



Weatherford

ARRAY INDUCTION SHALLOW FOCUSED ELECTRIC LOG

COMPANY

RUNNING FOXES PETROLEUM INC.

WELL

CHI-CHI 1-1 SWD

FIELD

CHI-CHI

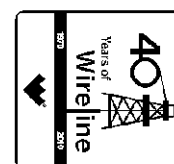
PROVINCE/COUNTY

BOURBON

COUNTRY/STATE

U.S.A. / KANSAS

LOCATION

760' FNL & 1175' FEL
NW SW NE SE

SEC

TWP

RGE

Other Services

1

25S

23E

MDN/MPD

API Number

15-011-23942

Permit Number

Permanent Datum GL, Elevation 873 feet

Log Measured From KB

Drilling Measured From

Elevations:

feet

KB

878.00

DF

876.00

GL

873.00

Date

19-APR-2012

Run Number

ONE

Depth Driller

1903.00 feet

Depth Logger

1903.00 feet

First Reading

1900.00 feet

Last Reading

50.00 feet

Casing Driller

21.00 feet

Casing Logger

21.00 feet

Bit Size

7.875 inches

Hole Fluid Type

GEL

Density / Viscosity

8.90 lb/USg

40.00 CP

PH / Fluid Loss

MUD PIT

Sample Source

1.20 @ 81.0 ohm-m

Rm @ Measured Temp

0.96 @ 81.0 ohm-m

Rmc @ Measured Temp

1.44 @ 81.0 ohm-m

Source Rmf / Rmc

CALC

CALC

Rm @ BHT

1.11 @ 87.0 ohm-m

Time Since Circulation

3 HOURS

Max Recorded Temp

87.00 deg F

Equipment Name

COMPACT

Equipment / Base

13226 OKC

Recorded By

B. ALLEN

Witnessed By

K. HODGES

C. COUNTS

BOREHOLE RECORD

Last Edited: 19-APR-2012 18:41

Bit Size
inches

7.875

Depth From
feet

21.00

Depth To
feet

1903.00

CASING RECORD

Type

Size
inches

8.625

Depth From
feet

0.00

Shoe Depth
feet

21.00

Weight
pounds/ft

36.00

REMARKS

TOOLS RAN:

MCG, MDN, MPD, MFE, MAI RAN IN COMBINATION

HARDWARE:

MAI: TWO 0.5 INCH STANDOFFS USED

MDN: DUAL NEUTRON BOW SPRINGS USED

MPD: 8 INCH PROFILE PLATE USED

MFE: ONE 0.5 INCH STANDOFF USED

2.71 G/CC DENSITY MATRIX USED TO CALCULATE POROSITY

ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST.

TOTAL HOLE VOLUME FROM TD TO SURFACE CASING = 790 CU.FT.

ANNULAR HOLE VOLUME WITH 5.5 INCH PRODUCTION CASING FROM TD TO SURFACE CASING = 480 CU.FT.

SERVICE ORDER:

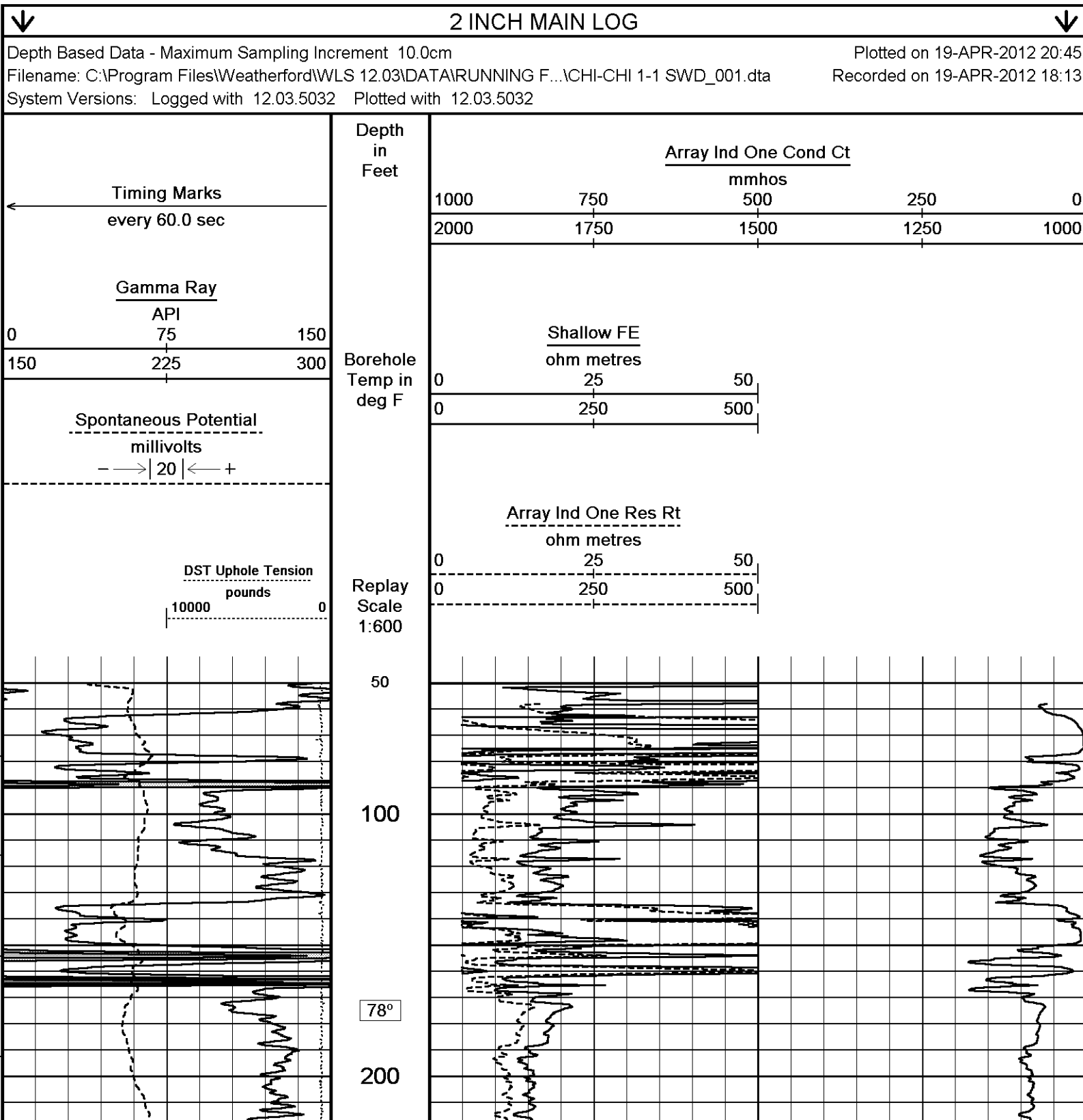
3535126

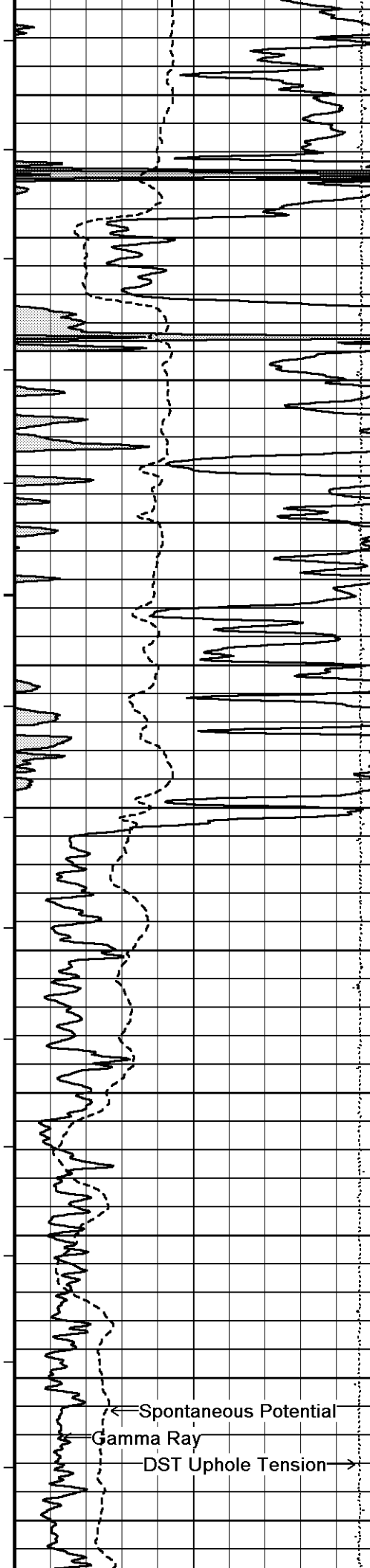
RIG:
HAT DRILLING #1

OPERATOR(S):
B. BALLINGER

MUD PROPERTIES:
LCM = ZERO

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 interpretations, and we shall not, except in the case of gross or wilful 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 in our price schedule.





