

# HALLIBURTON

## BOREHOLE COMPENSATED SONIC ARRAY

COMPANY	BRIDGE ENERGY INC		
WELL	SCHWARZ 1-10		
FIELD	WILDCAT		
COUNTY	PAYETTE		
STATE	ID		
COMPANY	BRIDGE ENERGY INC	WELL	SCHWARZ 1-10
FIELD	WILDCAT	COUNTY	PAYETTE
STATE	ID	STATE	ID
API No.	1107520008	Location	SURFACE HOLE LOCATION: 623' FNL & 1183' FEL
Other Services:	RWCH SDLT/DSNT ACRT	Sec. 8	Twp. 10S Rge. 2W
Permanent Datum	GL	Elev. 2495.2 ft	Elev.: K.B. 2507.0 ft
Log measured from	KB	12.0 ft above perm. Datum	D.F. 2506.0 ft
Drilling measured from	KB		G.L. 2495.2 ft

Date	07-May-10
Run No.	ONE
Depth - Driller	2606.00 ft
Depth - Logger	2602.0 ft
Bottom - Logged Interval	2573.0 ft
Top - Logged Interval	562.0 ft
Casing - Driller	9.625 in @ 564.0 ft
Casing - Logger	562.0 ft @
Bit Size	8.750 in @
Type Fluid in Hole	WBM @
Density	10.2 ppg 44.00 s/qt
PH	8.50 pH 6.6 cp/m
Source of Sample	MUD TANK
Rm @ Meas. Temperature	3.650 ohmm @ 59.00 degF @
Rmf @ Meas. Temperature	3.44 ohmm @ 73.30 degF @
Rmc @ Meas. Temperature	3.200 ohmm @ 74.70 degF @
Source Rmf	MEAS. Rmc MEAS.
Rm @ BHT	1.79 ohmm @ 127.0 degF @
Time Since Circulation	13.5 hr
Time on Bottom	07-May-10 11:01
Max. Rec. Temperature	127.0 degF @ 2602.0 ft @
Equipment	11170614 ROCK SPRING
Recorded By	D. CULVER
Witnessed By	JEFF KIRN

Fold here

Service Ticket No.: 7355557      API Serial No.: 1107520008      PGM Version: WL INSITE R3.0.3 (Build 5)

CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE				RESISTIVITY SCALE CHANGES				
Date	Sample No.			Type Log	Depth	Scale Up Hole	Scale Down Hole	
Type Fluid in Hole								
Density	Viscosity							
Ph	Fluid Loss							
Source of Sample				RESISTIVITY EQUIPMENT DATA				
Rm @ Meas. Temp	@	@		Run No.	Tool Type & No.	Pad Type	Tool Pos.	Other
Rmf @ Meas. Temp.	@	@		ONE	ACRT-	N/A	1.5" S.O.	N/A
Rmc @ Meas. Temp.	@	@			E104-S103			
Source Rmf	Rmc							
Rm @ BHT	@	@						
Rmf @ BHT	@	@						
Rmc @ BHT	@	@						

EQUIPMENT DATA							
GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	ONE	Run No.	ONE	Run No.	ONE	Run No.	ONE
Serial No.	11215095	Serial No.	10939067	Serial No.	11014271	Serial No.	10860047
Model No.	GTET	Model No.	BSAT	Model No.	SDLT-I	Model No.	DSNT-I
Diameter	3.625"	No. of Cent.	2	Diameter	4.5"	Diameter	3.625"
Detector Model No.	102-A	Spacing	0.5'	Log Type	GAM-GAM	Log Type	THERM-THERM
Type	SCINT	Source Type		Source Type	Cs137	Source Type	Am241Be
Length	8"	Serial No.		Serial No.	5235GW	Serial No.	08-018
Distance to Source	10'	Strength		Strength	1.5 Ci	Strength	15 Ci

LOGGING DATA

GENERAL      GAMMA      ACOUSTIC      DENSITY      NEUTRON

Run	GENERAL		Speed ft/min	GAMMA		ACOUSTIC		Matrix	DENSITY		NEUTRON			
	Depth			Scale		Scale			Scale		Scale			
	No.	From		To	L	R	L		R	L	R	L	R	Matrix
ONE	562'	0'	REC	0	200									
ONE	2602'	562'	REC	0	200	40%	0%	55.5 usec/ft	40%	0%	2.68 g/cc	40%	0%	SAND
DIRECTIONAL INFORMATION														
Maximum Deviation						@		KOP			@			
Remarks: RWCH-GTET-DSNT-SDLT-FLEX-BSAT-ACRT WERE RAN IN COMBINATION														
ANNULAR HOLE VOLUME CALCULATED FOR 5.5" CASING														
BOREHOLE RUGOSITY, TENSION PULLS AND WASHOUTS MAY EFFECT LOG QUALITY														
LATITUDE: N 44 deg 03' 0.85468"														
LONGITUDE: W 116 deg 33' 25.66391"														
TODAY'S CREW: C. RINESS, B. PECK, T. BOWEN & A. MILLER						RIG: ENSIGN 516								
*** THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES, ROCK SPRINGS, WY (301) 352-8600 ***														
<p>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.</p>														
HALLIBURTON														

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## PARAMETERS REPORT

Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	SHARED	BS	Bit Size	8.750	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDWT	Borehole Fluid Weight	10.200	ppg
	SHARED	OBM	Oil Based Mud System?	No	
	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	2606.00	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 /	TMER	Rmf Ref Temp	75.00	degF

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	POTA	Potassium	0.00	%
GTET	MDTP	Mud Type	Natural	
GTET	TPOS	Tool Position	Standoff	
DSNT	DNOK	Process DSN?	Yes	
DSNT	DEOK	Process DSN EVR?	No	
DSNT	NLIT	Neutron Lithology	Sandstone	
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	AD	Is Hole Air Drilled?	No	
SDLT	CB	Logging Calibration Blocks?	No	
SDLT	SPVT	SDLT Pad Temperature Valid?	Yes	
SDLT	DTWN	Disable temperature warning	No	
SDLT	MDTP	Weighted Mud Correction Type?	Barite	
SDLT	DMA	Formation Density Matrix	2.680	g/cc
SDLT	DFL	Formation Density Fluid	1.000	g/cc
SDLT	CLOK	Process Caliper Outputs?	Yes	
SDLT	MLOK	Process MicroLog Outputs?	Yes	
BSAT	MBOK	Compute BCAS Results?	Yes	
BSAT	FLLO	Semblance Filter Low Pass Value?	5000	Hz
BSAT	FLHI	Semblance Filter High Pass Value?	27000	Hz
BSAT	DTFL	Delta -T Fluid	189.00	uspf
BSAT	DTMT	Delta -T Matrix Type	Sandstone 55.5	
BSAT	DTSH	Delta -T Shale	100.00	uspf
BSAT	SPEQ	Acoustic Porosity Equation	Wylie	
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

