HALLIBURTON

DUAL SPACED NEUTRON
SPECTRAL DENSITY
MICRO LOG

COMPANY	AGV CORP
WELL	SPICER A-6
FIELD	TRAFFAS
COUNTY	BARBER
STATE	KANSAS

COMPANY **AGV CORP**
WELL **SPICER A-6**
FIELD **TRAFFAS**
COUNTY **BARBER** STATE **KANSAS**

API No. 15-007-23815-00-00
Location 1344' FSL & 442' FEL

Other Services:
ACRT
MRIL

Sect. 20 Twp. 34S Rge. 10W

Permanent Datum	GL	Elev. 1488.0 ft	Elev.: K.B.	1497.0 ft
Log measured from	KB	, 9.0 ft above perm. Datum	D.F.	1496.0 ft
Drilling measured from	KB		G.L.	1488.0 ft

Date		21-Jan-12				
Run No.		ONE				
Depth - Driller		4983.00 ft				
Depth - Logger		4974.0 ft				
Bottom - Logged Interval		4952.0 ft				
Top - Logged Interval		3450.0 ft				
Casing - Driller		8.625 in @ 265.0 ft		@		@
Casing - Logger		265.0 ft				
Bit Size		7.875 in		@		@
Type Fluid in Hole		WATER BASED MUD				
Density	Viscosity	9.5 ppg	46.00 s/qt			
PH	Fluid Loss	10.50 pH	9.6 cptm			
Source of Sample		FLOW LINE				
Rm @ Meas. Temperature		1.043 ohmm @ 50.00 degF		@		@
Rmf @ Meas. Temperature		0.94 ohmm @ 50.00 degF		@		@
Rmc @ Meas. Temperature		1.210 ohmm @ 50.00 degF		@		@
Source Rmf	Rmc	MEAS	MEAS			
Rm @ BHT		0.47 ohmm @ 110.0 degF		@		@
Time Since Circulation		4.0 hr				
Time on Bottom		21-Jan-12 03:45				
Max. Rec. Temperature		110.0 degF @ 4983.0 ft		@		@
Equipment	Location	10546696	LIBERAL			
Recorded By		C.PARKER				
Witnessed By		K.ROBERTS				

Fold here

Service Ticket No.: 9221786 API Serial No.: 15-007-23815-00-00 PGM Version: WL INSITE R3.4.2 (Build 2)

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	MICRO M469	RUBBER	ADJ	N/A

EQUIPMENT DATA

GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	ONE	Run No.		Run No.	ONE	Run No.	ONE
Serial No.	11039640	Serial No.		Serial No.	I43M469	Serial No.	11019643
Model No.	GTET	Model No.		Model No.	SDL	Model No.	DSN
Diameter	.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.	5168GW	Serial No.	DSN424
Distance to Source	10'	FWDA [Y/N]		Strength	1.5Ci	Strength	15Ci

LOGGING DATA

GENERAL	GAMMA	ACOUSTIC	DENSITY	NEUTRON

GENERAL			GAMMA		ACOUSTIC			DENSITY			NEUTRON		
Run	Depth		Speed	Scale		Scale		Matrix	Scale		Matrix	Scale		Matrix
No.	From	To	ft/min	L	R	L	R		L	R		L	R	
ONE	TD	3450	REC	0	150				30	-10	2.71	30	-10	LIME

DIRECTIONAL INFORMATION

Maximum Deviation @	KOP @

Remarks: AHV CALCULATED FOR 5.5 INCH CASING

CHLORIDES 5500 MG/L:

POST VERFICATION NOT PERFORMED DUE TO WEATHER

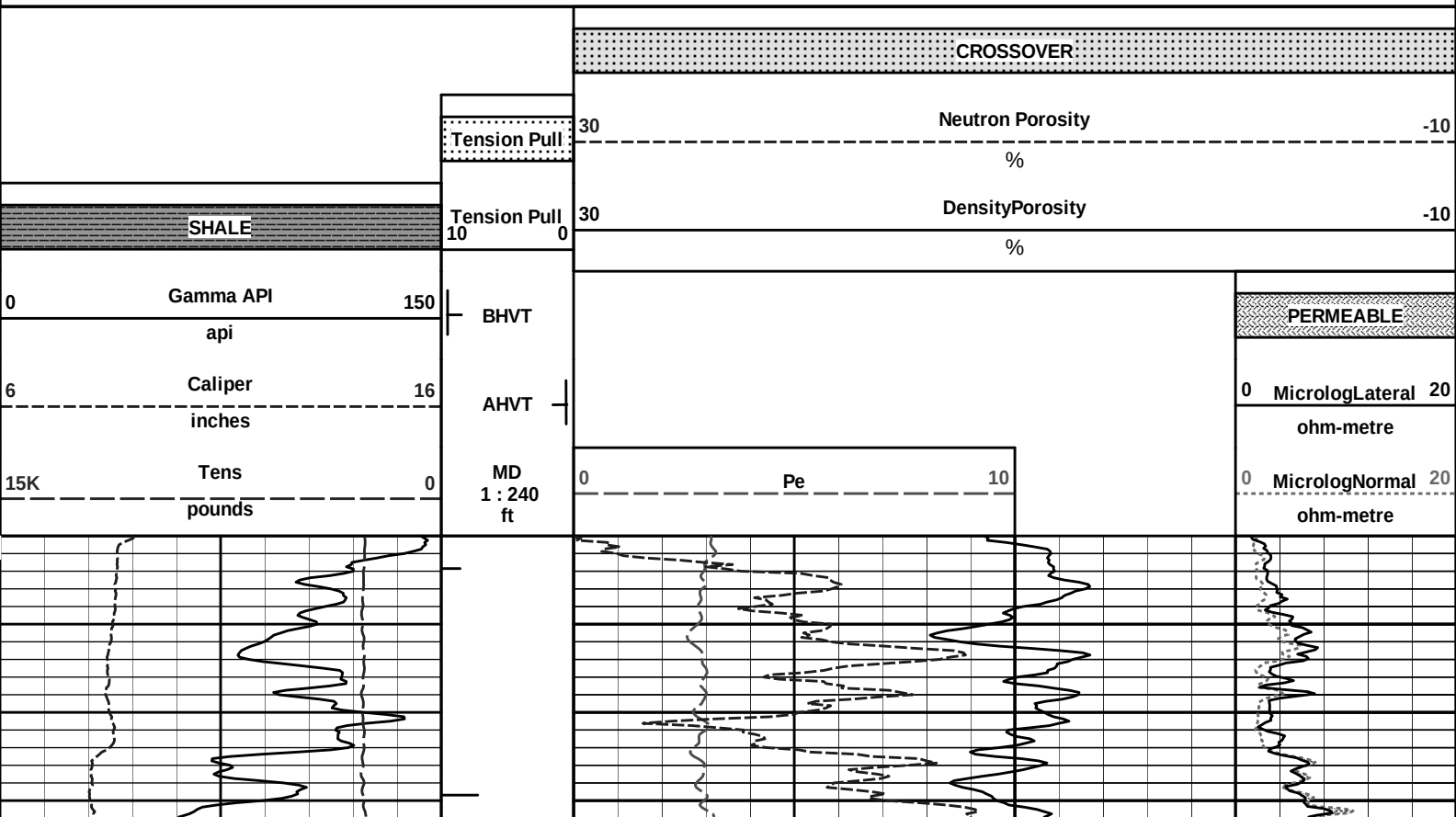
TODAY'S CREW: V.JAIME, K.KING

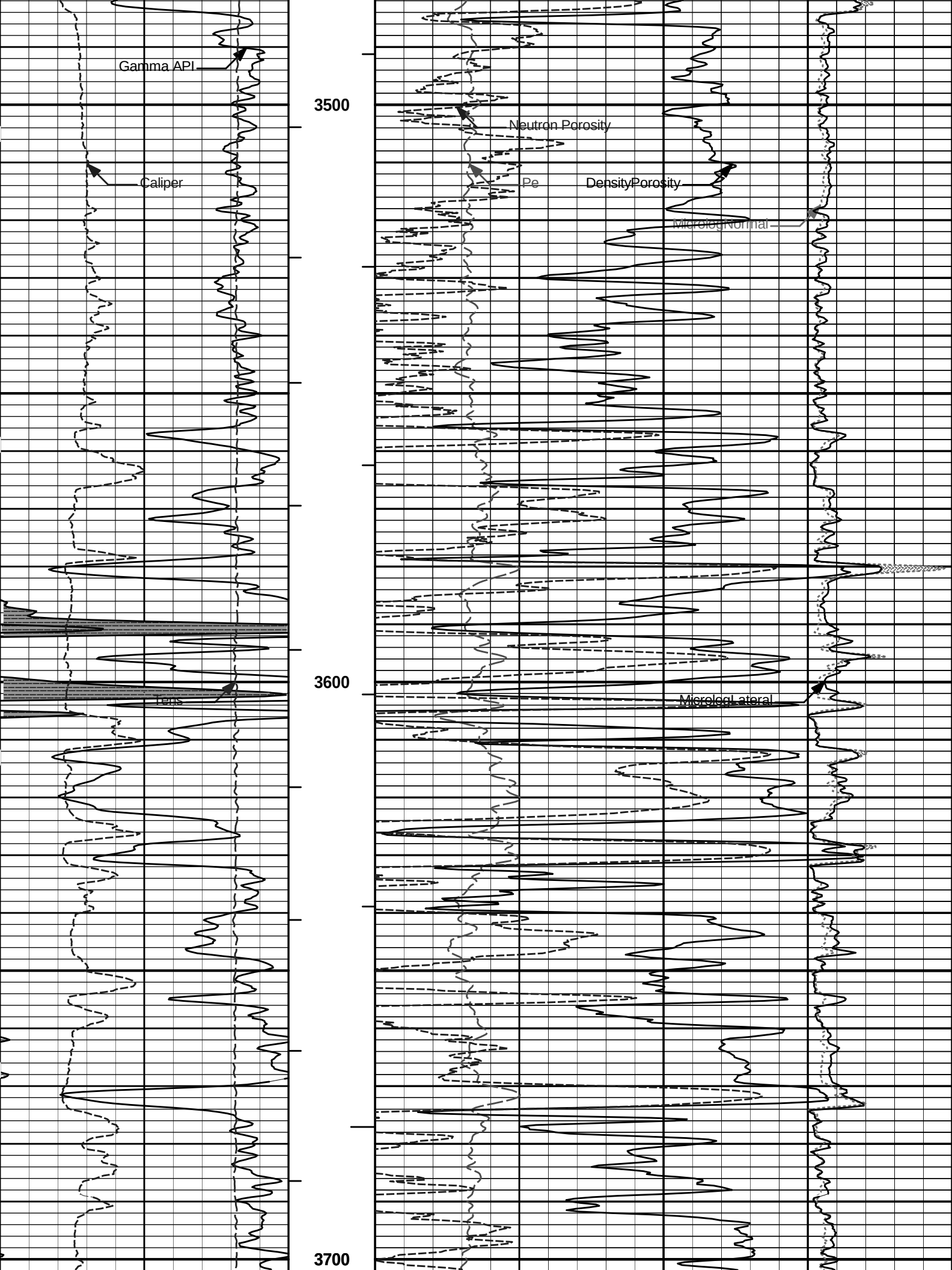
THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES LIBERAL, KANSAS: 620 624 8123

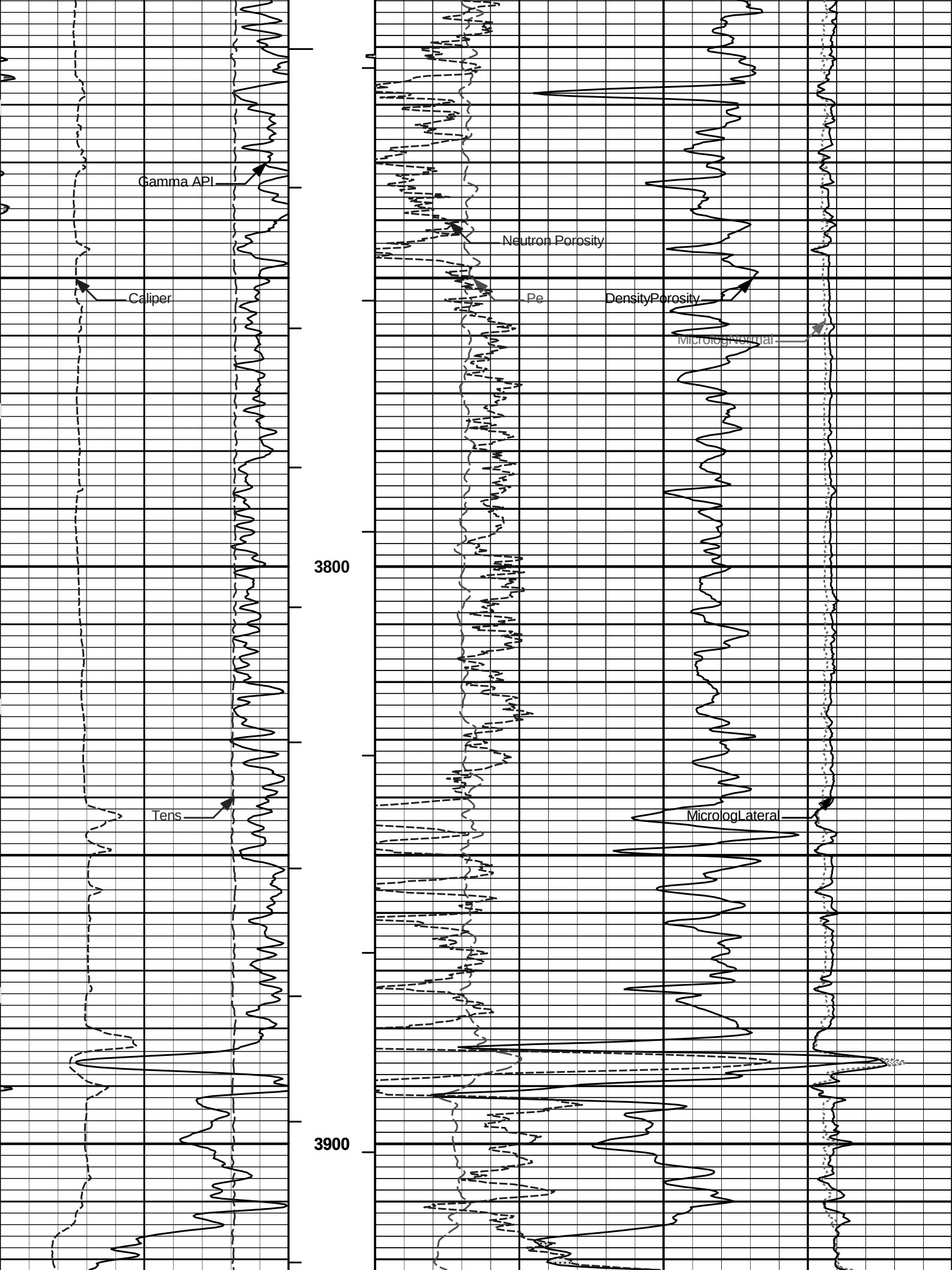
HALLIBURTON

Plot Time: 21-Jan-12 04:19:28
Plot Range: 3450 ft to 4978 ft
Data: SPICER_A_6\Well Based\DAQ-0001-003
Plot File: \\POROML\PoroML_5_main_IQ_LIB

