

HALLIBURTON

SPECTRAL DENSITY DUAL SPACED NEUTRON LOG

COMPANY		OXY USA INC	
WELL		HENTSCHEL C-2	
FIELD		MUSTANG EAST	
COUNTY		MORTON	
STATE		KANSAS	
Permanent Datum	GL	Elev. 3523.0 ft	
Log measured from	KB	D.F.	3536.0 ft
Drilling measured from	KB	G.L.	3523.0 ft
Date		03-Sep-12	
Run No.		ONE	
Depth - Driller		3950.00 ft	
Depth - Logger		3910.0 ft	
Bottom - Logged Interval		3866.0 ft	
Top - Logged Interval		3000.0 ft	
Casing - Driller		8.625 in @ 1384.0 ft	
Casing - Logger		1384.0 ft	
Bit Size		7.875 in @	
Type Fluid in Hole		WATER BASED MUD	
Density	Viscosity	9.1 ppq	46.00 s/qt
PH	Fluid Loss	10.10 pH	8.4 cpm
Source of Sample		FLOWLINE	
Rm @ Meas. Temperature		0.700 ohmm @ 75.00 degF	@
Rmf @ Meas. Temperature		0.63 ohmm @ 75.00 degF	@
Rmc @ Meas. Temperature		0.950 ohmm @ 75.00 degF	@
Source Rmf	Rmc	MEASURED	MEASURED
Rm @ BHT		0.71 ohmm @ 75.0 degF	@
Time Since Circulation		8.0 hr	
Time on Bottom		03-Sep-12 20:02	
Max. Rec. Temperature		123.0 degF @ 3910.0 ft	@
Equipment	Location	10782954	LIBERAL
Recorded By		J. BOLLOW	
Witnessed By		J. GILL	

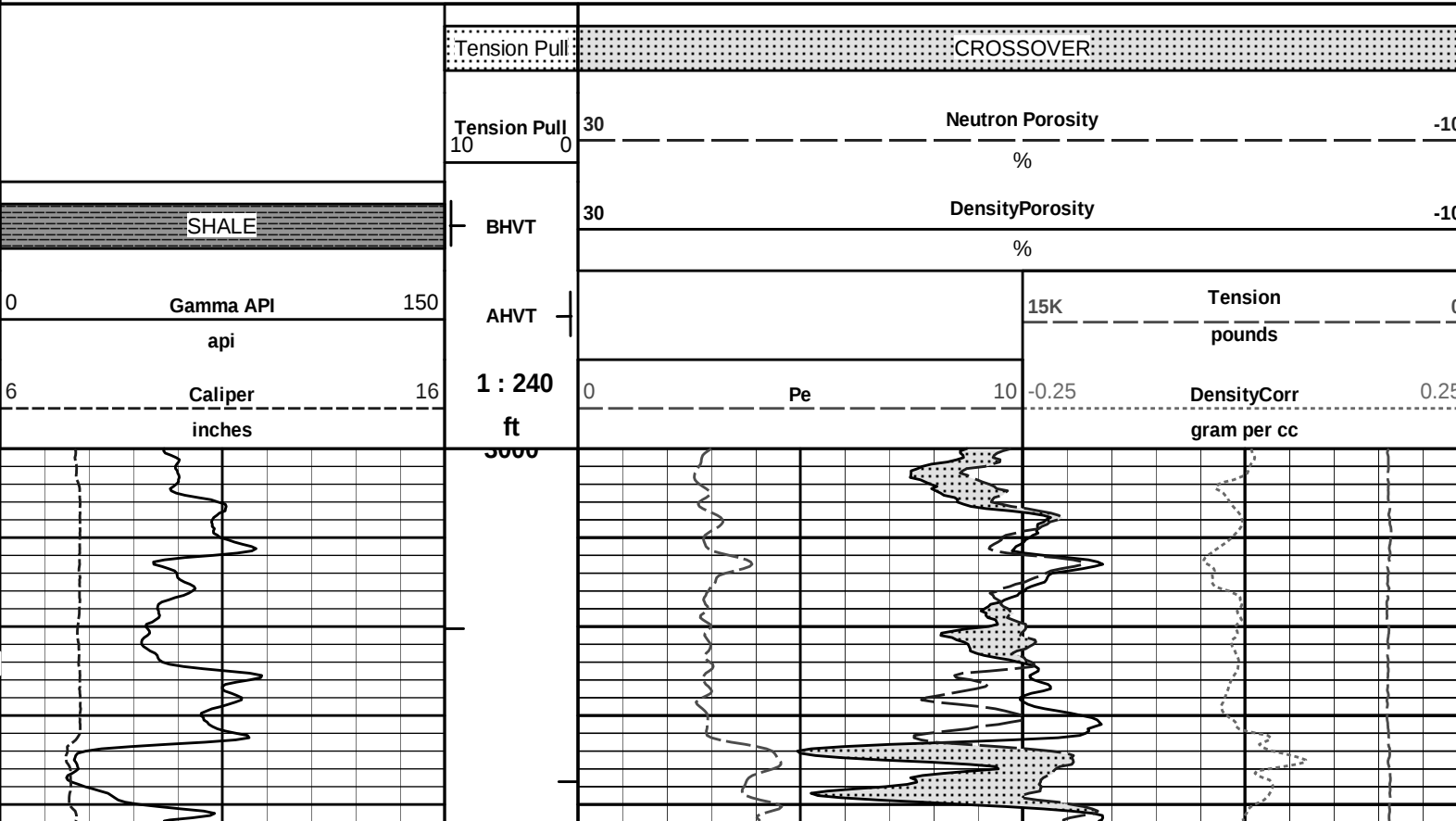
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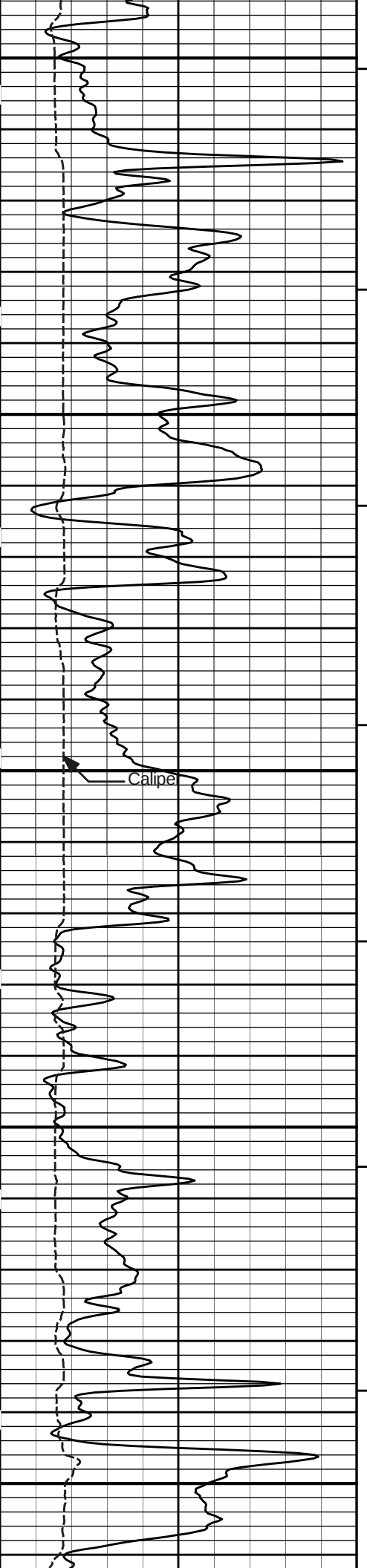
Service Ticket No.: 9788870				API Serial No.: 15-129-21941				PGM Version: WL INSITE R3.6.0 (Build 3)											
CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE						RESISTIVITY SCALE CHANGES													
Date	Sample No.					Type Log	Depth	Scale Up Hole	Scale Down Hole										
Depth-Driller																			
Type Fluid in Hole																			
Density	Viscosity																		
Ph	Fluid Loss																		
Source of Sample						RESISTIVITY EQUIPMENT DATA													
Rm @ Meas. Temp		@		@		Run No.	Tool Type & No.	Pad Type	Tool Pos.	Other									
Rmf @ Meas. Temp.		@		@															
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.	M73803_P90			Serial No.	10735145						
Model No.	GTET			Model No.				Model No.	SDLT-I			Model No.	DSNT-I						
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	CS137			Source Type	AM241BE						
Length	8'			LSA [Y/N]				Serial No.	5073GW			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			

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	3910	3000	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 REPORTED AT 2500 MG/L														
LCM REPORTED AT 8 LB/BBL														
GTET-DSNT-SDLT-BSAT-ACRT RUN IN COMBINATION														
TODAY'S CREW: F. VILLA & J. ALBERTS														
THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES LIBERAL, KS. 620-624-8123														
HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR RECOMMENDATIONS AGREES THAT HALLIBURTON IS NOT RESPONSIBLE EXCEPT WHERE DUE TO GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, FOR ANY LOSS, DAMAGES, OR EXPENSES RESULTING FROM THE USE THEREOF.														
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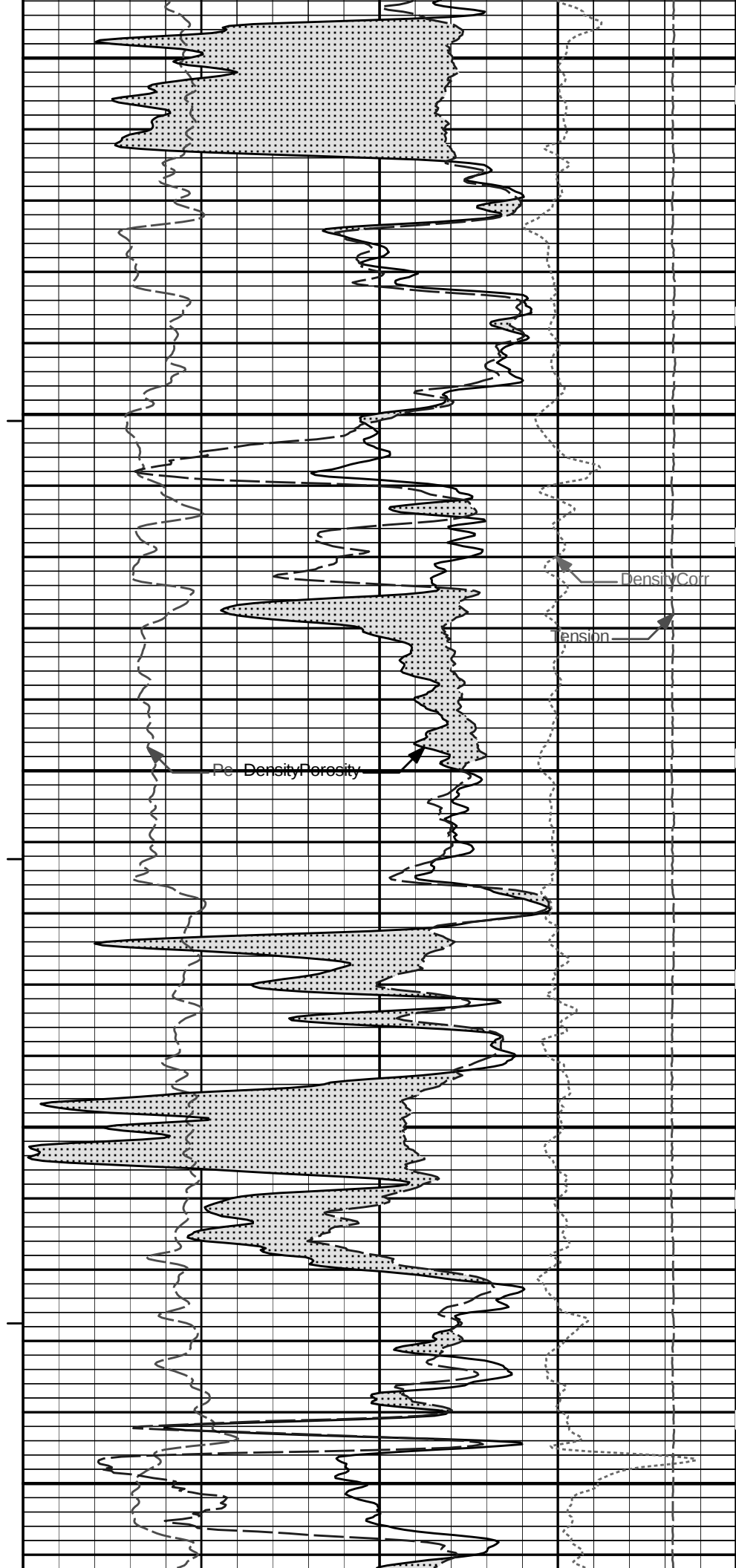
5 INCH MAIN LOG