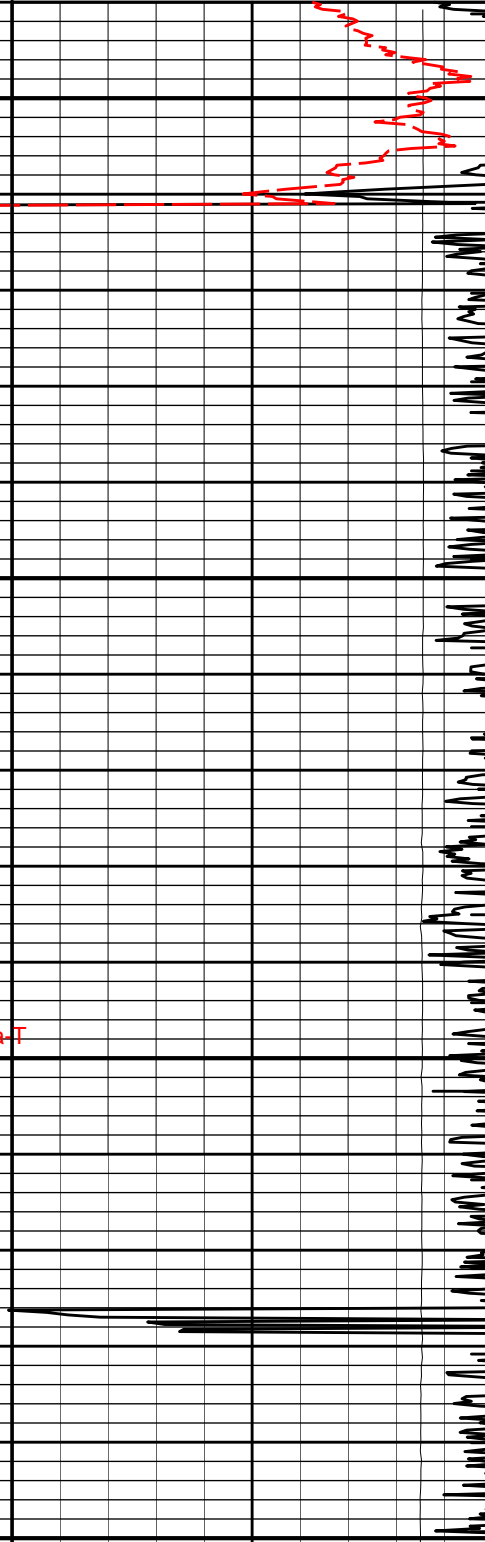
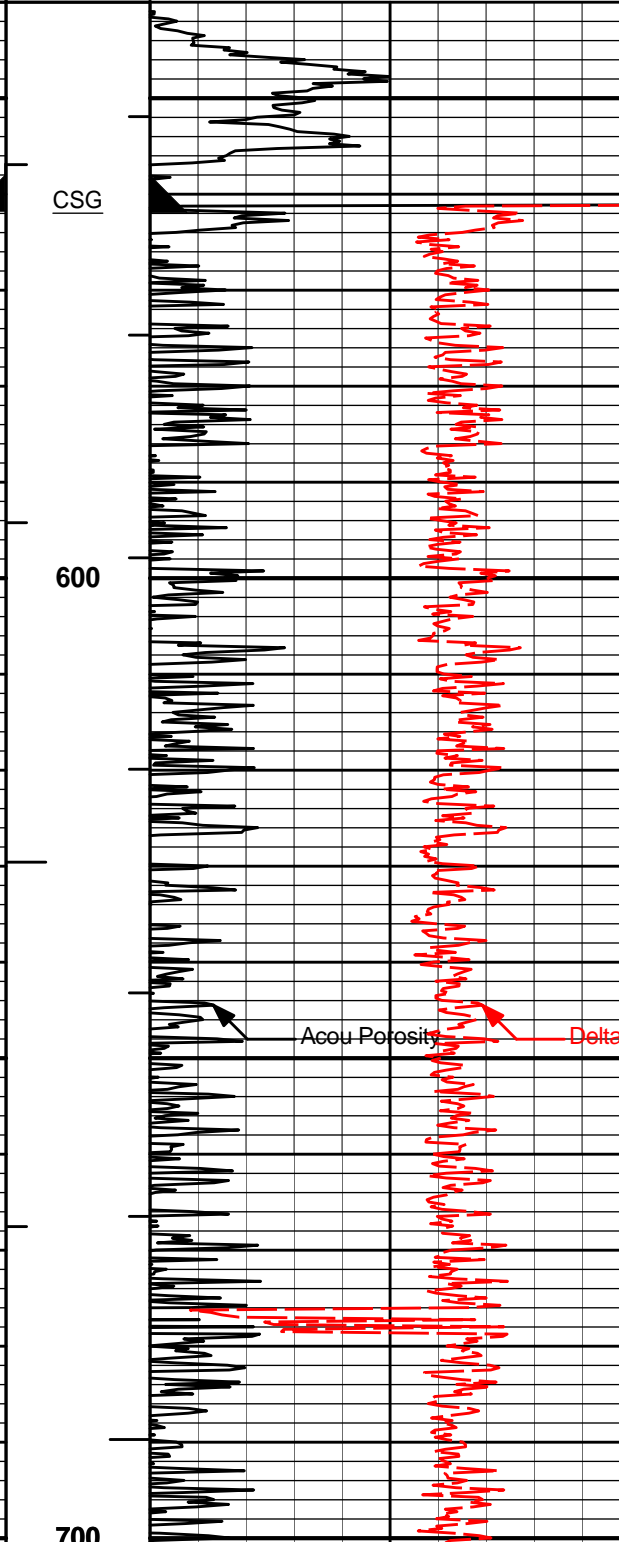
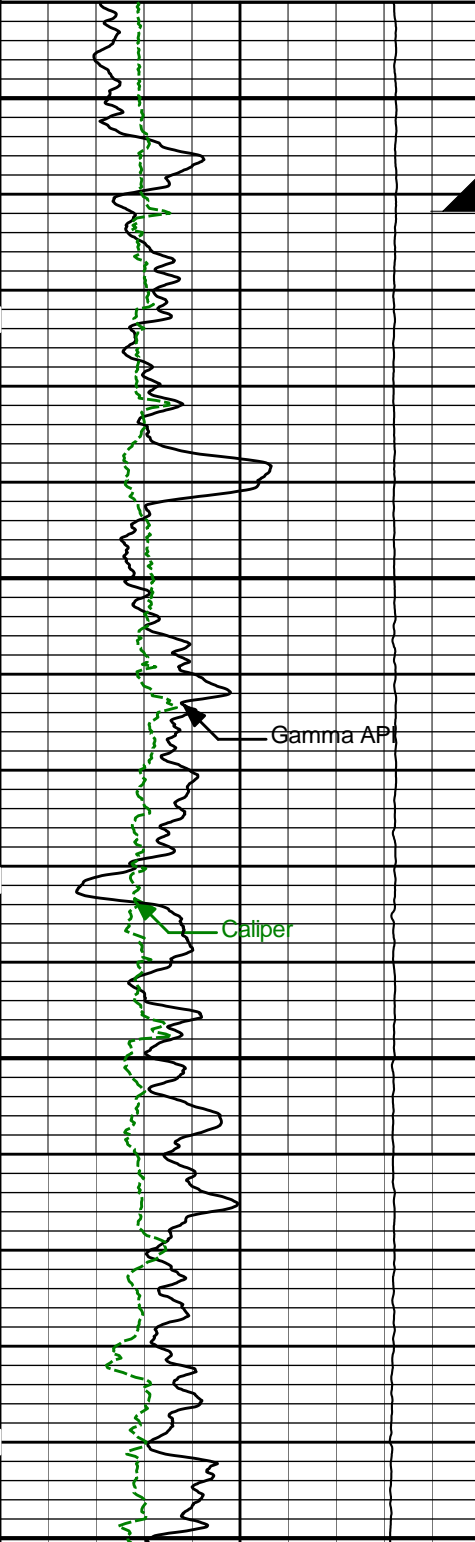
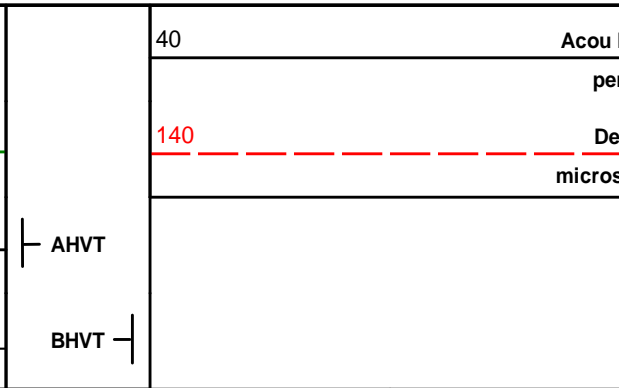
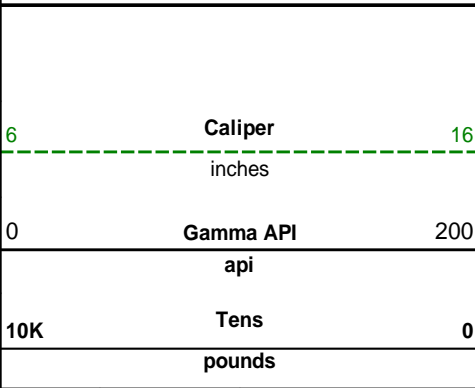
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Date: 07-May-10 18:09:18

HALLIBURTON

Plot Time: 07-May-10 18:59:09  
Plot Range: 540 ft to 2605.26 ft  
Data: B\_SCHWARX\_1\_10\Well Based\MAIN  
Plot File: \\BSAT\IQ\_BP\_SONIC\_DT\_5IN\_RM

MAIN PASS 5" = 100'



