



**BOREHOLE COMPENSATED
SONIC W/ VDL LOG
AND LOG DERIVED TDS**

Company CH2M HILL
Well IW-1
Field BISCAYNE LANDING, NORTH MIAMI
County DADE
State FLORIDA

Company CH2M HILL
Well IW-1
Field BISCAYNE LANDING, NORTH MIAMI
County DADE State FLORIDA

Location: API # : Other Services
SEC TWP RGE
Permanent Datum PAD Elevation PAD
Log Measured From PAD
Drilling Measured From PAD
Elevation
K.B.
D.F.
G.L.

Date	07-MAR-2012			
Run Number	SIX			
Depth Driller	1780'			
Depth Logger	1780'			
Bottom Logged Interval	1780'			
Top Log Interval	CASING			
Open Hole Size	12.25"			
Type Fluid	WATER			
Density / Viscosity	NA			
Max. Recorded Temp.	NA			
Estimated Cement Top	NA			
Time Well Ready	ON ARRIVAL			
Time Logger on Bottom	1120			
Equipment Number	103			
Location	FT MYERS			
Recorded By	GARCIA			
Witnessed By	M. SCHILLING			
Borehole Record		Borehole Record		
Run Number	Bit	From	To	Run No
ONE	12.25"	SURFACE	375'	FIVE
TWO	52.5"	CASING	348'	
THREE	12.25"	CASING	1050'	
FOUR	42.5"	CASING	954'	
Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	54"	.375" W.T.	SURFACE	56'
Prot. String	44"	.375" W.T.	SURFACE	345'
Production String	36"	.375" W.T.	SURFACE	950'
Liner				

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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

XY CALIPER/ GAMMA RAY
FLUID RESISTIVITY
DUAL INDUCTION
FLOWMETER
BHTV

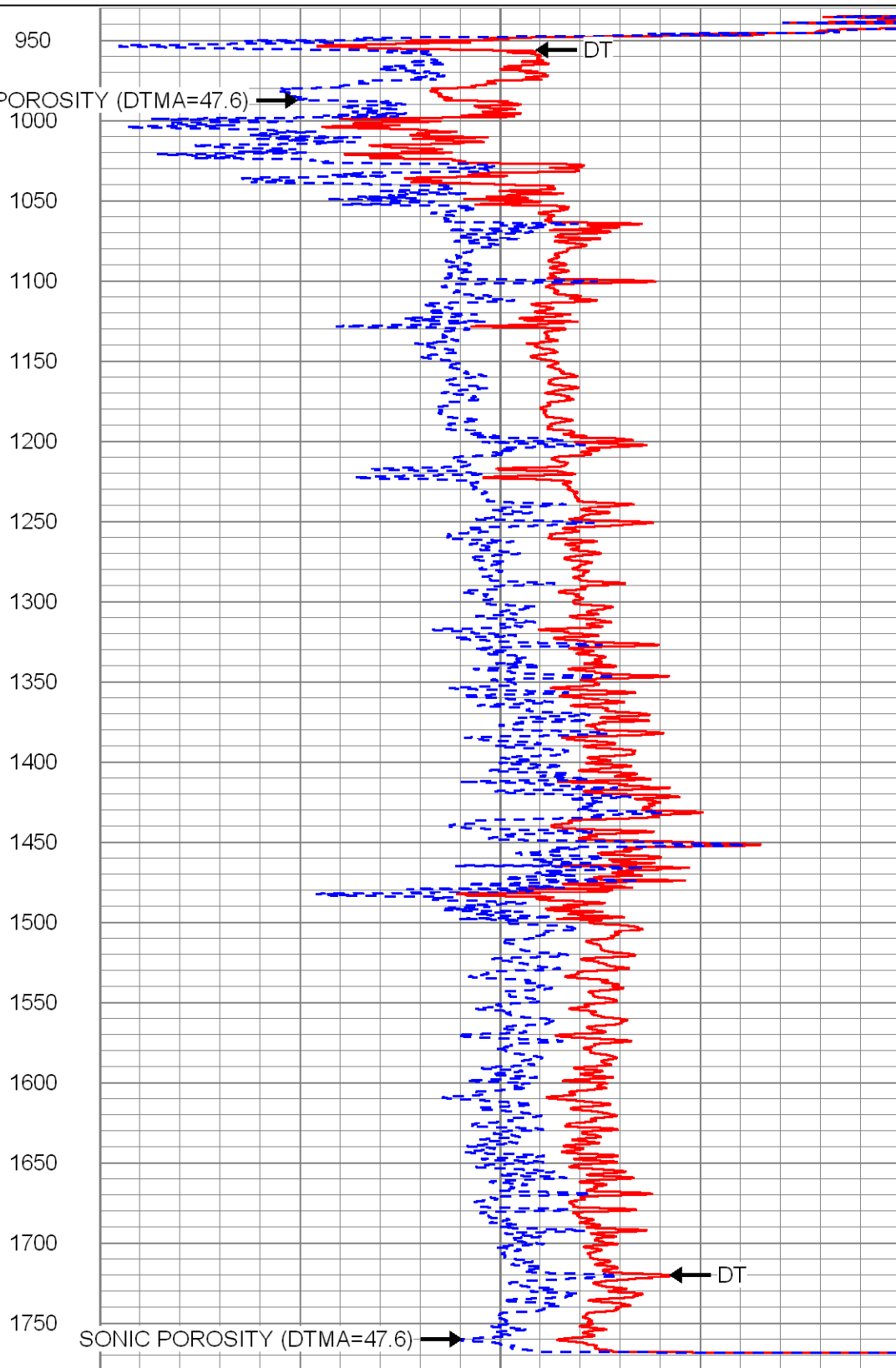
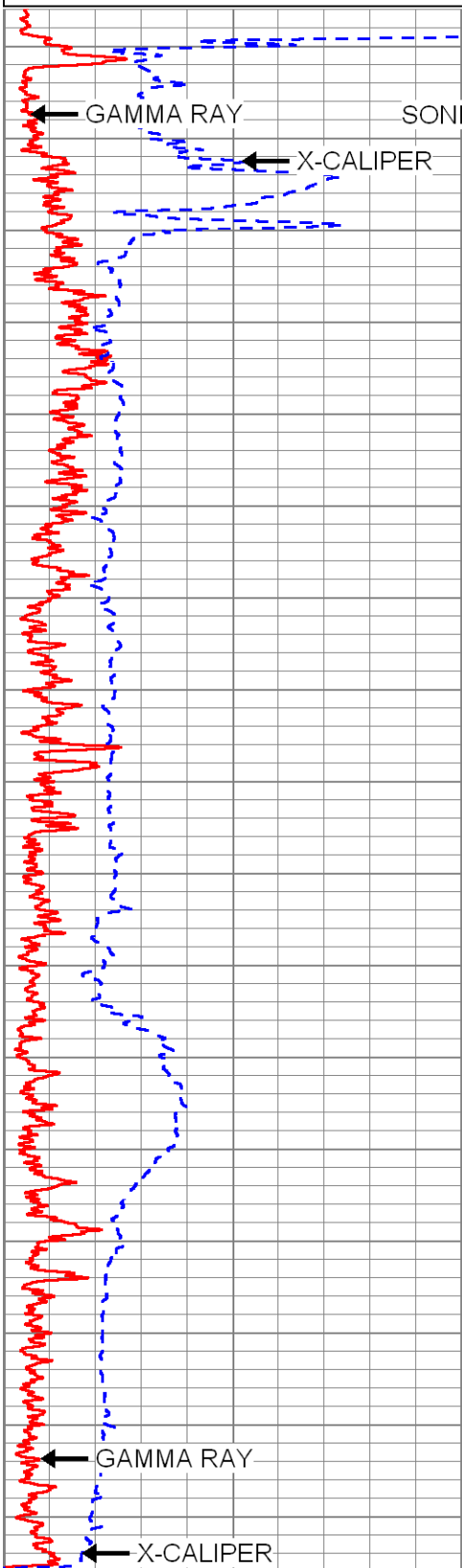


MAIN PASS

Database File: bisciw1.db
 Dataset Pathname: run6/pass11
 Presentation Format: son_por
 Dataset Creation: Wed Mar 07 14:47:02 2012 by Log SOC 110722
 Charted by: Depth in Feet scaled 1:1200

0	GAMMA RAY (GAPI)	100
10	X-CALIPER (in)	30

240	DT (usec/ft)	40
100	SONIC POROSITY (DTMA=47.6) (pu)	0



0	GAMMA RAY (GAPI)	100
10	X-CALIPER (in)	30

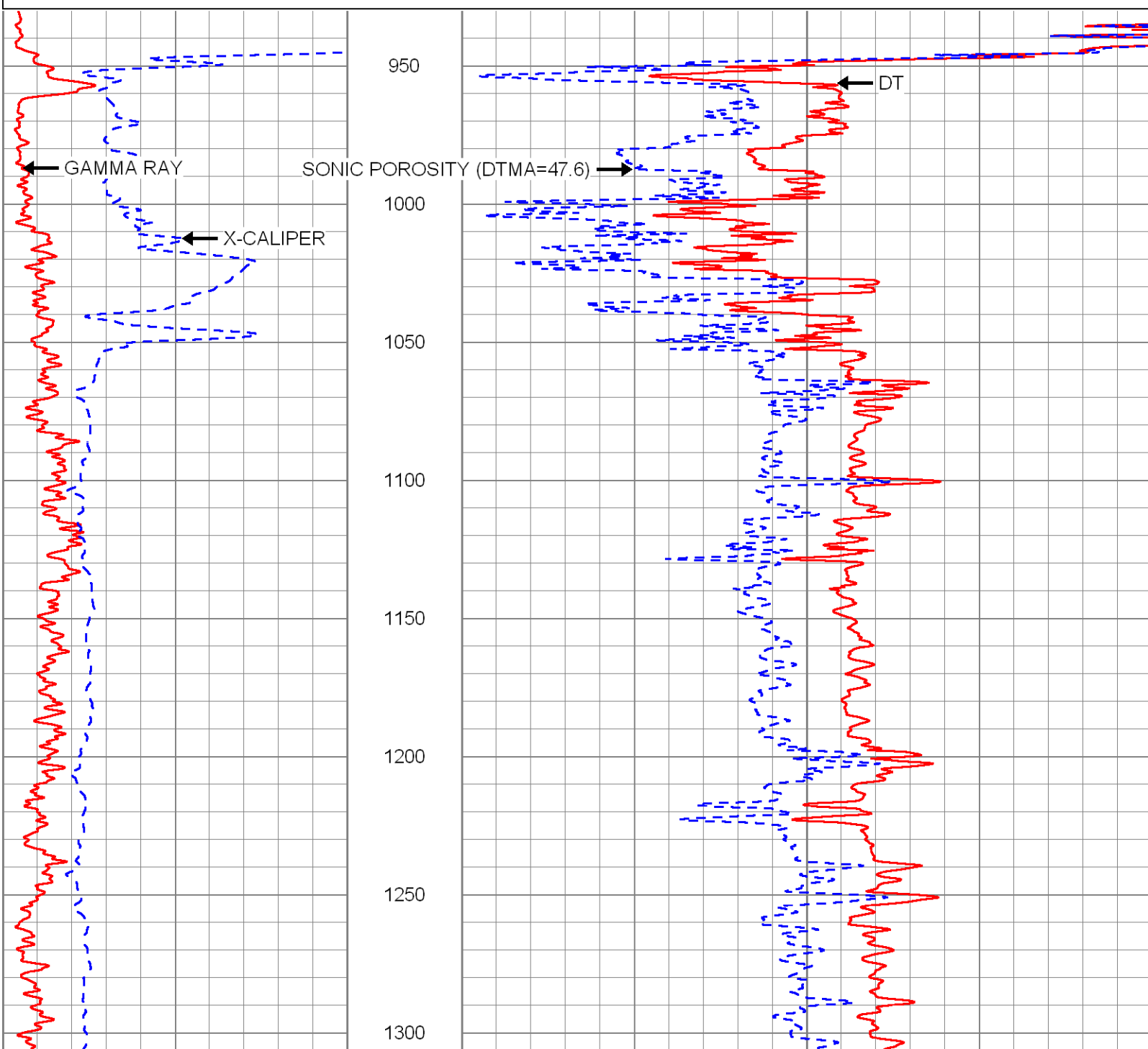
240	DT (usec/ft)	40
100	SONIC POROSITY (DTMA=47.6) (pu)	0

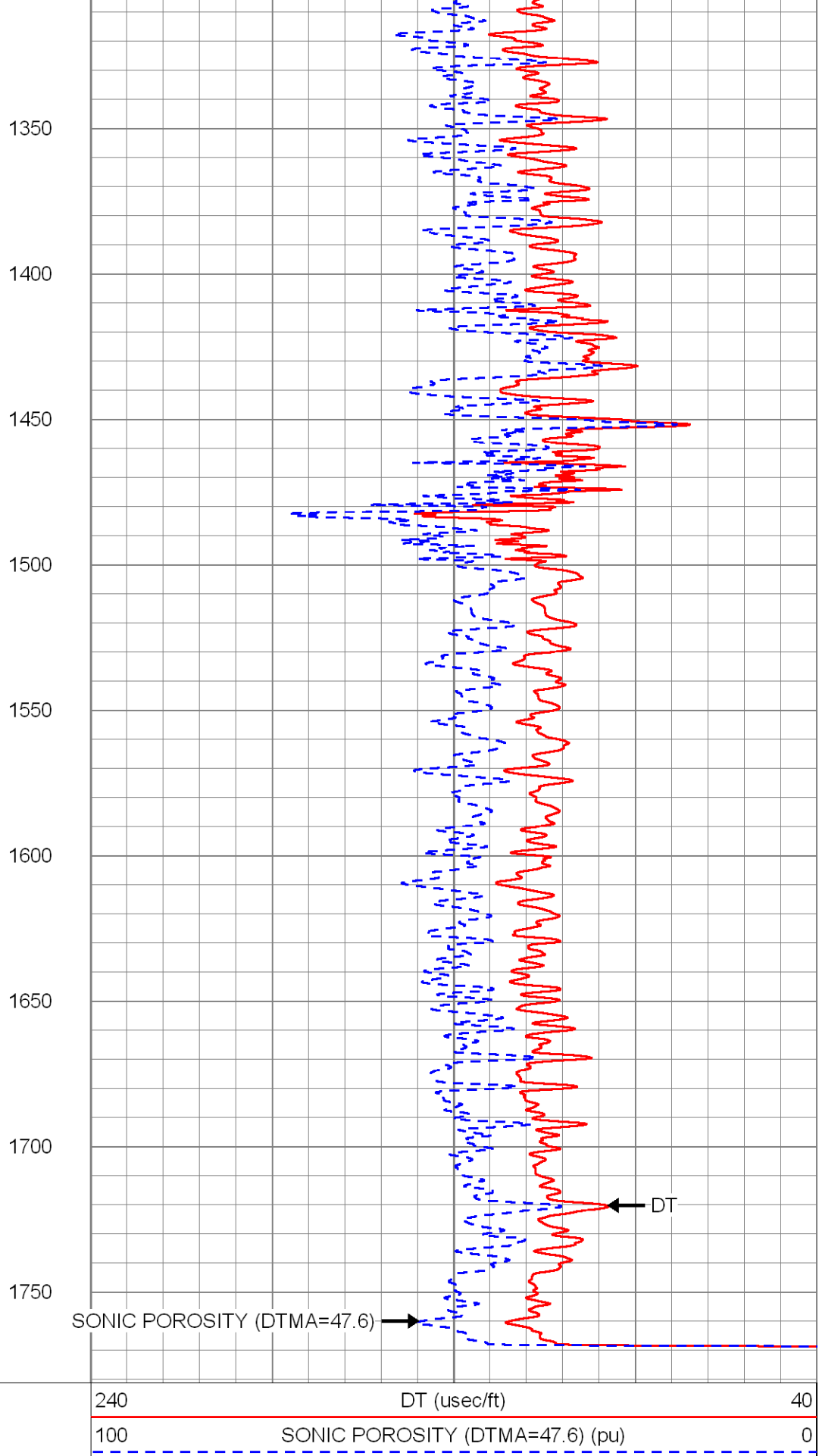
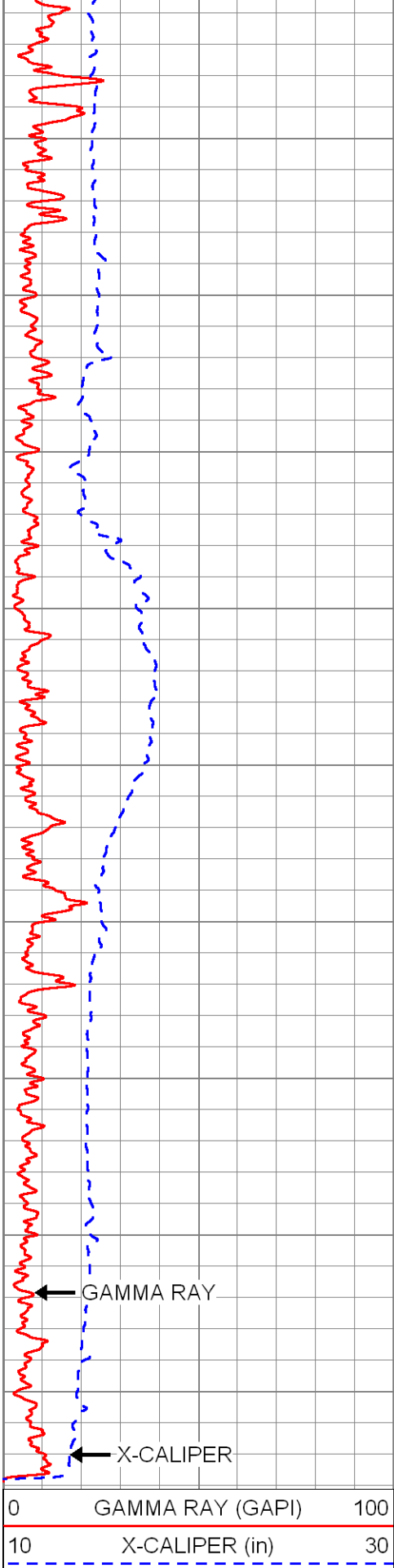


