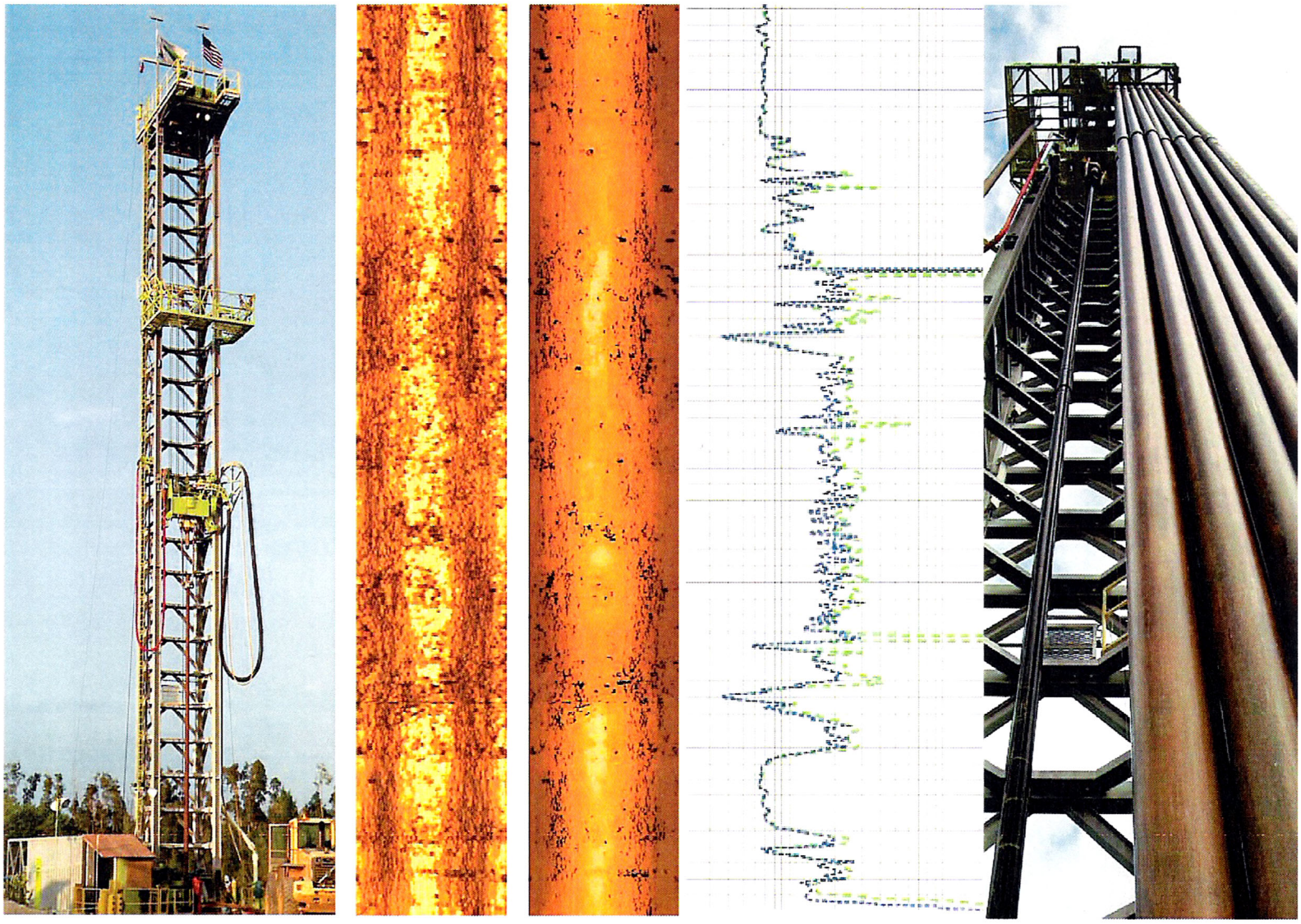
Schlumberger
WATER SERVICES

City of Hialeah
Reverse Osmosis Water Treatment Plant
Injection Wells IW-1 & IW-2 and
Dual-Zone Monitor Well DZMW-1
Completion Report

Appendices
Volume 4

November 12, 2010



List of Appendices

Appendix P

YOUNGQUIST BROTHERS, Inc

GEOPHYSICAL LOGGING DIVISION

BOREHOLE TELEVIEWER LOG

Company CITY OF HIALEAH
Well MW-1
Field HIALEAH R.O.W.T.P.
County DADE
State FL

Company CITY OF HIALEAH
Well MW-1
Field HIALEAH R.O.W.T.P.
County DADE State FL

Location: API # :

SEC TWP RGE

Other Services
SEE COMMENTS

Permanent Datum Elevation
Log Measured From
Drilling Measured From

Elevation
K.B.
D.F.
G.L.

Date	24-APRIL-2010		
Run Number	EIGHT		
Depth Driller	2260'		
Depth Logger	2260'		
Bottom Logged Interval	2260'		
Top Log Interval	CASING		
Open Hole Size	11"		
Type Fluid	WATER		
Density / Viscosity	NA		
Max. Recorded Temp.	NA		
Estimated Cement Top	NA		
Time Well Ready	0042		
Time Logger on Bottom	0042		
Equipment Number	103		
Location	FT MYERS		
Recorded By	FULLER		
Witnessed By	BARNES, D		

Borehole Record				Borehole Record			
Run Number	Bit	From	To	Run No.	Bit	From	To
ONE	40.5"	SURFACE	157'	FIVE	11"	CASING	2260'
TWO	28.5"	CASING	1076'				
THREE	12.25"	CASING	1940'				
FOUR	18.5"	CASING	1900'				

Casing Record	Size	Wgt/Ft	Top	Bottom
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Liner				

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FLUID CONDUCTIVITY/TEMP
DUAL INDUCTION
X-Y CALIPER/GAMMA RAY
BOREHOLE SONIC
FLOW

MAIN PASS

YOUNGQUIST BROTHERS, Inc

GEOPHYSICAL LOGGING DIVISION

Database File:	hiamwbhtv.db
Dataset Pathname:	run8/pass3
Presentation Format:	mwscan2
Dataset Creation:	Sat Apr 24 11:47:32 2010 by Log Open-Cased 090629
Charted by:	Depth in Feet scaled 1:20

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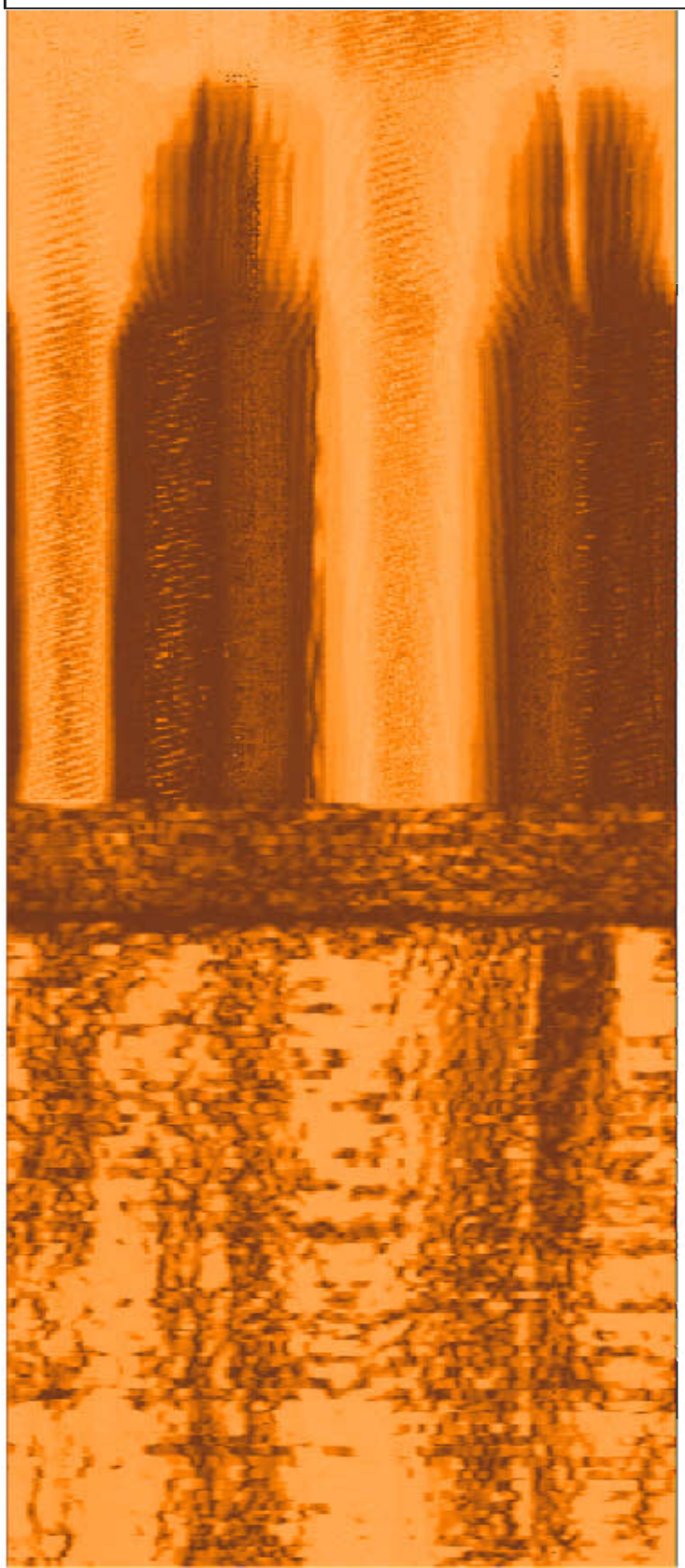

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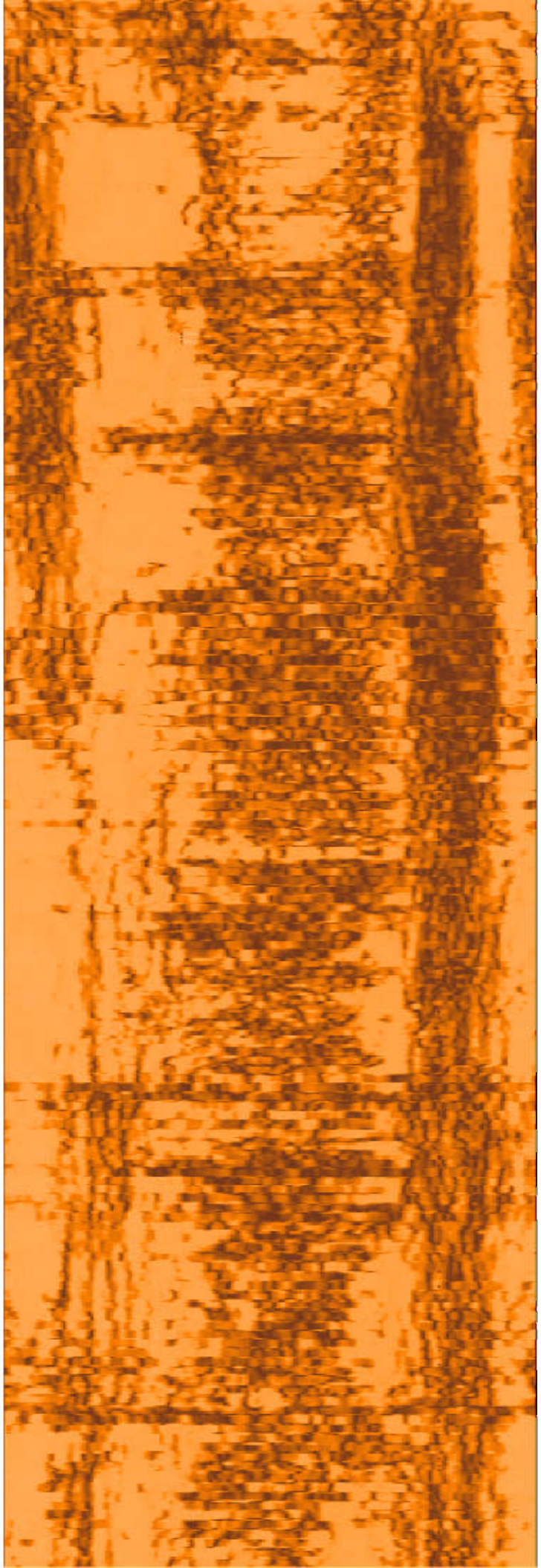

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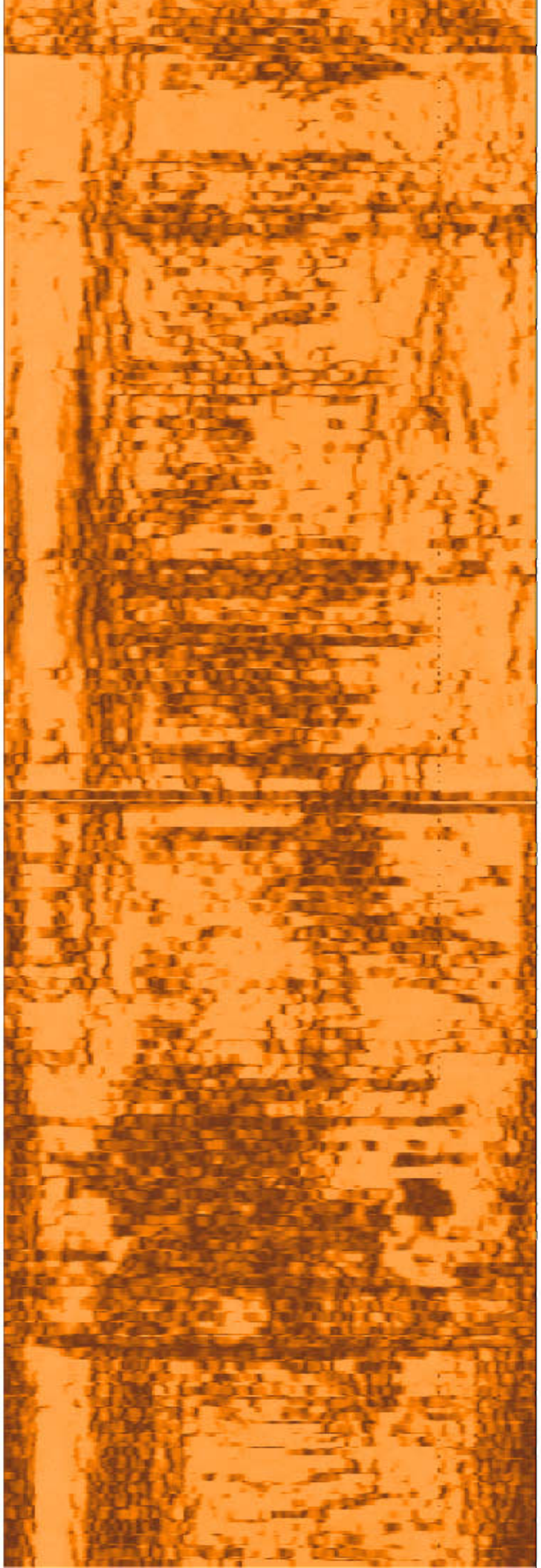

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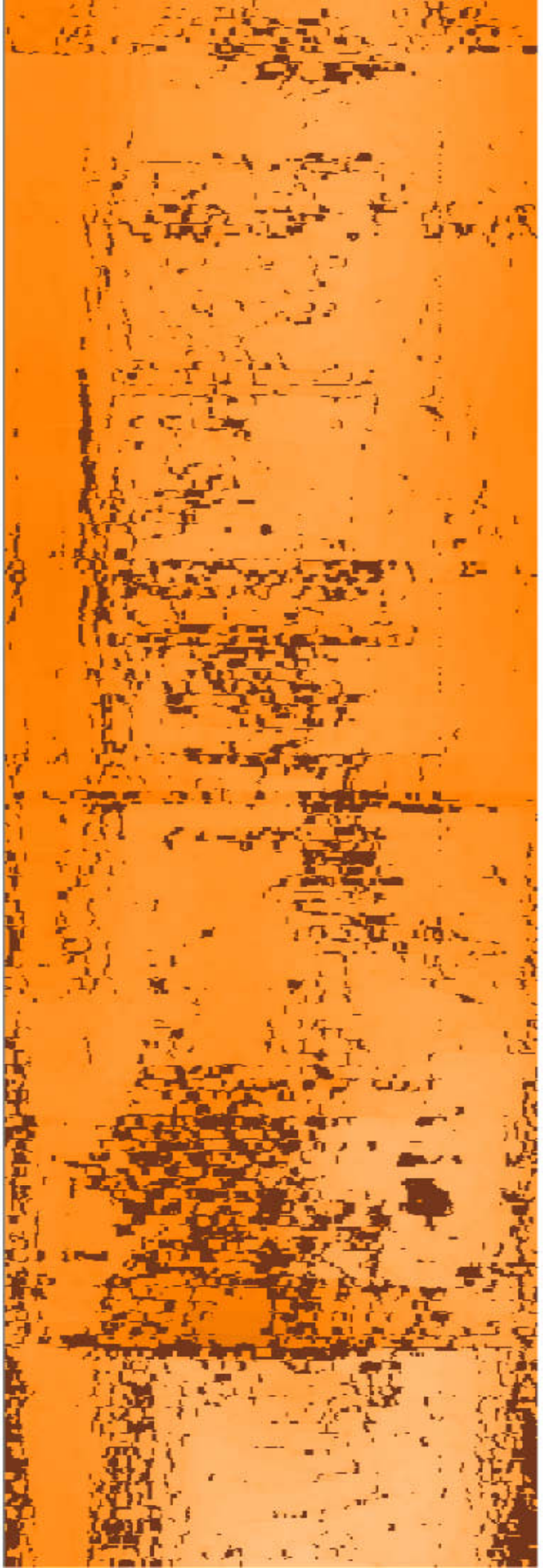

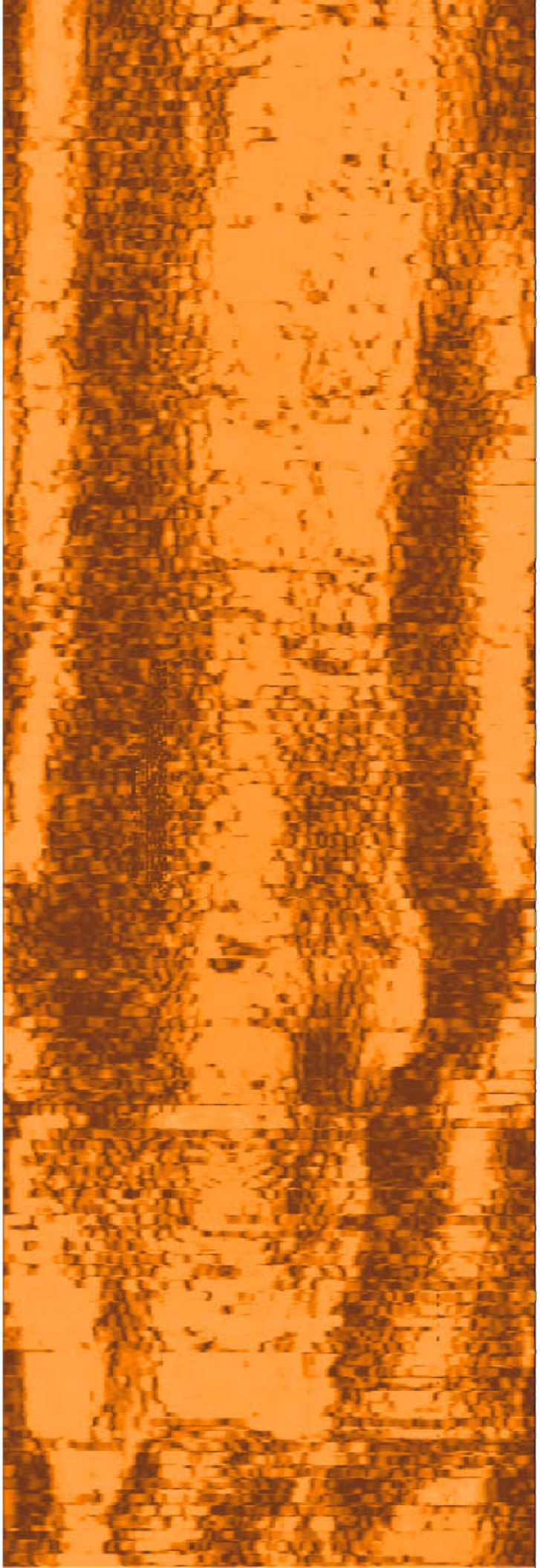

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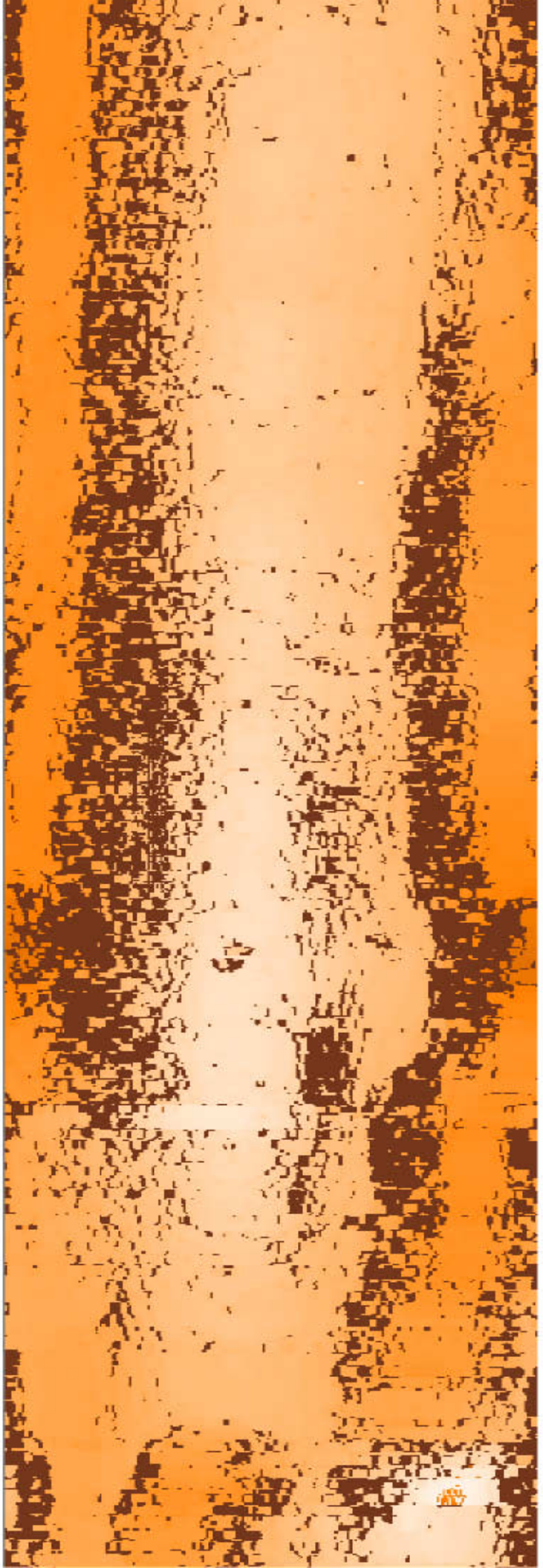

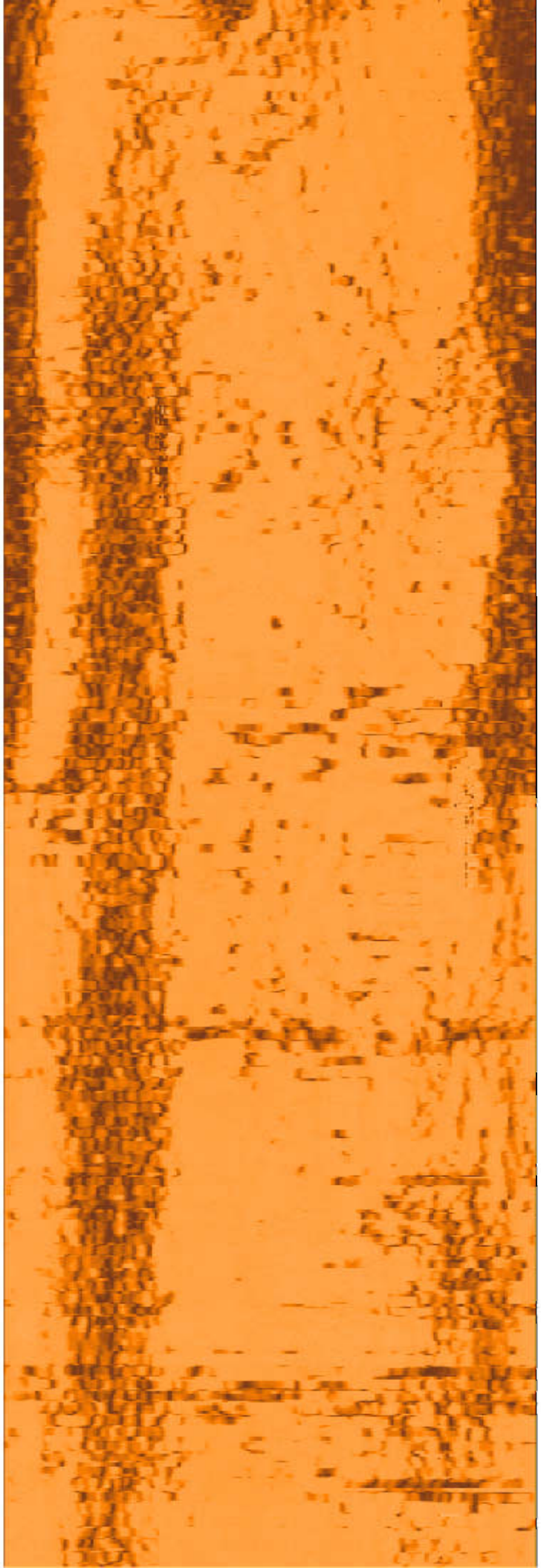

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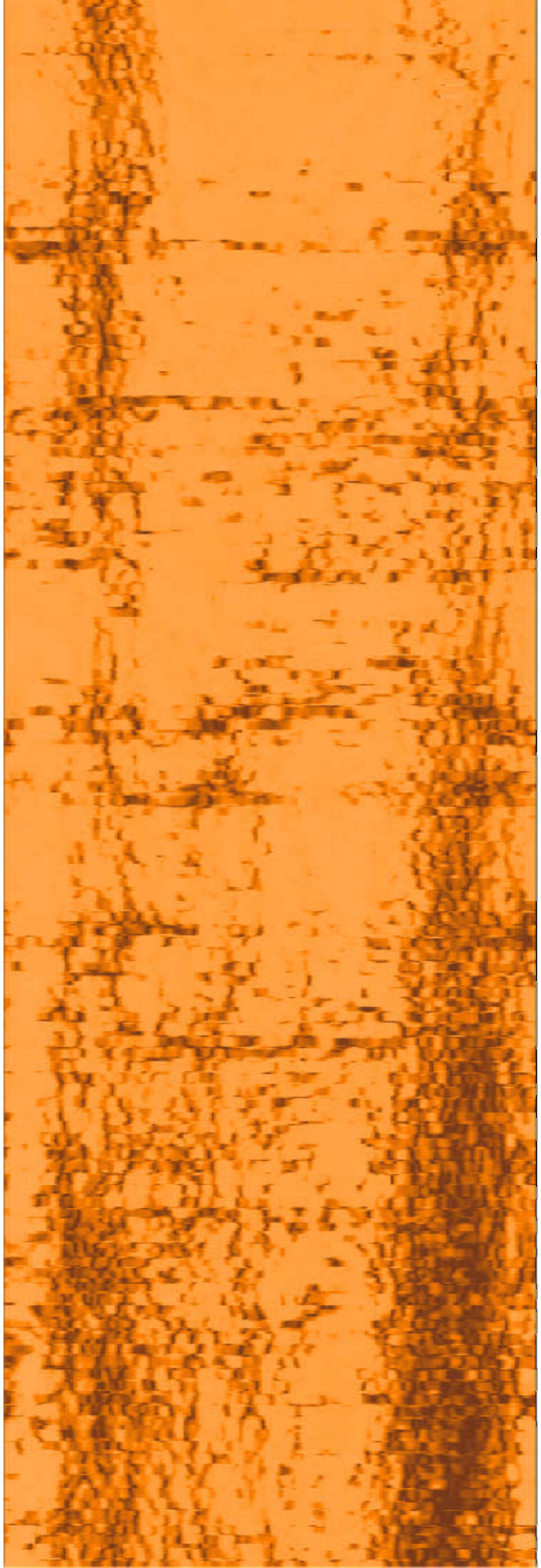

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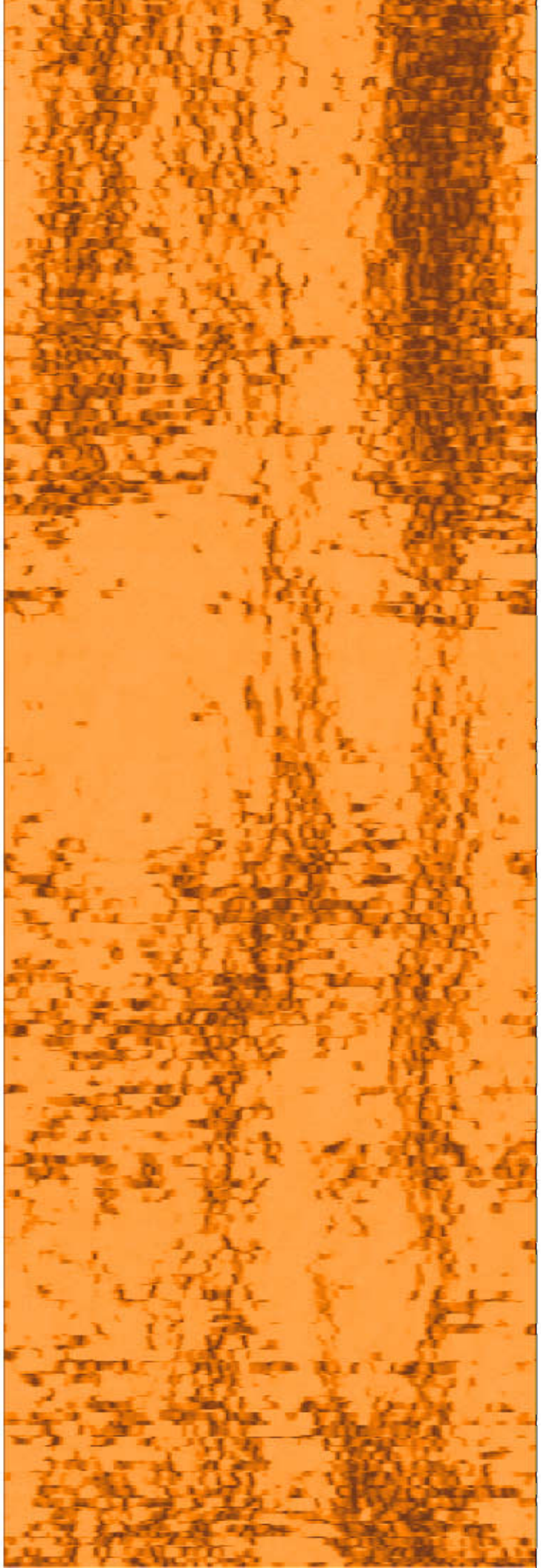

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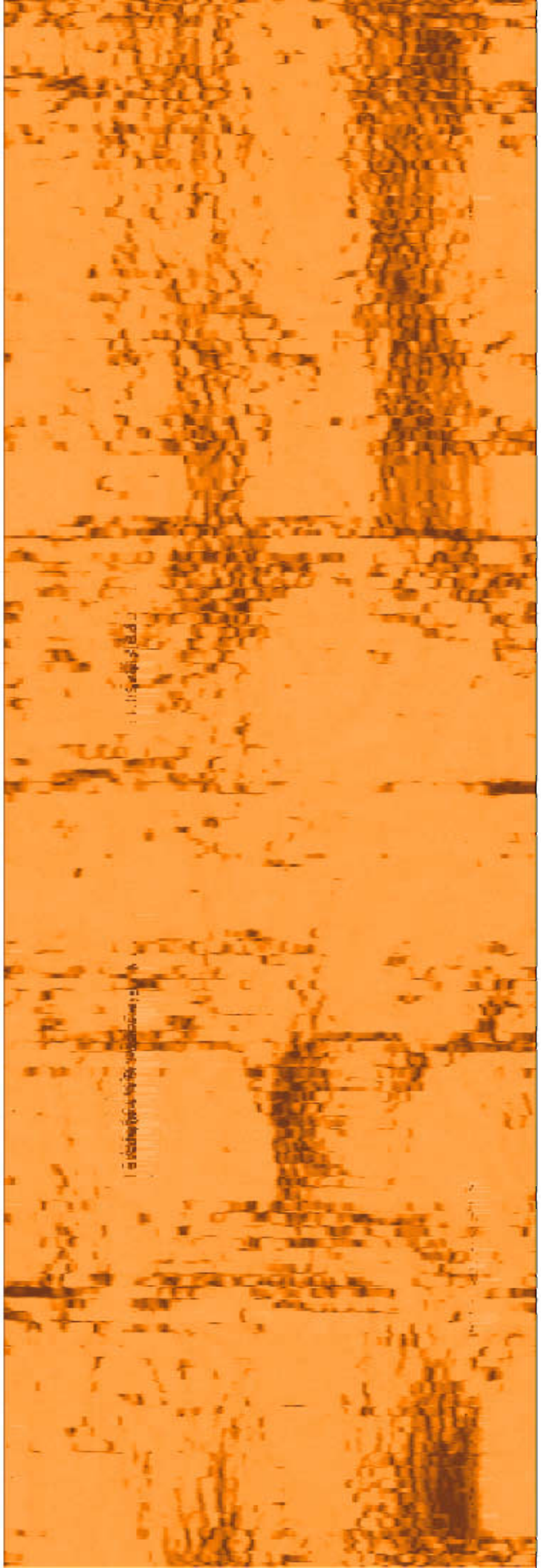

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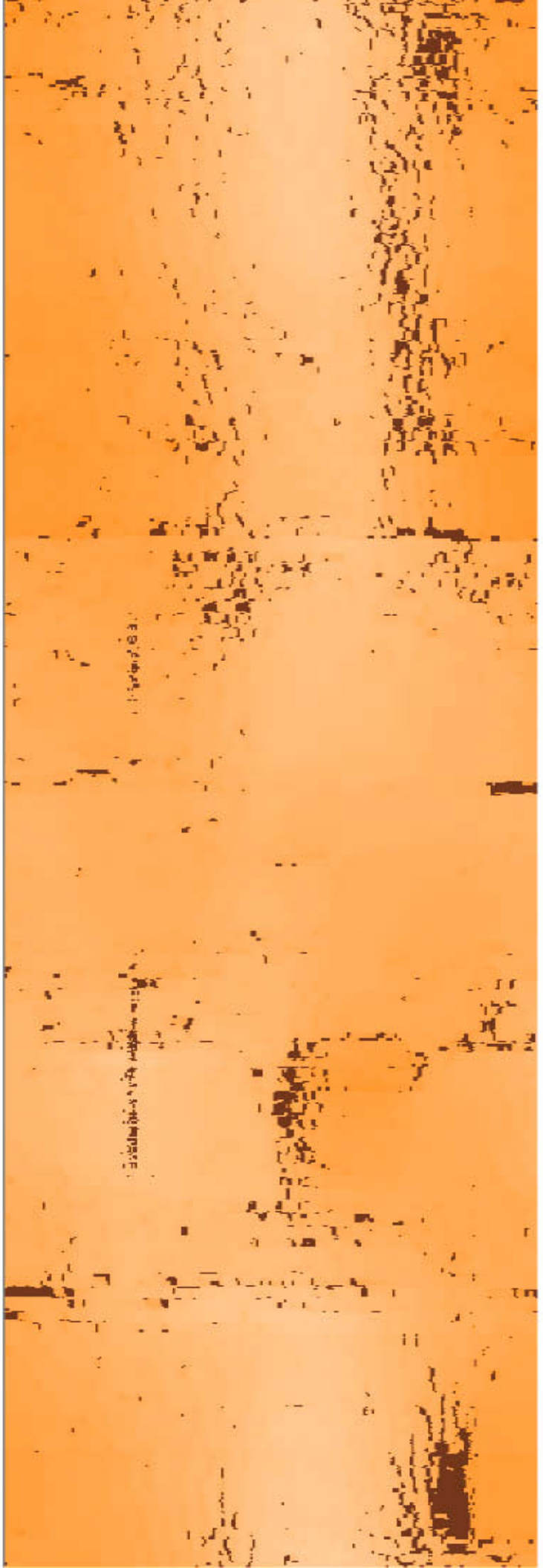

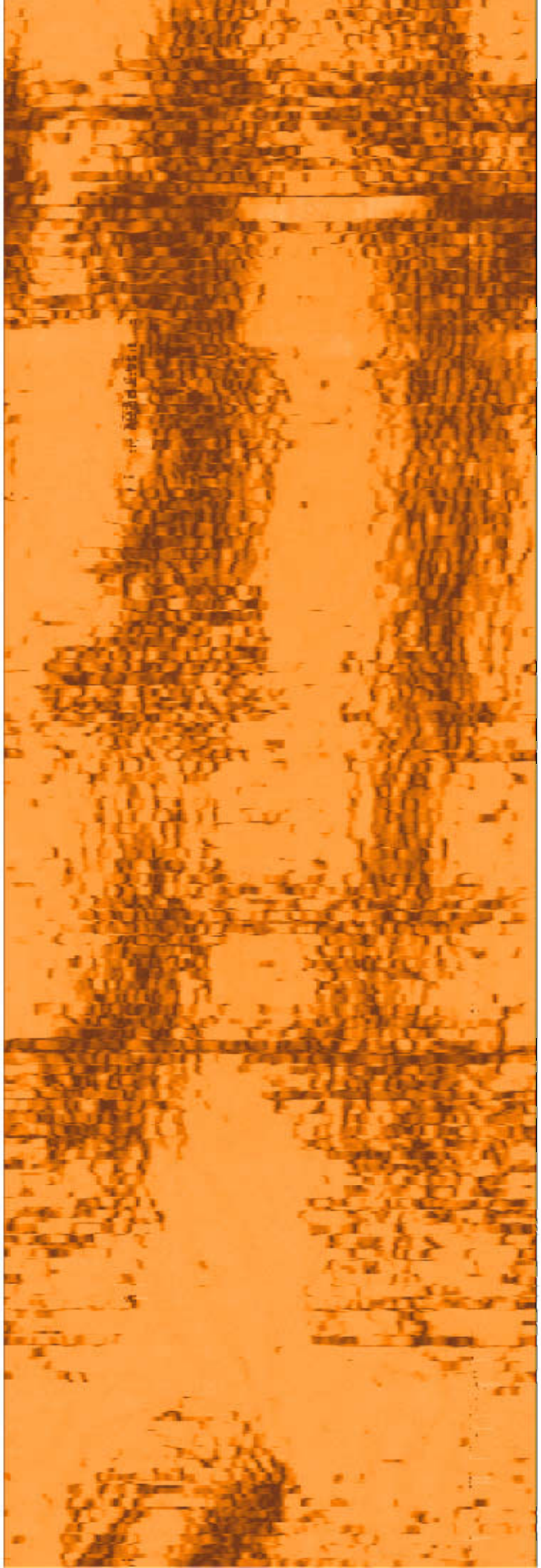

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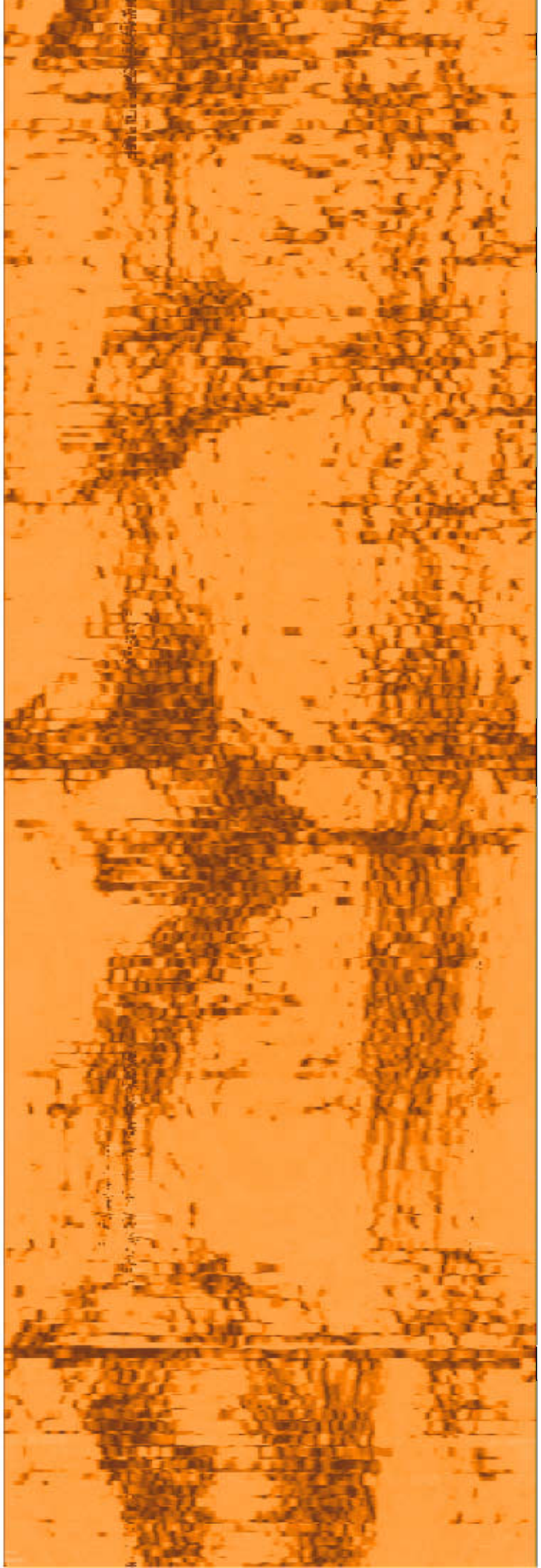

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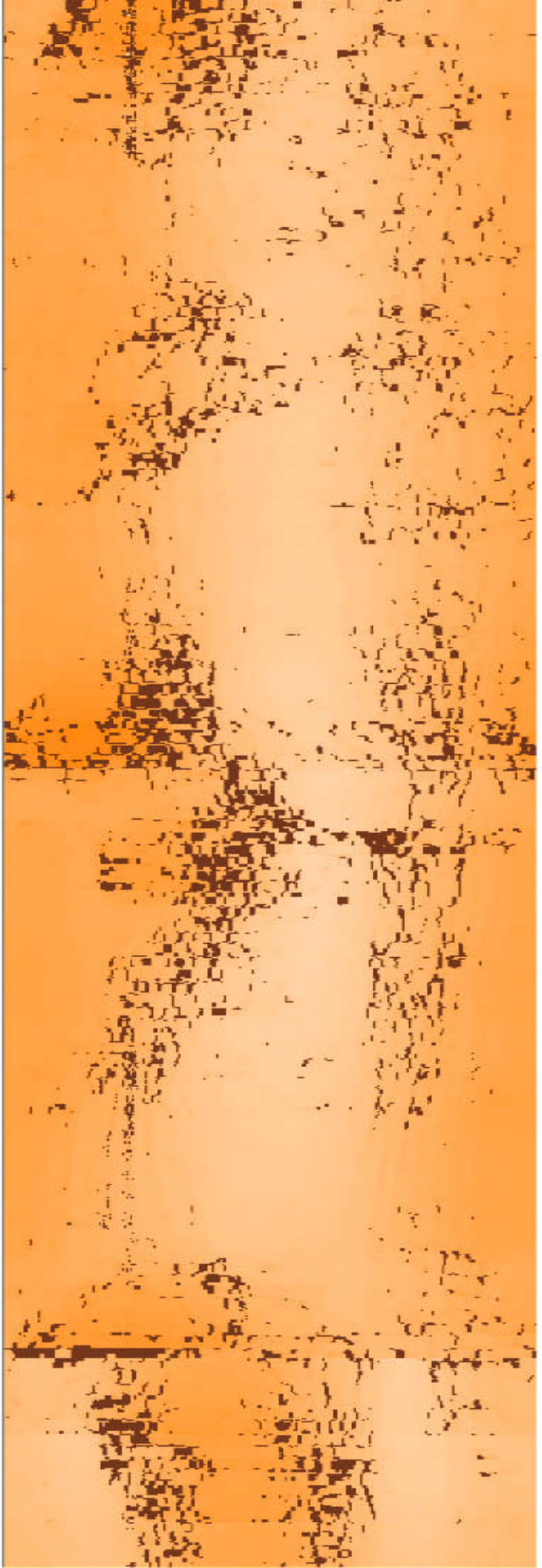

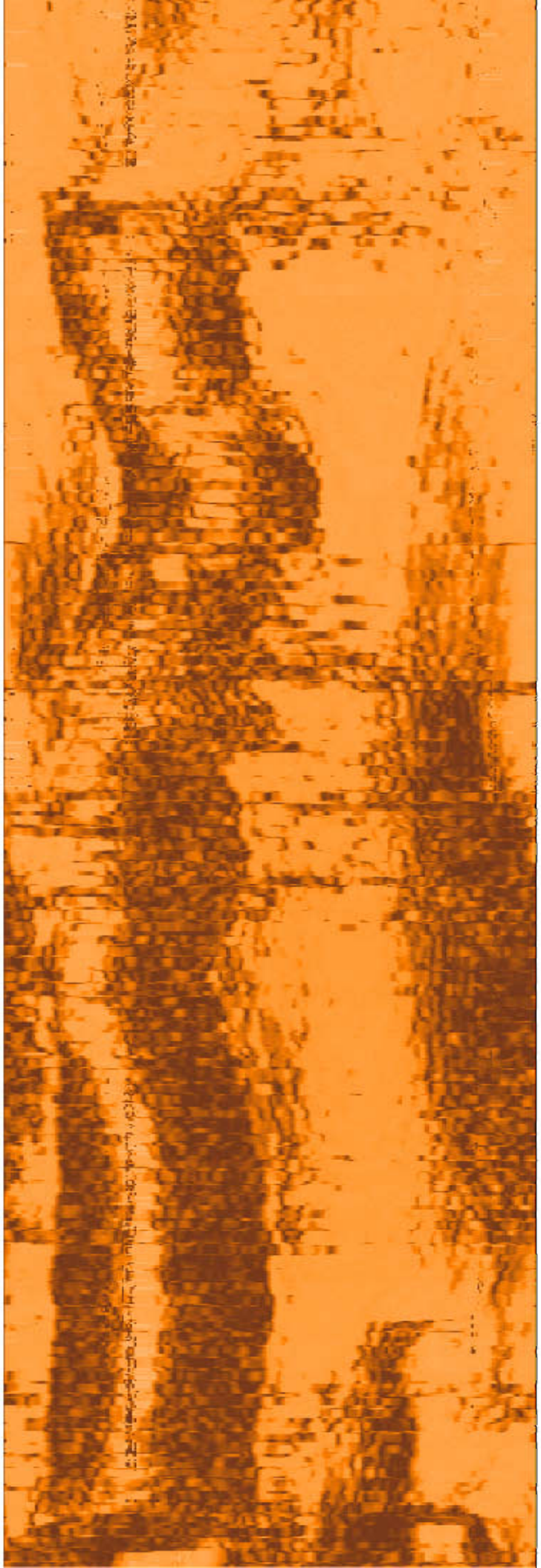

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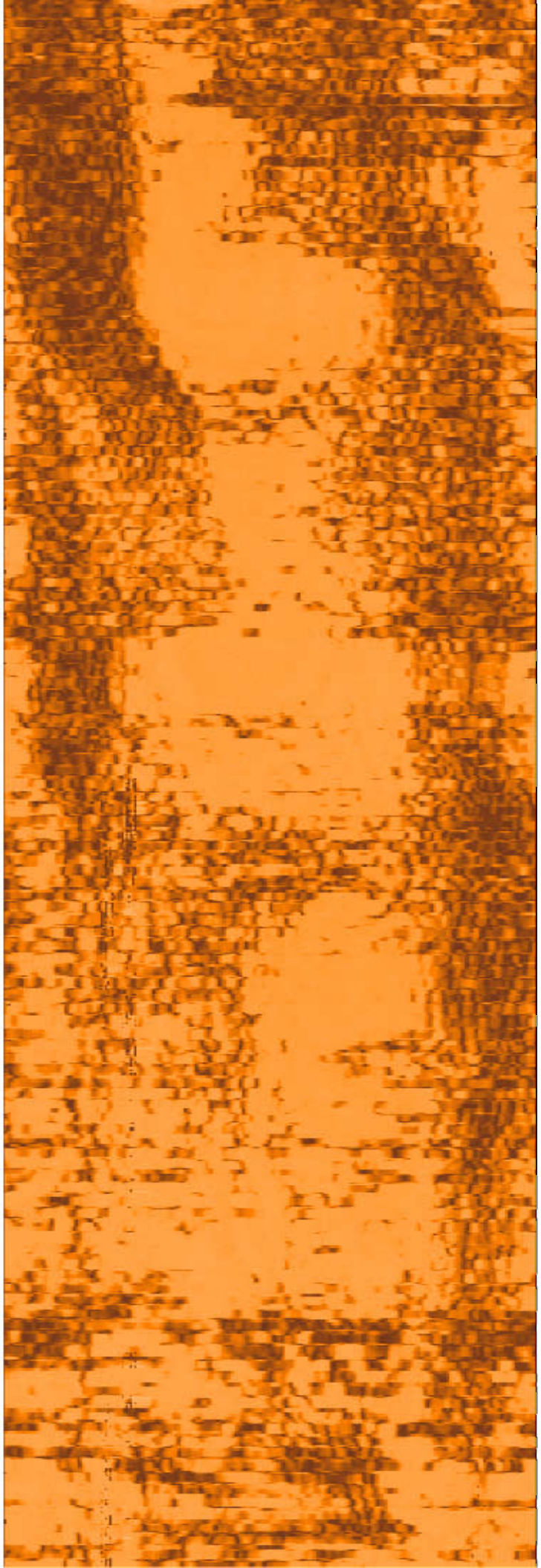

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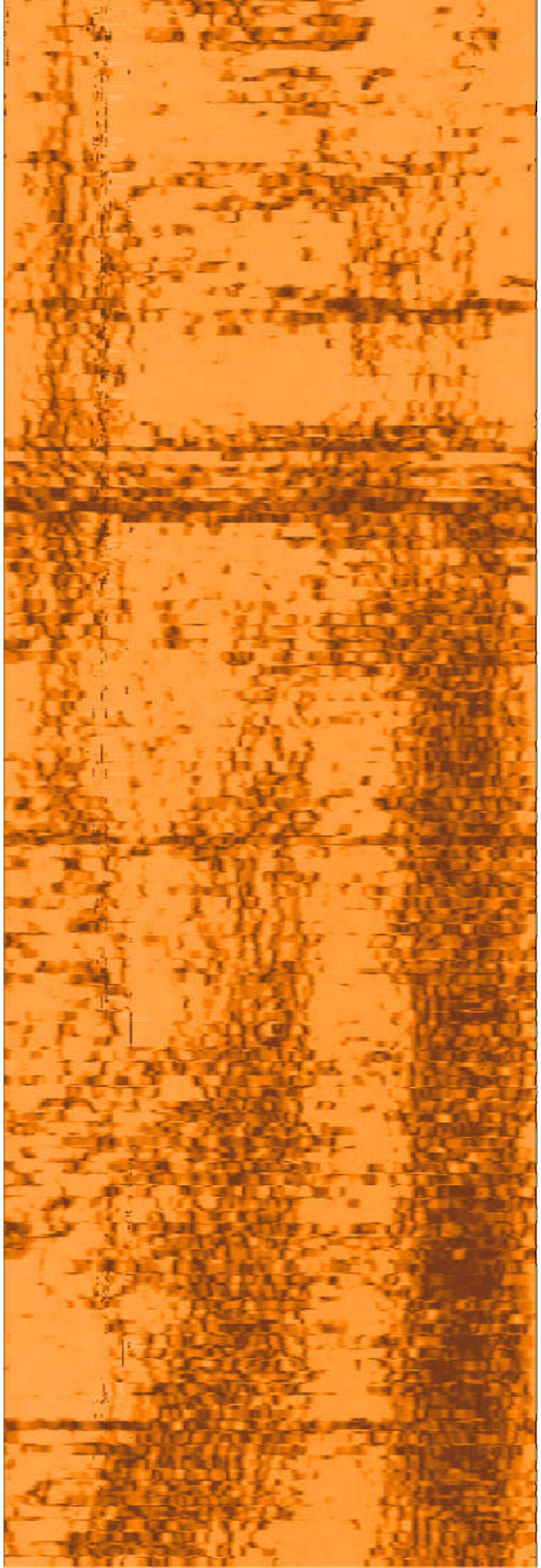

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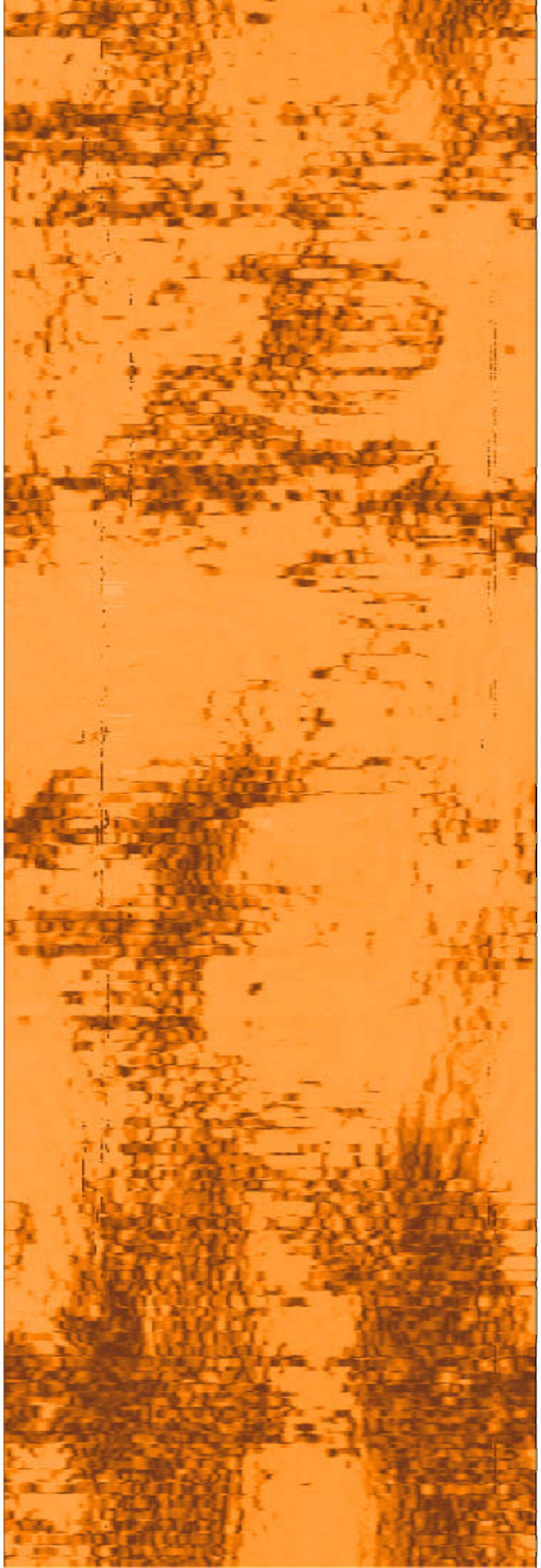

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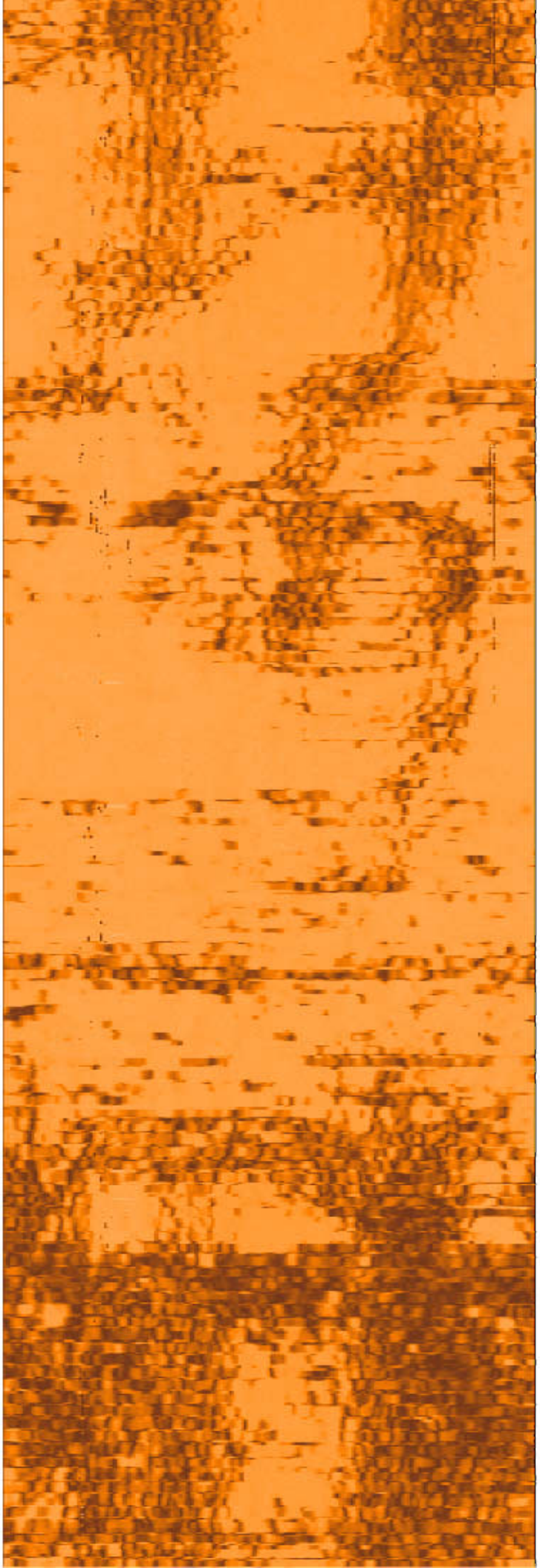

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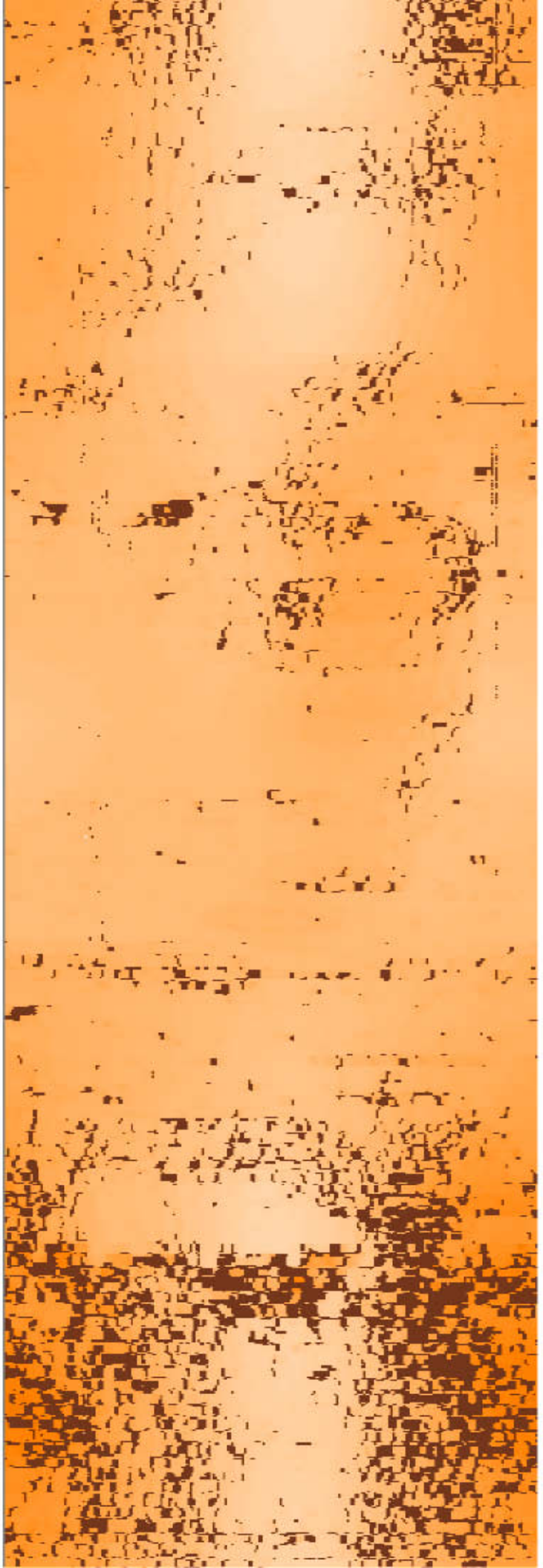

