

HALLIBURTON										CEMENT BOND LOG									
COMPANY										CHEVRON									
WELL										UP 59-27A									
FIELD										RANGELY									
COUNTY										RIO BLANCO									
STATE										CO									
Permanent Datum										GL									
Log measured from										KB									
Drilling measured from										KB									
Date																			
Run No.										ONE									
Depth - Driller										6633.00 ft									
Depth - Logger										6635.0 ft									
Bottom - Logged Interval										6086.0 ft									
Top - Logged Interval										610.0 ft									
Casing - Driller										7.000 in @ 6066.0 ft									
Casing - Logger										6066.0 ft									
Bit Size										6.125 in									
Type Fluid in Hole										BRINE									
Density										10.0 ppG									
PH																			
Source of Sample																			
Rm @ Meas. Temperature										@									
Rmf @ Meas. Temperature										@									
Rmc @ Meas. Temperature										@									
Source Rmf										Rmc									
Rm @ BHT										@									
Time Since Circulation										0.0 hr									
Time on Bottom										18-Mar-09 18:03									
Max. Rec. Temperature										175.0 degF @ 6635.0 ft									
Equipment										11014853 G. J.									
Recorded By										K. WOOD									
Witnessed By										G. COLLINS									

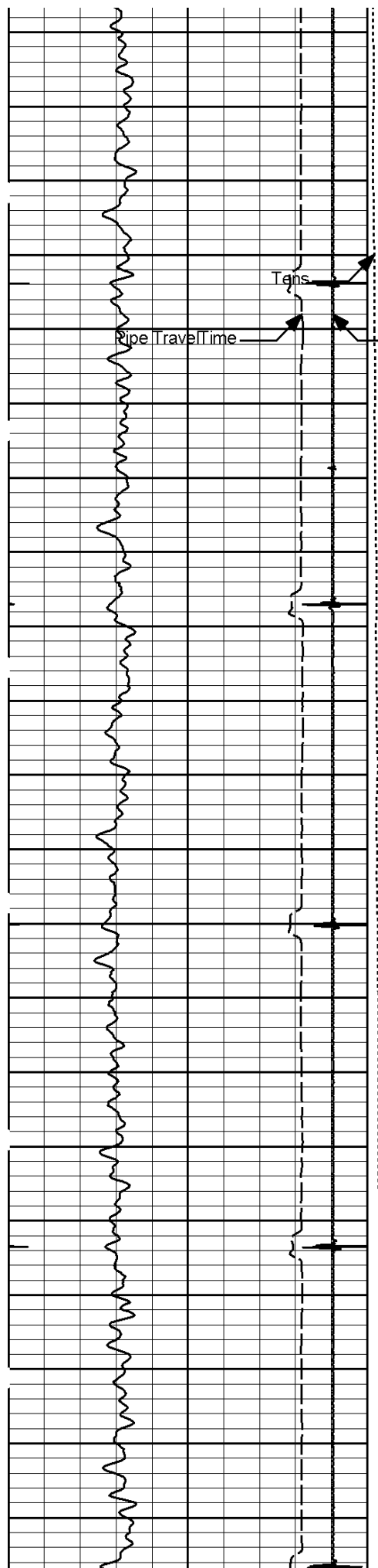
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Service Ticket No.: 6567642										API Serial No.: 051031120700										PGM Version: WL INSITE R2.4 (Build 11)									
CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE										RESISTIVITY SCALE CHANGES																			
Date		Sample No.								Type Log		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.		ONE		Run No.				Run No.																	
Serial No.		044		Serial No.		FWSS0070		Serial No.				Serial No.																	
Model No.		D4TGX		Model No.		CBL-M305		Model No.				Model No.																	
Diameter		3.625"		No. of Cent.		2		Diameter				Diameter																	
Detector Model No.		D4TG		Spacing		1'		Log Type				Log Type																	
Type		SCINT.						Source Type				Source Type																	

Length			LSA [Y/N]			Serial No.			Serial No.						
Distance to Source	N/A		FWDA [Y/N]	YES		Strength			Strength						
LOGGING DATA															
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	CASING	SURF	REC	0	150										
DIRECTIONAL INFORMATION															
Maximum Deviation						@		KOP						@	
Remarks: RWCH-CCL-D4TGX-CBL WERE RUN IN COMBINATION.															
HOLE RUGOSITY AND TENSION PULLS MAY AFFECT LOG QUALITY.															
LATITUDE: 40.12 °N // LONGITUDE: 140.83 °W															
YOUR CREW TODAY: K. LAUCK, A. LEWIS AND E. KEEN															
RIG: NONE															
THANK YOU 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.															
HALLIBURTON															

PARAMETERS REPORT

Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	SHARED	BS	Bit Size	6.125	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDWT	Borehole Fluid Weight	10.000	ppg
	SHARED	RMUD	Mud Resistivity	2.000	ohmm
	SHARED	TRM	Temperature of Mud	75.0	degF
	SHARED	OBM	Oil Based Mud System?	No	
	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	6635.00	ft
	SHARED	BHT	Bottom Hole Temperature	175.0	degF
	CCLD4	CLOK	Process CCL?	Yes	
	CCLD4	CCLS	CCL Processing Selection	Raw	
	D4TGX	GROK	Process Gamma Ray?	Yes	
	D4TGX	GRSO	Gamma Tool Standoff	0.000	in



700

Tens

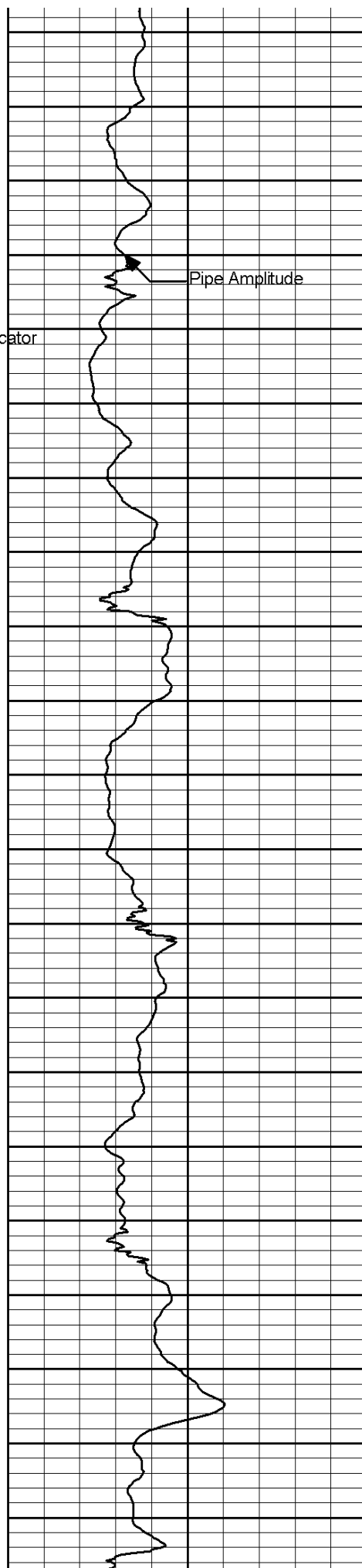
Pipe Travel Time

Collar Locator

750

800

850

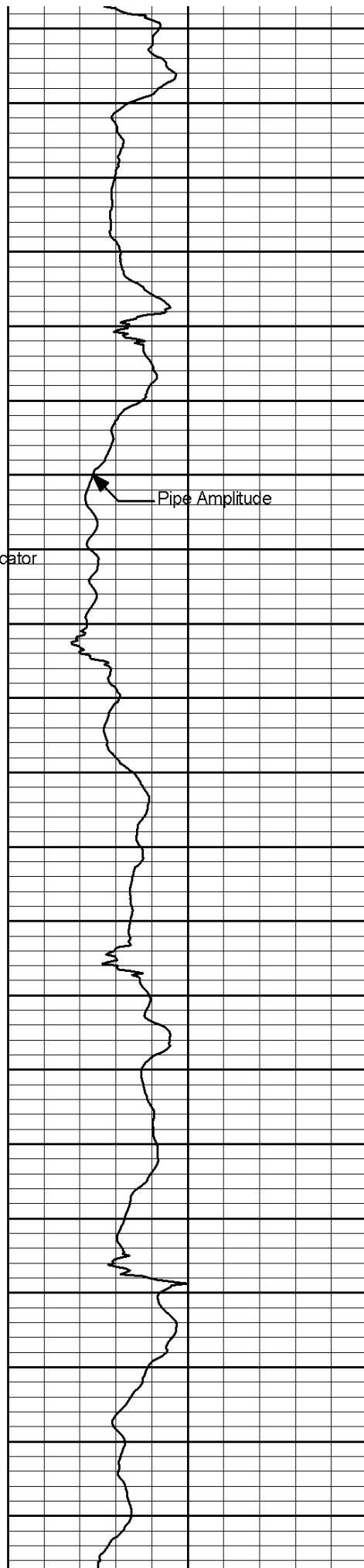
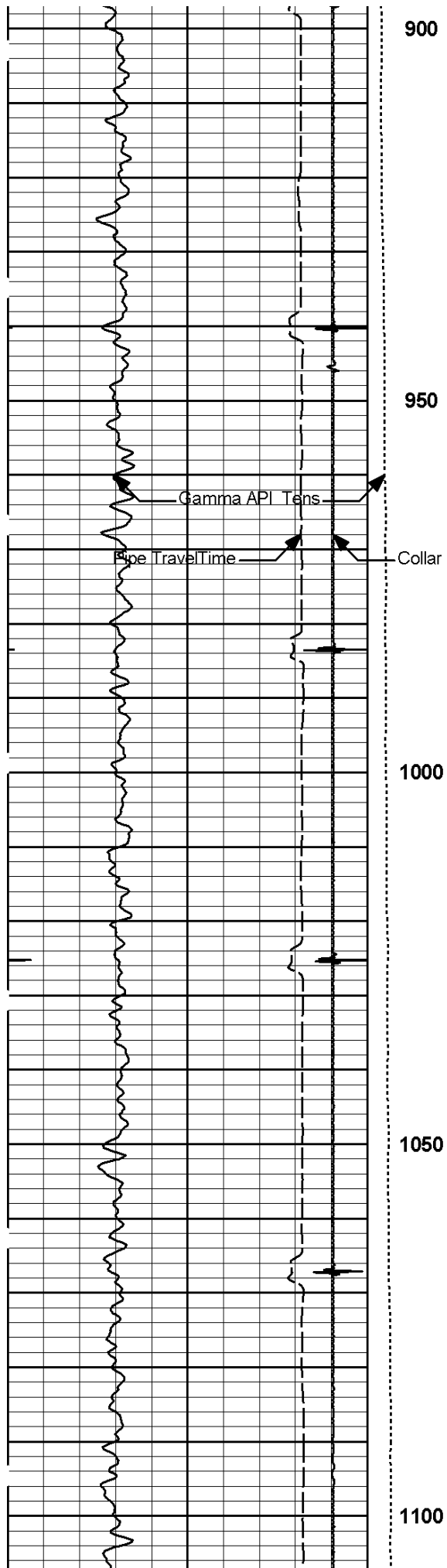


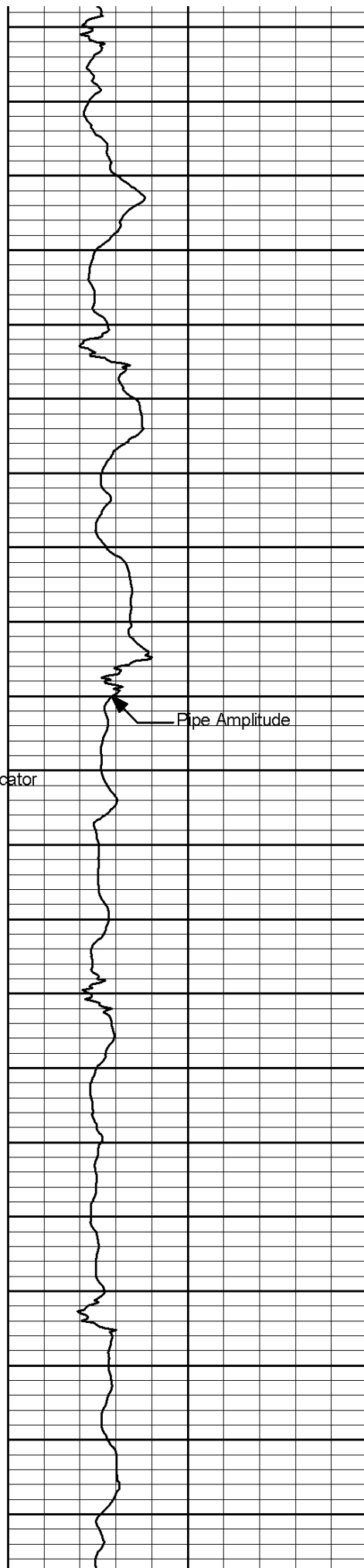
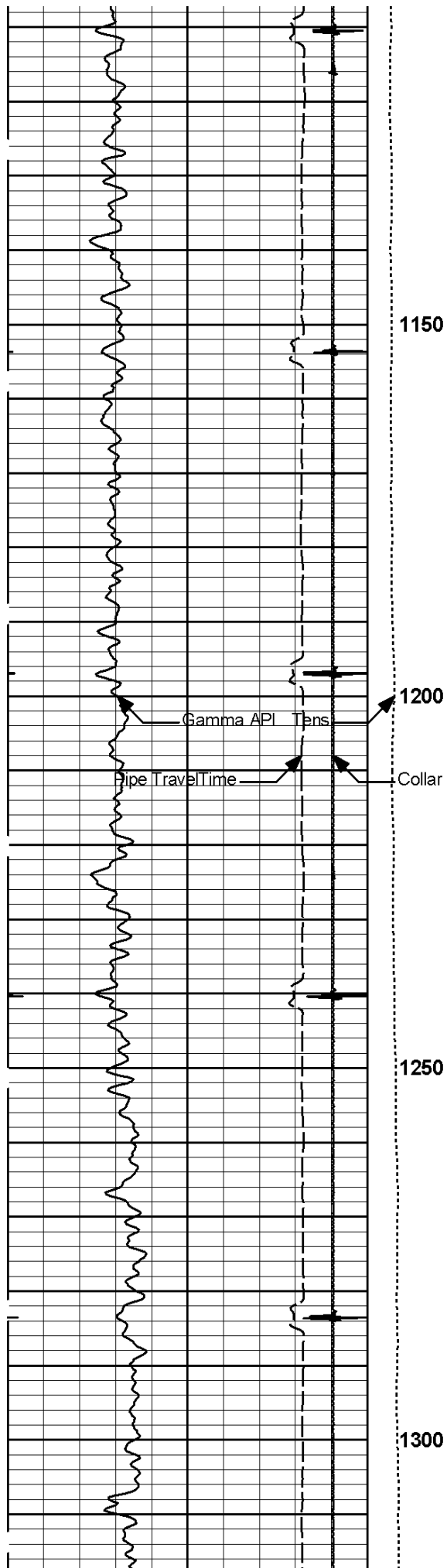
Pipe Amplitude

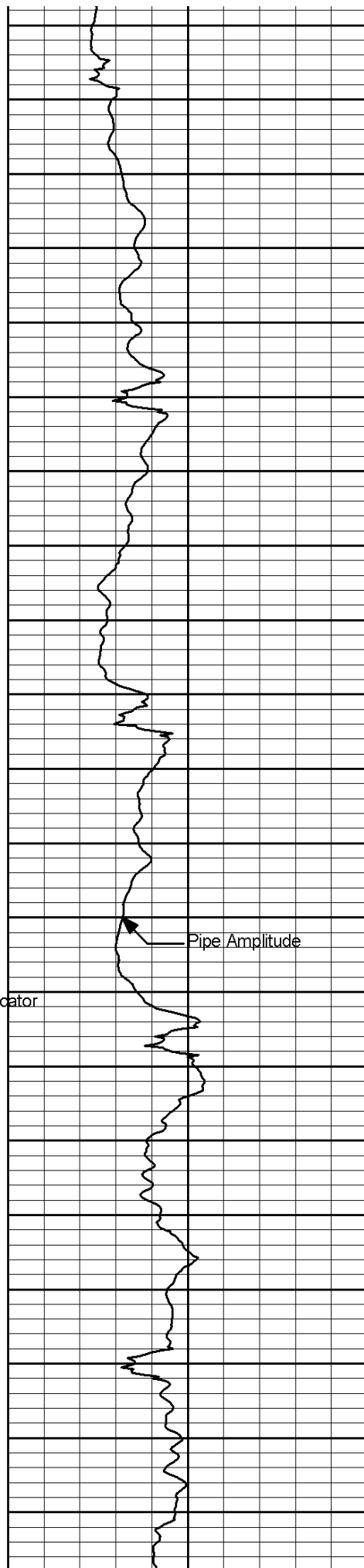
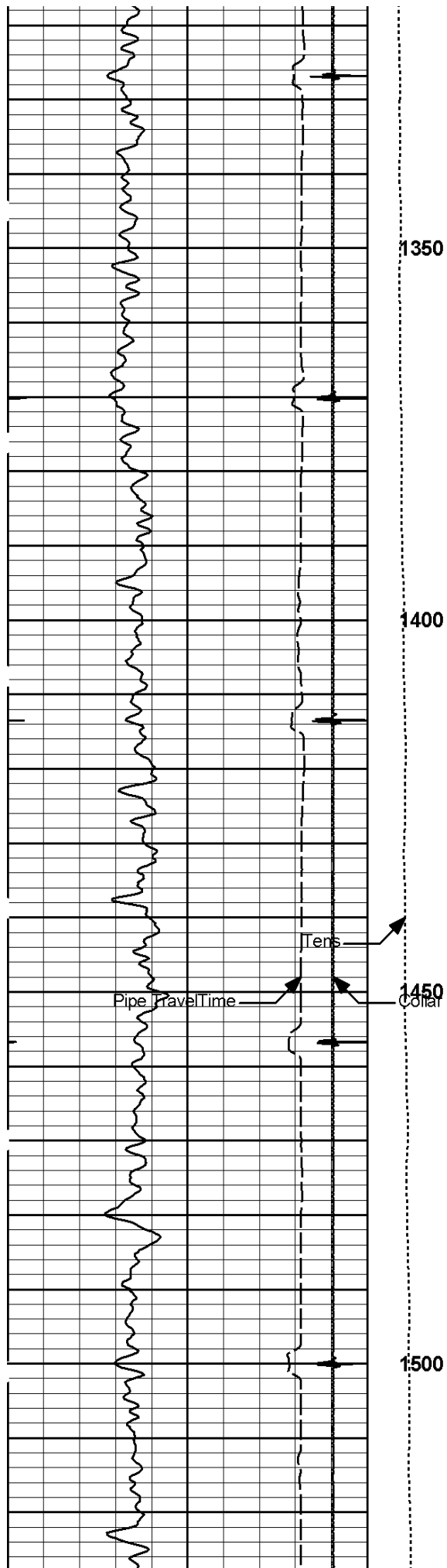


