

# CEMENT BOND LOG

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LOGGING DATA

GENERAL	GAMMA	ACOUSTIC	REACTIVITY	NEUTRON
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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	CSG	REC	0	150				30%	-10%	2.65 g/cc	30%	-10%	SAND					
DIRECTIONAL INFORMATION																			
Maximum Deviation								@	KOP							@			
Remarks:																			
RWCH-GTET-DSNT-SDLT-ACRT RAN IN COMBINATIONS																			
ANNULAR HOLE VOLUME CALCULATED FOR 4.5" PRODUCTION CASING																			
TENSION PULLS MAY AFFECT TOOL RESPONSE																			
YOUR CREW TODAY: N. EHLERS, M. BRANDEL, B. CALDERON															RIG: ENSIGN 55				
THANKYOU FOR CHOOSING HALLIBURTON ENERGY SERVICES, GRAND JUNCTION, CO (970) 523-3600																			
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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PARAMETERS REPORT

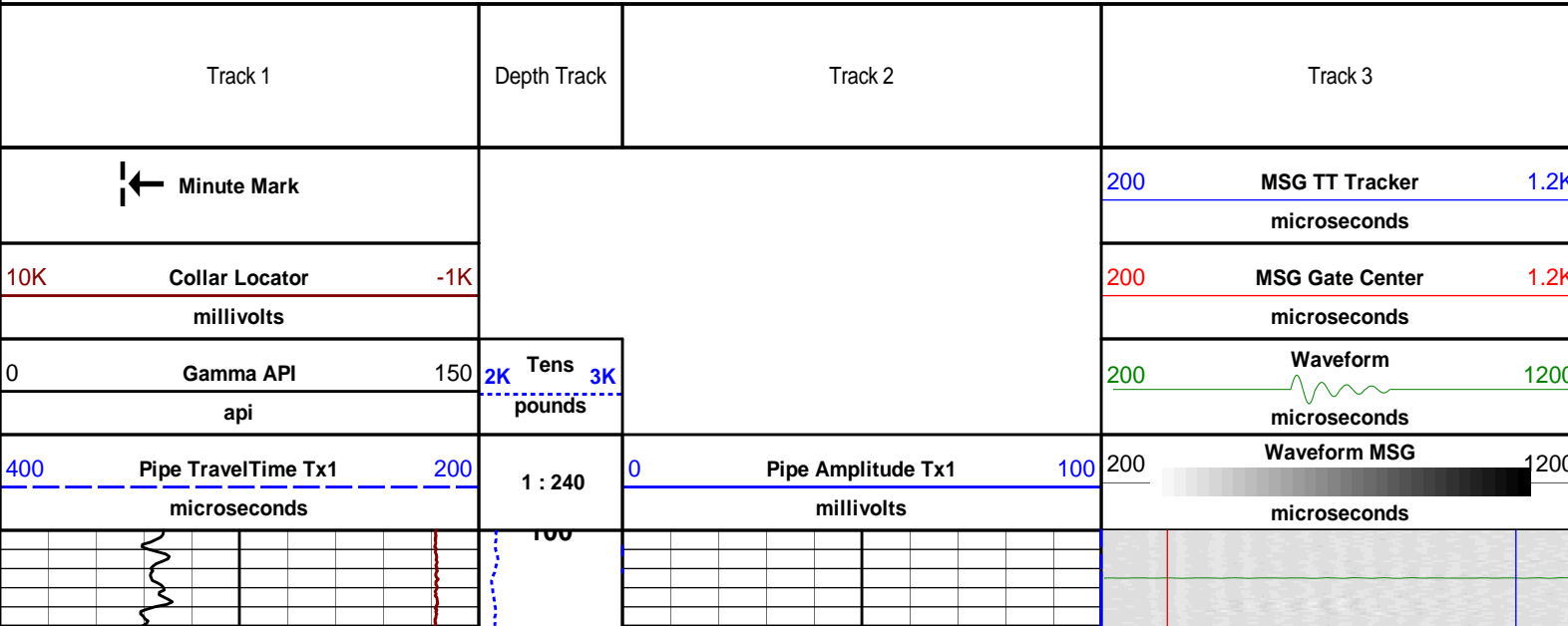
Depth ((ft))	Tool Name	Mnemonic	Description	Value	Units
TOP					
	SHARED	BS	Bit Size	6.250	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDBS	Mud Base	Water	
	SHARED	MDWT	Borehole Fluid Weight	12.900	ppg
	SHARED	WAGT	Weighting Agent	Barite	
	SHARED	BSAL	Borehole salinity	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	1.580	ohmm
	SHARED	TRM	Temperature of Mud	58.3	degF
	SHARED	CSD	Logging Interval is Cased?	Yes	
	SHARED	CSOD	Inner Casing OD size	7.000	in
	SHARED	CSWT	Casing Weight	23.00	lbpf
	SHARED	ISOC	Is Outer Casing Present?	No	
	SHARED	CSCM	Casing Cemented	Yes	
	SHARED	CMWT	Cement Weight	16.500	ppg
	SHARED	ST	Surface Temperature	75.0	degF
	SHARED	TD	Total Well Depth	11334.00	ft
	SHARED	BHT	Bottom Hole Temperature	272.0	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	
	Pwa /				

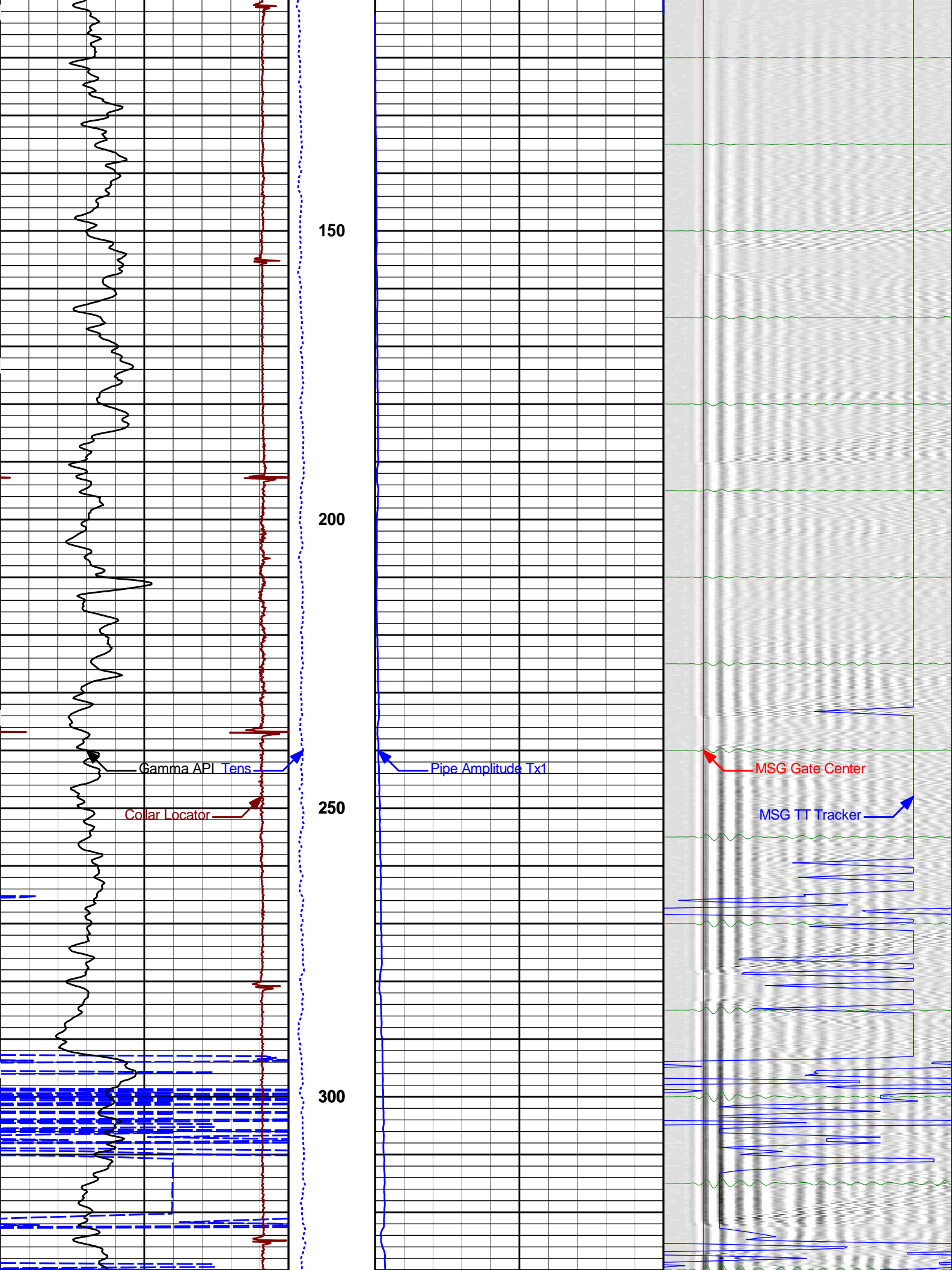


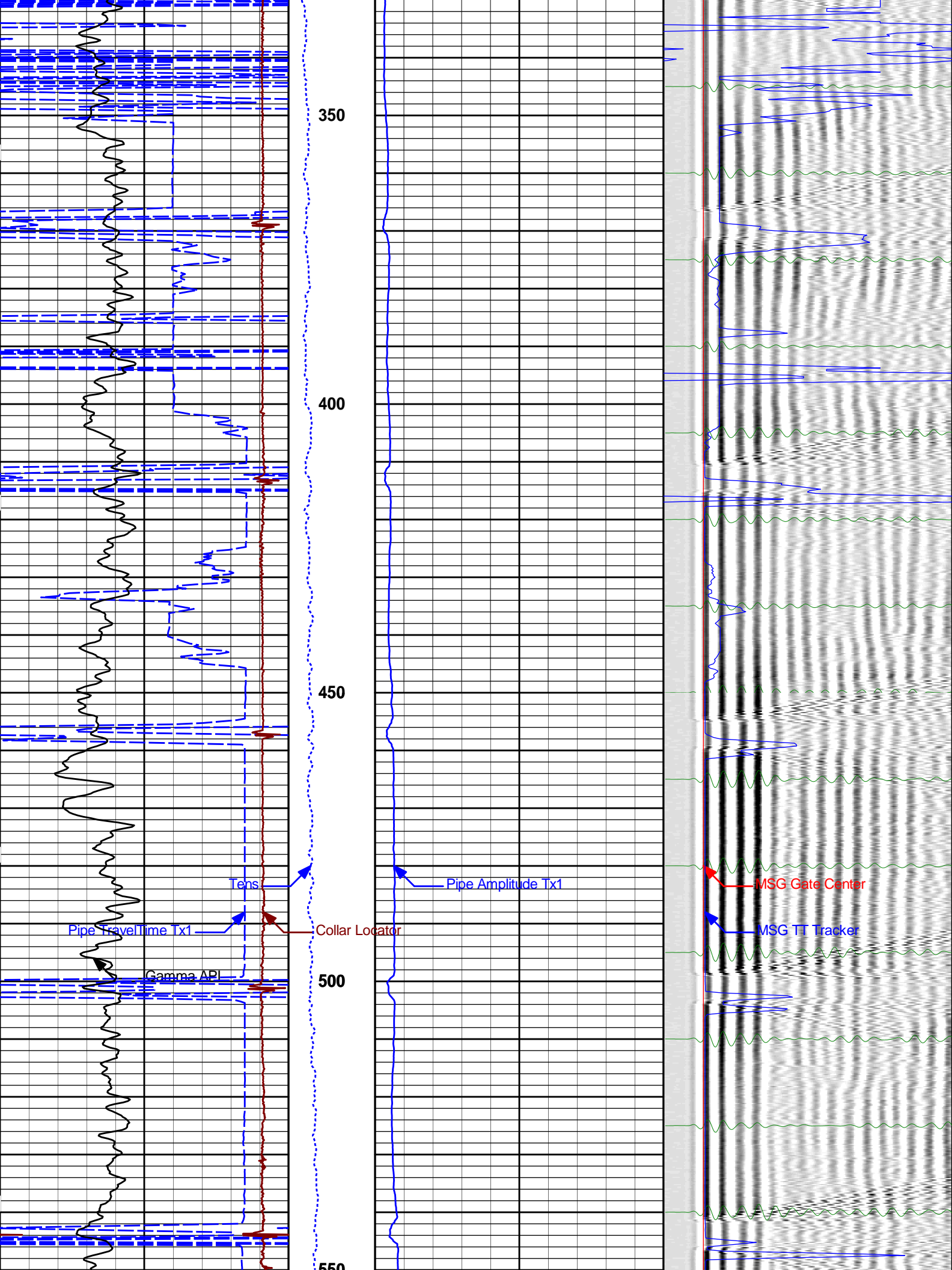
Rwa / CrossPlot	XPOK	Process Crossplot?	Yes	
Rwa / CrossPlot	FCHO	Select Source of F	Automatic	
Rwa / CrossPlot	AFAC	Archie A factor	0.6200	
Rwa / CrossPlot	MFAC	Archie M factor	2.1500	
Rwa / CrossPlot	RMFR	Rmf Reference	0.10	ohmm
Rwa / CrossPlot	TMFR	Rmf Ref Temp	75.00	degF
Rwa / CrossPlot	RWA	Resistivity of Formation Water	0.05	ohmm
Rwa / CrossPlot	ADP	Use Air Porosity to calculate CrossplotPhi	No	
CCL-D	CLOK	Process CCL?	Yes	
CCL-D	CCLS	CCL Processing Selection	Raw	
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	
CBL-BSAT	TTLV	Travel Time threshold.	5.0	mV
CBL-BSAT	TTOF	CBL Travel Time Offset from Calibration.	0	us
CBL-BSAT	ISFM	Is foam cement type?	No	
CBL-BSAT	CSTR	Compressive Strength	1000.00	psia
CBL-BSAT	BIOK	Calculate Bond Index?	Yes	
CBL-BSAT	ISMD	Is borehole fluid Mud?	Yes	
BOTTOM				
Data: LAR_HAX_17_05B\0002 CBL_BSAT\IDLE			Date: 15-Nov-11 09:36:34	

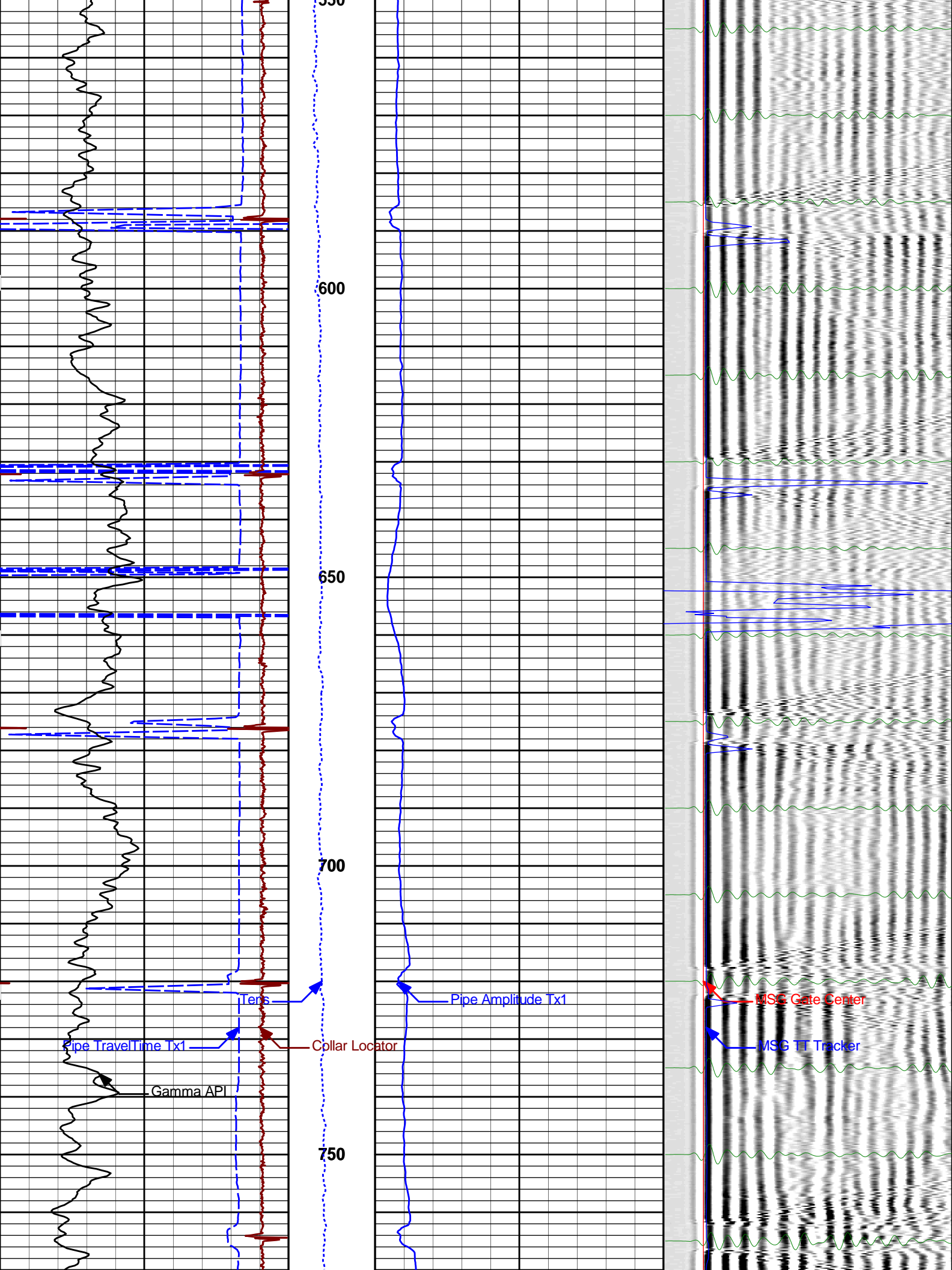
Plot Time: 15-Nov-11 09:38:27  
 Plot Range: 100 ft to 7173.17 ft  
 Data: LAR\_HAX\_17\_05B\Well Based\CBL\  
 Plot File: \\(not saved)\BSAT CBL 1\_240

