

CEMENT BOND LOG BOREHOLE COMPENSATED SONIC ARRAY

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LOGGING DATA

Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	SHARED	BS	Bit Size	12.250	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	Yes	
	SHARED	MDBS	Mud Base	Water	
	SHARED	MDWT	Borehole Fluid Weight	14.700	ppg
	SHARED	WAGT	Weighting Agent	Barite	
	SHARED	BSAL	Borehole salinity	700.00	ppm
	SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
	SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
	SHARED	RMUD	Mud Resistivity	1.740	ohmm
	SHARED	TRM	Temperature of Mud	58.0	degF
	SHARED	CSD	Logging Interval is Cased?	Yes	
	SHARED	CSOD	Inner Casing OD size	9.625	in
	SHARED	CSWT	Casing Weight	53.50	lbpf
	SHARED	ISOC	Is Outer Casing Present?	No	
	SHARED	CSCM	Casing Cemented	Yes	
	SHARED	CMWT	Cement Weight	16.500	ppg
	SHARED	ST	Surface Temperature	20.0	degF
	SHARED	TD	Total Well Depth	8948.00	ft
	SHARED	BHT	Bottom Hole Temperature	230.0	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	

SHARED	DNOM	Borehole Size Master Tool	NONE	
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.	Centered	
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: RWF_724_16\0003 CBL_BSATIDLE

Date: 14-Dec-13 22:24:35

HALLIBURTON

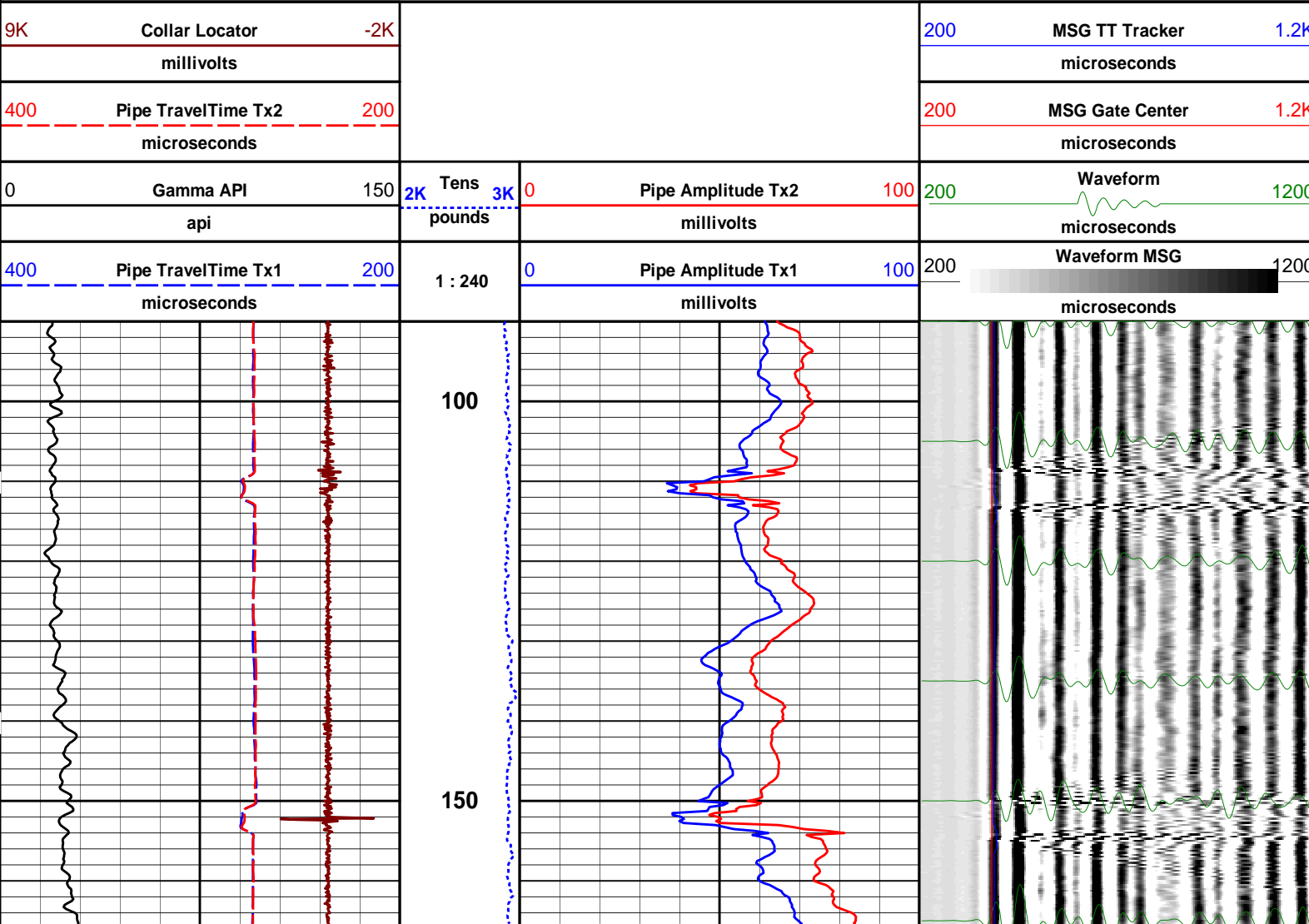
Plot Time: 15-Dec-13 00:55:23

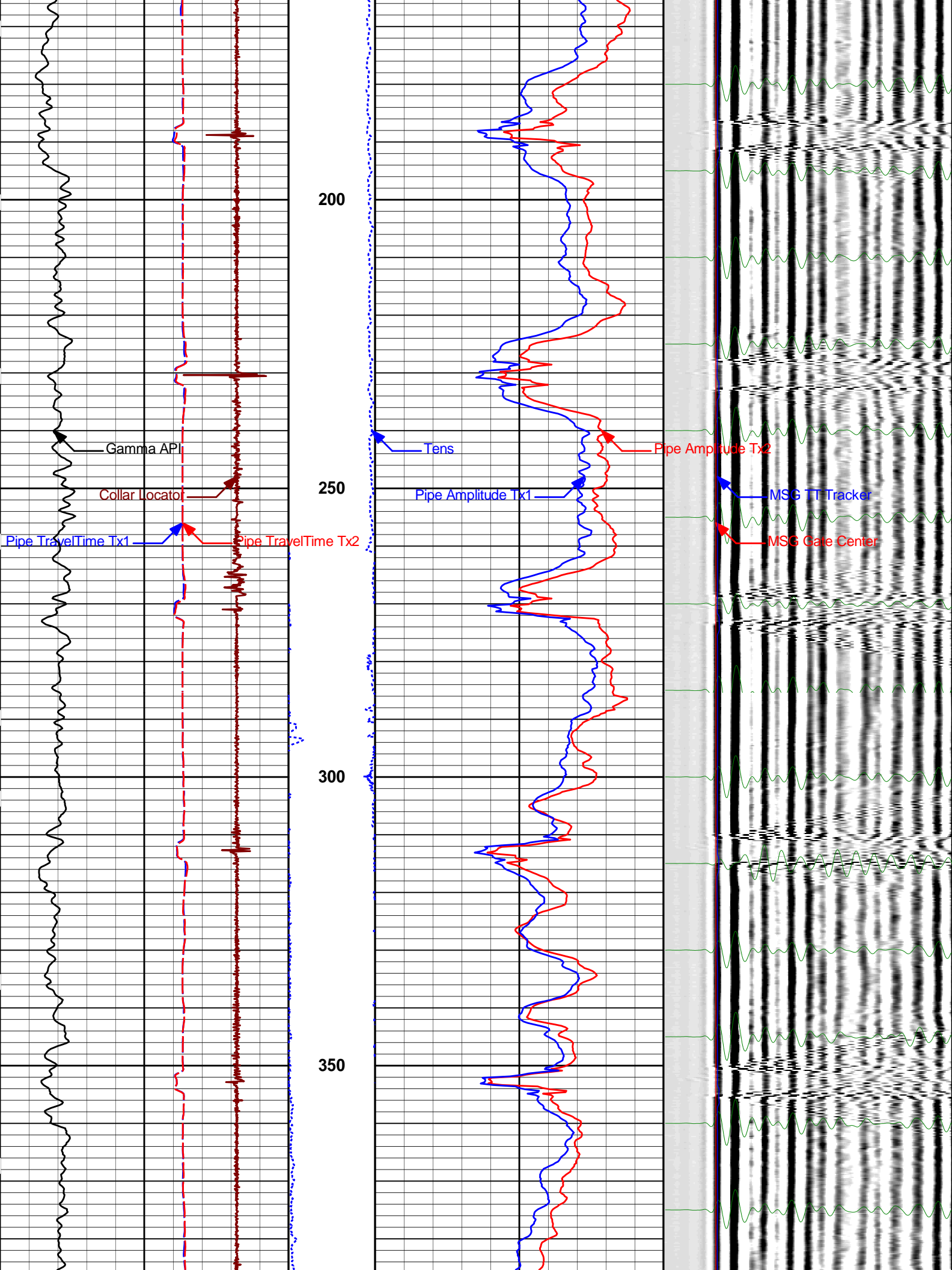
Plot Range: 90 ft to 8963 ft

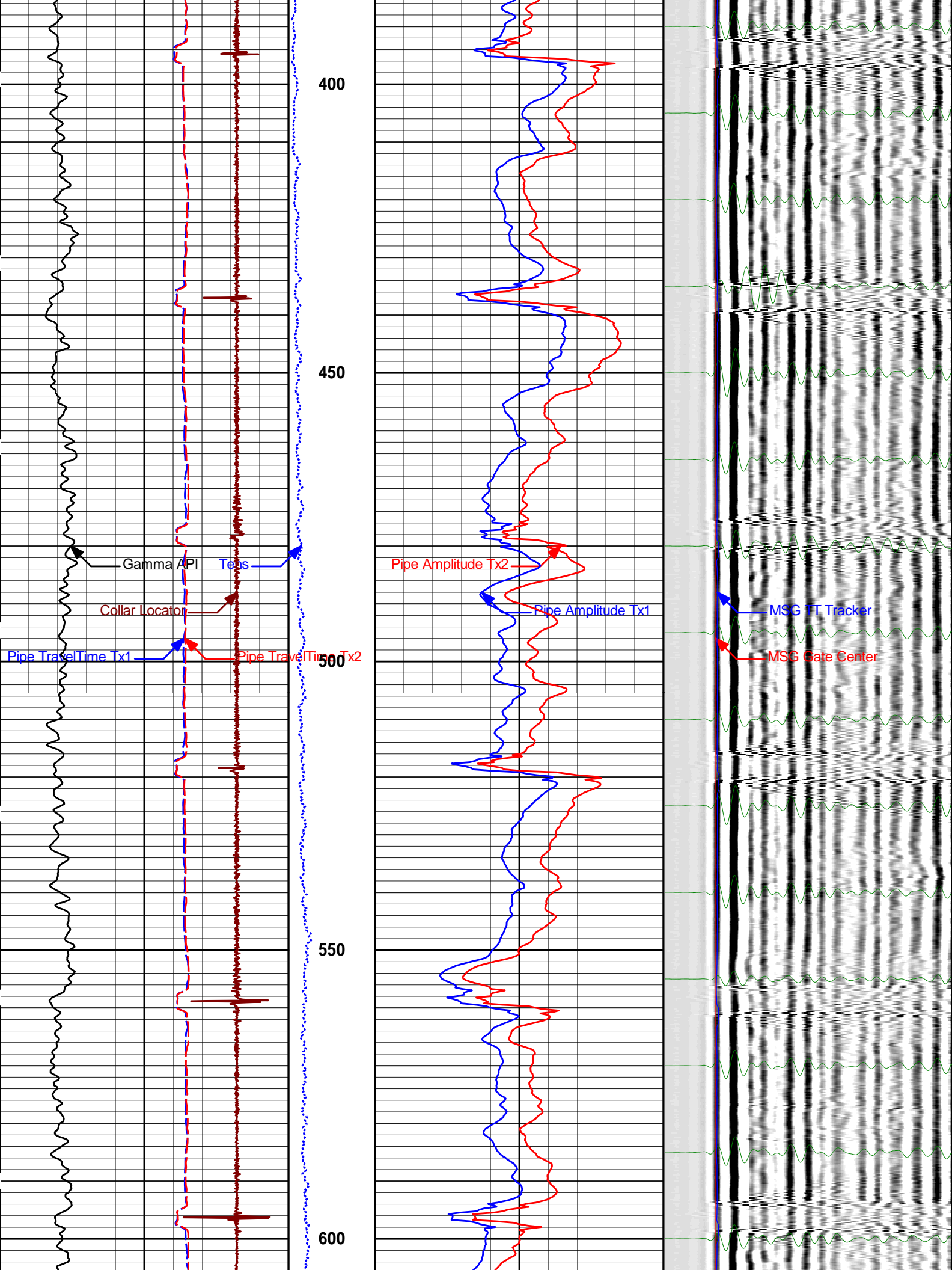
Data: RWF_724_16\Well Based\DAQ-0003-007*

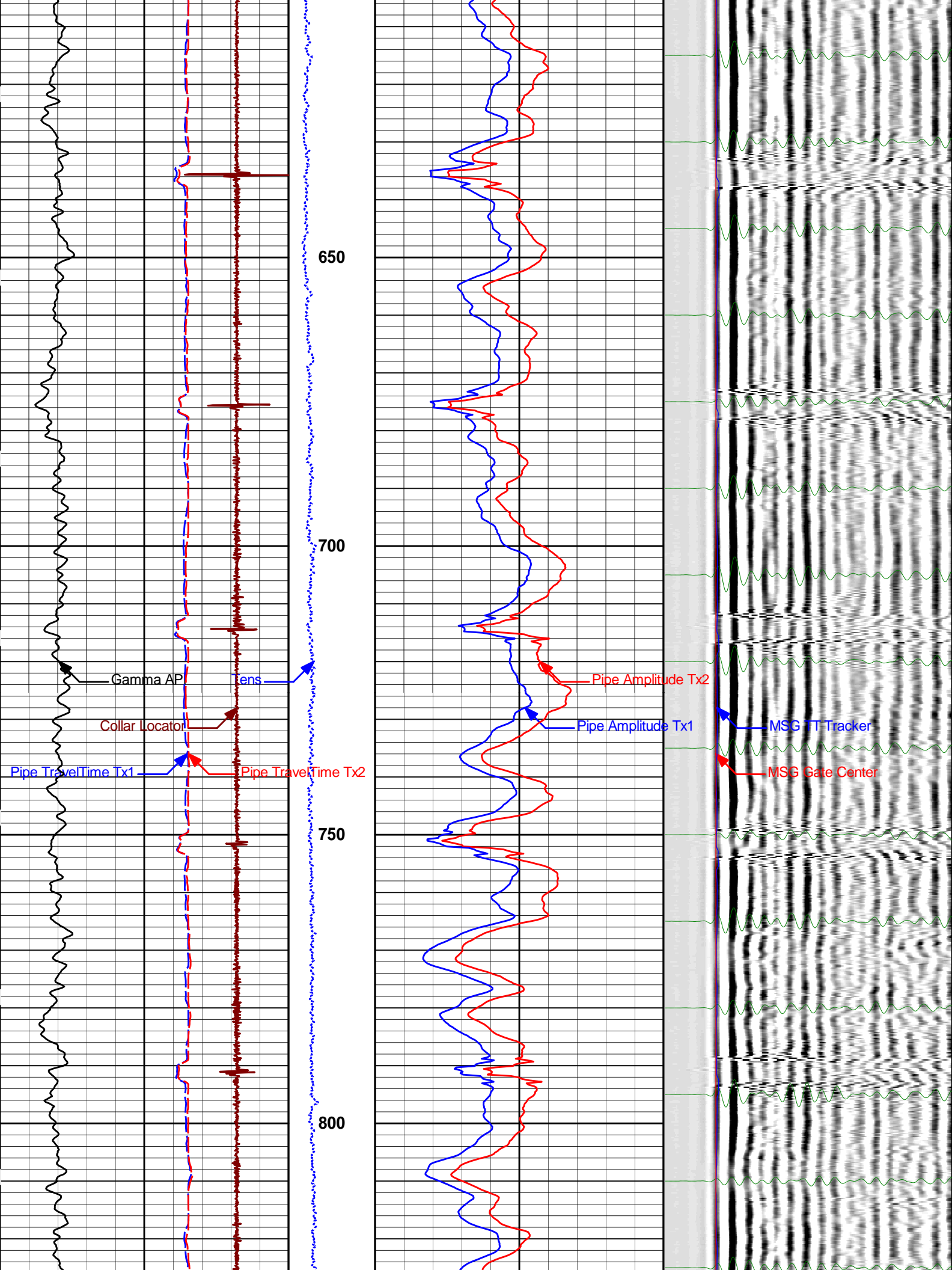
Plot File: \\CBL\MAIN_BSAT CBL

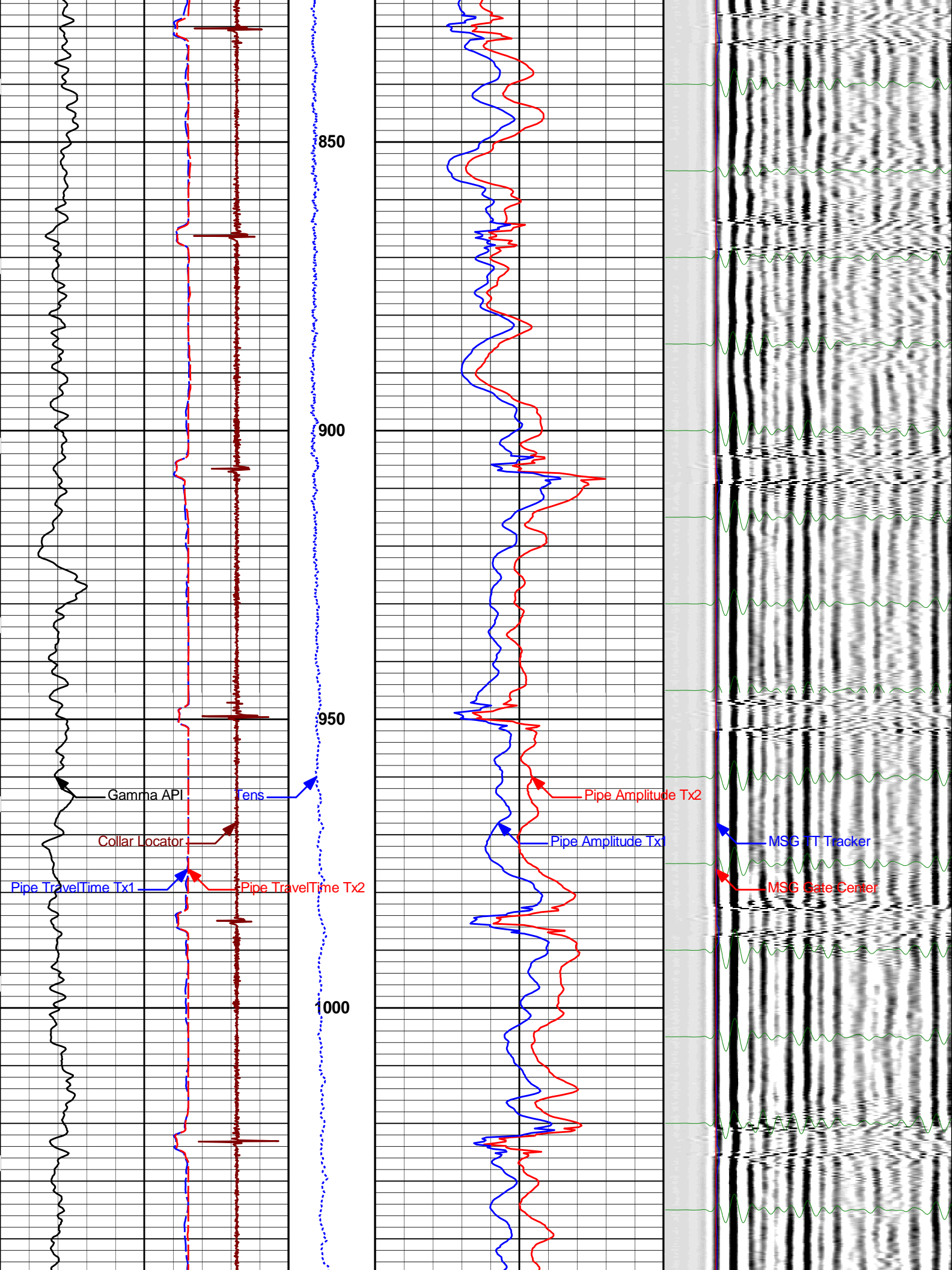
MAIN PASS 5" = 100'

