A2 (50")	-7	-1.57	0	-7	-3.48	0	-7	-4.37	0
A3 (29")	-27	-13.72	-9	-9	-4.41	-3	-7	-2.62	-1
A4 (17")	-180	-101.07	-60	-45	-30.50	-15	-39	-25.77	-13
A5 (10")	N/A	N/A	N/A	-150	-99.60	-50	-80	-44.58	-10
A6 (6")	N/A	N/A	N/A	175	287.56	525	90	154.09	270

TRANSMITTER CURRENT GAIN

Signal	Lower	R	Upper
12K	0.6	0.92	1.3
36K	1.0	1.37	2.0
72K	1.0	1.61	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 RANGE CHK	PASS
Tx CURRENT GAIN	PASS
Rmud VERIFICATION	PASS

TOOL OK TO LOG

CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11048627						
Gamma Ray Calibrator	269.6	271.2	----------	-1.6	+/- 9.00	api
DSNT-11055304						
Snow-Block Porosity	0.0691	0.0807	----------	-0.0116	+/- 0.0150	decp
SDLT-I43_M489						
Pad Extension	3.75	3.77	----------	-0.02	+/-0.10	in
Ring Diameter	8.25	8.29	----------	-0.04	+/-0.15	in
SDLT Pad-P81						
Near(B+D+P+L)	1342.531	1343.195	----------	-0.664	+/-14.818	cps
Far(B+D+P+L)	918.840	913.800	----------	5.040	+/-16.432	cps
Microlog Pad-M489						
MicroLog Normal	19.94	19.64	----------	0.30	+/-0.80	ohmm
MicroLog Lateral	20.01	19.57	----------	0.44	+/-0.80	ohmm
ACRt Sonde-I962_S909						
Mud Cell	1.00	----------	----------	0.00	----------	ohm-m

Data: VAL_NELSON_3-24\0001 SP-GTET-DSN-SDL-ACRT-CH\003.01 09-Sep-12 19:51 Up **Date: 09-Sep-12 20:25:46**

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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	9.200	ppg
	SHARED	WAGT	Weighting Agent	Barite	
	SHARED	BSAL	Borehole salinity	4500.00	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	5000.00	ft
	SHARED	BHT	Bottom Hole Temperature	130.0	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 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	
	ACRt Sonde	MRFX	Fixed mud resistivity	2000	ohmm

BOTTOM

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INPUTS, DELAYS AND FILTERS TABLE

Mnemonic	Input Description	Delay (ft)	Filter Type	Filter Length (ft)
Depth Panel				
TENS	Tension	0.00	NO	
SP Sub				