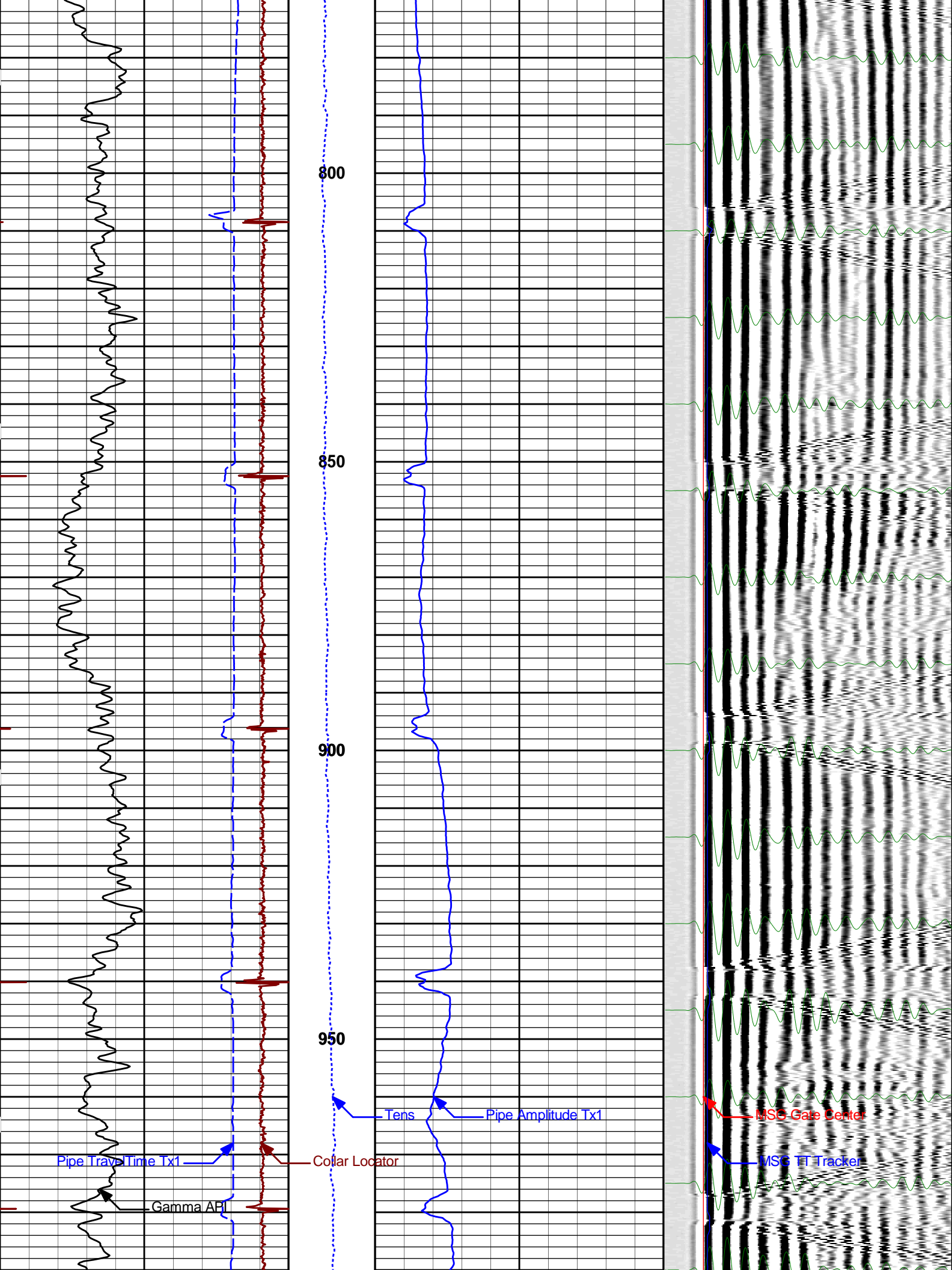
MAIN PASS 5"=100'