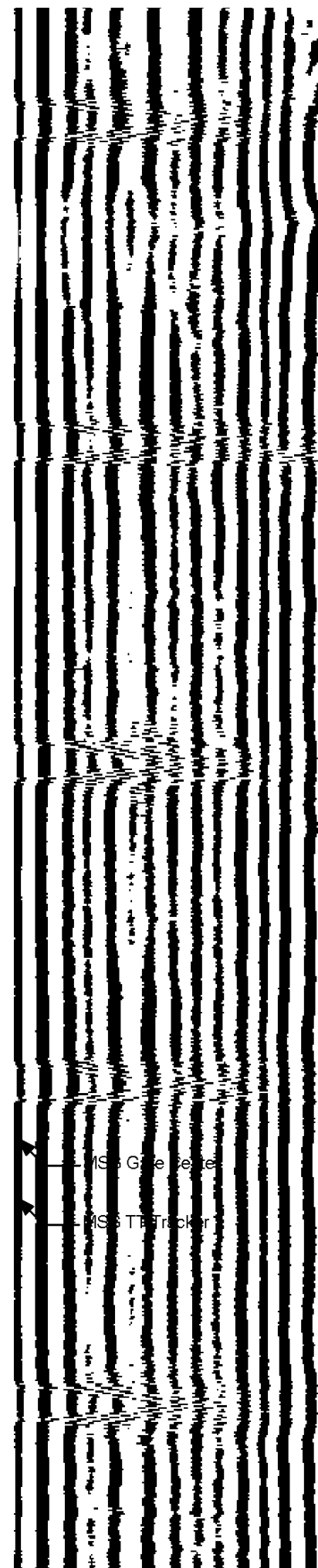
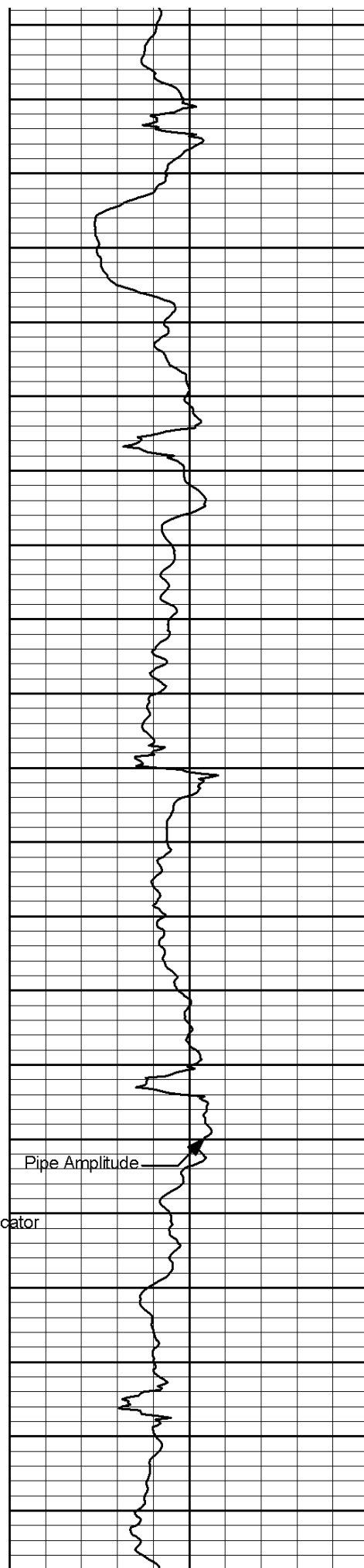
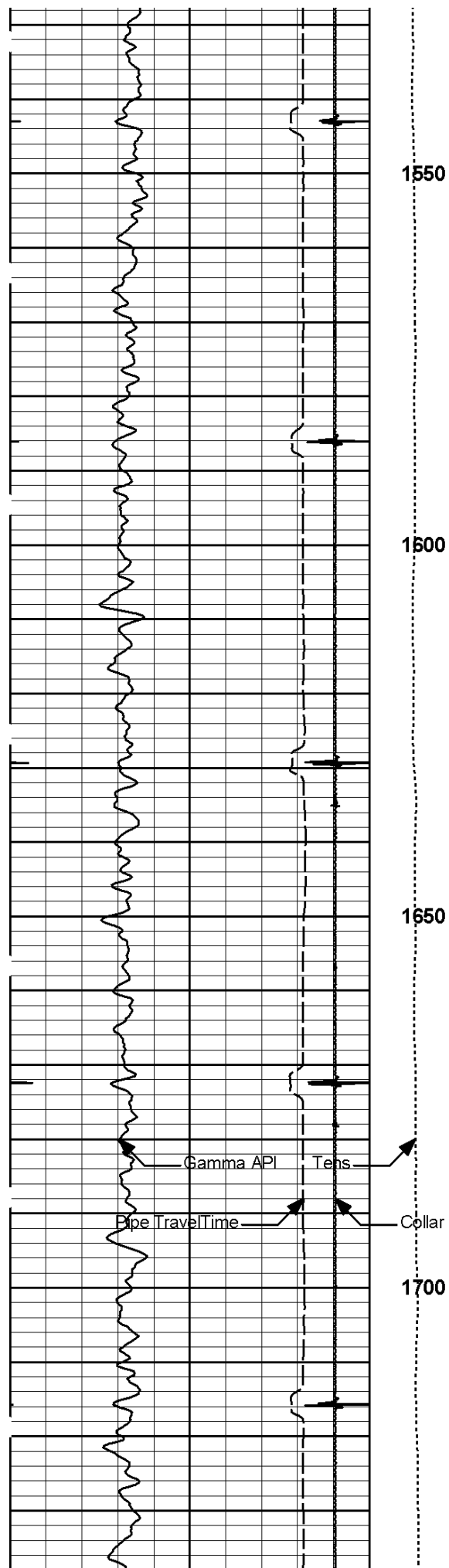
ISO Gate

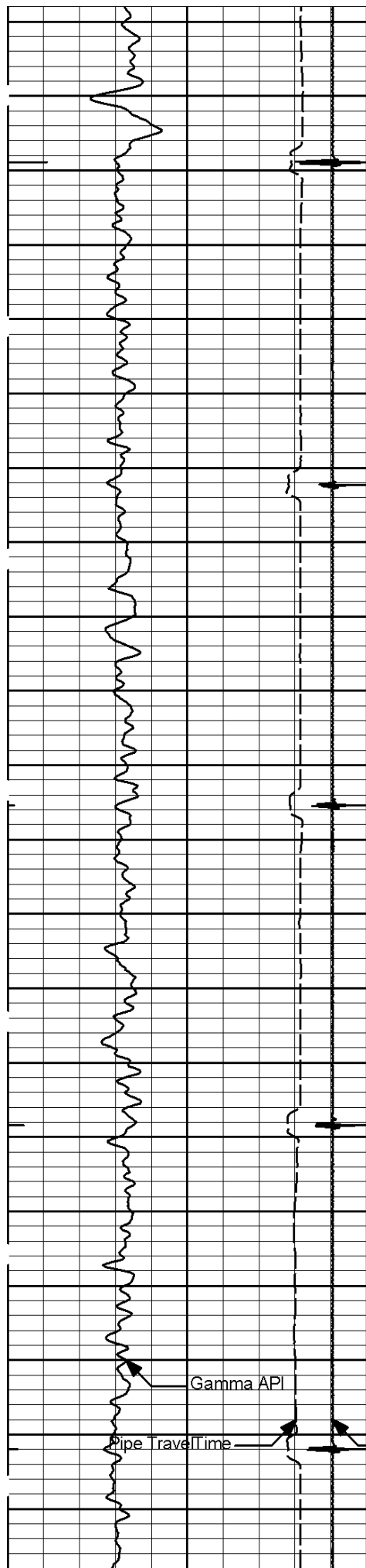
ISO TT Tracker











1750

1800

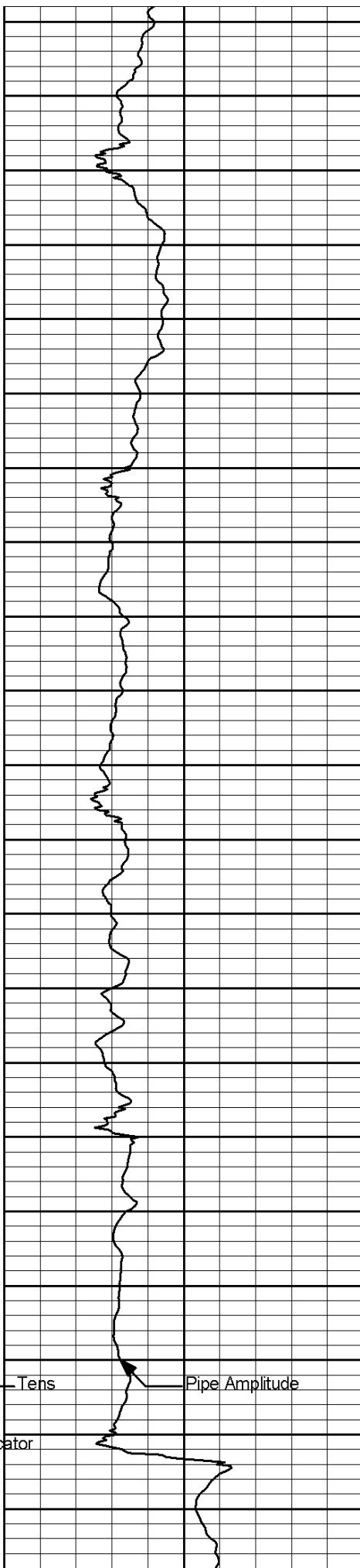
1850

1900

Gamma API

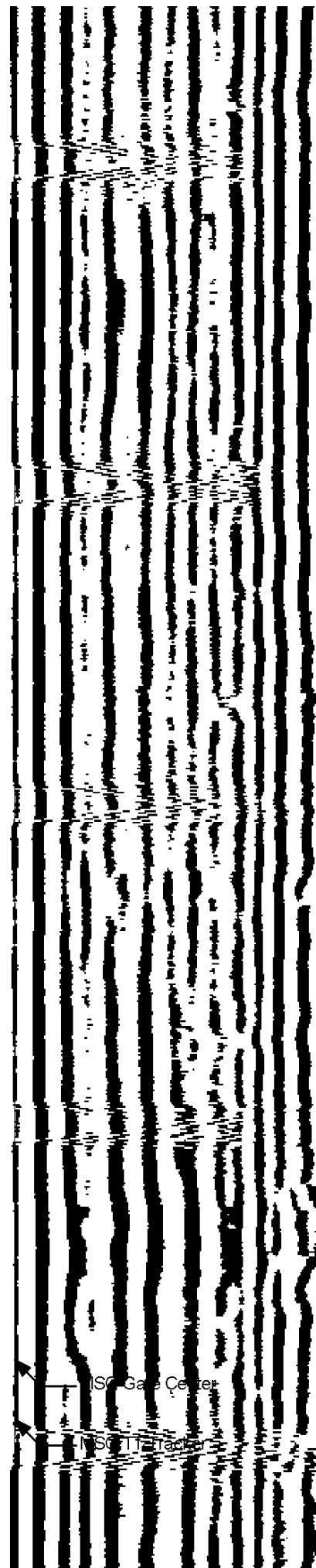
Pipe Travel Time

Collar Locator



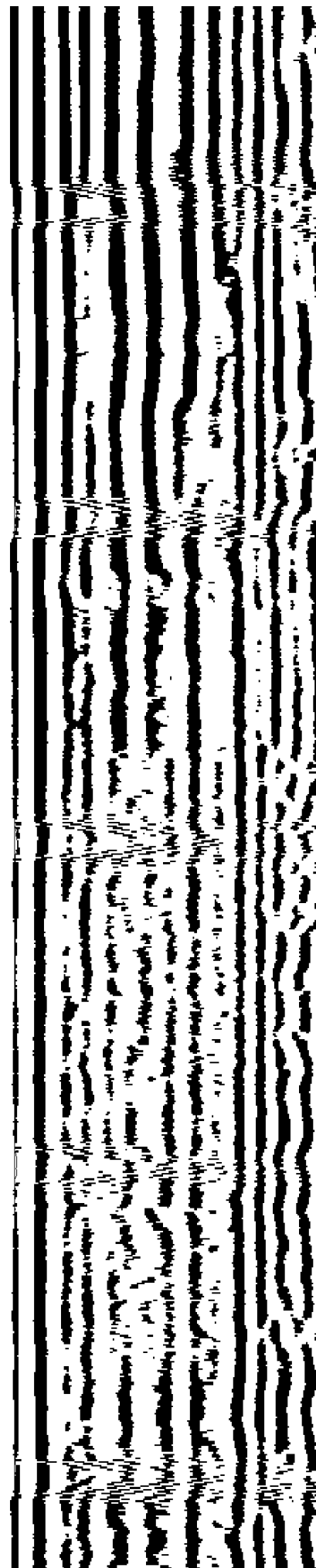
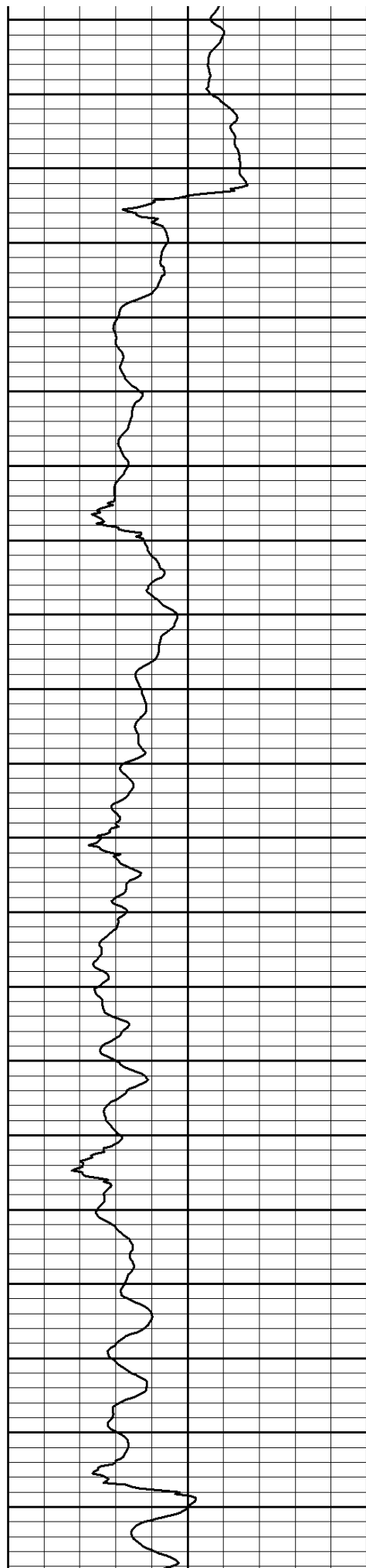
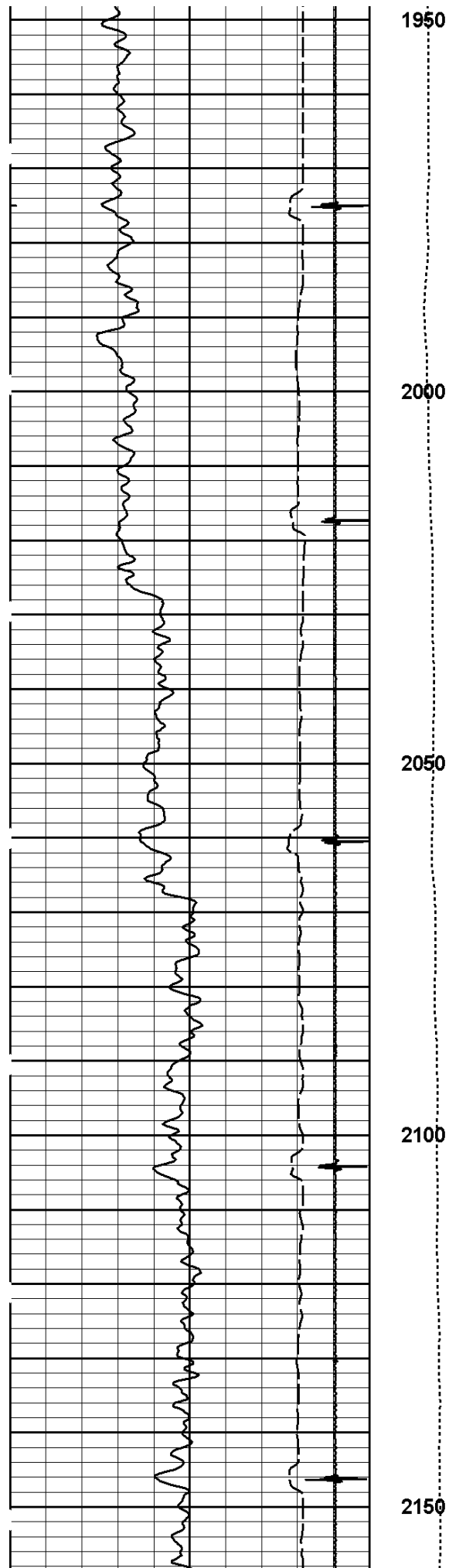
Tens