CSG

600

700

Gamma API

Caliper

Acou Porosity

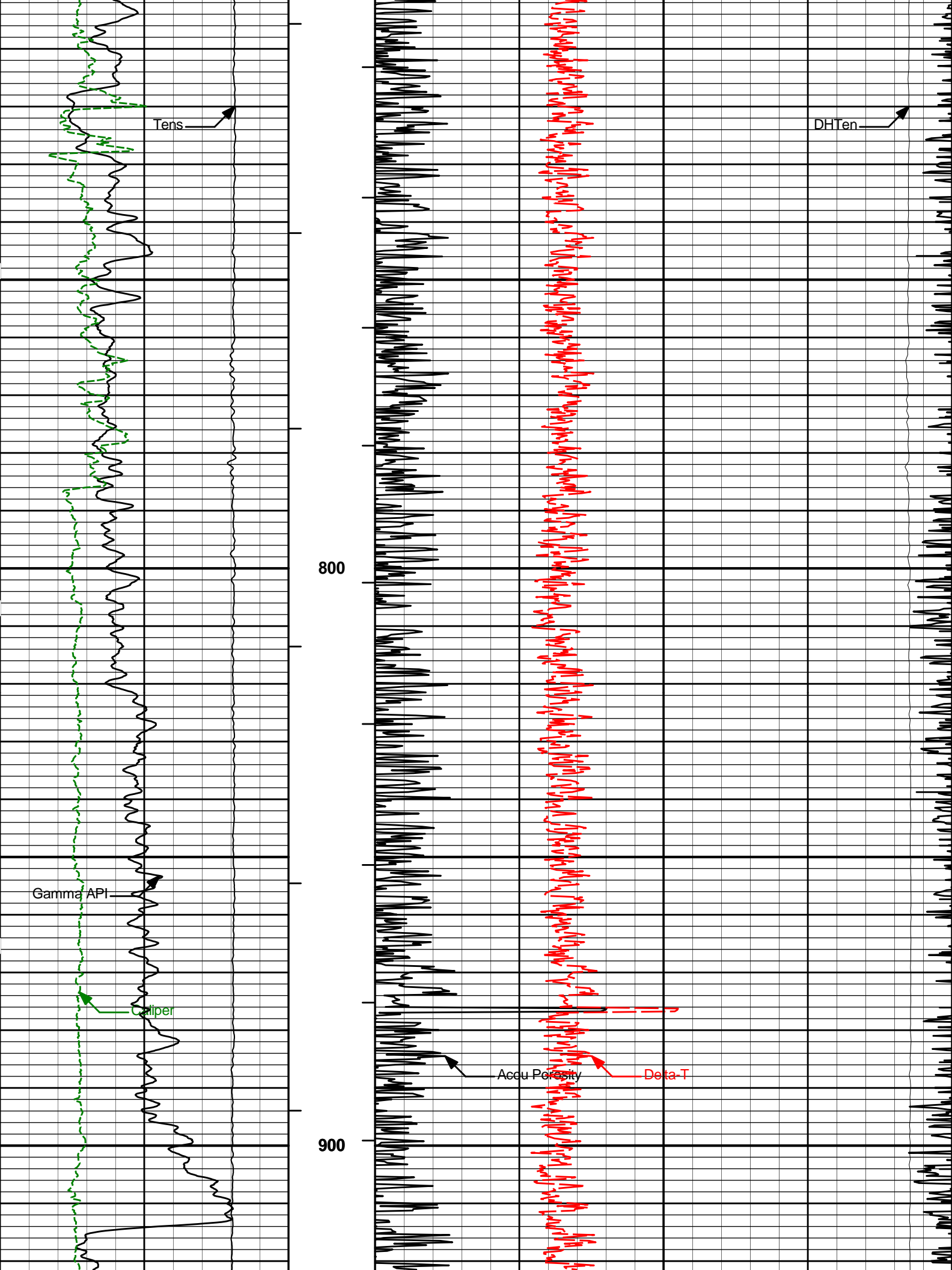
Delta-T

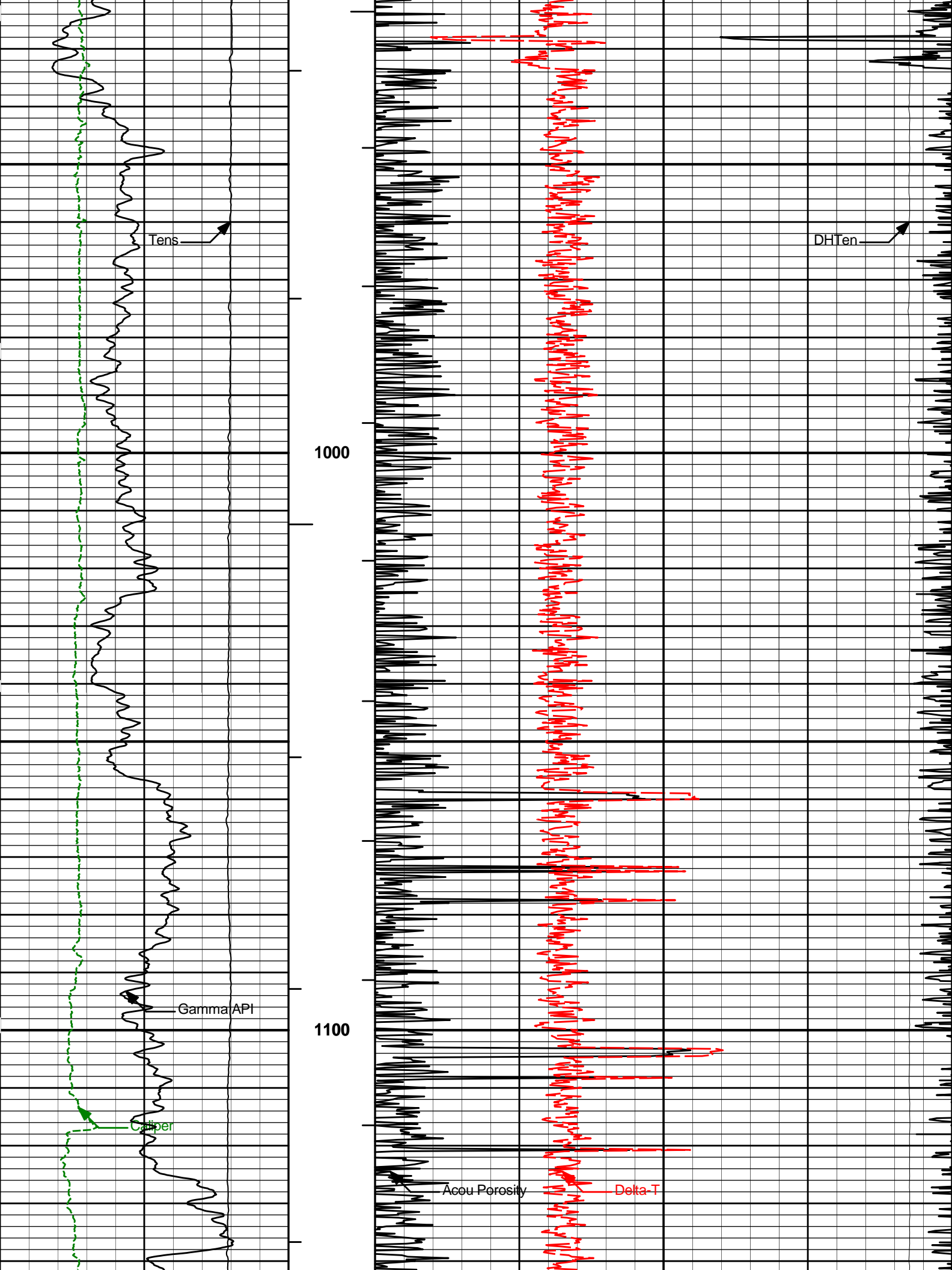
AHVT

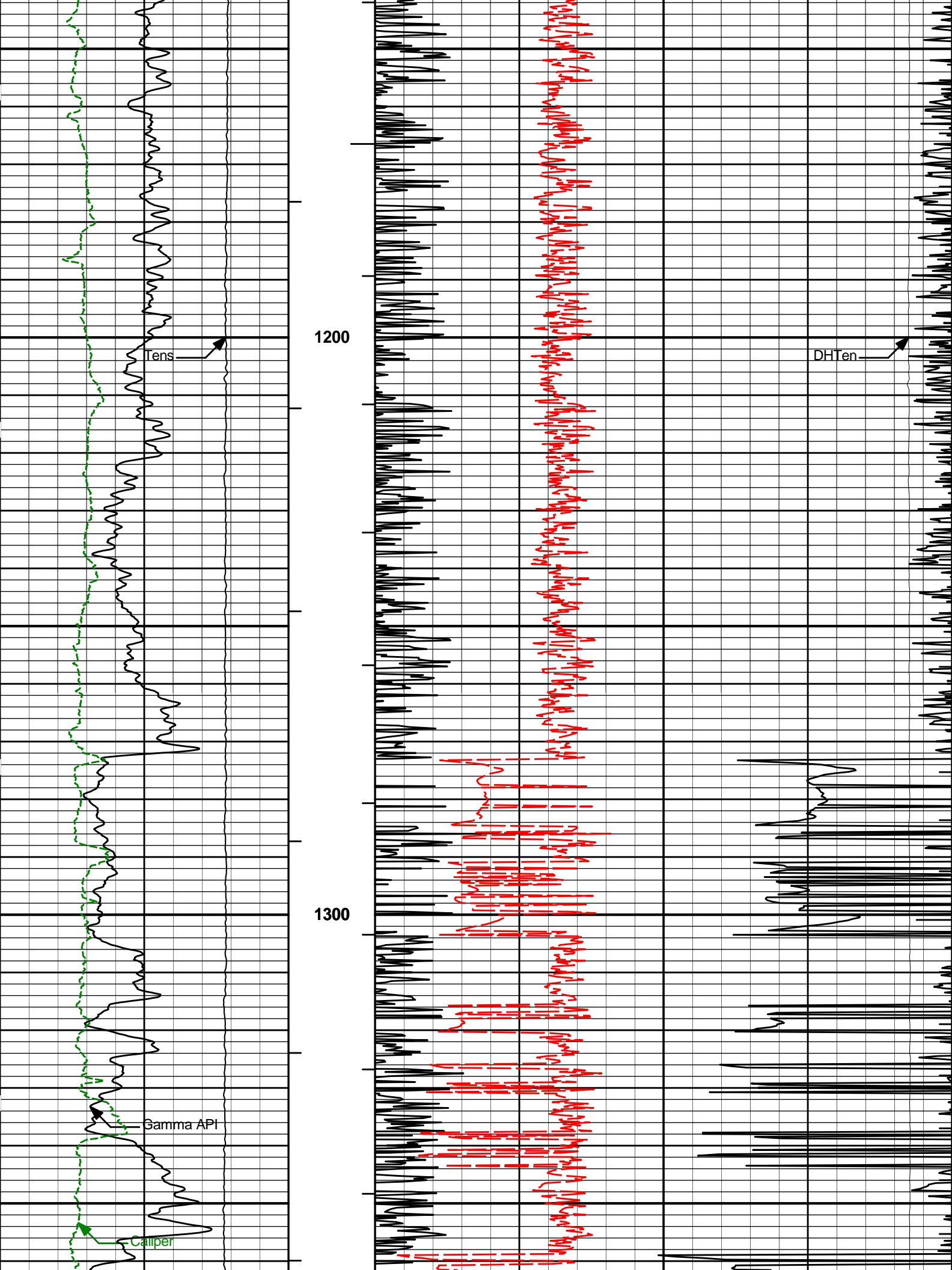
BHVT

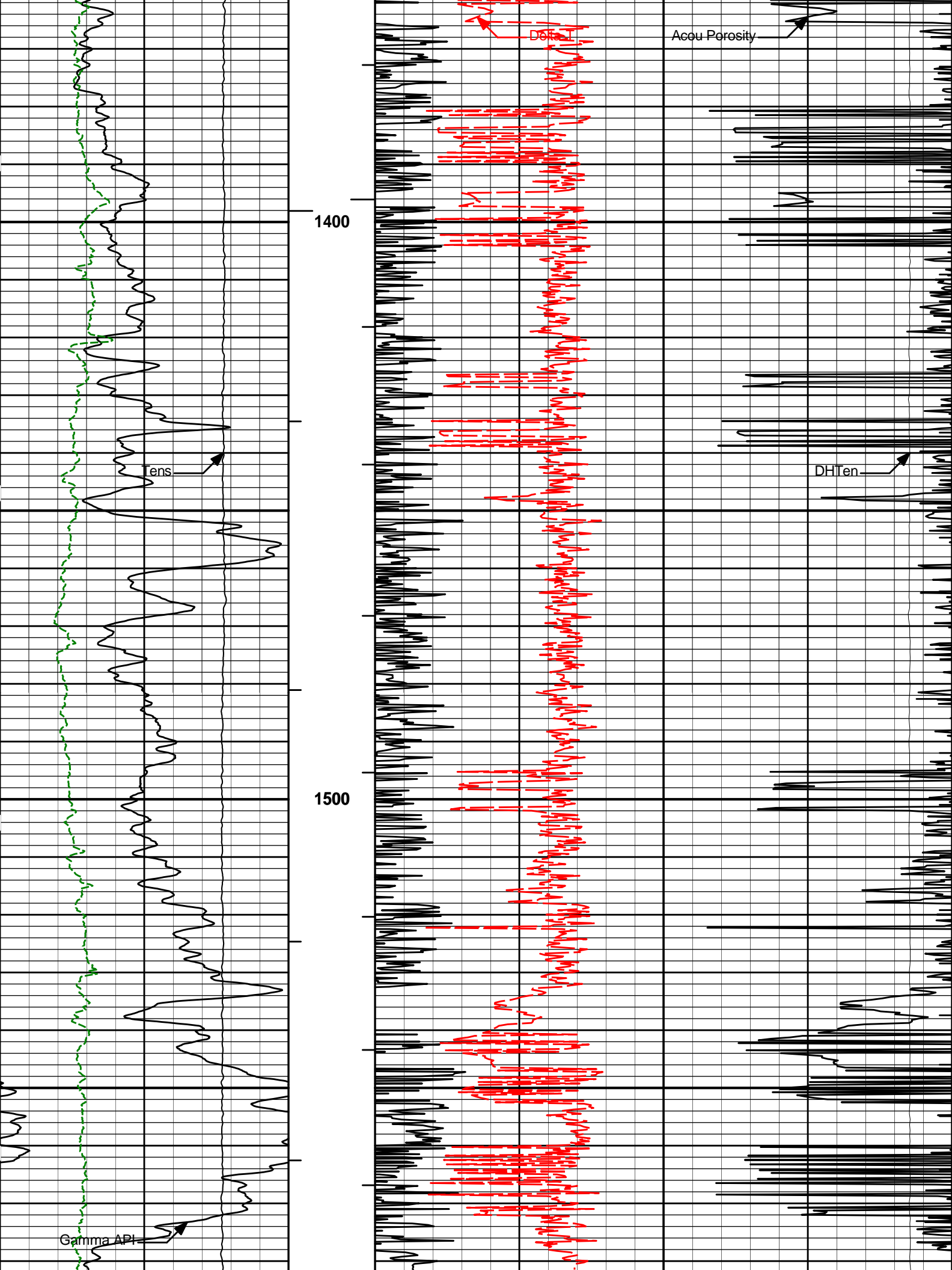
