HALLIBURTON

SPECTRAL DENSITY DUAL SPACED NEUTRON LOG

COMPANY HARTMAN OIL COMPANY, INC.
WELL DAMME #41-A
FIELD DAMME
COUNTY FINNEY
STATE KANSAS

COMPANY **HARTMAN OIL COMPANY, INC.**
WELL **DAMME #41-A**
FIELD **DAMME**
COUNTY **FINNEY** STATE **KANSAS**

API No. 15-055-22102
Location 1065' FSL & 2310' FEL
Sect. 21 Twp. 22S Rge. 33W

Other Services:
ACRT
MICRO

Permanent Datum	GL	Elev. 2892.0 ft	Elev.: K.B. 2902.0 ft
Log measured from	KB	, 10.0 ft above perm. Datum	D.F. 2901.0 ft
Drilling measured from	KB		G.L. 2892.0 ft

Date		10-Aug-11					
Run No.		1					
Depth - Driller		4875.00 ft					
Depth - Logger		7871.0 ft					
Bottom - Logged Interval		7848.0 ft					
Top - Logged Interval		3550.0 ft					
Casing - Driller		8.625 in @ 752.0 ft		@		@	
Casing - Logger		756.0 ft					
Bit Size		7.875 in		@		@	
Type Fluid in Hole		WATER BASED MUD					
Density	Viscosity	8.7 ppg	50.00 s/qt				
PH	Fluid Loss	9.50 pH	8.0 cptm				
Source of Sample		FLOW LINE					
Rm @ Meas. Temperature		1.030 ohmm @ 85.00 degF		@		@	
Rmf @ Meas. Temperature		0.85 ohmm @ 80.00 degF		@		@	
Rmc @ Meas. Temperature		1.230 ohmm @ 80.00 degF		@		@	
Source Rmf	Rmc	MEASURED	MEASURED				
Rm @ BHT		0.83 ohmm @ 120.0 degF		@		@	
Time Since Circulation		5.0 hr					
Time on Bottom		10-Aug-11 09:39					
Max. Rec. Temperature		120.0 degF @ 7871.0 ft		@		@	
Equipment	Location	10782954	LIBERAL				
Recorded By		J. BOSH					
Witnessed By		B. ARDE		C. PETERS			

Fold here

Service Ticket No.: 83728564
API Serial No.: 15-055-22102
PGM Version: WL INSITE R3.2.5 (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
Rm @ Meas. Temp	@				
Rmf @ Meas. Temp.	@				
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.	10748374	Serial No.		Serial No.	1145_M73803	Serial No.	10735145
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	CS137	Source Type	AM241BE
Length	8"	LSA [Y/N]		Serial No.	5073 GW	Serial No.	DSN-436
Distance to Source	10'	FWDA [Y/N]		Strength	1.5 CI	Strength	15 CI

LOGGING DATA

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	3550	REC	0	150				30	-10	2.71	30	-10	LIME

DIRECTIONAL INFORMATION

Maximum Deviation @ KOP @

Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING

CHLORIDES: 1000 PPM LCM: 24 #/BBL

GPS COORDINATES: LAT: 38.72 N LONG: 100.95 W

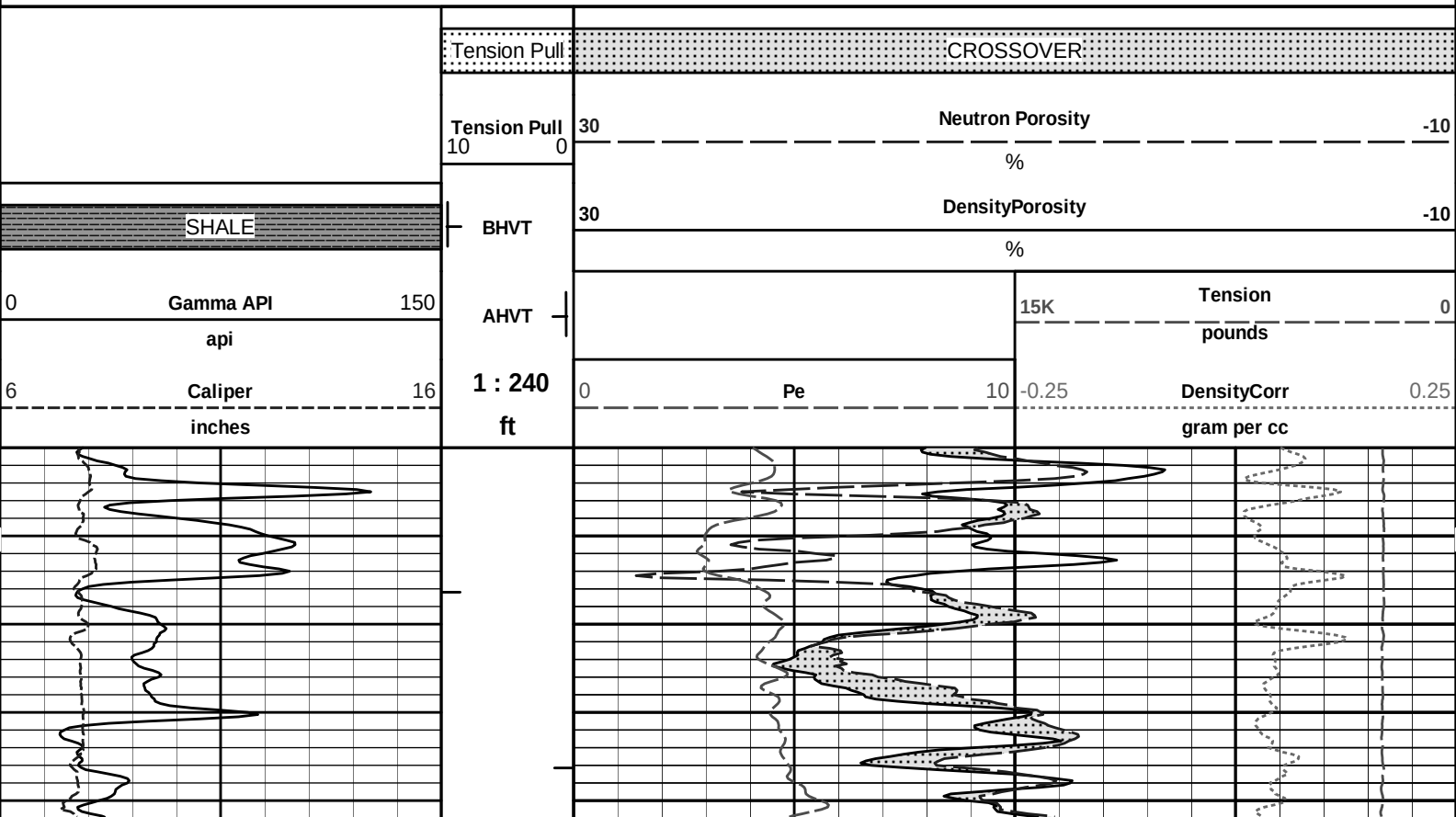
TODAY'S CREW: A. VAQUERA, P. COBLE

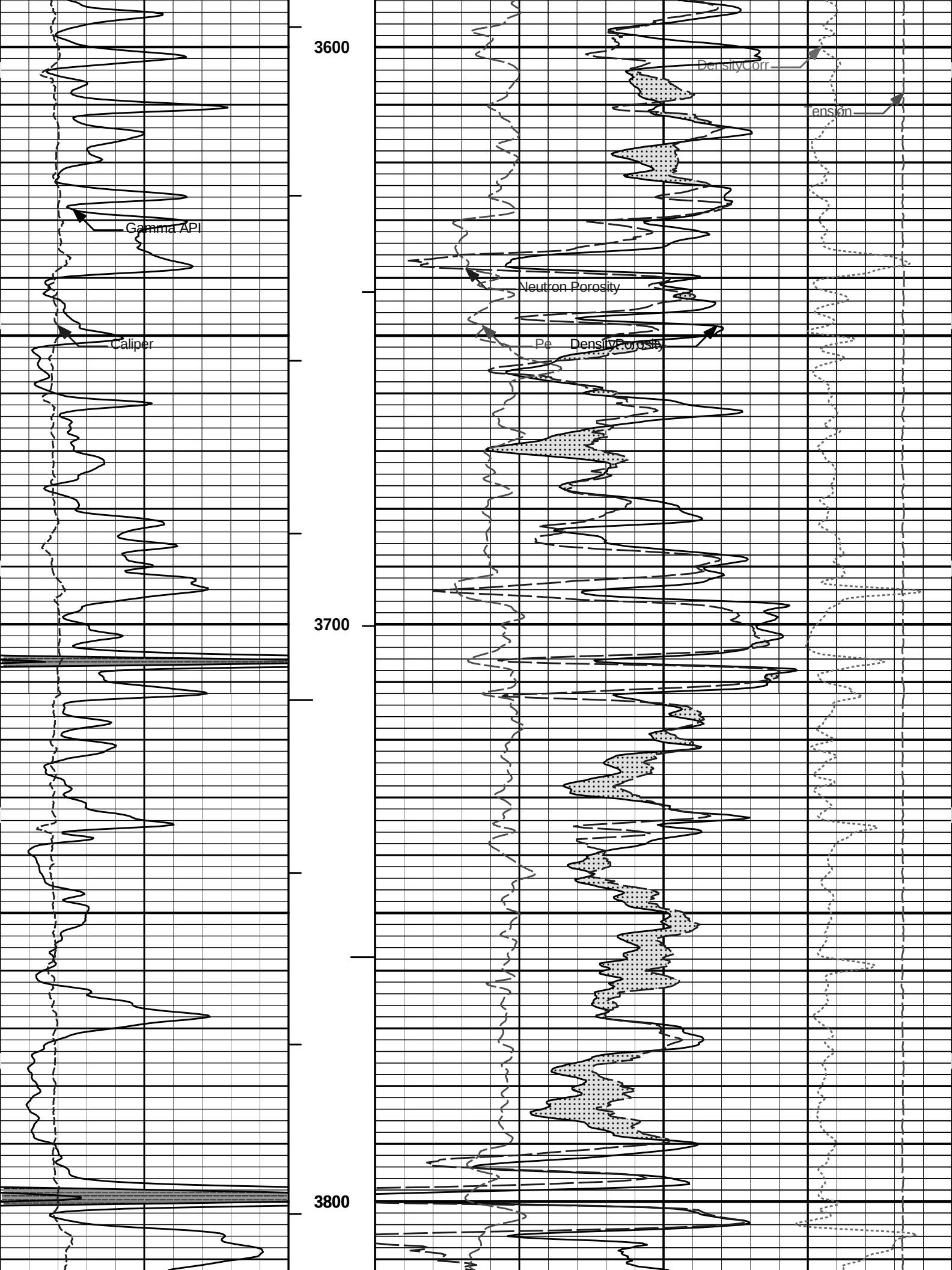
THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES. LIBERAL, KS 620-624-8123

