

**Paramount**  
resources ltd.

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**National Energy Board**  
5<sup>th</sup> Floor, 444 – 7 Avenue SW  
Calgary, Alberta  
T2P 0X8

April 11, 2008

**Attention: Mr. Bharat Dixit, Chief Conservation Officer**

Dear Sir,

**Re: Para et al Cameron L-73**  
**WID: 2033**  
**File: 9211-**  
**UWI: 300L736010117150**

**Final Well Report**

Paramount Resources Ltd. submits, in duplicate, the attached **Final Well Report** for the **Para et al Cameron L-73** well. A copy of the report is also included on the enclosed CD.

This record reflects the drilling of the well by Precision #129 in February 2007. Also enclosed are certified copies of the drilling tour sheets and original copies of the daily drilling reports to replace the faxed copies that were sent previously.

Please contact Dave Block at 206-3834 if you require additional information.

Yours truly,

PARAMOUNT RESOURCES LTD.

*Dave Block*

Dave Block, P. Eng.  
Engineering Consultant

MAIL  
SALLE DE C  
2008 APR 11 P 2:57  
NEB/ONR

**FINAL WELL REPORT**  
**PARAMOUNT RESOURCES LTD.**

**PARA ET AL CAMERON L-73**

**Grid: 60<sup>0</sup> 10', 117<sup>0</sup> 15'**

**DATE: April 11, 2008**

**COMPANY REPRESENTATIVE:**  
**Dave Block**

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## A. INTRODUCTION

Paramount Resources Ltd. (Paramount) drilled Para et al Cameron L-73 as a 1450 meter delineation well. The well was spudded on February 18, 2007 and finished drilling on February 27, 2007. The purpose of the well was to evaluate hydrocarbon potential. The primary target was the Sulphur Point Dolomite formation which was encountered at a depth of 1415 mKB. The secondary target was the Slave Point formation which was encountered at a depth of 1345 mKB.

The drilling contractor was Precision Drilling Ltd based out of Calgary, Alberta. Precision's Rig # 129 was used and is a land rig rated for 1600 m. The rig had a mud system capacity of 50.5 m<sup>3</sup> and was equipped with a boiler.

The well was drilled on Production License No PL-004 in which Paramount has an 88% working interest under Paramount's Operating License No 1159.

The exact co-ordinates of the well are as follows:

Latitude: 60° 02' 38.386"

Longitude: 117° 29' 54.302"

Cancor Rathole Inc. drilled a 610 mm conductor hole to 12.5 meters. From surface to 0.5 meters was snow pad, from 0.5 to 1.5 meters was permafrost muskeg, from 1.5 to 4.6 meters was permafrost clay with boulders, from 4.6 to 5.5 meters was frozen rock layer, 5.5 to 5.6 meters was frozen gravel, and from 5.6 to 12.5 meters was clay with boulders. A heavy walled 406 mm conductor pipe was cemented at 12.5 meters.

Precision #129 was moved onto the location starting February 17, 2007. The rig was rigged up, a diverter was nipped up and drilling commenced February 18, 2007 at 09:45 hours. A 311 mm surface hole was drilled to 436 mKB. There were no problems encountered in drilling the surface hole. A string of 219.1 mm, 35.7 kg/m, J-55, ST&C surface casing was run to 436 mKB. The casing was cemented with 38 t class 'G' cement plus 1.5% CaCl<sub>2</sub>. There were 4.0 m<sup>3</sup> of cement returned to surface while cementing. The plug was bumped and the float held OK. The plug was down at 05:35 hours on March 1, 2007.

The casing and conductor were trimmed and the casing bowl was welded on. The BOP's were installed and function tested. The BOP's and manifold were pressure tested to 1400 kPa low pressure and 7,000 kPa high pressure.

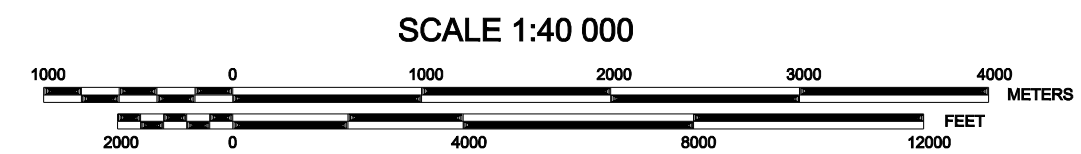
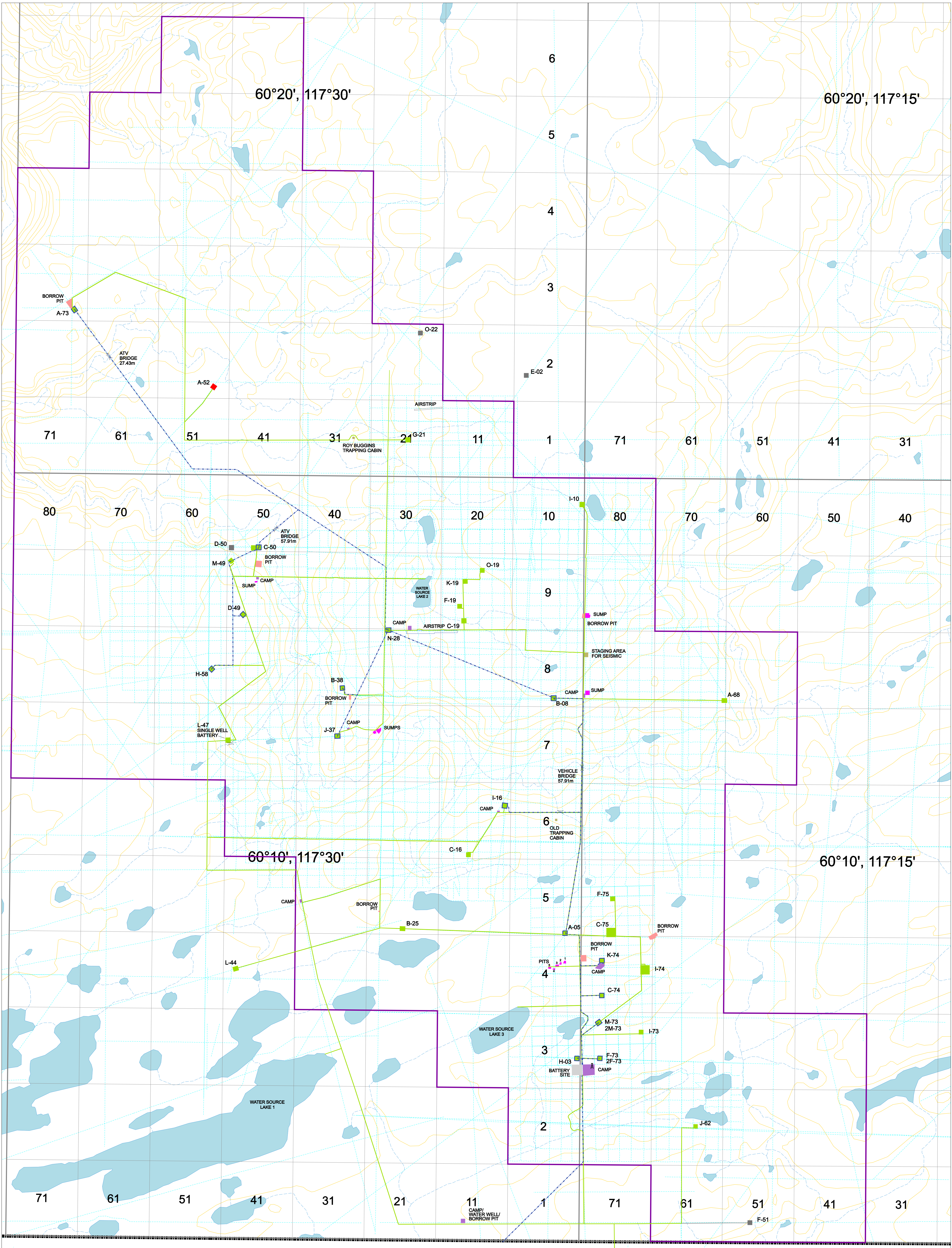
The float collar and shoe were drilled out to 447 mKB on February 22, 2007. A leak off test was performed with the leak off gradient found to be 26.2 kPa/m. A 200 mm hole was drilled with a flocculated water system to approximately 900 m. Gel was added to the drilling fluid at that point and the gel/chem mud system was then used to drill to a total depth of 1450 mKB. There were fluid losses encountered in the Wabamun starting at 539 meters. Once through the Wabamun three cement plugs were run to control the fluid losses. After the cement plugs were drilled out, drilling continued to TD with no further significant fluid losses. Precision Energy Services ran induction and sonic logs from bottom to surface casing, a density log from bottom to surface, and a micro-resistivity log from bottom to 1300 mKB.