DHTen  
pounds

ITTTot

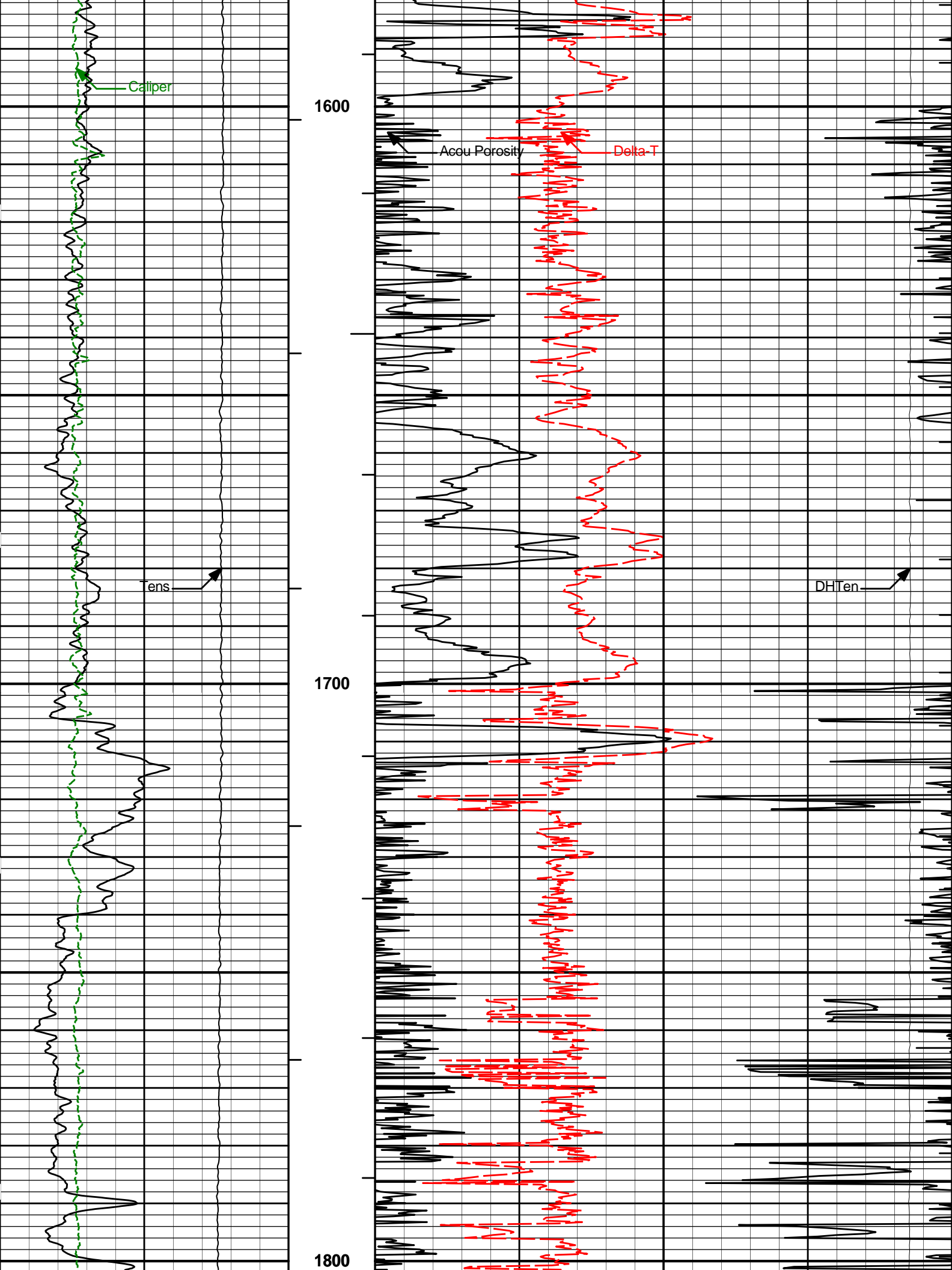


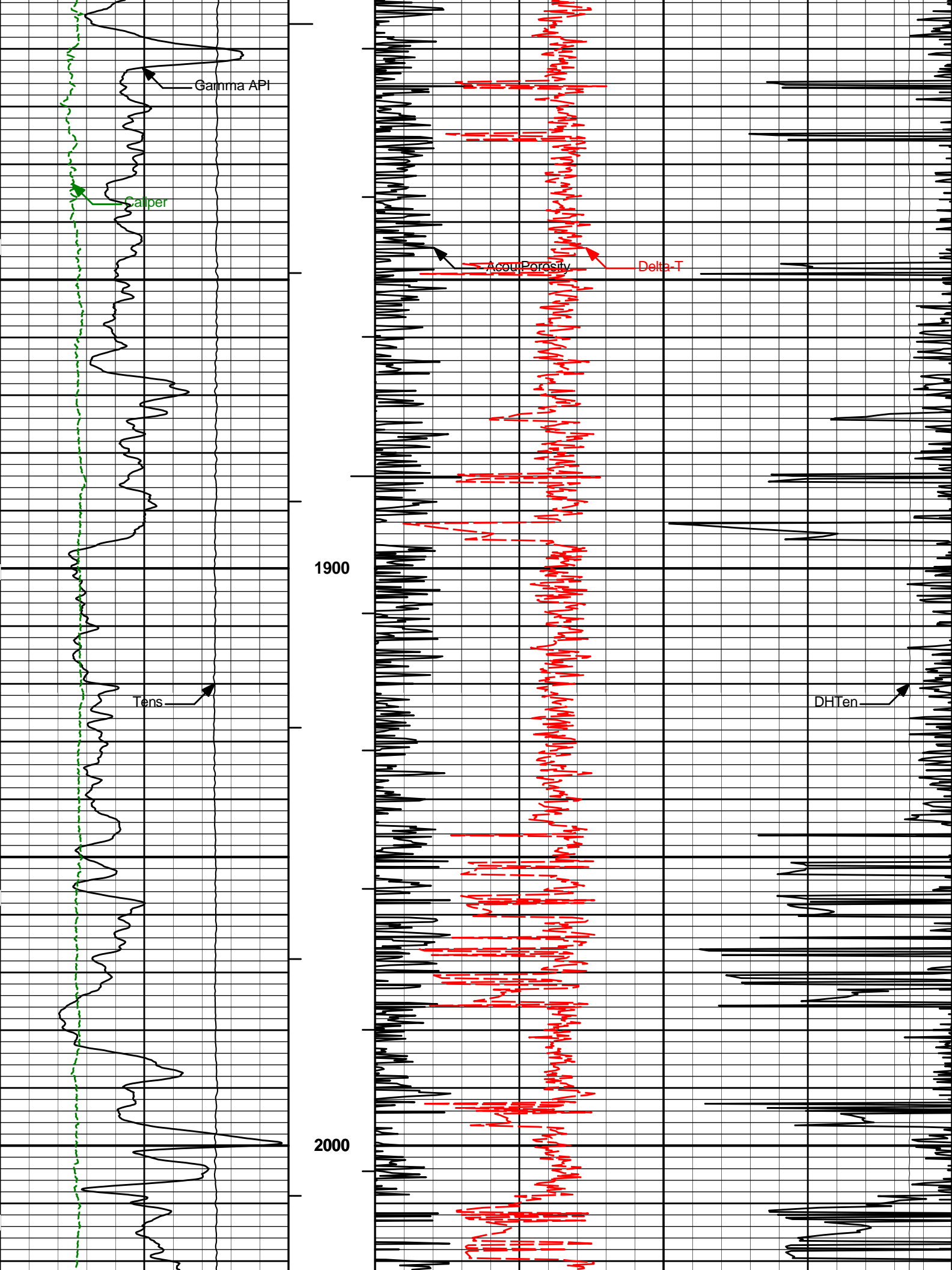


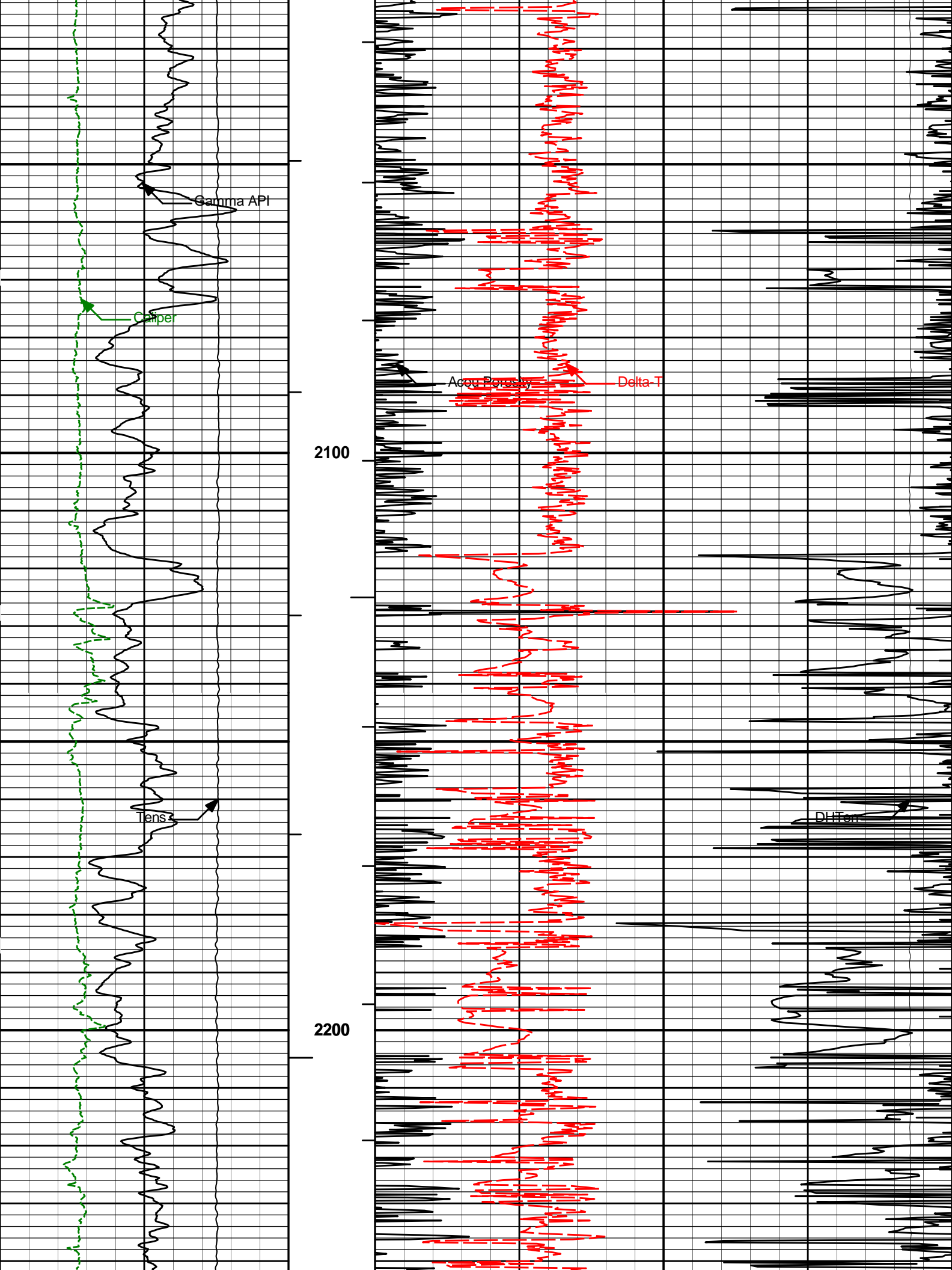


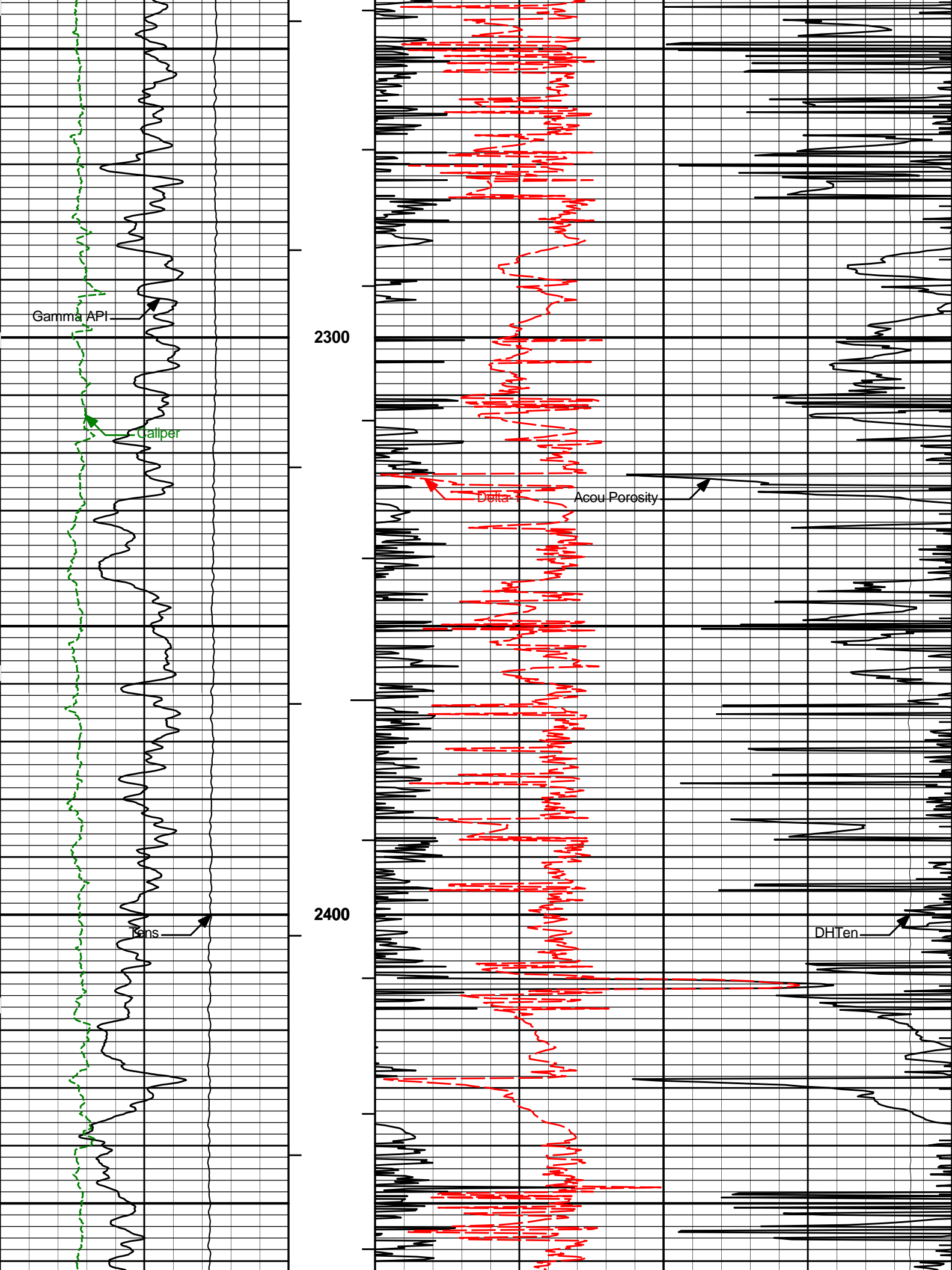