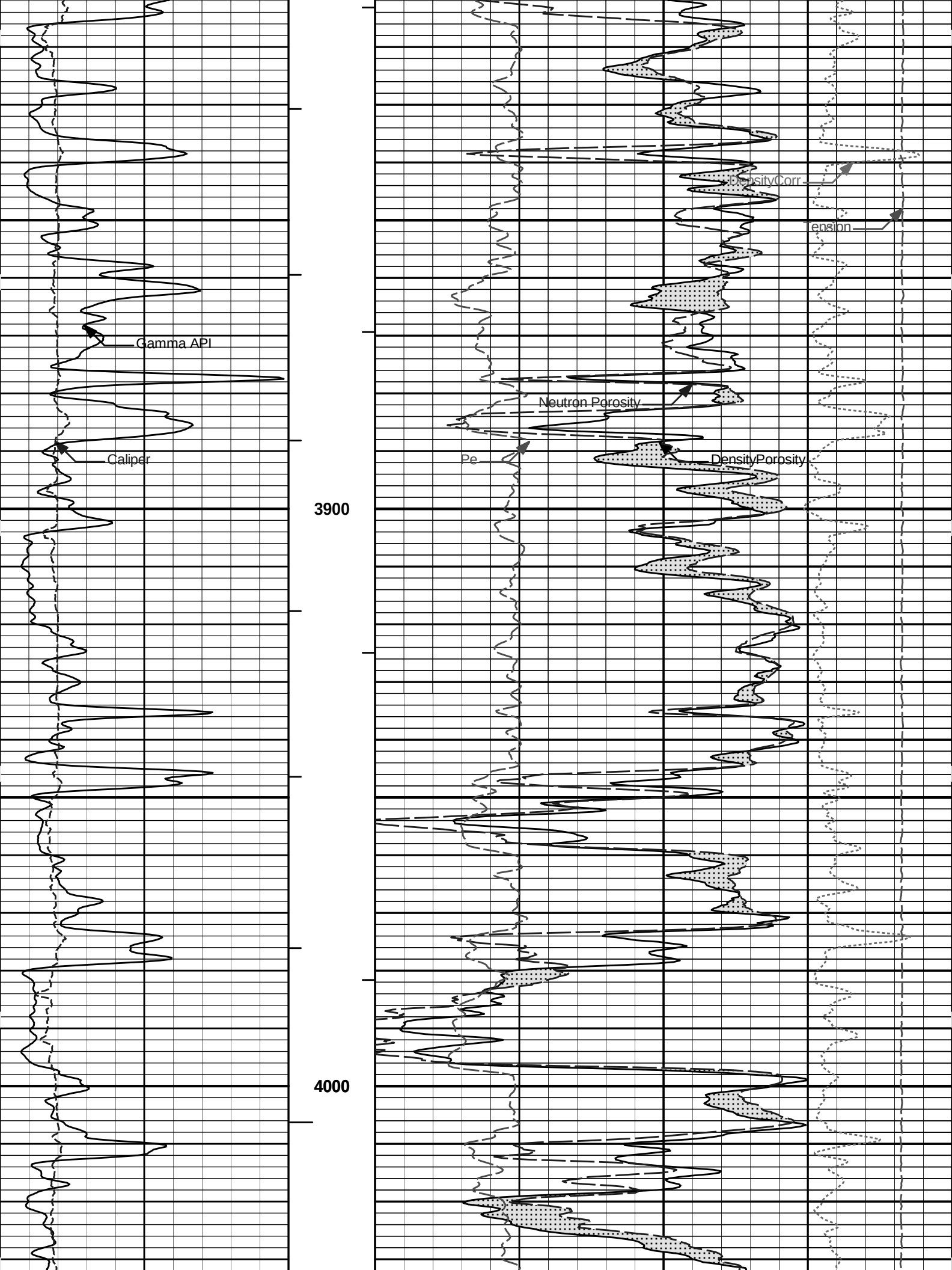
HALLIBURTON

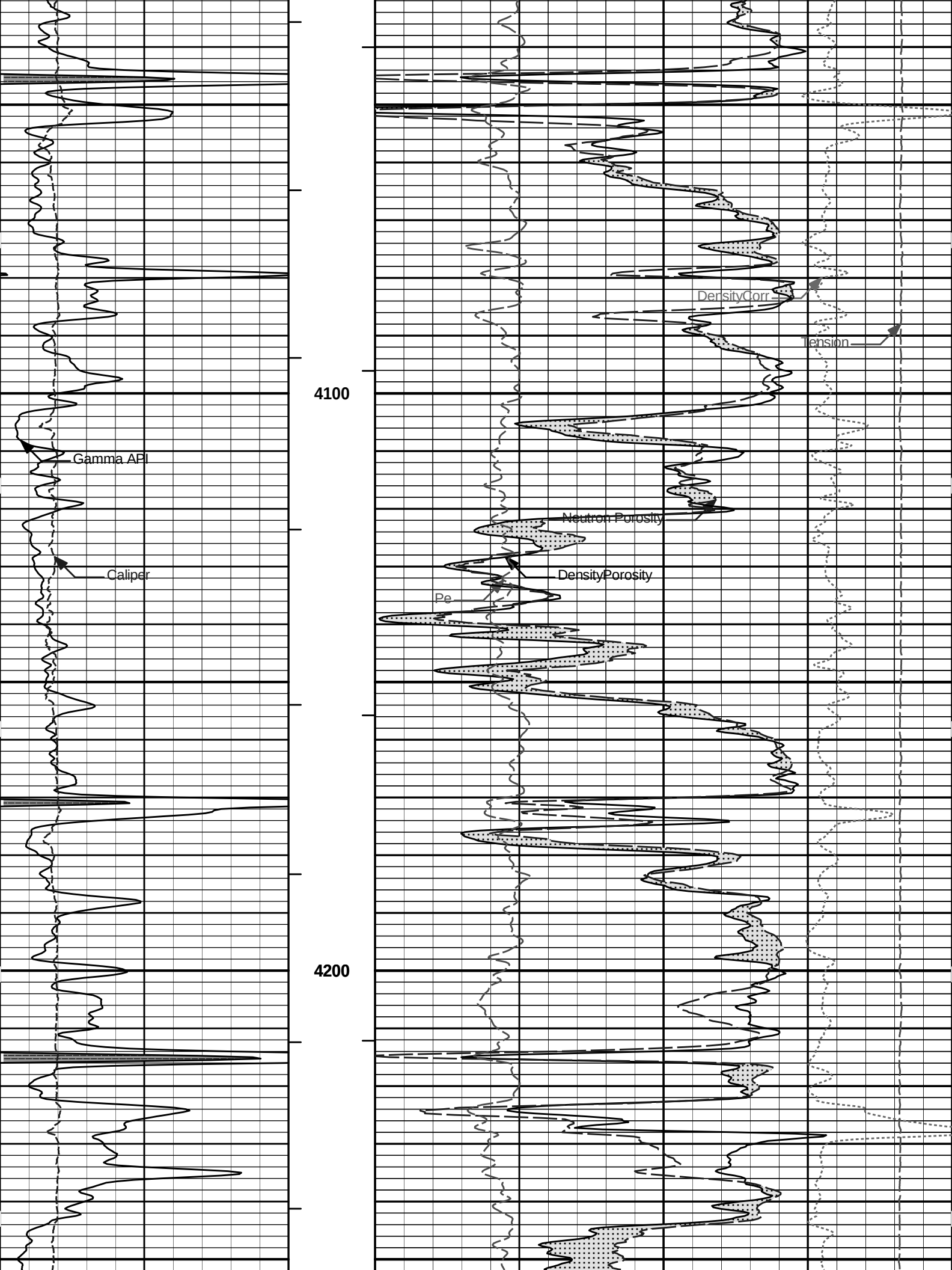
Plot Time: 10-Aug-11 13:29:19
Plot Range: 3550 ft to 4879.17 ft
Data: DAMME_41_A\Well Based\DAQ-0001-003
Plot File: \\PORO\Poro_IQ_5_MAIN_LIB

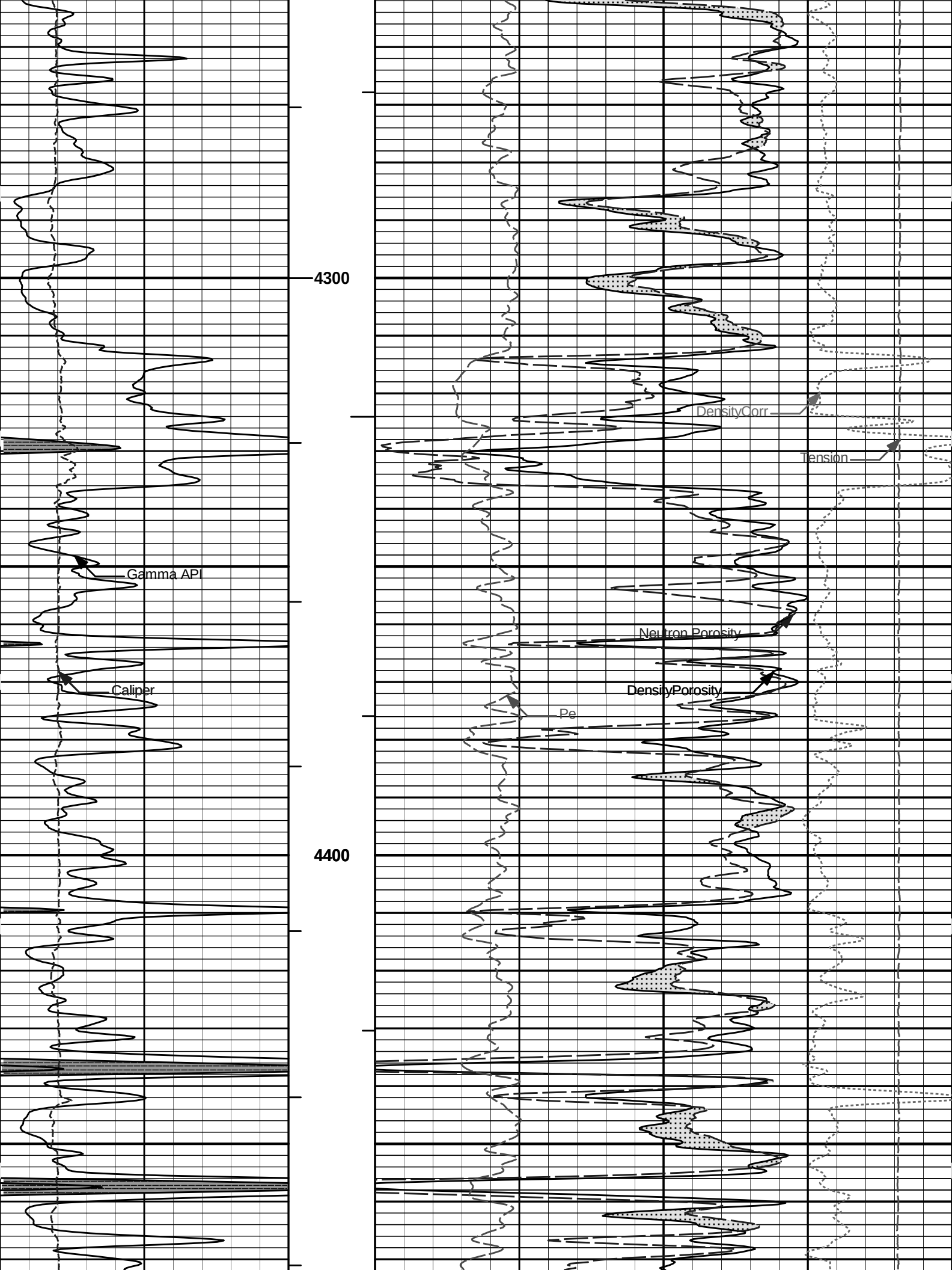
5 INCH MAIN LOG

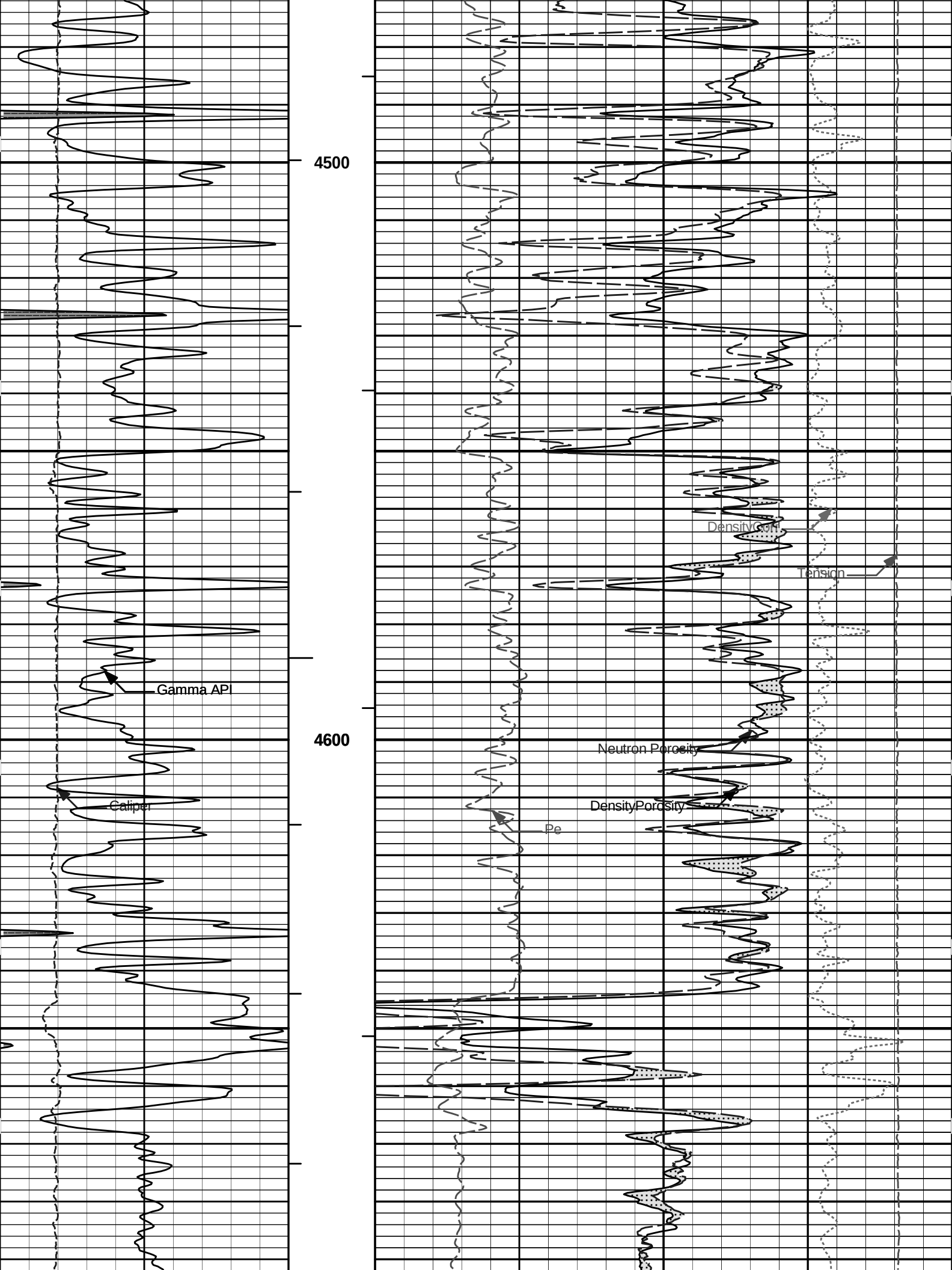



3600
3700
3800
Gamma API
Caliper
DensityCorr
Tension
Neutron Porosity
Pe
DensityPorosity


DensityCorr
Tension
Gamma API
Neutron Porosity
Caliper
Pe
DensityPorosity
3900
4000


4100
4200
Gamma API
Caliper
DensityCorr
Tension
Neutron Porosity
DensityPorosity
Pe


4300
4400
Gamma API
Caliper
DensityCorr
Tension
Neutron Porosity
DensityPorosity
Pe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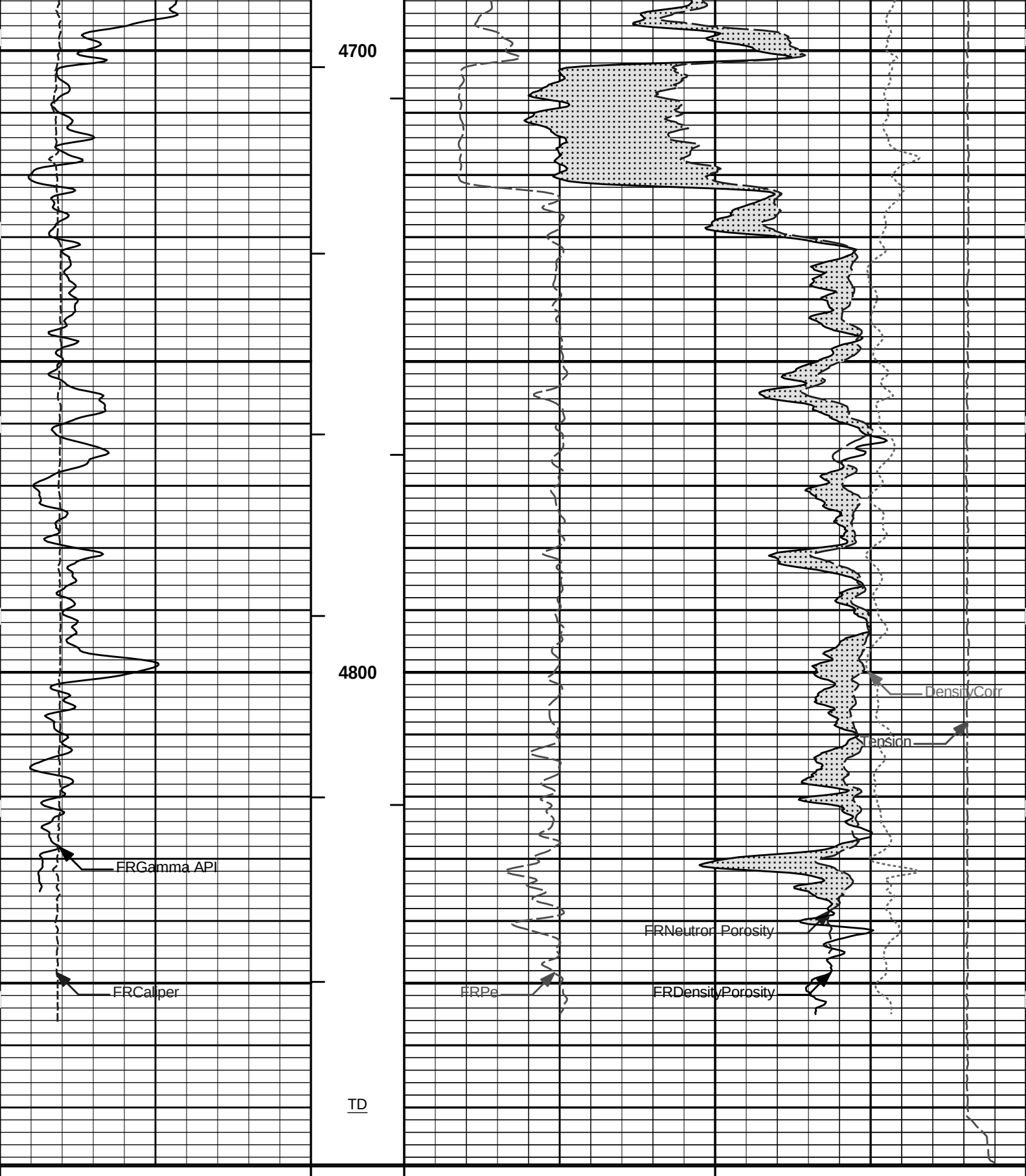
4600
Gamma API
Caliper
DensityCorr
Tension
Neutron Porosity
DensityPorosity
Pe