139.7 mm, 23.07 kg/m, J-55, LT&C production casing was run and set at 1450 mKB. It was cemented with 23.0 t Thixlite + 1% SMS and 11.0 t Expando LWL + 0.1% CFL-3 + 0.2% LTR + 0.2% SPC-II. There were 6.0 m<sup>3</sup> cement returns to surface. The plug was bumped and

held.

Precision #220 was rigged out and released at 06:00 hours on March 1, 2007.





Prepared by:  
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LEGEND:

- TOWER
- SEISMIC
- AIRSTRIIP - (FOREIGN)
- ACCESS ROAD - (FOREIGN)
- AIRSTRIIP
- ACCESS ROAD
- PIPELINE RW
- BRIDGE
- SIGNIFICANT DISCOVERY LICENSE
- CONTOUR

- LEASE - (TIED-IN)
- LEASE - (NOT TIED-IN)
- LEASE - (FOREIGN)
- LEASE - RECLAIMED
- BORROW PIT
- CAMP SITE
- SUMP / PIT
- BATTERY SITE
- OTHER CLEARING



Compiled Map Showing  
**AS-BUILT JULY 2005**  
Oil & Gas Activity

**CAMERON HILLS AREA**  
Northwest Territories  
NAD83 UTM Projection

REVISED: 22-AUG-05  
MODEL: AS-BUILT JULY 2005.

Date: 13-DEC-04  
Job No.: 04-1150G  
Filename: CH.BASE.NAD83.DGN



B. GENERAL DATA

1. Well Name: Para et al Cameron L-73  
  
Authority to Drill a Well No: 2033  
  
Exploration Agreement Number: PL-004  
  
Location Unit: L  
  
Section: 73  
  
Grid Area: 60<sup>0</sup> 10' N, 117<sup>0</sup> 15' W  
  
Classification: Delineation
2. Coordinates:  
    Surface:   Latitude: 60<sup>0</sup> 02' 38.386"  
              Longitude: 117<sup>0</sup> 29' 54.302"
3. Unique Well Identifier: 300L736010117150
4. Operator:           Paramount Resources Ltd.
5. Contractor:        Precision Drilling
6. Drilling Unit:     Precision Rig # 129, Land Rig
7. Position Keeping: N/A
8. Support Craft (Helicopter): N/A
9. Drilling Unit Performance: Good
10. Difficulties and Delays: Severe lost circulation in the Wabamun.
11. Total Well Cost: \$1,619,000
12. Bottom Hole Co-ordinates: Same as surface.

## C. SUMMARY OF DRILLING OPERATIONS

1. Elevations:
  - Ground: 770.23 m above sea level
  - KB: 774.8 m above sea level
  - KB to Casing Flange: 4.0 m
2. Total Depth:
  - FTD: 1450 mKB
  - PBTD: 1436 mKB
3. Date and Hour Spudded: February 18, 2007 at 09:45
4. Date Drilling Completed: February 27, 2007
5. Date of Rig Release: March 1, 2007
6. Well status: Cased and Suspended
7. Hole Sizes and Depths:
  - Conductor Hole: 610 mm to 12.5 m
  - Surface Hole: 311 mm to 436 mKB
  - Main Hole: 200 mm to 1450 mKB
8. Casing and Cementing Record:
  - Conductor Hole:
    - Casing Size: 406 mm
    - Wall Thickness: 9.5 mm
    - Depth Set: 12.5 m
    - Cut Height: At Surface
    - Date Set: February 7, 2007
    - Cement Volume: 0.96 tonnes
    - Cement Type: class 'G'
  - Surface Hole:
    - Casing Make: Ipsco
    - Casing Size: 219.1 mm
    - Casing Weight: 35.7 kg/m
    - Casing Grade: J-55
    - Thread: ST&C
    - Number of Joints: 32
    - Depth Set: 436 mKB
    - Cut Height: At surface
    - Date Set: February 21, 2007
    - Cement Volume: 38 Tonnes
    - Float Shoe Depth: 436 mKB
    - Float Collar Depth: 422 mKB
    - Cement Type: Class 'G'

Additives:	1.5% CaCl <sub>2</sub>
Cement Top:	Surface
Casing Bowl Size:	228 mm x 219 mm x 21 MPa
Casing Bowl Make:	ABB Vetco

Main Hole:

Casing Size:	139 mm
Casing Weight:	23.07 kg/m
Casing Grade:	J-55
Casing Make:	IPSCO
Number of Joints:	107
Thread:	LT&C
Depth Set:	1450 mKB
Cut Height:	Surface
Date Set:	March 1, 2007
Float Shoe Depth:	1450 mKB
Float Collar Depth:	1436 mKB
Cement Volume 1:	23.0 Tonnes
Cement Type 1:	Thixlite
Additives 1:	1% SMS
Cement Volume 2:	11.0 Tonnes
Cement Type 2:	Expando LWL
Additives 2:	0.1% CFL-3 & 0.2% LTR & 0.2% SPC-II
Cement Top:	Surface

9. Sidetracked Hole: N/A

10. Drilling Fluid:

Conductor Hole:	Water
Properties:	N/A

Surface Hole:	Gel - Chemical
Properties:	Viscosity: 30 - 54 sec/L
	Weight: 1040 - 1120 kg/m <sup>3</sup>
	PH: 9.0 - 10.5

Main (425 – 900 m):	Floc water
Properties:	Viscosity: 29 - 37 sec/L
	Weight: 1000 kg/m <sup>3</sup>
	PH: 10.5 - 12.0

Main (900 m – TD):	Gel-chem
Properties:	Viscosity: 44 - 85 sec/L

Weight:	1090 - 1200 kg/m <sup>3</sup>
PH:	8.5 – 11.0
Water loss:	8.0 – 11.0 cc
Solids:	Not reported
Gels:	Not reported
Filtrate:	Not reported
PV / YP:	Not reported

11. Fishing Operations: **N/A**

12. Well Kicks and Well Control Operations: **N/A**

13. Formation Leak Off Tests:

Depth:	446 m
Fluid Density:	1000 kg/m <sup>3</sup>
Applied Pressure:	7150 kPa
Hydrostatic Pressure:	4277 kPa
Mud Weight Equivalent:	2671 kg/m <sup>3</sup>
Casing setting depth:	436 mKB

The surface casing leak-off test was taken to a gradient of 26.2 kPa/m before leak off was detected.