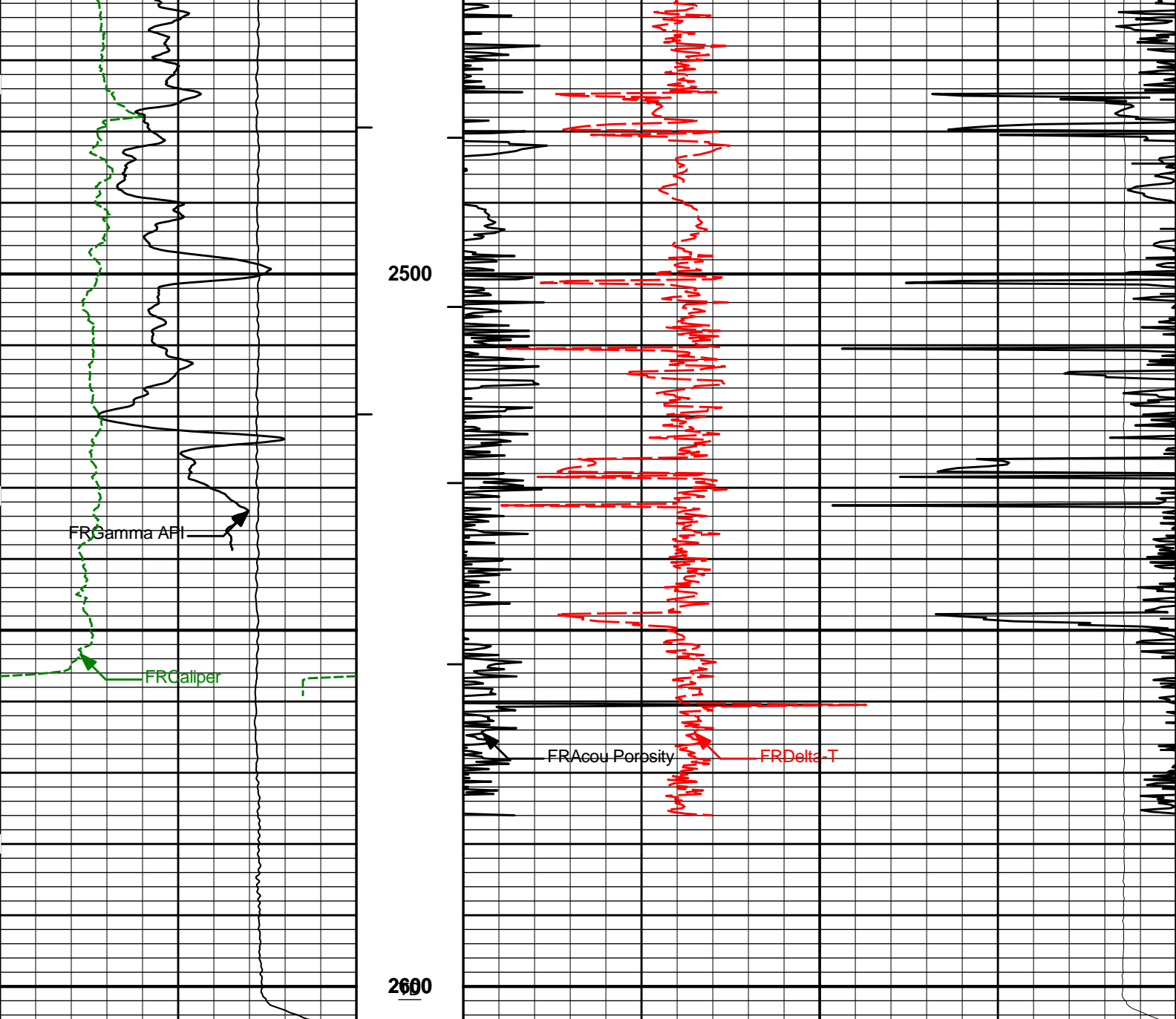








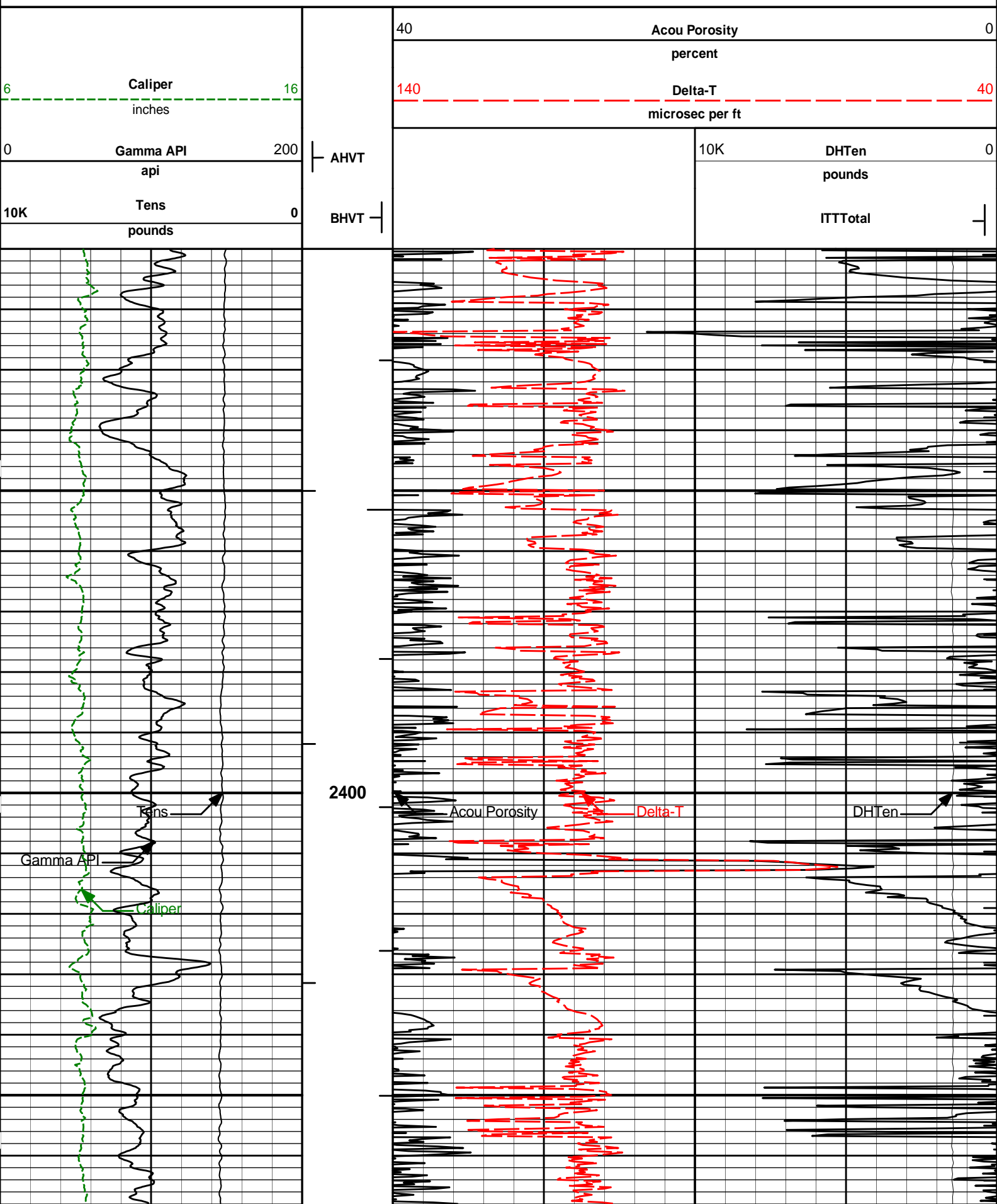


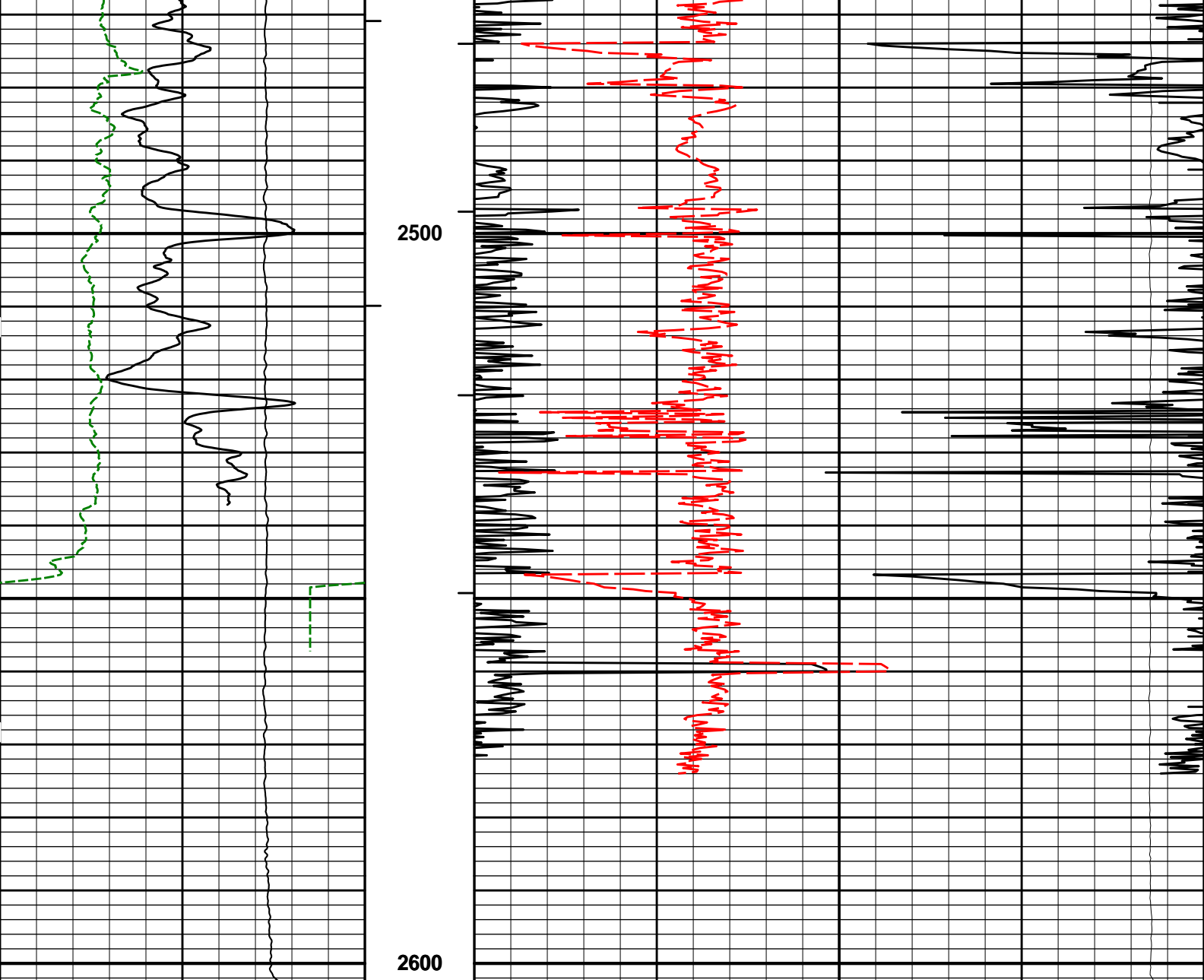


10K	Tens pounds	0	BHVT	ITTTotal	
0	Gamma API api	200	AHVT	10K	DHTen pounds
6	Caliper inches	16		140	Delta-T microsec per ft
				40	Acou Porosity percent

HALLIBURTON Plot Time: 07-May-10 18:59:11  
 Plot Range: 540 ft to 2605.26 ft  
 Data: B\_SCHWARX\_1\_10\Well Based\MAIN\  
 Plot File: \\BSAT\IQ\_BP\_SONIC\_DT\_5IN\_RM