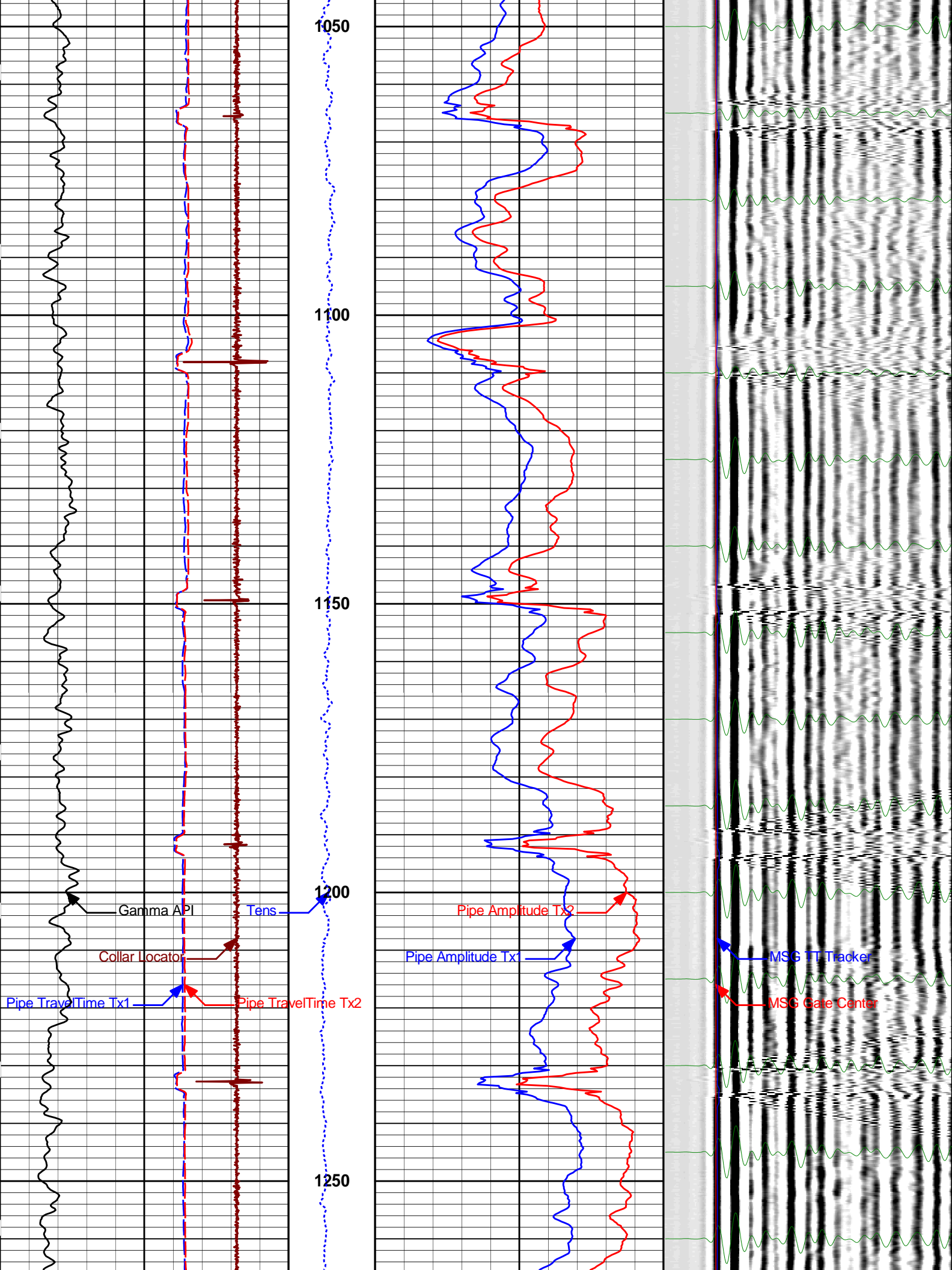


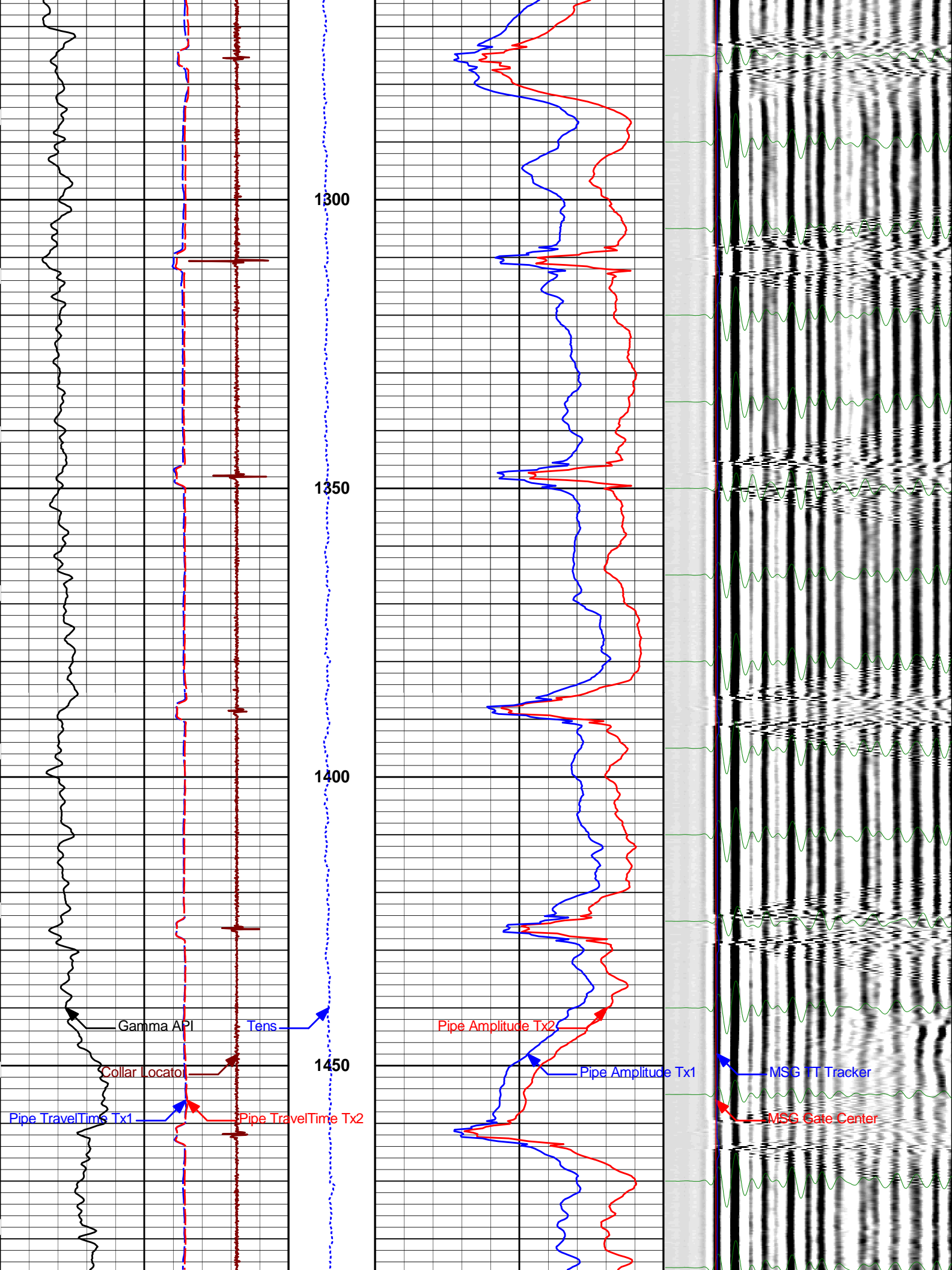


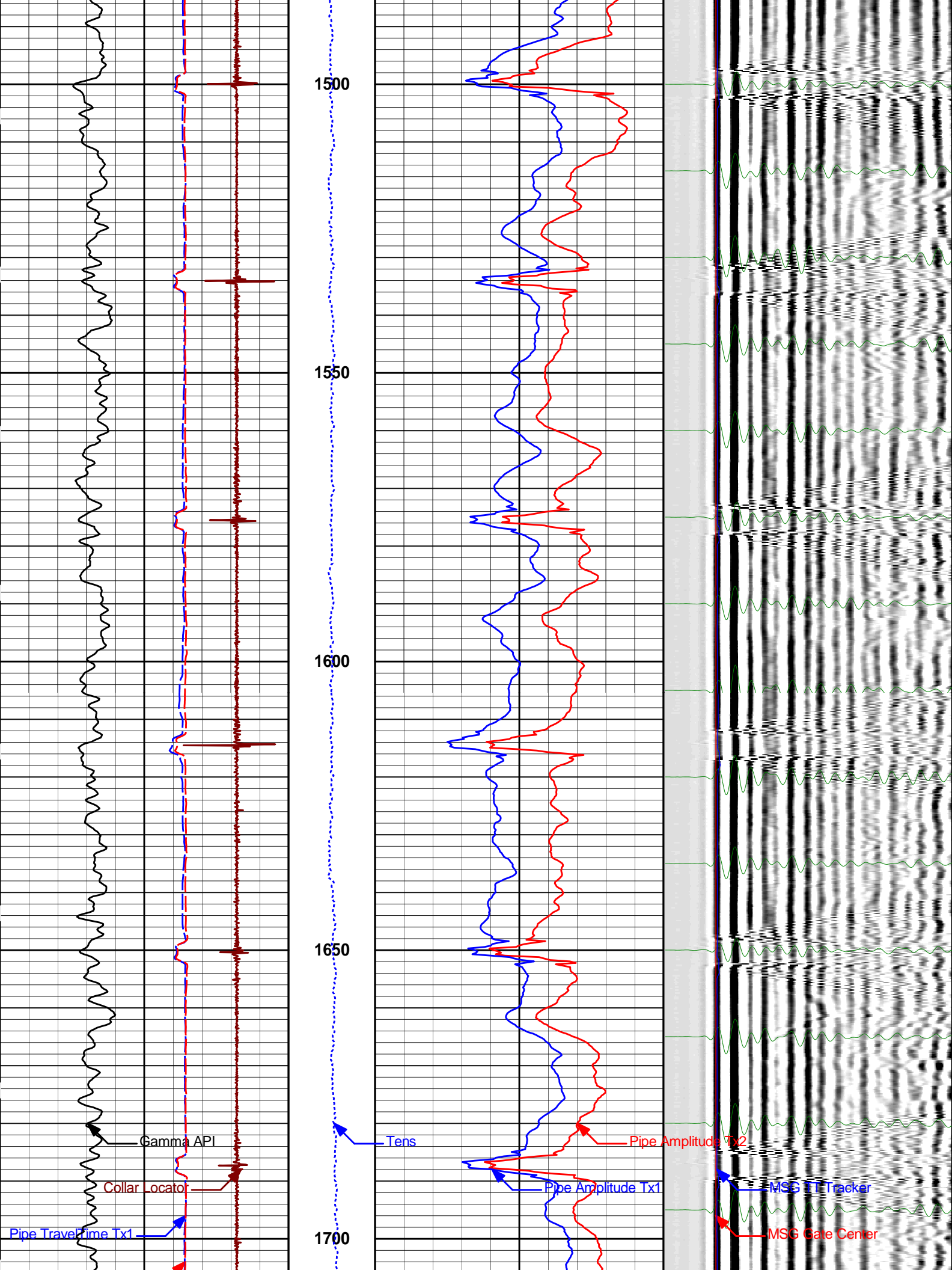


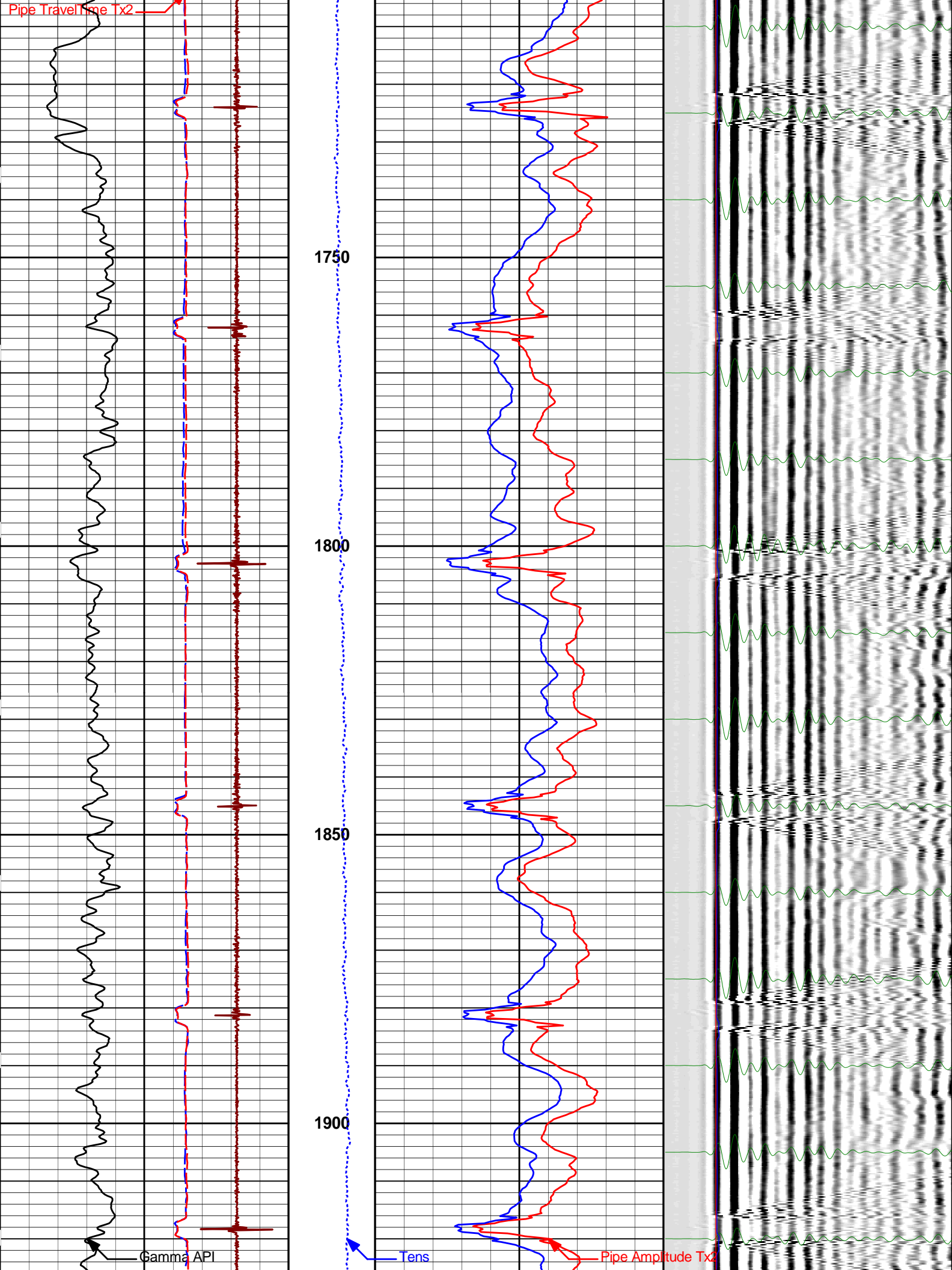


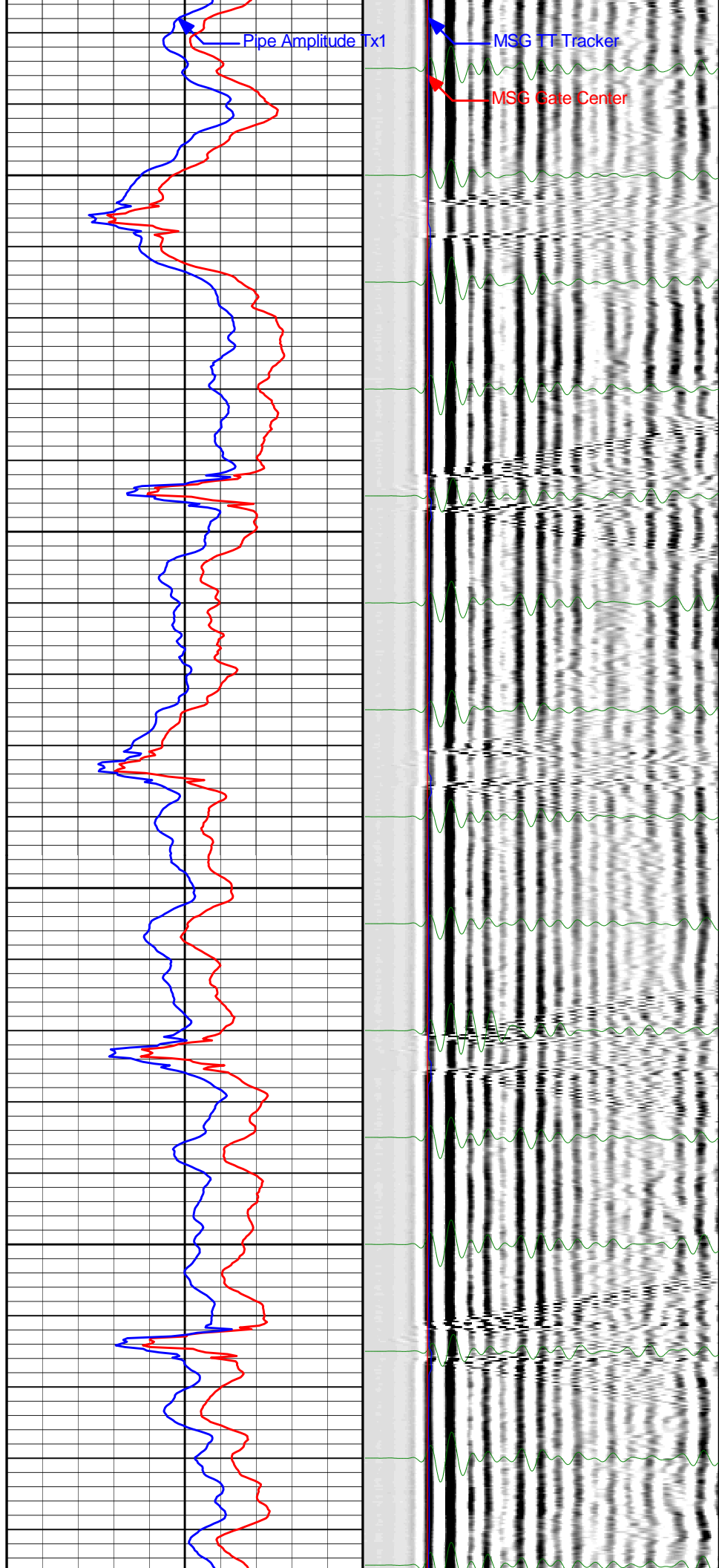
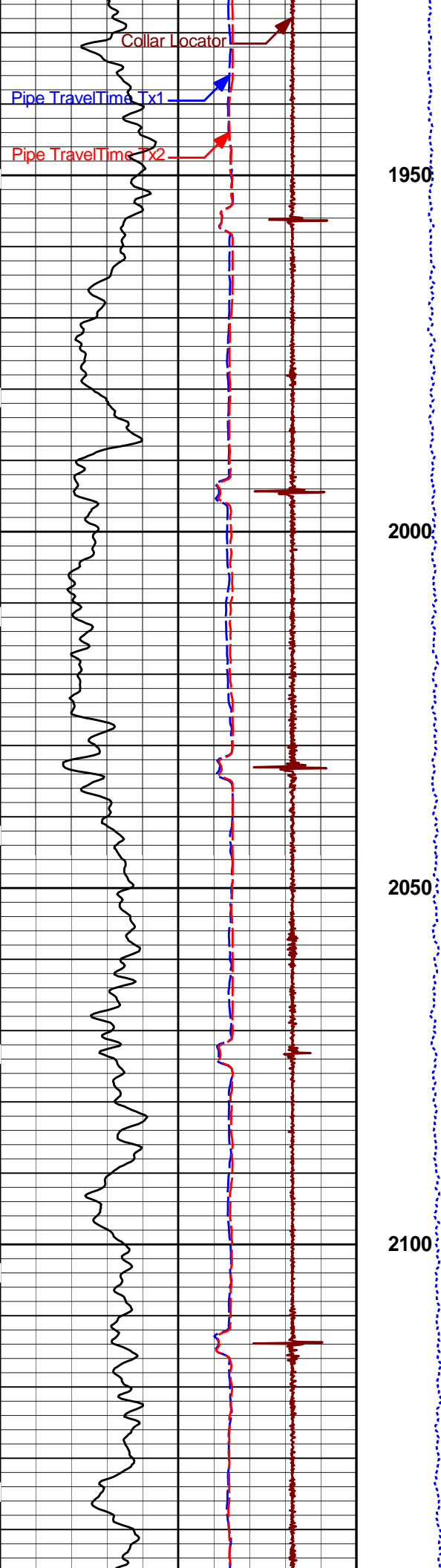