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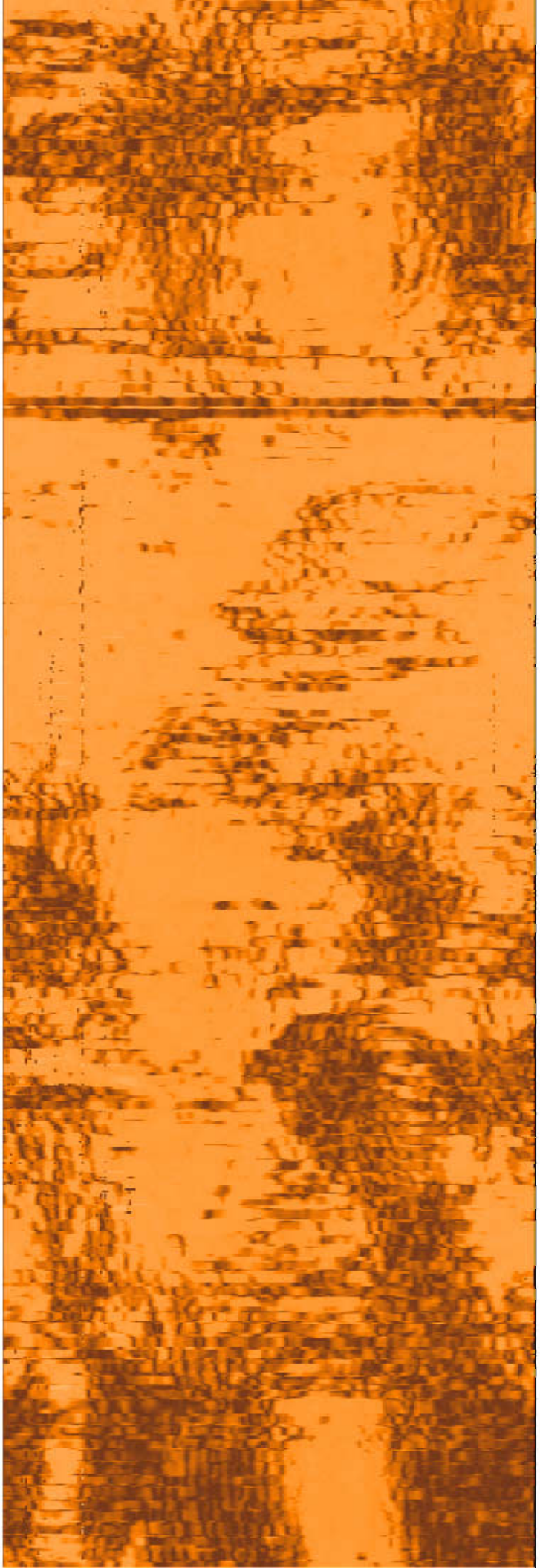

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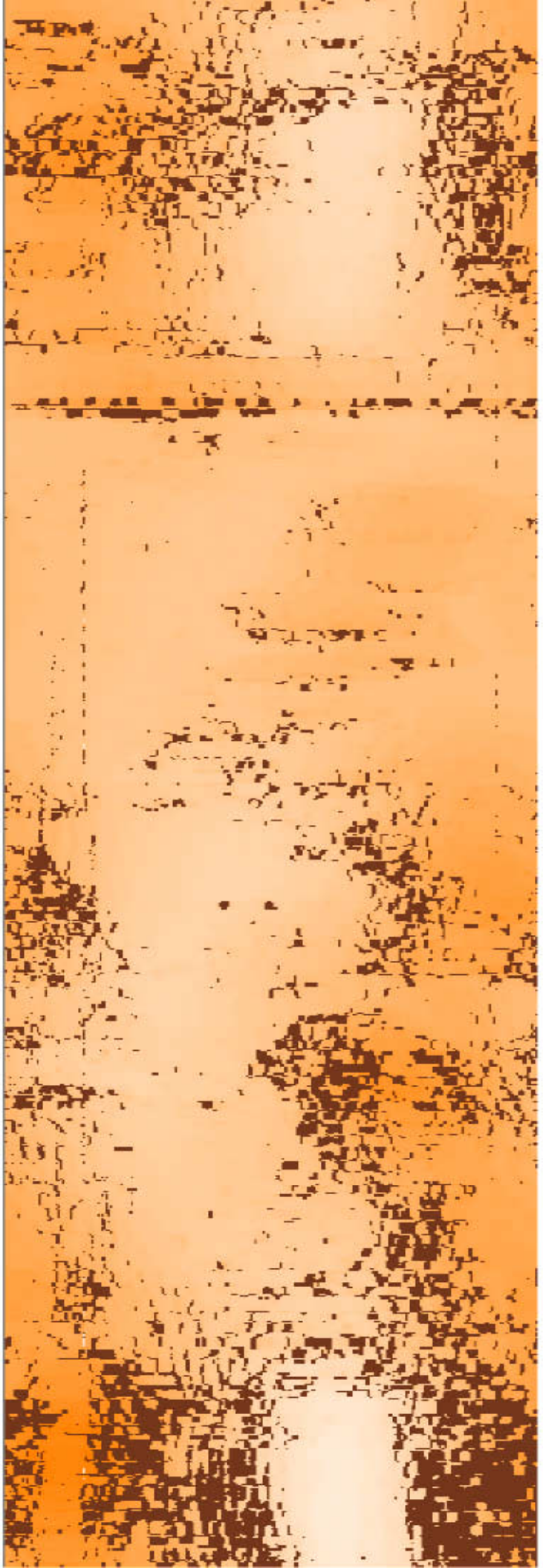

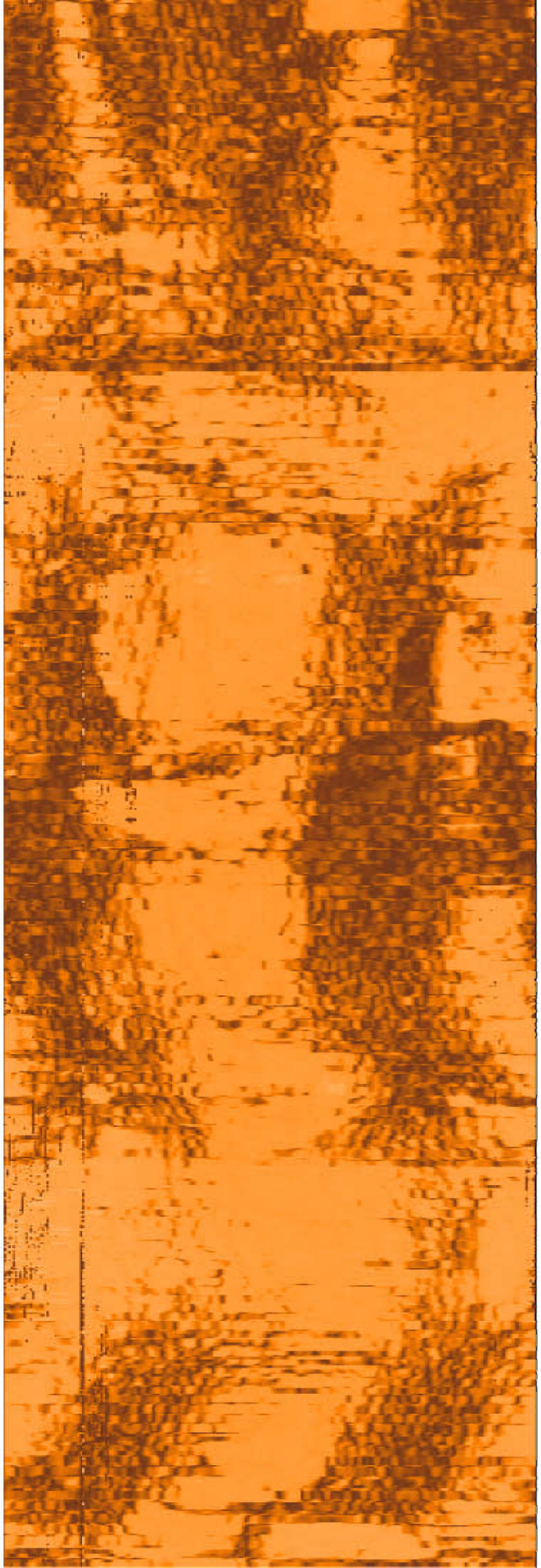

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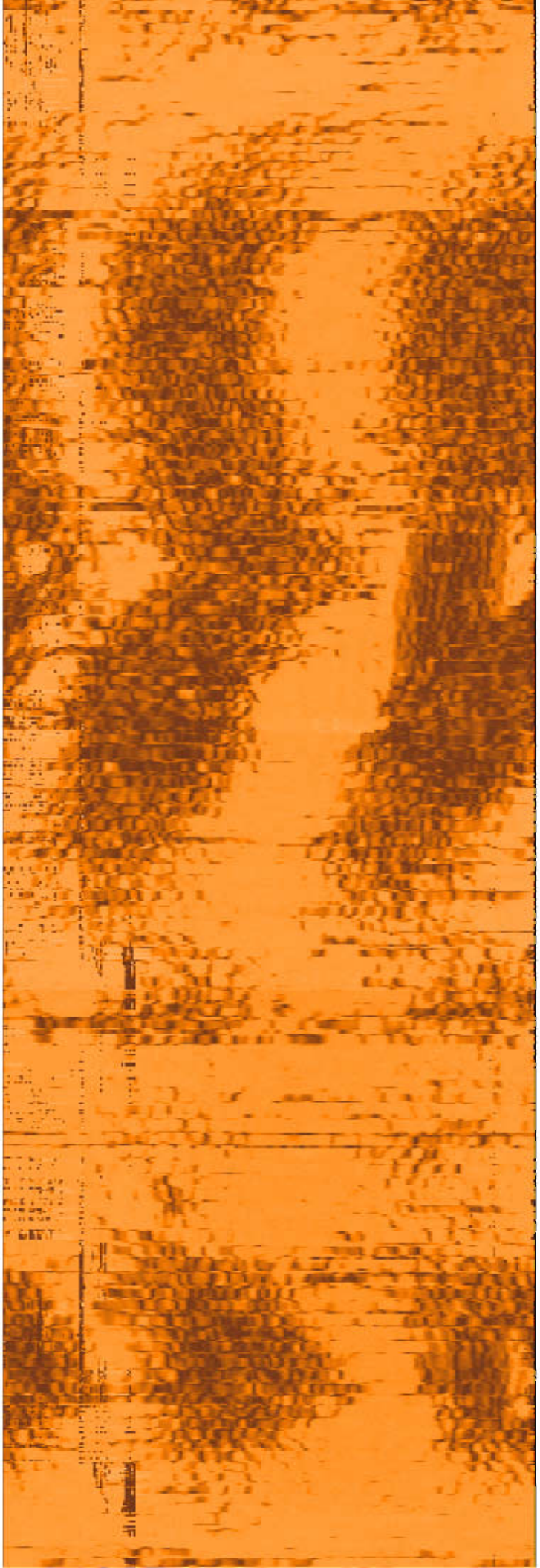

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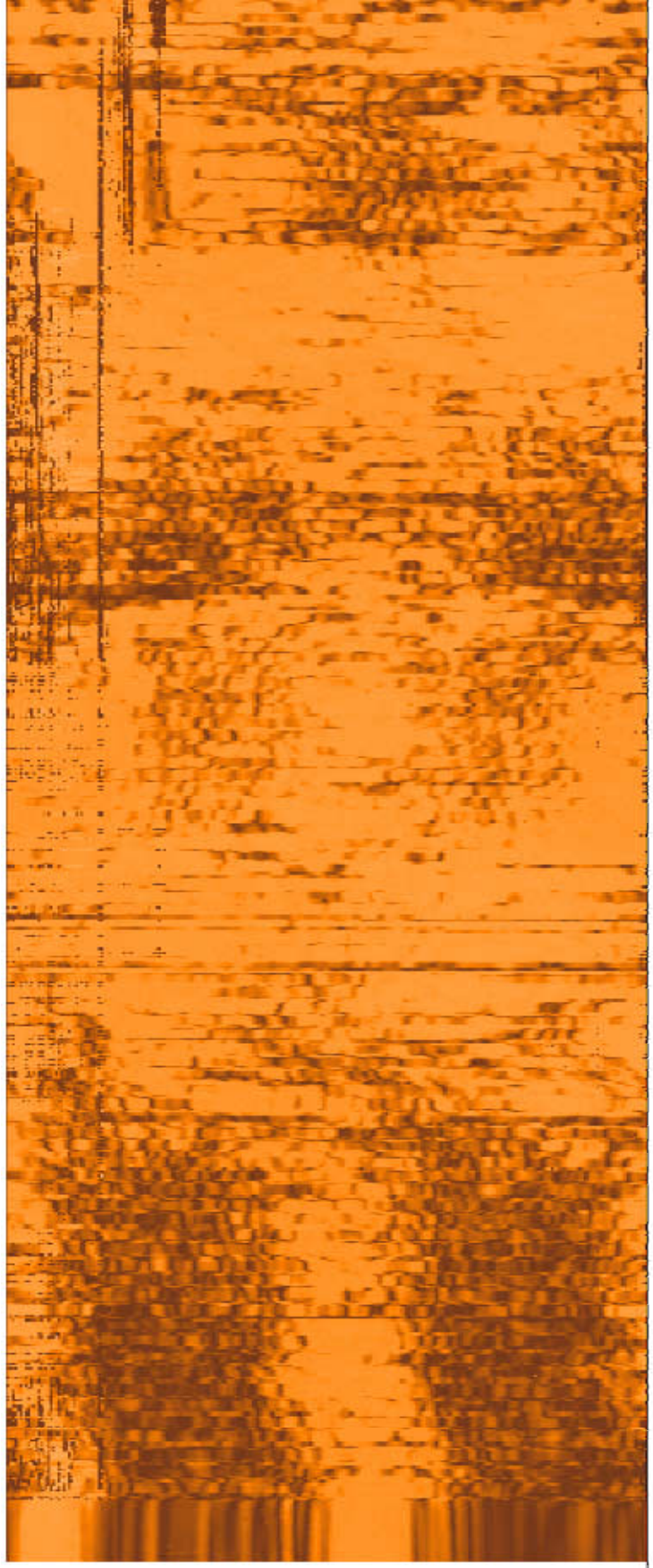

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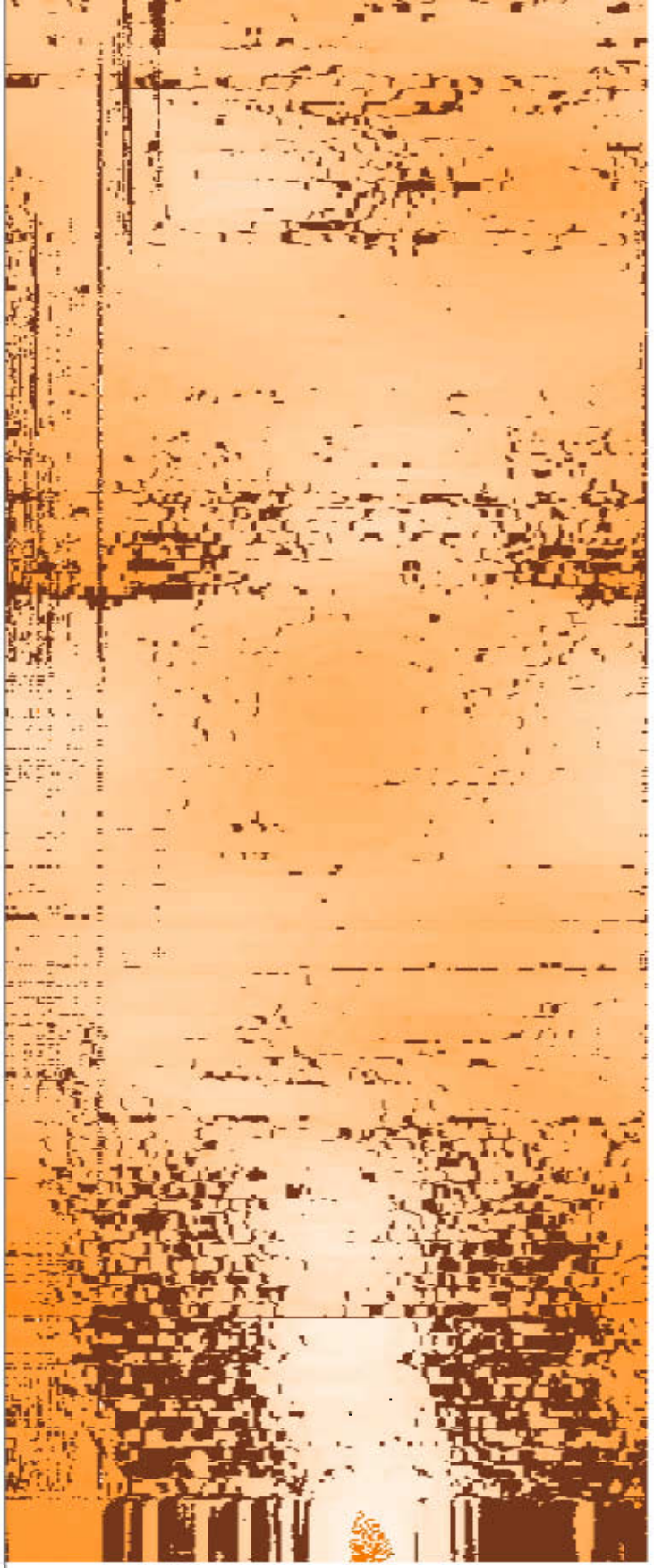

1 AMPMAP 256
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Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			MWScan-A (2) MW Scanner Tool	9.75	3.50	225.00
WvfMon	1.50					
WvfScan	1.50					
TTScan	1.50					
AmpScan	1.50					
Aux1	1.50					
RotmS	0.83					
LOCTIM	0.00					

Dataset: hiamwbhtv.db: field/well/run8/pass3
Total Length: 9.75 ft
Total Weight: 225.00 lb

Total Weight:	225.00 lb
O.D.	3.50 in

YOUNGQUIST BROTHERS, Inc

GEOPHYSICAL LOGGING DIVISION

BOREHOLE TELEVIEWER LOG

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Field HIALEAH R.O.W.T.P.
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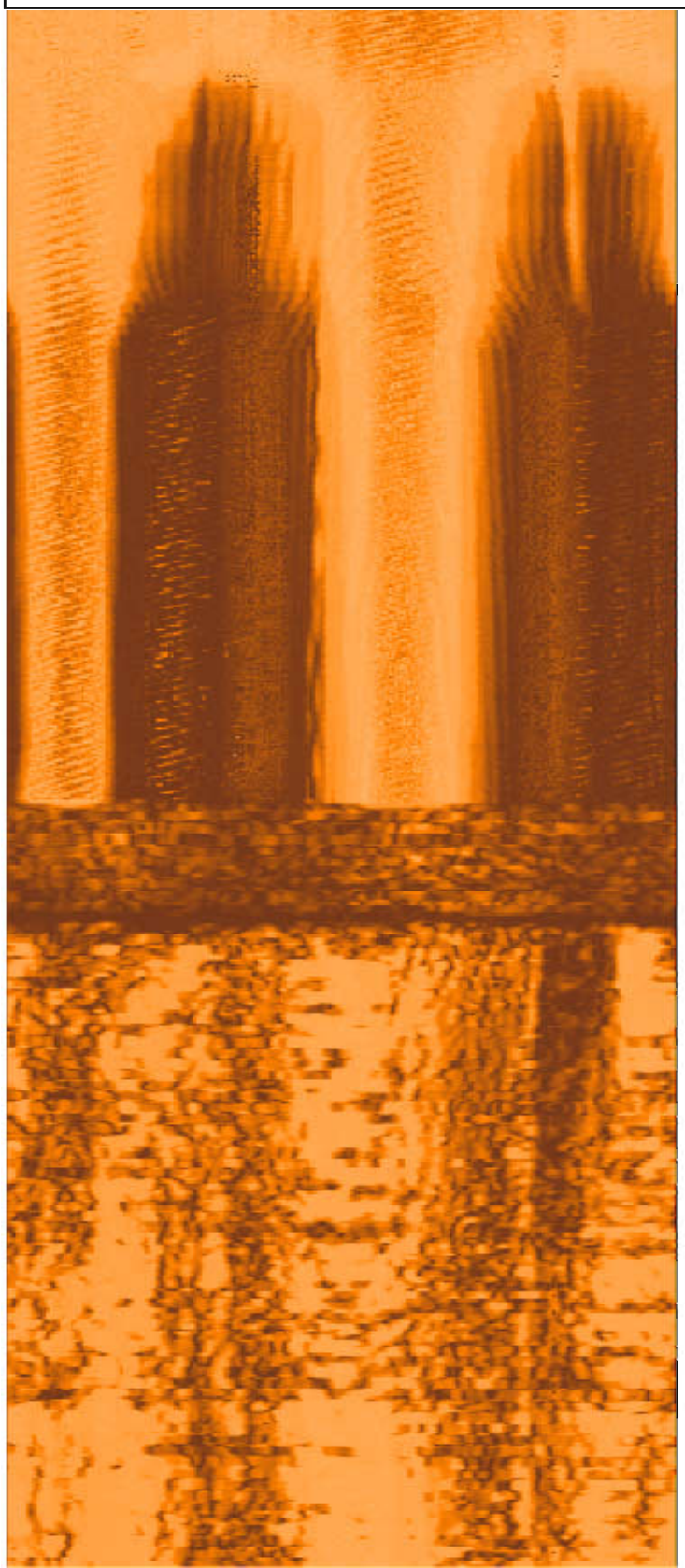

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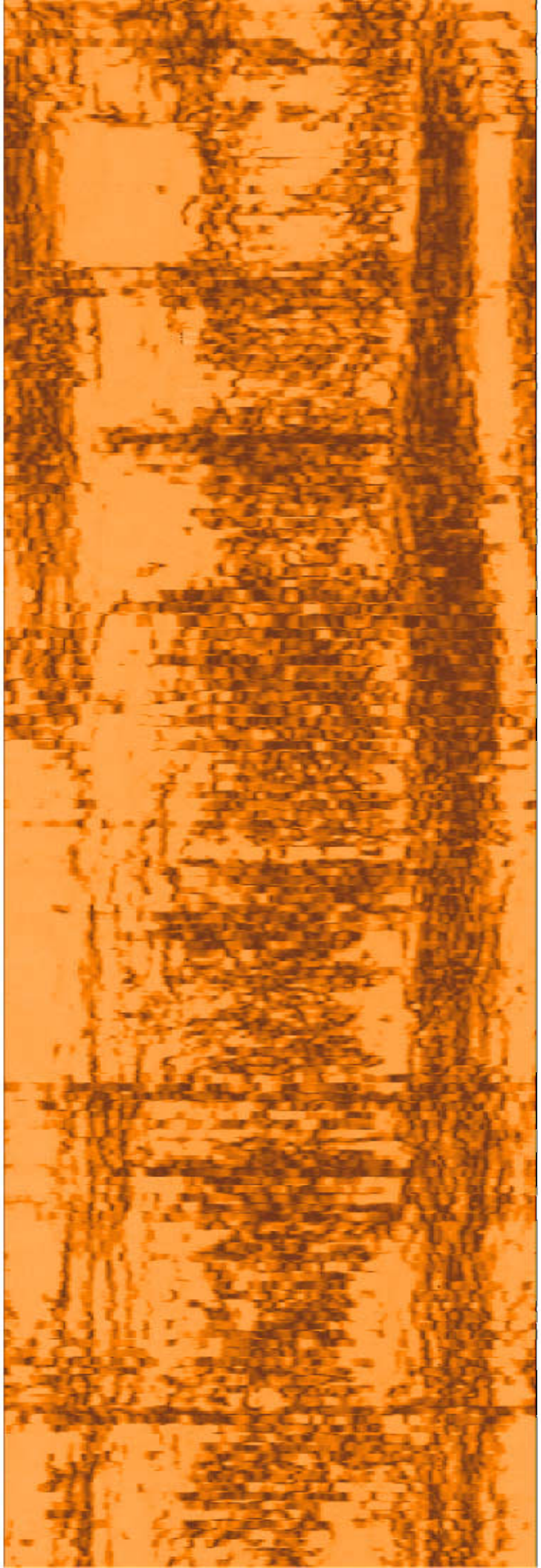

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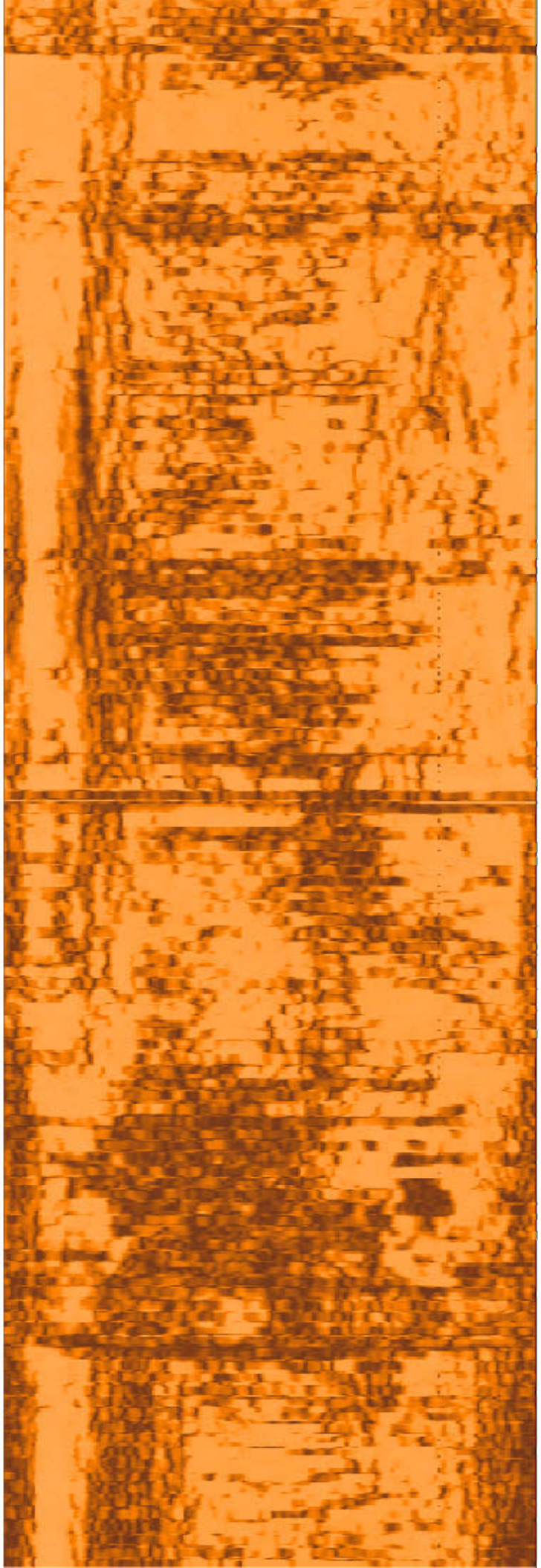

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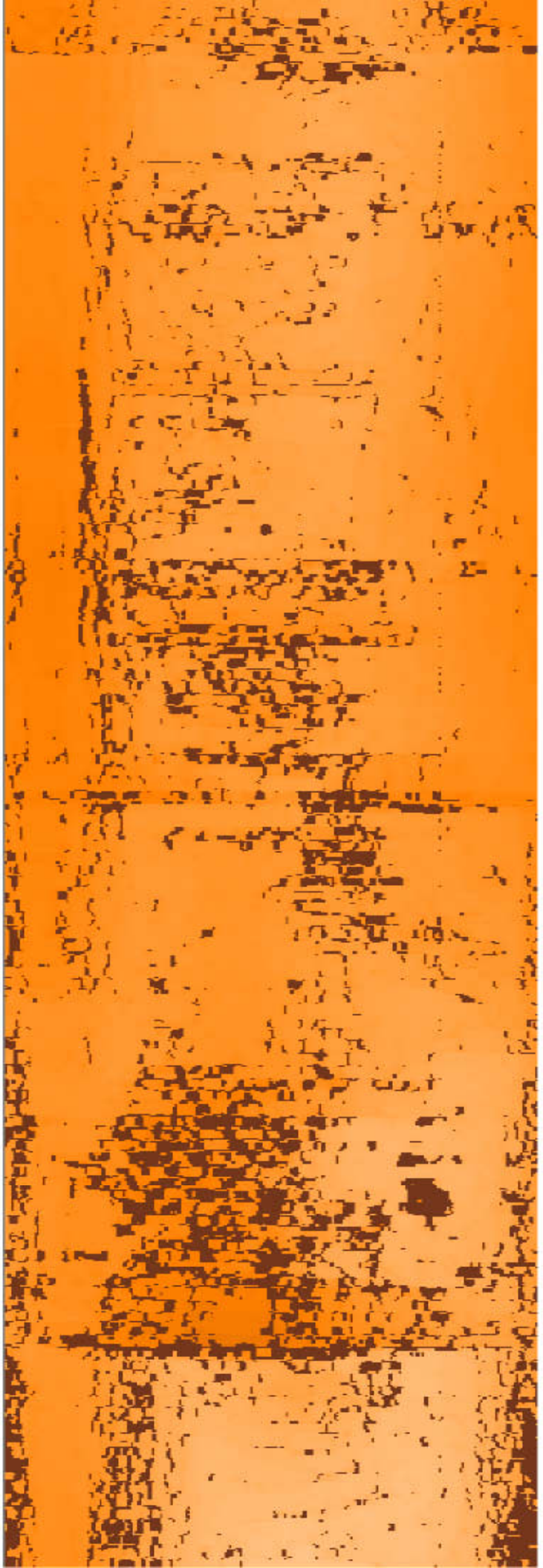

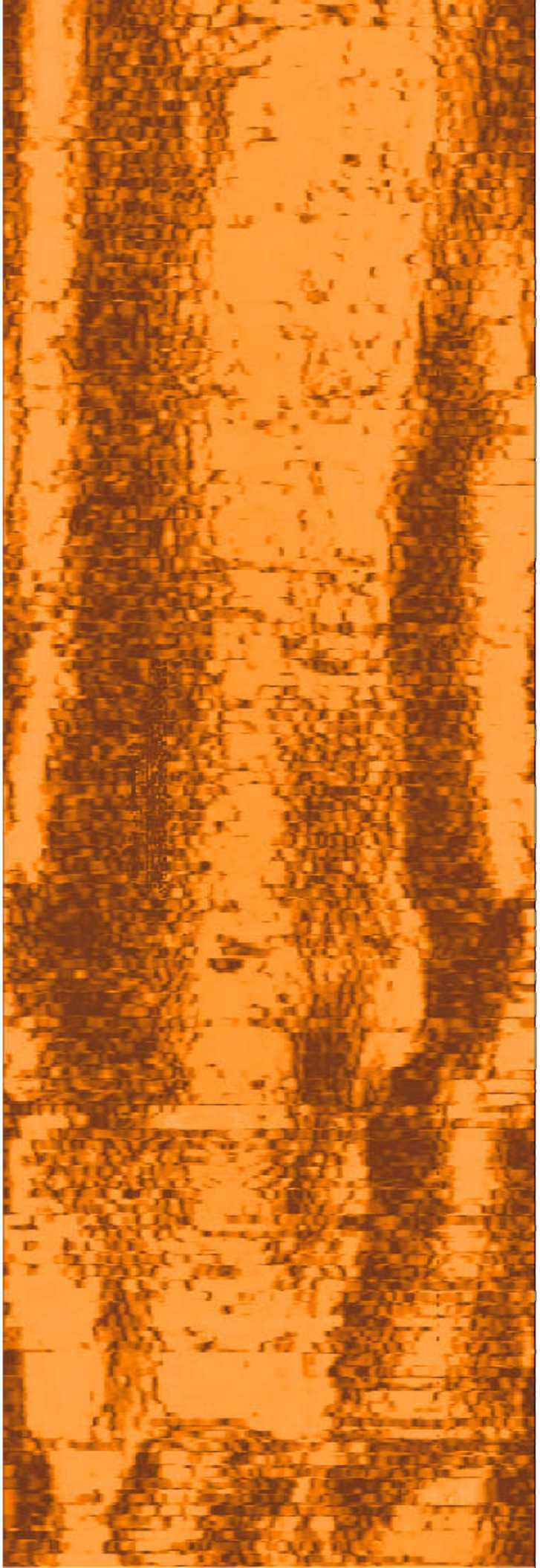

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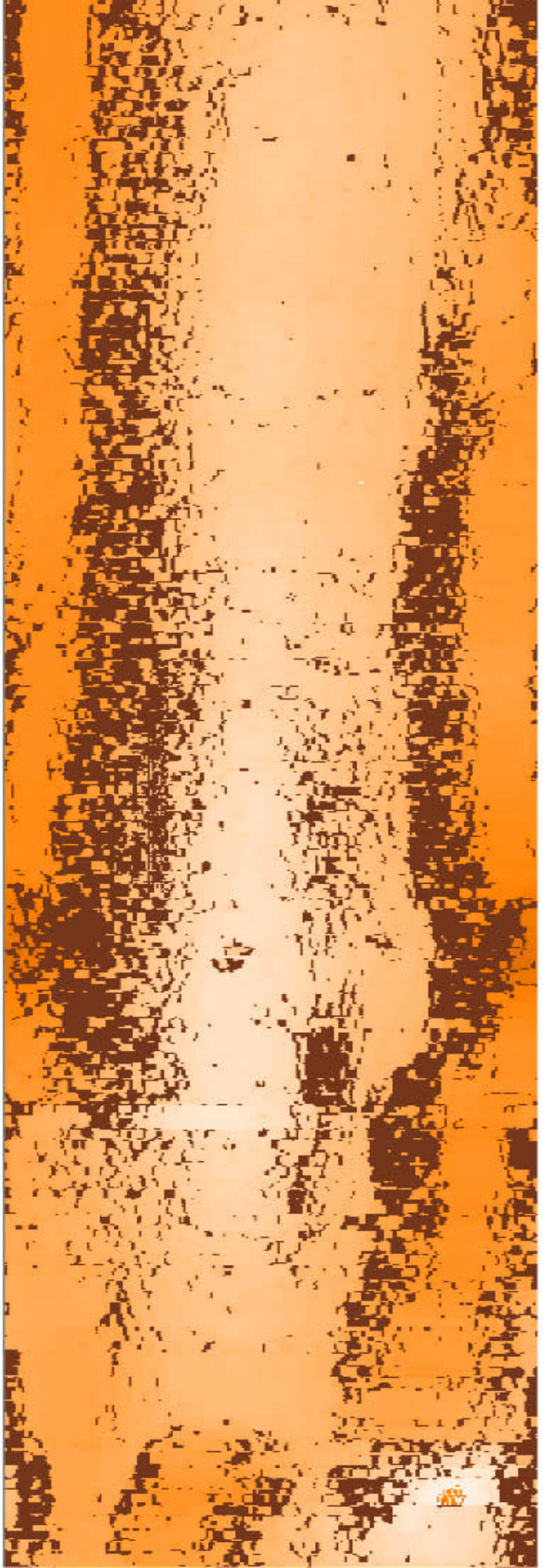

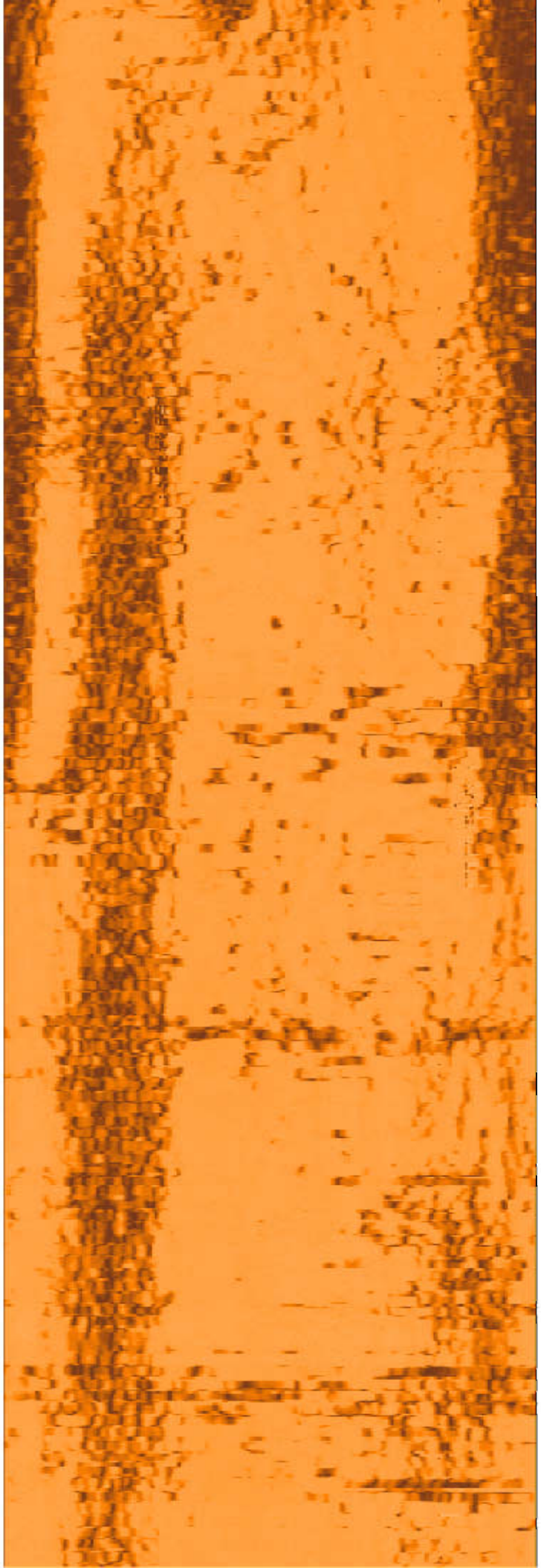

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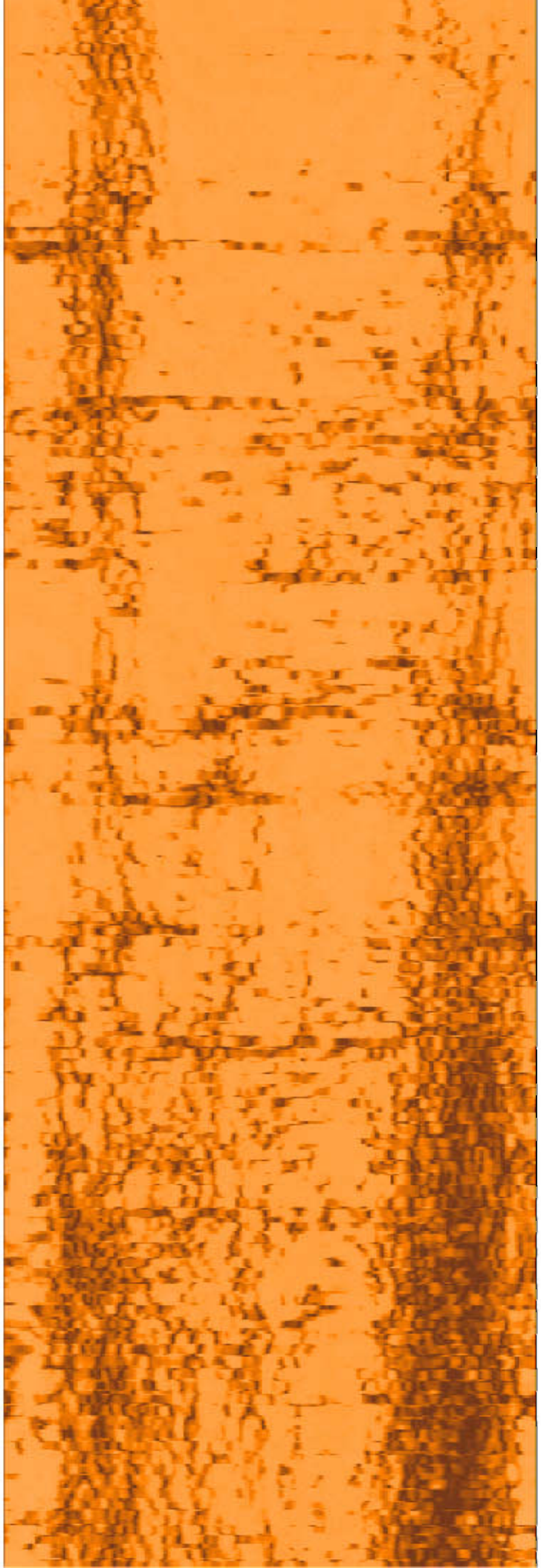

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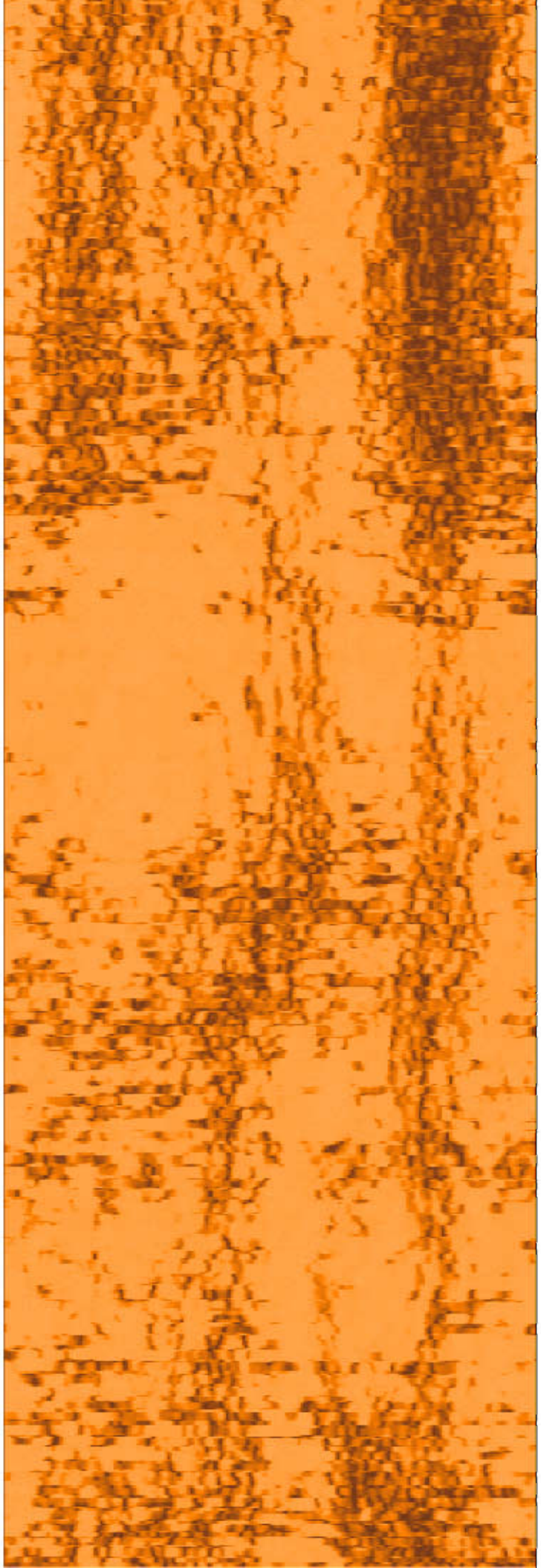

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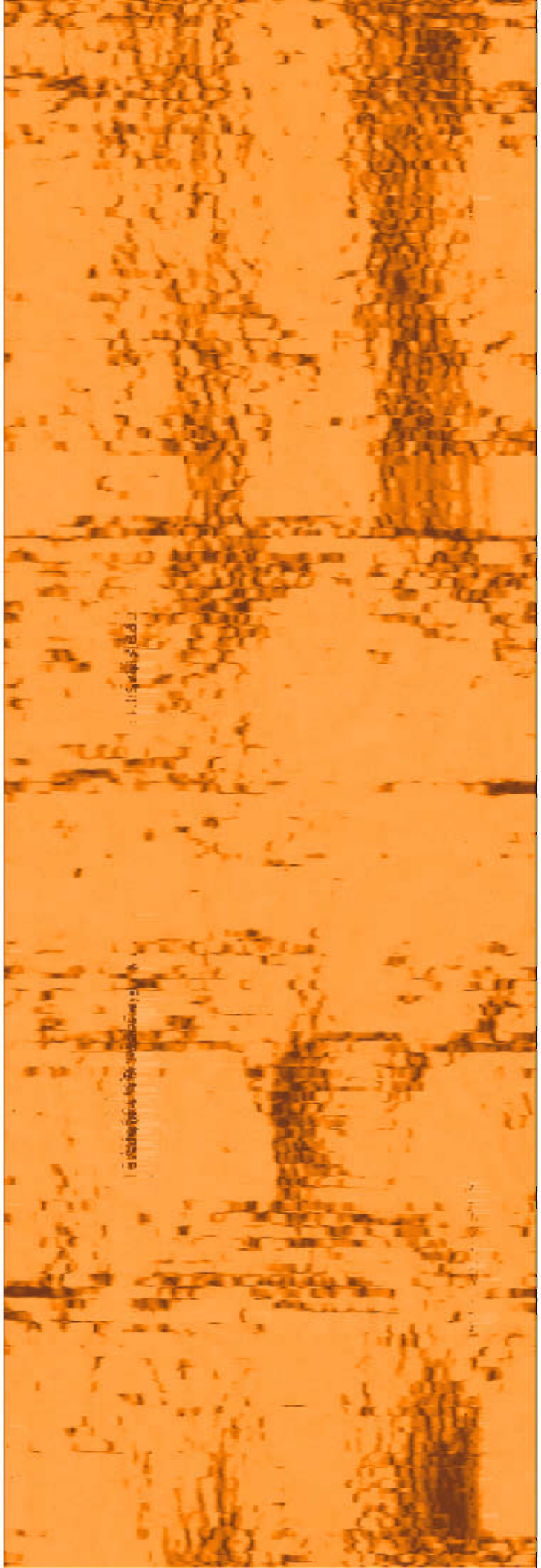

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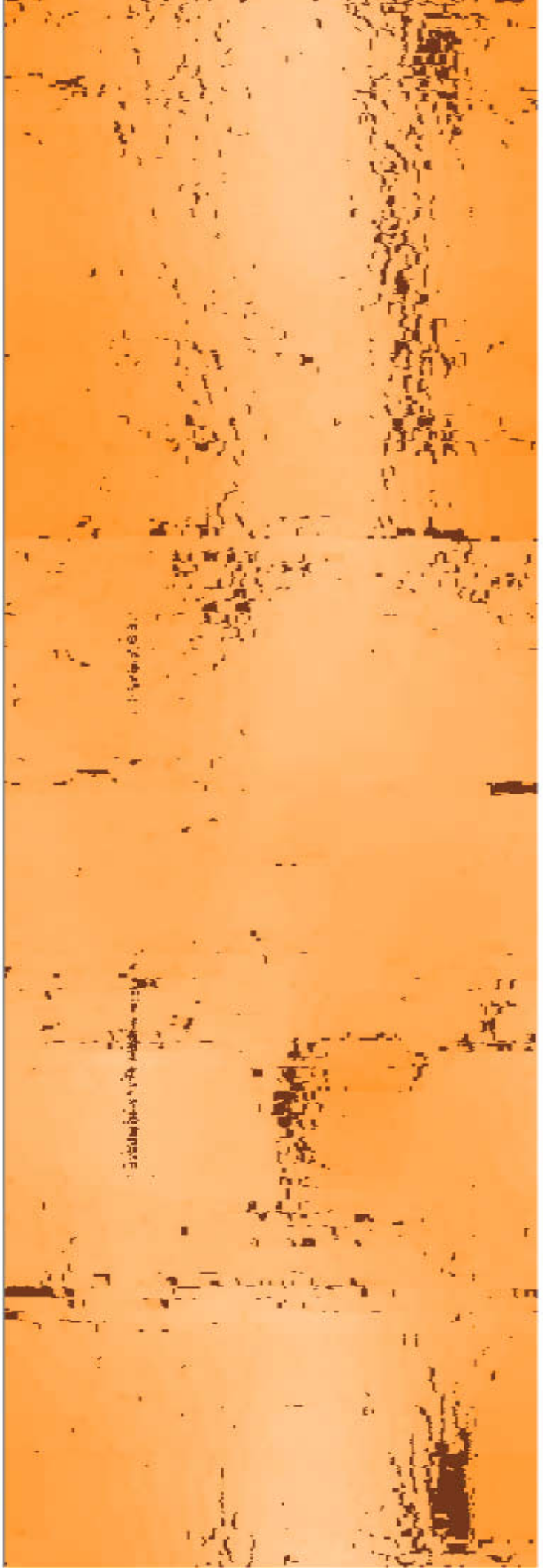

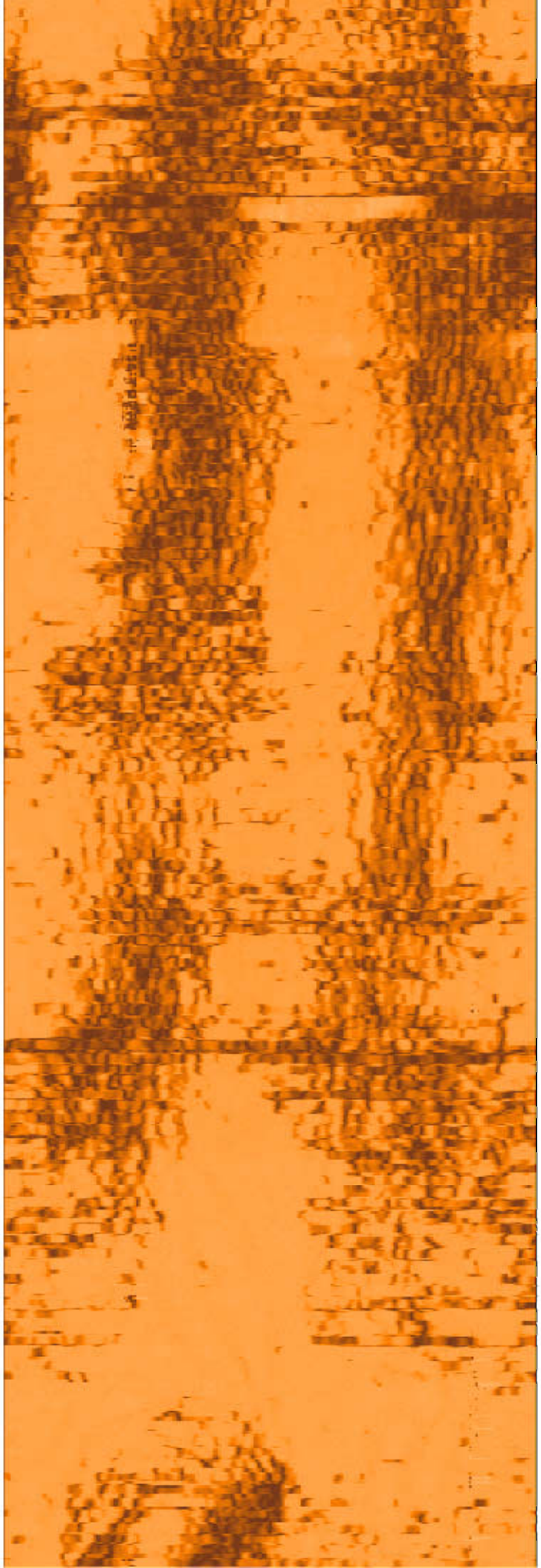

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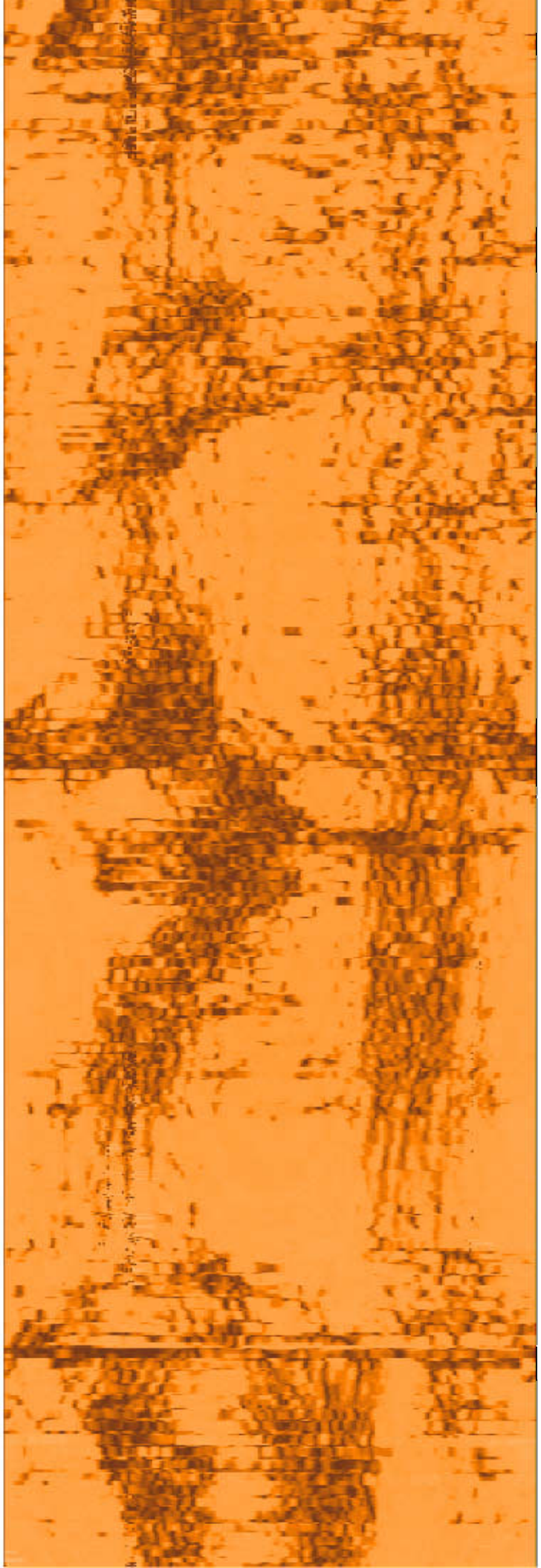

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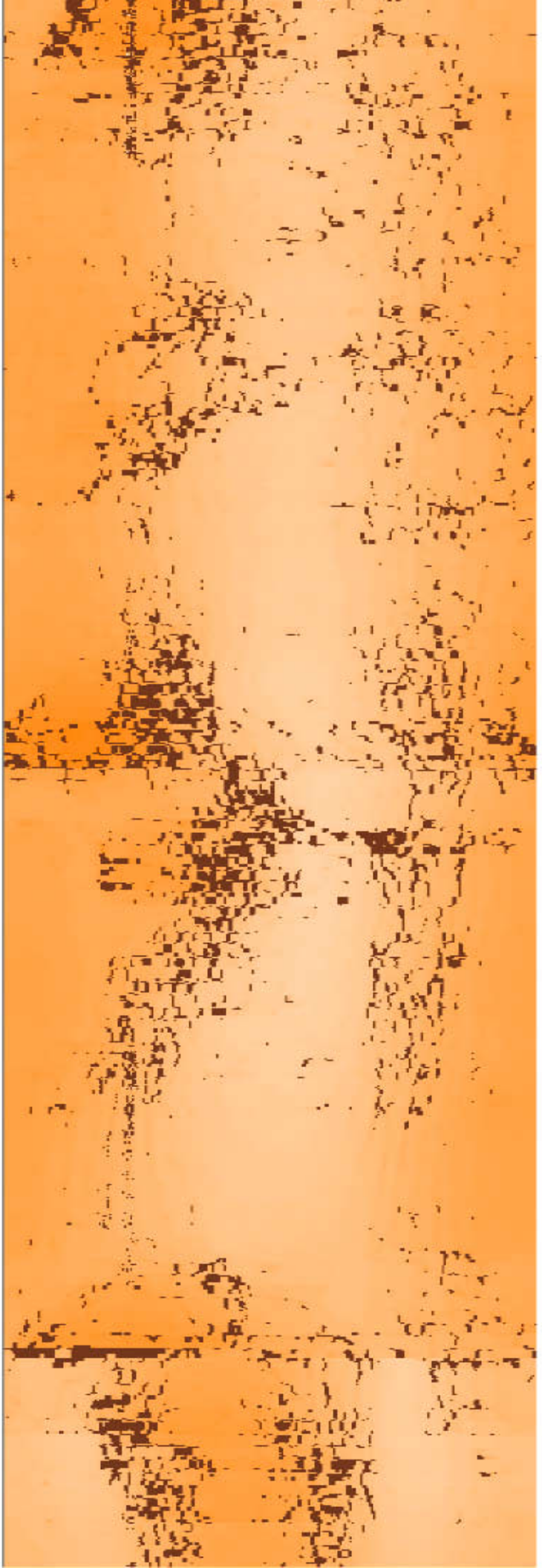

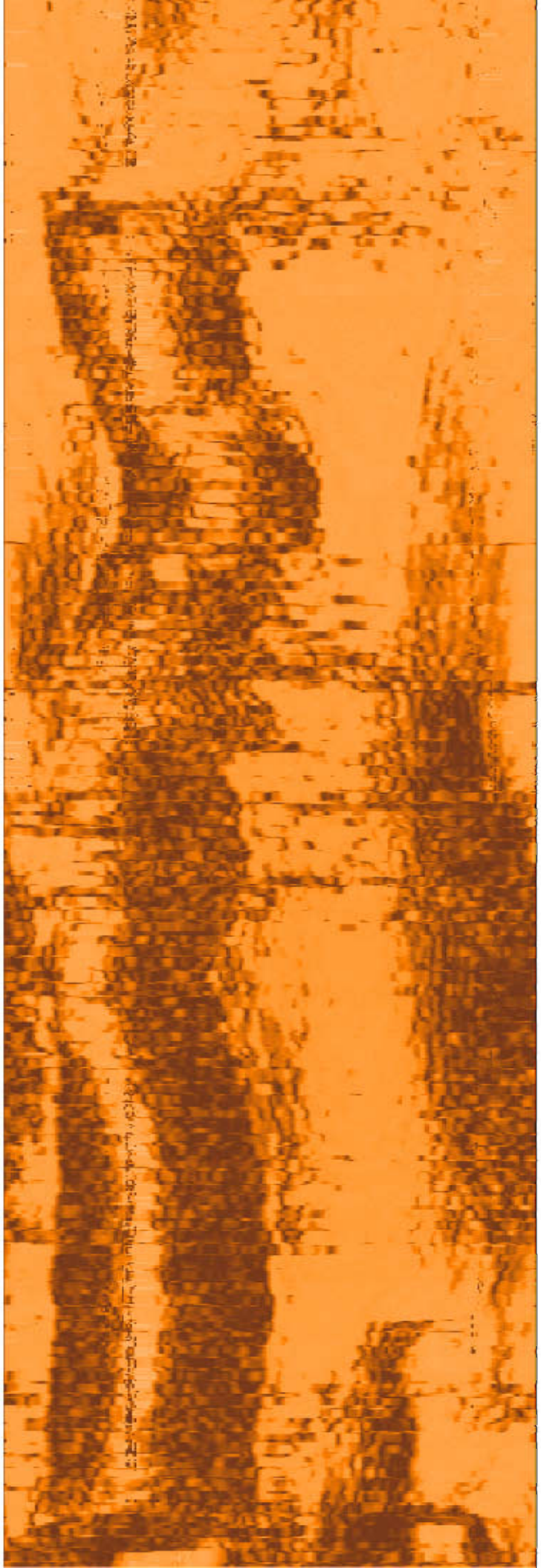

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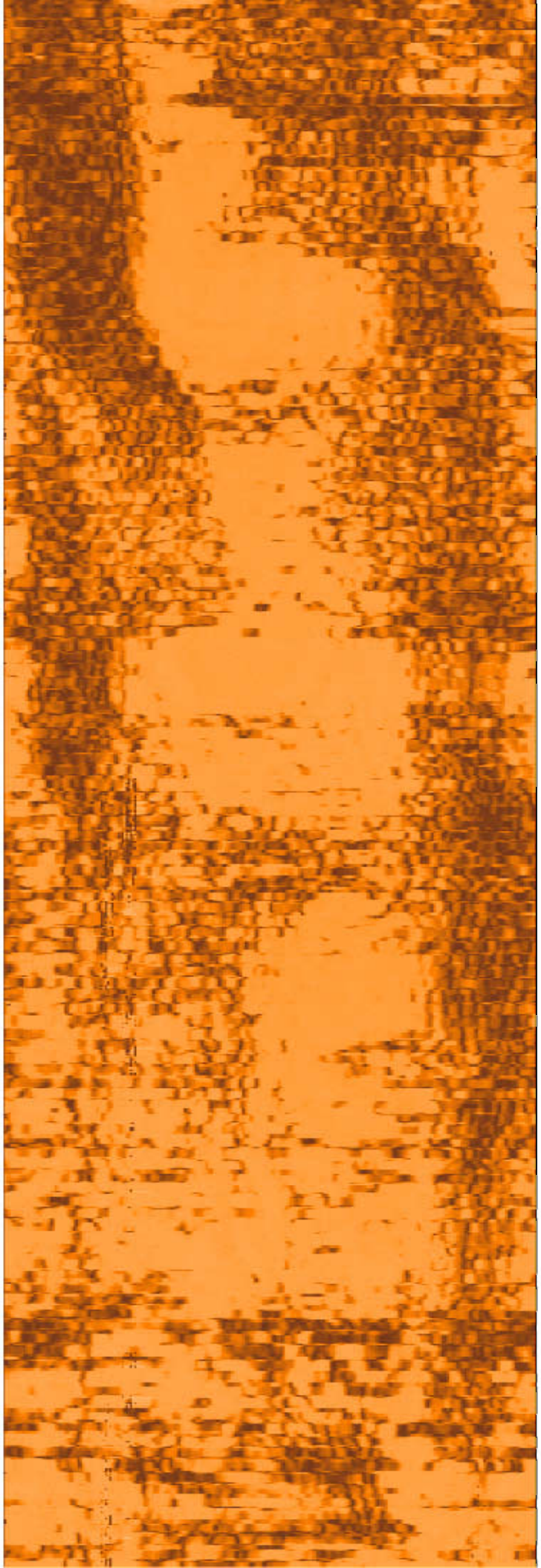