#### 14. Time Distribution

Date	Hours	Activity
07/02/17	1.5	Safety meeting.
	19.5	Rig move.
	2.75	Rig up.
	0.25	Nipple up diverter.
07/02/18	1.0	Safety meeting.
	0.75	Rig service.
	6.5	Nipple up diverter.
	1.0	Make up bottomhole assembly.
	13.0	Drill.
	0.5	Modify flow line.
	1.25	Deviation survey.
07/02/19	0.75	Safety meeting.
	0.75	Rig service.
	17.75	Drill.
	4.75	Deviation survey.
07/02/20	0.75	Safety meeting.
	0.5	Rig service.
	5.25	Drill.
	0.75	Deviation survey.
	6.5	Trip.
	4.75	Circulate and condition mud.
	4.25	Run casing.
	1.25	Cement casing.
07/02/21	1.0	Safety meeting.
	1.25	Cement casing.
	4.0	Wait on cement.
	1.5	Nipple down diverter.
	4.0	Cut casing and weld on bowl.
	3.0	Nipple up BOP's.
	5.5	Test BOP's.
	2.5	Trips.
	1.25	Slip and cut drill line.
07/02/22	1.0	Safety meeting.
	0.75	Rig service.
	12.75	Drill.



	0.5	Drill out float collar and shoe.
	0.25	Circulate and condition mud.
	2.5	Slip and cut drill line.
	0.5	Leak off test.
	0.75	Deviation survey.
	3.25	Trips.
	1.75	Wait on cementers.
07/02/23	0.75	Safety meeting.
	0.75	Rig service.
	3.25	Wait on cementers.
	1.5	Run cement plugs.
	5.75	Wait on cement.
	6.25	Trips.
	0.75	Circulate and condition mud.
	5.0	Drill out cement.
07/02/24	0.75	Safety meeting.
	0.75	Rig service.
	4.5	Drill out cement.
	14.75	Drill.
	3.25	Deviation survey.
07/02/25	0.75	Safety meeting.
	0.75	Rig service.
	20.5	Drill.
	2.0	Deviation survey.
07/02/26	0.75	Safety meeting.
	0.75	Rig service.
	21.75	Drill.
	0.75	Deviation survey.
07/02/27	1.25	Safety meeting.
	0.75	Rig service.
	5.5	Drill.
	3.0	Circulate and condition mud.
	11.0	Trips.
	2.5	Reaming.
07/02/28	0.75	Safety meeting.
	0.75	Rig service.
	5.5	Logging.
	8.75	Trips.

	2.5	Circulate and condition mud.
	1.25	Slip and cut drill line.
	4.5	Run casing.
07/03/01	0.75	Safety meeting.
	0.25	Rig service.
	2.5	Circulate and condition mud.
	2.75	Cement casing.
	1.75	Nipple down BOP.
	12.0	Rig out.

### Time Break Down by Activity:

<u>Activity</u>	<u>Hours</u>
Move on, rig up:	21.25
Make up bottomhole assembly:	1.0
Drilling:	111.75
Surveying:	13.5
Reaming:	2.5
Tripping:	38.25
Circulate and condition mud:	13.75
Running casing:	8.75
Cementing casing:	5.25
Wait on cement	9.75
Drill out casing shoe:	0.5
Rig service:	7.5
Safety meetings:	11.75
Nipple up diverter:	6.75
Nipple down diverter:	1.5
Weld casing bowl:	4.0
Nipple up BOP's:	3.0
Pressure test BOP's:	5.5
Leak off tests:	0.5
Logging:	5.5
Slip and cut drill line:	5.0
Nipple down BOP's:	1.75
Modify flow line:	0.5
Wait on cementers:	5.0
Run cement plugs:	1.5
Drill out cement plugs:	9.5
Rig out:	12.0

15. Deviation Survey: See directional plan in the Attachments section

16. Abandonment Plugs: N/A
17. Composite Well Record: See the copy of the strip log in the Geological Report in the Attachments Section.
18. Completion Record: Reported in a separate report.

## D: GEOLOGY

### GEOLOGICAL SUMMARY

Tops: See page 16-1 of the Geological Report in the Attachments Section.

Sample Descriptions: See pages 19-1 to 19-11 of the Geological Report in the Attachments Section.

Total Depth: 1453 mKB MD

### GAS DETECTION REPORT

A gas detector was utilized from the drill out of the conductor pipe to total depth. The gas detector readings are included on the composite geological log at the end of the Geological Report in the Attachments Section.

DRILL STEM TESTS: None.

### WELL EVALUATION

The following logs were run:

Array Induction Log:	435 - 1448 mKB
Photo Density Dual Spaced Neutron Log:	surface - 1440 mKB
Compensated Sonic Log:	435 - 1444 mKB
Micro Log:	1300 - 1446 mKB

GAS, OIL, & WATER ANALYSES: N/A

FORMATION STIMULATION: N/A

FORMATION AND TEST RESULTS: N/A

DETAILED TEST PRESSURE DATA READINGS: N/A

## E. ENVIRONMENTAL CONSIDERATIONS

There are no known outstanding environmental considerations on this well. The well was drilled sumpless with all drilling fluids being held in tanks on the lease. At the end of the job the water was stripped from the mud system and hauled to Alberta for disposal. The solids were hauled to a remote site at J-04 60° 10' N, 117° 30' W where they were disposed of using the mix/bury/cover technique.

# Geological Report

On

**Para Et Al Cameron L-73**

**300/L-73-60-10-117-15**

For



**Paramount Resources Ltd.**

**Prepared For: Llew Williams**

**Prepared By: M. A. Salam Khan**



**Khan Petroleum Ltd.**   
(A Complete Wellsite Solution By PowerLog)

8307 Edgevalley Drive, N.W. Calgary, Alberta T3A4X2 • Res.(403) 248-1507, Cellular (403) 816-1045



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The proposed Para Et Al Cameron L-73 an exploratory well was a part of an extensive exploratory drilling program in the Cameron Hills. The well was proposed to drill vertically as a new delineation well. Paramount Resources Ltd. retained the services of Precision Drilling Rig # 129.

The primary objective is to penetrate the prognosticated oil productive zone in the Sulphur Point Dolomite Section of Sulphur Point Formation. Productions are being drawn from here in some wells.