5 INCH MAIN LOG




Gamma API
Caliper
Neutron Porosity
Pe
DensityPorosity
MicrologNormal
Tens
MicrologLateral
3500
3600
3700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Pe
DensityPorosity
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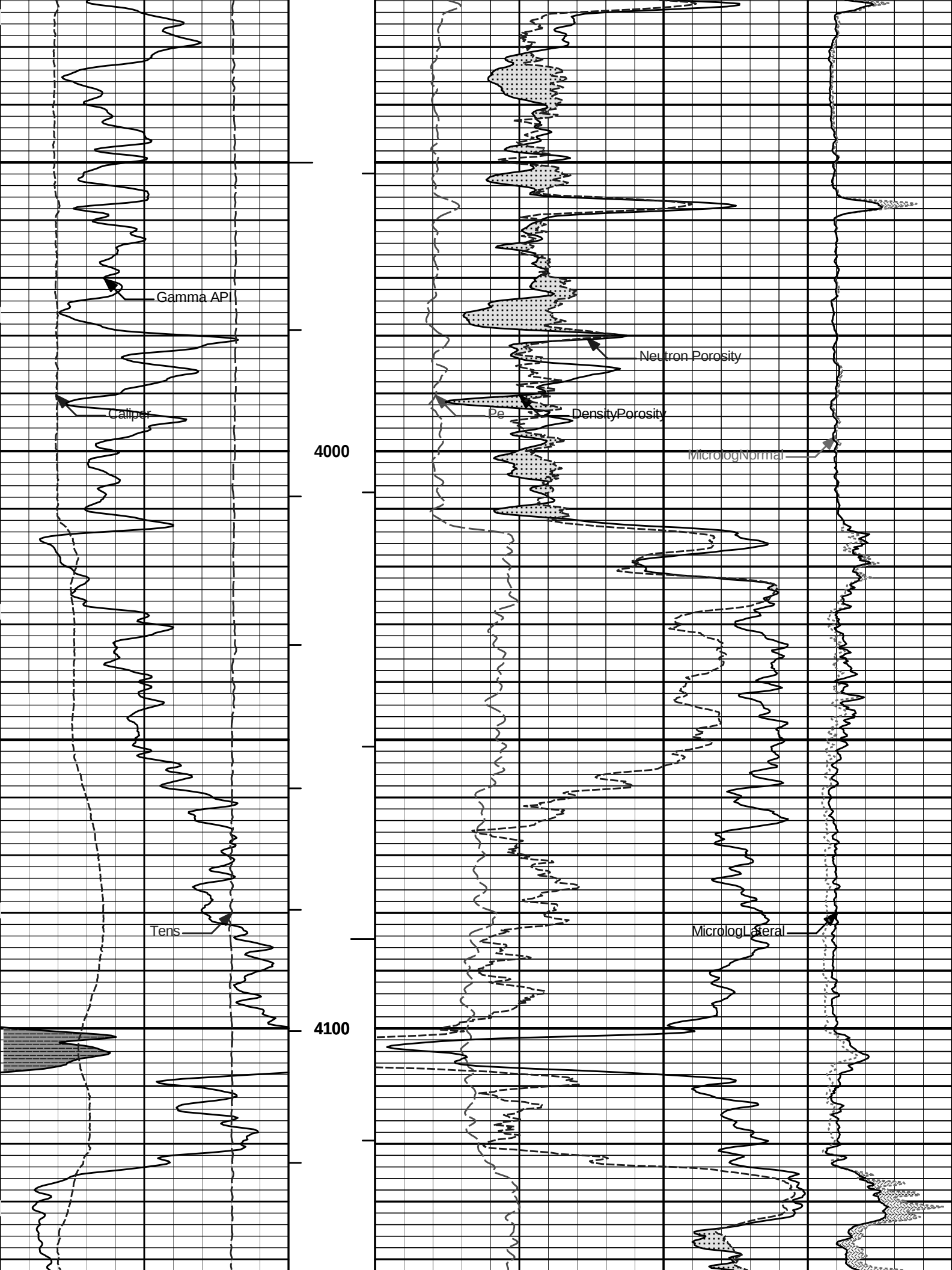
MicrologLateral
3800
3900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Pe
DensityPorosity
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MicrologLateral