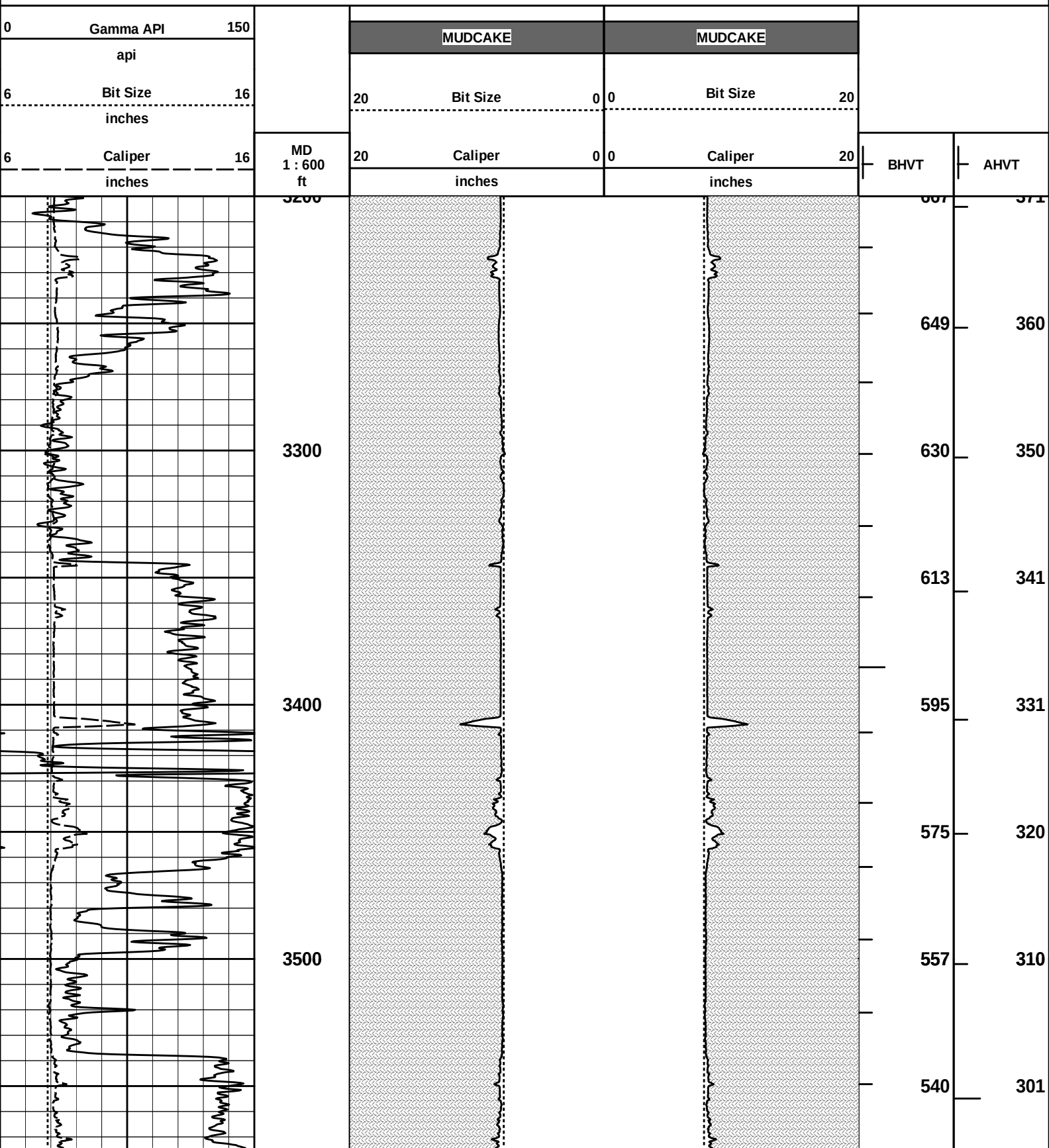
PLTC	Plot Control Mask	50.81	NO	
SP	Spontaneous Potential	50.81	BLK	1.250
SPR	Raw Spontaneous Potential	50.81	NO	
SPO	Spontaneous Potential Offset	50.81	NO	
	GTET			
TPUL	Tension Pull	42.79	NO	
GR	Natural Gamma Ray API	42.79	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API	42.79	NO	
EGR	Natural Gamma Ray 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
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