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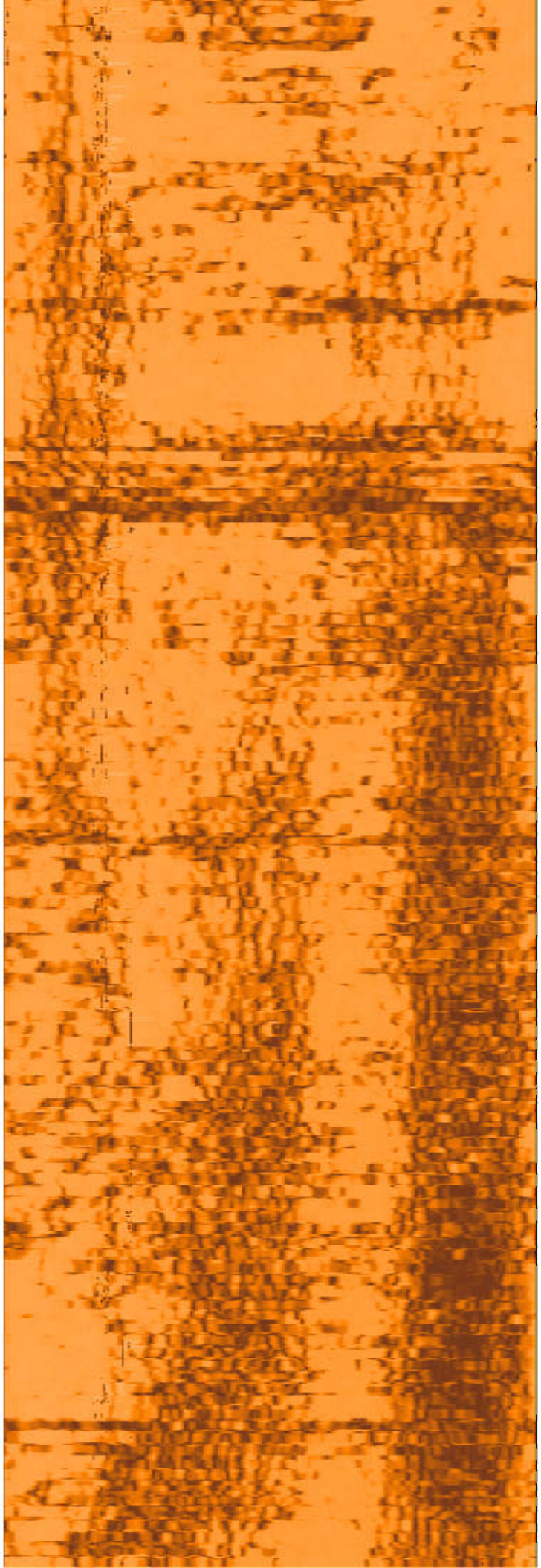

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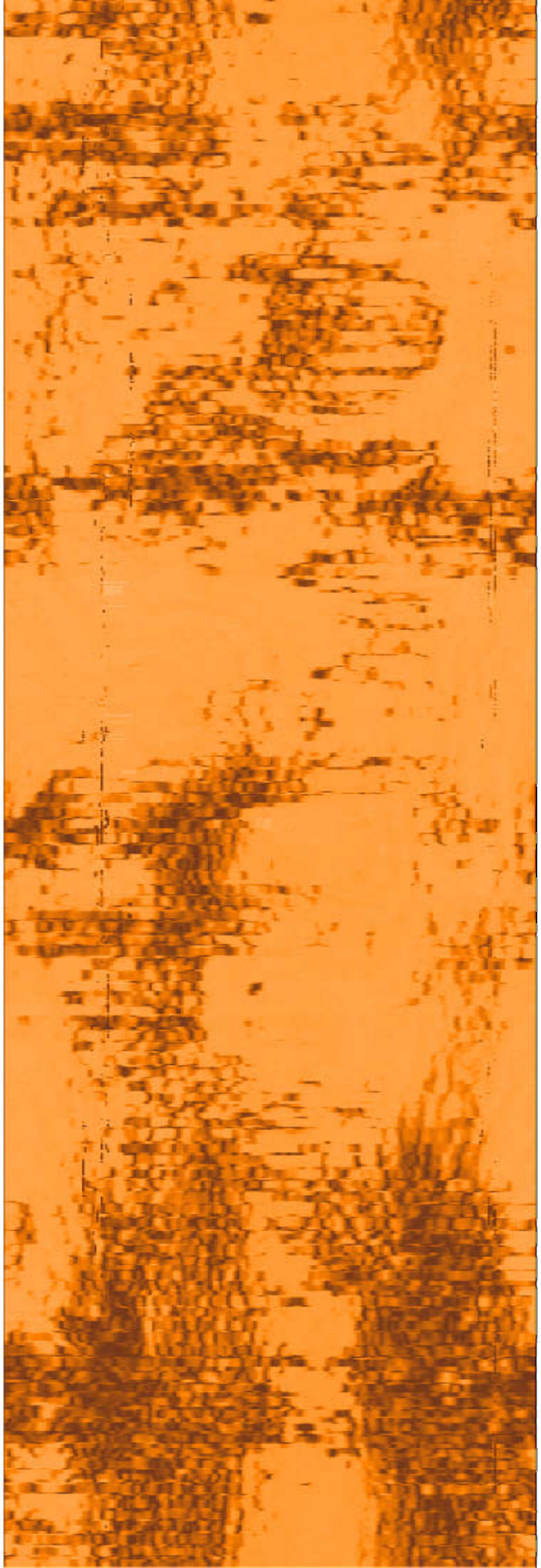

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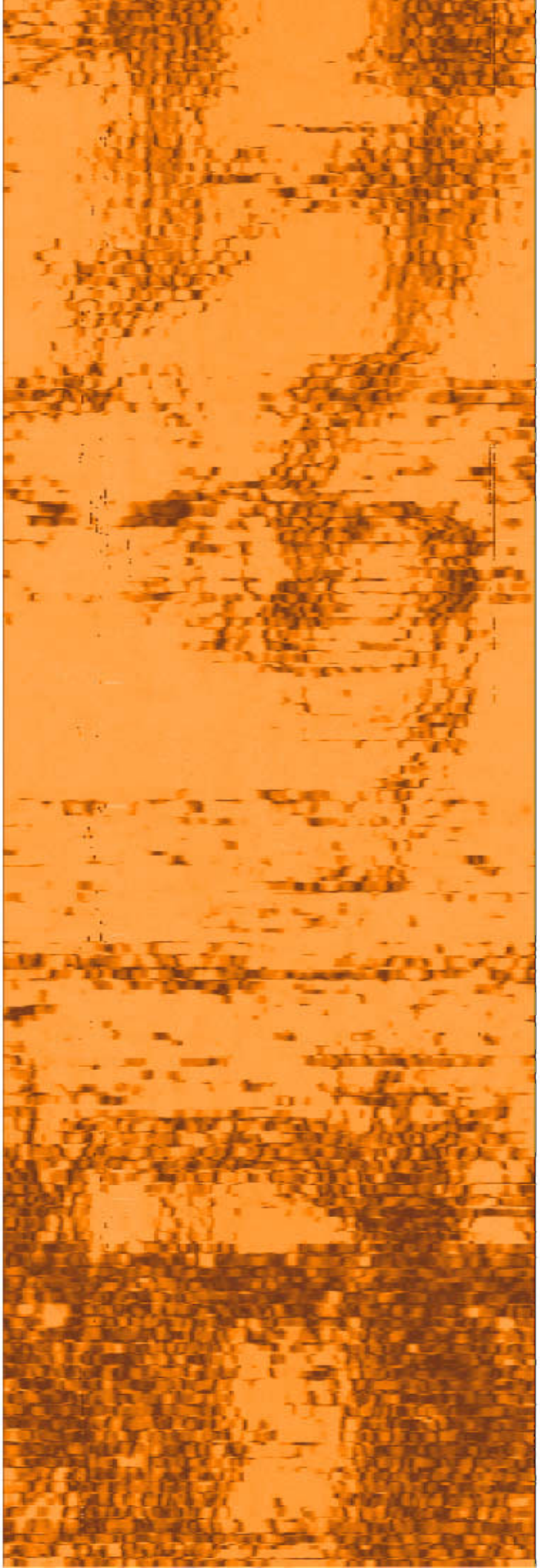

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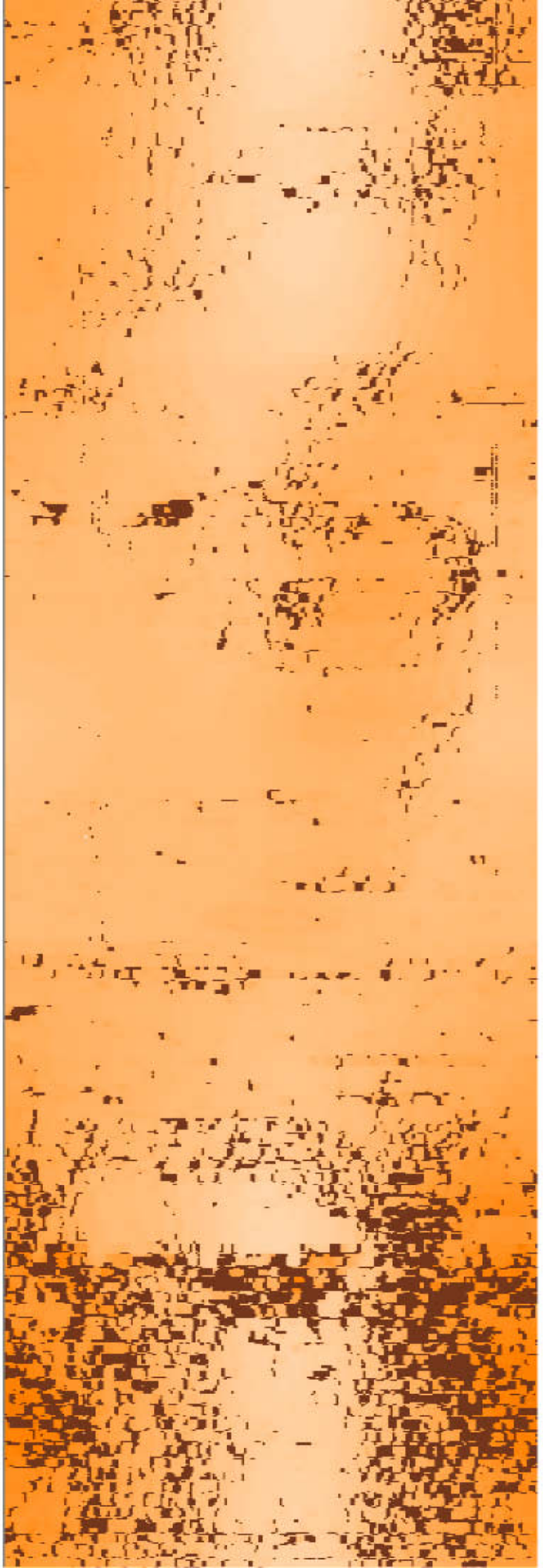

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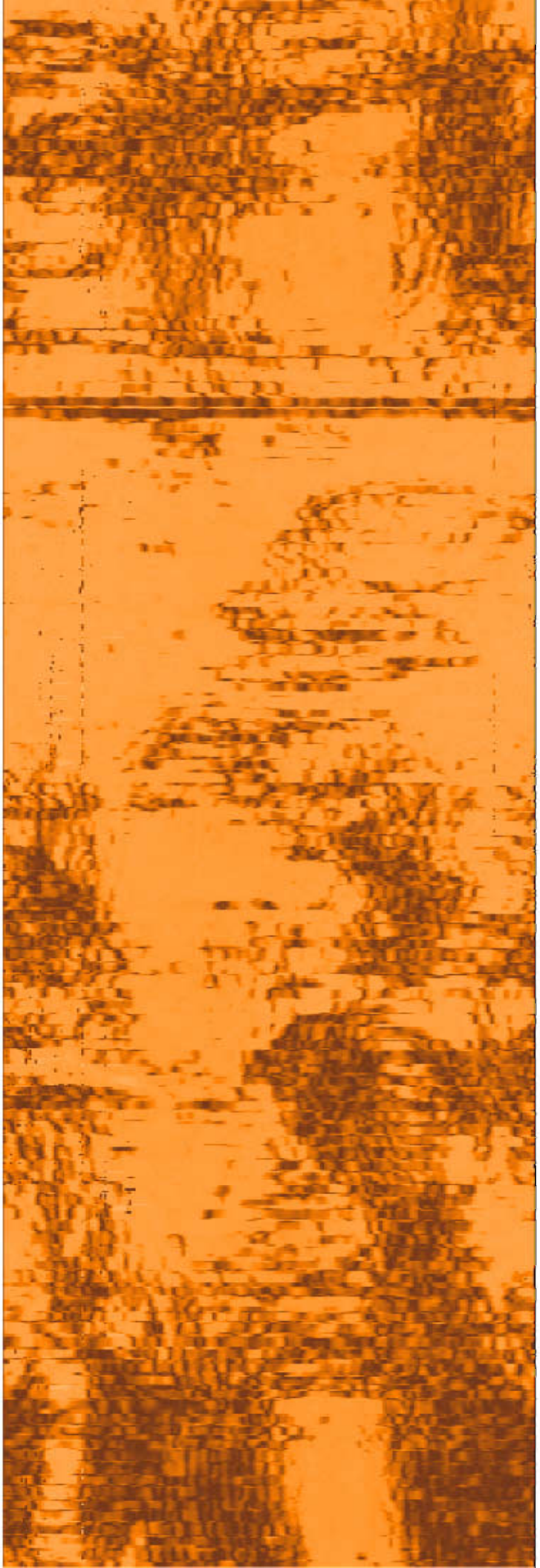

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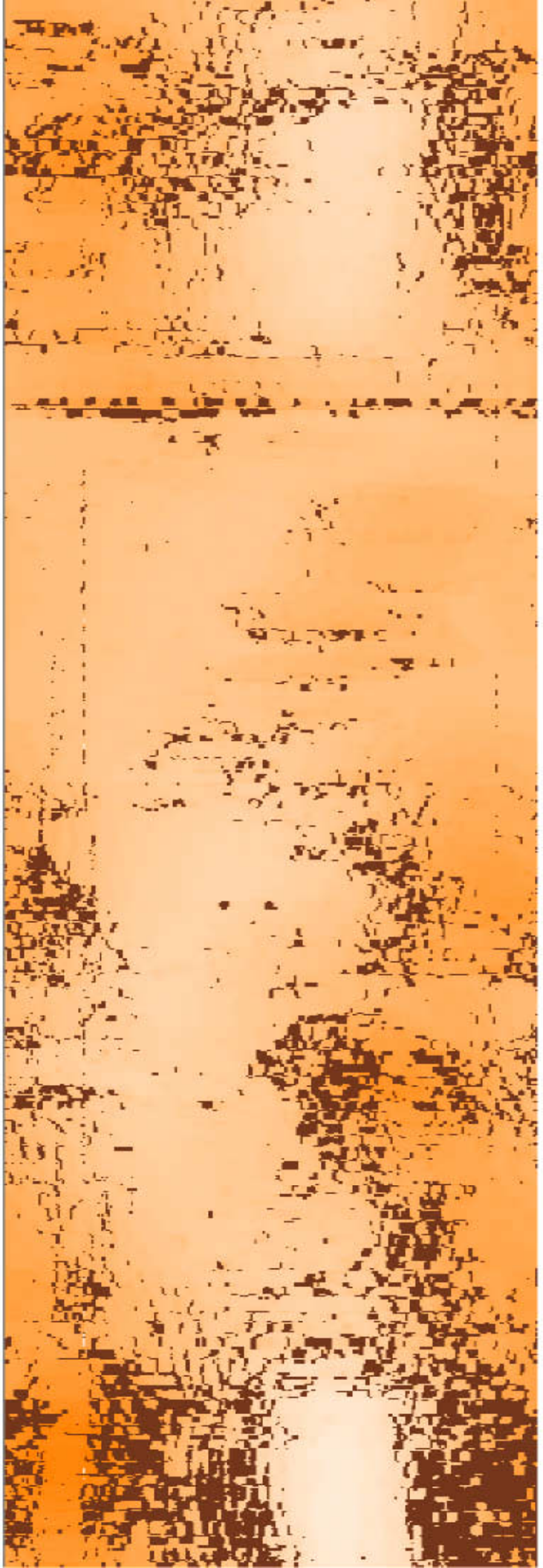

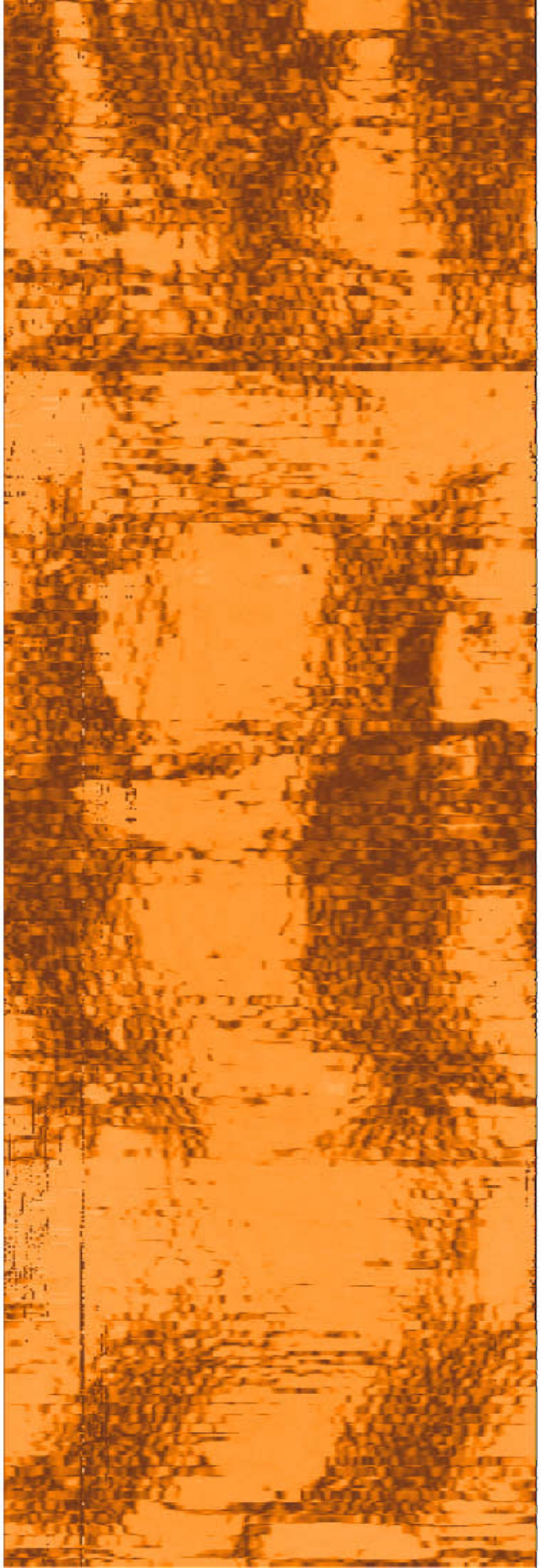

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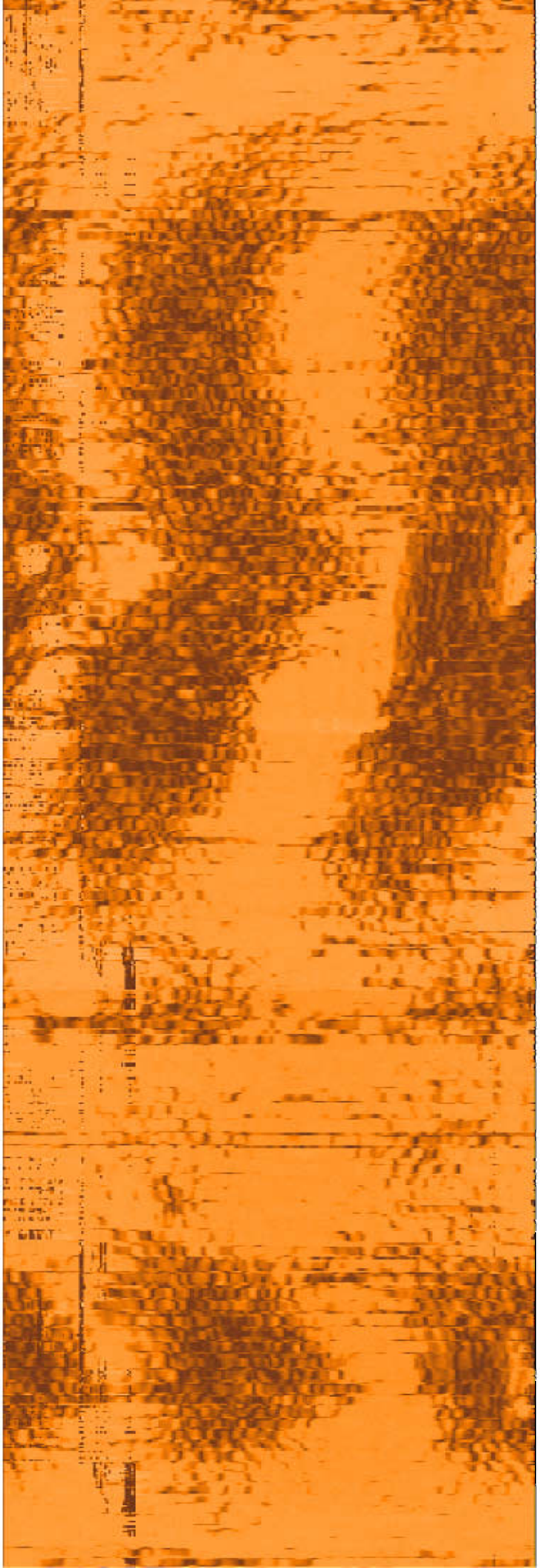

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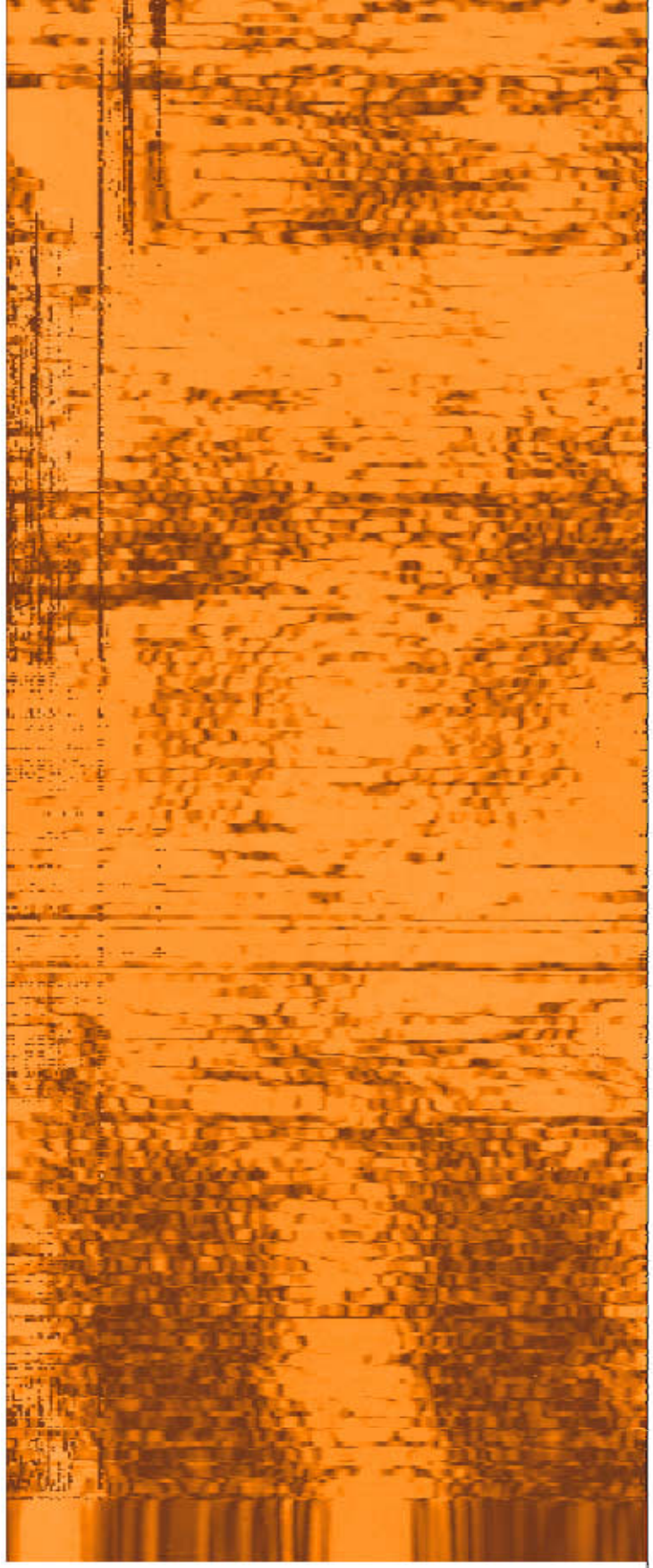

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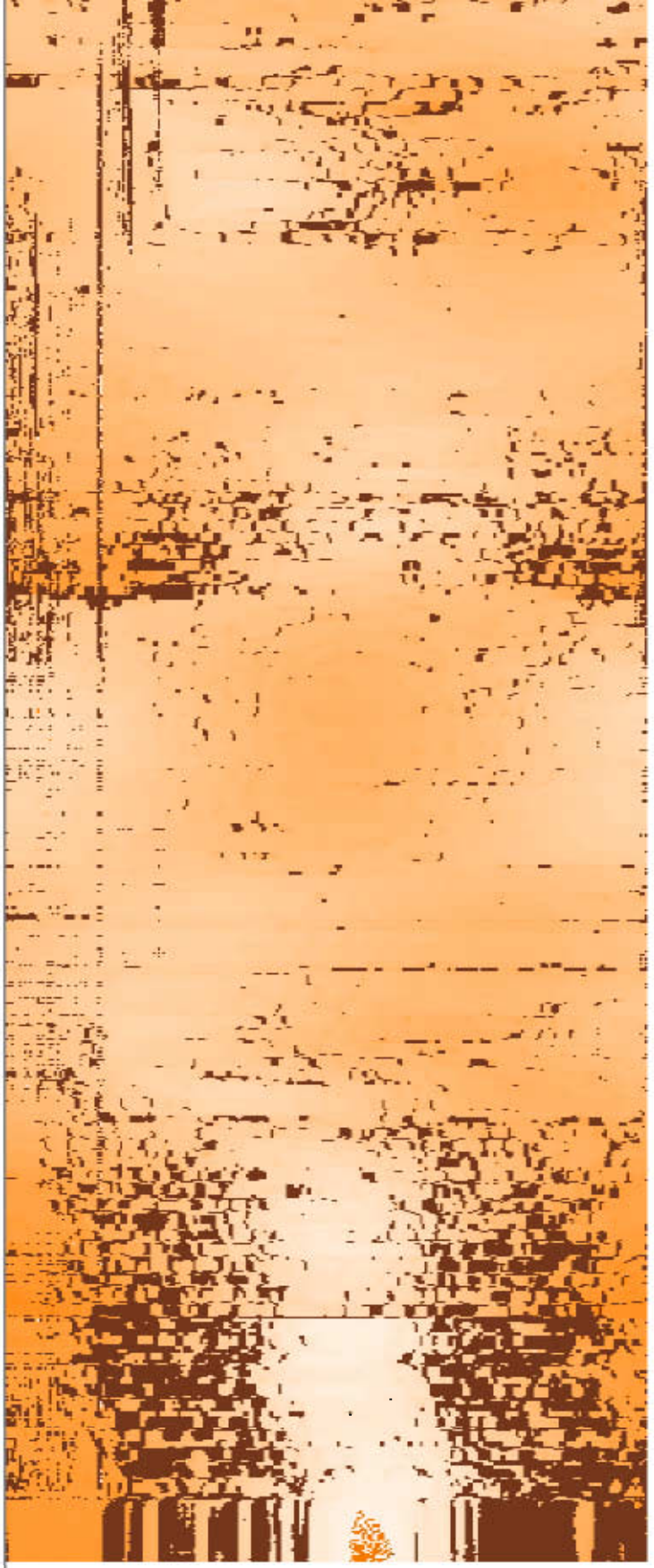

1 AMPMAP 256
0 3

1 TTMAP 256
100 315

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			MWScan-A (2) MW Scanner Tool	9.75	3.50	225.00
WvfMon	1.50					
WvfScan	1.50					
TTScan	1.50					
AmpScan	1.50					
Aux1	1.50					
RotmS	0.83					
LOCTIM	0.00					

Dataset: hiamwbhtv.db: field/well/run8/pass3
Total Length: 9.75 ft
Total Weight: 225.00 lb

Total Weight:	225.00 lb
O.D.	3.50 in

YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

BOREHOLE COMPENSATED SONIC with VDL LOG

Company CITY OF HIALEAH
Well MW-1
Field HIALEAH R.O.W.T.P.
County DADE
State FL

Company CITY OF HIALEAH
Well MW-1
Field HIALEAH R.O.W.T.P.
County DADE State FL
Location: API # :
SEC TWP RGE
Other Services
SEE COMMENTS

Permanent Datum Elevation
Log Measured From
Drilling Measured From
Elevation
K.B.
D.F.
G.L.

Date	24-APRIL-2010
Run Number	EIGHT
Depth Driller	2260'
Depth Logger	2260'
Bottom Logged Interval	2260'
Top Log Interval	CASING
Open Hole Size	11"
Type Fluid	WATER
Density / Viscosity	NA
Max. Recorded Temp.	NA
Estimated Cement Top	NA
Time Well Ready	0042
Time Logger on Bottom	0042
Equipment Number	103
Location	FT MYERS
Recorded By	FULLER
Witnessed By	BARNES, D

Borehole Record				Borehole Record			
Run Number	Bit	From	To	Run No	Bit	From	To
ONE	40.5"	SURFACE	157'	FIVE	11"	CASING	2260'
TWO	28.5"	CASING	1076'				
THREE	12.25"	CASING	1940'				
FOUR	18.5"	CASING	1900'				

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	30"	.375" W.T.	SURFACE	156'
Prot. String	20"	.375 W.T.	SURFACE	1076'
Production String	12.75"	.375 W.T.	SURFACE	1900'
Liner				

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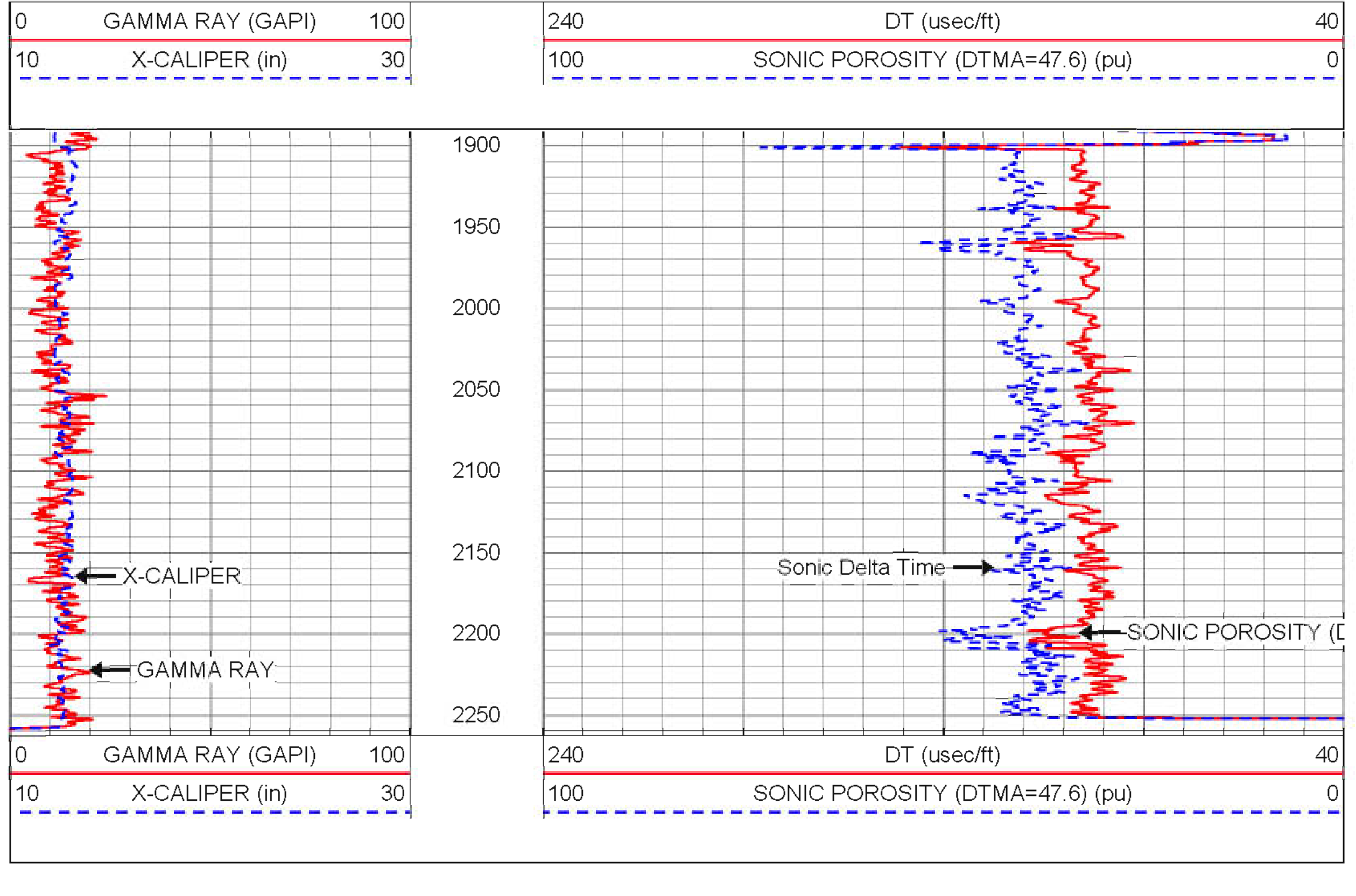
Comments

FLUID CONDUCTIVITY/TEMP
DUAL INDUCTION
X-Y CALIPER/GAMMA RAY
BOREHOLE TELEVIEWER
FLOW

YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

MAIN PASS

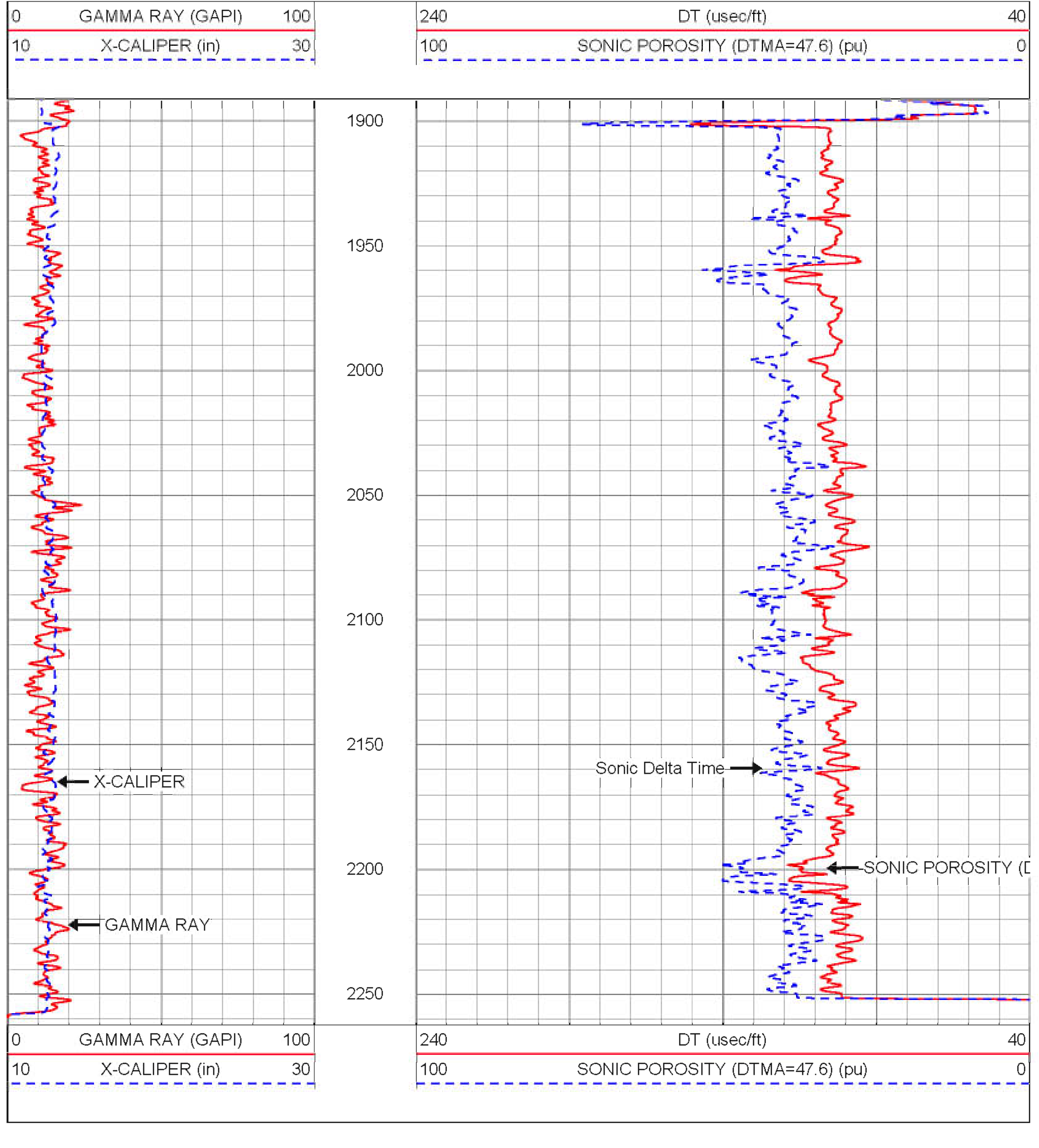
Database File: hiamw1.db
Dataset Pathname: run8/pass9
Presentation Format: son_por
Dataset Creation: Sat Apr 24 10:31:05 2010 by Log Open-Cased 090629
Charted by: Depth in Feet scaled 1:1200



YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

MAIN PASS

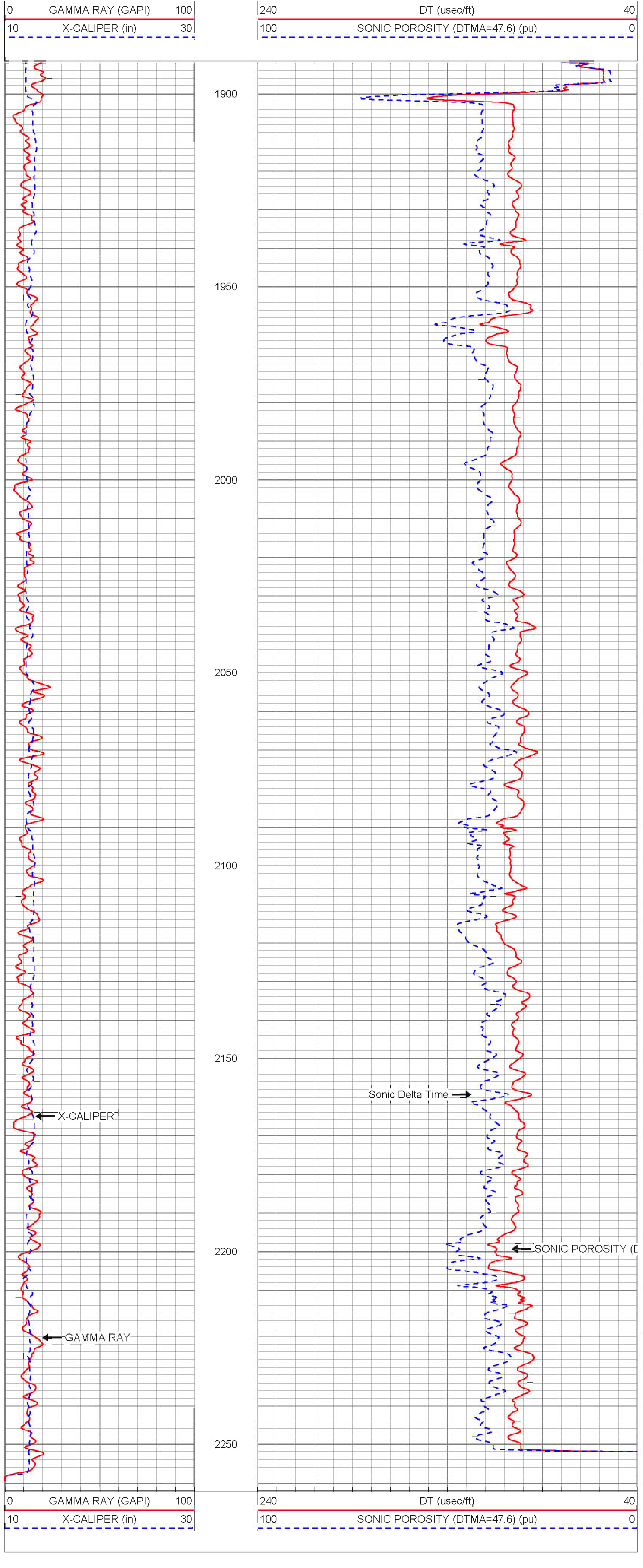
Database File: hiamw1.db
Dataset Pathname: run8/pass9
Presentation Format: son_por
Dataset Creation: Sat Apr 24 10:31:05 2010 by Log Open-Cased 090629
Charted by: Depth in Feet scaled 1:600



YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

MAIN PASS

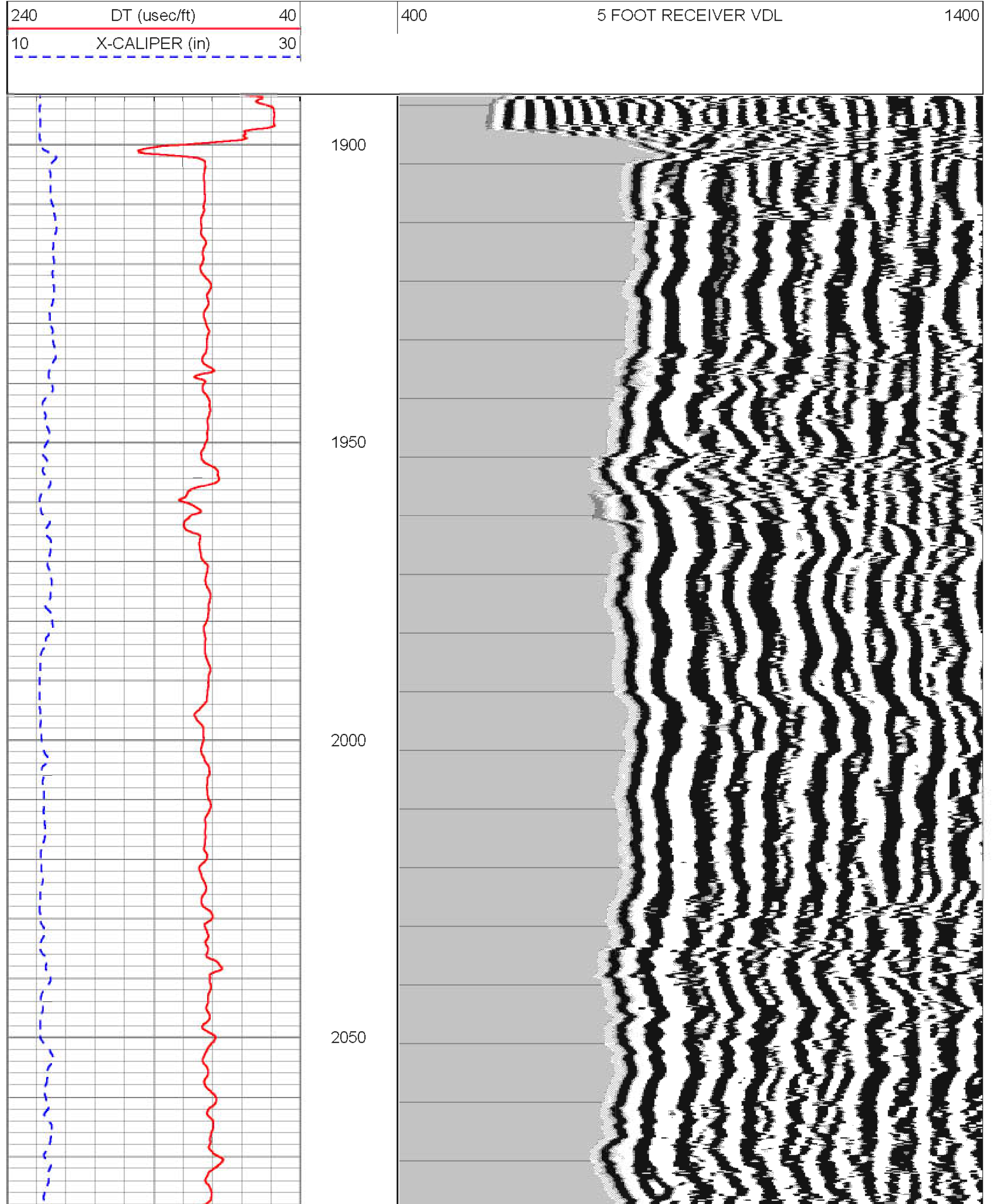
Database File: hiamw1.db
Dataset Pathname: run8/pass9
Presentation Format: son_por
Dataset Creation: Sat Apr 24 10:31:05 2010 by Log Open-Cased 090629
Charted by: Depth in Feet scaled 1:240



YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

MAIN PASS

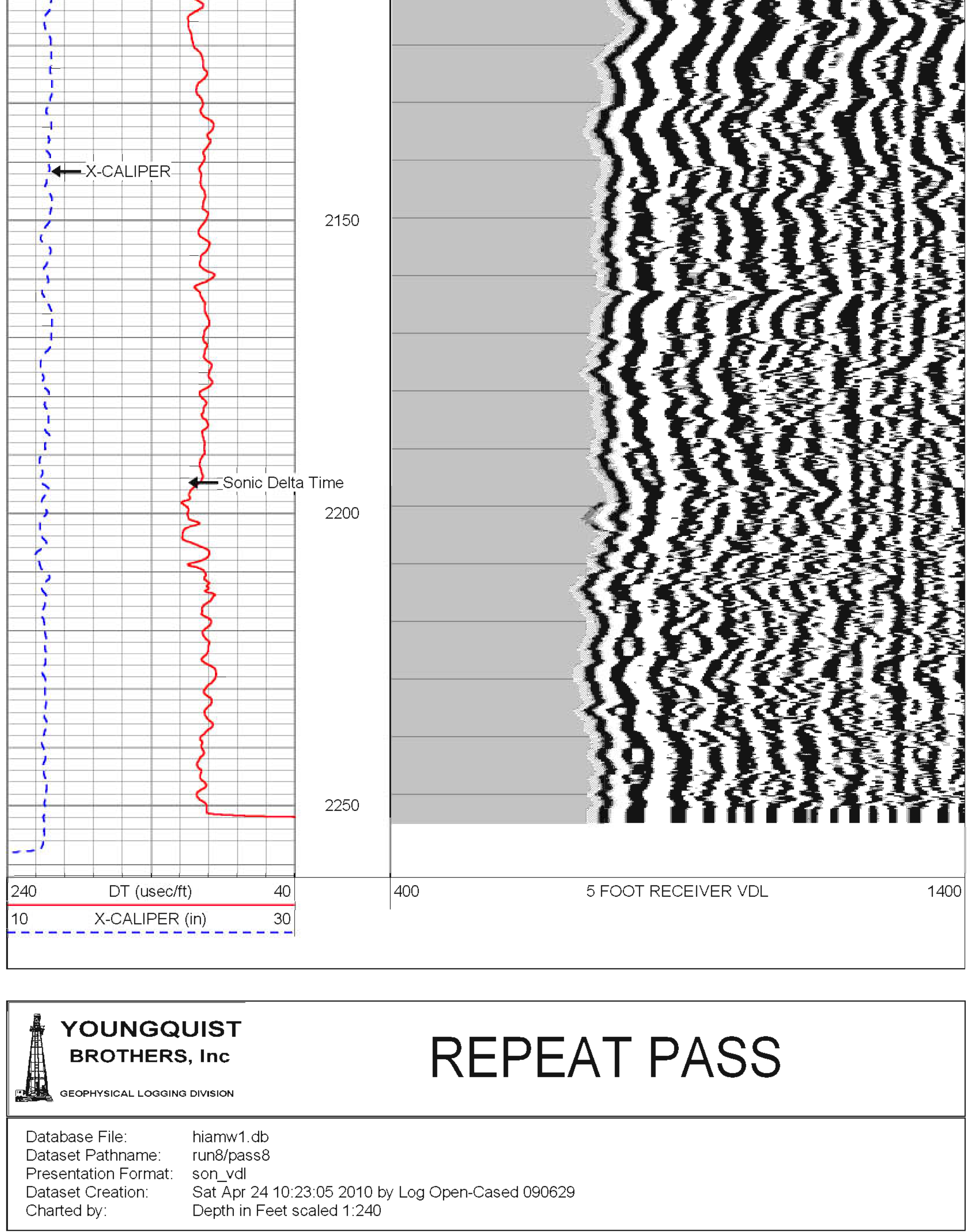
Database File: hiamw1.db
Dataset Pathname: run8/pass9
Presentation Format: son_vdl
Dataset Creation: Sat Apr 24 10:31:05 2010 by Log Open-Cased 090629
Charted by: Depth in Feet scaled 1:240

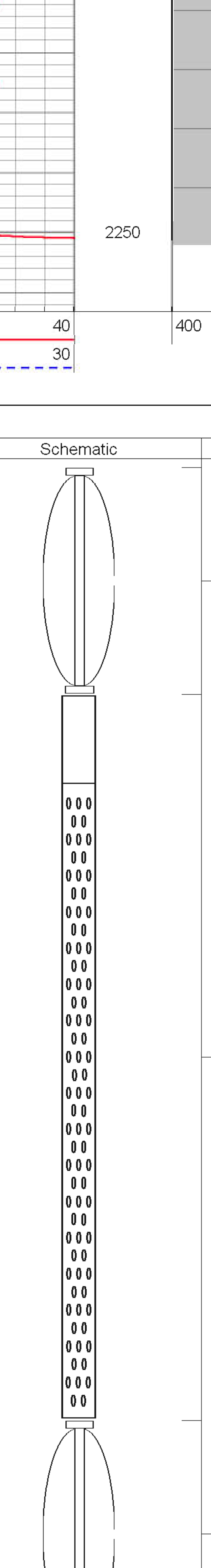


YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

REPEAT PASS

Database File: hiamw1.db
Dataset Pathname: run8/pass8
Presentation Format: son_vdl
Dataset Creation: Sat Apr 24 10:23:05 2010 by Log Open-Cased 090629
Charted by: Depth in Feet scaled 1:240





Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			TOP	5.00	3.00	50.00
WVF1 WVF3 WVF2 WVF4	13.50 13.50 11.50 11.50		SLT-PENGO (03)	16.00	3.50	127.00
			BOT	5.00	3.00	50.00

Dataset: hiamw1.db: field/well/run8/pass9
Total Length: 26.00 ft
Total Weight: 227.00 lb
O.D. 3.50 in

YOUNGQUIST BROTHERS, Inc.
GEOPHYSICAL LOGGING DIVISION

Company	CITY OF HAILEAM
Well	MW-1
Field	HAILEAM C.W.T.P.
County	DOE
State	IL
Country	
Other	
Date	
Run No.	
Depth Reference	
Log Measured From	
Drilling Measured From	
Permanent Datum	
Elevation	
Log Measured From	
Drilling Measured From	
Elevation	
Date	
Time	
Depth Driller	
Depth Logger	
Bottom Log Interval	
Top Log Interval	
Casing Driller	
Casing Logger	
Bit Size	
Type Fluid in Hole	
Density	
Viscosity	
Fluid Level	
Max. Rec. Temp.	
Equipment Number	
Location	
Recorded By	
Witnessed By	

DUAL INDUCTION ELECTRICAL LOG

Field Name

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.

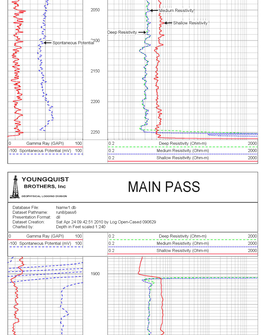
Comments

FLUID CONDUCTIVITY/TEMP
X-Y CALIPER/GAMMA RAY
BOREHOLE TELEVIEWER
BOREHOLE SONIC
FLOW

YOUNGQUIST BROTHERS, Inc.
GEOPHYSICAL LOGGING DIVISION

MAIN PASS

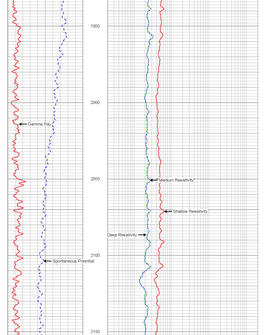
Database File: hame1.db
Dataset Pathname: run6/pass6
Presentation Format: dl
Dataset Creation: Sat Apr 24 09:42:51 2010 by Log Open-Caved 090629
Charted by: Depth in Feet scaled 1:1200



YOUNGQUIST BROTHERS, Inc.
GEOPHYSICAL LOGGING DIVISION

MAIN PASS

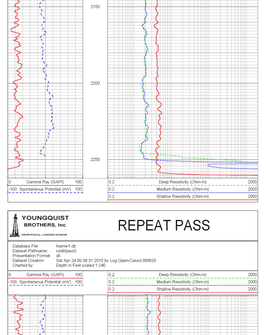
Database File: hame1.db
Dataset Pathname: run6/pass6
Presentation Format: dl
Dataset Creation: Sat Apr 24 09:42:51 2010 by Log Open-Caved 090629
Charted by: Depth in Feet scaled 1:240



YOUNGQUIST BROTHERS, Inc.
GEOPHYSICAL LOGGING DIVISION

MAIN PASS

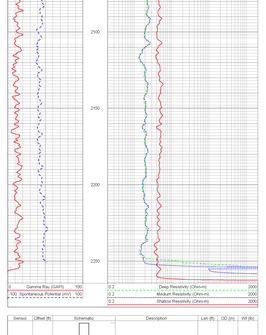
Database File: hame1.db
Dataset Pathname: run6/pass6
Presentation Format: dl
Dataset Creation: Sat Apr 24 09:42:51 2010 by Log Open-Caved 090629
Charted by: Depth in Feet scaled 1:240

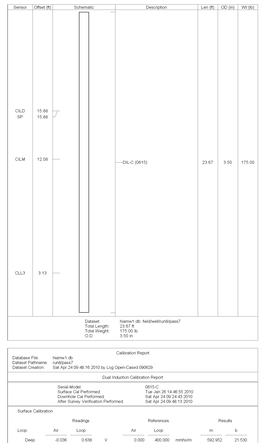


YOUNGQUIST BROTHERS, Inc.
GEOPHYSICAL LOGGING DIVISION

REPEAT PASS

Database File: hame1.db
Dataset Pathname: run6/pass5
Presentation Format: dl
Dataset Creation: Sat Apr 24 09:36:31 2010 by Log Open-Caved 090629
Charted by: Depth in Feet scaled 1:240





Calibration Report

Database File: hame1.db
Dataset Pathname: run6/pass7
Dataset Creation: Sat Apr 24 09:48:16 2010 by Log Open-Caved 090629

Dual Induction Calibration Report

Serial-Model: 0010-C
Surface Cal Performed: Tue Jan 26 14:46:51 2010
Downhole Cal Performed: Sat Apr 24 09:24:40 2010
After Survey Verification Performed: Sat Apr 24 09:48:15 2010

Surface Calibration

	Readings			References			Results	
Loop	Air	Loop		Air	Loop		m	b
Deep	0.036	0.636	V	0.000	400.000	mmho/m	592.952	21.530
Medium	0.035	0.607	V	0.000	464.000	mmho/m	575.756	-17.939
Internal	Zero	Cal		Zero	Cal		m	b
Deep	0.037	0.636	V	20.930	364.470	mmho/m	567.121	16.669
Medium	0.039	0.746	V	12.140	427.750	mmho/m	561.375	-7.816

Downhole Calibration

	Readings			References			Results	
Deep	34.889	398.968	mmho/m	25.793	362.954	mmho/m	1.009	0.667
Medium	34.889	398.968	mmho/m	25.793	362.954	mmho/m	1.009	0.667
Shallow	0.027	0.415	V	5.000	162.730	mmho/m	409.636	-7.515

After Survey Verification

	Readings			Targets			Results	
Internal	Zero	Cal		Zero	Cal		m	b
Deep	35.007	393.795	mmho/m	24.989	398.968	mmho/m	1.009	0.667
Medium	23.901	401.127	mmho/m	14.827	398.968	mmho/m	1.009	0.667
Shallow	14.146	170.828	mmho/m	5.000	162.730	mmho/m	1.084	-10.476

YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

FLUID CONDUCTIVITY TEMPERATURE LOG

Company CITY OF HIALEAH
Well MW-1
Field HIALEAH R.O.W.T.P.
County DADE
State FL

Company CITY OF HIALEAH
Well MW-1
Field HIALEAH R.O.W.T.P.
County DADE State FL
Location
Other Services SEE COMMENTS
Permanent Datum Elevation Elevation
Log Measured From K.B.
Drilling Measured From D.F.
G.L.

Date	24-APRIL-2010
Run Number	EIGHT
Depth Driller	2260'
Depth Logger	2260'
Bottom Logged Interval	2260'
Top Log Interval	CASING
Open Hole Size	11"
Type Fluid	WATER
Density / Viscosity	NA
Max. Recorded Temp.	NA
Estimated Cement Top	NA
Time Well Ready	0042
Time Logger on Bottom	0042
Equipment Number	103
Location	FT MYERS
Recorded By	FULLER
Witnessed By	BARNES, D

Borehole Record

Run Number	Bit	From	To	Run No.	Bit	From	To
ONE	40.5"	SURFACE	157'	FIVE	11"	CASING	2260'
TWO	28.5"	CASING	1076'				
THREE	12.25"	CASING	1940'				
FOUR	18.5"	CASING	1900'				

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	30"	.375" W.T.	SURFACE	156'
Prot. String	20"	.375 W.T.	SURFACE	1076'
Production String	12.75"	.375 W.T.	SURFACE	1900'
Liner				

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Comments

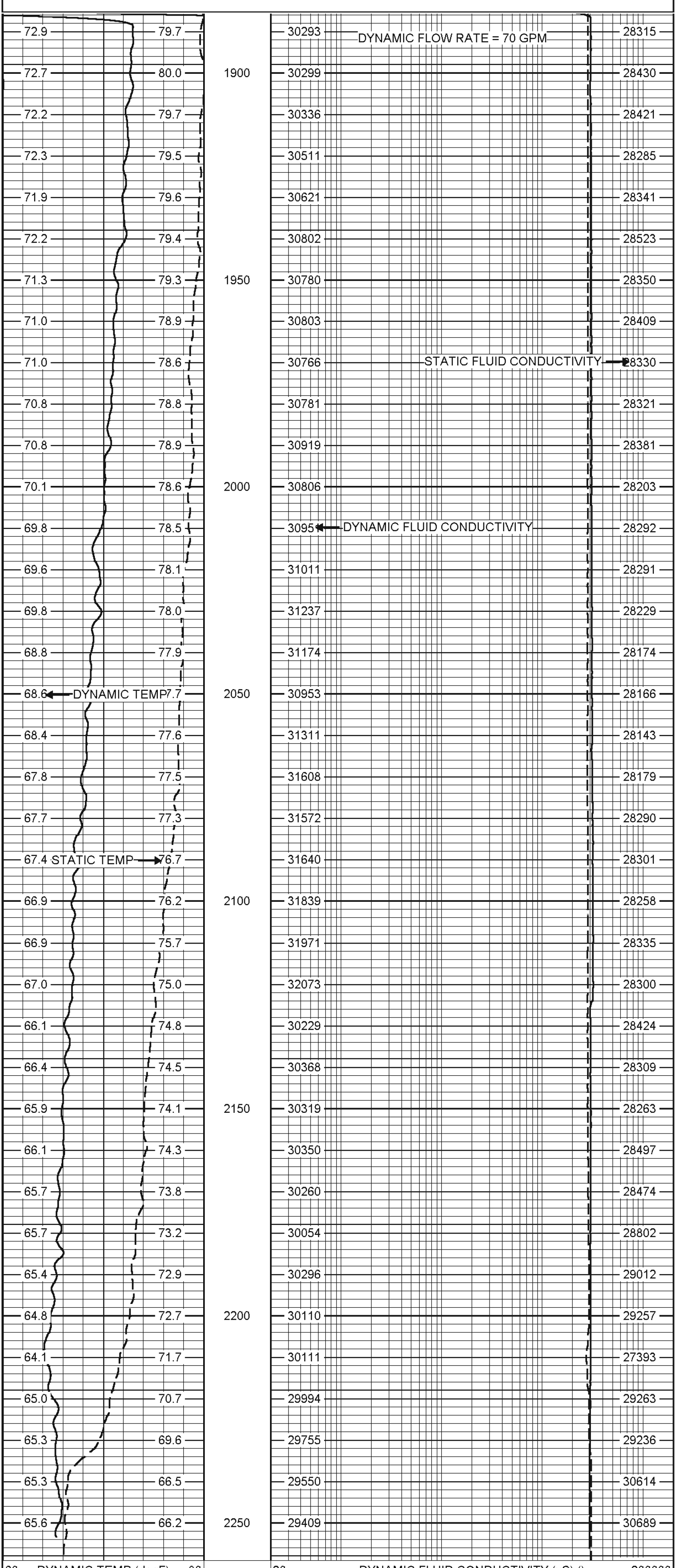
DUAL INDUCTION
X-Y CALIPER/GAMMA RAY
BOREHOLE TELEVIEWER
BOREHOLE SONIC
FLOW

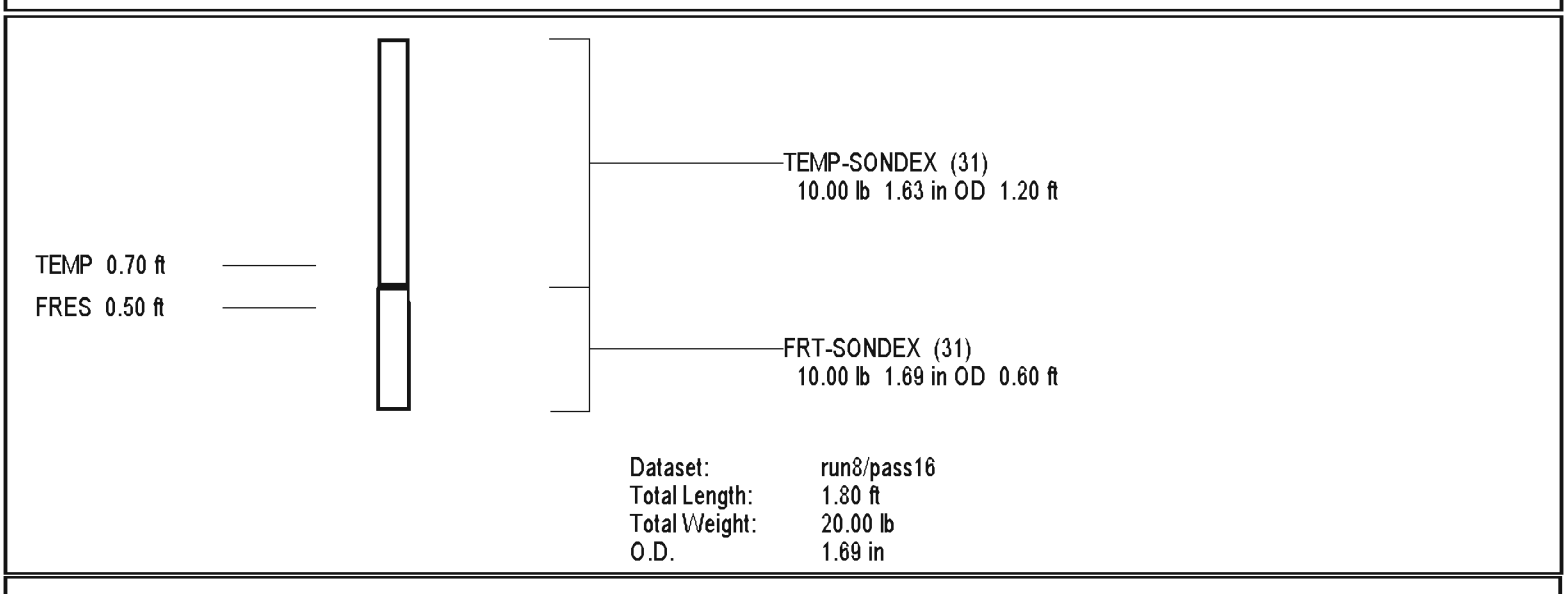
DYNAMIC FLOW RATE = 70 GPM

YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

MERGED FCT

Database File: hiamw1.db
Dataset Pathname: run8/pass16
Presentation Format: FRT_MG
Dataset Creation: Sat Apr 24 17:00:03 2010 by Log Open-Cased 090629
Charted by: Depth in Feet scaled 1:240





Dataset: run8/pass16
Total Length: 1.80 ft
Total Weight: 20.00 lb
O.D. 1.69 in

FRT Calibration Report

Serial Number: 31
Tool Model: SONDEX
Performed: Fri Feb 19 14:30:36 2010

Point #	Reading		Reference
1	0.731	cps	1100.000
2	116.541	cps	10000.000
3	401.744	cps	25000.000
4	1152.340	cps	50000.000
5		cps	
6		cps	

Temperature Calibration Report

Serial Number: 31
Tool Model: SONDEX
Performed: Fri Feb 19 14:24:21 2010

Point #	Reading		Reference	
1	119.10	cps	34.00	degF
2	334.81	cps	82.00	degF
3	698.66	cps	158.00	degF

YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

FLOW METER LOG

Company CITY OF HIALEAH
Well MW-1
Field HIALEAH R.O.W.T.P.
County DADE State FL

Location: API # :

SEC TWP RGE

Other Services
SEE COMMENTS

Permanent Datum Elevation
Log Measured From
Drilling Measured From

Elevation
K.B.
D.F.
G.L.

