

HALLIBURTON

BOREHOLE COMPENSATED ARRAY SONIC LOG

COMPANY WELL FIELD COUNTY STATE	BRIDGE/PARAMAX TRACY TRUST #3-2 HAMILTON PAYETTE ID	COMPANY WELL FIELD COUNTY STATE ID	BRIDGE/PARAMAX TRACY TRUST #3-2 HAMILTON PAYETTE STATE ID
Permanent Datum Log measured from Drilling measured from Date Run No. Depth - Driller Depth - Logger Bottom - Logged Interval Top - Logged Interval Casing - Driller Casing - Logger Bit Size Type Fluid in Hole Density Alkalinity HTHP @ Meas. Temperature Solids Oil Water Phase Salinity Oil Type Electrical Stability Time Since Circulation Time on Bottom Max. Rec. Temperature Equipment Recorded By Witnessed By	GL KB KB 14-Aug-10 ONE 2810.00 ft 2817.0 ft 2808.0 ft 733.0 ft 8.625 in @ 833.0 ft 731.0 ft 8.750 in OBM 9.8 ppg 0.20 pcf 5.4 gpm @ 2000.00 degF 13.5 % 89 8000.00 ppm Cl- DIESEL 1920 V 6.0 hr 14-Aug-10 16:34 131.0 degF @ 2817.0 ft 11014853 W. MATSON JEFF KIRN	Sect. 2 Twp. 7N Rge. 4W Elev. 2248.00 ft 12.00 ft above perm. Datum Elev. KB 2283.00 ft D.F. 2282.00 ft GL 2246.00 ft	API No. 011075200110000 Location SHL 2033 FSL & 647 FWL SEC. 2, T. 7N, R. 4W Other Services: RWCH XRMI ACRT DGCS SDL/DSN

Fold here

Service Ticket No.: N/A		API Serial No.: 011075200110000		PGM Version: VL INSITE R3.0.5 (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	F. Viscosity													
Alkalinity	P. Viscosity													
HTHP @ Meas. Temp.		RESISTIVITY EQUIPMENT DATA												
Solids	Wgt. Mat.	Run No.	Tool Type & No.	Pad Type	Tool Pos.	Other								
Oil	Water Ratio	ONE	ACRT E488	N/A	1.5" S.O.	N/A								
Water Phase Salinity														
Oil Type	Water Type													
Electrical Stability														
EQUIPMENT DATA														
GAMMA		ACOUSTIC		DENSITY		NEUTRON								
Run No.	ONE	Run No.	ONE	Run No.	ONE	Run No.	ONE							
Serial No.	11005802	Serial No.	11105782	Serial No.	10851314	Serial No.	10893888							
Model No.	GTET	Model No.	BSAT	Model No.	SDLT	Model No.	DSNT							
Diameter	3.825"	No. of Cent.	TWO	Diameter	4.5"	Diameter	3.825"							
Detector Model No.	102A	Spacing	N/A	Log Type	GAMMA/GAMMA	Log Type	THERM/THERM							
Type	SCINT			Source Type	Cs-137	Source Type	Am241Be							
Length	8"	LSA [Y/N]	YES	Serial No.	5253 GW	Serial No.	DSN-388							
Distance to Source	11'	FWDA [Y/N]	NO	Strength	1.5 Ci	Strength	15 Ci							
LOGGING DATA														
GENERAL			GAMMA		ACOUSTIC		DENSITY		NEUTRON					
Run No.	Depth	Speed	Scale		Scale		Scale		Scale		Matrix			
	From	To	L	R	L	R	L	R	L	R				
ONE	TD	CSG	REC	0	200	40%	0%	55.5 us/ft	40%	0%	2.65 g/cc	40%	0%	SAND

DIRECTIONAL INFORMATION	
Maximum Deviation	@ KOP @
Remarks:	
RUN ONE: GTET/DSN/SDL/FLEX/BSAT/ACRT	
RUN TWO: D4TGX/DCGS	
RUN THREE: D4TGX/XRMI	
TENSION PULLS MAY AFFECT LOG RESPONSE	
BSAT Reprocessed at Denver FRS - Robert Denton	
YOUR CREW TODAY: W. HALL, J. WIKERSON, T. VANALSTYNE. FIG: RAZORBACK	
THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES - GRAND JUNCTION, CO - (970) 523-3600.	
<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>	
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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	10.100	ppg
	SHARED	OBM	Oil Based Mud System?	Yes	
	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	2810.00	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	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	0.000	in
	DSNT	DNTP	Temperature Correction Type	None	
	DSNT	DPRS	DSN Pressure Correction Type	None	
	DSNT	SHCO	View Menu 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	DTVN	Disable temperature warning	No	
SDLT	MDTP	Weighted Mud Correction Type?	Barite	
SDLT	DMA	Formation Density Matrix	2.650	g/cc
SDLT	DFL	Formation Density Fluid	1.000	g/cc
SDLT	CLOK	Process Callper 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	Wyle	
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