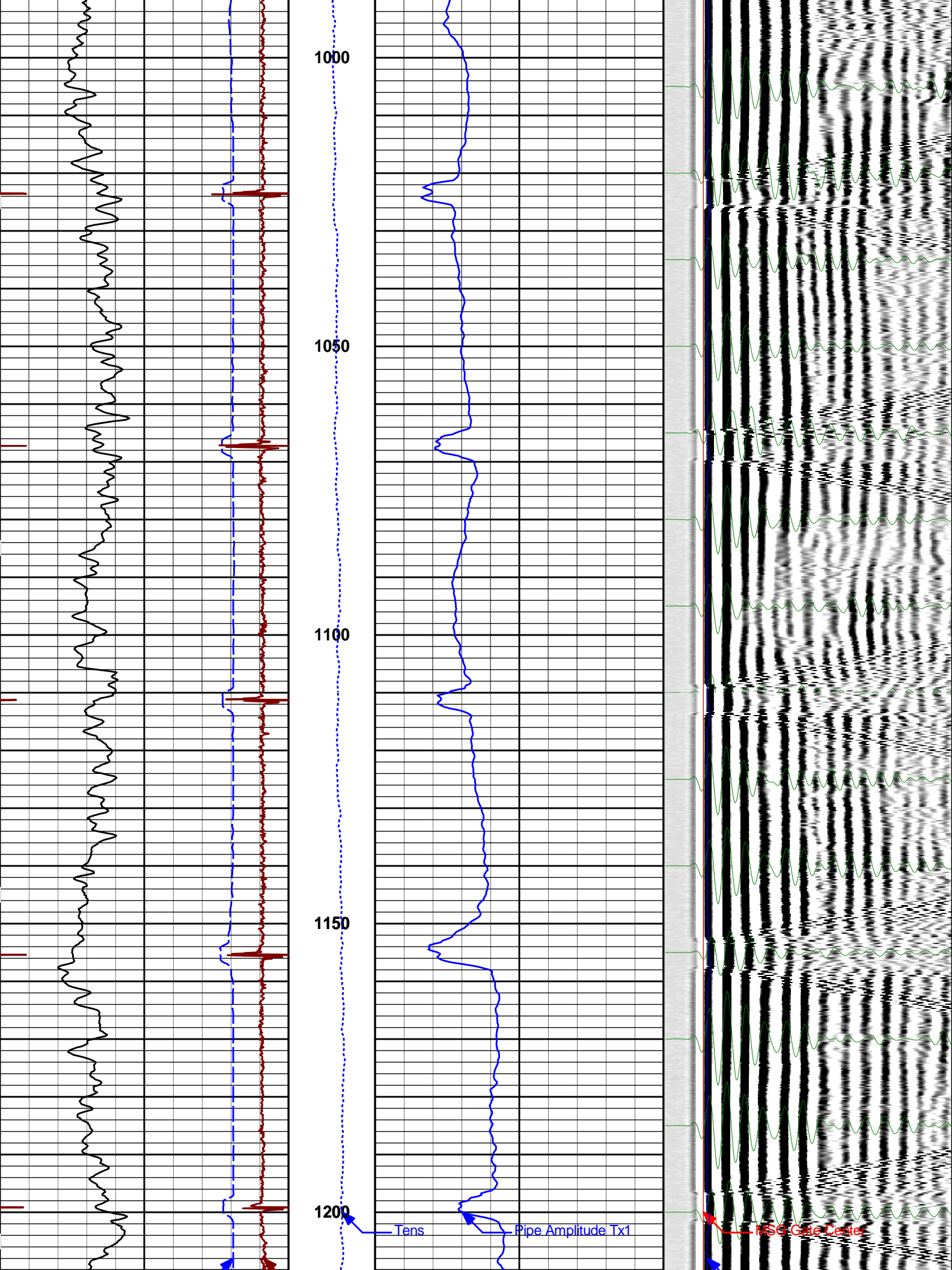


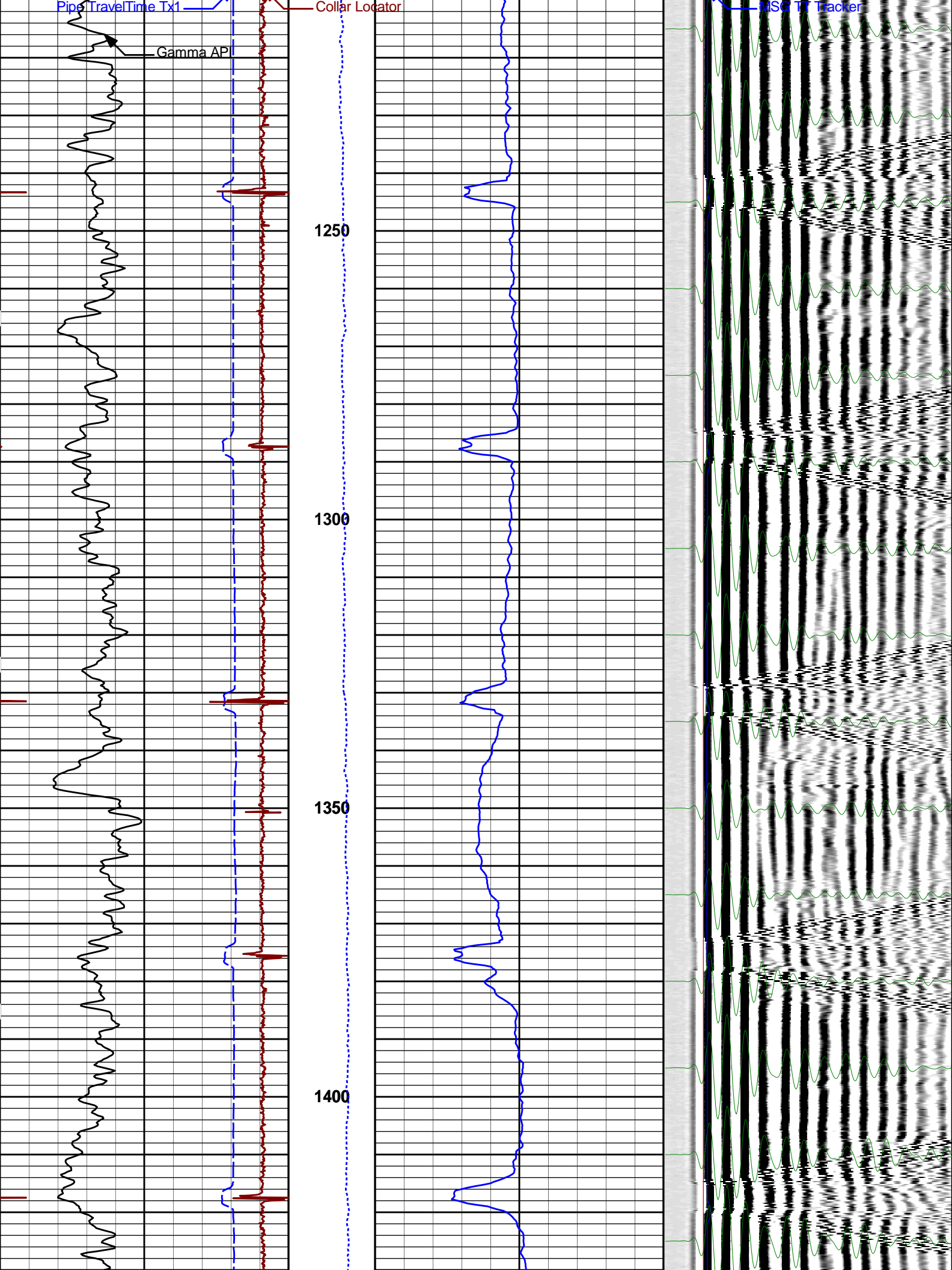




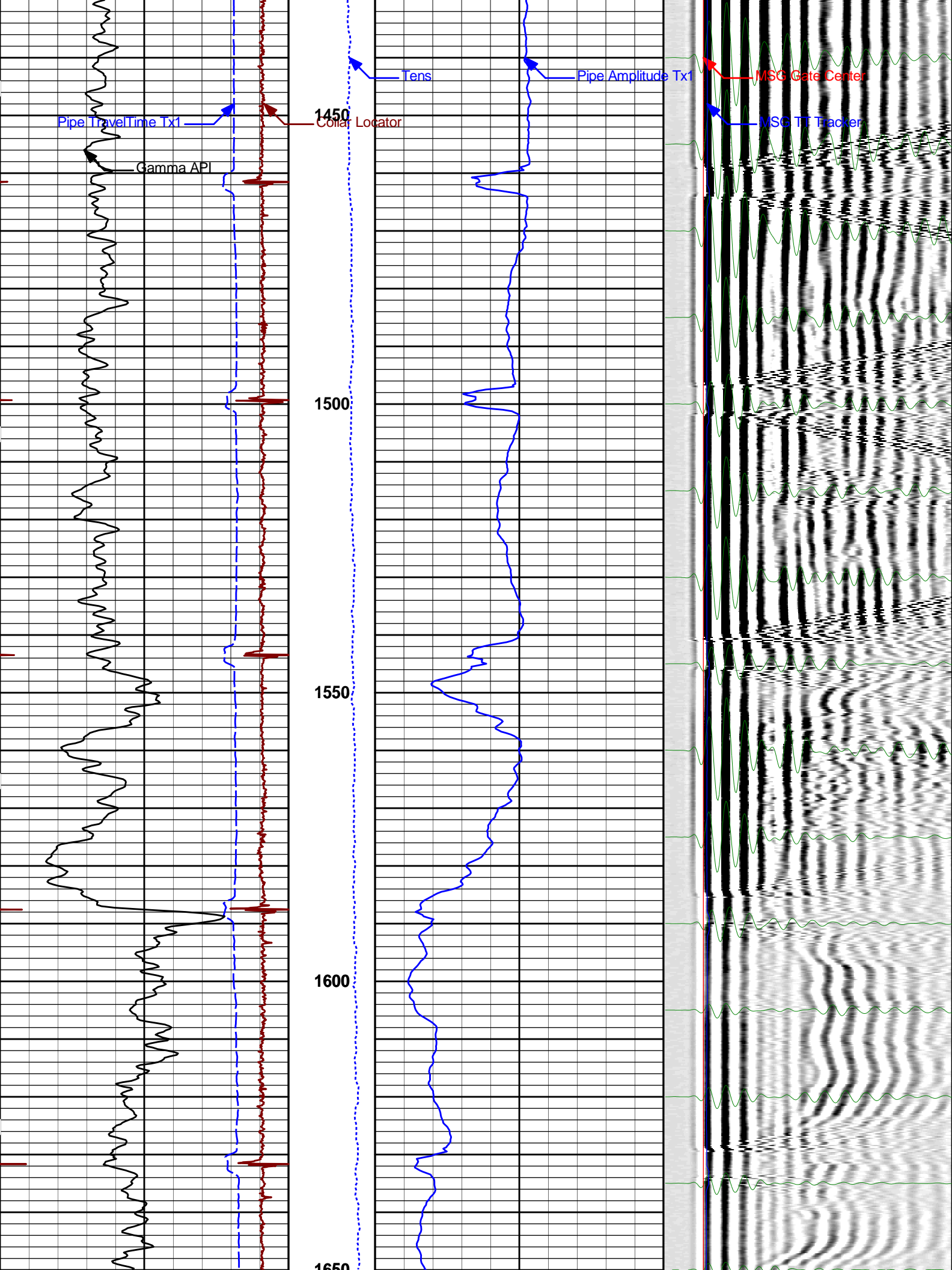




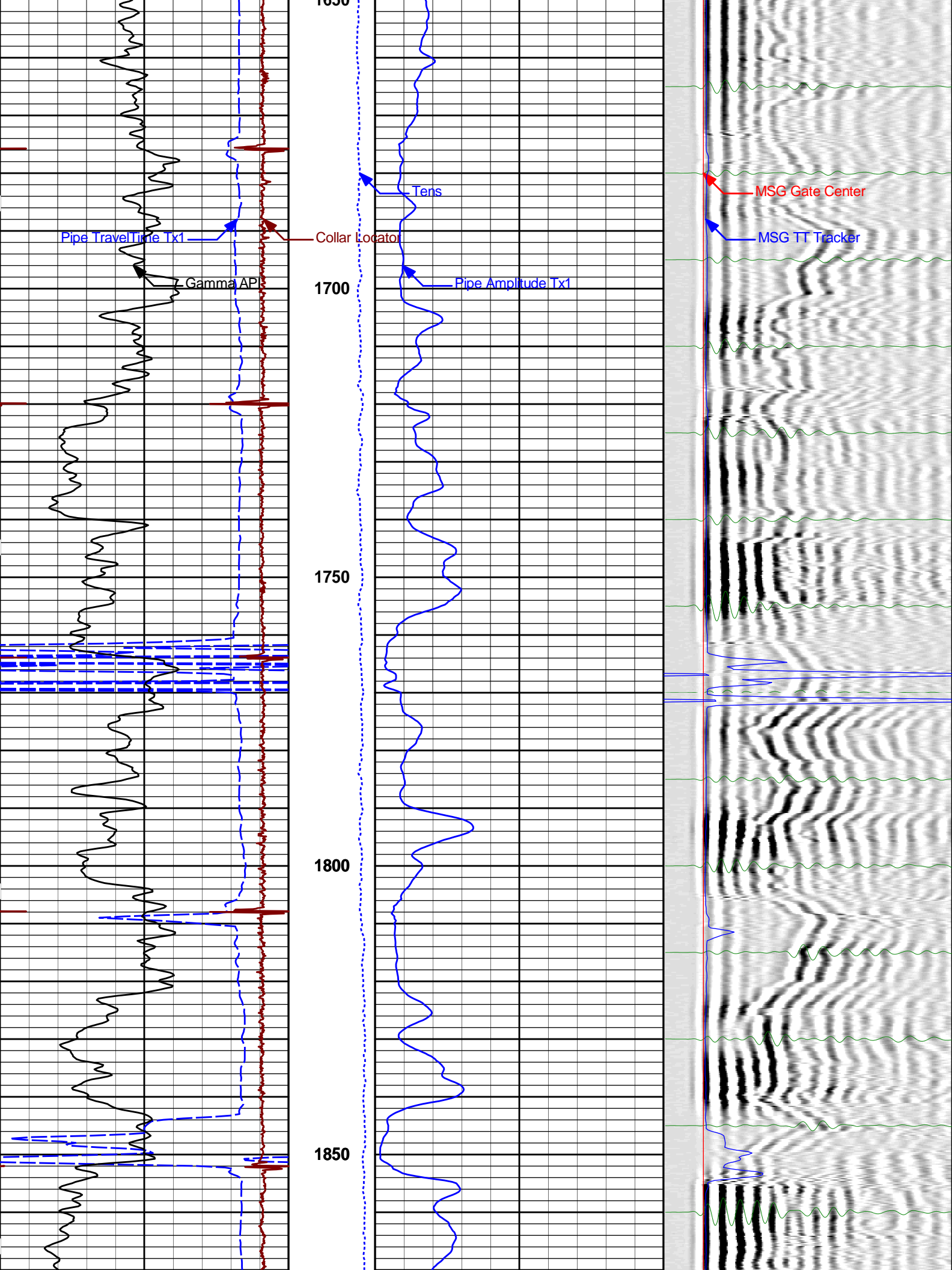


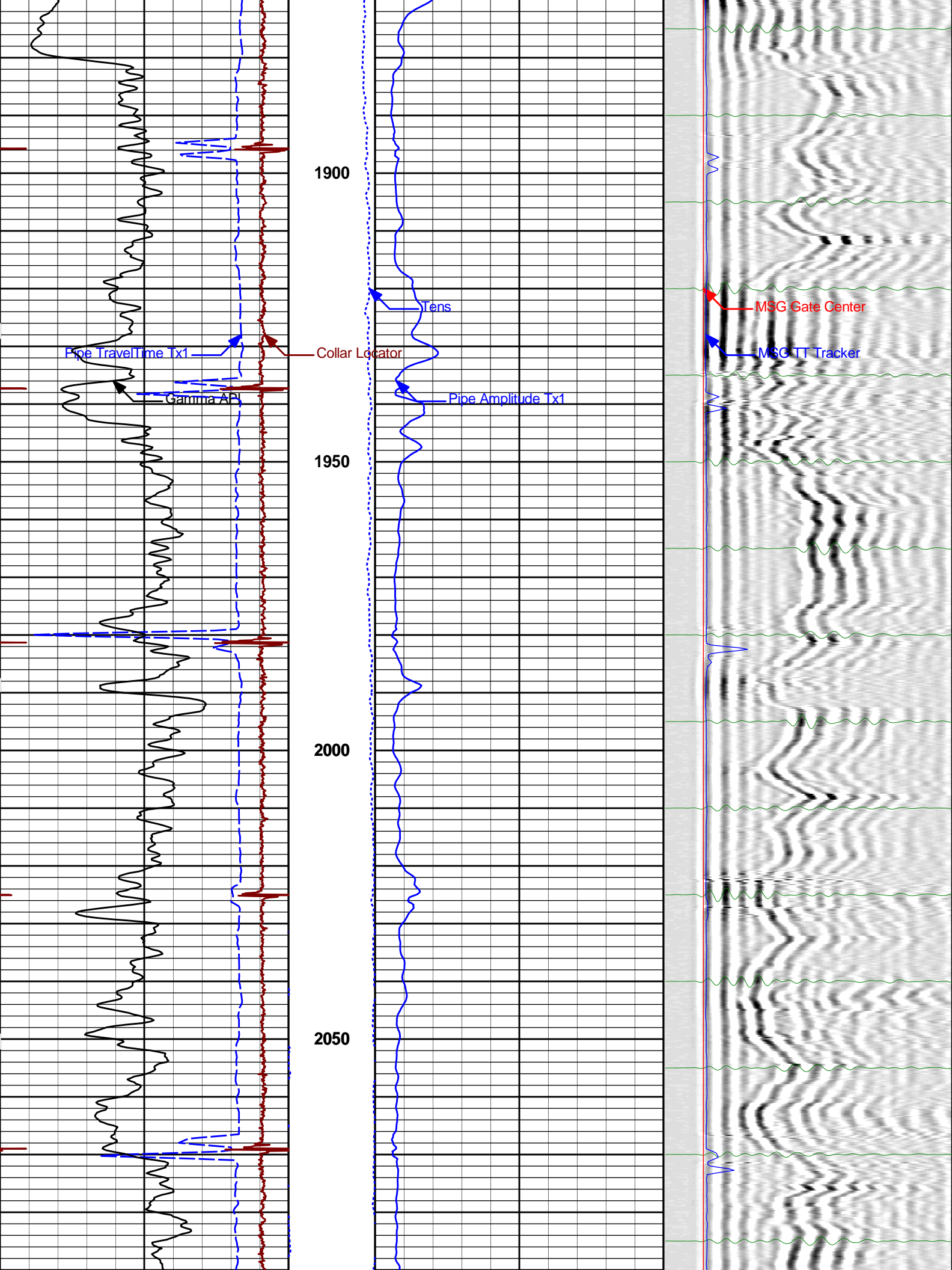


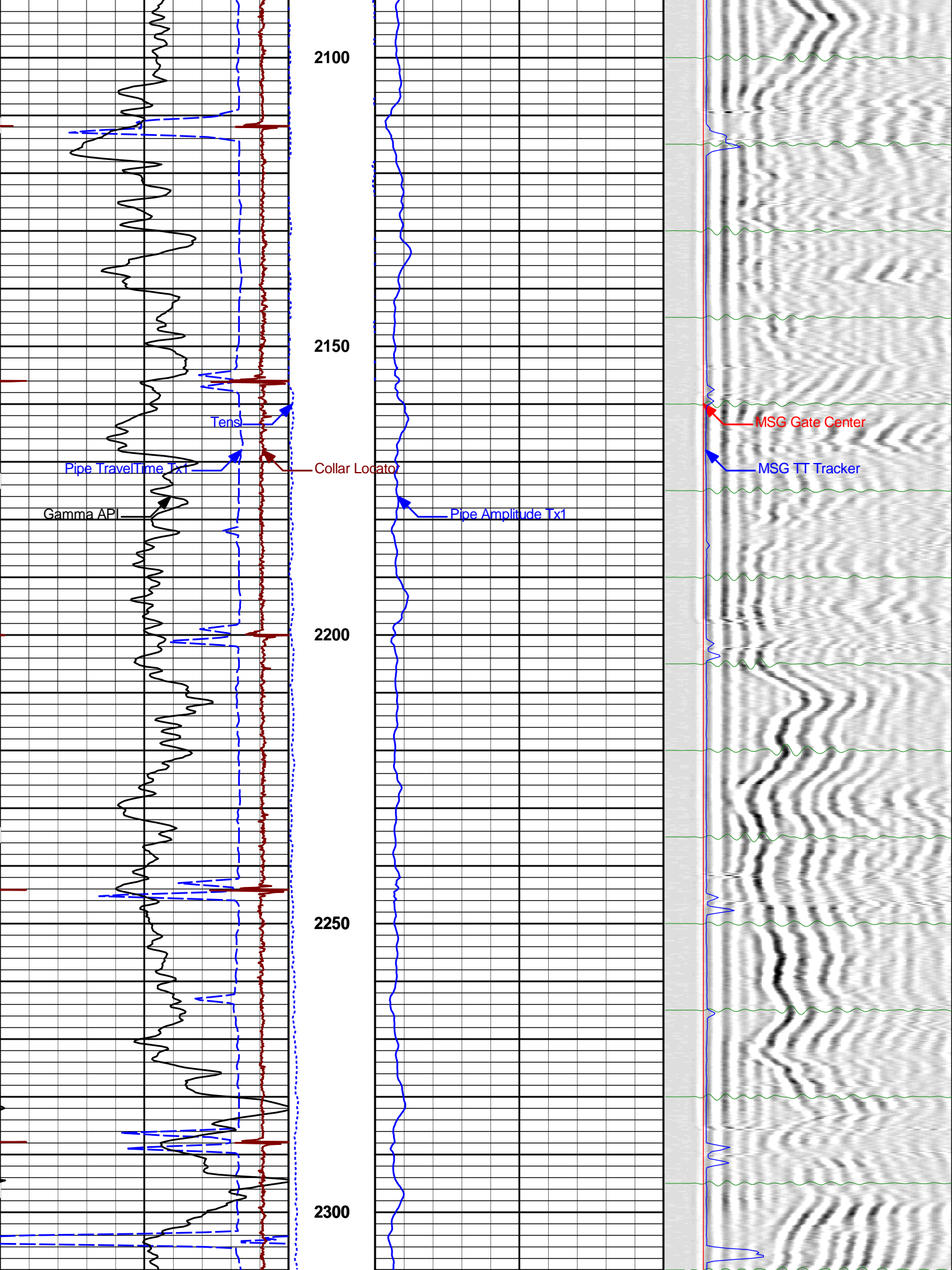


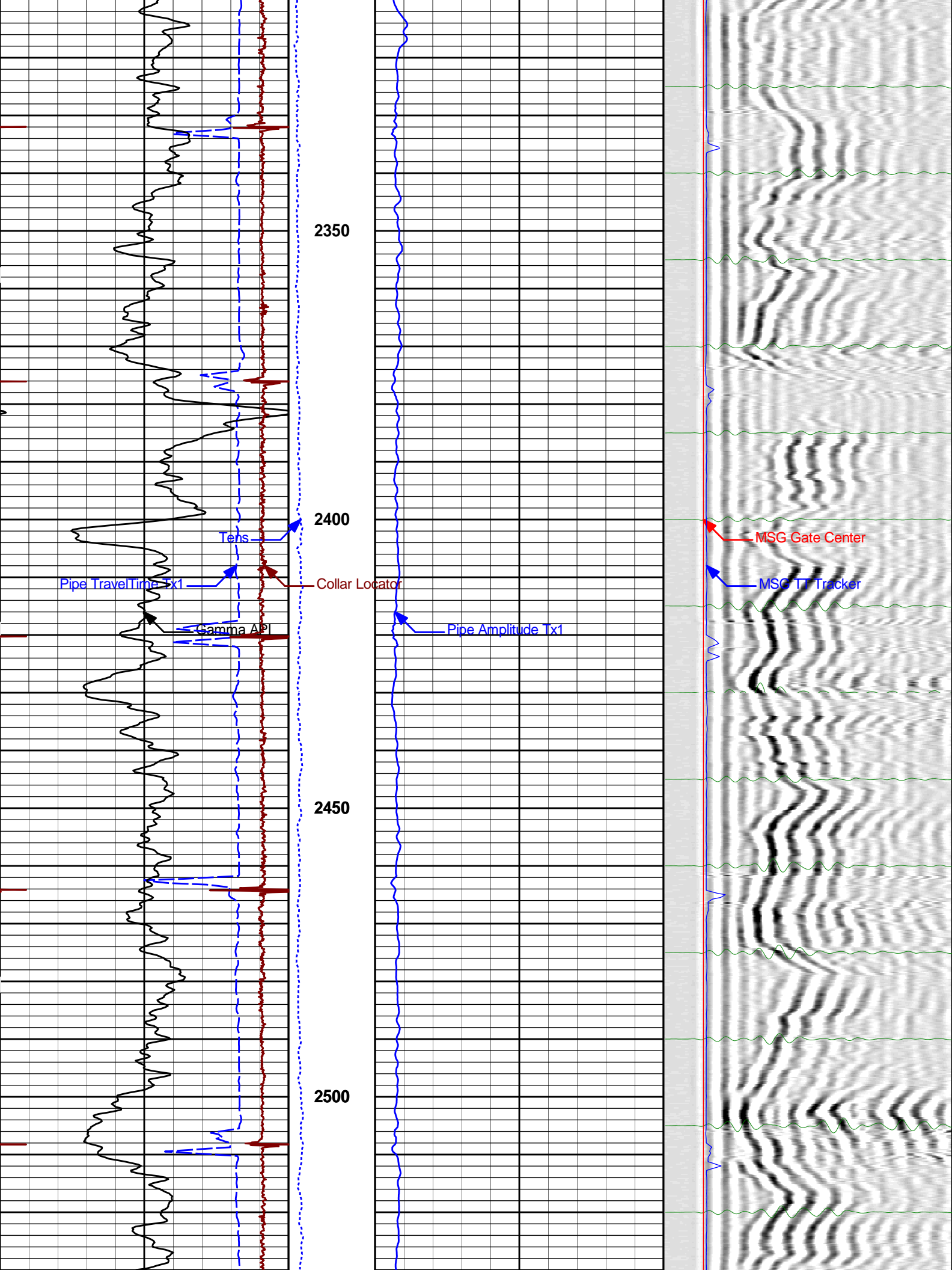


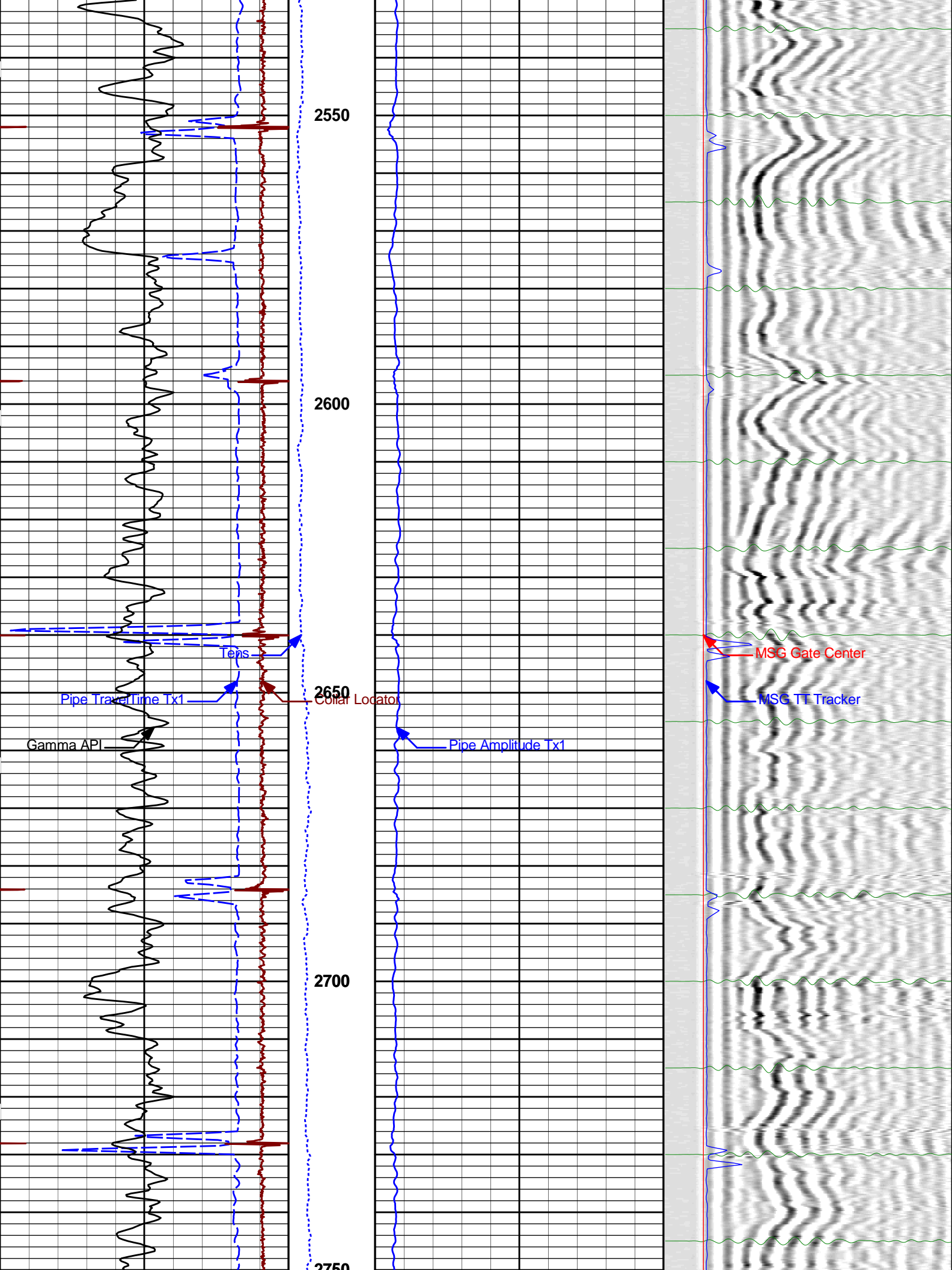


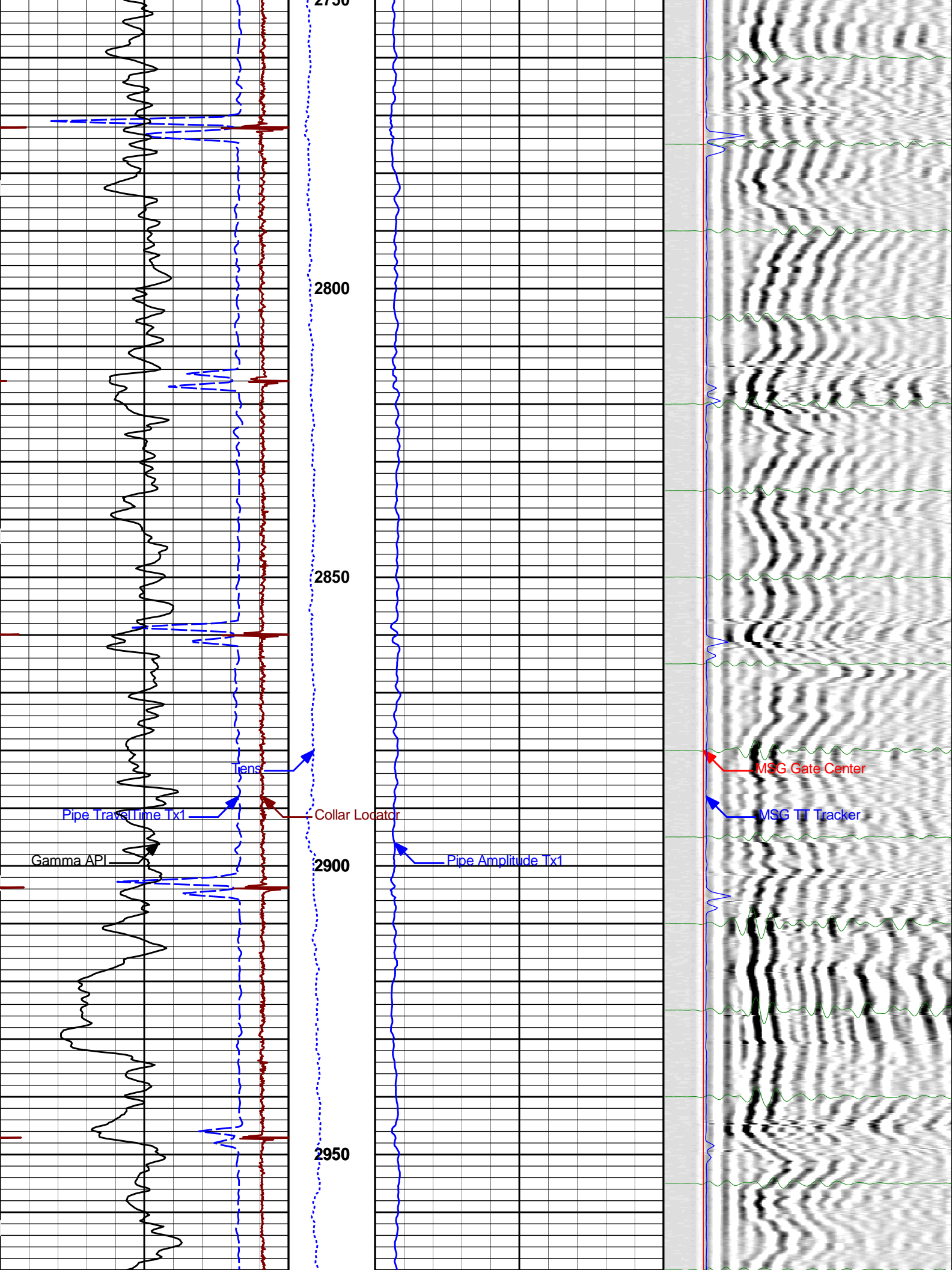