79°

300

79°

400

81°

500

81°

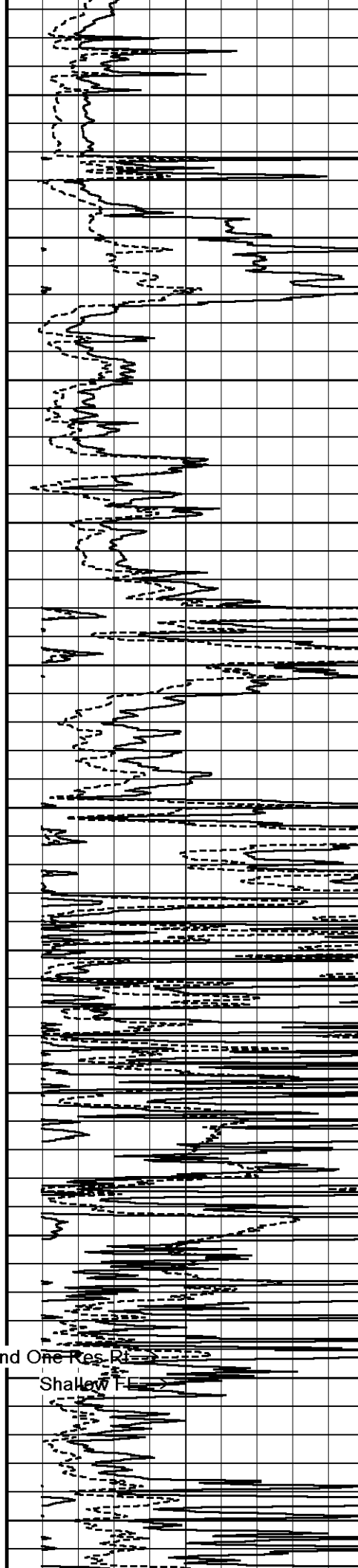
600

82°

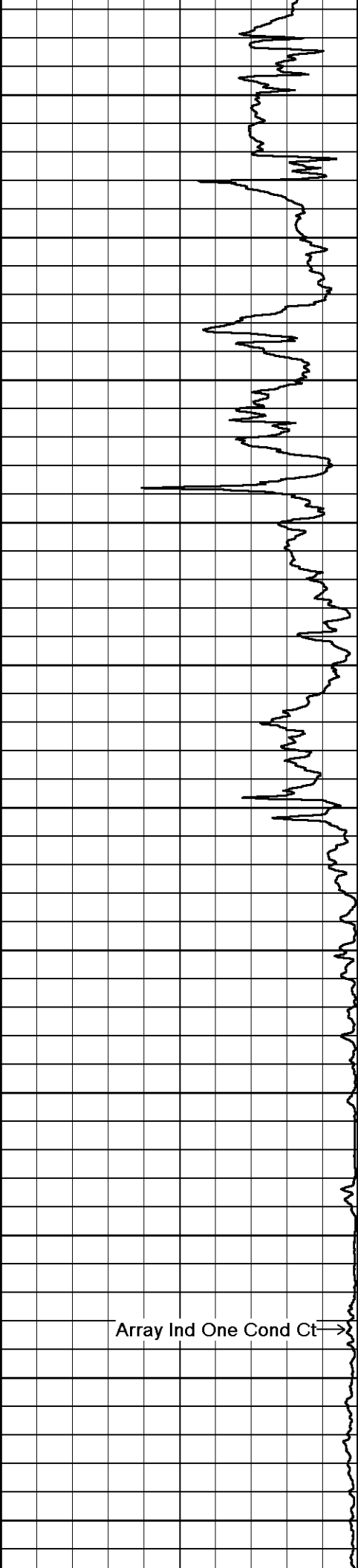
Array Ind One Res R_t

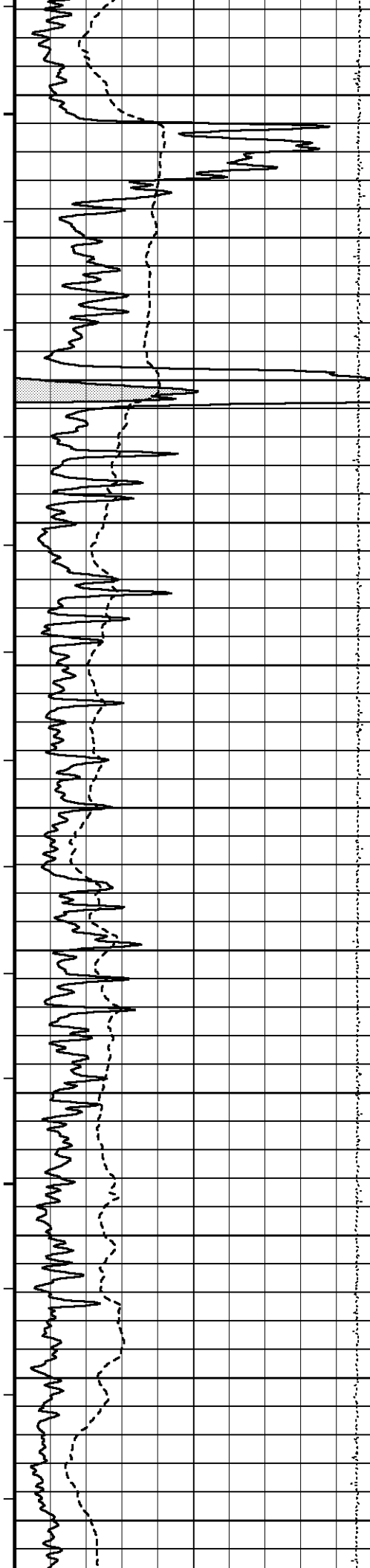
700

Shallow F_L



Array Ind One Cond Ct →





82°

800

83°

900

83°

1000

83°

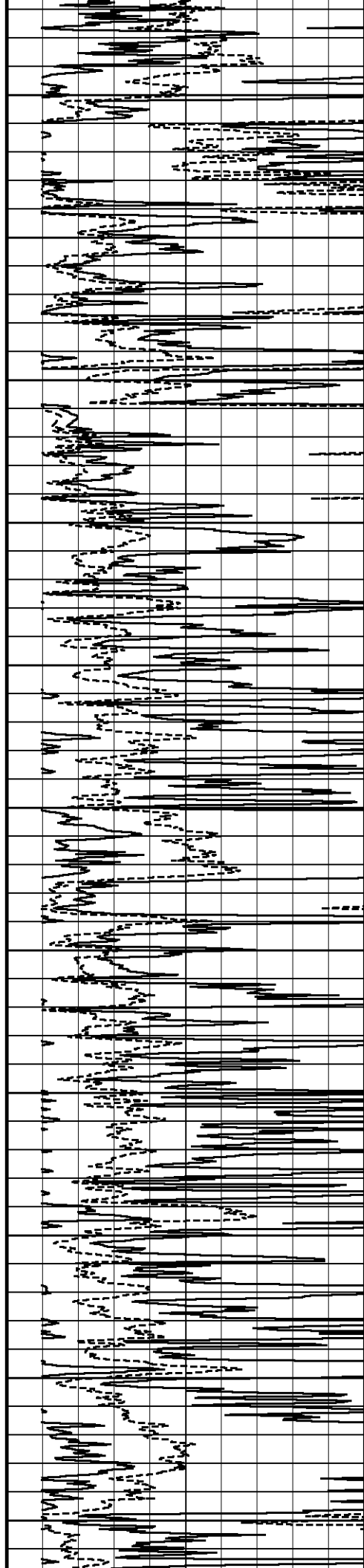
1100

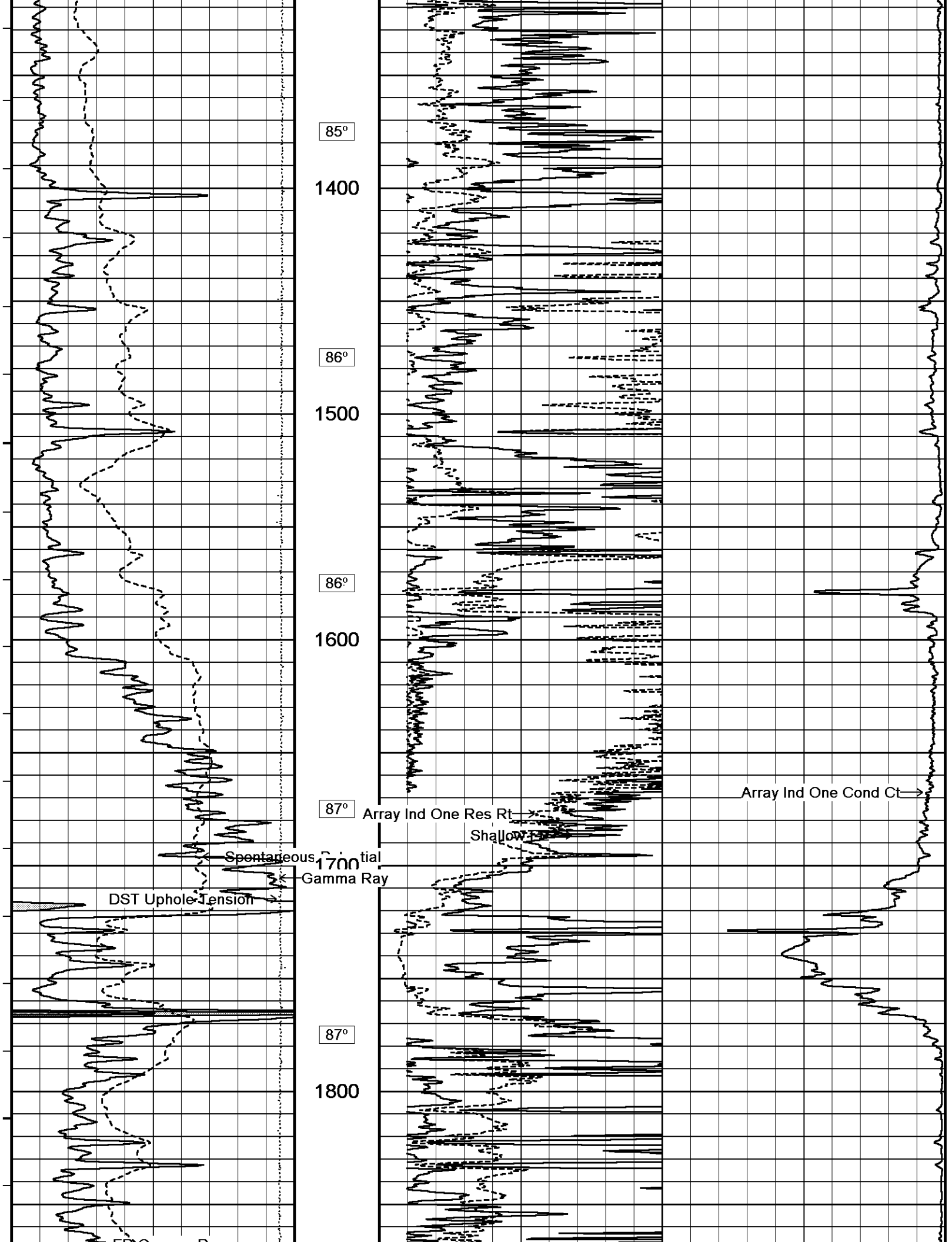
84°

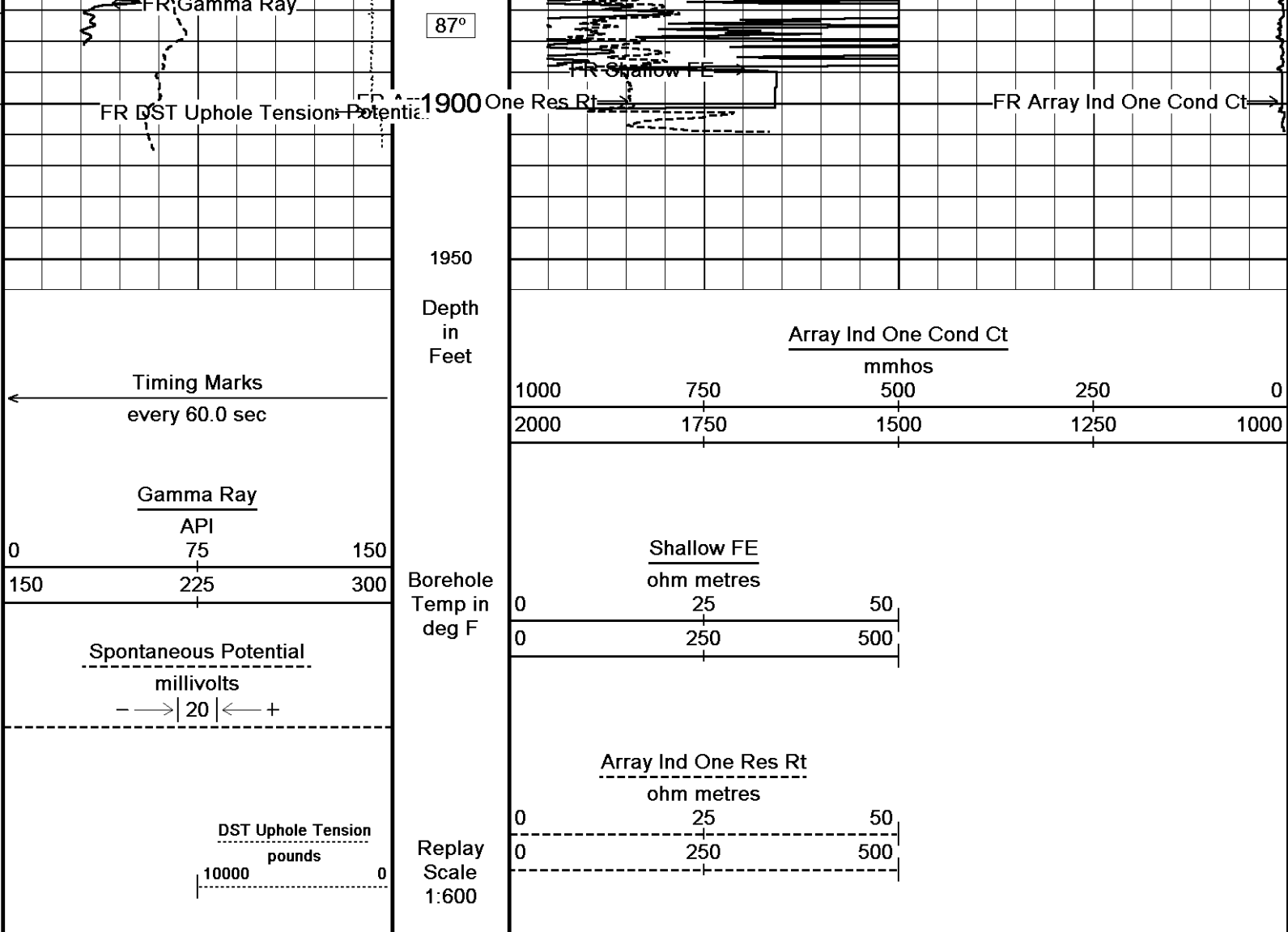
1200

85°

1300





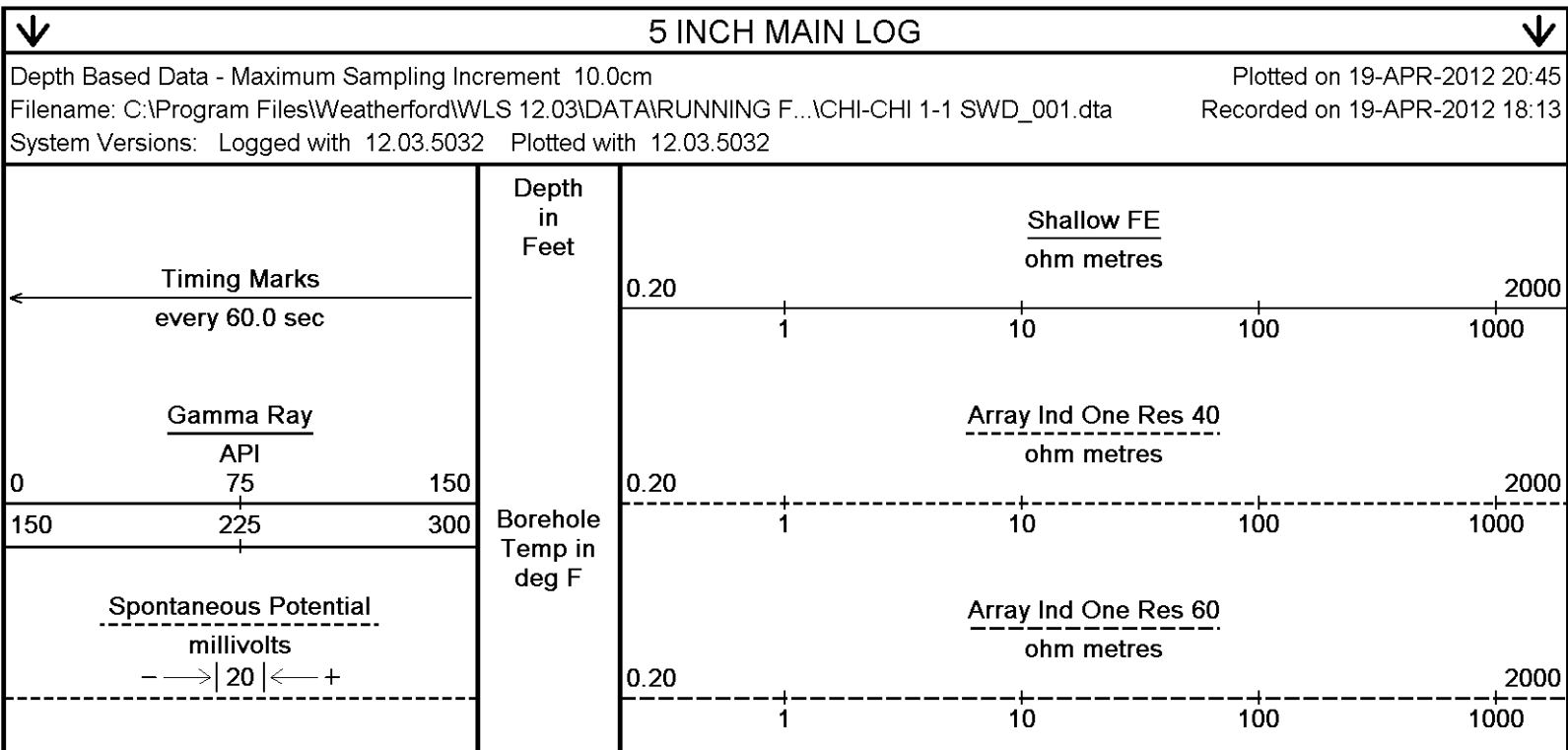


Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 19-APR-2012 20:45

Filename: C:\Program Files\Weatherford\WLS 12.03\DATA\RUNNING F...\CHI-CHI 1-1 SWD_001.dta Recorded on 19-APR-2012 18:13