Company	CITY OF HIALEAH
Well	MW-1
Field	HIALEAH R.O.W.T.P.
County	DADE
State	FL

Date	24-APRIL-2010
Run Number	EIGHT
Depth Driller	2260'
Depth Logger	2260'
Bottom Logged Interval	2260'
Top Log Interval	CASING
Open Hole Size	11"
Type Fluid	WATER
Density / Viscosity	NA
Max. Recorded Temp.	NA
Estimated Cement Top	NA
Time Well Ready	0042
Time Logger on Bottom	0042
Equipment Number	103
Location	FT MYERS
Recorded By	FULLER
Witnessed By	BARNES, D

Borehole Record				Borehole Record			
Run Number	Bit	From	To	Run No	Bit	From	To
ONE	40.5"	SURFACE	157'	FIVE	11"	CASING	2260'
TWO	28.5"	CASING	1076'				
THREE	12.25"	CASING	1940'				
FOUR	18.5"	CASING	1900'				

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	30"	.375" W.T.	SURFACE	156'
Prot. String	20"	.375 W.T.	SURFACE	1076'
Production String	12.75"	.375 W.T.	SURFACE	1900'
Liner				

<<< Fold Here >>>

Comments

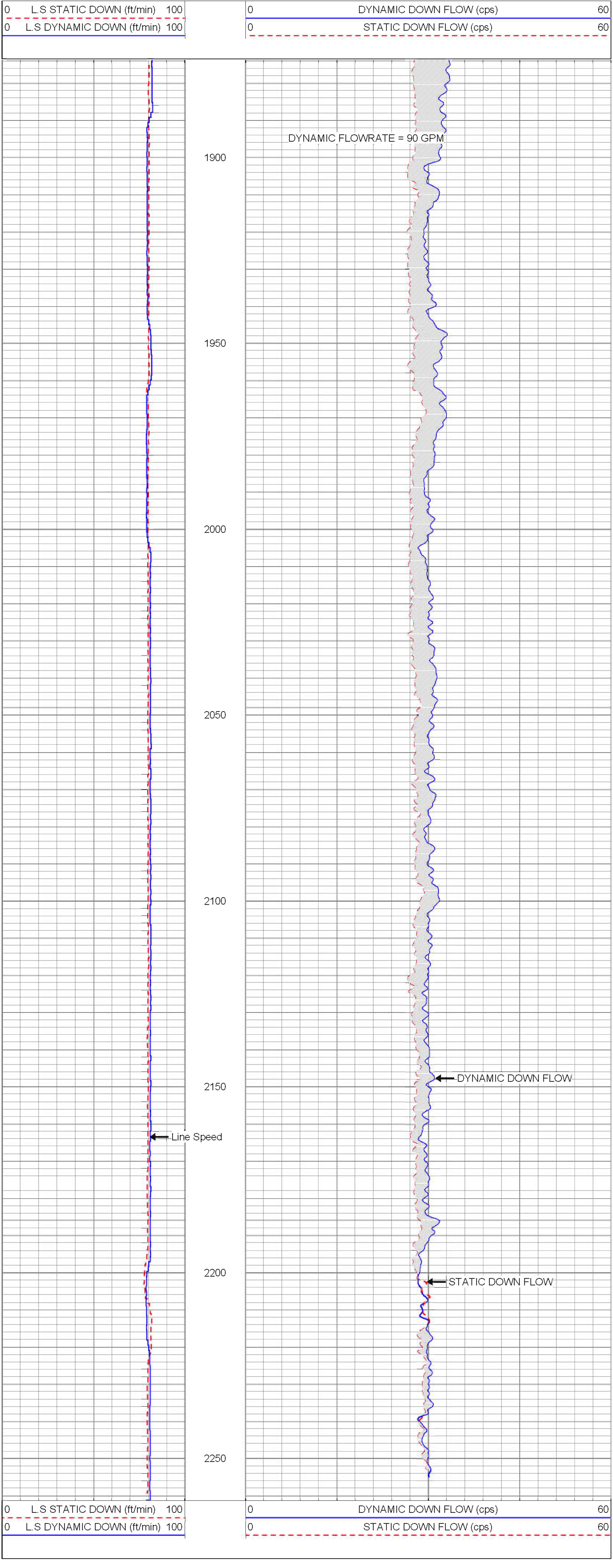
FLUID CONDUCTIVITY/TEMP
DUAL INDUCTION
X-Y CALIPER/GAMMA RAY
BOREHOLE TELEVIEWER
FLOW

DYNAMIC FLOWRATE = 90 GPM

YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

MERGED FLOWMETER

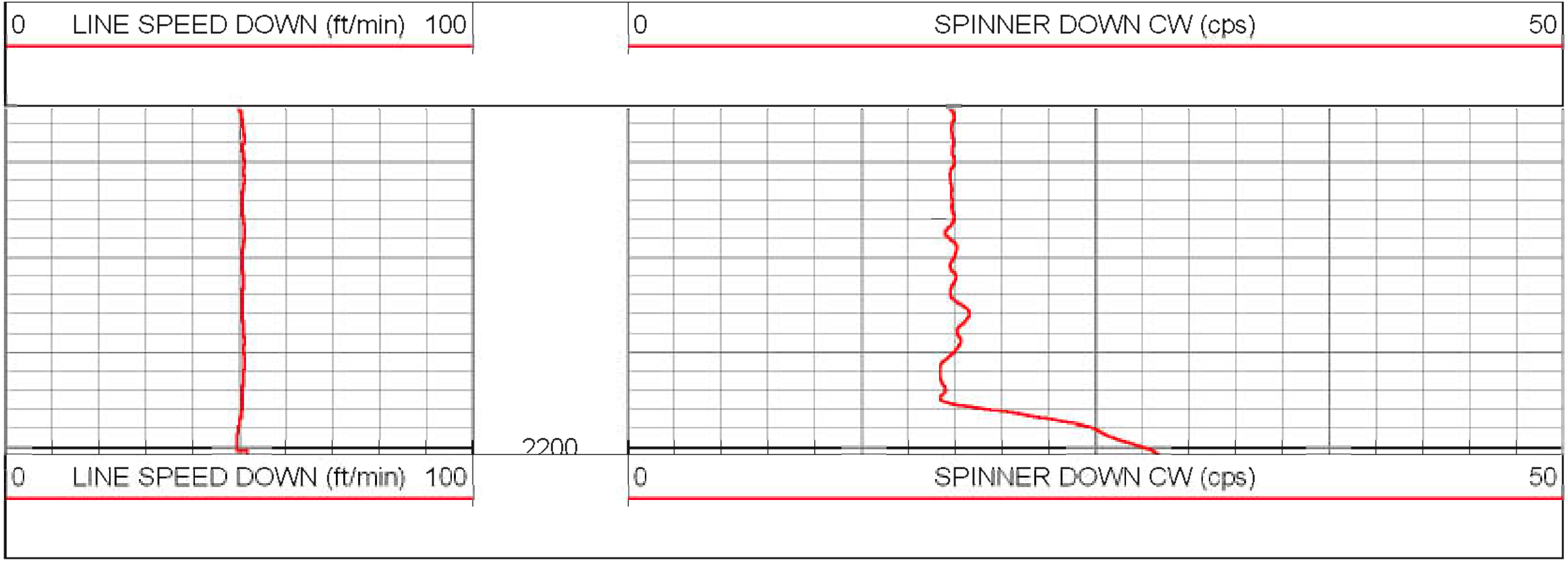
Database File: hiamw1.db
Dataset Pathname: run8/pass15
Presentation Format: fm_dnmg
Dataset Creation: Sat Apr 24 16:23:06 2010 by Log Open-Cased 090629
Charted by: Depth in Feet scaled 1:240



YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

50 FPM

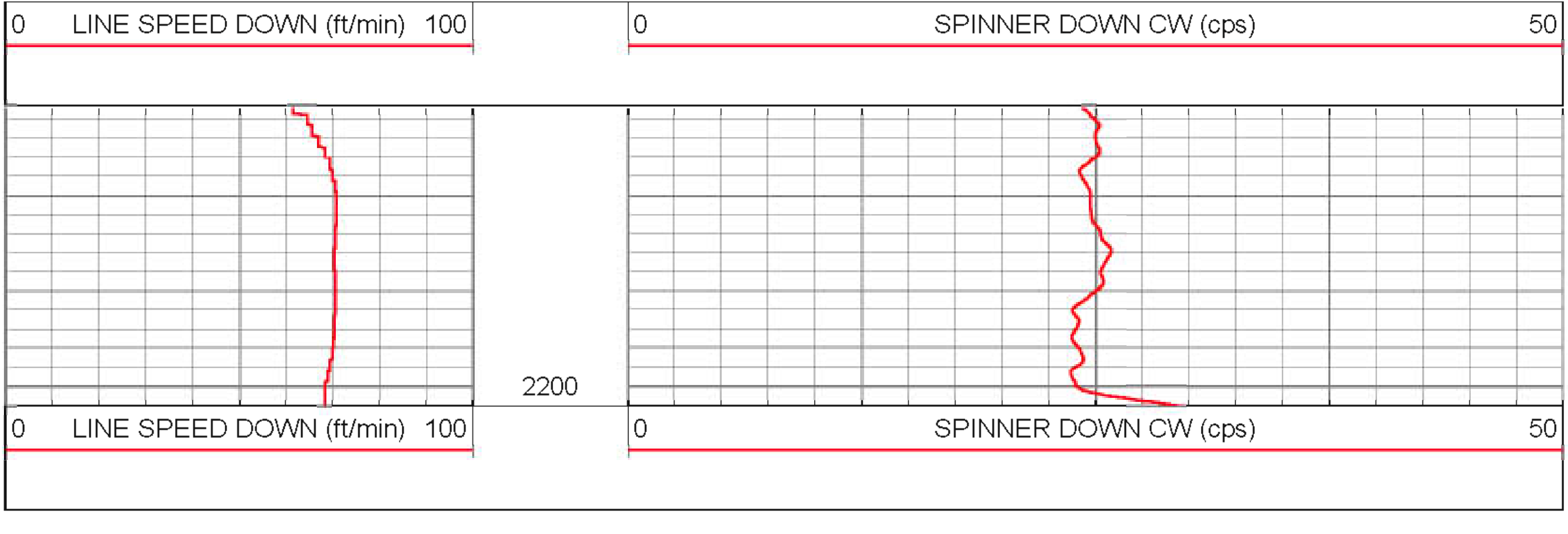
Database File: hiamw1.db
Dataset Pathname: run8/pass11
Presentation Format: flowcals
Dataset Creation: Sat Apr 24 15:28:39 2010 by Log Open-Cased 090629
Charted by: Depth in Feet scaled 1:240



YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

70 FPM

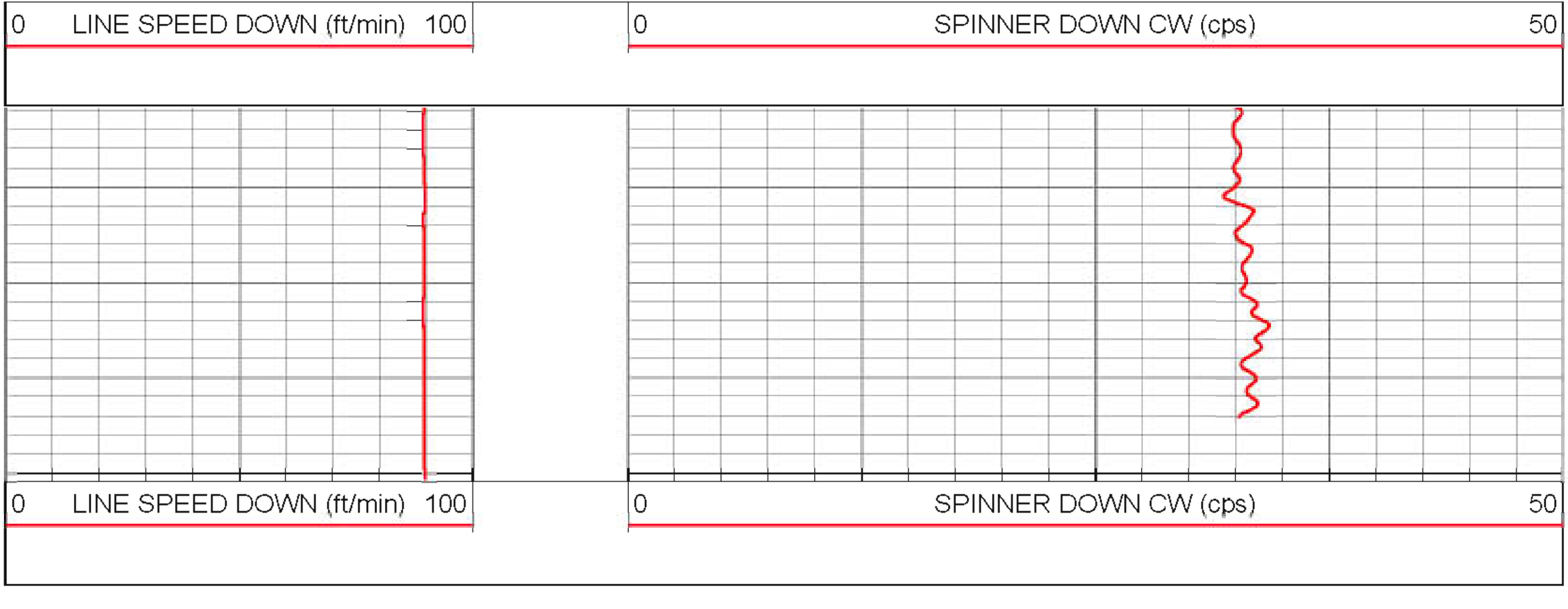
Database File: hiamw1.db
Dataset Pathname: run8/pass13
Presentation Format: flowcals
Dataset Creation: Sat Apr 24 15:36:49 2010 by Log Open-Cased 090629
Charted by: Depth in Feet scaled 1:240

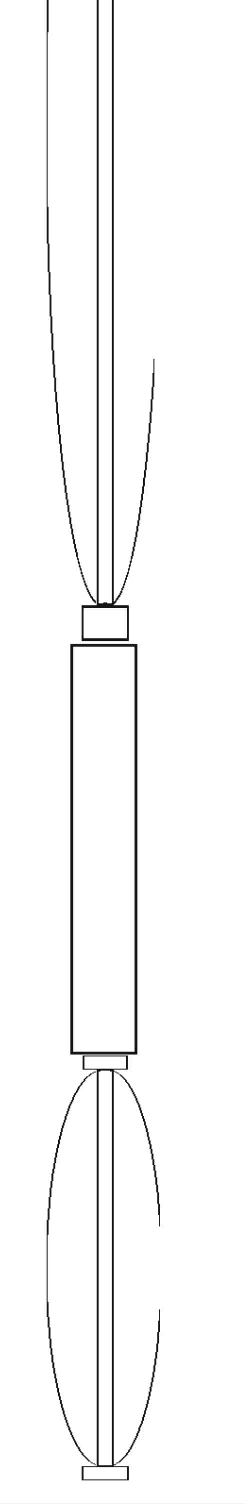


YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

90 FPM

Database File: hiamw1.db
Dataset Pathname: run8/pass14
Presentation Format: flowcals
Dataset Creation: Sat Apr 24 15:39:46 2010 by Log Open-Cased 090629
Charted by: Depth in Feet scaled 1:240



Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			8FTSB	8.00	1.69	70.00
			FLOW-LARGE (65)	3.13	3.75	20.00
FLOWP FLOWN	3.75 3.75					
			SHRT	3.25	2.00	30.00

Dataset: hiamw1.db: field/well/run8/pass14
Total Length: 14.38 ft
Total Weight: 120.00 lb
O.D. 3.75 in

YOUNGQUIST BROTHERS, Inc.
GEOPHYSICAL LOGGING DIVISION

X-Y CALIPER GAMMA RAY LOG

Company:	CITY OF HAILEAH
Well:	MW-1
Field:	HIALEAH E.O.W.T.F.
County:	DADE
State:	FL
Location:	SEC. Twp. Rge.
Other Services:	FLUID CONDUCTIVITY/TEMP DUAL INDUCTION BOREHOLE TELEVIEWER BOREHOLE SONIC FLOW ANNULAR BOREHOLE VOLUME CALCULATED IN BARRELS FOR (0.620" CASING)

Company:	CITY OF HIALEAH
Well:	MW-1
Field:	HIALEAH E.O.W.T.F.
County:	DADE
State:	FL
Location:	SEC. Twp. Rge.
Permanent Datum:	GL
Log Measured From:	GL 0.0 ft. Above Perm. Datum
Drilling Measured From:	GL
Elevation:	GL
Date:	08-Jul-2010
Run Number:	ONE
Depth Driller:	2250
Depth Logger:	2250
Bottom Log Interval:	2250
Top Log Interval:	0.0
Casing Driller Size:	0.620" CONDUCTOR
Casing Logger:	
Bit Size:	0.000
Type Fluid in Hole:	
Density:	
Viscosity:	
pH:	
Fluid Loss:	
Source of Sample:	
Rm @ Meas. Temp.:	
Rmf @ Meas. Temp.:	
Rmc @ Meas. Temp.:	
Source Rmf / Rmc:	
Rm @ BHT:	
Time Since Circulation:	
Time Since Stop:	
Max. Rec. Temp.:	
Equipment Location:	
Recorded By:	
Witnessed By:	

Comments

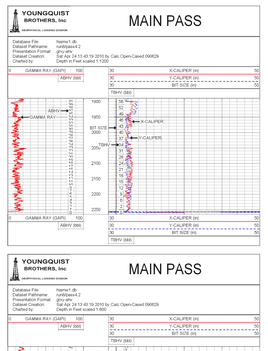
FLUID CONDUCTIVITY/TEMP
DUAL INDUCTION
BOREHOLE TELEVIEWER
BOREHOLE SONIC
FLOW

ANNULAR BOREHOLE VOLUME
CALCULATED IN BARRELS
FOR (0.620" CASING)

YOUNGQUIST BROTHERS, Inc.
GEOPHYSICAL LOGGING DIVISION

MAIN PASS

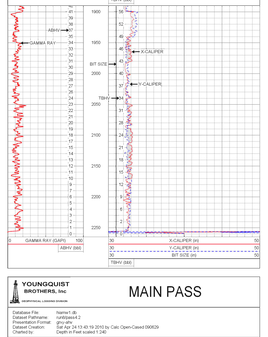
Database File: hame1.db
Dataset Pathname: run6\pass4.2
Presentation Format: gru-ylin
Dataset Creation: Sat Apr 24 15:40:19 2010 by Calc Open-Caved 090629
Charted by: Depth in Feet scaled 1:600



YOUNGQUIST BROTHERS, Inc.
GEOPHYSICAL LOGGING DIVISION

MAIN PASS

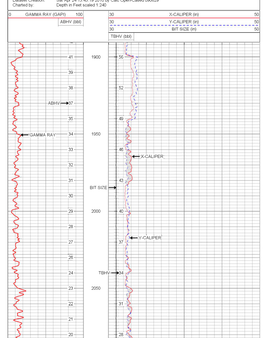
Database File: hame1.db
Dataset Pathname: run6\pass4.2
Presentation Format: gru-ylin
Dataset Creation: Sat Apr 24 15:40:19 2010 by Calc Open-Caved 090629
Charted by: Depth in Feet scaled 1:600



YOUNGQUIST BROTHERS, Inc.
GEOPHYSICAL LOGGING DIVISION

MAIN PASS

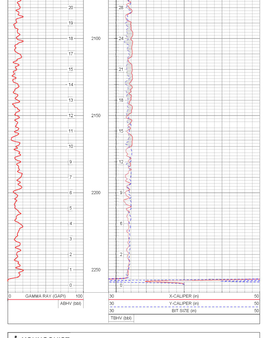
Database File: hame1.db
Dataset Pathname: run6\pass4.2
Presentation Format: gru-ylin
Dataset Creation: Sat Apr 24 15:40:19 2010 by Calc Open-Caved 090629
Charted by: Depth in Feet scaled 1:240



YOUNGQUIST BROTHERS, Inc.
GEOPHYSICAL LOGGING DIVISION

REPEAT PASS

Database File: hame1.db
Dataset Pathname: run6\pass3.2
Presentation Format: gru-ylin
Dataset Creation: Sat Apr 24 13:48:36 2010 by Calc Open-Caved 090629
Charted by: Depth in Feet scaled 1:240



X-Y Caliper Calibration Report

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
GR	9.10		GR-GRCH (1/4)	2.75	3.50	40.00
XCAL	5.00					
YCAL	5.00					
			XYC-XYCSM (015BSM)	6.60	3.50	67.00

Dataset: hame1.db: fieldtest\run6\pass3.1
Total Length: 9.35 ft
Total Weight: 127.00 lb
O.D. 3.50 in

Calibration Report

Database File: hame1.db
Dataset Pathname: run6\pass3.1
Dataset Creation: Sat Apr 24 09:03:38 2010 by Calc Open-Caved 090629

X-Y Caliper Calibration Report

Serial Number/Model: 015BSM-XYCSM
Performed: Sat Apr 24 08:45:54 2010

	Ring		X Caliper		Y Caliper	
1	1.5 in	in	1.514 in	in	1.497 in	in
2	3.5 in	in	3.515 in	cps	3.502 in	cps
3	12 in	in	561	cps	1003	cps
4	47 in	in	1062.93	cps	1324.67	cps
5		in		cps		cps
6		in		cps		cps

Gamma Ray Calibration Report

Serial Number:	14	
Model:	44CSH	
Performed:	Wed Mar 21 13:24:48 2008	
Calibrator Value:	120.0	GAPI
Background Reading:	45.4	cps
Calibrator Reading:	204.5	cps
Sensitivity:	0.8754	GAPI/cps

YOUNGQUIST BROTHERS, Inc

GEOPHYSICAL LOGGING DIVISION

BOREHOLE COMPENSATED SONIC with VDL & LOG DERIVED TDS

Company CITY OF HIALEAH
Well MW-1
Field HIALEAH R.O.W.T.P.
County DADE
State FL

Company CITY OF HIALEAH
Well MW-1
Field HIALEAH R.O.W.T.P.
County DADE
State FL

Location: API # :

SEC TWP RGE

Other Services SEE COMMENTS

Permanent Datum Elevation
Log Measured From
Drilling Measured From

Elevation
K.B.
D.F.
G.L.

Date	11-APRIL-2010		
Run Number	FIVE		
Depth Driller	1940'		
Depth Logger	1940'		
Bottom Logged Interval	1940'		
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	1730		
Time Logger on Bottom	1800		
Equipment Number	103		
Location	FT MYERS		
Recorded By	CATHEY		
Witnessed By	D. LEGGETT		

Borehole Record				Borehole Record			
Run Number	Bit	From	To	Run No	Bit	From	To
ONE	40.5"	SURFACE	157'				
TWO	28.5"	CASING	1076'				
THREE	12.25"	CASING	1940'				

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	30"	.375" W.T.	SURFACE	156'
Prot. String	20"	.375 W.T.	SURFACE	1076'
Production String				
Liner				

<<< Fold Here >>>

Comments

OTHER SERVICES:

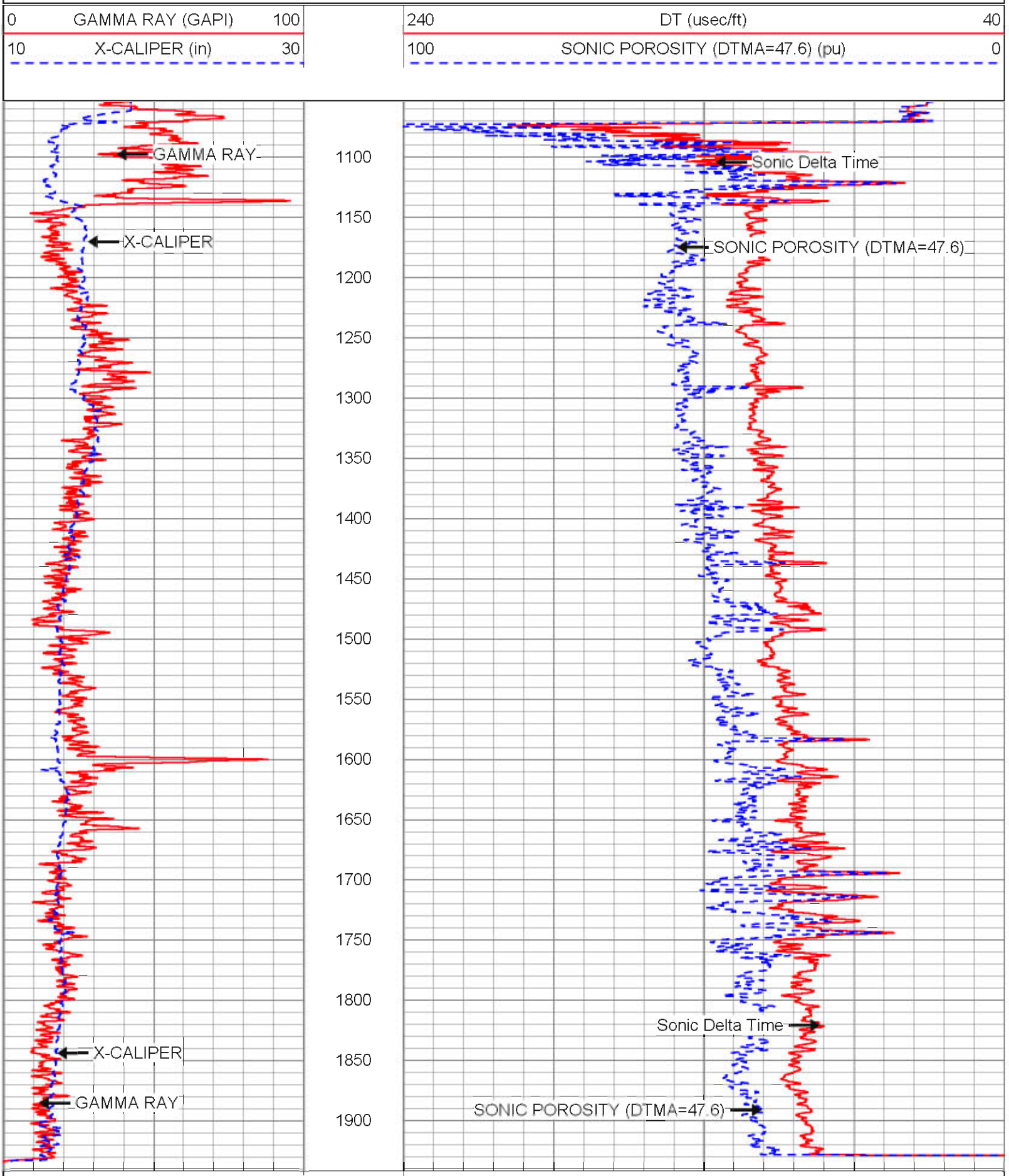
X-Y CALIPER / GAMMA RAY
DUAL INDUCTION
BOREHOLE TELEVIEWER
FLUID CONDUCTIVITY / TEMP
FLOWMETER

MAIN PASS

YOUNGQUIST BROTHERS, Inc

GEOPHYSICAL LOGGING DIVISION

Database File:	hiamw1.db
Dataset Pathname:	run5/pass7
Presentation Format:	son_por
Dataset Creation:	Sun Apr 11 20:28:15 2010 by Log Open-Cased 090629
Charted by:	Depth in Feet scaled 1:1200



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

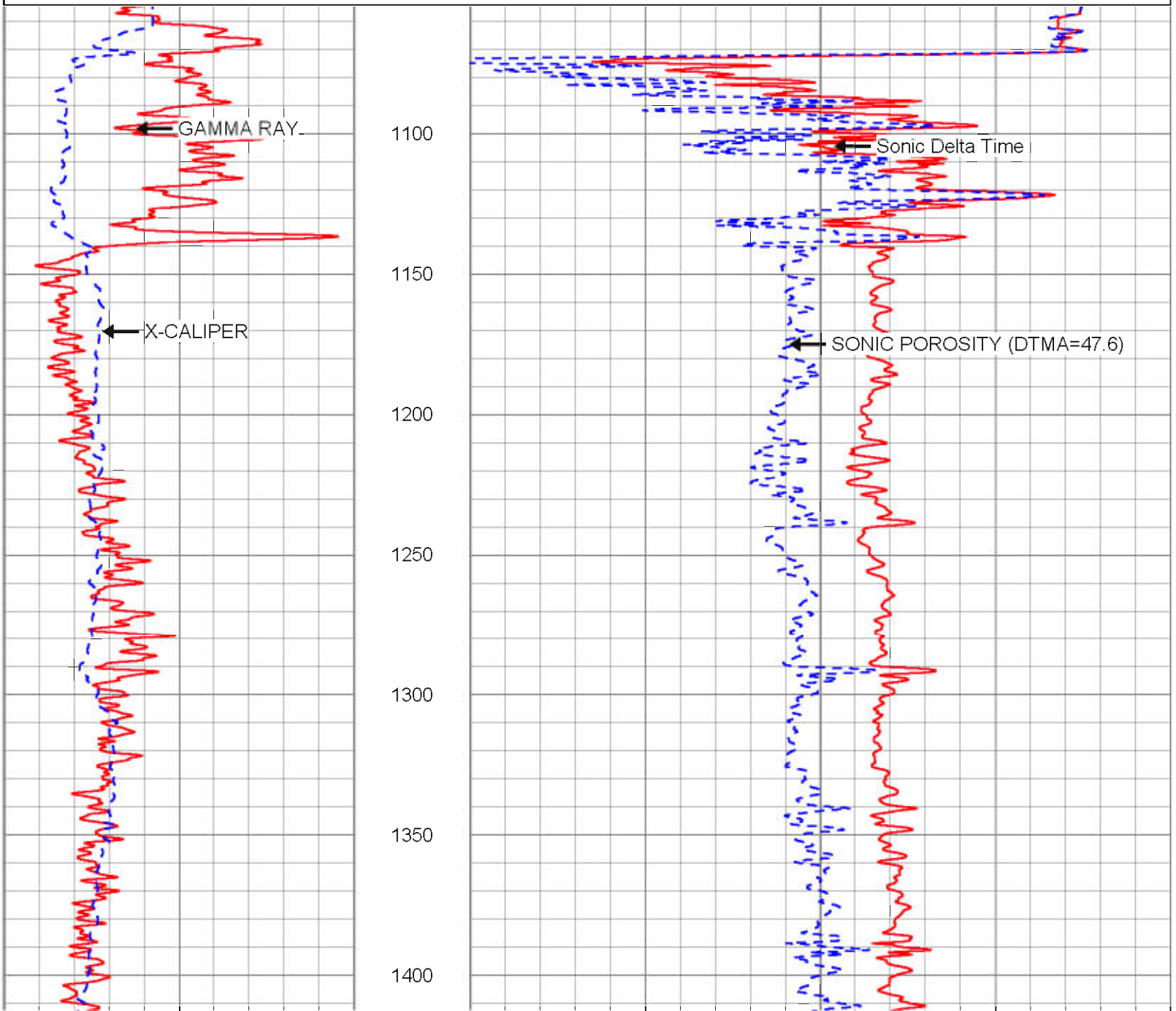
YOUNGQUIST BROTHERS, Inc

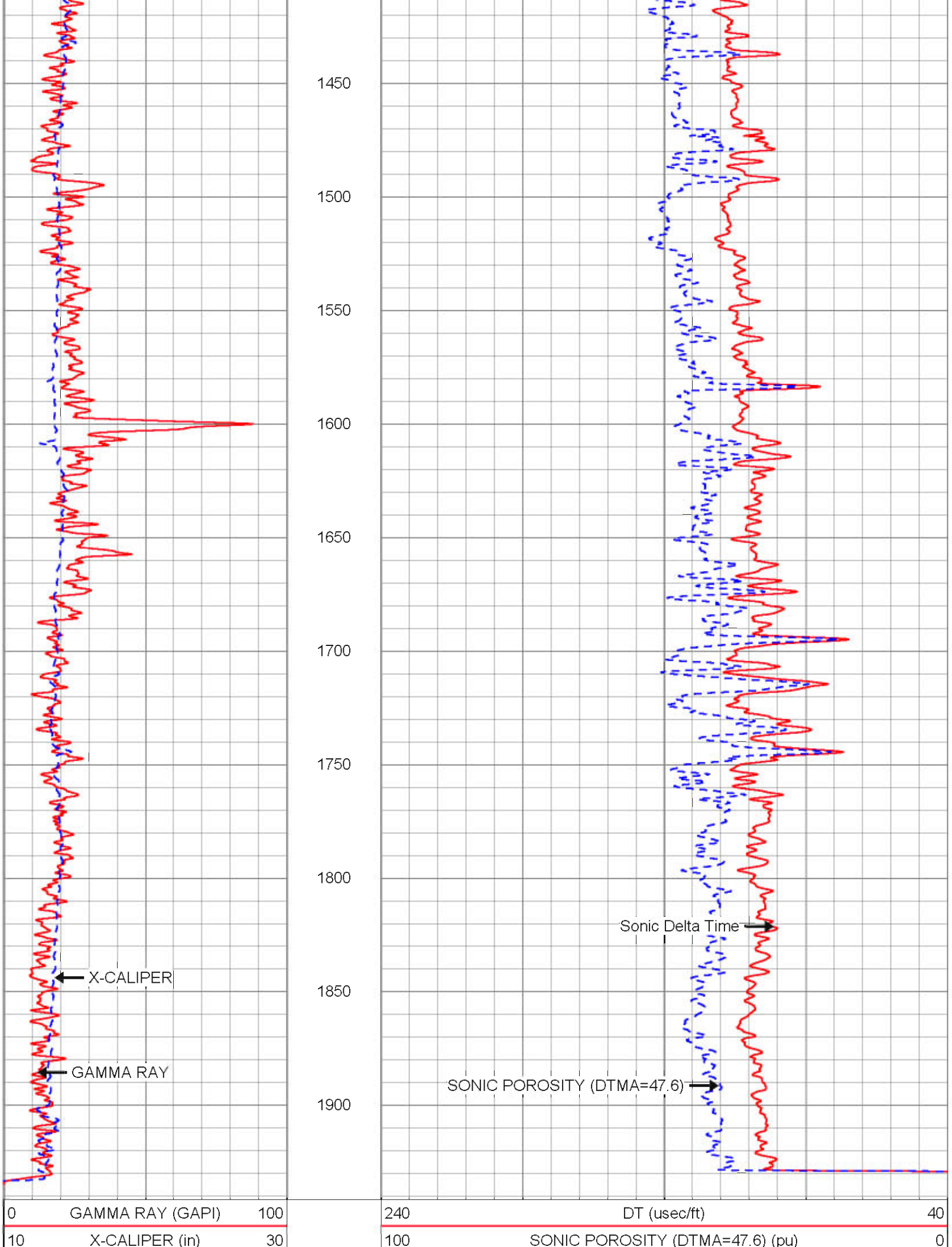
GEOPHYSICAL LOGGING DIVISION

MAIN PASS

Database File:	hiamw1.db
Dataset Pathname:	run5/pass7
Presentation Format:	son_por
Dataset Creation:	Sun Apr 11 20:28:15 2010 by Log Open-Cased 090629
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




1450
1500
1550
1600
1650
1700
1750
1800
1850
1900
X-CALIPER
GAMMA RAY
Sonic Delta Time
SONIC POROSITY (DTMA=47.6)
0
GAMMA RAY (GAPI)
100
10
X-CALIPER (in)
30
240
DT (usec/ft)
40
100
SONIC POROSITY (DTMA=47.6) (pu)
0

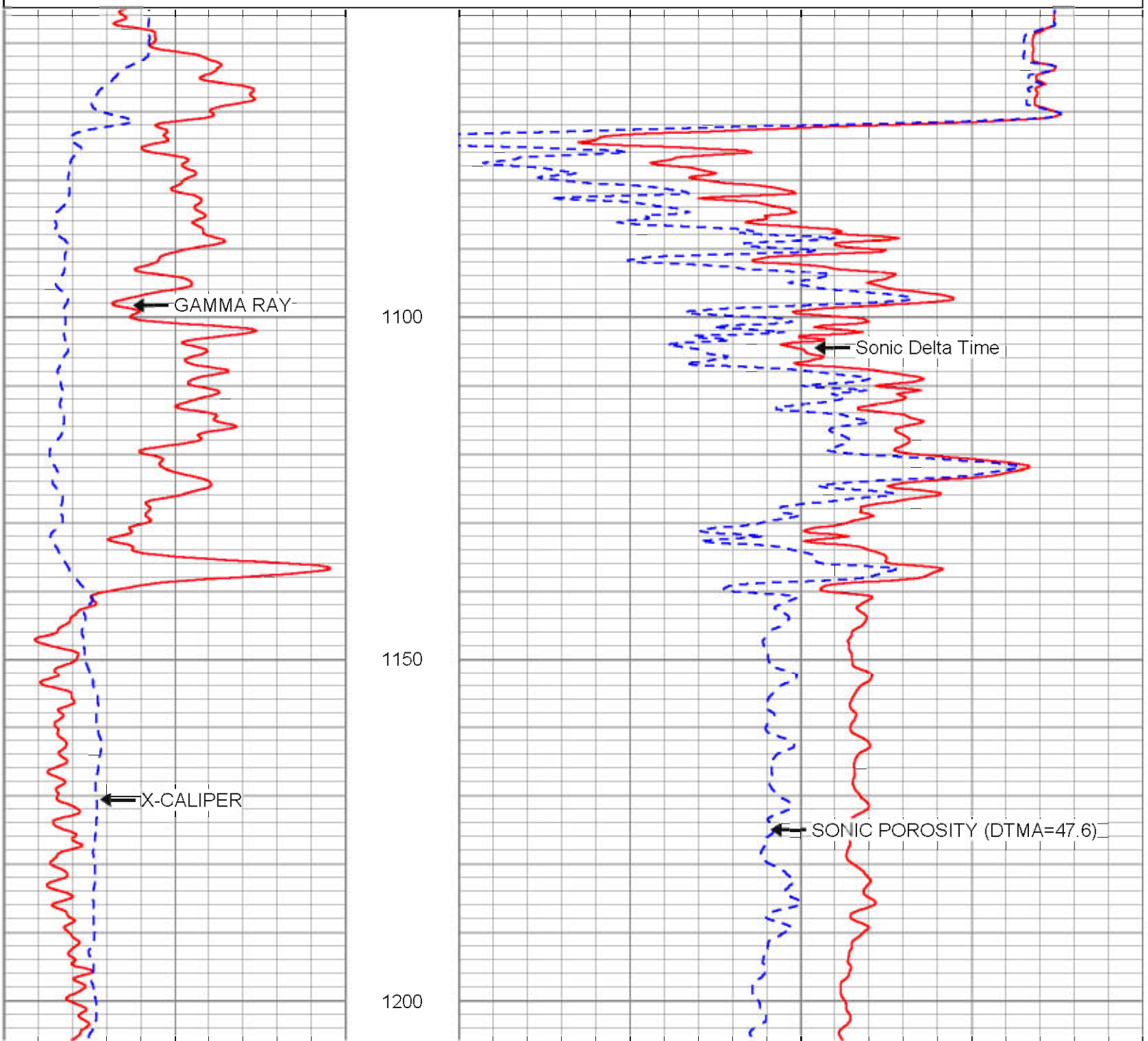
YOUNGQUIST BROTHERS, Inc

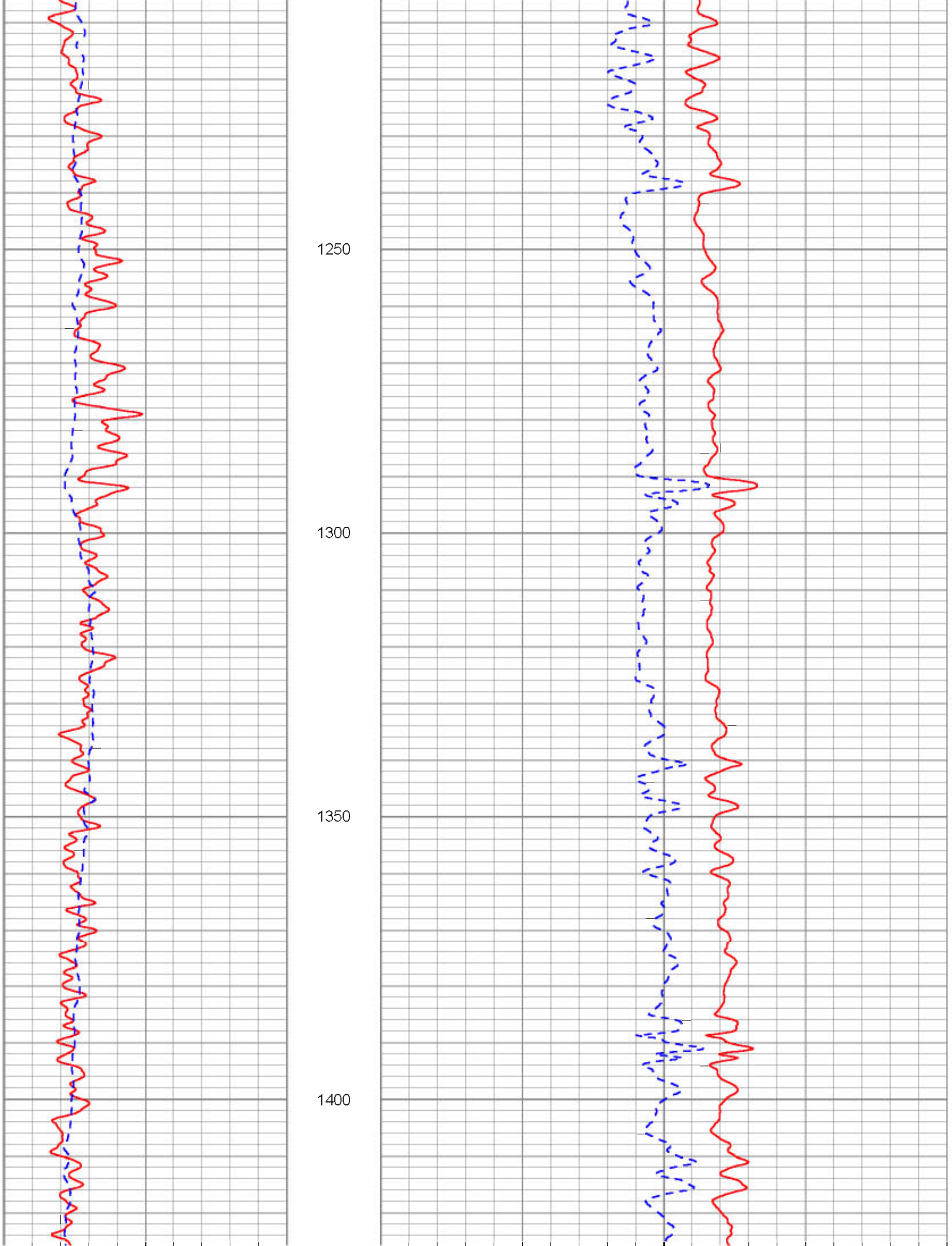
GEOPHYSICAL LOGGING DIVISION

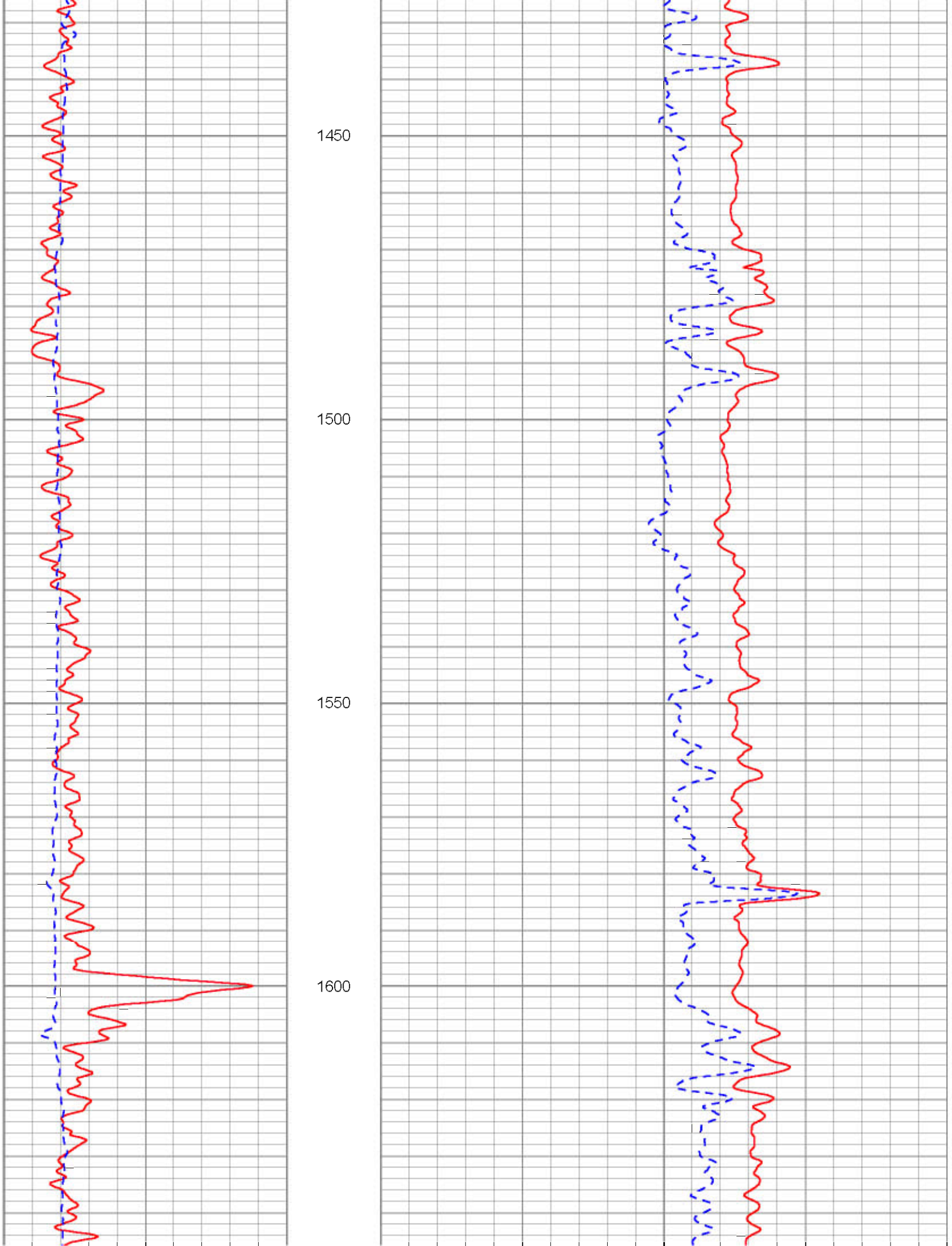
MAIN PASS

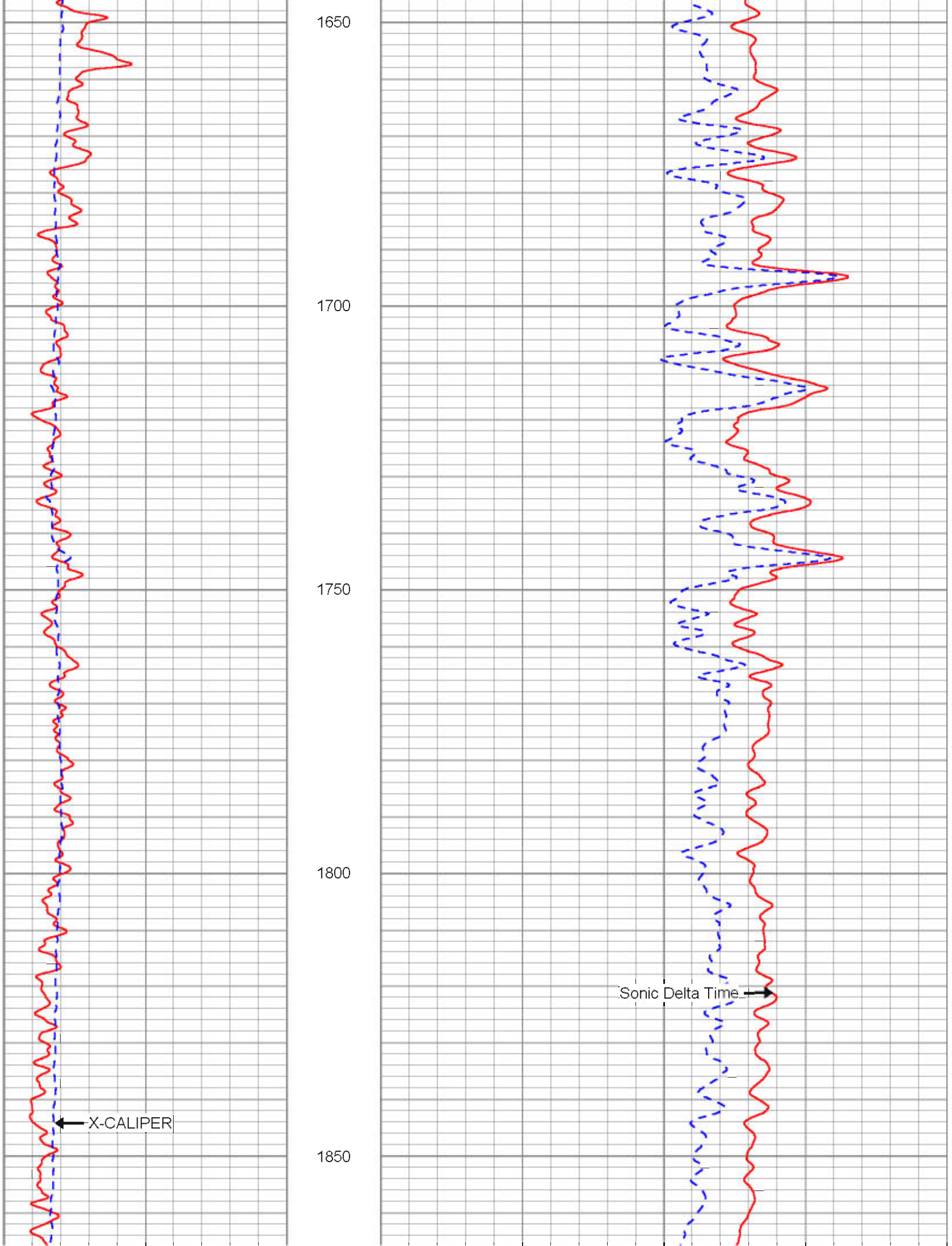
Database File:	hiamw1.db
Dataset Pathname:	run5/pass7
Presentation Format:	son_por
Dataset Creation:	Sun Apr 11 20:28:15 2010 by Log Open-Cased 090629
Charted by:	Depth in Feet scaled 1:240

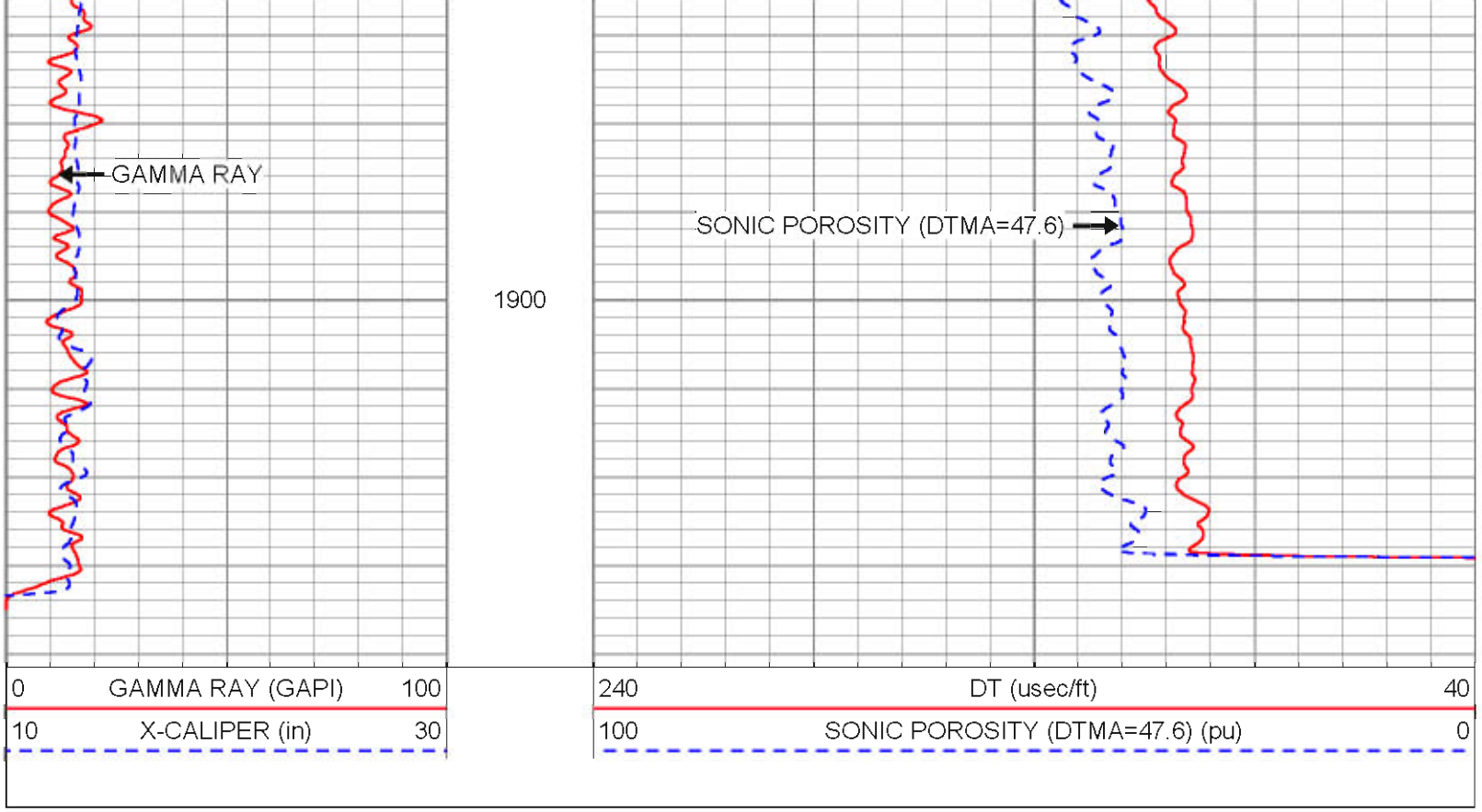
0	GAMMA RAY (GAPI)	100	240	DT (usec/ft)	40
10	X-CALIPER (in)	30	100	SONIC POROSITY (DTMA=47.6) (pu)	0