Secondary targets were to test gas and heavy hydrocarbon possibilities of in the upper limestone section of Sulphur Point and in the Slave Point formation respectively. The Cameron Hills identifies itself with its structure complexity leading to insufficient geological information. The well bore information will validate the seismic picking of the reservoirs and to learn more about the complex reservoir characteristic of the structures.

The well was spudded at 10:00hrs on the February 18, 2007. Drilling of 311mm hole from surface to 436.0m was completed using one rock bit in 34.75 on bottom bit hours. 219.1mm surface casings were run in setting the shoe at 436.0 and cemented as per program.

Partial mudloss was encountered from 569.0m RKB during drilling of 200mm hole and total loss encountered at 613.0m RKB. Blind drilling to 739.0m RKB was continued to drill through the Wabamun formation into the underlying Fort Simpson formation. Three cement plugs consecutively were conducted to prevent mudloss.

200mm hole section was completed using one PDC bit consuming 69.75 on bottom bit hours. Gel Chem mud was used for the surface hole and displaced with Floc water till 856.0m and back to Gel Chem during the last section of drilling.

139.7mm casings were used to case the well for production tests.

The Para Et Al Cameron L-73 well data is a source of geological information of the morphological changes and reservoirs characteristics of the crater of the complex of Cameron Hills. The fractured and faulted (?) section in the Wabamun Formation leads to mudloss through its crater and encountered in all the wells drilled. The geology section in the Strip Log gives a brief representation of the individual stratigraphic formations.

The Sulphur Point Limestone section was 16.5m thick from at 1398.5m to 1415.0m RKB. It is comparatively tight than that of the dolomite section varying with some high porous streaks. It is oily and indicated gas responses. The porosity varies between 4% - 12%. Gas shows maximum 561/222 units were recorded during drilling. Weak odors with traces to patchy fluorescence were noticed.

The Dolomite Section is 14.0m thick and coarser down the section. Remarkable gas shows were not encountered but vuggy porosity and grainy appearance looked bright prospective for oil. Porosity varies from 4% to maximum 14% in some of the strips.

The Slave Point formation was picked up at 1345.5m (570.3m SS) and 40m thick. Gas shows were noticed although the section with maximum 791/222 units and 932/222 units at 1364.50m and 1373.50m respectively. The Slave Point is mainly of buff and tan limestone with porosities varying between 3% - 13% - maximum in some grainy streaks. Weak odor with traces to patchy natural oil fluorescence was noticed in all through the drilled section.

Weak odor of oil was noticed from the beginning of drilling this interval. Traces of light brown oil show was noticed which gradually increased between 1355m to 1370m RKB and faded away with the boundary section of the underline F4 Marker which hardly can be recognized from the drilling parameters and ditch cuttings.

The open hole logging was completed by Weatherford Logging Services.

MAI/MSS/MPD/MDN/MML/ISC/MGS/MTC/MFE/MCG tools were run in. From the ROP and gas data, ditch cuttings and logs the Sulphur Point Dolomite Section does carry positive reservoir properties for production including good oil shows. Limestone section of the Sulphur Point possesses comparatively tight porosity than that of the Dolomite Section. The Slave Point has got good reservoir properties and could be tested for the commercial viability.

Further evaluation and studies are also proposed for the quest of geological interest in the Cameron Hills Field.



# Well Summary

Storage Units: Metric

## Well Information

**Operator:** Paramount Resources Ltd.  
**Well Name:** Para Et Al Cameron L-73  
**Location:** 300/L-73-60-10-117-15  
**UWI:** 300-L-73-6010-117150  
**Pool:** Sulphur Point & Slave Point.  
**Field:** Cameron Hills.  
**State / Province:** Northwest Territory  
**Country:** Canada  
**License Number:** 1159  
**Well Status:** Cased for production testing.

## Surface Co-ordinates

**Hole Type:** Vertical  
**Latitude:** 60°2'38.3"

**Fault Indicator:**  
**Longitude:** 117°29'54.3"

**N / S:** n/a.  
**E / W:** n/a.

## Bottom Hole Co-ordinates

**Latitude:** 60°2'38.3"

**Longitude:** 117°29'54.3"

**N / S:** n/a.  
**E / W:** n/a.

## Elevations

<b>Ground Elevation:</b>	770.80	<b>Kelly Bushing to Ground:</b>	4.00
<b>Kelly Bushing Elevation:</b>	774.80	<b>Cut (-):</b>	0.00
<b>Casing Flange Elevation:</b>	4.00	<b>Fill (+):</b>	0.60

## Total Depth

	Measured Depth	True Vertical Depth
<b>Total Depth Driller (Tally) :</b>	1,450.00	1,450.00
<b>Total Depth Driller (Strap or SLM):</b>	1,450.00	1,450.00
<b>Total Depth Logger:</b>	1,448.60	1,448.60

## Miscellaneous Depths

**Plugback Depth:**  
**Sidetrack Depth:**

**Water Depth Reference:**  
**Water Depth:**

## Well Summary

**Drilling Contractor:** Precision Rig# 129.  
**Rig Release Date:**

**Spud Date:** Feb 18, 2007 @ 10:00  
**Total Depth Date:** Feb 27, 2007 @ 06:00

Cores	#	Formation	Interval	Cut	Recovered	%
-------	---	-----------	----------	-----	-----------	---

## Casing Summary

Casing Type	Casing Size	Landed Depth	Hole Size
Surface	219.1	436.00	311.0
Production	139.7	1,450.00	200.0

Paramount Resources Ltd.  
UWI 300-L-73-6010-117150

Para Et Al Cameron L-73  
300/L-73-60-10-117-15  
Page 2-1

# Daily Drilling Summary

Storage Units:

Metric

Date	Depth	Progress	Rotating Hours	Avg. P.R.	Daily Operational Summary
Feb 18, 07	0.00		0.00	0.0	Tear down rig. Rig move to the new Cameron L-73 location. Pre-job safety meeting. Rig up.
Feb 19, 07	184.00		18.50		Pre-job safety meeting. Nipple up diverter line. Pick up a new 311mm bit on drilling assembly. Pre-spud safety meeting. Spud the rig. Drilling from surface to 184.0m. Conduct periodical surveys. Gas trap is sent to Rig# 250. Drilling continued.
Feb 20, 07	425.00		14.70		Continue drilling 311mm surface hole from 184.0m to 425.0m. Conduct periodical surveys. Circulation and mud conditioning. Flow check - static. Round trip prior to RIH of surface casings. Strap out drilling string.
Feb 21, 07	436.00		1.70		RIH to bottom. Drill down to 436.0m. Conduct survey at 436.0m. Mud conditioning MW: 1100kg/m <sup>3</sup> ; FV: 95sec and pH: 9. POOH to run production casings. Pre-job safety meeting. Rig up casing equipments and tools. RIH 32 joints of 219.1mm; 35.72m/kg; IPSCO; J-55 casings of total length. The shoe was set at 436.0m RKB. Circulate through casings. Safety meeting with Sangel cementing hands. Conduct cement job. Cemented with 38 tones of 0.1.0 G + 1.5% CaCl <sub>2</sub> . Plug down at 01:15hrs. 4m <sup>3</sup> cement slurry received on surface.WOC. Safety meeting. Cut and dress casing string continued.
Feb 22, 07	600.00		5.70		Pre-job safety meeting. Nipple down diverter line. Cutting and dressing of casing and welding with the casing bowl. Nipple up BOP stacks. Pressure test BOP stack with Rainbow Pressure testers. Test all manifold valves, chokes, flanges, casing bowl, HCR manual and hydraulic valves, Blind Rams, Kill and check lines, drilling spools, stabbing valve, inside BOPs, Pipe Rams and Annular BOP respectively - ok. RIH with anew PDC bit on drilling BHA to 375.0m. Slip and cut drill lines. Tag cement top at 428.0m. Drill down to 347.0m. Conduct LOT at 7150kPa. LOT gradient 26.2kPa/m. Resume drilling and drill down to 600m with periodical surveys.