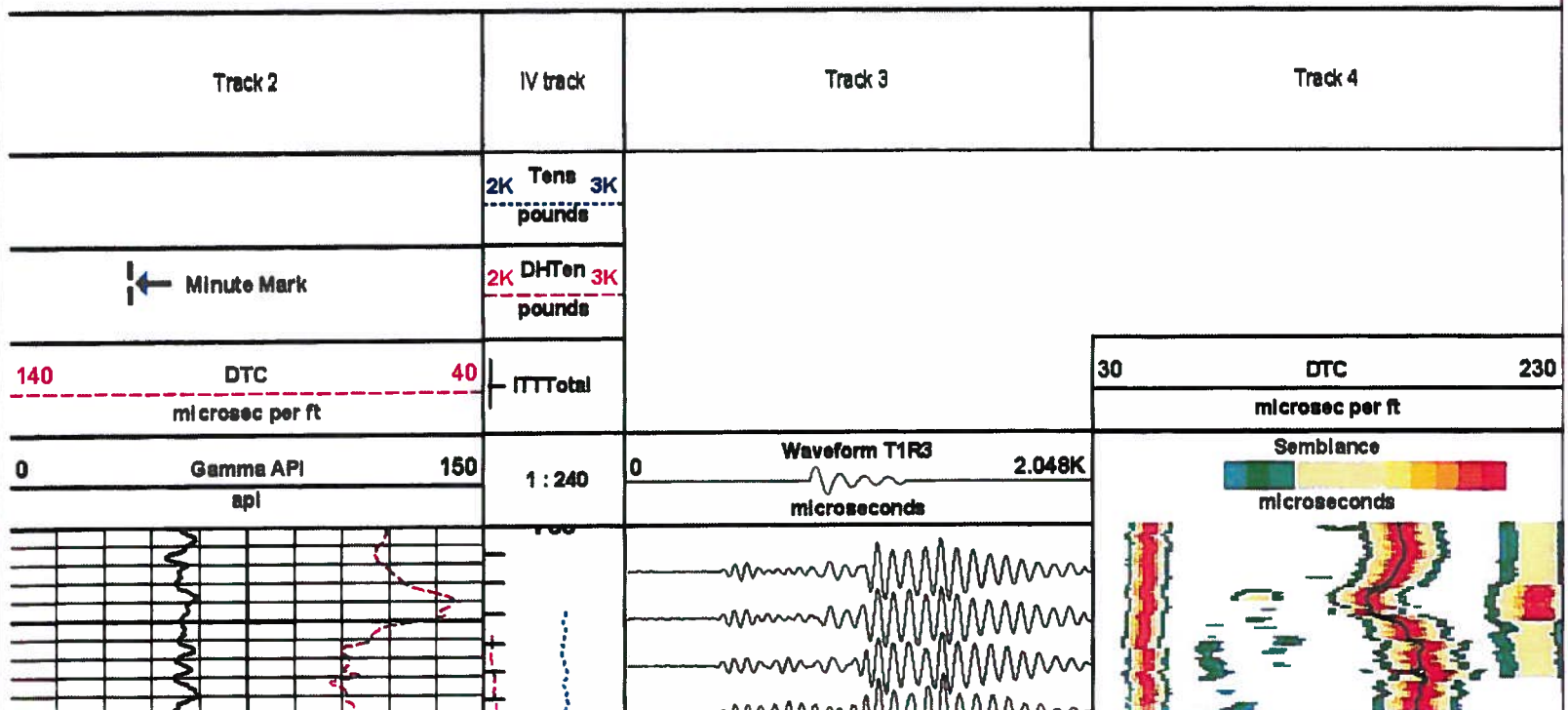
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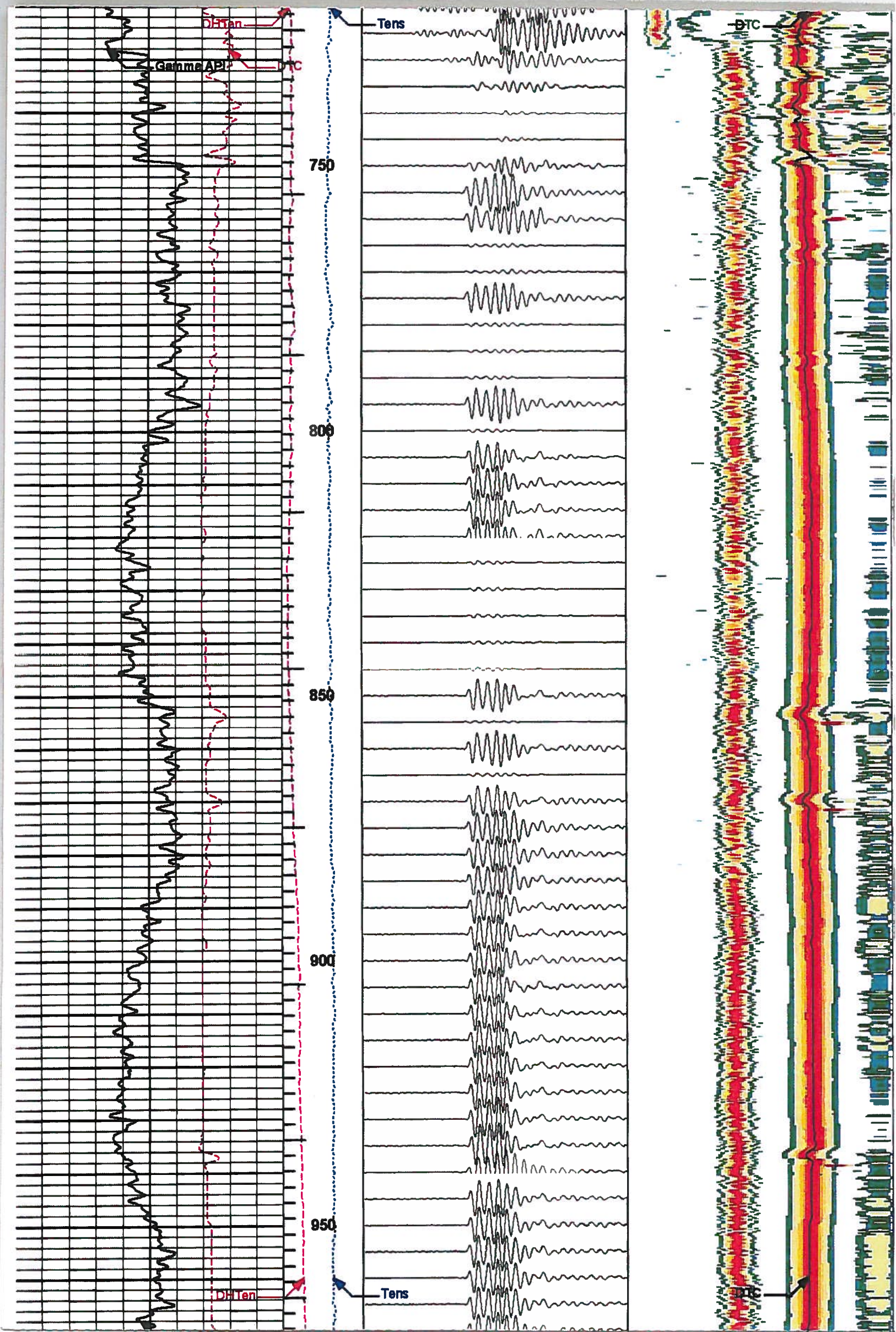
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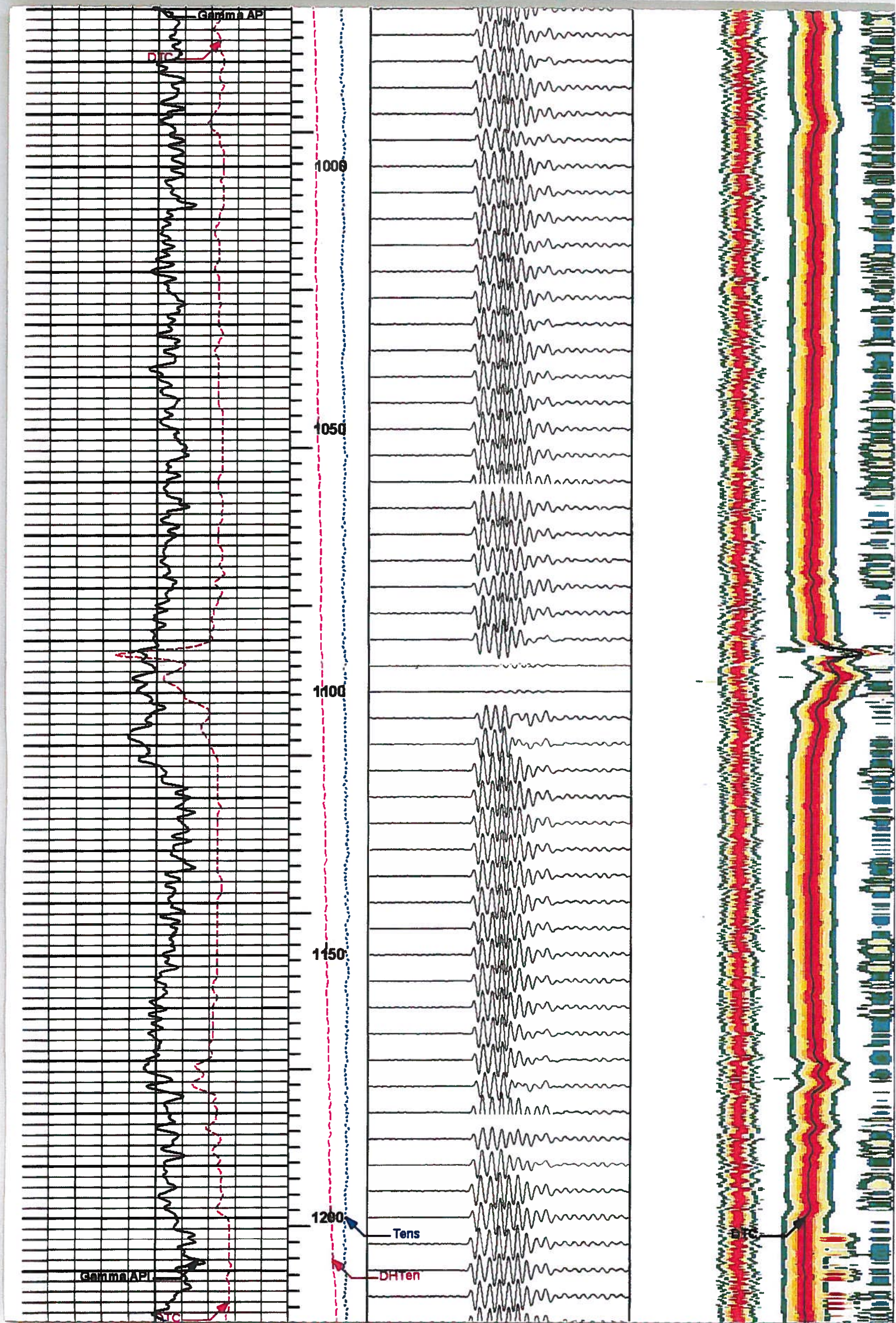