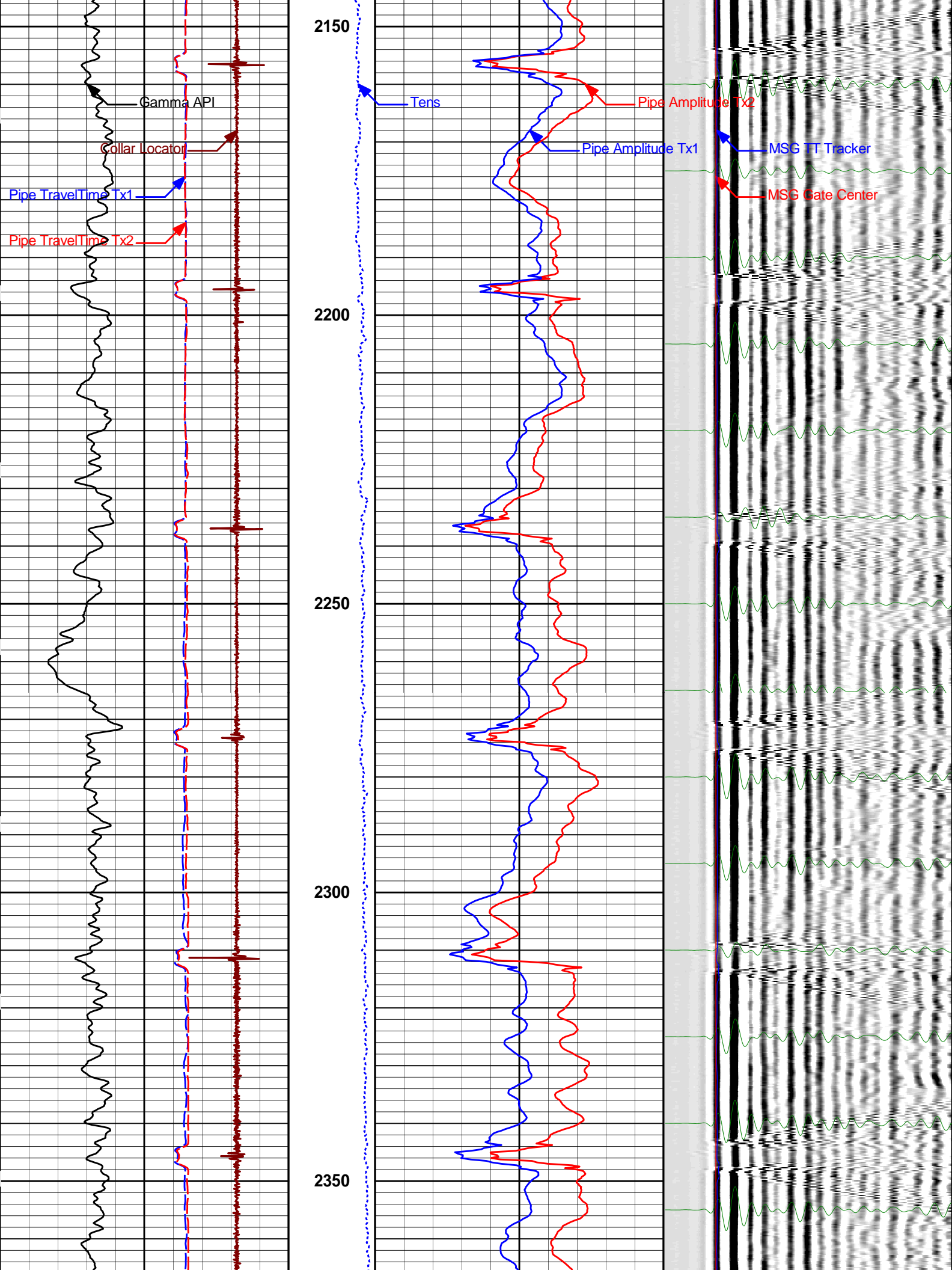


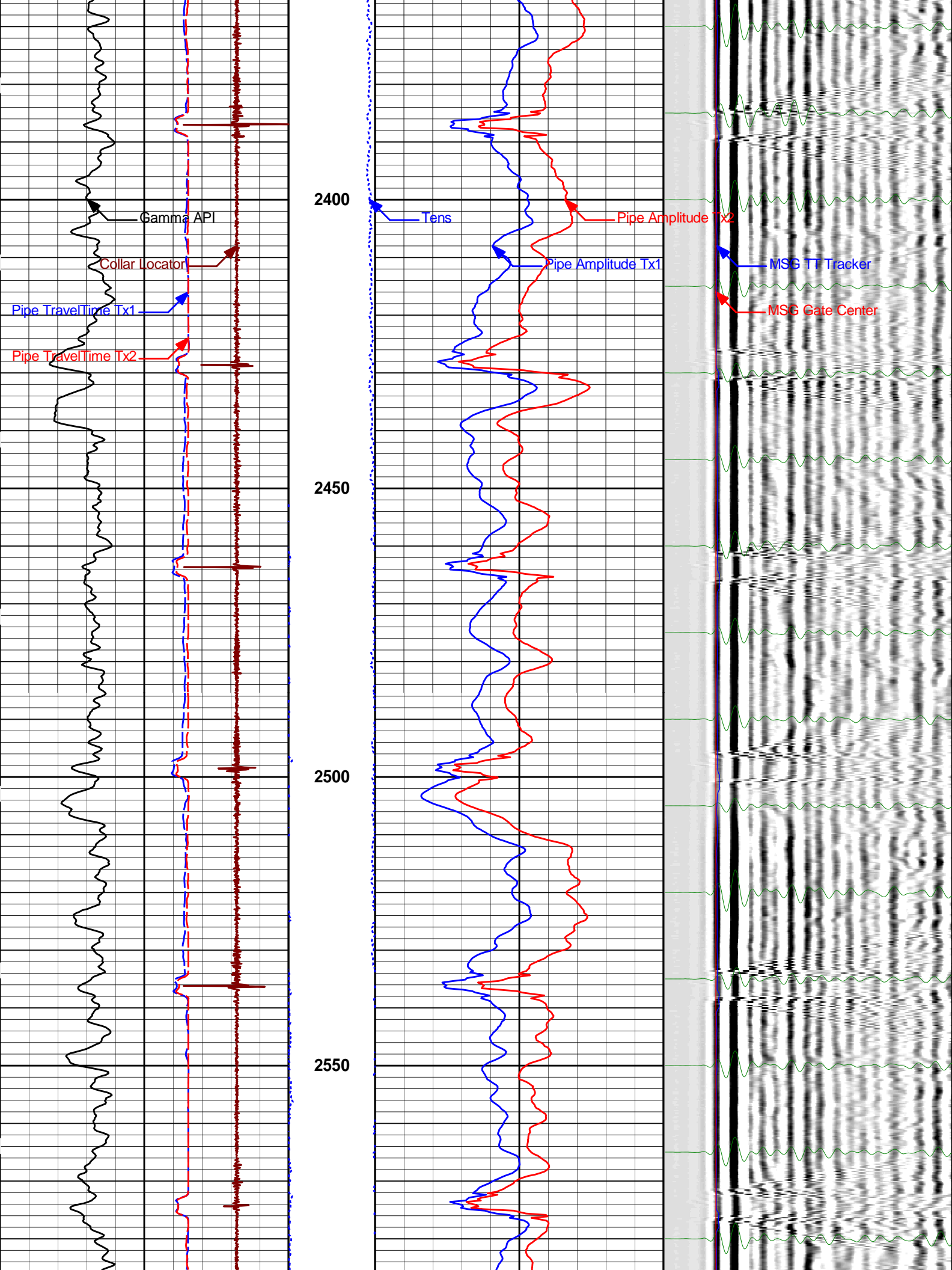


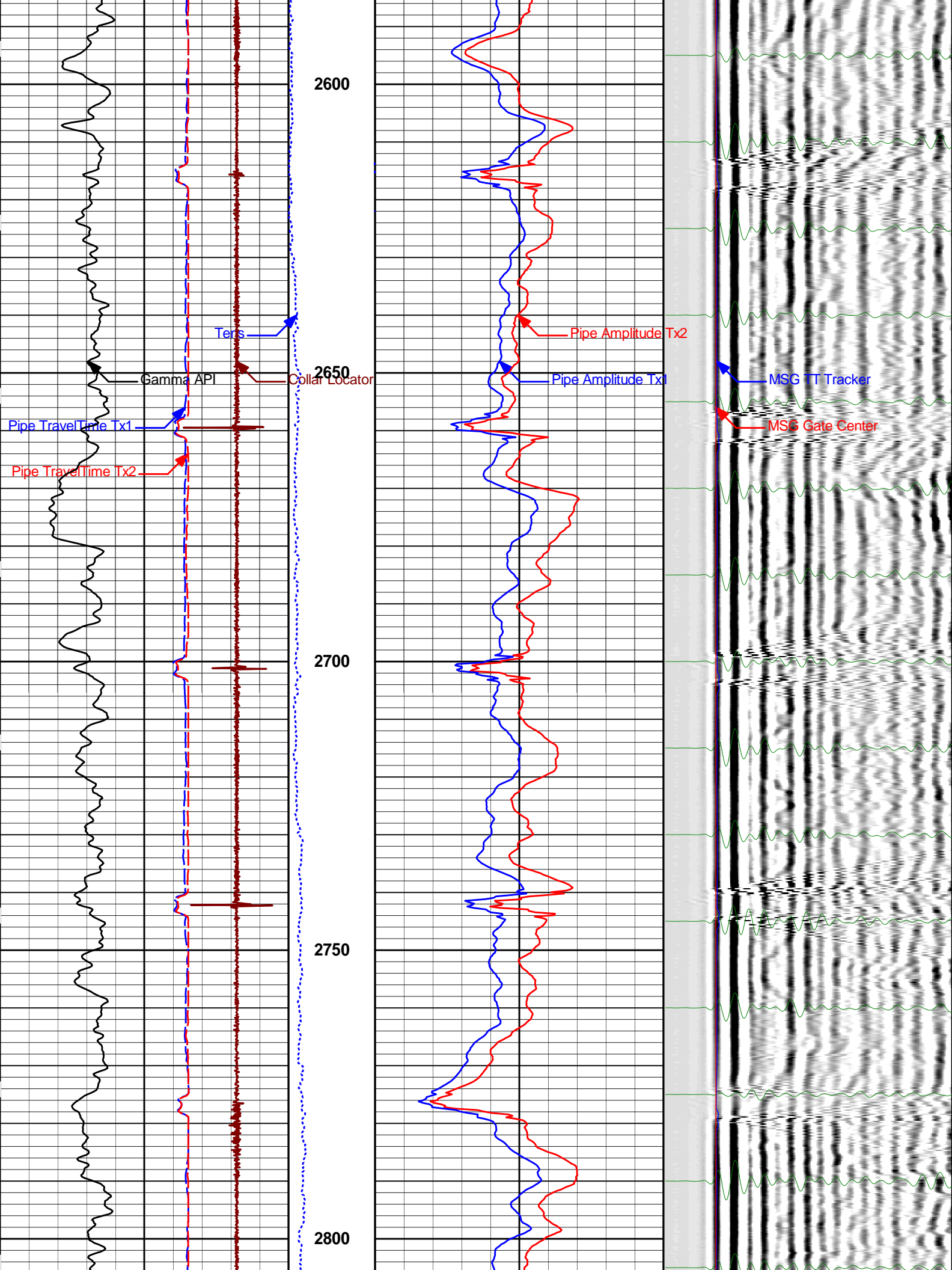


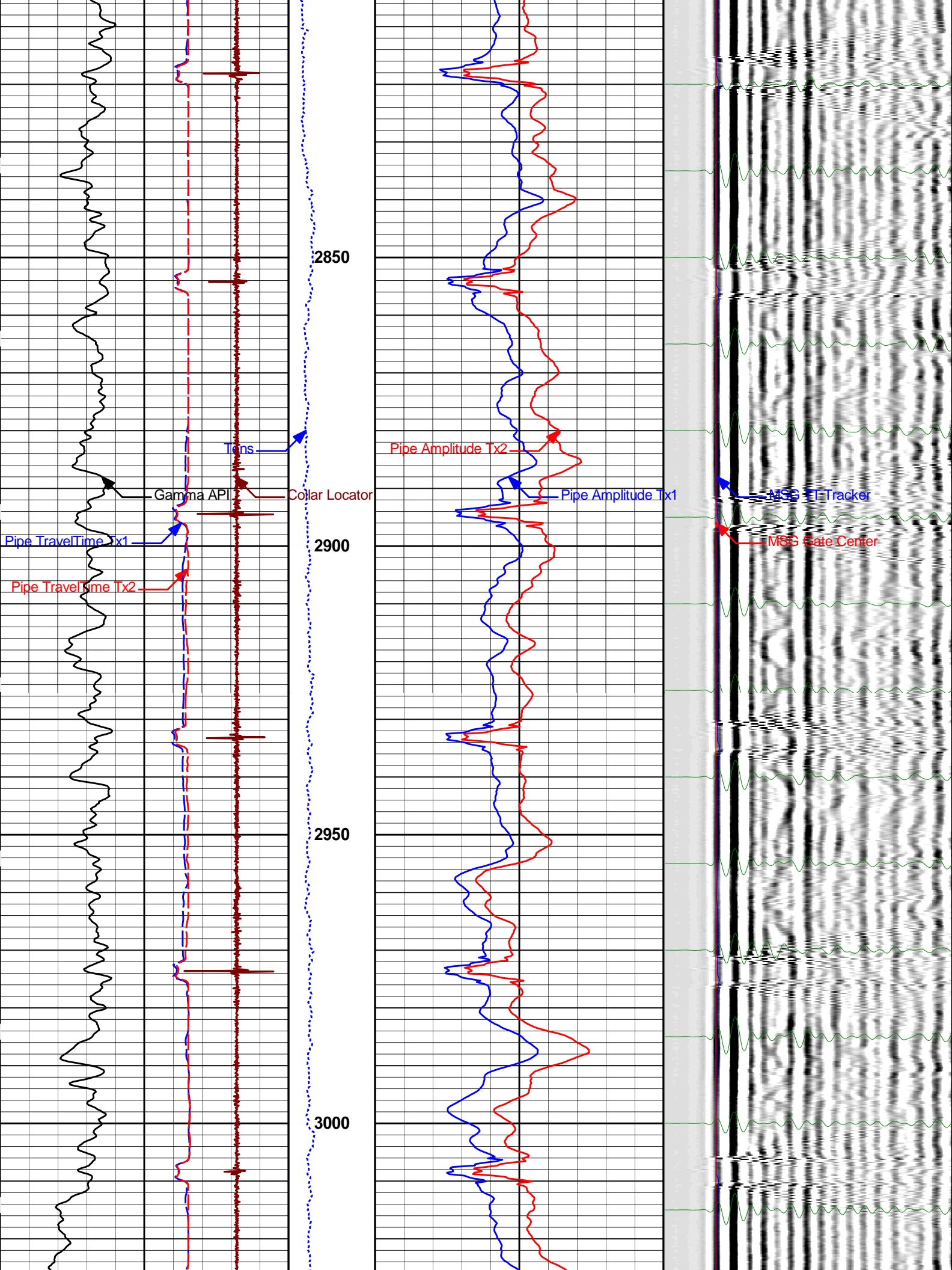


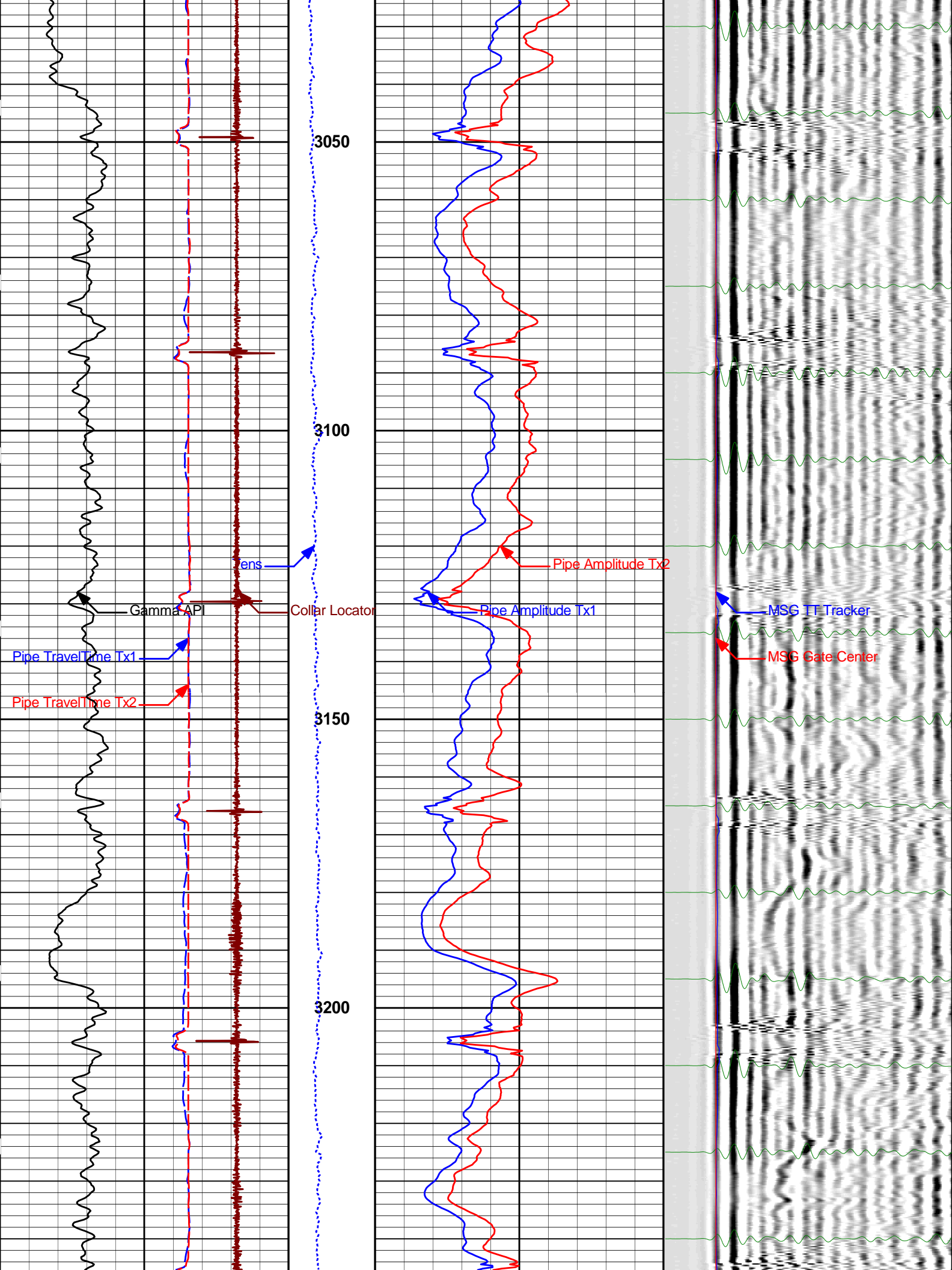


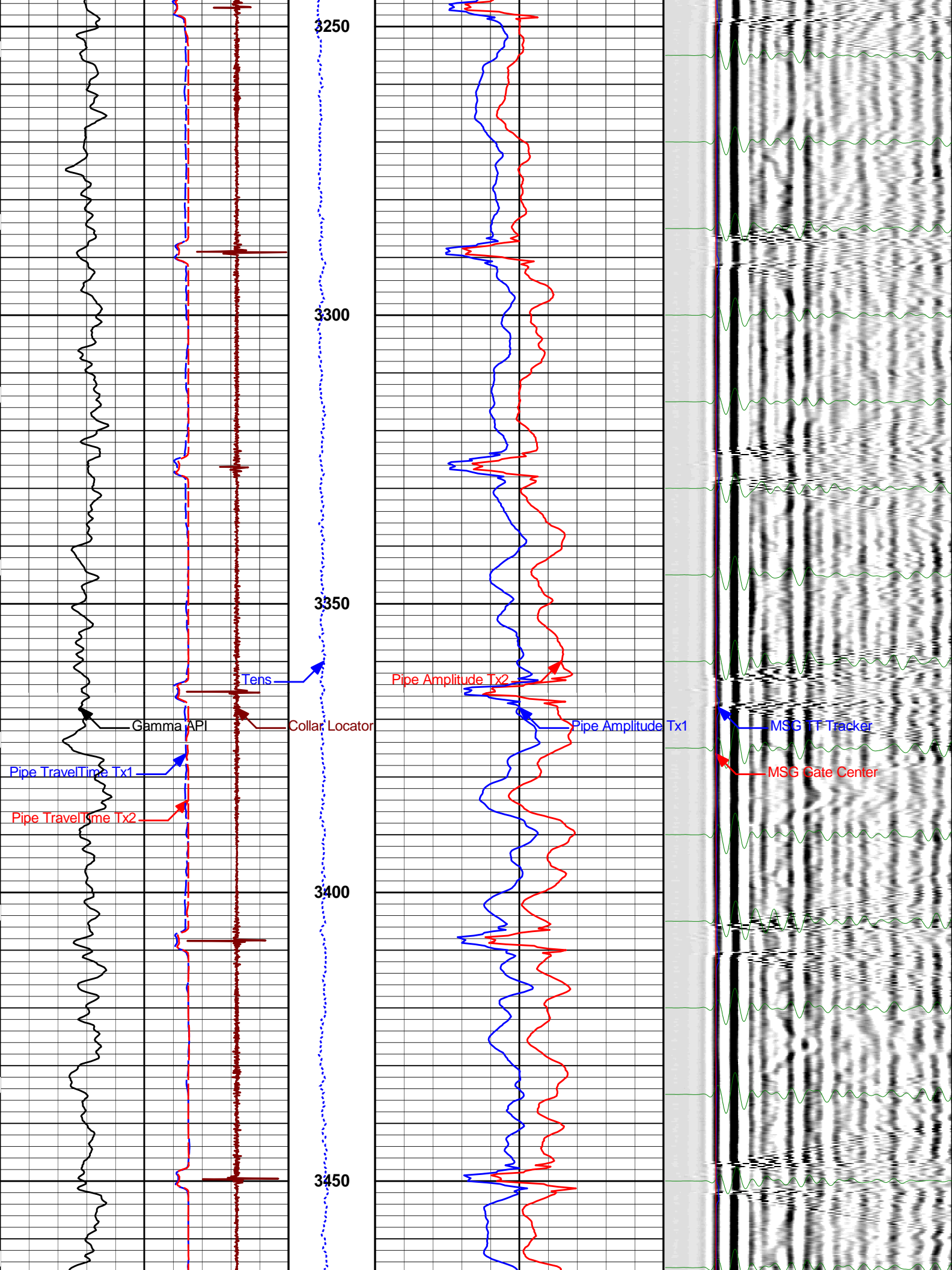


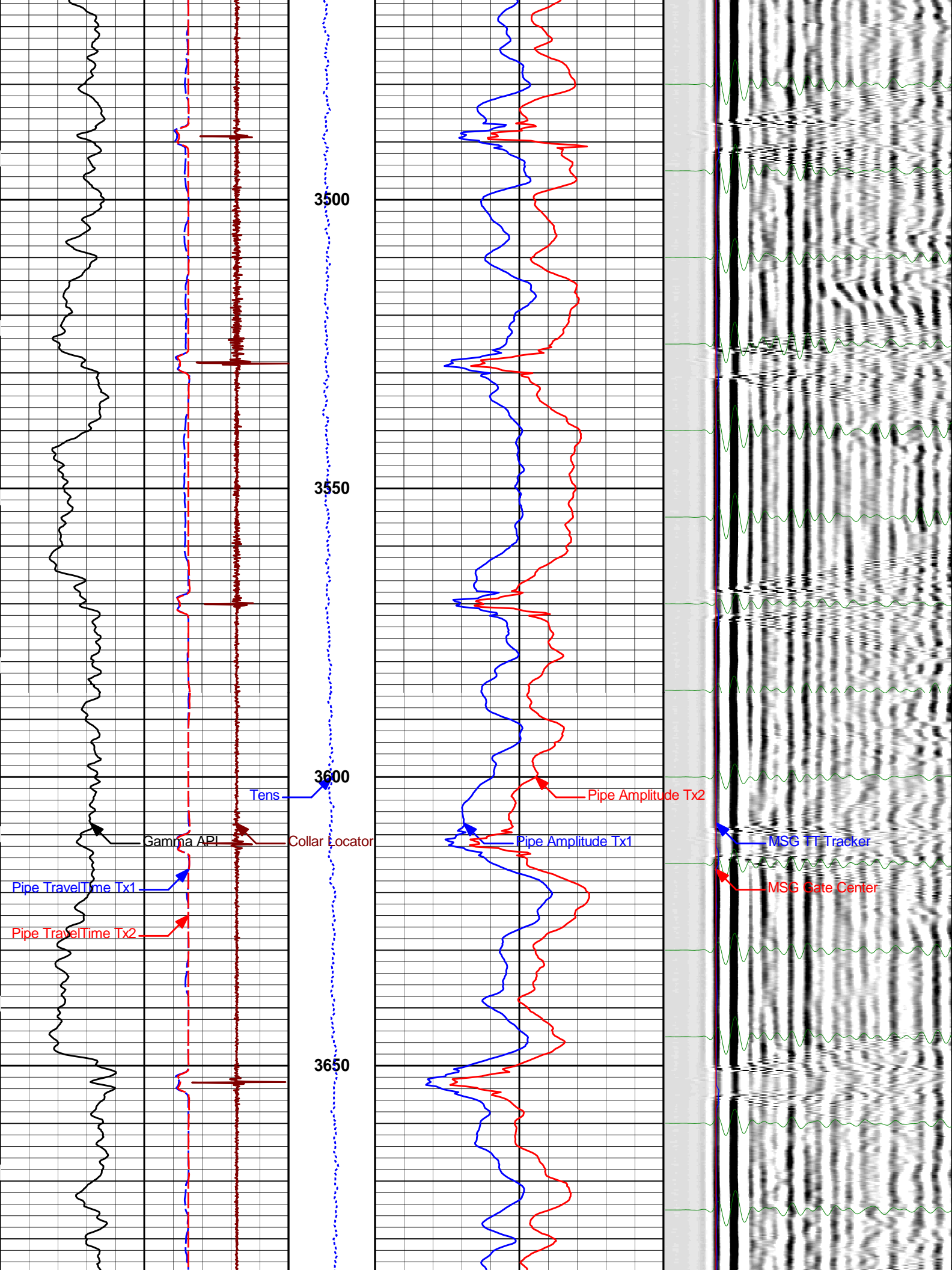


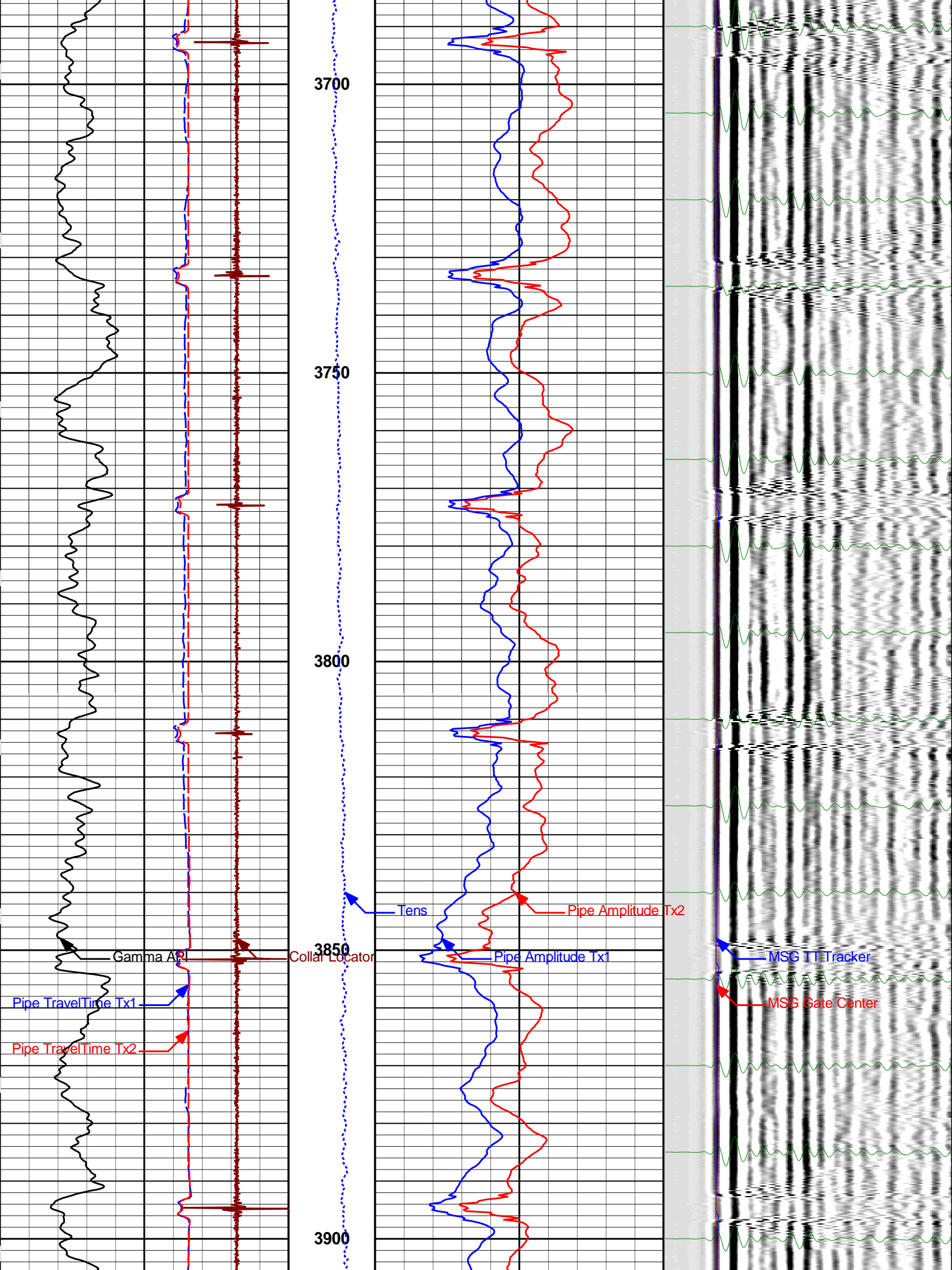


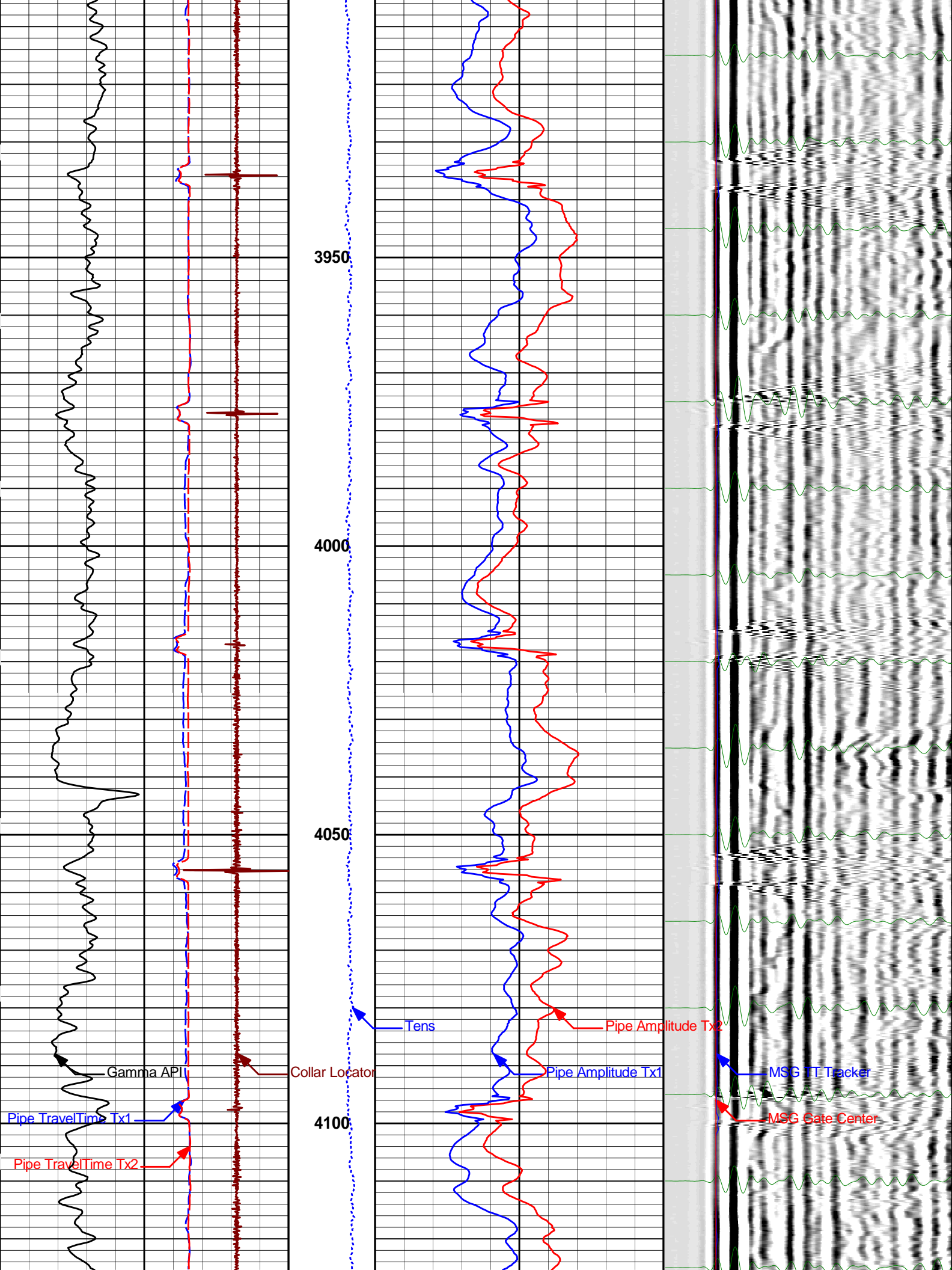


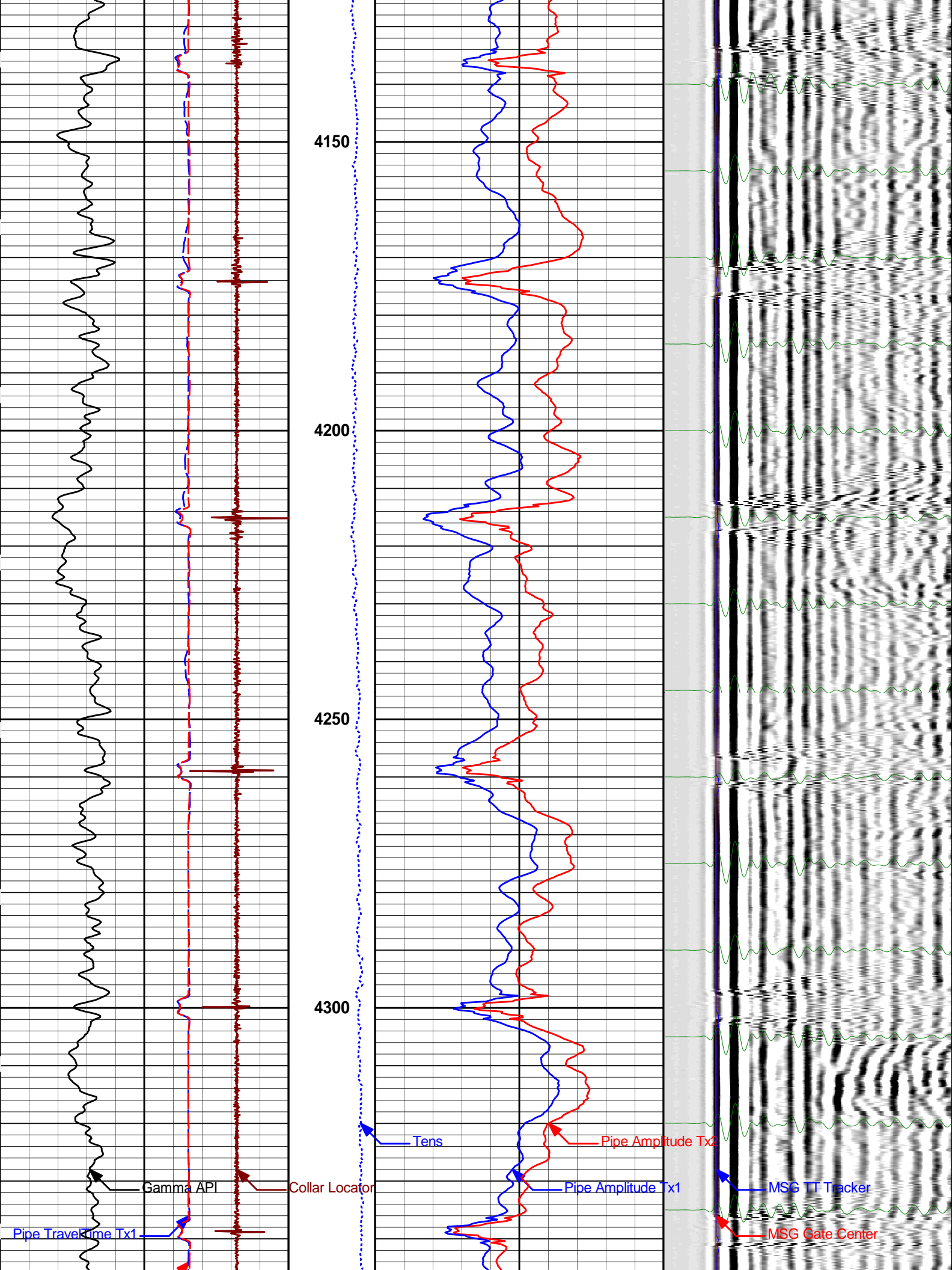


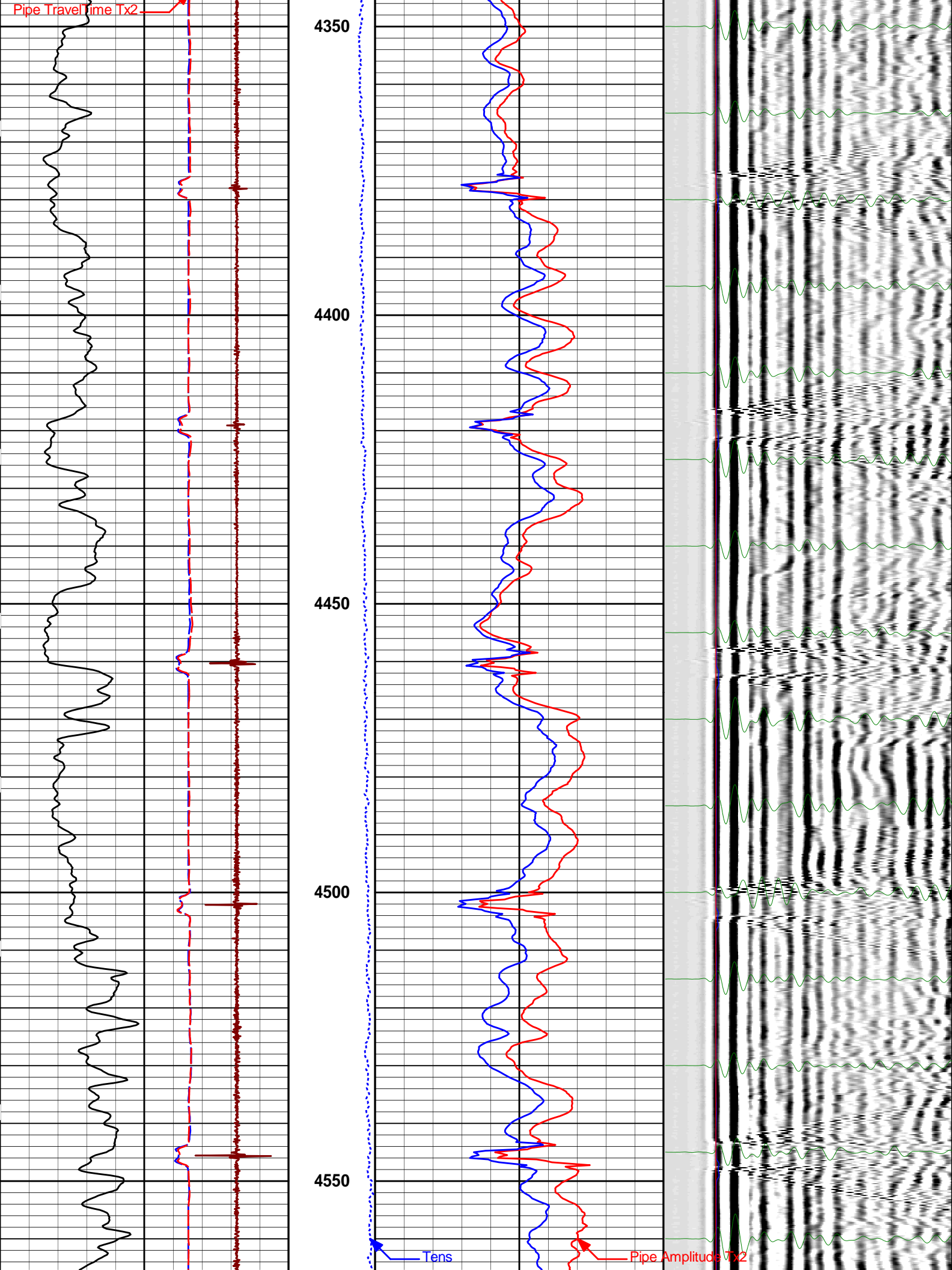


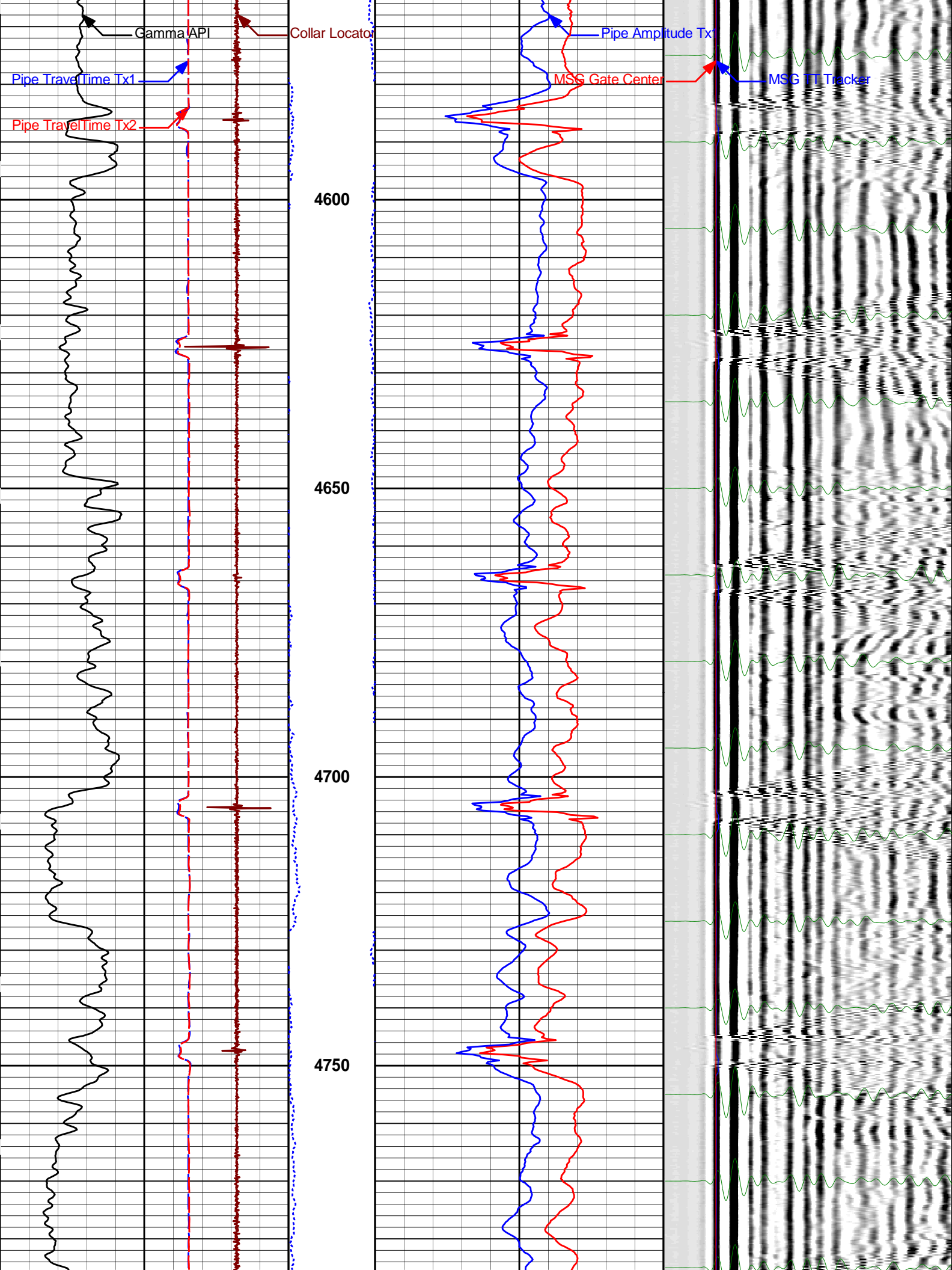


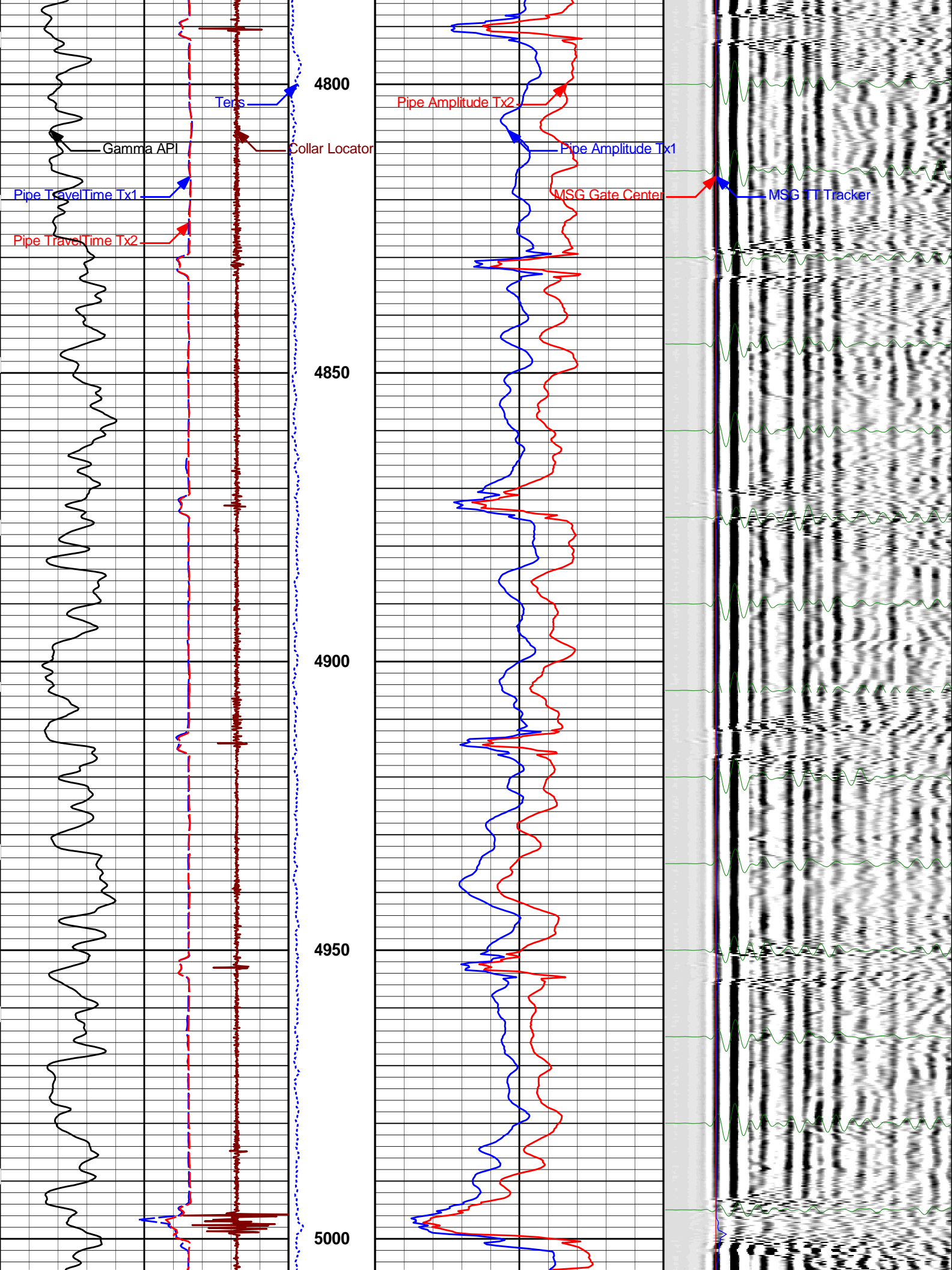