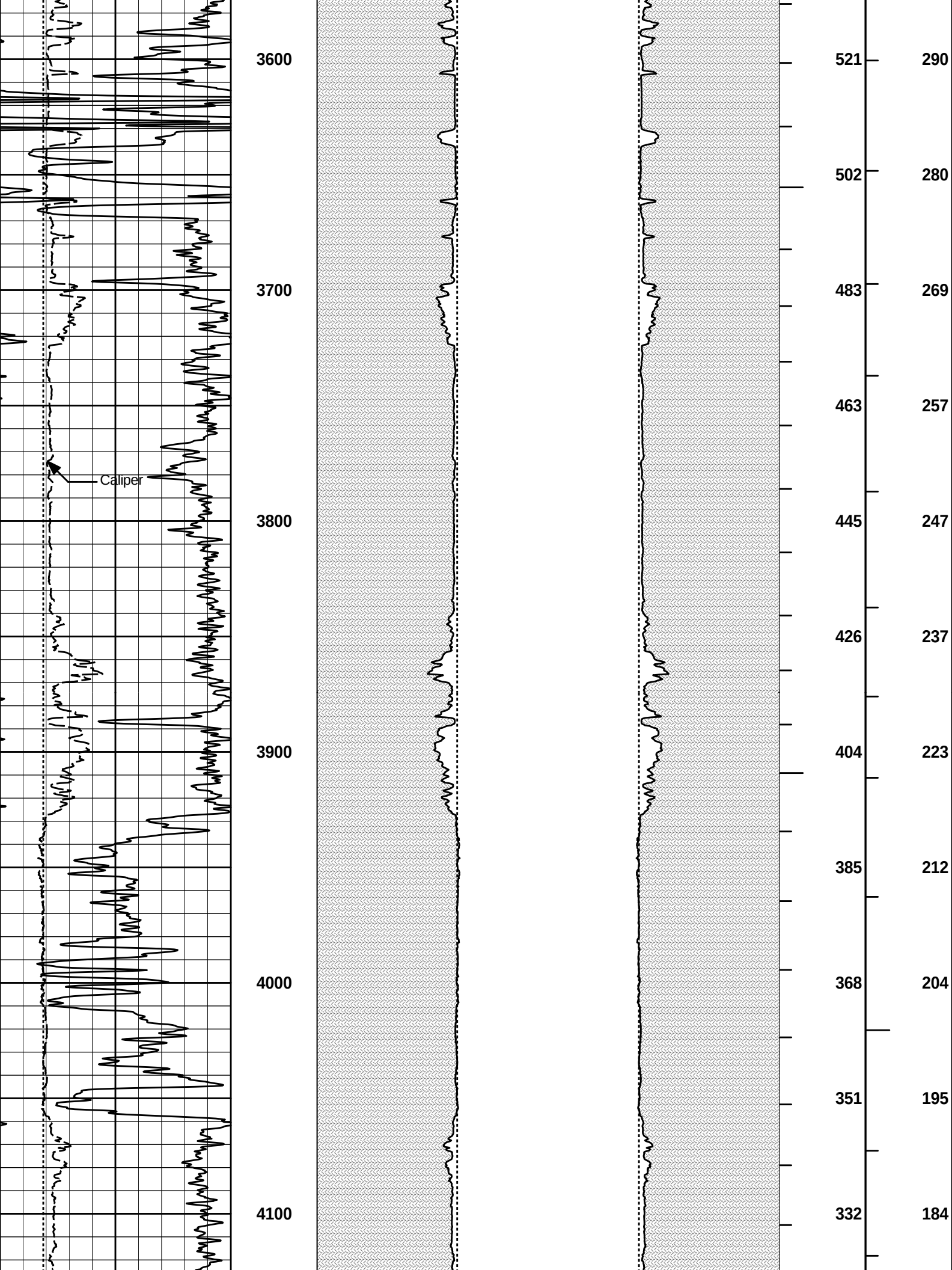
F3R2	ACRT 72KHz - 50in R value	6.72	BLK	0.000
F3X2	ACRT 72KHz - 50in X value	6.72	BLK	0.000
F3R3	ACRT 72KHz - 29in R value	5.22	BLK	0.000
F3X3	ACRT 72KHz - 29in X value	5.22	BLK	0.000
F3R4	ACRT 72KHz - 17in R value	4.22	BLK	0.000
F3X4	ACRT 72KHz - 17in X value	4.22	BLK	0.000
F3R5	ACRT 72KHz - 10in R 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
NLIU	Near Lithology Unfiltered	22.46	BLK	0.250
FAB	Far Above	22.81	BLK	0.250
FHI	Far Cesium High	22.81	BLK	0.250
FLO	Far Cesium Low	22.81	BLK	0.250
FVA	Far Valley	22.81	BLK	0.250
FBA	Far Barite	22.81	BLK	0.250
FDE	Far Density	22.81	BLK	0.250
FPK	Far Peak	22.81	BLK	0.250
FLI	Far Lithology	22.81	BLK	0.250
PTMP	Pad Temperature	22.65	BLK	0.920
NHV	Near Detector High Voltage	22.04	NO	
FHV	Far Detector High Voltage	22.04	NO	
ITMP	Instrument Temperature	22.04	NO	
DDHV	Detector High Voltage	22.04	NO	
	Microlog Pad			
TPUL	Tension Pull	22.83	NO	
MINV	Microlog Lateral	22.83	BLK	0.750
MNOR	Microlog Normal	22.83	BLK	0.750