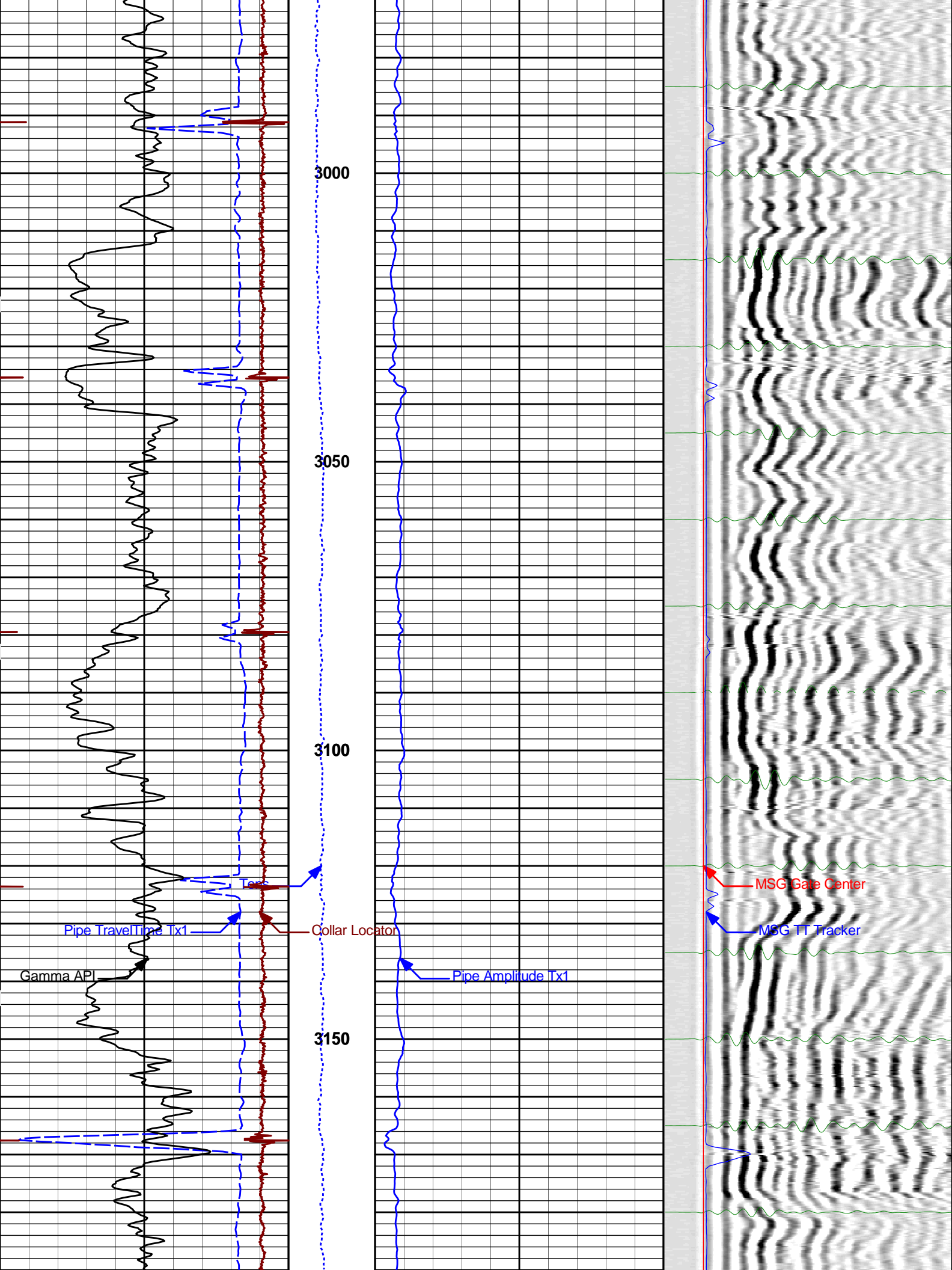




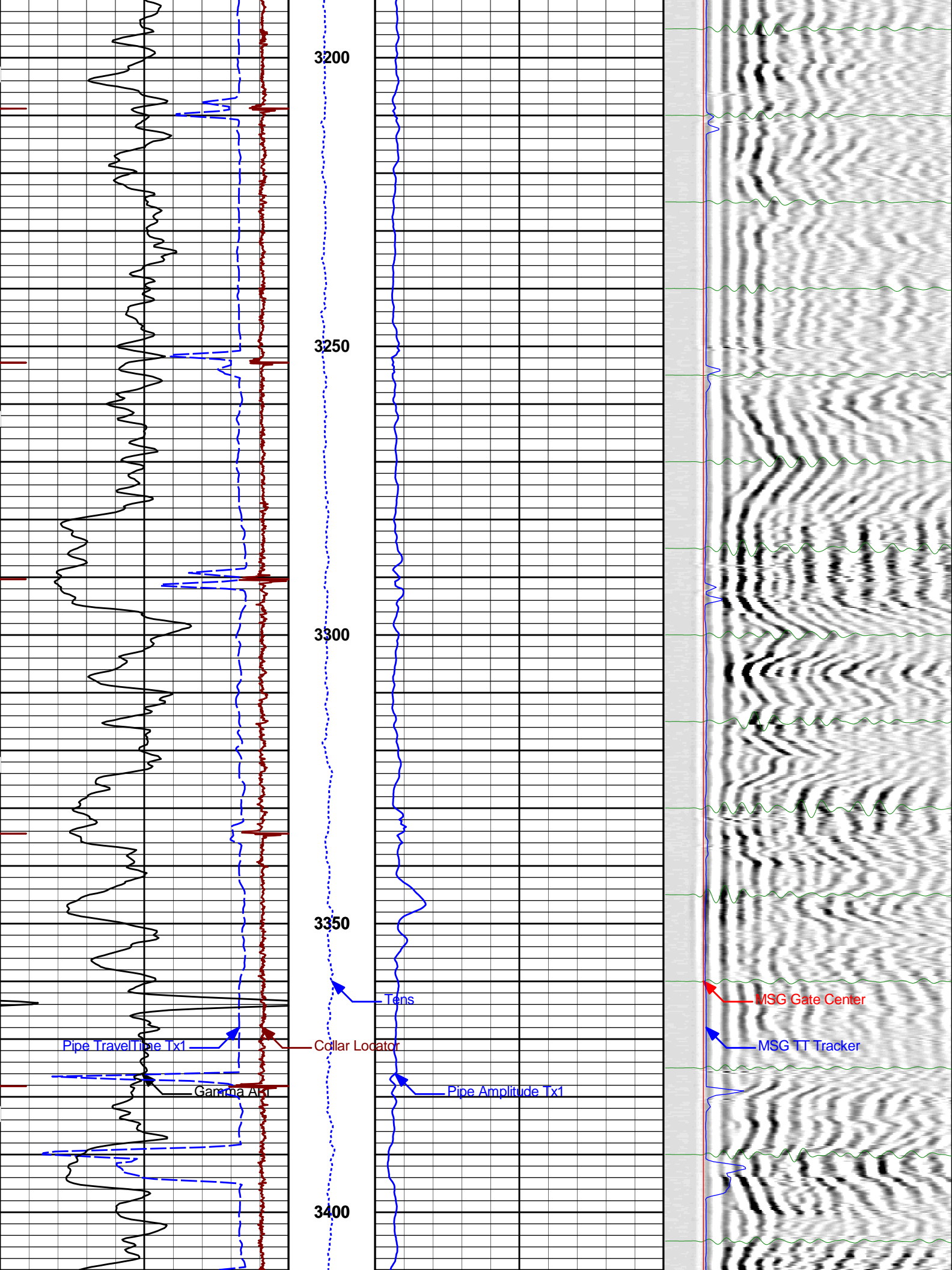




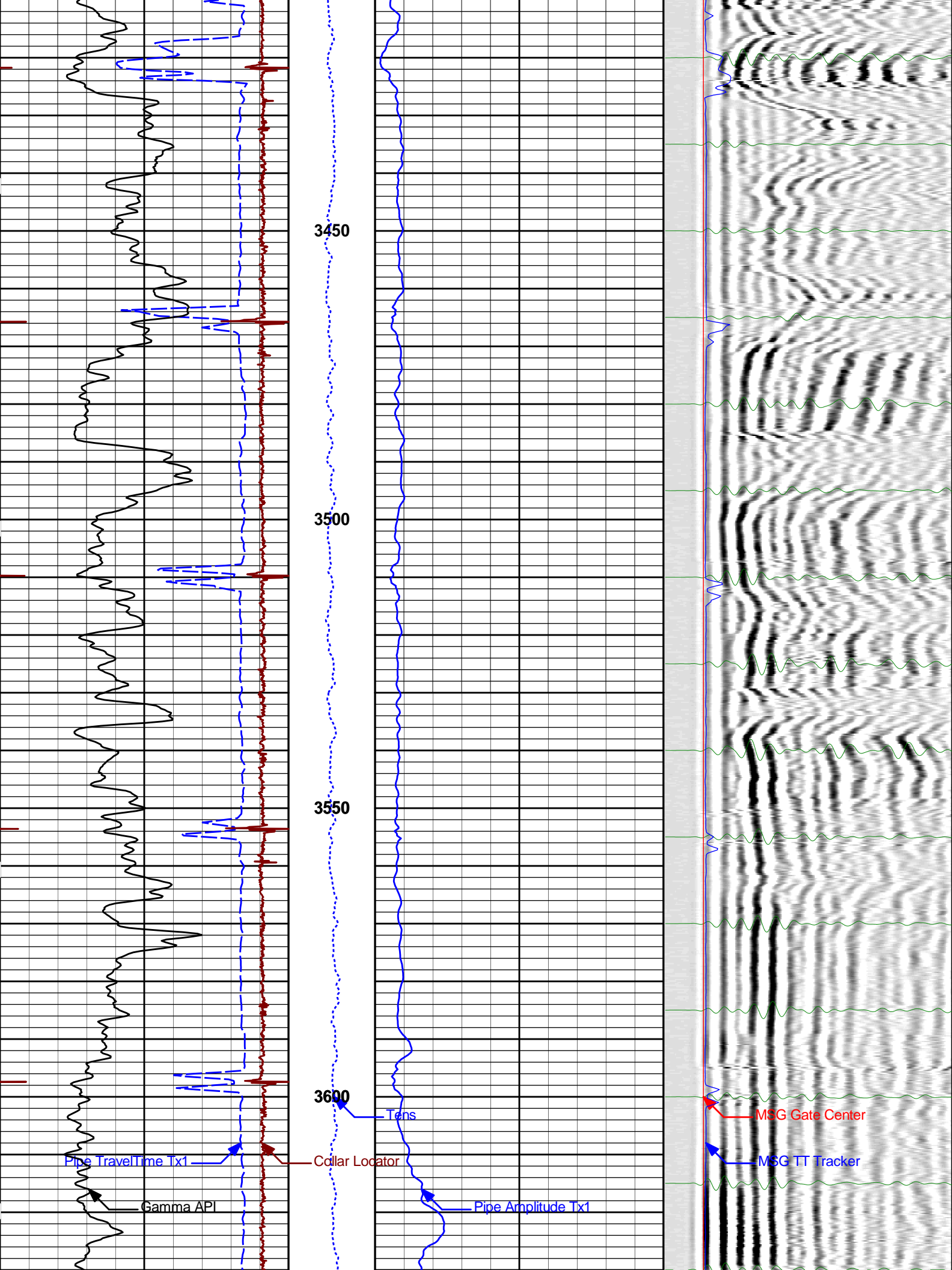


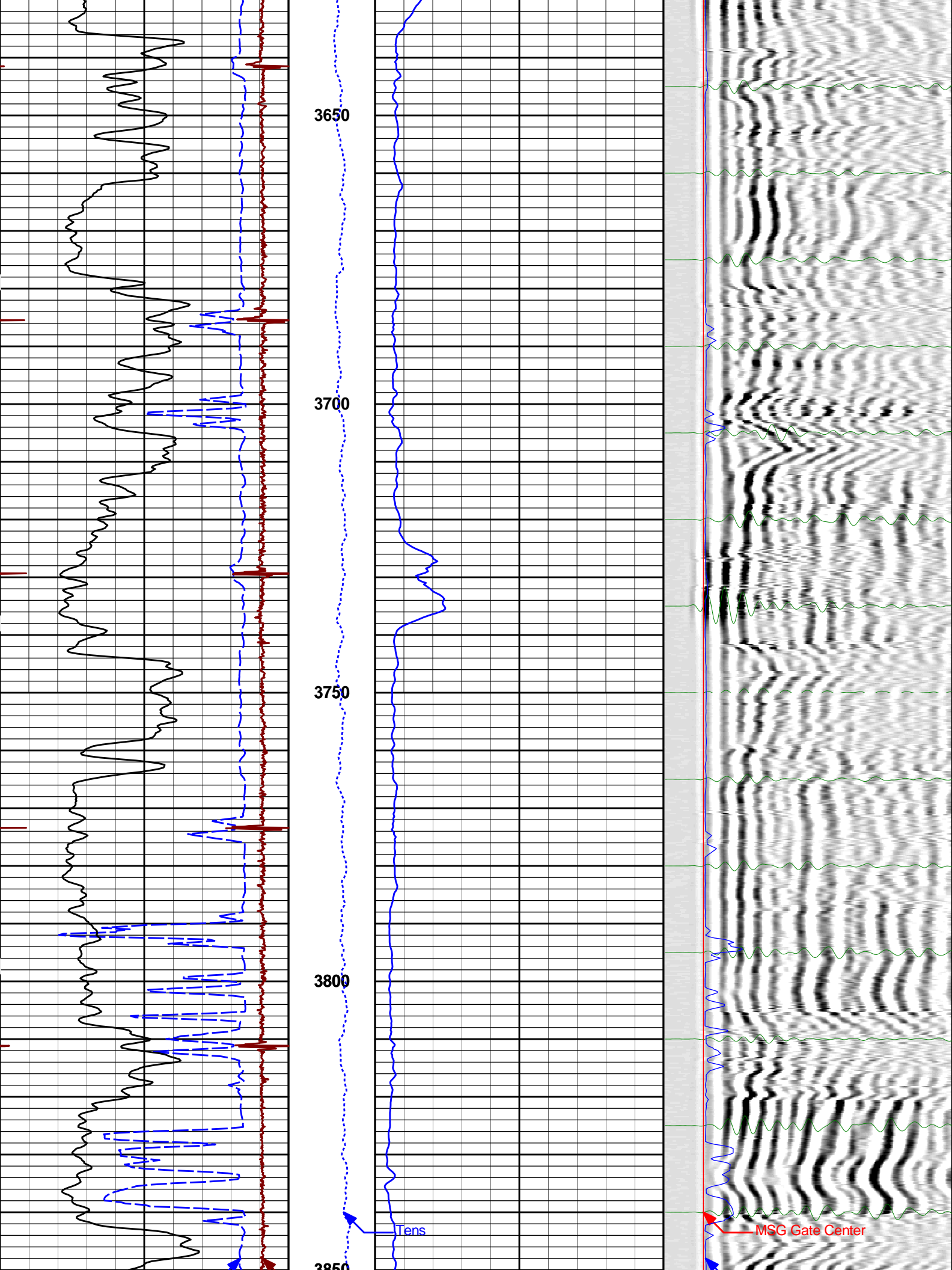


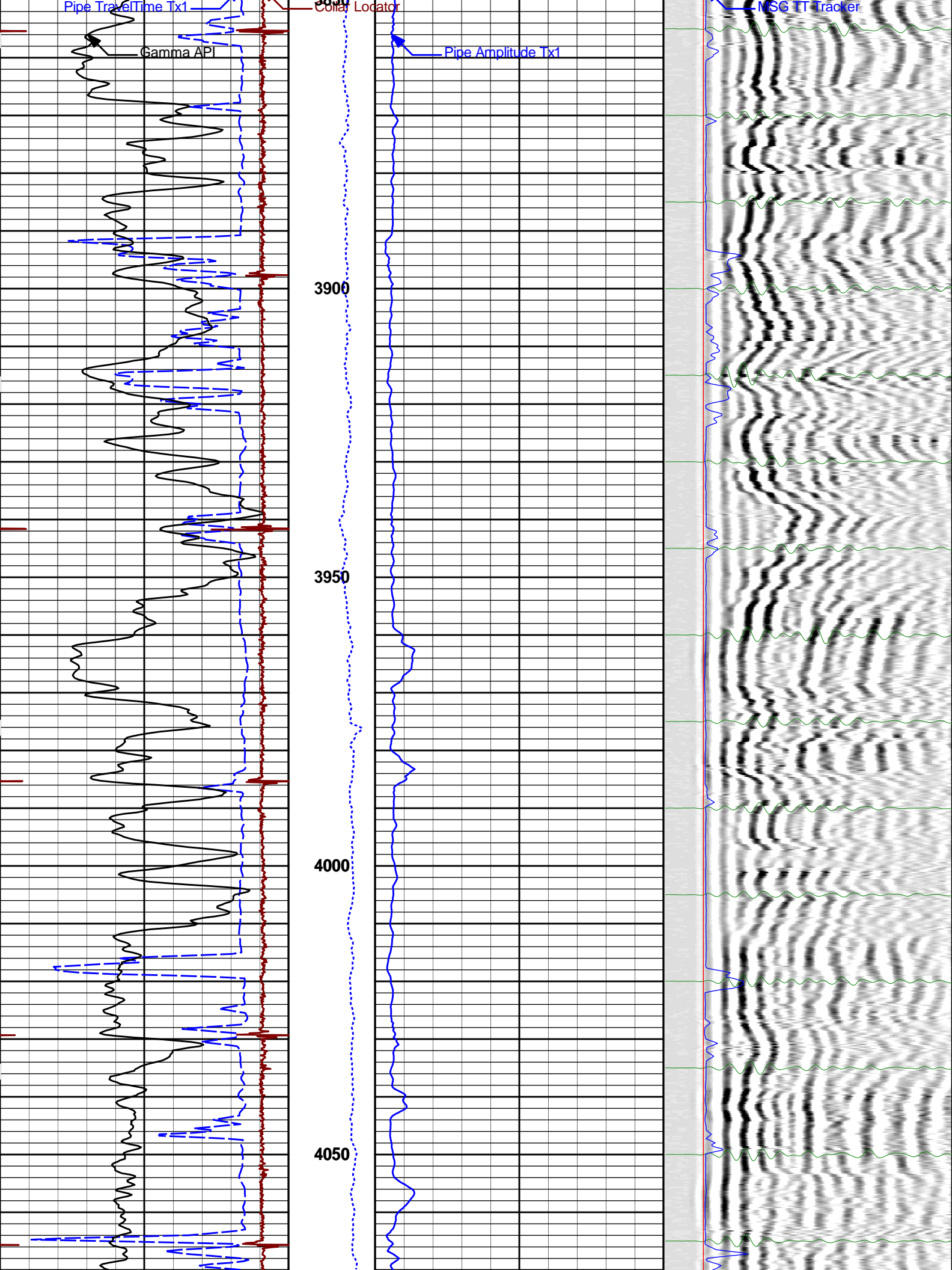


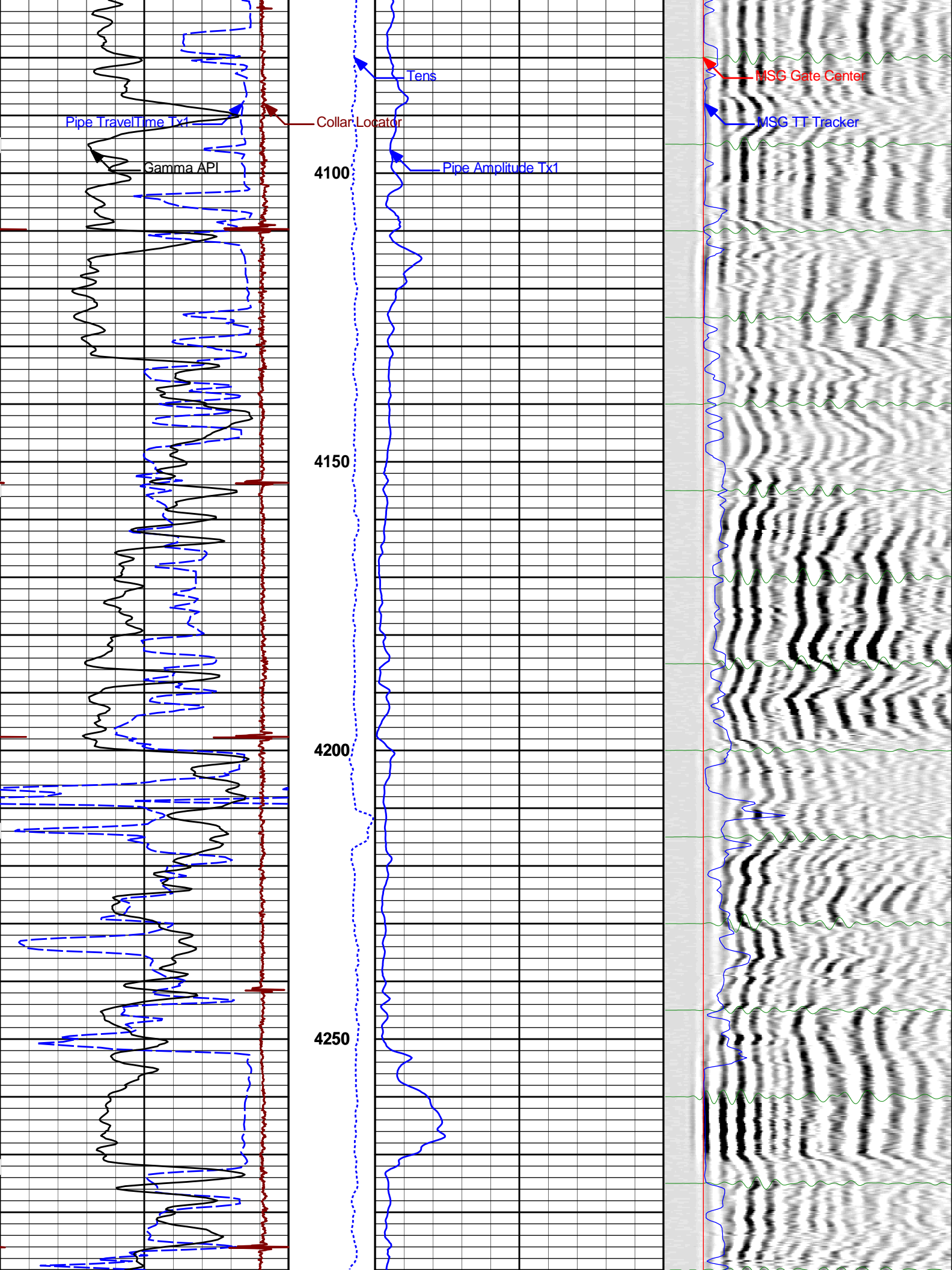


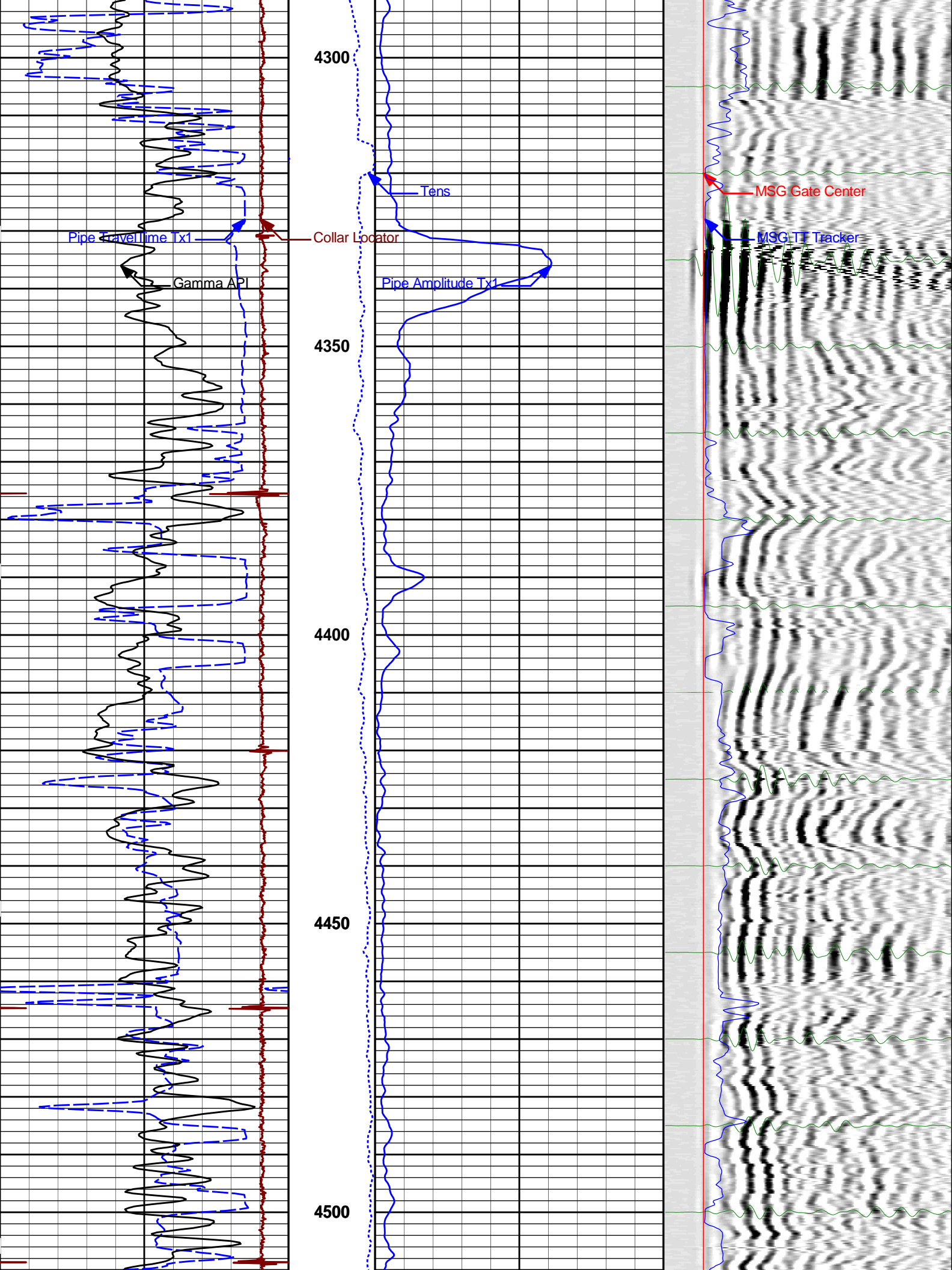


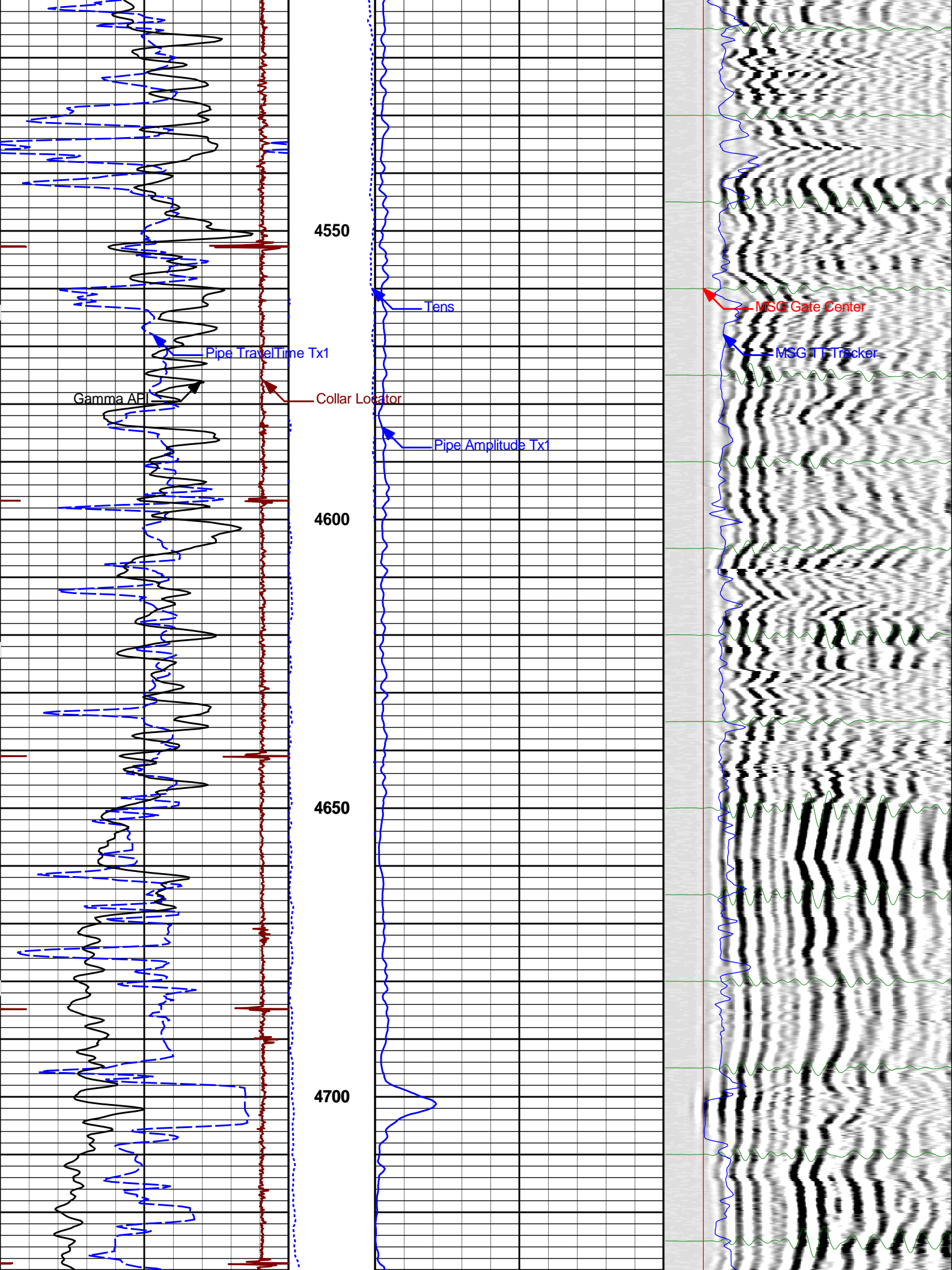




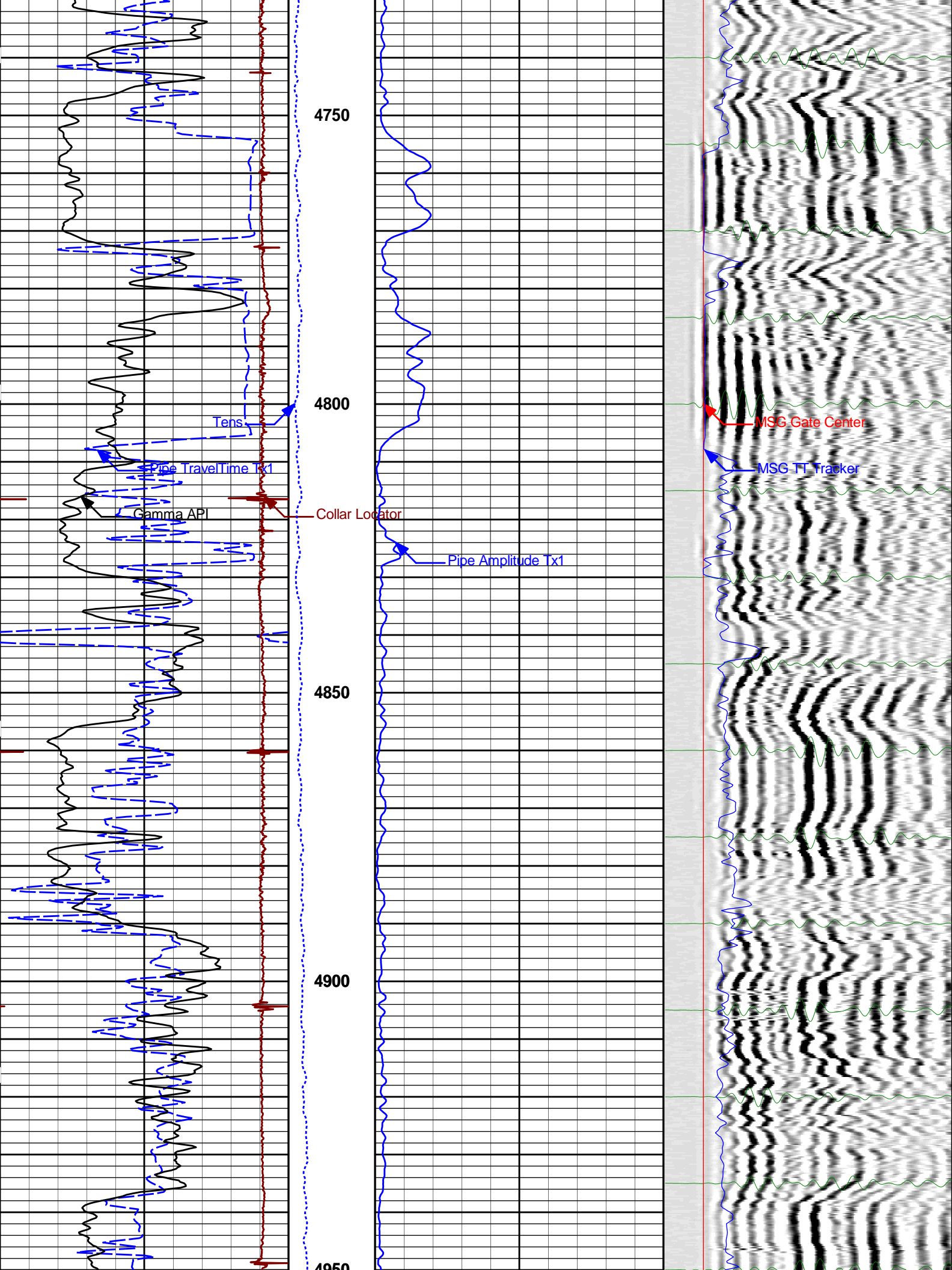


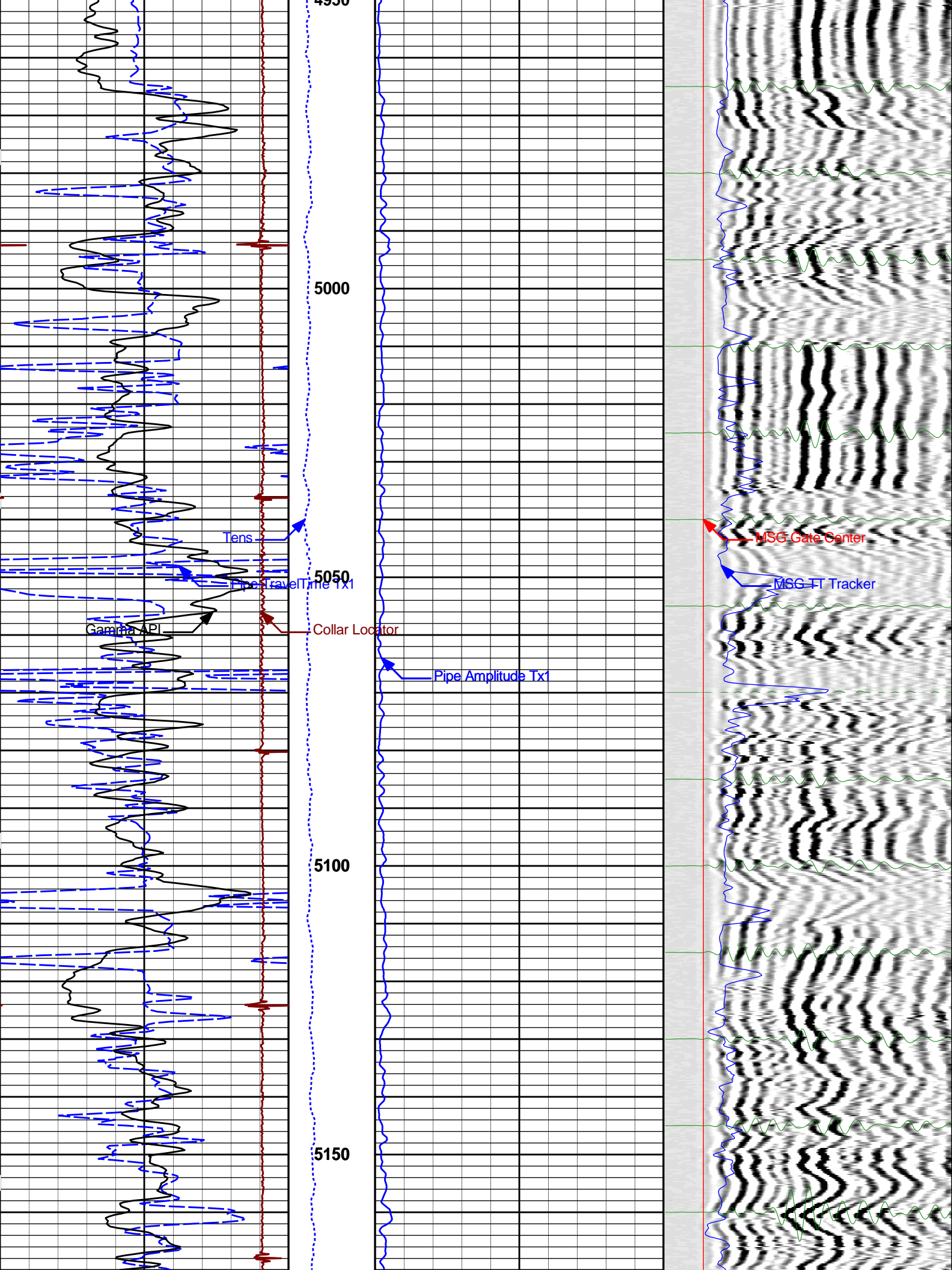