# Daily Drilling Summary

Storage Units:

Metric

Date	Depth	Progress	Rotating Hours	Avg. P.R.	Daily Operational Summary
Feb 23, 07	739.00		7.50		Record partial mud loss while drilling from 569m. Drilling to 613m - lost circulation. Blind drilling from 613m to 739m i.e. +/-30m inside the Fort Simpson Formation. Conduct periodical surveys. POOH. Flow check at 739m, 708m, 430m and on surface - mud loss. Cut and slip drill line. RIH with open ended drill pipe to bottom. Rig up Sangel cementing equipments. Set cement plug between 510m to 739m. Pump 0.5m3 water and pressure test lines. Pump 0.5m3 water followed with 6m3 cement slurry (7 tones). Displace 1.6m3 slurry with water. POOH by 12 stands. Circulate and clean out cementing string. WOC. RIH and tag cement top at 571m. Preparation for second cement plug.
Feb 24, 07	790.00		7.00		Cement Plug# 2 between 476m to 571m. Pump 0.5m3 water and pressure test cementing lines. Pump 0.5m3 water followed by 3m3 cement slurry of 3.5 tones cement. Displace 1.4m3 with mud. POOH 7stands and clean out the string. WOC. Tag cement at 559m. Conduct cement plug No. 3 between 464m to 559m. Pump 3m3 cement slurry and displace 1.4m3 with mud. POOH to 464m and clean out the string. WOC. Tag cement at 478m. POOH cementing string. RIH with Bit# 2 on drilling BHA. Drill out cement plug. TG at 478m is 123/34 units. Consistent gas shows were recorded during cement drilling. Resume drilling from 739m and drill down to 790.0m. Conduct survey at 749m. Drilling continued.
Feb 25, 07	1,118.00		18.70		Continue drilling from 790.0m to 1118.0m. Conduct periodical surveys. Drilling continued.
Feb 26, 07	1,288.00		18.20		Continue unabated drilling from 1118.0m to 1288.0m with periodical surveys. Drilling continued.
Feb 27, 07	1,450.00		18.00		Continue unabated drilling from 1288.0m to TD - 1450.0m RKB. Circulation and mud conditioning.

# Daily Drilling Summary

Storage Units:

Metric

Date	Depth	Progress	Rotating Hours	Avg. P.R.	Daily Operational Summary
Feb 28, 07	1,450.00		0.00	0.0	Wiper trip to shoe. Flow check at 1450m, 1378m, 725m, 436m and 0m - static. Pre-job safety meeting. RIH. Flow check at 725m - static. Reaming from 1358m to 1450m. H2S alert - 15ppm. pH gone down. Mud conditioning to 1180kg/m3 and FV: 85sec. POOH. Flow check at 1450m, 1378m, 725m, 435m and 0m - static. Safety meeting with Weatherford hands. Rig up logging tools and equipments. Logging. Run# 1: RUN#1: MCG/MFE/MTC/MML/MGS/MDN/MSS/MAI tools. RIH with a rock bit continued.

## Casing Data Summary

Storage Units: Metric

**Casing Type:** Surface

<b>Casing Size:</b>	219.1	<b>Hole Size:</b>	311.0
<b>Casing Landed @:</b>	436.00	<b>Total Joints:</b>	32
<b>Casing Date:</b>	Feb 20, 2006 @ 20:00	<b>Plug Down Date:</b>	Feb 21, 2007 @ 01:15

**# of Joints / Length / O.D. / Weight:** 32 joints: 436.48m; 219.1mm; 35.72kg/m; IPSCO; J-55

**Cementing Details:** The casing string was cemented with 38 tones 0.1.0 G + 1.5% CaCl<sub>2</sub>. 4m3 cement slurry received on surface.

**Remarks:** No hole problem was encountered during RIH of casings.

**Casing Type:** Production

<b>Casing Size:</b>	139.7	<b>Hole Size:</b>	200.0
<b>Casing Landed @:</b>	1,450.00	<b>Total Joints:</b>	111
<b>Casing Date:</b>		<b>Plug Down Date:</b>	

**# of Joints / Length / O.D. / Weight:** 111 joints of 139.7mm, 23.07kg/m, IPSCO, J-55 production casings of total length 1459.82m were run in setting the shoe at 1450m RKB.

**Cementing Details:** Conduct cement job with Sangel. Pump lead slurry of 23 tonne Thixlite + 1% SMS followed by tail slurry of 11 tonne Expandomix LWL + 0.1% CFL-3 + 0.2% LTR + 0.2% SPC-II. Displaced with mud. surface.

**Remarks:** 6m3 good cement received on



**Bit Record Table (IADC Grading System)**

Storage Units: Metric

**\*\* For more detailed Bit Information refer to Bit Record \*\***

Bit #	Make	Type	Size	Depth In	Depth Out	Made	Hours	Avg. P.R.	I.A.D.C. Bit Condition								
									I	O	MDC	Loc	B	G	ODC	RP1	RP2
1	Varel	CH04JM	311.0	0.0	436.0	436.0	35.00	12.5	0	0	NO	A	0	I	NO	TD	TD
2	Varel	MKS65	200.0	436.0	1,450.0	1,014.0	75.25	13.5									

**Total Rotating Hours: 110.25**

# Wireline Logging Summary

Storage Units: Metric

Logging Suite Number: 1  
Wireline Logging Company: Weatherford Logging Services. Engineer: L. Sutherland  
District: GPR Unit Number: 13132  
Witness: Azim Ahmed

Was Pressure Control Equipment Utilized: No Maximum Deviation: 1.500 °  
Was the Logging Job Mechanically Assisted: No Hole Size: 200.0

Total Lost Time: 0.00  
Loggers' Total Down Time: 0.00  
Total Job Time (From Rig up to Rig down): 4.50

	Measured Depth	True Vertical Depth
Casing Depth Driller	436.00	436.00
Casing Depth Logger	435.00	435.00
Total Depth Driller (Tally)	1,450.00	1,450.00
Total Depth Driller (Strap or SLM)	1,450.00	

General Remarks: Logging was completed in one run.  
RUN#1: MCG/MFE/MTC/MML/MGS/MDN/MSS/MAI tools.