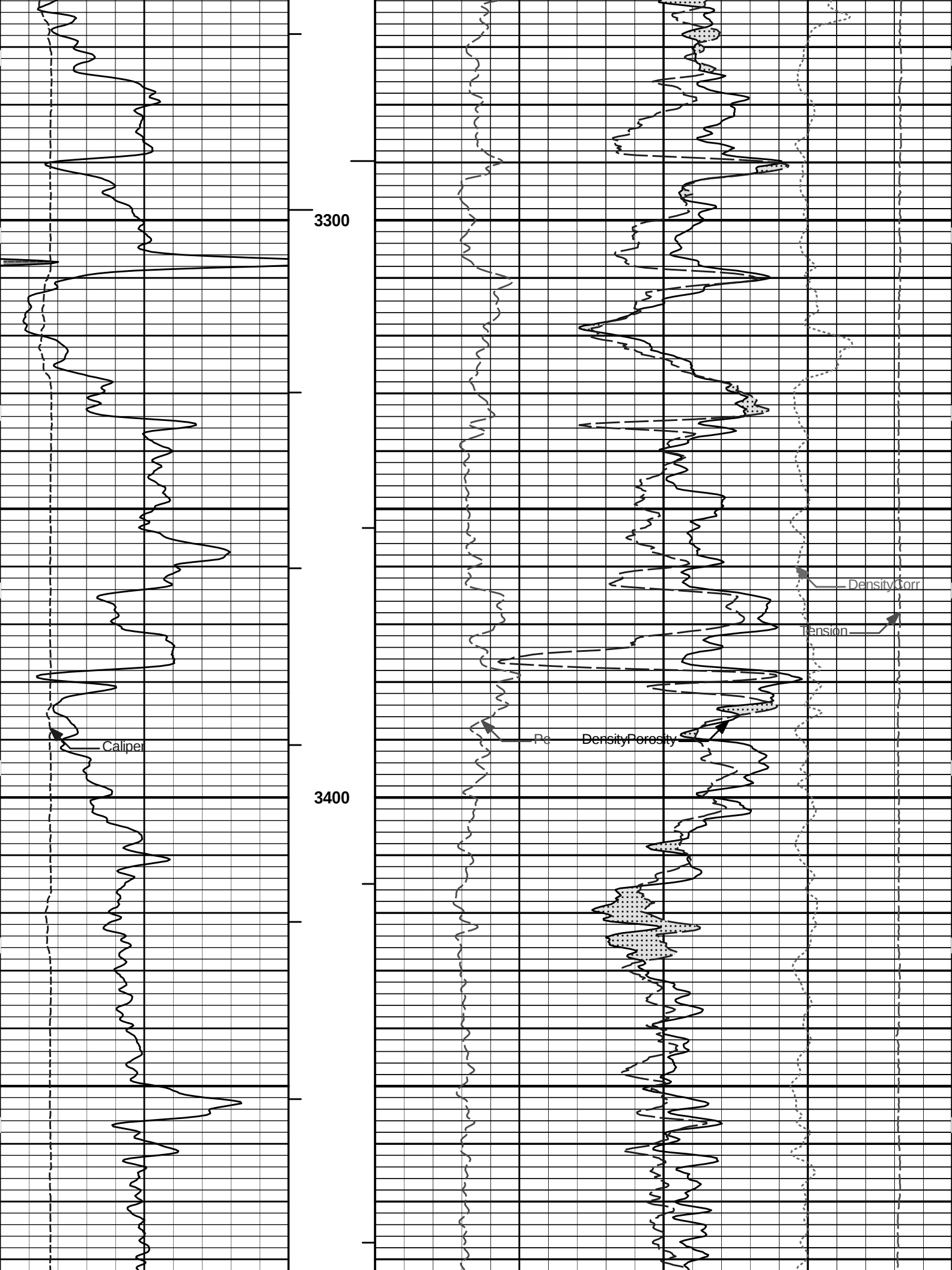


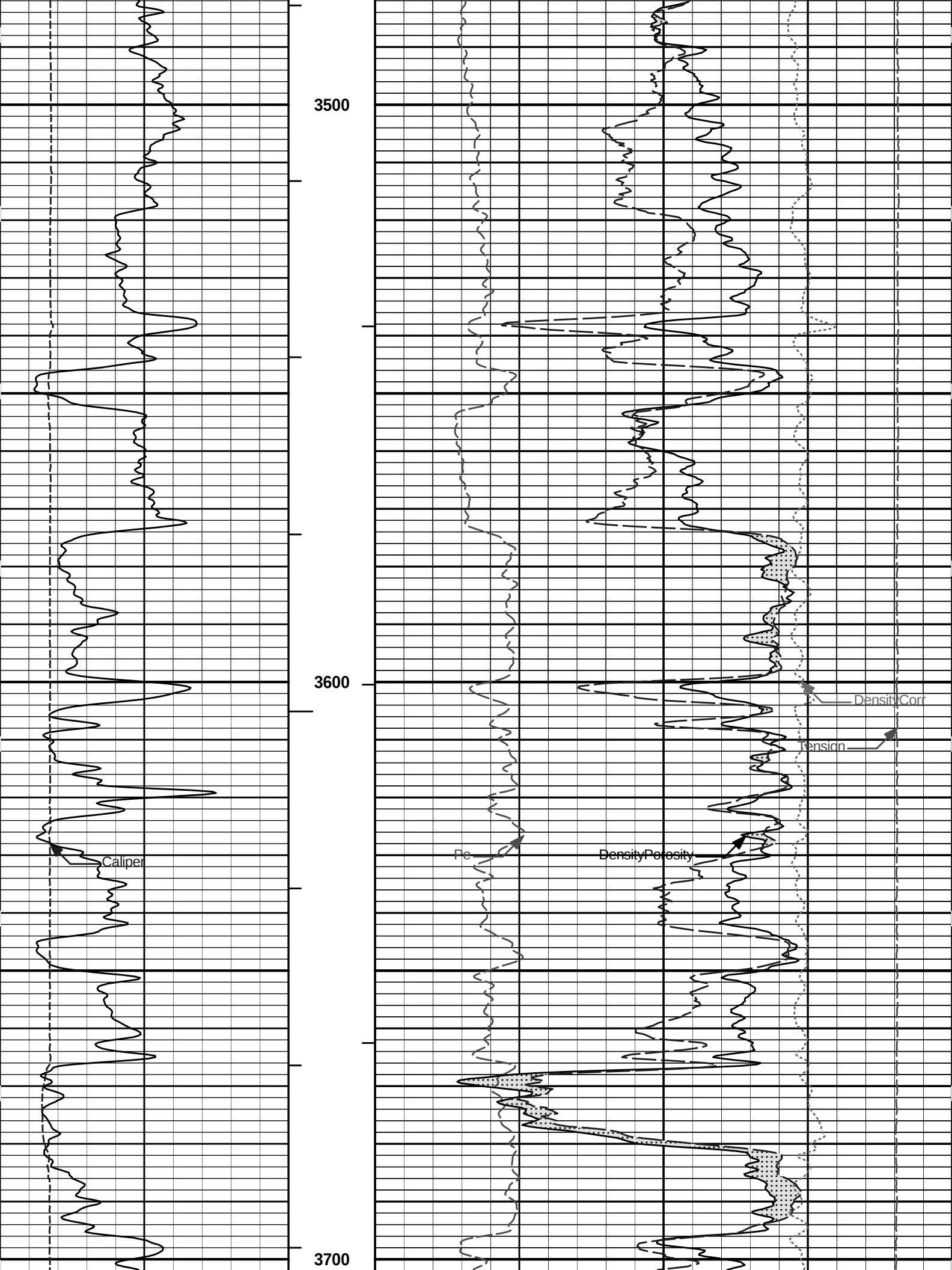


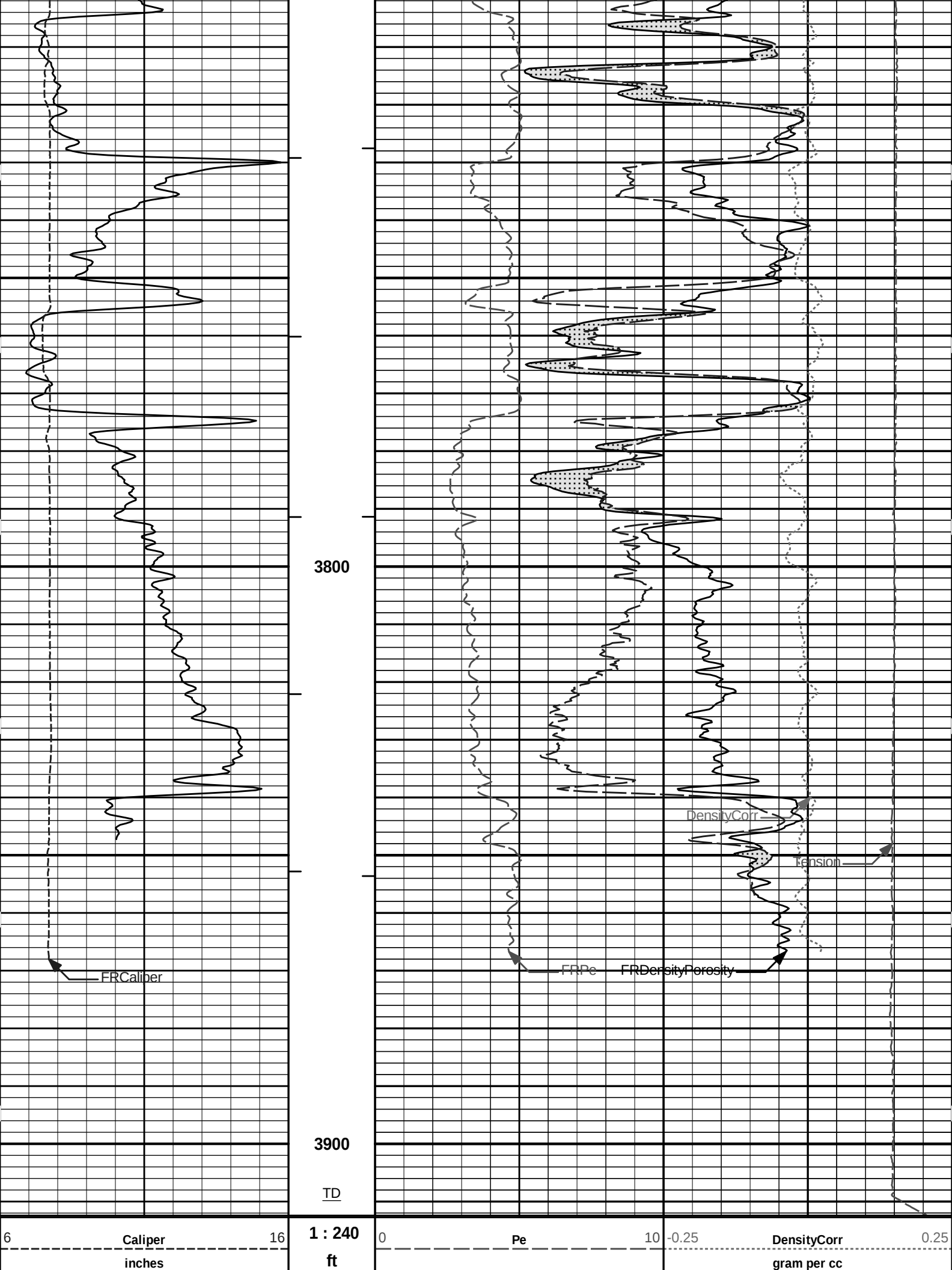
3100

3200









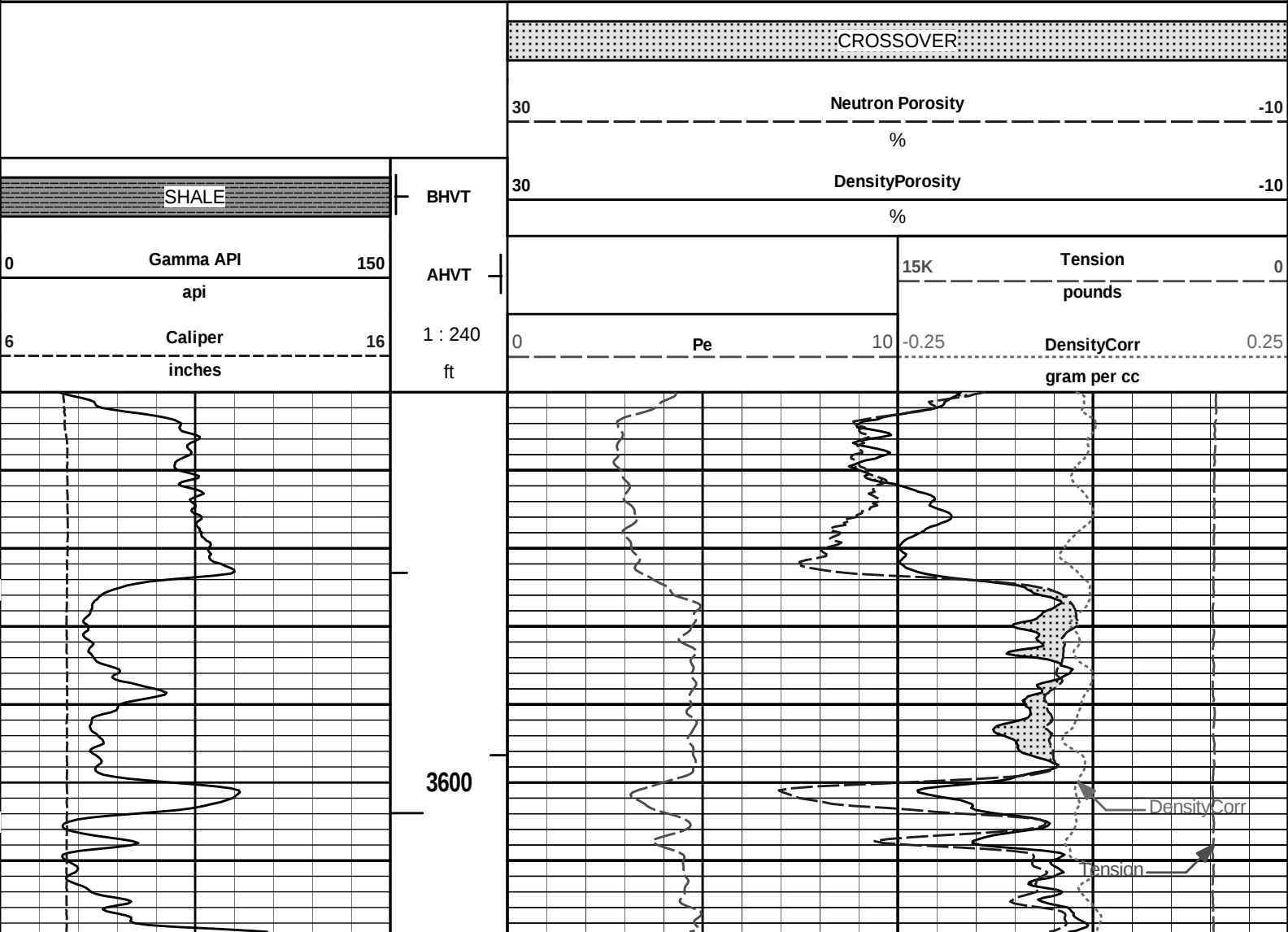
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	api					pounds	
	SHALE		BHVT	30	DensityPorosity		-10
					%		
			Tension Pull	30	Neutron Porosity		-10
		10	0		%		
			Tension Pull		CROSSOVER		