MAIN PASS

Database File: bisciw1.db
Dataset Pathname: run6/pass11
Presentation Format: son_por
Dataset Creation: Wed Mar 07 14:47:02 2012 by Log SOC 110722
Charted by: Depth in Feet scaled 1:600

0	GAMMA RAY (GAPI)	100	240	DT (usec/ft)	40
10	X-CALIPER (in)	30	100	SONIC POROSITY (DTMA=47.6) (pu)	0

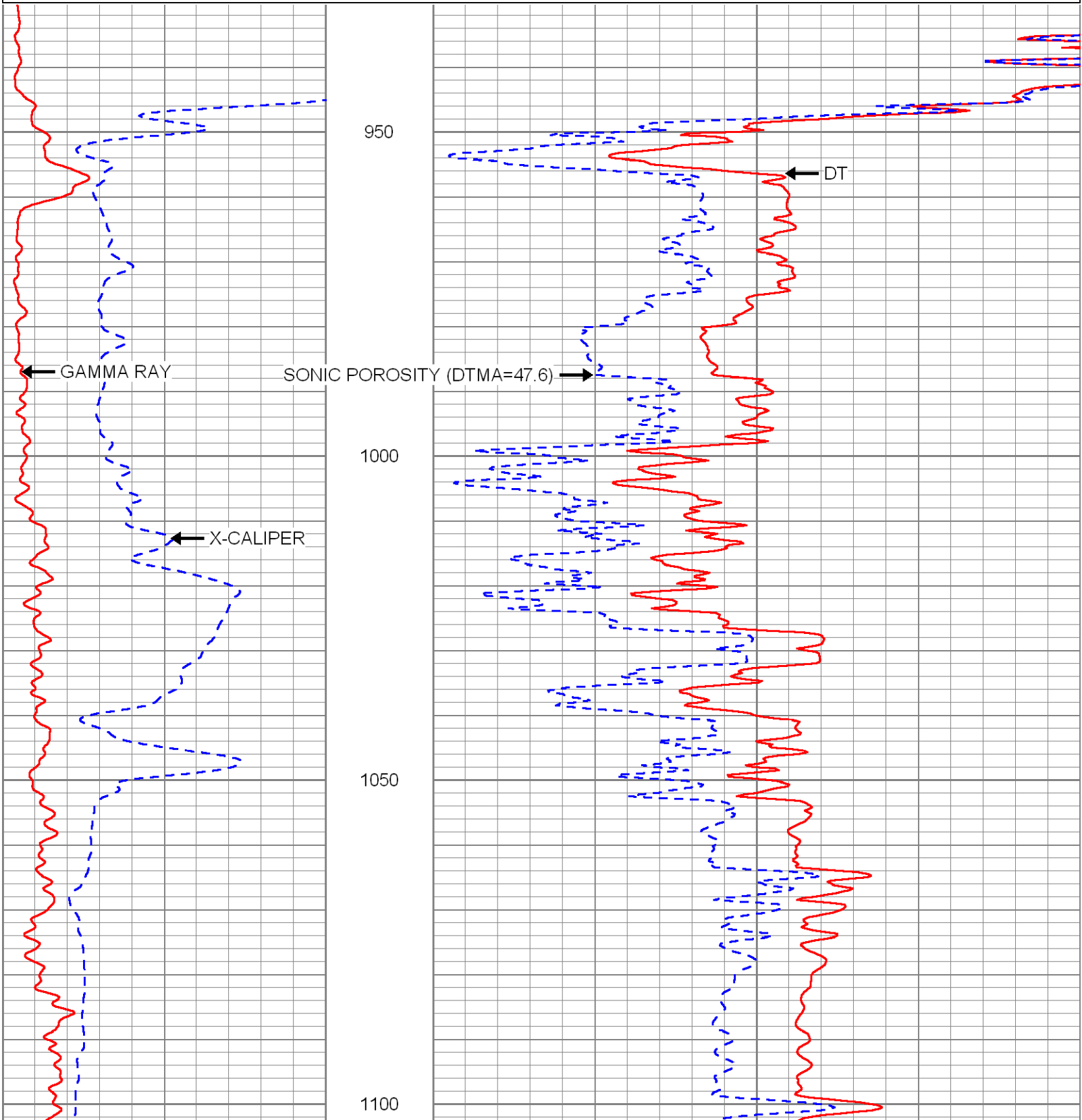


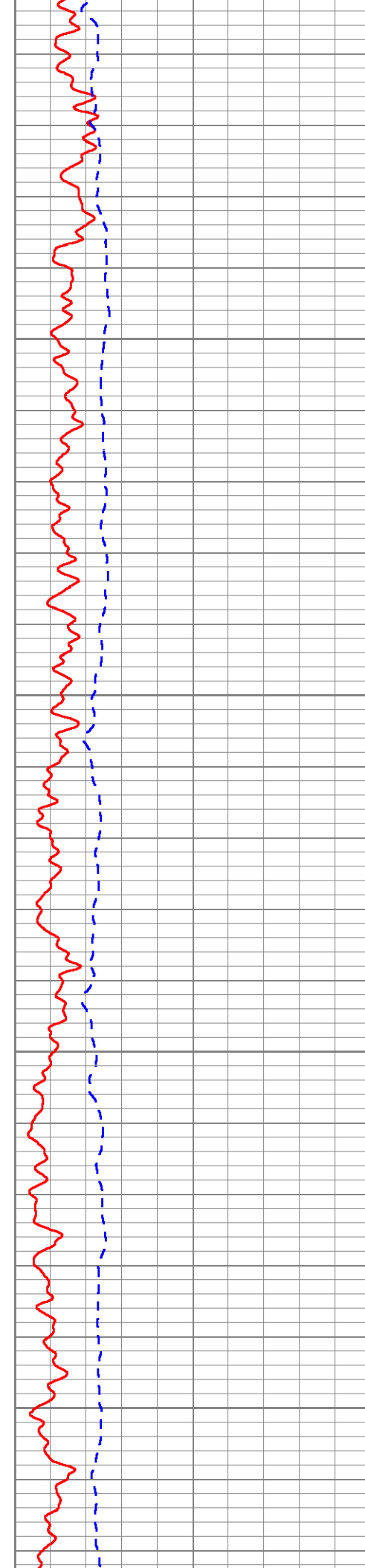


Database File: bisciw1.db
 Dataset Pathname: run6/pass11
 Presentation Format: son_por
 Dataset Creation: Wed Mar 07 14:47:02 2012 by Log SOC 110722
 Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	100
10	X-CALIPER (in)	30