System Versions: Logged with 12.03.5032 Plotted with 12.03.5032

↑ 2 INCH MAIN LOG ↑



DST Uphole Tension
pounds
10000 0

Replay
Scale
1:240

50

77°

100

78°

150

78°

200

78°

Array Ind One Res Rt
ohm metres

0.20

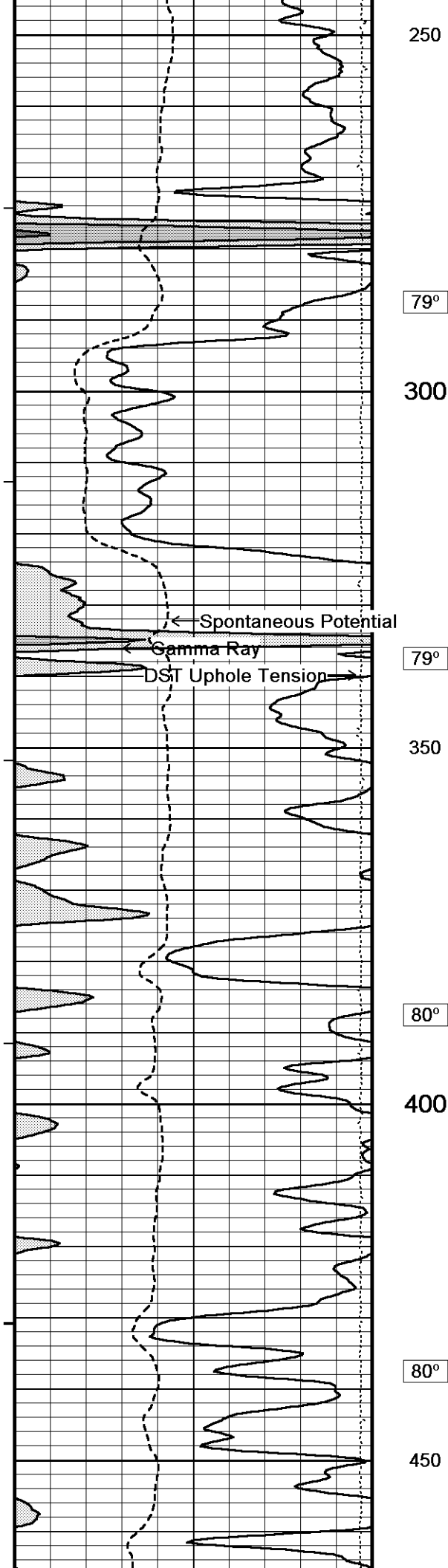
1

10

100

1000

2000



250

79°

300

79°

350

80°

400

80°

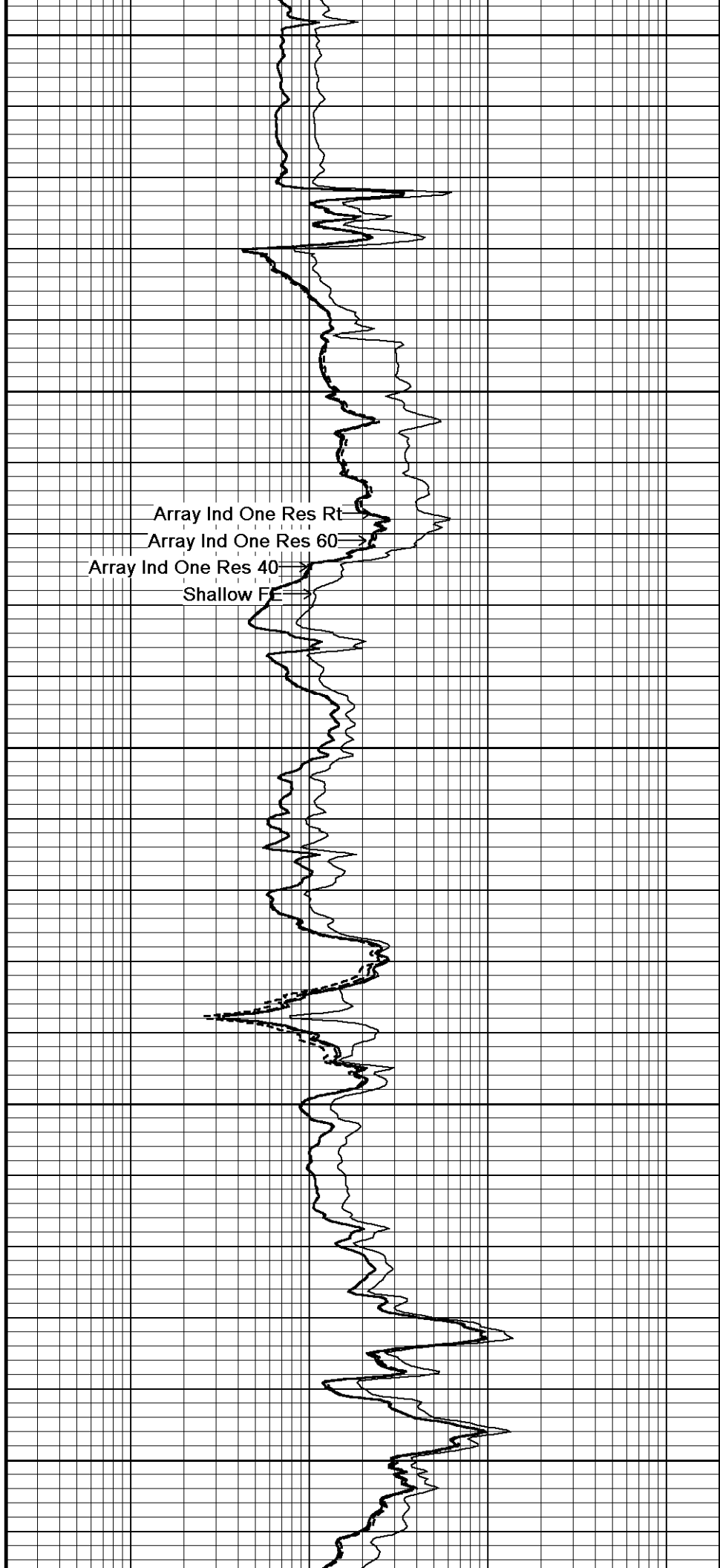
450

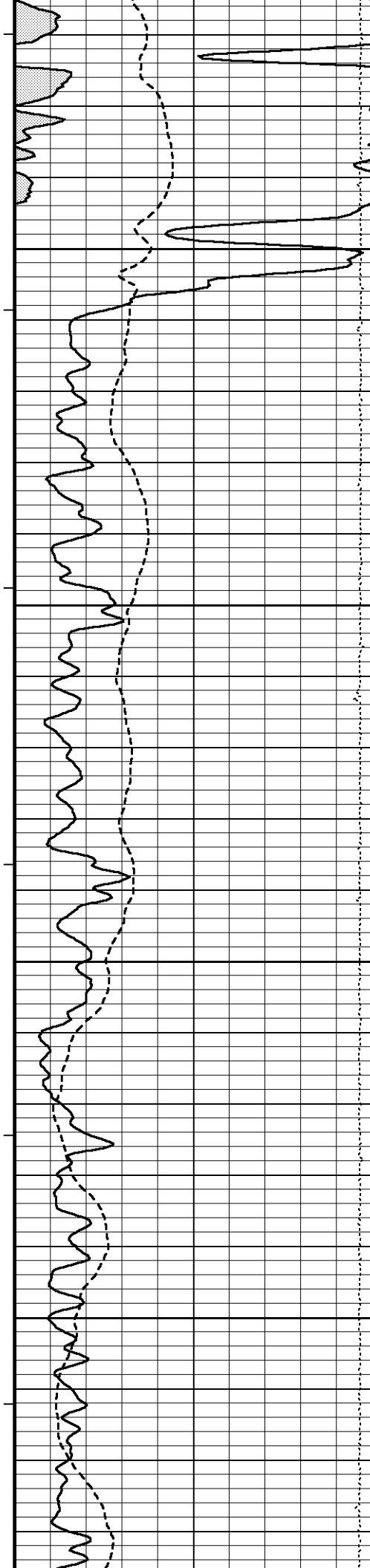
← Spontaneous Potential