6 Caliper 16	1 : 240	0 Pe 10 / -0.25 DensityCorr 0.25
inches	ft	gram per cc
0 Gamma API 150	AHVT	15K Tension 0
api		pounds
SHALE	BHVT	30 DensityPorosity -10
		%
		Neutron Porosity

Tension Pull
10 0

30 Neutron Porosity -10
%

Tension Pull

CROSSOVER

HALLIBURTON

Plot Time: 10-Aug-11 13:29:40
Plot Range: 3550 ft to 4879.17 ft
Data: DAMME_41_A\Well Based\DAQ-0001-003\
Plot File: \\PORO\Poro_IQ_5_MAIN_LIB

5 INCH MAIN LOG

HALLIBURTON

Plot Time: 10-Aug-11 13:29:40
Plot Range: 4600 ft to 4878.17 ft
Data: DAMME_41_A\Well Based\DAQ-0001-002\
Plot File: \\PORO\Poro_IQ_5_REP_LIB

REPEAT SECTION

CROSSOVER

30 Neutron Porosity -10
%

30 DensityPorosity -10
%

SHALE

BHVT

0 Gamma API 150
api

AHVT

15K Tension 0
pounds

6 Caliper 16
inches

1 : 240
ft

0 Pe 10

-0.25 DensityCorr 0.25
gram per cc

4600

Caliper

Pe

DensityPorosity

6 Caliper 16 inches	1 : 240 ft	0 Pe 10 | -0.25 DensityCorr 0.25 gram per cc
0 Gamma API 150 api	AHVT	15K Tension 0 pounds
SHALE	BHVT	30 DensityPorosity -10 %
		30 Neutron Porosity -10

%

CROSSOVER

HALLIBURTON

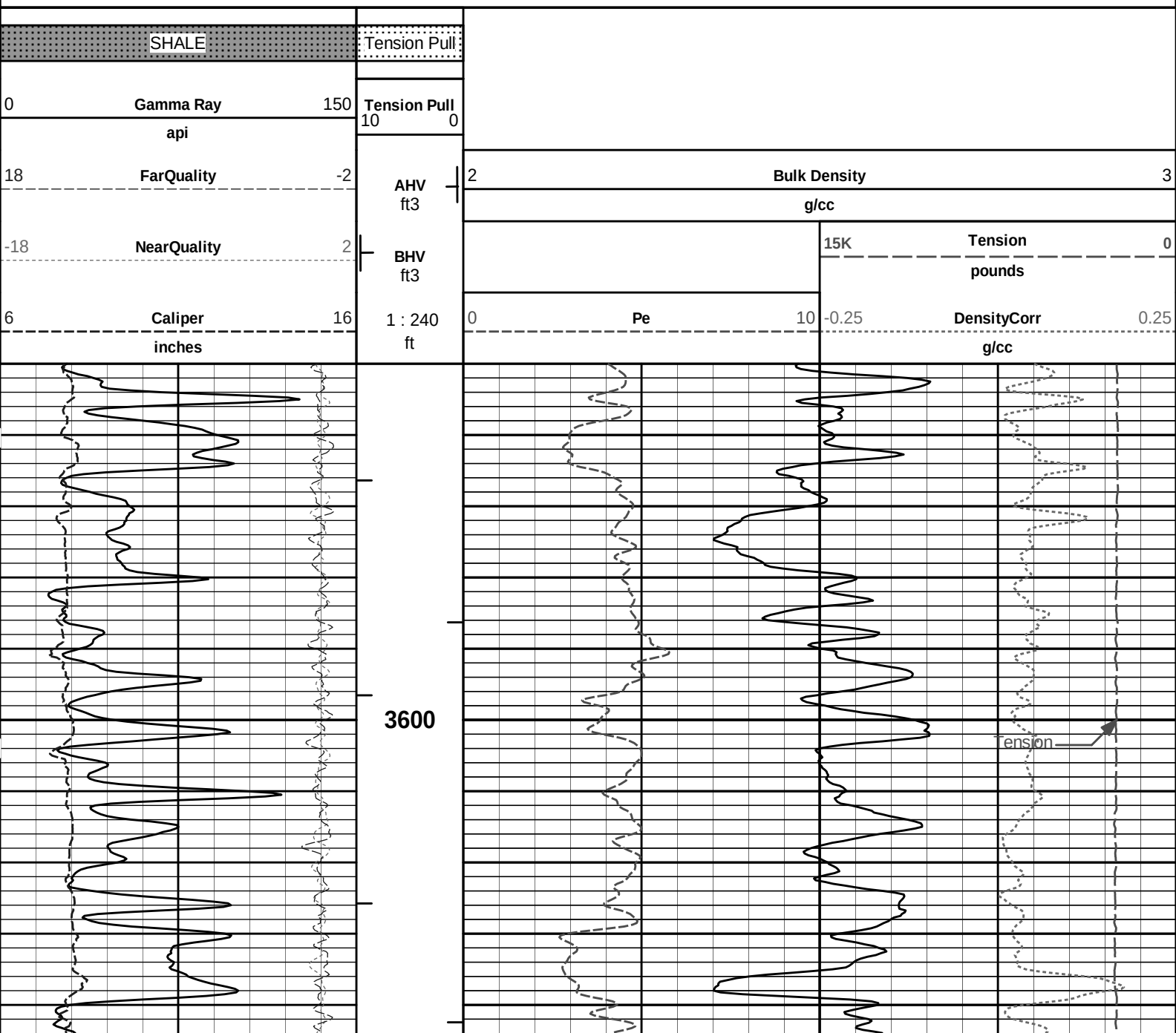
Plot Time: 10-Aug-11 13:29:44
Plot Range: 4600 ft to 4878.17 ft
Data: DAMME_41_A\Well Based\DAQ-0001-002\
Plot File: \\PORO\Poro_IQ_5_REP_LIB