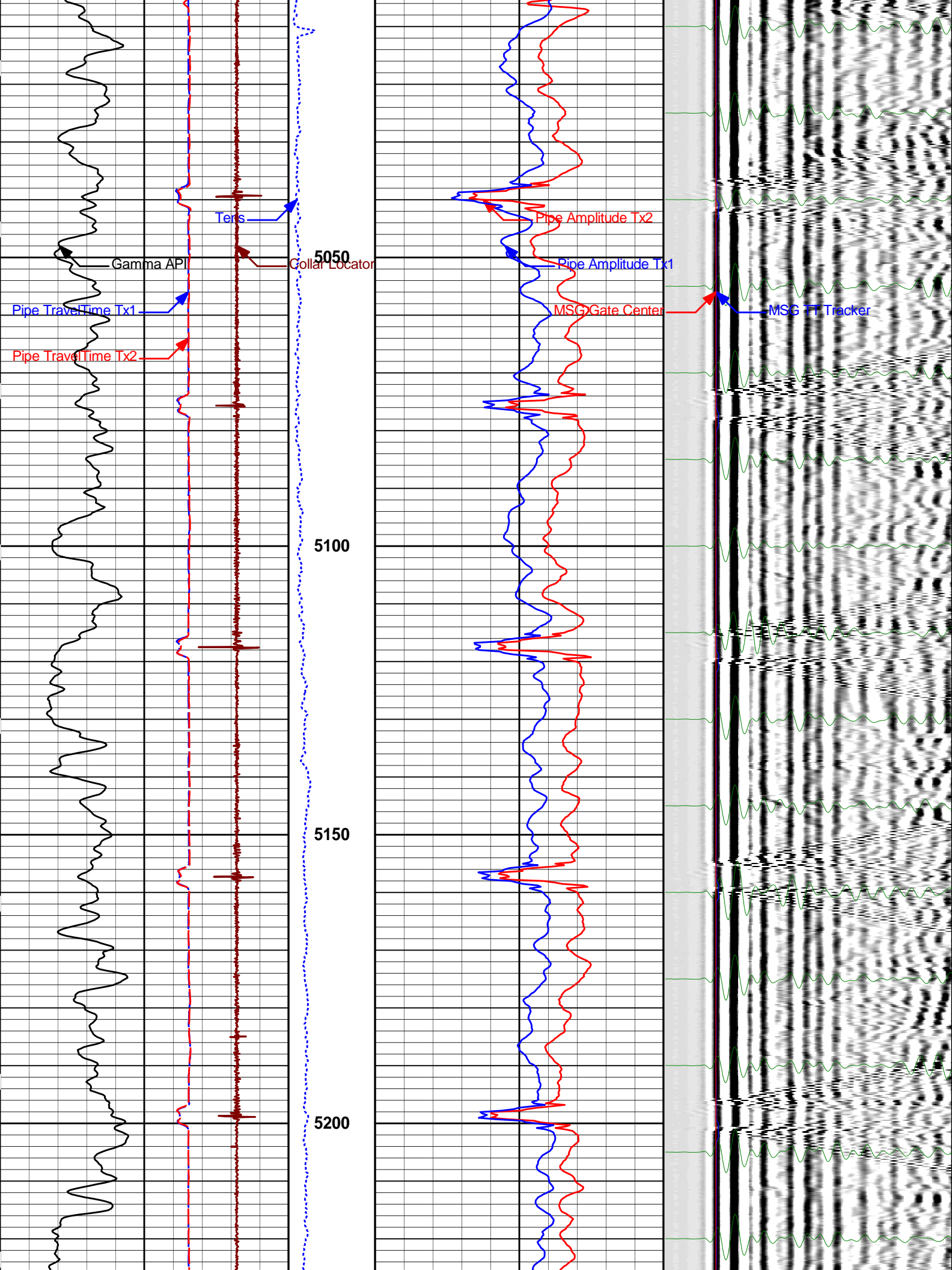


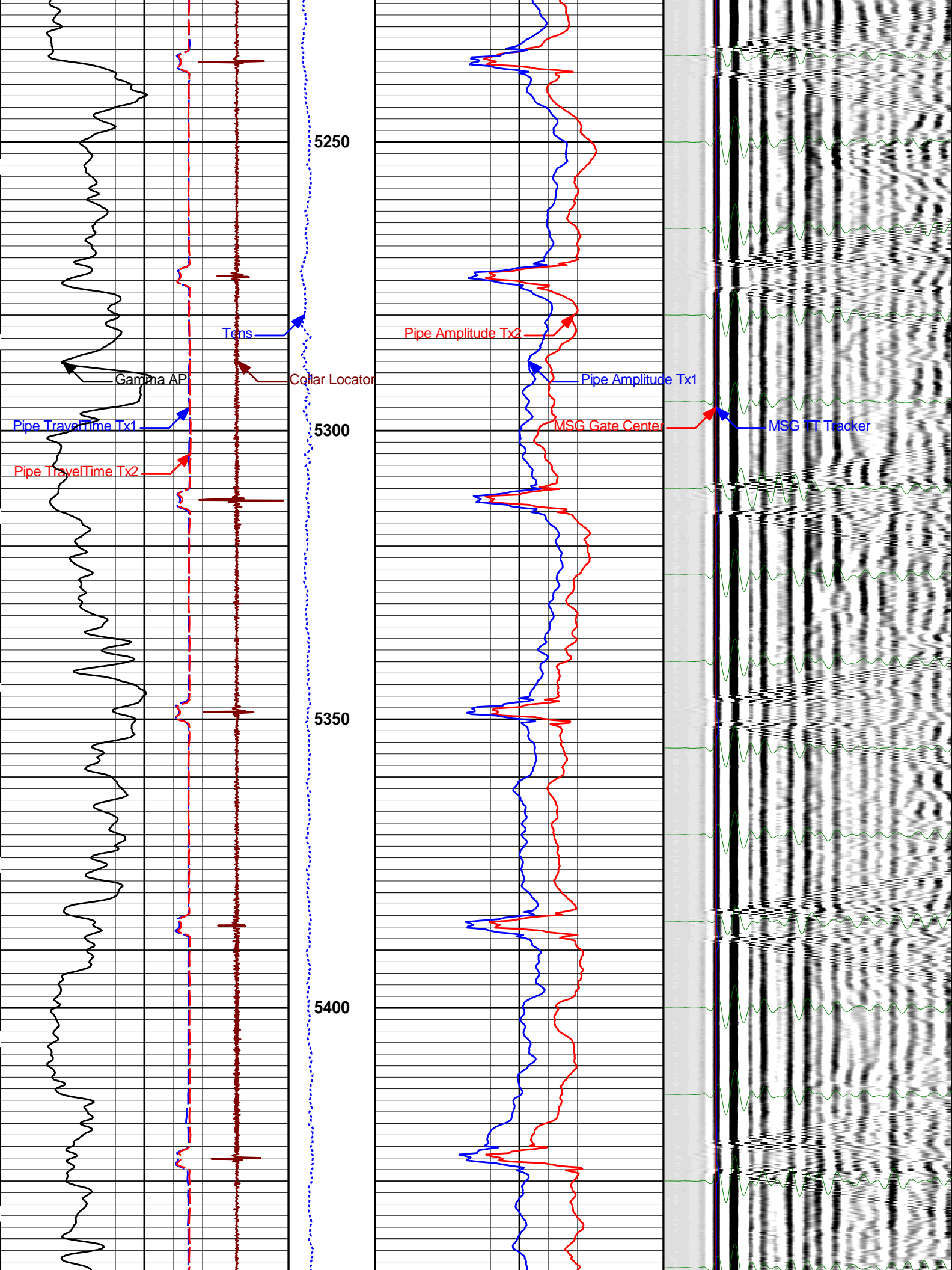


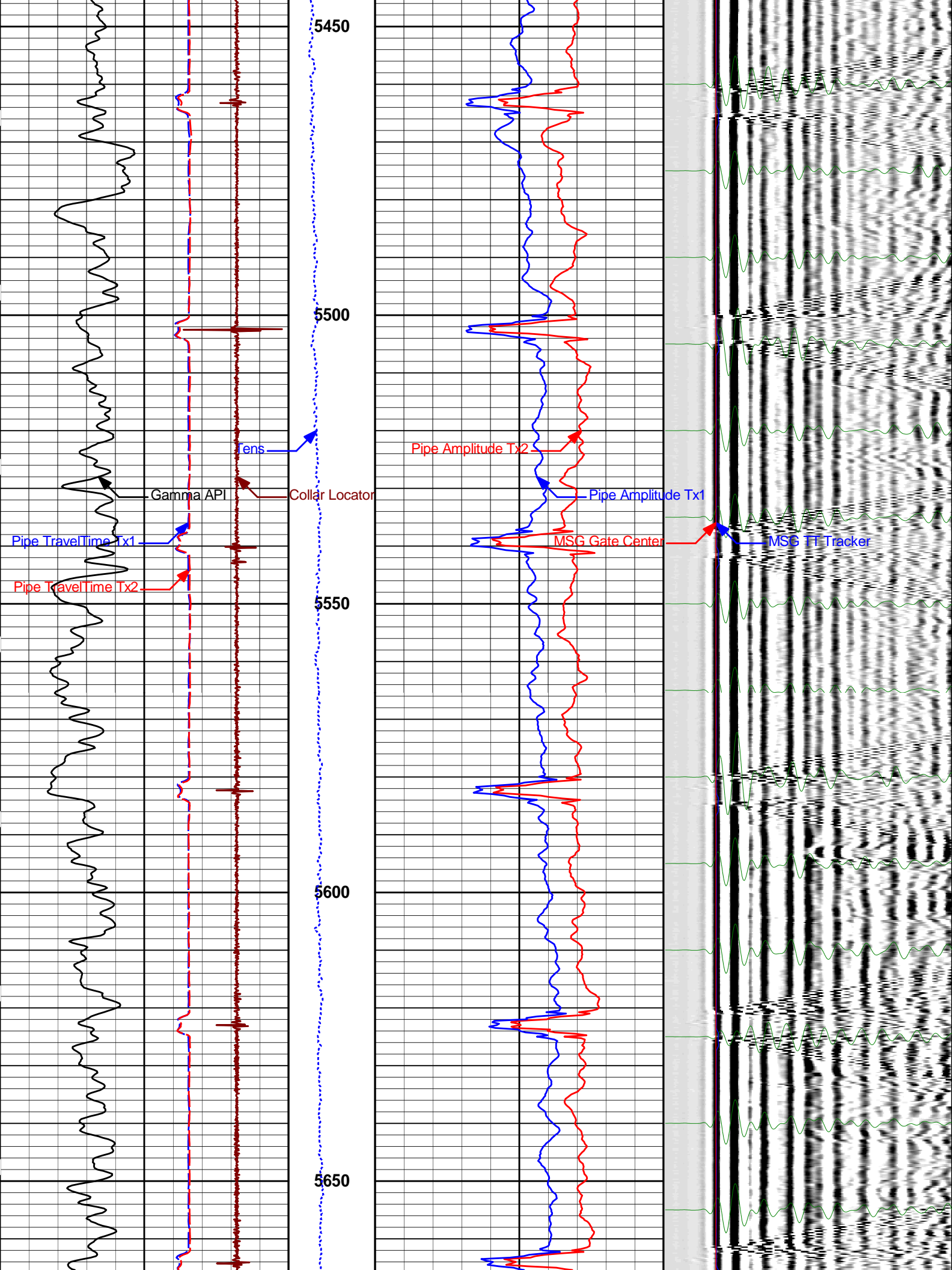


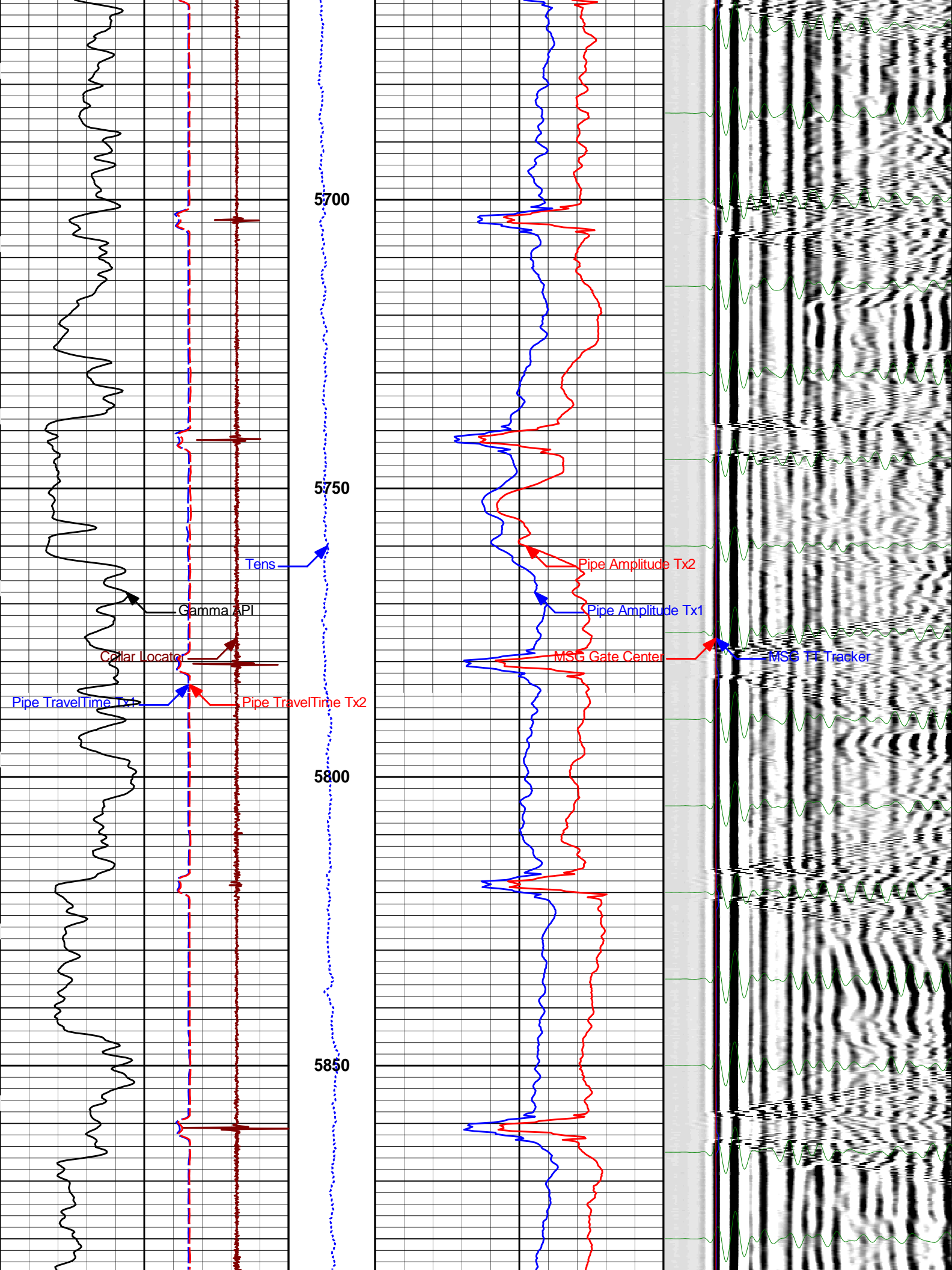


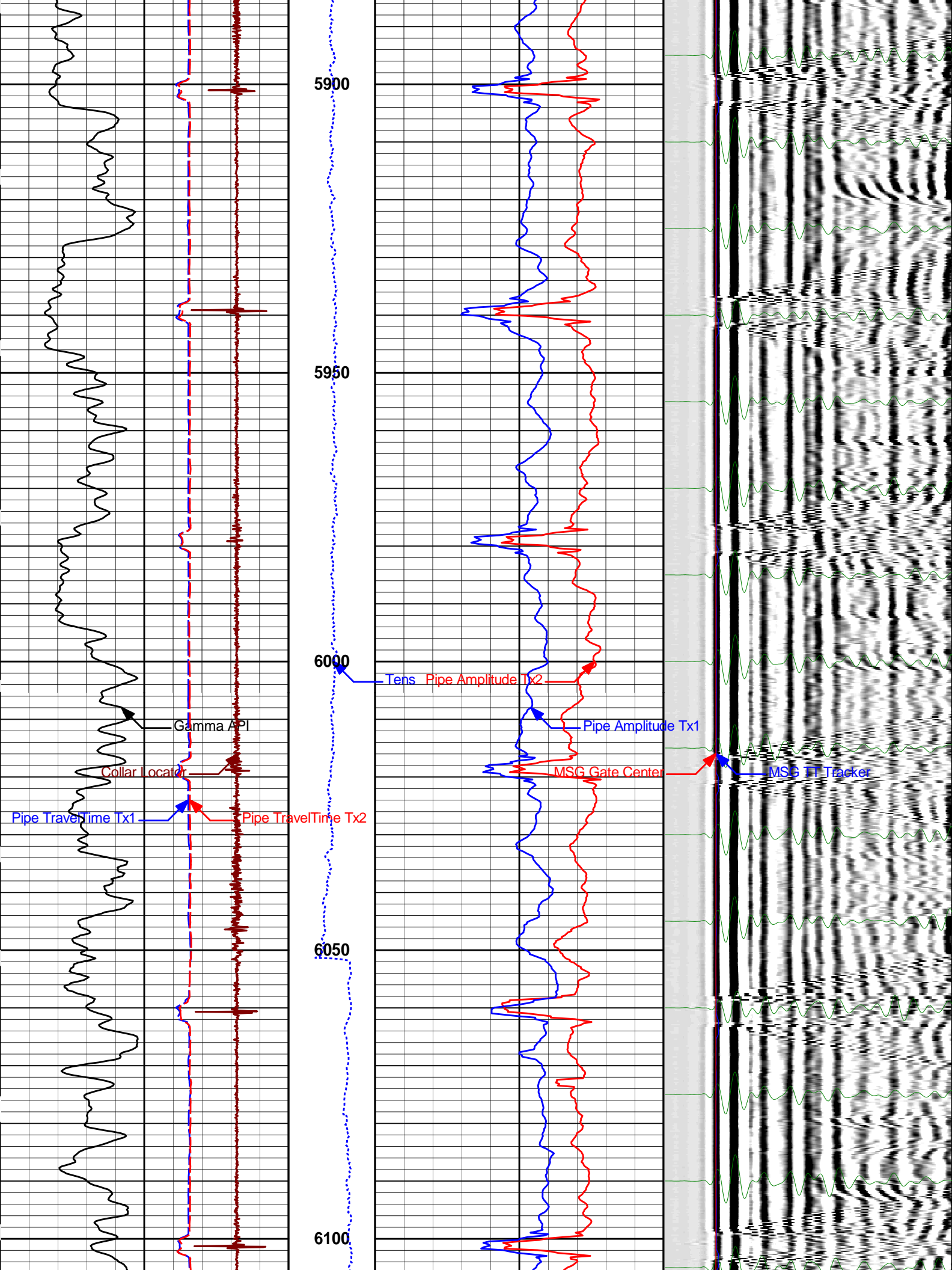


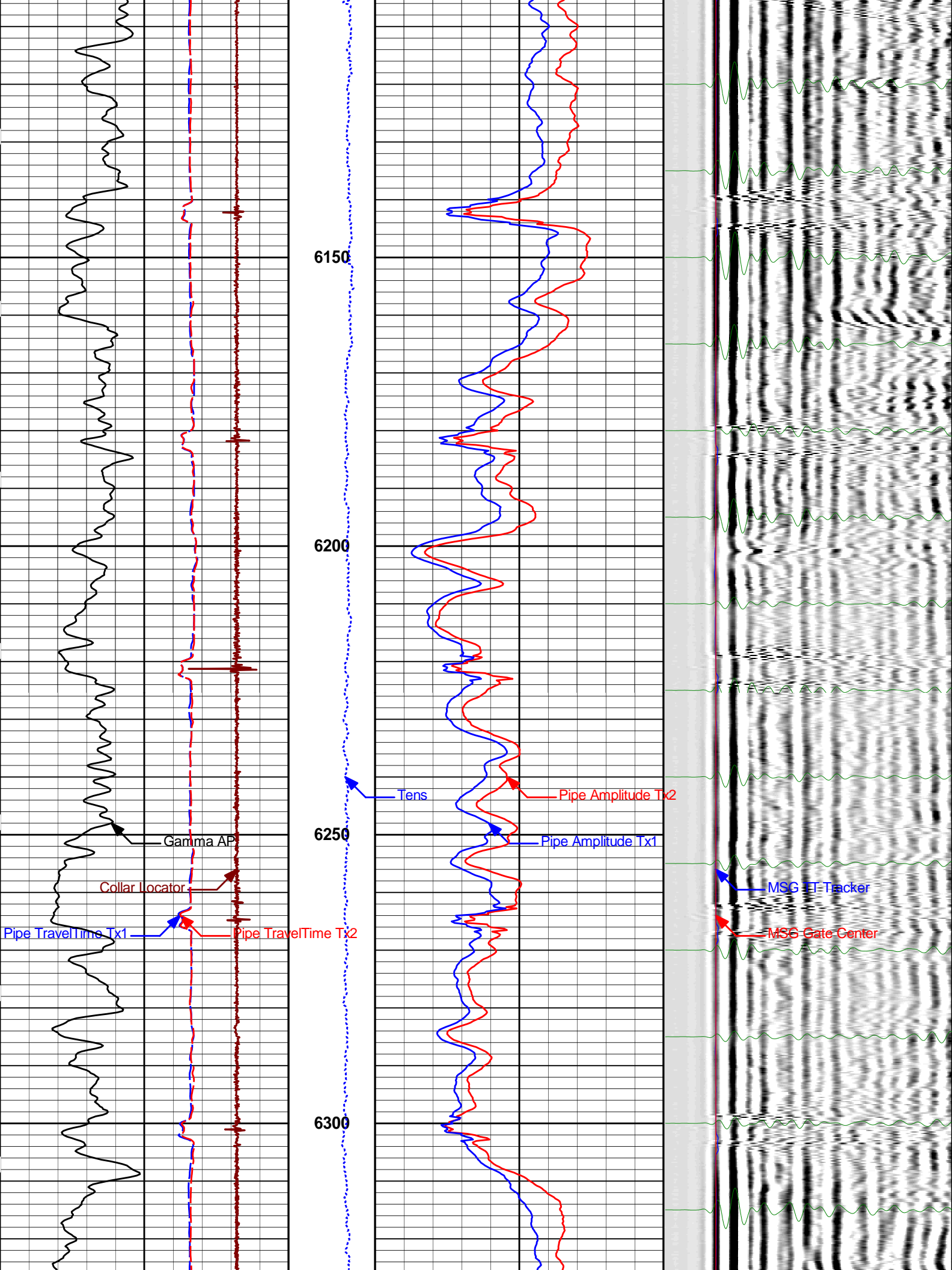


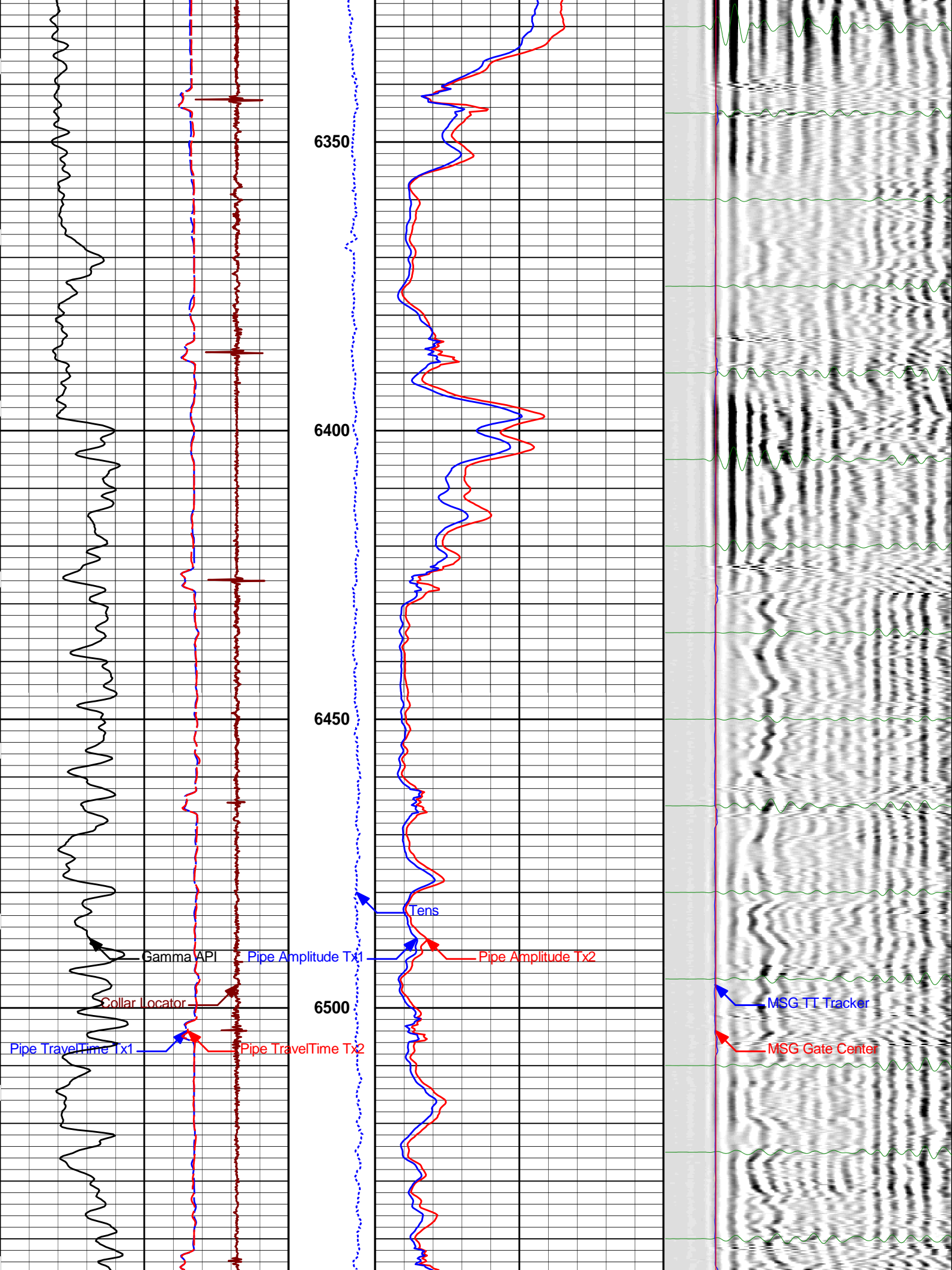


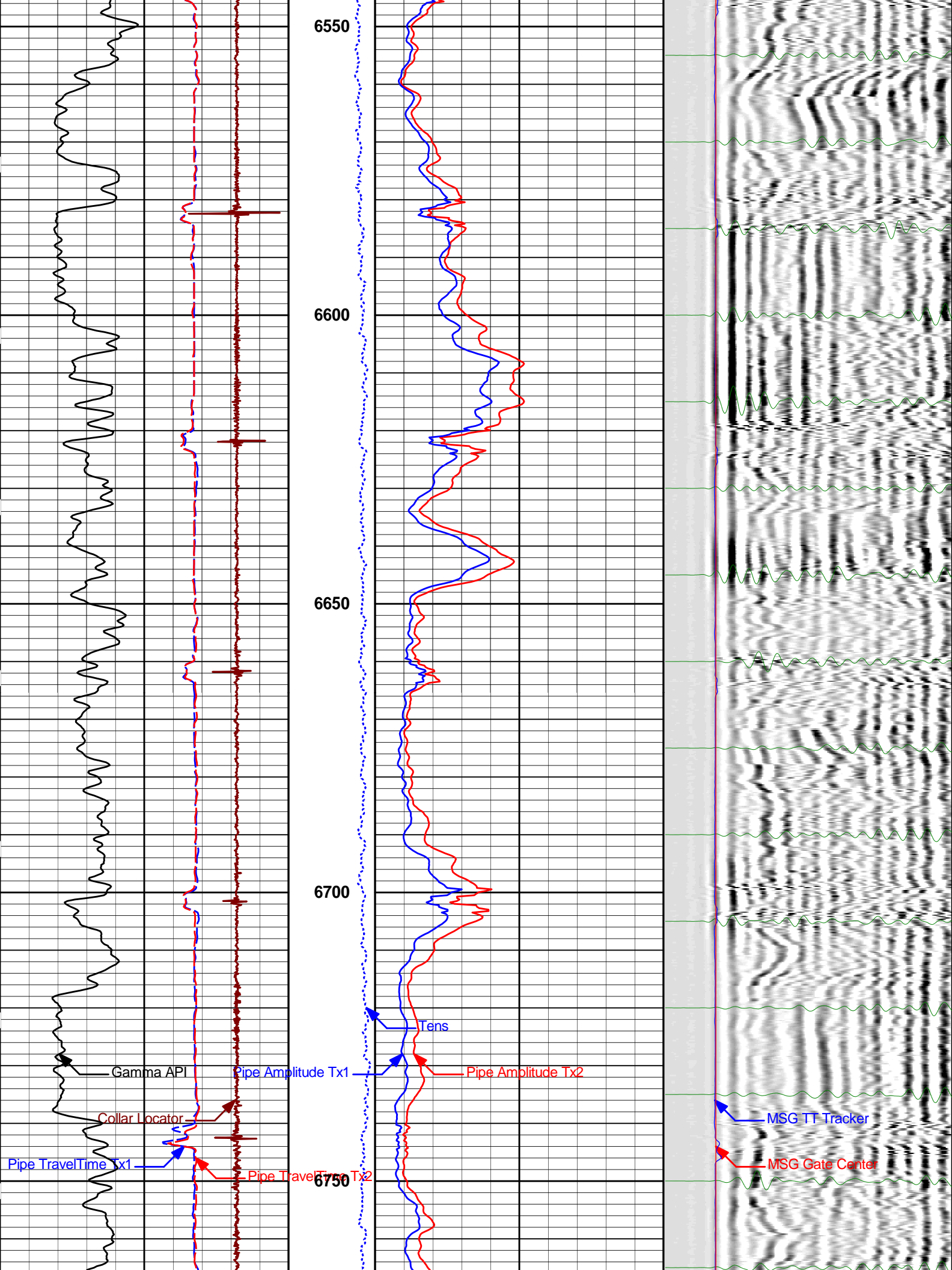


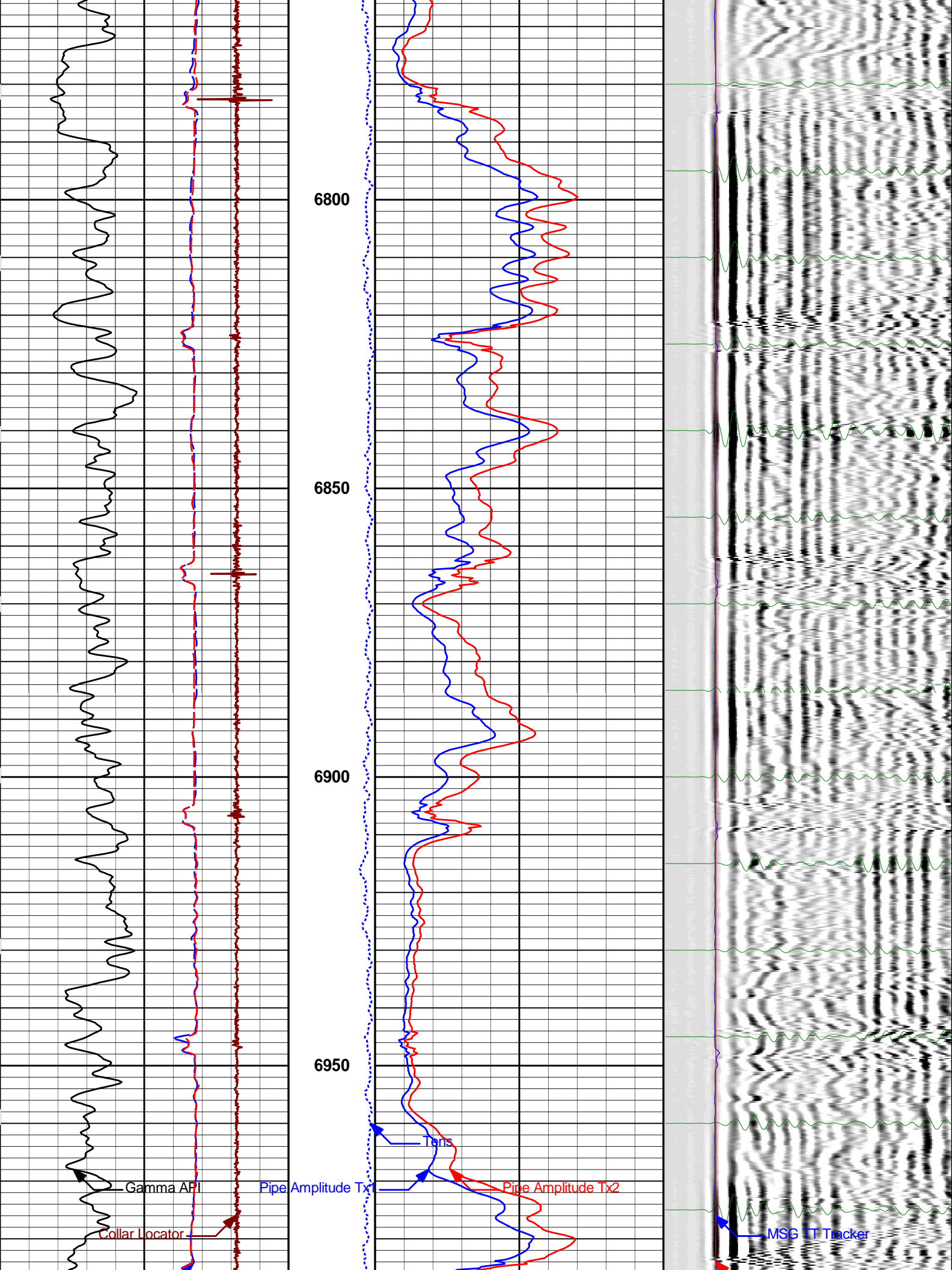


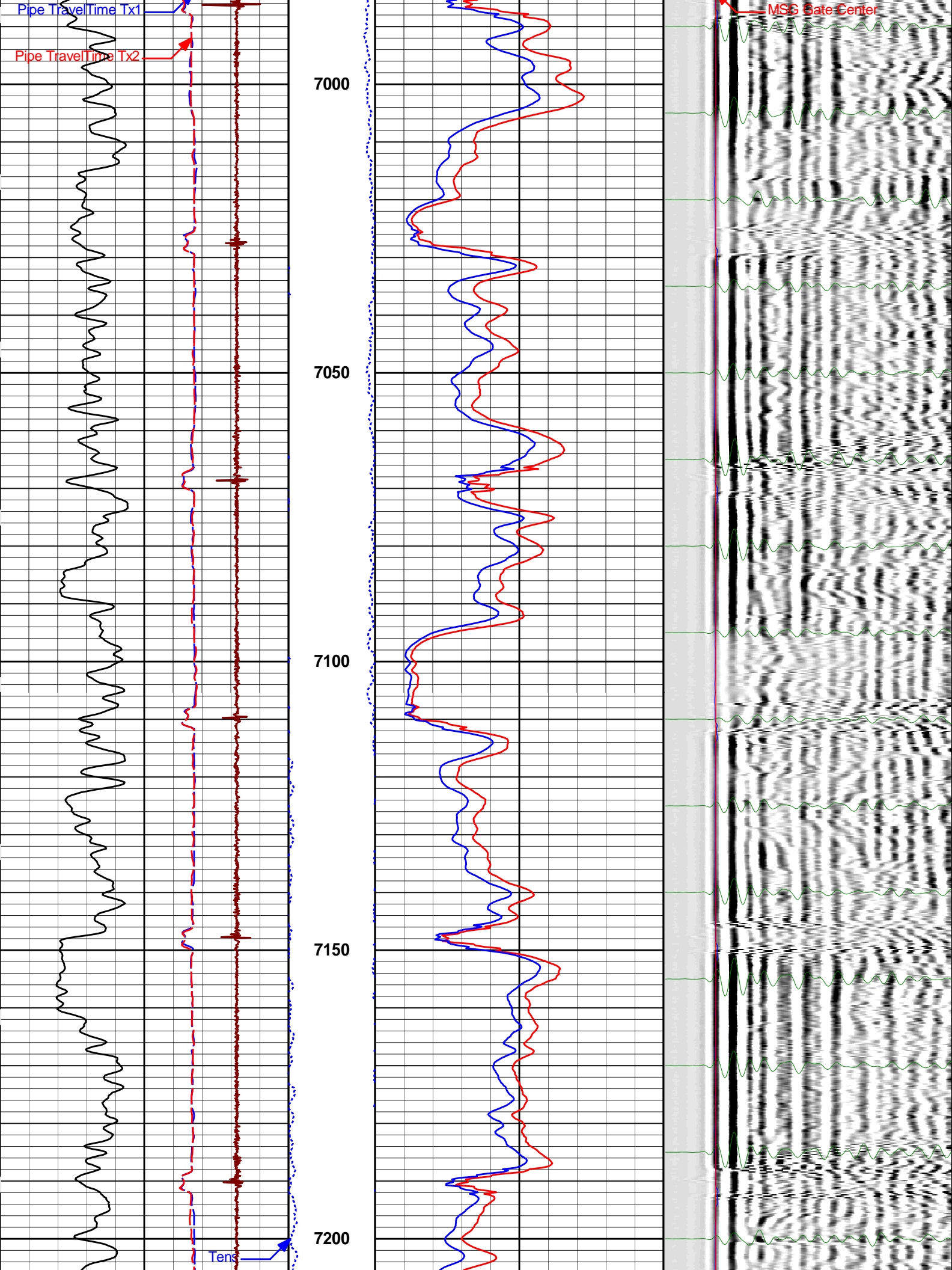


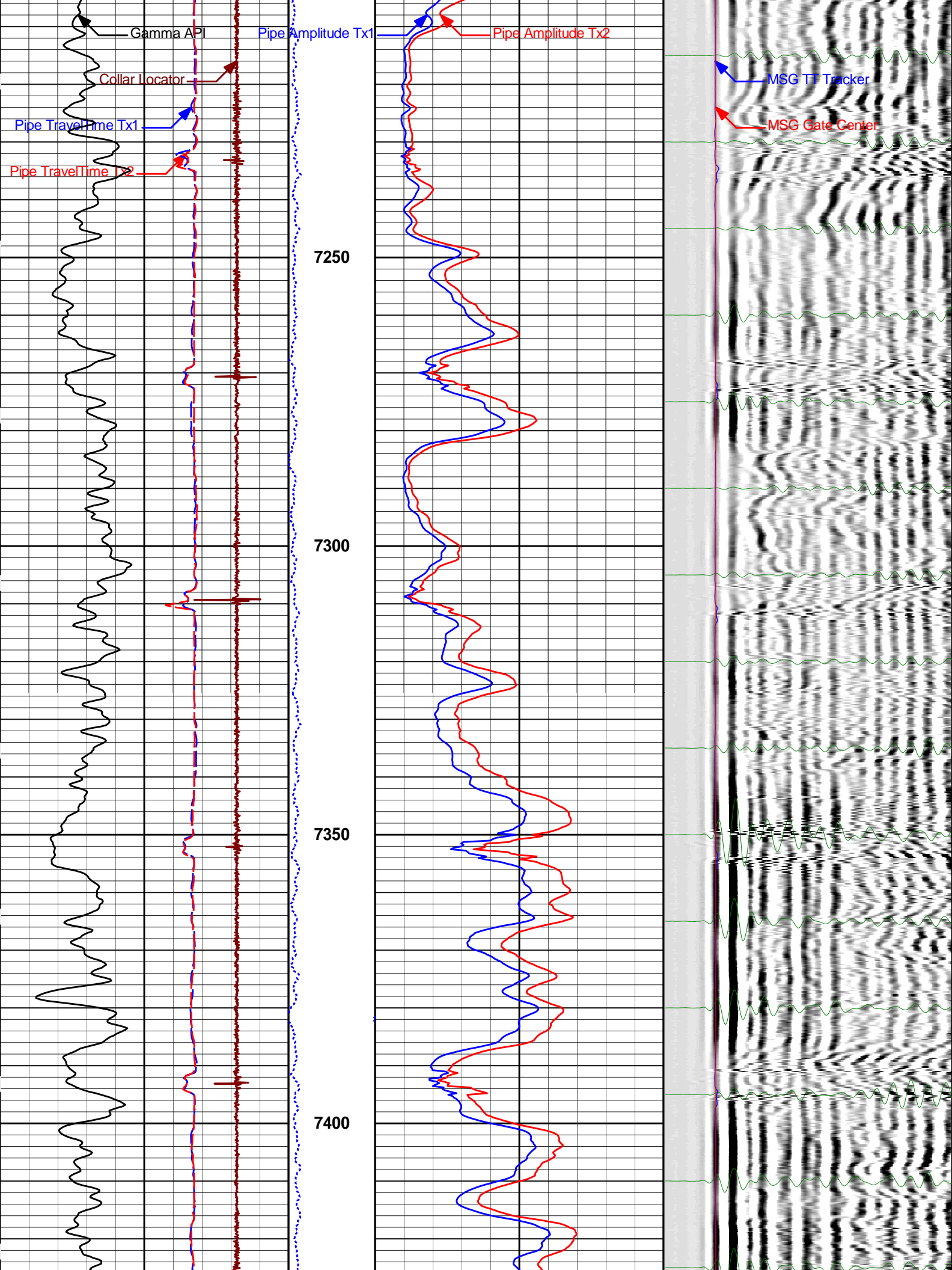


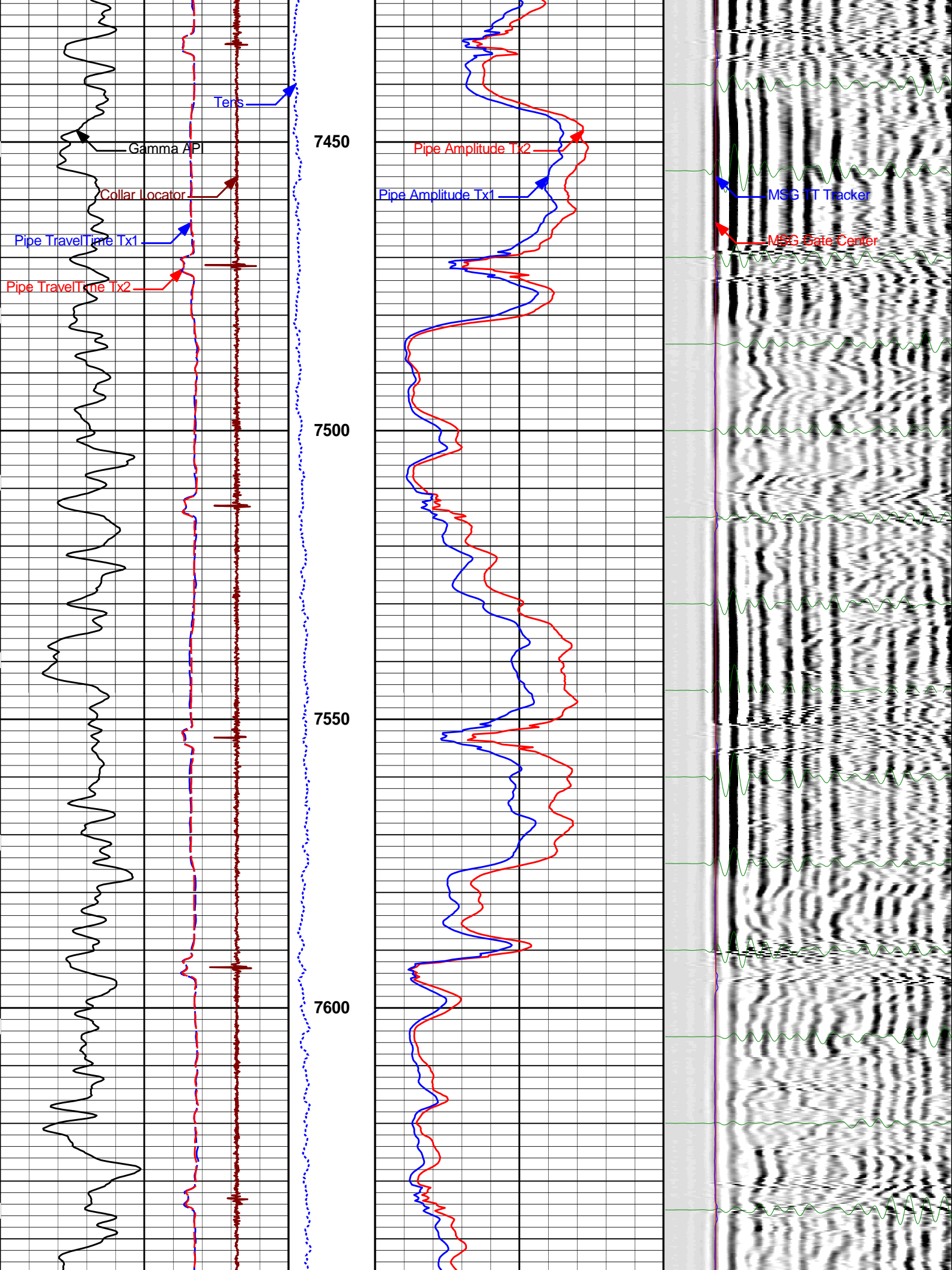


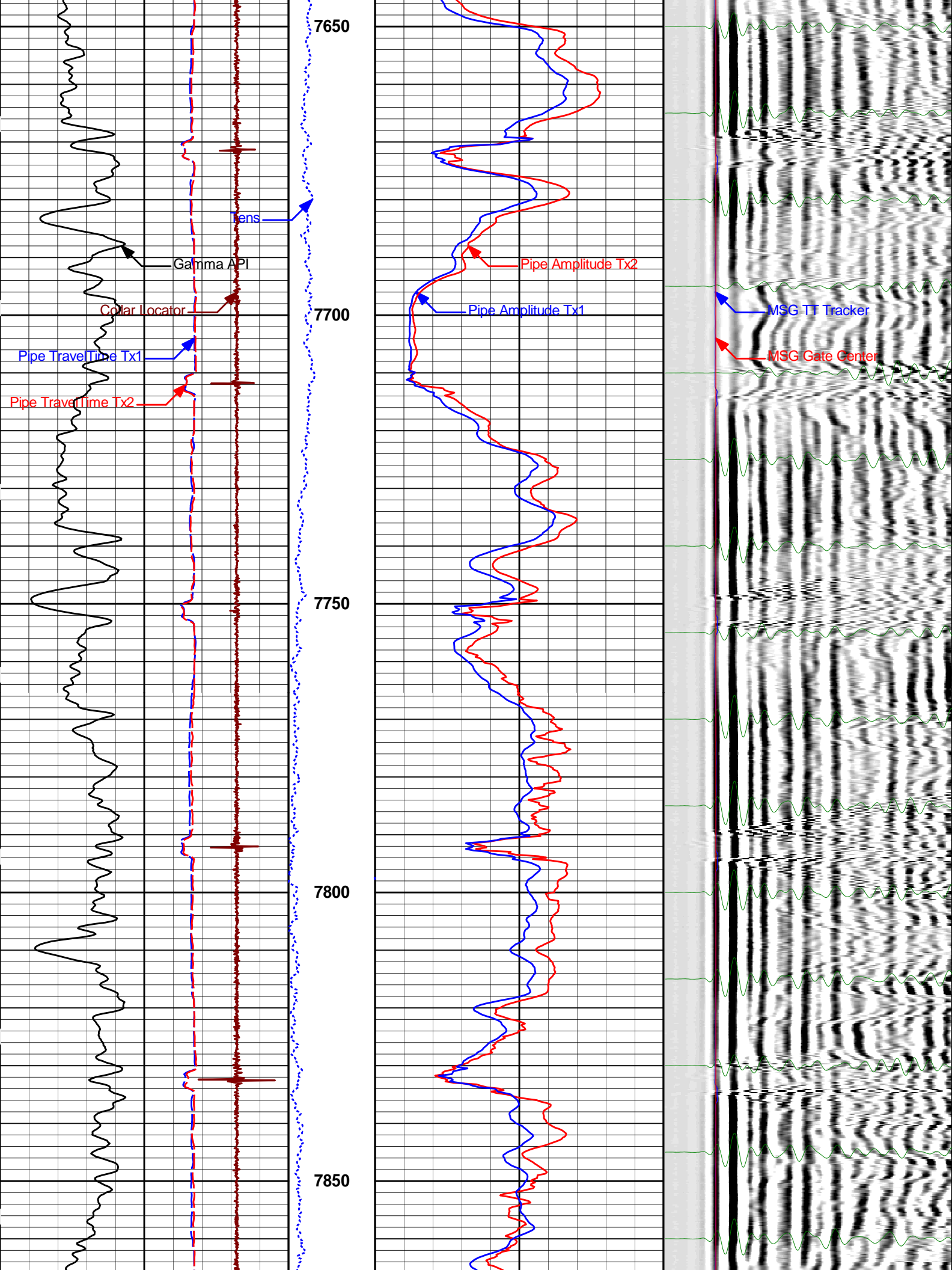


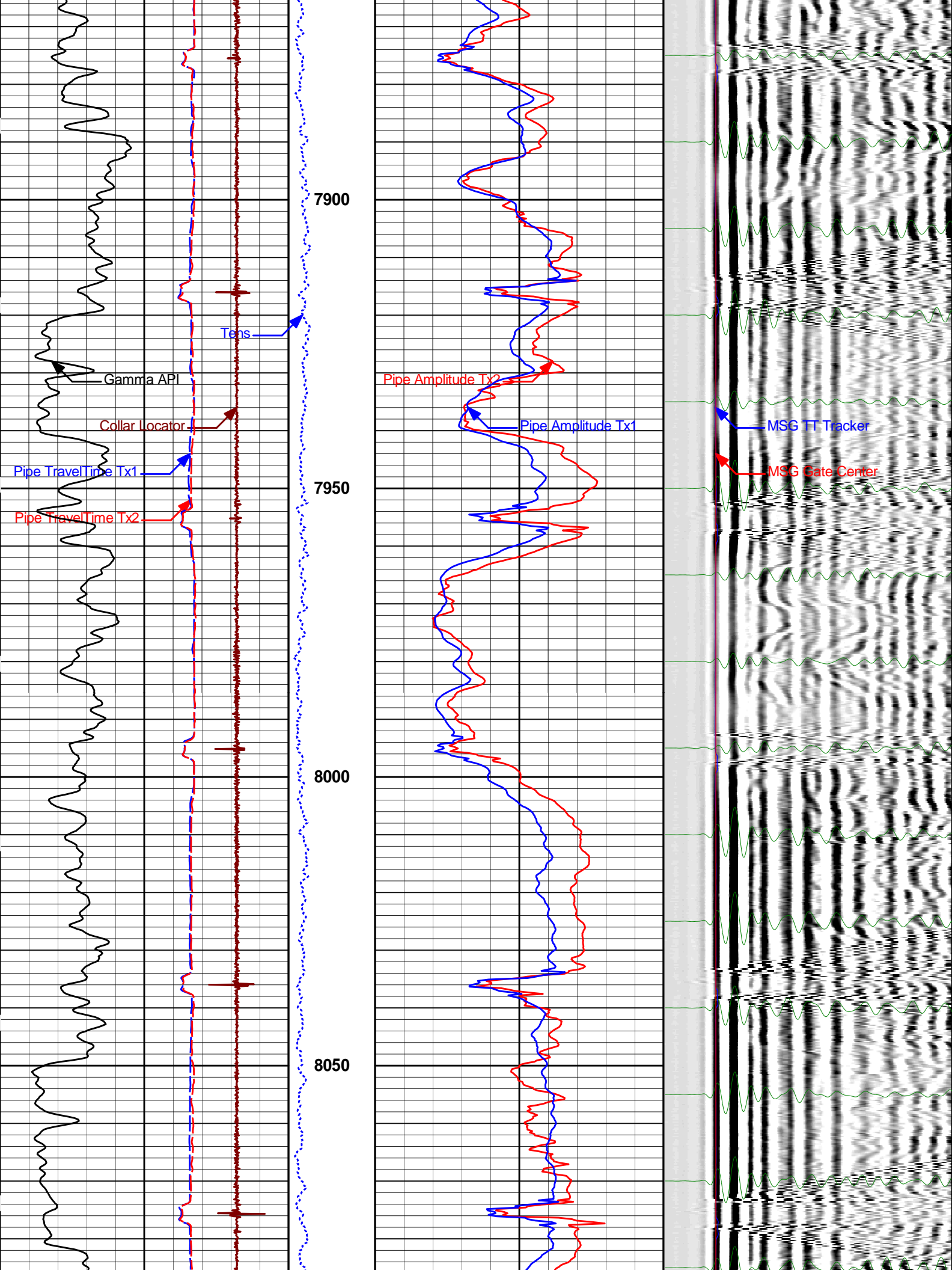