← Gamma Ray

← DST Uphole Tension →

Array Ind One Res Rt
Array Ind One Res 60
Array Ind One Res 40
Shallow FE





81°

500

81°

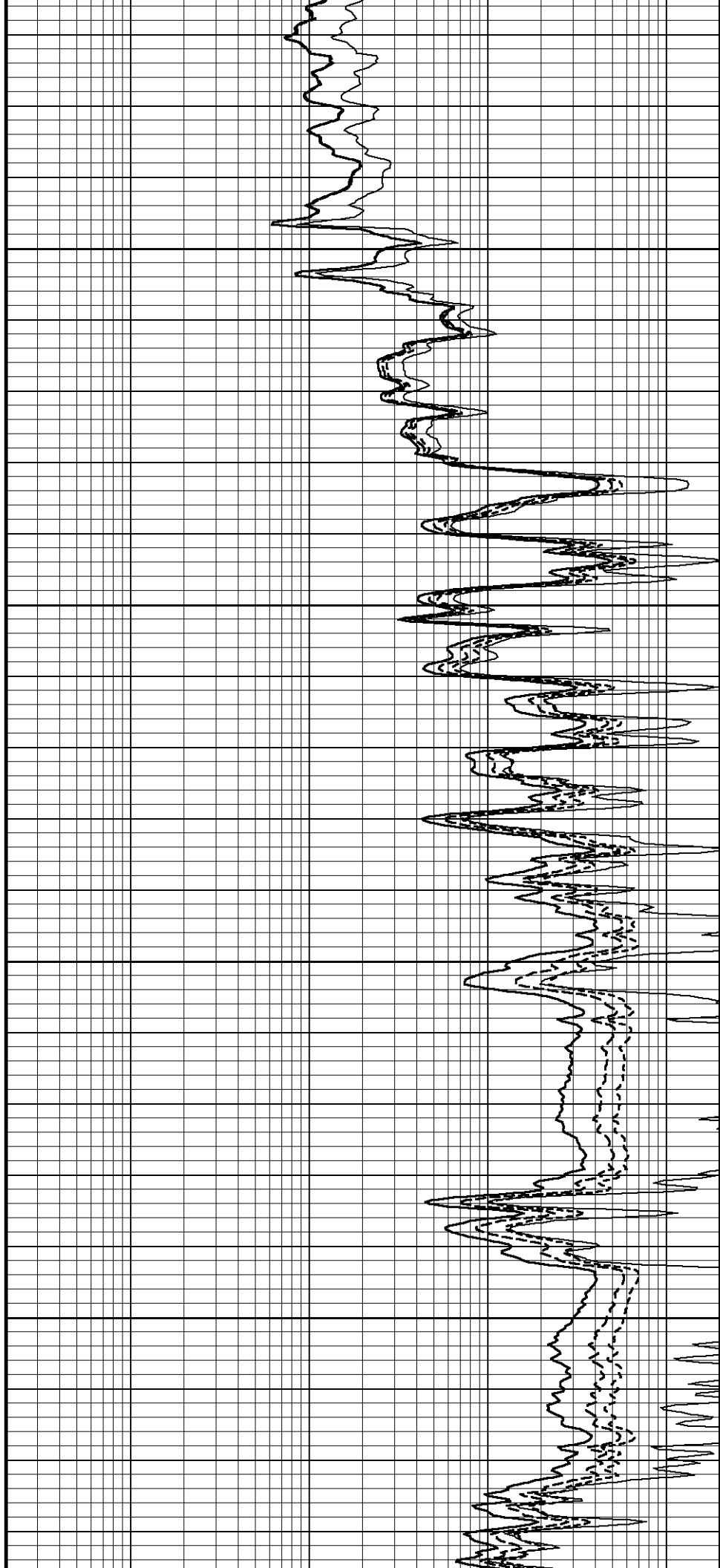
550

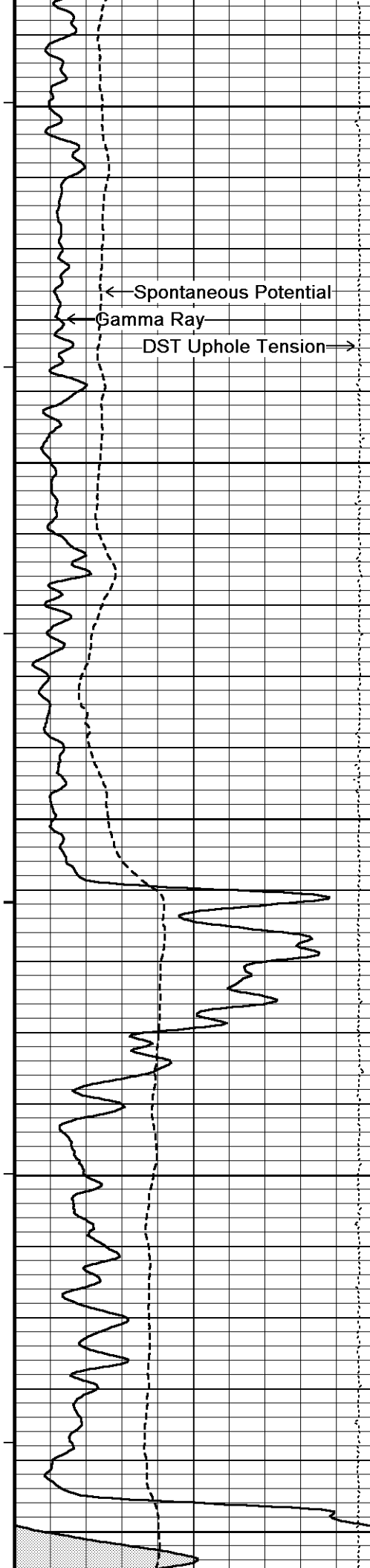
81°

600

82°

650





82°

700

82°

750

82°

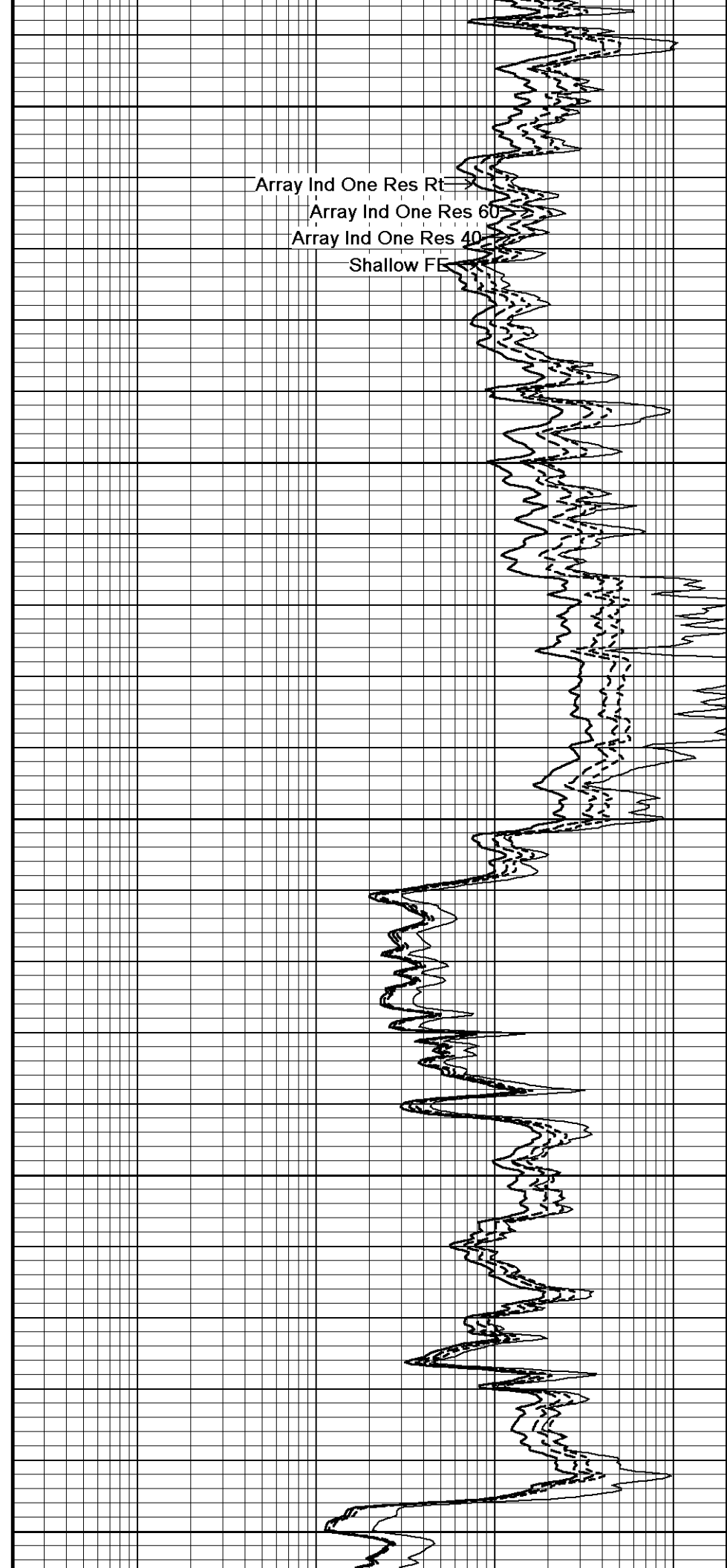
800

83°

850

83°

900

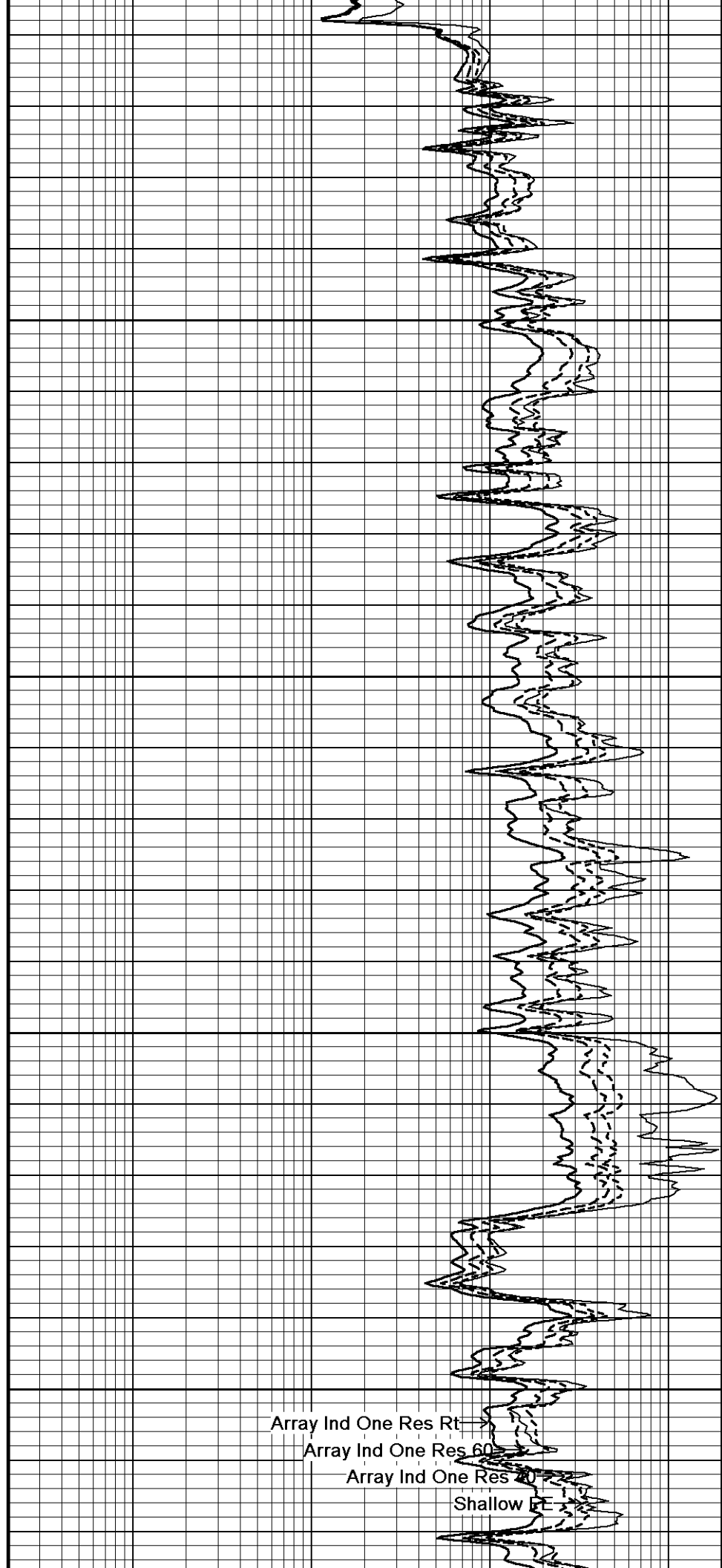
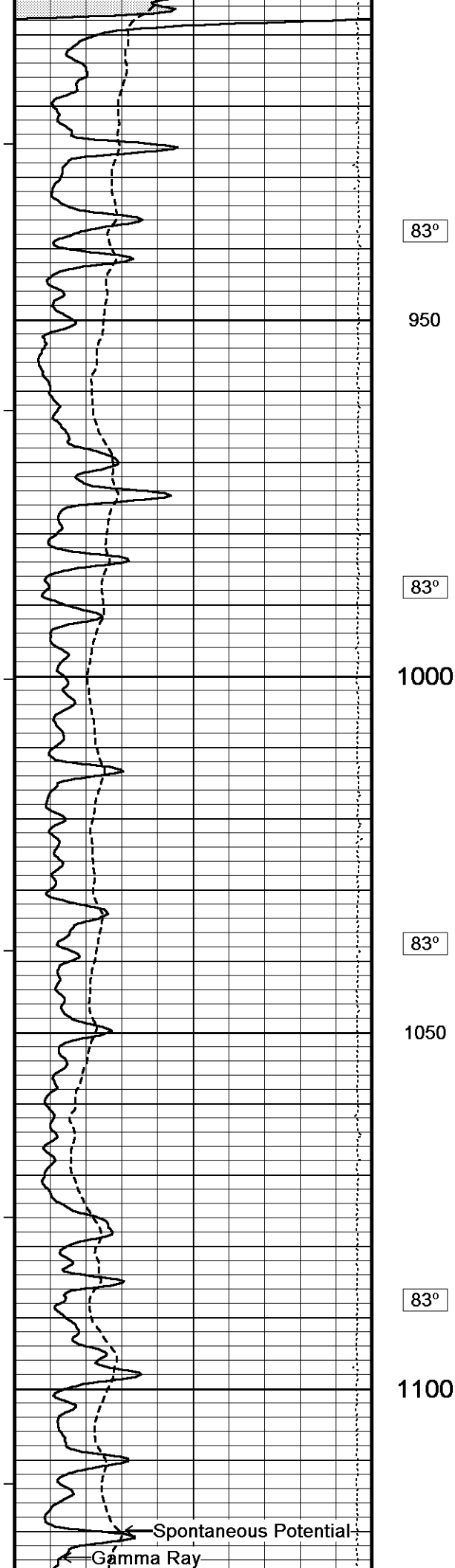