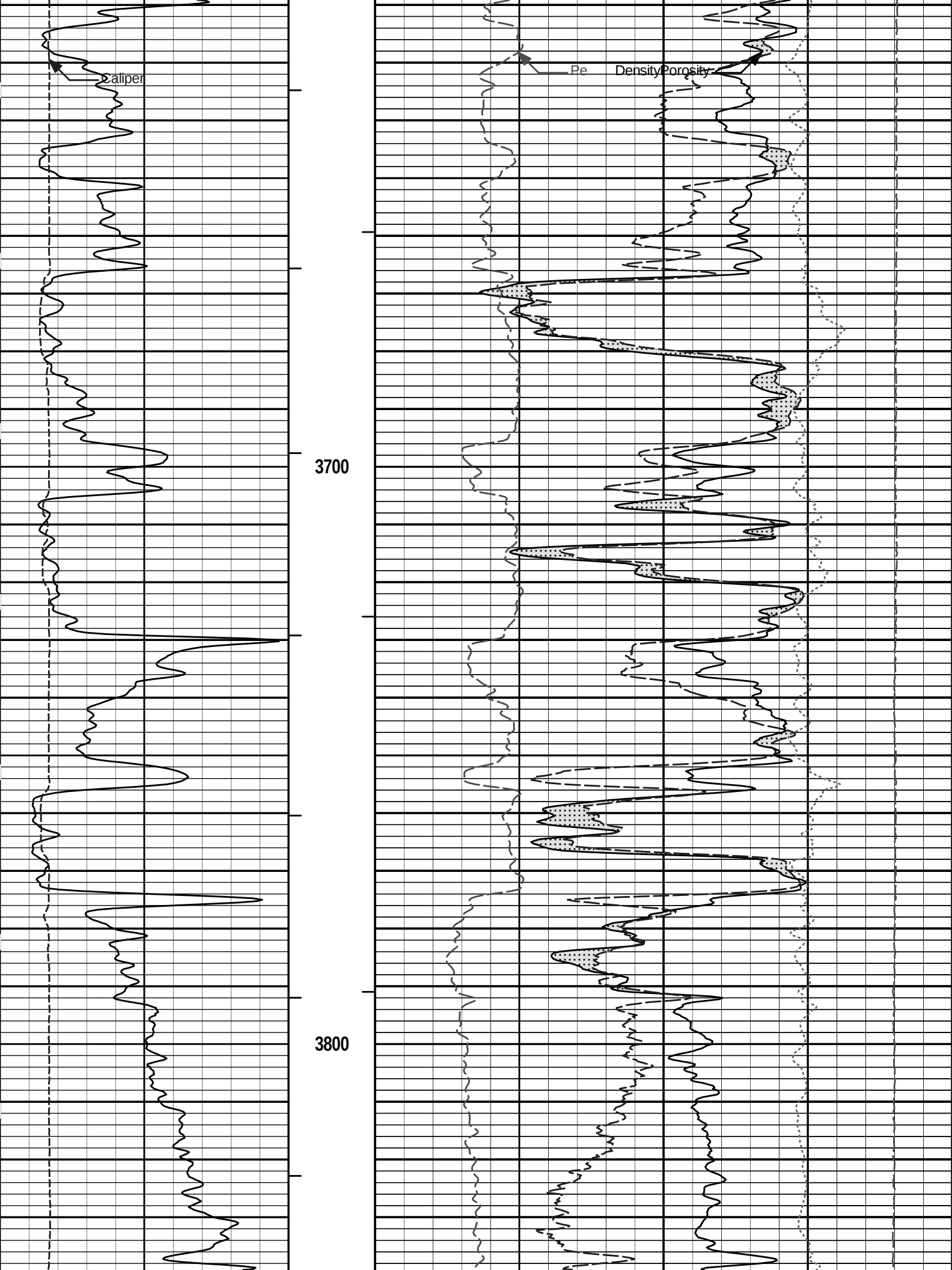
HALLIBURTON

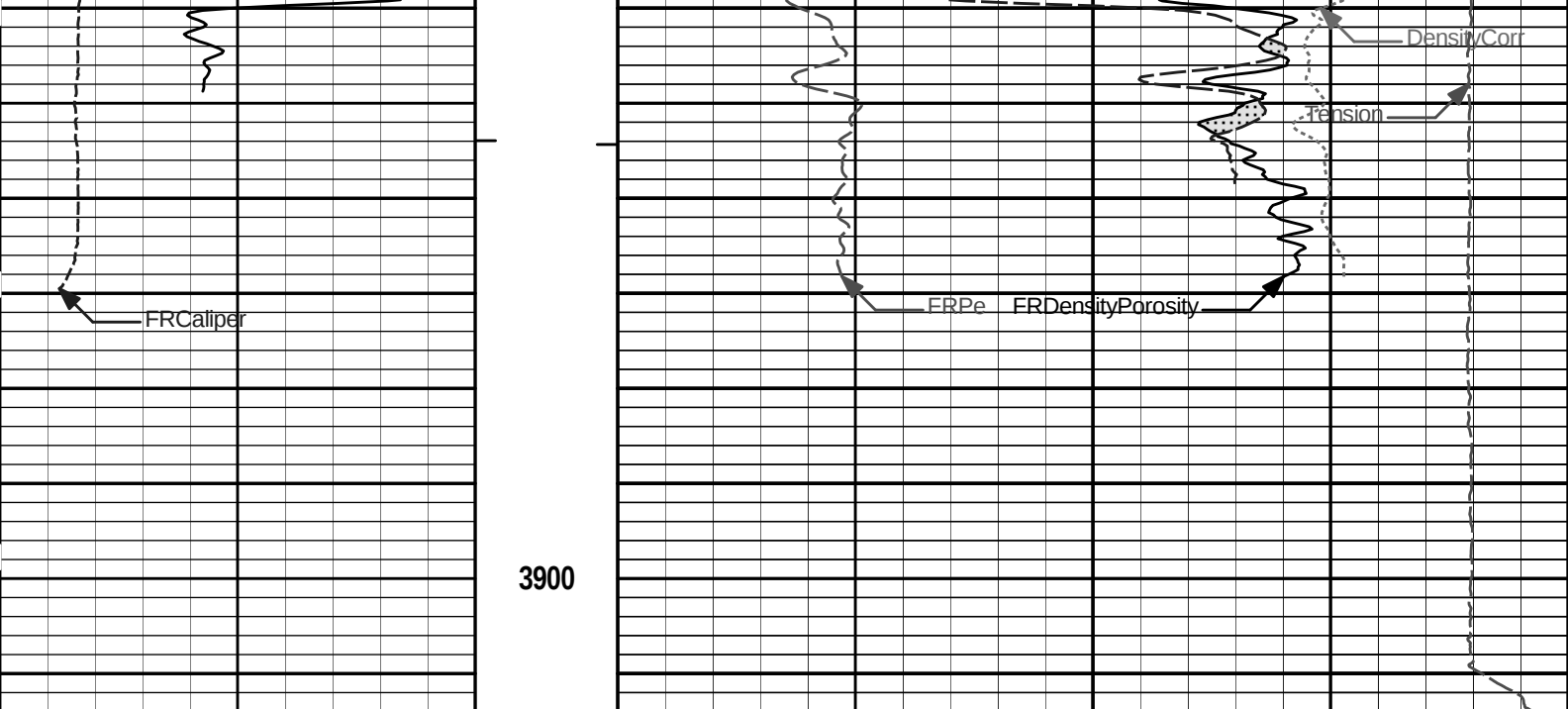
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Plot Range: 3000 ft to 3912.42 ft
Data: HENTSCHEL_C_2\Well Based\DETAIL\
Plot File: \\PORO\Poro_IQ_5_MAIN_LIB

5 INCH MAIN LOG

HALLIBURTON	Plot Time: 03-Sep-12 23:14:21 Plot Range: 3550 ft to 3913.92 ft Data: HENTSCHEL_C_2\Well Based\REPEAT\ Plot File: \\PORO\Poro_IQ_5_REP_LIB
REPEAT SECTION	







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
					%				
				30	Neutron Porosity				-10
					%				
					CROSSOVER				

HALLIBURTON

Plot Time: 03-Sep-12 23:14:22
Plot Range: 3550 ft to 3913.92 ft
Data: HENTSCHEL_C_2\Well Based\REPEAT\
Plot File: \\PORO\Porosity_Q_5_REP_LIB