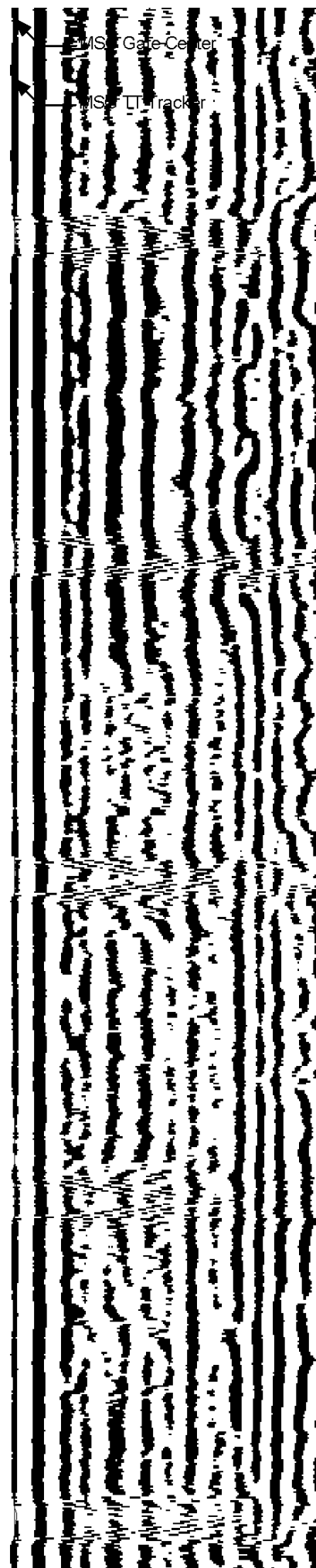
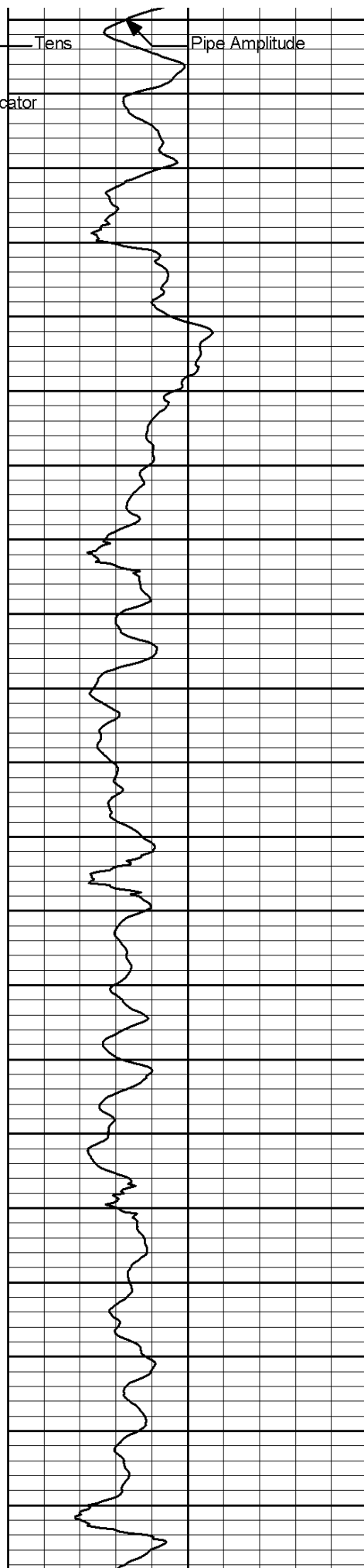
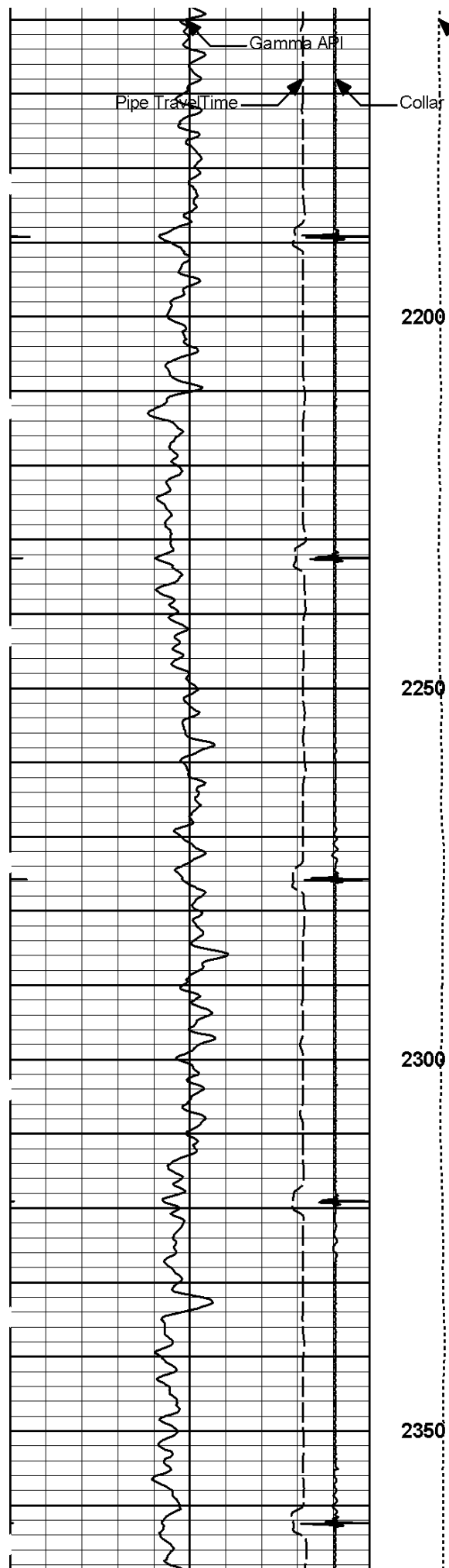
Pipe Amplitude

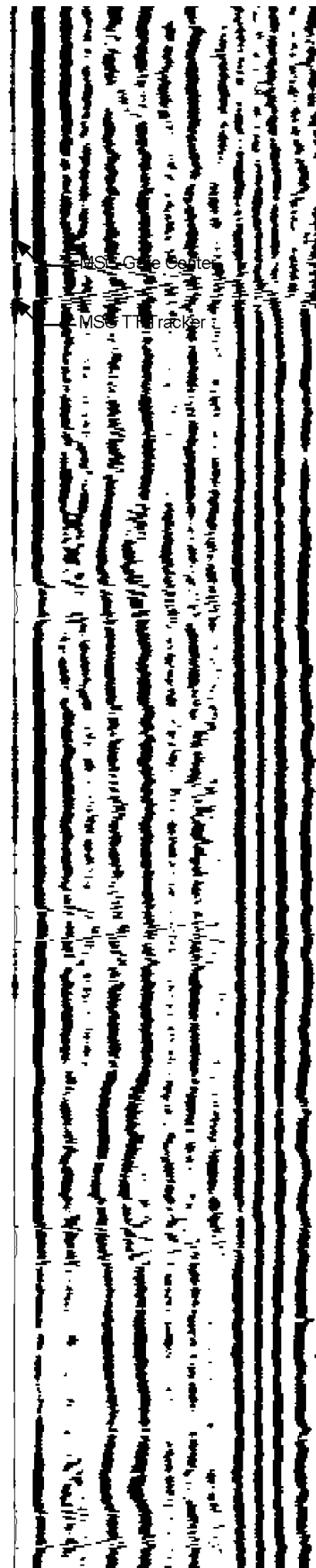
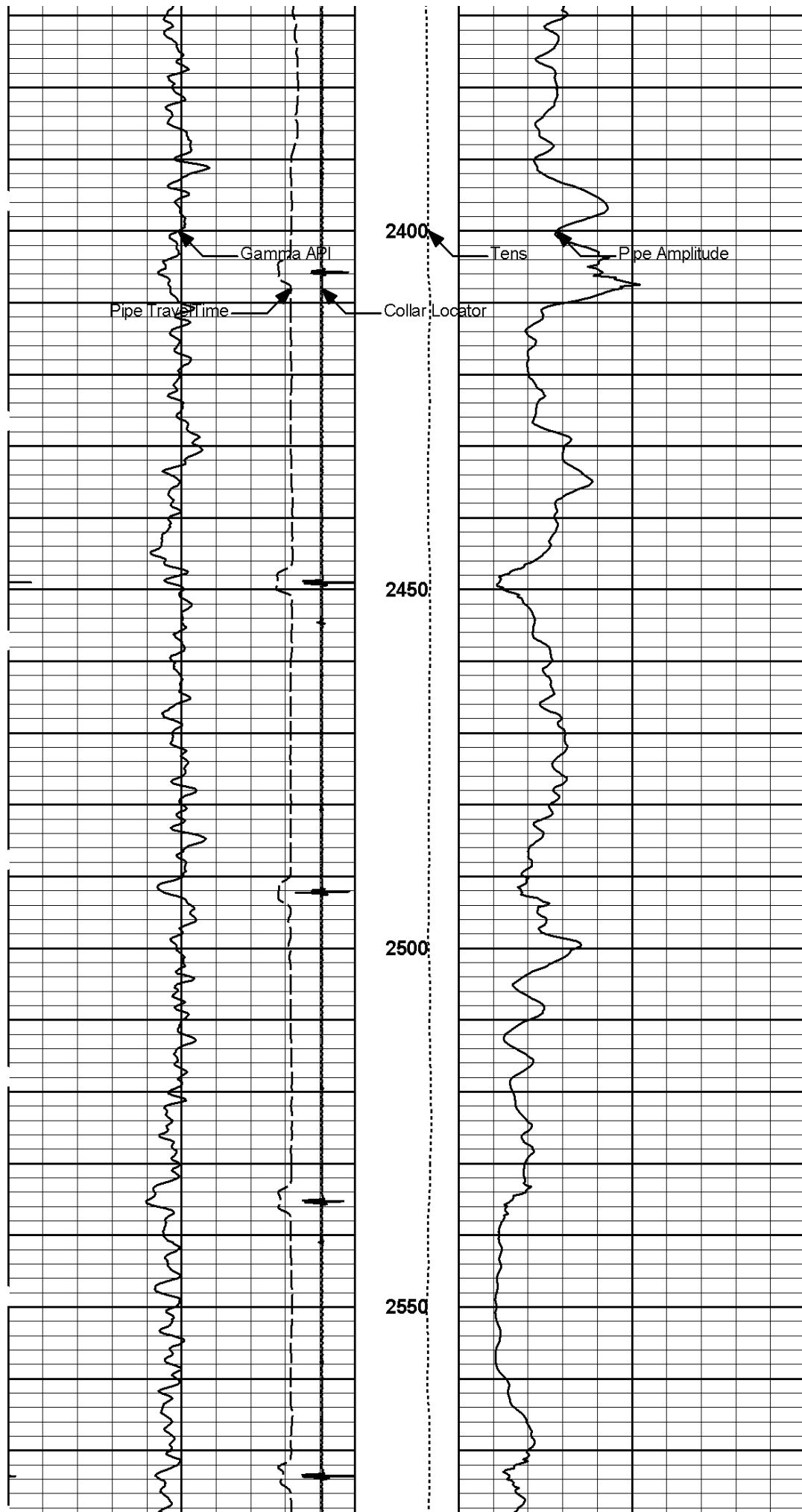


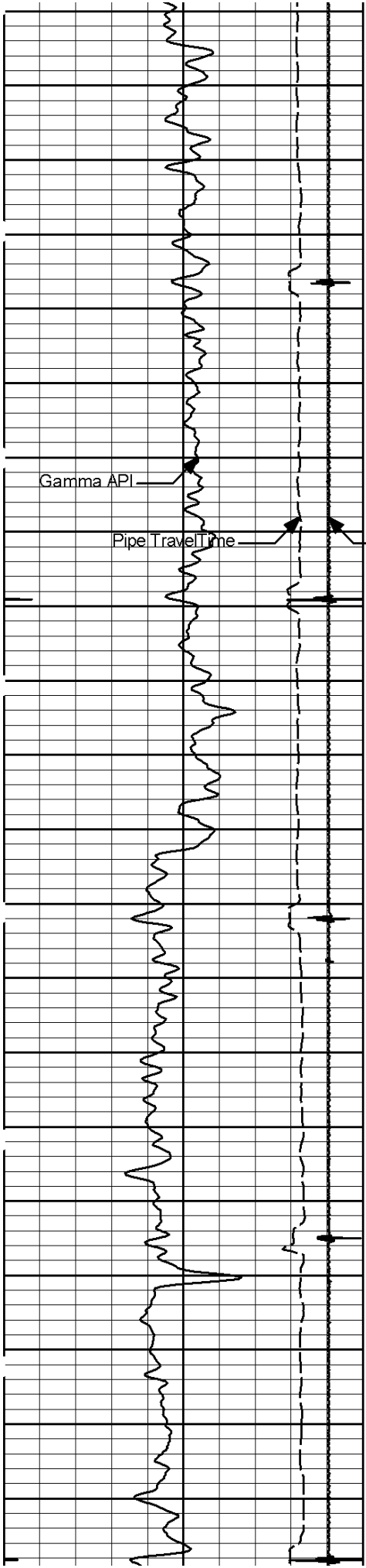
ISO Gate Center

ISO T1









2600

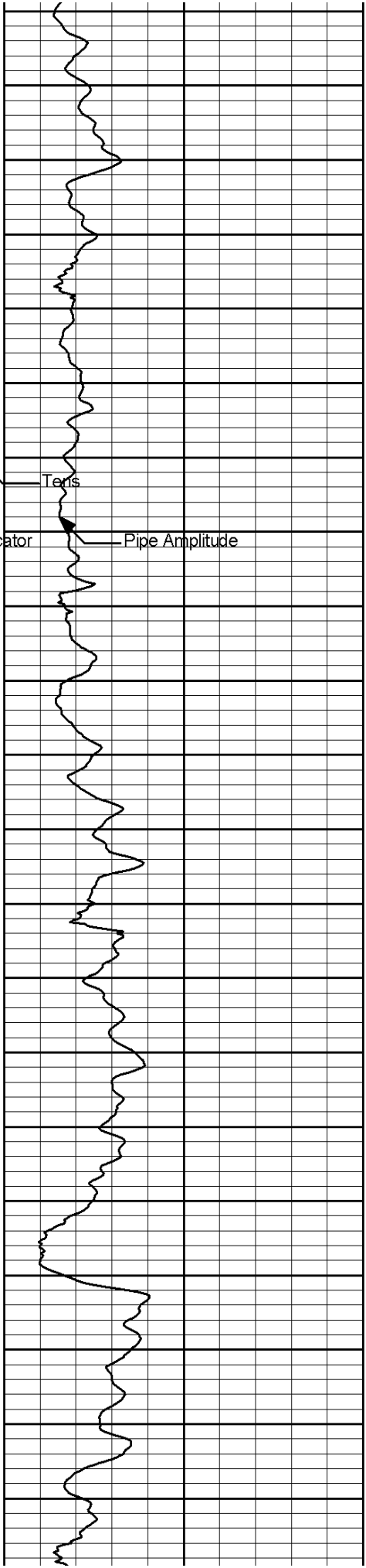
Gamma API

Pipe Travel Time

2650

2700

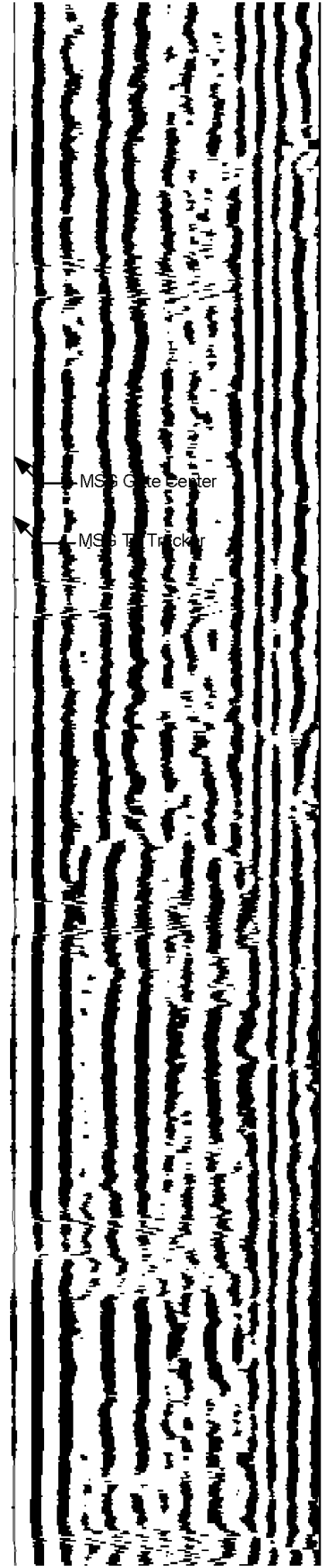
2750



Tens

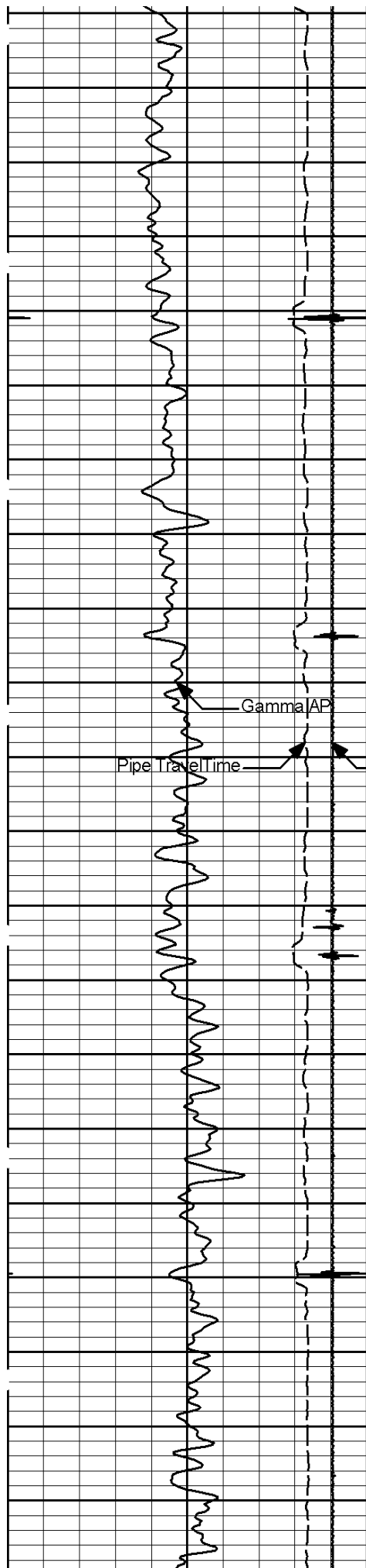
Coliar Locator

Pipe Amplitude

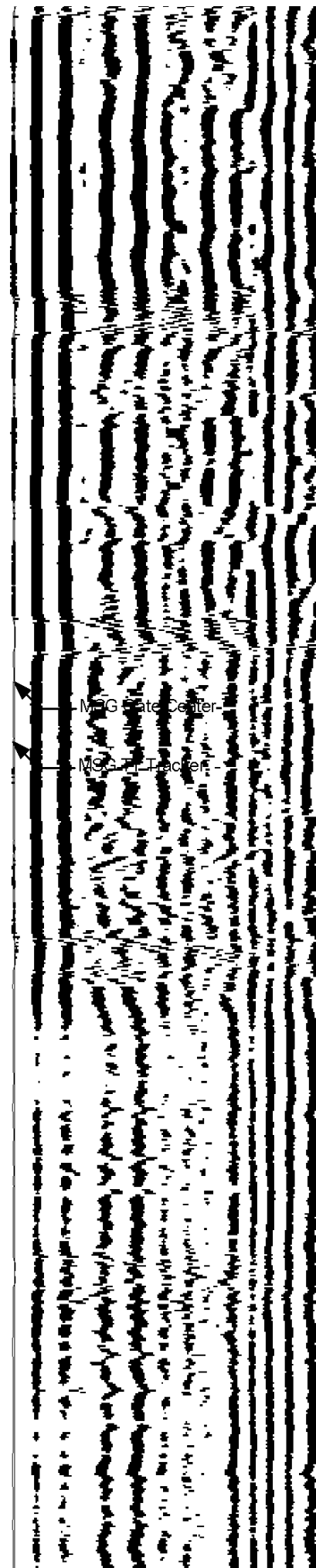
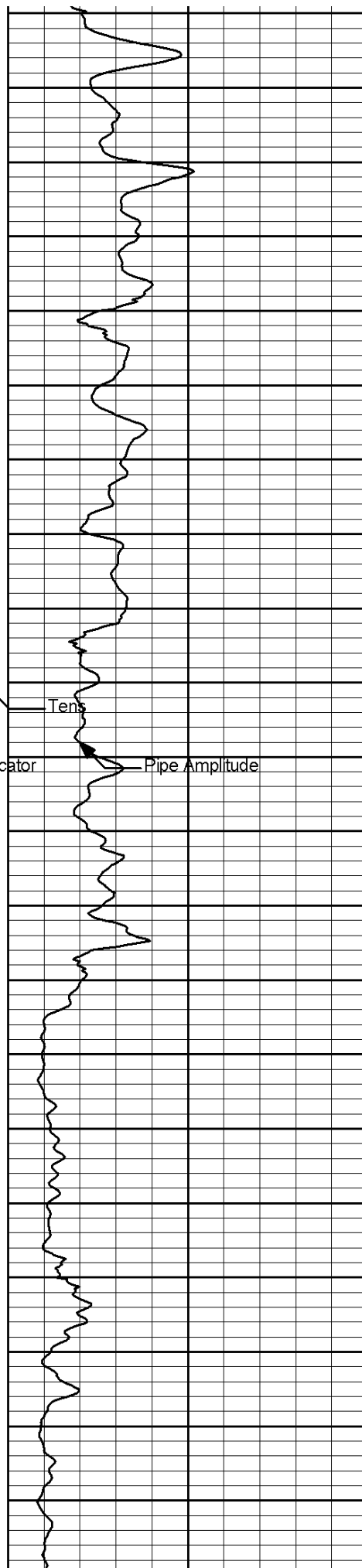