1250
1300
1350
1400


1450
1500
1550
1600


1650
1700
1750
1800
1850
X-CALIPER
Sonic Delta Time

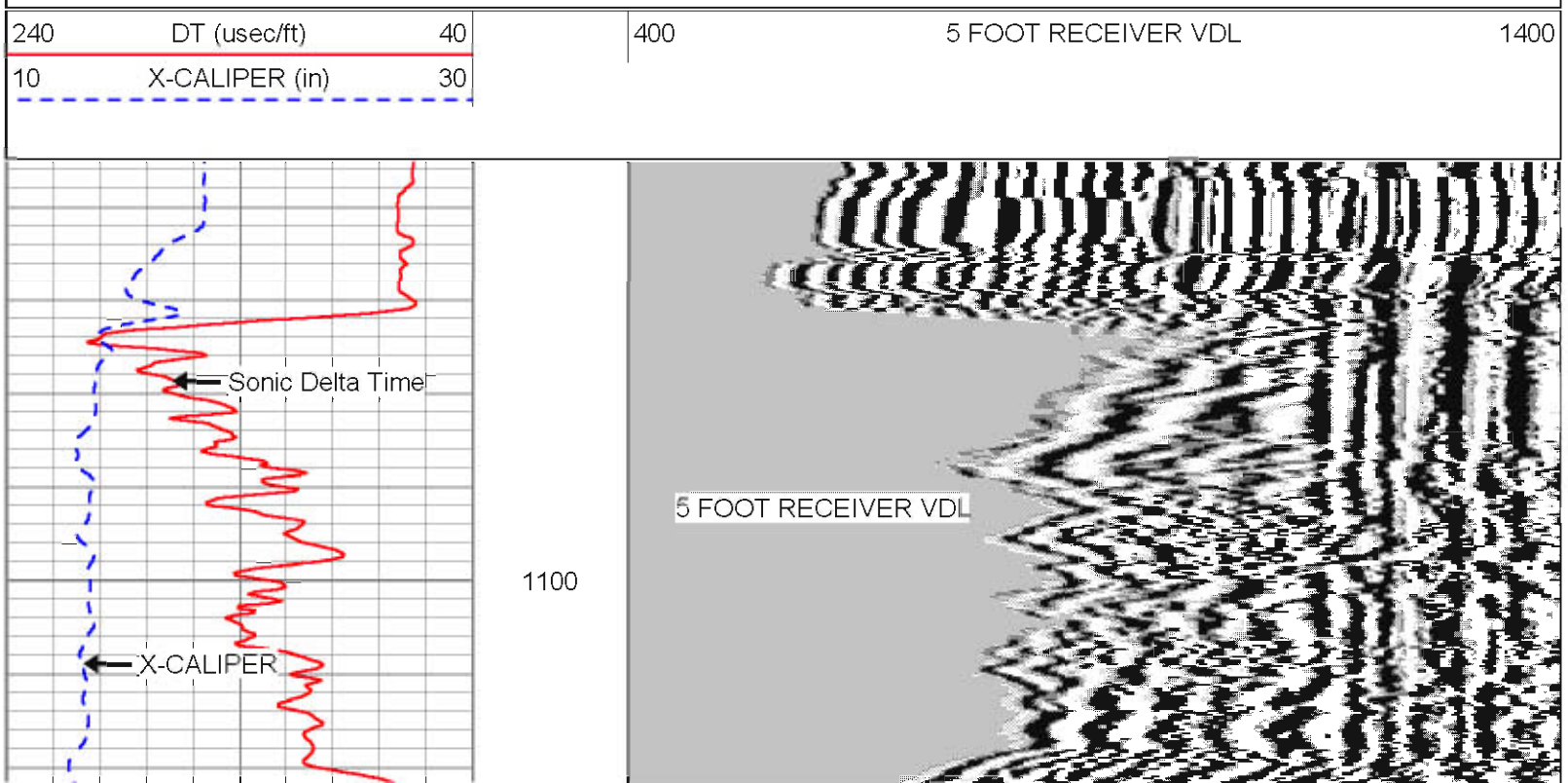


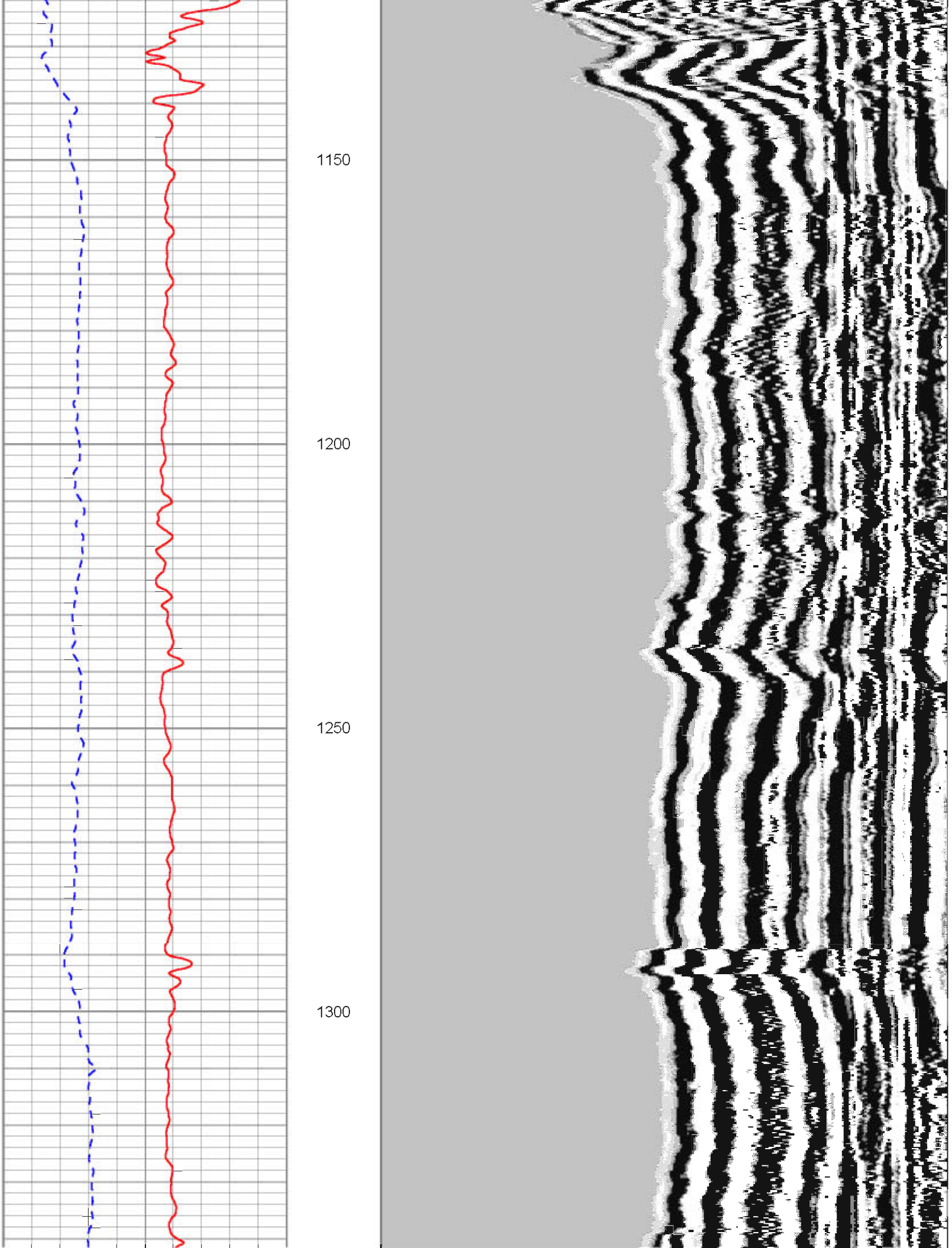
YOUNGQUIST BROTHERS, Inc

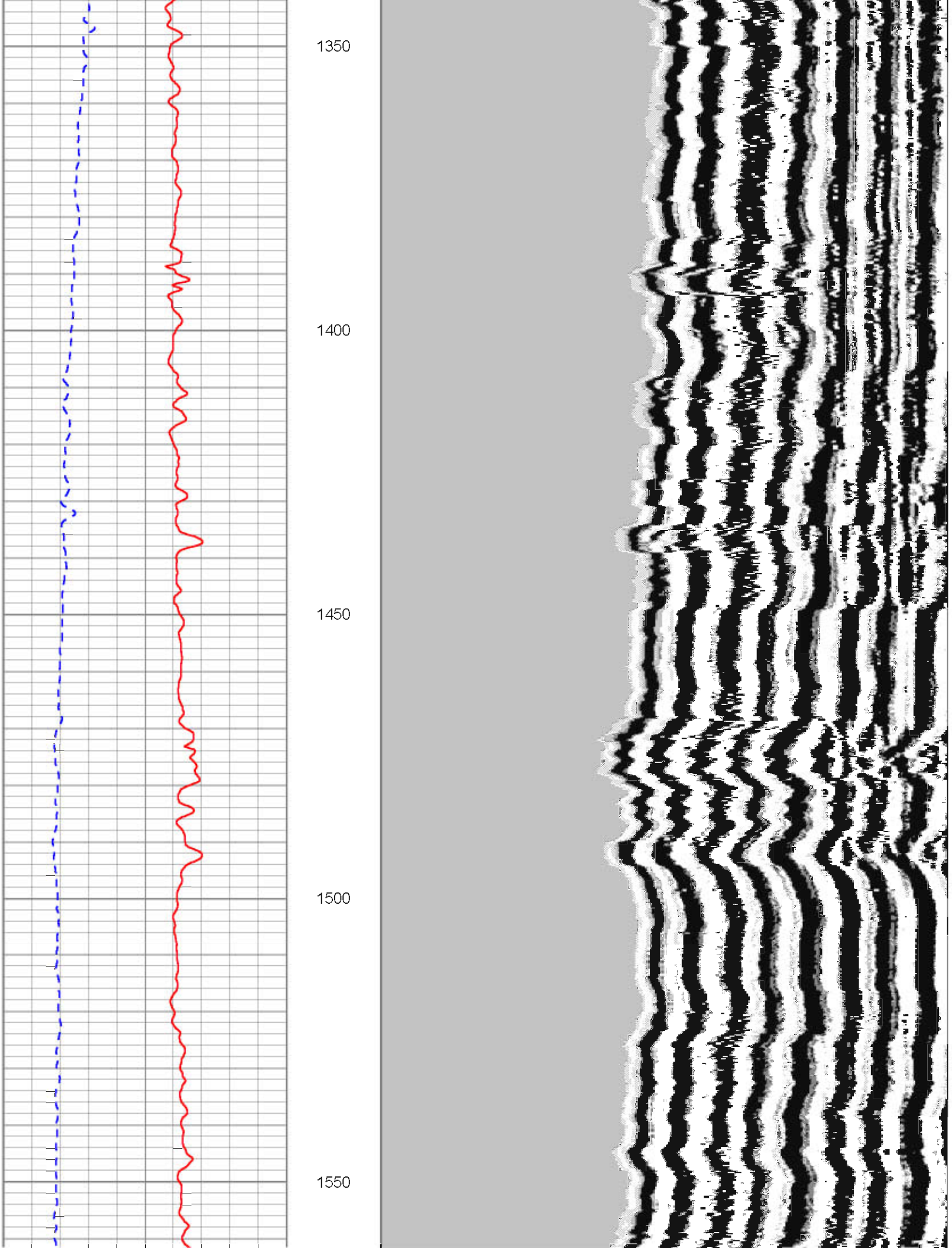
GEOPHYSICAL LOGGING DIVISION

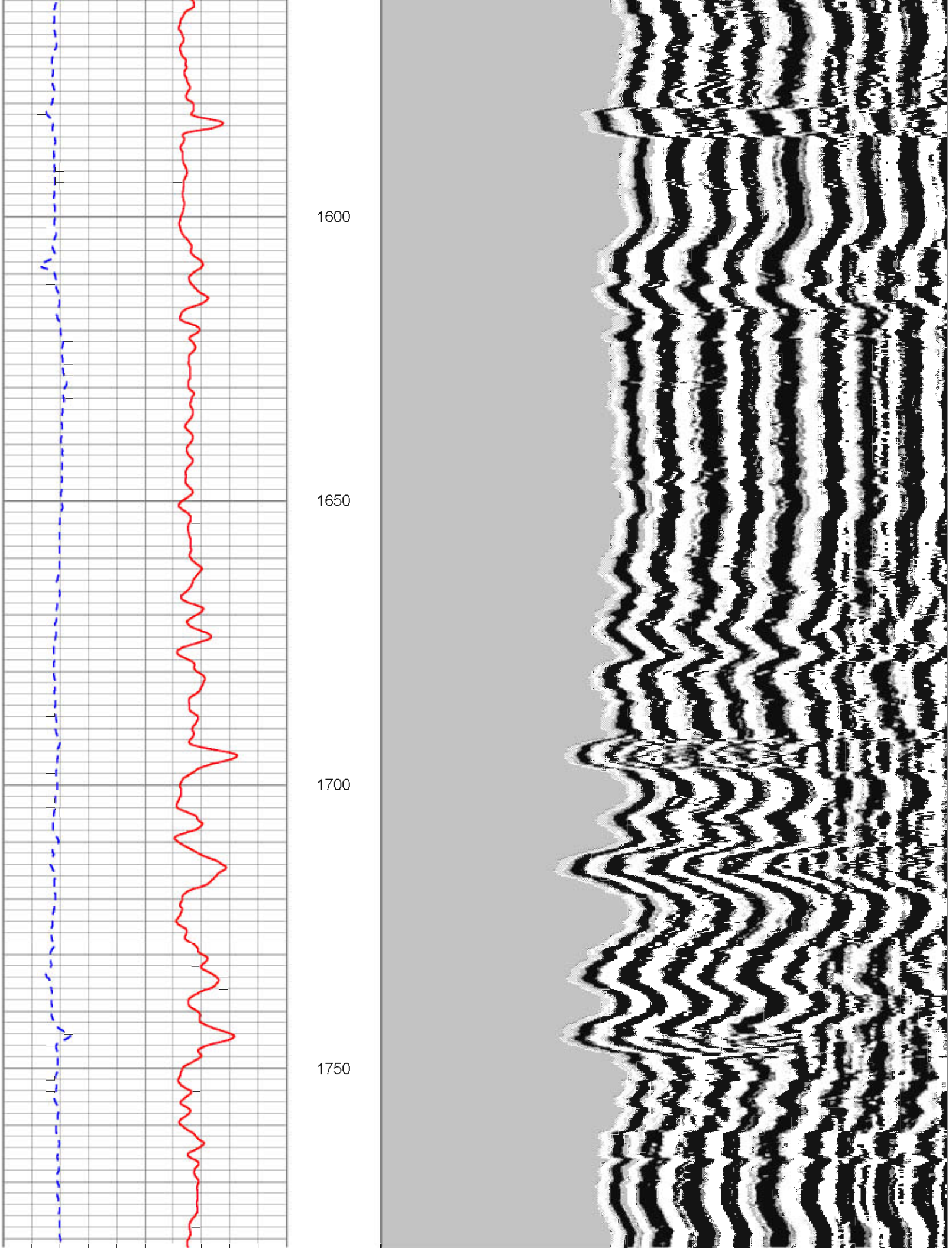
MAIN PASS

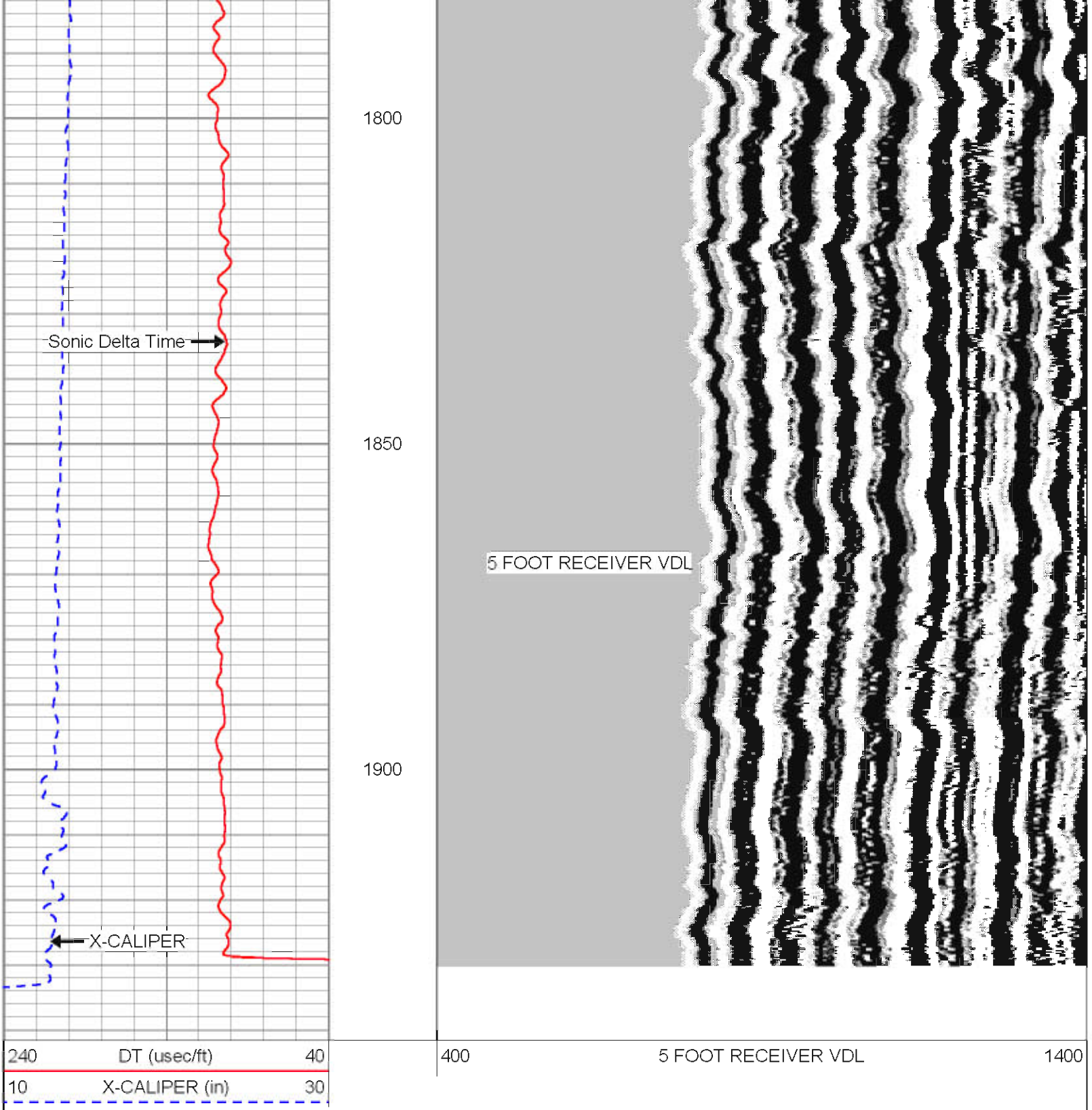
Database File:	hiamw1.db
Dataset Pathname:	run5/pass7
Presentation Format:	son_vdl
Dataset Creation:	Sun Apr 11 20:28:15 2010 by Log Open-Cased 090629
Charted by:	Depth in Feet scaled 1:240




1150
1200
1250
1300


1350
1400
1450
1500
1550


1600
1650
1700
1750

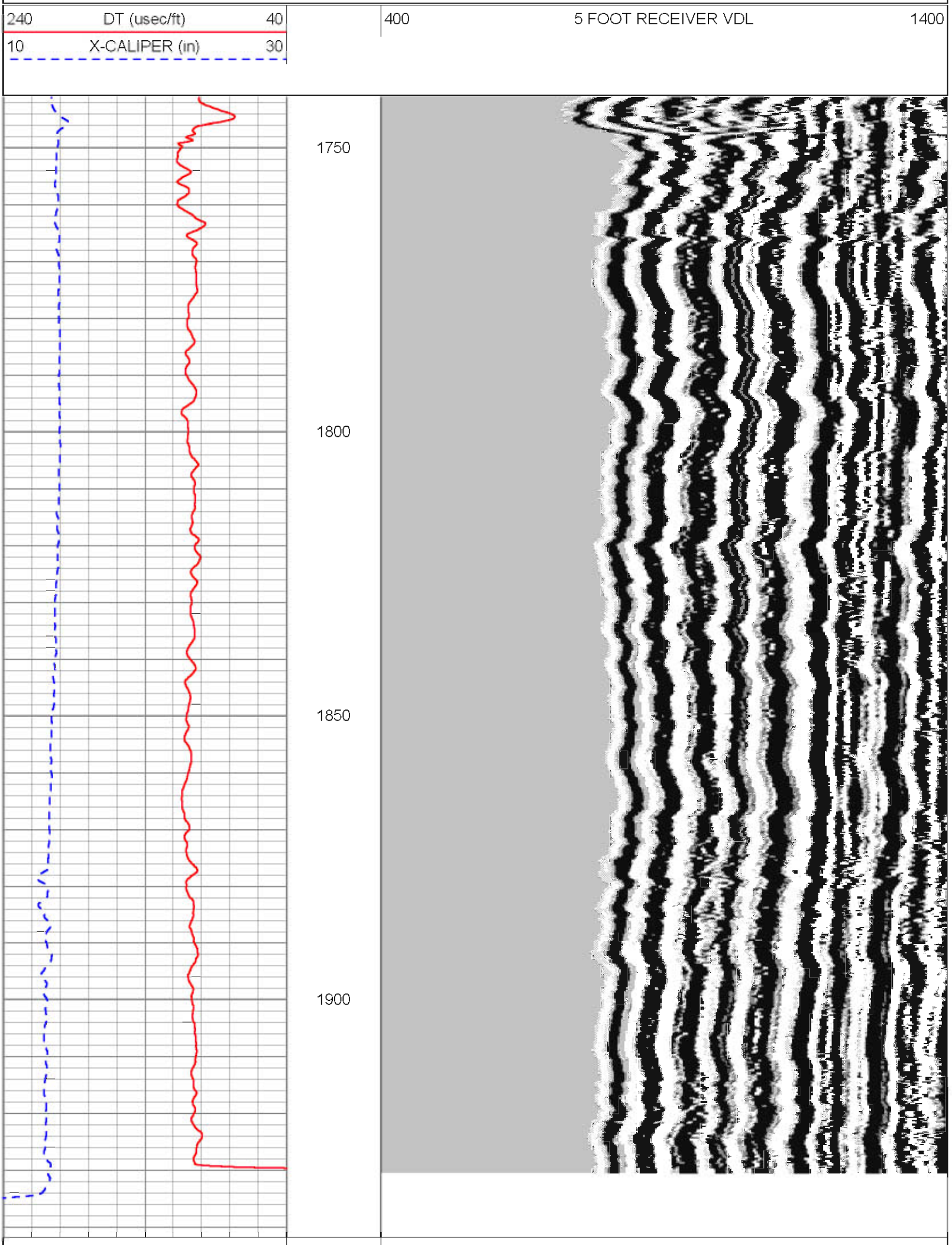


YOUNGQUIST BROTHERS, Inc

GEOPHYSICAL LOGGING DIVISION

REPEAT PASS

Database File:	hiamw1.db
Dataset Pathname:	run5/pass6
Presentation Format:	son_vdl
Dataset Creation:	Sun Apr 11 20:19:39 2010 by Log Open-Cased 090629
Charted by:	Depth in Feet scaled 1:240


240
DT (usec/ft)
40
10
X-CALIPER (in)
30
400
5 FOOT RECEIVER VDL
1400
1750
1800
1850
1900

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

400	5 FOOT RECEIVER VDL	1400

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			TOP	5.00	3.00	50.00
WVF1	13.50					
WVF3	13.50		SLT-PENGO (03)	16.00	3.50	127.00
WVF2	11.50					
WVF4	11.50					
			BOT	5.00	3.00	50.00

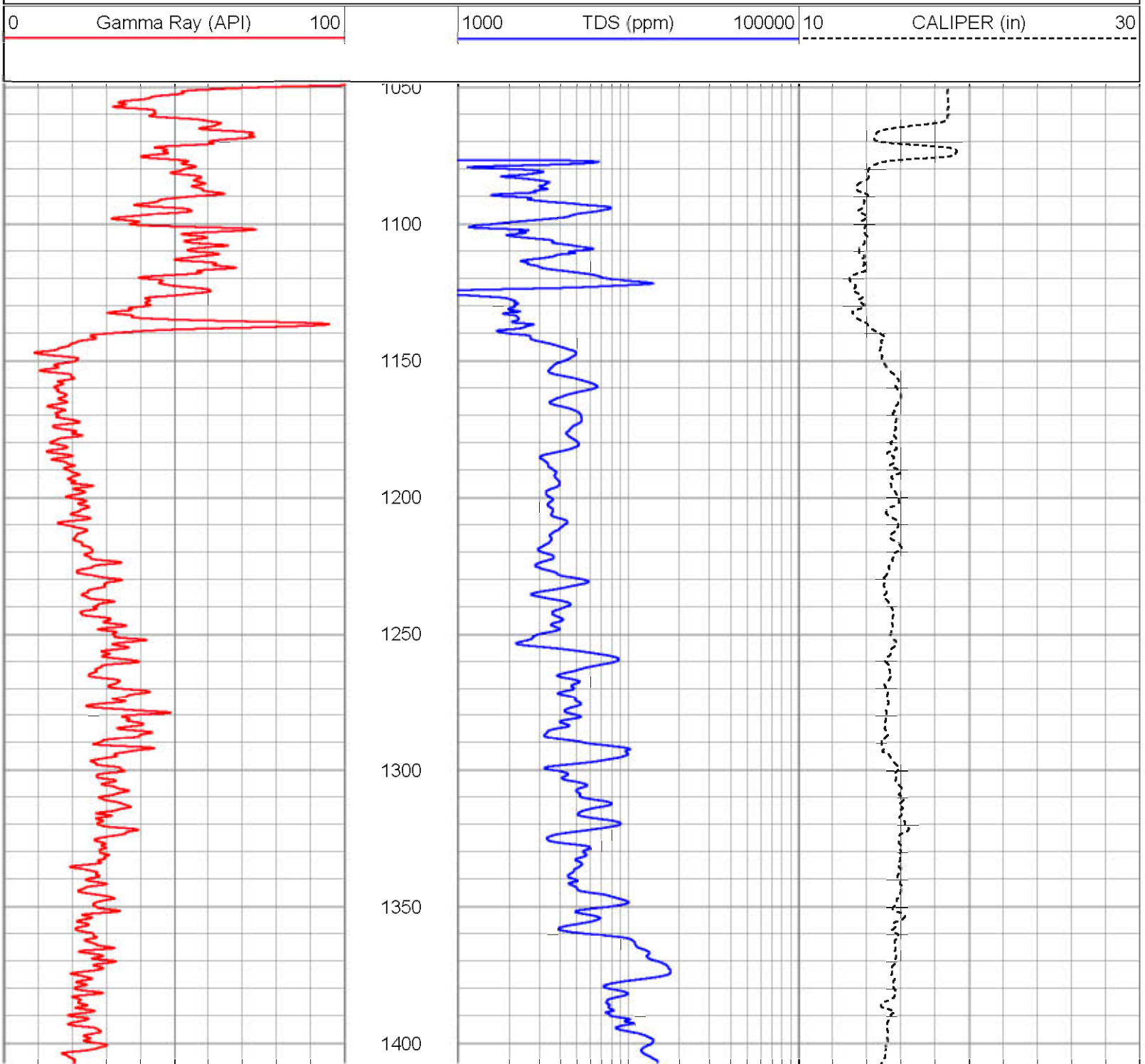
Dataset:	hiamw1.db: field/well/run5/pass7
Total Length:	26.00 ft
Total Weight:	227.00 lb
O.D.	3.50 in

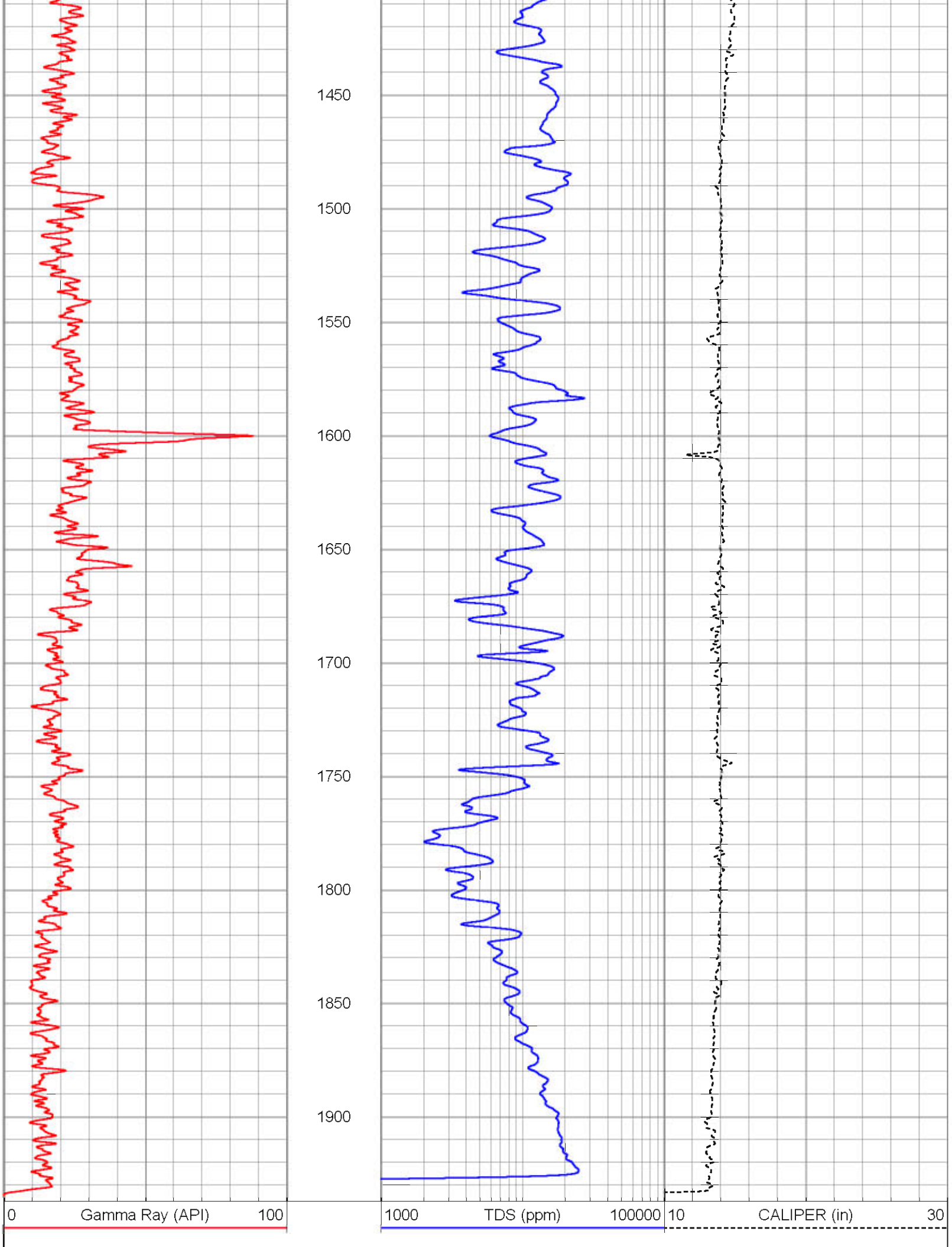
YOUNGQUIST BROTHERS, Inc

GEOPHYSICAL LOGGING DIVISION

LOG DERIVED TDS

Database File:	hiamw1.db
Dataset Pathname:	run5/TDS
Presentation Format:	tds
Dataset Creation:	Sun Apr 11 21:01:22 2010
Charted by:	Depth in Feet scaled 1:600




1450
1500
1550
1600
1650
1700
1750
1800
1850
1900
0
Gamma Ray (API)
100
1000
TDS (ppm)
100000
10
CALIPER (in)
30

YOUNGQUIST BROTHERS, Inc

GEOPHYSICAL LOGGING DIVISION

DUAL INDUCTION LL3 with SP LOG

Company CITY OF HIALEAH

Well MW-1

Field HIALEAH R.O.W.T.P.

County DADE State FL

Location: API # :

SEC TWP RGE

Other Services SEE COMMENTS

Elevation

K.B.
D.F.
G.L.

Permanent Datum Elevation

Log Measured From

Drilling Measured From

Company CITY OF HIALEAH
Well MW-1
Field HIALEAH R.O.W.T.P.
County DADE
State FL

Date	11-APRIL-2010		
Run Number	FIVE		
Depth Driller	1940'		
Depth Logger	1940'		
Bottom Logged Interval	1940'		
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	1730		
Time Logger on Bottom	1800		
Equipment Number	103		
Location	FT MYERS		
Recorded By	CATHEY		
Witnessed By	D. LEGGETT		

Borehole Record				Borehole Record			
Run Number	Bit	From	To	Run No	Bit	From	To
ONE	40.5"	SURFACE	157'				
TWO	28.5"	CASING	1076'				
THREE	12.25"	CASING	1940'				

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	30"	.375" W.T.	SURFACE	156'
Prot. String	20"	.375 W.T.	SURFACE	1076'
Production String				
Liner				

<<< Fold Here >>>

Comments

OTHER SERVICES:

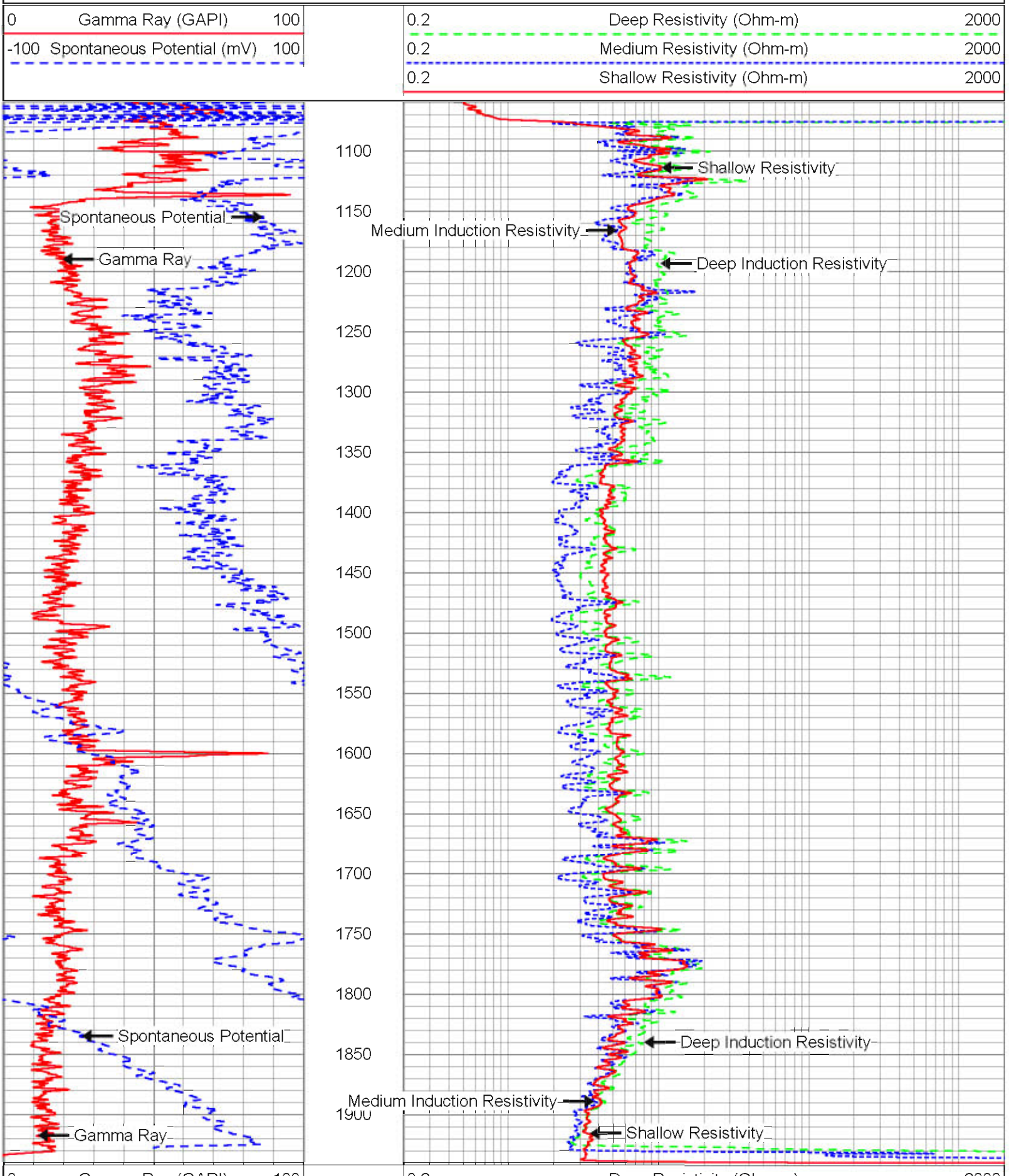
X-Y CALIPER / GAMMA RAY
SONIC
BOREHOLE TELEVIEWER
FLUID CONDUCTIVITY / TEMP
FLOWMETER

MAIN PASS

YOUNGQUIST BROTHERS, Inc

GEOPHYSICAL LOGGING DIVISION

Database File:	hiamw1.db
Dataset Pathname:	run5/pass5
Presentation Format:	dil
Dataset Creation:	Sun Apr 11 19:23:10 2010 by Log Open-Cased 090629
Charted by:	Depth in Feet scaled 1:1200



0	Gamma Ray (GAPI)	100
-100	Spontaneous Potential (mV)	100

0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	Shallow Resistivity (Ohm-m)	2000

YOUNGQUIST BROTHERS, Inc

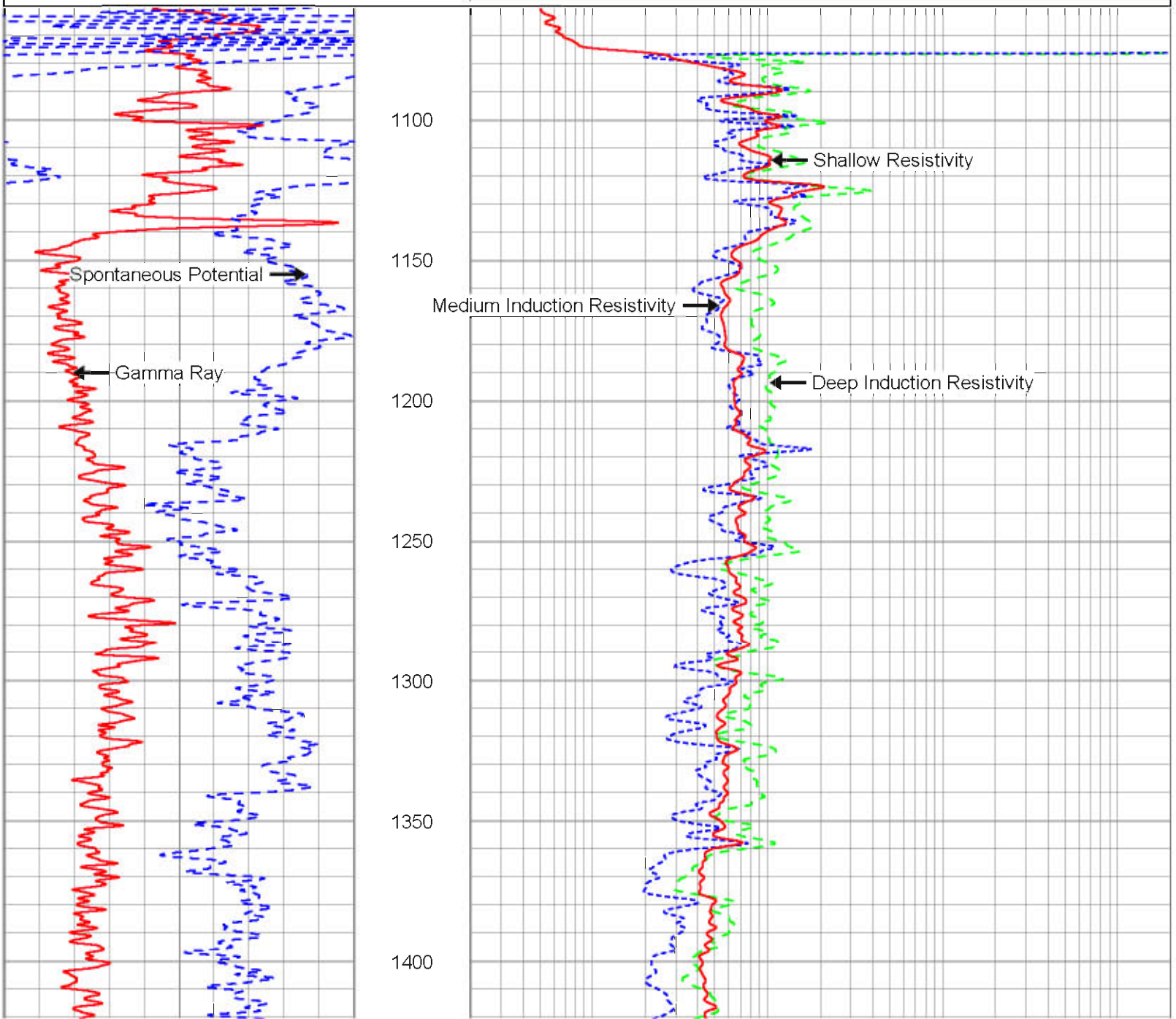
GEOPHYSICAL LOGGING DIVISION

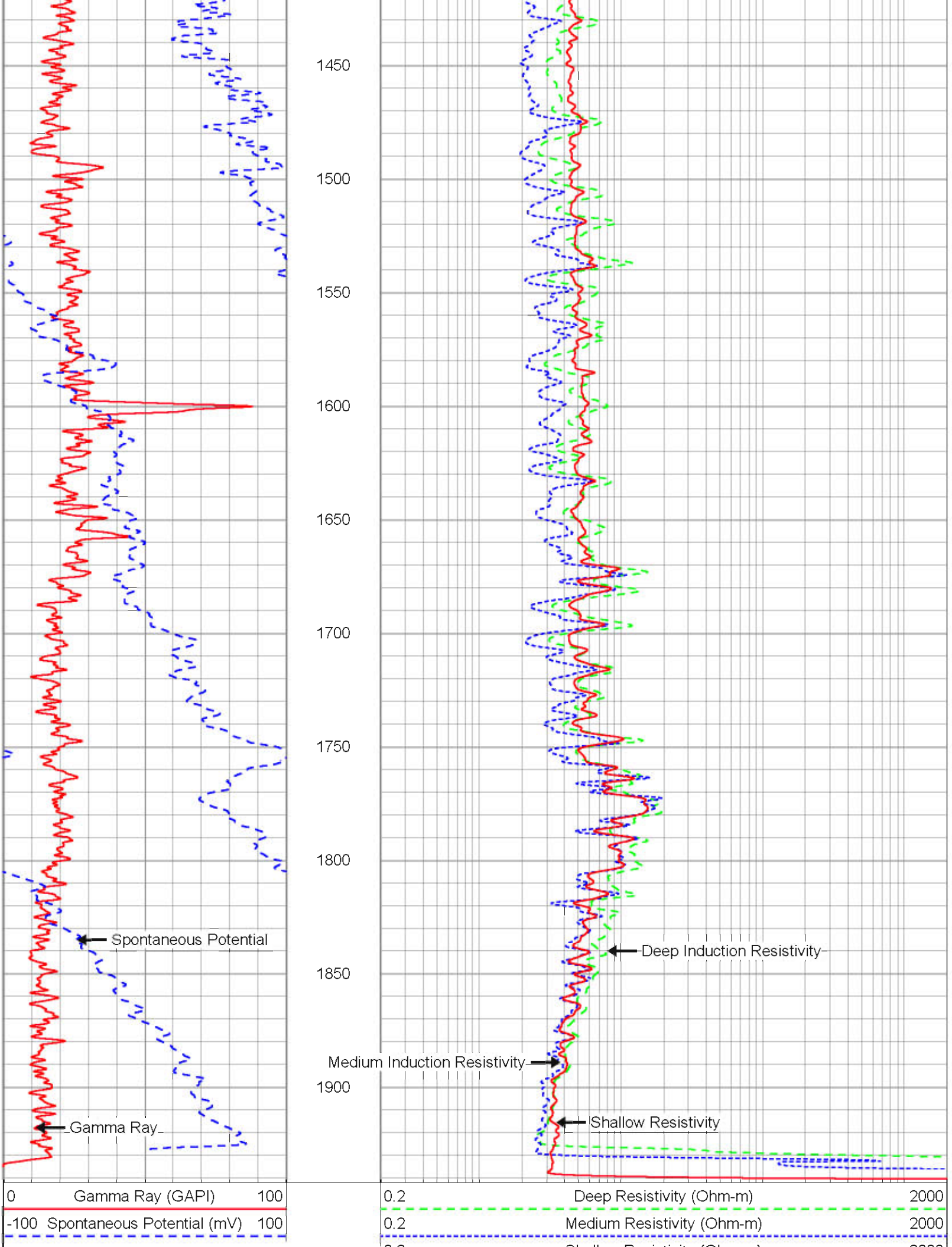
MAIN PASS

Database File:	hiamw1.db
Dataset Pathname:	run5/pass5
Presentation Format:	dil
Dataset Creation:	Sun Apr 11 19:23:10 2010 by Log Open-Cased 090629
Charted by:	Depth in Feet scaled 1:600

0	Gamma Ray (GAPI)	100
-100	Spontaneous Potential (mV)	100

0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	Shallow Resistivity (Ohm-m)	2000




1450
1500
1550
1600
1650
1700
1750
1800
1850
1900
Spontaneous Potential
Gamma Ray
Deep Induction Resistivity
Medium Induction Resistivity
Shallow Resistivity
0
Gamma Ray (GAPI)
100
-100
Spontaneous Potential (mV)
100
0.2
Deep Resistivity (Ohm-m)
2000
0.2
Medium Resistivity (Ohm-m)
2000

0.2 Shallow Resistivity (Ohm-m) 2000

YOUNGQUIST BROTHERS, Inc

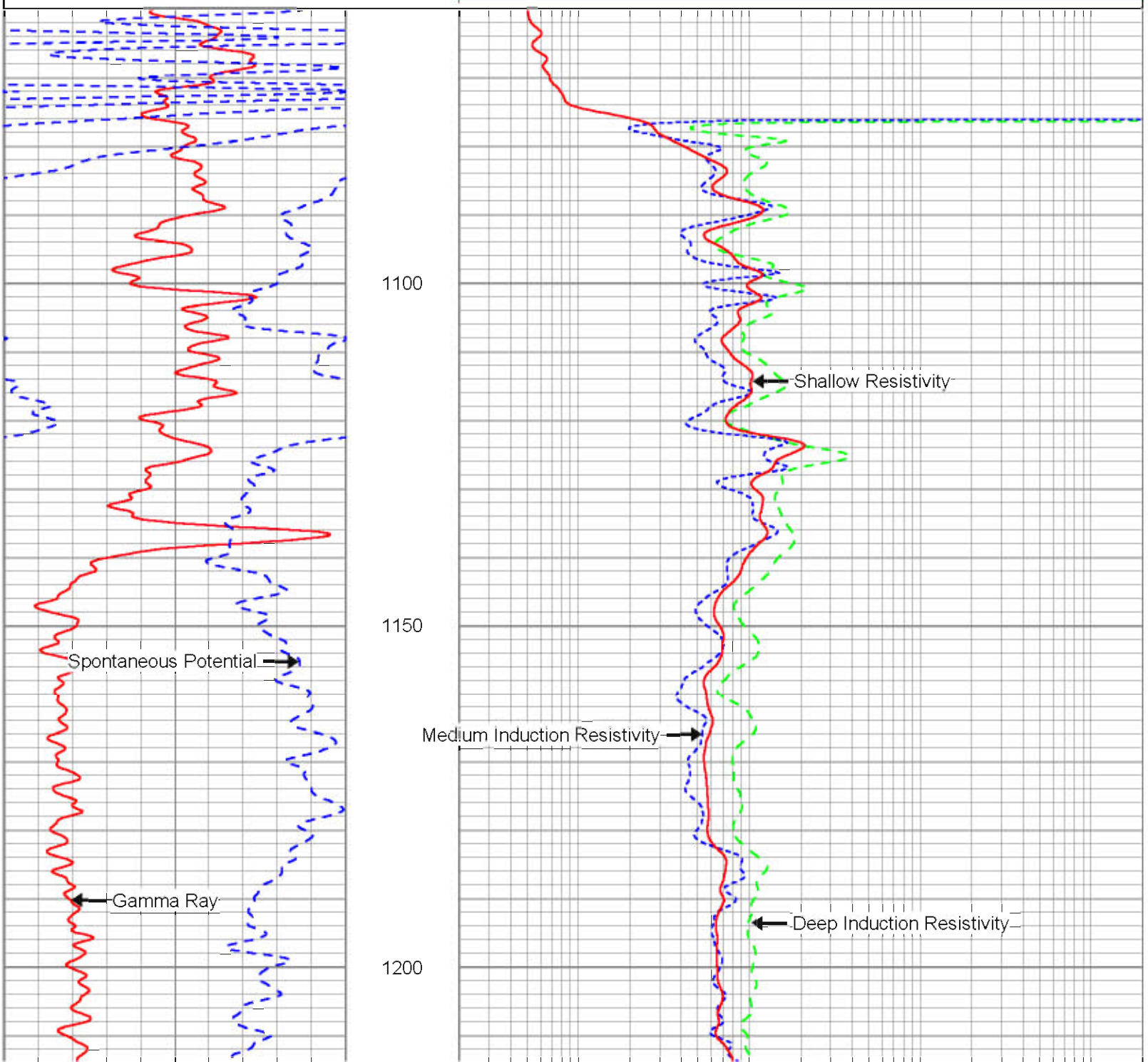
GEOPHYSICAL LOGGING DIVISION

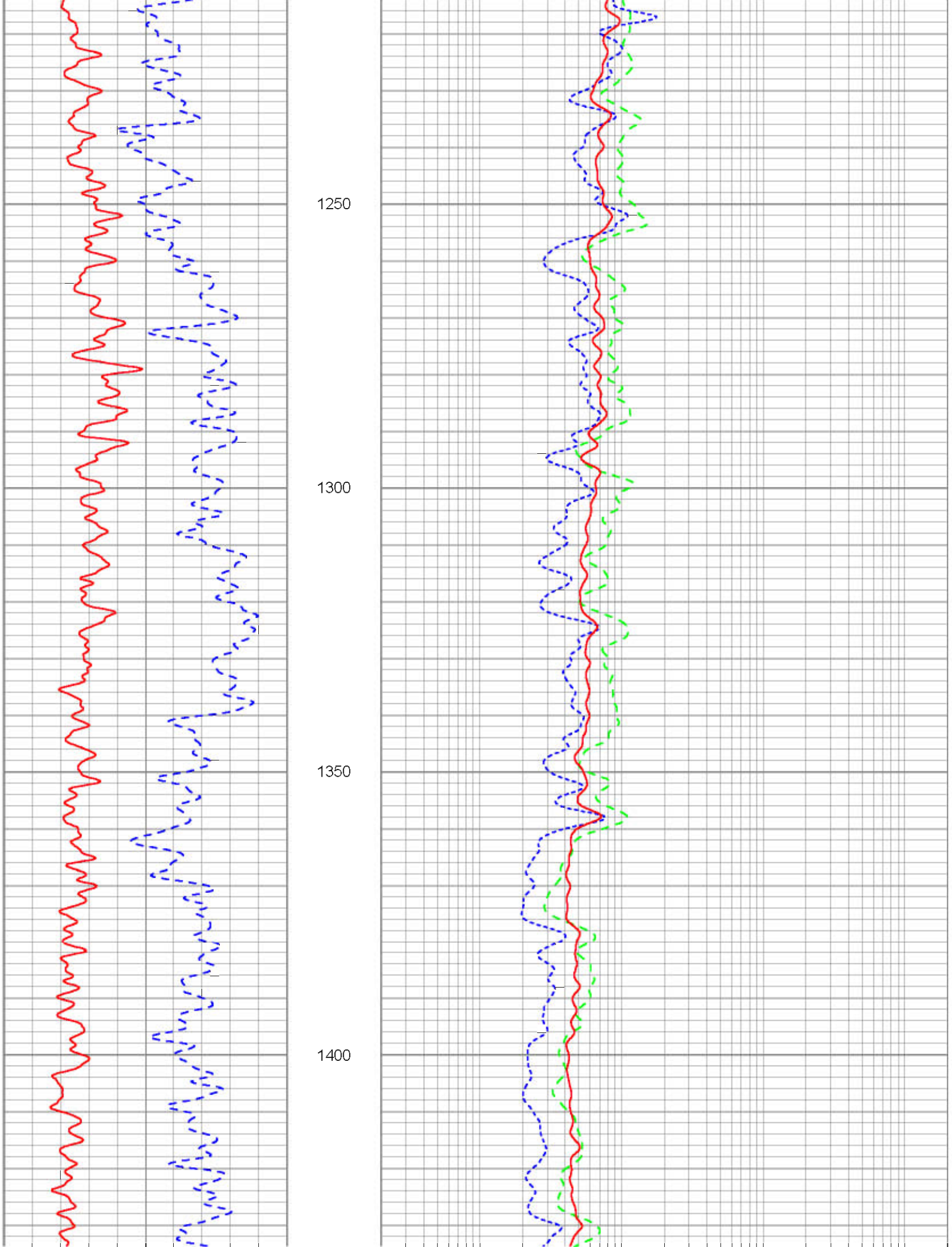
MAIN PASS

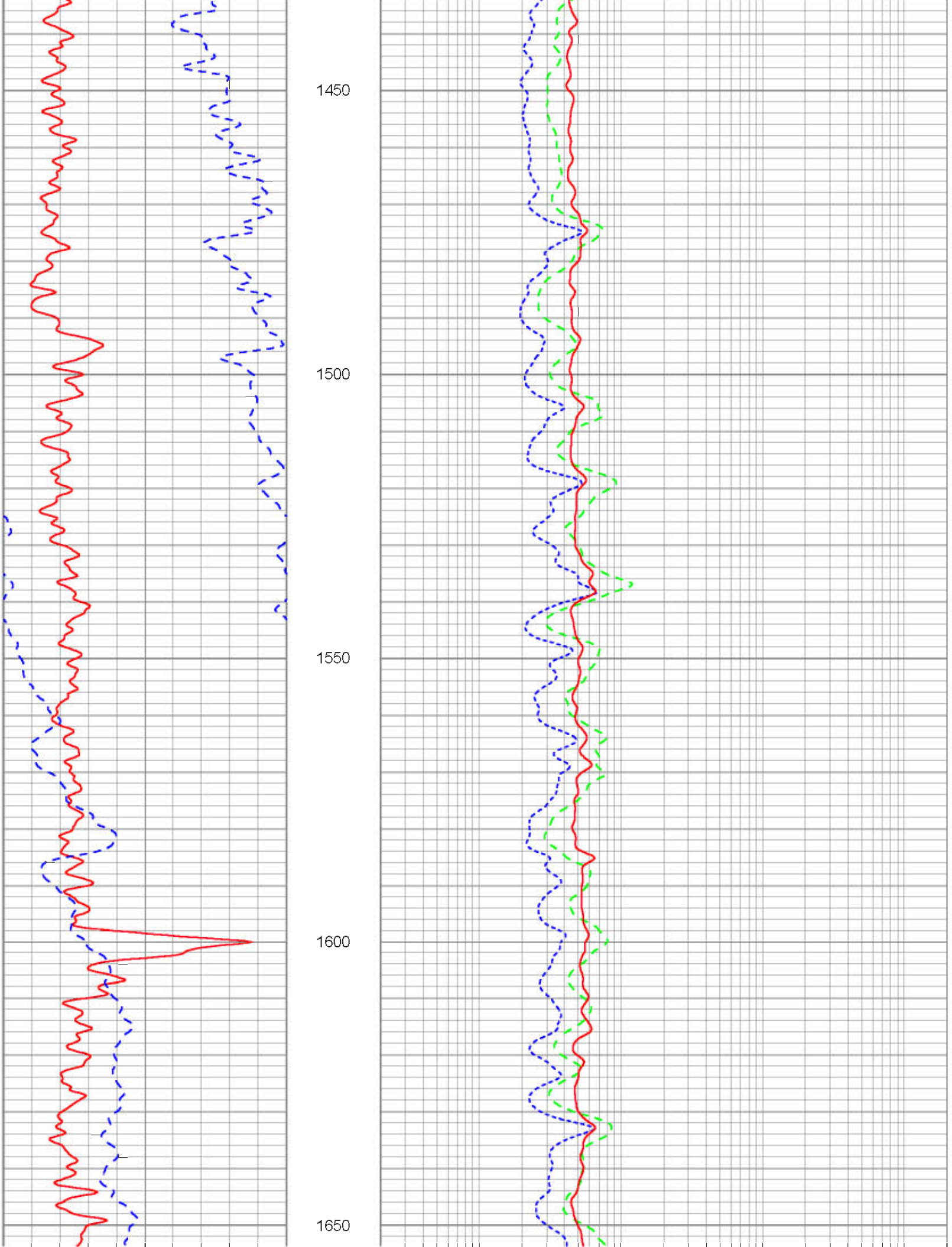
Database File:	hiamw1.db
Dataset Pathname:	run5/pass5
Presentation Format:	dil
Dataset Creation:	Sun Apr 11 19:23:10 2010 by Log Open-Cased 090629
Charted by:	Depth in Feet scaled 1:240

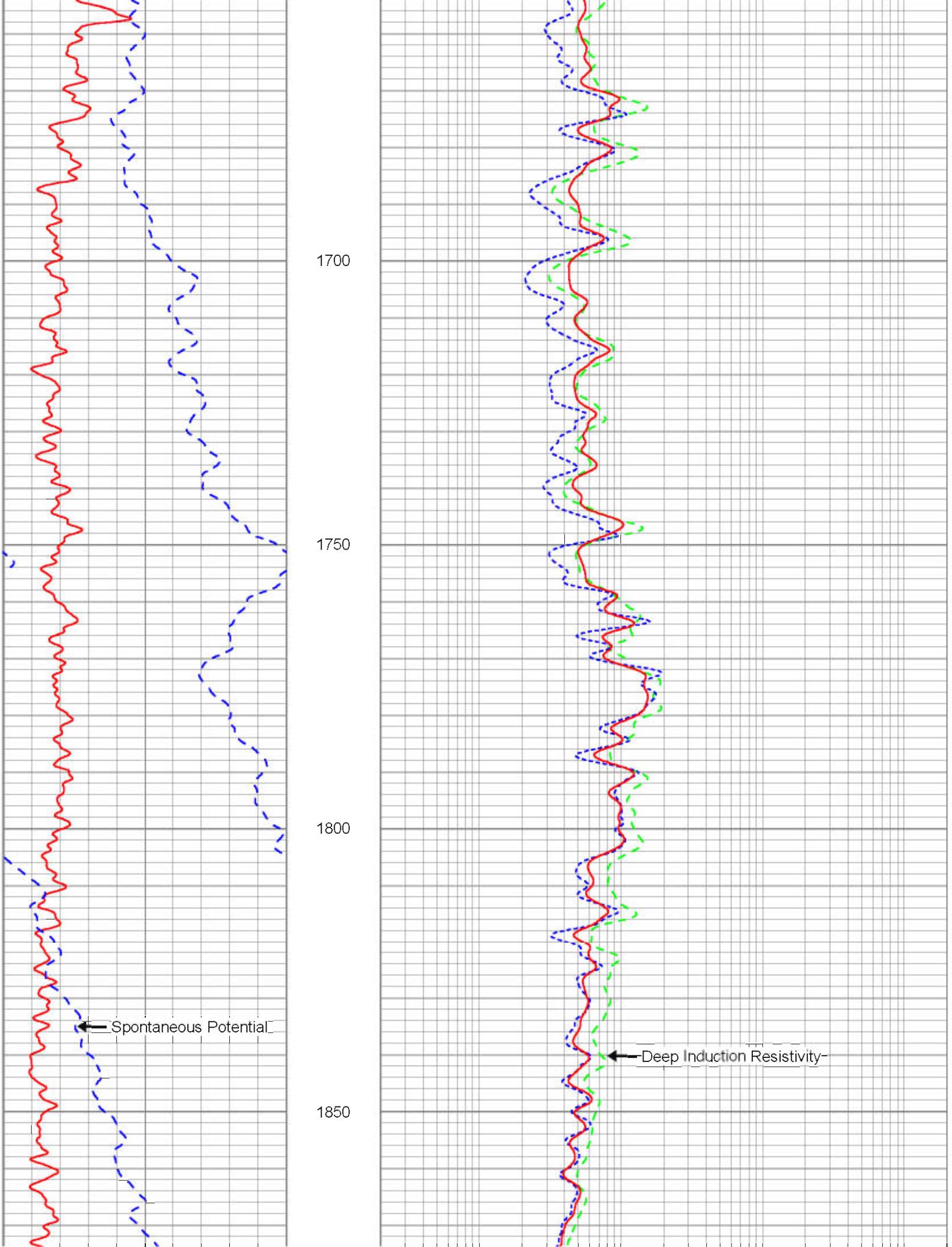
0	Gamma Ray (GAPI)	100
-100	Spontaneous Potential (mV)	100

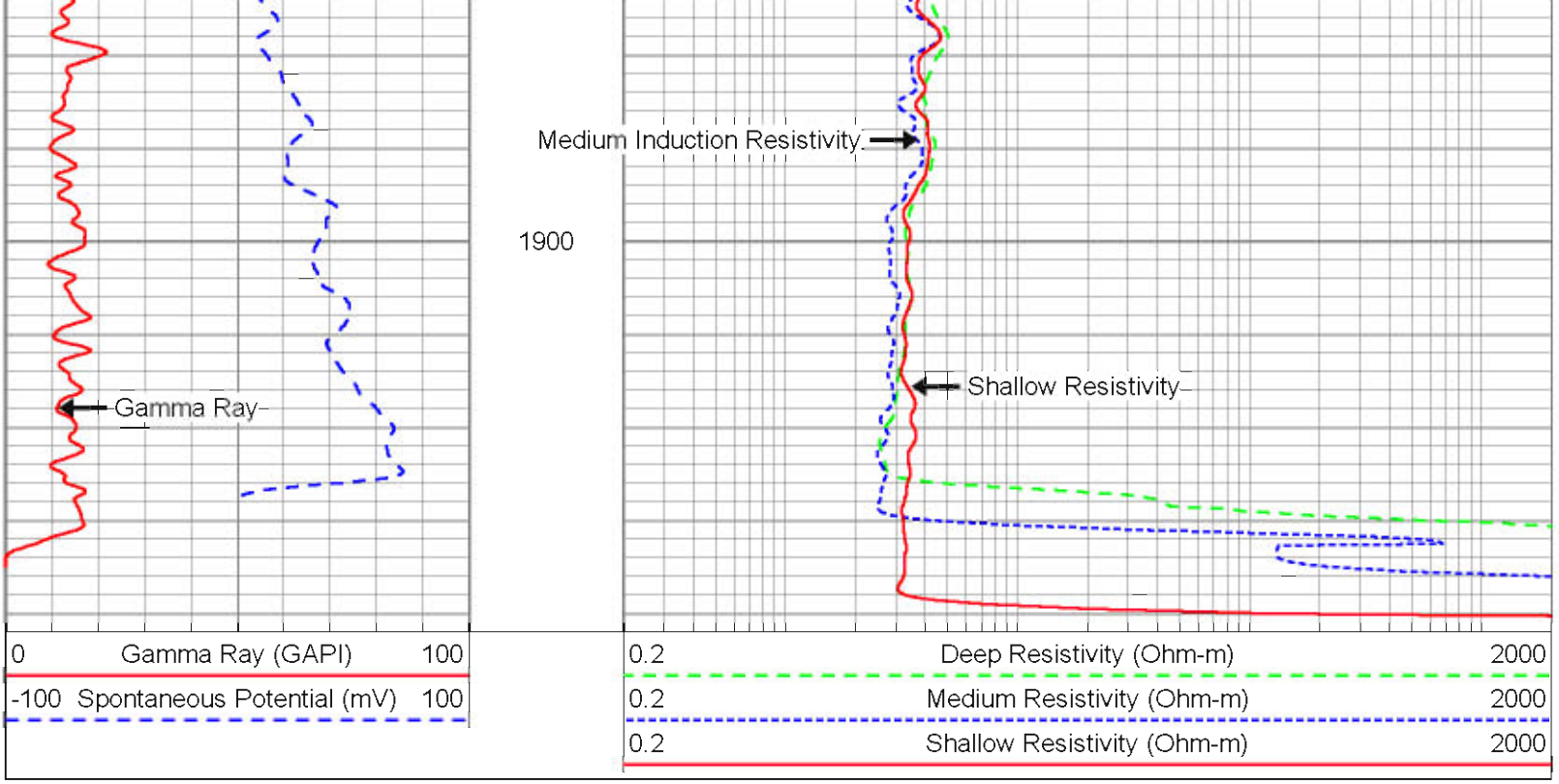
0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	Shallow Resistivity (Ohm-m)	2000