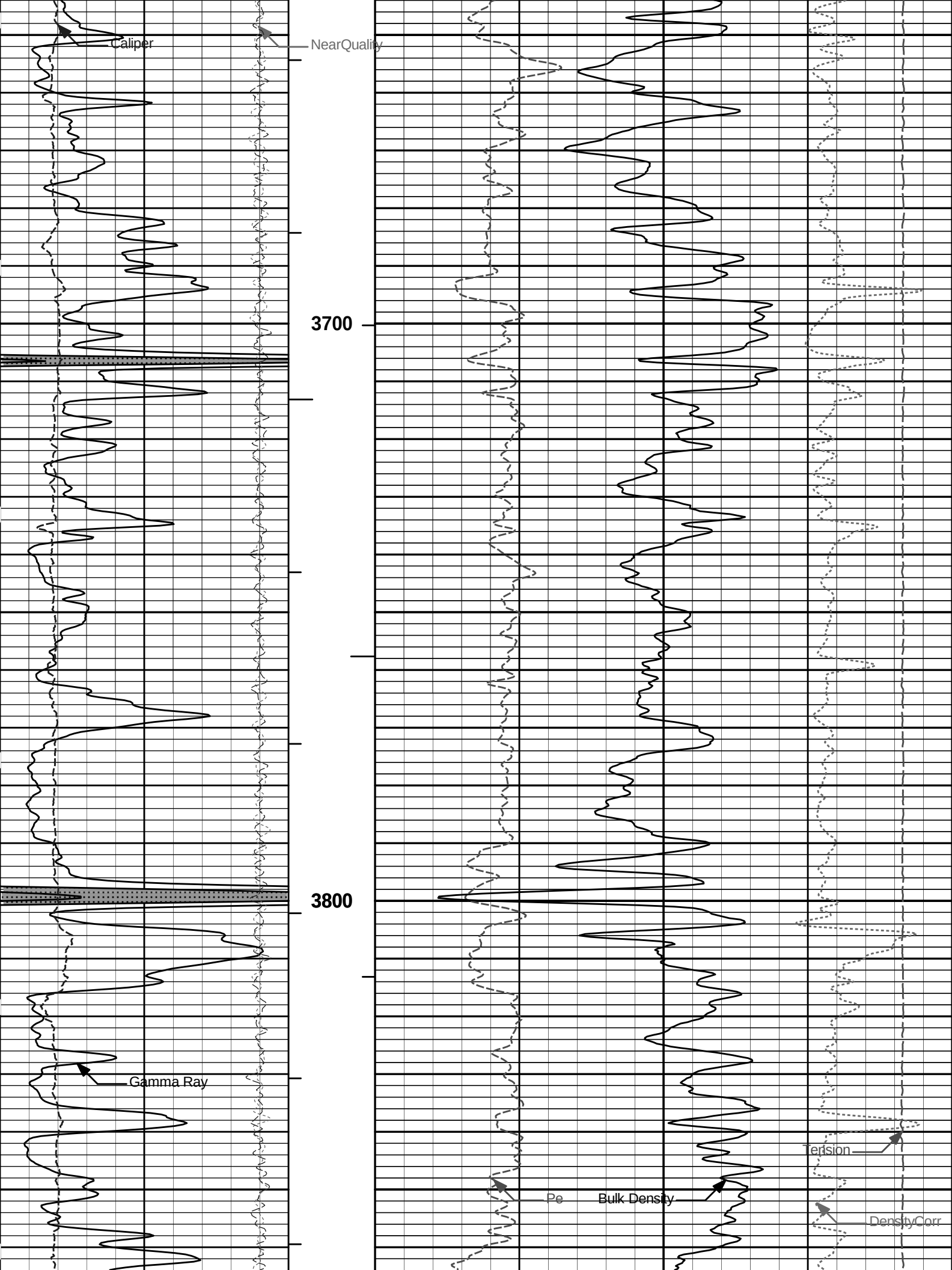
REPEAT SECTION

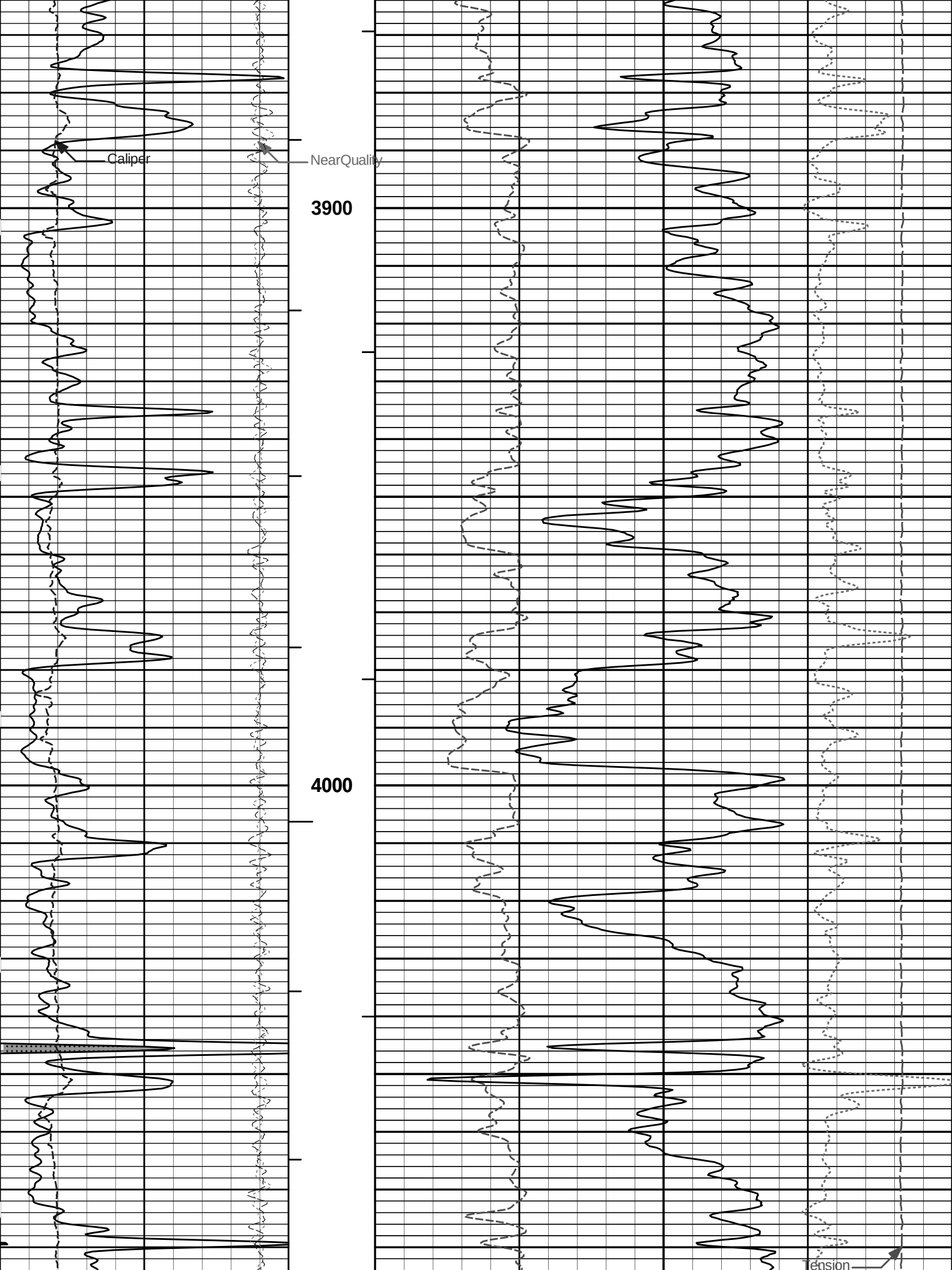
HALLIBURTON

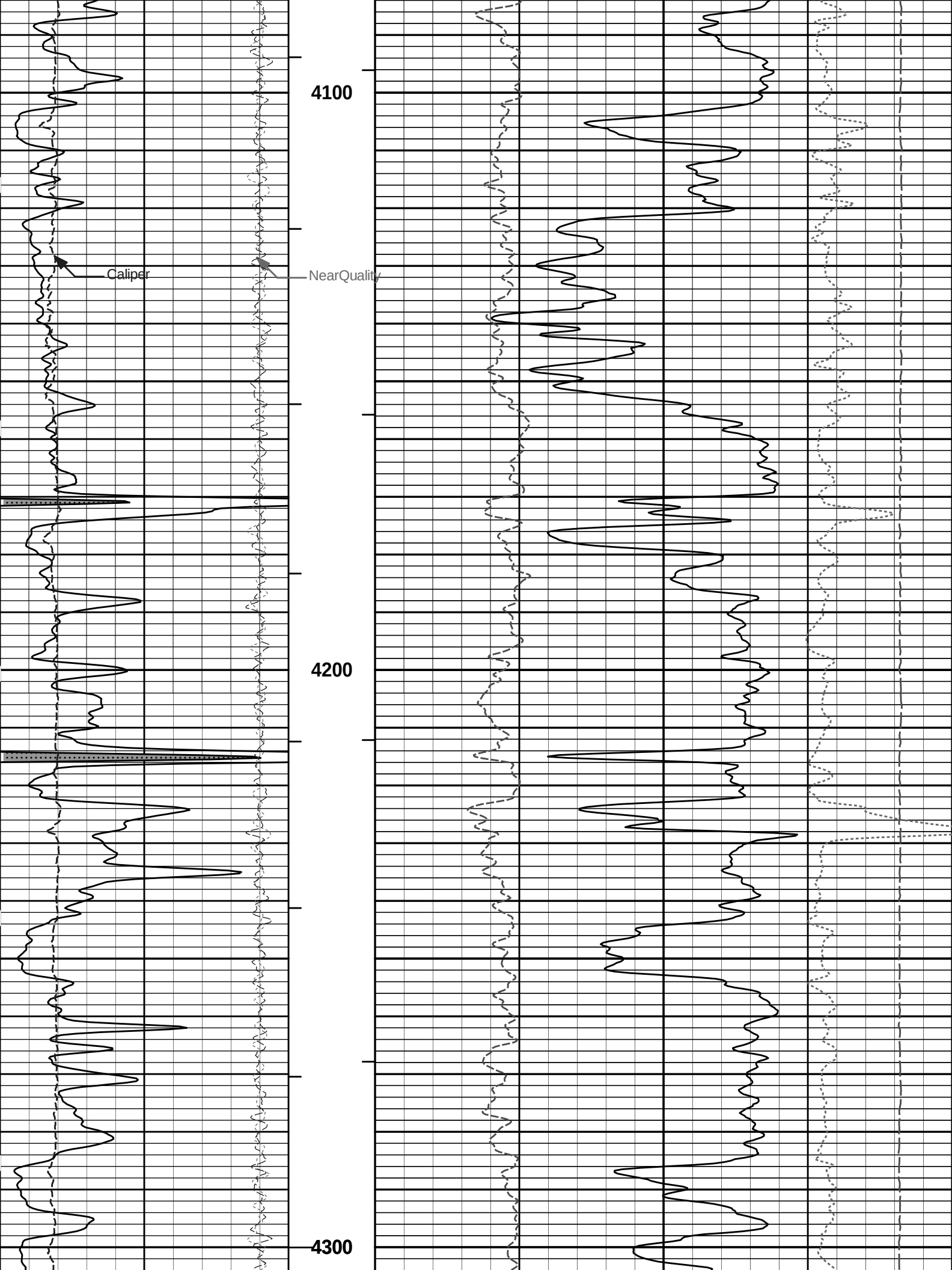
Plot Time: 10-Aug-11 13:29:44
Plot Range: 3550 ft to 4879.17 ft
Data: DAMME_41_A\Well Based\DAQ-0001-003\
Plot File: \\-LOCAL-\DAMME_41_A\Well Based\PORO\BULKD_5_MAIN_LIB

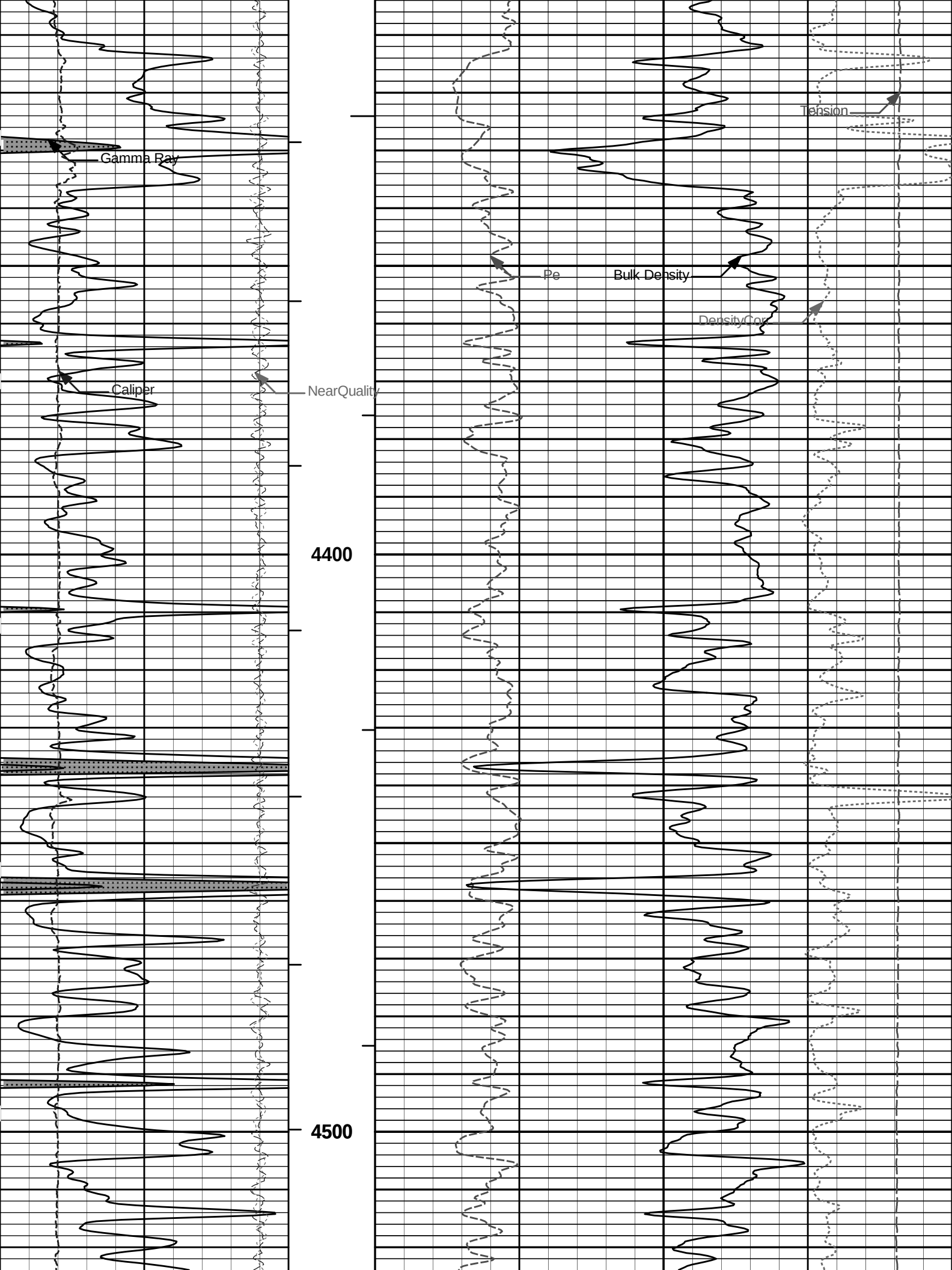
5 INCH MAIN LOG

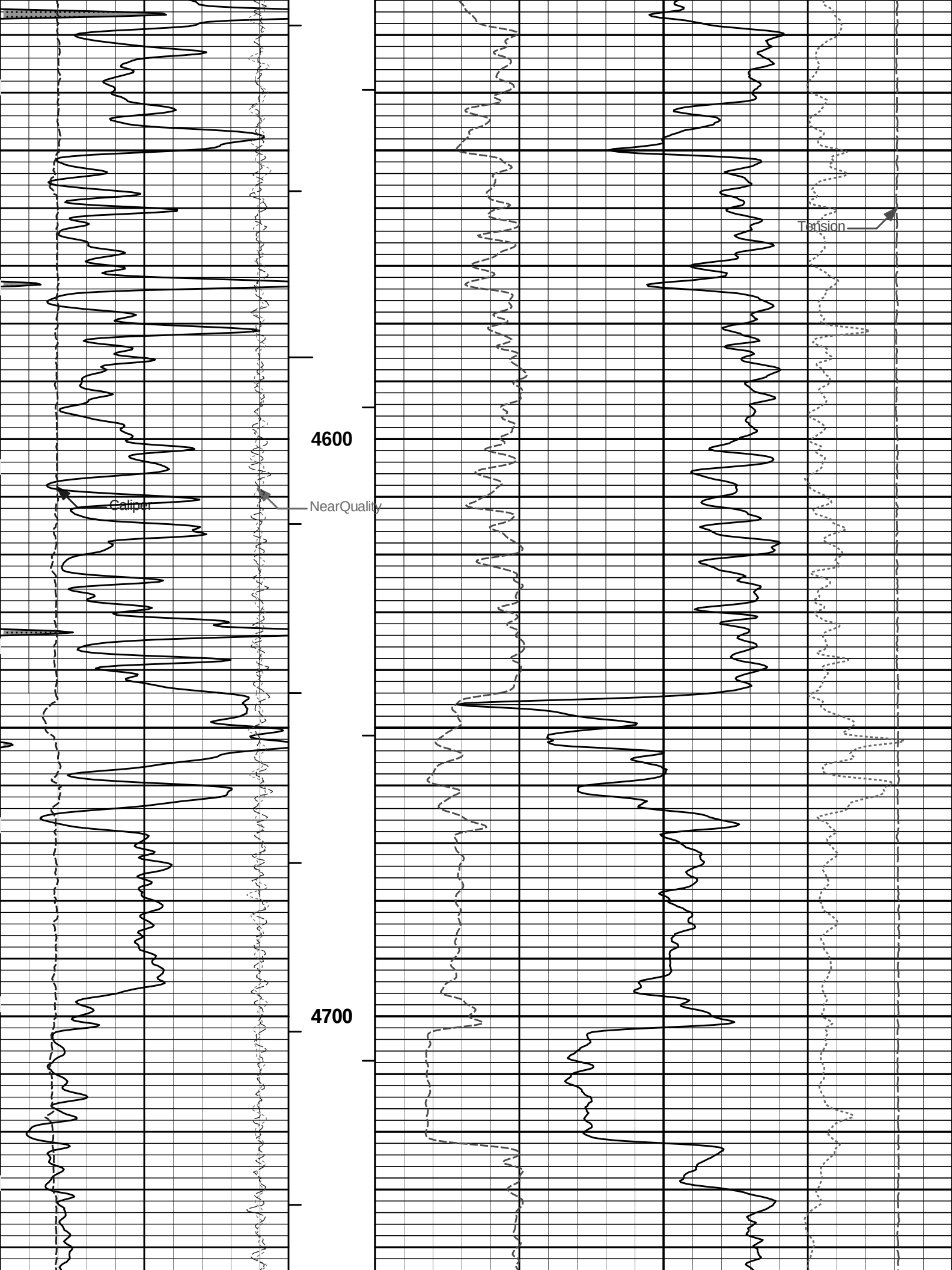



Caliper
NearQuality
3700
3800
Gamma Ray
Pe
Bulk Density
Tension
DensityCorr


Caliper
NearQuality
3900
4000
Tension


4100
4200
4300
Caliper
NearQuality


Gamma Ray
Caliper
NearQuality
Pe
Bulk Density
DensityCorr
Tension
4400
4500


4600
4700
Caliper
NearQuality
Tension

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

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

HALLIBURTON

Plot Time: 10-Aug-11 13:29:48
Plot Range: 3550 ft to 4879.17 ft
Data: DAMME_41_A\Well Based\DAQ-0001-003
Plot File: \\-LOCAL-\DAMME_41_A\Well Based\PORO\BULKD_5_MAIN_LIB