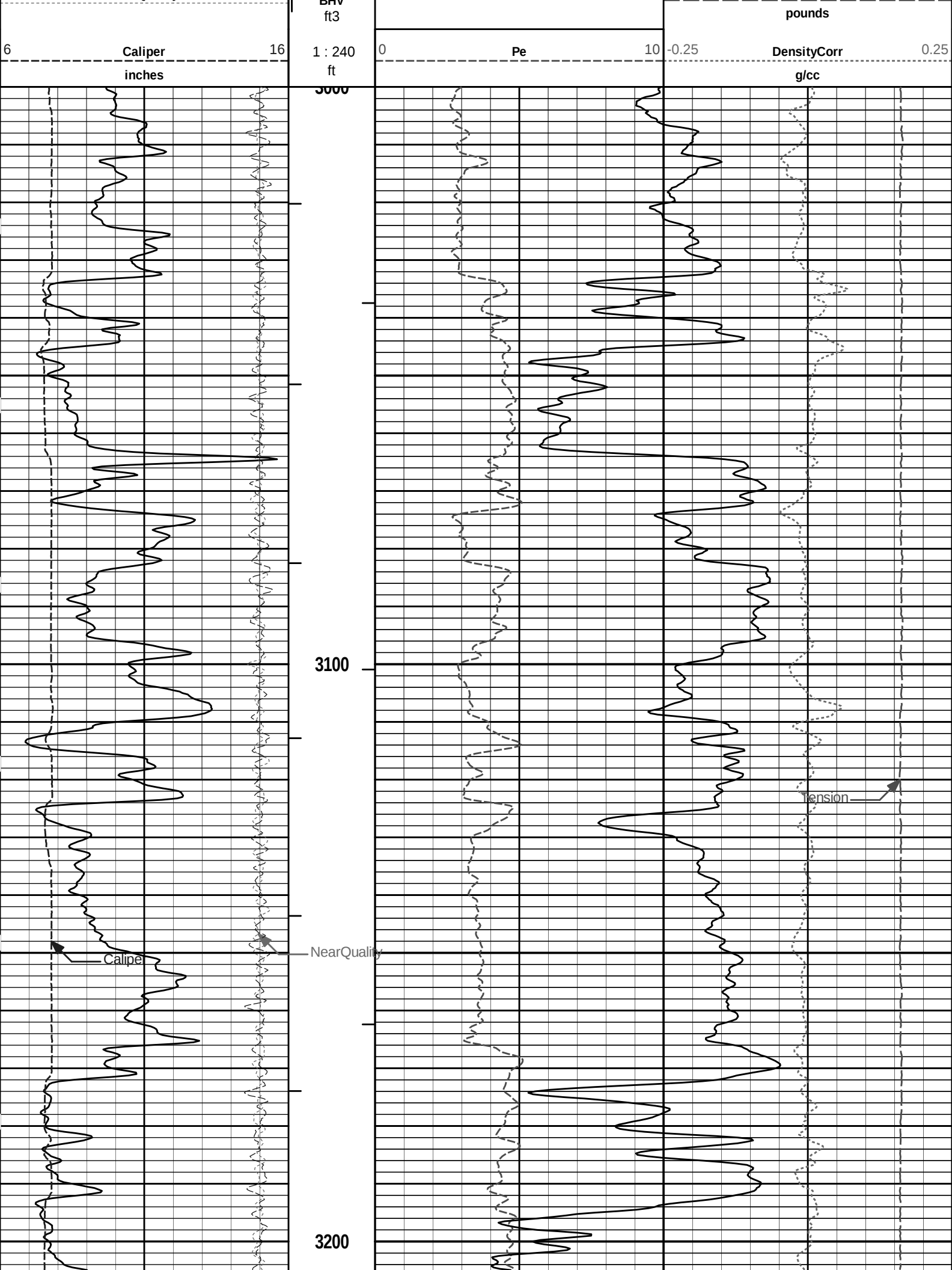
REPEAT SECTION

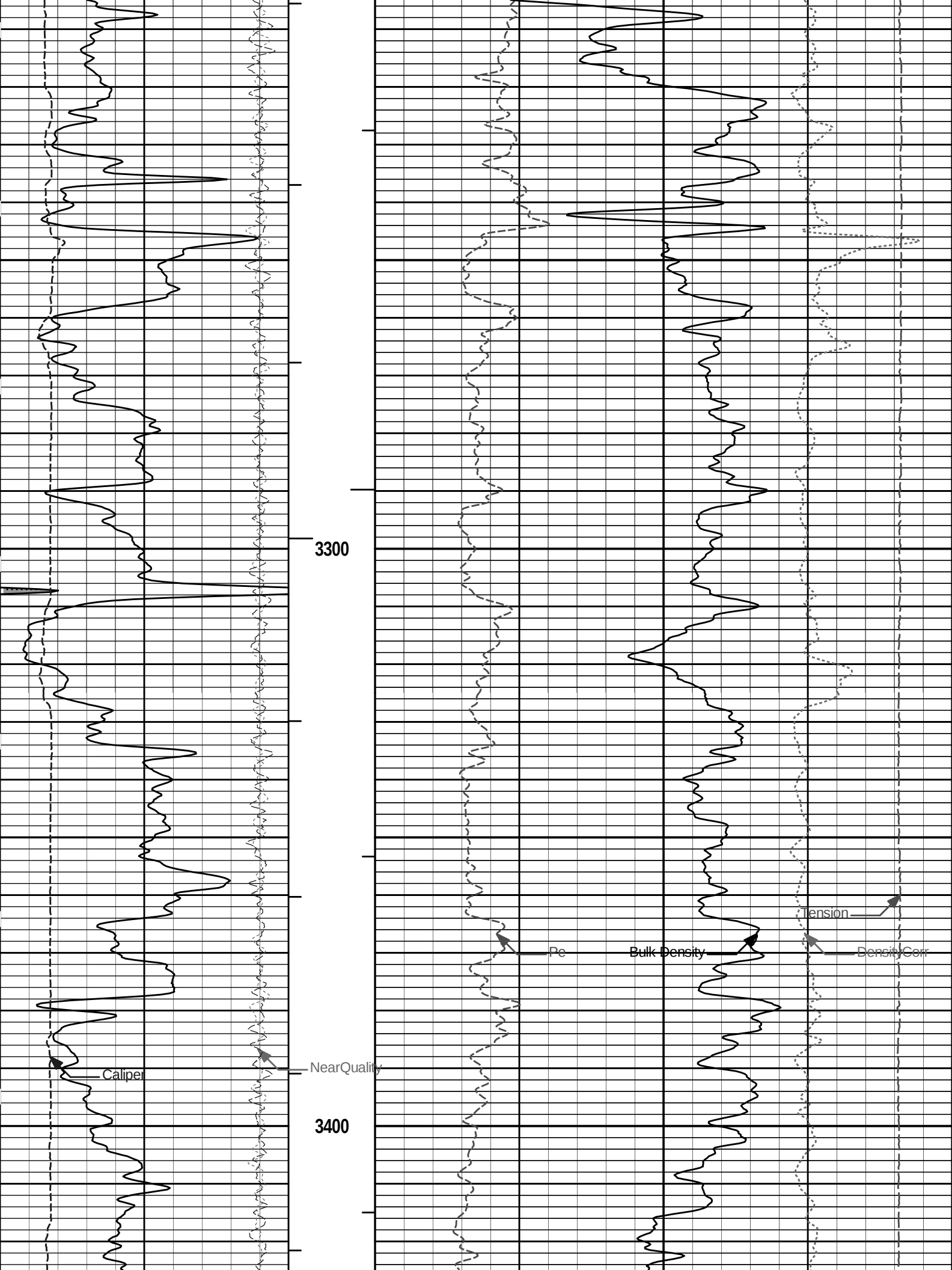
HALLIBURTON

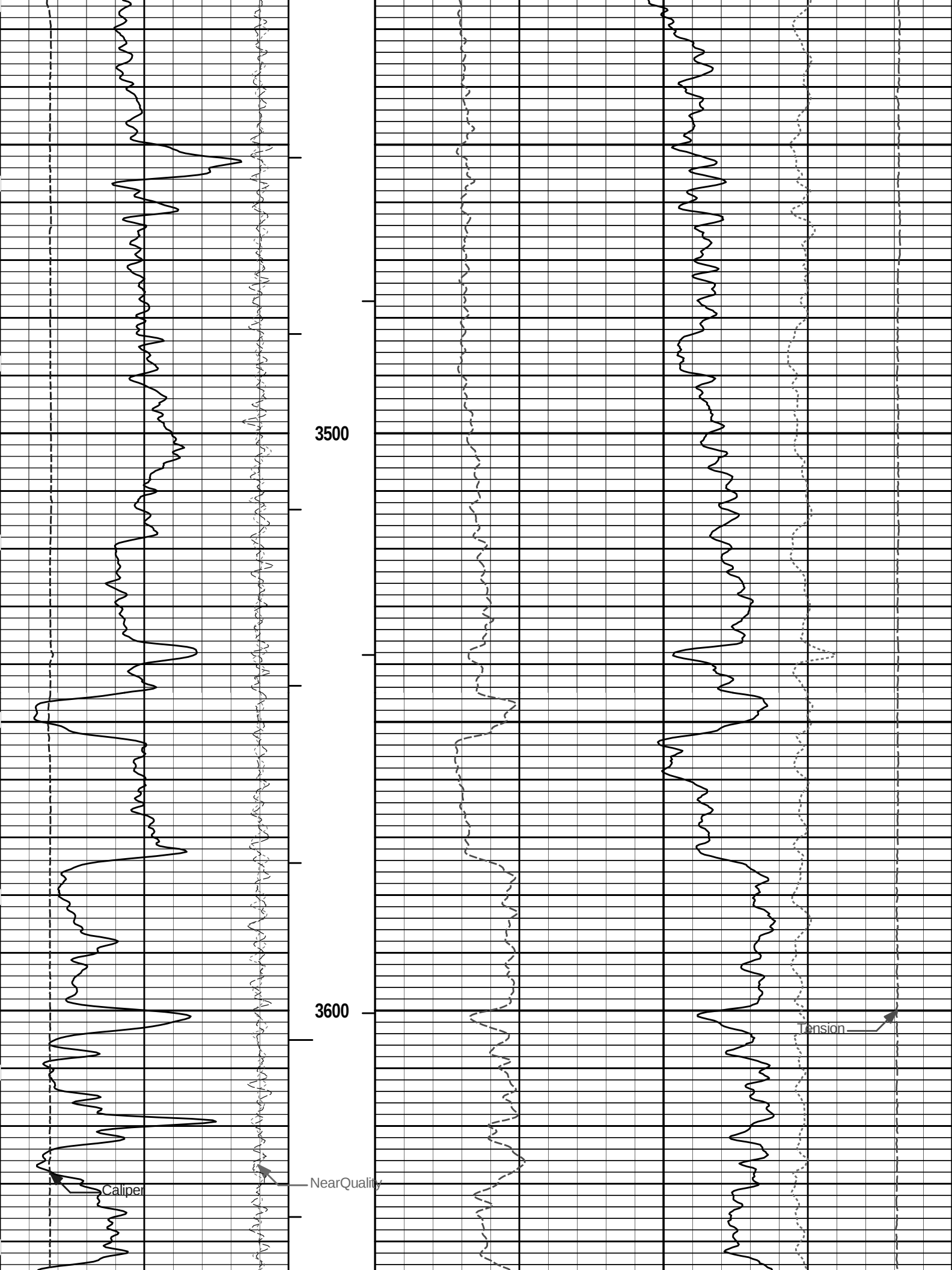
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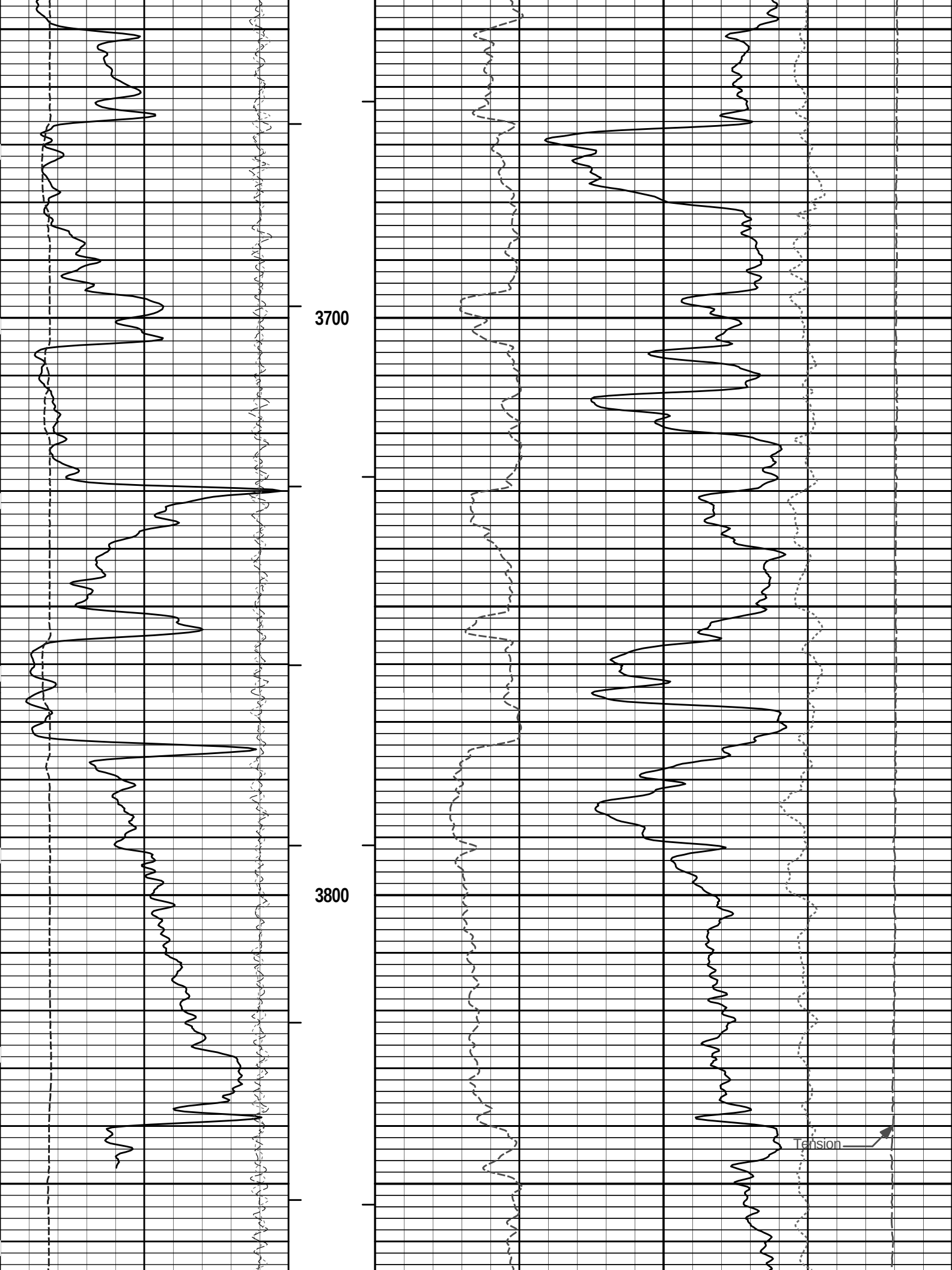
5 INCH MAIN LOG