1250
1300
1350
1400


1450
1500
1550
1600
1650


1700
1750
1800
1850
Spontaneous Potential
Deep Induction Resistivity

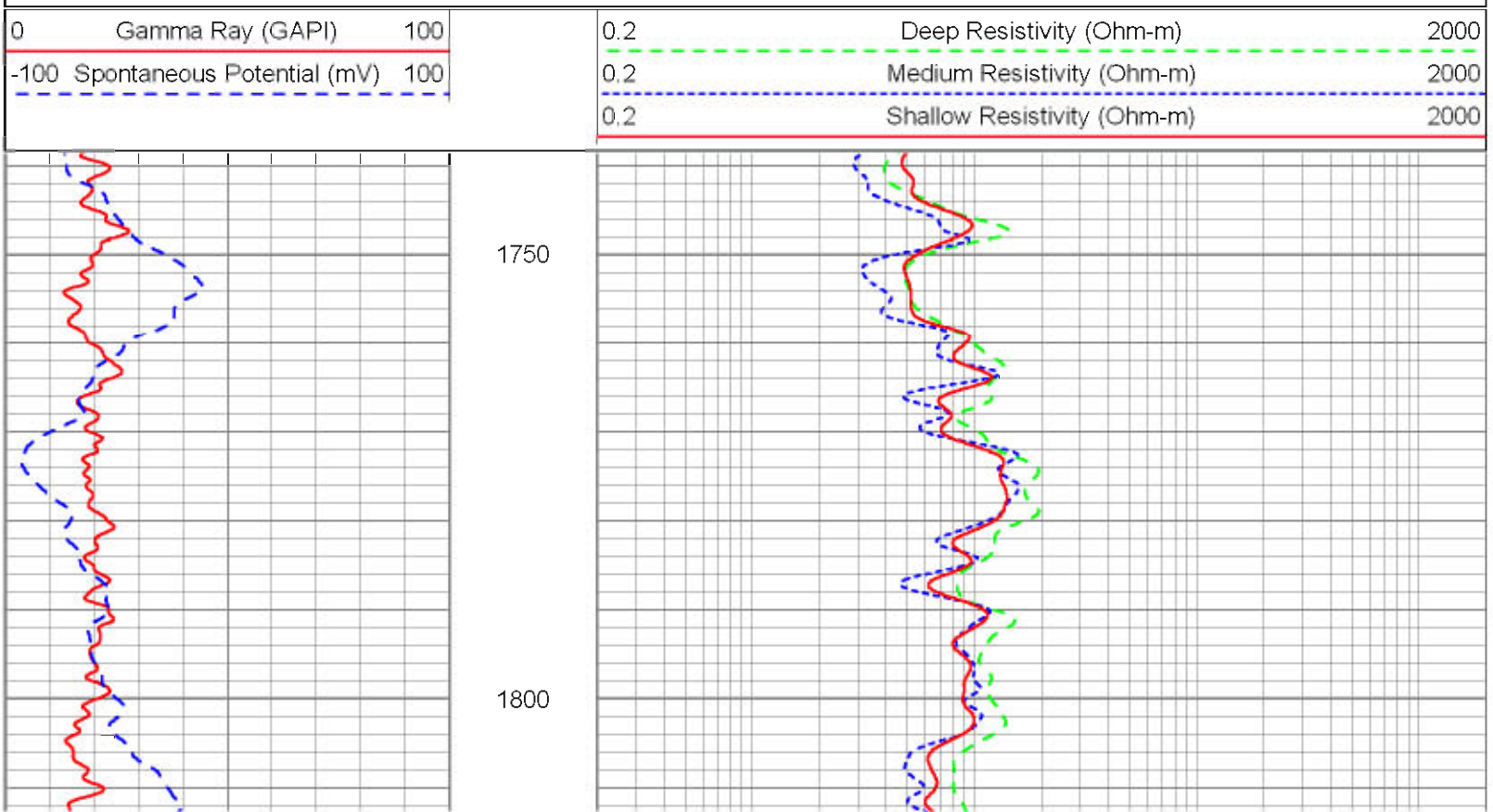


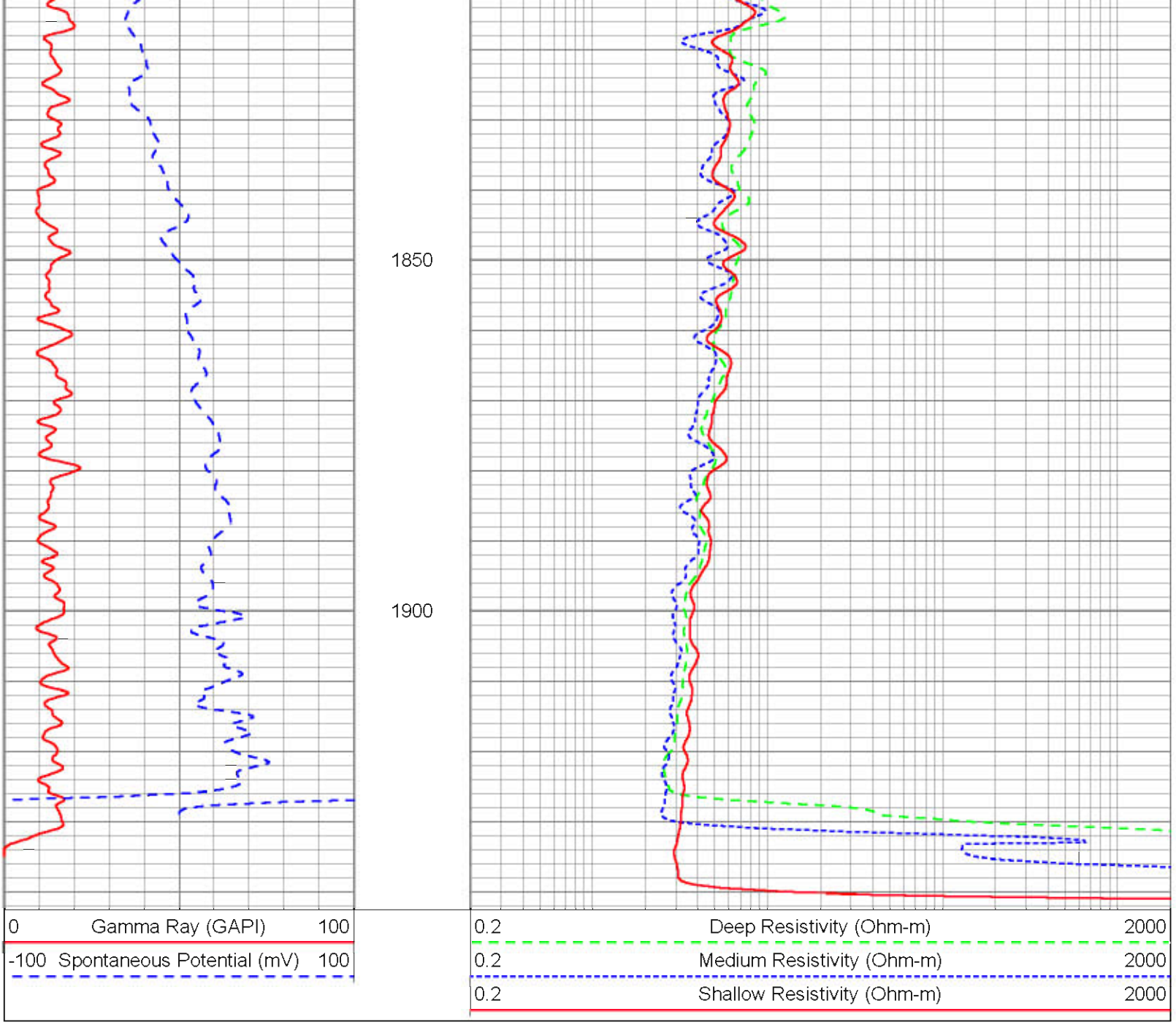
YOUNGQUIST BROTHERS, Inc

GEOPHYSICAL LOGGING DIVISION

REPEAT PASS

Database File:	hiamw1.db
Dataset Pathname:	run5/pass4
Presentation Format:	dil
Dataset Creation:	Sun Apr 11 19:13:14 2010 by Log Open-Cased 090629
Charted by:	Depth in Feet scaled 1:240





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

CILD	15.88				
SP	15.88				
CILM	12.08	DIL-C (1010)	23.67	3.50	175.00
CLL3	3.13				

Dataset: hiamw1.db: field/well/run5/pass5
Total Length: 23.67 ft
Total Weight: 175.00 lb
O.D. 3.50 in

Calibration Report

Database File: hiamw1.db
Dataset Pathname: run5/pass5
Dataset Creation: Sun Apr 11 19:23:10 2010 by Log Open-Cased 090629

Dual Induction Calibration Report

Serial-Model: 1010-C
Surface Cal Performed: Tue Jan 26 15:11:57 2010
Downhole Cal Performed: Sun Apr 11 18:54:58 2010
After Survey Verification Performed: Sun Apr 11 19:16:50 2010

Surface Calibration

	Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	-0.008	0.637	V	0.000	400.000	mmho/m	620.465	5.010

Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.009	0.650	V	8.610	397.880	mmho/m	607.467	3.312
Medium	0.006	0.714	V	-1.120	462.890	mmho/m	656.087	-5.253

Downhole Calibration

	Readings			References			Results	
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	9.218	404.207	mmho/m	10.422	408.021	mmho/m	1.007	1.143
Medium	-7.325	475.993	mmho/m	-4.510	475.835	mmho/m	0.994	2.770
Shallow	0.027	0.392		3.000	88.900	mmho/m	235.254	-3.309

After Survey Verification

	Readings			Targets			Results	
Internal:	Zero	Cal		Zero	Cal		m'	b'
Deep	9.047	404.794	mmho/m	9.218	404.207	mmho/m	1.007	1.143
Medium	-5.762	472.660	mmho/m	-7.325	475.993	mmho/m	0.994	2.770
Shallow	3.561	89.278	mmho/m	3.000	88.900	mmho/m	1.002	-0.569

YOUNGQUIST BROTHERS, Inc

GEOPHYSICAL LOGGING DIVISION

FLUID CONDUCTIVITY TEMPERATURE LOG

Company CITY OF HIALEAH
Well MW-1
Field HIALEAH R.O.W.T.P.
County DADE
State FL

Company CITY OF HIALEAH
Well MW-1
Field HIALEAH R.O.W.T.P.
County DADE
State FL

Location: API # :

SEC TWP RGE

Other Services
SEE COMMENTS

Permanent Datum Elevation
Log Measured From
Drilling Measured From

Elevation
K.B.
D.F.
G.L.

Date	11-APRIL-2010		
Run Number	FIVE		
Depth Driller	1940'		
Depth Logger	1940'		
Bottom Logged Interval	1940'		
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	1730		
Time Logger on Bottom	1800		
Equipment Number	103		
Location	FT MYERS		
Recorded By	CATHEY		
Witnessed By	D. LEGGETT		

Borehole Record				Borehole Record			
Run Number	Bit	From	To	Run No	Bit	From	To
ONE	40.5"	SURFACE	157'				
TWO	28.5"	CASING	1076'				
THREE	12.25"	CASING	1940'				

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	30"	.375" W.T.	SURFACE	156'
Prot. String	20"	.375 W.T.	SURFACE	1076'
Production String				
Liner				

<<< Fold Here >>>

Comments

OTHER SERVICES:

X-Y CALIPER / GAMMA RAY
SONIC
BOREHOLE TELEVIEWER
FLUID CONDUCTIVITY / TEMP
DUAL INDUCTION

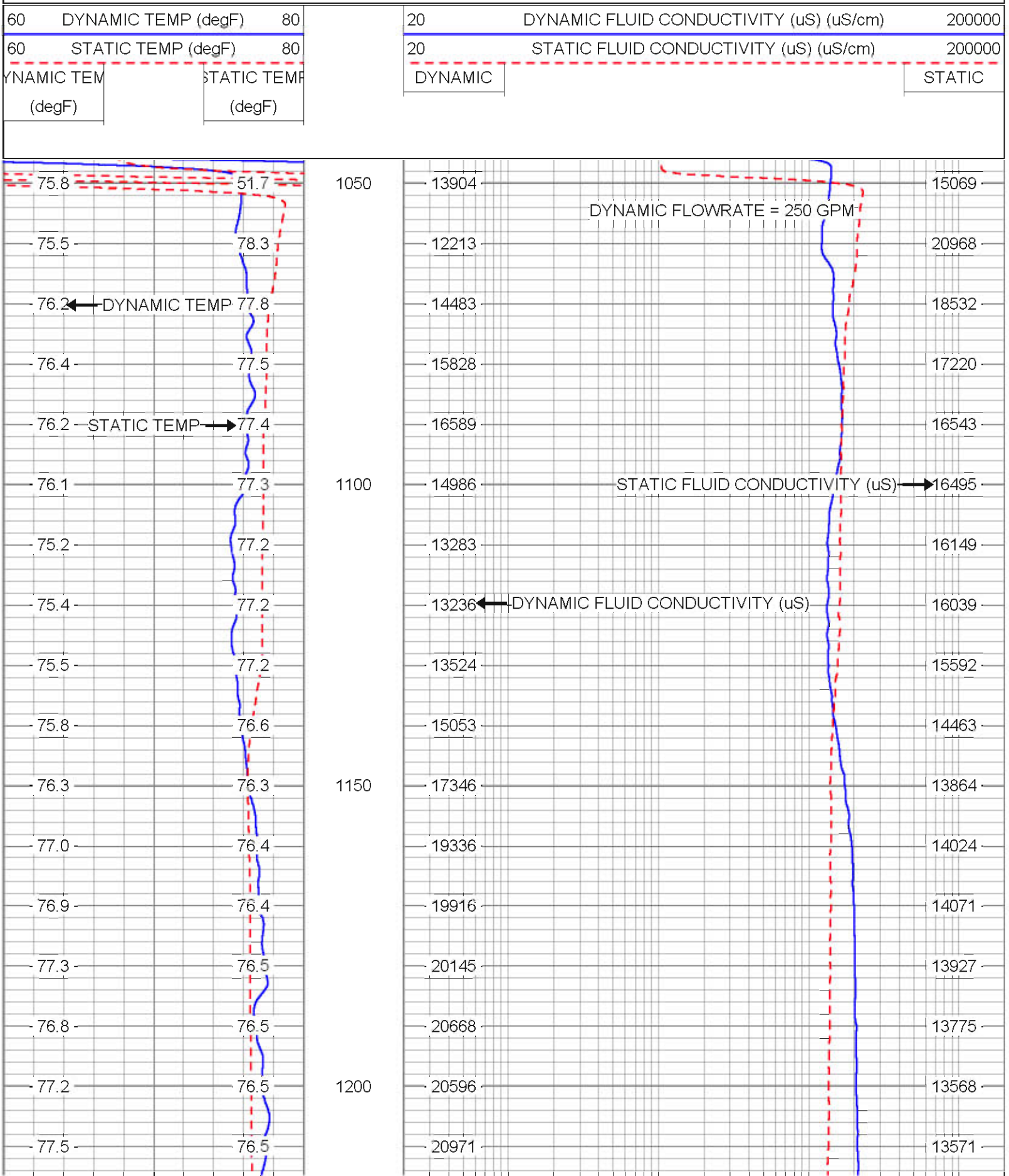
DYNAMIC FLOWRATE = 250 GPM

MERGED FCT

YOUNGQUIST BROTHERS, Inc

GEOPHYSICAL LOGGING DIVISION

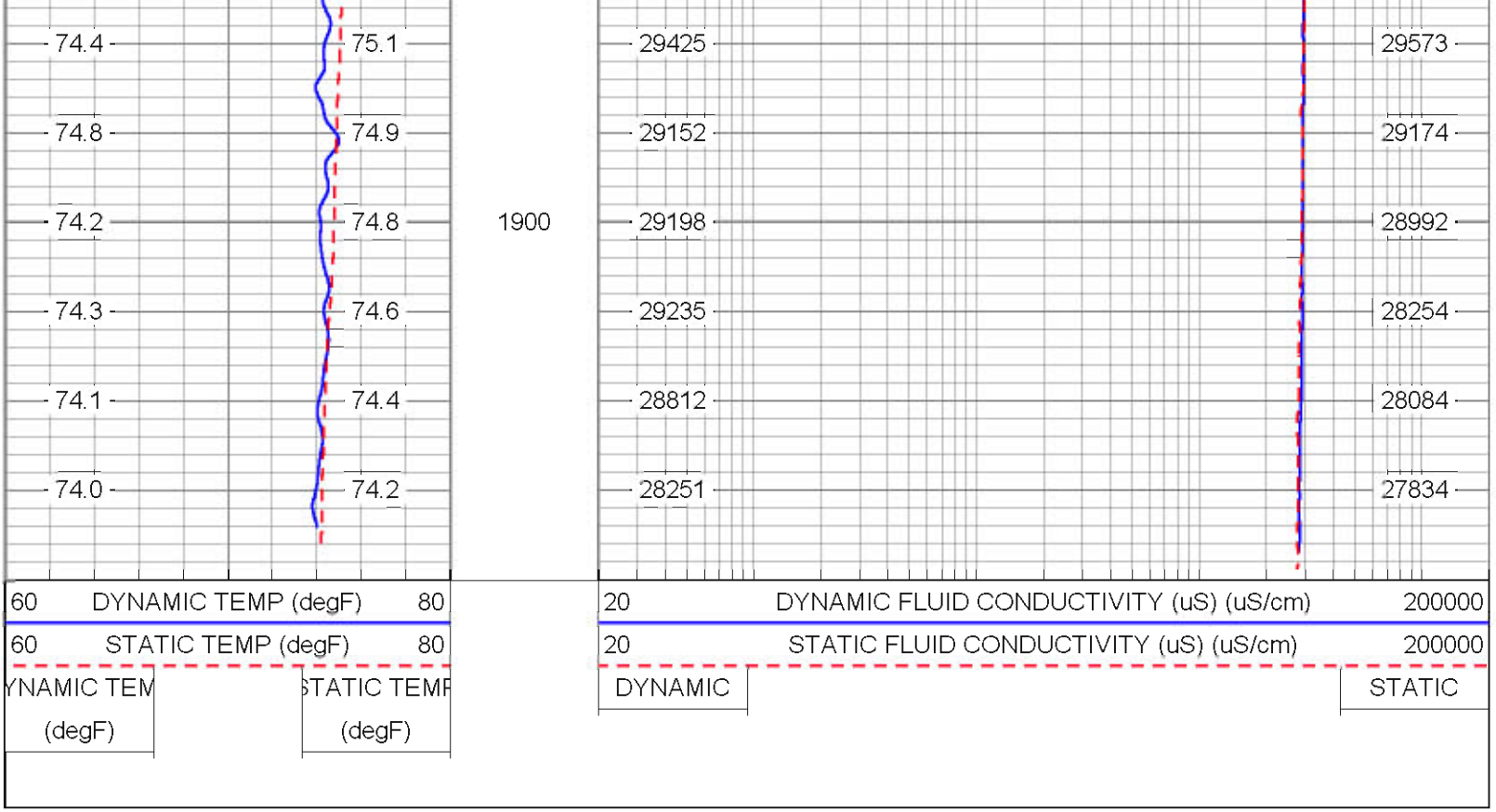
Database File: hiamw1.db
Dataset Pathname: run5/pass11
Presentation Format: frt_mg
Dataset Creation: Mon Apr 12 01:56:08 2010 by Log Open-Cased 090629
Charted by: Depth in Feet scaled 1:240



77.7	76.5		21322	13369
77.3	76.5		21488	13252
77.6	76.5		21480	13319
76.9	76.5	1250	21008	13352
77.2	76.4		20928	12798
76.6	76.4		21353	12862
77.4	76.4		21570	12993
77.0	76.4		22054	13055
77.8	76.4	1300	23060	13254
77.8	76.3		23660	13311
77.8	76.4		23822	13314
78.1	76.4		23744	13637
78.3	76.4		23836	13655
77.9	76.5	1350	24255	13974
78.2	76.5		24327	14535
78.0	76.6		24473	14620
78.6	76.6		24251	14750
78.3	76.6		24034	14791
78.3	76.6	1400	23765	15024
78.4	76.7		23666	15462
78.3	76.7		23340	15462
78.2	76.8		23626	15179

78.0	76.8		23104	15058
78.0	76.8	1450	23121	15234
78.1	76.9		22650	15152
77.9	76.9		22386	15151
77.6	77.0		22023	15599
78.0	77.0		21127	15415
77.8	77.1	1500	20681	15699
77.8	77.2		20307	16380
77.6	77.3		19742	16876
77.5	77.3		19096	17188
77.3	77.4		18867	18246
77.4	77.4	1550	18256	18770
77.2	77.4		18023	19016
77.2	77.5		17669	19138
77.3	77.5		17764	19298
77.3	77.5		17320	19273
77.3	77.5	1600	17160	19222
77.2	77.6		17224	19456
77.2	77.6		16995	19467
77.3	77.6		16281	19540
77.6	77.8		16536	19978
77.3	77.8	1650	16812	21437

77.7	77.9		17353	22817
77.3	77.9		18156	23201
77.4	77.9		18527	23534
77.7	77.9		19066	23602
77.8	77.9	1700	19596	23526
78.0	78.0		20380	23485
77.7	78.1		20739	23150
78.1	78.2		21394	23739
77.5	78.3		21747	24018
77.9	78.5	1750	21026	25472
77.2	78.5		20828	25621
76.9	78.3		20973	25575
76.5	78.1		23443	25889
76.3	77.8		24848	26818
75.8	77.5	1800	25841	28614
76.4	77.0		26594	30121
75.9	76.9		26796	30105
75.9	76.8		27580	30127
76.3	76.7		28439	30204
75.6	76.4	1850	29723	29995
75.2	76.1		29295	30027
75.2	75.4		29608	29610



Calibration Report

Database File: hiamw1.db
Dataset Pathname: run5/pass1
Dataset Creation: Sun Apr 11 17:36:43 2010 by Log Open-Cased 090629

FRT Calibration Report

Serial Number: 31
Tool Model: SONDEX
Performed: Fri Feb 19 14:30:36 2010

Point #	Reading		Reference	
1	0.731	cps	1100.000	uS/cm
2	116.541	cps	10000.000	uS/cm
3	401.744	cps	25000.000	uS/cm
4	1152.340	cps	50000.000	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: Fri Feb 19 14:24:21 2010

Point #	Reading		Reference	
1	119.10	cps	34.00	degF
2	334.81	cps	82.00	degF
3	698.66	cps	158.00	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-SONDEX (31)	1.20	1.63	10.00
TEMP	0.70					
FRES	0.50		FRT-SONDEX (31)	0.60	1.69	10.00

Dataset:	hiamw1.db: field/well/run5/pass1
Total Length:	1.80 ft
Total Weight:	20.00 lb
O.D.	1.69 in

YOUNGQUIST BROTHERS, Inc

GEOPHYSICAL LOGGING DIVISION

FLOWMETER LOG

Company CITY OF HIALEAH
Well MW-1
Field HIALEAH R.O.W.T.P.
County DADE
State FL

Company CITY OF HIALEAH
Well MW-1
Field HIALEAH R.O.W.T.P.
County DADE
State FL

Location: API # :

SEC TWP RGE

Other Services
SEE COMMENTS

Permanent Datum Elevation
Log Measured From
Drilling Measured From

Elevation
K.B.
D.F.
G.L.

Date	11-APRIL-2010		
Run Number	FIVE		
Depth Driller	1940'		
Depth Logger	1940'		
Bottom Logged Interval	1940'		
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	1730		
Time Logger on Bottom	1800		
Equipment Number	103		
Location	FT MYERS		
Recorded By	CATHEY		
Witnessed By	D. LEGGETT		

Borehole Record				Borehole Record			
Run Number	Bit	From	To	Run No	Bit	From	To
ONE	40.5"	SURFACE	157'				
TWO	28.5"	CASING	1076'				
THREE	12.25"	CASING	1940'				

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	30"	.375" W.T.	SURFACE	156'
Prot. String	20"	.375 W.T.	SURFACE	1076'
Production String				
Liner				

<<< Fold Here >>>

Comments

OTHER SERVICES:

X-Y CALIPER / GAMMA RAY
SONIC
BOREHOLE TELEVIEWER
FLUID CONDUCTIVITY / TEMP
DUAL INDUCTION

DYNAMIC FLOWRATE = 250 GPM

MERGED FLOWMETER

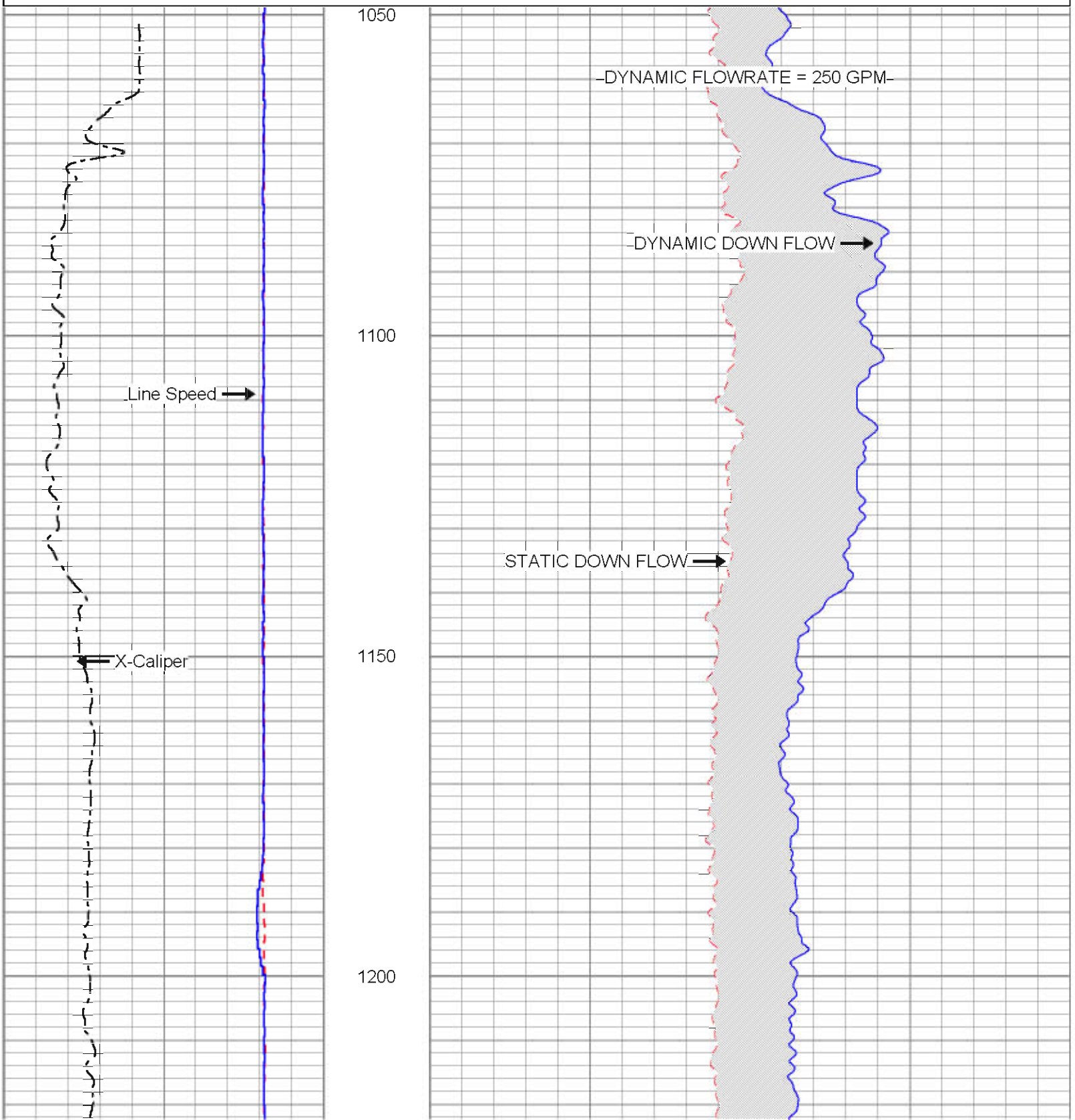
YOUNGQUIST BROTHERS, Inc

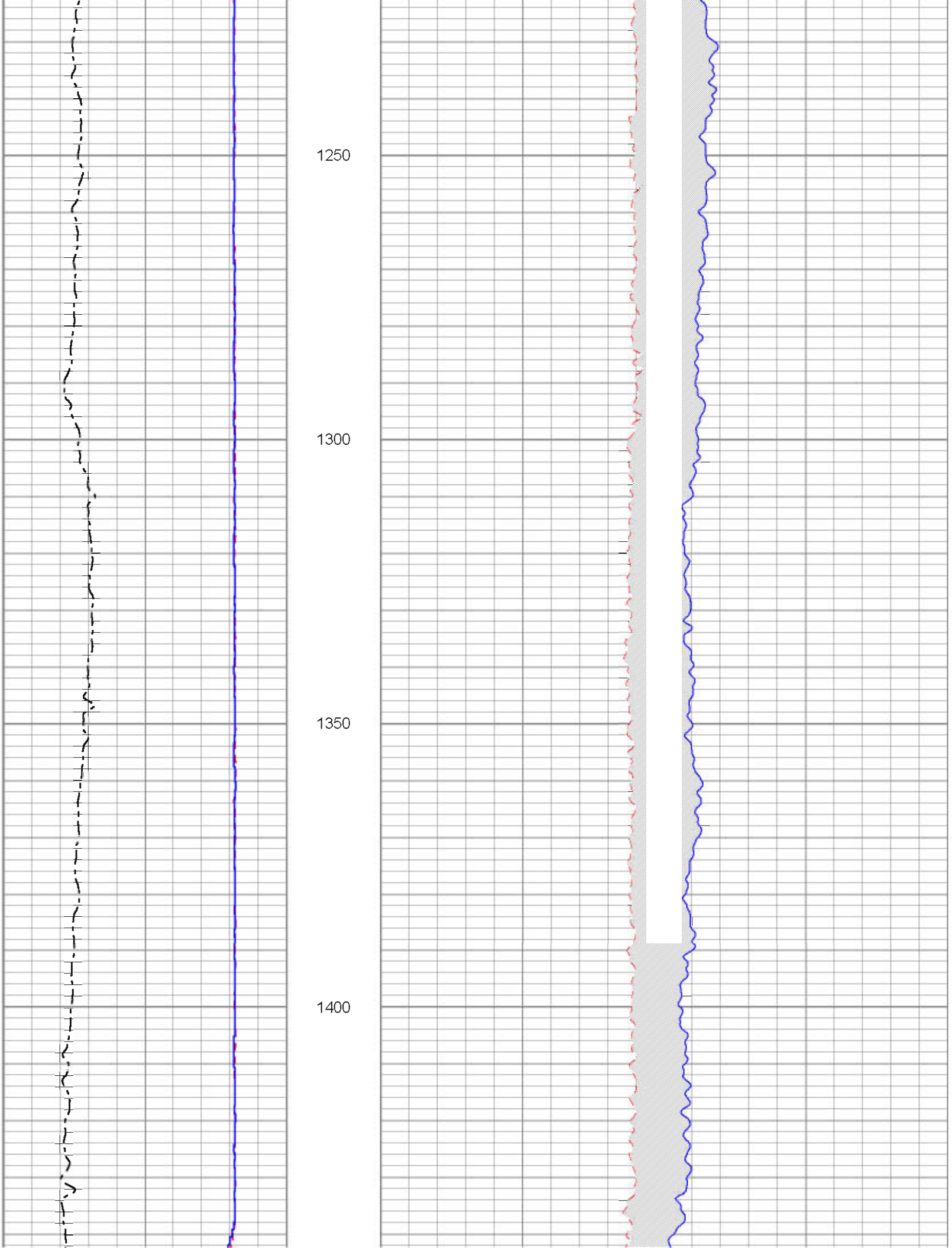
GEOPHYSICAL LOGGING DIVISION

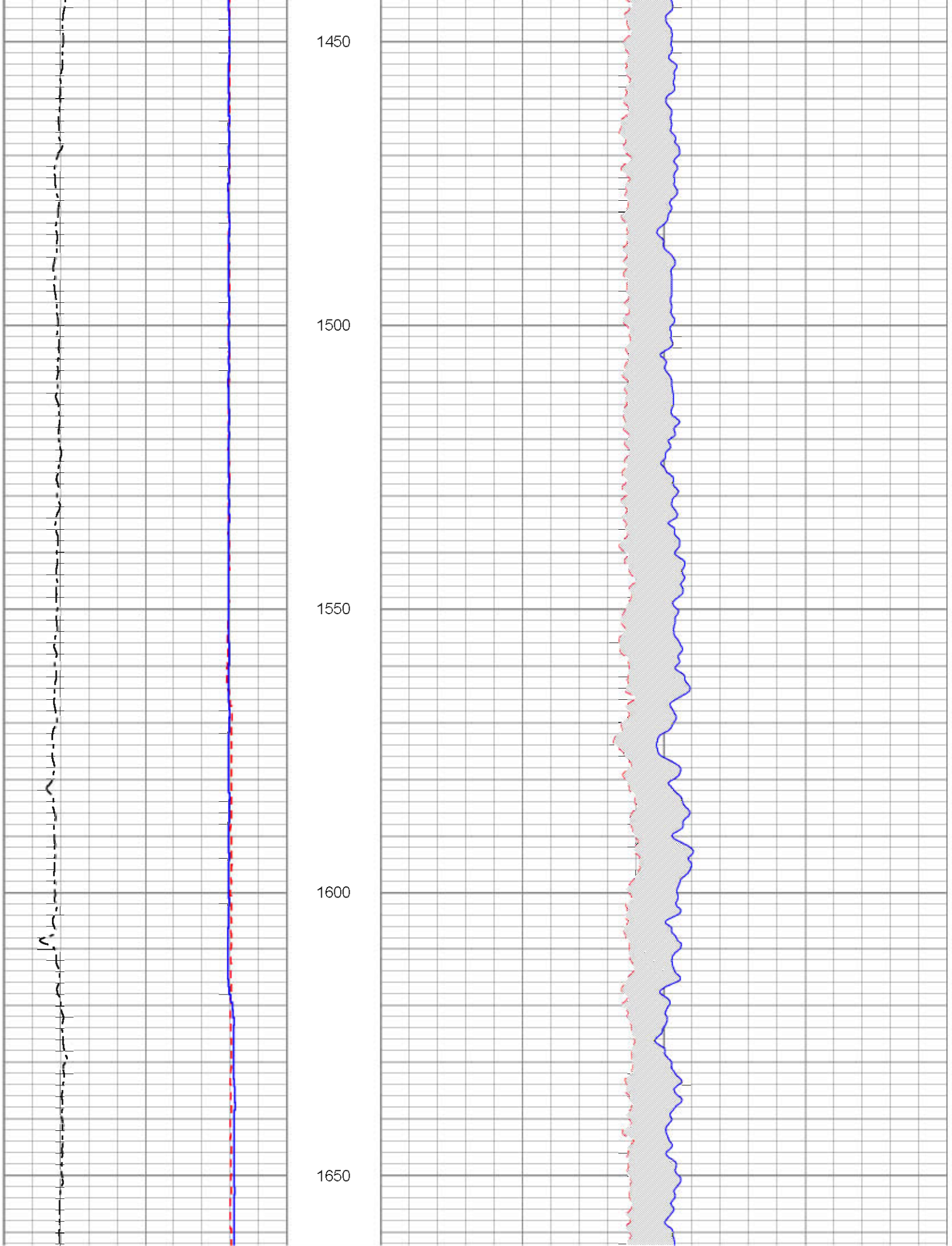
Database File:	hiamw1.db
Dataset Pathname:	run5/pass10
Presentation Format:	fm_dnmg
Dataset Creation:	Mon Apr 12 01:12:12 2010 by Log Open-Cased 090629
Charted by:	Depth in Feet scaled 1:240

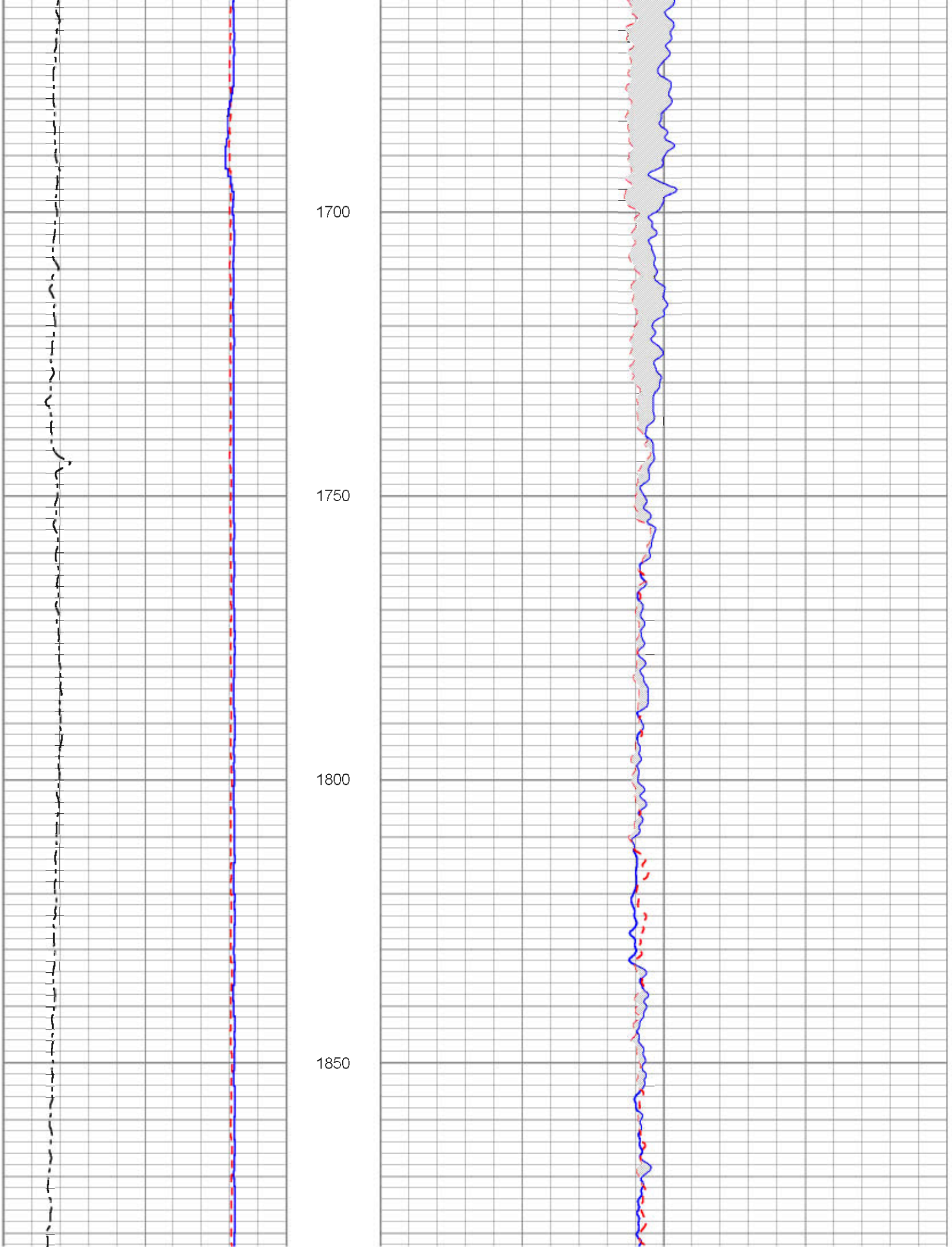
0	L.S STATIC DOWN (ft/min)	100
0	L.S DYNAMIC DOWN (ft/min)	100
10	XCAL (in)	30

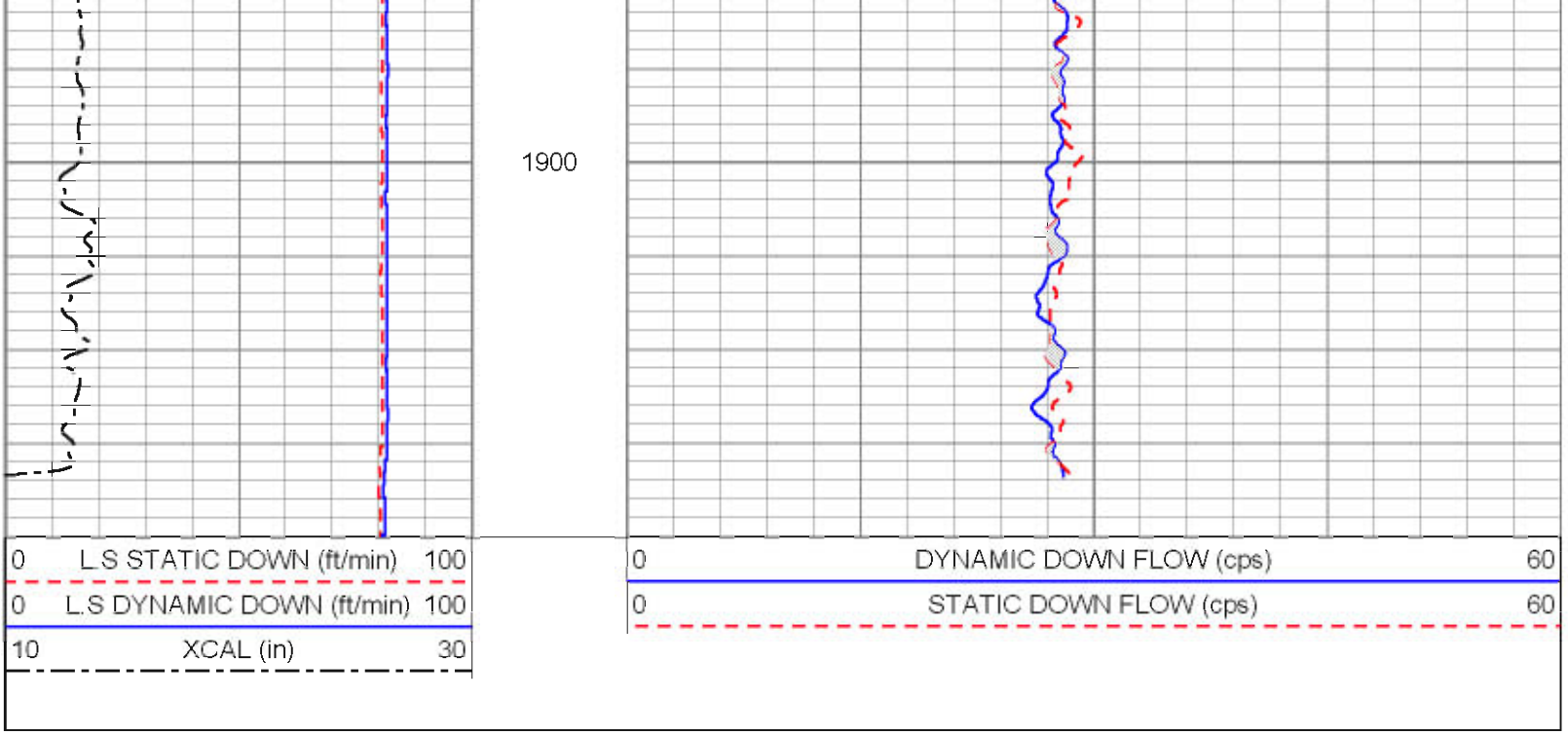
0	DYNAMIC DOWN FLOW (cps)	60
0	STATIC DOWN FLOW (cps)	60




1250
1300
1350
1400


1450
1500
1550
1600
1650


1700
1750
1800
1850

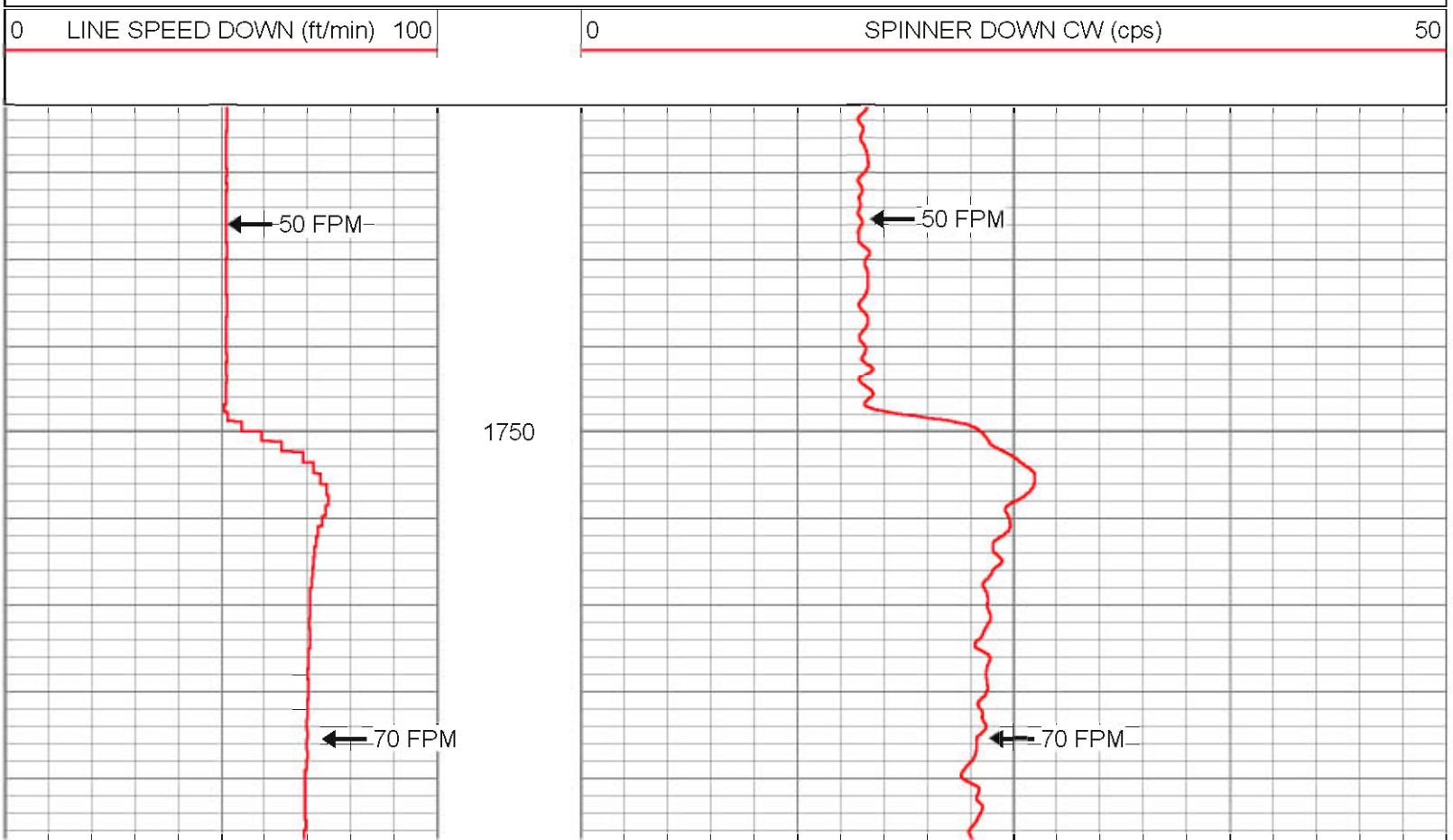


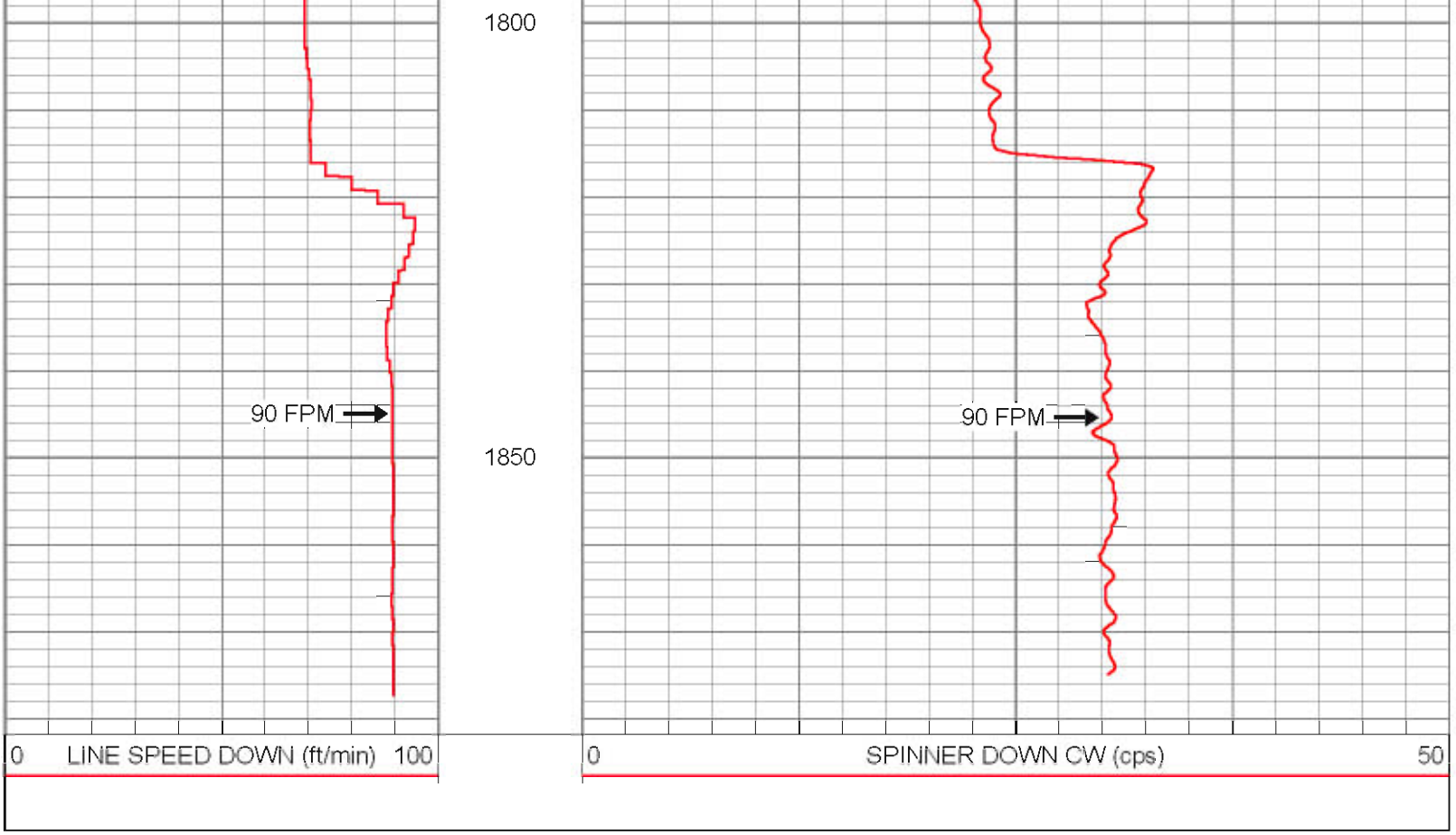
YOUNGQUIST BROTHERS, Inc

GEOPHYSICAL LOGGING DIVISION

FLOW CALS 50,70,90 FPM

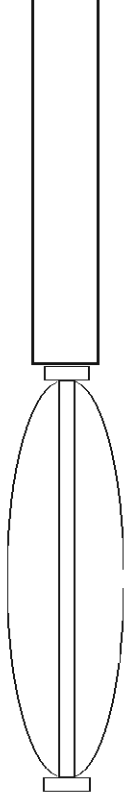
Database File:	hiamw1.db
Dataset Pathname:	run5/pass9
Presentation Format:	flowcals
Dataset Creation:	Mon Apr 12 00:57:57 2010 by Log Open-Cased 090629
Charted by:	Depth in Feet scaled 1:240





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

		FLOW-LARGE (65)	3.13	3.75	20.00
FLOWP FLOWN	3.75 3.75				
		SHRT	3.25	2.00	30.00



Dataset:	hiamw1.db: field/well/run5/pass9
Total Length:	14.38 ft
Total Weight:	120.00 lb
O.D.	3.75 in

YOUNGQUIST BROTHERS, Inc

GEOPHYSICAL LOGGING DIVISION

X-Y CALIPER GAMMA RAY LOG

Company CITY OF HIALEAH

Well MW-1

Field HIALEAH R.O.W.T.P.

County DADE State FL

Location: API # :

SEC TWP RGE

Other Services SEE COMMENTS

Elevation

Permanent Datum Elevation

Log Measured From K.B.

Drilling Measured From D.F.

G.L.

Company CITY OF HIALEAH
Well MW-1
Field HIALEAH R.O.W.T.P.
County DADE
State FL

Date	11-APRIL-2010		
Run Number	FIVE		
Depth Driller	1940'		
Depth Logger	1940'		
Bottom Logged Interval	1940'		
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	1730		
Time Logger on Bottom	1800		
Equipment Number	103		
Location	FT MYERS		
Recorded By	CATHEY		
Witnessed By	M. OSBORN		

Borehole Record				Borehole Record			
Run Number	Bit	From	To	Run No	Bit	From	To
ONE	40.5"	SURFACE	157'				
TWO	28.5"	CASING	1076'				
THREE	12.25"	CASING	1940'				

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	30"	.375" W.T.	SURFACE	156'
Prot. String	20"	.375 W.T.	SURFACE	1076'
Production String				
Liner				

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Comments

OTHER SERVICES:

DUAL INDUCTION
SONIC
BOREHOLE TELEVIEWER
FLUID CONDUCTIVITY / TEMP
FLOWMETER

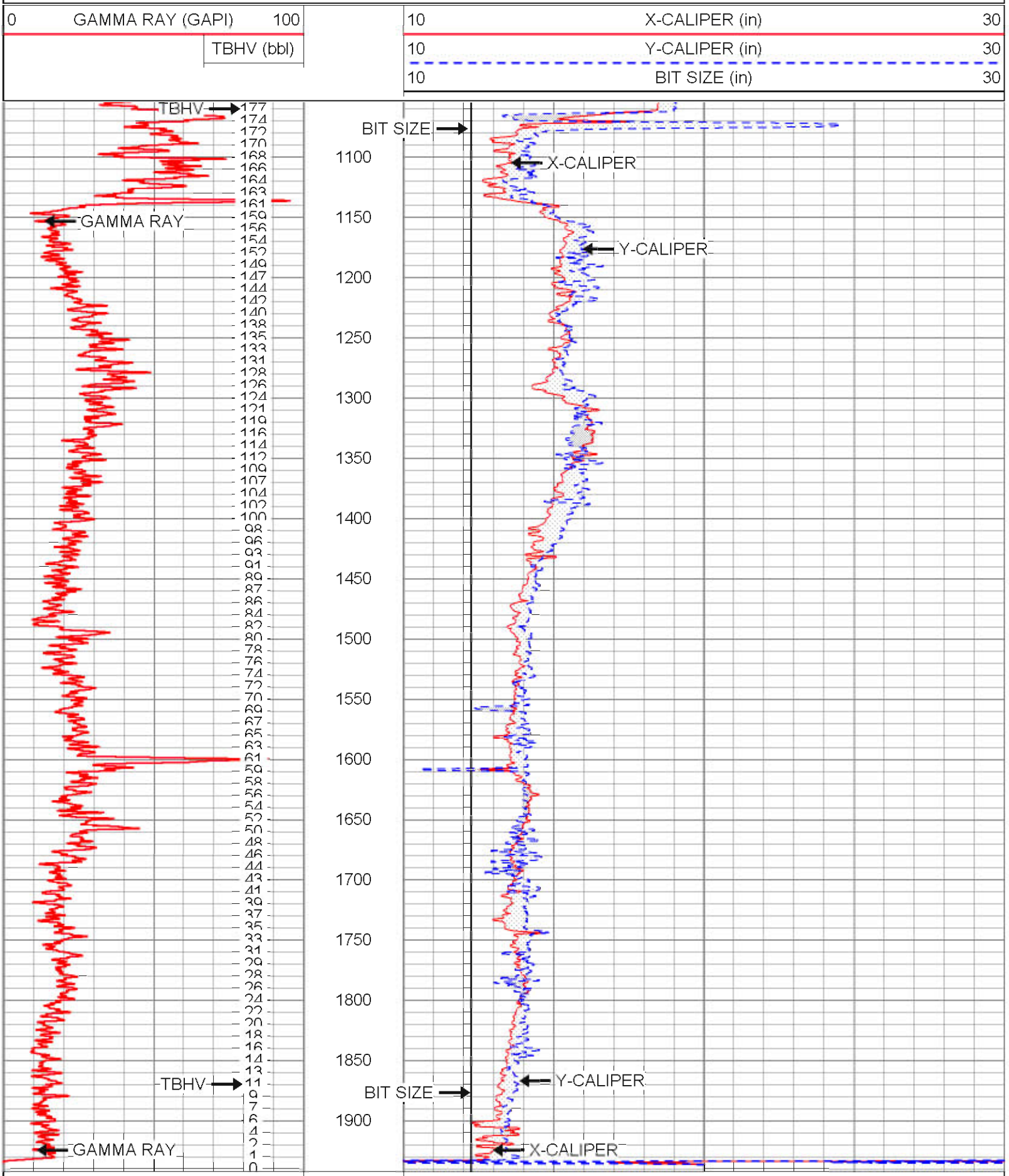
BOREHOLE VOLUME IN BARRELS

MAIN PASS

YOUNGQUIST BROTHERS, Inc

GEOPHYSICAL LOGGING DIVISION

Database File:	hiamw1.db
Dataset Pathname:	run5/pass3
Presentation Format:	grxyc
Dataset Creation:	Sun Apr 11 18:01:57 2010 by Log Open-Cased 090629
Charted by:	Depth in Feet scaled 1:1200



0	GAMMA RAY (GAPI)	100	10	X-CALIPER (in)	30
	TBHV (bbl)		10	Y-CALIPER (in)	30
			10	BIT SIZE (in)	30

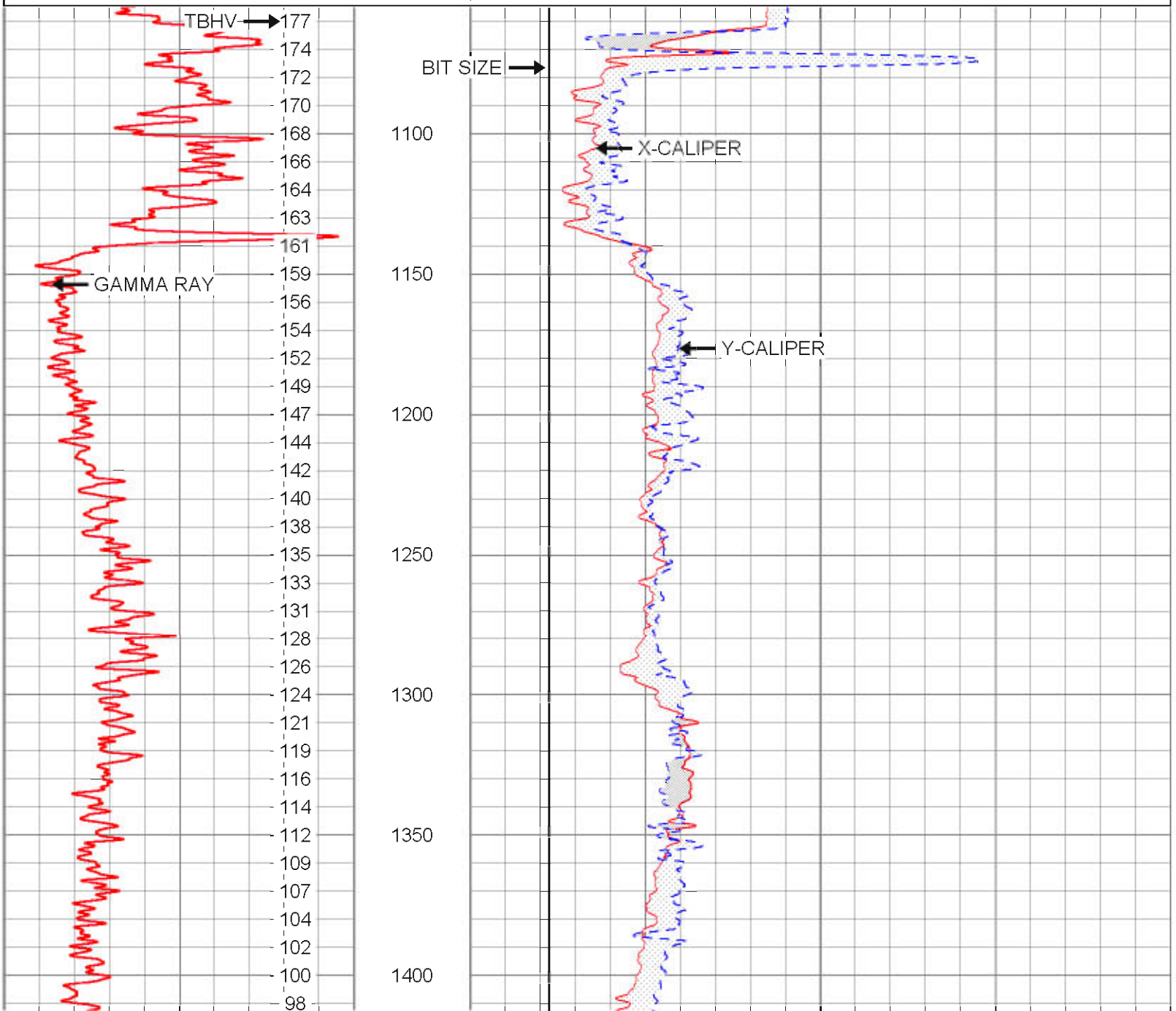
YOUNGQUIST BROTHERS, Inc

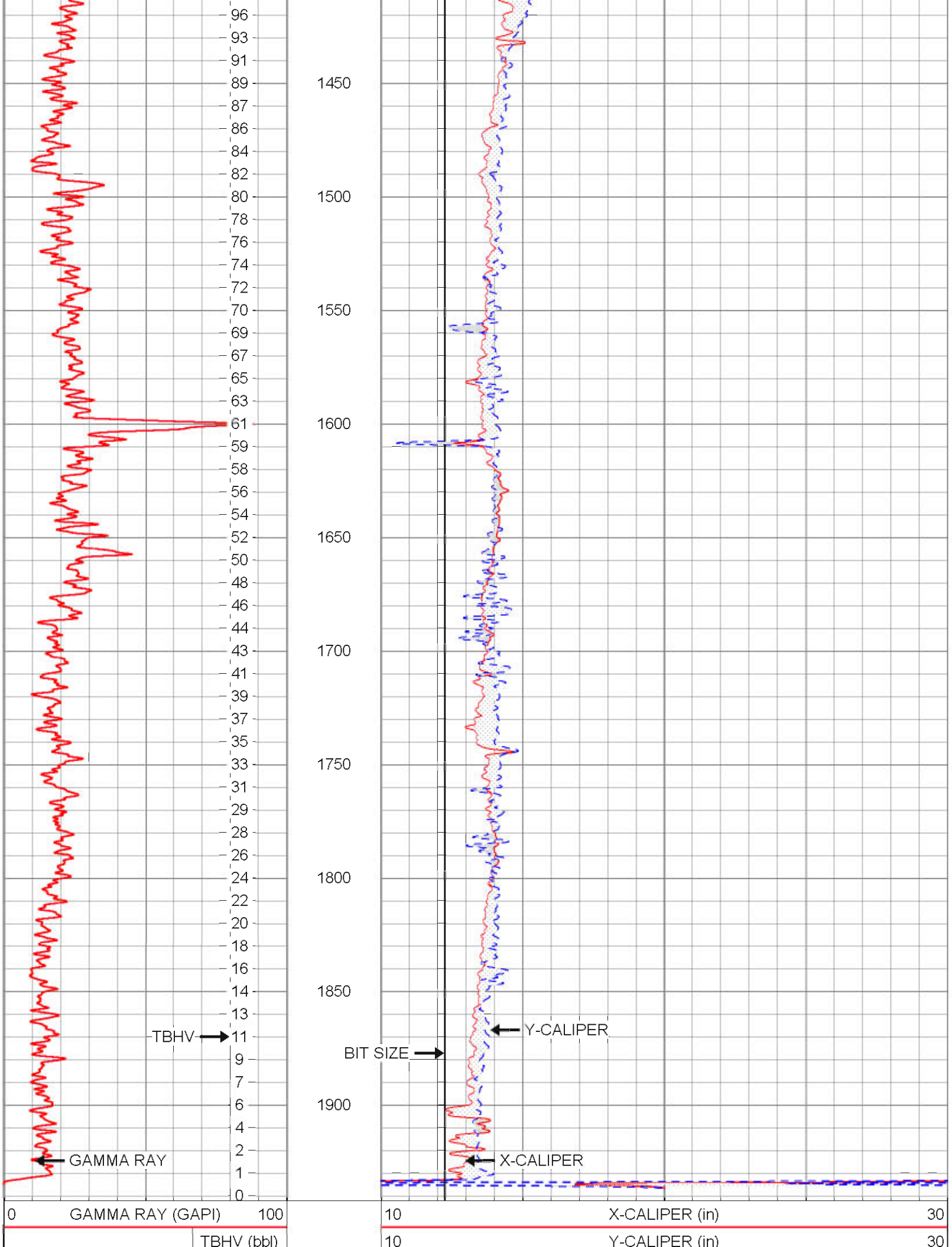
GEOPHYSICAL LOGGING DIVISION

MAIN PASS

Database File:	hiamw1.db
Dataset Pathname:	run5/pass3
Presentation Format:	grxyc
Dataset Creation:	Sun Apr 11 18:01:57 2010 by Log Open-Cased 090629
Charted by:	Depth in Feet scaled 1:600