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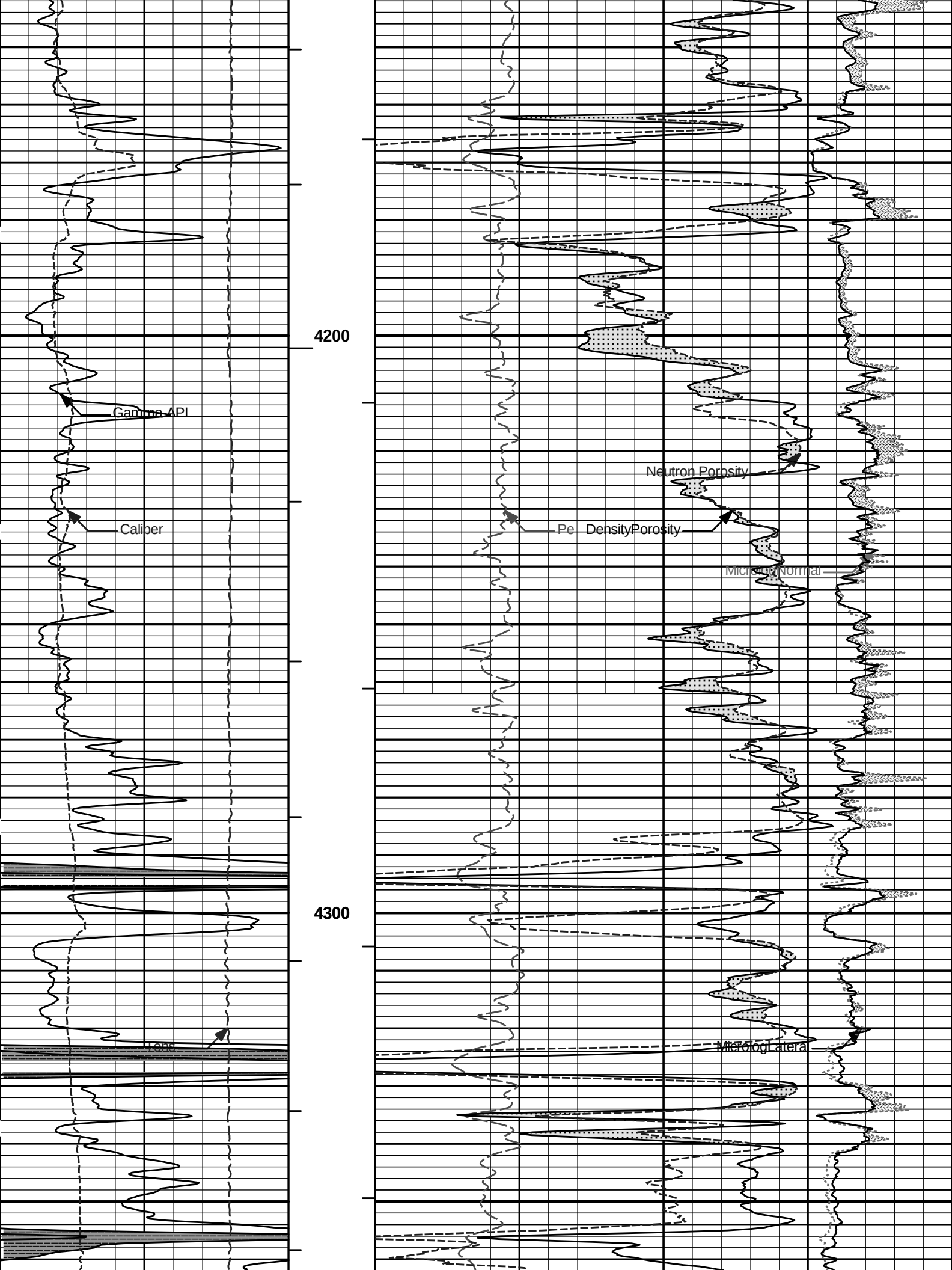
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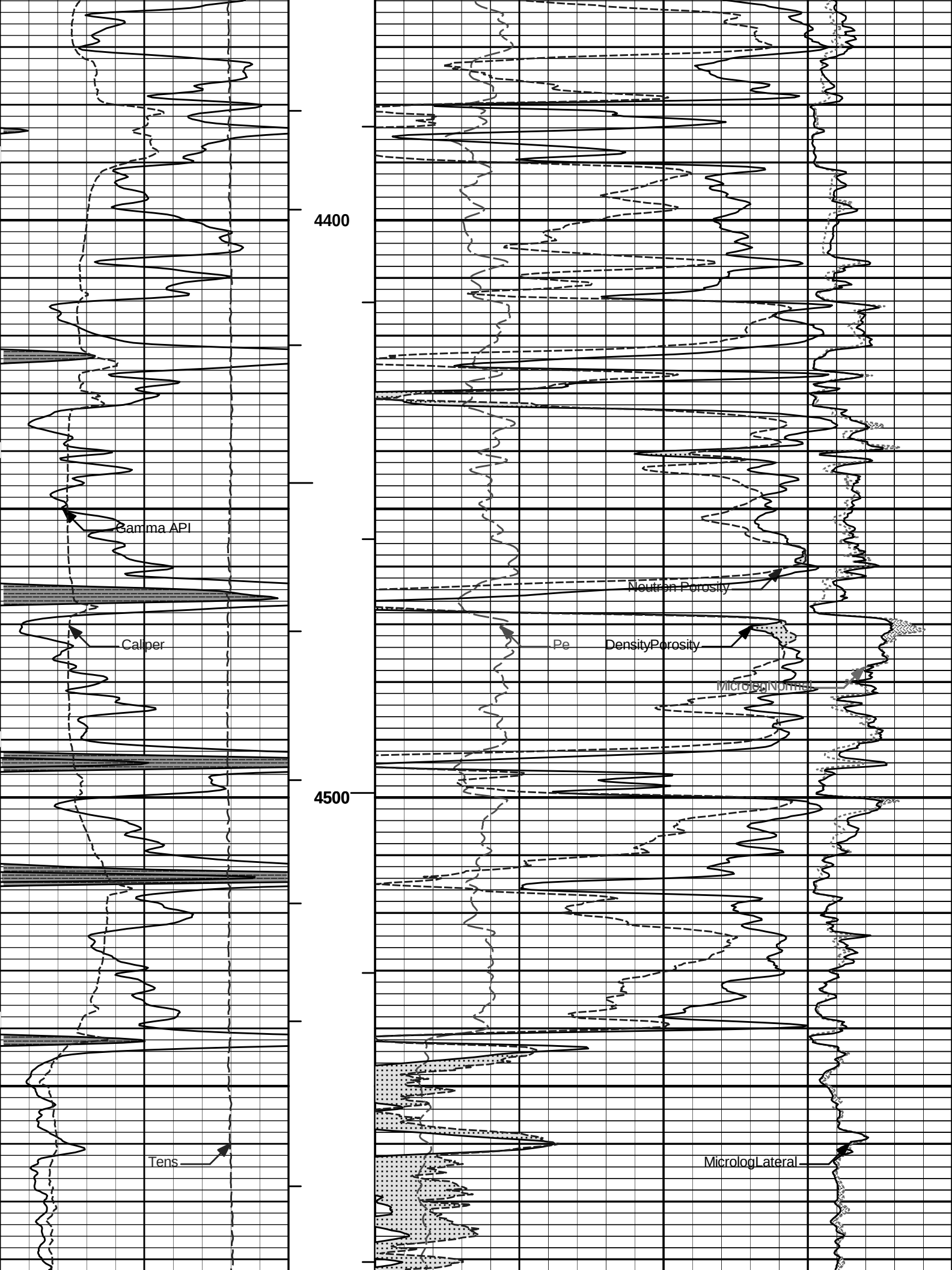
Gamma API
Caliper
Neutron Porosity
Pe
DensityPorosity
MicrologNormal
4300
Logs
MicrologLateral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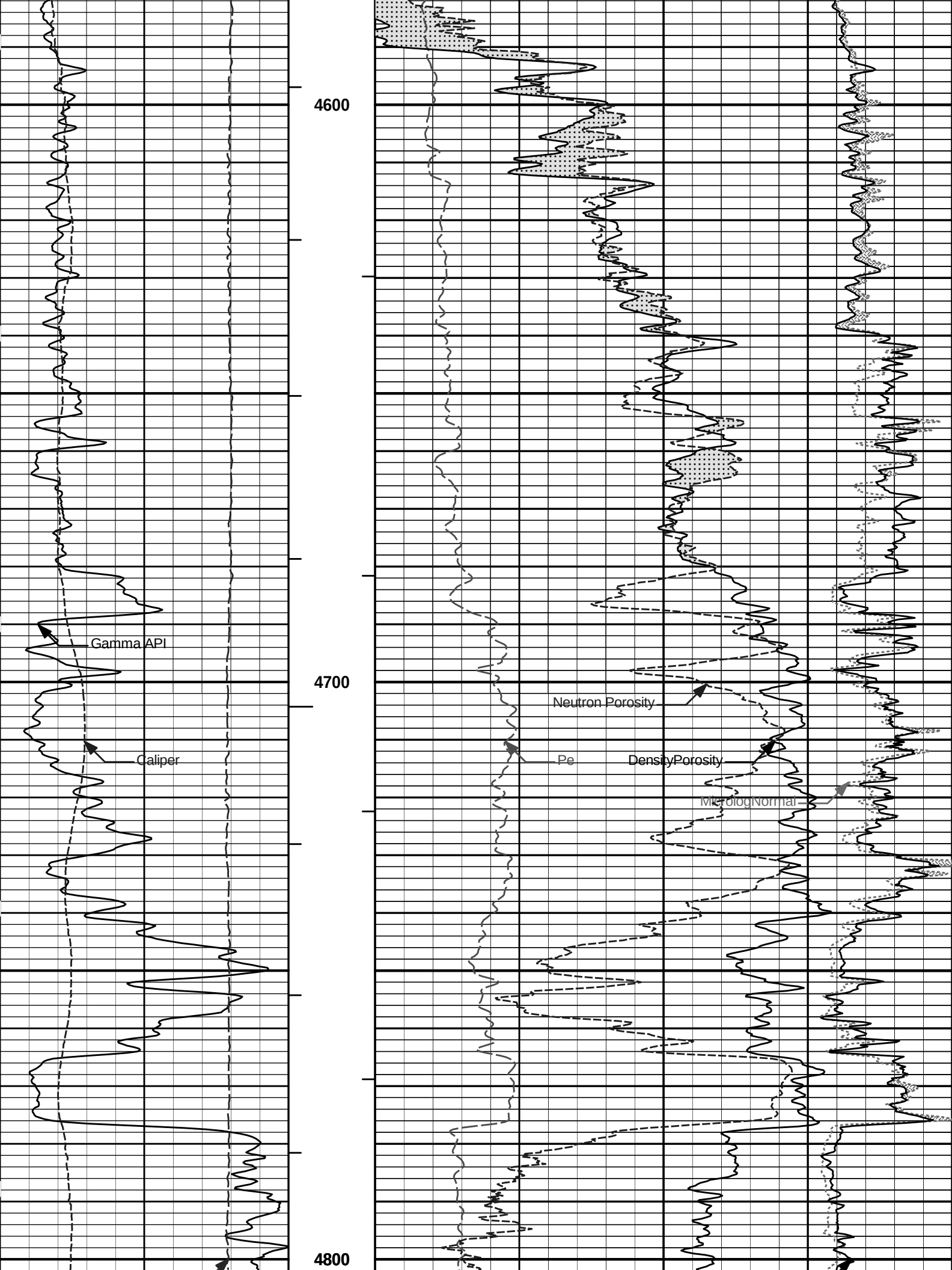
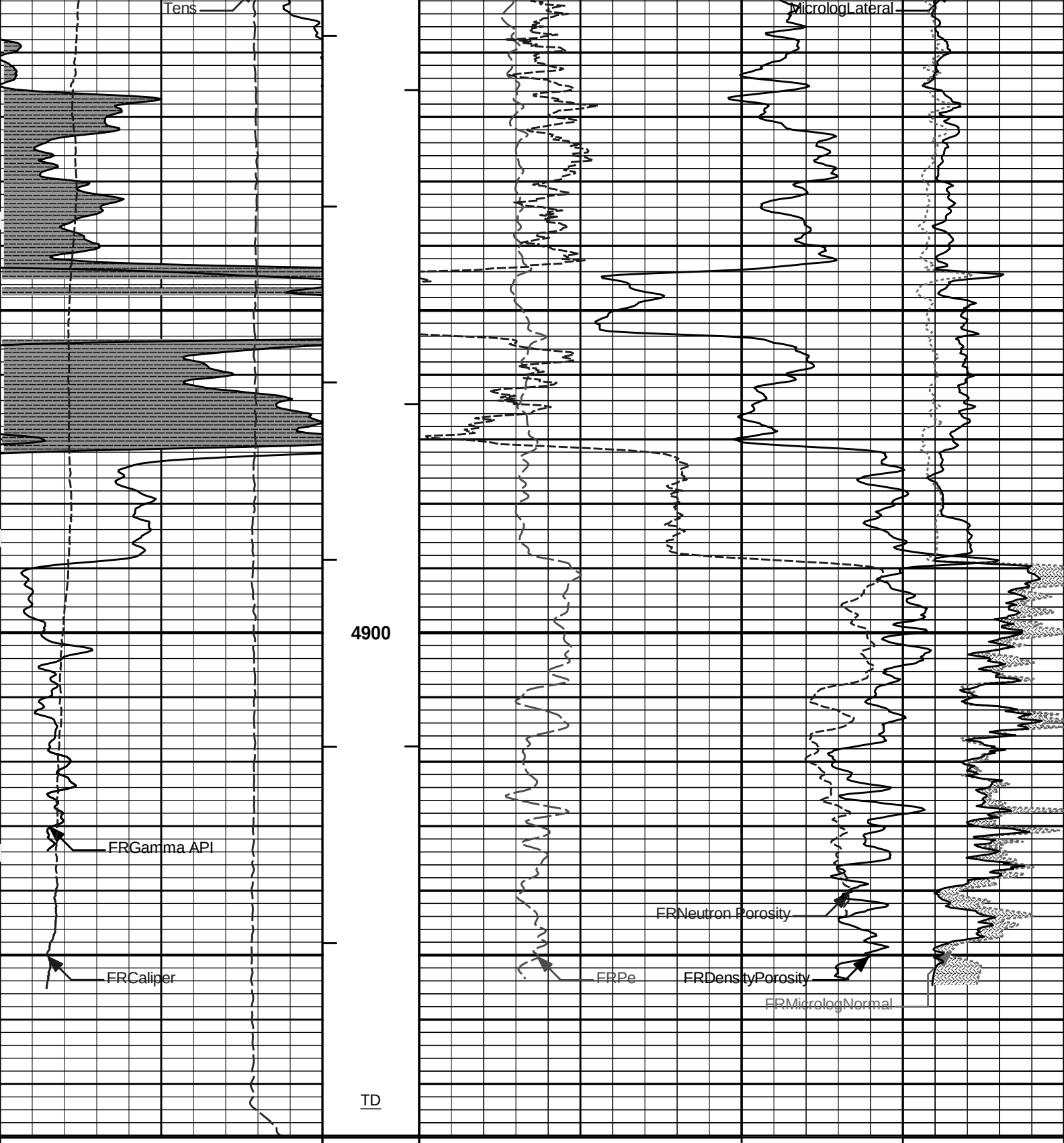
4500
Gamma API
Caliper
Tens
Neutron Porosity
Pe
DensityPorosity
MicrologNormal
MicrologLateral