240	DT (usec/ft)	40
100	SONIC POROSITY (DTMA=47.6) (pu)	0



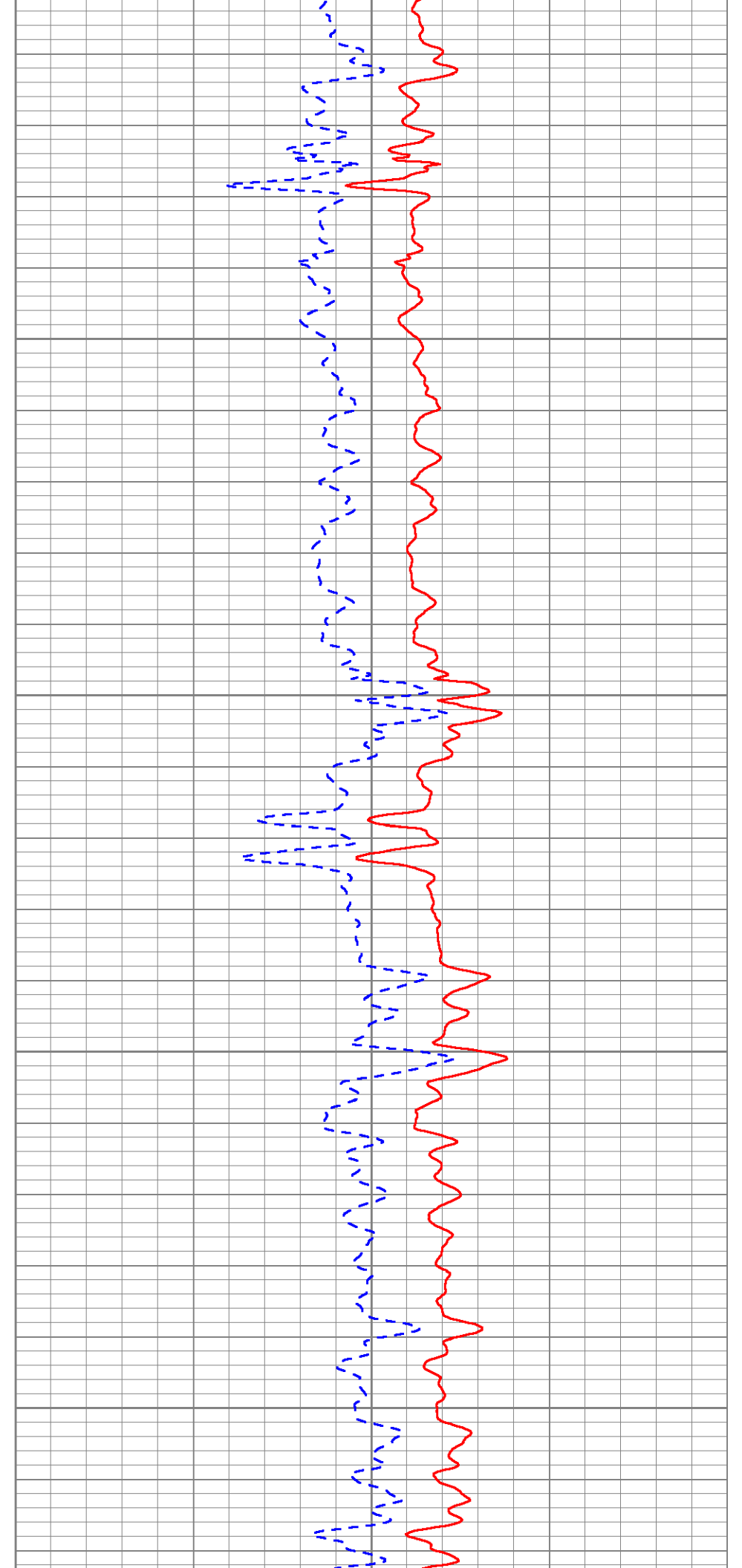


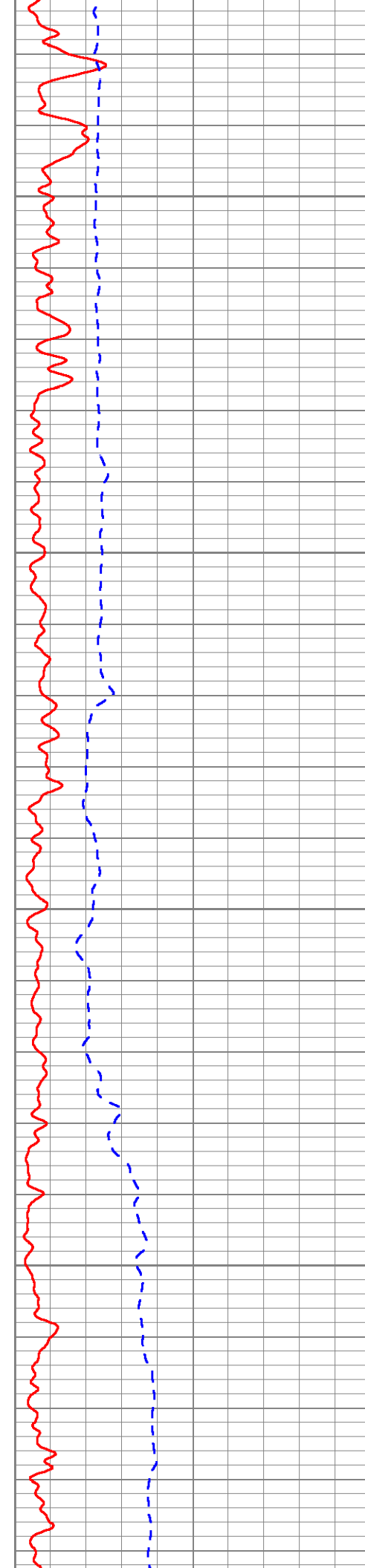
1150

1200

1250

1300



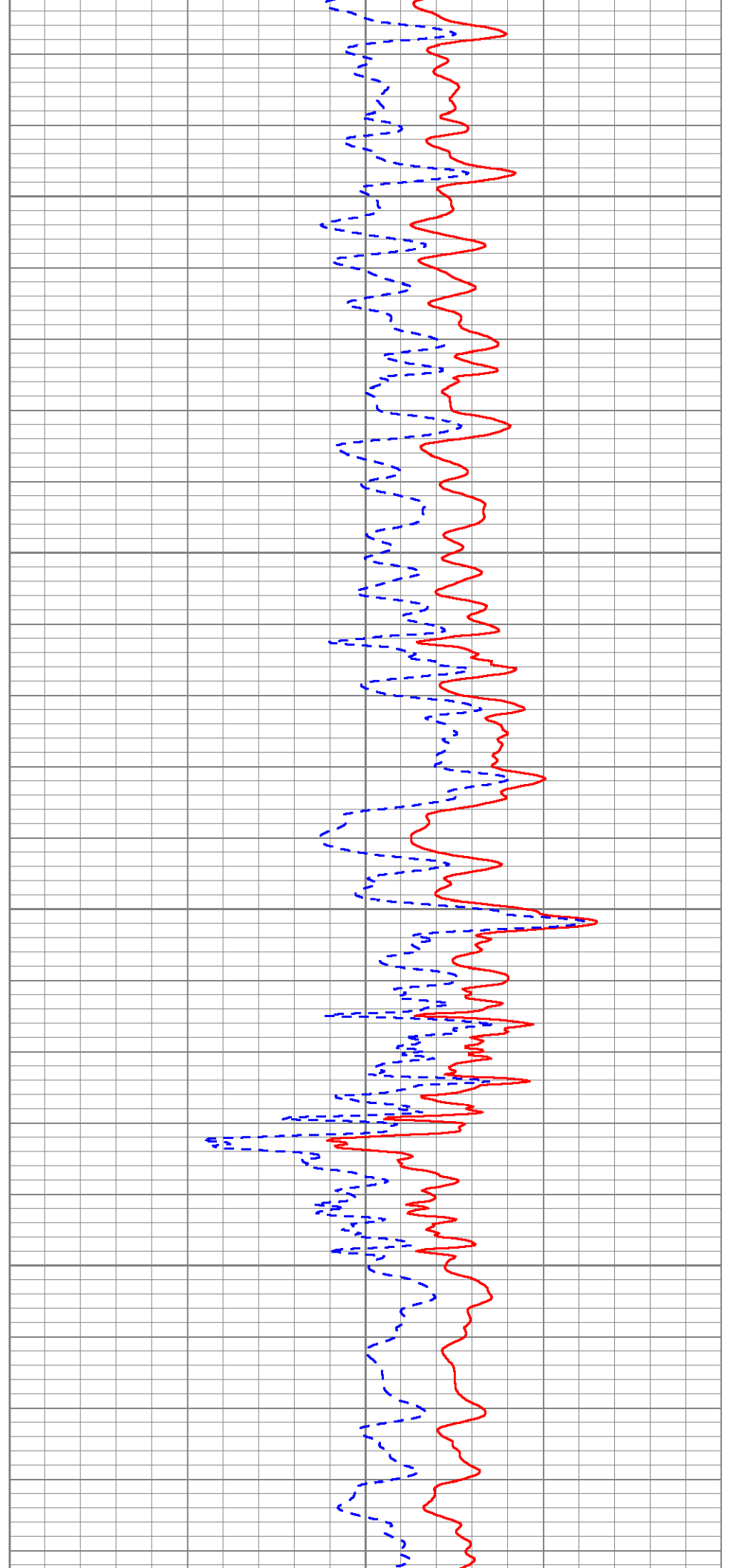


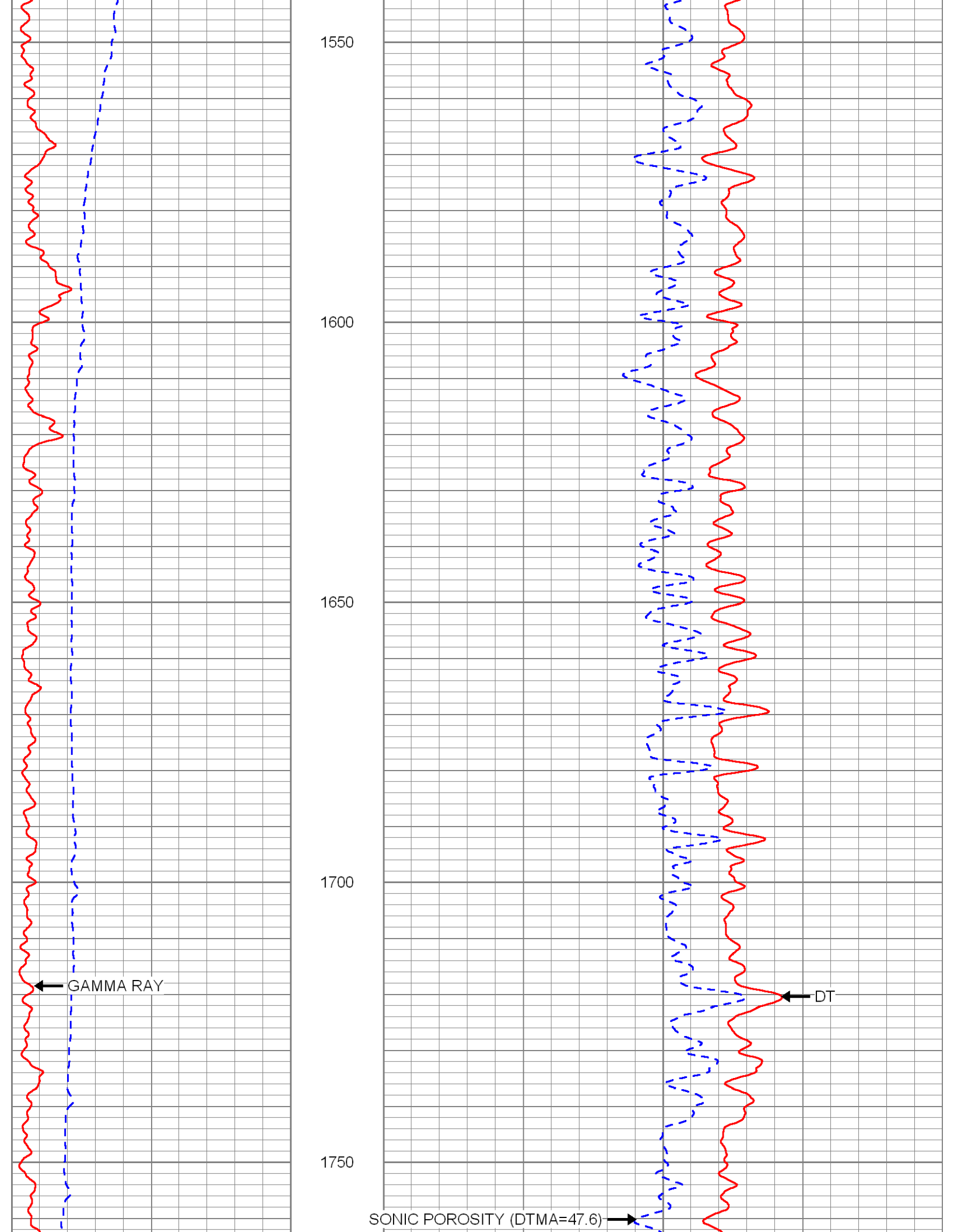
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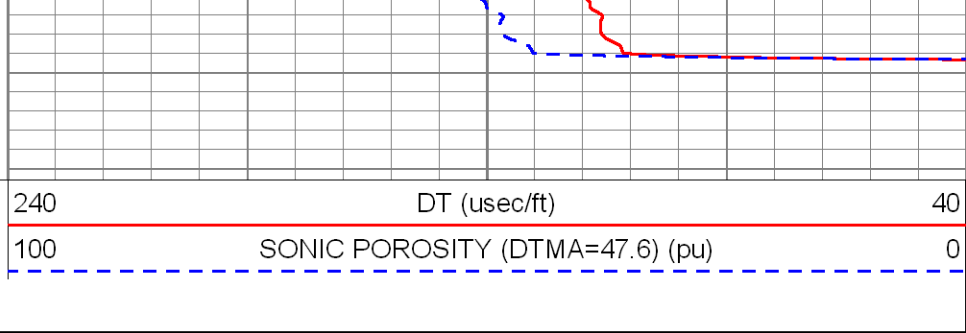
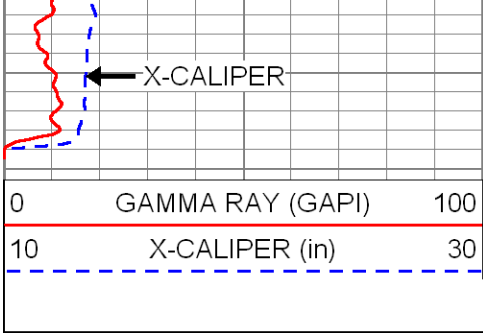
1400

1450

1500



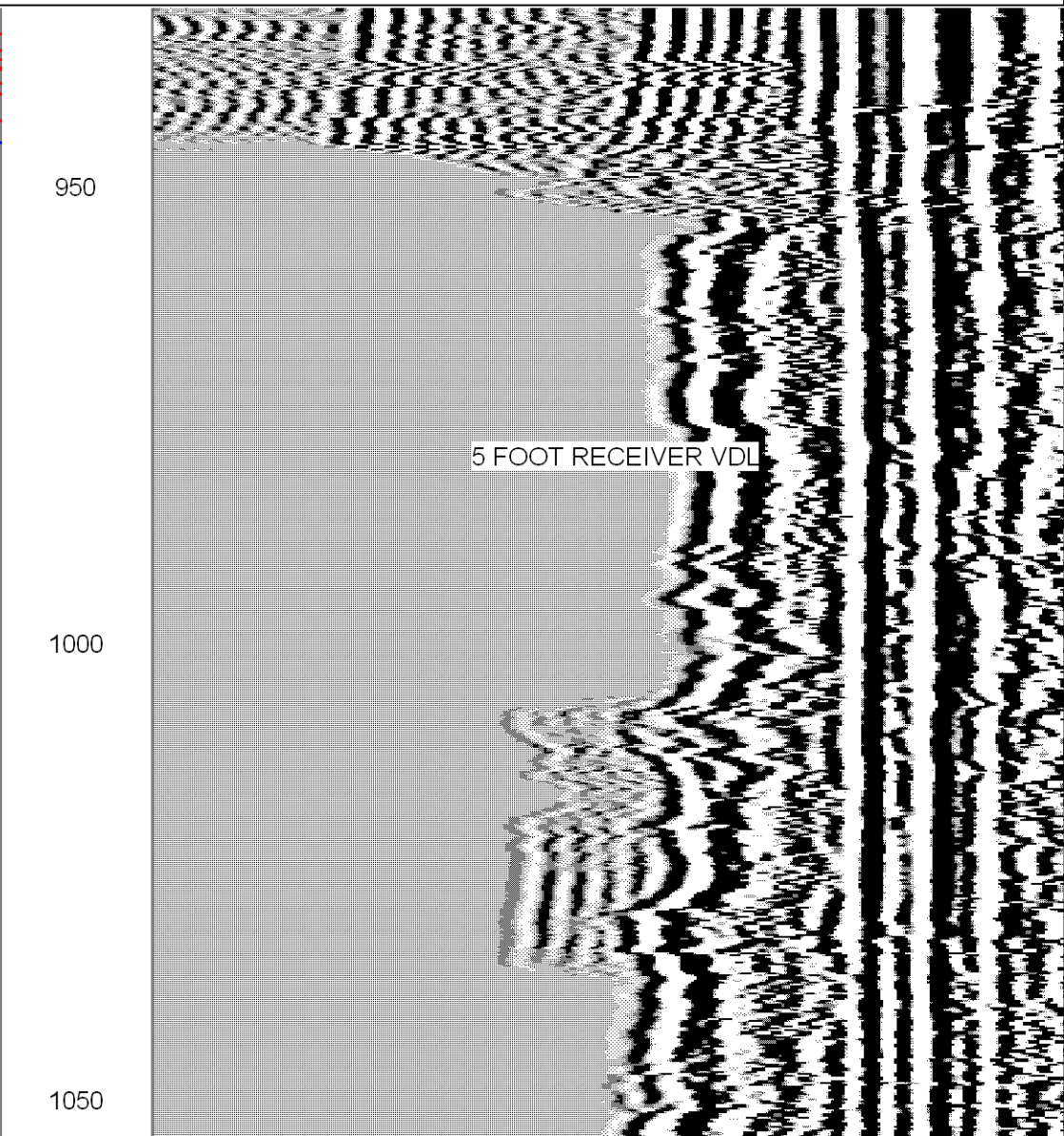
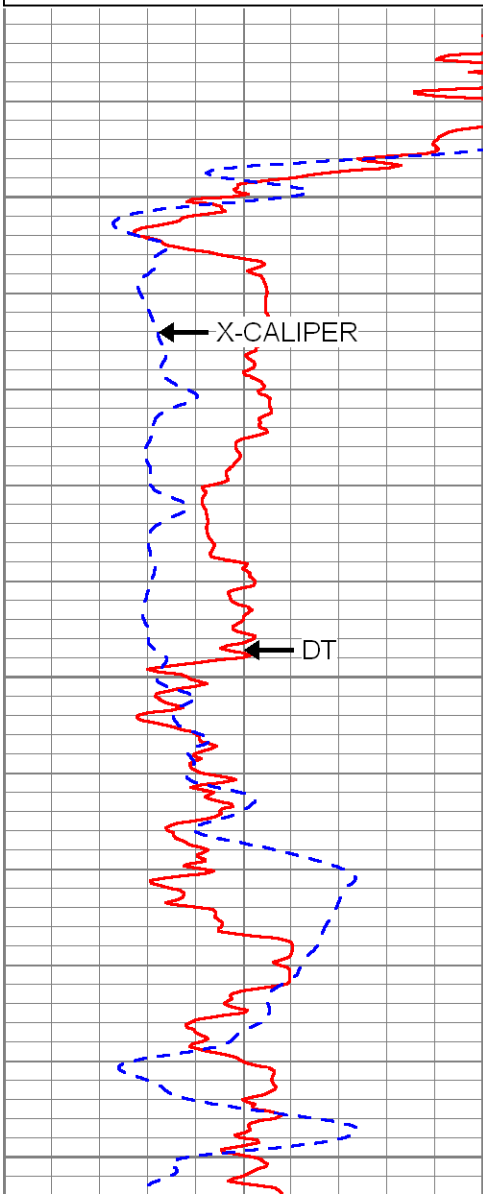


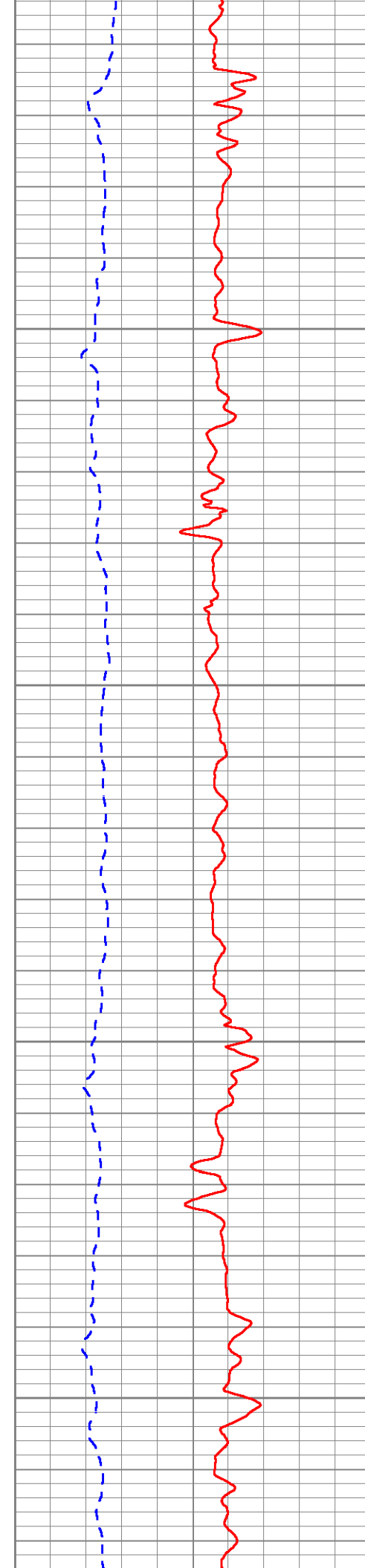



MAIN PASS

Database File: bisciw1.db
 Dataset Pathname: run6/pass11
 Presentation Format: son_vdl
 Dataset Creation: Wed Mar 07 14:47:02 2012 by Log SOC 110722
 Charted by: Depth in Feet scaled 1:240