Logging Run #: 1  
Date: Feb 27, 2007

## Drilling Fluid Data

Drilling Fluid Type: Gel Chem  
Fluid Density: 1180.0 Viscosity: 85 pH: 10.0 Fluid Loss: 8.0

Mud Resistivity (Rm): 0.54 @ 25.0 °  
Mud Resistivity (Rm) @ BHT: 0.36 @ 47.0 ° Maximum Temperature: 47.0 °  
Mud Filtrate Resistivity (Rmf): 0.41 @ 25.0 ° Source (Rmf): Press  
Mud Cake Resistivity (Rmc): 0.63 @ 25.0 ° Source (Rmc): Filter

## Logging Run Information

Date on Bottom: Feb 27, 2007  
Total Depth Logger: 1,448.60 (MD) 1,448.60 (TVD)

Logging Tools: MCG/MFE/MTC/MML/MGS/MDN/MSS/MAI tools; 1444.30m to 435.0m; no hole problems during logging.

Remarks: # The well is drilled as a vertical one. and all depth are measured from RKB.  
# The well is drilled by Precision Drilling Rig# 129.  
# Paramount AFE# 07N710028.  
# Logging was completed by Weatherford.  
# 139.7mm production casings were run in.

Hole Conditions: Good hole condition.

# Directional Survey Points

Storage Units: Metric

Survey Type: magnetic / single shot

Measured Depth	T.V.D.	Drift Angle (°)	Azimuth (°)	+N / -S Distance	+E / -W Distance	Vertical Section	DogLeg Severity
31.00	0.25	0.250					
59.37	59.37	0.500					
96.16	96.16	0.500					
128.50	128.50	0.500					
156.36	156.36	1.000					
184.61	184.61	0.750					
212.92	212.92	0.750					
241.57	241.57	0.750					
270.13	270.13	0.250					
309.13	309.13	0.500					
338.17	338.17	0.750					
387.33	387.33	0.250					
396.62	396.62	0.750					
425.00	425.00	0.750					
436.00	436.00	1.000					
515.00	515.00	1.000					
661.80	661.80	0.500					
846.60	846.66	1.000					
943.85	943.85	0.750					
1,041.00	1,041.00	1.000					
1,138.73	1,138.73	1.500					
1,183.73	1,183.73	1.500					
1,196.80	1,196.80	1.250					
1,274.00	1,274.00	0.500					
1,450.00	1,450.00	0.500					



## Drilling Fluid Summary

Storage Units:      Metric

<b>Drilling Fluid Type:</b>	Gel Chem	<b>From:</b>	0	<b>To:</b>	436
<b>Drilling Fluid Type:</b>	Floc Water	<b>From:</b>	436	<b>To:</b>	856
<b>Drilling Fluid Type:</b>	Gel Chem	<b>From:</b>	856	<b>To:</b>	1,450

## Work Schedule

Storage Units:      Metric

**Company:** Khan Petroleum Ltd.  
**Geologist:** Azim Ahmed

<b>Work Performed</b>	<b>From:</b> Feb 18, 2007	<b>To:</b> Mar 1, 2007
<b>Depths Logged</b>	<b>From:</b> 1,280.0	<b>To:</b> 1,450.0

**Remarks:** Rig moved from Cameron J-04 to Cameron L-73 on Feb 17, 2007.

# Formation Top Summary

Storage Units:

Metric

Kelly Bushing Elevation:  
Ground Elevation:

774.80  
770.80

Casing Flange Elevation:

4.00

**\*\* All Depths measured from Kelly Bushing Elevation \*\***

Group Formation Member	Prognosis (TVD)	Sample Top (MD)	Sample Top (TVD)	Log Top (MD)	Log Top (TVD)	Subsea	Thickness
<i>Wabamun</i>	554.80			552.00	552.00	222.80	
<i>Fort Simpson</i>	719.80			717.00	717.02	57.78	
<i>Sample Point</i>	1,285.00	1,285.00	1,285.00	1,285.00	1,285.00	-510.20	
<i>Beaverhill LK</i>	1,322.80	1,324.00	1,324.00	1,320.00	1,320.00	-545.20	21.00
<i>Slave Point</i>	1,346.50	1,345.00	1,345.00	1,343.25	1,343.25	-568.45	40.00
<i>F4 Marker</i>	1,388.20	1,385.00	1,385.00	1,386.00	1,386.00	-611.20	8.50
<i>Watt Mountain</i>	1,394.70	1,393.50	1,393.50	1,392.00	1,392.00	-617.20	5.00
<i>Sulphur Pt Ls</i>	1,398.00	1,398.50	1,398.50	1,398.00	1,398.00	-623.20	16.50
<i>Sulphur Pt Dol</i>	1,415.30	1,415.00	1,415.00	1,415.30	1,415.30	-640.50	14.00
<i>Muskeg</i>	1,428.10	1,429.00	1,429.00	1,428.00	1,428.00	-653.20	21.00
<i>Total depth</i>	1,449.80	1,450.00	1,450.00	1,448.60	1,448.60	-673.80	



**Storage Units:** Metric

**Casing Flange Elevation:** 4.00

**Group:**  
**Formation:** Slave Point  
**Member:**  
**Boundary Type:** conformable  
**Fault Type:** none

**Era:** Paleozoic  
**Series:** Middle  
**Period:** Devonian  
**Stage:**  
**Age (Approx):** 370 Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	1,345.00	1,345.00	-570.20	40.00
Log Top	1,343.25	1,343.25	-568.45	

The secondary object of drilling Cameron L-73 was to test the hydrocarbon potentiality in the Slave point. The Slave Point formation was identified at 1345.0m RKB (-570.30m SS) RKB. The formation is overlain by the Upper Devonian Beaverhill Lake. The formation is fully developed with a thickness of 40m. From the consistent ROPs the formation was picked up. ROP varied between 4.3min/ to 9.7min/m and limestone cuttings differentiated from the overlying formation and conformably underlain by the Fort Vermilion (F4) Formation.

In the Para Et Al Cameron L-73 well the Slave Point formation anticipated its typical buff and tan to dark brown limestone, intercalated with fine crystalline dolomite and possibly with thin shale laminae.

The limestone section drilled in the Slave point Formation are generally of buff, off white, light brown, mottled, tan, yellowish brown color with abundant of brownish yellow stained grains. They are firm to crumpled to moderately hard, lumpy to blocky, partly sub blocky and partly chalky. They are predominately cryptocrystalline to microcrystalline, occasionally fine crystalline debris, predominately wackestone to mudstone and locally dolomitic. Commonly the possess intraclasts & occasionally bioclastic debris, loose grains to predominately peloids, calcarenite with traces of fine crystalline dolomite and traces of coarse quartz grain. Traces of granular to nodular pyrites are noticed at some depths. Traces of natural oil fluorescence are noticed with very faint cut.

Down the section are coarser with some very fine crystalline debris and grainstones.

Traces to maximum 40% oil fluorescence are noticed between till 1380.0m. Very weak odor, no visible staining, light brownish yellow natural sample fluorescence, faint cut, no residual ring fluorescence, poor show. Good oil show is noticed in the middle section.