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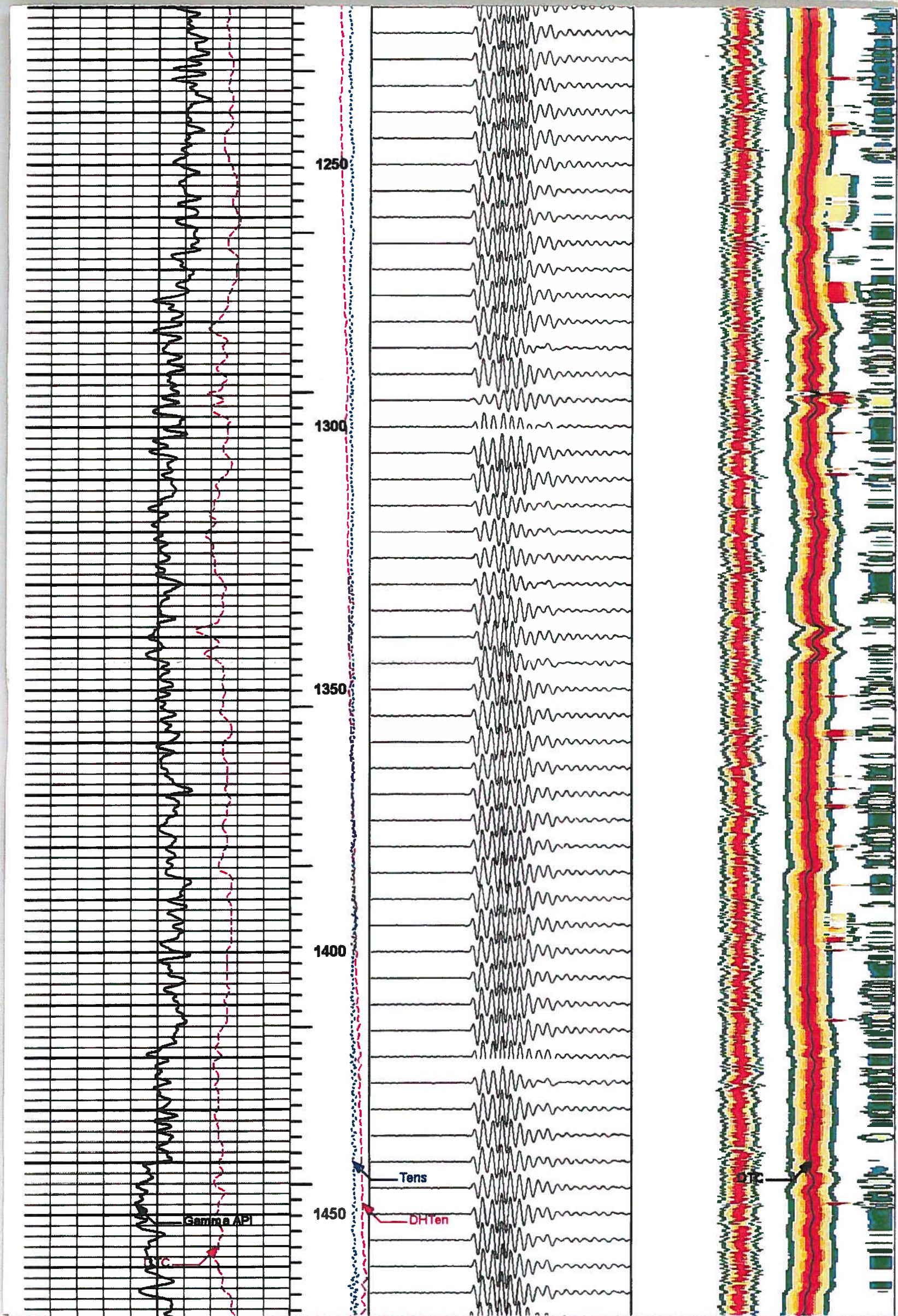
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 Plot Range: 700 ft to 2822.38 ft
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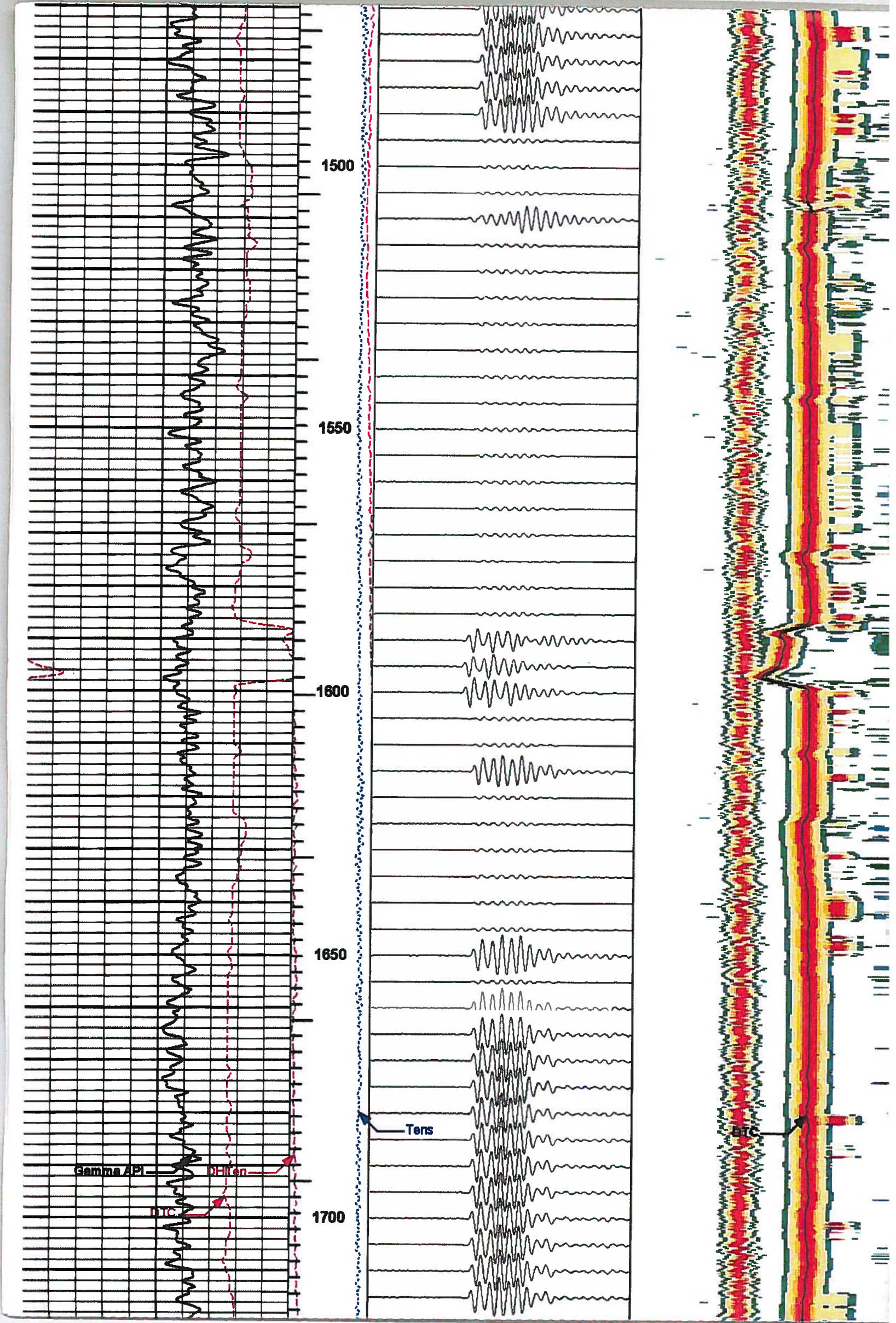
MAIN PASS 5"=100'