4600
4700
4800
Gamma API
Caliper
Neutron Porosity
Pe
DensityPorosity
MicrologNormal



15K Tens 0	MD 1 : 240 ft	0 Pe 10
pounds		
6 Caliper 16	AHVT	0 MicrologNormal 20
inches		ohm-metre
0 Gamma API 150	BHVT	0 MicrologLateral 20
api		ohm-metre
SHALE	Tension Pull 10 0	PERMEABLE
		30 DensityPorosity -10
		%
		30 Neutron Porosity 10

Tension Pull

30 -10

%

CROSSOVER

HALLIBURTON

Plot Time: 21-Jan-12 04:19:40
Plot Range: 3450 ft to 4978 ft
Data: SPICER_A_6\Well Based\DAQ-0001-003\
Plot File: \\POROML\PoroML_5_main_IQ_LIB

5 INCH MAIN LOG

HALLIBURTON

Plot Time: 21-Jan-12 04:19:41
Plot Range: 4698 ft to 4978.58 ft
Data: SPICER_A_6\Well Based\DAQ-0001-002\
Plot File: \\POROML\PoroML_IQ_5_REPEAT_LIB

REPEAT SECTION

CROSSOVER

30 Neutron Porosity -10

%

30 DensityPorosity -10

%

SHALE

PERMEABLE

0 Gamma API 150

api

BHVT

6 Caliper 16

inches

AHVT

0 MicrologLateral 20

ohm-metre

15K Tens 0

pounds

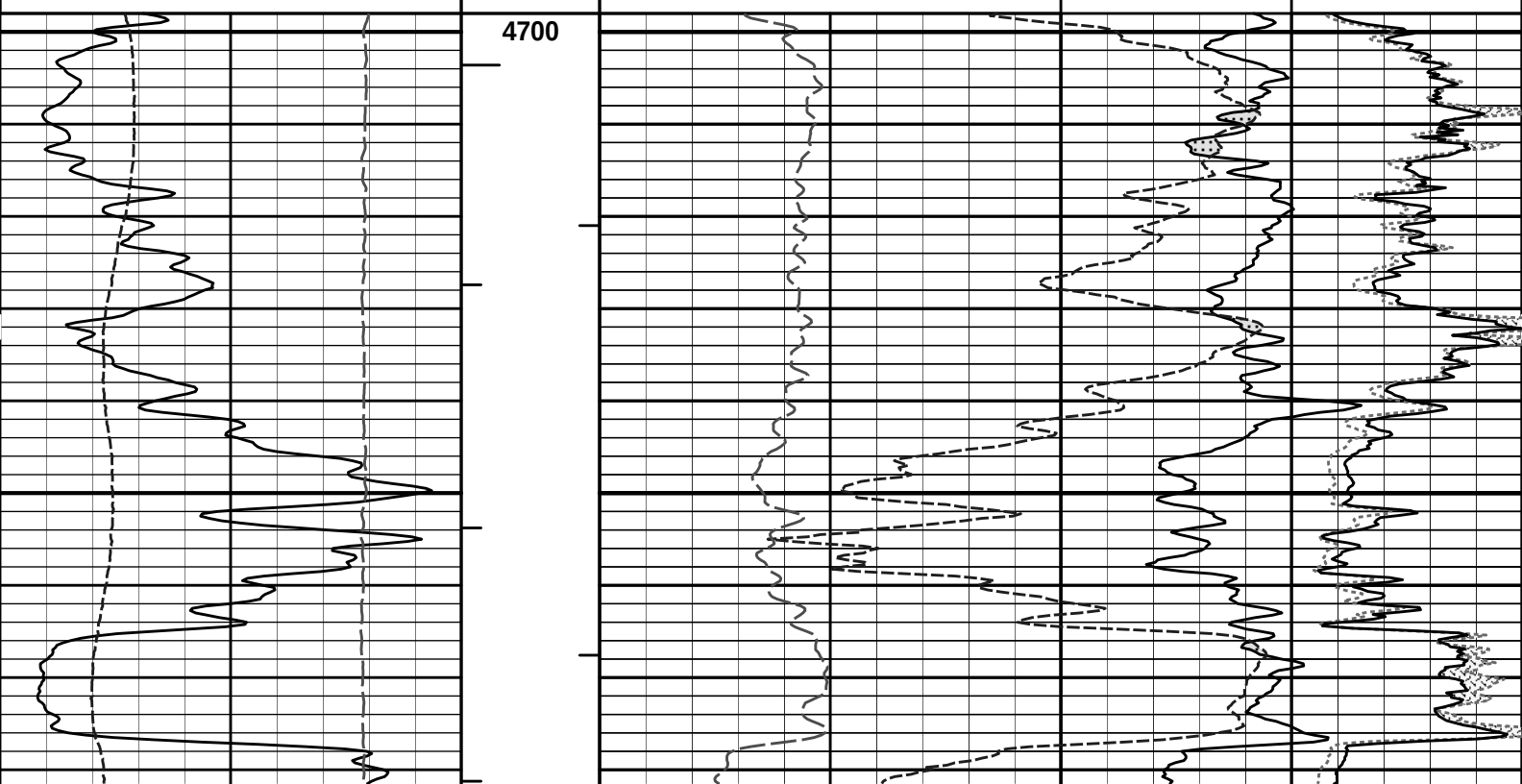
MD
1 : 240
ft

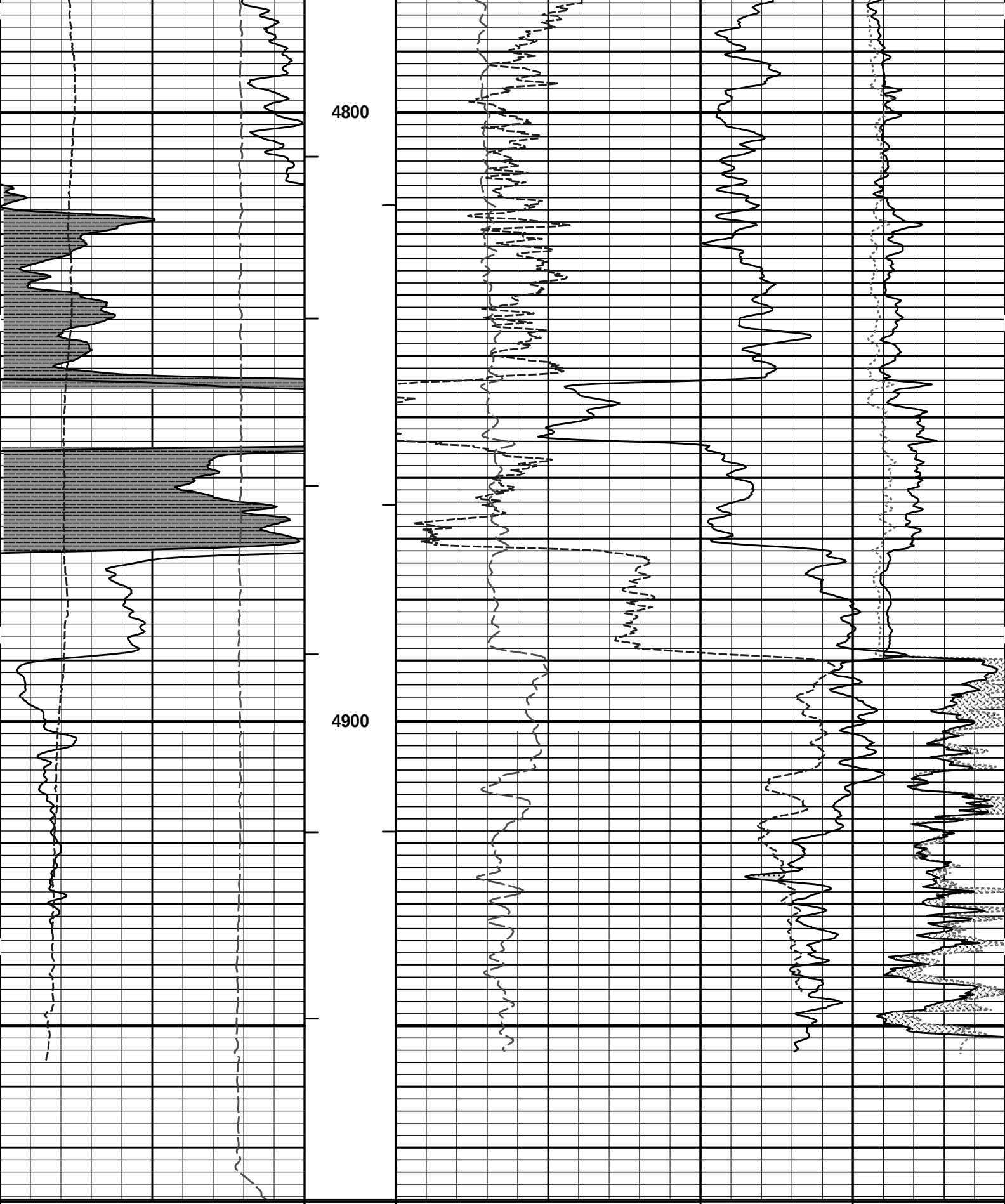
0 Pe 10

0 MicrologNormal 20

ohm-metre

4700





15K Tens 0
pounds
6 Caliper 16
inches
Gamma API

MD
1 : 240
ft
AHVT

0 Pe 10

0 MicrologNormal 20
ohm-metre
0 MicrologLateral 20
ohm-metre

0 Gamma API 150
api
BHVT
PERMEABLE
SHALE
30 DensityPorosity -10
%
30 Neutron Porosity -10
%
CROSSOVER

HALLIBURTON

Plot Time: 21-Jan-12 04:19:43
Plot Range: 4698 ft to 4978.58 ft
Data: SPICER_A_6\Well Based\DAQ-0001-002\
Plot File: \\POROML\PoroML_IQ_5_REPEAT_LIB

REPEAT SECTION

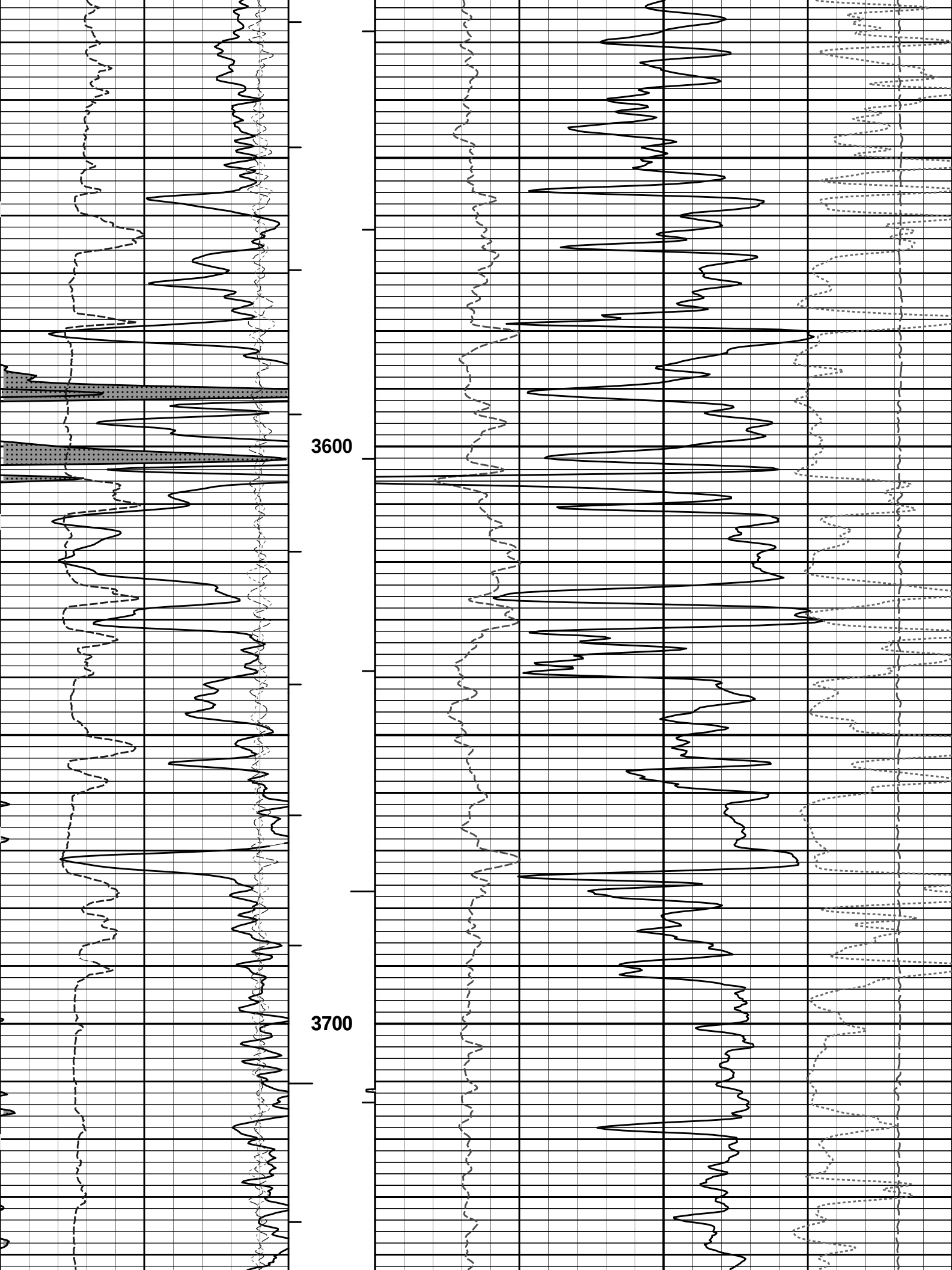
HALLIBURTON

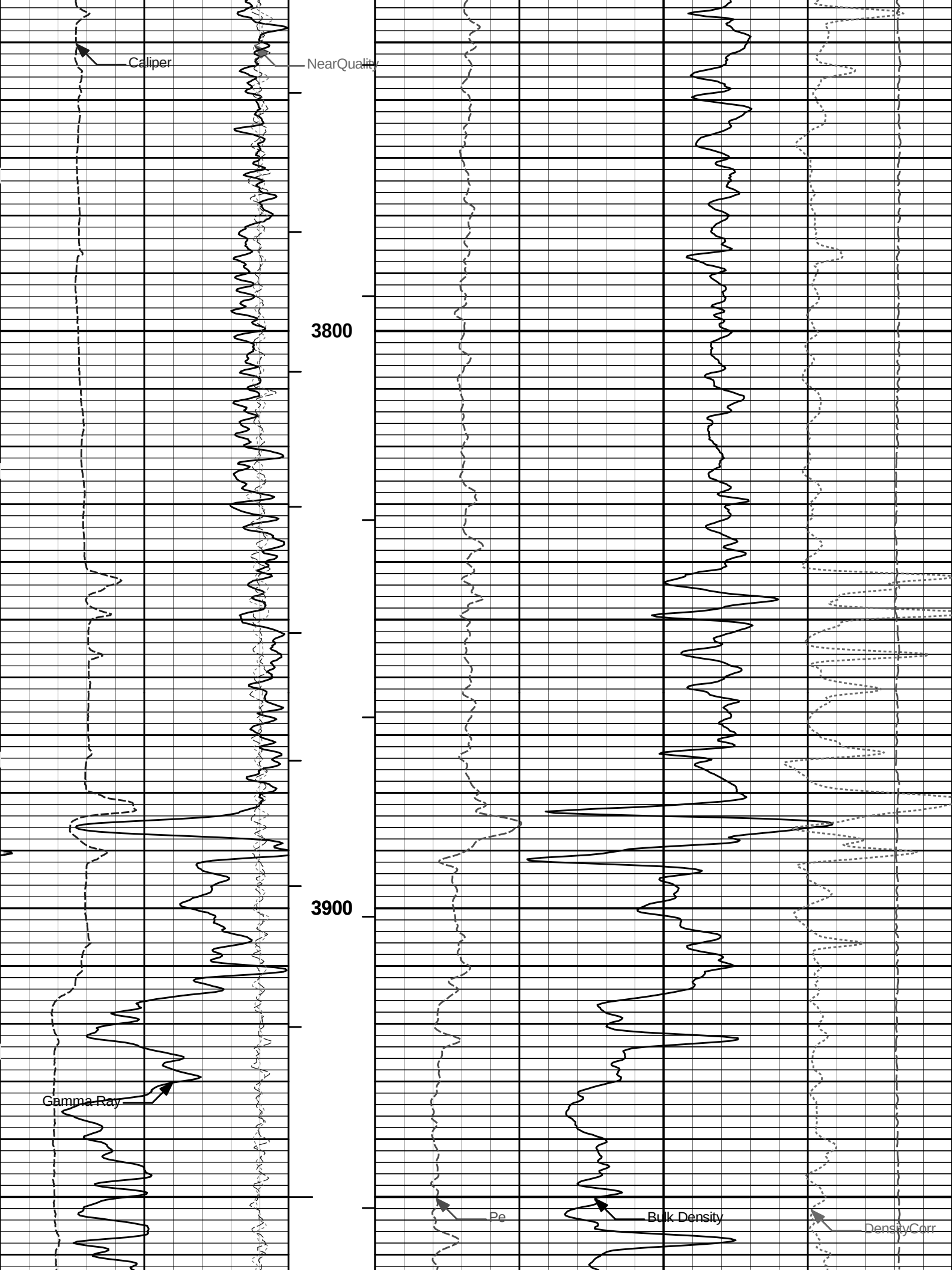
Plot Time: 21-Jan-12 04:19:43
Plot Range: 3450 ft to 4978 ft
Data: SPICER_A_6\Well Based\DAQ-0001-003\
Plot File: \\-LOCAL-\SPICER_A_6\0001 SP-GTET-DSN-SDL-ACRT-CH\POROML\BULKD_5_MAIN_LIB