Array Ind One Res Rt

Array Ind One Res 60

Array Ind One Res 40

Shallow FE



DST Uphole Tension →

84°

1150

84°

1200

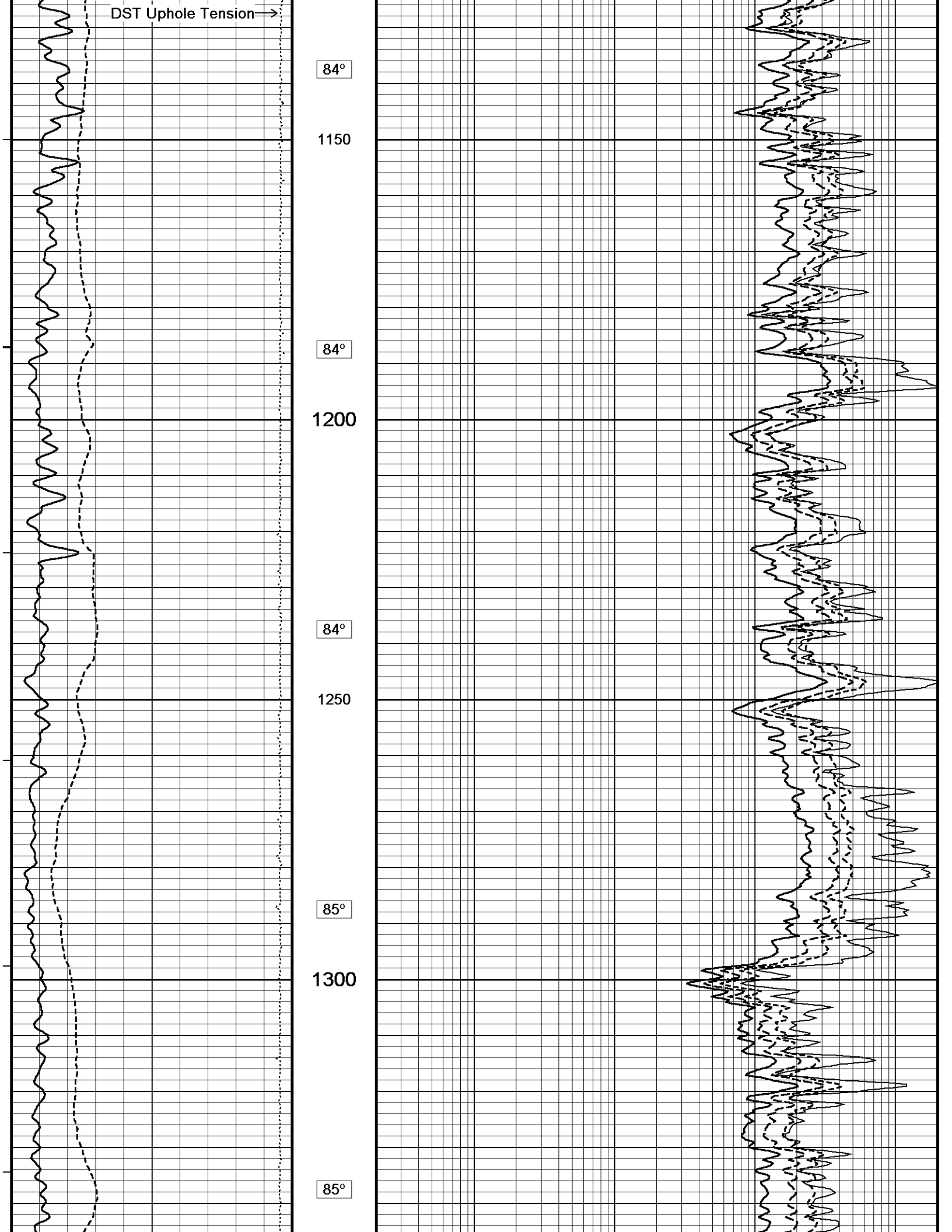
84°

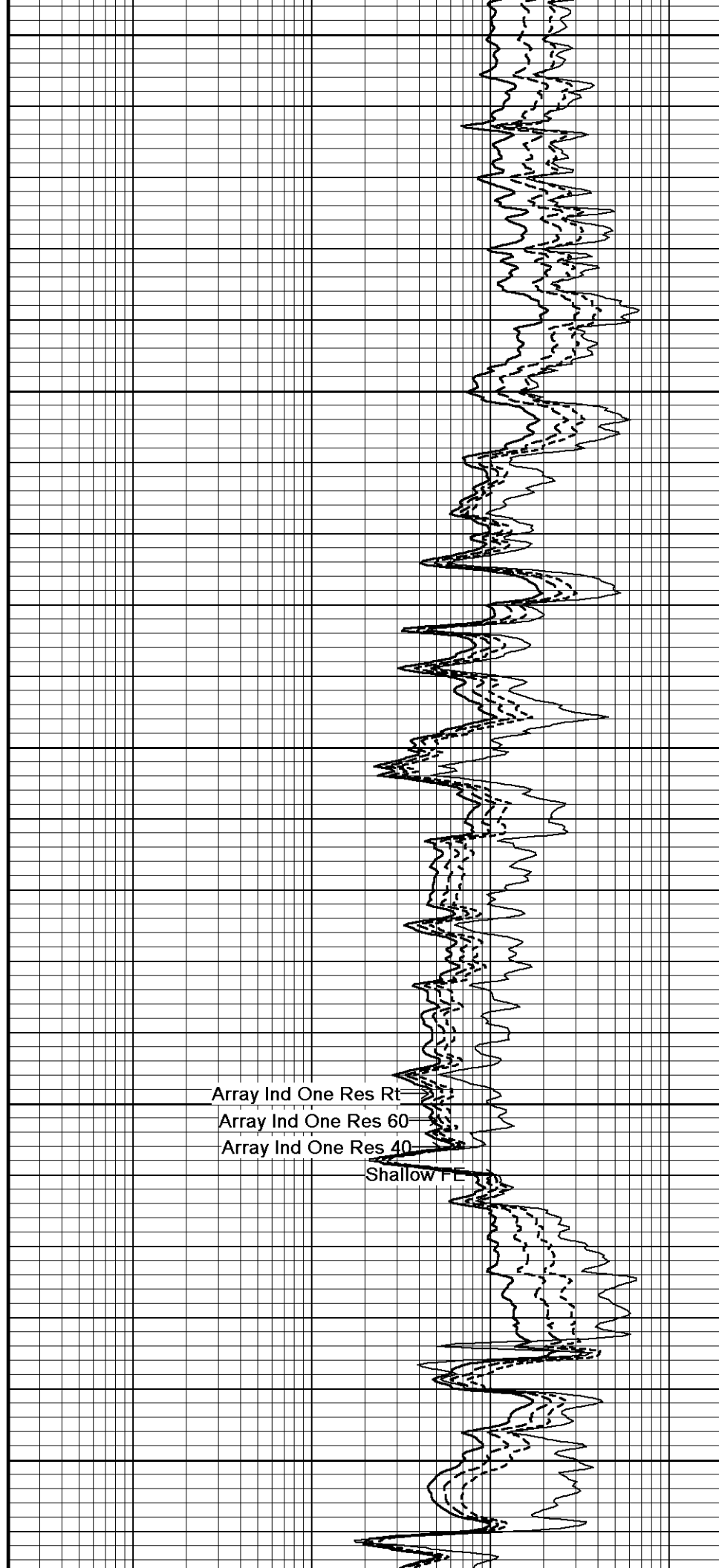
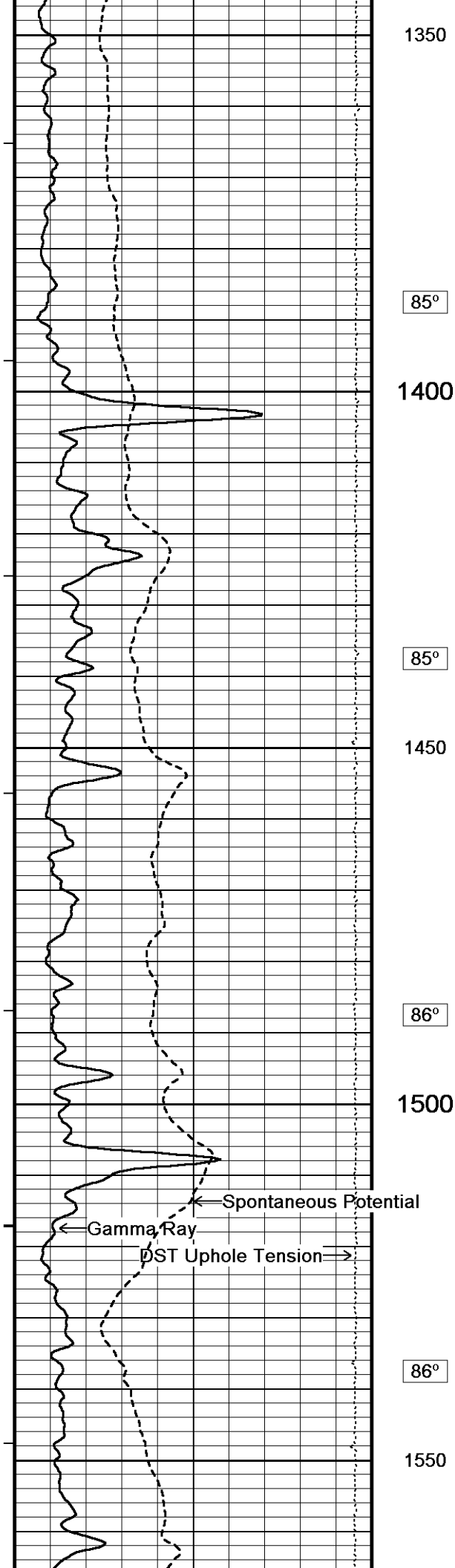
1250

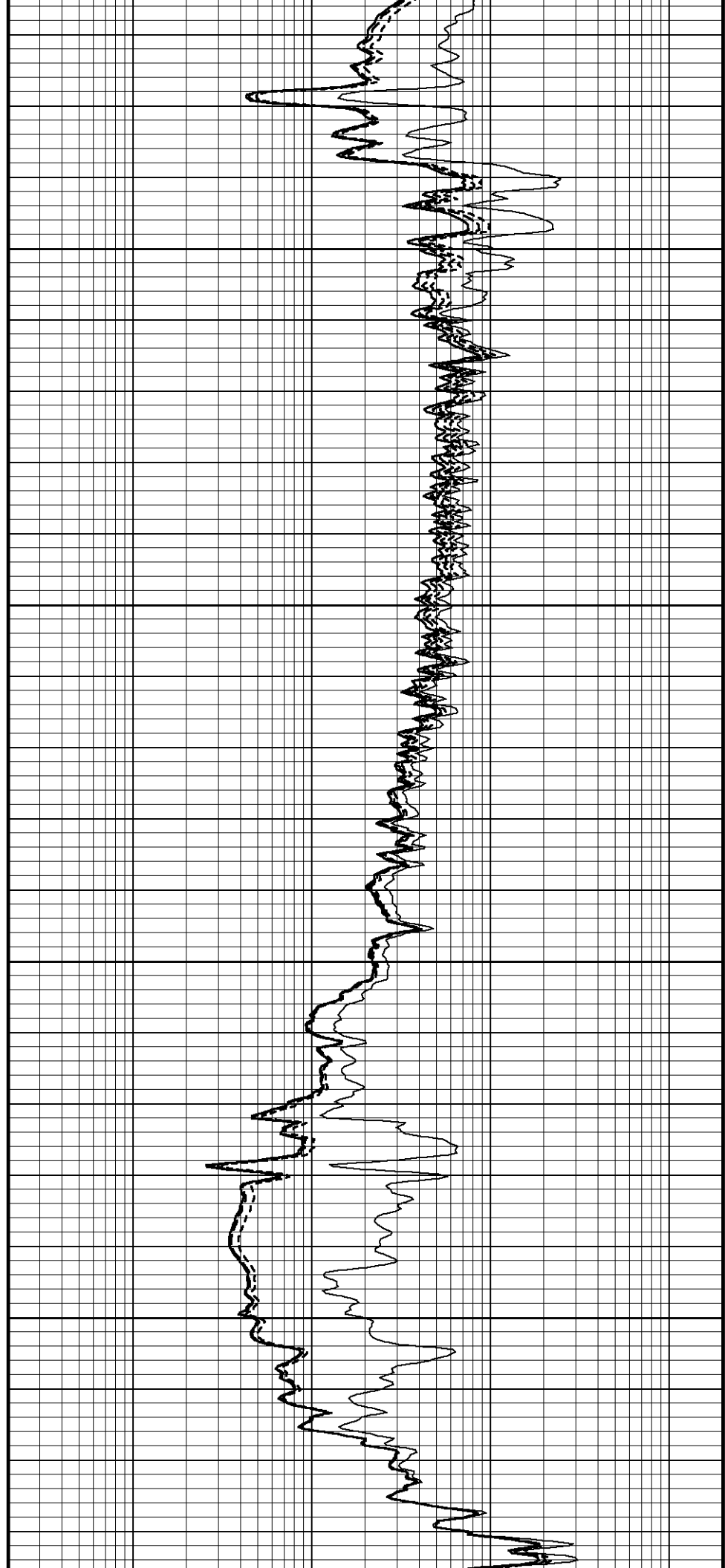
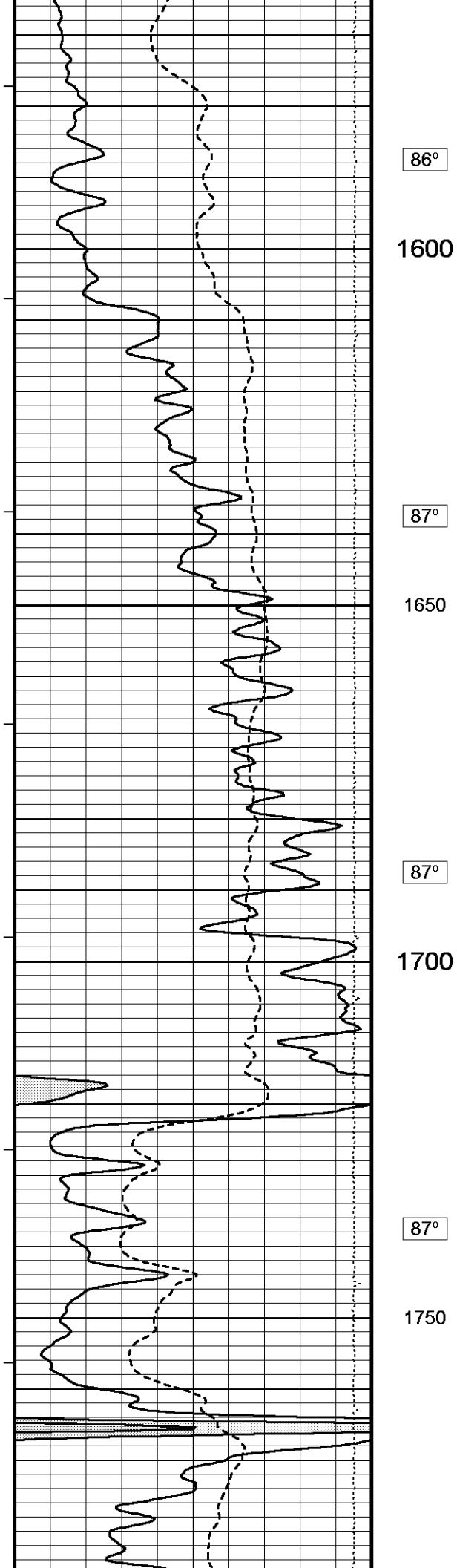
85°