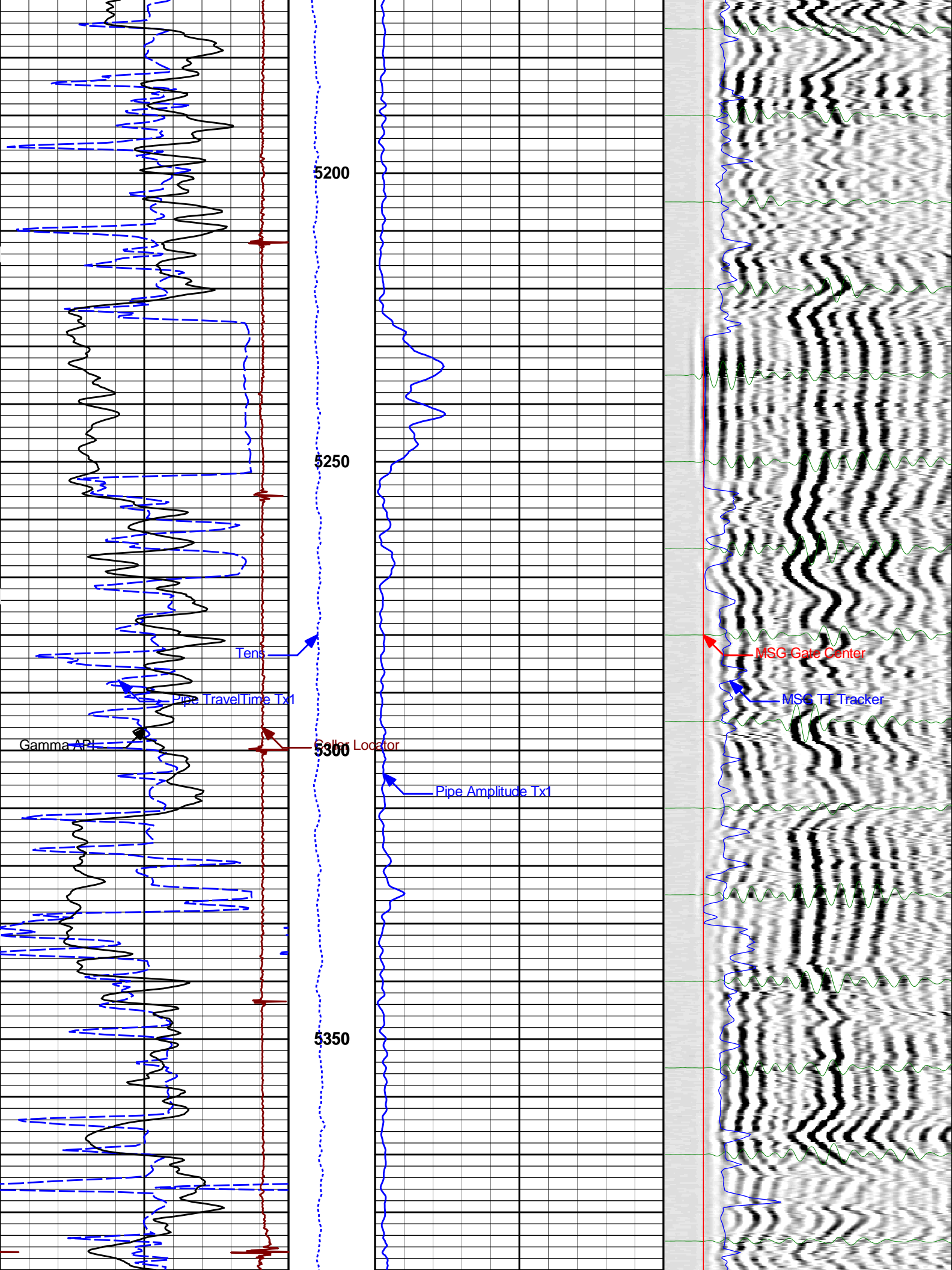


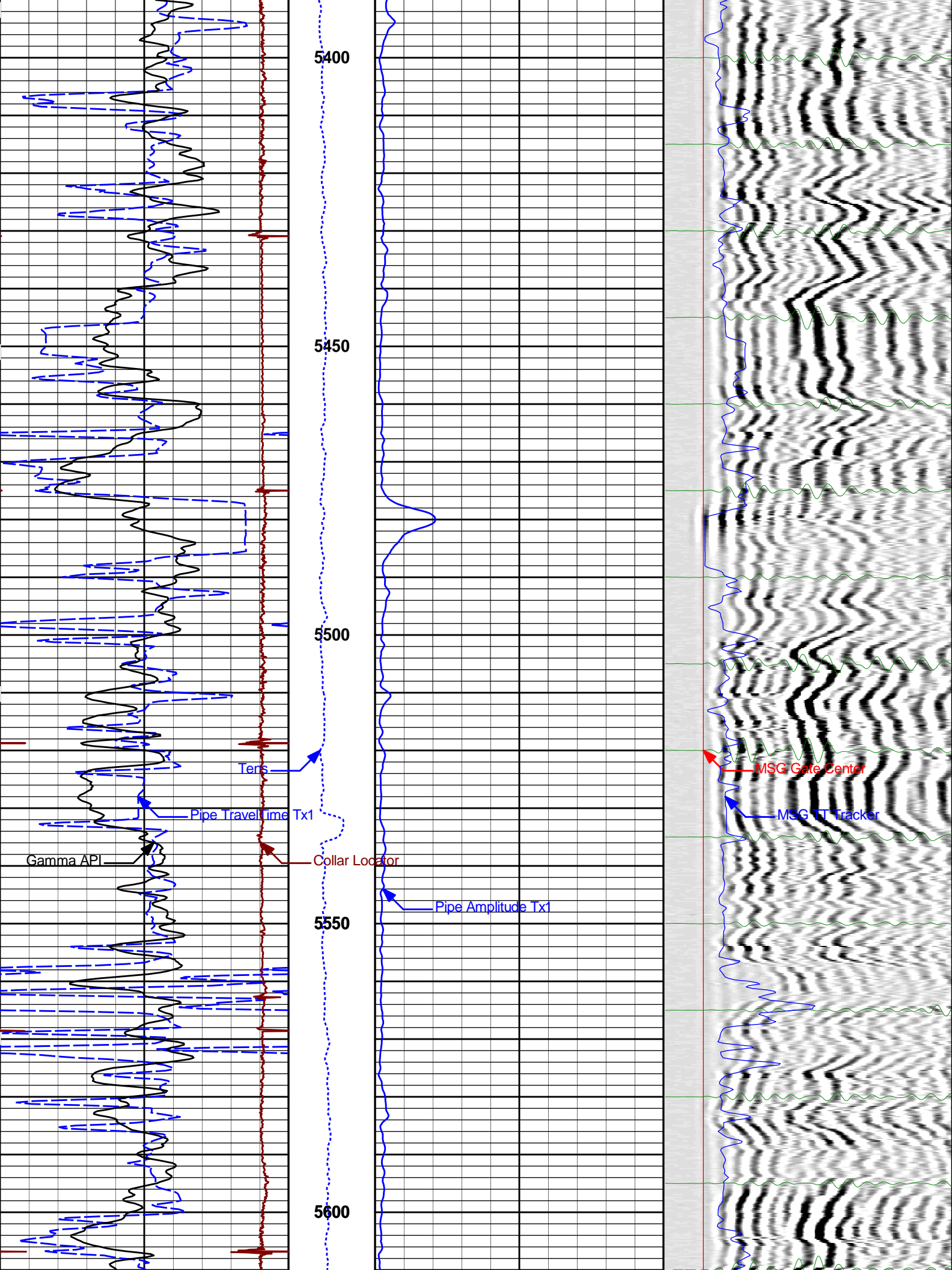


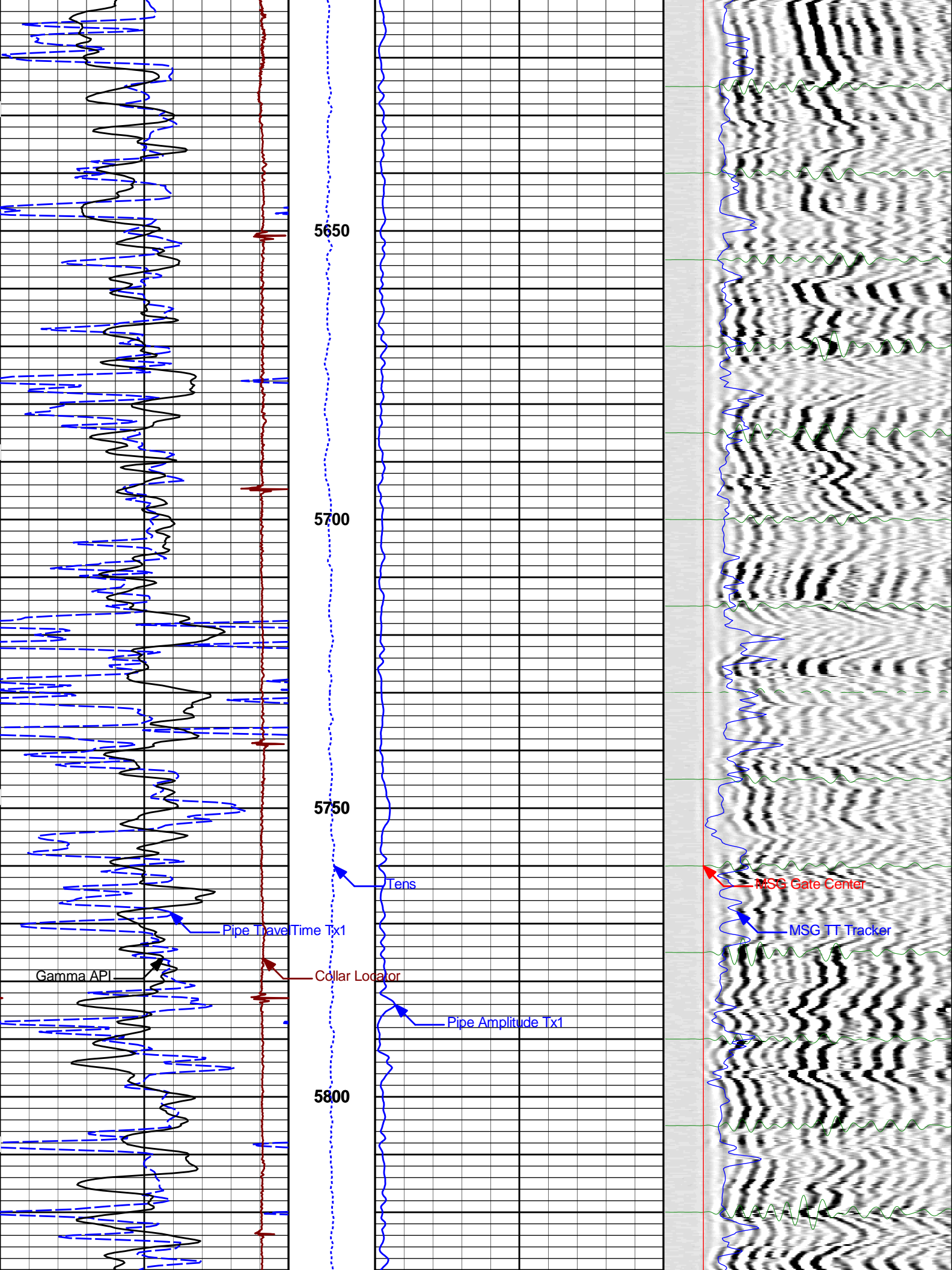


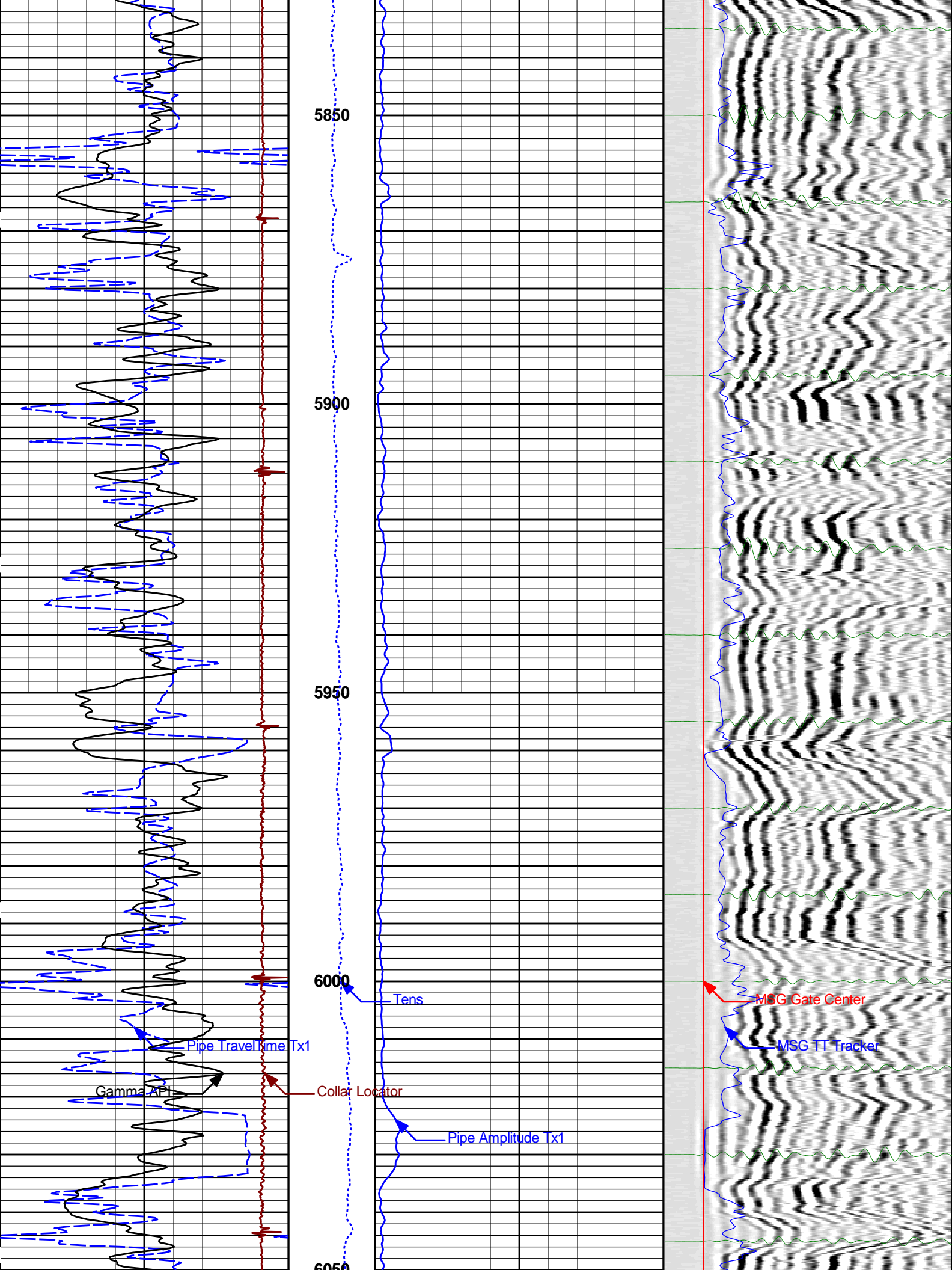


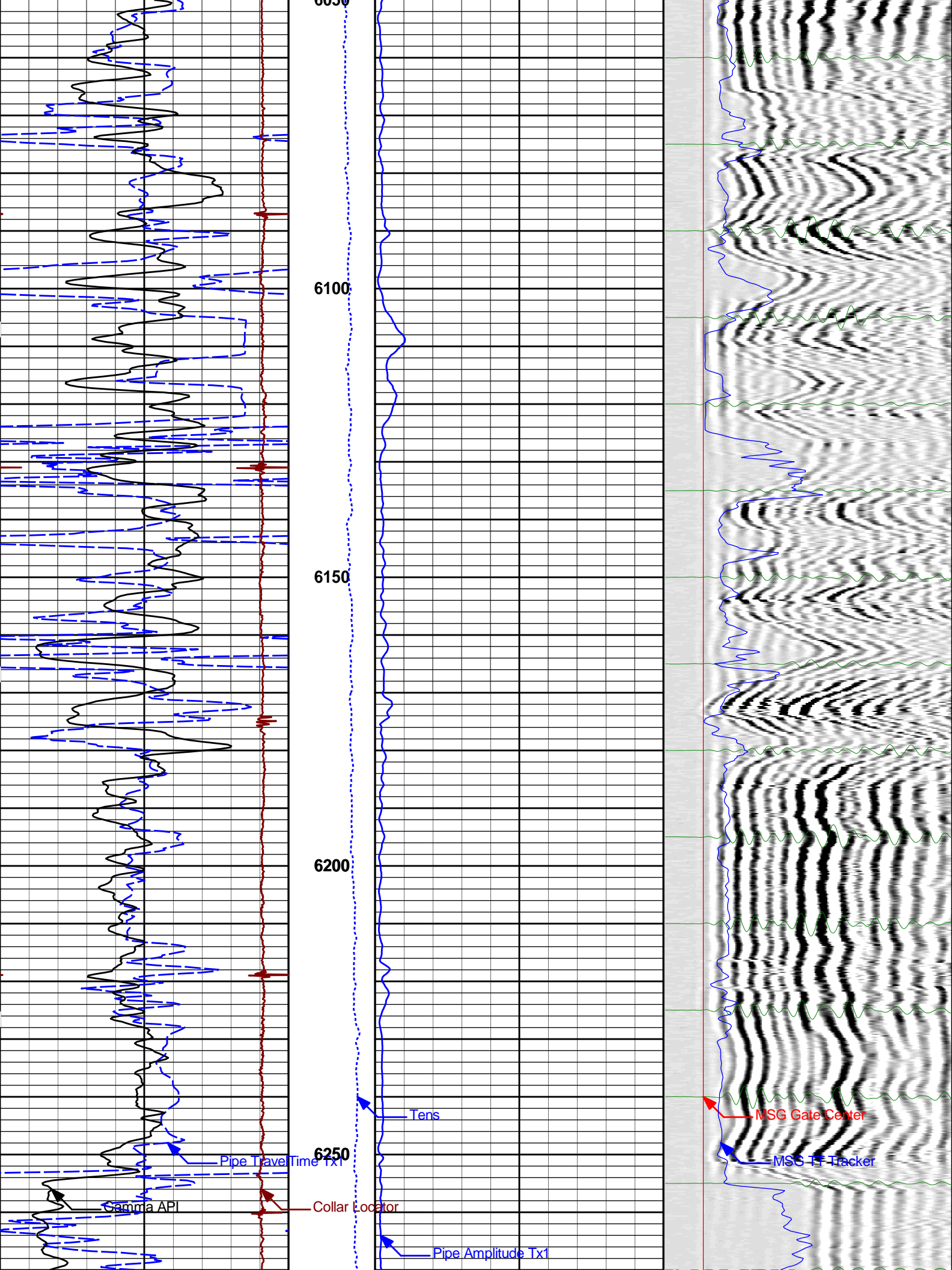


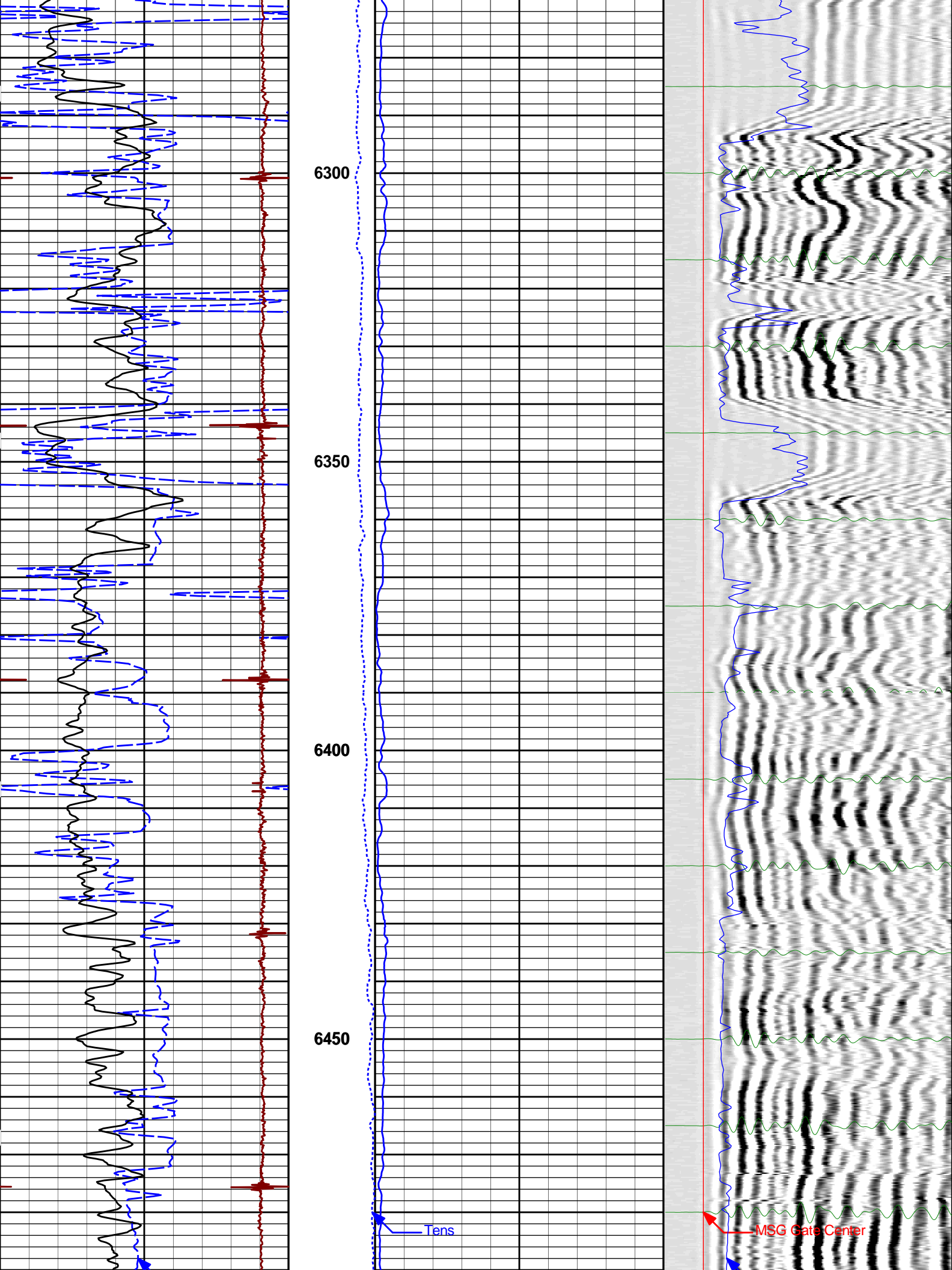




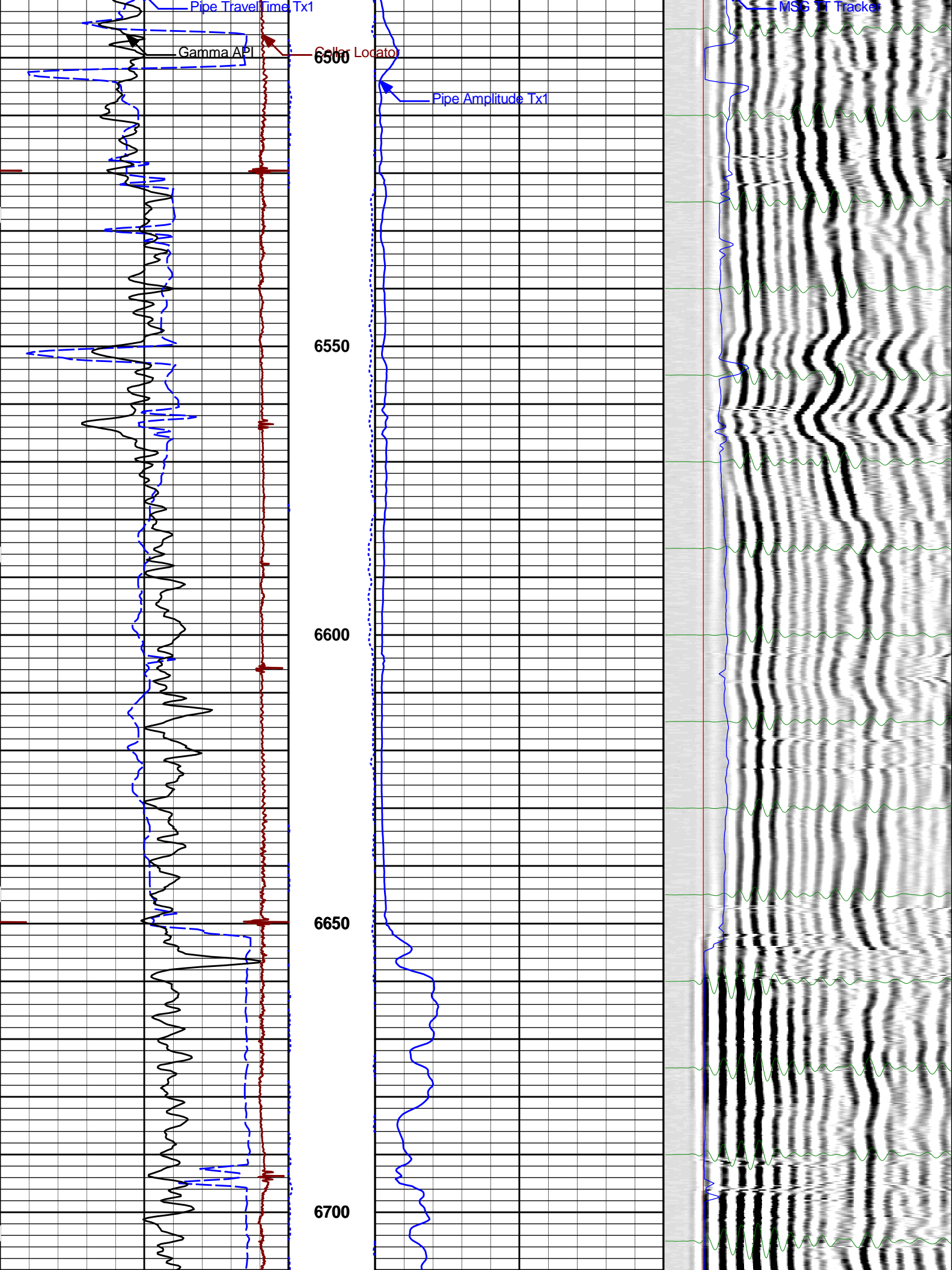


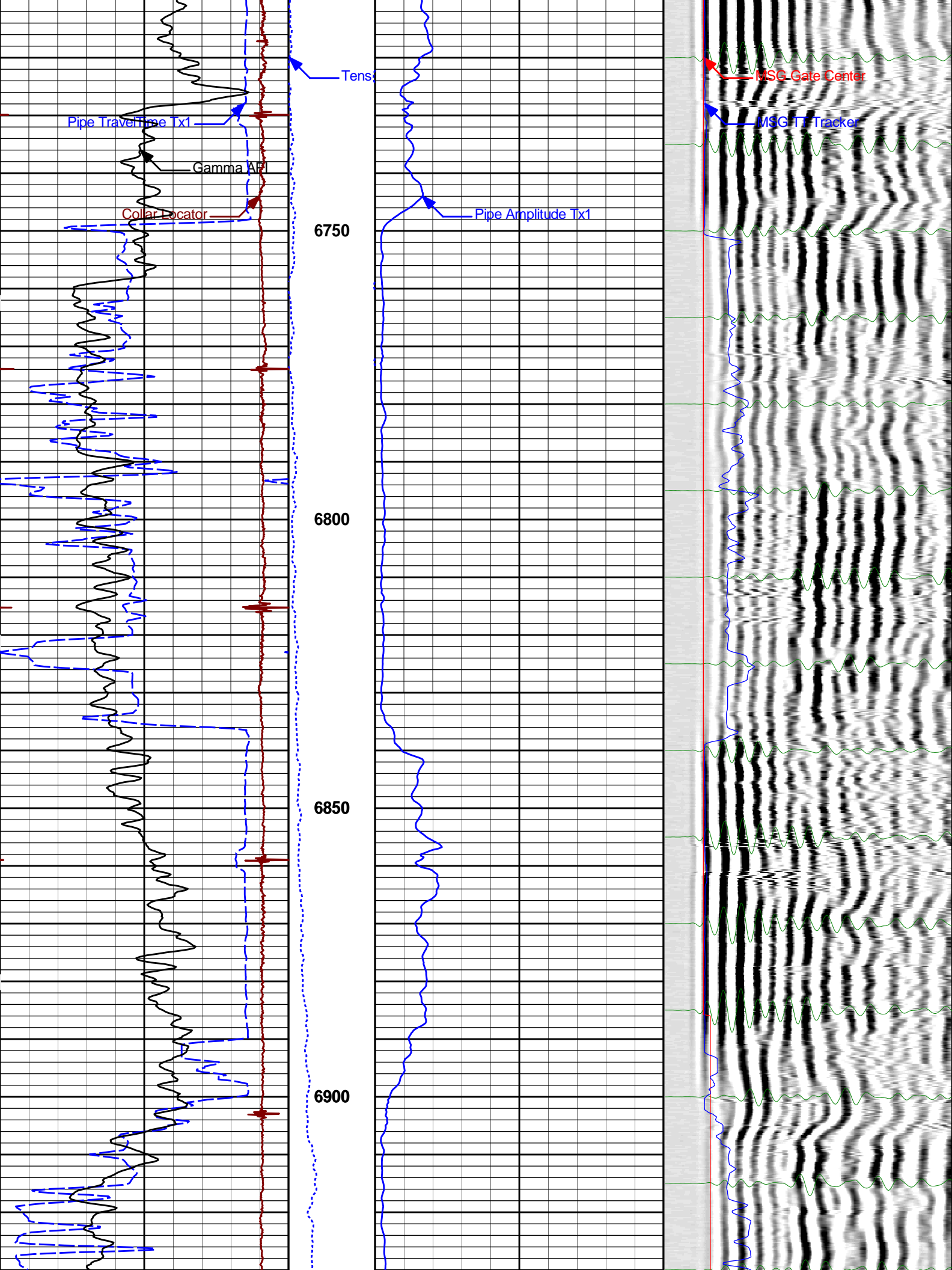




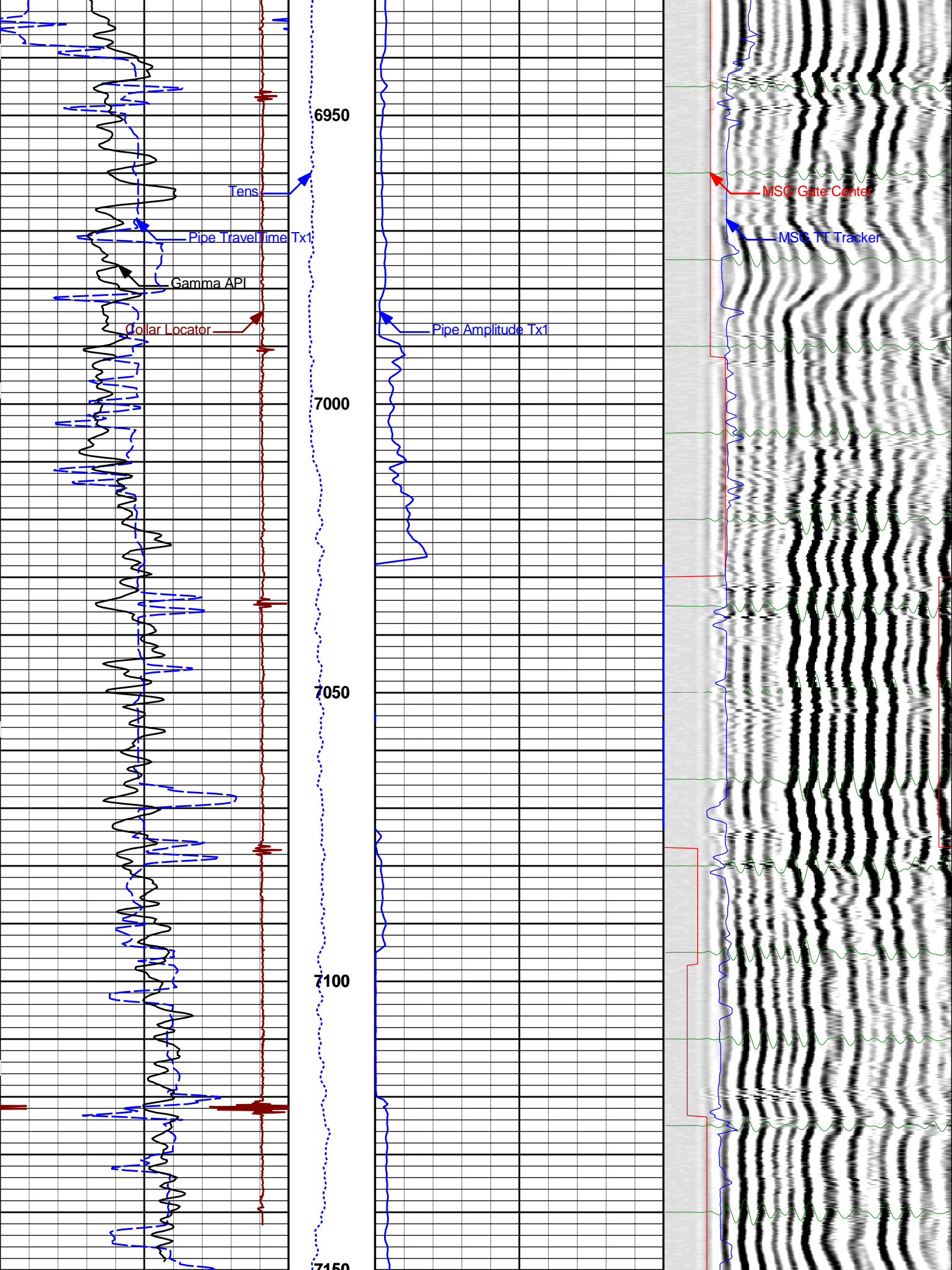