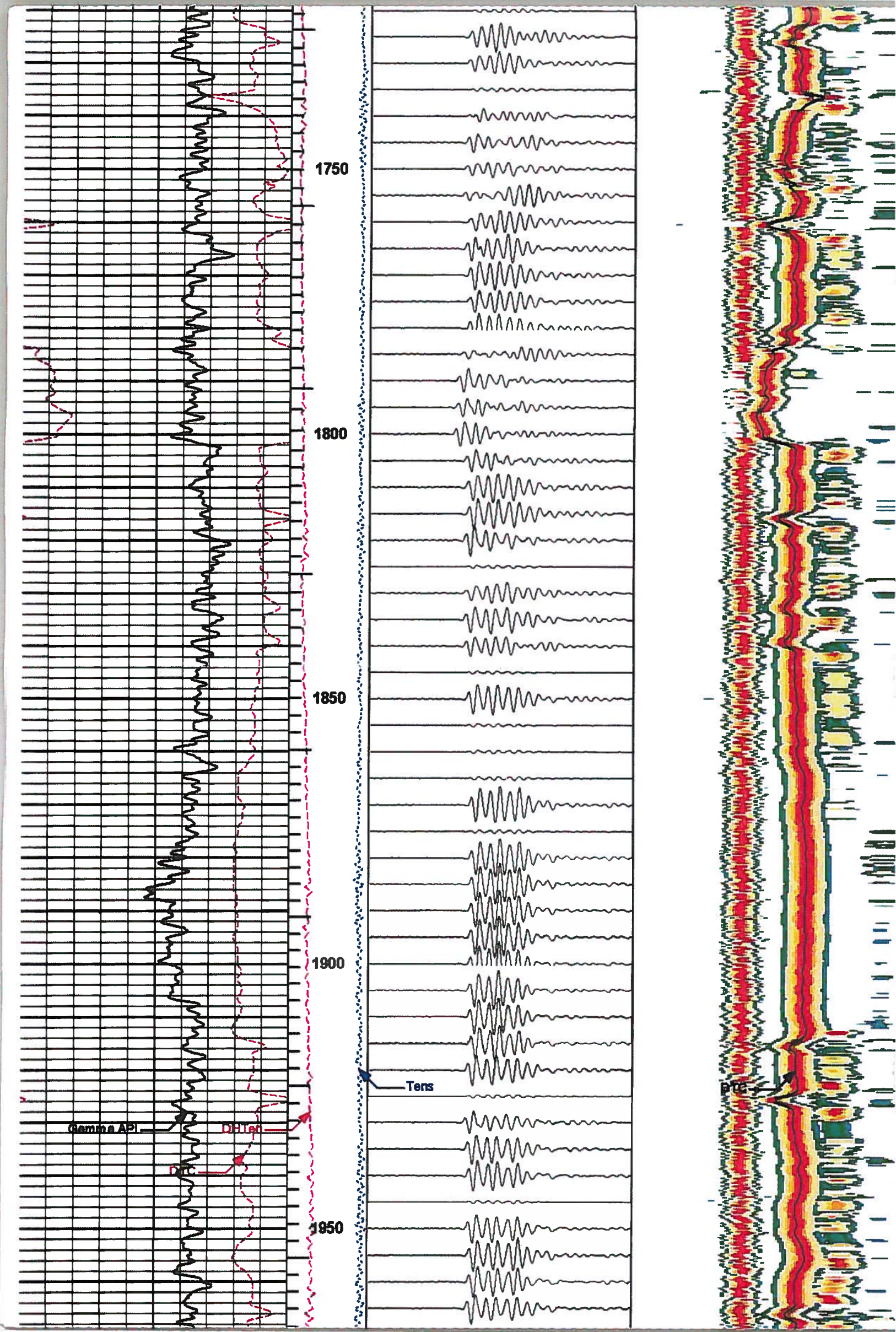


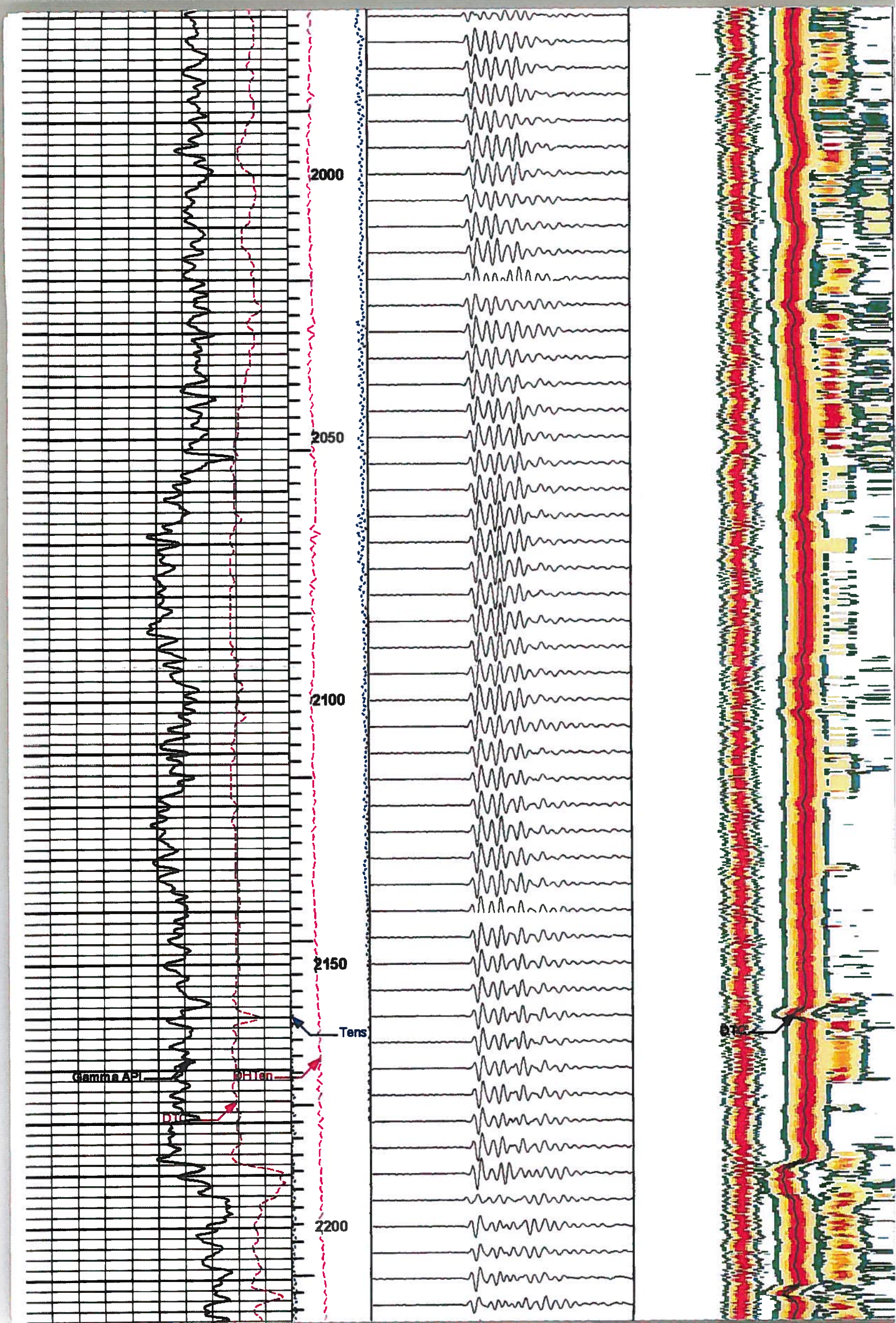


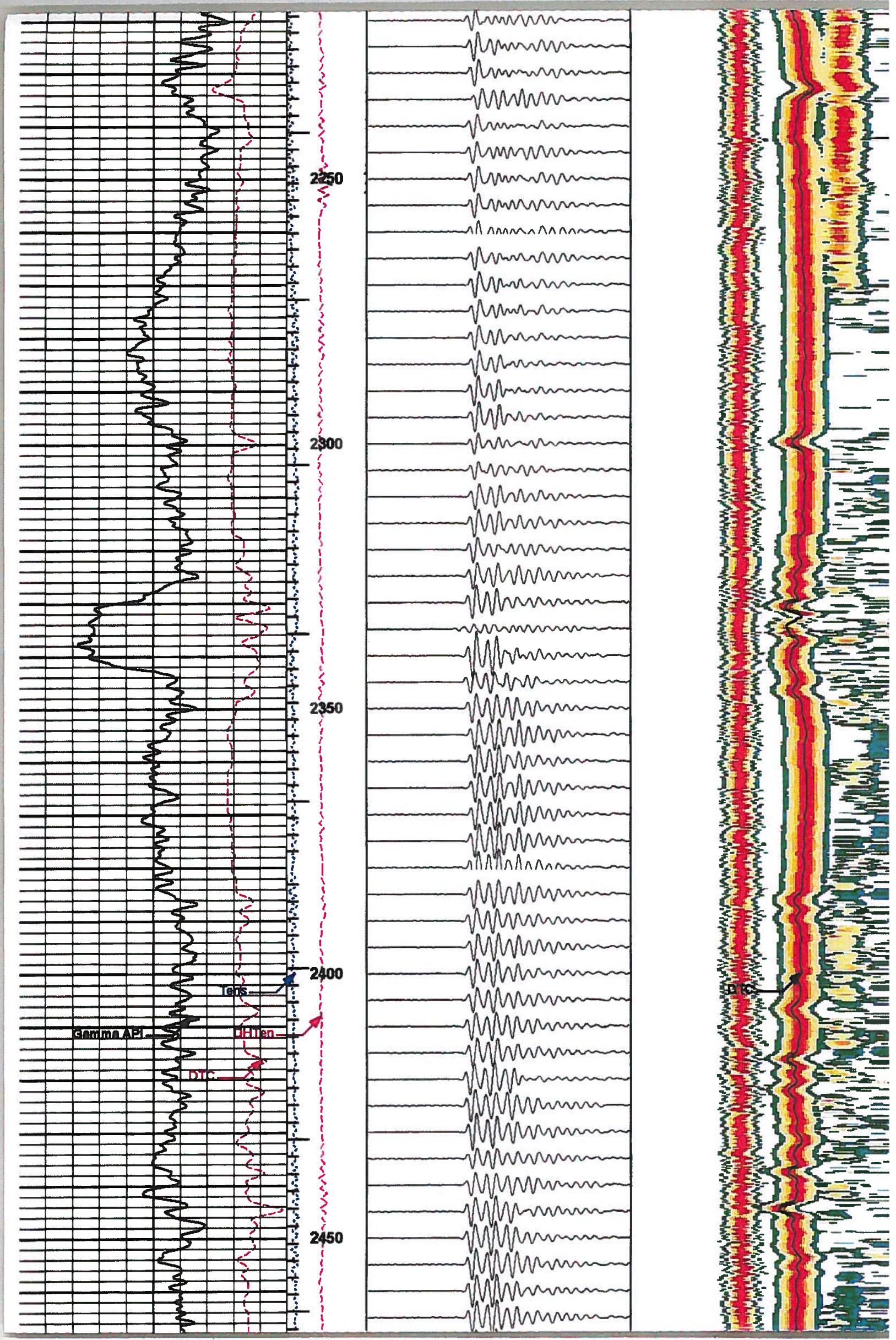