240	DT (usec/ft)	40	400	5 FOOT RECEIVER VDL	1400
10	X-CALIPER (in)	30			



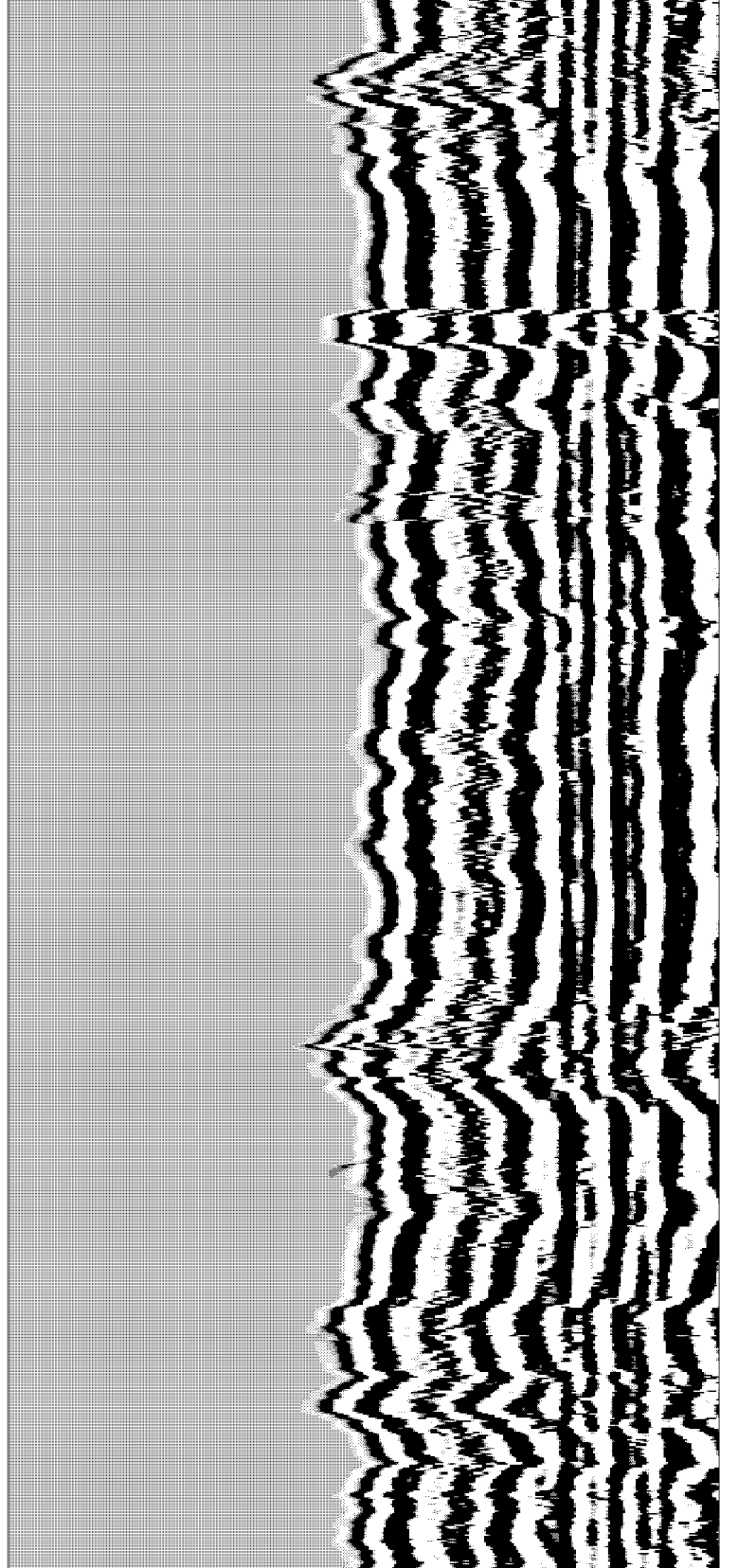


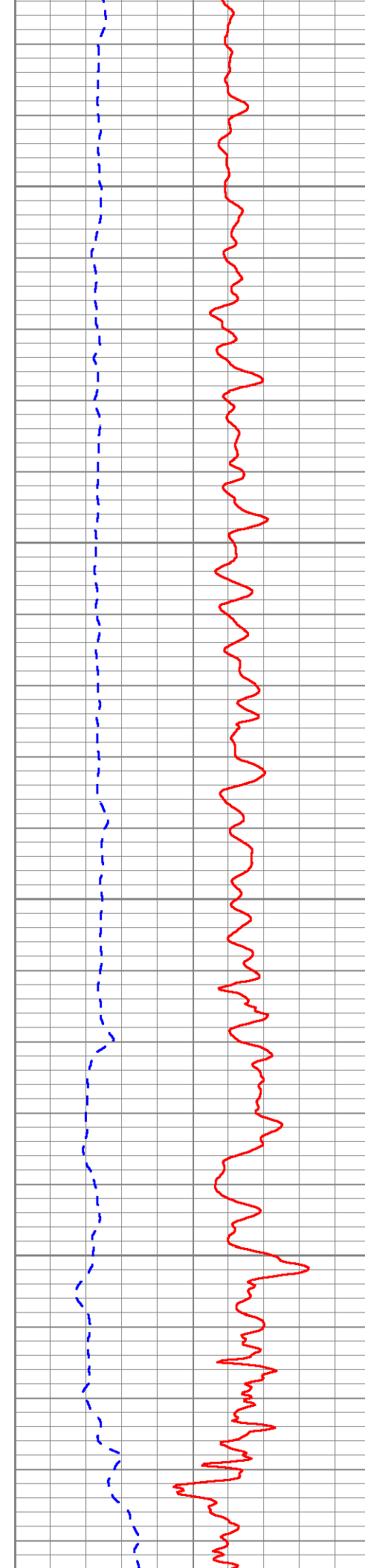
1100

1150

1200

1250



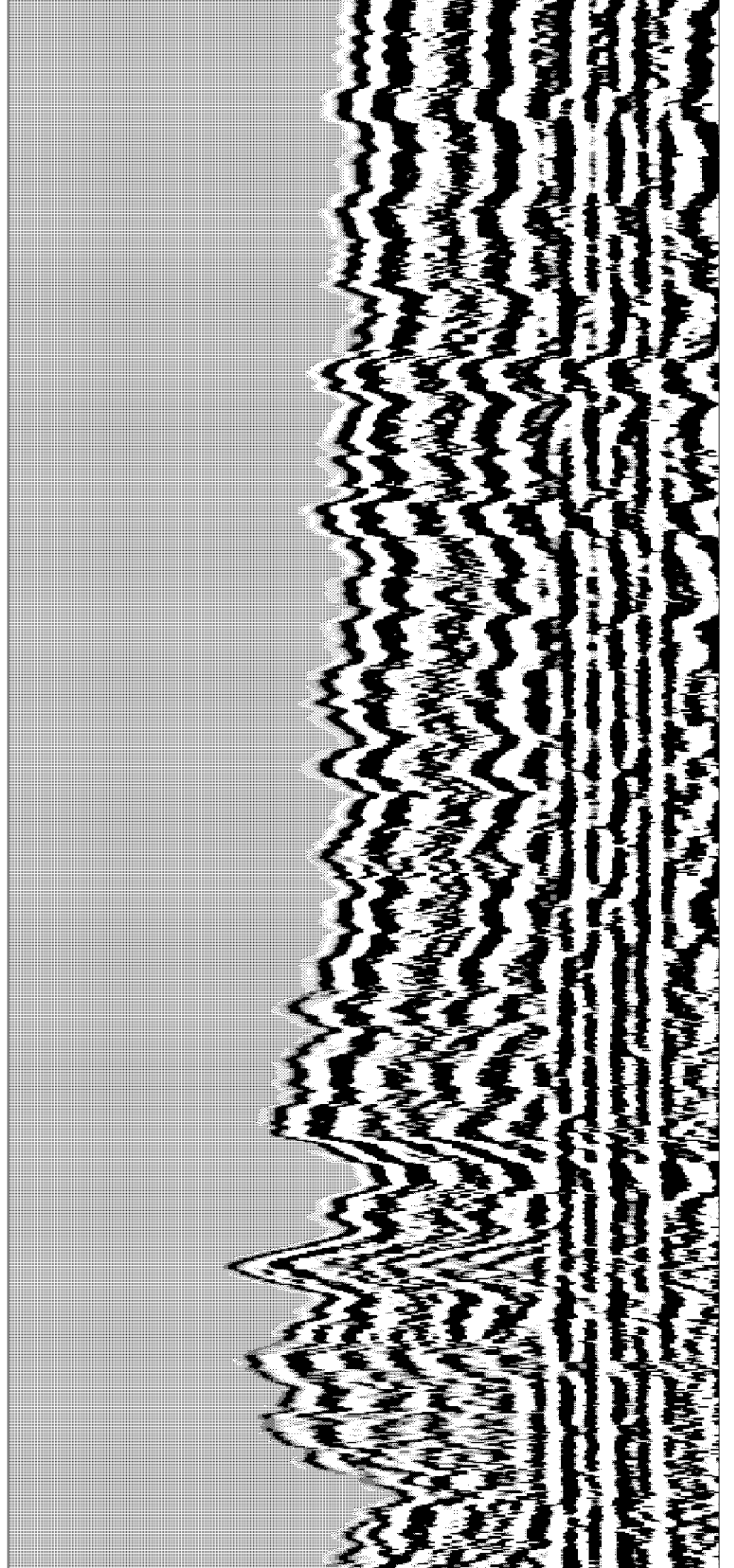


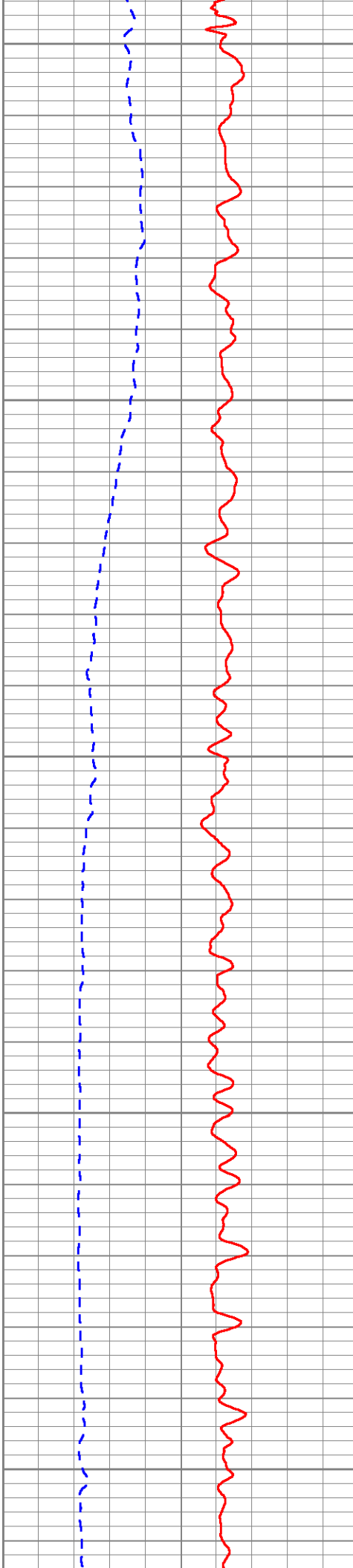
1300

1350

1400

1450





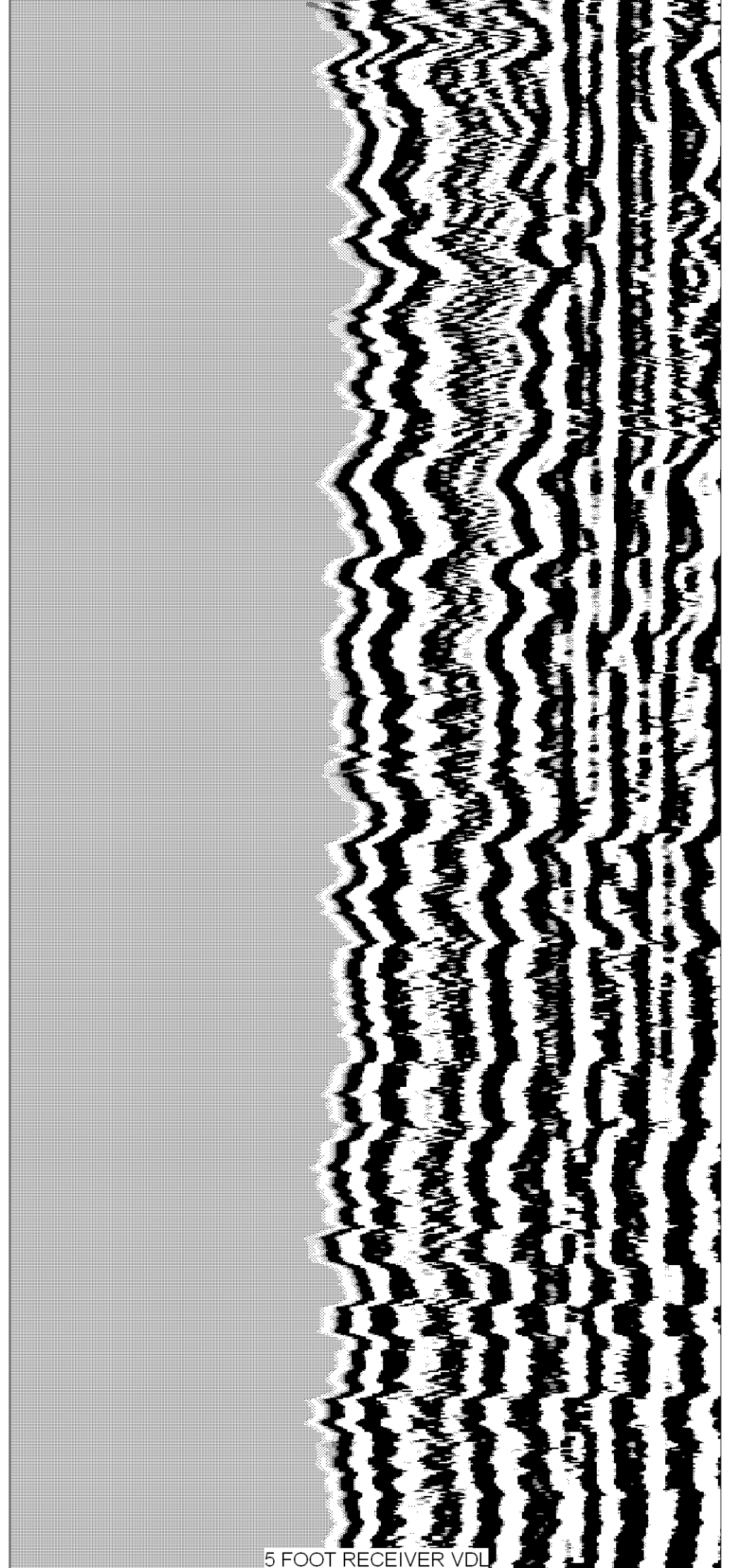
1500

1550

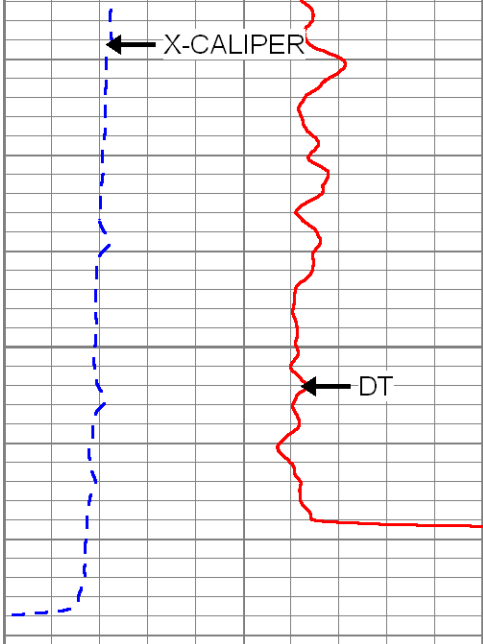
1600

1650

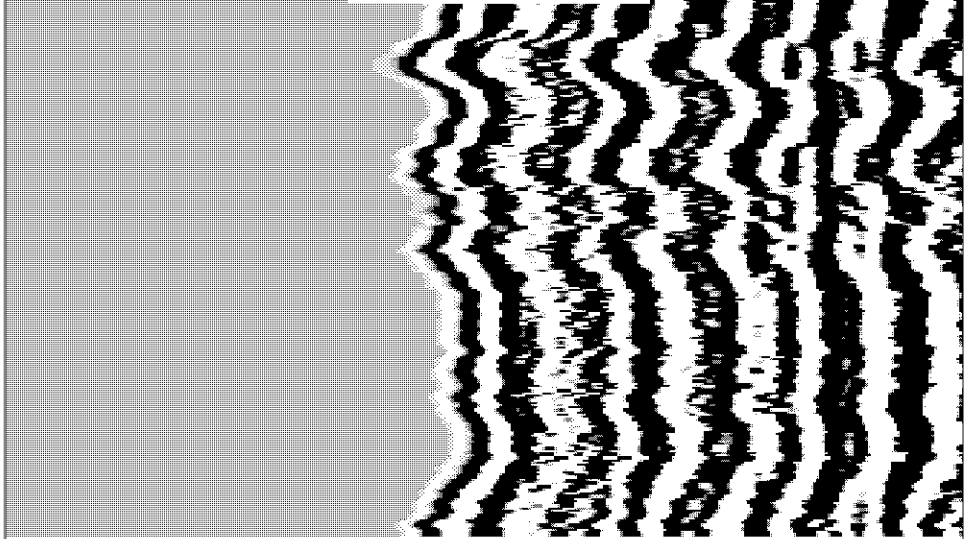
1700



5 FOOT RECEIVER VDL



1750



240	DT (usec/ft)	40
10	X-CALIPER (in)	30

400 5 FOOT RECEIVER VDL 1400

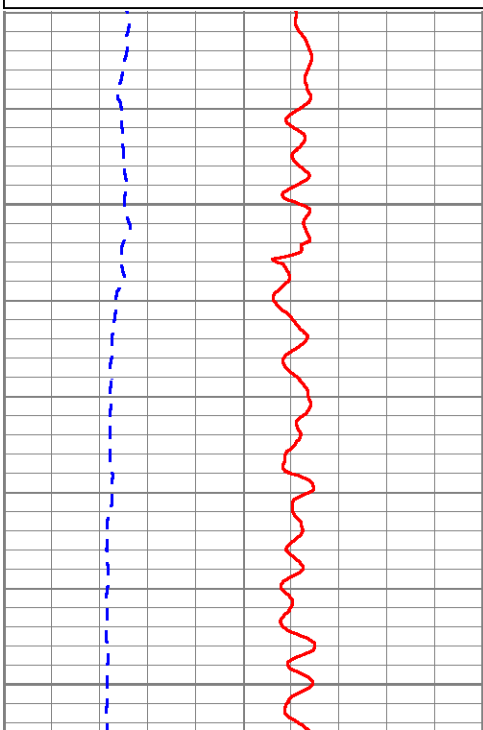


REPEAT PASS

Database File: bisciw1.db
 Dataset Pathname: run6/pass10
 Presentation Format: son_vdl
 Dataset Creation: Wed Mar 07 14:36:45 2012 by Log SOC 110722
 Charted by: Depth in Feet scaled 1:240

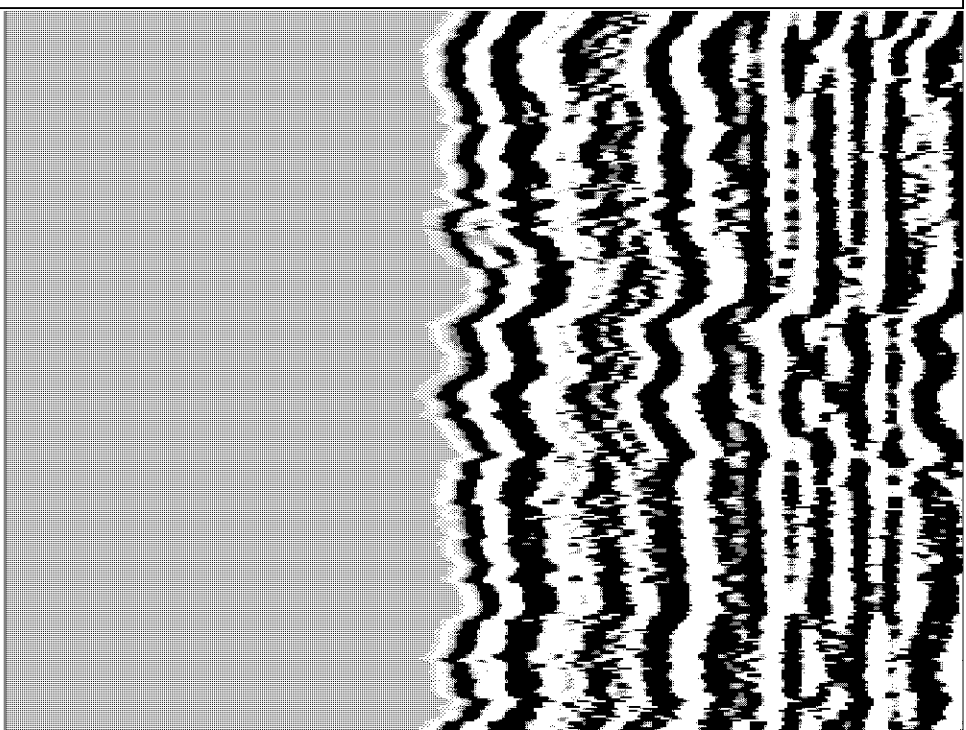
240	DT (usec/ft)	40
10	X-CALIPER (in)	30