HALLIBURTON Plot Time: 07-May-10 18:59:11  
 Plot Range: 2310 ft to 2602.99 ft  
 Data: B\_SCHWARX\_1\_10\Well Based\REPEAT\  
 Plot File: \\BSAT\IQ\_BP\_SONIC\_DT\_5IN\_RM\_RPT





10K	Tens pounds	0	BHVT		ITTTotals	
0	Gamma API api	200	AHVT		10K	DHTen pounds
6	Caliper inches	16		140	Delta-T microsec per ft	40
				40	Acou Porosity percent	0

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Plot Time: 07-May-10 18:59:12  
 Plot Range: 2310 ft to 2602.99 ft  
 Data: B\_SCHWARX\_1\_10Well Based\REPEAT\  
 Plot File: \BSATIQ\_BP\_SONIC\_DT\_5IN\_RM\_RPT

**HALLIBURTON**

**CALIBRATION REPORT**

**NATURAL GAMMA RAY TOOL SHOP CALIBRATION**

Tool Name: GTET - 11215095

Reference Calibration Date: 02-Apr-10 10:05:47

Engineer: D. CULVER

Calibration Date: 23-Apr-10 14:19:05

Calibrator Source S/N: TB-270  
 Calibrator API Reference:259.00 api

Measurement	Measured	Calibrated	Units
Background	40.7	40.4	api
Background + Calibrator	306.3	303.9	api
Calibrator	263.2	263.5	api

**NATURAL GAMMA RAY TOOL FIELD CALIBRATION**

**Tool Name: GTET - 11215095 Reference Calibration Date: 23-Apr-10 14:19:05**  
**Engineer: D. CULVER Calibration Date: 07-May-10 09:09:58**  
**Software Version: WL INSITE R3.0.3 (Build 5) Calibration Version: 1**

Calibrator Source S/N: TB-270  
 Calibrator API Reference:259.00 api

Field Verification	Shop	Field	Units
Background	40.4	34.1	api
Background + Calibrator	303.9	300.2	api
Calibrator	263.5	266.1	api

Shop	Field	Difference	Tolerance
263.5	266.1	-2.6	+/- 9.00

**NATURAL GAMMA RAY TOOL POST CALIBRATION**

**Tool Name: GTET - 11215095 Reference Calibration Date: 07-May-10 09:09:58**  
**Engineer: D. CULVER Calibration Date: 07-May-10 18:45:52**  
**Software Version: WL INSITE R3.0.3 (Build 5) Calibration Version: 1**

Calibrator Source S/N: TB-270  
 Calibrator API Reference:259.00 api

Post Verification	Field	Post	Units
Background	34.1	38.5	api
Background + Calibrator	300.2	295.9	api
Calibrator	266.1	257.3	api

Shop	Field	Post	Difference	Tolerance
263.5	266.1	257.3	8.8	+/- 9.00

**DUAL SPACED NEUTRON SHOP CALIBRATION**

**Tool Name: DSNT - 10860047 Reference Calibration Date: 11-Jan-10 16:55:26**  
**Engineer: C. BLUE Calibration Date: 11-Jan-10 17:08:24**  
**Software Version: WL INSITE R2.4 (Build 20) Calibration Version: 1**

Logging Source S/N: DSN 434  
 Tank Serial Number: 11068236  
 Reference value assigned to Tank: 53.720  
 Snow Block S/N: BRIGHTON SNOW BLOCK  
 Calibration Tank Water Temperature: 68 degF  
 Min. Tool Housing Outside Diameter: 3.625 in

CALIBRATION CONSTANTS			
Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	0.974	0.971	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):	0.2232	0.2224	0.0008	+/- 0.0020
Calibrated Ratio:	10.14	10.11	0.027	+/- 0.050

**VERIFIER**

Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0739	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 - 10860047**Reference Calibration Date:** 11-Jan-10 17:08:24**Engineer:** D. CULVER**Calibration Date:** 07-May-10 09:13:31**Software Version:** WL INSITE R3.0.3 (Build 5)**Calibration Version:** 1

Logging Source S/N: DSN 434

Snow Block S/N: BRIGHTON SNOW BLOCK

**NEUTRON FIELD-CHECK SUMMARY**

	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0739	0.0609	-0.0130	+/- 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 - 10860047**Reference Calibration Date:** 07-May-10 09:13:31**Engineer:** D. CULVER**Calibration Date:** 07-May-10 18:47:30**Software Version:** WL INSITE R3.0.3 (Build 5)**Calibration Version:** 1

Logging Source S/N: DSN 434

Snow Block S/N: BRIGHTON SNOW BLOCK

**NEUTRON POST-CHECK SUMMARY**

	Field Value	Post Value	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0609	0.0680	0.0071	+/- 0.0150

**PASS/FAIL SUMMARY**

Block Change Check:	Passed
Snow Block Stat Check:	Passed
Temperature Check:	Passed

**SPECTRAL DENSITY SHOP CALIBRATION****Tool Name:** SDLT - 11014271**Reference Calibration Date:** 06-Apr-10 00:43:50**Engineer:** D. CULVER**Calibration Date:** 23-Apr-10 12:06:45**Software Version:** WL INSITE R3.0.3 (Build 5)**Calibration Version:** 1

Logging Source S/N: 5235GW

**DENSITY CALIBRATION SUMMARY**

Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0364	1.0307	0.90 - 1.10
Near Dens Gain	0.9877	0.9873	0.90 - 1.10
Near Peak Gain	0.9982	0.9887	0.90 - 1.10
Near Lith Gain	0.9851	0.9677	0.90 - 1.10
Far Bar Gain	1.0072	1.0063	0.90 - 1.10
Far Dens Gain	0.9962	0.9938	0.90 - 1.10
Far Peak Gain	0.9918	0.9905	0.90 - 1.10
Far Lith Gain	0.9789	0.9736	0.90 - 1.10
<hr/>			
Near Bar Offset	-0.3406	-0.2883	NONE
Near Dens Offset	0.1227	0.1255	NONE
Near Peak Offset	0.0164	0.0921	NONE
Near Lith Offset	0.0948	0.2393	NONE
Far Bar Offset	-0.1554	-0.1451	NONE
Far Dens Offset	-0.0557	-0.0288	NONE
Far Peak Offset	-0.0189	-0.0017	NONE
Far Lith Offset	0.0415	0.0930	NONE
<hr/>			
Near Bar Background	957.82	956.99	700 - 1450
Near Dens Background	314.59	316.14	230 - 480
Near Peak Background	136.54	136.19	100 - 210
Near Lith Background	167.44	166.98	125 - 260
Far Bar Background	541.15	541.17	450 - 900
Far Dens Background	213.67	214.26	175 - 345
Far Peak Background	80.26	81.36	70 - 140
Far Lith Background	86.89	88.06	75 - 145

**CALIBRATION BLOCK SUMMARY**

Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
<b>MAGNESIUM</b>				
Density (g/cc)	1.692	1.688	-0.004	+/- 0.015
Pe	2.549	2.587	0.038	+/- 0.150
<b>ALUMINUM</b>				
Density (g/cc)	2.592	2.588	-0.004	+/- 0.01500
Pe	3.140	3.152	0.012	+/- 0.150

**TOOL SUMMARY**

Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
<b>QUALITY</b>				
Background	-0.0010	+/- 0.0110	-0.0028	+/- 0.0140
Magnesium Block	-0.0008	+/- 0.0110	-0.0018	+/- 0.0140
Aluminum Block	-0.0001	+/- 0.0110	0.0006	+/- 0.0140
Resolution	9.06	6.00 - 11.50	9.95	6.00 - 11.50
Internal Verifier(B+D+P+L)	1576	1200 - 2700	925	800 - 1700

**PASS/FAIL SUMMARY**



Pad Offset	-2655.70	-2796.73	-7000.00 - -1000.00
Pad Gain	0.0003745	0.0003781	0.000200 - 0.000600
Arm Offset	-3575.88	-3409.59	-5000.00 - 3000.00
Arm Gain	0.0005619	0.0005594	0.000300 - 0.000700
Arm Power	-0.000005574	-0.000005356	-0.000010 - 0.000010

The ring diameter is computed from:  $\text{DIAMETER} = \text{PAD EXTENSION} + \text{ARM EXTENSION} + \text{TOOL DIAMETER}$

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)	2.03	2.00	-0.03	+/- 0.20
Medium Ring (in)	3.77	3.75	-0.02	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.47	6.50	0.03	+/- 0.20
Medium Ring (in)	8.23	8.25	0.02	+/- 0.20
Large Ring (in)	14.97	15.00	0.03	+/- 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 - 11014271

Reference Calibration Date: 23-Apr-10 13:39:33

Engineer: D. CULVER

Calibration Date: 07-May-10 09:21:04

Software Version: WL INSITE R3.0.3 (Build 5)

Calibration Version: 1

MEASURED CALIPER VALUES				
Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.73	-0.02	+/- 0.10
Ring Diameter	8.25	8.32	0.07	+/- 0.15

#### PASS/FAIL SUMMARY

Pad Extension Check: Passed  
 Diameter Check: Passed

### SDLT CALIPER POST CALIBRATION

Tool Name: SDLT - 11014271

Reference Calibration Date: 07-May-10 09:21:04

Engineer: D. CULVER

Calibration Date: 07-May-10 18:50:21

Software Version: WL INSITE R3.0.3 (Build 5)

Calibration Version: 1

MEASURED CALIPER VALUES				
Measurement	Field	Post	Change	Control Limit On New Value
Pad Extension	3.73	3.71	-0.02	+/- 0.10
Ring Diameter	8.32	8.27	-0.04	+/- 0.15

#### PASS/FAIL SUMMARY

Pad Extension Check: Passed  
 Diameter Check: Passed

### ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION

Tool Name: ACRt - F104 S103

Reference Calibration Date: 11-Apr-10 11:56:37

Engineer: D. CULVER

Calibration Date: 05-May-10 10:15:02

Software Version: WL INSITE R3.0.3 (Build 5)