0	GAMMA RAY (GAPI)	100	10	X-CALIPER (in)	30
	TBHV (bbl)		10	Y-CALIPER (in)	30
			10	BIT SIZE (in)	30

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TBHV
GAMMA RAY
1450
1500
1550
1600
1650
1700
1750
1800
1850
1900
BIT SIZE
Y-CALIPER
X-CALIPER
0
GAMMA RAY (GAPI)
100
TBHV (bbl)
10
X-CALIPER (in)
30
10
Y-CALIPER (in)
30

10 BIT SIZE (in) 30

YOUNGQUIST BROTHERS, Inc

GEOPHYSICAL LOGGING DIVISION

MAIN PASS

Database File:	hiamw1.db
Dataset Pathname:	run5/pass3
Presentation Format:	grxyc
Dataset Creation:	Sun Apr 11 18:01:57 2010 by Log Open-Cased 090629
Charted by:	Depth in Feet scaled 1:240

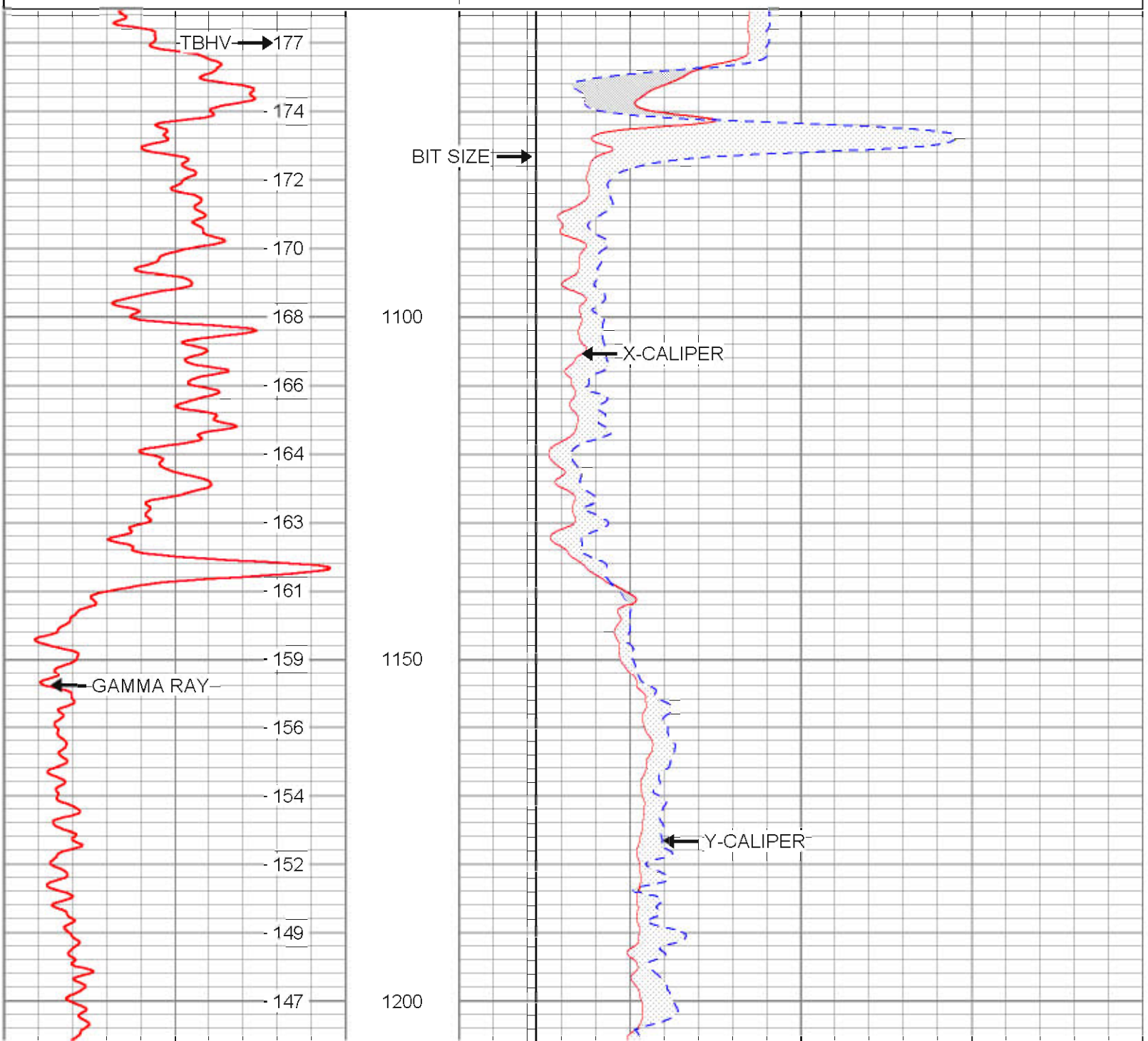
0 GAMMA RAY (GAPI) 100

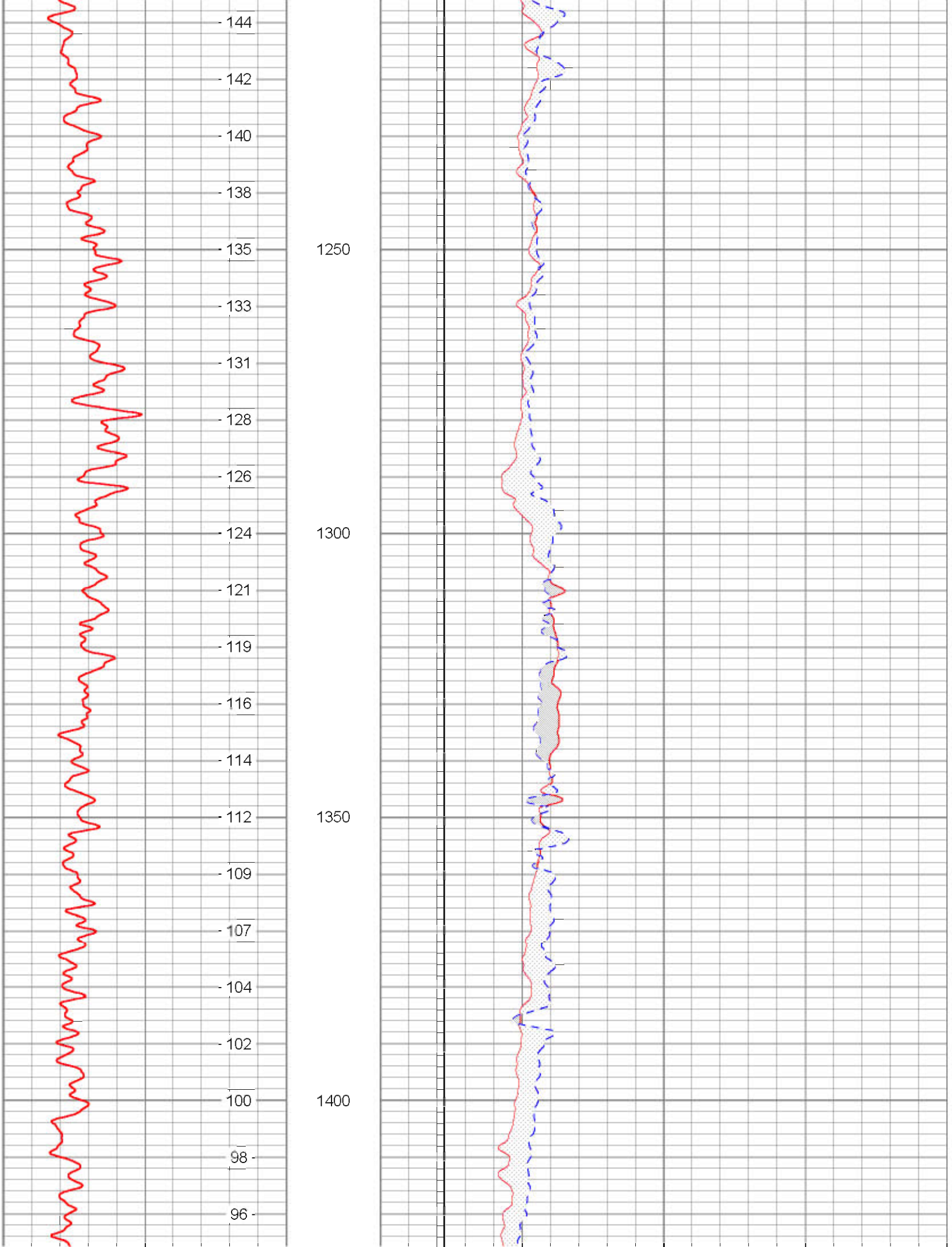
TBHV (bbl)

10 X-CALIPER (in) 30

10 Y-CALIPER (in) 30

10 BIT SIZE (in) 30

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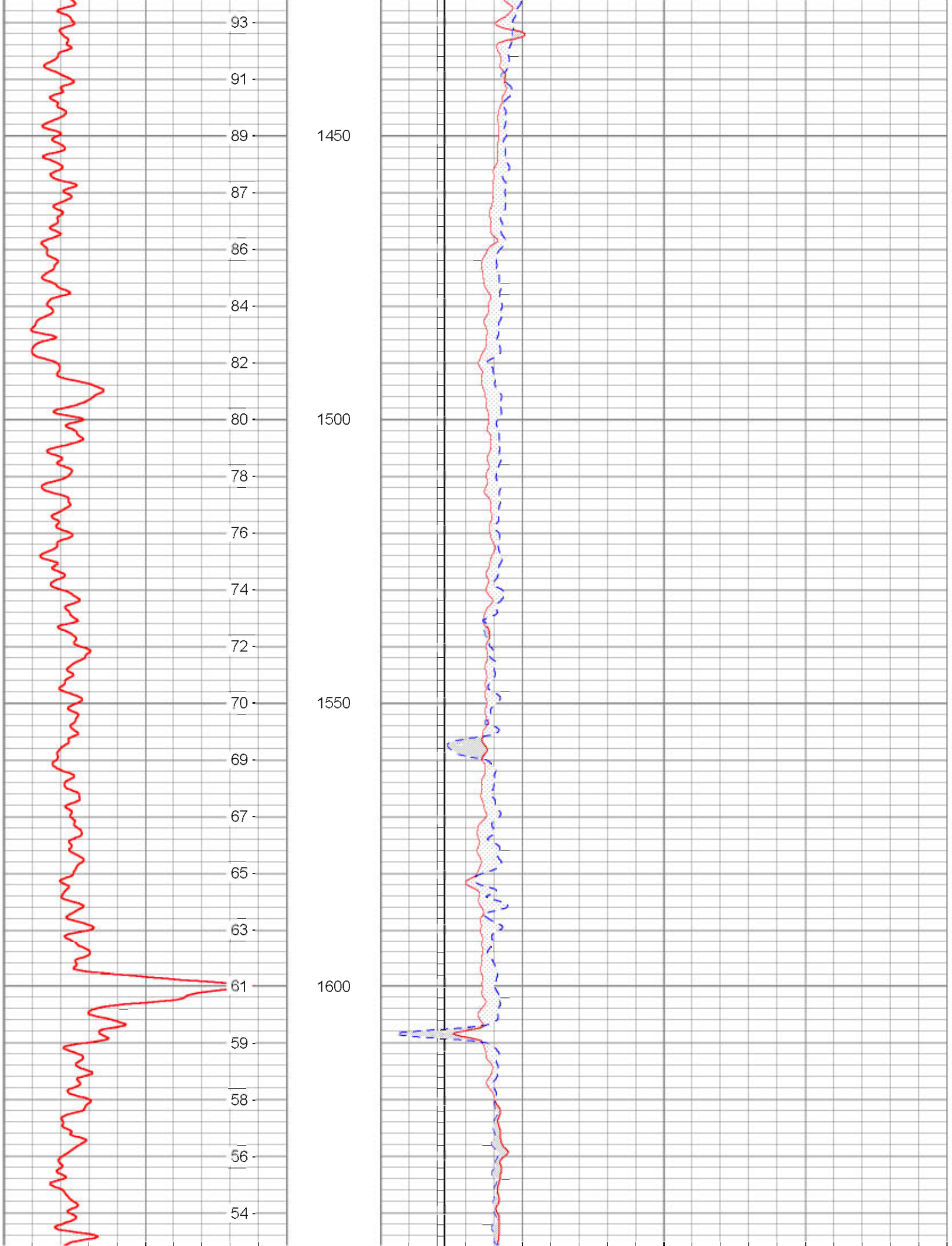
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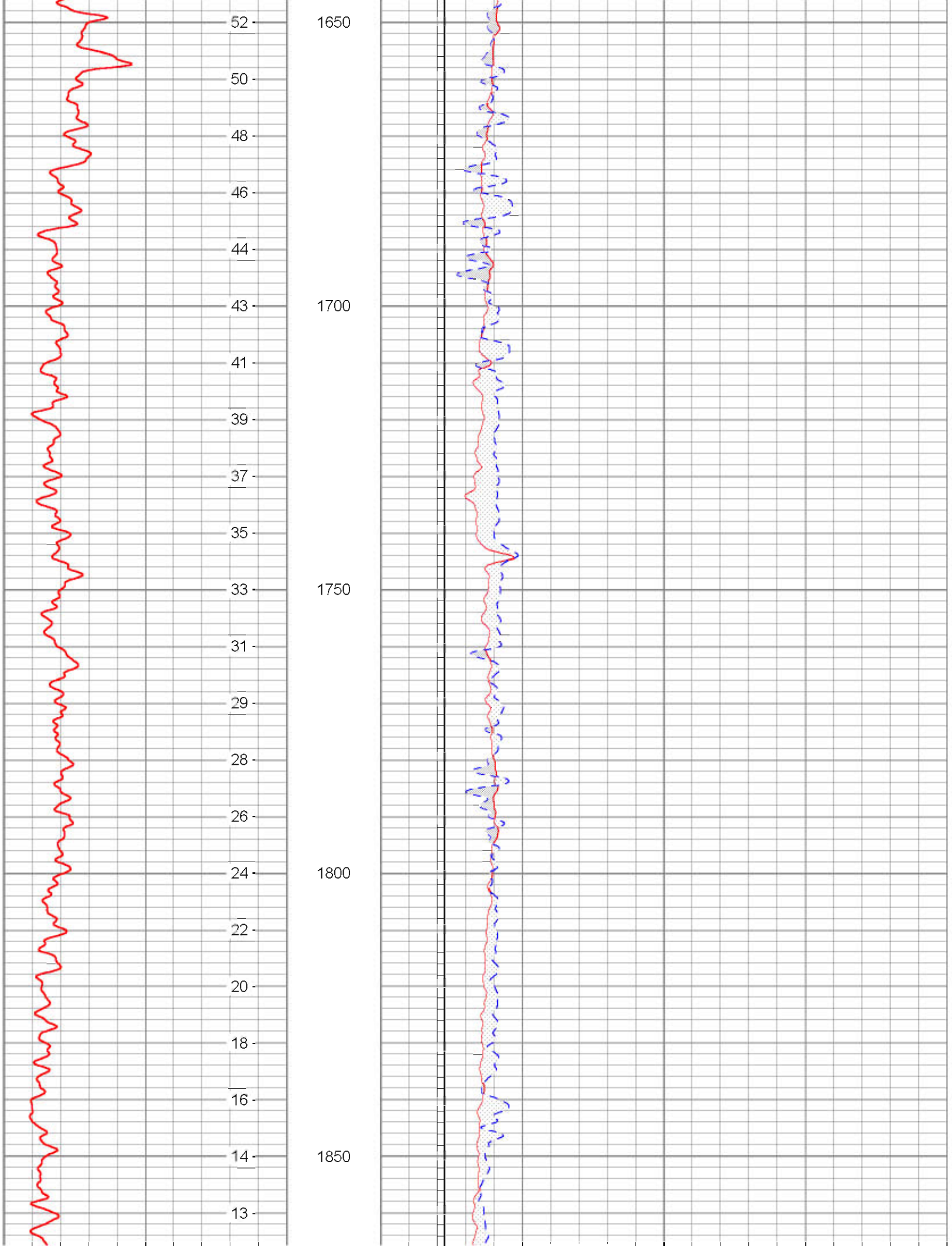
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1650
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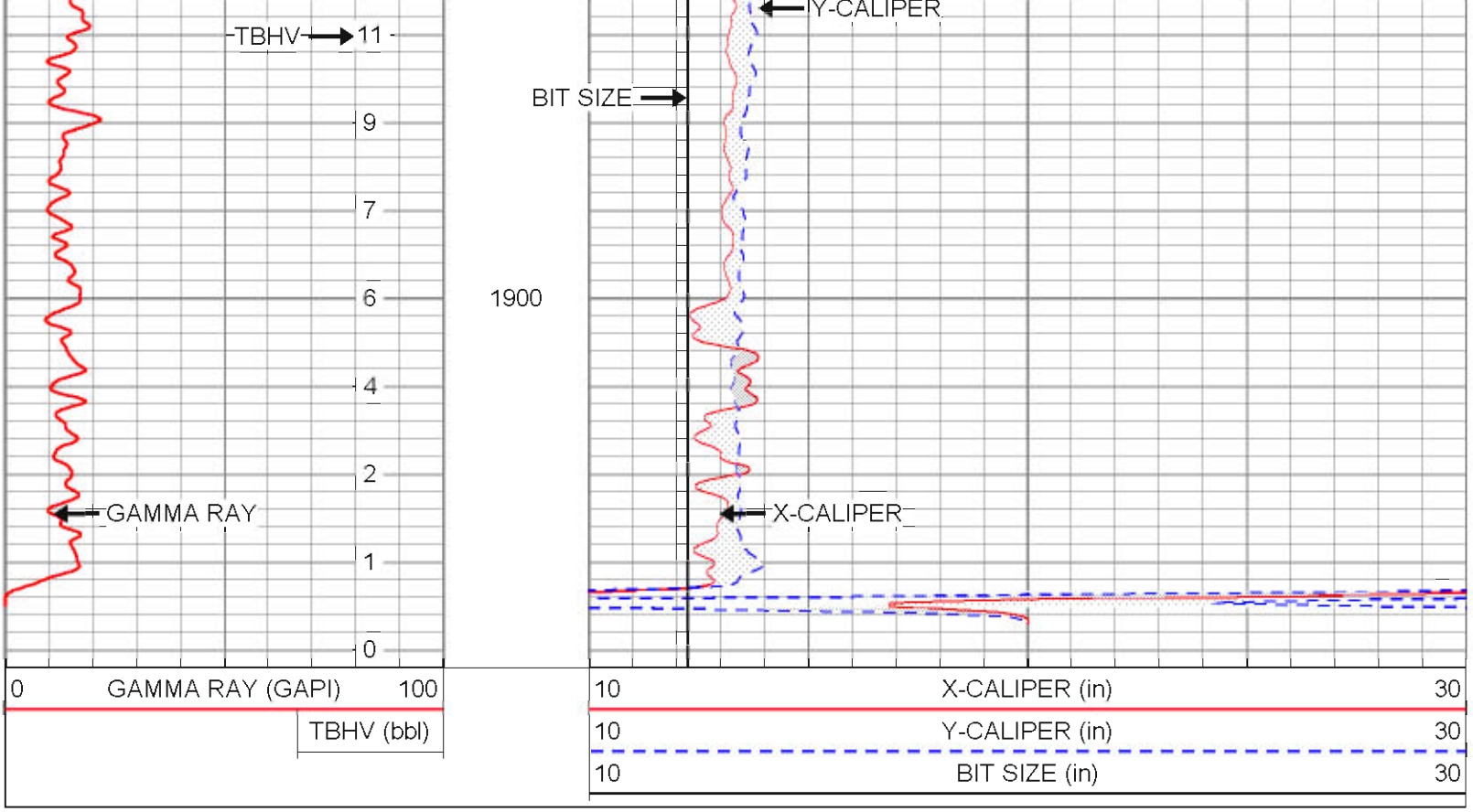
1750
1800
1850

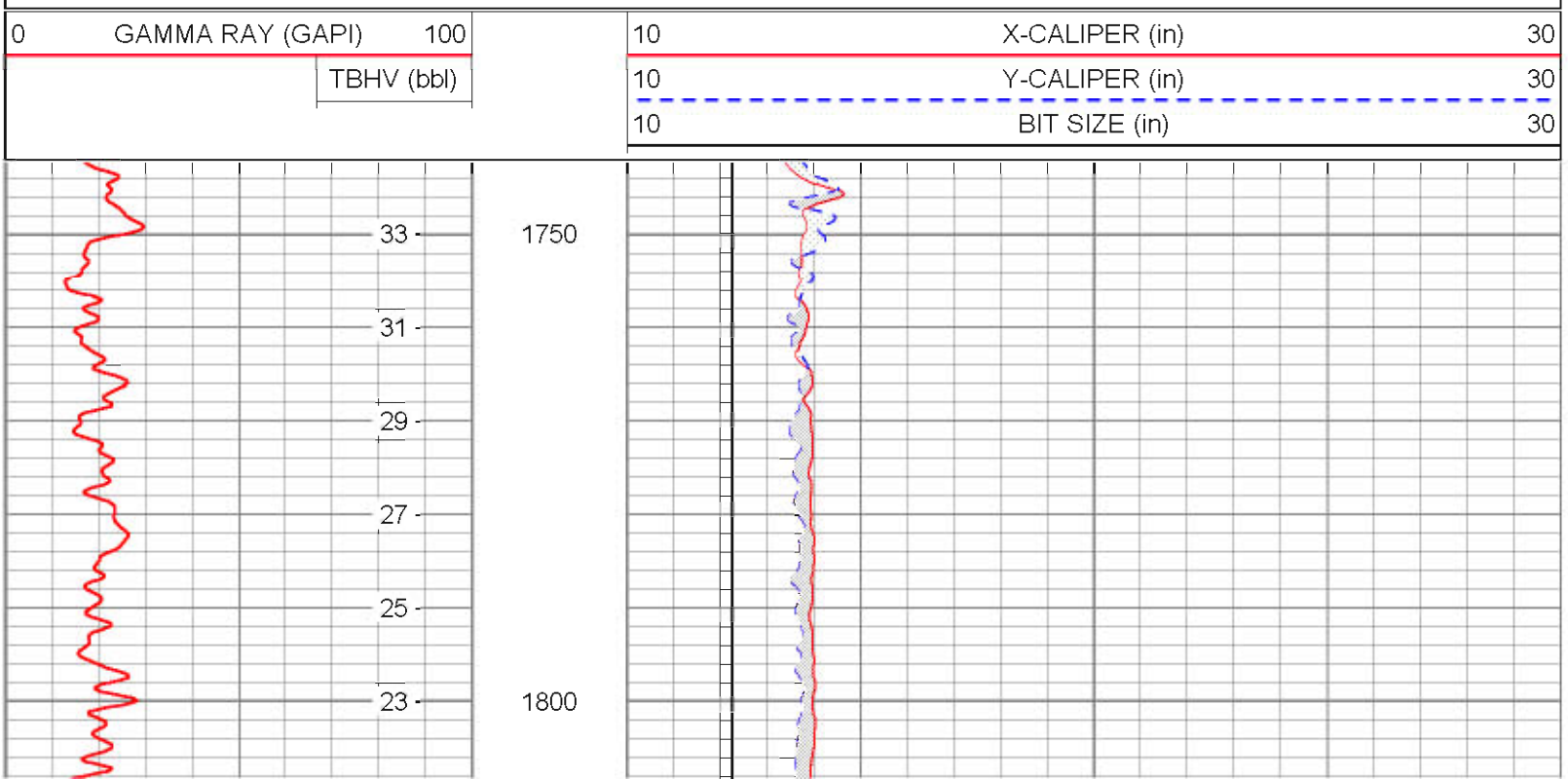


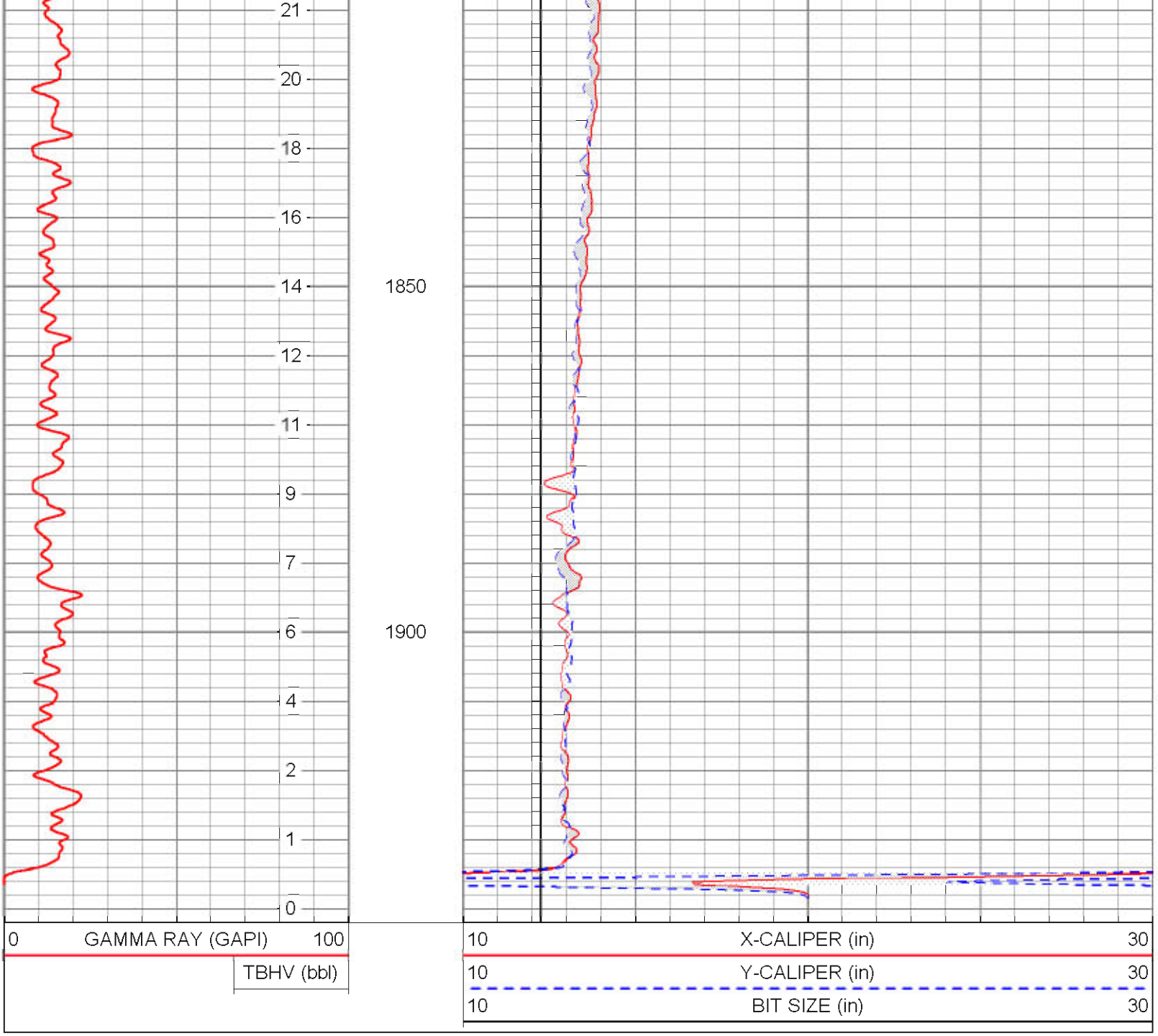
YOUNGQUIST BROTHERS, Inc

GEOPHYSICAL LOGGING DIVISION

REPEAT PASS

Database File:	hiamw1.db
Dataset Pathname:	run5/pass2
Presentation Format:	grxyc
Dataset Creation:	Sun Apr 11 17:52:51 2010 by Log Open-Cased 090629
Charted by:	Depth in Feet scaled 1:240





Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
GR	9.10		GR-GROH (14)	2.75	3.50	40.00

XCAL	5.00					
YCAL	5.00					
			XYC-XYCSM (01BSM)	6.60	3.50	87.00

Dataset: hiamw1.db: field/well/run5/pass3
Total Length: 9.35 ft
Total Weight: 127.00 lb
O.D. 3.50 in

Calibration Report

Database File: hiamw1.db
Dataset Pathname: run5/pass2
Dataset Creation: Sun Apr 11 17:52:51 2010 by Log Open-Cased 090629

XY Caliper Calibration Report

Serial Number/Model: 01BSM-XYCSM
Performed: Sun Apr 11 17:23:01 2010

	Ring		X Caliper		Y Caliper	
1:	5.81	in	512.065	cps	955	cps
2:	13.4	in	592.065	cps	1008.04	cps
3:	47.5	in	1078.27	cps	1339.14	cps
4:		in		cps		cps
5:		in		cps		cps
6:		in		cps		cps

Gamma Ray Calibration Report

Serial Number:	14	
Tool Model:	GROH	
Performed:	Wed May 21 13:24:48 2008	
Calibrator Value:	120.0	GAPI
Background Reading:	45.4	cps
Calibrator Reading:	204.5	cps
Sensitivity:	0.8754	GAPI/cps

YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

X-Y CALIPER GAMMA RAY LOG

Company	CITY OF HIALEAH		
Well	MW-1		
Field	HIALEAH R.O.W.T.P.		
County	DADE	State	FL
Location:		API # :	Other Services SEE COMMENTS
SEC	TWP	RGE	
Permanent Datum		Elevation	Elevation
Log Measured From			K.B.
Drilling Measured From			D.F. G.L.

Company CITY OF HIALEAH
Well MW-1
Field HIALEAH R.O.W.T.P.
County DADE
State FL

Date	16-APRIL-2010
Run Number	SIX
Depth Driller	1900'
Depth Logger	1900'
Bottom Logged Interval	1900'
Top Log Interval	CASING
Open Hole Size	18.5"
Type Fluid	WATER
Density / Viscosity	NA
Max. Recorded Temp.	NA
Estimated Cement Top	NA
Time Well Ready	2000
Time Logger on Bottom	2030
Equipment Number	104
Location	FT MYERS
Recorded By	FULLER
Witnessed By	D. LEGGETT

Borehole Record				Borehole Record		
Run Number	Bit	From	To	Bit	From	To
ONE	40.5"	SURFACE	157'			
TWO	28.5"	CASING	1076'			
THREE	12.25"	CASING	1940'			
FOUR	18.5"	CASING	1900'			

Casing Record	Size	Wgt/Ft	Run No	Top	Bottom
Surface String	30"	.375" W.T.		SURFACE	156'
Prot. String	20"	.375 W.T.		SURFACE	1076'
Production String					
Liner					

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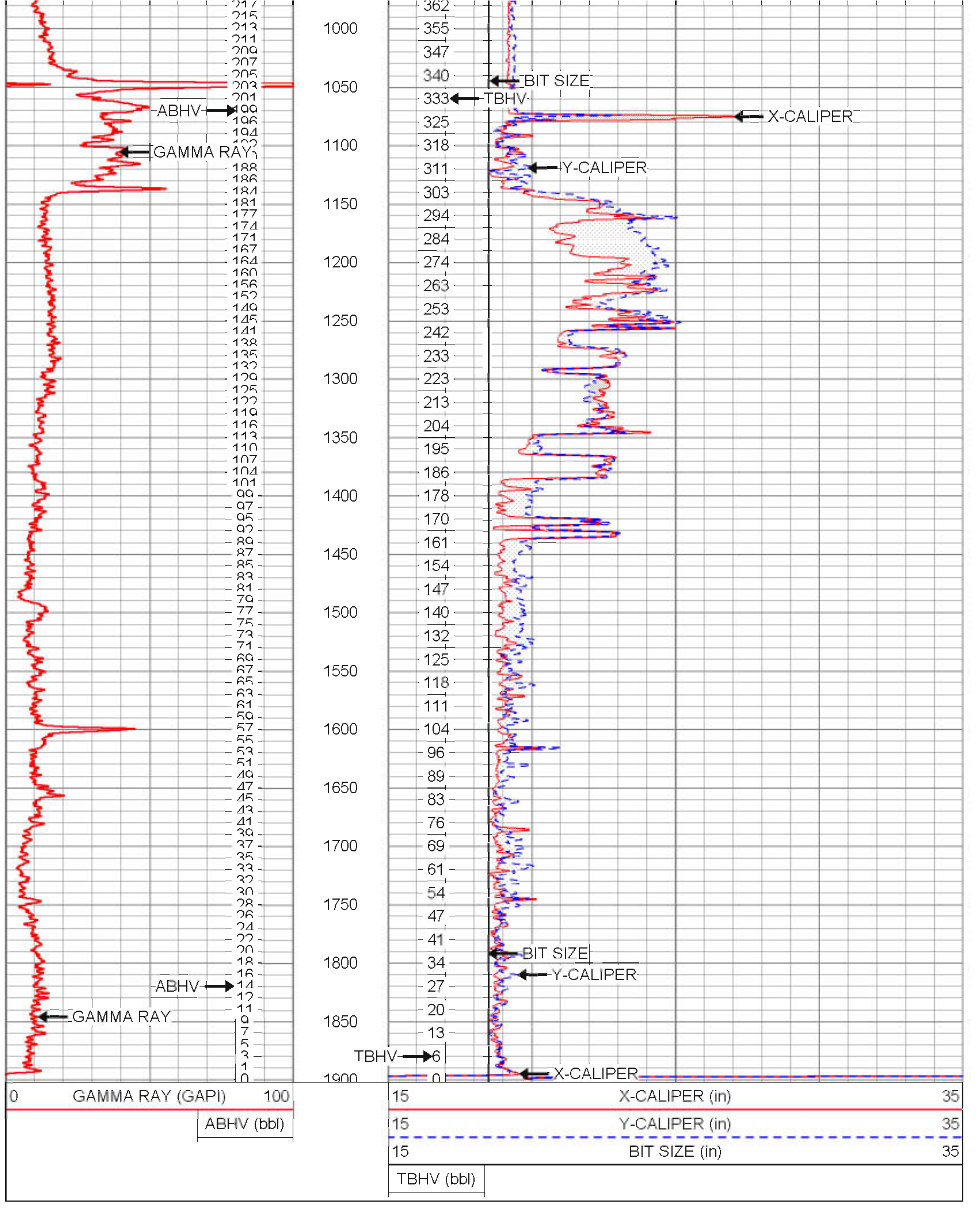
Comments

ANNULAR BOREHOLE VOLUME
CALCULATED IN BARRELS FOR
(12.75" CASING)

YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

MAIN PASS

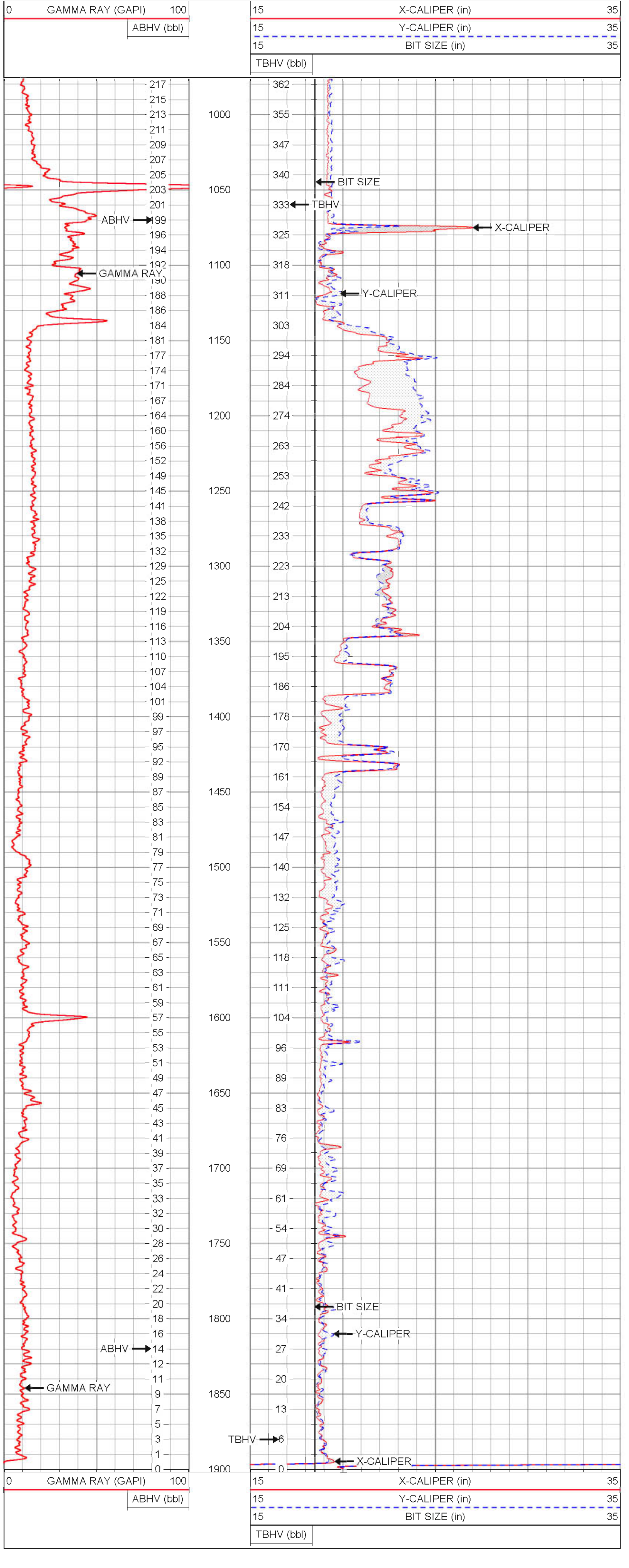
Database File: hiamw1.db
Dataset Pathname: run6/pass2.1
Presentation Format: grxy-ahv
Dataset Creation: Fri Apr 16 21:27:20 2010 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:1200



YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

MAIN PASS

Database File: hiamw1.db
Dataset Pathname: run6/pass2.1
Presentation Format: grxy-ahv
Dataset Creation: Fri Apr 16 21:27:20 2010 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:600



YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

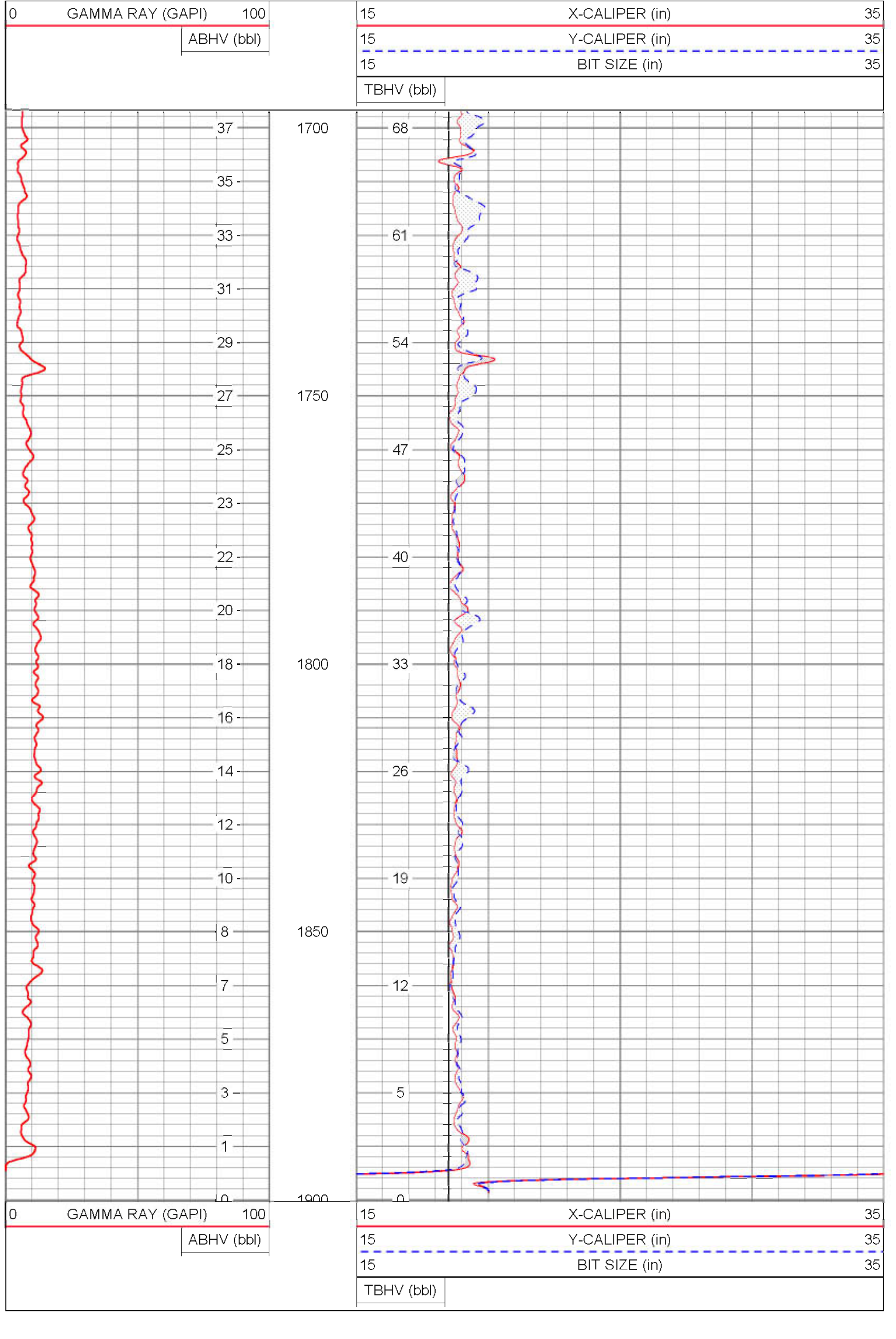
MAIN PASS

Database File: hiamw1.db
Dataset Pathname: run6/pass2.1
Presentation Format: grxy-ahv
Dataset Creation: Fri Apr 16 21:27:20 2010 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:240

YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

REPEAT PASS

Database File: hiamw1.db
Dataset Pathname: run6/pass1.1
Presentation Format: grxy-ahv
Dataset Creation: Fri Apr 16 21:29:24 2010 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:240



Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			GR-GROH (081007)	2.75	3.50	40.00
GR	7.60					
			XYC-XYCLM (080927)	6.60	3.50	87.00
XCAL YCAL	1.50 1.50					

Dataset: hiamw1.db: field/well/run6/pass1.1
Total Length: 9.35 ft
Total Weight: 127.00 lb
O.D. 3.50 in

Calibration Report

Database File: hiamw1.db
Dataset Pathname: run6/pass2.1
Dataset Creation: Fri Apr 16 21:27:20 2010 by Calc Open-Cased 090629

XY Caliper Calibration Report

Serial Number/Model: 080927-XYCLM
Performed: Fri Apr 16 20:32:42 2010

```
Ring                    X Caliper              Y Caliper
---------------------   --------------------   --------------------
1:    10    in          381.115    cps         361.052    cps
2:    20    in          500.216    cps         485.514    cps
3:    30    in          626.304    cps         626.413    cps
4:    40    in          768.478    cps         785.217    cps
5:          in                     cps                    cps
6:          in                     cps                    cps
```

Gamma Ray Calibration Report

Serial Number: 081007
Tool Model: GROH
Performed: Thu Oct 23 15:05:06 2008

Calibrator Value: 100.0 GAPI

Background Reading: 272.3 cps
Calibrator Reading: 992.3 cps

Sensitivity: 0.1389 GAPI/cps

YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

Company CITY OF HIALEA
Well MW-1
Field HIALEA
County DADE
State FL

DUAL INDUCTION LL3 with SP LOG

Company CITY OF HIALEAH
Well MW-1
Field HIALEAH R.O.W.T.P.
County DADE State FL
Location
Other Services SEE COMMENTS
Permanent Datum
Elevation
Log Measured From
Drilling Measured From
Elevation K.B. D.F. G.L.

Date	06-APR-10
Run Number	THREE
Depth Driller	1075'
Depth Logger	1075'
Bottom Logged Interval	1075'
Top Log Interval	SURFACE
Open Hole Size	28.5"
Type Fluid	MUD
Density / Viscosity	NA
Max. Recorded Temp.	NA
Estimated Cement Top	NA
Time Well Ready	0130
Time Logger on Bottom	0145
Equipment Number	102
Location	FT MYERS
Recorded By	FULLER
Witnessed By	WEBSTER, C

Borehole Record

Run Number	Bit	From	To	Run Number	Bit	From	To
ONE	40.5"	157'	SURFACE				
TWO	28.5"	1075'	CASING				

Casing Record	Size	Wgt/Ft	Top	Bottom
Casing String	30"	.375" W.T.	SURFACE	156'
Casing String				
Casing String				
Casing String				

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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

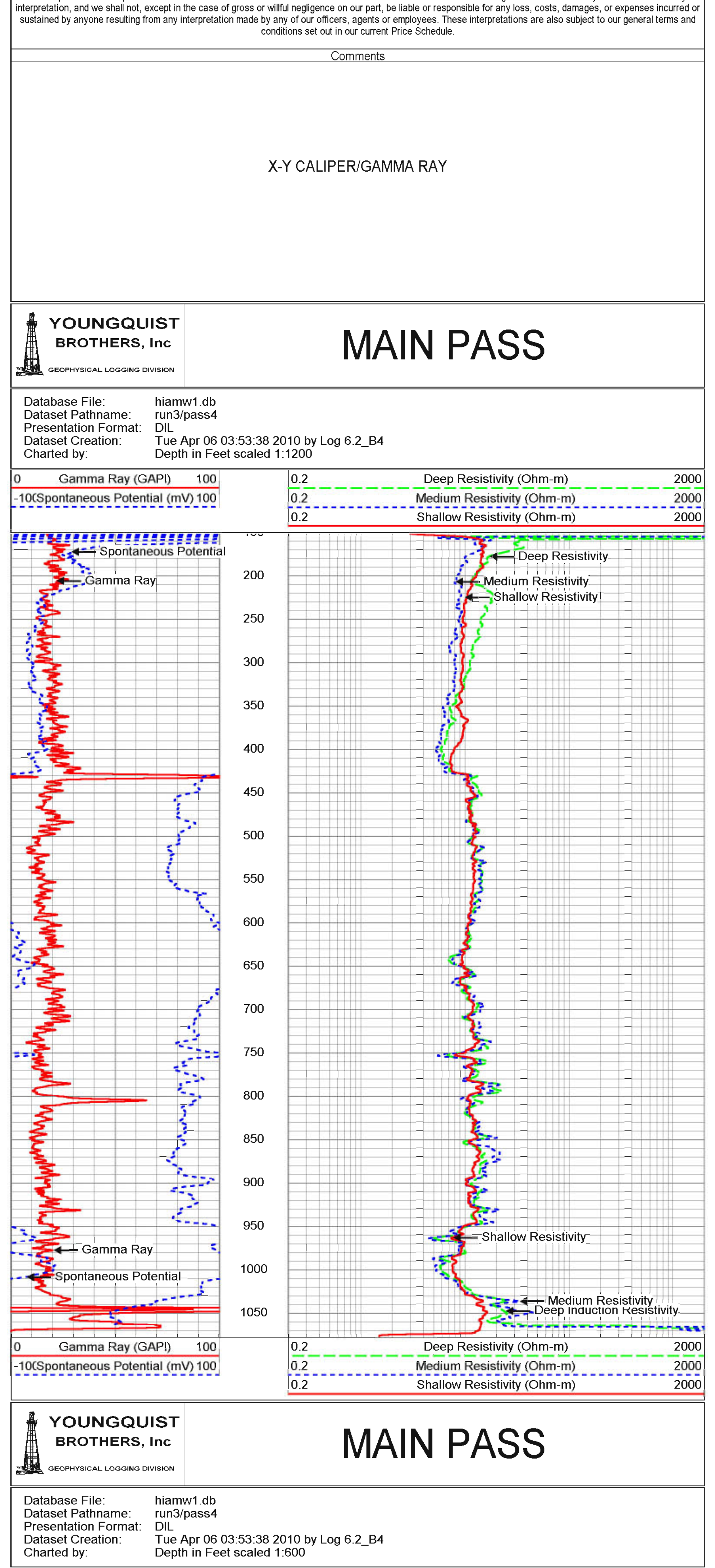
X-Y CALIPER/GAMMA RAY

YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

MAIN PASS

Database File: hiamw1.db
Dataset Pathname: run3/pass4
Presentation Format: DIL
Dataset Creation: Tue Apr 06 03:53:38 2010 by Log 6.2_B4
Charted by: Depth in Feet scaled 1:1200

0 Gamma Ray (GAPI) 100	0.2 Deep Resistivity (Ohm-m) 2000
-10(Spontaneous Potential (mV) 100	0.2 Medium Resistivity (Ohm-m) 2000
	0.2 Shallow Resistivity (Ohm-m) 2000



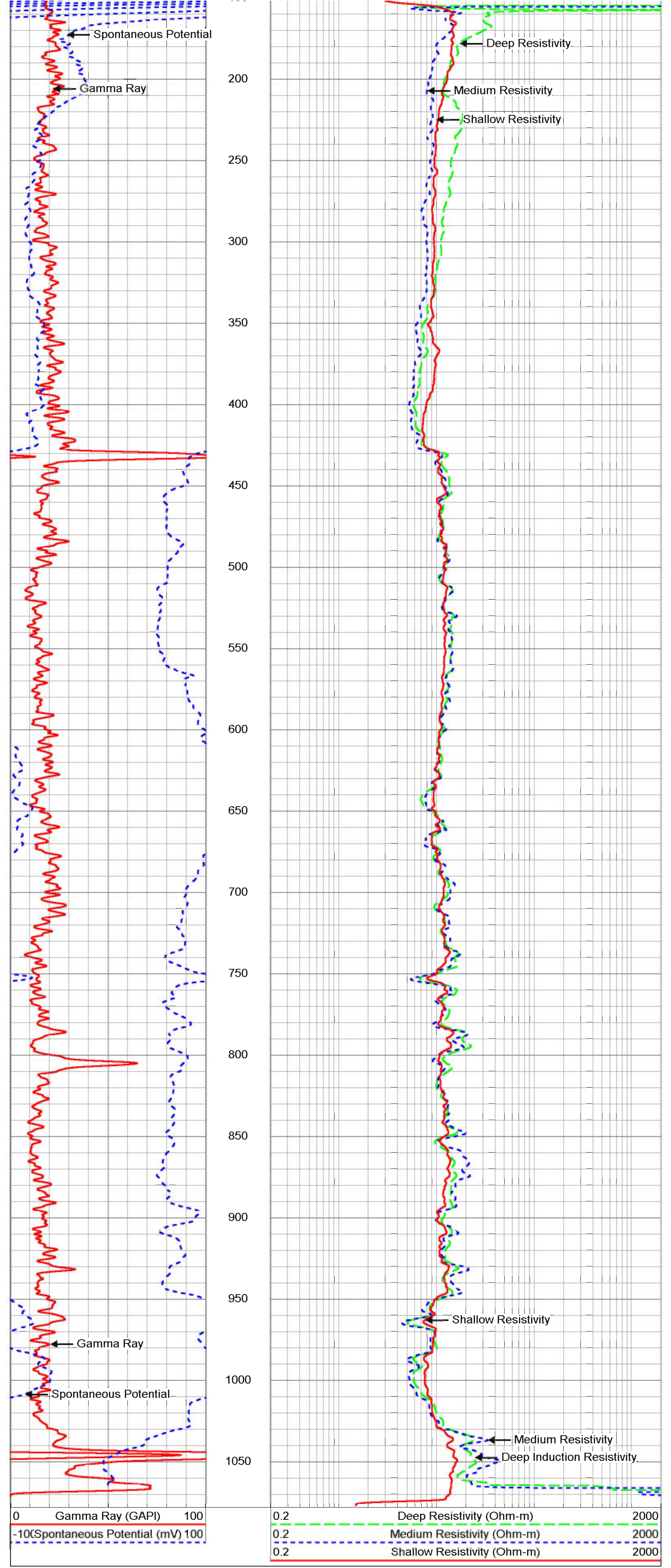
0 Gamma Ray (GAPI) 100	0.2 Deep Resistivity (Ohm-m) 2000
-10(Spontaneous Potential (mV) 100	0.2 Medium Resistivity (Ohm-m) 2000
	0.2 Shallow Resistivity (Ohm-m) 2000

YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

MAIN PASS

Database File: hiamw1.db
Dataset Pathname: run3/pass4
Presentation Format: DIL
Dataset Creation: Tue Apr 06 03:53:38 2010 by Log 6.2_B4
Charted by: Depth in Feet scaled 1:600

0 Gamma Ray (GAPI) 100	0.2 Deep Resistivity (Ohm-m) 2000
-10(Spontaneous Potential (mV) 100	0.2 Medium Resistivity (Ohm-m) 2000
	0.2 Shallow Resistivity (Ohm-m) 2000



0 Gamma Ray (GAPI) 100	0.2 Deep Resistivity (Ohm-m) 2000
-10(Spontaneous Potential (mV) 100	0.2 Medium Resistivity (Ohm-m) 2000
	0.2 Shallow Resistivity (Ohm-m) 2000

YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

MAIN PASS

Database File: hiamw1.db
Dataset Pathname: run3/pass4
Presentation Format: DIL
Dataset Creation: Tue Apr 06 03:53:38 2010 by Log 6.2_B4
Charted by: Depth in Feet scaled 1:240

0 Gamma Ray (GAPI) 100	0.2 Deep Resistivity (Ohm-m) 2000
-10(Spontaneous Potential (mV) 100	0.2 Medium Resistivity (Ohm-m) 2000
	0.2 Shallow Resistivity (Ohm-m) 2000

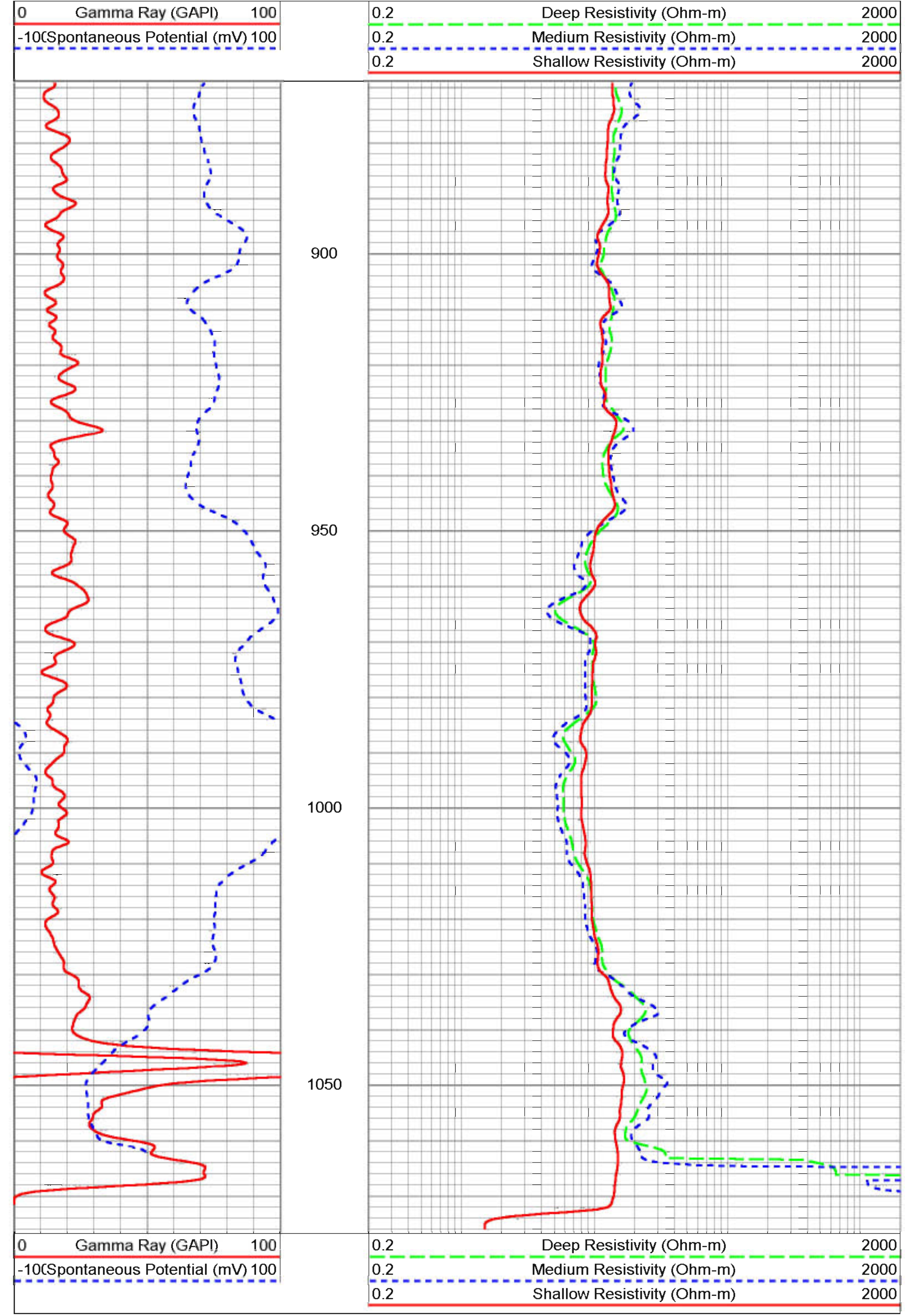
0 Gamma Ray (GAPI) 100	0.2 Deep Resistivity (Ohm-m) 2000
-10(Spontaneous Potential (mV) 100	0.2 Medium Resistivity (Ohm-m) 2000
	0.2 Shallow Resistivity (Ohm-m) 2000

YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

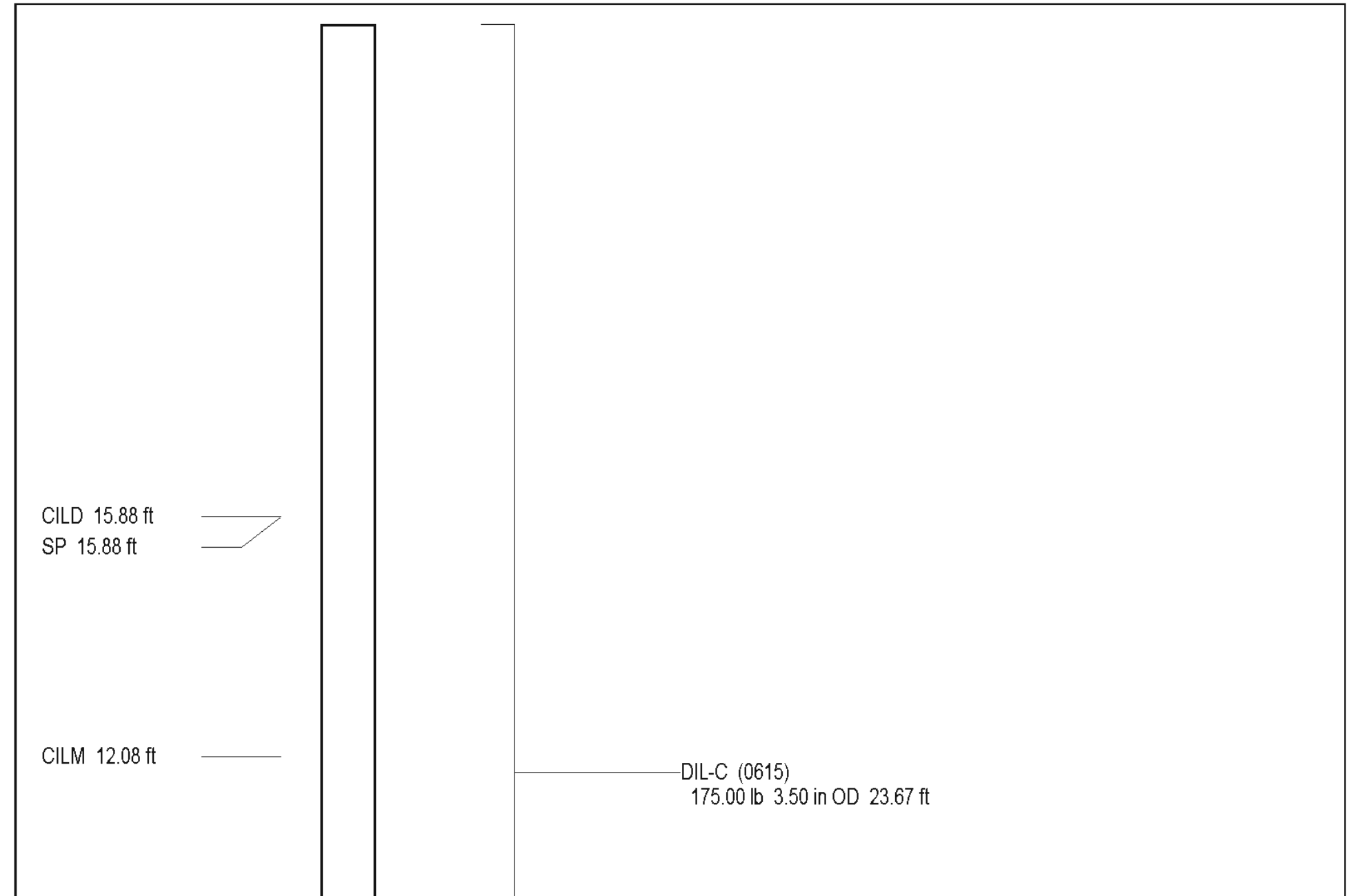
REPEAT PASS

Database File: hiamw1.db
Dataset Pathname: run3/pass3
Presentation Format: DIL
Dataset Creation: Tue Apr 06 03:47:36 2010 by Log 6.2_B4
Charted by: Depth in Feet scaled 1:240

0 Gamma Ray (GAPI) 100	0.2 Deep Resistivity (Ohm-m) 2000
-10(Spontaneous Potential (mV) 100	0.2 Medium Resistivity (Ohm-m) 2000
	0.2 Shallow Resistivity (Ohm-m) 2000



0 Gamma Ray (GAPI) 100	0.2 Deep Resistivity (Ohm-m) 2000
-10(Spontaneous Potential (mV) 100	0.2 Medium Resistivity (Ohm-m) 2000
	0.2 Shallow Resistivity (Ohm-m) 2000



Dataset: run3/pass5
Total Length: 23.67 ft
Total Weight: 175.00 lb
O.D. 3.50 in

Dual Induction Calibration Report

Serial-Model: 0615-C
Surface Cal Performed: Tue Jan 26 14:46:55 2010
Downhole Cal Performed: Tue Apr 06 03:33:13 2010
After Survey Verification Performed: Tue Apr 06 04:06:13 2010

Surface Calibration

	Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	-0.036	0.638	V	0.000	400.000	mmho-m	592.952	21.530
Medium	0.031	0.837	V	0.000	464.000	mmho-m	575.739	-17.939
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.007	0.626	V	20.920	384.470	mmho-m	587.121	16.699
Medium	0.009	0.748	V	12.740	427.710	mmho-m	561.375	7.816

Downhole Calibration

	Readings			References			Results	
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	22.218	368.706	mmho-m	25.793	392.954	mmho-m	1.060	2.250
Medium	-11.375	390.342	mmho-m	-12.889	412.699	mmho-m	1.059	-0.839
Shallow	-1.444	-1.054		5.000	182.730	mmho-m	456.286	663.672

After Survey Verification

	Readings			Targets			Results	
Internal:	Zero	Cal		Zero	Cal		m'	b'
Deep	22.142	355.174	mmho-m	22.218	368.706	mmho-m	1.060	2.250
Medium	-11.698	375.330	mmho-m	-11.375	390.342	mmho-m	1.059	-0.839
Shallow	23.317	199.913	mmho-m	5.000	182.730	mmho-m	1.006	-18.466

YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

X-Y CALIPER GAMMA RAY LOG

Company	CITY OF HIALEA
Well	MW-1
Field	HIALEA
County	DADE
State	FL

Company	CITY OF HIALEAH
Well	MW-1
Field	HIALEAH R.O.W.T.P.
County	DADE
State	FL
Location	
Other Services	SEE COMMENTS
Permanent Datum	Elevation
Log Measured From	
Drilling Measured From	
Elevation	K.B. D.F. G.L.