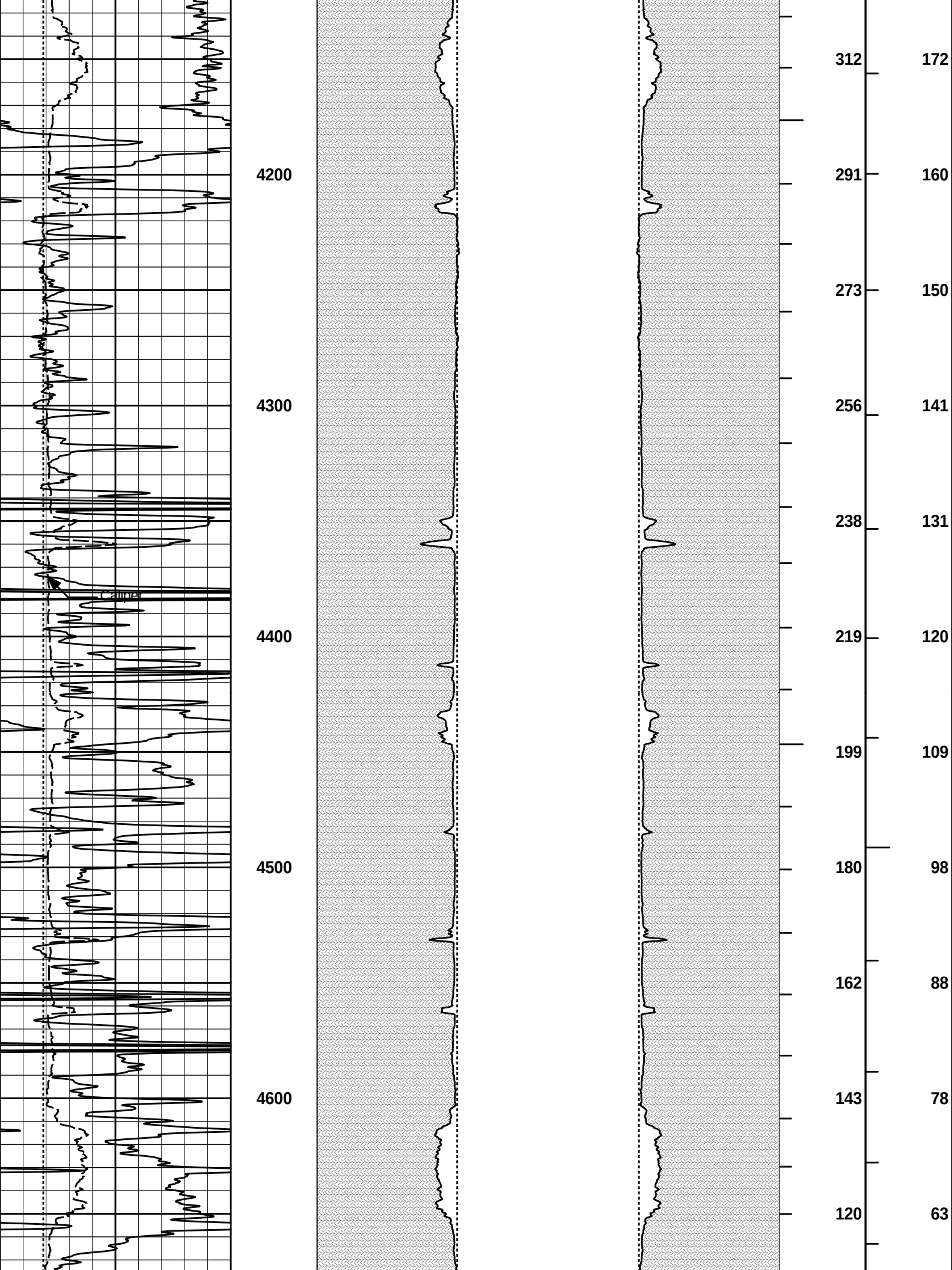
HALLIBURTON

Plot Time: 09-Sep-12 20:52:04
Plot Range: 3200 ft to 4997 ft
Data: VAL_NELSON_3-24\Well Based\DAQ-0001-003.01\
Plot File: \\-LOCAL-\VAL_NELSON_3-24\0001 SP-GTET-DSN-SDL-ACRT-CH\PORO\AHV_2_IQ_LIB

ANNULAR HOLE VOLUME PLOT




3600
3700
3800
3900
4000
4100
Caliper
521
502
483
463
445
426
404
385
368
351
332
290
280
269
257
247
237
223
212
204
195
184