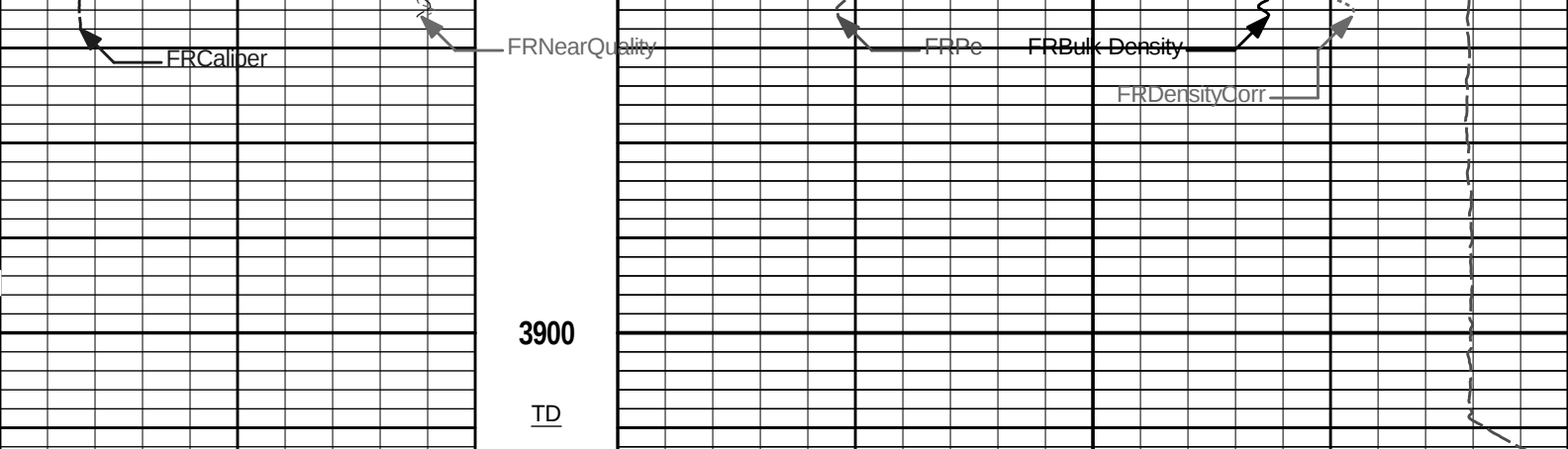
	SHALE	Tension Pull	
0	Gamma Ray	150	Tension Pull
	api	10	0
18	FarQuality	-2	AHV
			ft3
-18	NearQuality	2	BHV
			Bulk Density
			g/cc
			15K
			Tension
			0











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

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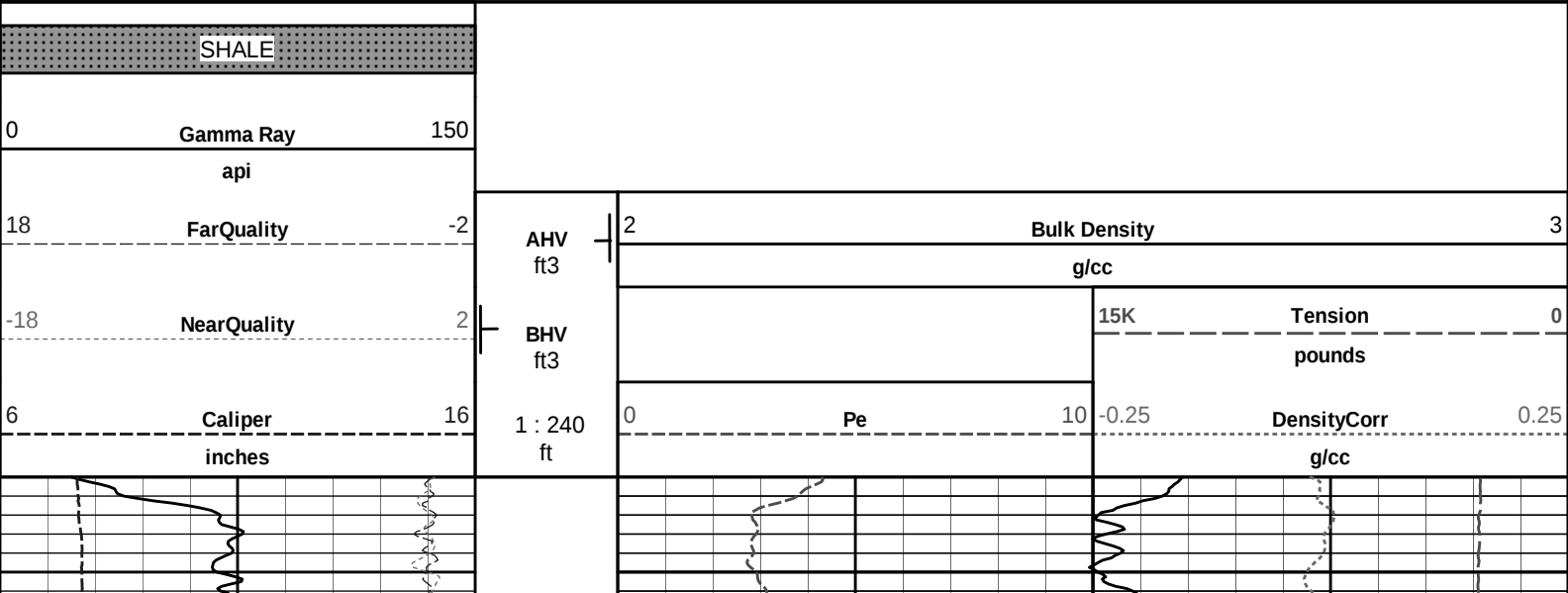
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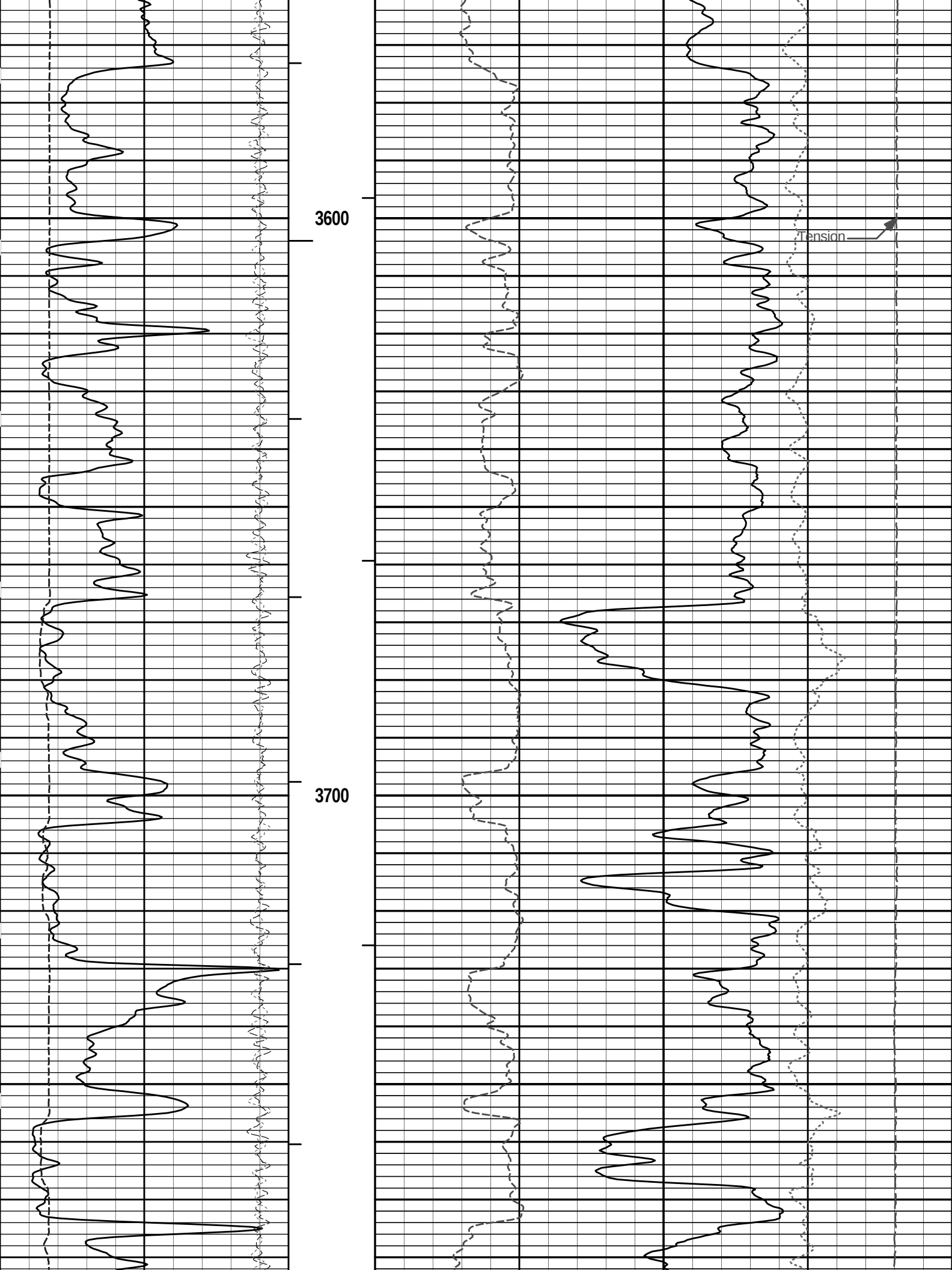
5 INCH MAIN LOG