Date	06-APR-10	
Run Number	THREE	
Depth Driller	1075'	
Depth Logger	1075'	
Bottom Logged Interval	1075'	
Top Log Interval	SURFACE	
Open Hole Size	28.5"	
Type Fluid	MUD	
Density / Viscosity	NA	
Max. Recorded Temp.	NA	
Estimated Cement Top	NA	
Time Well Ready	0130	
Time Logger on Bottom	0145	
Equipment Number	102	
Location	FT MYERS	
Recorded By	FULLER	
Witnessed By	WEBSTER, C	

Borehole Record				Borehole Record			
Run Number	Bit	From	To	Run Number	Bit	From	To
ONE	40.5"	157'	SURFACE				
TWO	28.5"	1075'	CASING				

Casing Record	Size	Wgt/Ft	Top	Bottom
Casing String	30"	.375" W.T.	SURFACE	156'
Casing String				
Casing String				
Casing String				

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Comments

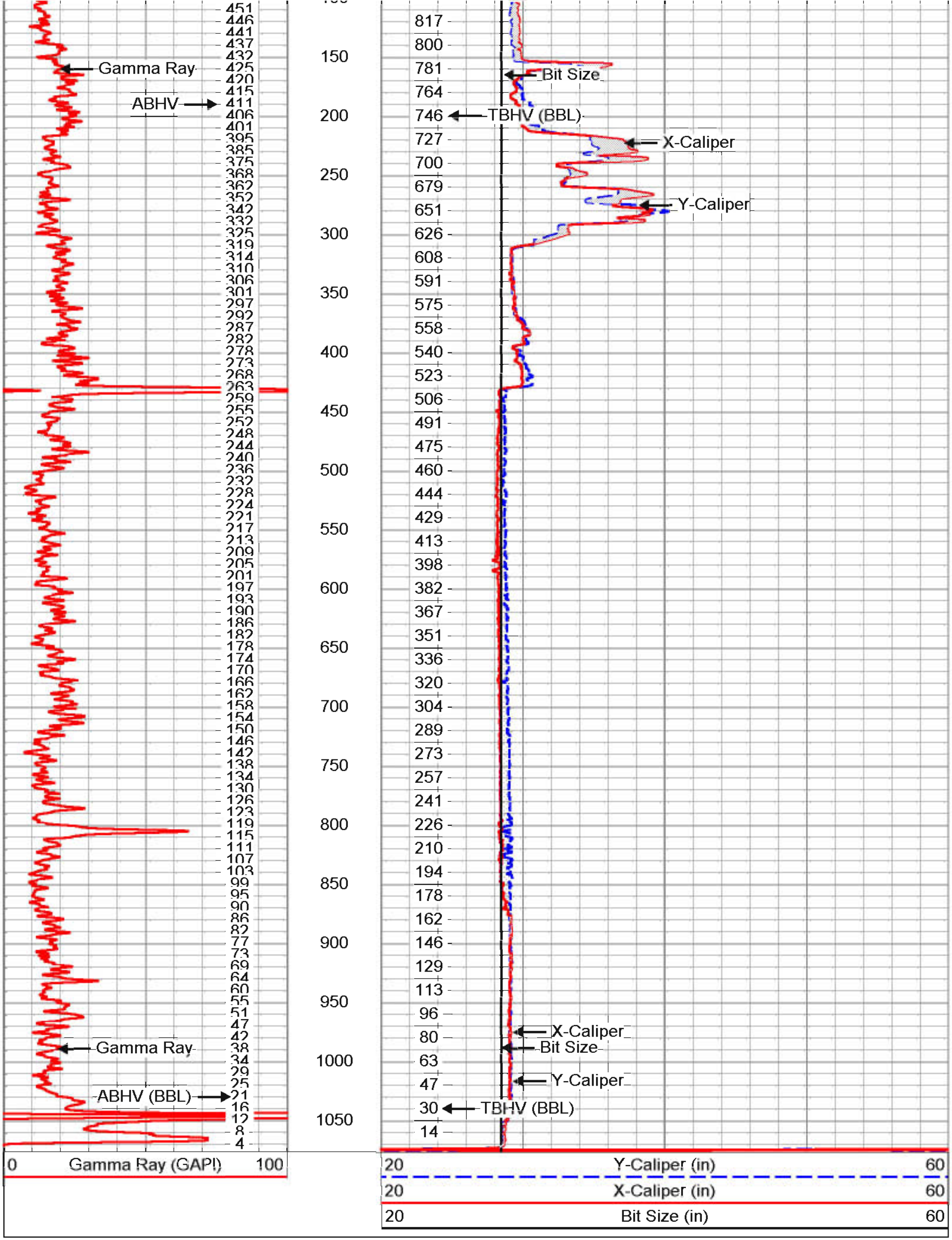
DUAL INDUCTION

ANNULAR BOREHOLE VOLUME
CALCULATED IN BARRELS FOR
(20" CASING)

YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

MAIN PASS

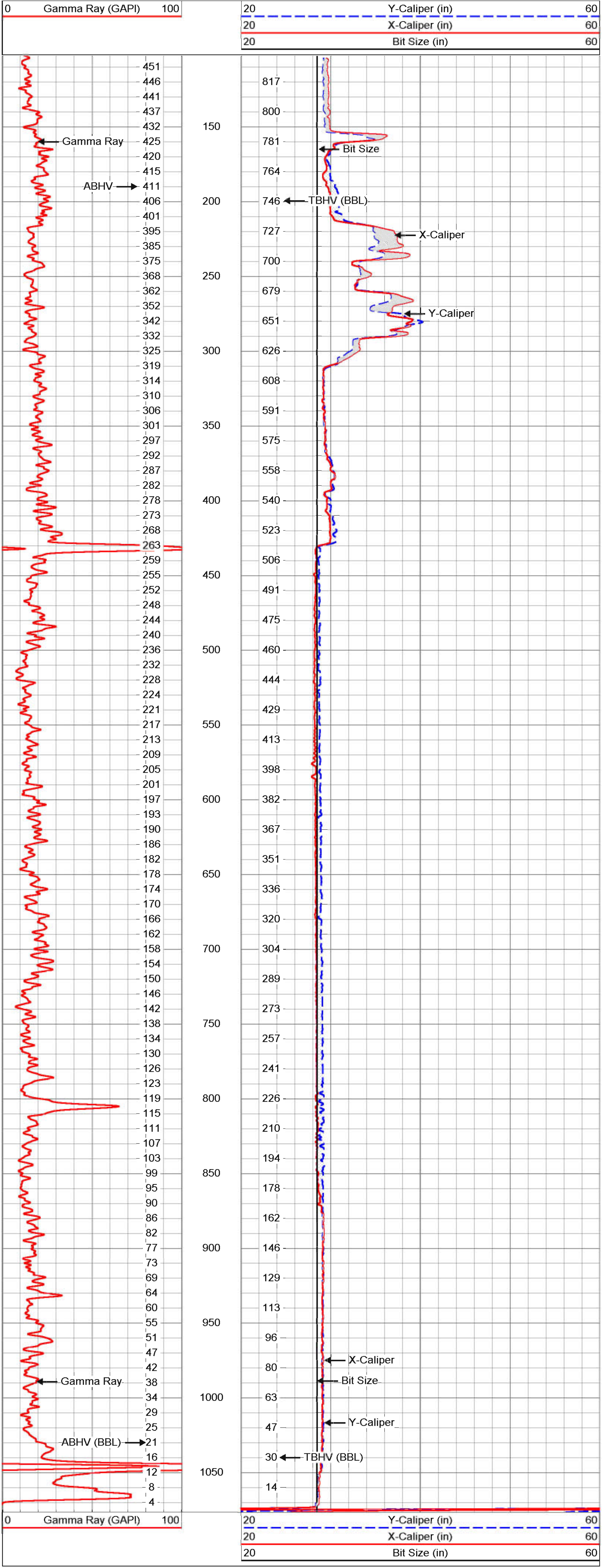
Database File: hiamw1.db
Dataset Pathname: run3/pass2
Presentation Format: GRXY-AHV
Dataset Creation: Tue Apr 06 02:55:32 2010 by Log 6.2_B4
Charted by: Depth in Feet scaled 1:1200



YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

MAIN PASS

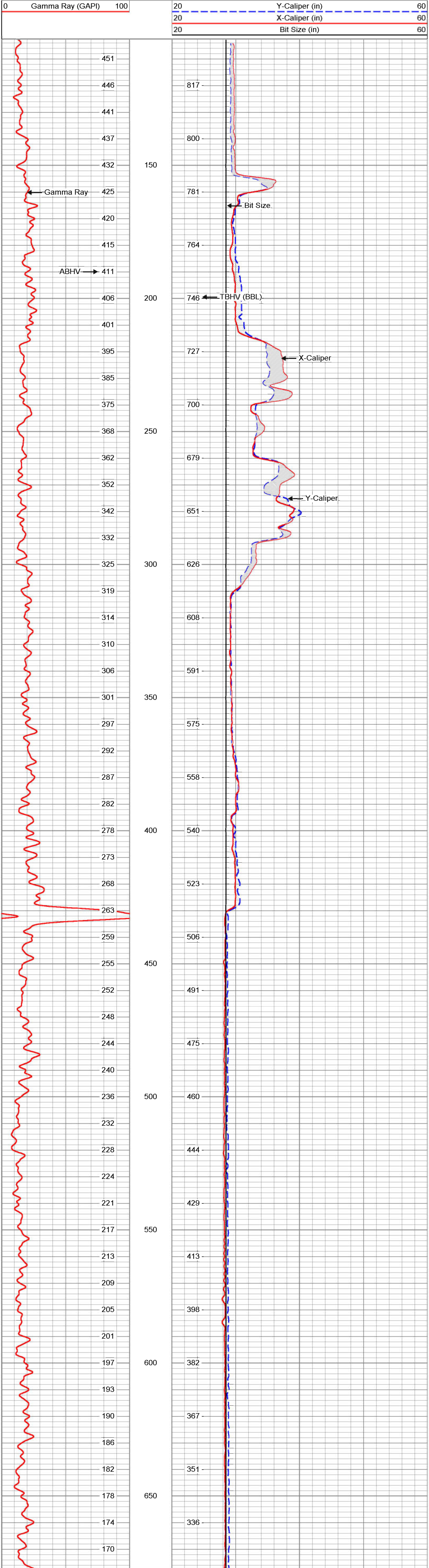
Database File: hiamw1.db
Dataset Pathname: run3/pass2
Presentation Format: GRXY-AHV
Dataset Creation: Tue Apr 06 02:55:32 2010 by Log 6.2_B4
Charted by: Depth in Feet scaled 1:600



YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

MAIN PASS

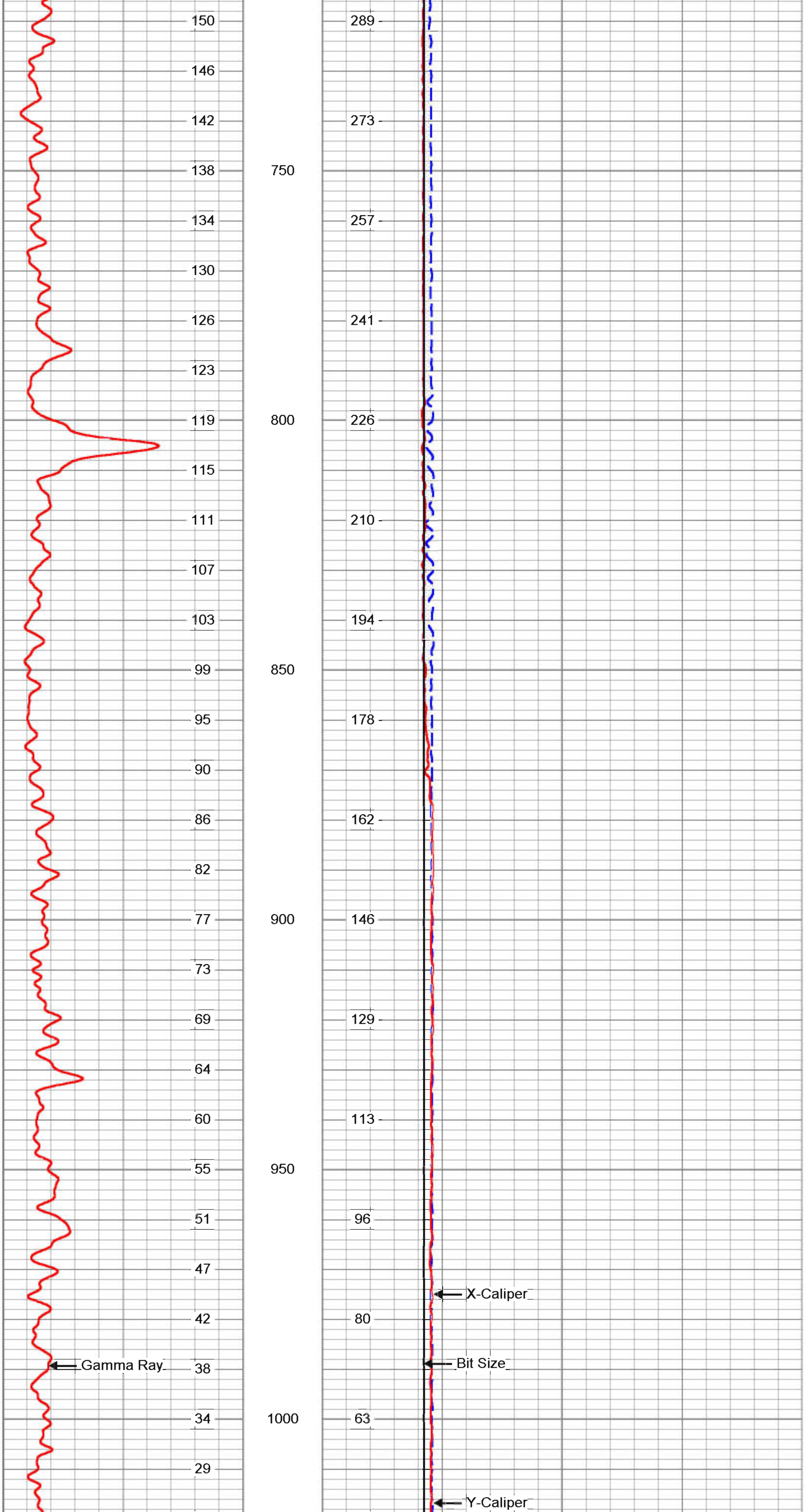
Database File: hiamw1.db
Dataset Pathname: run3/pass2
Presentation Format: GRXY-AHV
Dataset Creation: Tue Apr 06 02:55:32 2010 by Log 6.2_B4
Charted by: Depth in Feet scaled 1:240

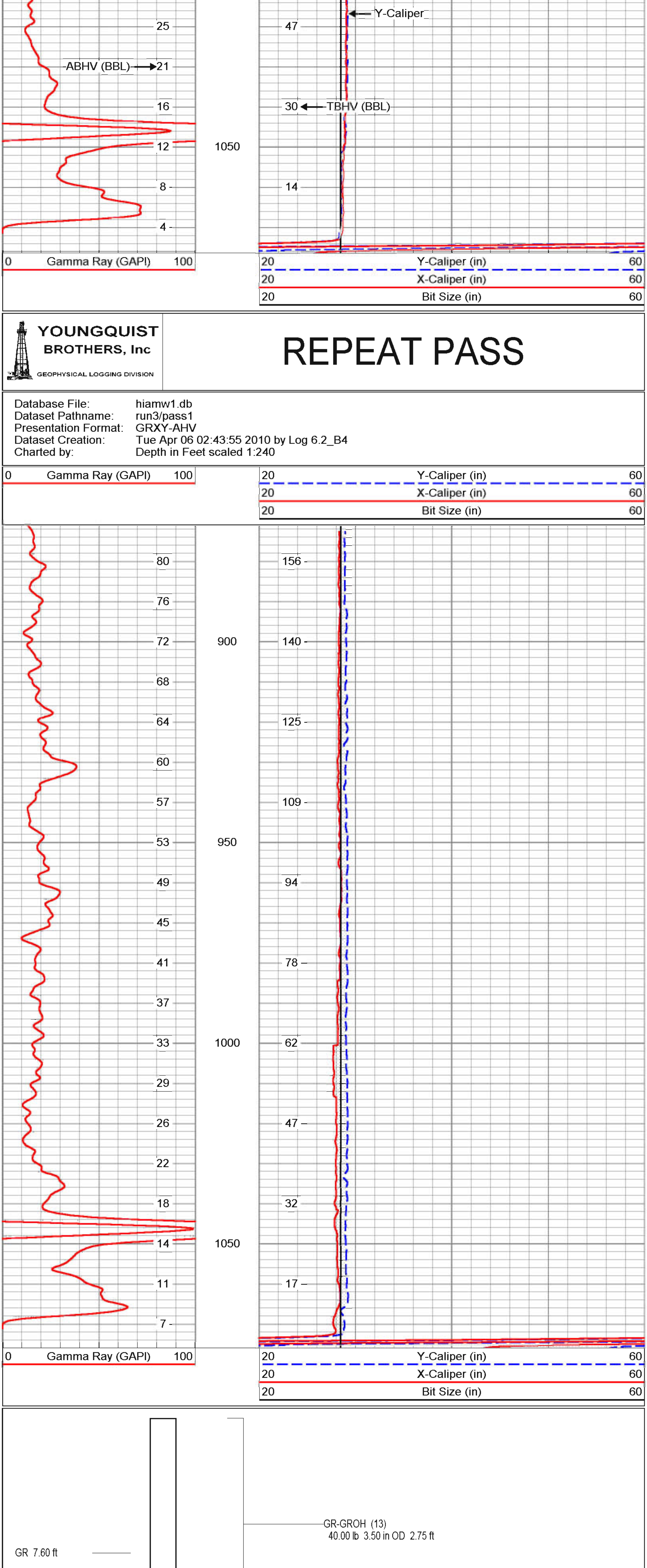


YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

REPEAT PASS

Database File: hiamw1.db
Dataset Pathname: run3/pass1
Presentation Format: GRXY-AHV
Dataset Creation: Tue Apr 06 02:43:55 2010 by Log 6.2_B4
Charted by: Depth in Feet scaled 1:240





Dataset: run3/pass2
Total Length: 9.35 ft
Total Weight: 127.00 lb
O.D. 3.50 in

XY Caliper Calibration Report

Serial Number/Model: 02LM-XYCLM
Performed: Tue Apr 06 02:50:07 2010

Ring			X Caliper		Y Caliper	
1:	20	in	921.447	cps	940.741	cps
2:	30	in	1045.05	cps	1052.75	cps
3:	40	in	1141.24	cps	1171.77	cps
4:		in		cps		cps
5:		in		cps		cps
6:		in		cps		cps

Gamma Ray Calibration Report

Serial Number:	13	
Tool Model:	GROH	
Performed:	Thu Jul 17 15:55:52 2008	
Calibrator Value:	120	GAPI
Background Reading:	19.4194	cps
Calibrator Reading:	98.7988	cps
Sensitivity:	1.51173	GAPI/cps

YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

X-Y CALIPER GAMMA RAY LOG

Company	CITY OF HIALEA
Well	MW-1
Field	HIALEA
County	DADE
State	FL

Permanent Datum	Ground Level
Log Measured From	Ground Level
Drilling Measured From	Ground Level

Elevation	30.00 ft G.L.
K.B.	
D.F.	
G.L.	

Date	28-Mar-08
Run Number	ONE
Depth Driller	1200
Depth Logger	1200
Bottom Logged Interval	1200
Top Logged Interval	SURFACE
Casing Driller	30.00 @ 0 ft
Casing Logger	30.00 @ 0 ft
Bit Size	12 1/4
Type Fluid in Hole	WATER
Density / Viscosity	NA
PH / Fluid Loss	NA
Source of Sample	NA
Rm @ Measured Temp	NA
Rmf @ Measured Temp	NA
Rmc @ Measured Temp	NA
Source: Rmf / Rmc	NA
Rm @ BHT	NA
Time Since Circulation	NA
Time Since Stop in Hole	NA
Max. Recorded Temp	90 F
Equipment / Location	1304 / 6
Recorded By	WEBSTER, C.
Witnessed By	NA

Run Number	ONE	ONE	ONE
Depth Driller	1200	1200	1200
Schlumberger Depth	NA	NA	NA
Depth Logged	1200	1200	1200
Top Logged Interval	SURFACE	SURFACE	SURFACE
Type of Log	XY CALIPER	GR-GROH	GR-GROH
Scale	5 / 100	5 / 100	5 / 100
High Scale / Speed	60	60	60
Low Scale	0	0	0
Low Scale / Speed	0	0	0
Tool Type	3	GROH	GROH
Serial Number	02LM XYCLM	13	13
Tool Length	9.35 ft	3.50 ft	3.50 ft
Tool Weight	127.00 lb	40.00 lb	40.00 lb
Max. Recorded Temp	90 F	90 F	90 F
Equipment / Location	1304 / 6	1304 / 6	1304 / 6
Recorded By	WEBSTER, C.	WEBSTER, C.	WEBSTER, C.
Witnessed By	NA	NA	NA

Run Number	ONE	ONE	ONE
Depth Driller	1200	1200	1200
Schlumberger Depth	NA	NA	NA
Depth Logged	1200	1200	1200
Top Logged Interval	SURFACE	SURFACE	SURFACE
Type of Log	GR-GROH	GR-GROH	GR-GROH
Scale	5 / 100	5 / 100	5 / 100
High Scale / Speed	60	60	60
Low Scale	0	0	0
Low Scale / Speed	0	0	0
Tool Type	GROH	GROH	GROH
Serial Number	13	13	13
Tool Length	3.50 ft	3.50 ft	3.50 ft
Tool Weight	40.00 lb	40.00 lb	40.00 lb
Max. Recorded Temp	90 F	90 F	90 F
Equipment / Location	1304 / 6	1304 / 6	1304 / 6
Recorded By	WEBSTER, C.	WEBSTER, C.	WEBSTER, C.
Witnessed By	NA	NA	NA

Run Number	ONE	ONE	ONE
Depth Driller	1200	1200	1200
Schlumberger Depth	NA	NA	NA
Depth Logged	1200	1200	1200
Top Logged Interval	SURFACE	SURFACE	SURFACE
Type of Log	GR-GROH	GR-GROH	GR-GROH
Scale	5 / 100	5 / 100	5 / 100
High Scale / Speed	60	60	60
Low Scale	0	0	0
Low Scale / Speed	0	0	0
Tool Type	GROH	GROH	GROH
Serial Number	13	13	13
Tool Length	3.50 ft	3.50 ft	3.50 ft
Tool Weight	40.00 lb	40.00 lb	40.00 lb
Max. Recorded Temp	90 F	90 F	90 F
Equipment / Location	1304 / 6	1304 / 6	1304 / 6
Recorded By	WEBSTER, C.	WEBSTER, C.	WEBSTER, C.
Witnessed By	NA	NA	NA

Top	
Bottom	
Log Interval	
Casing Driller	
Casing Logger	
Bit Size	
Type Fluid in Hole	
Density / Viscosity	
PH / Fluid Loss	
Source of Sample	
Rm @ Measured Temp	
Rmf @ Measured Temp	
Rmc @ Measured Temp	
Source: Rmf / Rmc	
Rm @ BHT	
Time Since Circulation	
Time Since Stop in Hole	
Max. Recorded Temp	
Equipment / Location	
Recorded By	
Witnessed By	

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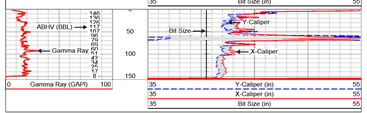
Comments

ANNULAR BOREHOLE VOLUME CALCULATED
IN BARRELS FOR (30" CASING)

YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

MAIN PASS

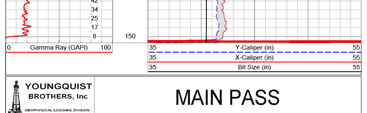
Database File: hiamw1.db
Dataset Pathname: pass2
Presentation Format: GRXY-AHV
Dataset Creation: Sun Mar 28 19:32:52 2010 by Log 6.2_B4
Charted by: Depth in Feet scaled 1:1200



YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

MAIN PASS

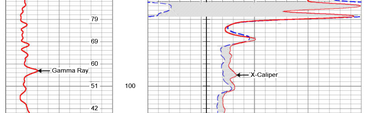
Database File: hiamw1.db
Dataset Pathname: pass2
Presentation Format: GRXY-AHV
Dataset Creation: Sun Mar 28 19:32:52 2010 by Log 6.2_B4
Charted by: Depth in Feet scaled 1:600



YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

MAIN PASS

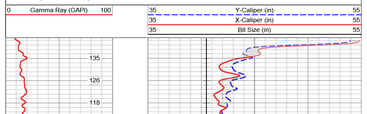
Database File: hiamw1.db
Dataset Pathname: pass2
Presentation Format: GRXY-AHV
Dataset Creation: Sun Mar 28 19:32:52 2010 by Log 6.2_B4
Charted by: Depth in Feet scaled 1:240



YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

REPEAT PASS

Database File: hiamw1.db
Dataset Pathname: pass1
Presentation Format: GRXY-AHV
Dataset Creation: Sun Mar 28 19:18:16 2010 by Log 6.2_B4
Charted by: Depth in Feet scaled 1:240



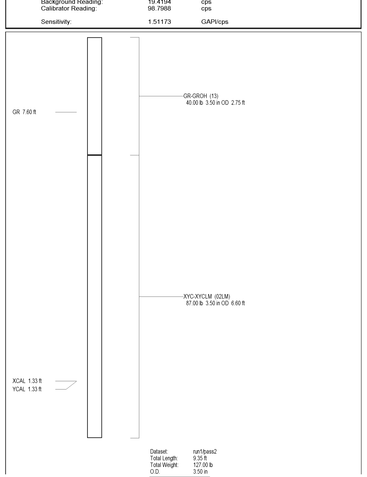
XY Caliper Calibration Report

Serial Number/Model: 02LM XYCLM
Performed: Sun Mar 28 19:05:35 2010

Ring			X Caliper		Y Caliper	
1:	20	in	944.745	cps	941.842	cps
2:	30	in	1044.54	cps	1053.55	cps
3:	40	in	1145.75	cps	1163.26	cps
4:	50	in	1265.47	cps	1292.99	cps
5:		in		cps		cps
6:		in		cps		cps

Gamma Ray Calibration Report

Serial Number:	13	
Tool Model:	GROH	
Performed:	Thu Jul 17 15:55:52 2008	
Calibrator Value:	120	GAPI
Background Reading:	19.4194	cps
Calibrator Reading:	96.7968	cps
Sensitivity:	1.51173	GAPI/cps



Dataset: run1pass2
Total Length: 9.35 ft
Total Weight: 127.00 lb
O.D. 3.50 in

YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

(6.625 FRP)
CEMENT BOND
VARIABLE DENSITY
LOG

Company	CITY OF HIALEAH
Well	MW-1
Field	HIALEAH R.O.W.T.P.
County	DADE
State	FL

Company	CITY OF HIALEAH
Well	MW-1
Field	HIALEAH R.O.W.T.P.
County	DADE
State	FL
Location	
Elevation	K.B. / D.F. / G.L.
Other Services	COMMENTS

Log Measured From	Drilling Measured From
Permanent Datum	GRADE
Elevation	0
Elevation	0
Elevation	0
Date	11-Jan-10
Run Number	ONE
Depth Driller	2200
Depth Logger	2197
Bottom Logged Interval	2197
Top Log Interval	1000
Casing Driller	1000
Casing Logger	1000
Bit Size	8.625
Type Fluid in Hole	WATER
Density / Viscosity	8.4 / 28
PH / Fluid Loss	10 / N/A
Source of Sample	PIT
Rm @ Measured Temp	0.05 @ 70
Rmf @ Measured Temp	0.05 @ 70
Rmc @ Measured Temp	0.05 @ 70
Source: Rmf / Rmc	MEASURED / MEASURED
Rm @ BHT	0.05 @ 70
Max Recorded Temp	70
Equipment Number	5-CBL-A
Location	FULLER
Recorded By	JAMES T
Witnessed By	
Bit Size	8.625
Type Fluid in Hole	WATER
Density / Viscosity	8.4 / 28
PH / Fluid Loss	10 / N/A
Source of Sample	PIT
Rm @ Measured Temp	0.05 @ 70
Rmf @ Measured Temp	0.05 @ 70
Rmc @ Measured Temp	0.05 @ 70
Source: Rmf / Rmc	MEASURED / MEASURED
Rm @ BHT	0.05 @ 70
Max Recorded Temp	70
Equipment Number	5-CBL-A
Location	FULLER
Recorded By	JAMES T
Witnessed By	
Run Number	ONE
Depth Driller	2200
Depth Logger	2197
Bottom Logged Interval	2197
Top Log Interval	1000
Casing Driller	1000
Casing Logger	1000
Bit Size	8.625
Type Fluid in Hole	WATER
Density / Viscosity	8.4 / 28
PH / Fluid Loss	10 / N/A
Source of Sample	PIT
Rm @ Measured Temp	0.05 @ 70
Rmf @ Measured Temp	0.05 @ 70
Rmc @ Measured Temp	0.05 @ 70
Source: Rmf / Rmc	MEASURED / MEASURED
Rm @ BHT	0.05 @ 70
Max Recorded Temp	70
Equipment Number	5-CBL-A
Location	FULLER
Recorded By	JAMES T
Witnessed By	

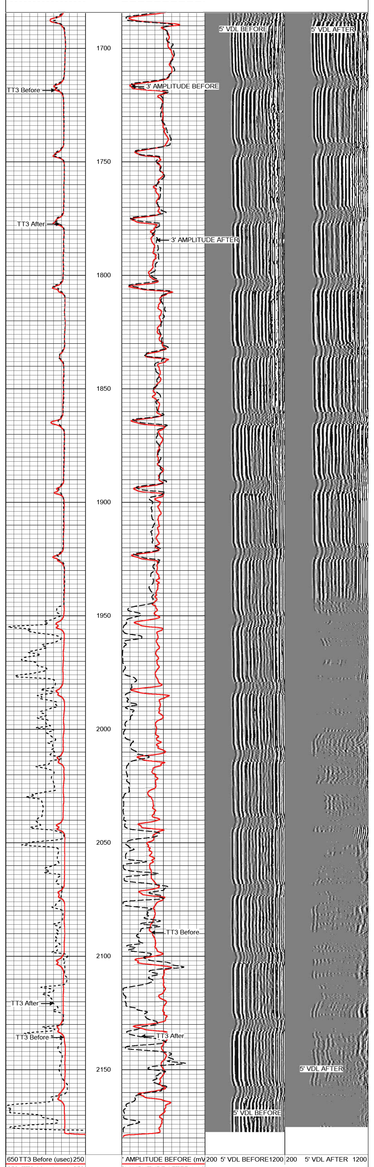
Comments

YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

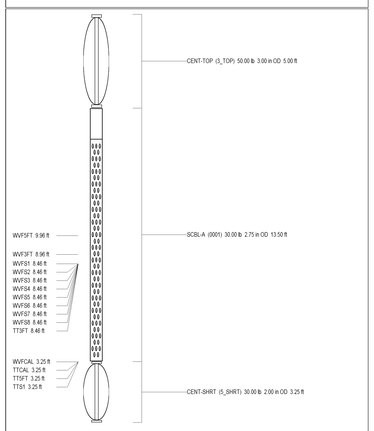
MERGED CBL

Database File:	hiamw1.db
Dataset Pathname:	b4cbl/pass1
Presentation Format:	3FTB4AFT
Dataset Creation:	Sat May 01 01:00:41 2010 by Log 6.2_B4
Charted by:	Depth in Feet scaled 1:240

650 TT3 Before (usec) 250 | 3' AMPLITUDE BEFORE (mv) 200 | 5' VDL BEFORE 1200 | 200 | 5' VDL AFTER 1200
650 TT3 After (usec) 250 | 3' AMPLITUDE AFTER (mv)



650 TT3 Before (usec) 250 | 3' AMPLITUDE BEFORE (mv) 200 | 5' VDL BEFORE 1200 | 200 | 5' VDL AFTER 1200
650 TT3 After (usec) 250 | 3' AMPLITUDE AFTER (mv)



Dataset:	nxr10/pass1
Total Length:	21.75 ft
Total Weight:	110.00 lb
O.D.	3.00 in

Segmented Cement Bond Log Calibration Report

Serial Number:	0001	
Tool Model:	A	
Calibration Casing Diameter:	6.625	in
Calibration Depth:	288.644	ft

Master Calibration, performed Thu Apr 29 08:28:09 2010:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.007	0.358	1.000	64.269	173.402	2.156
CAL	0.118	5.000				
5'	-0.007	0.611	1.000	64.269	102.439	1.668
SUM						
S1	-0.008	4.533	0.000	100.000	22.019	0.184
S2	-0.002	5.000	0.000	100.000	19.993	0.035
S3	-0.008	4.813	0.000	100.000	20.740	0.169
S4	-0.008	3.063	0.000	100.000	32.562	0.257
S5	-0.008	1.045	0.000	100.000	94.969	0.788
S6	-0.006	3.859	0.000	100.000	25.873	0.145
S7	-0.008	3.186	0.000	100.000	31.310	0.251
S8	-0.006	2.411	0.000	100.000	41.366	0.251

Internal Reference Calibration, performed Thu Jul 03 12:09:47 2008:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.118	5.000	1.000	0.000

Air Zero Calibration, performed Mon Apr 19 19:17:10 2010:

	Raw (v)	Calibrated (v)	Results
	Zero	Zero	Offset
3'	0.000	0.000	0.000
5'	0.000	0.000	0.000
SUM			
S1	0.000	0.000	0.000
S2	0.000	0.000	0.000
S3	0.000	0.000	0.000
S4	0.000	0.000	0.000
S5	0.000	0.000	0.000
S6	0.000	0.000	0.000
S7	0.000	0.000	0.000
S8	0.000	0.000	0.000

YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

(6.625 FRP) CEMENT TOP TEMPERATURE LOG

Company	CITY OF HIALEAH
Well	MW-1
Field	HIALEAH R.O.W.T.P.
County	DADE
State	FL
Other Services	SBE Caliper(s)
Permanent Datum	G.L.
Log Measured From	G.L.
Drilling Measured From	G.L.
Elevation	K.B. 0 D.F. 0 G.L. 0
Date	01-MAY-2010
Run Number	ONE
Depth Driller	2340
Depth Logger	2340
Bottom Logged Interval	2340
Top Log Interval	0
Casing Driller Size	6.625 @ 0
Casing Logger Size	6.625 @ 0
Bit Size	7.875
Type Fluid in Hole	WATER
Density	8.4
Viscosity	28
PH	7.5
Fluid Loss	0
Source of Sample	PIT
Rm @ Meas Temp	0.08 @ 70
Rmf @ Meas Temp	0.08 @ 70
Rmc @ Meas Temp	0.08 @ 70
Source: Rmf Rmc	MEASURED MEASURED
Rm @ BHT	0.08
Time Since Circ.	24
Time Logger on Bottom	0700
Equipment Number	5
Location	HIALEAH, FL
Recorded By	R. Ruiz
Witnessed By	G. Gonzalez

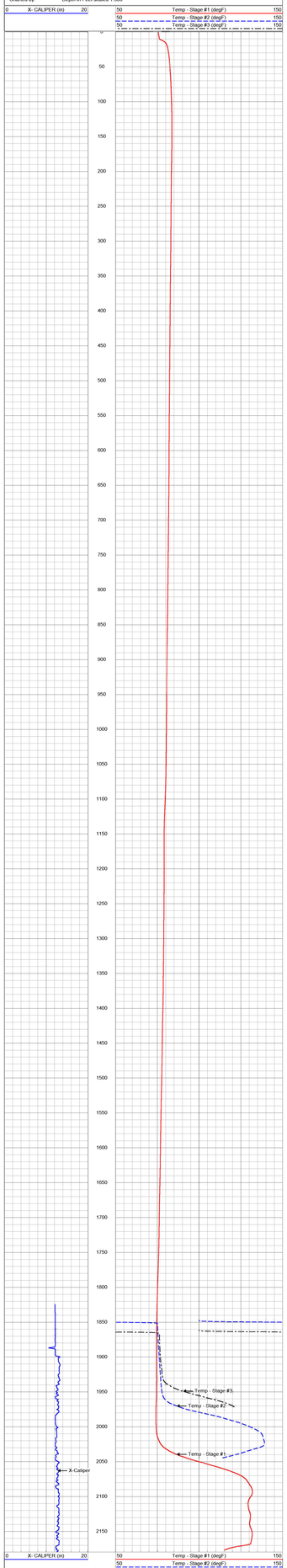
Comments

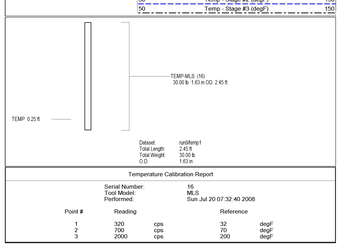
STAGE #1 LOGGED @ 2340 ON 01-MAY-2010
STAGE #2 LOGGED @ 0940 ON 02-MAY-2010
STAGE #3 LOGGED @ 1830 ON 02-MAY-2010

YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

MERGED CTL

Database File:	hamer1.db
Dataset Pathname:	run9/temp1
Presentation Format:	CTL_MO
Dataset Creation:	Sun May 02 00:15:52 2010 by Log 6.2_B4
Charted by:	Depth in Feet scaled 1:600





Dataset: run9/temp1
Total Length: 2.45 ft
Total Weight: 30.00 lb
O.D. 1.63 in

Temperature Calibration Report

Serial Number: 16
Tool Model: MLS
Performed: Sun Jul 20 07:32:40 2008

Point #	Reading		Reference	
1	320	cps	32	degF
2	700	cps	70	degF
3	2000	cps	200	degF

YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

(12.75" CASING) CEMENT TOP TEMPERATURE LOG

Company	CITY OF HIALEAH		
Well	MW-1		
Field	HIALEAH R.O.W.T.P.		
County	DADE	State	FL
Location:	API #		
	SEC.	TwP	RGE
	Permanent Datum		Elevation
	Log Measured From		Elevation
	Drilling Measured From		Elevation

Other Services: SEE COMMENTS

Date	19-APR-2010		
Depth Driller	1700		
Depth Logger	1690		
Top Log Interval	0042		
Bottom Log Interval	1690		
Casing Driller	CASING		
Type Fluid	N/A		
Density / Viscosity	N/A		
Max. Recorded Temp.	N/A		
Estimated Surface Temp.	90		
Time Well Ready	0042		
Time Logger On Bottom	0042		
Equipment Number	104		
Location	FT. LAUDERDALE		
Recorded By	D. FULLER		
Witnessed By	D. FULLER		

Bore hole Record				Casing Record			
Bit No.	Diameter	From	To		Size	Weight	From	To
1	12.25	SURFACE	1700	CASING	12.75	N/A	SURFACE	1690
2	8.5	1700	1700					

Run No.	Bore hole Record		Casing Record		
	Bit	From	To	Size	Weight
1	1	SURFACE	1700	12.75	N/A
2	2	1700	1700		

Run No.	Run Time	Logger On Bottom	Max. Temp.
1	1	0042	90
2	2	0042	90

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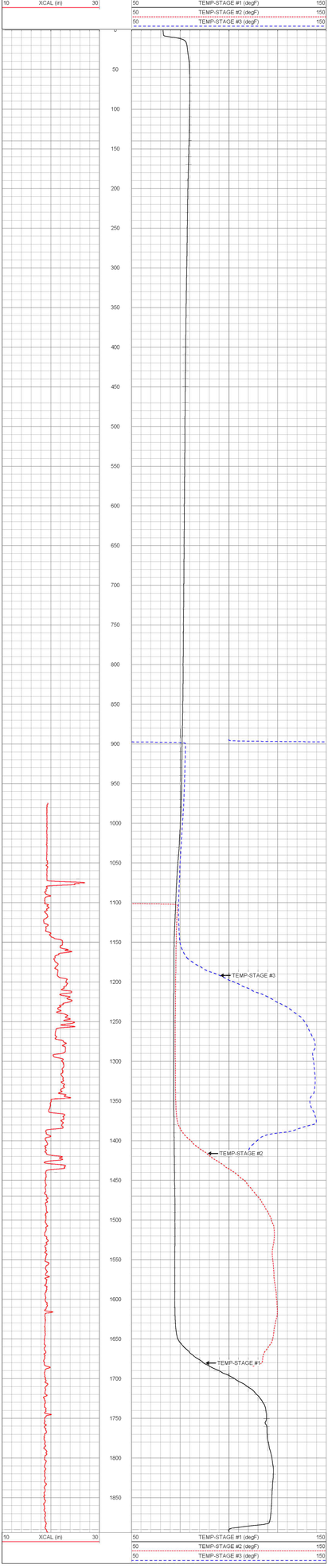
Comments

STAGE #1 LOGGED @ 0042 ON 19-APR-2010
STAGE #2 LOGGED @ 1115 ON 19-APR-2010
STAGE #3 LOGGED @ 2300 ON 19-APR-2010

YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

STAGE #1

Database File: hiamw1.db
Dataset Pathname: run7/temp
Presentation Format: ctl_mg
Dataset Creation: Mon Apr 19 00:39:27 2010 by Log Open-Cased 090629
Charted by: Depth in Feet scaled 1:600



YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

(20" CASING) CEMENT TOP TEMPERATURE LOG

Company CITY OF HIALEA
Well MW-1
Field HIALEA
County DADE
State FL

Company CITY OF HIALEAH
Well MW-1
Field HIALEAH R.O.W.T.P.
County DADE State FL
Location
Other Services SEE COMMENTS

Permanent Datum
Log Measured From
Drilling Measured From
Elevation
K.B.
D.F.
G.L.
Elevation

Date	07-APR-10
Run Number	FOUR
Depth Driller	1075'
Depth Logger	1068'
Bottom Logged Interval	1068'
Top Log Interval	SURFACE
Open Hole Size	28.5"
Type Fluid	MUD
Density / Viscosity	NA
Max. Recorded Temp.	NA
Estimated Cement Top	NA
Time Well Ready	1730
Time Logger on Bottom	1800
Equipment Number	102
Location	FT MYERS
Recorded By	FULLER
Witnessed By	JODY

Borehole Record

Run Number	Bit	From	To	Run No.	Bit	From	To
ONE	40.5"	157'	SURFACE				
TWO	28.5"	1075'	CASING				

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	30"	.375" W.T.	SURFACE	156'
Prot. String	20"	.375 W.T.	SURFACE	1075'
Production String				
Liner				

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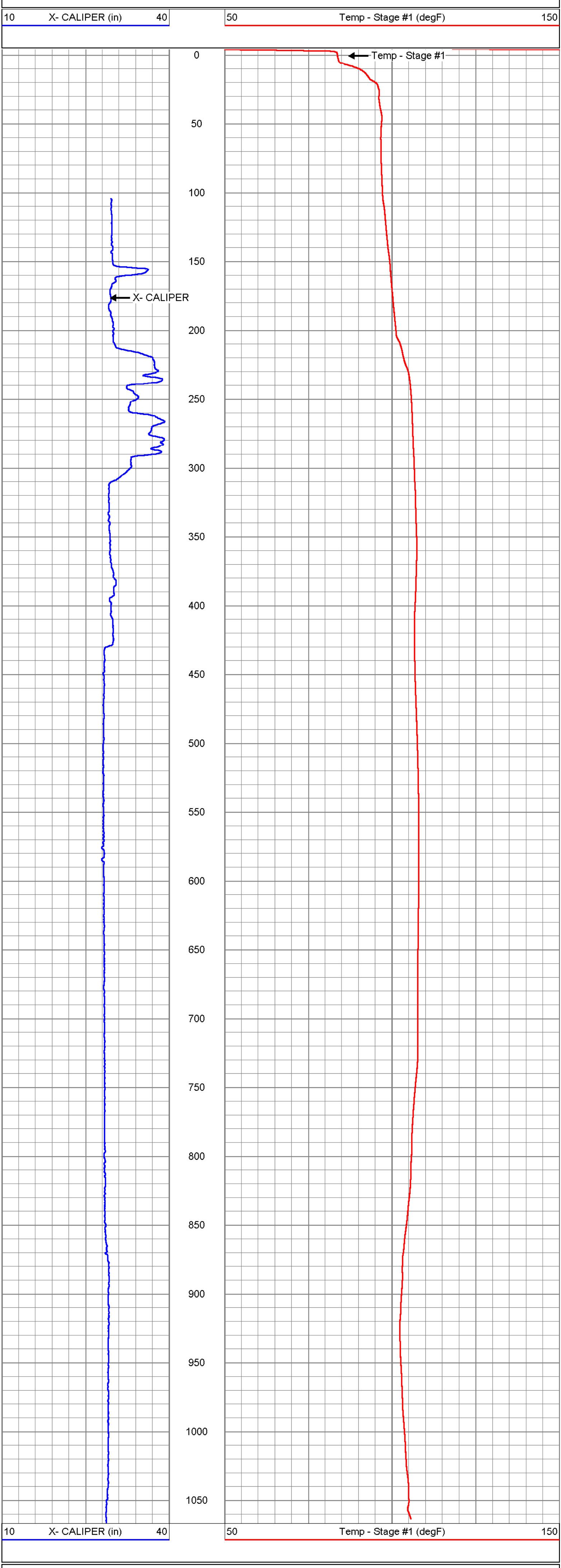
Comments

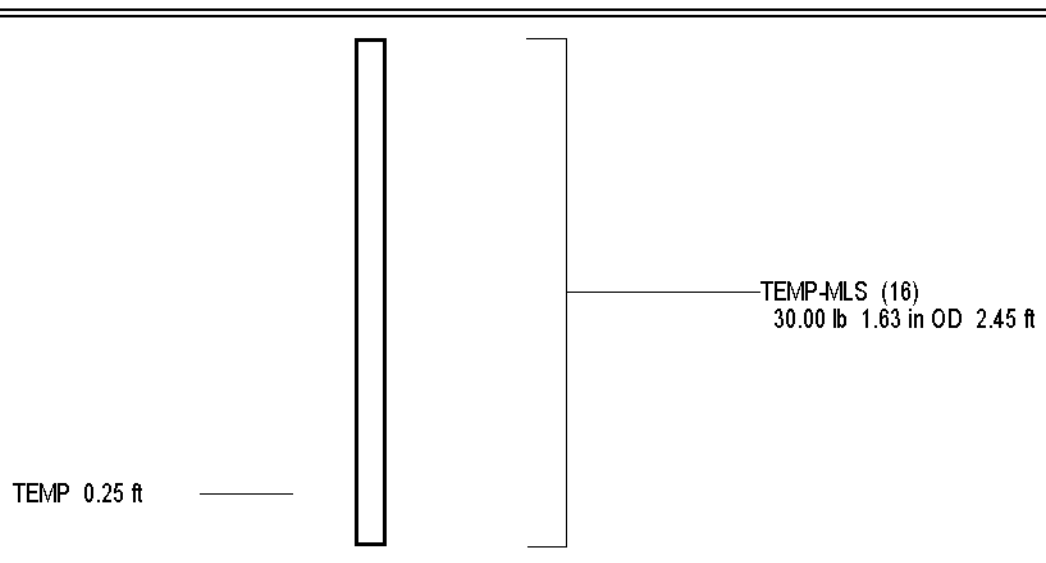
STAGE #1 LOGGED @ 1740 ON 7/4/2010

YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

TEMPERATURE

Database File: hiamw1.db
Dataset Pathname: run4/temp
Presentation Format: CTL_MG
Dataset Creation: Wed Apr 07 18:44:39 2010 by Log 6.2_B4
Charted by: Depth in Feet scaled 1:600





Dataset: run4/temp
Total Length: 2.45 ft
Total Weight: 30.00 lb
O.D. 1.63 in

Temperature Calibration Report

Serial Number: 16
Tool Model: MLS
Performed: Sun Jul 20 07:32:40 2008

Point #	Reading		Reference	
1	320	cps	32	degF
2	700	cps	70	degF
3	2000	cps	200	degF

YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

CEMENT TOP TEMPERATURE LOG

Company CITY OF HIALEAH
Well MW-1
Field HIALEAH R.O.W.T.P.
County DADE State FL

Company CITY OF HIALEAH
Well MW-1
Field HIALEAH R.O.W.T.P.
County DADE State FL

Location
Other Services SEE COMMENTS
Permanent Datum
Elevation
Log Measured From
Elevation K.B.
Drilling Measured From
D.F.
G.L.

Date	29-MAR-10
Run Number	TWO
Depth Driller	157'
Depth Logger	151'
Bottom Logged Interval	151'
Top Log Interval	SURFACE
Open Hole Size	40.5"
Type Fluid	MUD
Density / Viscosity	NA
Max. Recorded Temp.	NA
Estimated Cement Top	NA
Time Well Ready	0900
Time Logger on Bottom	0915
Equipment Number	102
Location	FT MYERS
Recorded By	MOREY
Witnessed By	WEBSTER, C

Borehole Record

Run Number	Bit	From	To
ONE	40.5"	157'	SURFACE

Borehole Record

Run Number	Bit	From	To

Casing Record	Size	Wgt/Ft	Top	Bottom
Casing String				
Casing String				
Casing String				
Casing String				

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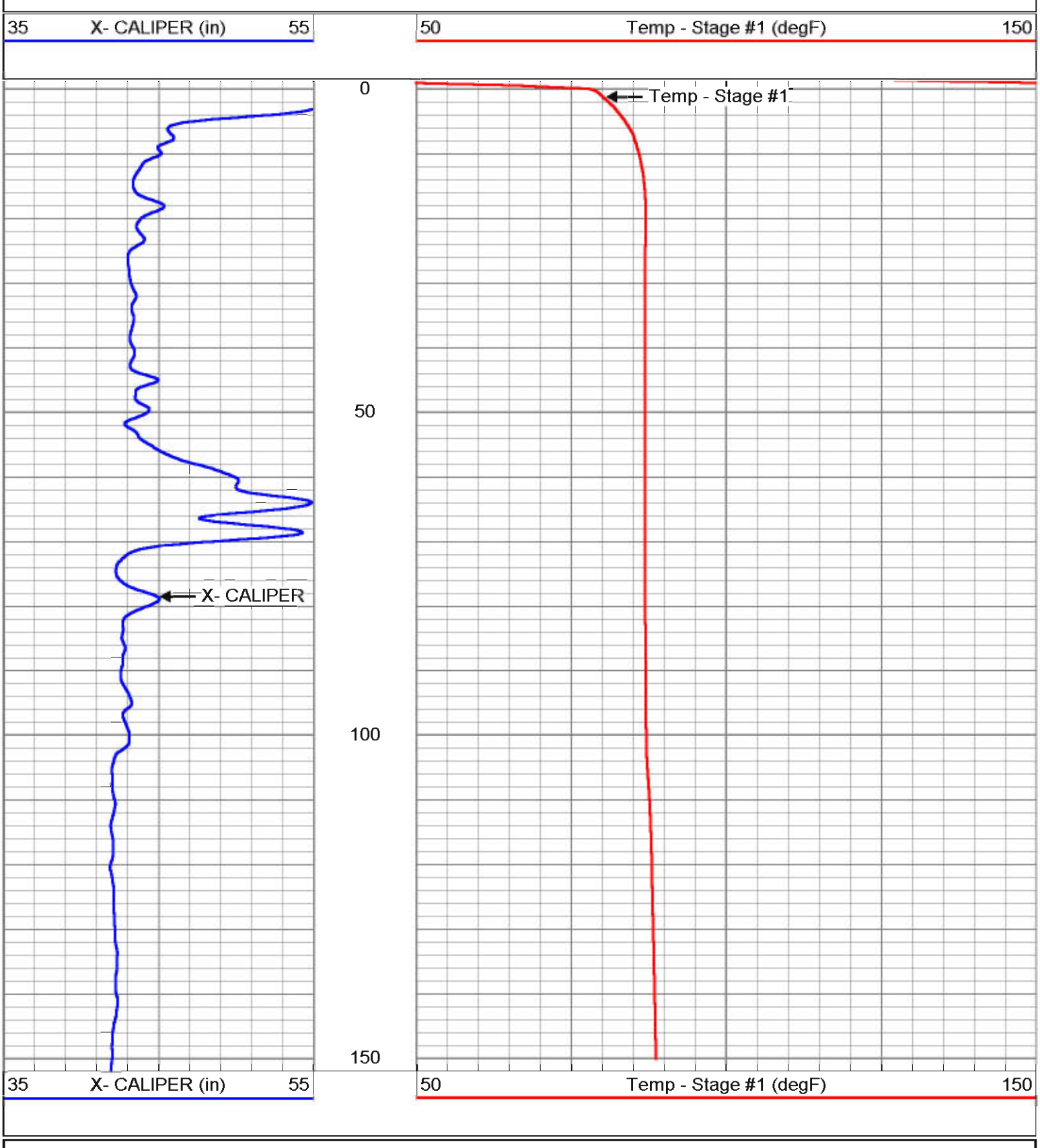
Comments

STAGE 1 LOGGED @ 0915 ON 03/29/10

YOUNGQUIST BROTHERS, Inc
GEOPHYSICAL LOGGING DIVISION

STAGE 1

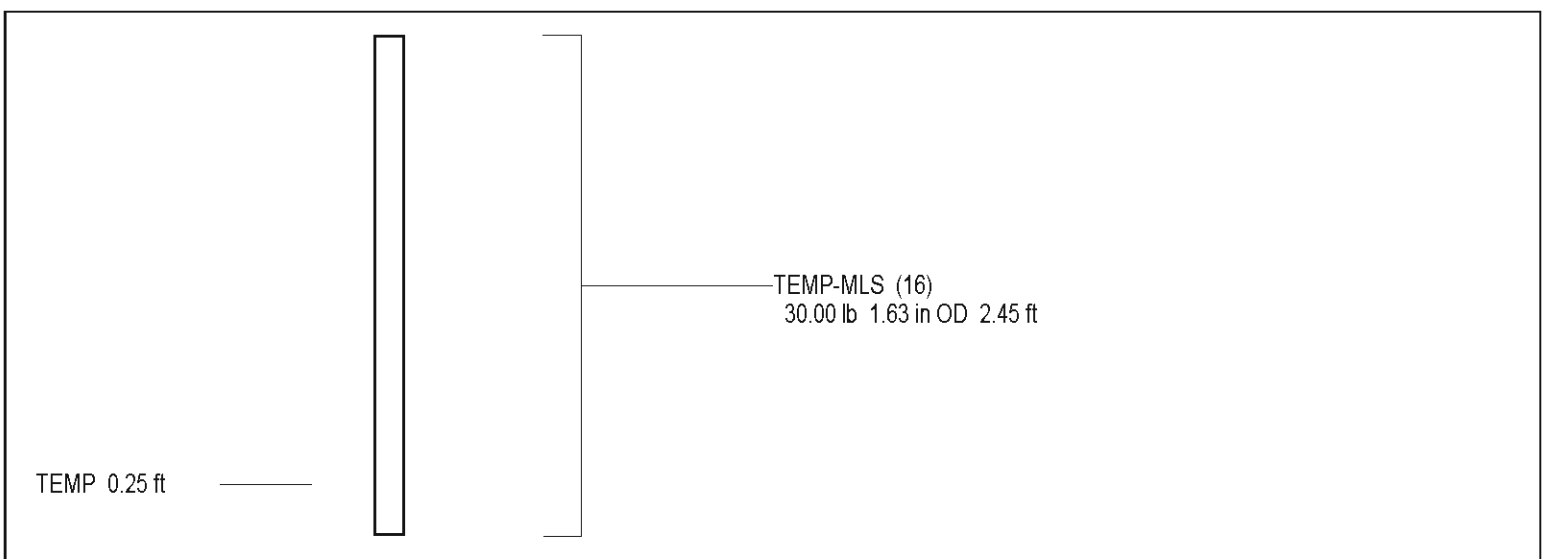
Database File: hiamw1.db
Dataset Pathname: TEMP1
Presentation Format: CTL_MG
Dataset Creation: Mon Mar 29 09:17:56 2010 by Log 6.2_B4
Charted by: Depth in Feet scaled 1:240



Temperature Calibration Report

Serial Number: 16
Tool Model: MLS
Performed: Sun Jul 20 07:32:40 2008

Point #	Reading		Reference	
1	320	cps	32	degF
2	700	cps	70	degF
3	2000	cps	200	degF



Dataset: run1/TEMP1
Total Length: 2.45 ft
Total Weight: 30.00 lb
O.D. 1.63 in