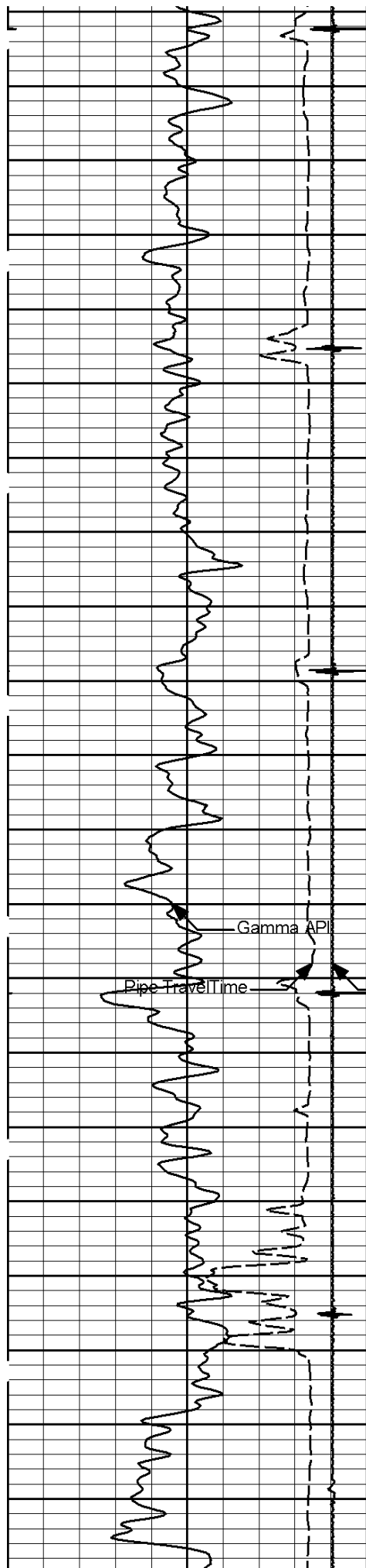
MSS Gate Center

MSS T Tracker



2800
2850
2900
2950





3000

3050

3100

3150

3200

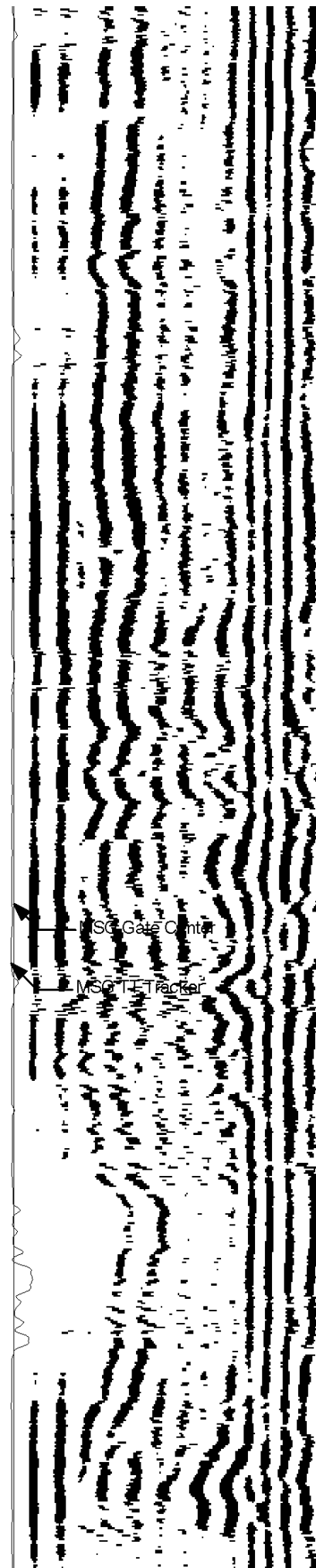
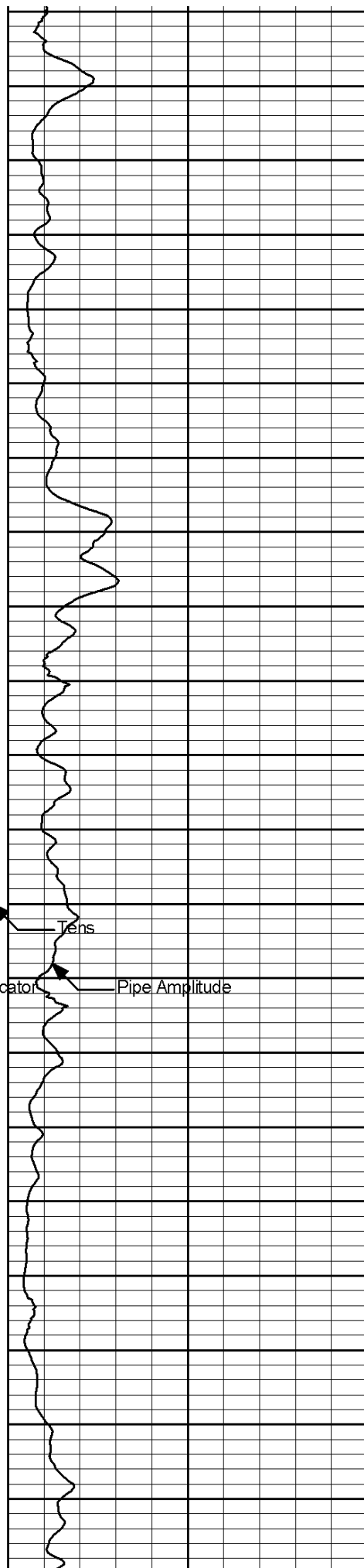
Gamma API

Pipe Travel Time

Collar Locator

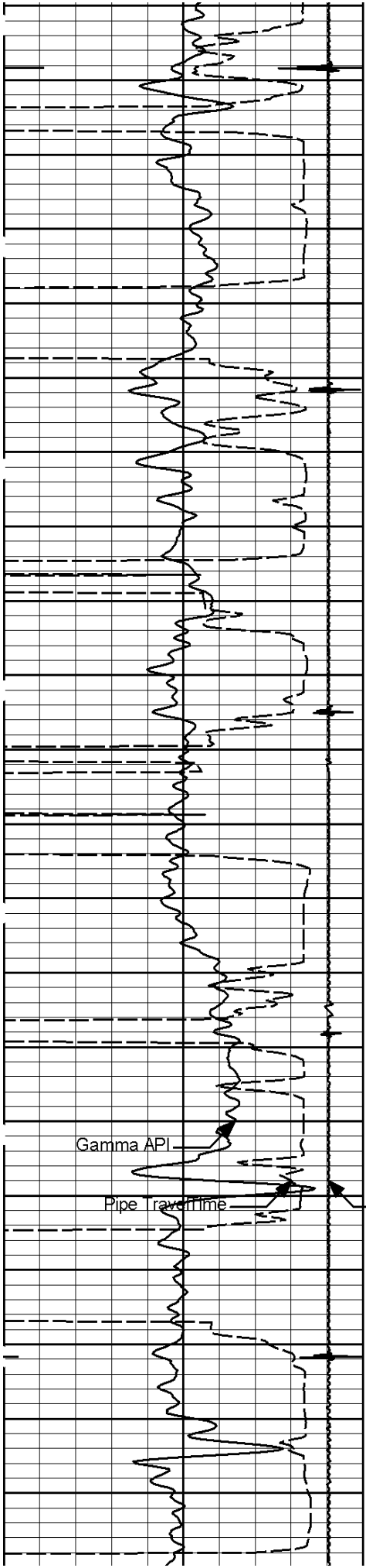
Tens

Pipe Amplitude



SG Gate Center

MSG T-T Tracker



3250

3300

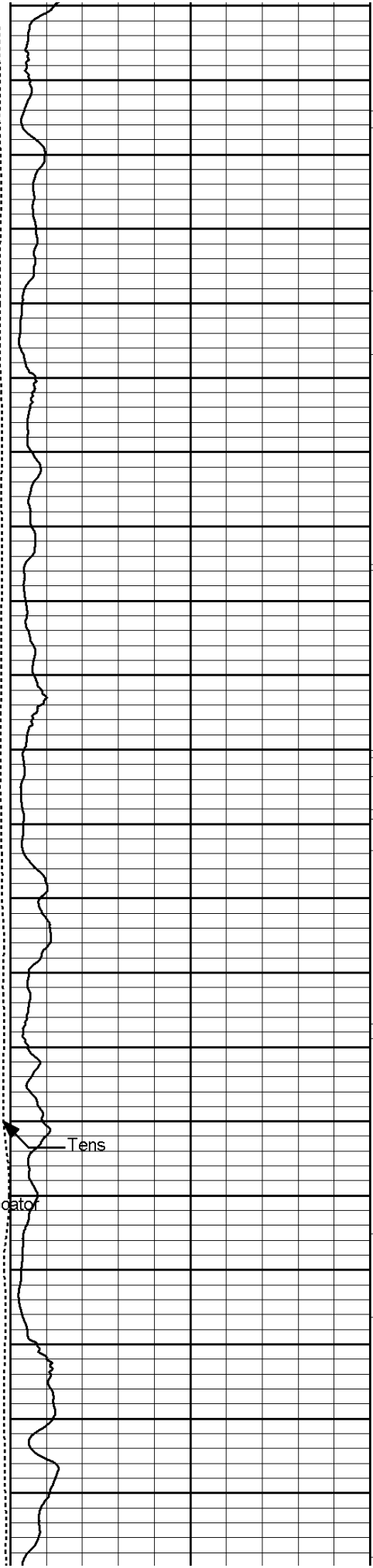
3350

3400

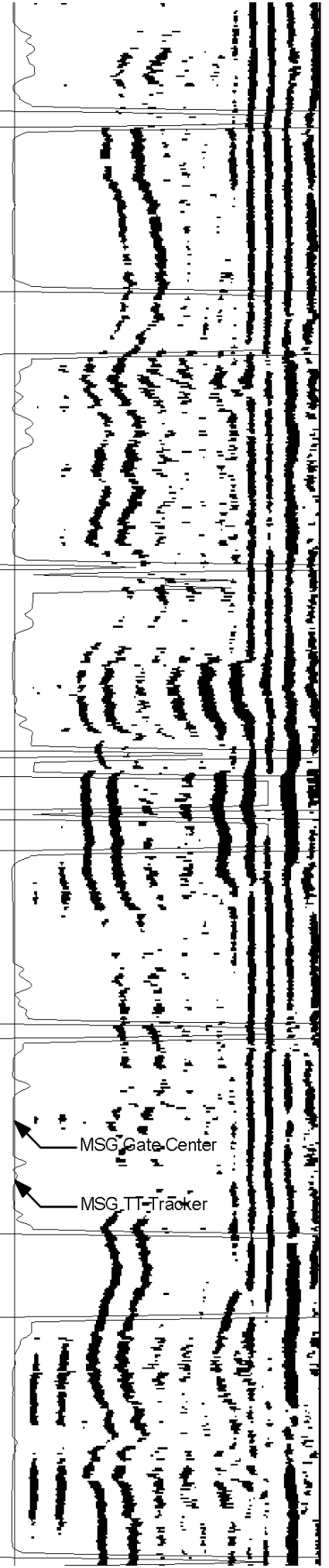
Gamma API

Pipe Traveltime

Collar Locator

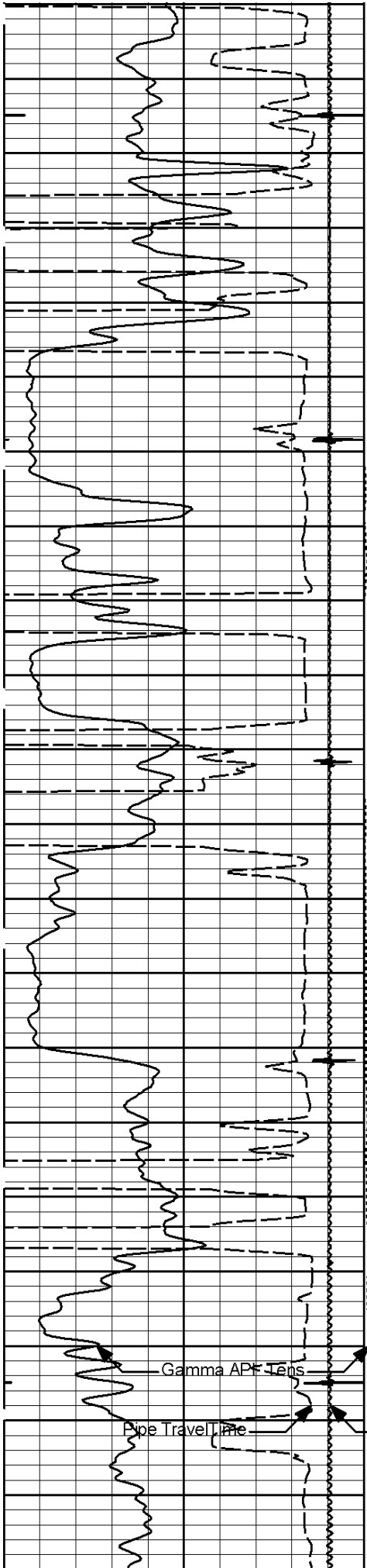


Tens



MSG Gate Center

MSG TT-Tracker



3450

3500

3550

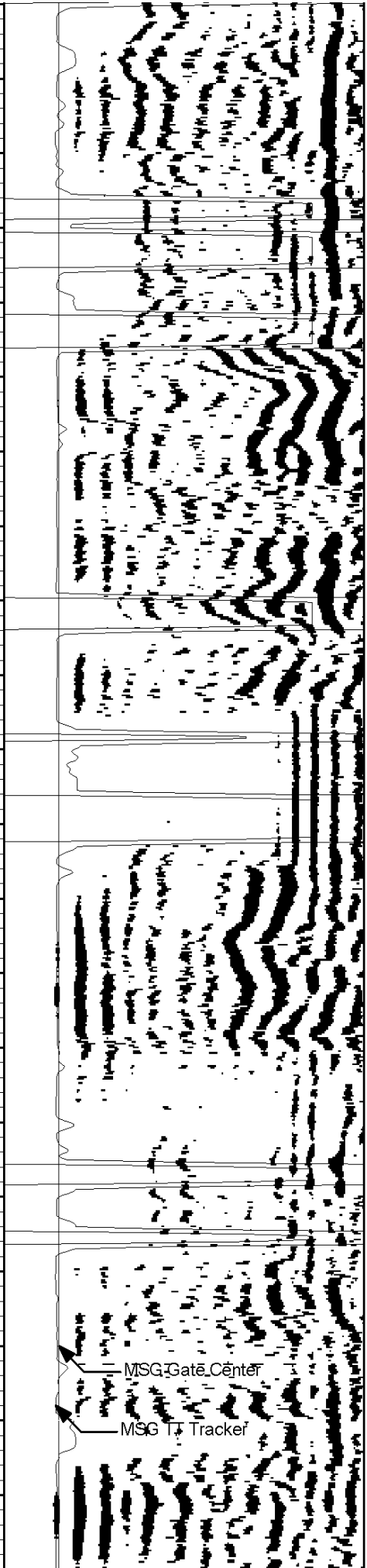
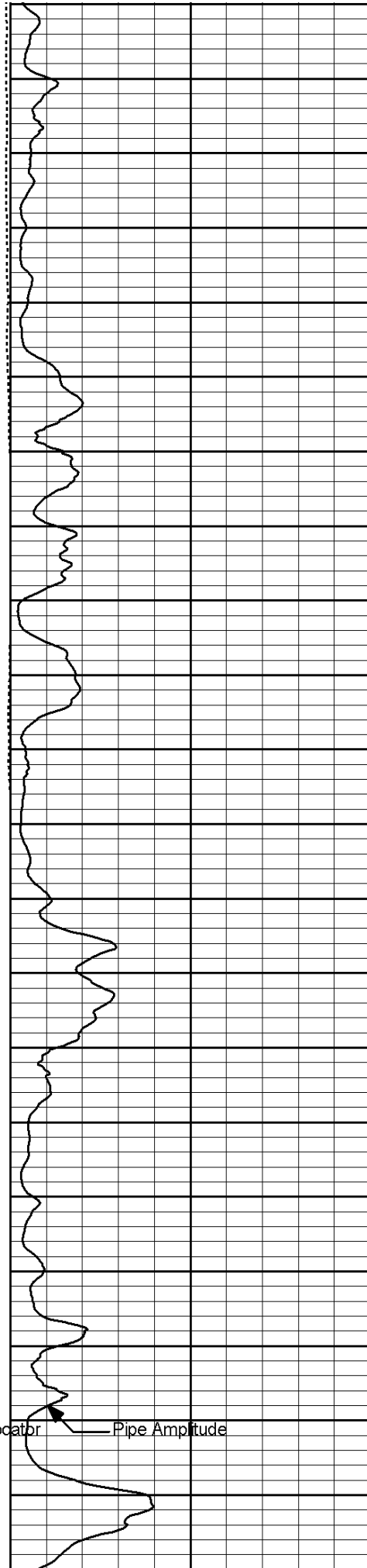
3600