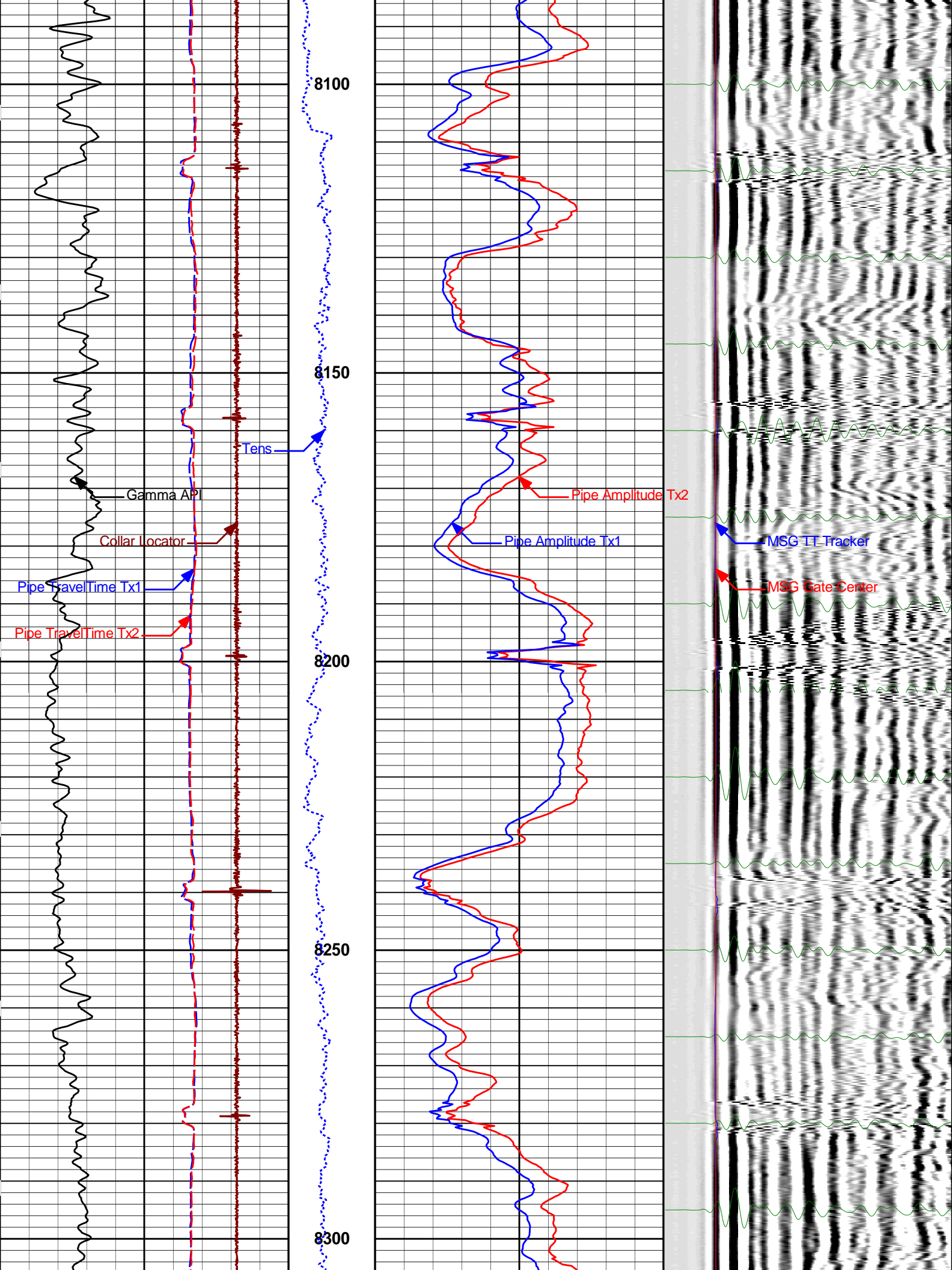


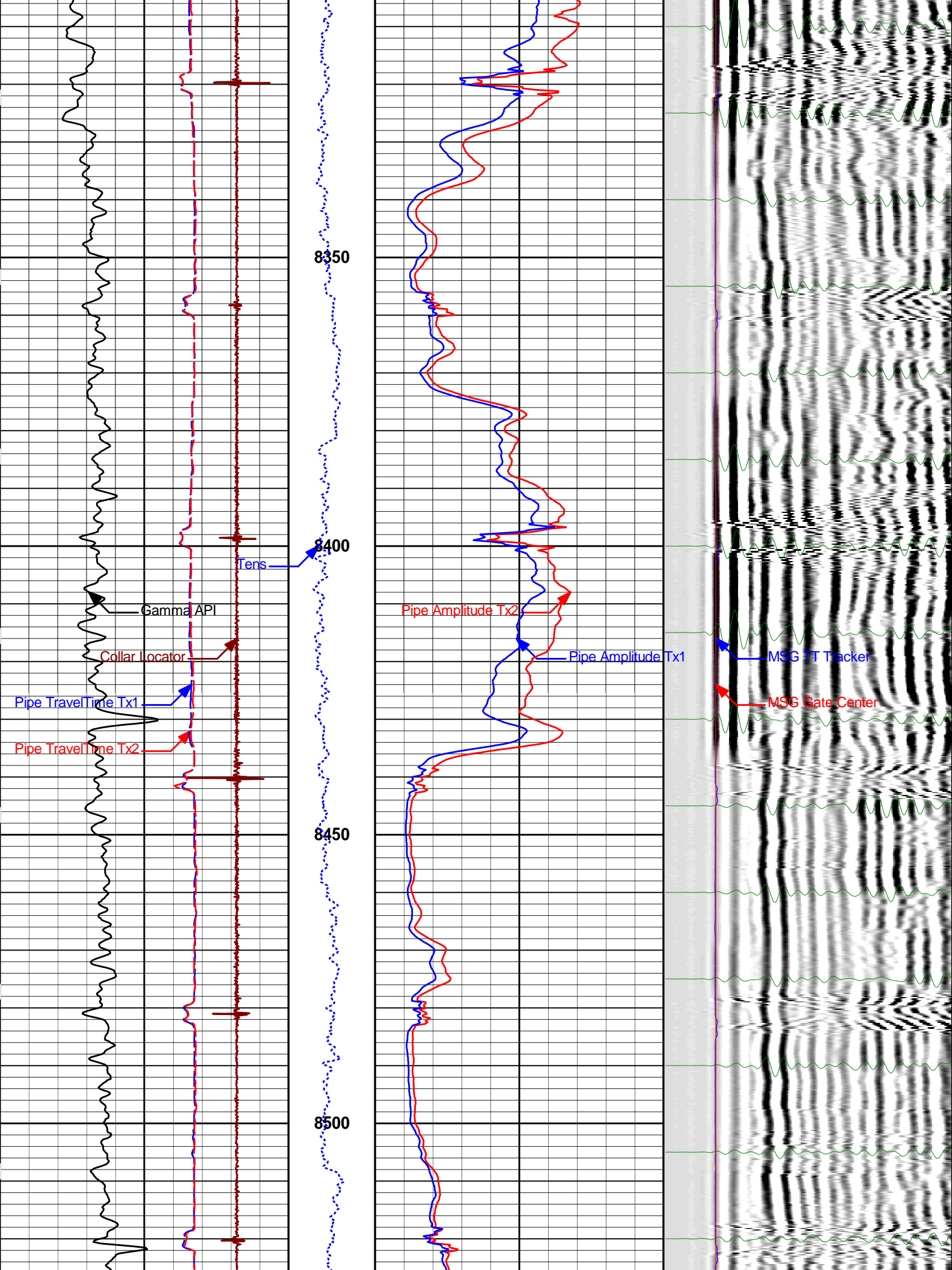


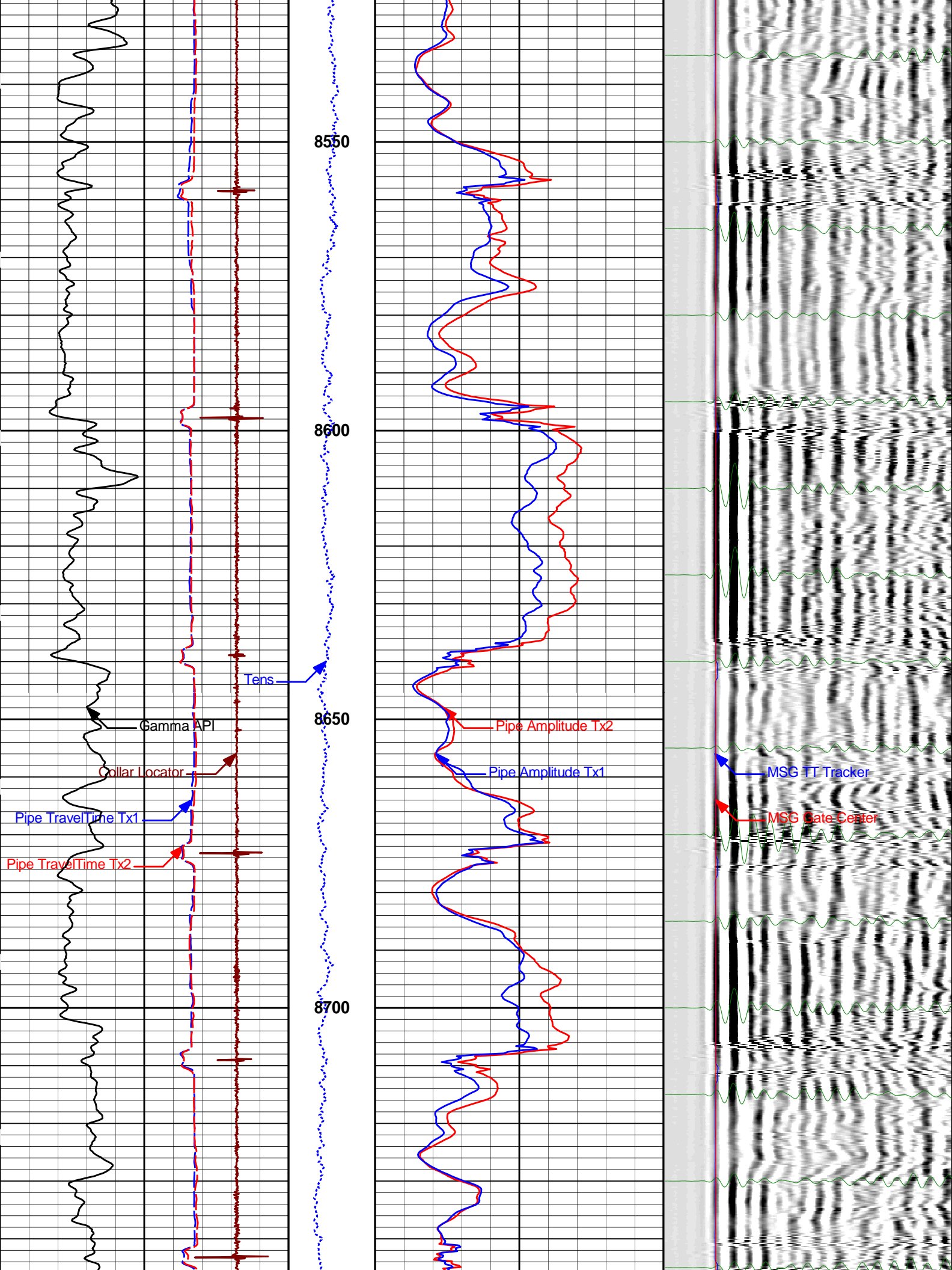


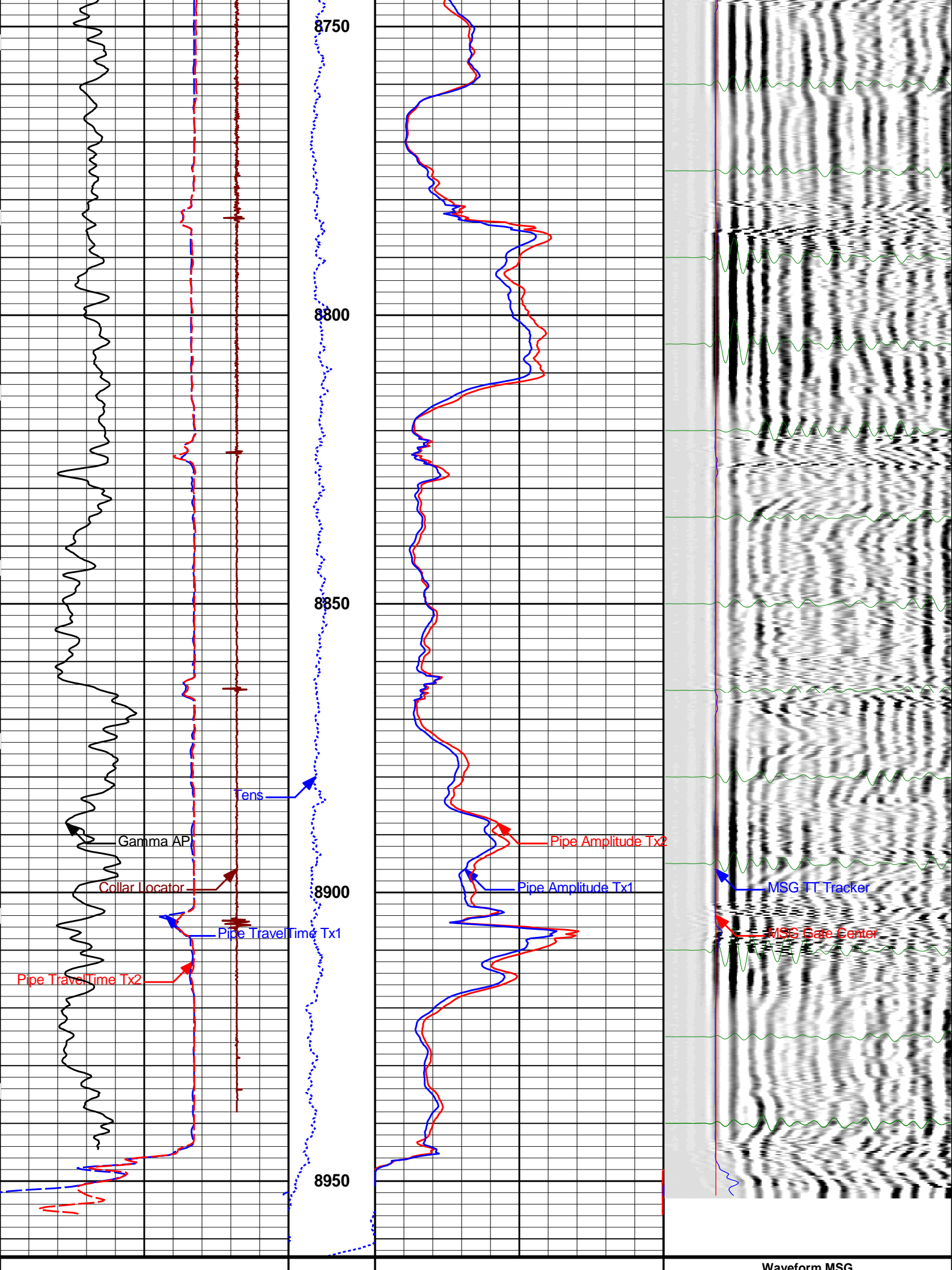


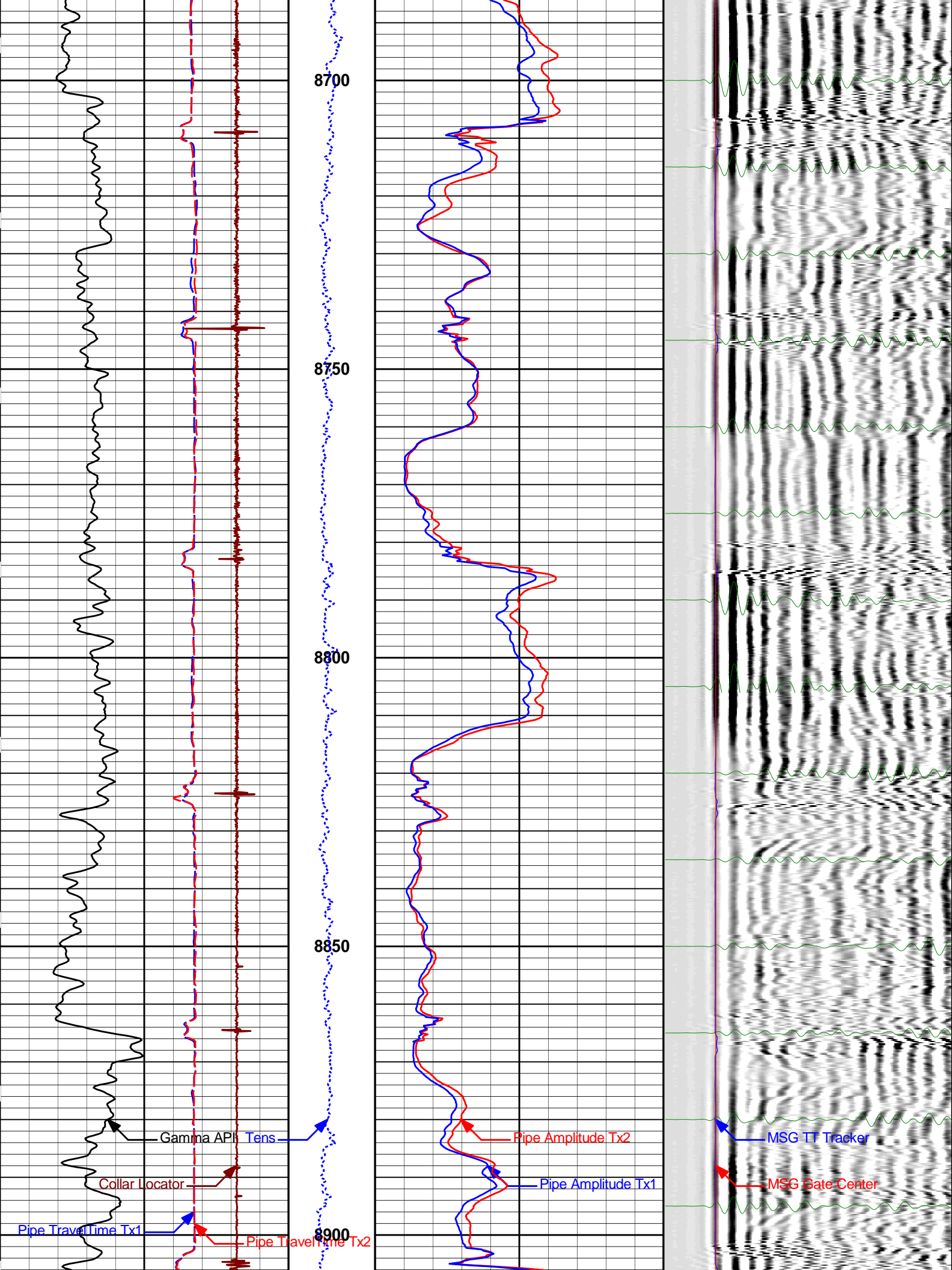


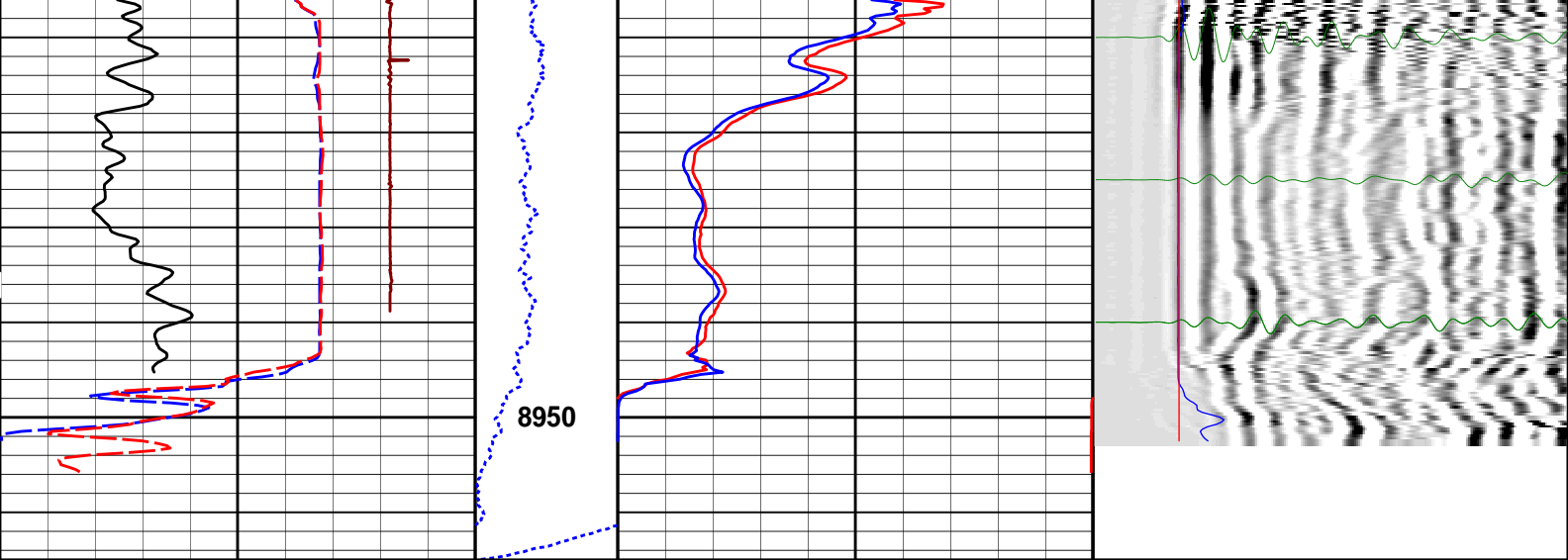












400	Pipe TravelTime Tx1	200	1 : 240	0	Pipe Amplitude Tx1	100	200	Waveform MSG	1200
	microseconds				millivolts			microseconds	
0	Gamma API	150	2K Tens 3K pounds	0	Pipe Amplitude Tx2	100	200	Waveform	1200
	api				millivolts			microseconds	
400	Pipe TravelTime Tx2	200					200	MSG Gate Center	1.2K