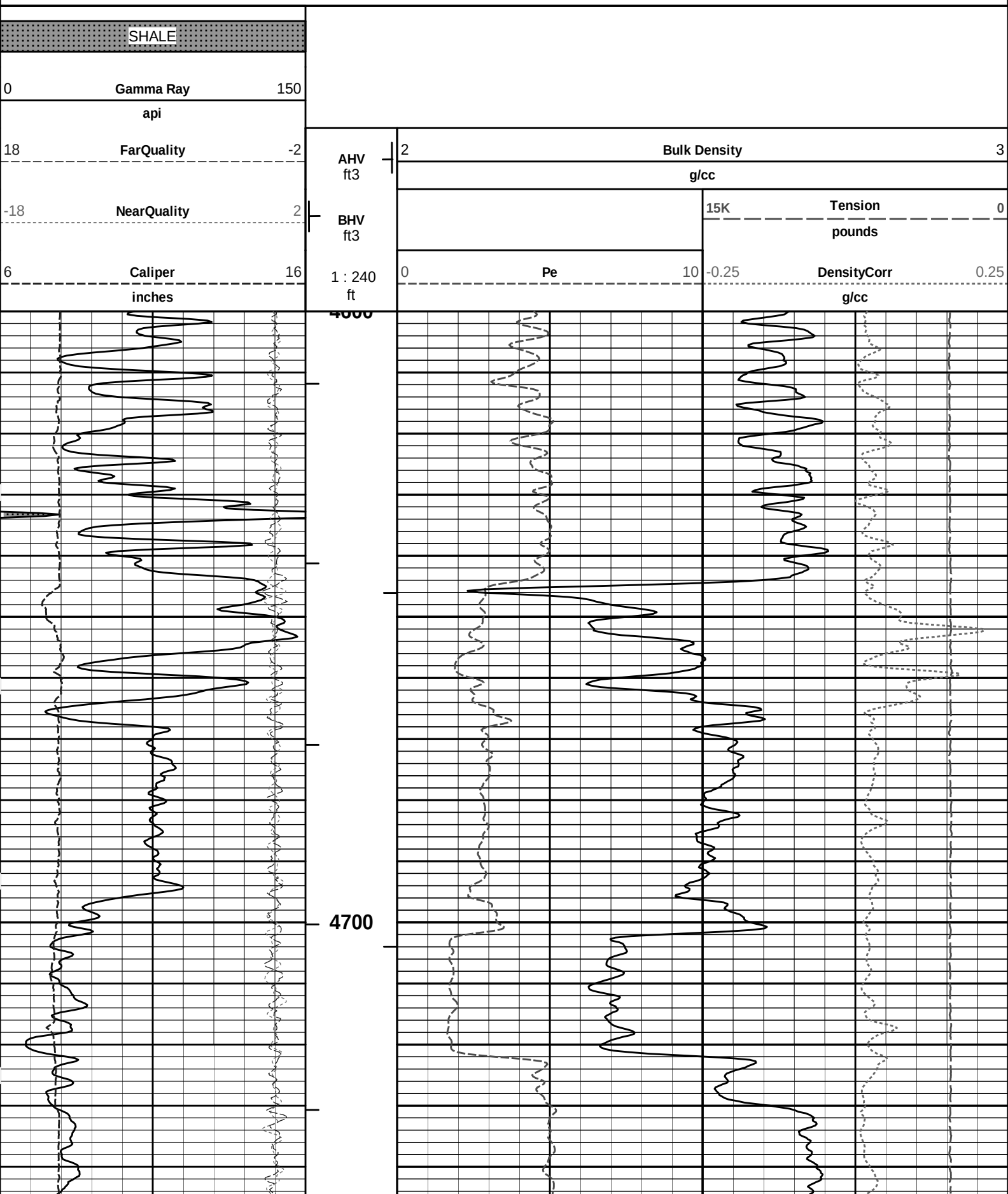
5 INCH MAIN LOG

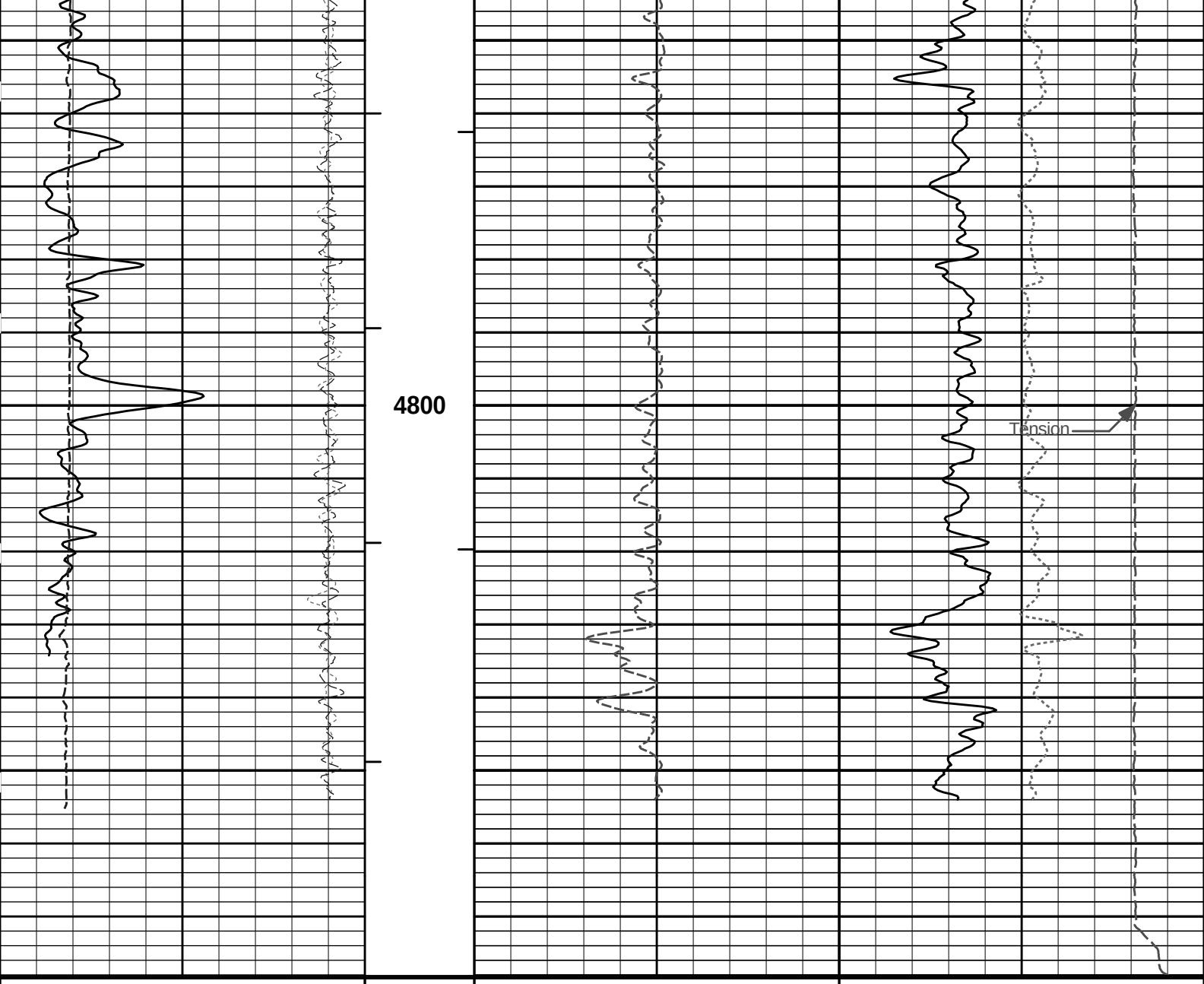
HALLIBURTON

Plot Time: 10-Aug-11 13:29:48

Plot Range: 4600 ft to 4878.17 ft
Data: DAMME_41_A\Well Based\DAQ-0001-002\
Plot File: \\-LOCAL-\DAMME_41_A\Well Based\PORO\BULKD_5_REP_LIB

REPEAT SECTION





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

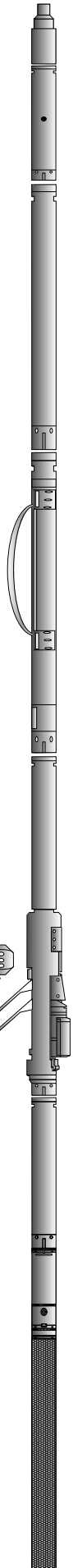
HALLIBURTON

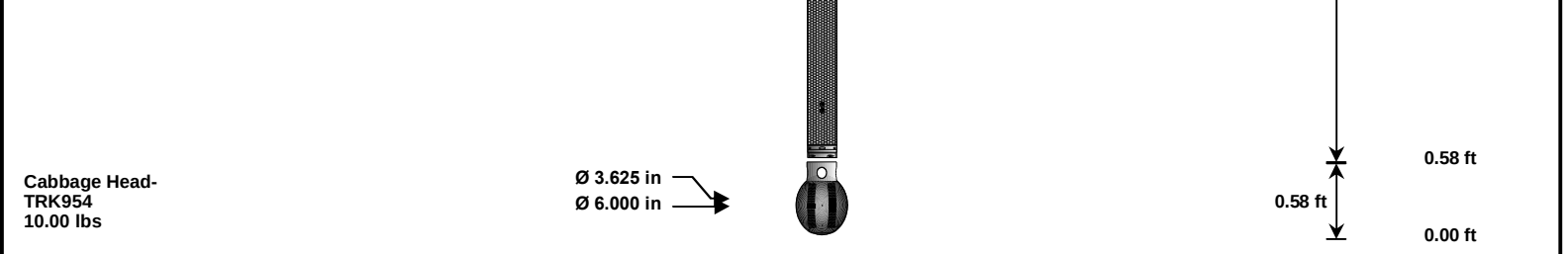
Plot Time: 10-Aug-11 13:29:50
Plot Range: 4600 ft to 4878.17 ft
Data: DAMME_41_A\Well Based\DAQ-0001-002\
Plot File: \\-LOCAL-\DAMME_41_A\Well Based\PORO\BULKD_5_REP_LIB

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-TRK954 60.00 lbs		Ø 3.625 in →		← SP @ 50.81 ft	3.74 ft	
						48.85 ft
GTET-10748374 165.00 lbs		Ø 3.625 in →			8.52 ft	
				← GammaRay @ 42.79 ft		
						40.33 ft
DSNT-10735145 174.00 lbs	DSN Decentralizer-11005605 6.60 lbs	Ø 3.625 in* → Ø 3.625 in →		← DSN Far @ 33.39 ft ← DSN Near @ 32.64 ft	9.69 ft	
						30.64 ft
SDLT-I145_M73803_P90 360.00 lbs		Ø 4.500 in → Ø 4.750 in →		← SDL Microlog @ 22.83 ft ← SDL Caliper @ 22.65 ft ← SDL @ 22.64 ft	10.81 ft	
						19.83 ft
				← Mud Resistivity @ 13.44 ft		
ACRt-I776_S775 250.00 lbs		Ø 3.625 in →		← ACRt @ 9.46 ft	19.25 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	TRK954	60.00	3.74		48.85	300.00
GTET	Gamma Telemetry Tool	10748374	165.00	8.52		40.33	60.00
DSNT	Dual Spaced Neutron	10735145	174.00	9.69		30.64	60.00
DCNT	DSN Decentralizer	11005605	6.60	5.13	*	33.97	300.00
SDLT	Spectral Density Tool	I145_M73803_P90	360.00	10.81		19.83	60.00
ACRt	Array Compensated True Resistivity	I776_S775	250.00	19.25		0.58	300.00
CBHD	Cabbage Head	TRK954	10.00	0.58		0.00	300.00
Total			**1,055.60**	**54.51**			

* Not included in Total Length and Length Accumulation.

Data: DAMME_41_A\0001 TRIPLE COMBO\IDLE **Date: 10-Aug-11 09:37:17**

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name: GTET - 10748374 **Reference Calibration Date:** 25-Apr-11 10:04:04

Engineer: C. MARLOWE **Calibration Date:** 09-Aug-11 05:40:36

Software Version: WL INSITE R3.2.5 (Build 2) **Calibration Version:** 1

Calibrator Source S/N: TB-185

Calibrator API Reference:228.00 api

Equivalent Calibrator API Reference:232.0 api

Measurement	Measured	Calibrated	Units
Background	34.4	35.2	api
Background + Calibrator	261.1	267.2	api
Calibrator	232.8	232.0	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name: GTET - 10748374 **Reference Calibration Date:** 09-Aug-11 05:40:36

Engineer: C. MARLOWE **Calibration Date:** 09-Aug-11 05:46:56

Software Version: WL INSITE R3.2.5 (Build 2) **Calibration Version:** 1

Calibrator Source S/N: TB-185

Calibrator API Reference:228.00 api

Equivalent Calibrator API Reference:232.0 api

Field Verification	Shop	Field	Units
Background	35.2	34.3	api
Background + Calibrator	267.2	265.7	api
Calibrator	232.0	231.3	api

Shop	Field	Difference	Tolerance
232.0	231.3	0.7	+/- 9.00

NATURAL GAMMA RAY TOOL POST CALIBRATION

Tool Name:	**GTET - 10748374**	**Reference Calibration Date:**	**09-Aug-11 05:46:56**
Engineer:	**J. BOSH**	**Calibration Date:**	**10-Aug-11 13:18:29**
Software Version:	**WL INSITE R3.2.5 (Build 2)**	**Calibration Version:**	**1**

Calibrator Source S/N: TB-185
Calibrator API Reference:228.00 api
Calibrator API Reference:232.0 api

Post Verification	Field	Post	Units
Background	34.3	35.1	api
Background + Calibrator	265.7	267.6	api
Calibrator	231.3	232.5	api

Shop	Field	Post	Difference	Tolerance
232.0	231.3	232.5	-1.2	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name:	**DSNT - 10735145**	**Reference Calibration Date:**	**18-Jun-11 10:39:27**
Engineer:	**S. JUNG**	**Calibration Date:**	**28-Jul-11 14:25:08**
Software Version:	**WL INSITE R3.2.5 (Build 2)**	**Calibration Version:**	**1**

Logging Source S/N: DSN-436
Tank Serial Number: 105060
Reference value assigned to Tank: 51.680
Snow Block S/N: TRK_10782954
Calibration Tank Water Temperature: 89 degF
Min. Tool Housing Outside Diameter: 3.615 in

CALIBRATION CONSTANTS			
Measurement	**Prev. Value**	**New Value**	**Control Limit On New Value**
Gain:	0.939	0.936	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):	0.2111	0.2103	0.0008	+/- 0.0020
Calibrated Ratio:	9.73	9.70	0.029	+/- 0.050

VERIFIER		
Measurement	**Value**	**Control Limit**
Snow-Block Porosity (decp):	0.0565	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 - 10735145**	**Reference Calibration Date:**	**28-Jul-11 14:25:08**
Engineer:	**C. MARLOWE**	**Calibration Date:**	**09-Aug-11 05:49:30**
Software Version:	**WL INSITE R3.2.5 (Build 2)**	**Calibration Version:**	**1**

Logging Source S/N: DSN-436
Snow Block S/N: TRK_10782954

NEUTRON FIELD CHECK SUMMARY

NEUTRON FIELD-CHECK SUMMARY				
	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0565	0.0574	0.0010	+/- 0.0150

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

DUAL SPACED NEUTRON POST CALIBRATION

Tool Name: DSNT - 10735145 **Reference Calibration Date:** 09-Aug-11 05:49:30

Engineer: J. BOSH **Calibration Date:** 10-Aug-11 13:20:42

Software Version: WL INSITE R3.2.5 (Build 2) **Calibration Version:** 1

Logging Source S/N: DSN-436

Snow Block S/N: TRK_10782954

NEUTRON POST-CHECK SUMMARY				
	Field Value	Post Value	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0574	0.0526	-0.0048	+/- 0.0150

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

SPECTRAL DENSITY SHOP CALIBRATION

Tool Name: SDLT - I145_M73803_P90 **Reference Calibration Date:** 15-Jun-11 10:34:46

Engineer: S. JUNG **Calibration Date:** 28-Jul-11 15:36:15

Software Version: WL INSITE R3.2.5 (Build 2) **Calibration Version:** 1

Logging Source S/N: 5073GW

Aluminum Block S/N: 63061 Density: 2.591g/cc Pe: 3.170

Magnesium Block S/N: 63393 Density: 1.690g/cc Pe: 2.594

DENSITY CALIBRATION SUMMARY			
Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0023	1.0181	0.90 - 1.10
Near Dens Gain	0.9875	1.0063	0.90 - 1.10
Near Peak Gain	0.9973	1.0455	0.90 - 1.10
Near Lith Gain	0.9632	1.0255	0.90 - 1.10
Far Bar Gain	0.9925	0.9915	0.90 - 1.10
Far Dens Gain	0.9820	0.9820	0.90 - 1.10
Far Peak Gain	0.9736	0.9761	0.90 - 1.10
Far Lith Gain	0.9394	0.9437	0.90 - 1.10
Near Bar Offset	0.1527	0.0165	NONE
Near Dens Offset	0.2754	0.1198	NONE
Near Peak Offset	0.1868	-0.2021	NONE
Near Lith Offset	0.4501	-0.0573	NONE
Far Bar Offset	0.1560	0.1661	NONE
Far Dens Offset	0.2246	0.2277	NONE
Far Peak Offset	0.2385	0.2174	NONE
Far Lith Offset	0.4060	0.3694	NONE