Gamma API Tens

Pipe Travel Time

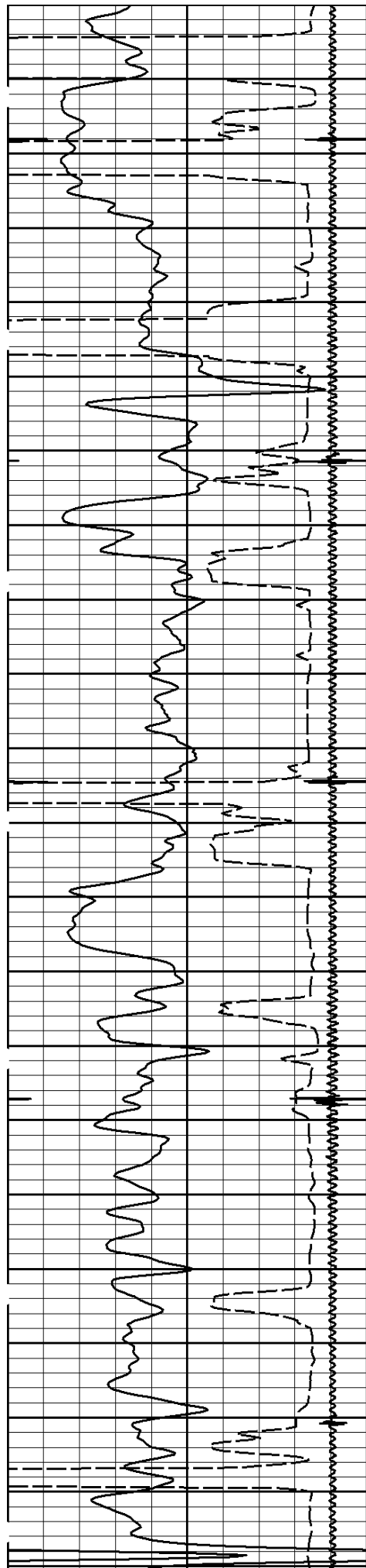
Collar Locator

Pipe Amplitude



MSG Gate Center

MSG Tracker

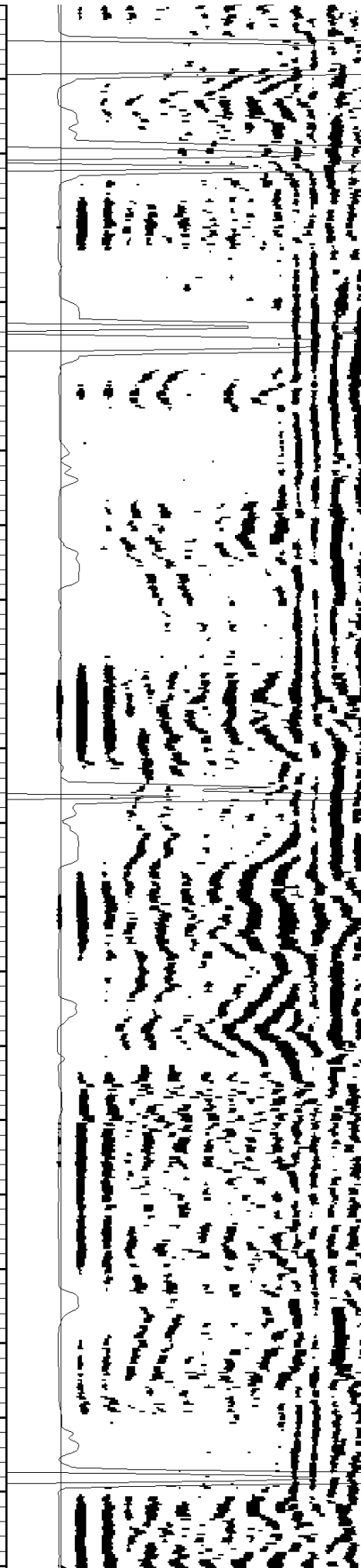
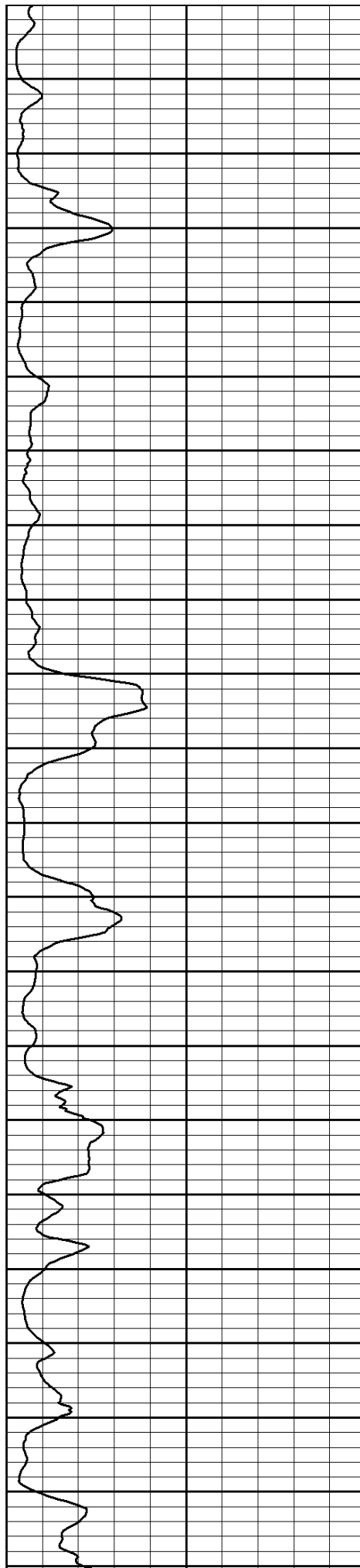


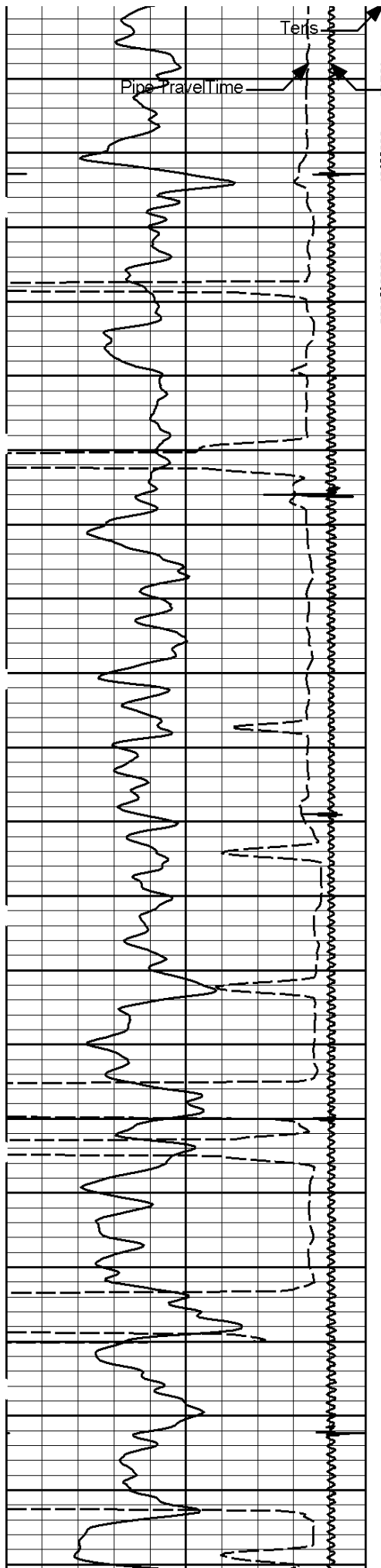
3650

3700

3750

3800





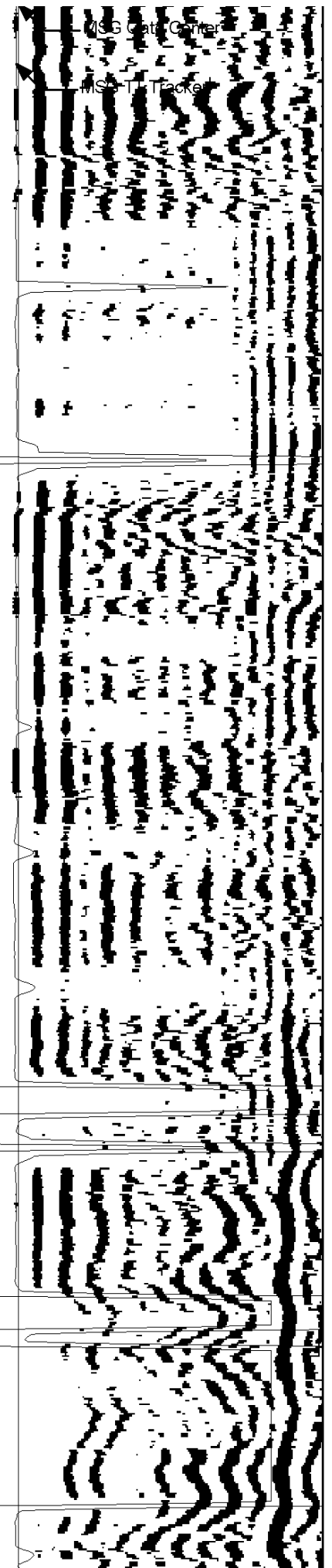
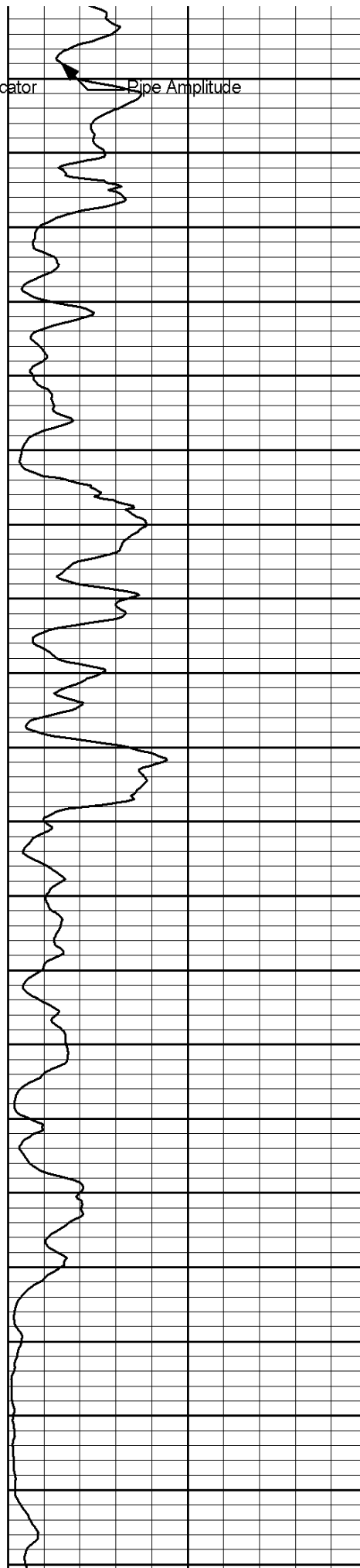
3850
Coner Locator

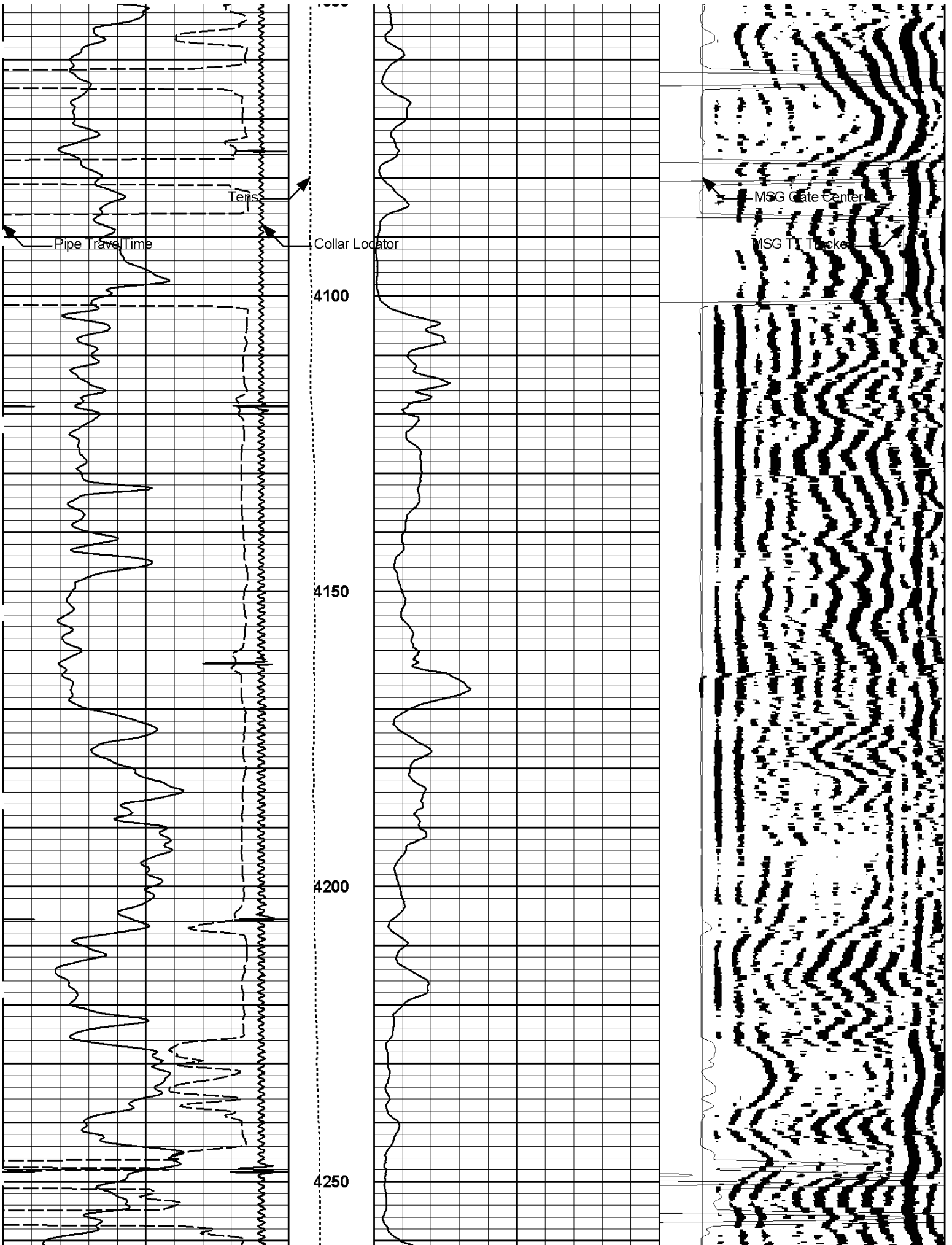
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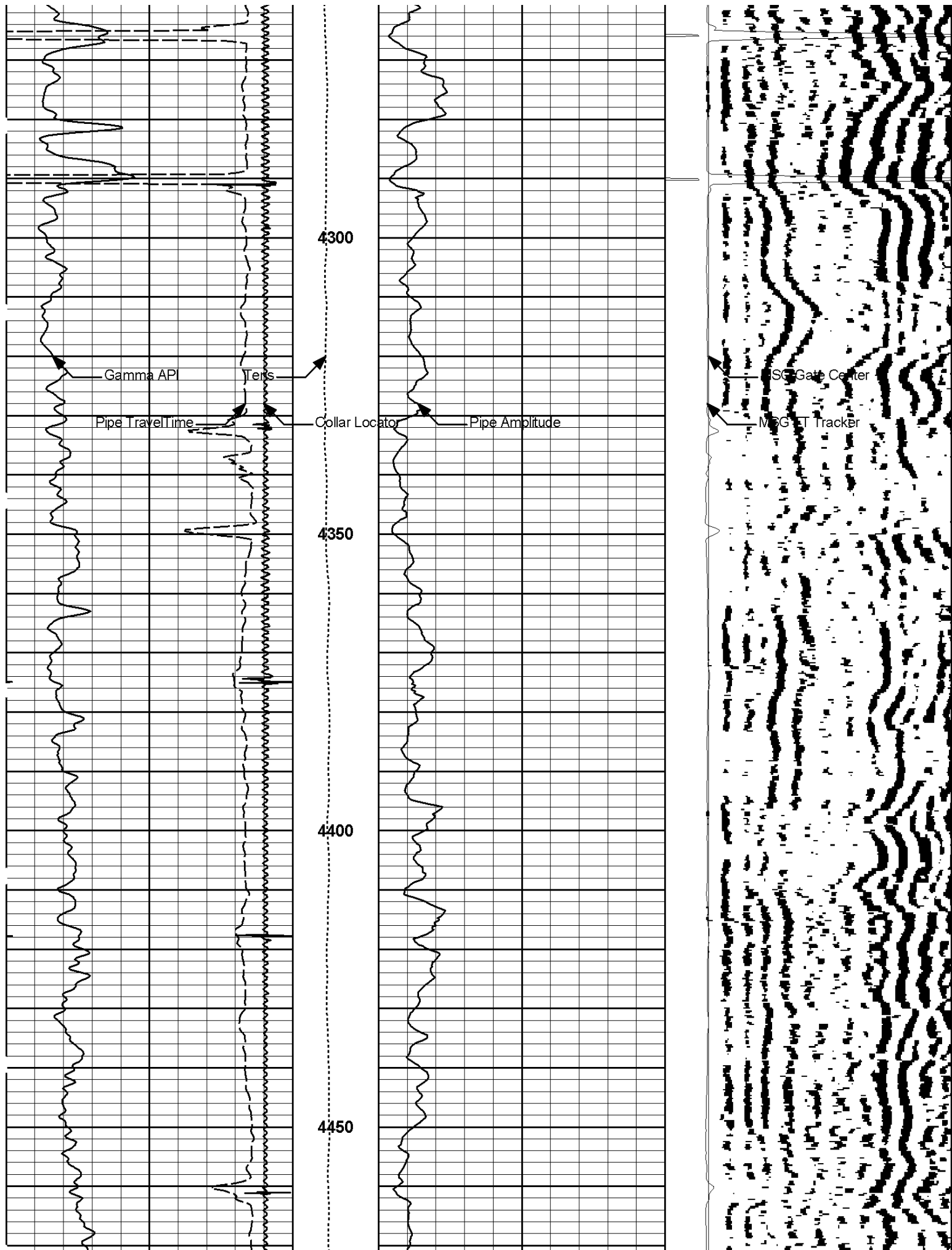
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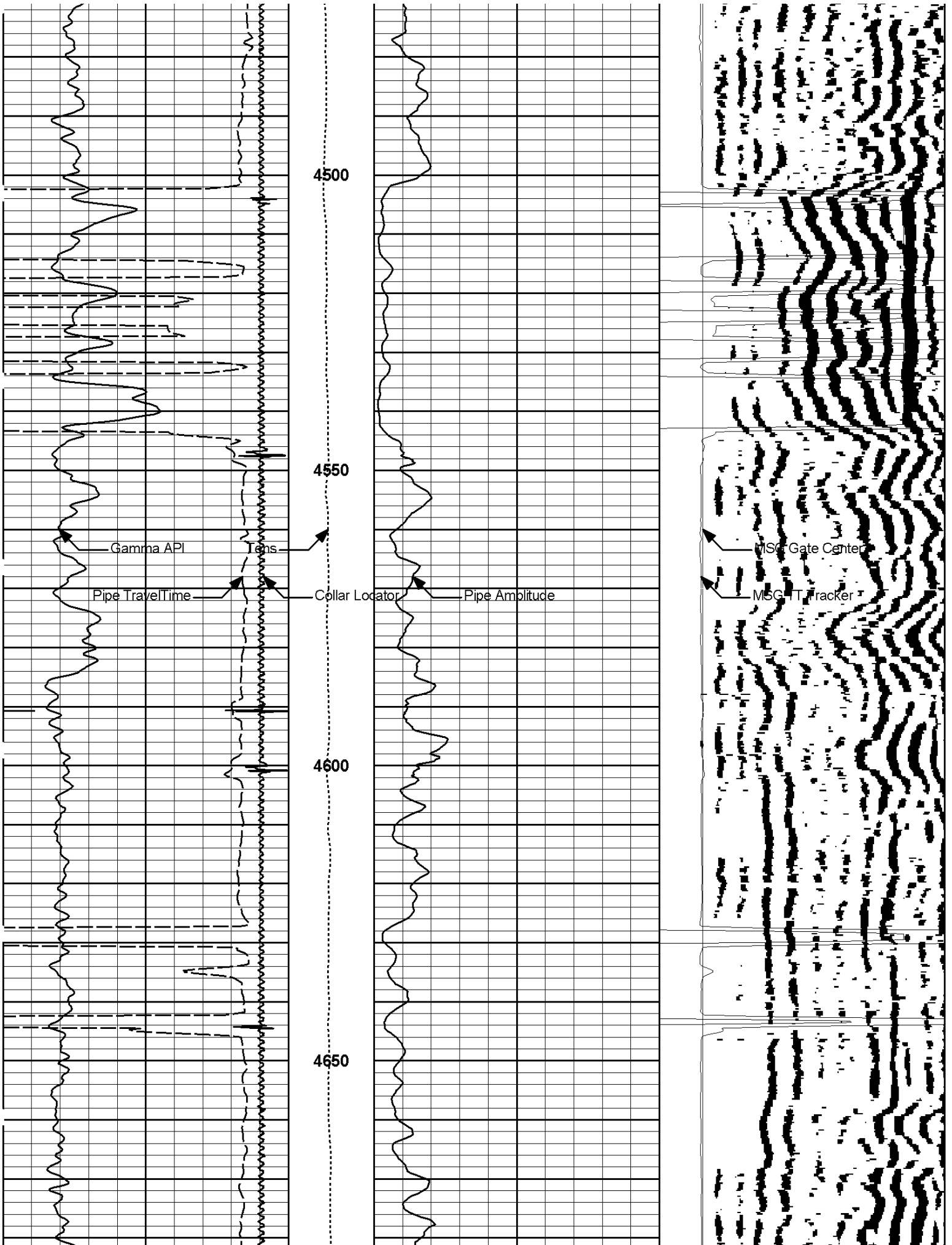
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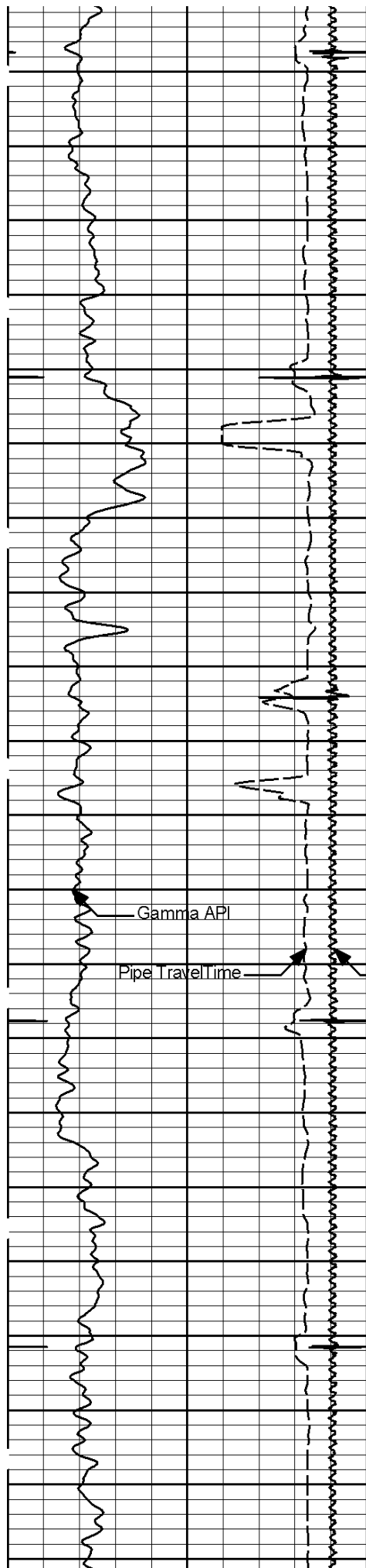
4050