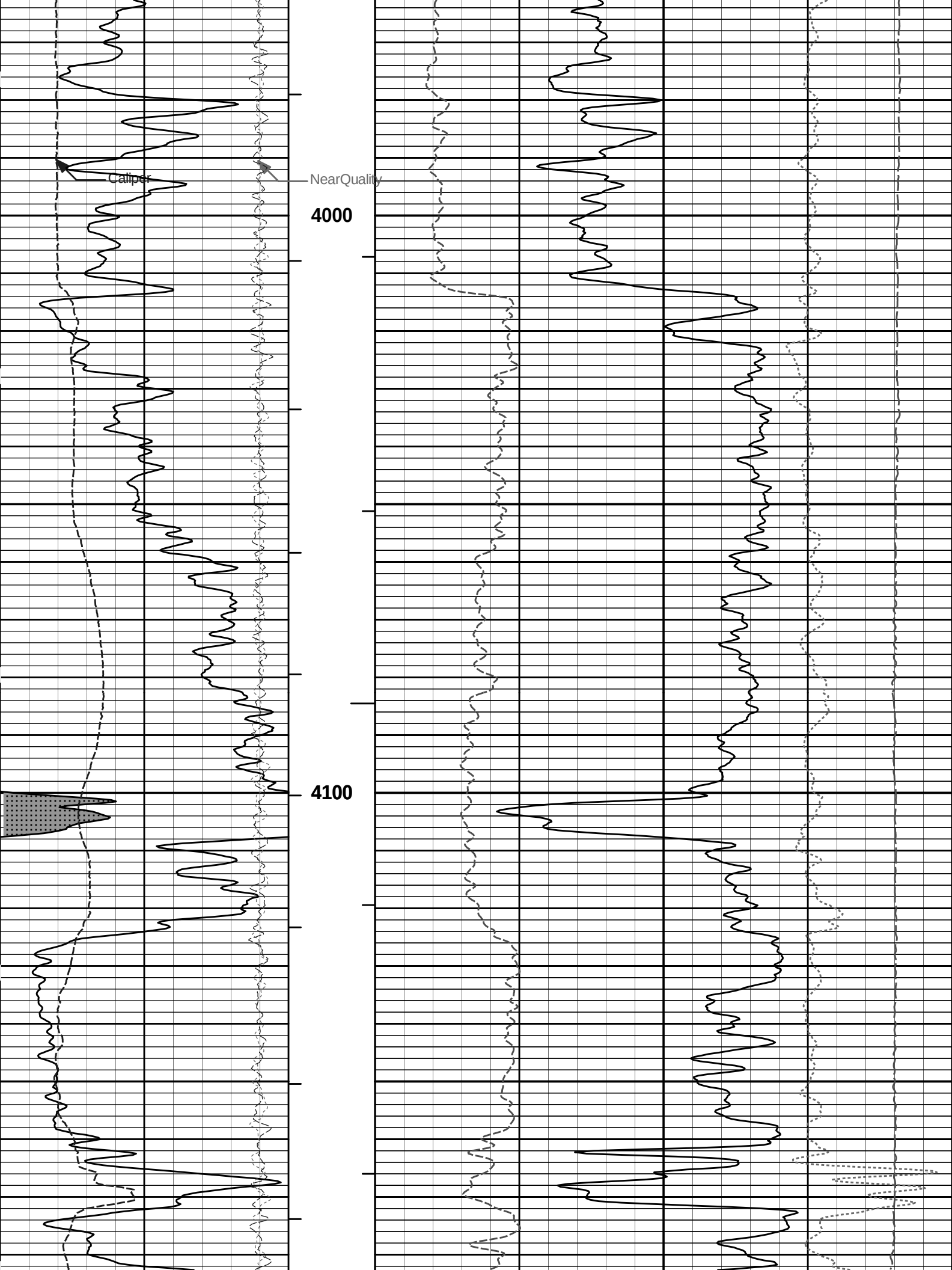
5 INCH MAIN LOG

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

Pe
Bulk Density
DensityCorr
3500
Caliper
NearQuality


3600
3700


Caliper
NearQuality
3800
3900
Gamma Ray
Pe
Bulk Density
DensityCorr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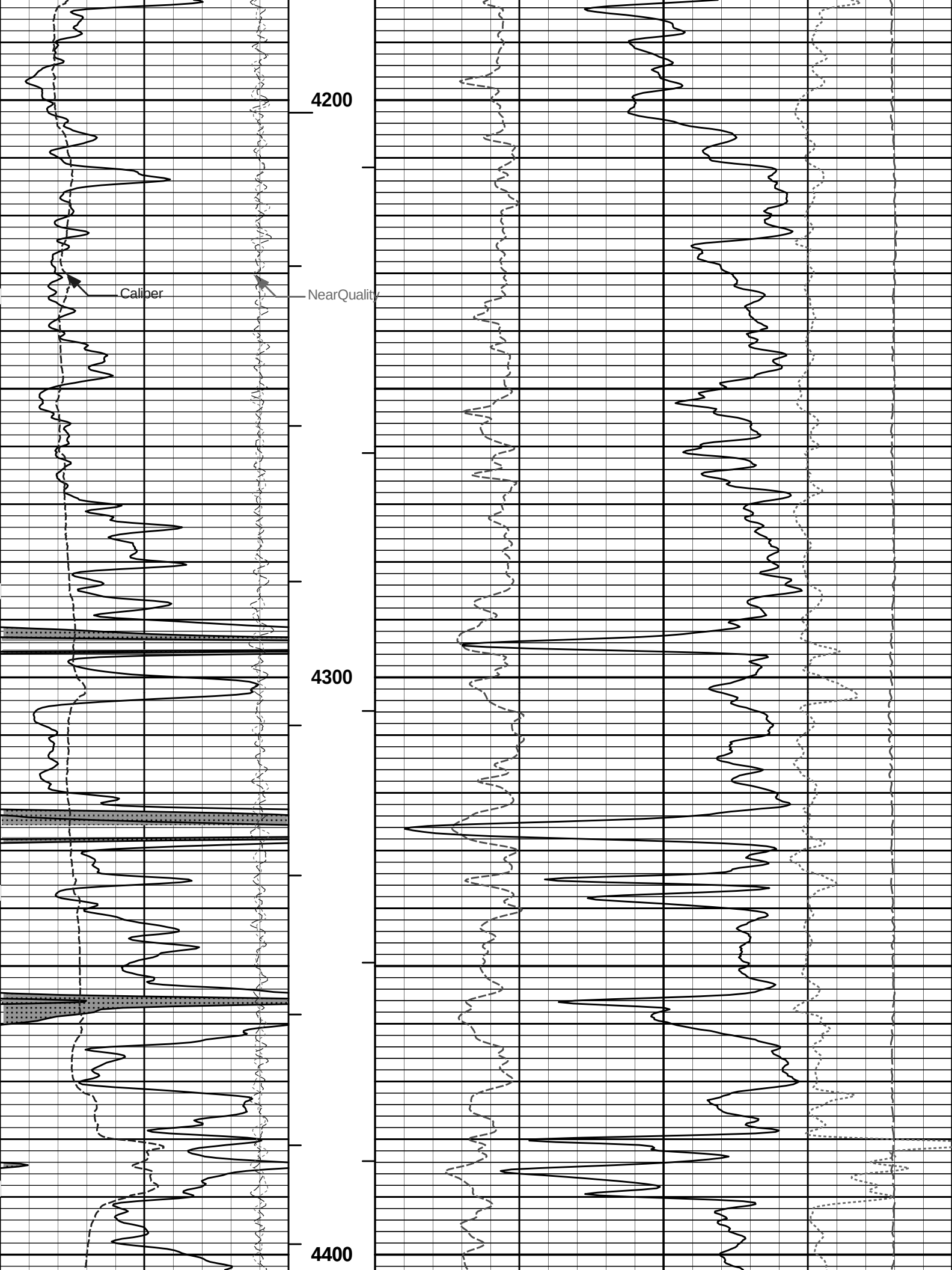
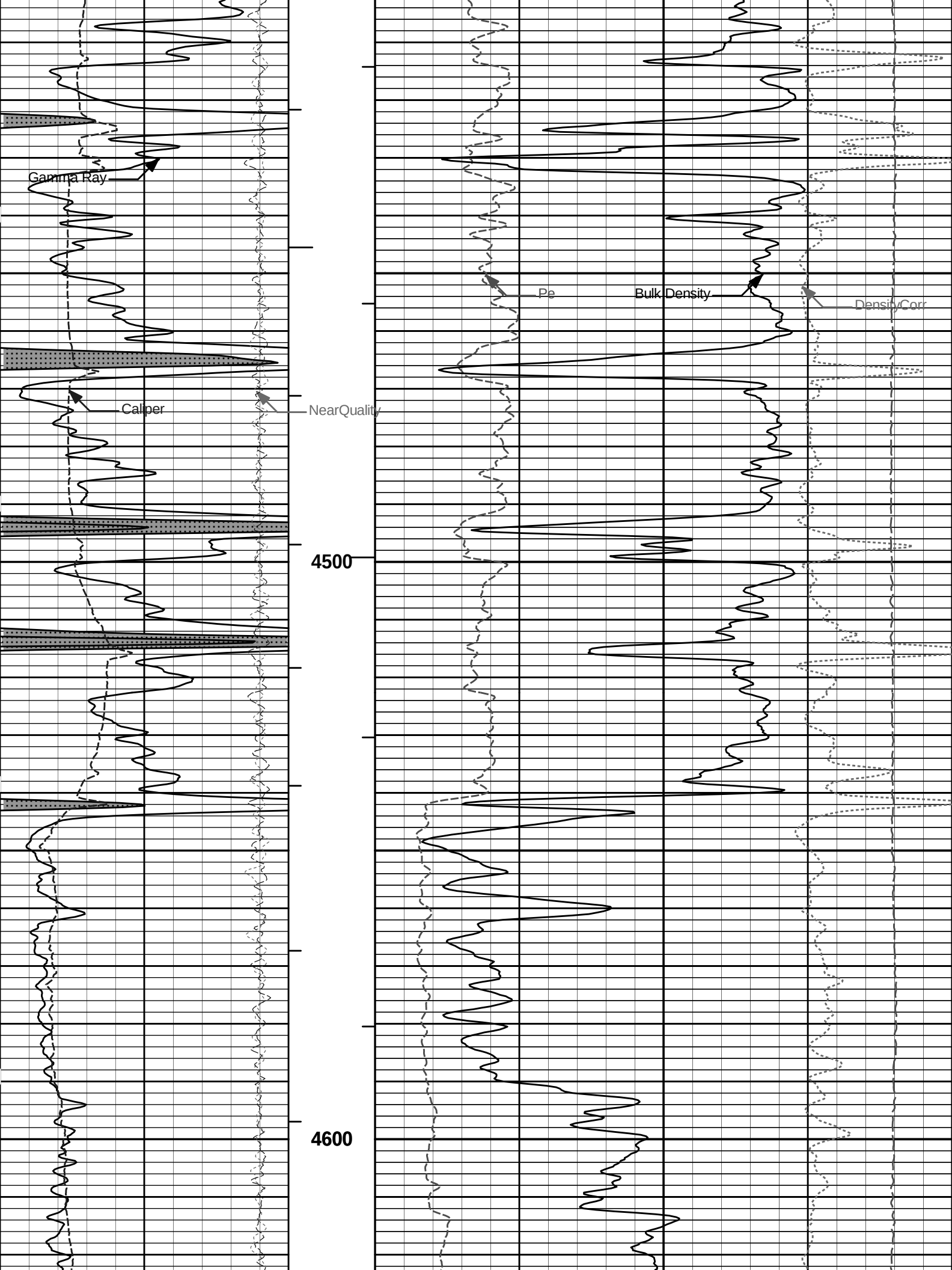
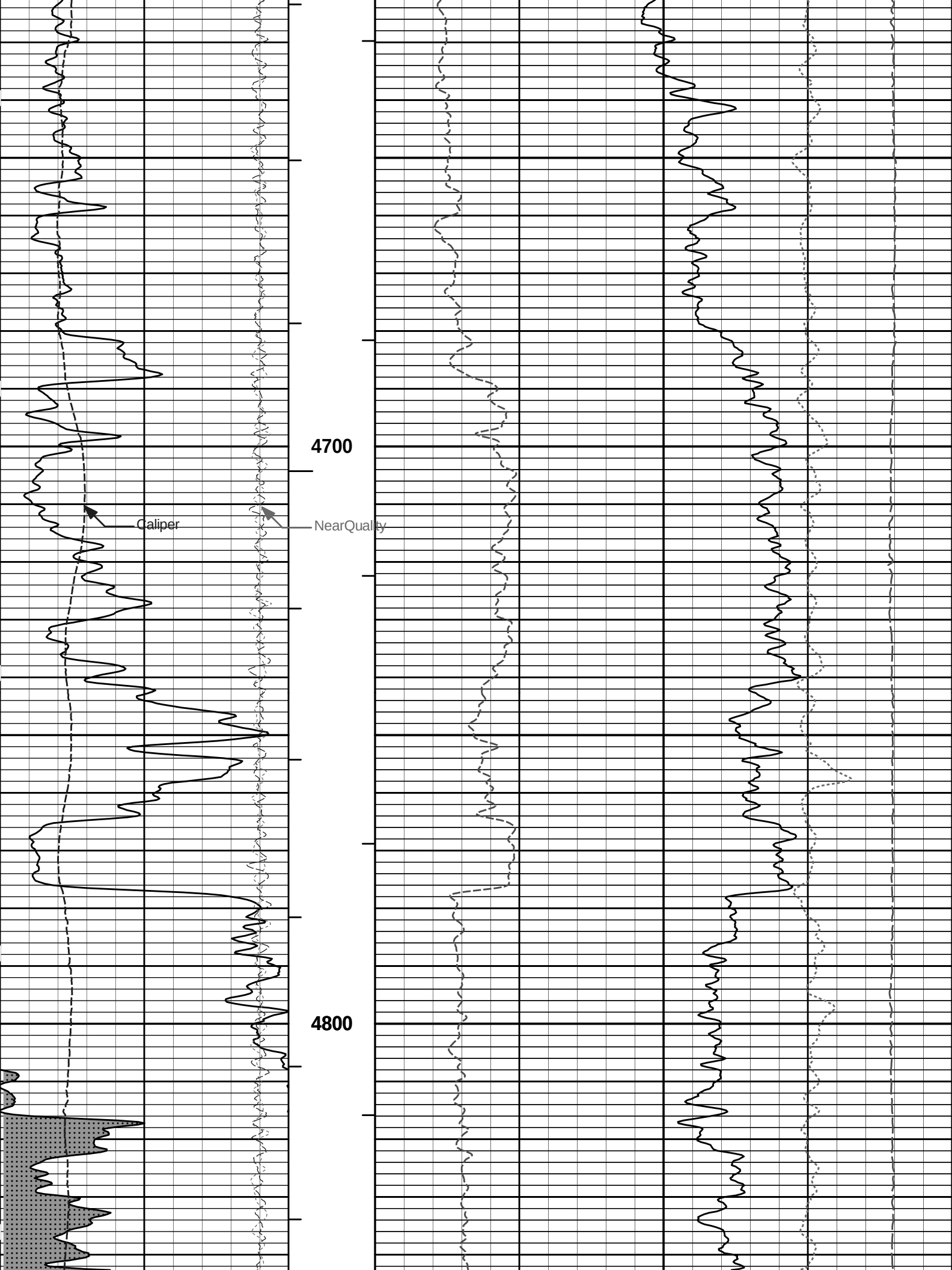
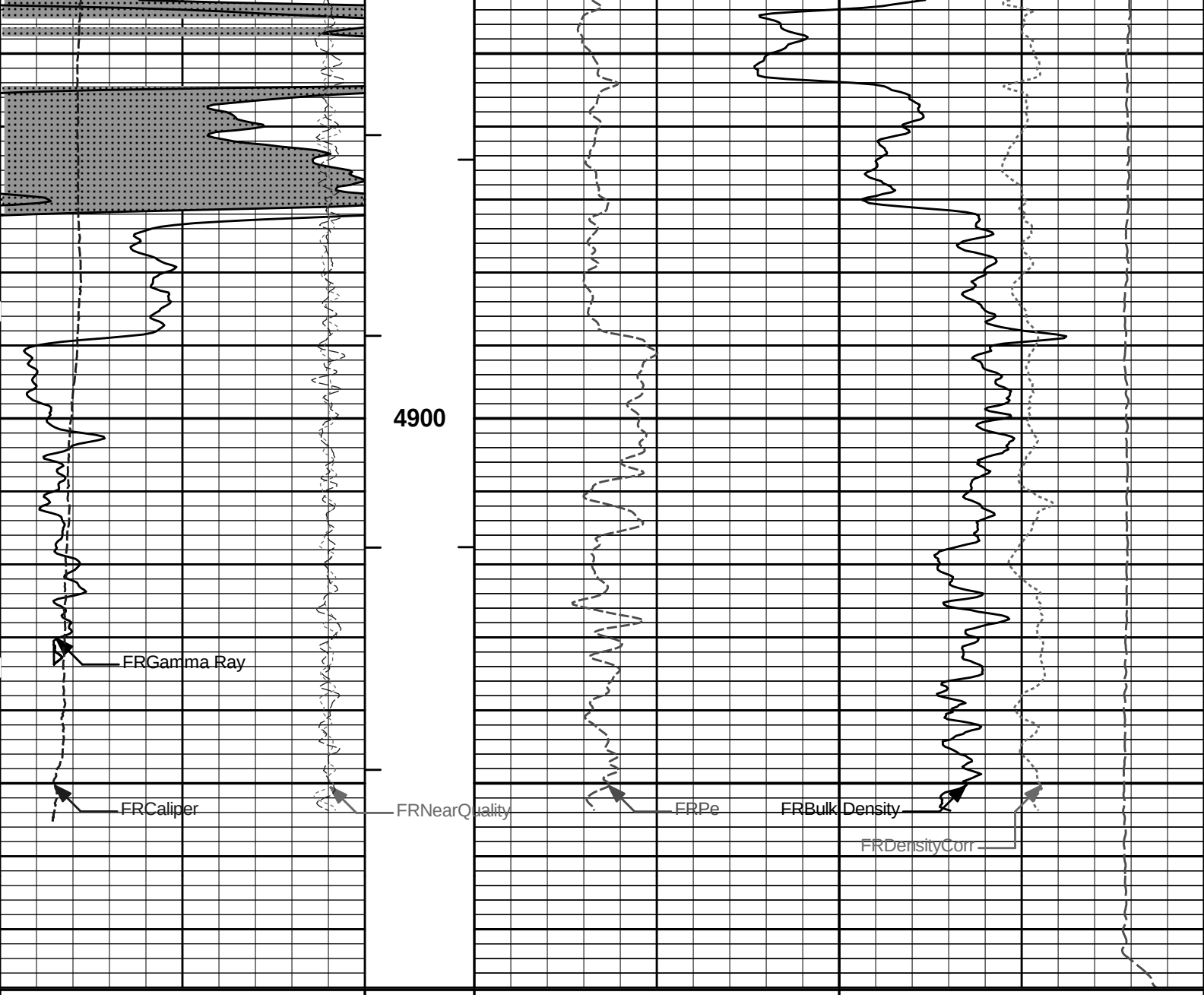
NearQuality
4000
4100