	microseconds							microseconds	
9K	Collar Locator	-2K					200	MSG TT Tracker	1.2K
	millivolts							microseconds	

HALLIBURTON

Plot Time: 15-Dec-13 00:55:38
Plot Range: 8630 ft to 8965 ft
Data: RWF_724_16\Well Based\DAQ-0003-006\
Plot File: \CBL\RPT_BSAT CBL

REPEAT SECTION 5" = 100'

HALLIBURTON

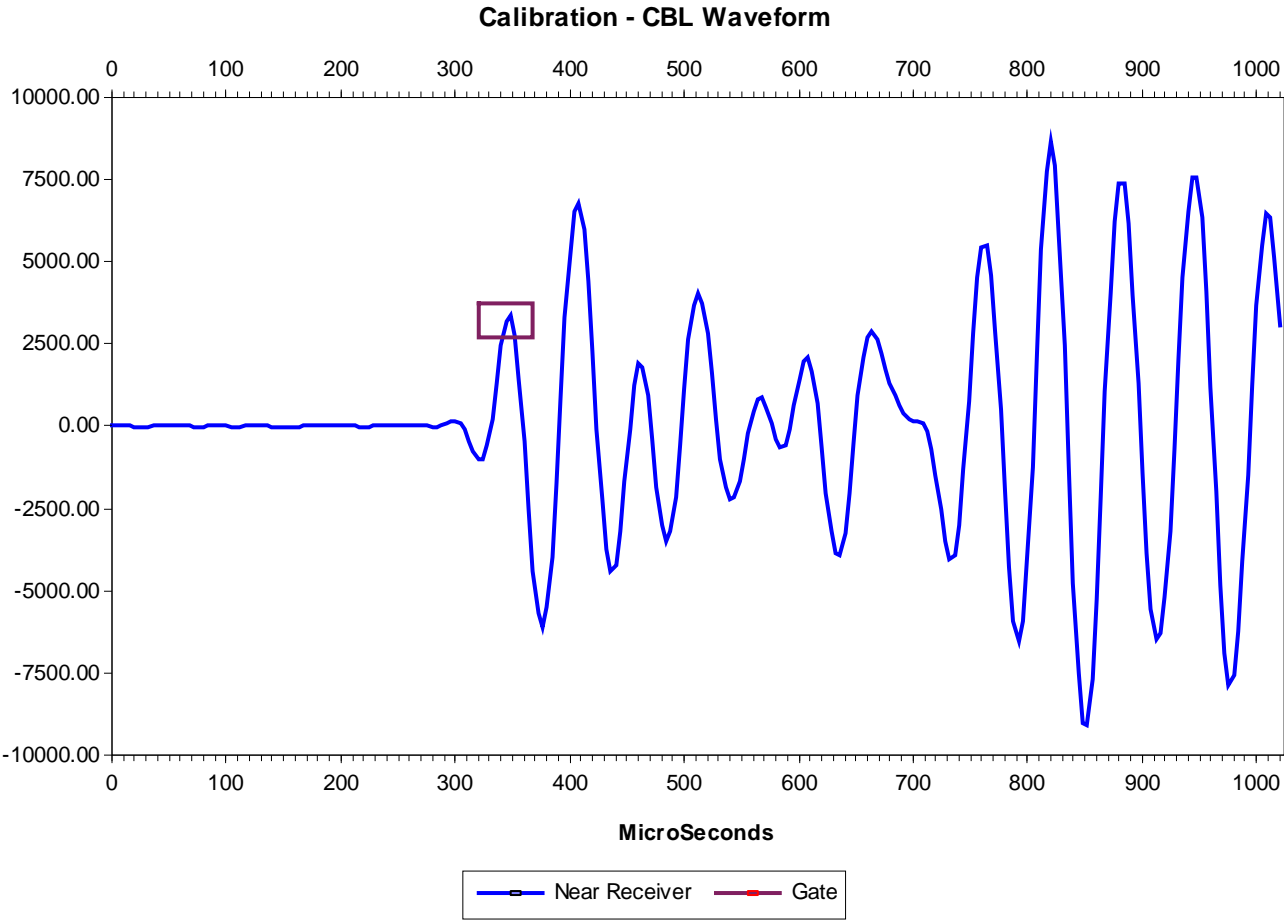
CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION			
Tool Name:	GTET - 11277435	Reference Calibration Date:	22-Nov-13 15:18:13
Engineer:	Z. TAYLOR	Calibration Date:	12-Dec-13 16:29:00
Software Version:	WL INSITE R3.8.0 (Build 2)	Calibration Version:	1