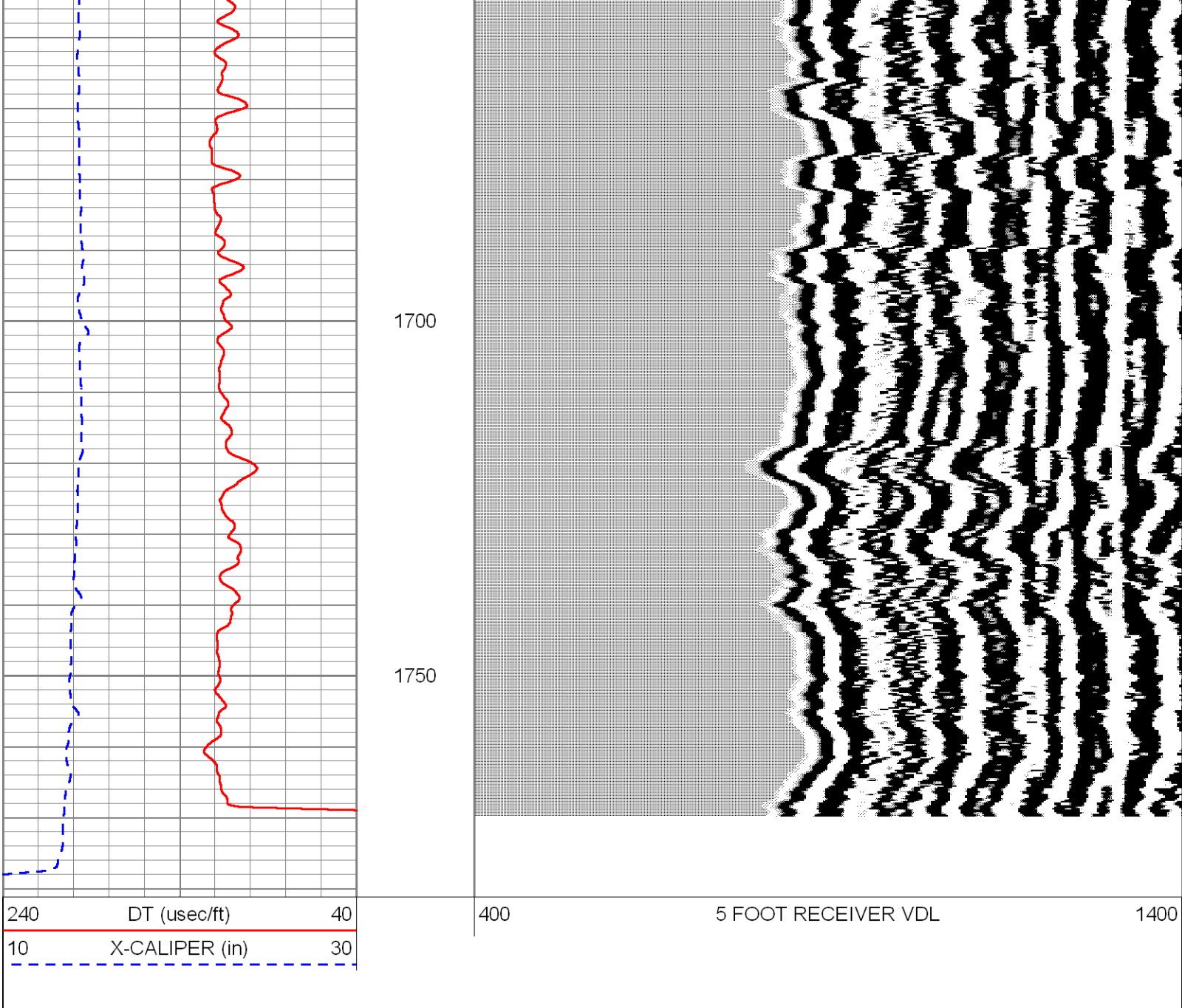
400 5 FOOT RECEIVER VDL 1400



1600

1650

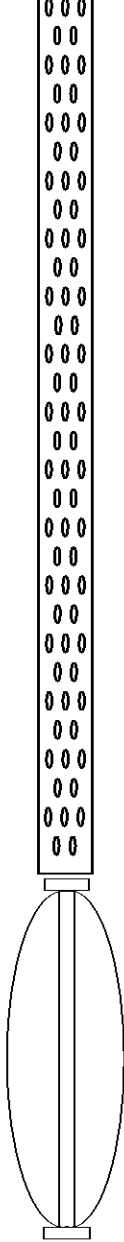




Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
				5.00	3.00	50.00

WVF1 13.50
WVF3 13.50

WVF2 11.50
WVF4 11.50



SLT-PENGO (03)

BOT

16.00 3.50 127.00

5.00 3.00 50.00

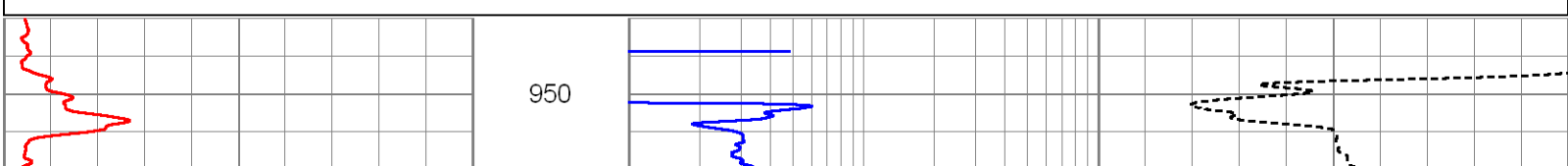
Dataset: bisciw1.db: field/well/run6/pass11
 Total Length: 26.00 ft
 Total Weight: 227.00 lb
 O.D.: 3.50 in

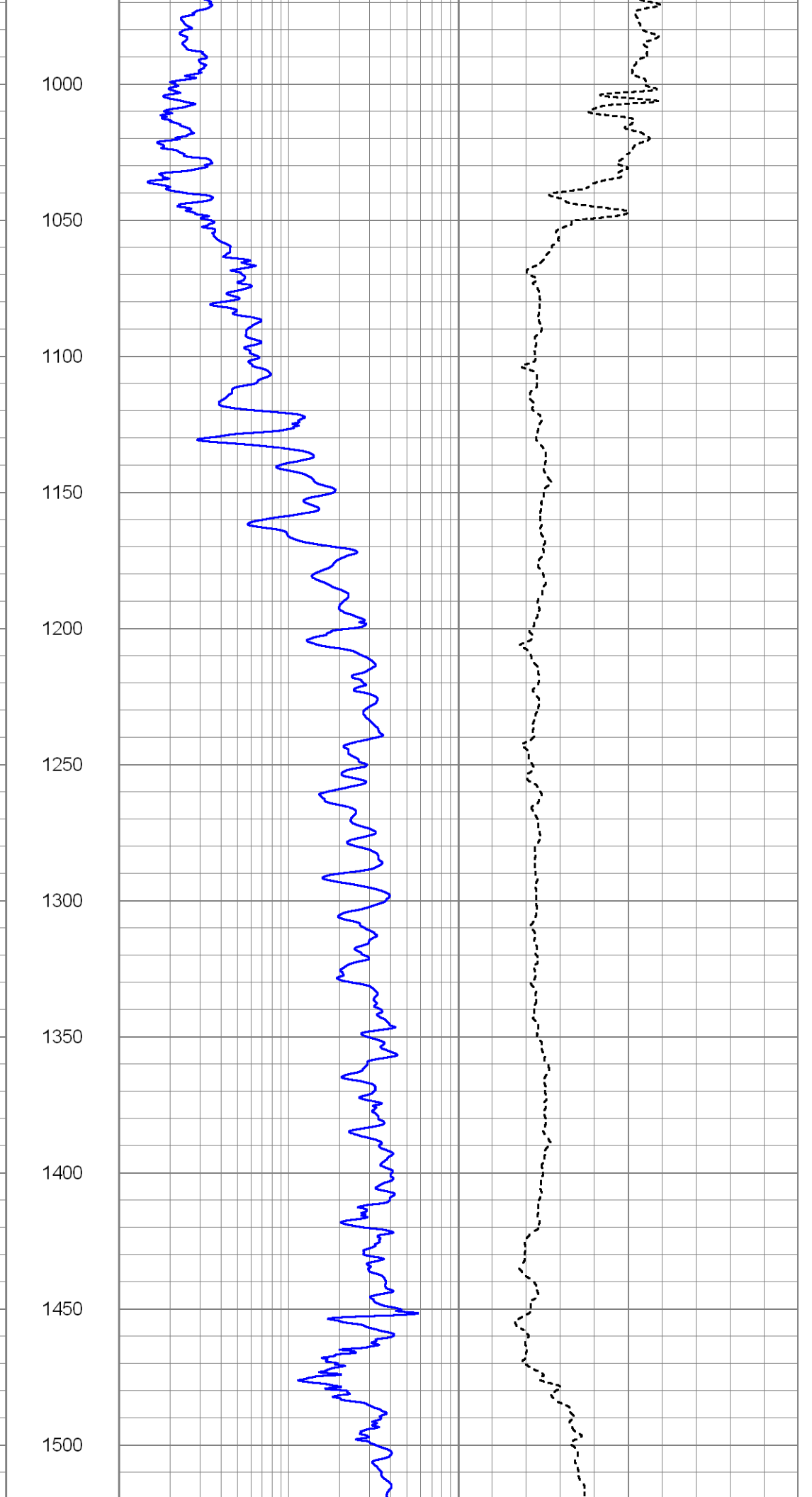
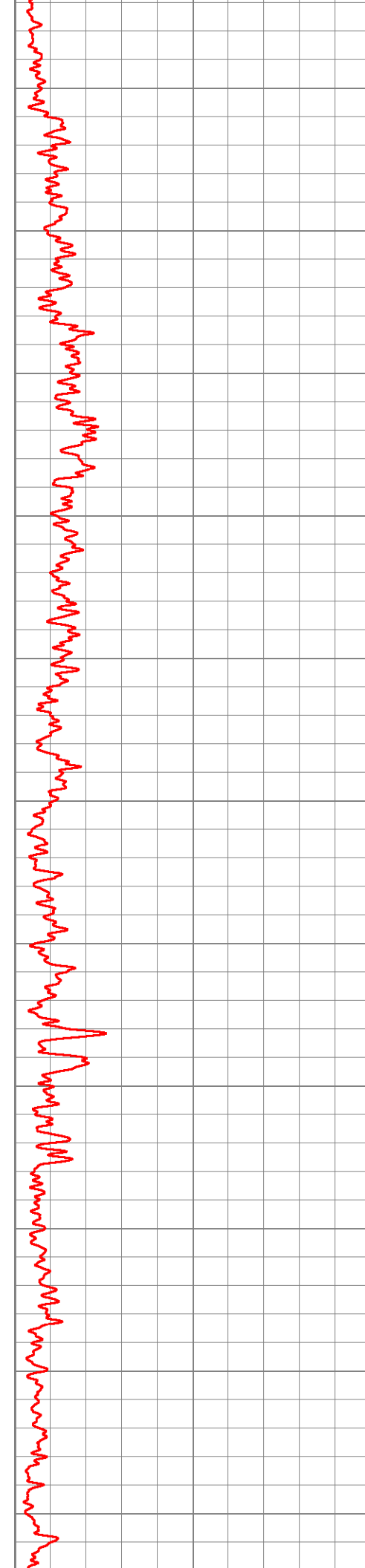


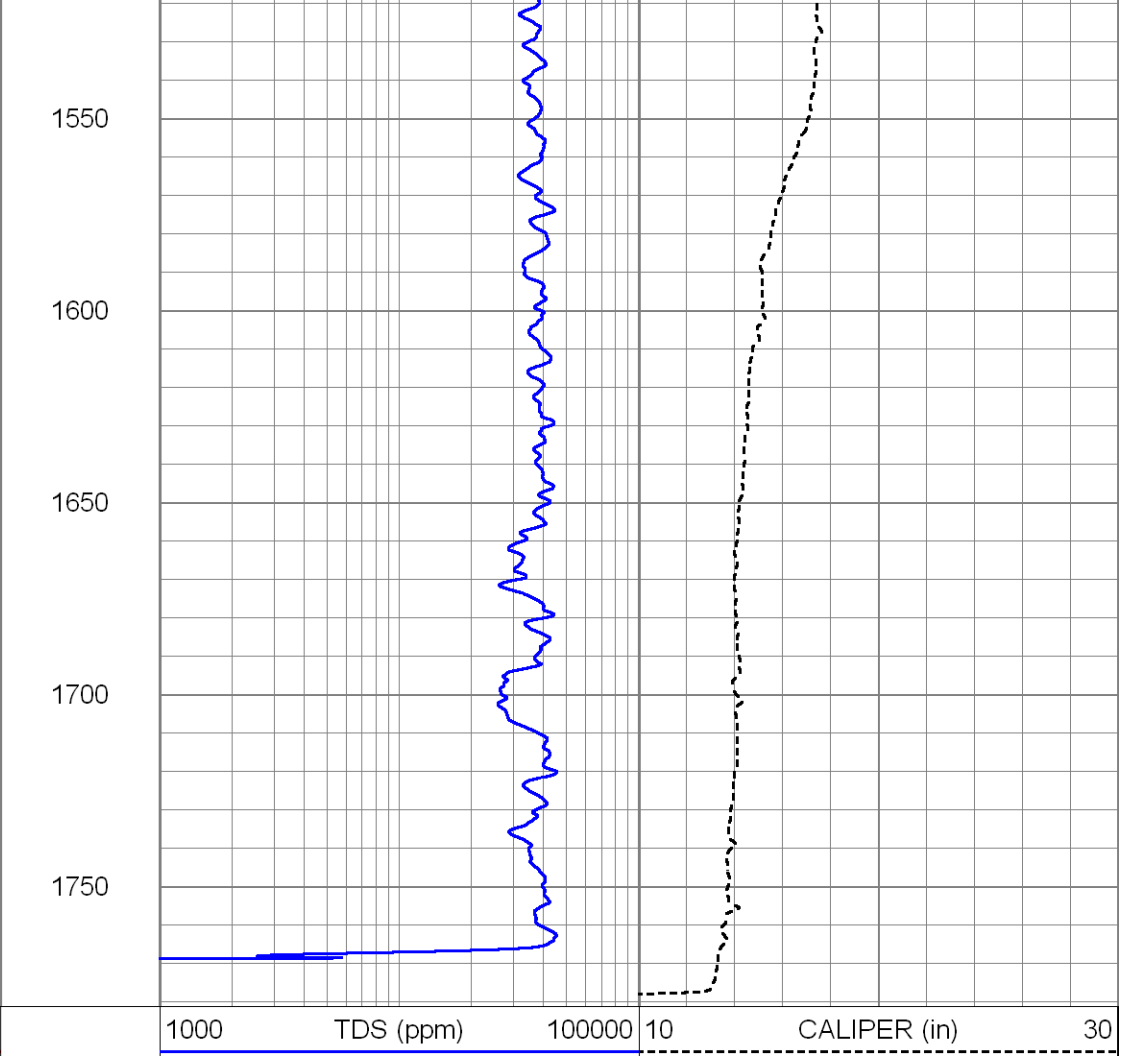
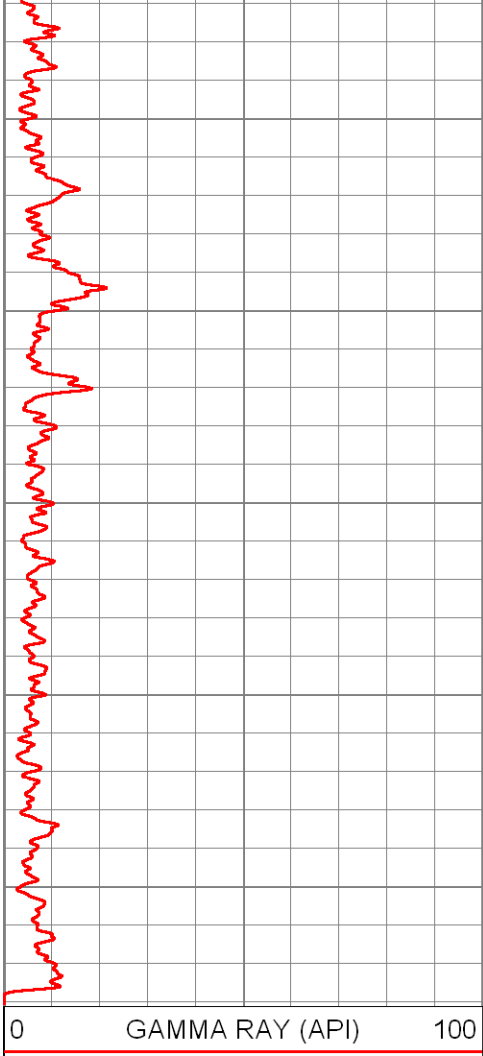
LOG DERIVED TDS

Database File: bisciw1.db
 Dataset Pathname: run6/TDS
 Presentation Format: tds
 Dataset Creation: Wed Mar 07 15:23:12 2012
 Charted by: Depth in Feet scaled 1:600

0 GAMMA RAY (API) 100 1000 TDS (ppm) 100000 10 CALIPER (in) 30









FLUID CONDUCTIVITY TEMPERATURE LOG

Company CH2M HILL
Well IW-1
Field BISCAYNE LANDING, NORTH MIAMI
County DADE **State** FLORIDA

Company CH2M HILL
Well IW-1
Field BISCAYNE LANDING, NORTH MIAMI
County DADE
State FLORIDA

Location:	SEC	TWP	RGE	Elevation	Other Services
Permanent Datum				PAD	
Log Measured From				PAD	K.B. D.F. G.L.
Drilling Measured From				PAD	

Date	07-MAR-2012				
Run Number	SIX				
Depth Driller	1780'				
Depth Logger	1780'				
Bottom Logged Interval	1780'				
Top Log Interval	CASING				
Open Hole Size	12.25"				
Type Fluid	WATER				
Density / Viscosity	NA				
Max. Recorded Temp.	NA				
Estimated Cement Top	NA				
Time Well Ready	ON ARRIVAL				
Time Logger on Bottom	1120				
Equipment Number	103				
Location	FT MYERS				
Recorded By	GARCIA				
Witnessed By	G. BULLMAN				

Borehole Record				Borehole Record			
Run Number	Bit	From	To	Run No	Bit	From	To
ONE	12.25"	SURFACE	375'	FIVE	12.25"	CASING	1780'
TWO	52.5"	CASING	348'				
THREE	12.25"	CASING	1050'				
FOUR	42.5"	CASING	954'				

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	54"	.375" W.T.	SURFACE	56'
Prot. String	44"	.375" W.T.	SURFACE	345'
Production String	36"	.375" W.T.	SURFACE	950'