4200
4300
4400
Caliper
NearQuality


Gamma Ray
Caliper
NearQuality
Pe
Bulk Density
DensityCorr
4500
4600


4700
Caliper
NearQuality
4800



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

HALLIBURTON

Plot Time: 21-Jan-12 04:19:45
Plot Range: 3450 ft to 4978 ft
Data: SPICER_A_6\Well Based\DAQ-0001-003\
Plot File: \\-LOCAL-\SPICER_A_6\0001 SP-GTET-DSN-SDL-ACRT-CH\POROML\BULKD_5_MAIN_LIB

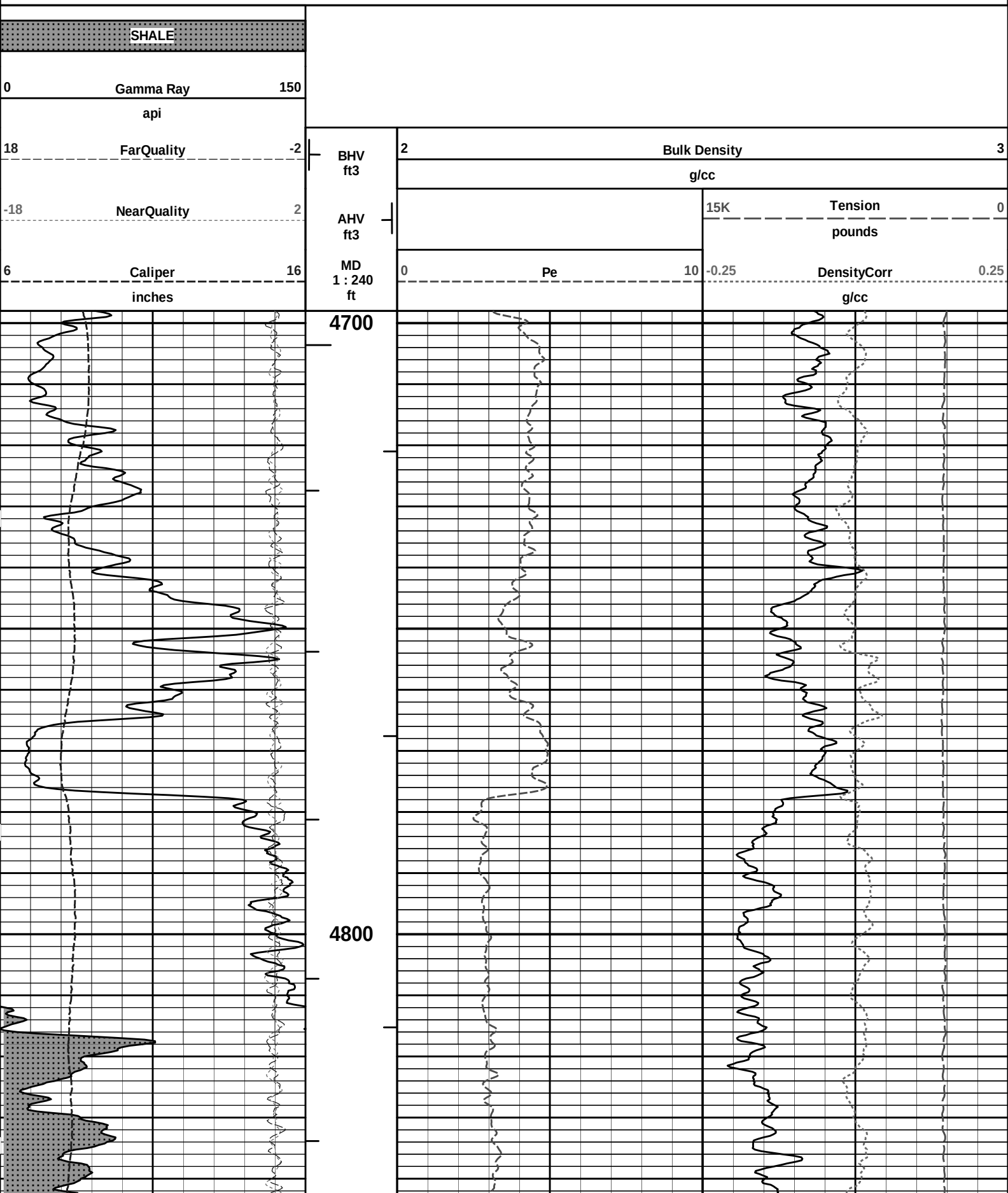
5 INCH MAIN LOG

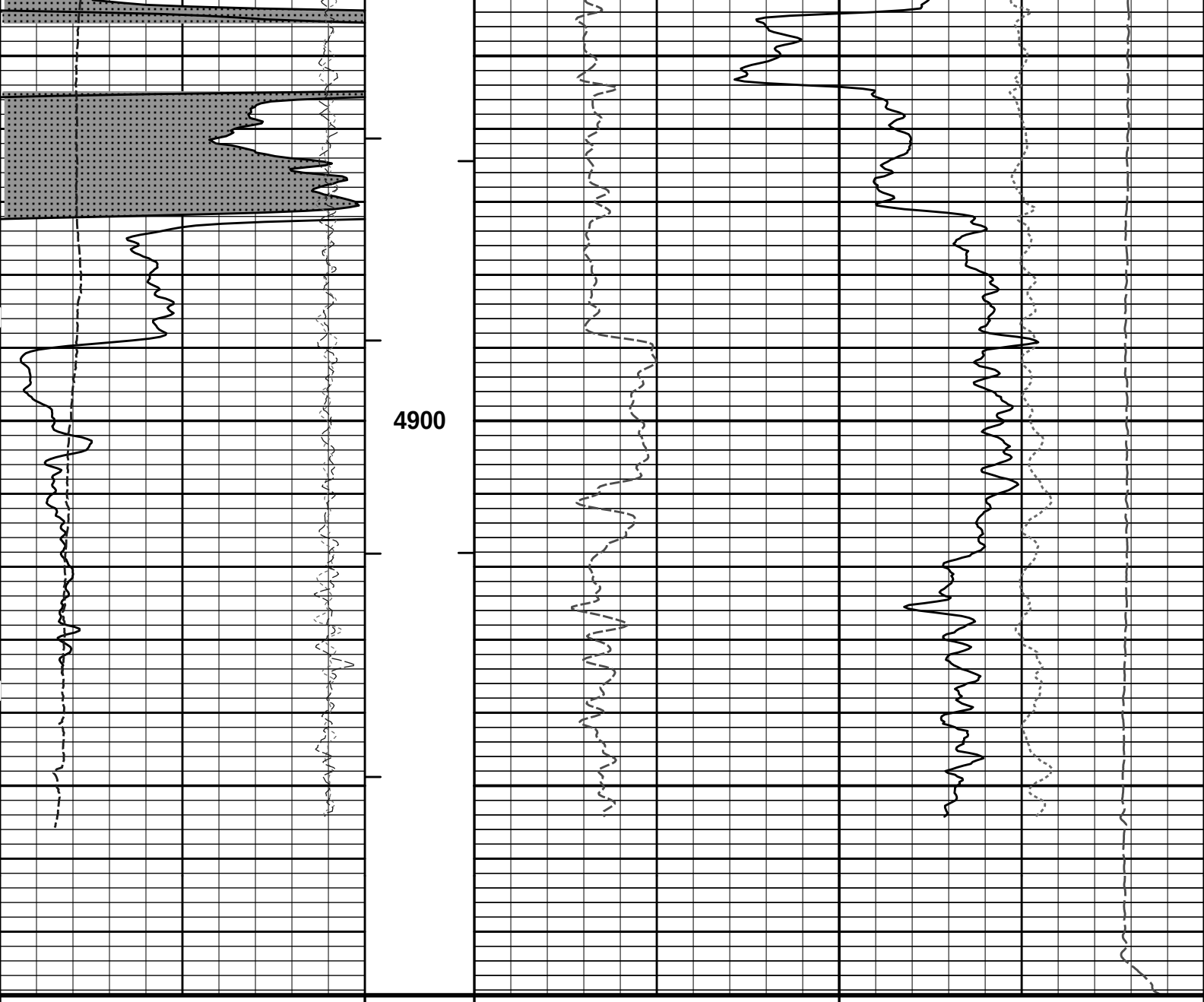
HALLIBURTON

Plot Time: 21-Jan-12 04:19:46

Plot Range: 4698 ft to 4978.58 ft
Data: SPICER_A_6\Well Based\DAQ-0001-002\
Plot File: \\-LOCAL-\SPICER_A_6\0001 SP-GTET-DSN-SDL-ACRT-CH\POROML\BULKD_5_REP_LIB

REPEAT SECTION





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

HALLIBURTON

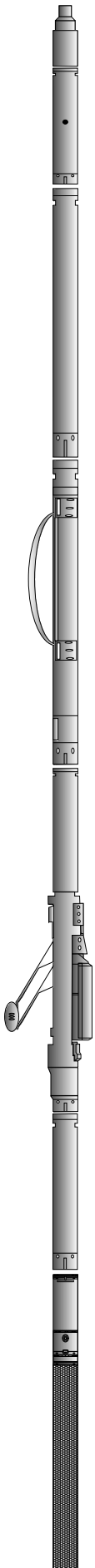
Plot Time: 21-Jan-12 04:19:47
Plot Range: 4698 ft to 4978.58 ft
Data: SPICER_A_6\Well Based\DAQ-0001-002\
Plot File: \\-LOCAL-\SPICER_A_6\0001 SP-GTET-DSN-SDL-ACRT-CH\POROML\BULKD_5_REP_LIB

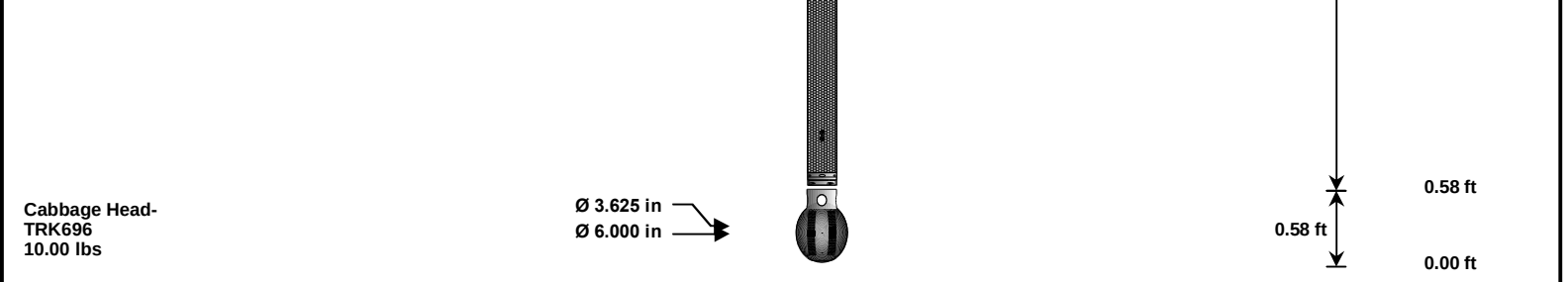
REPEAT SECTION

HALLIBURTON

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-001 60.00 lbs		Ø 3.625 in →		← SP @ 50.81 ft	3.74 ft	
						48.85 ft
GTET-11039640 165.00 lbs		Ø 3.625 in →			8.52 ft	
				← GammaRay @ 42.79 ft		
						40.33 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	
						30.64 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	
						19.83 ft
ACRt Instrument-I962 50.00 lbs		Ø 3.625 in →			5.03 ft	
						14.80 ft
				← Mud Resistivity @ 13.44 ft		
				← ACRt @ 9.46 ft		
ACRt Sonde-I962_S909 200.00 lbs		Ø 3.625 in →			14.22 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	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	300.00
SDLT	Spectral Density Tool	I43_M469	360.00	10.81		19.83	60.00
MICP	Microlog Pad	M469	8.00	1.00	*	22.33	60.00
SDLP	Density Insite Pad	P81	65.00	2.55	*	22.04	60.00
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			**1,128.60**	**54.51**			

* Not included in Total Length and Length Accumulation.