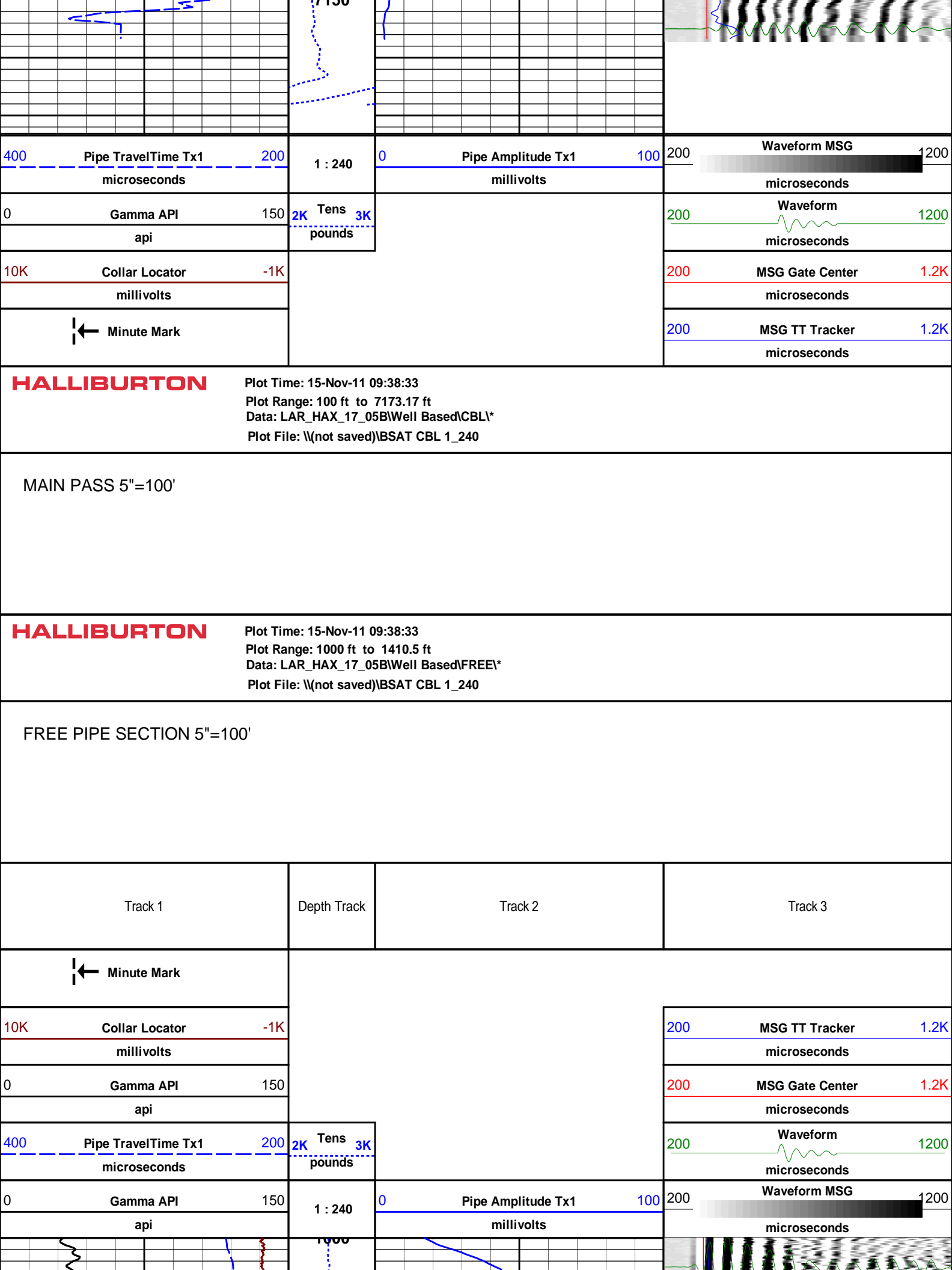


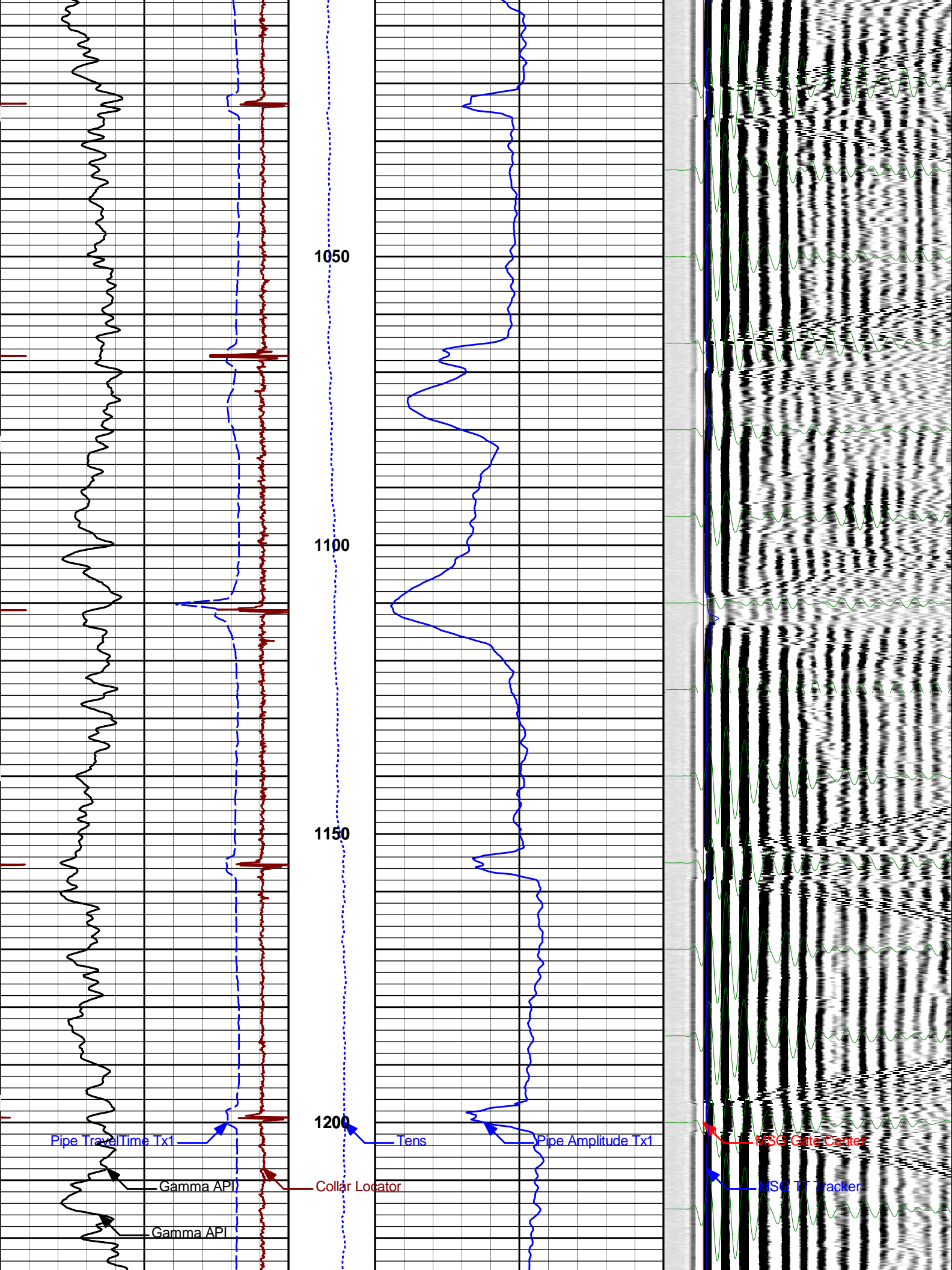


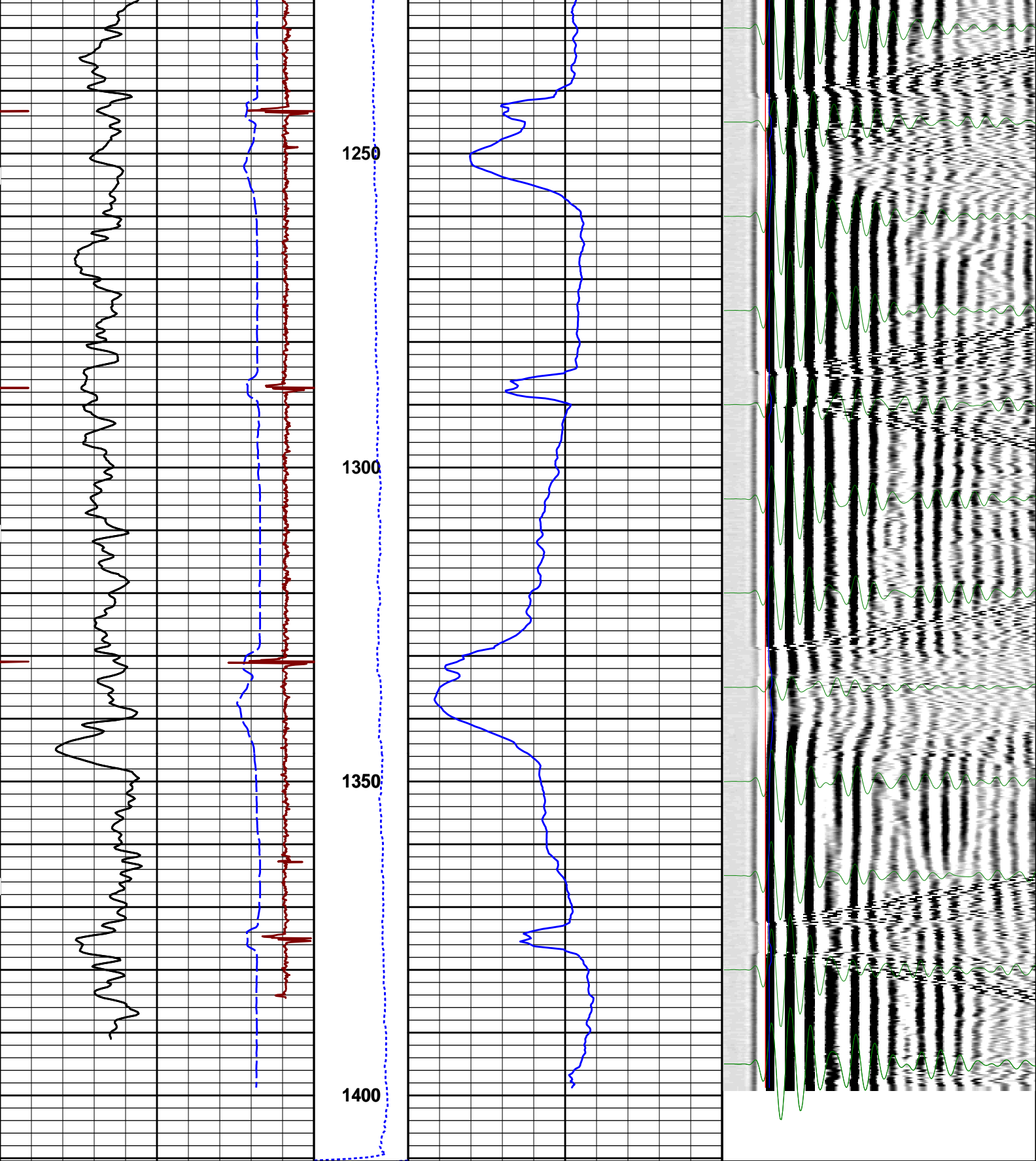




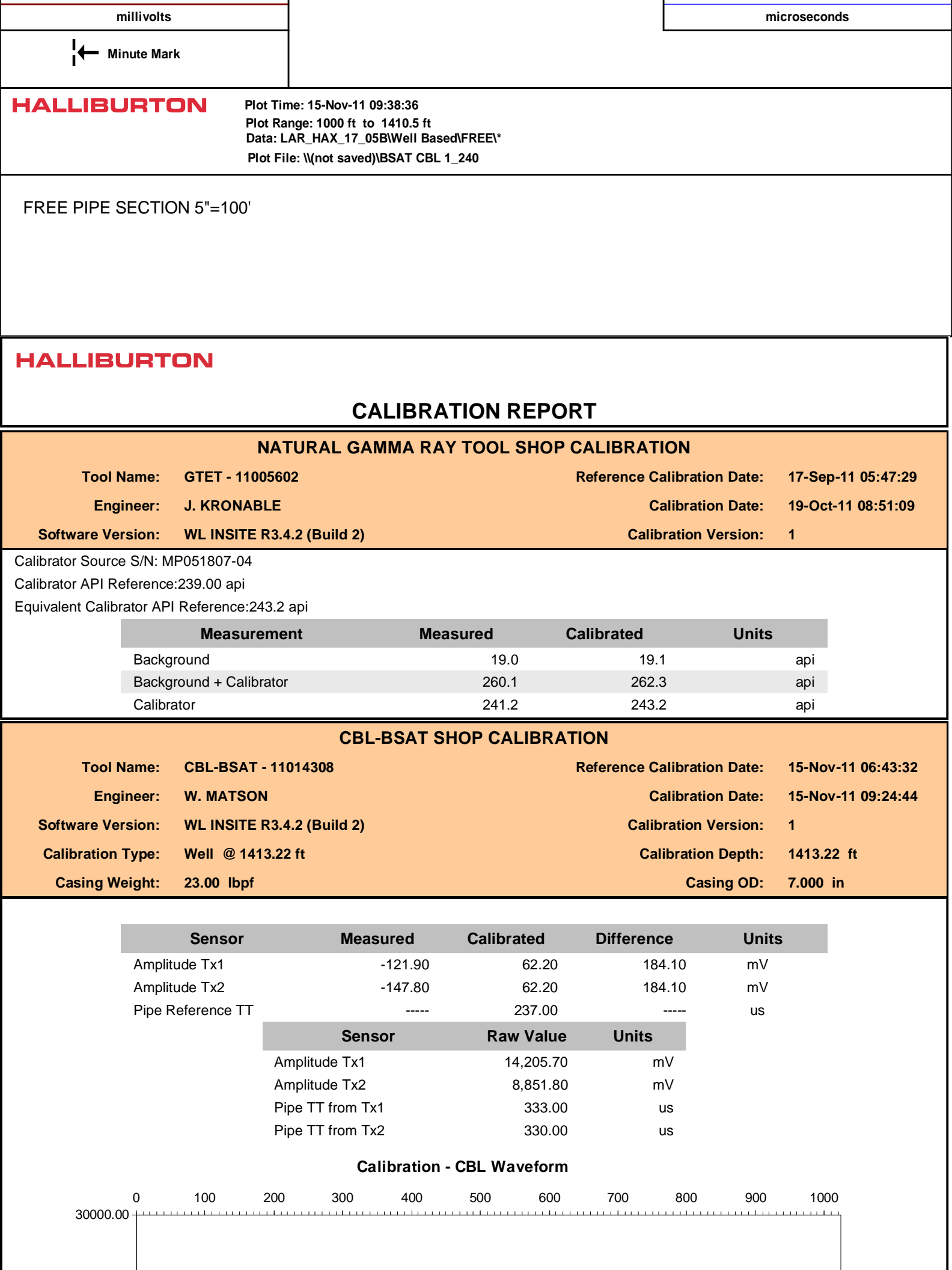


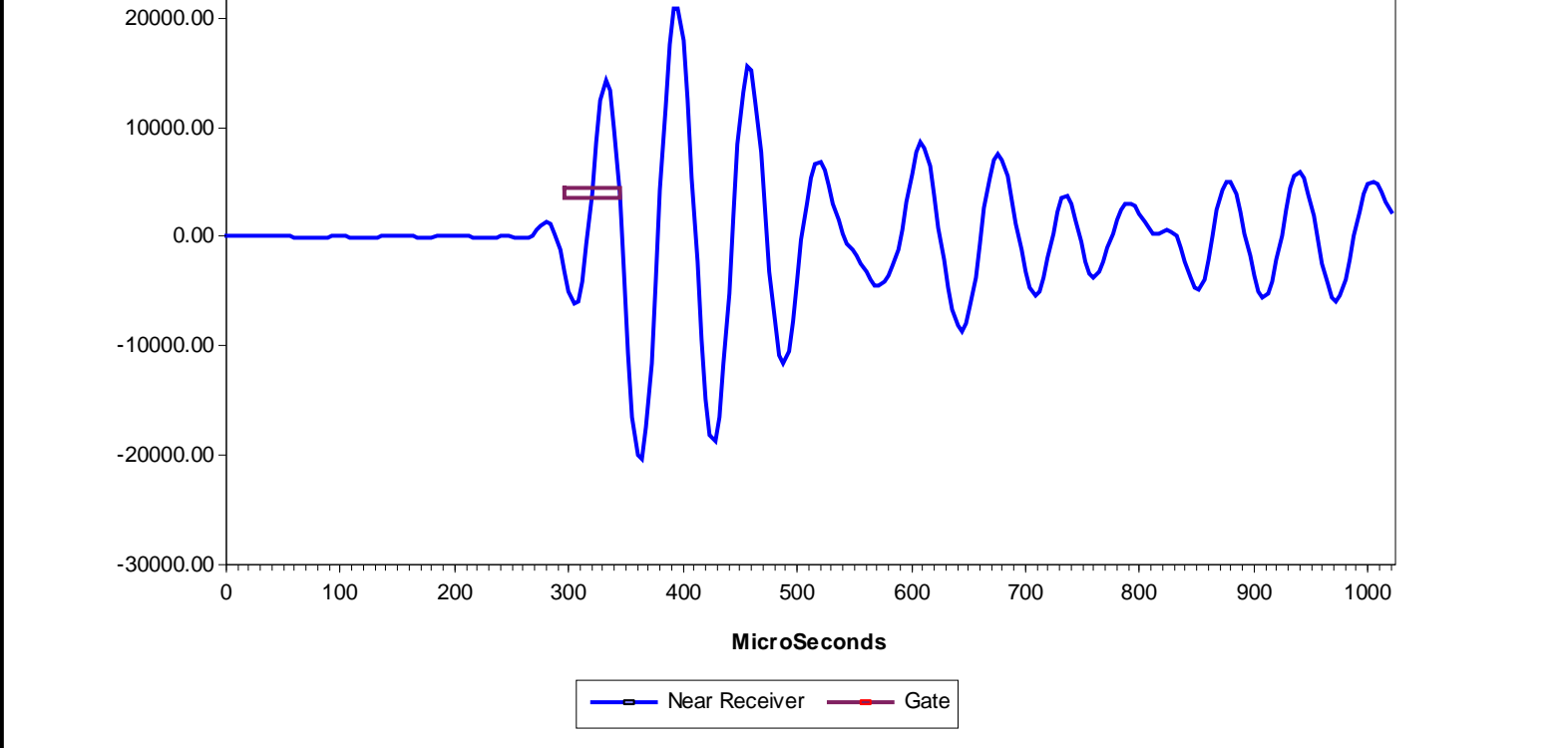






0	Gamma API	150	1 : 240	0	Pipe Amplitude Tx1	100	200	Waveform MSG	1200
	api				millivolts			microseconds	
400	Pipe TravelTime Tx1	200	2K Tens 3K pounds				200	Waveform	1200
	microseconds							microseconds	
0	Gamma API	150					200	MSG Gate Center	1.2K
	api							microseconds	
10K	Collar Locator	-1K					200	MSG TT Tracker	1.2K





CALIBRATION SUMMARY						
Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11005602						
Gamma Ray Calibrator	243.2	-----	-----	0.0	+/- 9.00	api
Data: LAR_HAX_17_05B\0002 CBL_BSAT\IDLE					Date: 15-Nov-11 09:36:54	

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
RWCH-A032 135.00 lbs		Ø 3.625 in →		← Load Cell @ 29.19 ft ← BH Temperature @ 28.63 ft	6.25 ft	32.88 ft
CCL-D-CCLD 60.00 lbs		Ø 3.625 in →		← CCL @ 25.92 ft	2.00 ft	26.63 ft
						24.63 ft
GTET-11005602 165.00 lbs		Ø 3.625 in →		← GammaRay @ 18.57 ft	8.52 ft	
						16.11 ft



0.33 ft

0.00 ft

COMPANY	LARAMIE ENERGY II, LCC		
WELL	HAWXHURST 17-05B		
FIELD	BRUSH CREEK		
COUNTY	MESA	STATE	CO
HALLIBURTON		CEMENT BOND LOG	