Near Bar Background	900.23	895.43	700 - 1450
Near Dens Background	298.99	298.13	230 - 480
Near Peak Background	131.80	131.76	100 - 210
Near Lith Background	160.57	160.92	125 - 260
Far Bar Background	602.78	601.71	450 - 900
Far Dens Background	236.92	235.23	175 - 345
Far Peak Background	94.07	93.85	70 - 140
Far Lith Background	99.15	98.45	75 - 145

CALIBRATION BLOCK SUMMARY

Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.677	1.690	0.013	+/- 0.015
Pe	2.620	2.562	-0.058	+/- 0.150
ALUMINUM				
Density (g/cc)	2.582	2.590	0.008	+/- 0.01500
Pe	3.112	3.136	0.024	+/- 0.150

TOOL SUMMARY

Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	-0.0006	+/- 0.0110	-0.0008	+/- 0.0140
Magnesium Block	-0.0018	+/- 0.0110	-0.0014	+/- 0.0140
Aluminum Block	0.0007	+/- 0.0110	-0.0002	+/- 0.0140
Resolution	8.89	6.00 - 11.50	8.90	6.00 - 11.50
Internal Verifier(B+D+P+L)	1486	1200 - 2700	1029	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 - I145_M73803_P90
Reference Calibration Date: 28-Jul-11 15:36:15
Engineer: C. MARLOWE
Calibration Date: 09-Aug-11 05:40:53
Software Version: WL INSITE R3.2.5 (Build 2)
Calibration Version: 1

Pad Temperature: 79.6 degF

DENSITY FIELD CALIBRATION SUMMARY

Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1486.239	1488.677	2.438	15.539
Far (B+D+P+L) cps	1029.236	1043.061	13.825	17.099
Near Resolution	8.89	9.20	0.310	0.50
Far Resolution	8.90	9.50	0.600	1.00

PASS/FAIL SUMMARY	
Bkg Quality Check:	Passed
Bkg Resolution Check:	Passed
Bkg Verification Check:	Passed

SPECTRAL DENSITY POST CHECK

Tool Name:	**SDLT - I145_M73803_P90**	**Reference Calibration Date:**	**09-Aug-11 05:40:53**
Engineer:	**J. BOSH**	**Calibration Date:**	**10-Aug-11 13:18:27**
Software Version:	**WL INSITE R3.2.5 (Build 2)**	**Calibration Version:**	**1**

Pad Temperature: 86.5 degF

DENSITY POST CALIBRATION SUMMARY

Measurement	Field	Post	Change	Control Limit +/-
Near (B+D+P+L) cps	1488.677	1481.928	-6.749	15.539
Far (B+D+P+L) cps	1043.061	1036.635	-6.426	17.099
Near Resolution	9.20	9.03	-0.170	0.50
Far Resolution	9.50	9.37	-0.130	1.00

PASS/FAIL SUMMARY	
Bkg Quality Check:	Passed
Bkg Resolution Check:	Passed
Bkg Verification Check:	Passed

DENSITY CALIPER SHOP CALIBRATION

Tool Name:	**SDLT - I145_M73803_P90**	**Reference Calibration Date:**	**15-Jun-11 11:43:08**
Engineer:	**S. JUNG**	**Calibration Date:**	**28-Jul-11 15:58:46**
Software Version:	**WL INSITE R3.2.5 (Build 2)**	**Calibration Version:**	**1**

CALIBRATION COEFFICIENTS

Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-2594.17	-2504.49	-7000.00 - -1000.00
Pad Gain	0.0003994	0.0003978	0.000200 - 0.000600
Arm Offset	-1863.07	-1700.47	-5000.00 - 3000.00
Arm Gain	0.0005373	0.0005182	0.000300 - 0.000700
Arm Power	-0.000006132	-0.000005442	-0.000010 - 0.000010

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)	1.97	2.00	0.03	+/- 0.20
Medium Ring (in)	3.73	3.75	0.02	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.44	6.50	0.06	+/- 0.20
Medium Ring (in)	8.25	8.25	0.00	+/- 0.20
Large Ring (in)	15.09	15.00	-0.09	+/- 0.20

PASS/FAIL SUMMARY	
Calibration-Coefficients Range Check:	Passed
Ring-Measurement Check:	Passed

PASS/FAIL SUMMARY	
Calibration-Coefficients Range Check:	Passed

SDLT CALIPER FIELD CALIBRATION

Tool Name:	**SDLT - I145_M73803_P90**	**Reference Calibration Date:**	**28-Jul-11 15:58:46**
Engineer:	**C. MARLOWE**	**Calibration Date:**	**09-Aug-11 05:53:12**
Software Version:	**WL INSITE R3.2.5 (Build 2)**	**Calibration Version:**	**1**

MEASURED CALIPER VALUES

Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.84	0.09	+/- 0.10
Ring Diameter	8.25	8.17	-0.08	+/- 0.15

PASS/FAIL SUMMARY

Pad Extension Check:	Passed
Diameter Check:	Passed

SDLT CALIPER POST CALIBRATION

Tool Name:	**SDLT - I145_M73803_P90**	**Reference Calibration Date:**	**09-Aug-11 05:53:12**
Engineer:	**J. BOSH**	**Calibration Date:**	**10-Aug-11 13:25:20**
Software Version:	**WL INSITE R3.2.5 (Build 2)**	**Calibration Version:**	**1**

MEASURED CALIPER VALUES

Measurement	Field	Post	Change	Control Limit On New Value
Pad Extension	3.84	3.92	0.08	+/- 0.10
Ring Diameter	8.17	8.27	0.10	+/- 0.15

PASS/FAIL SUMMARY

Pad Extension Check:	Passed
Diameter Check:	Passed

CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-10748374						
Gamma Ray Calibrator	232.0	231.3	232.5	-1.2	+/- 9.00	api
DSNT-10735145						
Snow-Block Porosity	0.0565	0.0574	0.0526	0.0048	+/- 0.0150	decp
SDLT-I145_M73803_P90						
Near(B+D+P+L)	1486.239	1488.677	1481.928	6.749	+/-15.539	cps
Far(B+D+P+L)	1029.236	1043.061	1036.635	6.426	+/-17.099	cps
Pad Extension	3.75	3.84	3.92	-0.08	+/-0.10	in
Ring Diameter	8.25	8.17	8.27	-0.100	+/-0.15	in

Data: DAMME_41_A\0001 TRIPLE COMBO\IDLE **Date: 10-Aug-11 13:25:50**

HALLIBURTON

PARAMETERS REPORT

Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	DSNT	DNOK	Process DSN?	No	
	SDLT	DNOK	Process Density?	No	
	SDLT	MLOK	Process MicroLog Outputs?	No	

3550.00

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	8.700	ppg
SHARED	WAGT	Weighting Agent	Barite	
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	0.830	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	4871.00	ft
SHARED	BHT	Bottom Hole Temperature	120.0	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	Centered	
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	DNOK	Process Density?	Yes	
SDLT	DNOK	Process Density EVR?	No	
SDLT	CB	Logging Calibration Blocks?	No	
SDLT	SPVT	SDLT Pad Temperature Valid?	Yes	
SDLT	DTWN	Disable temperature warning	No	
SDLT	DMA	Formation Density Matrix	2.710	g/cc
SDLT	DFL	Formation Density Fluid	1.000	g/cc
SDLT	CLOK	Process Caliper Outputs?	Yes	
SDLT	MLOK	Process MicroLog Outputs?	Yes	
ACRt	RTOK	Process ACRt?	Yes	

	ACRt	MNSO	Minimum Tool Standoff	1.50	in
	ACRt	TCS1	Temperature Correction Source	FP Lwr & FP Upr	
	ACRt	TPOS	Tool Position	Free Hanging	
	ACRt	RMOP	Rmud Source	Mud Cell	
	ACRt	RMIN	Minimum Resistivity for MAP	0.20	ohmm
	ACRt	RMIN	Maximum Resistivity for MAP	200.00	ohmm
	ACRt	THQY	Threshold Quality	0.50	
BOTTOM					

Data: DAMME_41_A\0001 TRIPLE COMBO\IDLE **Date: 10-Aug-11 10:47:36**

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	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	22.64	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	19.83	NO	
FHV	Far Detector High Voltage	19.83	NO	
ITMP	Instrument Temperature	19.83	NO	
DDHV	Detector High Voltage	19.83	NO	
TPUL	Tension Pull	22.65	NO	
PCAL	Pad Caliper	22.65	TRI	0.250
ACAL	Arm Caliper	22.65	TRI	0.250
TPUL	Tension Pull	22.83	NO	
MINV	Microlog Lateral	22.83	BLK	0.750
MNOR	Microlog Normal	22.83	BLK	0.750

ACRt				
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

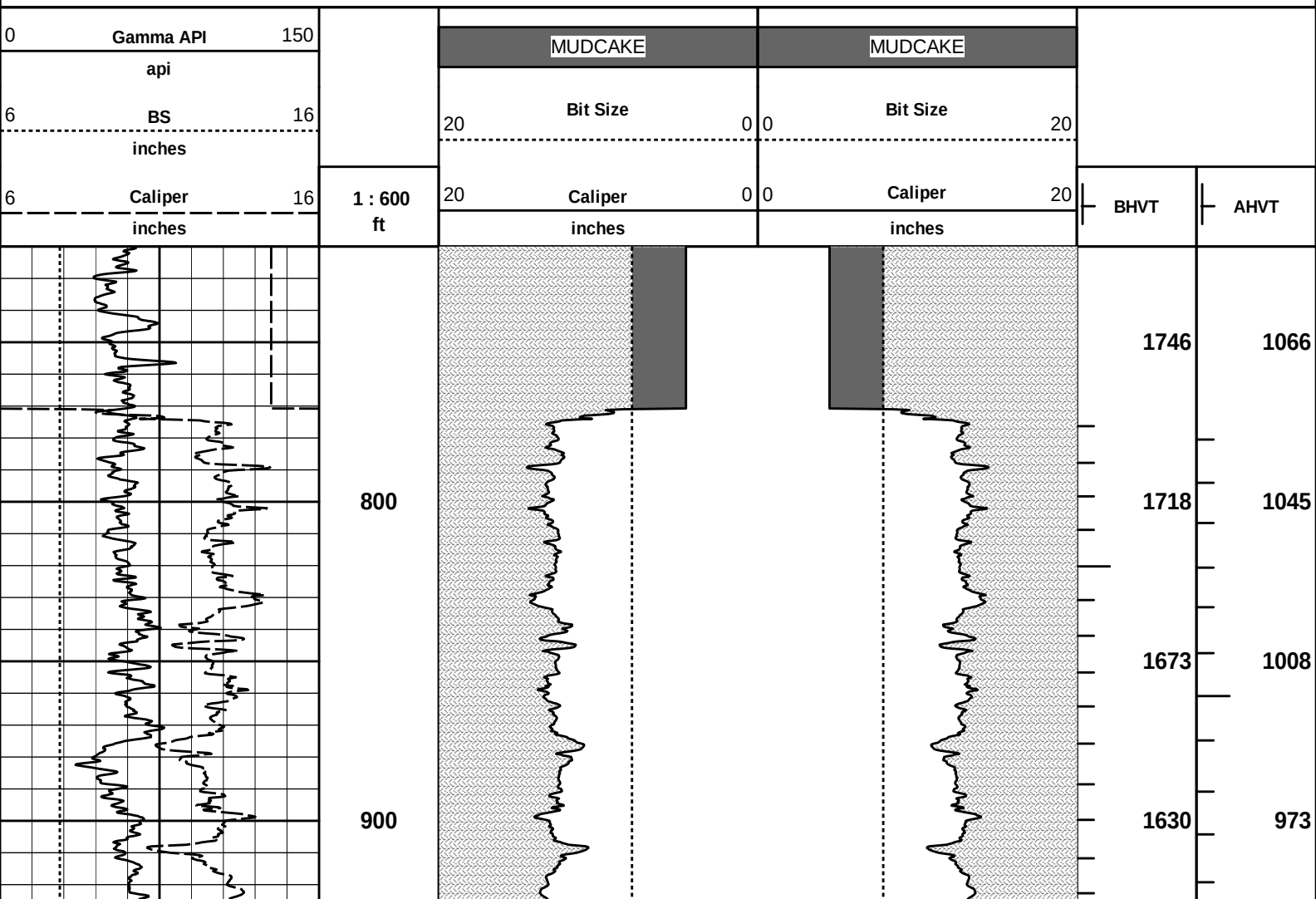
F3R6	ACRT 72KHz - 6in R value	3.47	BLK	0.000
F3X6	ACRT 72KHz - 6in X value	3.47	BLK	0.000
RMUD	Mud Resistivity	12.76	BLK	0.000
F1RT	Transmitter Reference 12 KHz Real Signal	2.97	BLK	0.000
F1XT	Transmitter Reference 12 KHz Imaginary Signal	2.97	BLK	0.000
F2RT	Transmitter Reference 36 KHz Real Signal	2.97	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	