Data: SPICER_A_6\0001 SP-GTET-DSN-SDL-ACRT-CH\IDLE **Date: 21-Jan-12 02:52:01**

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name:	**GTET - 11039640**	**Reference Calibration Date:**	**07-Dec-11 15:03:32**
Engineer:	**C.PARKER**	**Calibration Date:**	**14-Dec-11 07:20:08**
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	33.0	32.2	api
Background + Calibrator	309.2	301.9	api
Calibrator	276.2	269.6	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name:	**GTET - 11039640**	**Reference Calibration Date:**	**14-Dec-11 07:20:08**
Engineer:	**C. MARLOWE**	**Calibration Date:**	**09-Jan-12 08:17:50**
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	32.2	52.3	api
Background + Calibrator	301.9	317.9	api
Calibrator	269.6	265.6	api

Shop	Field	Difference	Tolerance

Shop	Field	Difference	Tolerance
269.6	265.6	4.0	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name:	**DSNT - 11019643**	**Reference Calibration Date:**	**10-Jan-12 11:27:15**
Engineer:	**C.PARKER**	**Calibration Date:**	**10-Jan-12 11:39:12**
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: 64 degF
Min. Tool Housing Outside Diameter: 3.625 in

CALIBRATION CONSTANTS

Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	0.956	0.958	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):	0.2106	0.2110	0.0004	+/- 0.0020
Calibrated Ratio:	9.71	9.73	0.013	+/- 0.050

VERIFIER

Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0685	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 - 11019643**	**Reference Calibration Date:**	**10-Jan-12 11:39:12**
Engineer:	**C.PARKER**	**Calibration Date:**	**14-Jan-12 15:03:47**
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):	0.0685	0.0669	-0.0016	+/- 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_M469**	**Reference Calibration Date:**	**14-Jan-12 14:50:05**
Engineer:	**C.PARKER**	**Calibration Date:**	**14-Jan-12 14:54:52**

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

CALIBRATION COEFFICIENTS

Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-1712.42	-1661.35	-7000.00 - -1000.00
Pad Gain	0.0003876	0.0003856	0.000200 - 0.000600
Arm Offset	-219.07	-858.18	-5000.00 - 3000.00
Arm Gain	0.0004534	0.0005317	0.000300 - 0.000700
Arm Power	-0.000002321	-0.000007348	-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)	1.99	2.00	0.01	+/- 0.20
Medium Ring (in)	3.75	3.75	0.00	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.52	6.50	-0.02	+/- 0.20
Medium Ring (in)	8.09	8.25	0.16	+/- 0.20
Large Ring (in)	14.94	15.00	0.06	+/- 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 - I43_M469**	**Reference Calibration Date:**	**14-Jan-12 14:54:52**
Engineer:	**C.PARKER**	**Calibration Date:**	**20-Jan-12 09:28:55**
Software Version:	**WL INSITE R3.4.2 (Build 2)**	**Calibration Version:**	**1**

MEASURED CALIPER VALUES

Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.78	0.03	+/- 0.10
Ring Diameter	8.25	8.17	-0.08	+/- 0.15

PASS/FAIL SUMMARY

Pad Extension Check:	Passed
Diameter Check:	Passed

SPECTRAL DENSITY SHOP CALIBRATION

Tool Name:	**SDLT Pad - P81**	**Reference Calibration Date:**	**18-Dec-11 13:28:36**
Engineer:	**C.PARKER**	**Calibration Date:**	**18-Dec-11 13:46:05**
Software Version:	**WL INSITE R3.4.2 (Build 2)**	**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	1.0432	1.0339	0.90 - 1.10
Near Dens Gain	1.0146	1.0070	0.90 - 1.10
Near Peak Gain	1.0054	1.0040	0.90 - 1.10
Near Lith Gain	0.9915	0.9910	0.90 - 1.10
Far Bar Gain	1.0146	1.0125	0.90 - 1.10
Far Dens Gain	1.0014	1.0016	0.90 - 1.10
Far Peak Gain	0.9987	0.9949	0.90 - 1.10
Far Lith Gain	0.9754	0.9741	0.90 - 1.10
Near Bar Offset	-0.2274	-0.1424	NONE
Near Dens Offset	0.0248	0.0946	NONE
Near Peak Offset	0.1097	0.1223	NONE
Near Lith Offset	0.2199	0.2219	NONE
Far Bar Offset	-0.0343	-0.0144	NONE
Far Dens Offset	0.0752	0.0713	NONE
Far Peak Offset	0.0659	0.0973	NONE
Far Lith Offset	0.2281	0.2354	NONE
Near Bar Background	827.91	829.51	700 - 1450
Near Dens Background	271.16	271.09	230 - 480
Near Peak Background	119.04	116.98	100 - 210
Near Lith Background	147.20	147.17	125 - 260
Far Bar Background	537.81	541.78	450 - 900
Far Dens Background	213.23	212.59	175 - 345
Far Peak Background	85.08	85.68	70 - 140
Far Lith Background	88.00	87.62	75 - 145

CALIBRATION BLOCK SUMMARY

Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.683	1.684	0.001	+/- 0.015
Pe	2.559	2.557	-0.002	+/- 0.150
ALUMINUM				
Density (g/cc)	2.597	2.598	0.001	+/- 0.01500
Pe	3.111	3.126	0.015	+/- 0.150

TOOL SUMMARY

Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	0.0013	+/- 0.0110	0.0015	+/- 0.0140
Magnesium Block	-0.0004	+/- 0.0110	-0.0005	+/- 0.0140
Aluminum Block	-0.0006	+/- 0.0110	0.0009	+/- 0.0140
Resolution	9.46	6.00 - 11.50	9.06	6.00 - 11.50
Internal Verifier(B+D+P+L)	1365	1200 - 2700	928	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 - P81**	**Reference Calibration Date:**	**18-Dec-11 13:46:05**
Engineer:	**C.PARKER**	**Calibration Date:**	**20-Jan-12 09:28:20**
Software Version:	**WL INSITE R3.4.2 (Build 2)**	**Calibration Version:**	**1**

Pad Temperature: 67.6 degF

DENSITY FIELD CALIBRATION SUMMARY

Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1364.754	1365.916	1.162	14.932
Far (B+D+P+L) cps	927.674	925.255	-2.419	16.486
Near Resolution	9.46	9.43	-0.030	0.50
Far Resolution	9.06	9.06	0.000	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 - M469**	**Reference Calibration Date:**	**12-Oct-11 12:02:17**
Engineer:	**C.PARKER**	**Calibration Date:**	**20-Jan-12 09:25:17**
Software Version:	**WL INSITE R3.4.2 (Build 2)**	**Calibration Version:**	**1**

CALIBRATION COEFFICIENT SUMMARY

Measurement	Micro Log Normal		Micro Log Lateral		
	Measured	Calibrated	Measured	Calibrated	Units
Tool Zero	-0.07	-0.07	-0.01	-0.06	ohmm
Calibration Point #1	-0.01	0.00	0.05	0.00	ohmm
Calibration Point #2	19.93	20.00	20.28	20.00	ohmm
Internal Reference	19.86	19.93	20.23	19.95	ohmm

Measurement	Micro Log Normal Tool Value	Micro Log Lateral Tool Value	Units
Tool Zero	-0.77	0.61	V
Calibration Point #1	17.31	19.88	V
Calibration Point #2	5353.22	7019.07	V
Internal Reference	5334.39	7001.06	V

MICRO LOG FIELD CHECK

Tool Name:	**Microlog Pad - M469**	**Reference Calibration Date:**	**20-Jan-12 09:25:17**
Engineer:	**C.PARKER**	**Calibration Date:**	**20-Jan-12 09:26:05**
Software Version:	**WL INSITE R3.4.2 (Build 2)**	**Calibration Version:**	**1**

Measurement	Micro Log Normal		Micro Log Lateral		
	Shop	Field	Shop	Field	Units
Tool Zero	-0.07	-0.08	-0.06	-0.06	ohmm
Internal Reference	19.93	19.93	19.95	19.95	ohmm

Summary

Signal	Shop	Field	Difference	Tolerence

Microlog Normal	19.93	19.93	0.00	+/- 0.80
Microlog Lateral	19.95	19.95	0.00	+/- 0.80

CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11039640						
Gamma Ray Calibrator	269.6	265.6	----------	4.0	+/- 9.00	api
DSNT-11019643						
Snow-Block Porosity	0.0685	0.0669	----------	0.0016	+/- 0.0150	decp
SDLT-I43_M469						
Pad Extension	3.75	3.78	----------	-0.03	+/-0.10	in
Ring Diameter	8.25	8.17	----------	0.080	+/-0.15	in
SDLT Pad-P81						
Near(B+D+P+L)	1364.754	1365.916	----------	-1.162	+/-14.932	cps
Far(B+D+P+L)	927.674	925.255	----------	2.419	+/-16.486	cps
Microlog Pad-M469						
MicroLog Normal	19.93	19.93	----------	0.00	+/-0.80	ohmm
MicroLog Lateral	19.95	19.95	----------	0.00	+/-0.80	ohmm

Data: SPICER_A_6\0001 SP-GTET-DSN-SDL-ACRT-CH\IDLE **Date: 21-Jan-12 02:53:26**

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PARAMETERS REPORT

Depth ((ft))	Tool Name	Mnemonic	Description	Value	Units
TOP					
	DSNT	DNOK	Process DSN?	No	
	SDLT Pad	DNOK	Process Density?	No	
	Microlog Pad	MLOK	Process MicroLog Outputs?	No	
3000.00					
	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	9.500	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	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	4983.00	ft
	SHARED	BHT	Bottom Hole Temperature	115.0	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	

BOTTOM

Data: SPICER_A_6\0001 SP-GTET-DSN-SDL-ACRT-CH\IDLE **Date: 21-Jan-12 02:56:25**

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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