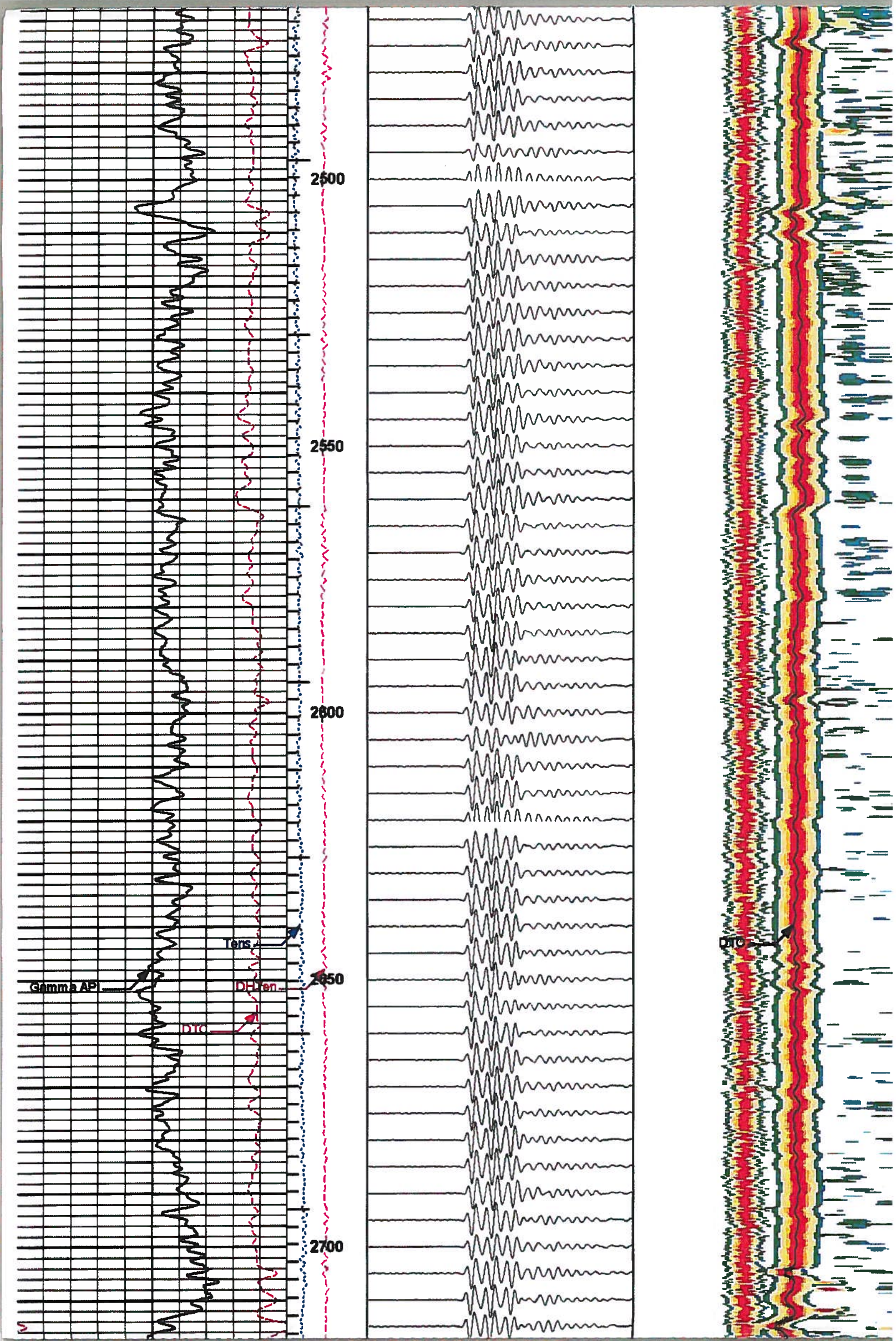


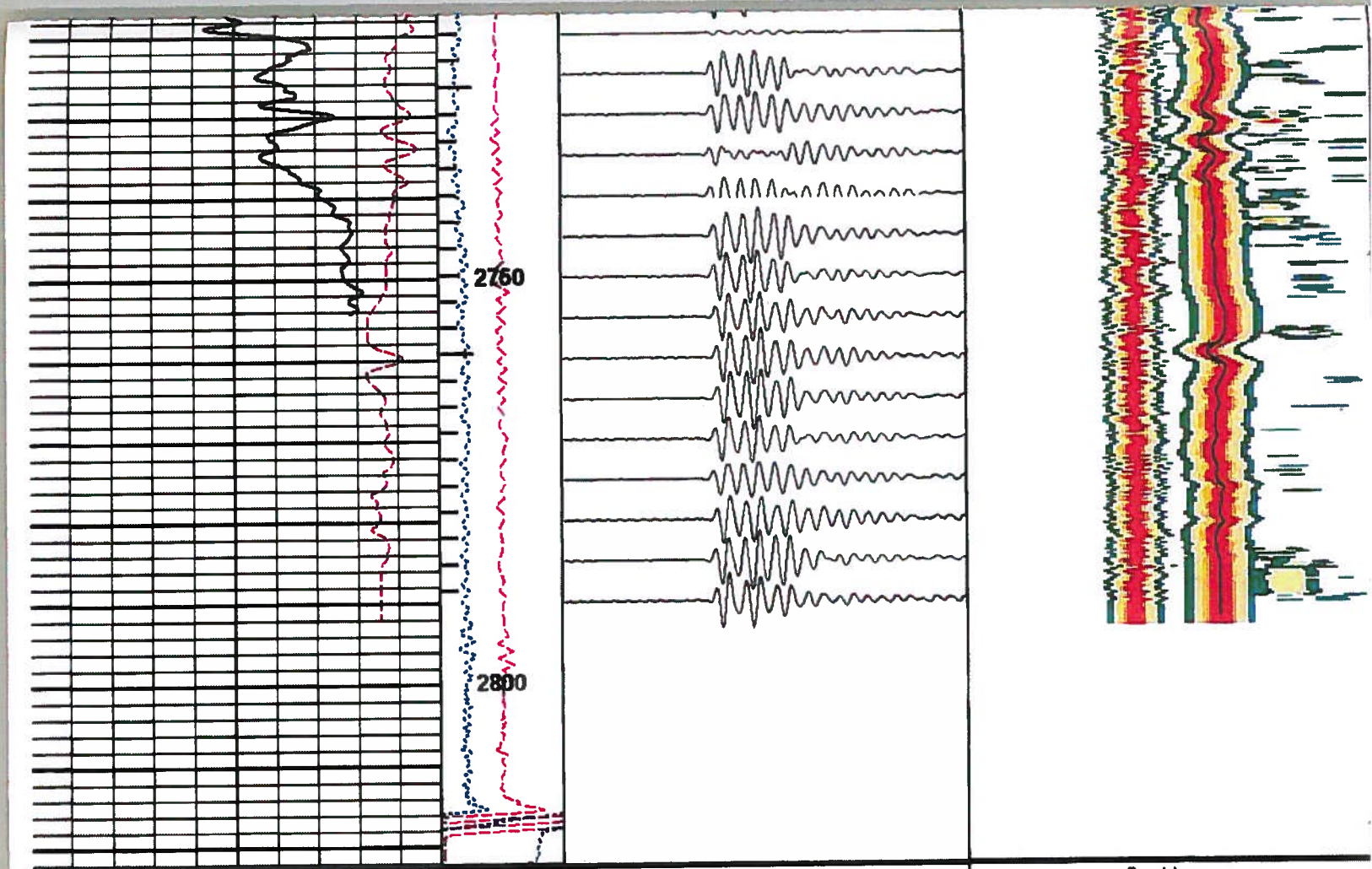












0	Gamma API	150	1 : 240	0	Waveform T1R3	2.048K	 Semblance microseconds
140	DTC	40	ITTTotal	30	DTC	230	
	← Minute Mark		2K DHTen 3K pounds				microsec per ft
			2K Tens 3K pounds				