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Comments

XY CALIPER/ GAMMA RAY
 DUAL INDUCTION
 BOREHOLE SONIC
 FLOWMETER

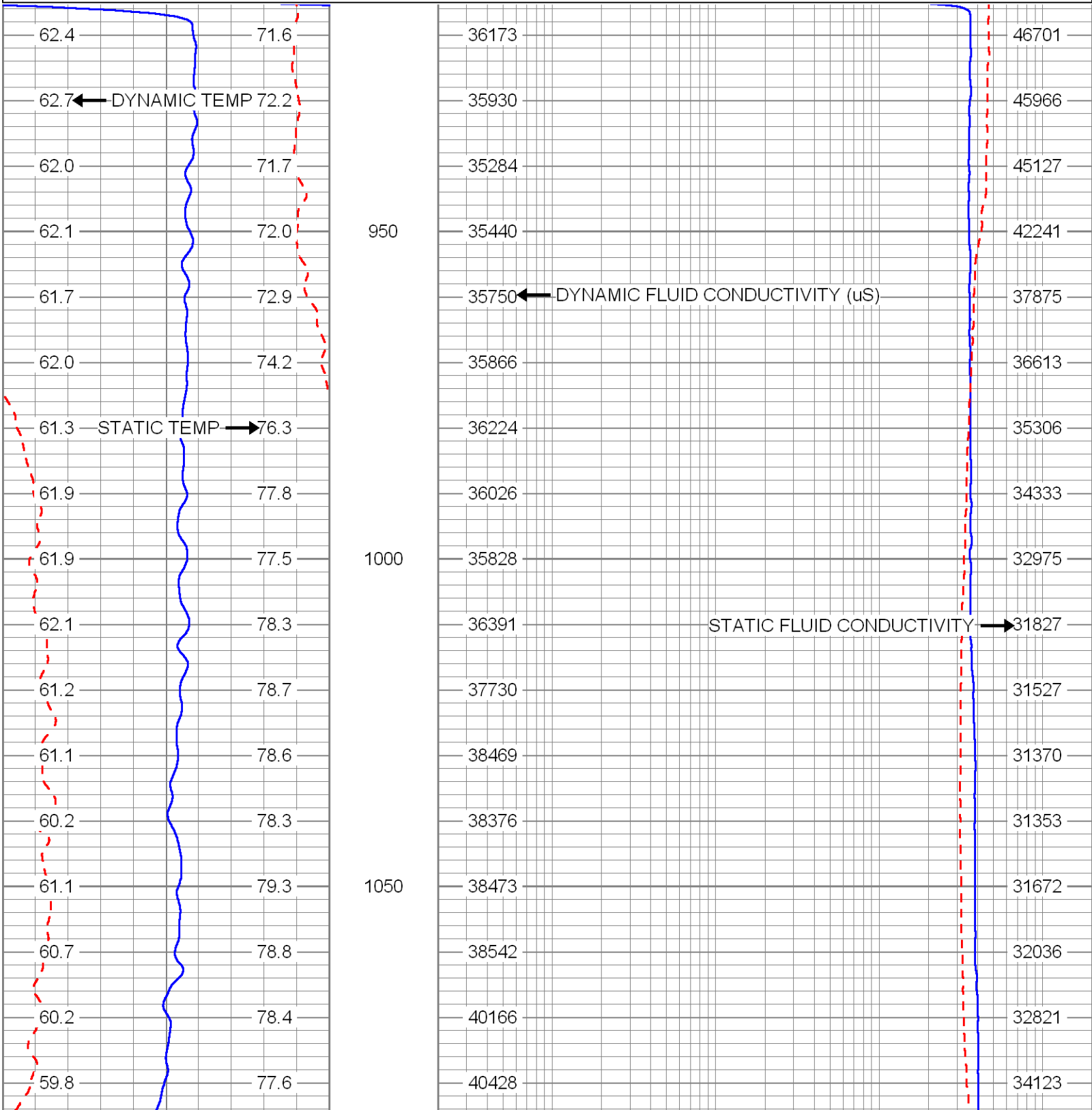
DYNAMIC FLOW RATE = (78 GPM)

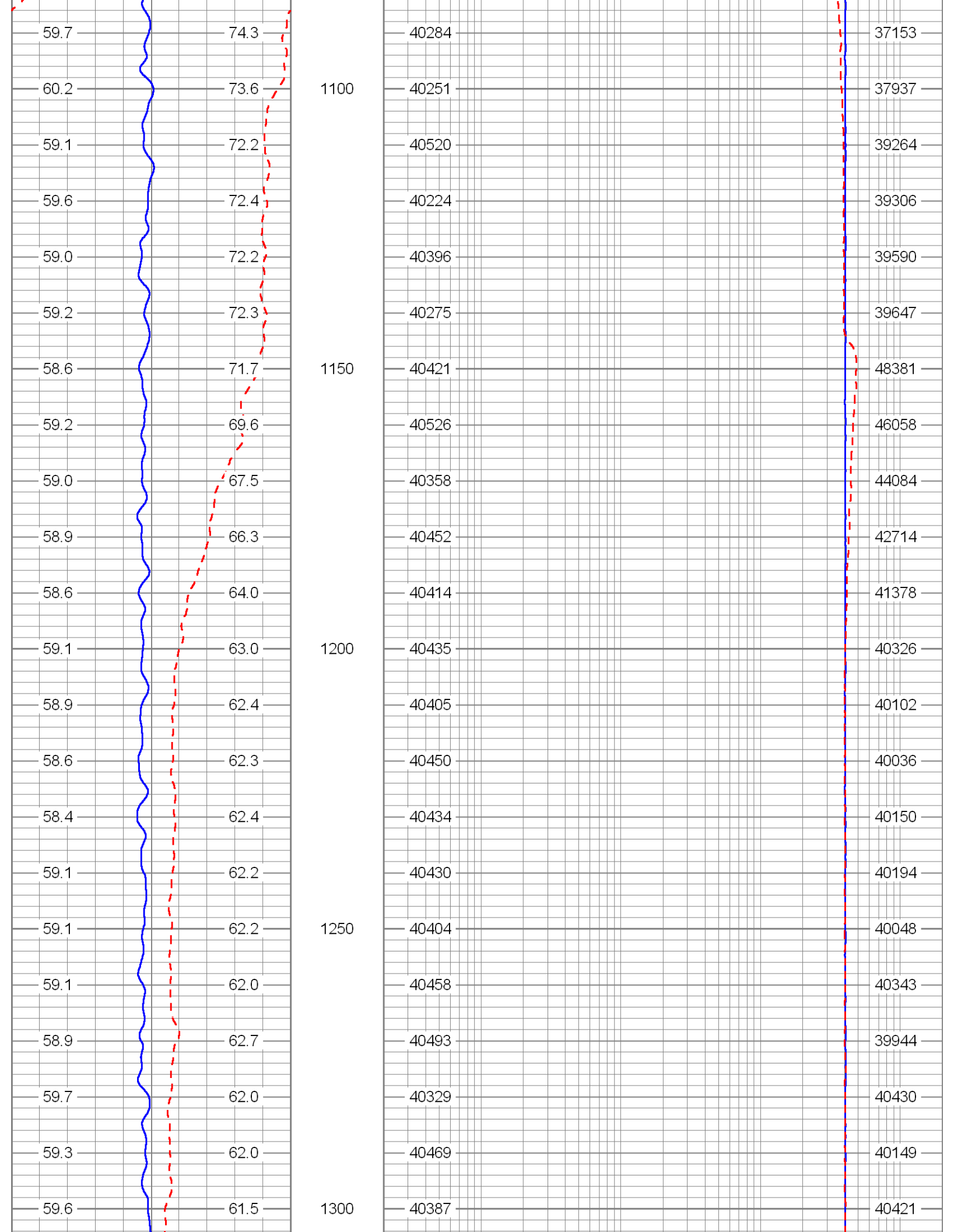


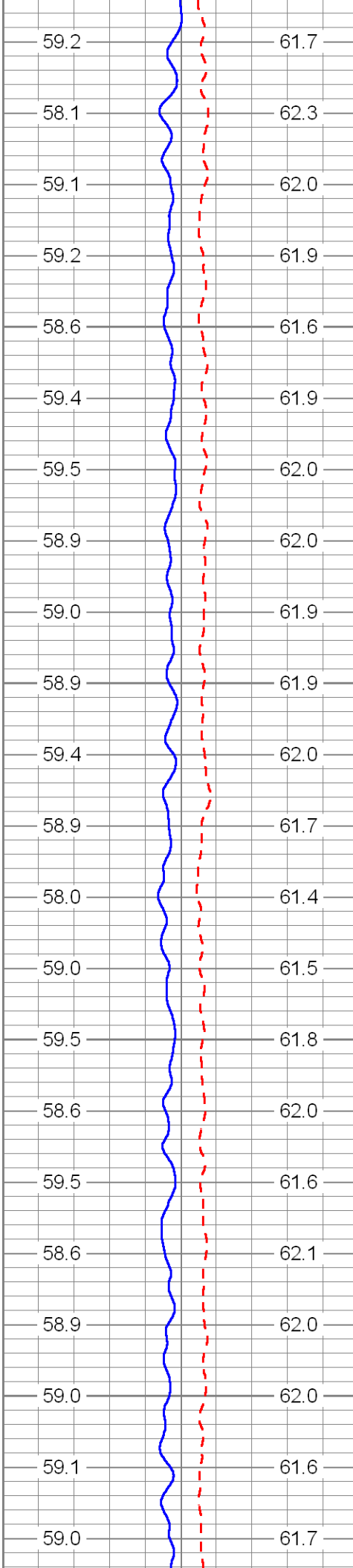
MERGED FRT

Database File: bisciw1.db
 Dataset Pathname: run6/pass18
 Presentation Format: fit_mg
 Dataset Creation: Wed Mar 07 21:39:32 2012 by Log SOC 110722
 Charted by: Depth in Feet scaled 1:240

75	DYNAMIC TEMP (degF)	105	20	DYNAMIC FLUID CONDUCTIVITY (uS) (uS/cm)	200000
75	STATIC TEMP (degF)	105	20	STATIC FLUID CONDUCTIVITY (uS) (uS/cm)	200000
DYNAMIC TEM (degF)		STATIC TEMF (degF)		STATIC FLUID CONDUCT (uS/cm)	





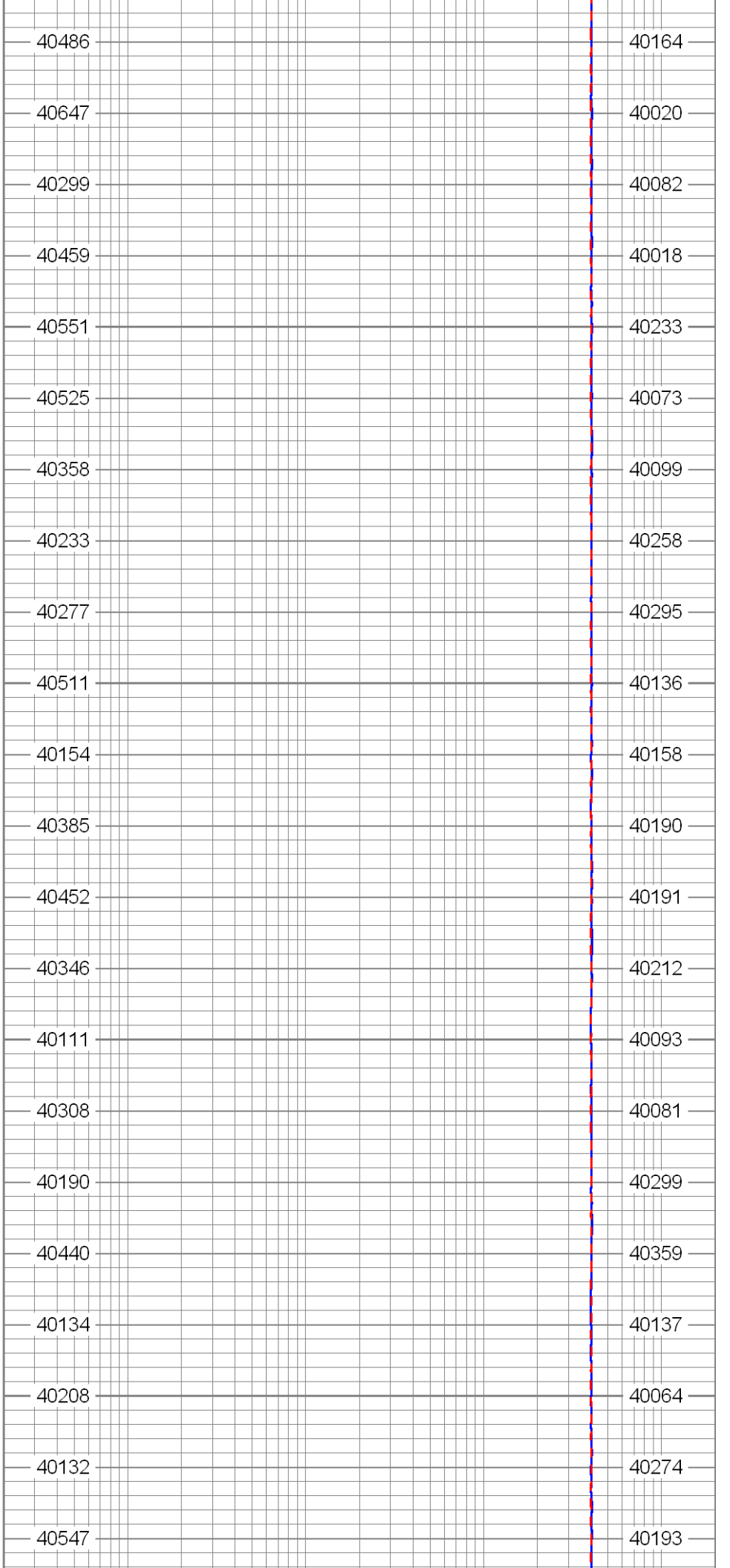


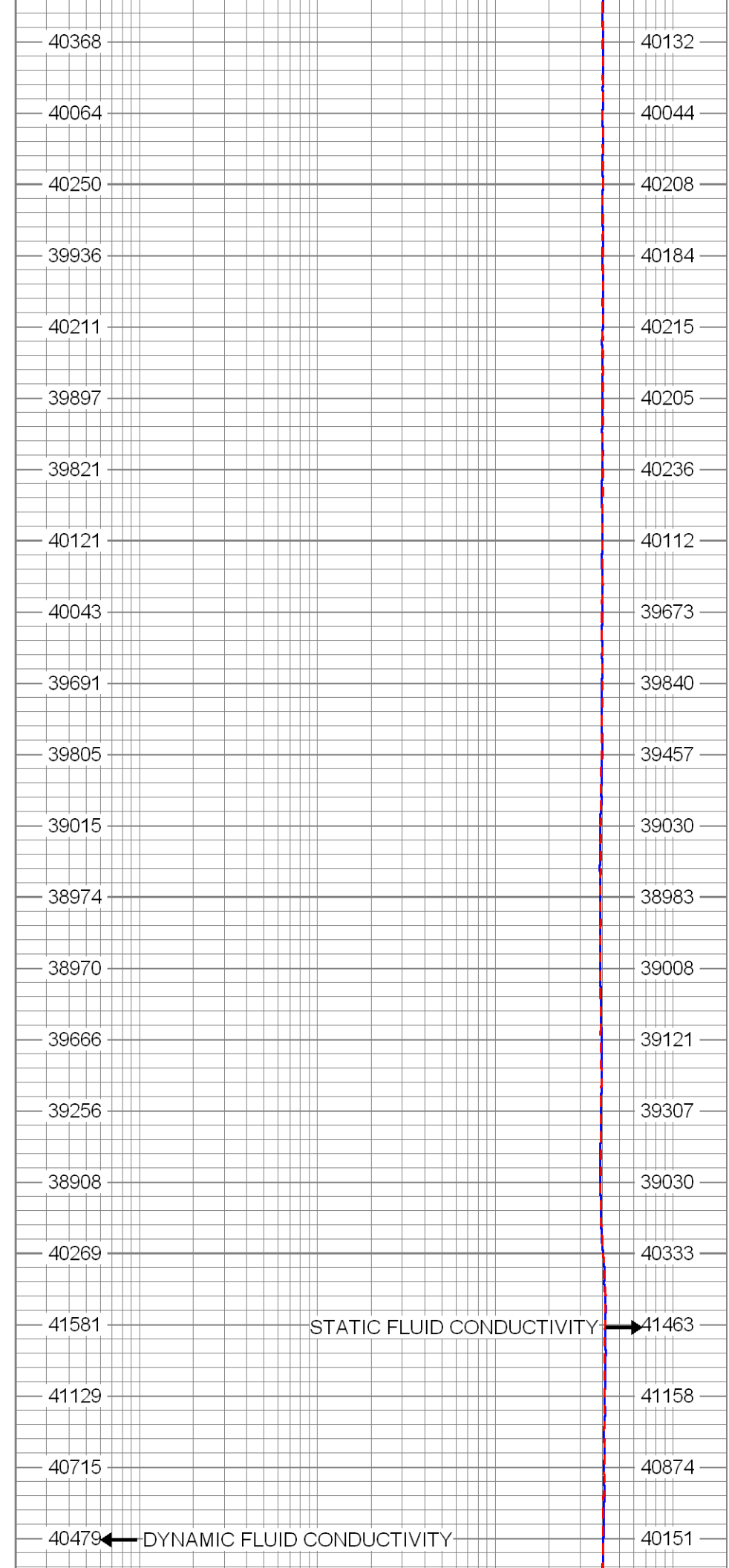
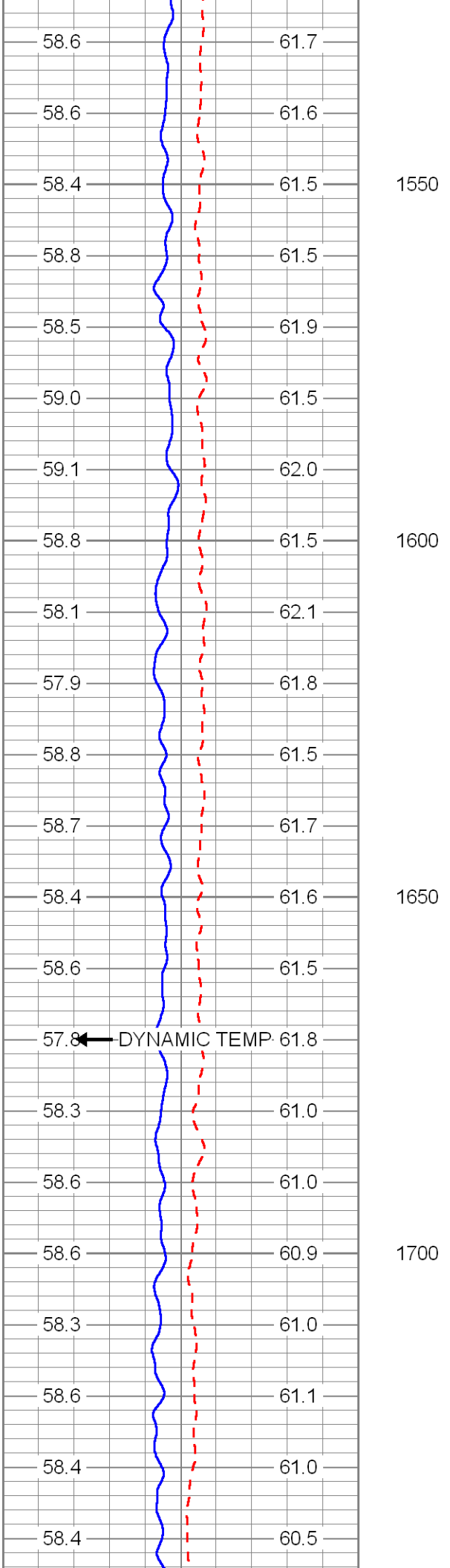
1350