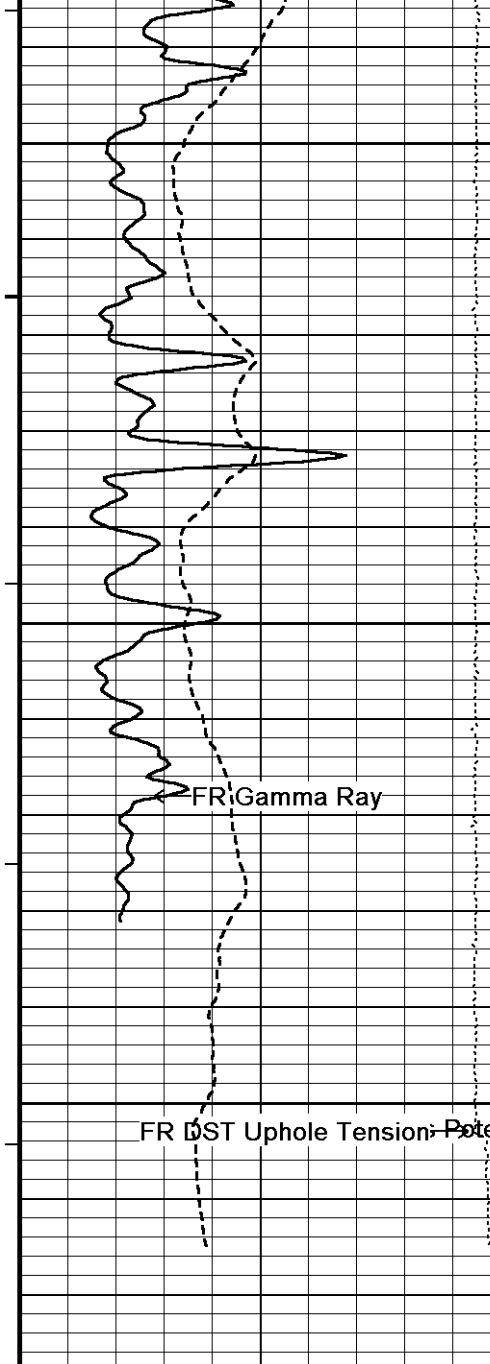
1300

85°









87°

1800

87°

1850

FR Gamma Ray

1900

FR DST Uphole Tension Potential

1926
Depth
in
Feet

Timing Marks
every 60.0 sec

Gamma Ray

API

75

0 150

150 225 300

Borehole
Temp in
deg F

Spontaneous Potential

millivolts

- -> | 20 | <- +

DST Uphole Tension

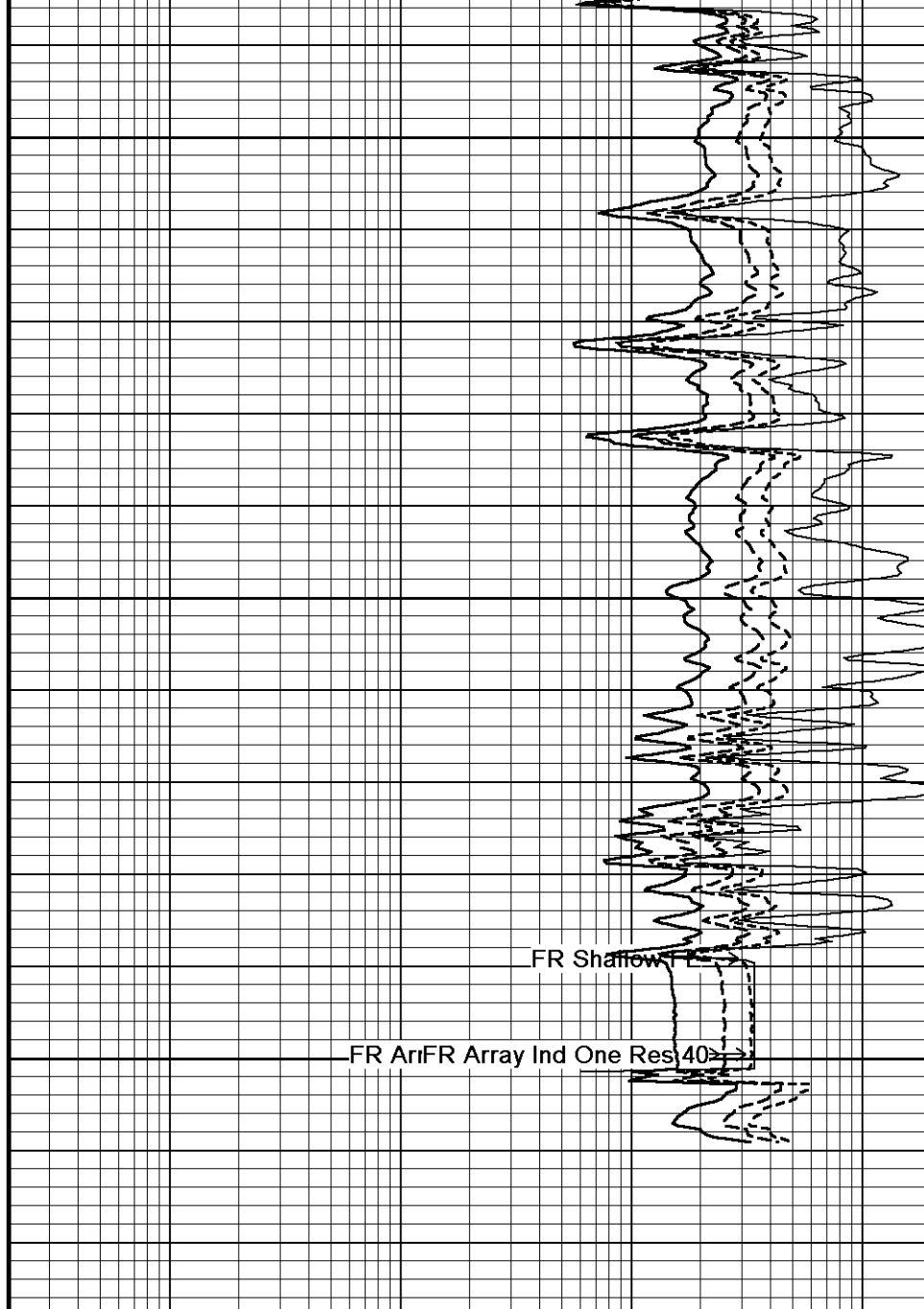
pounds

10000

0

Replay

Scale



Shallow FE
ohm metres

0.20

2000

1

10

100

1000

Array Ind One Res 40

ohm metres

0.20

2000

1

10

100

1000

Array Ind One Res 60

ohm metres

0.20

2000

1

10

100

1000

Array Ind One Res Rt

ohm metres

0.20

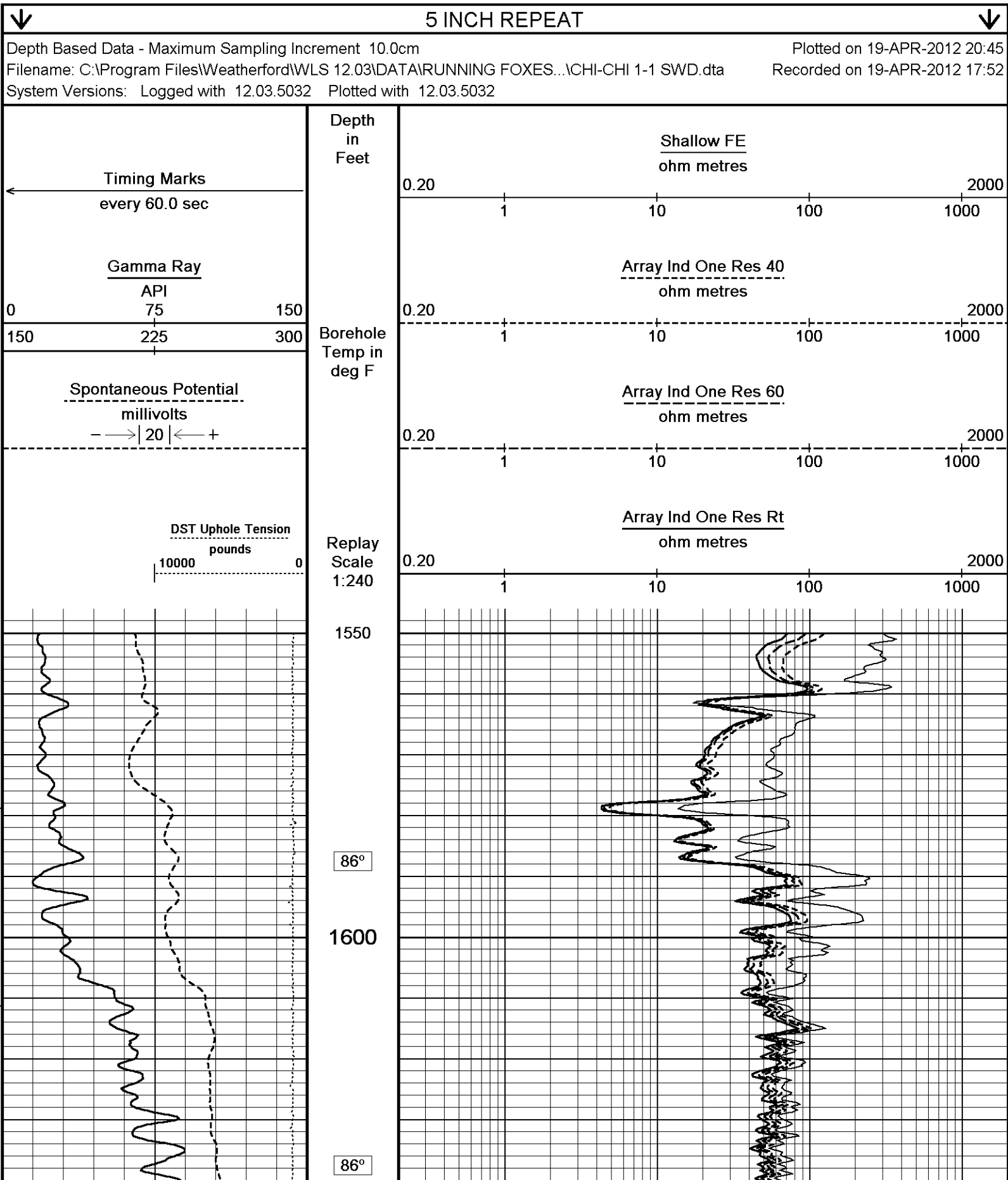
2000

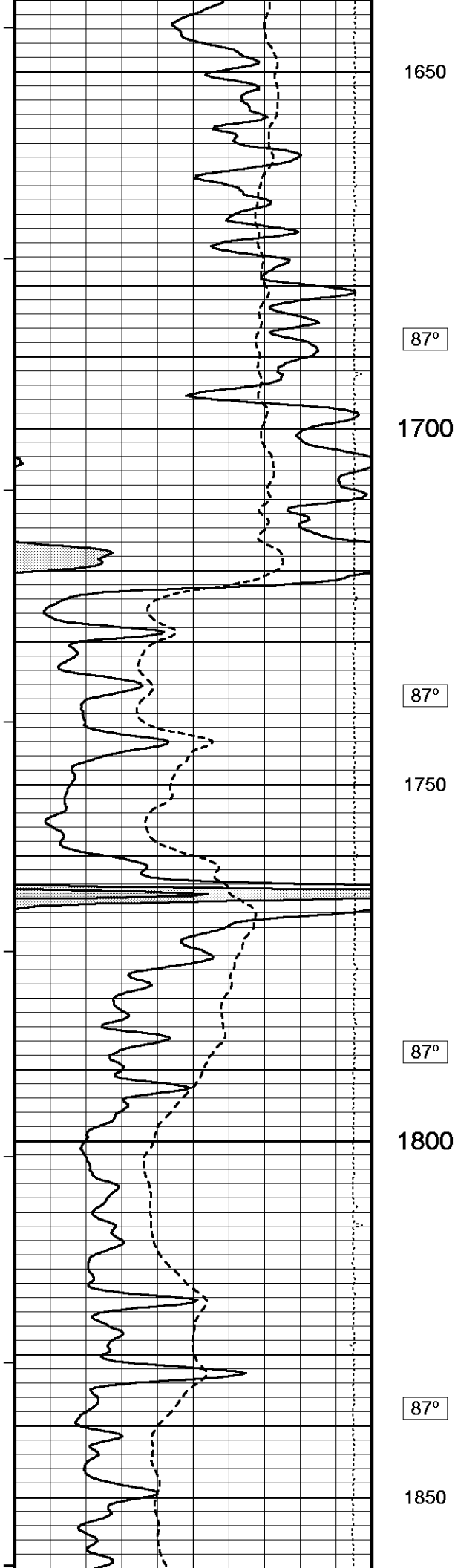
1

10

100

1000





1650

87°

1700

87°

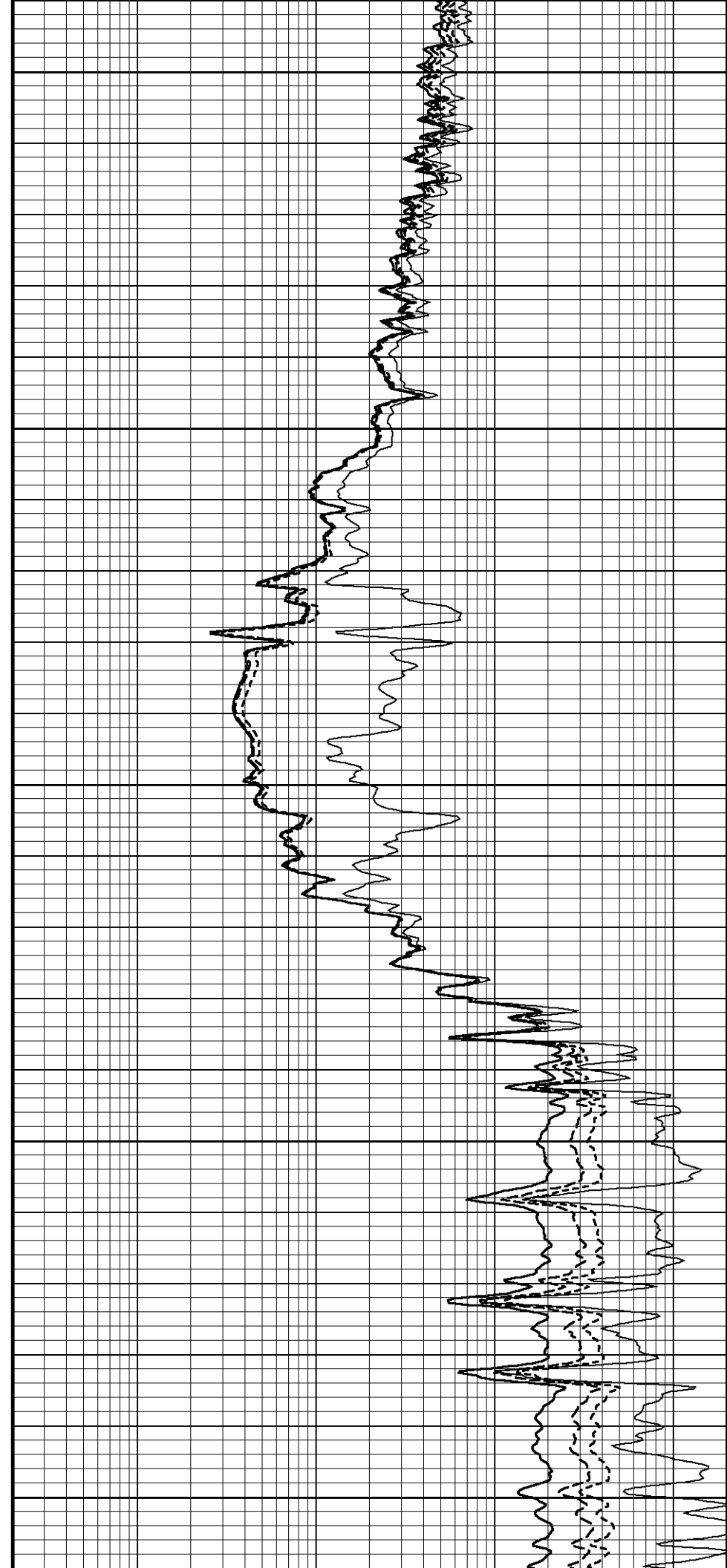
1750

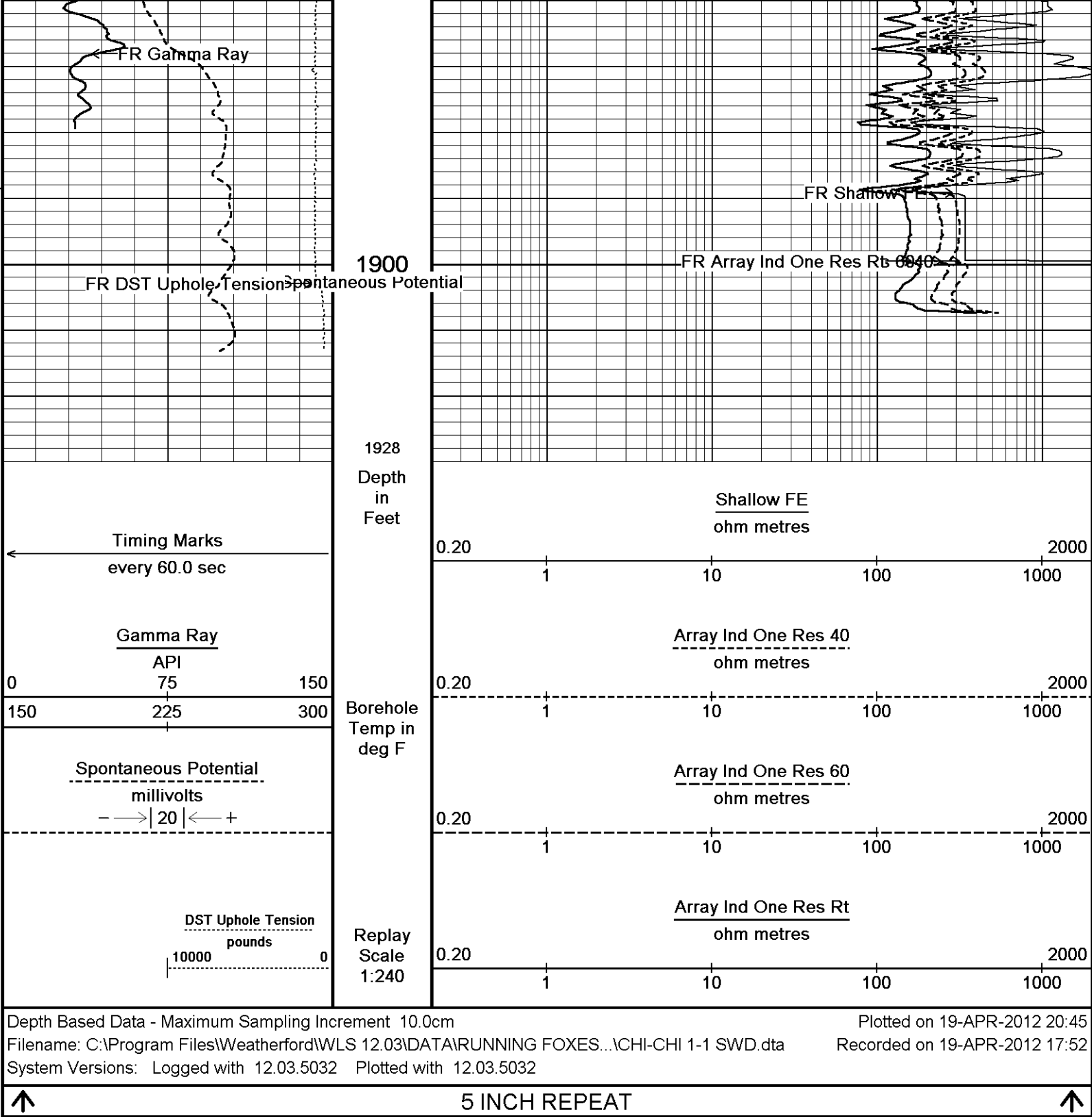
87°

1800

87°

1850





BEFORE SURVEY CALIBRATION		
C:\Program Files\Weatherford\WLS 12.03\DATA\RUNNING FOXES (CHI-CHI 1-1 SWD)\CHI-CHI 1-1 SWD.dta		
General Constants All 000		Last Edited on 19-APR-2012,17:00
General Parameters		
Mud Resistivity	1.200	ohm-metres
Mud Resistivity Temperature	81.000	degrees F
Water Level	0.000	feet
Density/Neutron Processing	Wet Hole	
Hole/Annular Volume and Differential Caliper Parameters		
HVOL Method	Single Caliper	
HVOL Caliper 1	Density Caliper	

HVOL Caliper 2	N/A
Annular Volume Diameter	5.500 inches
Caliper for Differential Caliper	Density Caliper
Rwa Parameters	
Porosity used	Limestone Density Por.
Resistivity used	Array Ind. One Res Rt
RWA Constant A	0.610
RWA Constant M	2.150

Down-hole Tension Calibration SMS 0			Field Calibration on 26-FEB-2012 16:15
Reading No	Measured	Calibrated (lbs)	
1	14469.65	0.00	
2	16626.62	750.00	

Gamma Calibration MCG-C 86			Field Calibration on 19-APR-2012,09:08
	Measured	Calibrated (API)	
Background	39	28	
Calibrator (Gross)	1770	1289	
Calibrator (Net)	1731	1261	

Gamma Constants MCG-C 86			Last Edited on 19-APR-2012,16:45
Gamma Calibrator Number	1		
Mud Density	1.07	gm/cc	
Caliper Source for Processing	Density Caliper		
Tool Position	Eccentred		
Concentration of KCl	0.00	kppm	

SP Calibration MCG-C 86			Field Calibration on 19-APR-2012,09:08
	Measured	Calibrated (mV)	
Reference 1	100.0	100.0	
Reference 2	-100.0	-100.0	

High Resolution Temperature Calibration MCG-C 86			Field Calibration on 19-APR-2012,09:09
	Measured	Calibrated(Deg F)	
Lower	50.00	50.00	
Upper	100.00	100.00	

High Resolution Temperature Constants MCG-C 86			Last Edited on
Pre-filter Length	11		

Neutron Calibration MDN-A.A 10			Base Calibration on 16-FEB-2012,21:39 Field Check on 19-APR-2012,09:09
Base Calibration			
	Measured	Calibrated (cps)	
	Near Far	Near Far	
	3130 98	3714 110	
Ratio	31.818	33.764	
Field Calibrator at Base			
		Calibrated (cps)	
		1248 1792	
Ratio		0.696	
Field Check			
		Calibrated (cps)	
		1218 1776	
Ratio		0.686	

Neutron Constants MDN-A.A 10			Last Edited on 19-APR-2012,16:46
Neutron Source Id	P14033B		
Neutron Jig Number	13226		
Epithermal Neutron	No		
Caliper Source for Processing	Density Caliper		
Stand-off	0.00	inches	
Mud Density	1.00	gm/cc	
Limestone Sigma	7.10	cu	
Sandstone Sigma	4.26	cu	
Dolomite Sigma	4.70	cu	

Formation Pressure Source	Constant Value	
Formation Pressure	0.00	kpsi
Temperature Source	None	
Temperature	N/A	degrees F
Mud Salinity	0.00	kppm
Salinity Correction	Not Applied	
Formation Fluid Salinity Source	Constant Value	
Formation Fluid Salinity	0.00	kppm
Barite Mud Correction	Not Applied	

FE Calibration MFE-A.A 65		Base Calibration on 27-MAR-2012 13:32 Field Check on 19-APR-2012,09:10	
Base Calibration			
	Measured	Calibrated (ohm-m)	
Reference 1	9.7	1.3	
Reference 2	956.7	126.8	
Base Check		282.0	
Field Check		282.0	

FE Constants MFE-A.A 65		Last Edited on 19-APR-2012,09:10	
Running Mode	No Sleeve		
MFE K Factor	0.1268		
Caliper Source for FE correction	Density Caliper		
Caliper Value for FE correction	N/A	inches	
Rm Source for FE correction	Temperature Corr		
Temp. for Rm Corr.	MCG External Temperature		
Stand-off	0.5	inches	

High Resolution Temperature Calibration MAI-A.A 102		Field Calibration on 19-APR-2012,09:10	