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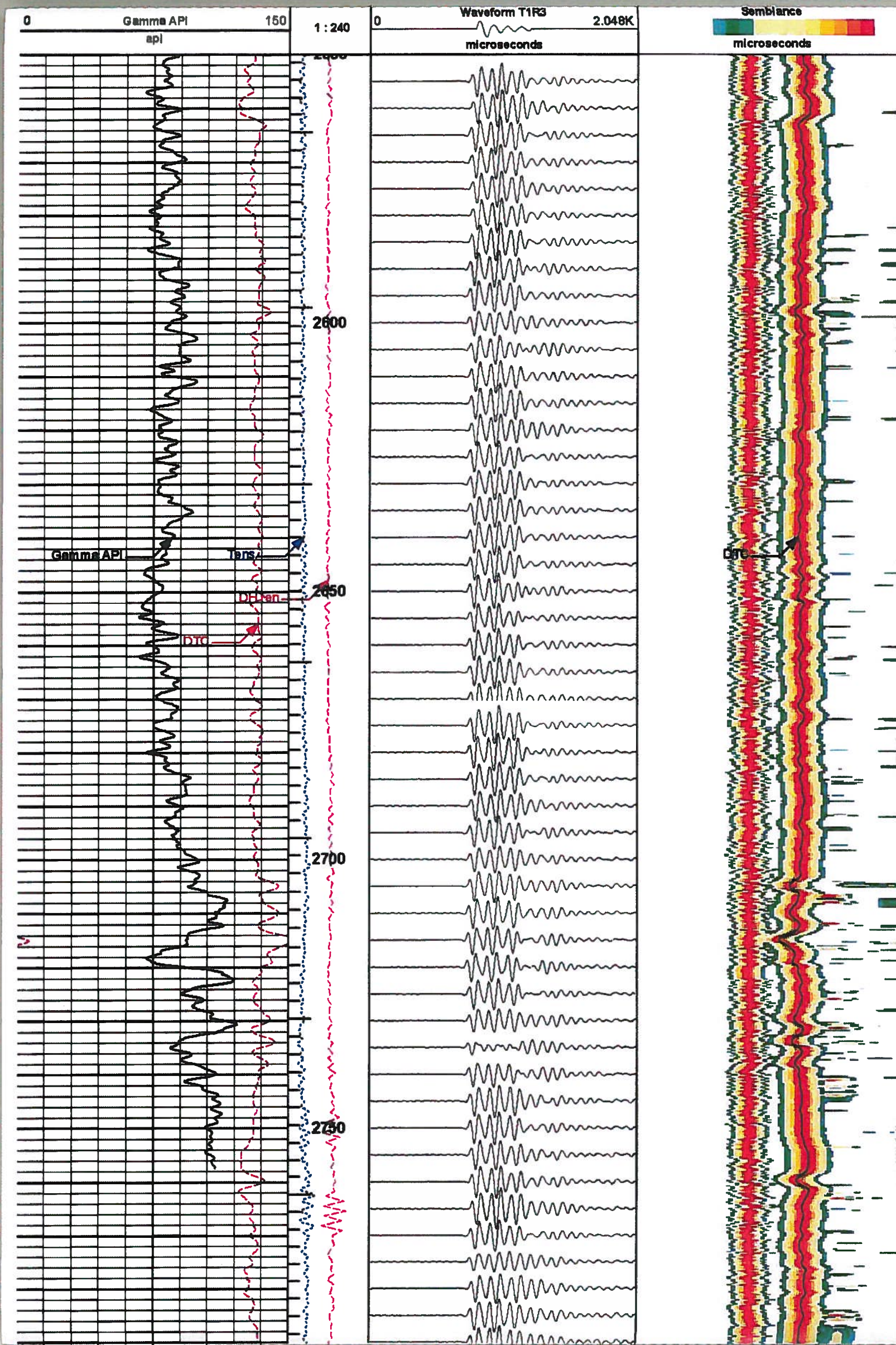
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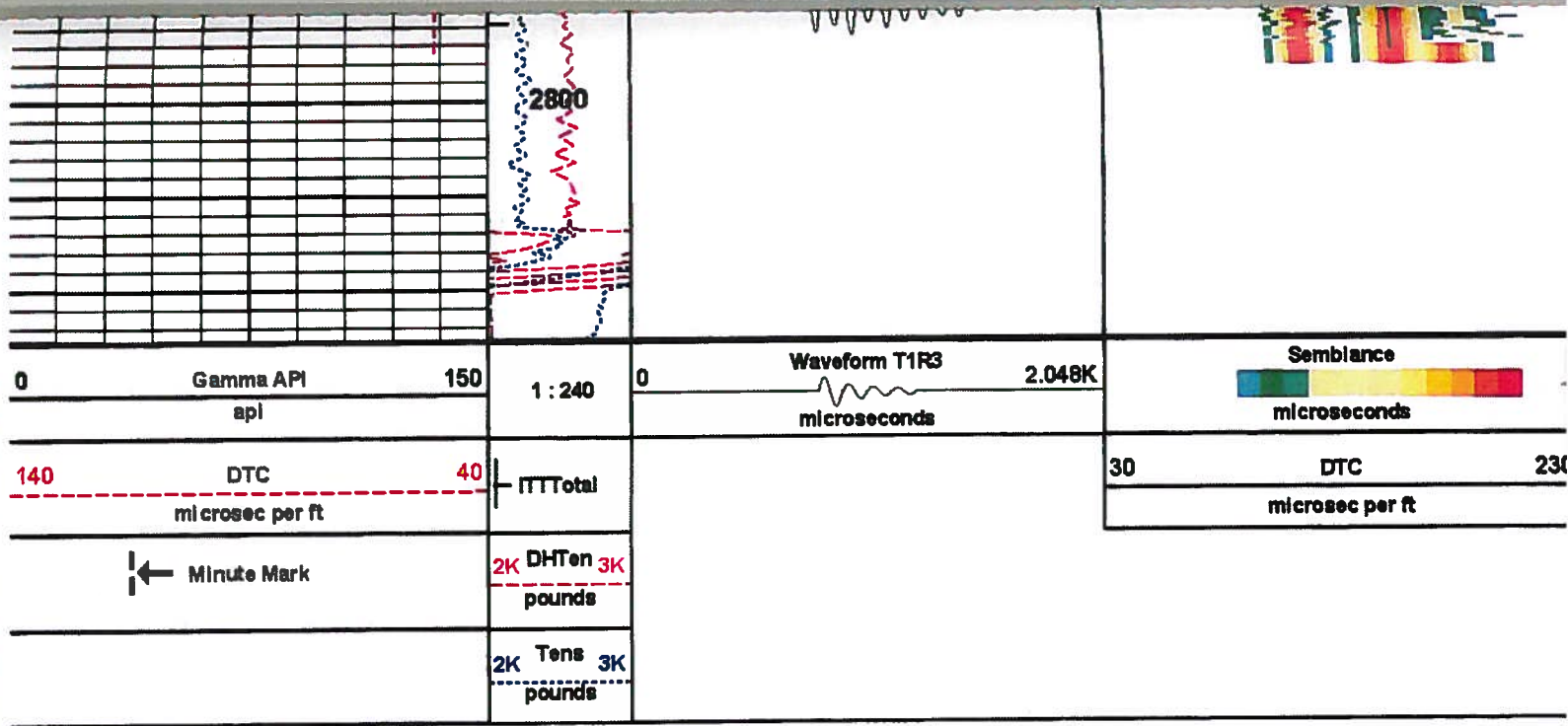
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Plot Time: 17-Aug-10 12:47:07
 Plot Range: 2650 ft to 2825.34 ft
 Data: BIRDG_TRACY_3_21Well BasedREPEAT
 Plot File: \BSATBSAT Waveform & VDL - color