Massive deposition of limestone beds possesses 3% - 6% intercrystalline porosity in all through the drilled section. 5% -13% porosity was noticed between 1354.0m to 1364.0m RKB with a maximum gas show of 819/84 units. 7% -14% porosity are noticed between 1364.0m to 1372.0m RKB.

The section from 1357.0m to 1376.0m RKB is noticeable possessing very good reservoir potentiality and can be tested for production.

From the geological point of view the Slave Point Formation in the Cameron Hills is very interesting from the geological view. Usually this formation is not prospective in this area. It is oily and gives gas response but will not be a pay zone. Further investigation and studies are being proposed for the Slave Point formation.



## Formation Evaluations

Storage Units: Metric

Kelly Bushing Elevation: 774.80  
Ground Elevation: 770.80

Casing Flange Elevation: 4.00

### All Depths Measured from Kelly Bushing Elevation

Group: Era: Paleozoic  
Formation: Sulphur Pt Ls Series: Middle  
Member: Period: Devonian  
Boundary Type: disconformable Stage:  
Fault Type: none Age (Approx): 370 Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	1,398.50	1,398.50	-623.70	16.50
Log Top	1,398.00	1,398.00	-623.20	

### Evaluation:

The Sulphur Point Formation conformably separates the overlying Watt Mountain from the underlying Muskeg formation. The limestone part of the formation is picked up with the end of greenish shale Watt Mountain formation.

Inconsistent ROP curve varies from the consistent curve of the overlying and underlying formations. ROPs in the limestone part varied from 2.7min/ to 7.4min/m excepting in the grainy and porous limestone deposit. The limestone part is picked at 1398.50m RKB (-623.70m SS) from the samples, gas show and ROP and later was co-related with the electrical logs. In the log the limestone section is noted at 1398.0m RKB (-623.20m SS). Presence of high gas - maximum 561/222 units is the other criteria for picking up the interval.

The limestone are off white, mottled, light yellow with dark brown stain, light brown and of dark brown color. They are generally firm to crumple to moderately hard, friable, blocky to sub blocky, predominately microcrystalline to crystalline debris. Usually wackestone to packstone are encountered with some very fine crystalline and grainstones debris. Traces to abundant crystalline dolomite are present with traces of coarse quartz grain and rare with anhydrite inclusion. Gray to greenish gray shale fragments is common,

off white, mottled, light yellow with dark brown stain, light to dark brown, firm to crumpled to moderately hard, blocky to sub blocky, smooth to gritty, predominately cryptocrystalline, partly microcrystalline, wackestone to packstone, occasionally grading to very fine crystalline grainstone, locally grading to dolomitic limestone, intraclasts & occasionally bioclastic debris, commonly loose grains to predominately peloids, calcarenite, abundant of very fine crystalline dolomite, traces of coarse quartz grain, traces of anhydrite inclusion, abundant of gray to greenish gray shale fragments, vuggy to fair visible intracrystalline porosity, very faint odor, no visible staining, traces of light brown oil show, light brownish yellow sample fluorescence, faint cut, no residual ring fluorescence, poor show.

Traces to patchy brownish yellow natural fluorescence are noticed - weak odor, no visible staining, traces of light brown oil show, light brownish yellow sample fluorescence, faint cut, no residual ring fluorescence, poor show which possibly indicates presence of heavy hydrocarbon in condensate form.

This limestone part is 16.5m thick. Porosity varies from 3% - 7% excepting some porous streaks where >12% porosity can be noticed. Down the section is coarser and dolomitic

### Conclusion:

The reservoir properties are limited due presence of non porous chalky grains and fine crystalline grains. However, the interval from 1407.0m to 1415.0m RKB identifies itself with good reservoir properties for production. However, further evaluation is needed for the geological interest.



**Storage Units:** Metric

**Casing Flange Elevation:** 4.00

**All Depths Measured from Kelly Bushing Elevation**

**Era:** Paleozoic  
**Series:** Middle  
**Period:** Devonian  
**Stage:**  
**Age (Approx):** 370 Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	1,415.00	1,415.00	-640.20	14.00
Log Top	1,415.30	1,415.30	-640.50	

The dolomitized part of the Sulphur Point Formation separated from the underlying limestone part from the overlying Muskeg Formation. Presence of dolomite is the main criteria of identifying the dolomite part. In general ROP varied between 6.7min/m to 12.6min/m other than in the fine crystalline porous intercalation where ROP are faster.

The dolomitized part is encountered at 1415.0m RKB (-640.20m SS) which differs a little from that of electrical log at 1415.5m RKB ( - 640.70m SS).

In the top section the dolomite encountered are off white, light brown, mottled, tan, satiny, creamy and reddish brown color. They are from firm, crumpled to moderately hard, blocky to sub blocky and partly earthy & chalky and ratty., Mainly cryptocrystalline debris, mudstone, partly wackestone, slightly argillaceous, abundant limestone inclusion, locally grading to dolomitic limestone, and rare fossiliferous. Abundant of calcite and anhydrite are noticed down the section with traces of bituminous partings. Shale grains were common.

The middle section is darker and coarser with some good streaks of grainy dolomites. Gas shows were high in all through the drilled section with maximum 606/122 units at 1428m RKB. Porosity varies from 4% - 12% and a little greater in some streaks. Gas show decreases with the increase of chalky and ratty characteristics and presence of anhydrite. The lower section was more of chalky, ratty mudstone and anhydrites. Porosity almost faded away in the lower section whereas 4 - 7% intercrystalline porosity is noticed in the top section with some high percentages.

Live oil flow was noticed at shakers during drilling this section. Weak odor of heavy hydrocarbon was noticed in all through the dolomite section are noticed - weak odor, no visible staining, patchy to even >80% light yellowish brown natural sample fluorescence, faint intensity with light milky cut, feeble milky white residual ring fluorescence - fair to good show

The reservoir properties are limited by the presence of chalky, ratty mudstone dolomite and anhydrite but the middle section from 1414.0m to 1417.0m RKB possesses favorable reservoir properties. This section can be tested for commercial feasibility. Further evaluation and studies are needed for geological interest.

The reservoir properties are limited by the presence of chalky, ratty mudstone dolomite and anhydrite but the middle section from 1414.0m to 1417.0m RKB possesses favorable reservoir properties. This section can be tested for commercial feasibility. Further evaluation and studies are needed for geological interest.