	Measured	Calibrated(Deg F)	
Lower	50.00	50.00	
Upper	100.00	100.00	

High Resolution Temperature Constants MAI-A.A 102		Last Edited on
Pre-filter Length	11	

Induction Calibration MAI-A.A 102				Base Calibration on 16-FEB-2012,21:42	
				Field Check on 19-APR-2012,09:10	
Base Calibration					
Test Loop Calibration		Measured		Calibrated (mmho/m)	
Channel	Low	High	Low	High	
1	17.3	481.3	9.3	966.2	
2	5.4	377.6	7.6	821.4	
3	2.4	255.3	5.2	566.0	
4	1.5	133.4	2.6	279.2	
Array Temperature		78.4	Deg F		
Channel	Base Check (mmho/m)		Field Check (mmho/m)		
	Low	High	Low	High	
1	0.0	0.0	12.6	3809.9	
2	0.0	0.0	32.6	3607.6	
3	0.0	0.0	31.7	3125.9	
4	0.0	0.0	20.7	2087.6	
Deep	0.0	0.0	19.0	2000.5	
Medium	0.0	0.0	47.3	4182.1	
Shallow	0.0	0.0	48.9	5376.2	
Array Temperature		0.0	59.3	Deg F	

Induction Constants MAI-A.A 102		Last Edited on 19-APR-2012,17:00	
Induction Model	RtAP-WBM		
Caliper for Borehole Corr.	Density Caliper		
Hole Size for Borehole Correction	N/A	inches	
Tool Centred	No		
Stand-off Type	Fins		
Stand-off	0.50	inches	

Number of Fins on Stand-off	6.0000		
Stand-off Fin Angle	60.00	degrees	
Stand-off Fin Width	0.5000	inches	
Borehole Corr. Rm Source	Temperature Corr		
Temp. for Rm Corr.	MCG External Temperature		
Squasher Start	0.0060	mhos/metre	
Squasher Offset	N/A	mhos/metre	
Borehole Normalisation			
DRM1	0.0000	DRC1	0.0000
DRM2	0.0000	DRC2	0.0000
MRM1	0.0000	MRC1	0.0000
MRM2	0.0000	MRC2	0.0000
SRM1	0.0000	SRC1	0.0000
SRM2	0.0000	SRC2	0.0000

Calibration Site Corrections

Channel 1	0.00	mmhos/metre
Channel 2	0.00	mmhos/metre
Channel 3	0.00	mmhos/metre
Channel 4	0.00	mmhos/metre

Apparent Porosity and Water Saturation Constants

Archie Constant (A)	1.00	
Cementation Exponent (M)	2.00	
Saturation Exponent (N)	2.00	
Saturation of Water for Apor	100.00	percent
Resistivity of Water for Apor and Sw	0.05	ohm-m
Resistivity of Mud Filtrate for Sw	0.00	ohm-m
Source for Rt	0.00	
Source for Rxo	0.00	

Caliper Calibration MPD-A 3

Base Calibration on 20-FEB-2012,10:19

Field Calibration on 19-APR-2012,09:10

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	20208	3.98
2	28784	5.95
3	37424	7.97
4	45392	9.84
5	54503	11.91
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
8.92	7.99

Photo Density Calibration MPD-A 3

Base Calibration on 27-MAR-2012 10:10

Field Check on 19-APR-2012,09:09

Density Calibration

Base Calibration	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	46850	24590	59869	31110
Reference 2	20054	2765	24557	2522

Field Check at Base

1284.8	1616.3
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Field Check

1284.6	1617.1
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PE Calibration

Base Calibration	Measured			Calibrated
	WS	WH	Ratio	Ratio
Background	235	1148		
Reference 1	18748	46659	0.407	0.369
Reference 2	5542	19909	0.283	0.271

Field Check at Base

234.9	1147.9
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Density Constants MPD-A 3

Last Edited on 19-APR-2012,16:46

Density Source Id	260	
Nylon Calibrator Number	633	
Aluminium Calibrator Number	633	
Density Shoe Profile	8 inch	
Caliper Source for Processing	Density Caliper	
PE Correction to Density	Not Applied	
Mud Density	1.07	gm/cc
Mud Density Z/A Multiplier	1.11	
Mud Filtrate Density	1.00	gm/cc
Dry Hole Mud Filtrate Density	1.00	gm/cc
DNCT	0.00	gm/cc
CRCT	0.00	gm/cc
Density Z/A Correction	Hybrid	
Matrix Density (gm/cc)	Depth (ft)	
2.71	0.00	
0.00	0.00	
0.00	0.00	
0.00	0.00	
0.00	0.00	
0.00	0.00	
0.00	0.00	
0.00	0.00	
0.00	0.00	

DOWNHOLE EQUIPMENT

C:\Program Files\Weatherford\WLS 12.03\DATA\RUNNING FOXES (CHI-CHI 1-1 SWD)\CHI-CHI 1-1 SWD.dta

Compact Comms Gamma
MCG-C 86 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

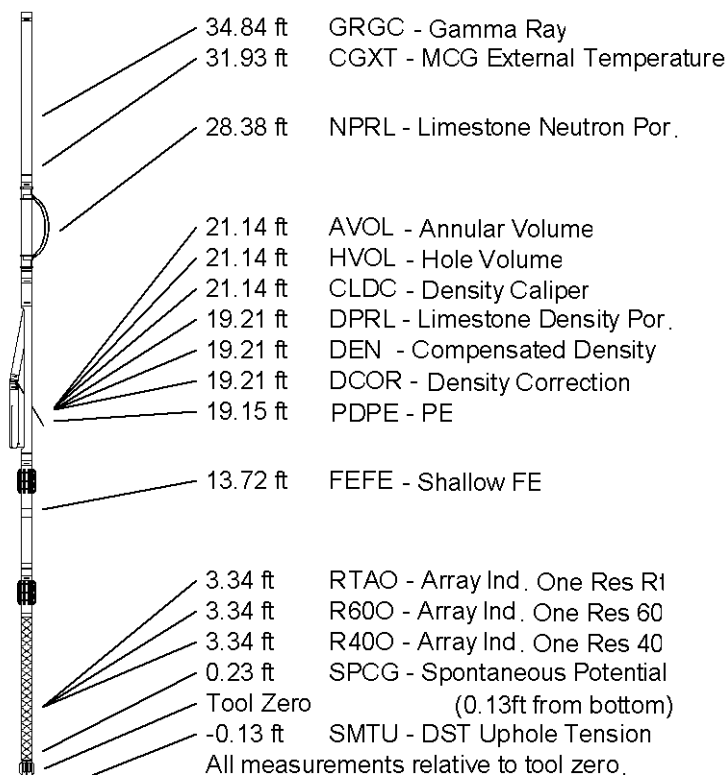
Compact Neutron
MDN-A.A 10 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

Compact Density/Caliper
MPD-A 3 LG: 9.53 ft WT: 90.4 lb OD: 2.45 in

Compact Focussed Electric
MFE-A.A 65 LG: 6.05 ft WT: 48.5 lb OD: 2.24 in

Compact Induction
MAI-A.A 102 LG: 10.81 ft WT: 48.5 lb OD: 2.24 in

Total Length: 40.12 ft Weight: 302.0 lb



COMPANY

RUNNING FOXES PETROLEUM INC.