Calibration Version: 1

## TYPICAL GAIN RANGE

Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	1.0027	1.05	0.95	1.0057	1.05	0.95	1.0023	1.05
A2 (50")	0.95	1.0058	1.05	0.95	1.0097	1.05	0.95	1.0082	1.05
A3 (29")	0.95	1.0041	1.05	0.95	1.0080	1.05	0.95	1.0044	1.05
A4 (17")	0.95	0.9989	1.05	0.95	1.0000	1.05	0.95	1.0000	1.05
A5 (10")	N/A	N/A	N/A	0.95	0.9885	1.05	0.95	0.9870	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.9829	1.05	0.95	0.9808	1.05

## TYPICAL SONDE OFFSET RANGE

Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	-5	-0.301	2	-6	-3.714	-2	-8	-4.929	-2
A2 (50")	-7	-2.089	-2	-6	-3.592	-2	-7	-4.503	-2
A3 (29")	-27	-11.110	-9	-9	-3.403	-3	-7	-2.901	-1
A4 (17")	-180	-98.624	-60	-45	-32.412	-15	-39	-26.305	-13
A5 (10")	N/A	N/A	N/A	-150	-74.726	-50	-80	-37.578	-10
A6 (6")	N/A	N/A	N/A	175	269.040	525	90	138.809	270

## TRANSMITTER CURRENT GAIN

Signal	Lower	R	Upper
12K	0.6	0.8862	1.3
36K	1.0	1.8983	2.0
72K	1.0	1.1261	2.0

## R-MUD VERIFICATION

Signal	Lower (ohm-m)	Measured (ohm-m)	Upper (ohm-m)
Mud Cell	0.95	0.997	1.05

## CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11215095						
Gamma Ray Calibrator	263.5	266.1	257.3	8.8	+/- 9.00	api
DSNT-10860047						
Snow-Block Porosity	0.0739	0.0609	0.0680	-0.0071	+/- 0.0150	decp
SDLT-11014271						
Near(B+D+P+L)	1576.292	1566.821	1577.055	-10.234	+/-15.973	cps
Far(B+D+P+L)	924.847	921.873	932.818	-10.945	+/-16.469	cps
Pad Extension	3.75	3.73	3.71	0.02	+/-0.10	in
Ring Diameter	8.25	8.32	8.27	0.050	+/-0.15	in
ACRt-E104_S103						
Mud Cell	0.997	-----	-----	0.000	-----	ohm-m

Data: B\_SCHWARX\_1\_10\0002 QUAD\IDLE

Date: 07-May-10 18:51:00

**HALLIBURTON**

## CUSTOMER EVENT LOG

Event Type	Time & Date	Depth (ft)	Event Description
	07-May-10 17:03:08	2.75	Logging 001 07-May-10 17:03 Dn @2.8f

07-May-10 17:21:19	2501.27	Halting 001 07-May-10 17:03 Dn @2.8f
07-May-10 17:23:35	2604.25	Logging 002 07-May-10 17:23 Up @2604.3f
07-May-10 17:30:51	2221.82	Halting 002 07-May-10 17:23 Up @2604.3f
07-May-10 17:33:57	2605.75	Logging 003 07-May-10 17:33 Up @2605.8f
07-May-10 18:21:02	54.27	Halting 003 07-May-10 17:33 Up @2605.8f

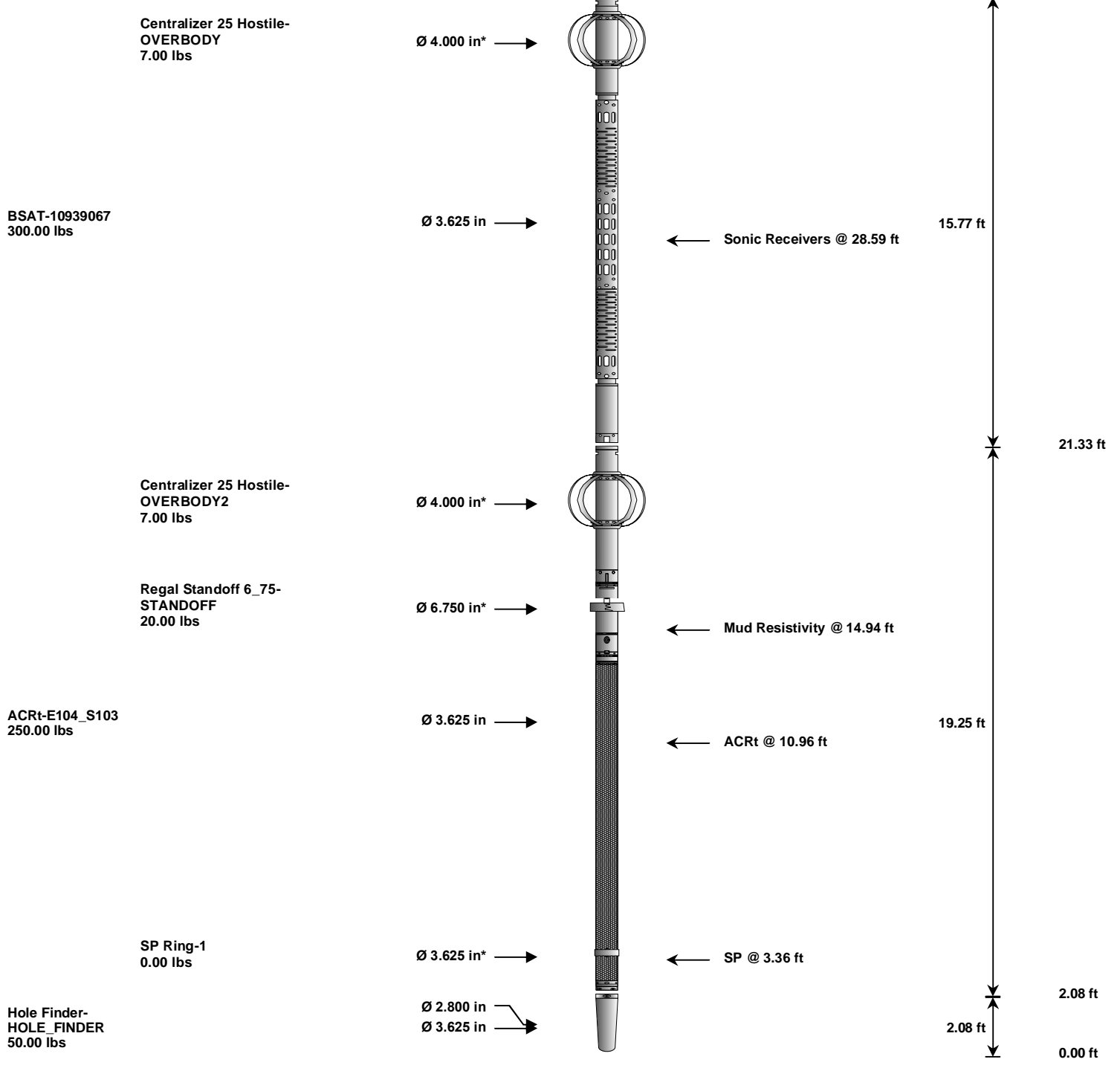
Data: B\_SCHWARX\_1\_10\0002 QUAD\HALLIBUR-1A34A9

Date: 07-May-10 18:23:50

**HALLIBURTON**

**TOOL STRING DIAGRAM REPORT**

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
RWCH-11173131 135.00 lbs		Ø 3.625 in →		← Load Cell @ 74.36 ft ← BH Temperature @ 73.80 ft	6.25 ft	78.05 ft
GTET-11215095 165.00 lbs		Ø 3.625 in →		← GammaRay @ 65.74 ft	8.52 ft	71.80 ft
DSNT-10860047 174.00 lbs	DSN Decentralizer- 10860047 6.60 lbs	Ø 3.625 in* → Ø 3.625 in →		← DSN Far @ 56.34 ft ← DSN Near @ 55.59 ft	9.69 ft	63.28 ft
SDLT-11014271 360.00 lbs		Ø 4.500 in → Ø 4.750 in →		→ SDL Microlog @ 45.78 ft → SDL Caliper @ 45.59 ft → SDL @ 45.58 ft	10.81 ft	53.59 ft
IQ Flex-ORANGE 140.00 lbs		Ø 3.625 in →			5.67 ft	42.78 ft
						5.67 ft



Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max.Log. Speed (fpm)
RWCH	Releasable Wireline Cable Head	11173131	135.00	6.25	71.80	300.00
GTET	Gamma Telemetry Tool	11215095	165.00	8.52	63.28	60.00
DSNT	Dual Spaced Neutron	10860047	174.00	9.69	53.59	60.00
DCNT	DSN Decentralizer	10860047	6.60	5.13	56.92	300.00
SDLT	Spectral Density Tool	11014271	360.00	10.81	42.78	60.00
IQF	IQ Flex tool	ORANGE	140.00	5.67	37.11	300.00
BCAS	Borehole Sonic Array Tool	10939067	300.00	15.77	21.33	60.00
OBCEN	Centralizer - 25 in. Hostile Overbody	OVERBODY	7.00	2.08	34.49	300.00
ACRt	Array Compensated True Resistivity	E104_S103	250.00	19.25	2.08	300.00
SP	SP Ring	1	0.00	0.25	3.36	300.00
RSOF	Regal Standoff 6.75"	STANDOFF	20.00	0.52	15.43	300.00
OBCEN	Centralizer - 25 in. Hostile Overbody	OVERBODY2	7.00	2.08	18.31	300.00
HFND	Hole Finder	HOLE_FINDER	50.00	2.08	0.00	300.00

**Total** **1,614.60** **78.05**

\* Not included in Total Length and Length Accumulation.

Data: B\_SCHWARX\_1\_10\0002 QUAD\IDLE Date: 07-May-10 18:08:34

COMPANY	BRIDGE ENERGY INC		
WELL	SCHWARZ 1-10		
FIELD	WILDCAT		
COUNTY	PAYETTE	STATE	ID

**HALLIBURTON**

**BOREHOLE COMPENSATED  
SONIC ARRAY**