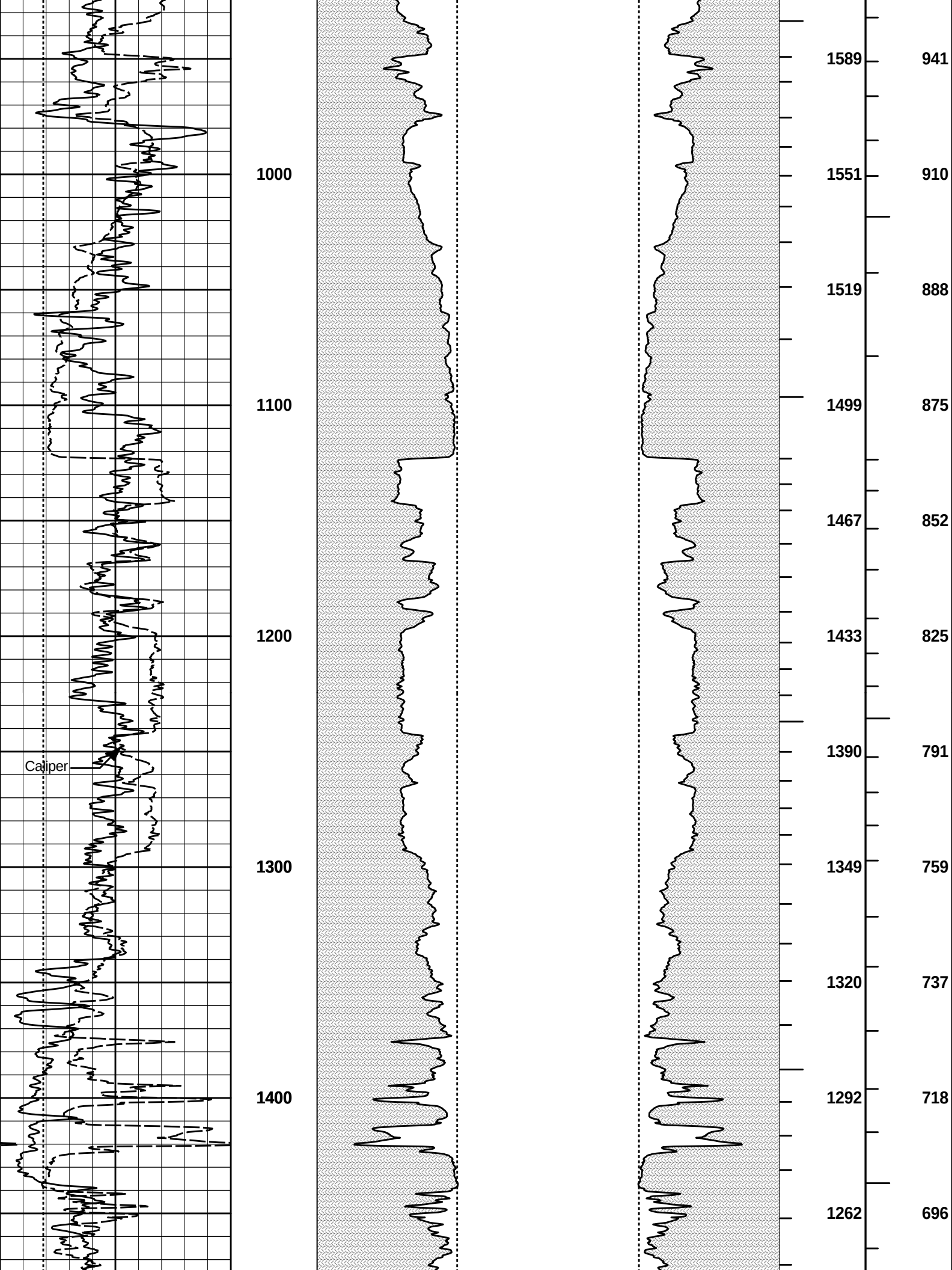
Data: DAMME_41_A\0001 TRIPLE COMBO\IDLE **Date: 10-Aug-11 10:20:20**

HALLIBURTON

Plot Time: 10-Aug-11 13:29:50
Plot Range: 720 ft to 4879.17 ft
Data: DAMME_41_A\Well Based\DAQ-0001-003
Plot File: \\-LOCAL-\DAMME_41_A\Well Based\PORO\AHV_5_5_INCH_2_IQ_LIB

ANNULAR HOLE VOLUME PLOT (5.5 INCH)