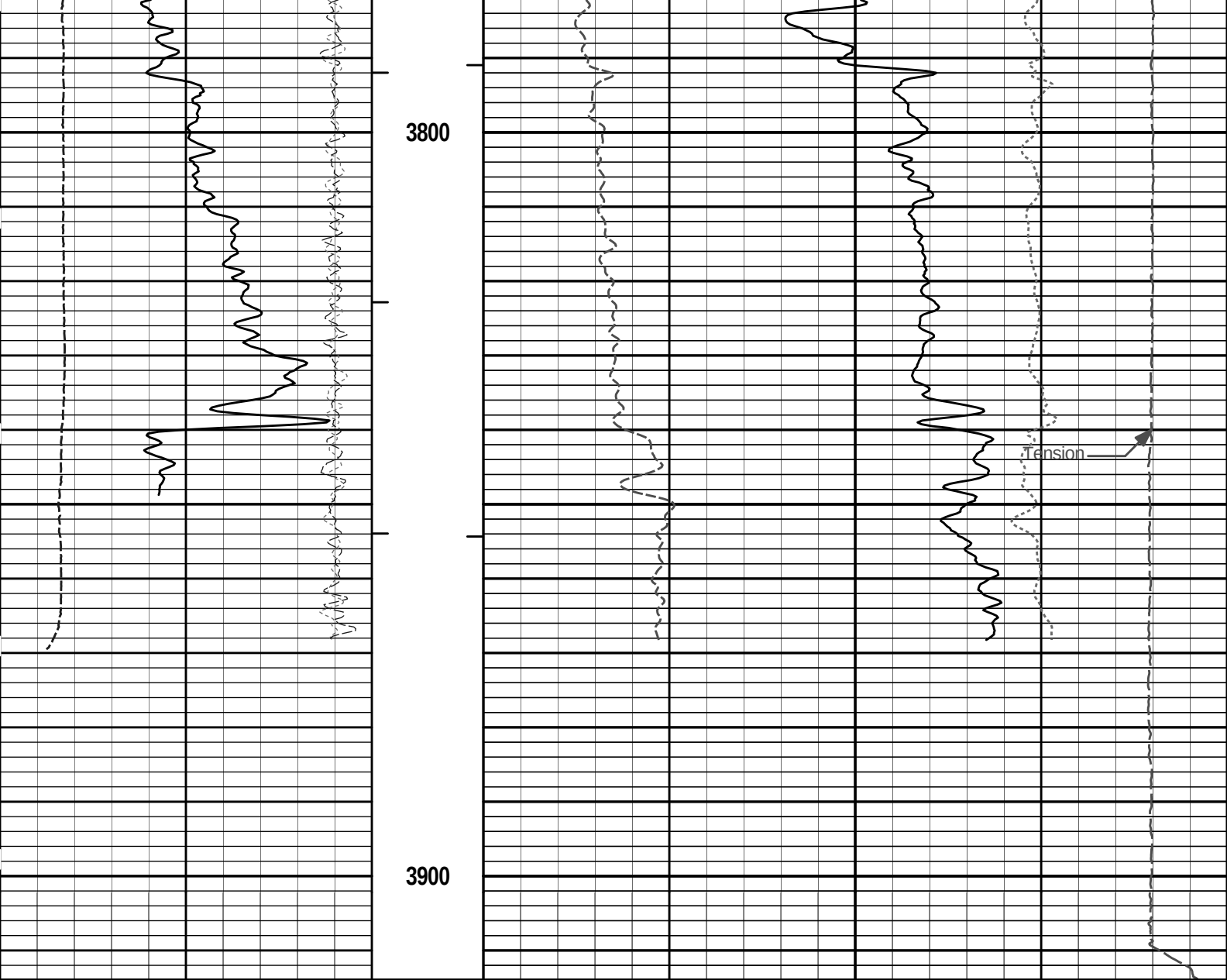
HALLIBURTON

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REPEAT SECTION







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

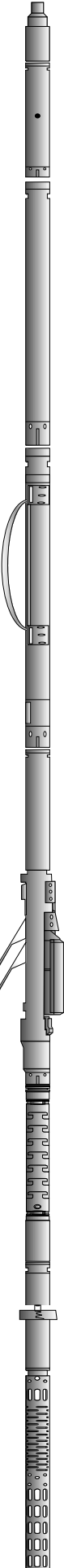
HALLIBURTON

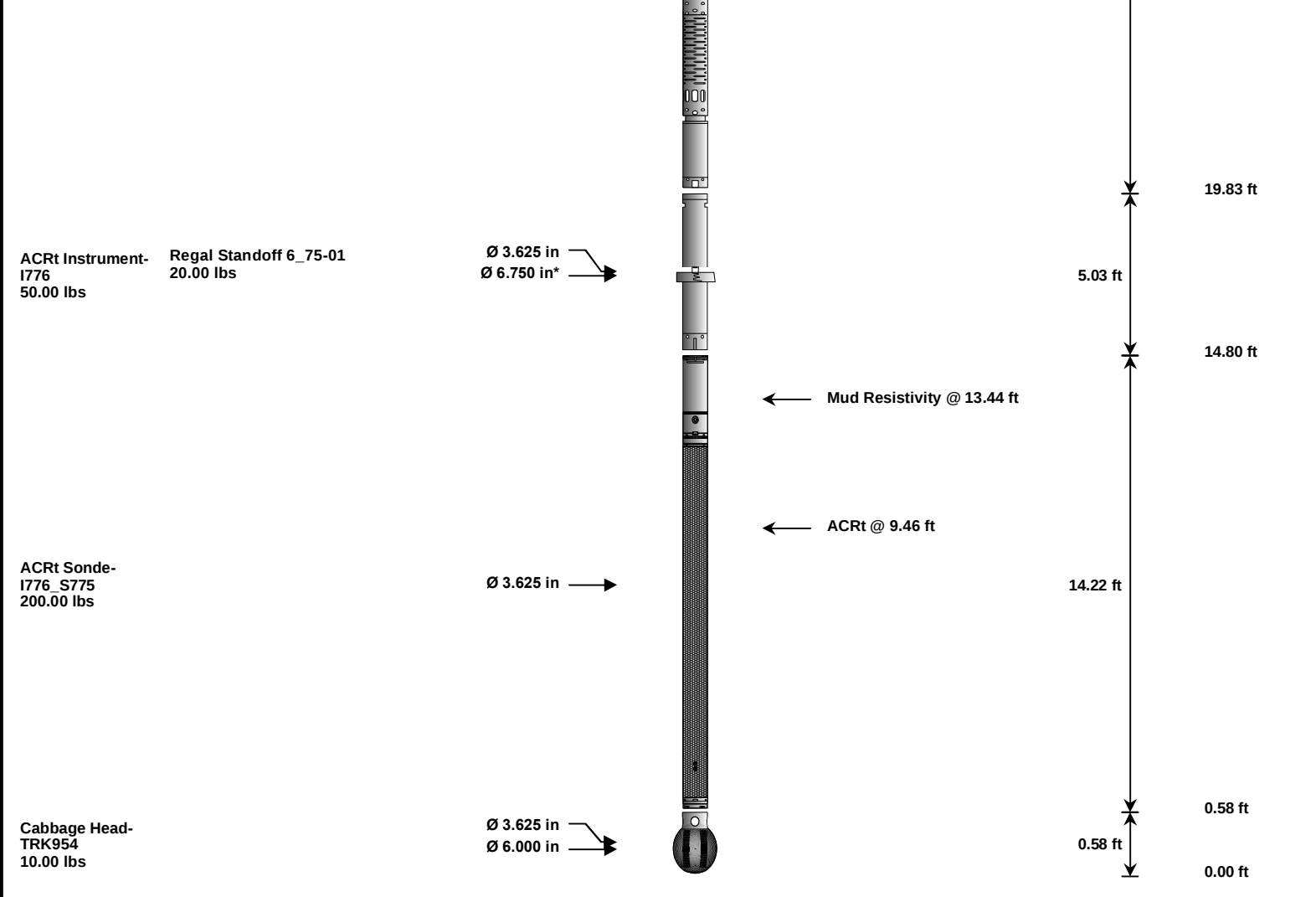
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REPEAT SECTION

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TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
Cable Head- PROT01 30.00 lbs		Ø 3.625 in →			1.92 ft	75.95 ft
SP Sub-11441709 60.00 lbs		Ø 3.625 in →		← SP @ 72.26 ft	3.74 ft	74.03 ft
						70.30 ft
GTET-10748374 165.00 lbs		Ø 3.625 in →		← GammaRay @ 64.23 ft	8.52 ft	
						61.78 ft
DSNT-10735145 174.00 lbs	DSN Decentralizer- 10755066 6.60 lbs	Ø 5.000 in* → Ø 3.625 in →		← DSN Far @ 54.84 ft ← DSN Near @ 54.09 ft	9.69 ft	
						52.09 ft
SDLT- I145_M73803_P90 360.00 lbs	SDLT Pad-90 65.00 lbs Microlog Pad- I145_M73803_P90 8.00 lbs	Ø 4.500 in → Ø 4.750 in* → Ø 4.750 in* →		Microlog @ 44.28 ft SDL Caliper @ 44.09 ft SDL @ 44.08 ft	10.81 ft	
						41.28 ft
Flex Joint- 10939592 140.00 lbs		Ø 3.625 in →			5.67 ft	
	Regal Standoff 6_75-02 20.00 lbs	Ø 6.750 in* →				35.61 ft
BSAT-10747683 300.00 lbs		Ø 3.625 in →		← Sonic Receivers @ 27.09 ft	15.77 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	74.03	300.00
SP	SP Sub	11441709		60.00	3.74	70.30	300.00
GTET	Gamma Telemetry Tool	10748374		165.00	8.52	61.78	60.00
DSNT	Dual Spaced Neutron	10735145		174.00	9.69	52.09	60.00
DCNT	DSN Decentralizer	10755066		6.60	5.13	* 55.42	300.00
SDLT	Spectral Density Tool	I145_M73803_P90		360.00	10.81	41.28	60.00
MICP	Microlog Pad	I145_M73803_P90		8.00	1.00	* 43.78	60.00
SDLP	Density Insite Pad	90		65.00	2.55	* 43.49	60.00
FLEX	Flex Joint	10939592		140.00	5.67	35.61	300.00
BSAT	Borehole Sonic Array Tool	10747683		300.00	15.77	19.83	60.00
RSOF	Regal Standoff 6.75in	02		20.00	0.52	* 33.69	300.00
ACRt	Array Compensated True Resistivity Instrument Section	I776		50.00	5.03	14.80	300.00
RSOF	Regal Standoff 6.75in	01		20.00	0.52	* 17.02	300.00
ACRt	Array Compensated True Resistivity Sonde Section	I776_S775		200.00	14.22	0.58	300.00
CBHD	Cabbage Head	TRK954		10.00	0.58	0.00	300.00
Total				1,608.60	75.95		
* Not included in Total Length and Length Accumulation.							
Data: HENTSCHEL_C_210001 SP-GTET-DSNT-SDLT-FLEX-BSAT-ACRT-CHWDL							
Date: 03-Sep-12 20:07:28							

Engineer: C. HAVERKAMP

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

Calibration Date: 11-Aug-12 06:02:48

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	33.3	33.0	api
Background + Calibrator	267.7	265.0	api
Calibrator	234.4	232.0	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name: GTET - 10811258

Reference Calibration Date: 11-Aug-12 06:02:48

Engineer: SHELDON INGERSOLL

Calibration Date: 22-Aug-12 15:07:15

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

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	33.0	25.8	api
Background + Calibrator	265.0	258.3	api
Calibrator	232.0	232.5	api

Shop	Field	Difference	Tolerance
232.0	232.5	-0.5	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name: DSNT - 10755066

Reference Calibration Date: 25-Jul-12 12:25:59

Engineer: THOMAS HYDE

Calibration Date: 25-Jul-12 12:41:38

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

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: 85 degF

Min. Tool Housing Outside Diameter: 3.620 in

CALIBRATION CONSTANTS			
Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	0.938	0.943	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):	0.2092	0.2107	0.0015	+/- 0.0020
Calibrated Ratio:	9.67	9.72	0.050	+/- 0.050

VERIFIER		
Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0645	0.02000 - 0.09000

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

DUAL SPACED NEUTRON FIELD CALIBRATION

Tool Name:	DSNT - 10755066	Reference Calibration Date:	25-Jul-12 12:41:38
Engineer:	SHELDON INGERSOLL	Calibration Date:	22-Aug-12 15:15:00
Software Version:	WL INSITE R3.6.0 (Build 3)	Calibration Version:	1

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

NEUTRON FIELD-CHECK SUMMARY				
	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0645	0.0663	0.0018	+/- 0.0150

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

DENSITY CALIPER SHOP CALIBRATION

Tool Name:	SDLT - I066_M85803_P45	Reference Calibration Date:	28-Jul-12 20:05:58
Engineer:	C. HAVERKAMP	Calibration Date:	28-Jul-12 20:22:18
Software Version:	WL INSITE R3.6.0 (Build 3)	Calibration Version:	1
Host Tool Name:	DSNT - 10755066		

CALIBRATION COEFFICIENTS			
Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-5255.25	-5222.66	-7000.00 - -1000.00
Pad Gain	0.0003793	0.0003763	0.000200 - 0.000600
Arm Offset	-1825.48	-2303.24	-5000.00 - 3000.00
Arm Gain	0.0005413	0.0005791	0.000300 - 0.000700
Arm Power	-0.000006383	-0.000008766	-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)	3.77	3.75	-0.02	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.62	6.50	-0.12	+/- 0.20
Medium Ring (in)	8.29	8.25	-0.04	+/- 0.20
Large Ring (in)	15.14	15.00	-0.14	+/- 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 - I066_M85803_P45	Reference Calibration Date:	22-Aug-12 15:15:00
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Logging Source S/N: 5073GW

Aluminum Block S/N: 63061

Magnesium Block S/N: 63393

Density: 2.591g/cc

Density: 1.690g/cc

Pe: 3.170

Pe: 2.594

Density Calibration Summary			
Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	0.9811	0.9522	0.90 - 1.10
Near Dens Gain	0.9831	0.9524	0.90 - 1.10
Near Peak Gain	0.9806	0.9418	0.90 - 1.10
Near Lith Gain	0.9781	0.9284	0.90 - 1.10
Far Bar Gain	0.9863	0.9872	0.90 - 1.10
Far Dens Gain	0.9793	0.9793	0.90 - 1.10
Far Peak Gain	0.9722	0.9732	0.90 - 1.10
Far Lith Gain	0.9481	0.9473	0.90 - 1.10
Near Bar Offset	0.4083	0.6663	NONE
Near Dens Offset	0.3635	0.6290	NONE
Near Peak Offset	0.3620	0.6787	NONE
Near Lith Offset	0.3425	0.7501	NONE
Far Bar Offset	0.2498	0.2408	NONE
Far Dens Offset	0.2849	0.2903	NONE
Far Peak Offset	0.3024	0.3017	NONE
Far Lith Offset	0.4066	0.4262	NONE
Near Bar Background	994.27	991.23	700 - 1450
Near Dens Background	330.82	328.82	230 - 480
Near Peak Background	143.88	143.64	100 - 210
Near Lith Background	176.25	176.36	125 - 260
Far Bar Background	509.49	505.01	450 - 900
Far Dens Background	197.73	197.12	175 - 345
Far Peak Background	78.43	78.32	70 - 140
Far Lith Background	81.21	81.23	75 - 145

Calibration Block Summary				
Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.700	1.690	-0.010	+/- 0.015
Pe	2.511	2.558	0.047	+/- 0.150
ALUMINUM				
Density (g/cc)	2.592	2.591	-0.001	+/- 0.01500
Pe	3.148	3.133	-0.015	+/- 0.150

Tool Summary				
Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	0.0005	+/- 0.0110	-0.0014	+/- 0.0140
Magnesium Block	-0.0006	+/- 0.0110	-0.0012	+/- 0.0140
Aluminum Block	0.0005	+/- 0.0110	0.0008	+/- 0.0140

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

Tool Name:	SDLT Pad - 45	Reference Calibration Date:	05-Aug-12 09:06:17
Engineer:	SHELDON INGERSOLL	Calibration Date:	22-Aug-12 15:06:31
Software Version:	WL INSITE R3.6.0 (Build 3)	Calibration Version:	1

Density Field Calibration Summary				
Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1640.053	1637.685	-2.368	16.273
Far (B+D+P+L) cps	861.681	871.111	9.430	16.070
Near Resolution	9.88	10.02	0.140	0.50
Far Resolution	9.09	9.88	0.790	1.00

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

Tool Name:	SDLT - I066_M85803_P45	Reference Calibration Date:	28-Jul-12 20:22:18
Engineer:	SHELDON INGERSOLL	Calibration Date:	22-Aug-12 15:19:10
Software Version:	WL INSITE R3.6.0 (Build 3)	Calibration Version:	1

Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.67	-0.08	+/- 0.10
Ring Diameter	8.25	8.13	-0.12	+/- 0.15

Pad Extension Check:	Passed
Diameter Check:	Passed

Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-10811258						
Gamma Ray Calibrator	232.0	232.5	-----	-0.5	+/- 9.00	api
DSNT-10755066						
Snow-Block Porosity	0.0645	0.0663	-----	-0.0018	+/- 0.0150	decg

Pad Extension	3.75	3.67	-----	0.08	+/-0.10	in
Ring Diameter	8.25	8.13	-----	0.12	+/-0.15	in
SDLT Pad-45						
Near(B+D+P+L)	1640.053	1637.685	-----	2.368	+/-16.273	cps
Far(B+D+P+L)	861.681	871.111	-----	-9.430	+/-16.070	cps
Data: HENTSCHEL_C-3I0001 SP-GTET-DSNT-SDLT-BSAT-ACRT-CHIIDLE						
Date: 03-Sep-12 21:02:27						