Caliper
4200
4300
4400
4500
4600
312
291
273
256
238
219
199
180
162
143
120
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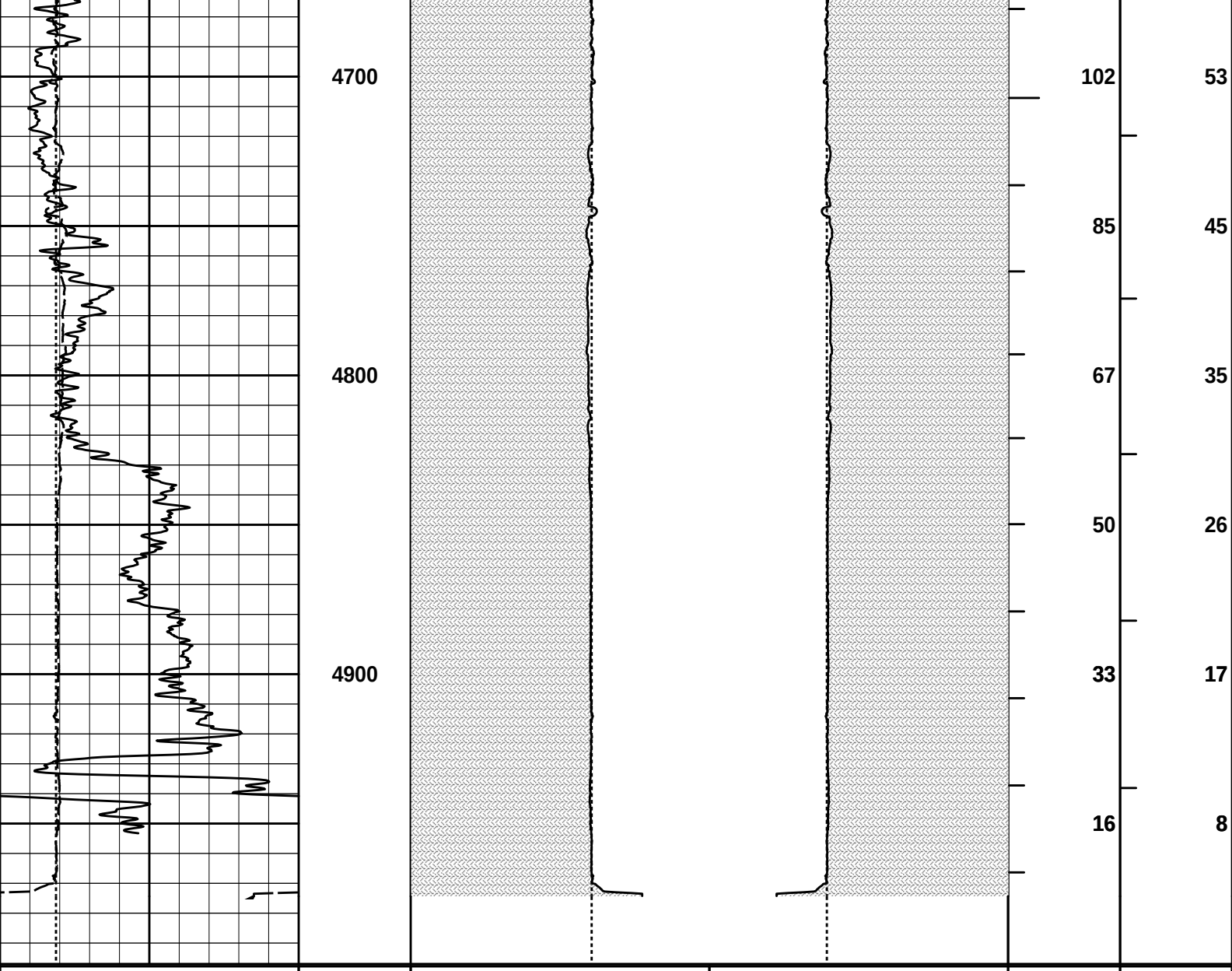
160
150
141
131
120
109
98
88
78
63



HALLIBURTON

Plot Time: 09-Sep-12 20:52:07
Plot Range: 3200 ft to 4997 ft
Data: VAL_NELSON_3-24\Well Based\DAQ-0001-003.01\
Plot File: \\-LOCAL-\VAL_NELSON_3-24\0001 SP-GTET-DSN-SDL-ACRT-CH\PORO\AHV_2_IQ_LIB

ANNULAR HOLE VOLUME PLOT

COMPANY	**VAL ENERGY INC.**		
WELL	**NELSON 3-24**		
FIELD	**MAYBERRY NORTH**		
COUNTY	**BARBER**	STATE	**KANSAS**

HALLIBURTON

SPECTRAL DENSITY
DUAL SPACED NEUTRON
LOG