Calibrator Source S/N: TB-271 Calibrator API Reference:236.00 api Equivalent Calibrator API Reference:240.1 api			
Measurement	Measured	Calibrated	Units
Background	41.3	41.4	api
Background + Calibrator	280.7	281.6	api
Calibrator	239.3	240.1	api

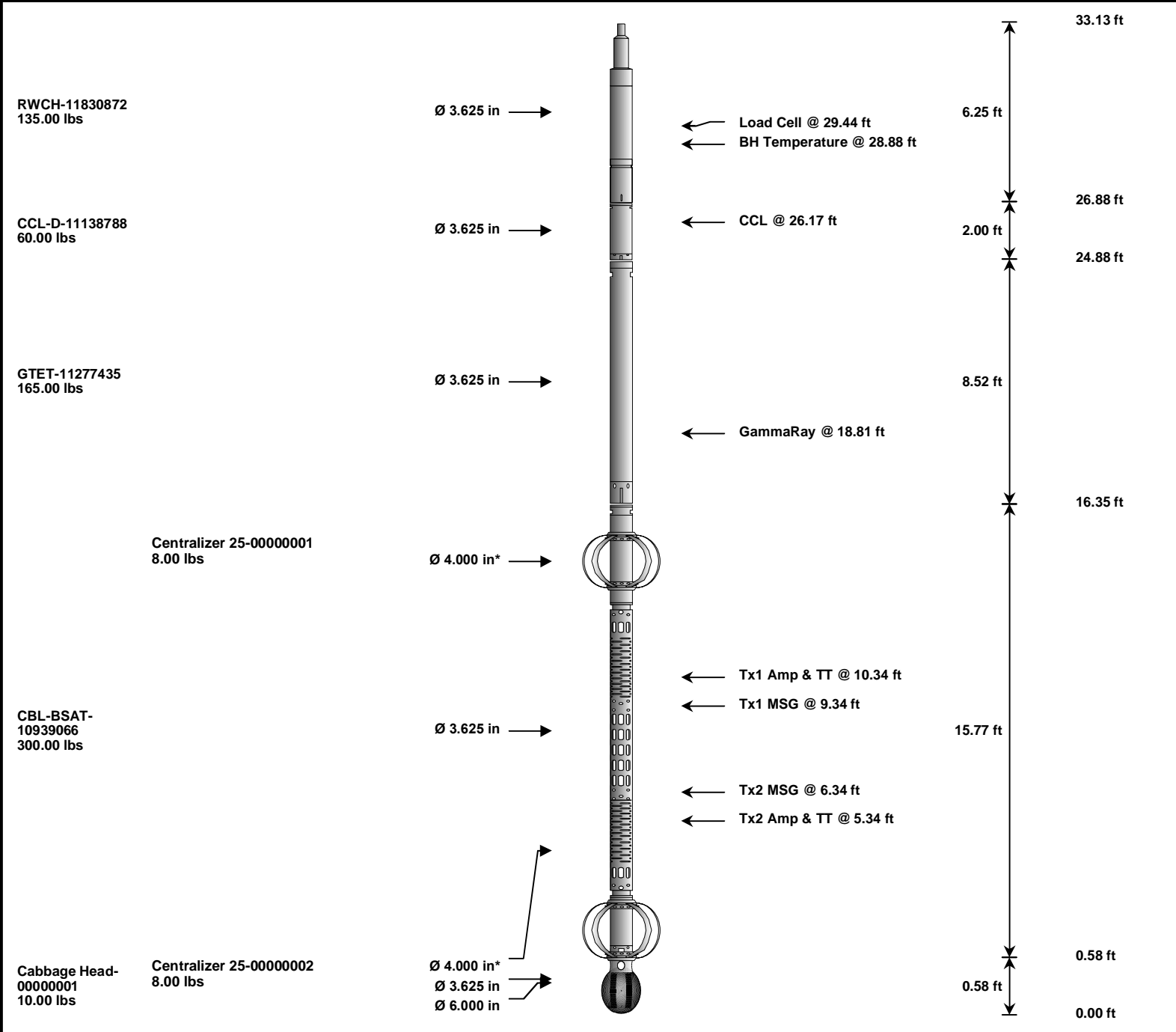
CBL-BSAT SHOP CALIBRATION			
Tool Name:	CBL-BSAT - 10939066	Reference Calibration Date:	14-Dec-13 18:39:27

Sensor	Measured	Calibrated	Difference	Units
Amplitude Tx1	51.50	51.30	-0.20	mV
Amplitude Tx2	51.50	51.30	-0.20	mV
Pipe Reference TT	----	269.00	----	us

Sensor	Raw Value	Units
Amplitude Tx1	3,361.70	mV
Amplitude Tx2	3,281.90	mV
Pipe TT from Tx1	346.00	us
Pipe TT from Tx2	346.00	us



CALIBRATION SUMMARY						
Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11277435						
Gamma Ray Calibrator	240.1	-----	-----	0.0	+/- 9.00	api
Data: RWF_724_16\0003 CBL_BSATVDLE					Date: 14-Dec-13 22:25:09	



Data: RWF_724_16\0003 CBL_BSAT\007 14-Dec-13 19:24 Up @8960.8f

Date: 14-Dec-13 22:18:30

COMPANY	WPX ENERGY ROCKY MOUNTAIN LLC
WELL	LANGSTAFF RWF 724-16
FIELD	RULISON

COUNTY	GARFIELD	STATE	CO
HALLIBURTON	CEMENT BOND LOG BOREHOLE COMPENSATED SONIC ARRAY		