REPEAT SECTION 5"=100'

Track 2	IV track	Track 3	Track 4
	2K Tens 3K pounds		
← Minute Mark	2K DHTen 3K pounds		
140	DTC	40	ITTTotal
	microsec per ft		
		30	DTC
			230
			microsec per ft



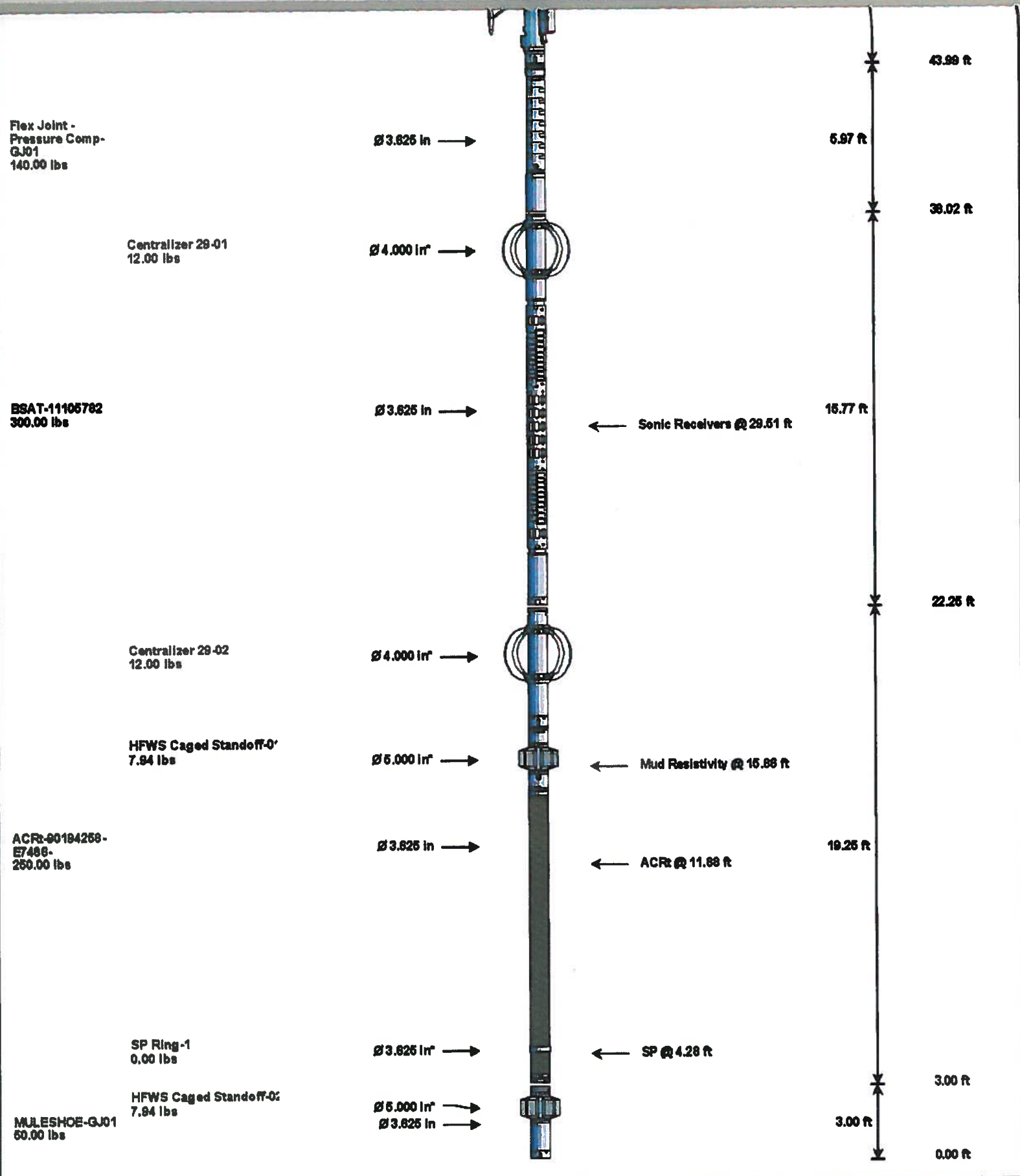


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 Plot Time: 17-Aug-10 12:47:08
 Plot Range: 2650 ft to 2825.34 ft
 Data: BIRDG_TRACY_3_2Well Based REPEAT
 Plot File: \BBSAT\BBSAT Waveform & VDL - color

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TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
RWCH-C11013846 135.00 lbs		∅ 3.625 in →		← Load Cell @ 75.58 ft ← BH Temperature @ 75.01 ft	6.25 ft	79.26 ft
GTET-11006802 165.00 lbs		∅ 3.625 in →		← GammaRay @ 66.95 ft	8.52 ft	73.01 ft
DSNT-10883888 174.00 lbs	DSN Decentralizer- 10839203 6.80 lbs	∅ 3.625 in → ∅ 3.625 in →		← DSN Far @ 57.58 ft ← DSN Near @ 56.81 ft	9.89 ft	64.49 ft
SDLT-10981314 380.00 lbs		∅ 4.600 in → ∅ 4.750 in →		← SDL Microlog @ 46.99 ft ← SDL Caliper @ 46.81 ft ← SDL @ 46.80 ft	10.81 ft	54.91 ft



Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max. Log. Speed (rpm)
RWCH	Releasable Wireline Cable Head	C11013846	135.00	6.25	73.01	300.00
GTET	Gamma Telemetry Tool	11005602	165.00	8.52	64.49	60.00
DSNT	Dual Spaced Neutron	10993888	174.00	9.69	54.81	60.00
DCNT	DSN Decentralizer	10839203	6.60	5.13	58.14	300.00
SDLT	Spectral Density Tool	10951314	360.00	10.81	43.99	60.00
FLEX	Flex Joint - Pressure Compensated	GJ01	140.00	5.97	38.02	300.00
BCAS	Borehole Sonic Array Tool	11105782	300.00	15.77	22.25	60.00
OBCEN	Centralizer - 29 in. Overbody	01	12.00	2.42	35.38	300.00
ACRT	Array Compensated True Resistivity	90194258-E7486-	250.00	19.25	3.00	300.00
HFCS	Hostile Full Wave Sonic Caged Metal and Rubber Standoff	01	7.94	1.33	15.47	300.00
SP	SP Ring	1	0.00	0.25	4.28	300.00
OBCEN	Centralizer - 29 in. Overbody	02	12.00	2.42	19.08	300.00
MSHOE	MULESHOE	GJ01	50.00	3.00	0.00	100.00
HFCS	Hostile Full Wave Sonic Caged Metal and Rubber Standoff	02	7.94	1.33	1.44	300.00
Total			1,620.48	79.26		

Date: BIRDG_TRACY_3_210001 QUAD-BSATIDLE

Not included in Total Length and Length Accumulation.

Date: 14-Aug-10 17:06:04

COMPANY	BRIDGE/PARAMAX			
WELL	TRACY TRUST #3-2			
FIELD	HAMILTON			
COUNTY	PAYETTE	STATE	ID	
HALLIBURTON		BOREHOLE COMPENSATED ARRAY SONIC LOG		

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