HALLIBURTON

PARAMETERS REPORT

Depth (ft))	Tool Name	Mnemonic	Description	Value	Units
TOP-----					
	SHARED	BS	Bit Size	7.875	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDBS	Mud Base	Water	
	SHARED	MDWT	Borehole Fluid Weight	9.100	ppg
	SHARED	WAGT	Weighting Agent	Natural	
	SHARED	BSAL	Borehole salinity	0.00	ppm
	SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
	SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
	SHARED	RMUD	Mud Resistivity	2.000	ohmm
	SHARED	TRM	Temperature of Mud	75.0	degF
	SHARED	CSD	Logging Interval is Cased?	No	
	SHARED	ICOD	AHV Casing OD	5.500	in
	SHARED	ST	Surface Temperature	75.0	degF
	SHARED	TD	Total Well Depth	3950.00	ft
	SHARED	BHT	Bottom Hole Temperature	200.0	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	

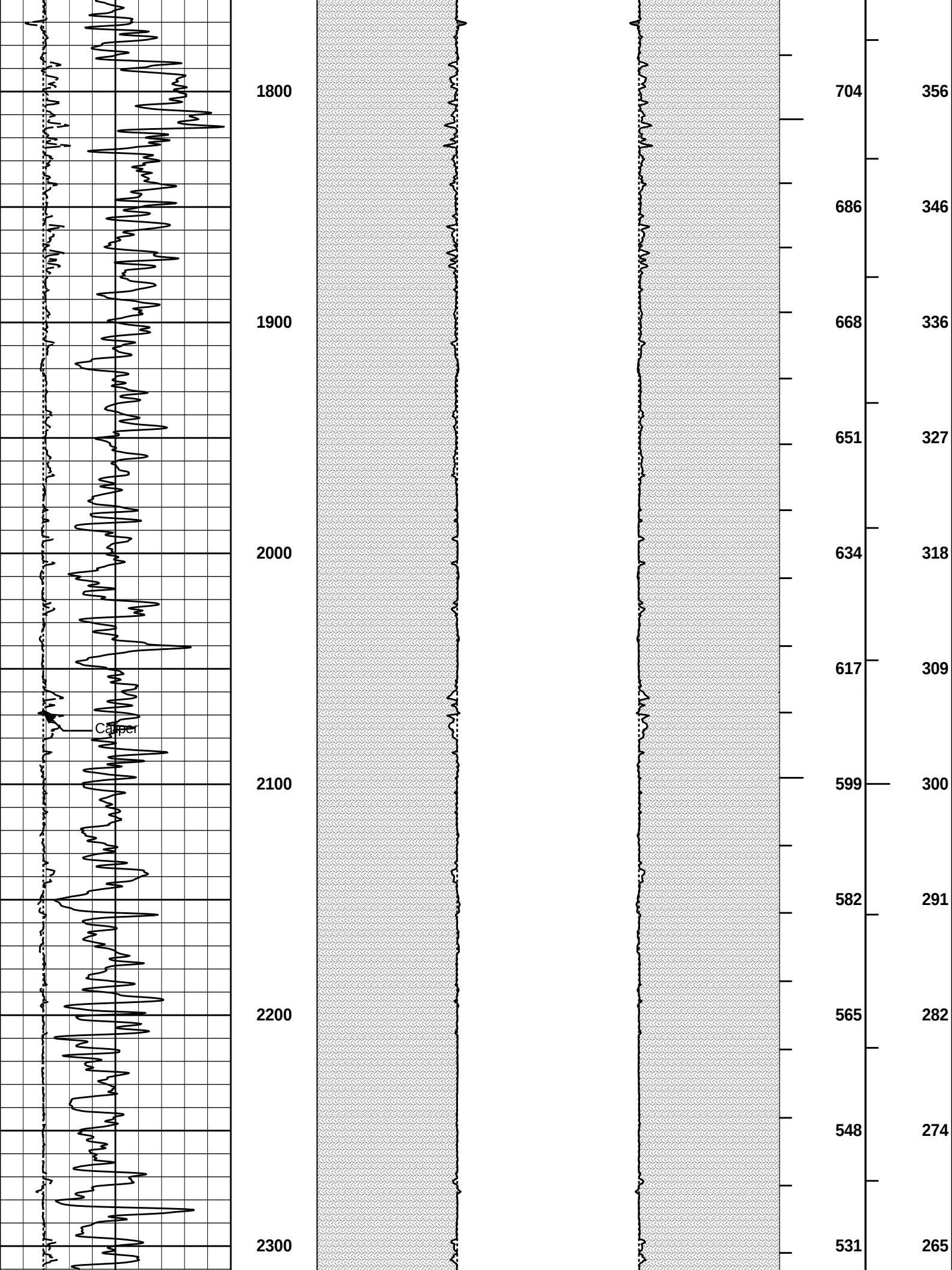
DSNT	DPRS	DSN Pressure Correction Type	None	
DSNT	SHCO	View More Correction Options	No	
DSNT	UTVD	Use TVD for Gradient Corrections?	No	
DSNT	LHWT	Logging Horizontal Water Tank?	No	
SDLT	CLOK	Process Caliper Outputs?	Yes	
SDLT Pad	DNOK	Process Density?	Yes	
SDLT Pad	DNOK	Process Density EVR?	No	
SDLT 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	
BSAT	MBOK	Compute BCAS Results?	Yes	
BSAT	FLLO	Frequency Filter Low Pass Value?	5000	Hz
BSAT	FLHI	Frequency Filter High Pass Value?	27000	Hz
BSAT	DTFL	Delta -T Fluid	189.00	uspf
BSAT	DTMT	Delta -T Matrix Type	User define	
BSAT	DTMA	Delta -T Matrix	47.60	uspf
BSAT	DTSH	Delta -T Shale	100.00	uspf
BSAT	SPEQ	Acoustic Porosity Equation	Wylie	
ACRt Sonde	RTOK	Process ACRt?	Yes	
ACRt Sonde	MNSO	Minimum Tool Standoff	1.50	in
ACRt Sonde	TCS1	Temperature Correction Source	FP Lwr & FP Upr	
ACRt Sonde	TPOS	Tool Position	Free Hanging	
ACRt Sonde	RMOP	Rmud Source	Mud Cell	
ACRt Sonde	RMIN	Minimum Resistivity for MAP	0.20	ohmm
ACRt Sonde	RMIN	Maximum Resistivity for MAP	200.00	ohmm
ACRt Sonde	THQY	Threshold Quality	0.50	
ACRt Sonde	MRFX	Fixed mud resistivity	2000	ohmm
BOTTOM_____				
Data: HENTSCHEL_C_2I0001 SP-GTET-DSNT-SDLT-FLEX-BSAT-ACRT-CHIDLE			Date: 03-Sep-12 20:59:37	

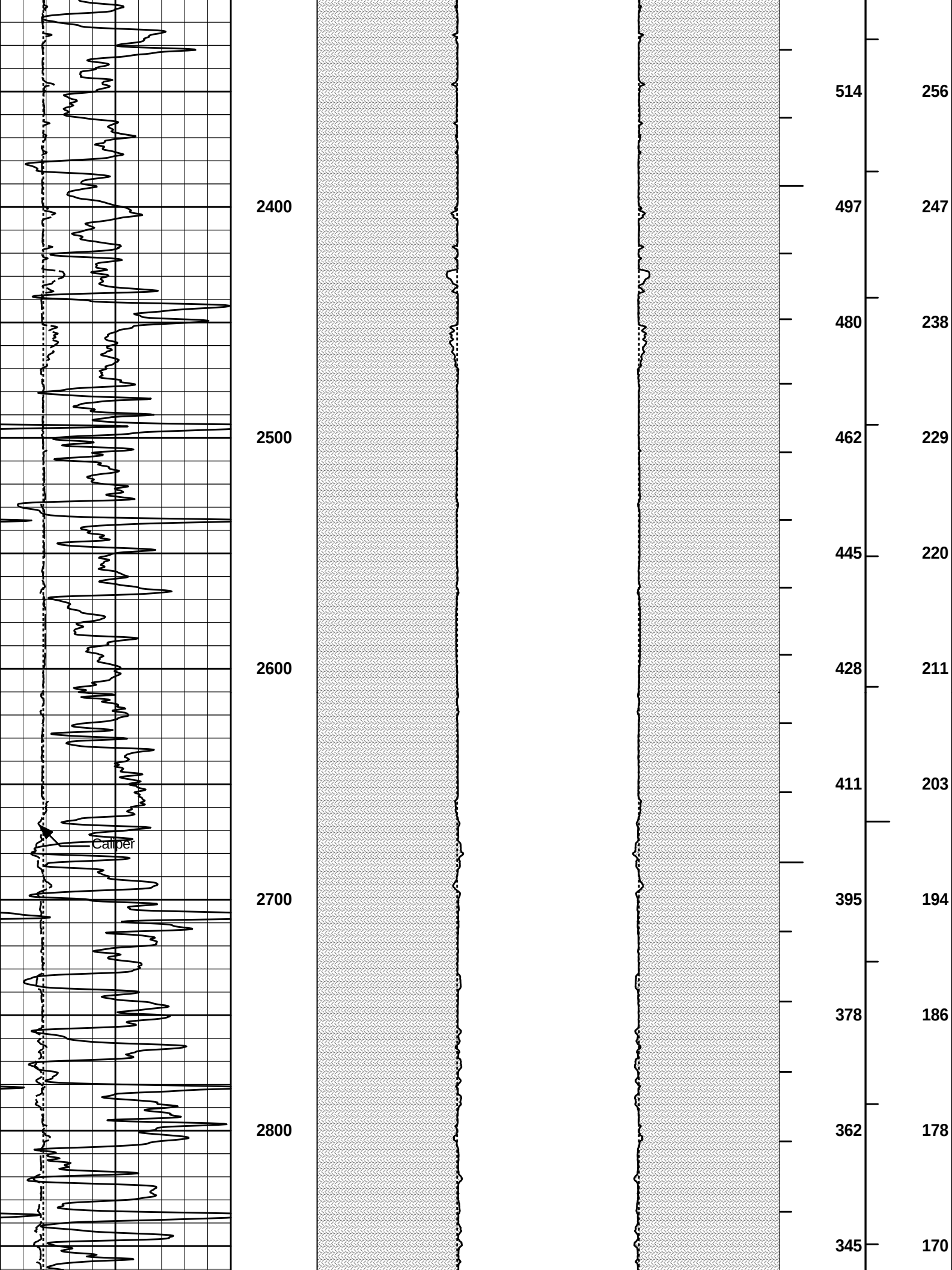
HALLIBURTON				
INPUTS, DELAYS AND FILTERS TABLE				
Mnemonic	Input Description	Delay (ft)	Filter Type	Filter Length (ft)
Depth Panel				
TENS	Tension	0.00	NO	
SP Sub				
PLTC	Plot Control Mask	72.25	NO	
SP	Spontaneous Potential	72.25	BLK	1.250
SPR	Raw Spontaneous Potential	72.25	NO	
SPO	Spontaneous Potential Offset	72.25	NO	
GTET				
TPUL	Tension Pull	64.23	NO	
GR	Natural Gamma Ray API	64.23	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API	64.23	NO	
EGR	Natural Gamma Ray API with Enhanced Vertical Resolution	64.23	W	1.416 , 0.750
ACCZ	Accelerometer Z	0.00	BLK	0.083
DEVI	Inclination	0.00	NO	