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1200
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910
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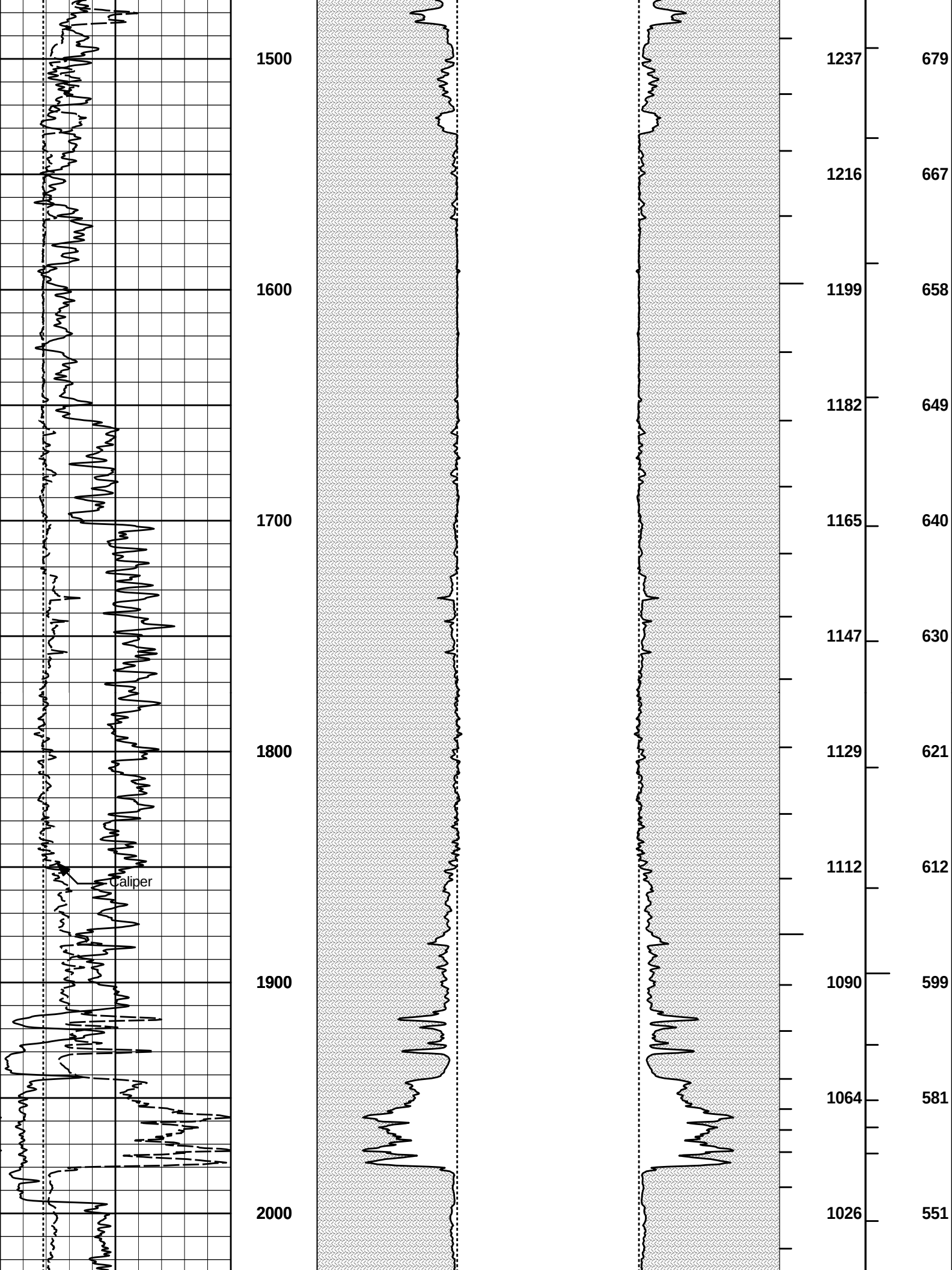
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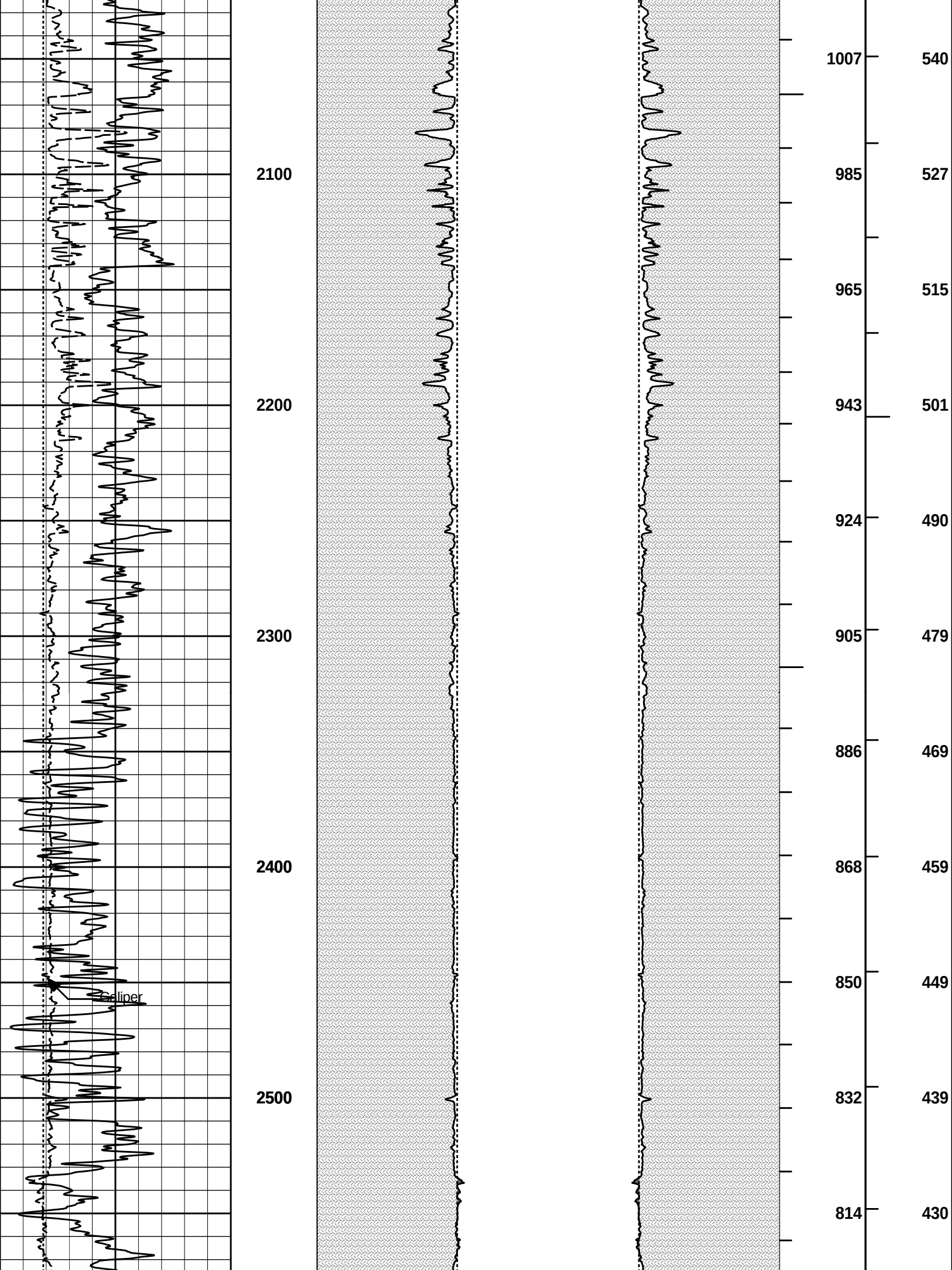
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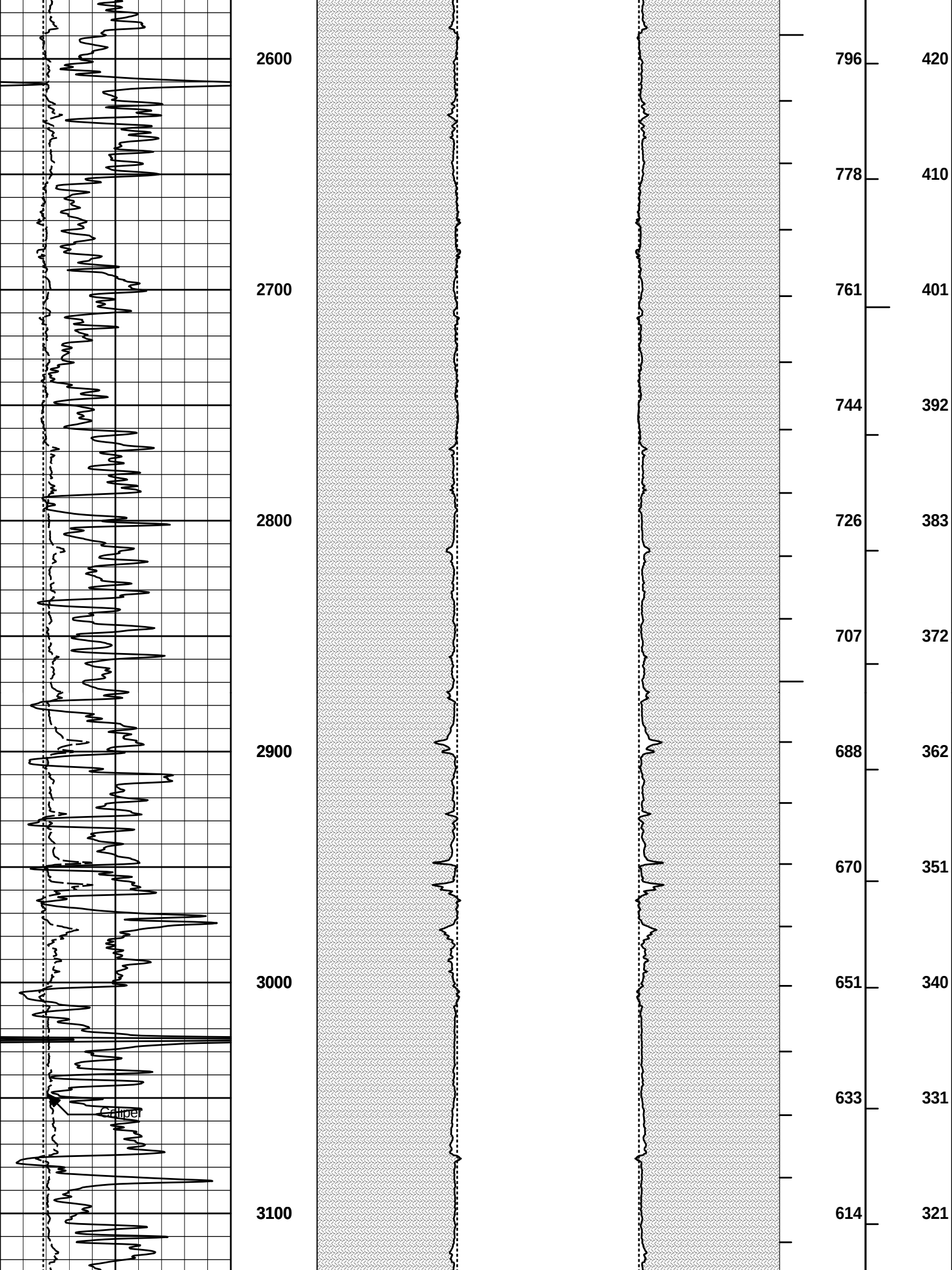
439
430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Caliper
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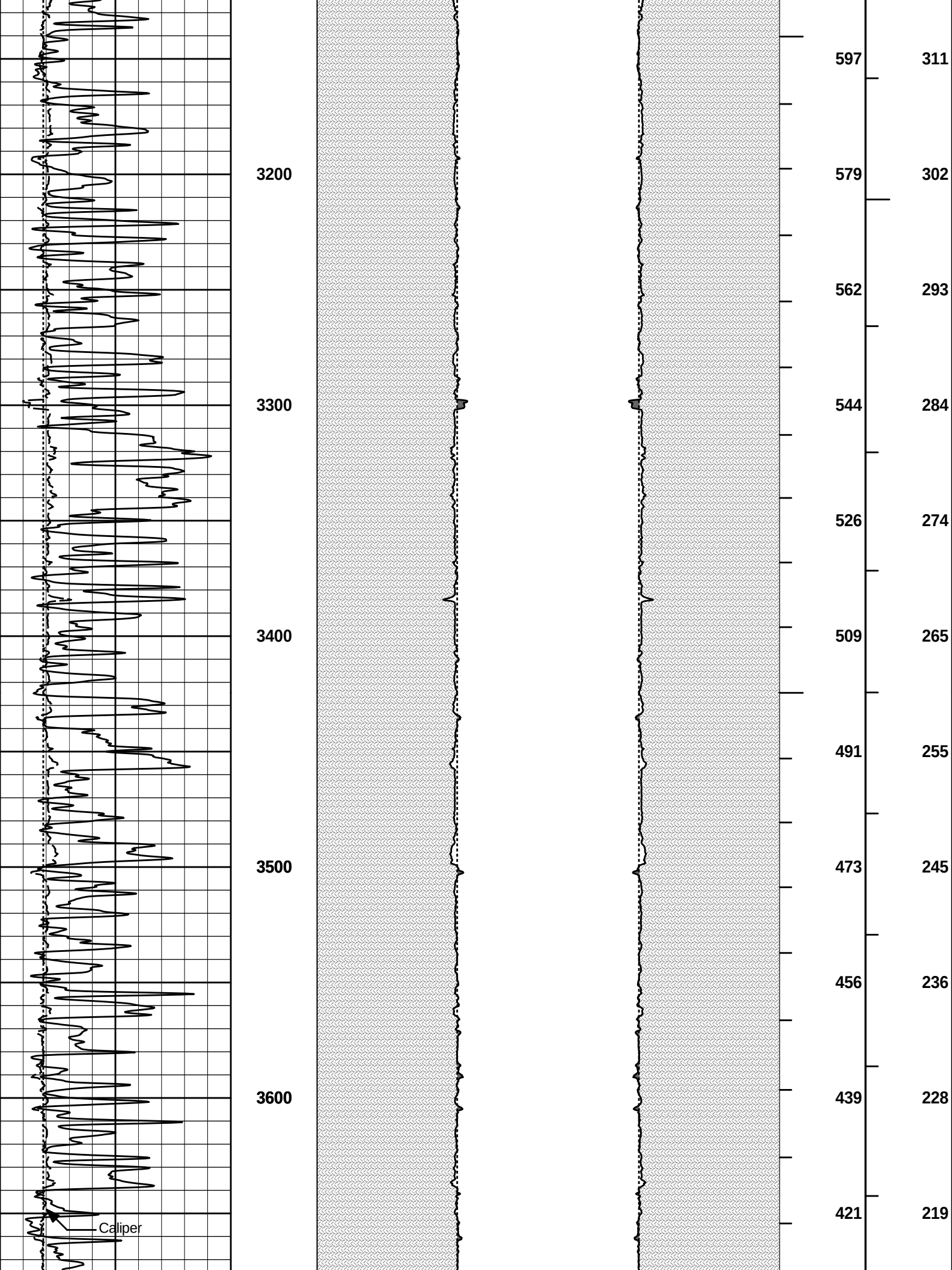
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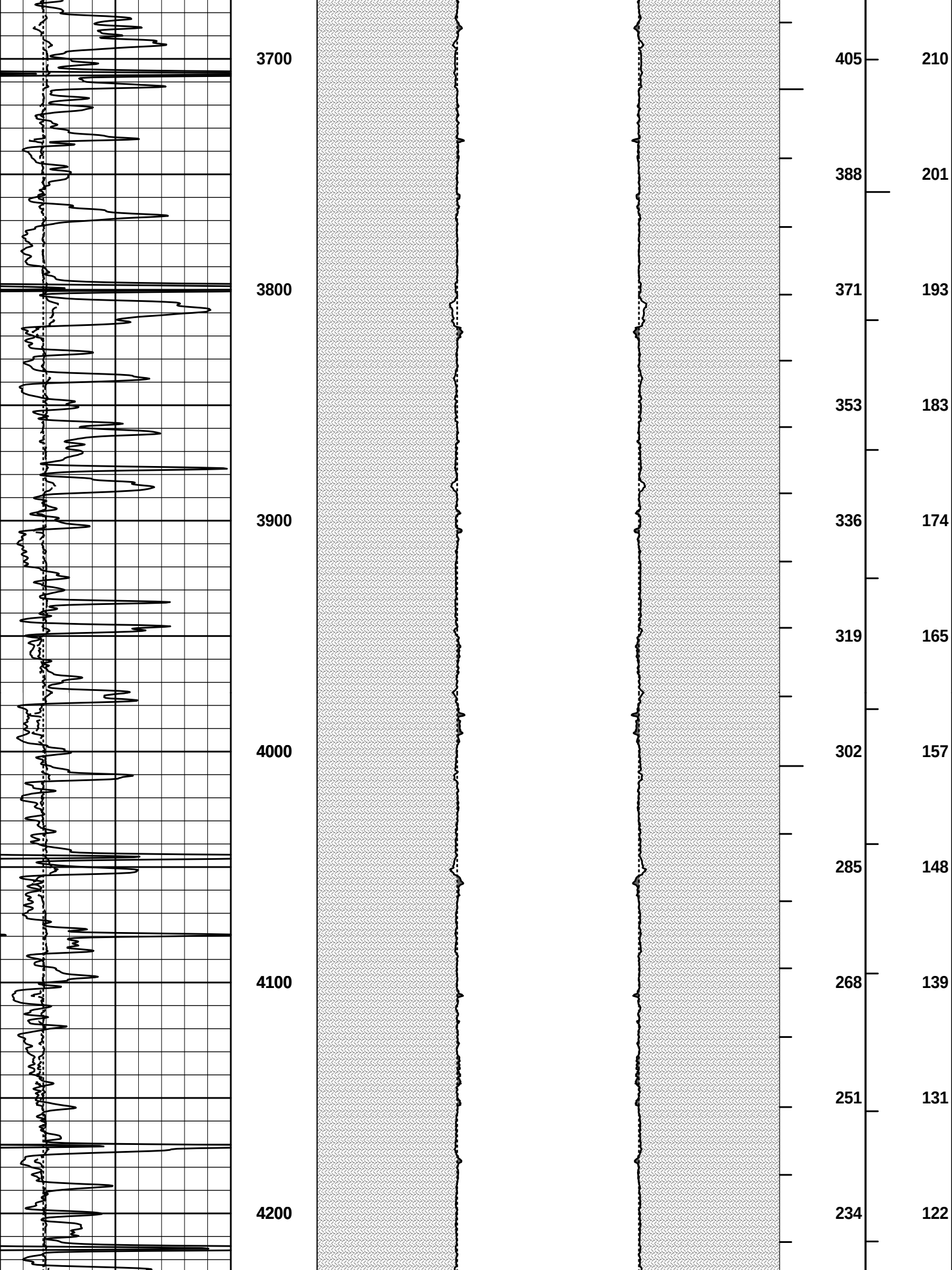
219
Caliper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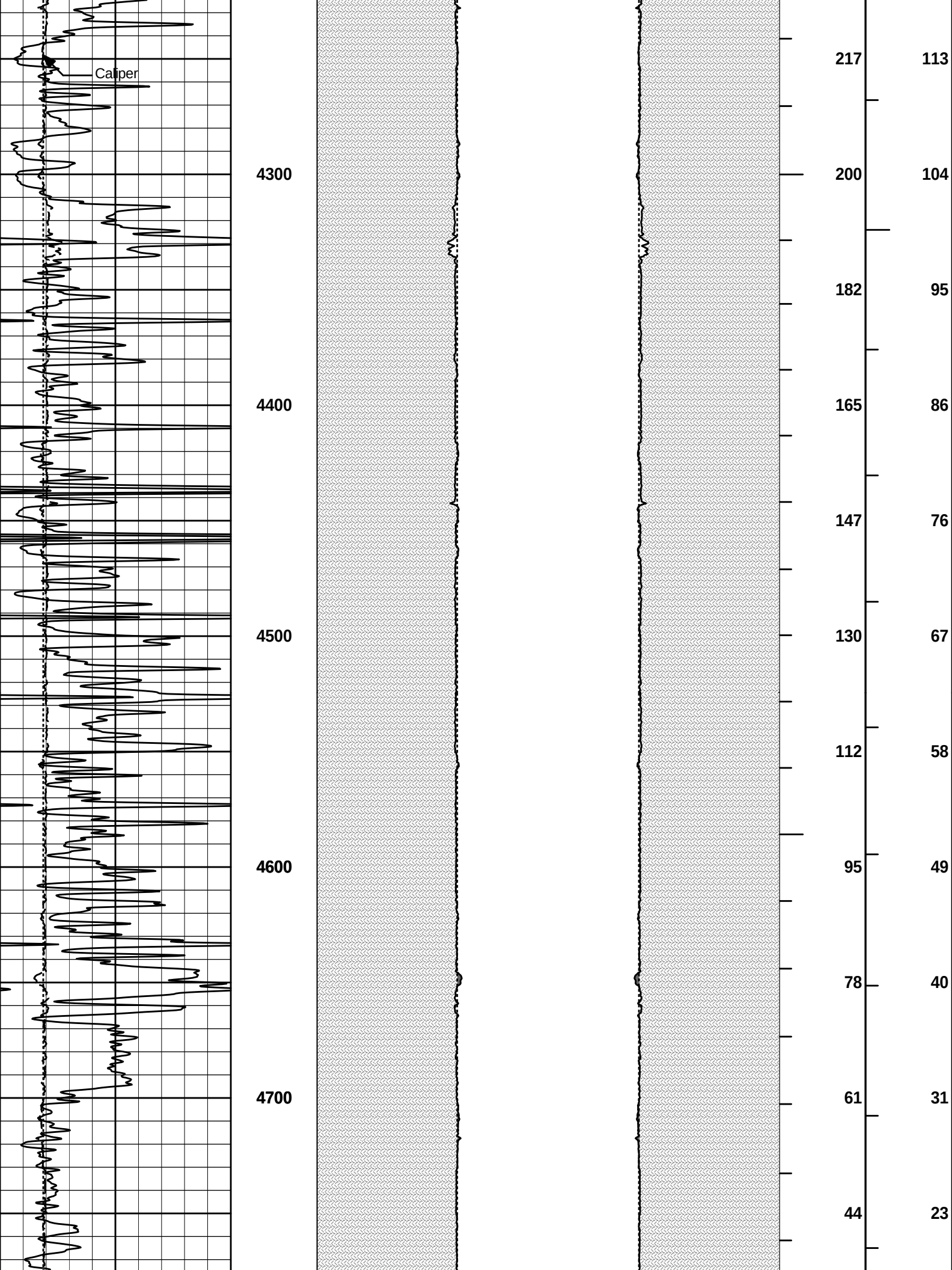
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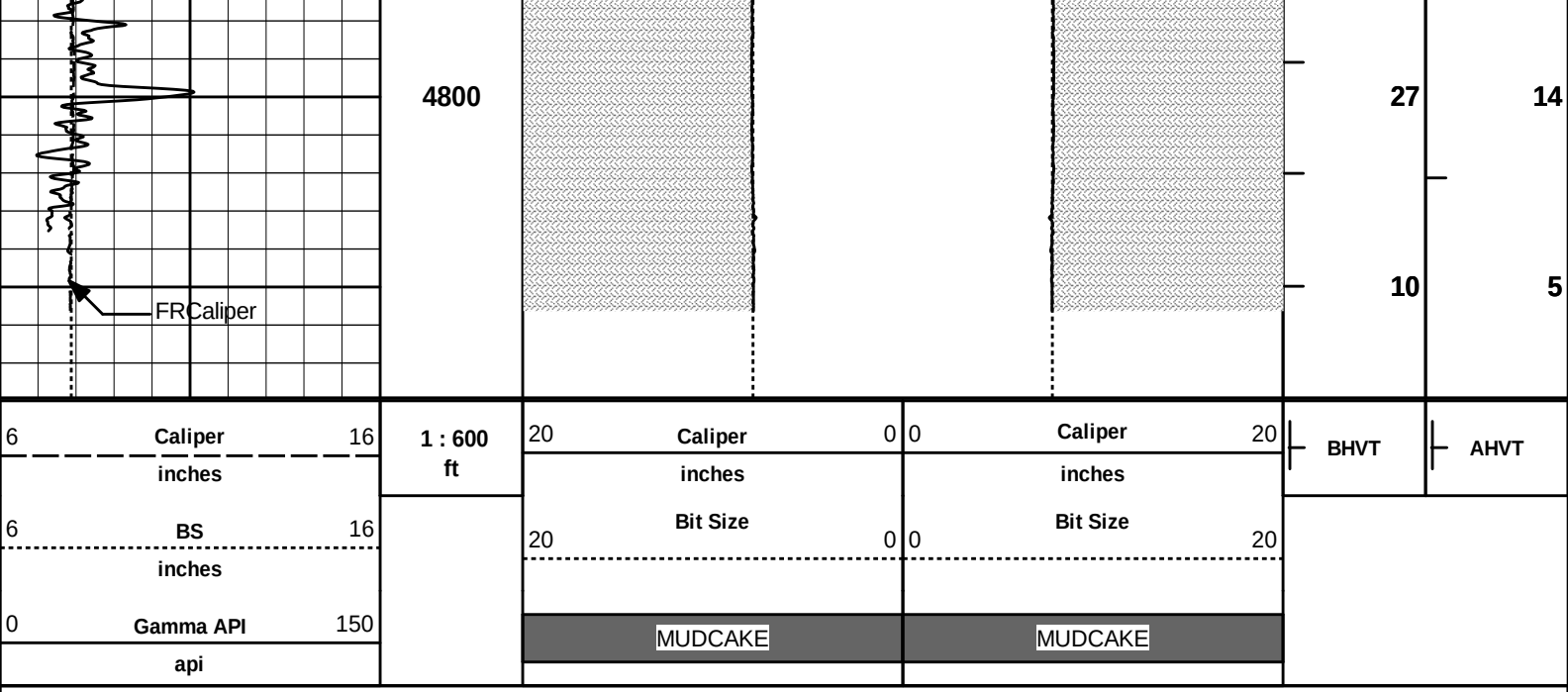

HALLIBURTON

Plot Time: 10-Aug-11 13:30:03
Plot Range: 720 ft to 4879.17 ft
Data: DAMME_41_A\Well Based\DAQ-0001-003
Plot File: \\-LOCAL-\DAMME_41_A\Well Based\PORO\AHV_5_5_INCH_2_IQ_LIB

ANNULAR HOLE VOLUME PLOT (5.5 INCH)

COMPANY	**HARTMAN OIL COMPANY, INC.**		
WELL	**DAMME #41-A**		
FIELD	**DAMME**		
COUNTY	**FINNEY**	STATE	**KANSAS**

HALLIBURTON

SPECTRAL DENSITY
DUAL SPACED NEUTRON
LOG