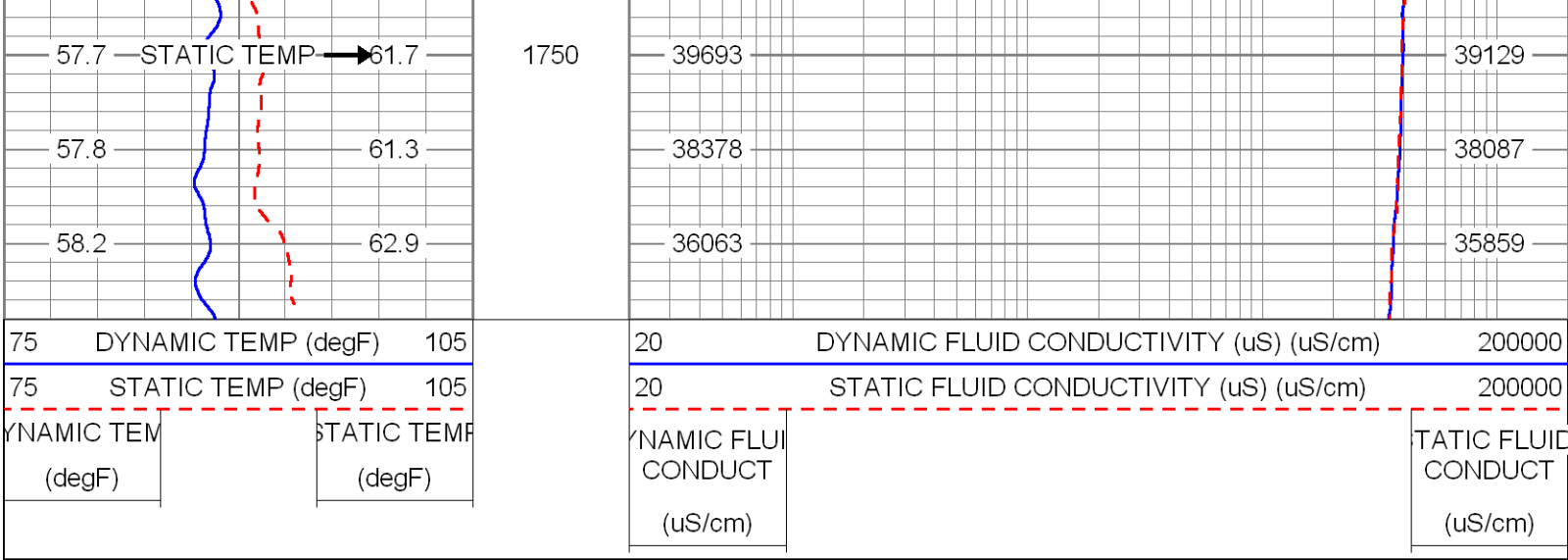
1400

1450

1500







Calibration Report

Database File: bisciw1.db
 Dataset Pathname: run6/pass18
 Dataset Creation: Wed Mar 07 21:39:32 2012 by Log SOC 110722

FRT Calibration Report

Serial Number: 31
 Tool Model: SONDEX
 Performed: Thu Dec 08 10:38:51 2011

Point #	Reading	Reference
1	1.202 cps	944.000 uS/cm
2	186.757 cps	10280.000 uS/cm
3	430.670 cps	23950.000 uS/cm
4	920.167 cps	48500.000 uS/cm
5	cps	uS/cm
6	cps	uS/cm
7	cps	uS/cm
8	cps	uS/cm
9	cps	uS/cm
10	cps	uS/cm

Temperature Calibration Report

Serial Number: 31
 Tool Model: SONDEX
 Performed: Thu Dec 08 10:41:42 2011

Point #	Reading	Reference
1	116.78 cps	33.00 degF
2	331.16 cps	80.00 degF
3	981.46 cps	210.50 degF
4	cps	degF
5	cps	degF
6	cps	degF
7	cps	degF
8	cps	degF
9	cps	degF
10	cps	degF

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)

TEMP	0.70	—		TEMP-SONDEX (31)	1.20	1.63	10.00
FRES	0.50	—		FRT-SONDEX (31)	0.60	1.69	10.00

Dataset: bisciw1.db: field/well/run6/pass18
 Total Length: 1.80 ft
 Total Weight: 20.00 lb
 O.D.: 1.69 in



FLOWMETER LOG

Company CH2M HILL
 Well IW-1
 Field BISCAYNE LANDING, NORTH MIAMI
 County DADE
 State FLORIDA

Company CH2M HILL
 Well IW-1
 Field BISCAYNE LANDING, NORTH MIAMI
 County DADE State FLORIDA

Location: API #: Other Services
 SEC TWP RGE
 Permanent Datum PAD Elevation PAD
 Log Measured From PAD
 Drilling Measured From PAD
 Elevation
 K.B.
 D.F.
 G.L.

Date	07-MAR-2012			
Run Number	SIX			
Depth Driller	1780'			
Depth Logger	1780'			
Bottom Logged Interval	1780'			
Top Log Interval	CASING			
Open Hole Size	12.25"			
Type Fluid	WATER			
Density / Viscosity	NA			
Max. Recorded Temp.	NA			
Estimated Cement Top	NA			
Time Well Ready	ON ARRIVAL			
Time Logger on Bottom	1120			
Equipment Number	103			
Location	FT MYERS			
Recorded By	GARCIA			
Witnessed By	G. BULLMAN			
Borehole Record		Borehole Record		
Run Number	Bit	From	To	Run No
ONE	12.25"	SURFACE	375'	FIVE
TWO	52.5"	CASING	348'	
THREE	12.25"	CASING	1050'	
FOUR	42.5"	CASING	954'	
Casing Record	Size	Wgt/Ft	Top	
Surface String	54"	.375" W.T.	SURFACE	
Prot. String	44"	.375" W.T.	SURFACE	
Production String	36"	.375" W.T.	SURFACE	
Liner			Bottom	
			56'	
			345'	
			950'	

<<< Fold Here >>>

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Comments

XY CALIPER/ GAMMA RAY
 FLUID RESISTIVITY
 DUAL INDUCTION
 BOREHOLE SONIC

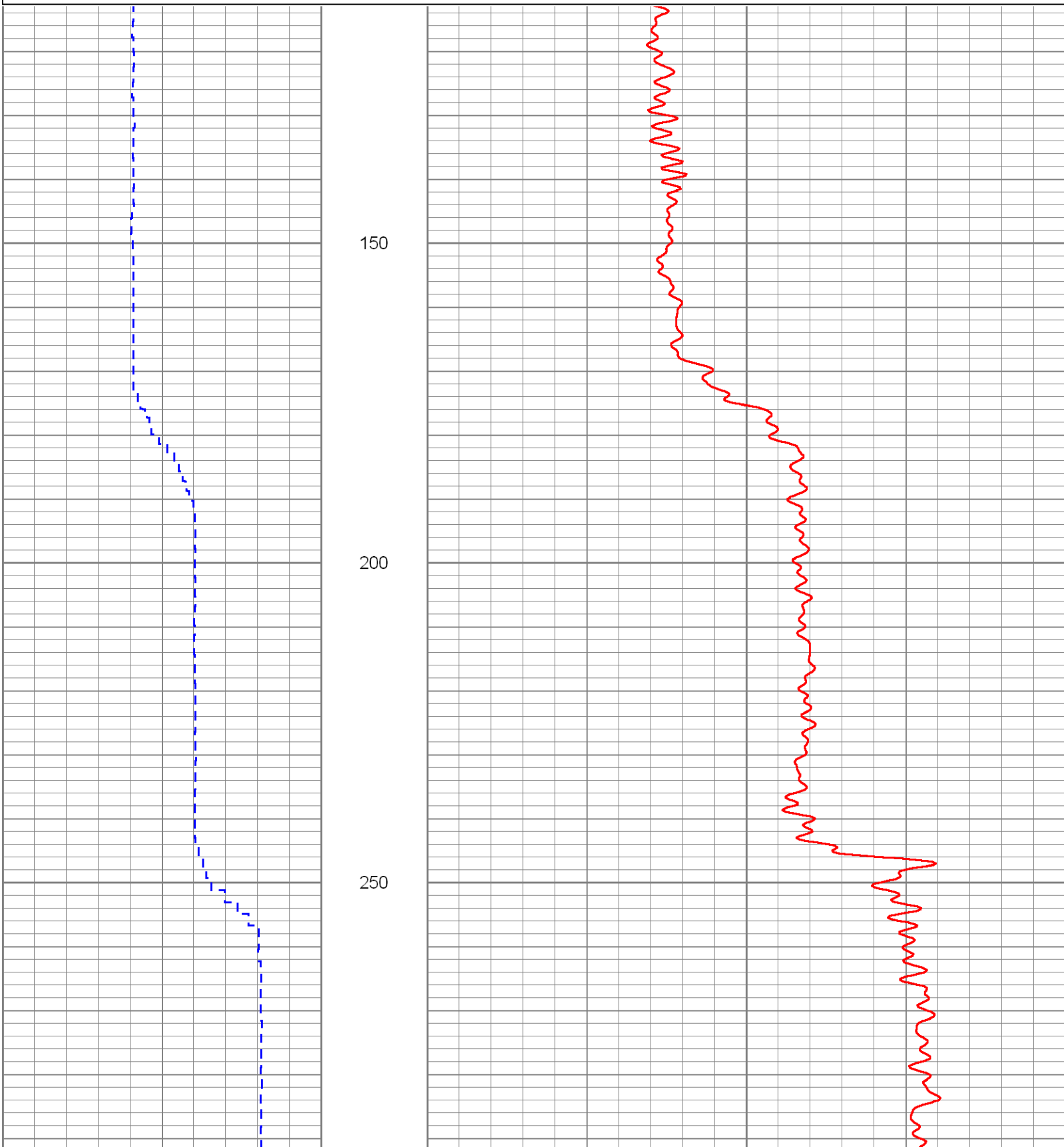
DYNAMIC FLOWRATE = (78 GPM)

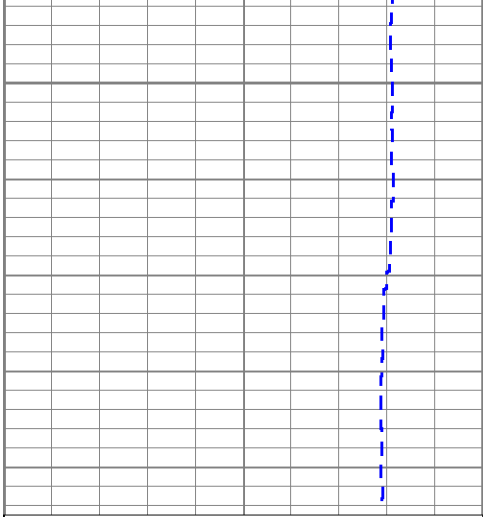


Database File: bisciw1.db
Dataset Pathname: run6/pass13
Presentation Format: flowcals
Dataset Creation: Wed Mar 07 18:09:25 2012 by Log SOC 110722
Charted by: Depth in Feet scaled 1:240

-10 LINE SPEED DOWN (ft/min) -110
30 LSPD (ft/min) 130

10 SPINNER DOWN (CPS) (cps) 60





300



-10 LINE SPEED DOWN (ft/min) -110

30 LSPD (ft/min) 130

10 SPINNER DOWN (CPS) (cps) 60



MERGED FLOW

Database File: bisciw1.db
 Dataset Pathname: run6/pass17
 Presentation Format: fm_dnmg
 Dataset Creation: Wed Mar 07 20:47:39 2012 by Log SOC 110722
 Charted by: Depth in Feet scaled 1:240