Data: SPICER_A_6\0001 SP-GTET-DSN-SDL-ACRT-CH\IDLE **Date: 21-Jan-12 02:52:57**

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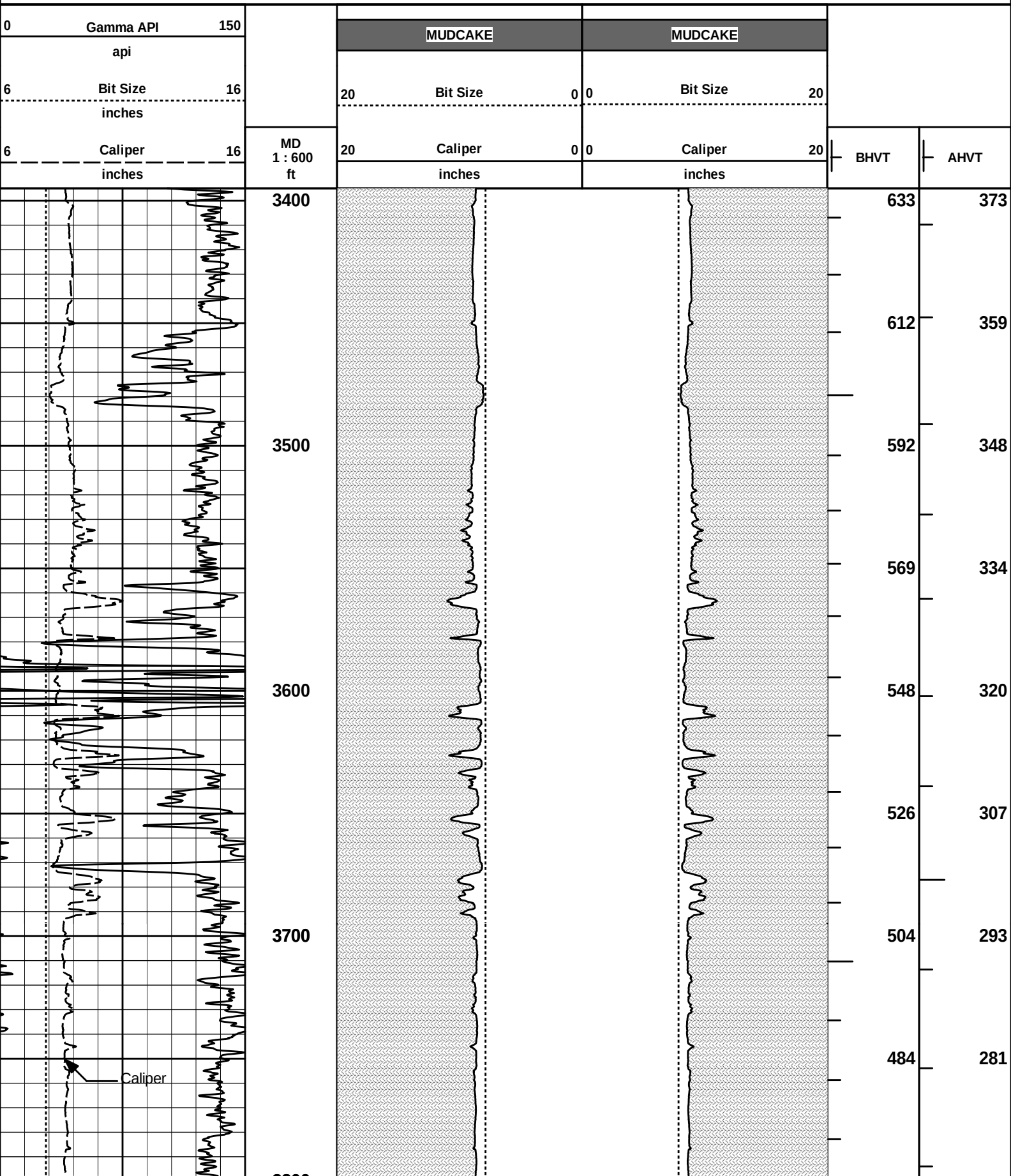
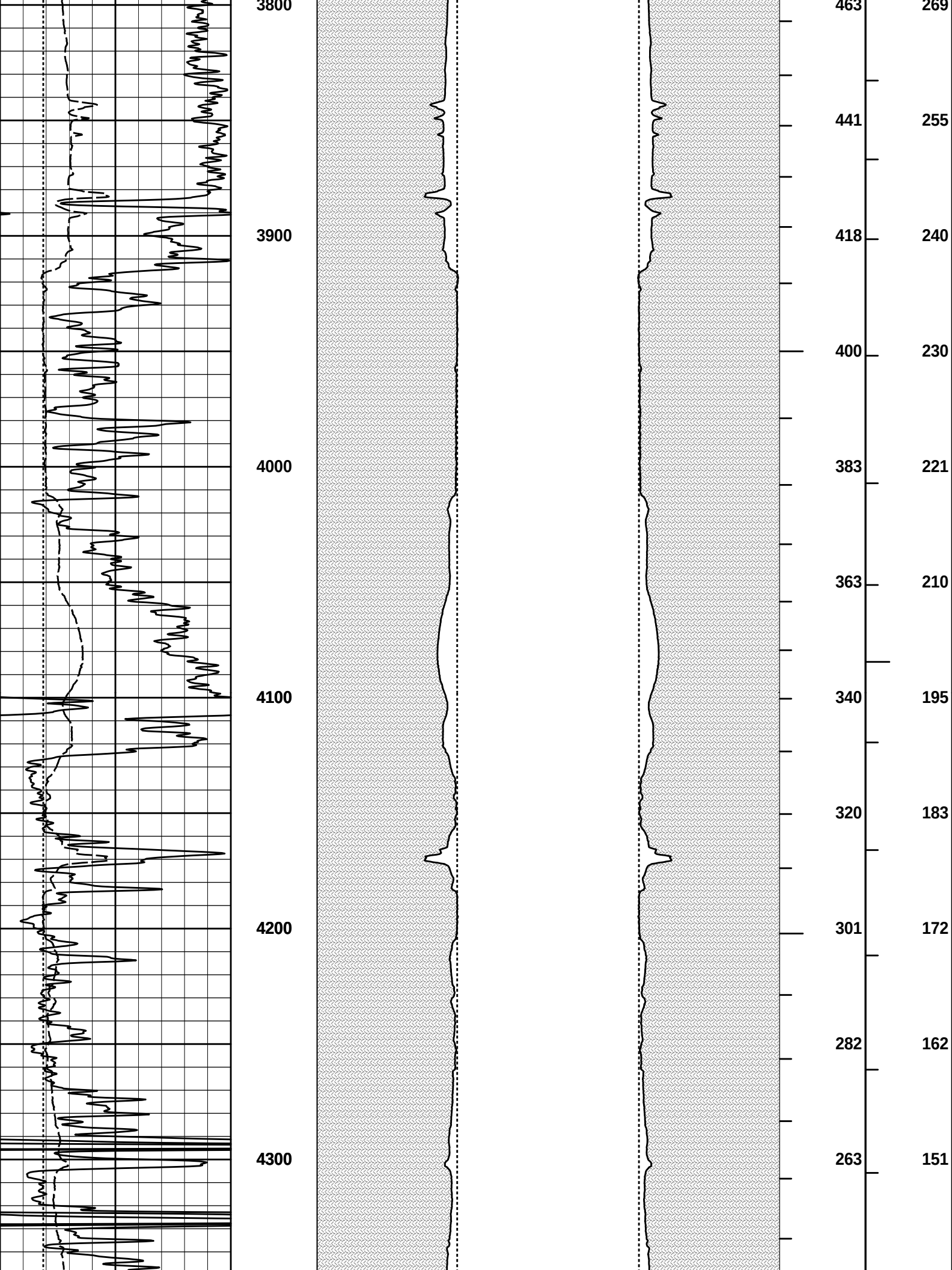
Plot Time: 21-Jan-12 04:19:47
Plot Range: 3395 ft to 4978 ft
Data: SPICER_A_6\Well Based\DAQ-0001-003\
Plot File: \\-LOCAL-\SPICER_A_6\0001 SP-GTET-DSN-SDL-ACRT-CH\POROML\AHV_2_IQ_LIB

ANNULAR HOLE VOLUME PLOT

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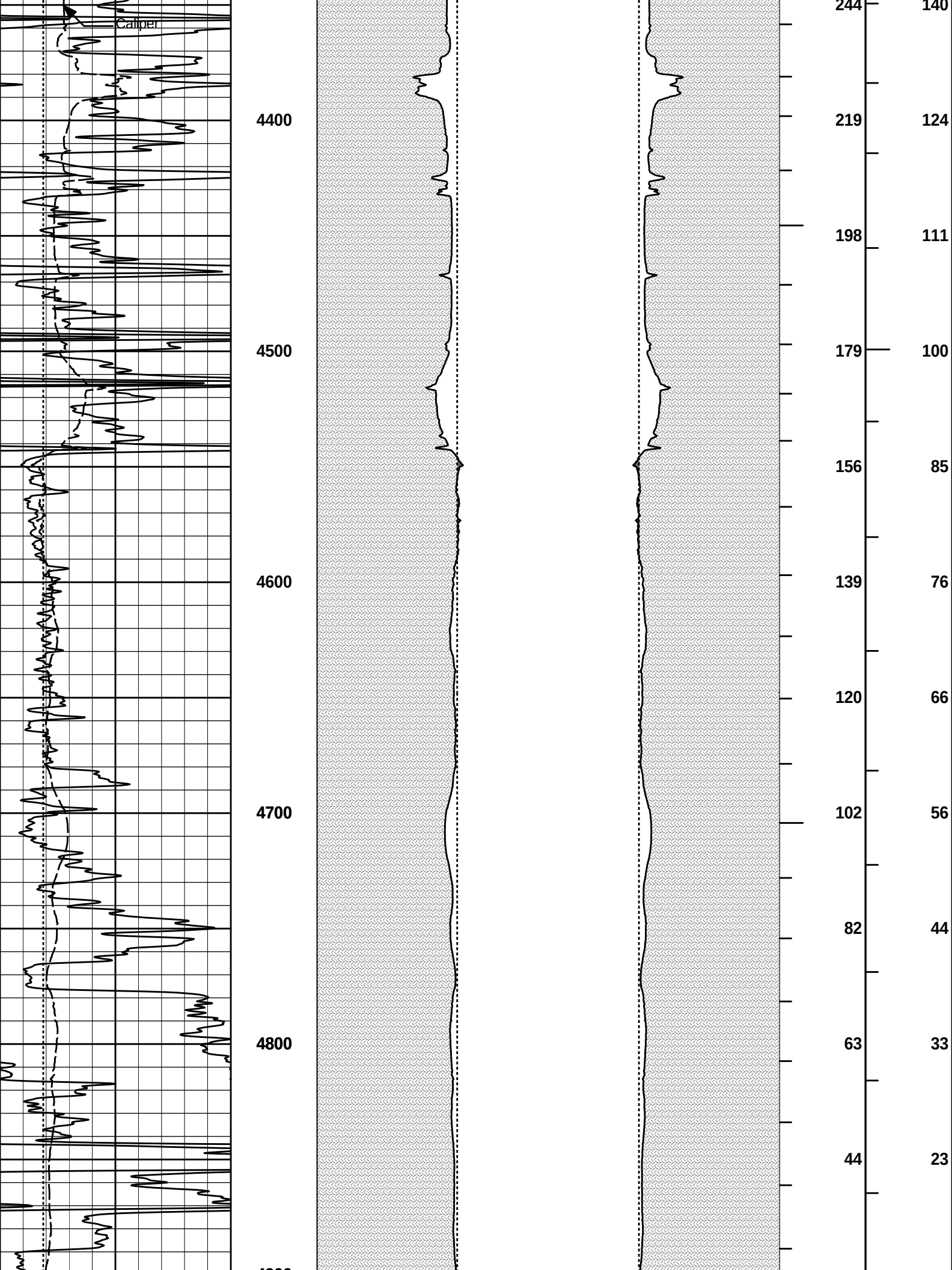
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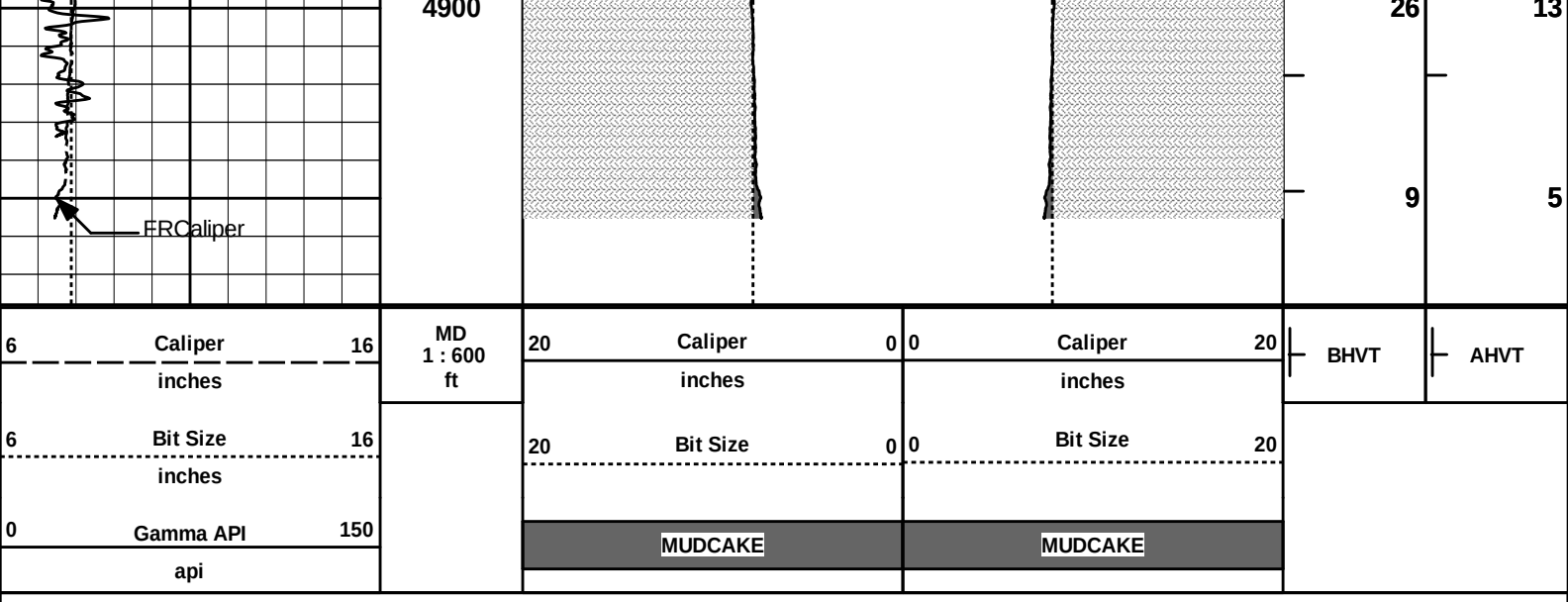

HALLIBURTON

Plot Time: 21-Jan-12 04:19:50
Plot Range: 3395 ft to 4978 ft
Data: SPICER_A_6\Well Based\DAQ-0001-003
Plot File: \\-LOCAL-\SPICER_A_6\0001 SP-GTET-DSN-SDL-ACRT-CH\POROML\AHV_2_IQ_LIB

ANNULAR HOLE VOLUME PLOT

COMPANY	**AGV CORP**		
WELL	**SPICER A-6**		
FIELD	**TRAFFAS**		
COUNTY	**BARBER**	STATE	**KANSAS**

HALLIBURTON

DUAL SPACED NEUTRON
SPECTRAL DENSITY
MICRO LOG