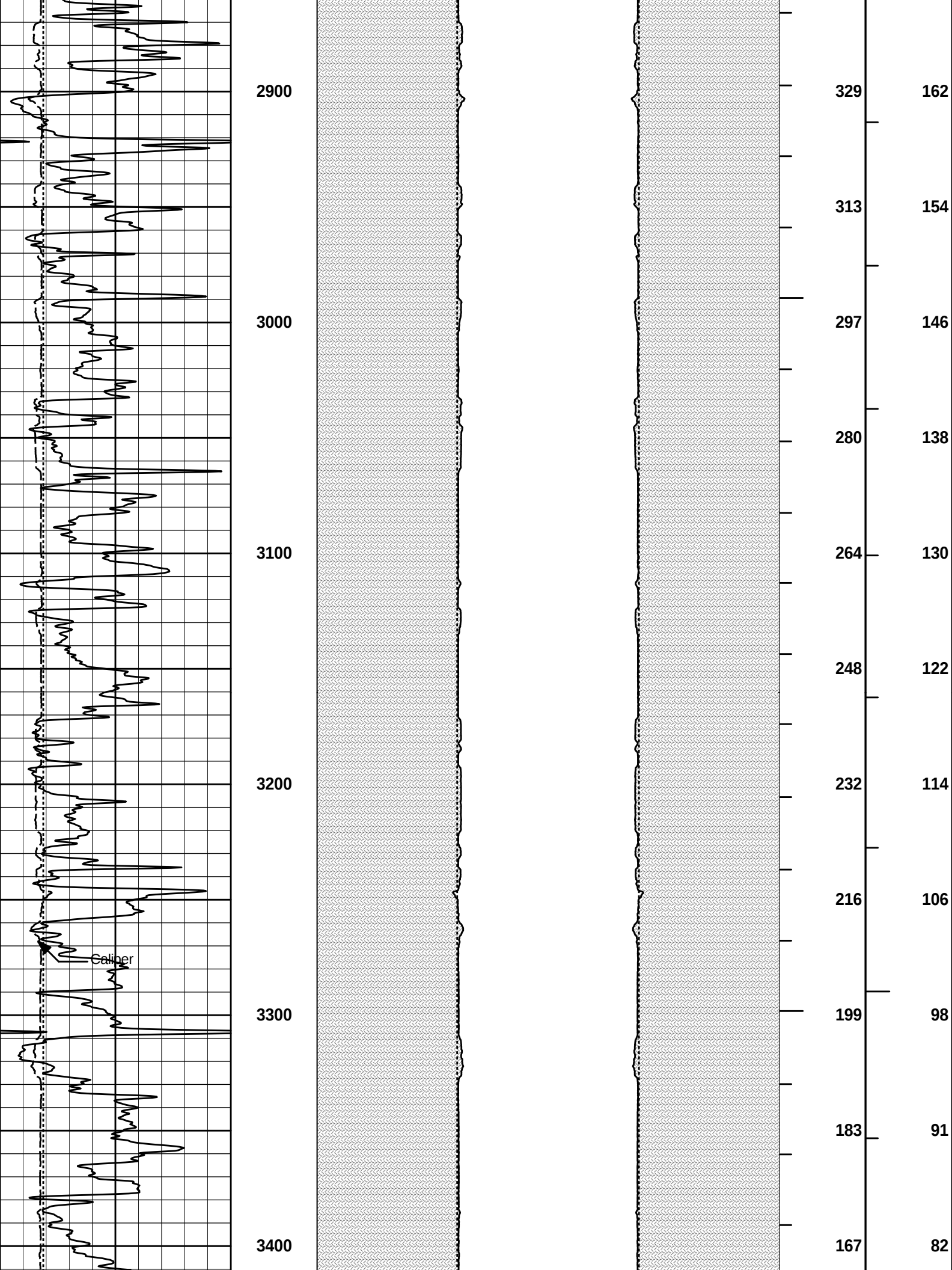
DEV1	Inclination	0.00	NO	
DSNT				
TPUL	Tension Pull	53.99	NO	
RNDS	Near Detector Telemetry Counts	54.09	BLK	1.417
RFDS	Far Detector Telemetry Counts	54.84	TRI	0.583
DNTT	DSN Tool Temperature	54.09	NO	
DSNS	DSN Tool Status	53.99	NO	
ERND	Near Detector Telemetry Counts EVR	54.09	BLK	0.000
ERFD	Far Detector Telemetry Counts EVR	54.84	BLK	0.000
ENTM	DSN Tool Temperature EVR	54.09	NO	
SDLT				
TPUL	Tension Pull	44.09	NO	
PCAL	Pad Caliper	44.09	TRI	0.250
ACAL	Arm Caliper	44.09	TRI	0.250
BSAT				
TPUL	Tension Pull	27.09	NO	
STAT	Status	27.09	NO	
DLYT	Delay Time	27.09	NO	
SI	Sample Interval	27.09	NO	
TXRX	Raw Telemetry 10 Receivers	27.09	NO	
FRMC	Tool Frame Count	27.09	NO	
GMOD	Gain processing mode	19.83	NO	
ACRt Sonde				
TPUL	Tension Pull	2.97	NO	
F1R1	ACRT 12KHz - 80in R value	9.22	BLK	0.000
F1X1	ACRT 12KHz - 80in X value	9.22	BLK	0.000
F1R2	ACRT 12KHz - 50in R value	6.72	BLK	0.000
F1X2	ACRT 12KHz - 50in X value	6.72	BLK	0.000
F1R3	ACRT 12KHz - 29in R value	5.22	BLK	0.000
F1X3	ACRT 12KHz - 29in X value	5.22	BLK	0.000
F1R4	ACRT 12KHz - 17in R value	4.22	BLK	0.000
F1X4	ACRT 12KHz - 17in X value	4.22	BLK	0.000
F1R5	ACRT 12KHz - 10in R value	3.72	BLK	0.000
F1X5	ACRT 12KHz - 10in X value	3.72	BLK	0.000
F1R6	ACRT 12KHz - 6in R value	3.47	BLK	0.000
F1X6	ACRT 12KHz - 6in X value	3.47	BLK	0.000
F2R1	ACRT 36KHz - 80in R value	9.22	BLK	0.000
F2X1	ACRT 36KHz - 80in X value	9.22	BLK	0.000
F2R2	ACRT 36KHz - 50in R value	6.72	BLK	0.000
F2X2	ACRT 36KHz - 50in X value	6.72	BLK	0.000
F2R3	ACRT 36KHz - 29in R value	5.22	BLK	0.000
F2X3	ACRT 36KHz - 29in X value	5.22	BLK	0.000
F2R4	ACRT 36KHz - 17in R value	4.22	BLK	0.000
F2X4	ACRT 36KHz - 17in X value	4.22	BLK	0.000
F2R5	ACRT 36KHz - 10in R value	3.72	BLK	0.000
F2X5	ACRT 36KHz - 10in X value	3.72	BLK	0.000
F2R6	ACRT 36KHz - 6in R value	3.47	BLK	0.000
F2X6	ACRT 36KHz - 6in X value	3.47	BLK	0.000
F3R1	ACRT 72KHz - 80in R value	9.22	BLK	0.000
F3X1	ACRT 72KHz - 80in X value	9.22	BLK	0.000
F3R2	ACRT 72KHz - 50in R value	6.72	BLK	0.000
F3X2	ACRT 72KHz - 50in X value	6.72	BLK	0.000
F3R3	ACRT 72KHz - 29in R value	5.22	BLK	0.000

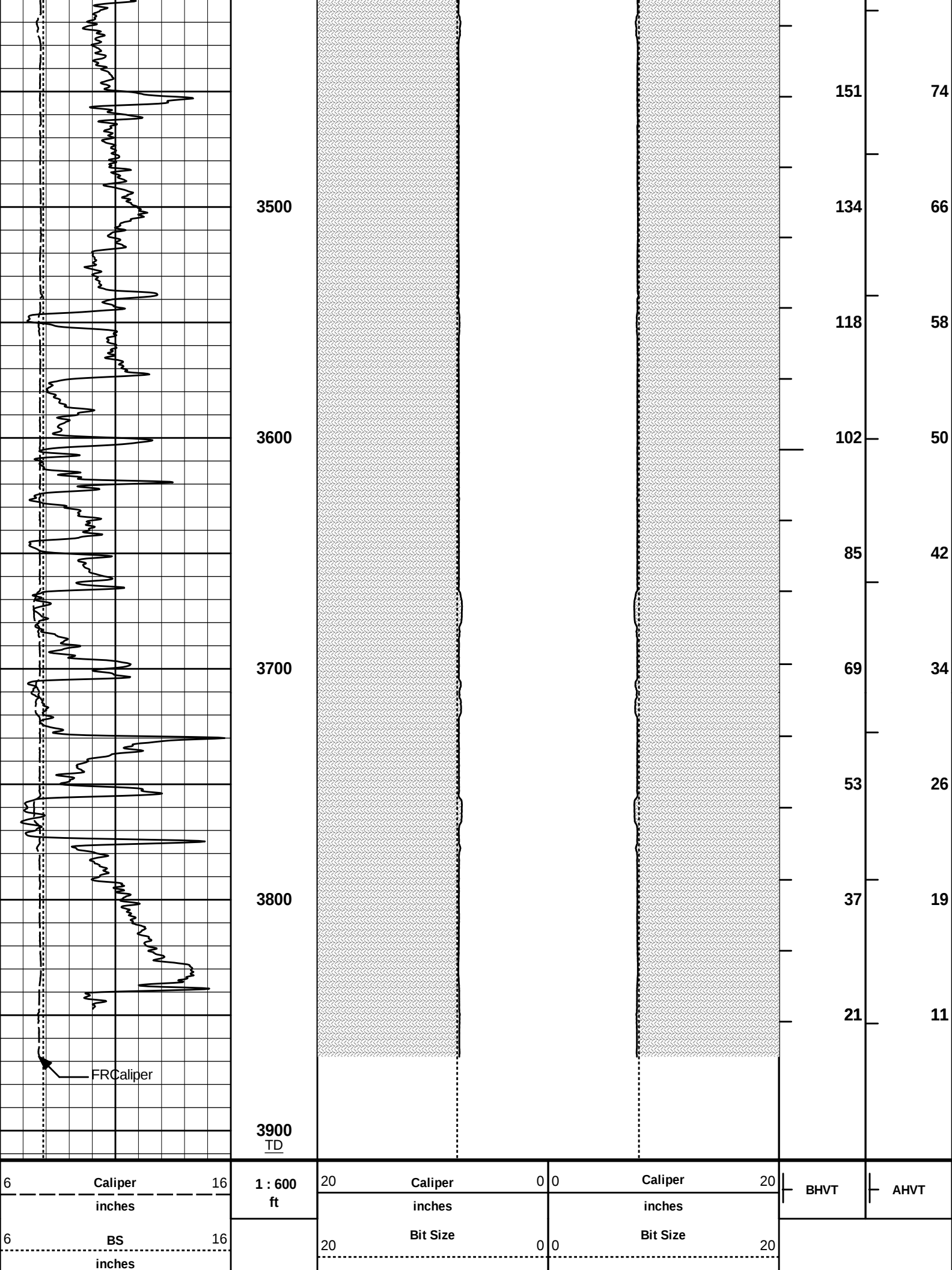
F3X3	ACRT 72KHz - 29in X value	5.22	BLK	0.000
F3R4	ACRT 72KHz - 17in R value	4.22	BLK	0.000
F3X4	ACRT 72KHz - 17in X value	4.22	BLK	0.000
F3R5	ACRT 72KHz - 10in R value	3.72	BLK	0.000
F3X5	ACRT 72KHz - 10in X value	3.72	BLK	0.000
F3R6	ACRT 72KHz - 6in R value	3.47	BLK	0.000
F3X6	ACRT 72KHz - 6in X value	3.47	BLK	0.000
RMUD	Mud Resistivity	12.76	BLK	0.000
F1RT	Transmitter Reference 12 KHz Real Signal	2.97	BLK	0.000
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	44.08	NO	
NAB	Near Above	43.90	BLK	0.920
NHI	Near Cesium High	43.90	BLK	0.920
NLO	Near Cesium Low	43.90	BLK	0.920
NVA	Near Valley	43.90	BLK	0.920
NBA	Near Barite	43.90	BLK	0.920
NDE	Near Density	43.90	BLK	0.920
NPK	Near Peak	43.90	BLK	0.920
NLI	Near Lithology	43.90	BLK	0.920
NBAU	Near Barite Unfiltered	43.90	BLK	0.250
NLIU	Near Lithology Unfiltered	43.90	BLK	0.250
FAB	Far Above	44.26	BLK	0.250
FHI	Far Cesium High	44.26	BLK	0.250
FLO	Far Cesium Low	44.26	BLK	0.250
FVA	Far Valley	44.26	BLK	0.250
FBA	Far Barite	44.26	BLK	0.250
FDE	Far Density	44.26	BLK	0.250
FPK	Far Peak	44.26	BLK	0.250
FLI	Far Lithology	44.26	BLK	0.250
PTMP	Pad Temperature	44.09	BLK	0.920
NHV	Near Detector High Voltage	43.49	NO	
FHV	Far Detector High Voltage	43.49	NO	
ITMP	Instrument Temperature	43.49	NO	
DDHV	Detector High Voltage	43.49	NO	
Microlog Pad				
TPUL	Tension Pull	44.28	NO	
MINV	Microlog Lateral	44.28	BLK	0.750
MNOR	Microlog Normal	44.28	BLK	0.750
Data: HENTSCHEL_C_210001 SP-GTET-DSNT-SDLT-FLEX-BSAT-ACRT-CHUIDLE			Date: 03-Sep-12 21:52:50	

0		Gamma API	150			MUDCAKE		MUDCAKE				
api												
6		BS	16	20		Bit Size	0 0	Bit Size	20			
inches												
6		Caliper	16	1 : 600 ft	20		Caliper	0 0	Caliper	20	BHVT	AHVT
inches					inches				inches			
				CSG								
				1400							844	429
											827	421
				1500							810	412
											792	402
				1600							774	392
											757	384
				1700							739	374
											722	365









0	Gamma API	150		MUDCAKE	MUDCAKE	
	api					
HALLIBURTON Plot Time: 03-Sep-12 23:14:31 Plot Range: 1360 ft to 3912.42 ft Data: HENTSCHEL_C_2\Well Based\CASING\ Plot File: \\-LOCAL-HENTSCHEL_C_2\0001 SP-GTET-DSNT-SDLT-FLEX-BSAT-ACRT-CHIPOROI\HV_5_5_INCH_2_IQ_LIB ANNULAR HOLE VOLUME PLOT (5.5 INCH)						
COMPANY OXY USA INC WELL HENTSCHEL C-2 FIELD MUSTANG EAST COUNTY MORTON STATE KANSAS						
HALLIBURTON			SPECTRAL DENSITY DUAL SPACED NEUTRON LOG			