4700

4750

4800

4850

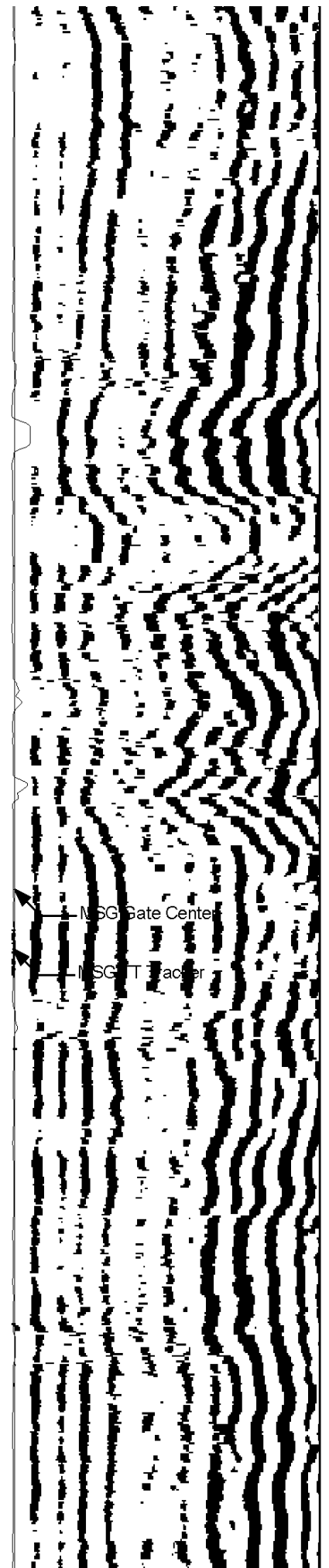
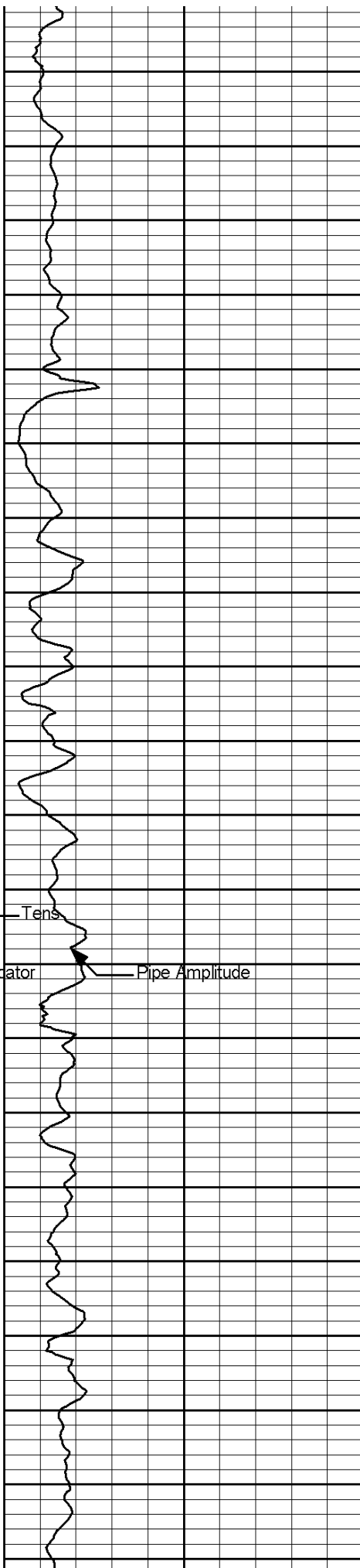
Gamma API