WELL

CHI-CHI 1-1 SWD

FIELD

CHI-CHI

PROVINCE/COUNTY

BOURBON

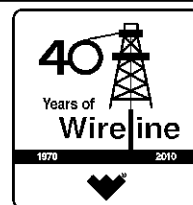
Elevation Kelly Bushing 878.00 feet
 Elevation Drill Floor 876.00 feet
 Elevation Ground Level 873.00 feet

First Reading 1900.00 feet
 Depth Driller 1903.00 feet
 Depth Logger 1903.00 feet

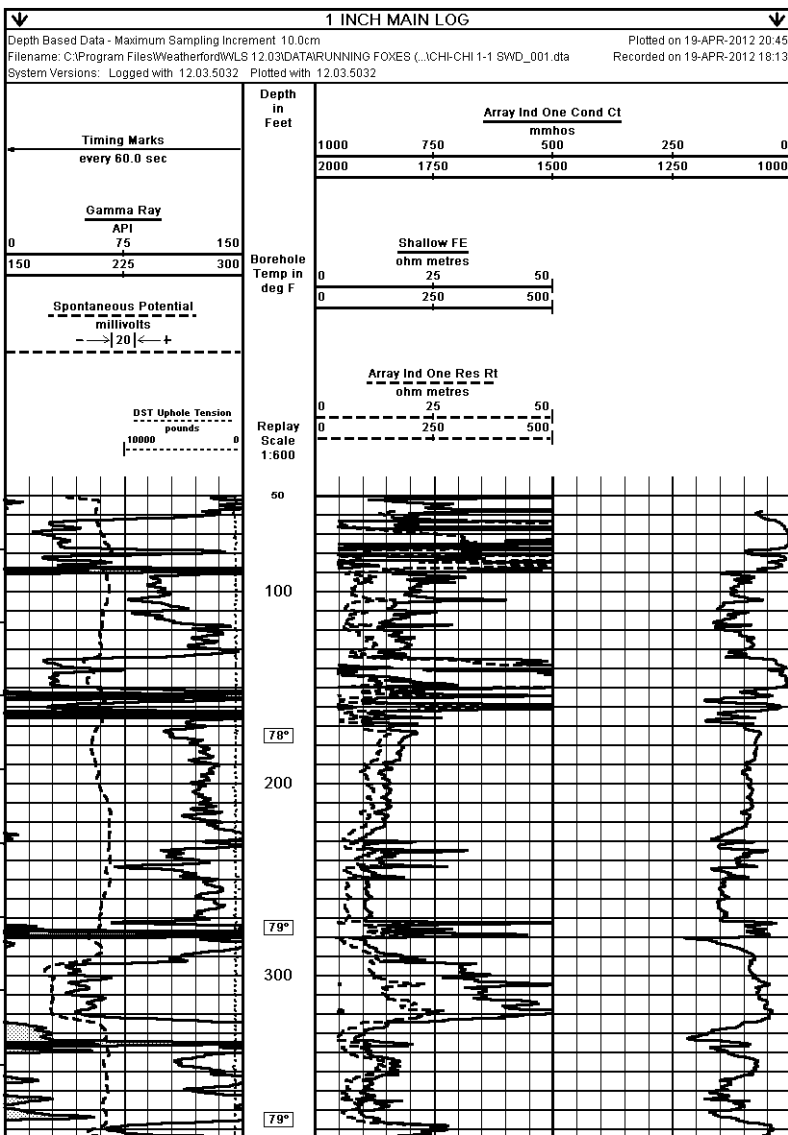


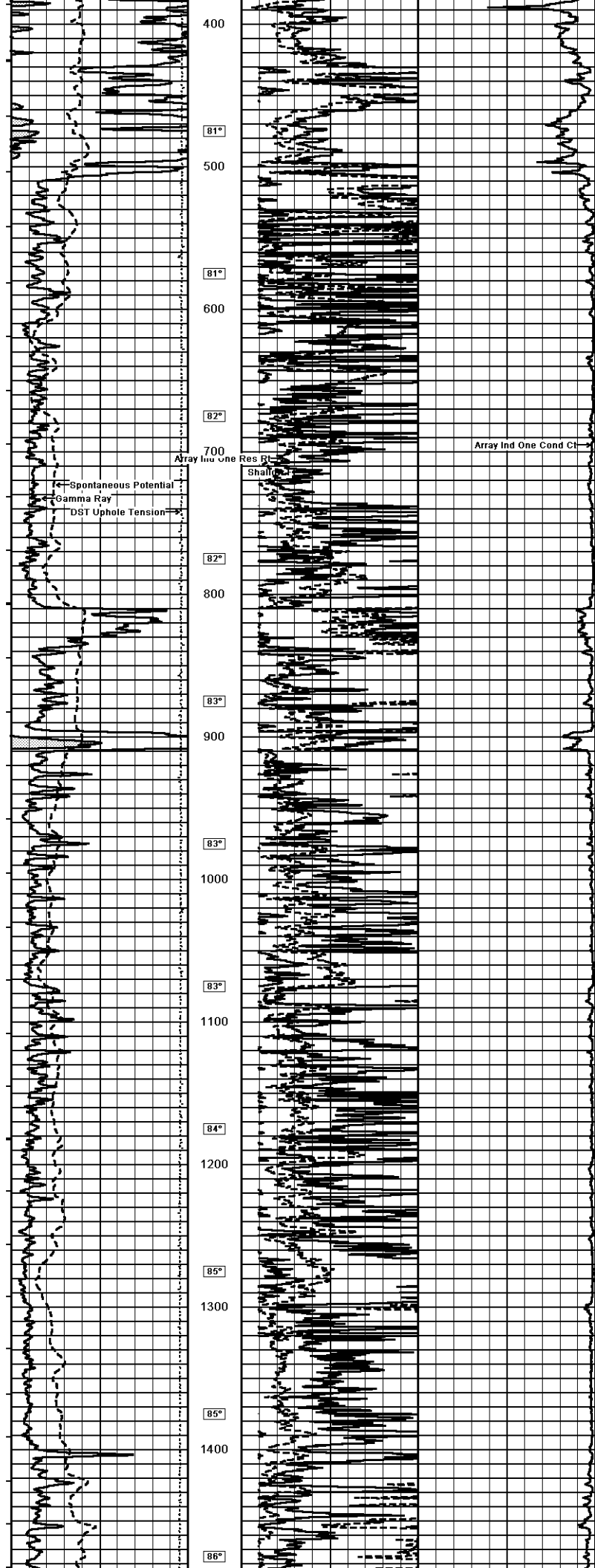
Weatherford®

ARRAY INDUCTION SHALLOW FOCUSED ELECTRIC LOG



Weatherford		ARRAY INDUCTION SHALLOW FOCUSED ELECTRIC LOG	
COMPANY RUNNING FOXES PETROLEUM INC.		WELL CH-CHI 1-1 SWD	
FIELD CH-CHI		PROVINCE/COUNTY BOURBON	
COUNTRY/STATE U.S.A. / KANSAS		LOCATION 760' FWL & 1175' FEL NW SW NE SE	
SEC 1	TYPE 255	FEET 22E	Other Services MD/MWD
API Number 15-011-33942		Permanant Datum Q.L. Elevation 873 feet	
Well Number		Log Measured From kg	
Drilling Measured From		Drilling Measured From	
Date 19-APR-2012	Run Number ONE	Depth Driller 1903.00	feet
Depth Logger 1903.00	feet	First Reading 1900.00	feet
Last Reading 50.00	feet	Casing Driller 21.00	feet
Casing Logger 21.00	feet	Bit Size 7.875	inches
Fluid Type GEL	Density / Viscosity 8.90 lb/dUsg	40.00	CP
PH / Fluid Loss	Sample Source MUD PIT	Rim @ Measured Temp 1.20 @ 81.0	ohm-m
Rim @ Measured Temp 0.96 @ 81.0	ohm-m	Rim @ Measured Temp 1.44 @ 81.0	ohm-m
Source Rinf / Rinc CALC	CALC	Rim @ BHT 1.11 @ 87.0	ohm-m
Time Since Circulation 3 HOURS	Max Recorded Temp 87.00	deg F	COMPACT
Equipment Name 13226	Recorded by B. ALLEN	OKC	
Witnessed by K. HODGES		C. COUNTS	

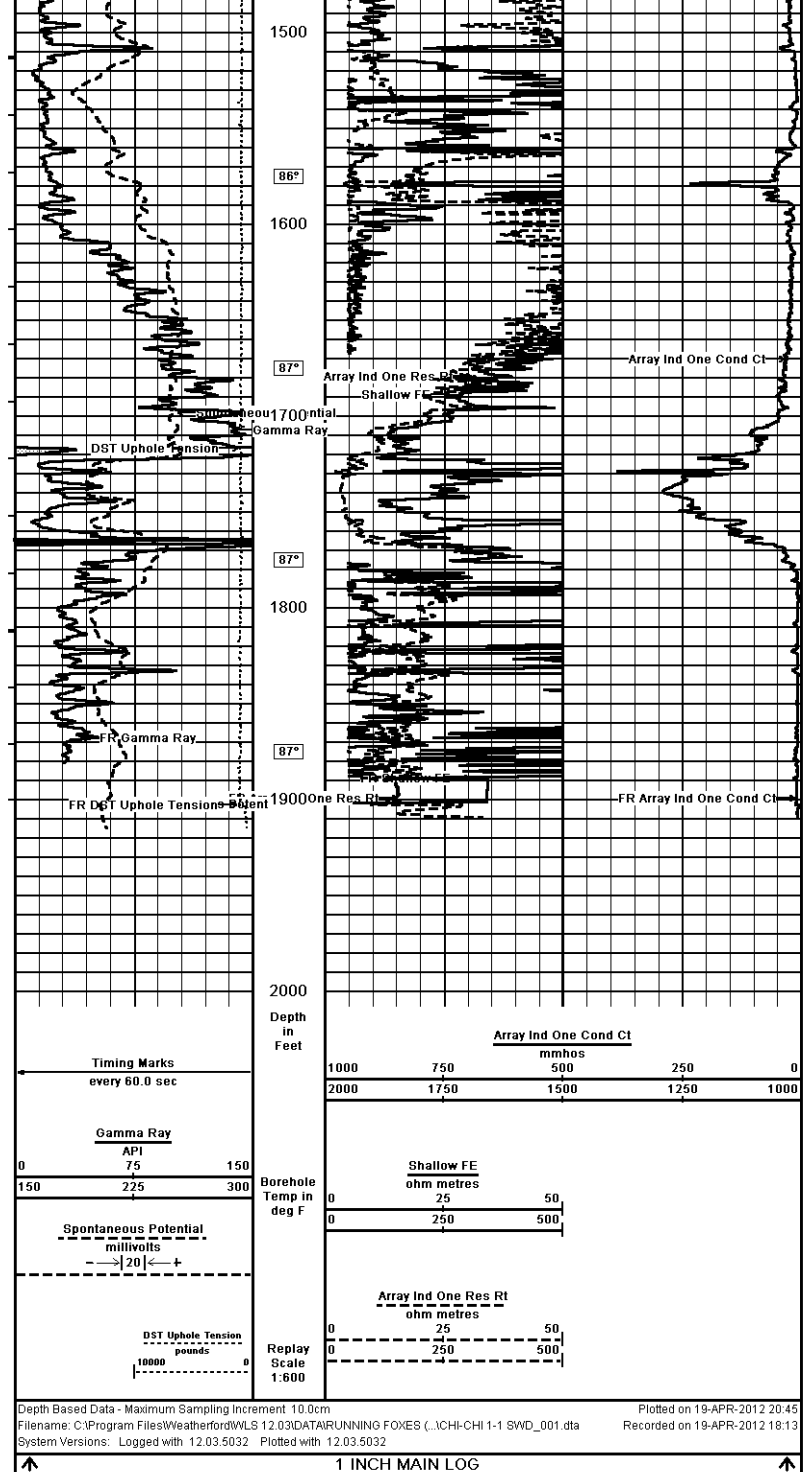




Array Ind One Res Rt

Shallow

Spontaneous Potential
Gamma Ray
DST Uphole Tension



COMPANY		RUNNING FOXES PETROLEUM INC.			
WELL		CHI-CHI 1-1 SWD			
FIELD		CHI-CHI			
PROVINCE/COUNTY		BOURBON			
COUNTRY/STATE		U.S.A. / KANSAS			
Elevation Kelly Bushing	879.00	feet	First Reading	1900.00	feet
Elevation Drill Floor	876.00	feet	Depth Driller	1903.00	feet
Elevation Ground Level	873.00	feet	Depth Logger	1903.00	feet
 Weatherford		ARRAY INDUCTION SHALLOW FOCUSED ELECTRIC LOG			
					