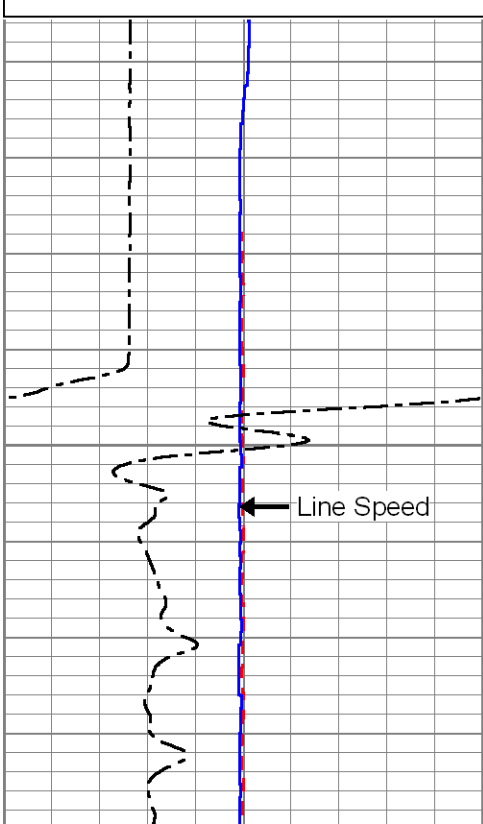
30 L.S STATIC DOWN (ft/min) 130

30 L.S DYNAMIC DOWN (ft/min) 130

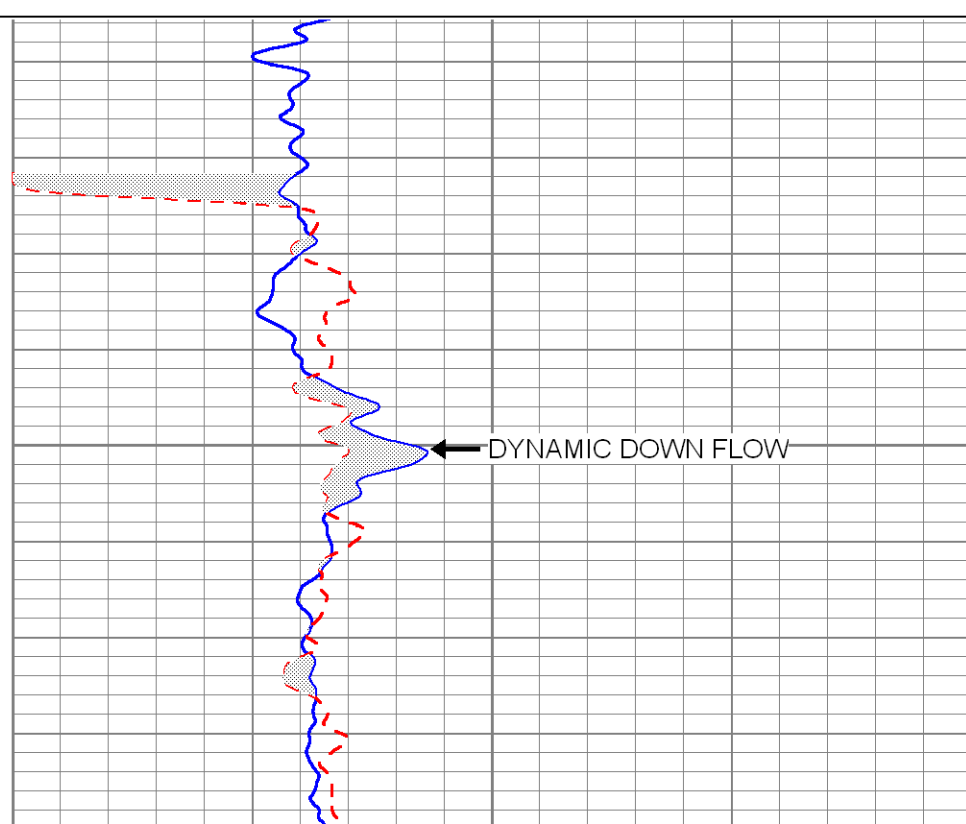
10 XCAL (in) 30

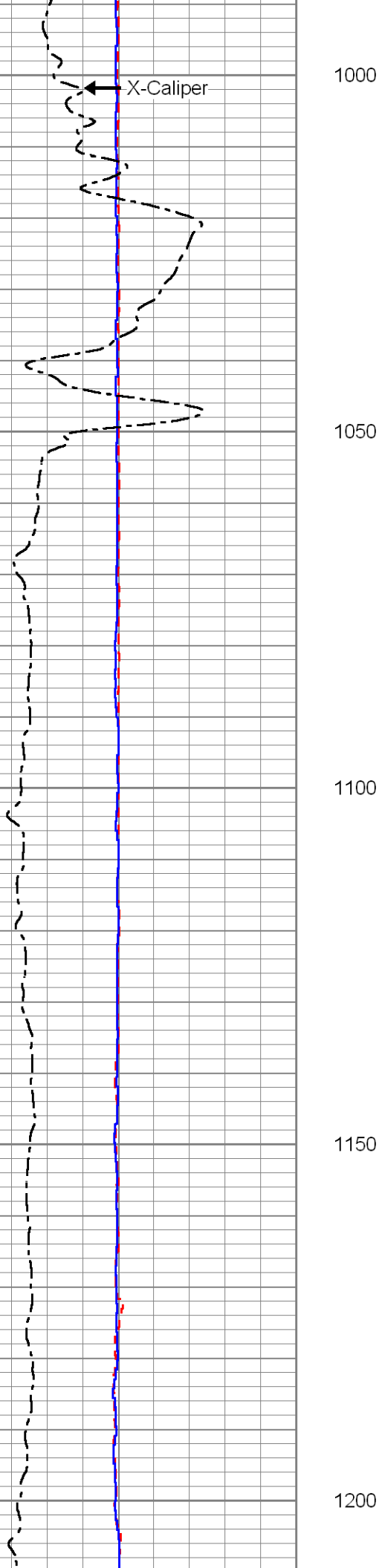
0 DYNAMIC DOWN FLOW (cps) 60

0 STATIC DOWN FLOW (cps) 60



950





1000

1050

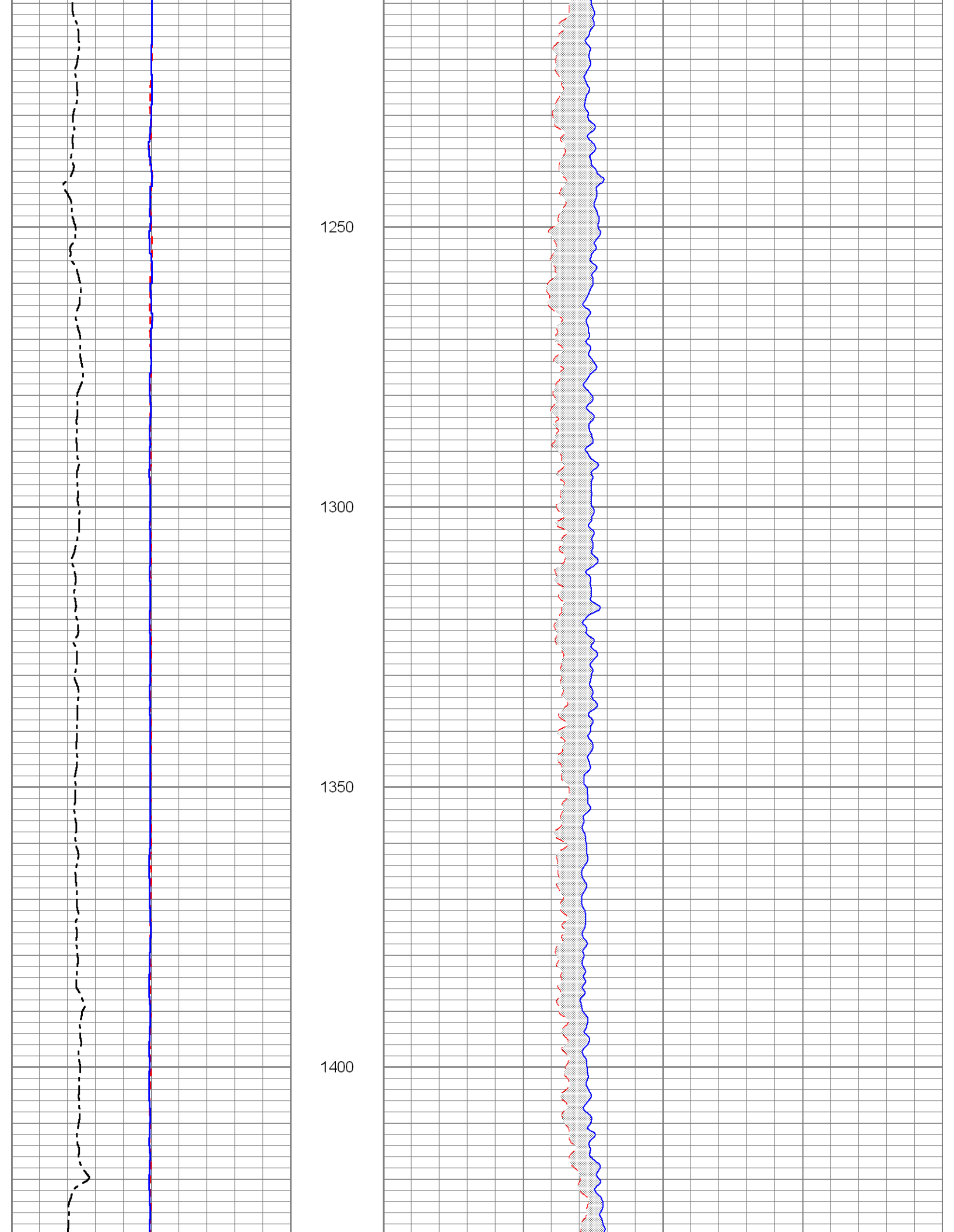
1100

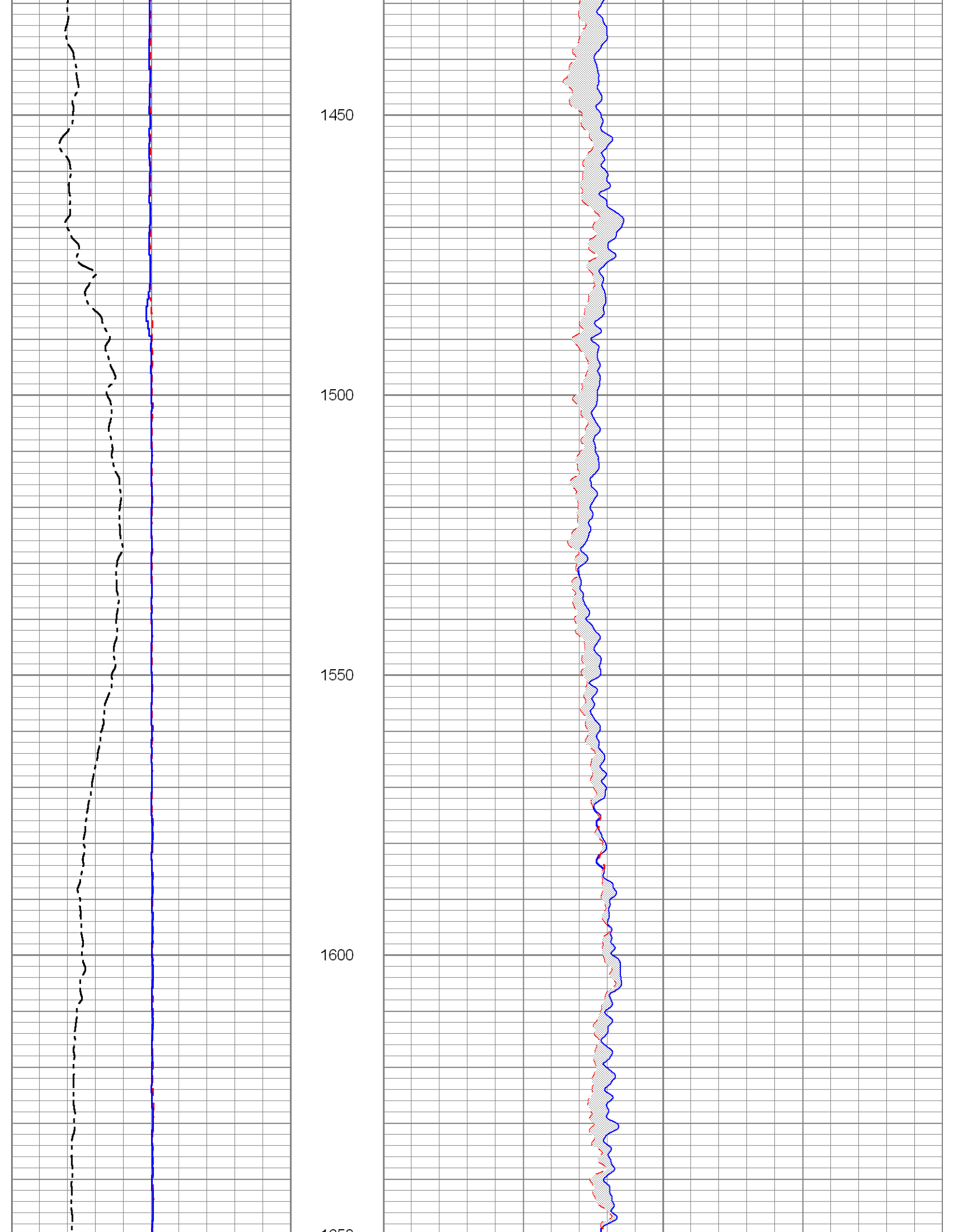
1150

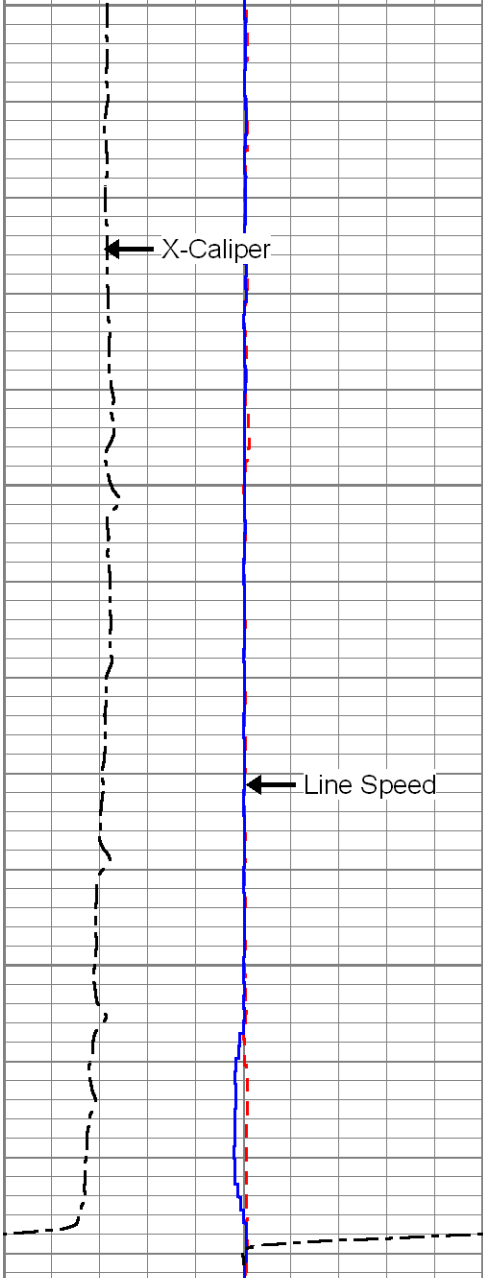
1200

STATIC DOWN FLOW

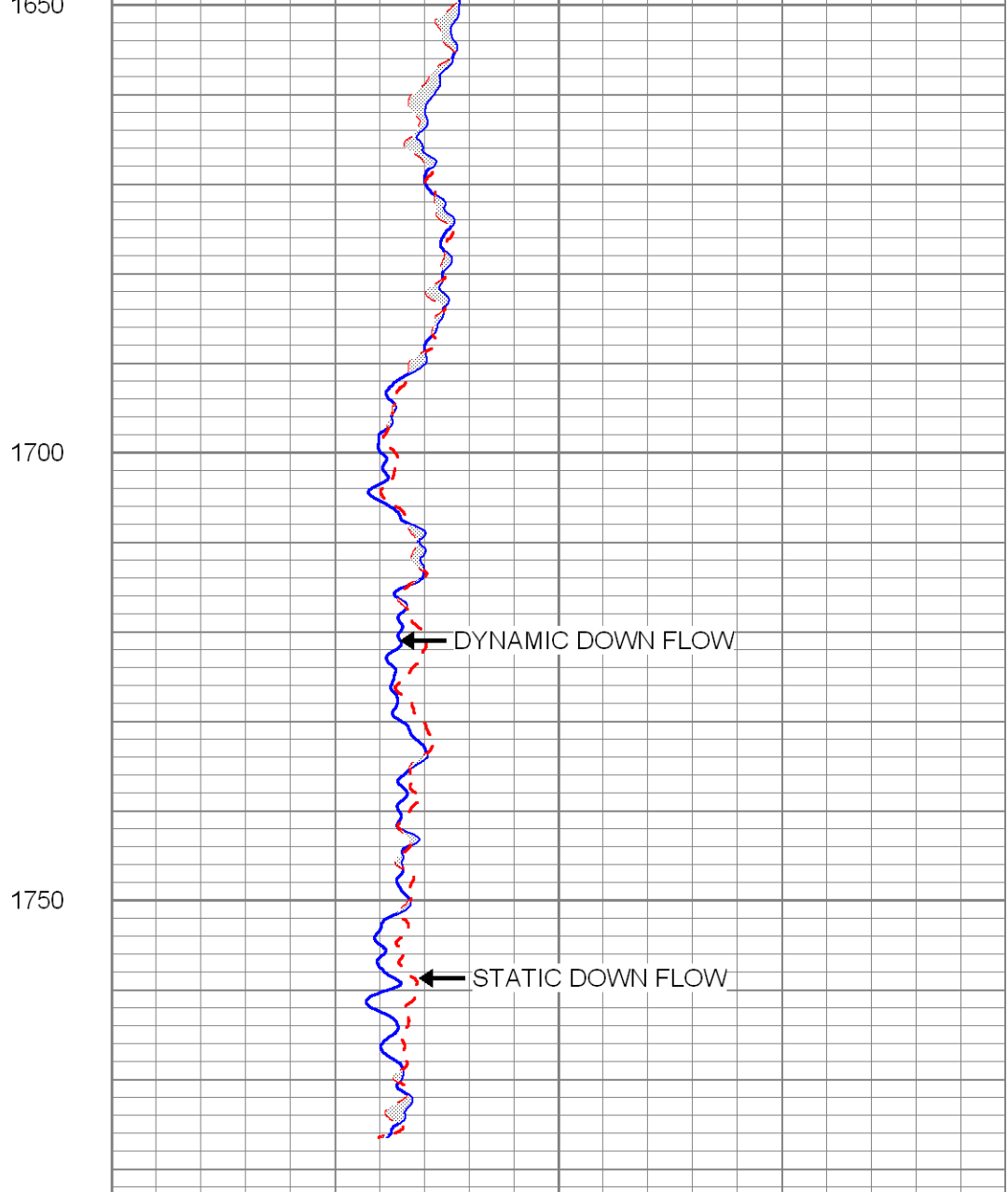
This figure displays a wellbore profile plot, similar to the one on the left. The vertical axis represents depth in feet, with major tick marks at 1000, 1050, 1100, 1150, and 1200. The plot features three data series: a solid blue line, a dashed red line, and a grey shaded area. The solid blue line and the dashed red line are nearly vertical and overlap significantly, indicating a relatively straight wellbore. The grey shaded area represents a range of values, likely representing a flow or pressure gradient, which is wider at the top of the well and narrows towards the bottom. An arrow points to the label 'STATIC DOWN FLOW' on the left side of the plot.







30	L.S STATIC DOWN (ft/min)	130
30	L.S DYNAMIC DOWN (ft/min)	130
10	XCAL (in)	30

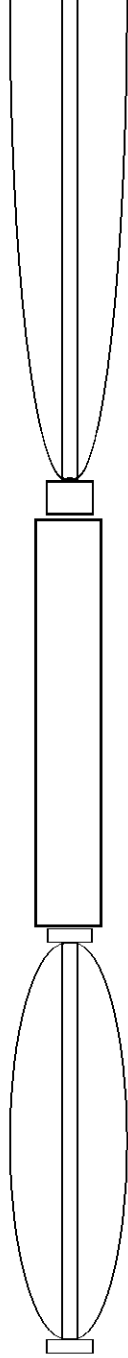


0	DYNAMIC DOWN FLOW (cps)	60
0	STATIC DOWN FLOW (cps)	60

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			8FETSB	8.00	1.69	70.00

FLOWP
FLOWN

3.75
3.75



FLOW-LARGE (65)

SHRT

3.13

3.75

20.00

3.25

2.00

30.00

Dataset: bisciw1.db: field/well/run6/pass17
Total Length: 14.38 ft
Total Weight: 120.00 lb
O.D.: 3.75 in