Pipe Travel Time

Collar Locator

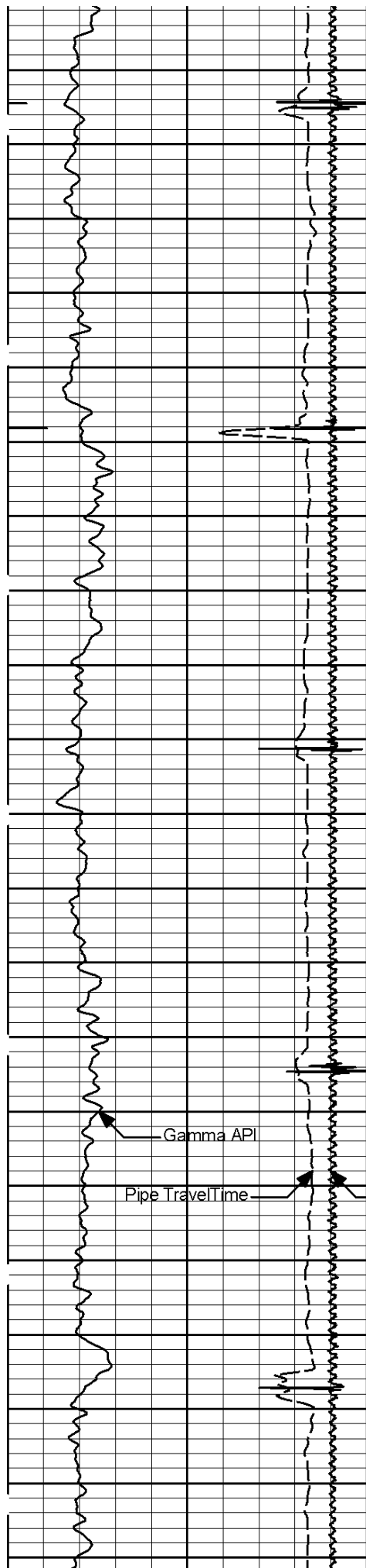
Tens

Pipe Amplitude



MSG Gate Center

MSG T Factor



4900

4950

5000

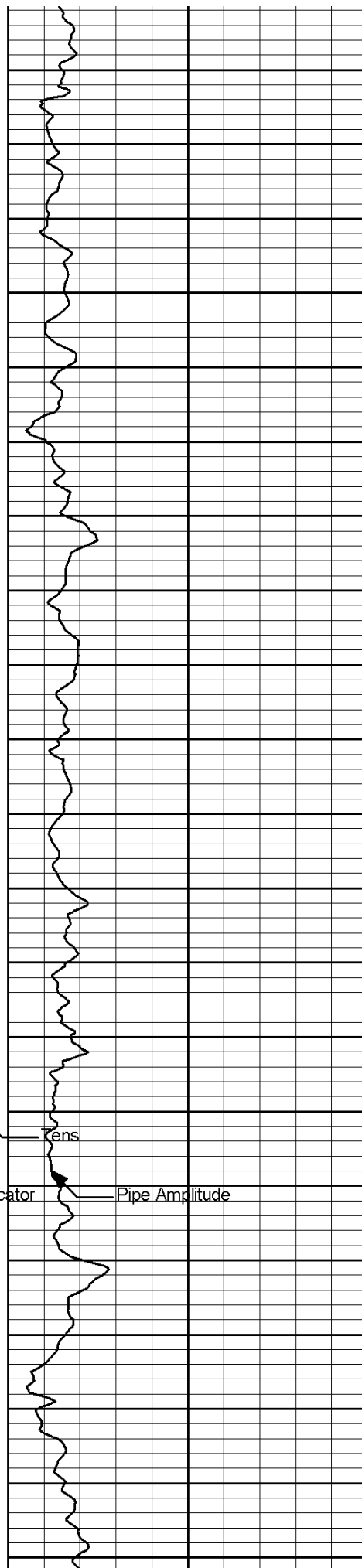
5050

5100

Gamma API

Pipe Travel Time

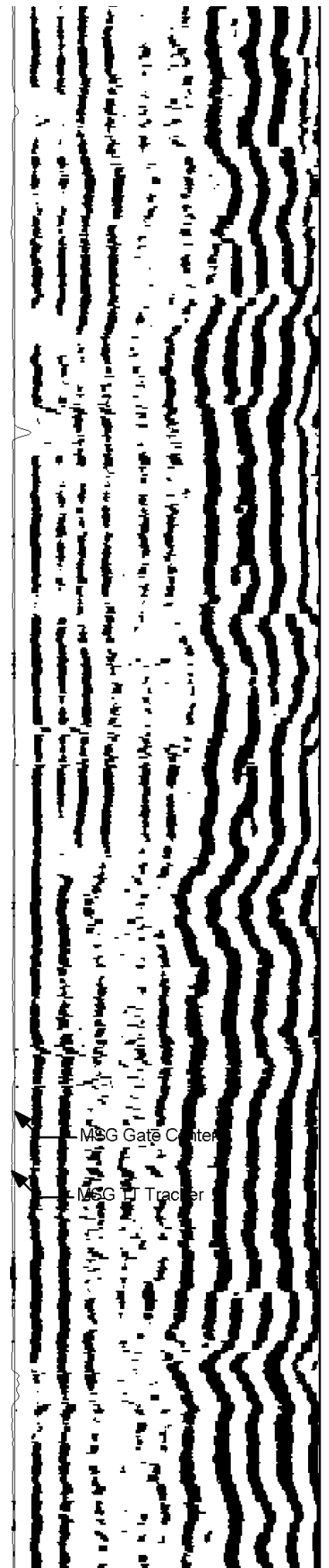
Collar



Tens

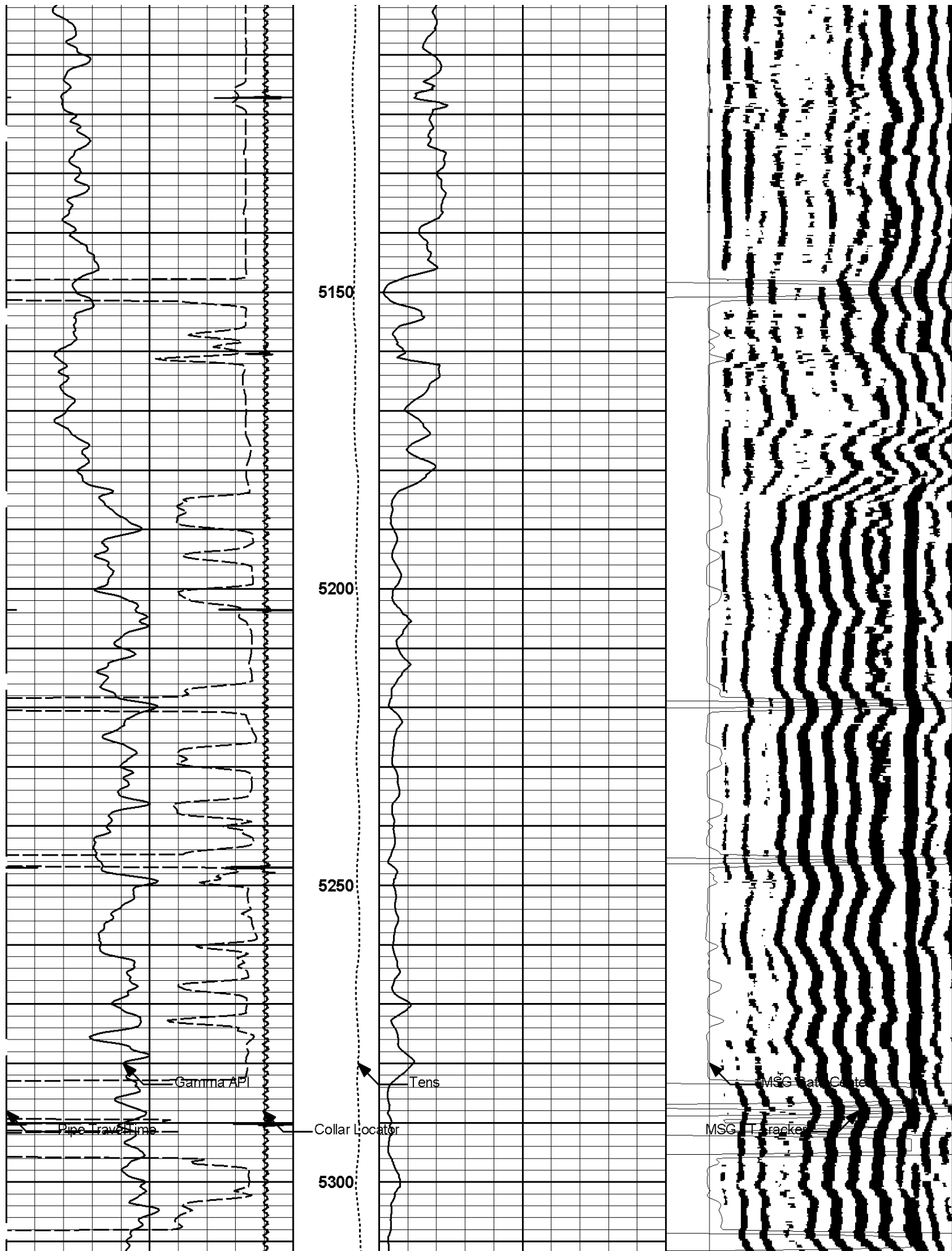
Pipe Amplitude

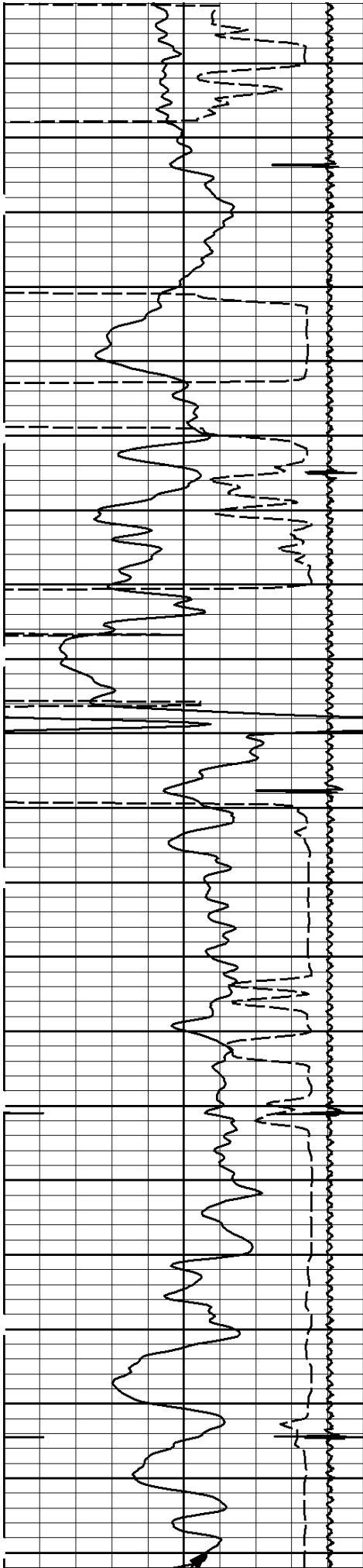
Locator



MSG Gate Center

MSG L Tracker



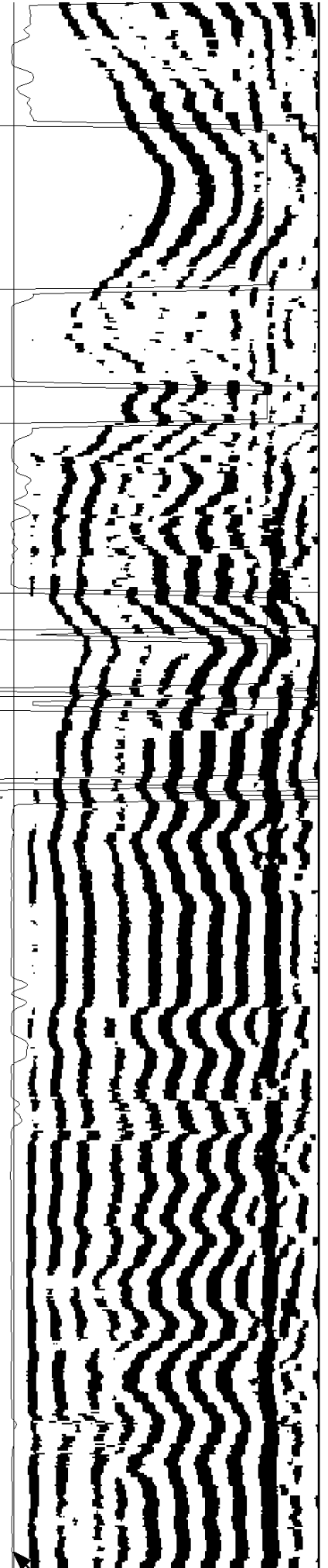
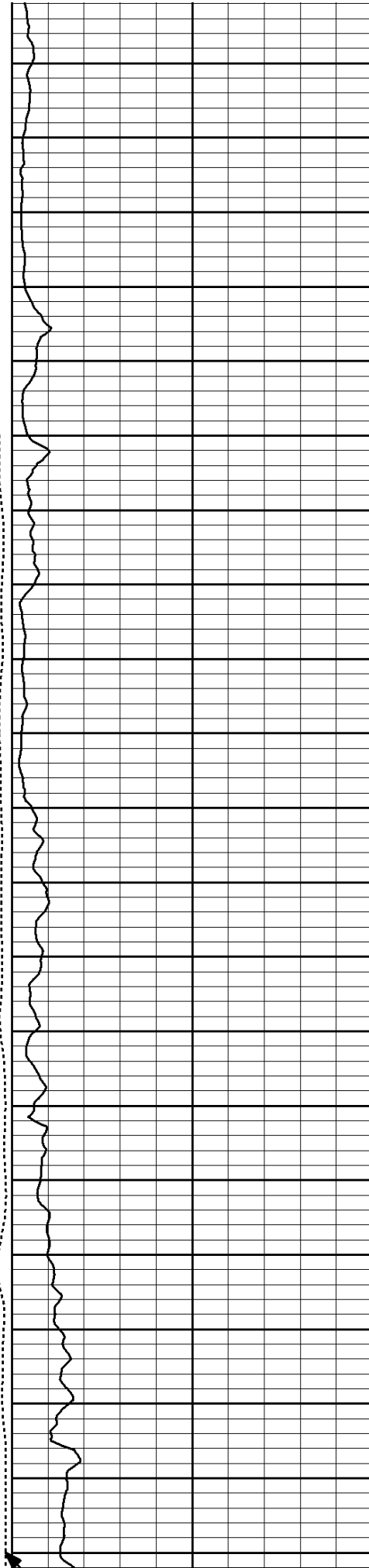


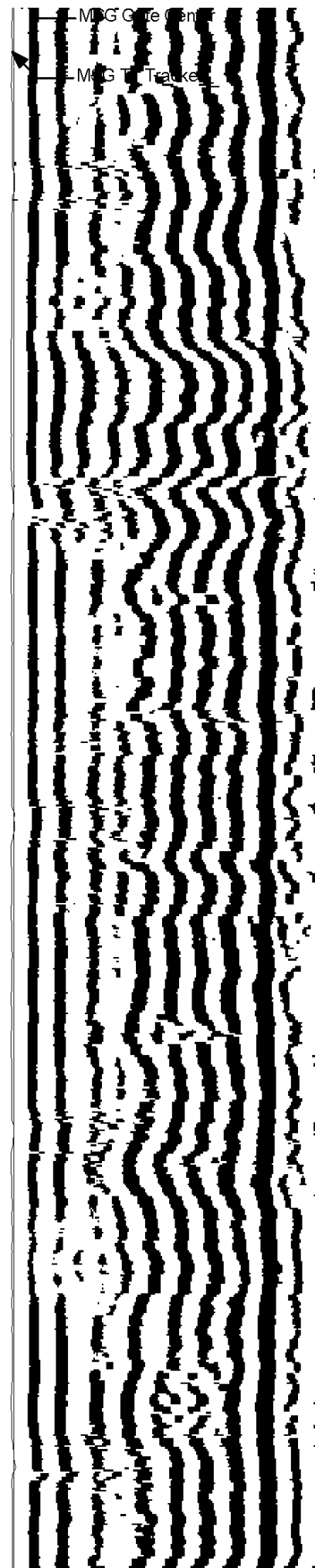
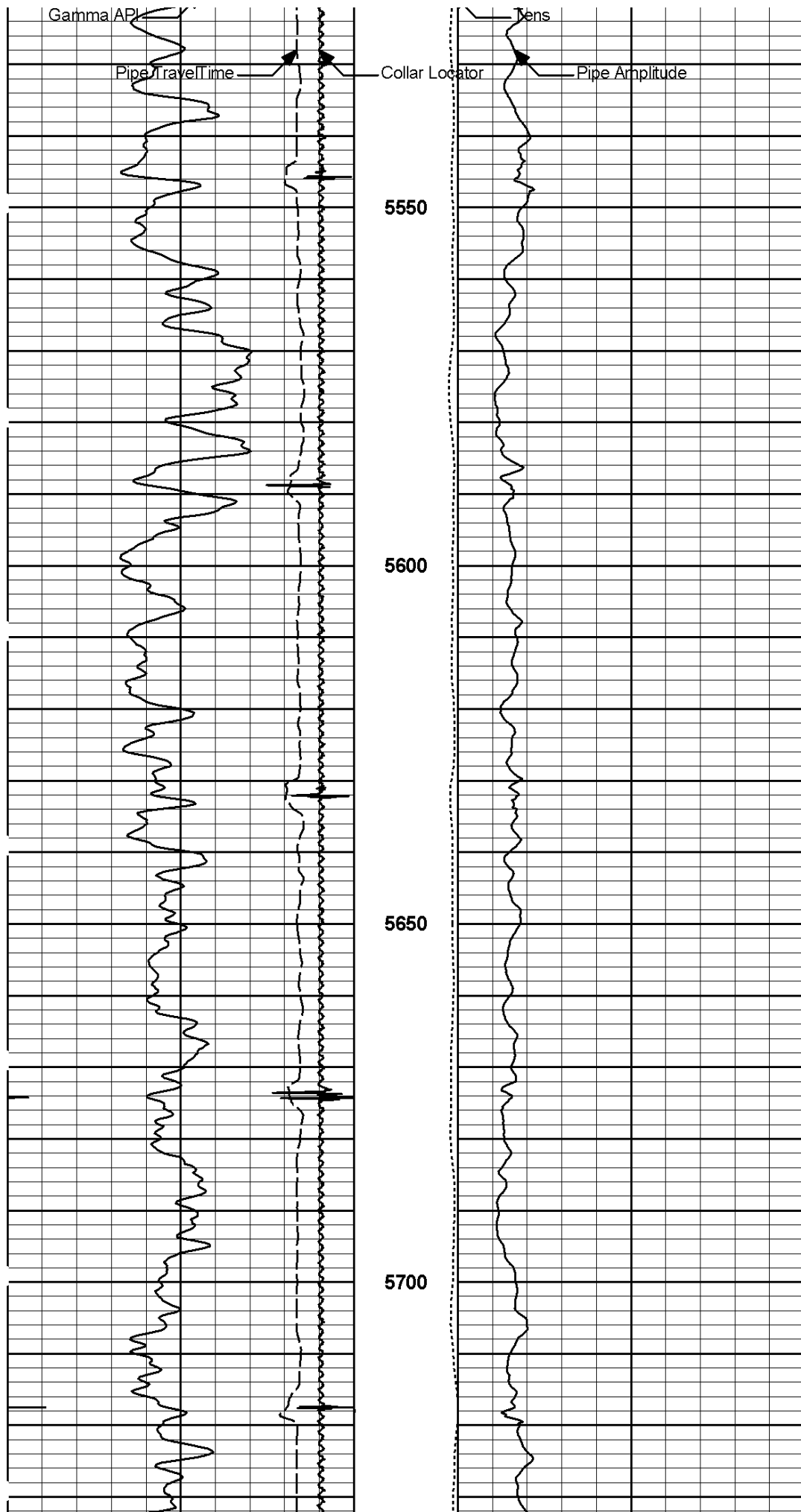
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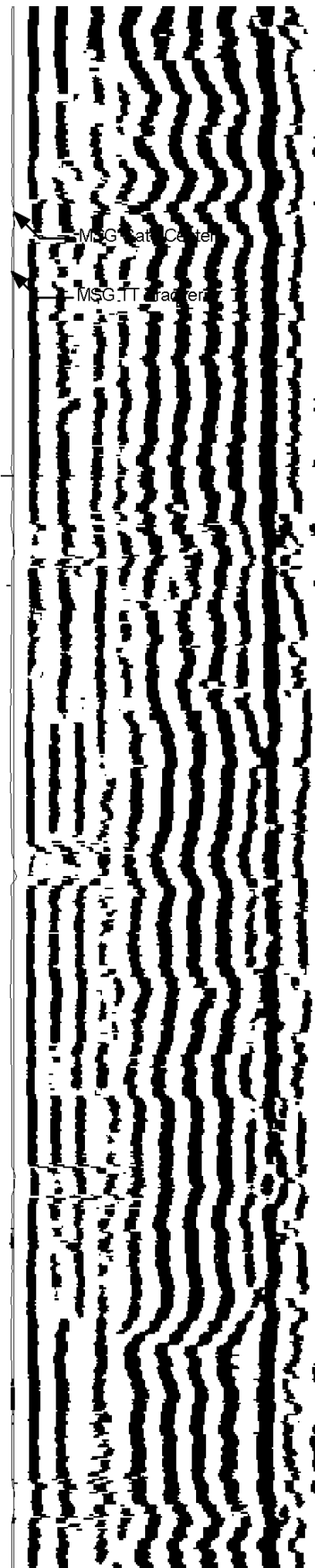
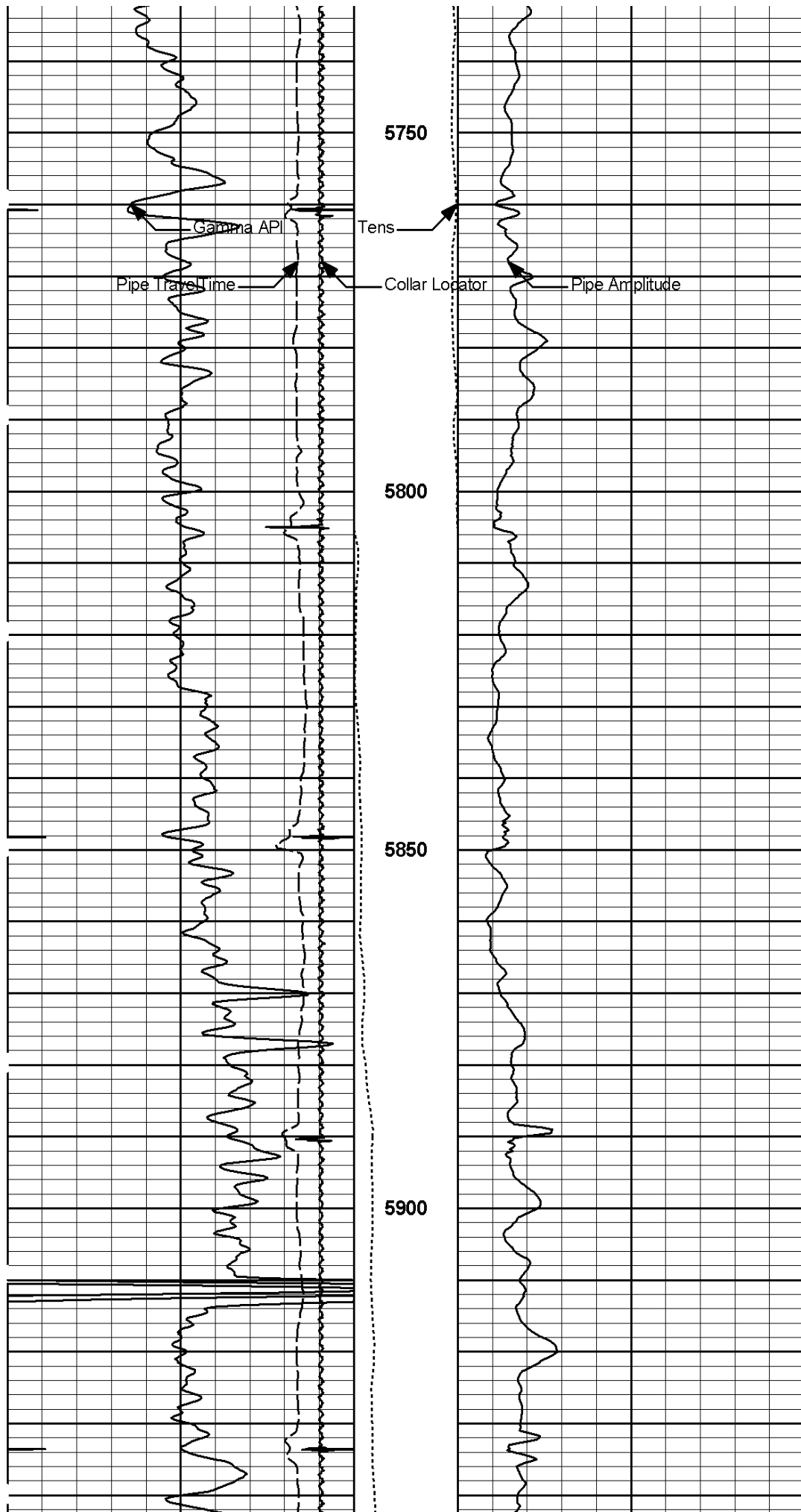
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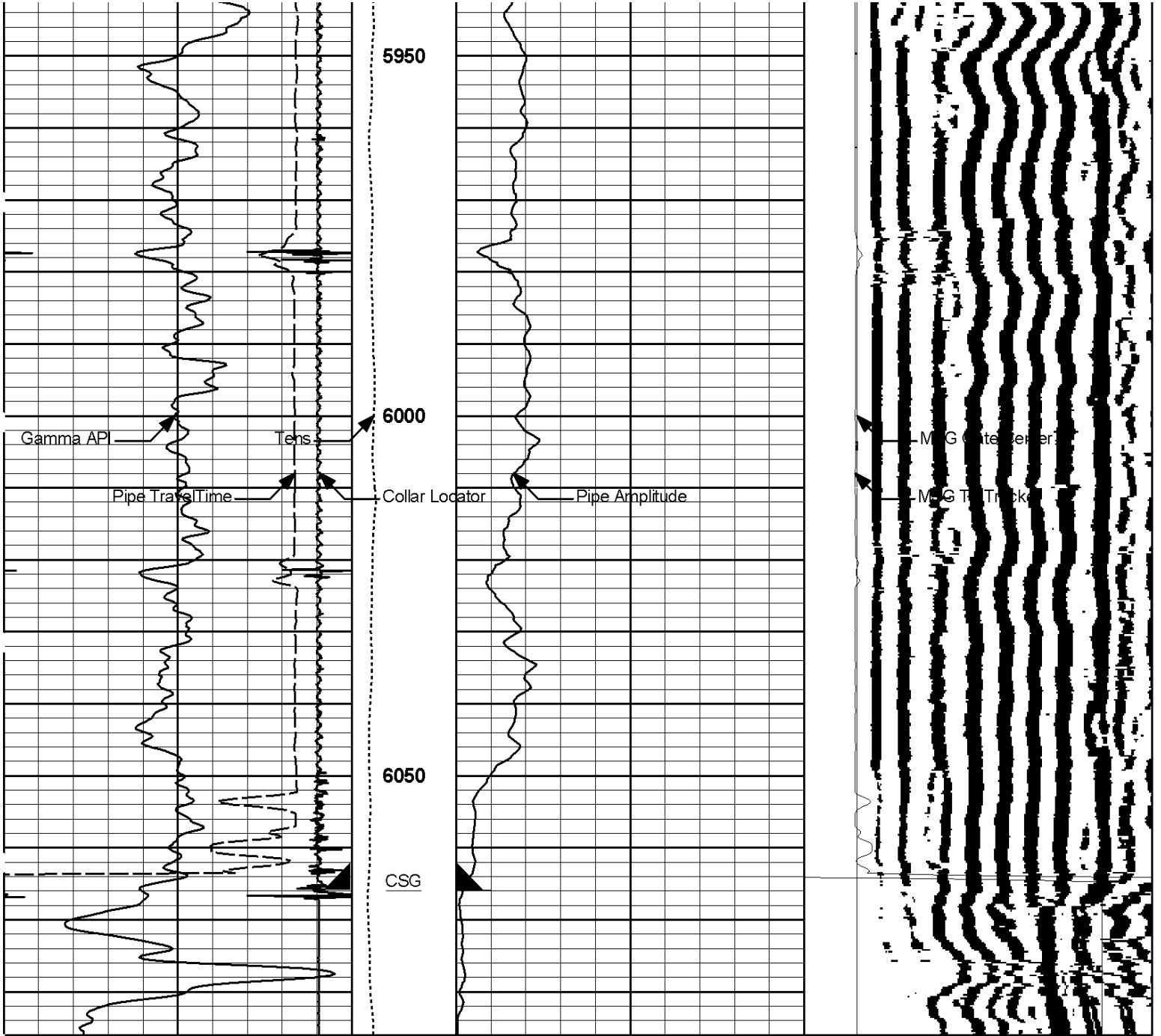
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5500







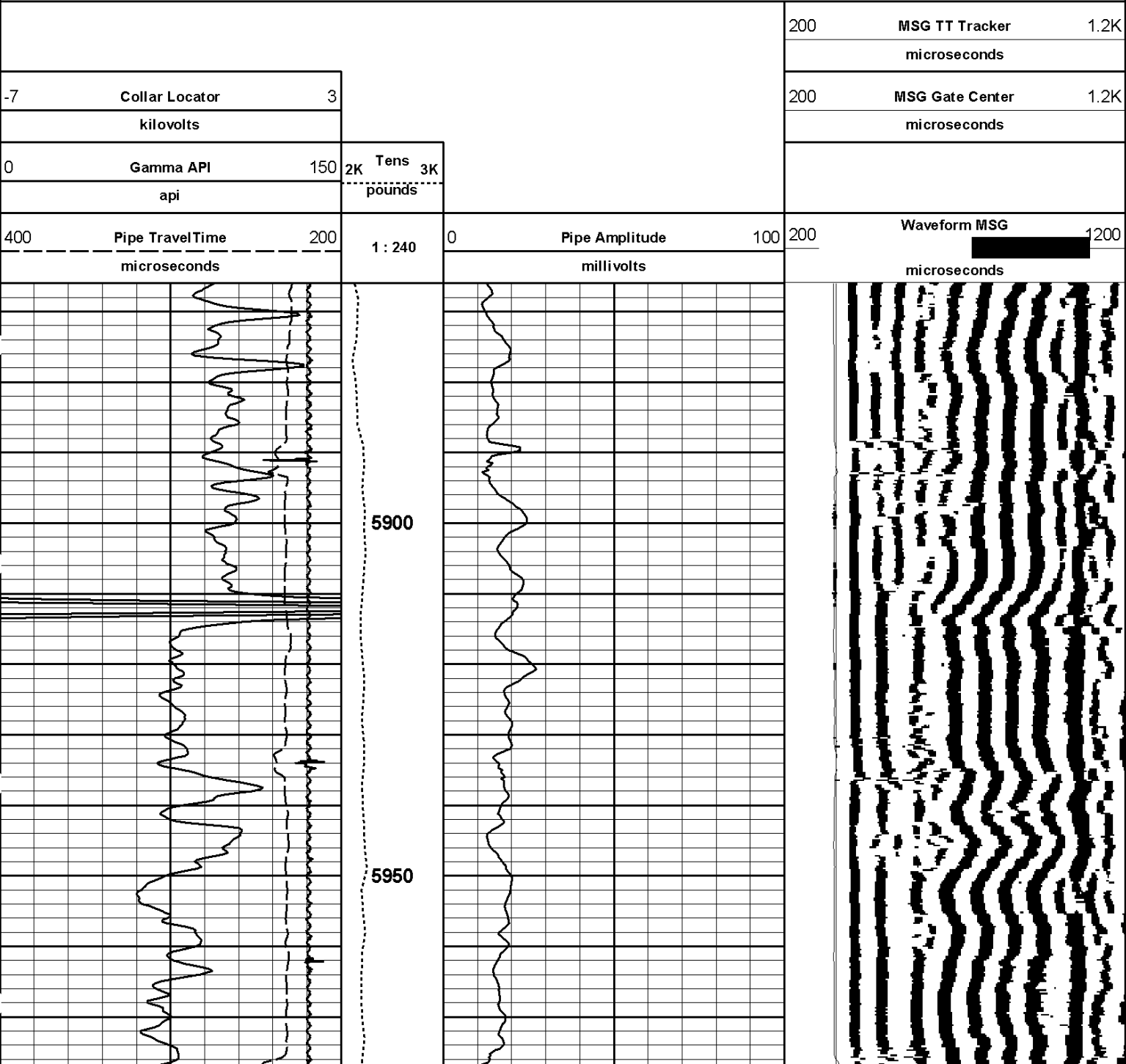


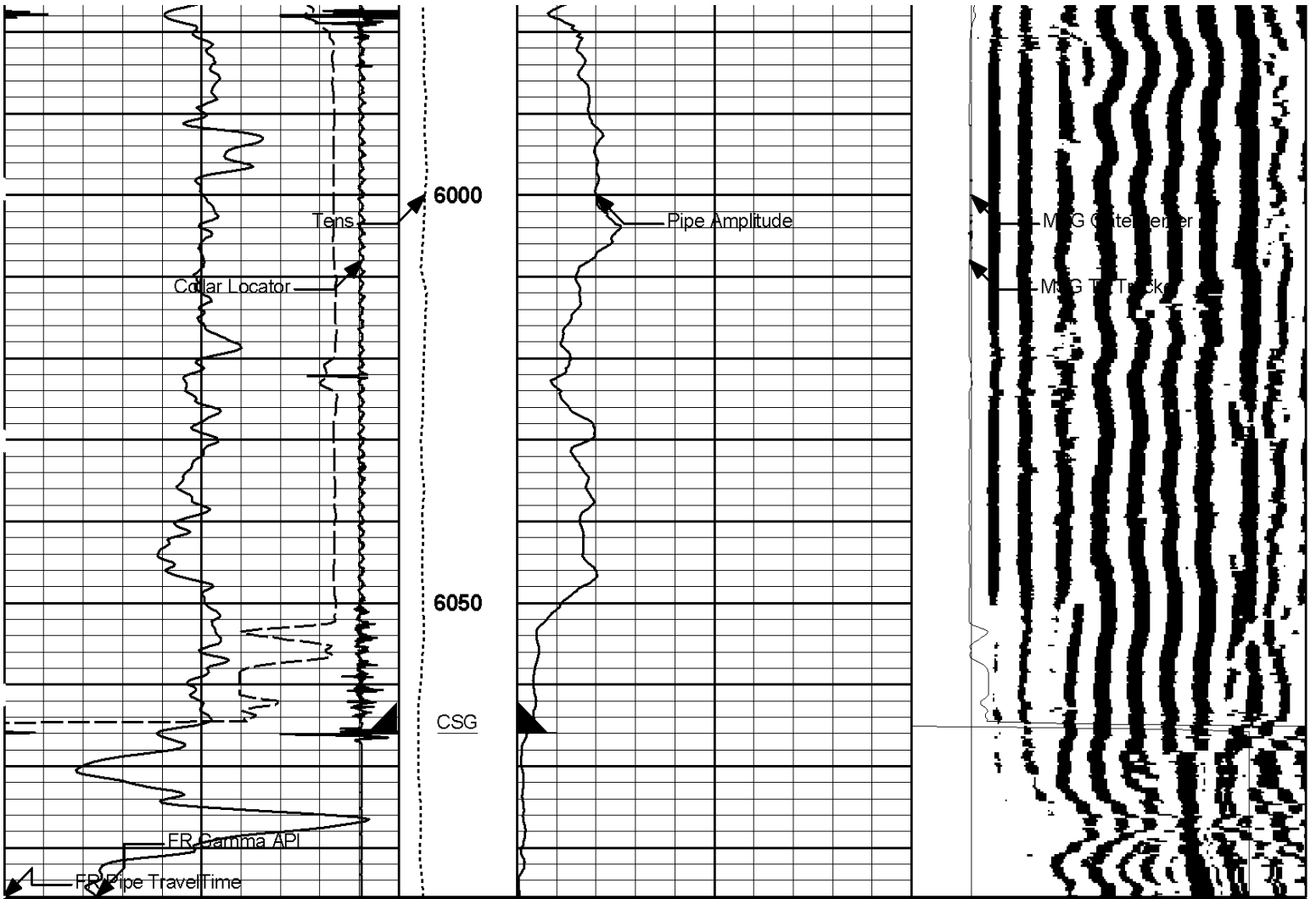
400	Pipe TravelTime	200	1 : 240	0	Pipe Amplitude	100	200	Waveform MSG	1200
	microseconds				millivolts				
0	Gamma API	150	2K Tens 3K pounds						
	api								
-7	Collar Locator	3					200	MSG Gate Center	1.2K
	kilovolts							microseconds	
							200	MSG TT Tracker	1.2K
								microseconds	

Plot Time: 18-Mar-09 21:46:10
 Plot Range: 610 ft to 6086 ft
 Data: CHV_UP_59_27A\Well Based**
 Plot File: \\(not saved)\FWS CBL 1_240

Plot Time: 18-Mar-09 21:46:10
Plot Range: 5866 ft to 6086 ft
Data: CHV_UP_59_27A\Well Based**
Plot File: \\(not saved)\FWS CBL 1_240

REPEAT PASS 5" = 100'





400	Pipe TravelTime	200	1 : 240	0	Pipe Amplitude	100	200	Waveform MSG	1200
	microseconds				millivolts			microseconds	
0	Gamma API	150	2K Tens 3K						
	api		pounds						
-7	Collar Locator	3					200	MSG Gate Center	1.2K
	kilovolts							microseconds	
							200	MSG TT Tracker	1.2K
								microseconds	

Plot Time: 18-Mar-09 21:46:11
 Plot Range: 5866 ft to 6086 ft
 Data: CHV_UP_59_27A\Well Based**
 Plot File: \\(not saved)\FWS CBL 1_240

REPEAT PASS 5" = 100'

CALIBRATION REPORT

DITS 4 TELEMETRY GAMMA SHOP CALIBRATION (GIBRALTAR)

Tool Name: D4TGX - 044

Reference Calibration Date: 15-Dec-06 20:41:52

Engineer: M. LEE

Calibration Date: 06-Feb-09 03:09:06

Software Version: WL INSITE R2.4 (Build 1)

Calibration Version: 1

Calibrator Source S/N: TB-110

Calibrator API Reference:239.00 api

Measurement	Measured	Calibrated	Units
Background	36.8	35.4	api
Background + Calibrator	285.0	274.4	api
Calibrator	237.6	239.0	api

DITS 4 TELEMETRY GAMMA FIELD CALIBRATION (GIBRALTAR)

Tool Name: D4TGX - 044

Reference Calibration Date: 06-Feb-09 03:09:06

Engineer: K. WOOD

Calibration Date: 18-Mar-09 15:05:27

Software Version: WL INSITE R2.4 (Build 11)

Calibration Version: 1

Calibrator Source S/N: TB-110

Calibrator API Reference:239.00 api

Field Verification	Shop	Field	Units
Background	35.4	47.1	api
Background + Calibrator	274.4	288.5	api
Calibrator	239.0	241.4	api

Shop	Field	Difference	Tolerance
239.0	241.4	-2.4	+/- 9.00

DITS 4 TELEMETRY GAMMA POST CALIBRATION (GIBRALTAR)

Tool Name: D4TGX - 044

Reference Calibration Date: 18-Mar-09 15:05:27

Engineer: K. WOOD

Calibration Date: 18-Mar-09 21:40:43

Software Version: WL INSITE R2.4 (Build 11)

Calibration Version: 1

Calibrator Source S/N: TB-110

Calibrator API Reference:239.00 api

Post Verification	Field	Post	Units
Background	47.1	48.8	api
Background + Calibrator	288.5	283.0	api
Calibrator	241.4	234.2	api

Shop	Field	Post	Difference	Tolerance
239.0	241.4	234.2	7.2	+/- 9.00

CBL-M305 SHOP CALIBRATION

Tool Name: CBL-M305 - FWSS0070

Reference Calibration Date: 06-Jul-08 21:00:58

Engineer: K. WOOD

Calibration Date: 18-Mar-09 16:56:30

Software Version: WL INSITE R2.4 (Build 11)

Calibration Version: 1

Calibration Type: Well @ 627.66 ft

Calibration Depth: 627.66 ft

Casing Weight: 23.00 lbpf

Casing OD: 7.000 in

Sensor	Measured	Calibrated	Difference	Units
Amplitude Tx1	126.20	62.20	-64.00	mV
Amplitude Tx2	237.00	103.00	-134.00	mV


Pipe Reference 11	-----	237.00	-----	us
	Sensor	Raw Value	Units	
	Amplitude Tx1	7,050.90	mV	
	Pipe TT from Tx1	342.00	us	

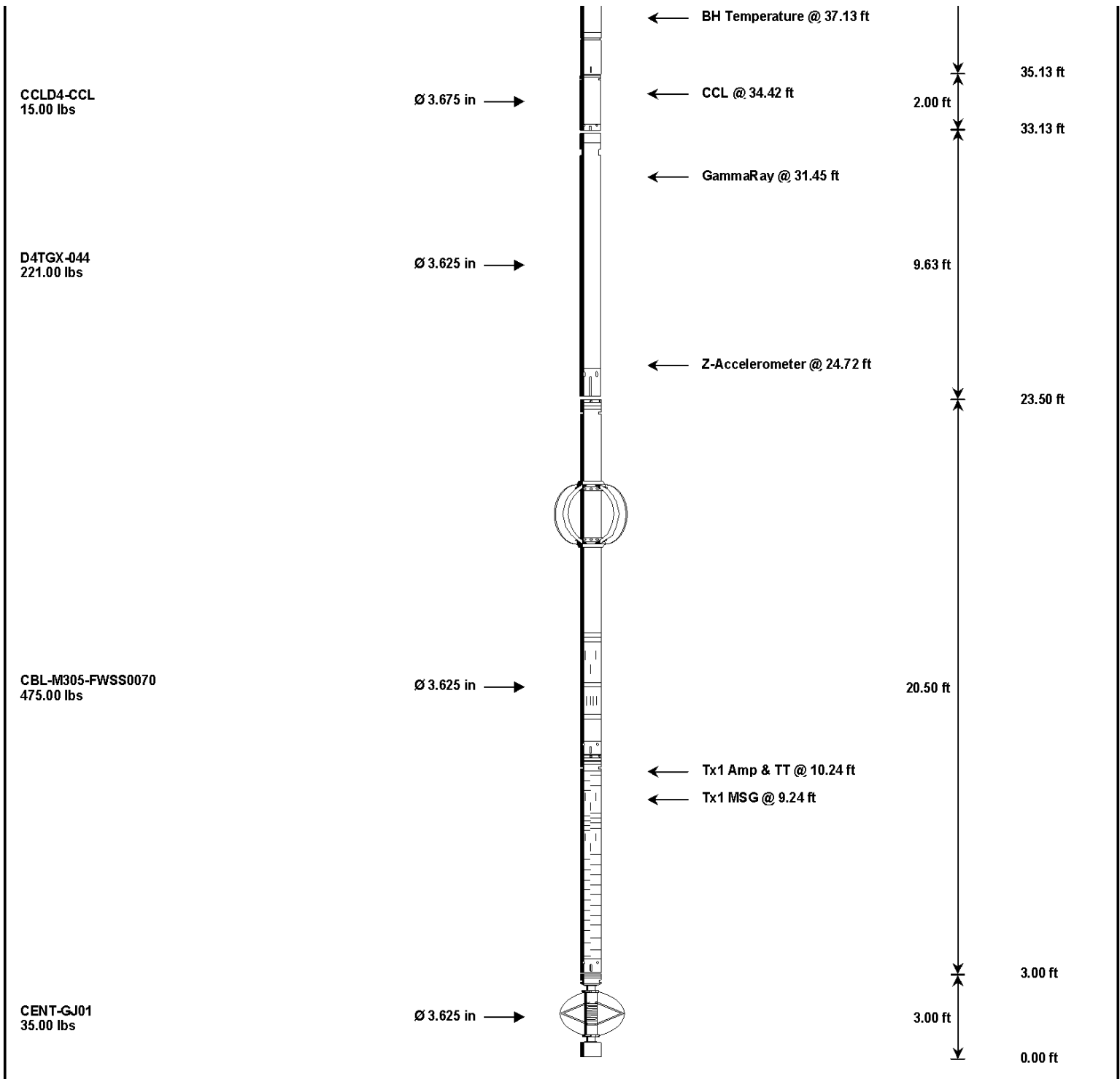
CALIBRATION SUMMARY						
Sensor	Shop	Field	Post	Difference	Tolerance	Units
D4TGX-044						
Gamma Ray Calibrator	239.0	241.4	234.2	7.2	+/- 9.00	api
Data: CHV_UP_59_27A\0003 CBL\IDLE				Date: 18-Mar-09 21:41:51		

CUSTOMER EVENT LOG						
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Event Type	Time & Date	Depth (ft)	Event Description
	18-Mar-09 16:42:31	700.25	Logging 001 18-Mar-09 16:42 Up @700.3f
	18-Mar-09 16:49:49	595.34	Halting 001 18-Mar-09 16:42 Up @700.3f
	18-Mar-09 16:59:50	1089.75	Logging 002 18-Mar-09 16:59 Dn @1089.8f
	18-Mar-09 17:24:29	5996.11	Halting 002 18-Mar-09 16:59 Dn @1089.8f
	18-Mar-09 17:25:27	5950.25	Logging 003 18-Mar-09 17:25 Dn @5950.3f
	18-Mar-09 17:26:49	6108.52	Halting 003 18-Mar-09 17:25 Dn @5950.3f
	18-Mar-09 17:27:13	6065.75	Logging 004 18-Mar-09 17:27 Dn @6065.8f
	18-Mar-09 17:28:02	6152.09	Halting 004 18-Mar-09 17:27 Dn @6065.8f
	18-Mar-09 17:28:09	6152.25	Logging 005 18-Mar-09 17:28 Up @6152.3f
	18-Mar-09 17:32:56	6085.10	Halting 005 18-Mar-09 17:28 Up @6152.3f
	18-Mar-09 17:33:22	6089.25	Logging 006 18-Mar-09 17:33 Up @6089.3f
	18-Mar-09 17:38:05	5966.45	Halting 006 18-Mar-09 17:33 Up @6089.3f
	18-Mar-09 17:40:05	6182.00	Logging 007 18-Mar-09 17:40 Up @6182.0f
	18-Mar-09 17:42:28	6150.03	Halting 007 18-Mar-09 17:40 Up @6182.0f
	18-Mar-09 17:42:54	6148.25	Logging 008 18-Mar-09 17:42 Up @6148.3f
	18-Mar-09 18:00:34	5610.94	Halting 008 18-Mar-09 17:42 Up @6148.3f
	18-Mar-09 18:01:00	5606.50	Logging 009 18-Mar-09 18:00 Dn @5606.5f
	18-Mar-09 18:03:38	6128.27	Halting 009 18-Mar-09 18:00 Dn @5606.5f
	18-Mar-09 18:03:51	6150.75	Logging 010 18-Mar-09 18:03 Up @6150.8f
	18-Mar-09 21:03:27	599.63	Halting 010 18-Mar-09 18:03 Up @6150.8f
	18-Mar-09 21:03:38	595.75	Logging 011 18-Mar-09 21:03 Up @595.8f
	18-Mar-09 21:05:33	532.19	Halting 011 18-Mar-09 21:03 Up @595.8f
Data: CHV_UP_59_27A\0003 CBL\HW11047			Date: 18-Mar-09 21:09:07

TOOL STRING DIAGRAM REPORT				
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Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
RWCH-C11013846 135.00 lbs	Ø 3.625 in →		← Load Cell @ 37.70 ft	6.25 ft ↑	41.38 ft



Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max.Log. Speed (fpm)
RWCH	Releasable Wireline Cable Head	C11013846	135.00	6.25	35.13	300.00
CCL	Casing Collar Locator D4TG	CCL	15.00	2.00	33.13	300.00
D4TGX	DITS Telemetry Gamma - Gibraltar Class	044	221.00	9.63	23.50	60.00
CBL-M305	M305 - CBL	FWSS0070	475.00	20.50	3.00	60.00
OBCEN	Centralizer - 29 in.Overbody	GJ01	12.00	2.42	*	18.17
CENT	Bottom Centralizer	GJ01	35.00	3.00	0.00	300.00
Total			893.00	41.38		
* Not included in Total Length and Length Accumulation.						
Data: CHV_UP_59_27A\0003 CBL\IDLE					Date: 18-Mar-09 14:44:26	

COMPANY		SHEVEN	
WELL	UP 59-27A		
FIELD	RANGELY		
COUNTY	RIO BLANCO	STATE	CO
HALLIBURTON		CEMENT BOND LOG	