## Sample Descriptions

Storage Units:    Metric

**Sample Point: 1,285.00 MD, 1,285.00 TVD, -510.20 SSL**

1,285.00 to 1,290.00 (5.00)	60% <b>Shale</b> light gray to dark gray, greenish gray, firm, friable, partly moderately hard to hard, splintery to blocky, micromicaceous, dull earthy texture, mud stone inclusion, smooth to waxy texture in parts, fissile to subfissile, partly platy, carbonaceous, in part calcite grading to argillaceous limestone, abundant of light gray, green gray to tan mcxln limestone inclusion, abundant of dark brown to black minerals, rare silty, very calcareous to shally limestone.
	40% <b>Limestone</b> off white, light brown, brownish gray, mottled, in part chalky, firm to crumpled, rare moderately hard, blocky to subblocky, smooth to gritty, partly grainy, cryptocrystalline to microcrystalline debris, predominately mudstone, rare wackestone, calcarenite, commonly dolomitic & locally grading to dolomitic limestone, traces of calcite inclusions, abundant of green gray to light gray shale fragments, local disseminated pyrite, poor intercrystalline visible porosity, no shows.
1,290.00 to 1,295.00 (5.00)	70% <b>Shale</b> medium gray, gray, greenish gray, firm, friable, partly moderately hard to hard, splintery to blocky, micromicaceous, dull earthy texture, mud stone inclusion, smooth to waxy texture in parts, fissile to subfissile, partly platy, carbonaceous, traces of granular pyrite, abundant of gray to tan limestone inclusion, abundant of dark brown to black minerals, traces of loose coarse quartz grains, rare silty, very calcareous to shally limestone.
	30% <b>Limestone</b> off white, light brown, brownish gray, mottled, in part chalky, firm to crumpled, rare moderately hard, blocky to subblocky, smooth to gritty, partly grainy, cryptocrystalline to microcrystalline debris, predominately mudstone, rare wackestone, calcarenite, commonly dolomitic & locally grading to dolomitic limestone, traces of calcite inclusions, abundant of green gray to light gray shale fragments, local disseminated pyrite, poor intercrystalline visible porosity, no shows.
1,295.00 to 1,300.00 (5.00)	70% <b>Shale</b> medium gray, gray, greenish gray, firm, friable, partly moderately hard to hard, splintery to blocky, micromicaceous, dull earthy texture, mud stone inclusion, smooth to waxy texture in parts, fissile to subfissile, partly platy, carbonaceous, traces of granular pyrite, abundant of gray to tan limestone inclusion, abundant of dark brown to black minerals, traces of loose coarse quartz grains, rare silty, very calcareous to shally limestone.
	30% <b>Limestone</b> off white, light brown, brownish gray, mottled, in part chalky, firm to crumpled, rare moderately hard, blocky to subblocky, smooth to gritty, partly grainy, cryptocrystalline to microcrystalline debris, predominately mudstone, rare wackestone, calcarenite, commonly dolomitic & locally grading to dolomitic limestone, traces of calcite inclusions, abundant of shale fragments, local disseminated pyrite, poor intercrystalline visible porosity, no shows.



## Sample Descriptions

Storage Units:      Metric

1,300.00 to 1,305.00 (5.00)	<b>70% Shale</b> medium gray, gray, greenish gray, firm, friable, partly moderately hard to hard, splintery to blocky, micromicaceous, dull earthy texture, mud stone inclusion, smooth to waxy texture in parts, fissile to subfissile, partly platy, carbonaceous, traces of granular pyrite, abundant of gray to tan limestone inclusion, abundant of dark brown to black minerals, traces of loose coarse quartz grains, rare silty, very calcareous to shally limestone.
	<b>30% Limestone</b> off white, light brown, brownish gray, mottled, in part chalky, firm to crumpled, rare moderately hard, blocky to subblocky, smooth to gritty, partly grainy, cryptocrystalline to microcrystalline debris, predominately mudstone, rare wackestone, calcarenite, commonly dolomitic & locally grading to dolomitic limestone, traces of calcite inclusions, abundant of shale fragments, local disseminated pyrite, poor intercrystalline visible porosity, no shows.
1,305.00 to 1,310.00 (5.00)	<b>80% Shale</b> gray, dark gray, brownish gray, occasionally greenish gray, moderately hard to hard, partly friable, sub blocky to blocky, smooth to gritty, commonly micromicaceous, partly limy, partly dull earthy texture, rare subfissile, partly platy, rare thinly laminated, occasionally silty, partly carbonaceous, traces of argillaceous limestone, traces of granular pyrite, calcareous.
	<b>20% Limestone</b> off white, light brown, brownish gray, mottled, tan, in part chalky, firm to crumpled, rare moderately hard, blocky to subblocky, smooth to gritty, partly grainy, cryptocrystalline to microcrystalline debris, predominately mudstone, rare wackestone, calcarenite, commonly dolomitic & locally grading to dolomitic limestone, traces of calcite inclusions, abundant of shale fragments, local disseminated pyrite, traces of loose coarse quartz grains, poor intercrystalline visible porosity, no shows.
1,310.00 to 1,315.00 (5.00)	<b>80% Shale</b> medium gray, gray, partly greenish gray, firm, friable, partly moderately hard to hard, splintery to blocky, micromicaceous, dull earthy texture, partly clayey & soluble, mud stone inclusion, smooth to waxy texture in parts, fissile to subfissile, partly platy, carbonaceous, traces of granular pyrite, abundant of gray to tan lumpy to blocky limestone, abundant of dark brown to black minerals, traces of loose coarse quartz grains, rare silty, very calcareous to shally limestone, rare dolomitic.
	<b>20% Limestone</b> off white, light brown, brownish gray, mottled, tan, in part chalky, firm to crumpled, rare moderately hard, blocky to subblocky, smooth to gritty, partly grainy, cryptocrystalline to microcrystalline debris, predominately mudstone, rare wackestone, calcarenite, commonly dolomitic & locally grading to dolomitic limestone, traces of calcite inclusions, abundant of shale fragments, local disseminated pyrite, traces of loose coarse quartz grains, poor intercrystalline visible porosity, no shows.



## Sample Descriptions

Storage Units: Metric

- 1,315.00 to 1,320.00    70% **Shale**  
(5.00)  
medium gray, gray, partly greenish gray, firm, friable, partly moderately hard to hard, splintery to blocky, micromicaceous, dull earthy texture, mud stone inclusion, smooth to waxy texture in parts, fissile to subfissile, partly platy, carbonaceous, traces of granular pyrite, abundant of gray to tan lumpy to blocky limestone, abundant of dark brown to black minerals, traces of loose coarse quartz grains, rare silty, very calcareous to shally limestone, rare dolomitic.
- 30% **Limestone**  
off white, light brown, brownish gray, mottled, tan, in part chalky, firm to crumpled, rare moderately hard, blocky to subblocky, smooth to gritty, partly grainy, cryptocrystalline to microcrystalline debris, predominately mudstone, rare wackestone, calcarenite, commonly dolomitic & locally grading to dolomitic limestone, traces of calcite inclusions, abundant of shale fragments, local disseminated pyrite, traces of loose coarse quartz grains, poor intercrystalline visible porosity, no shows.

### Beaverhill LK: 1,324.00 MD, 1,324.00 TVD, -549.20 SSL

- 1,320.00 to 1,325.00    80% **Shale**  
(5.00)  
light to medium gray, blackish gray, traces greenish gray, moderately hard to hard, partly friable, sub blocky to blocky, commonly micromicaceous & limy, partly dull earthy texture, partly smooth to waxy, partly subfissile, partly platy, rare thinly laminated, partly clayey, occasionally silty, partly carbonaceous, clayey in parts, traces of argillaceous limestone, traces bituminous in part (?), abundant of shale fragments, local disseminated pyrite, traces of loose coarse quartz grains with rare siltstone & sandstone stringers, calcareous. traces of siltstone and sandstone stringers, abundant of argillaceous limestone, calcareous.
- 20% **Limestone**  
off white, light brown, brownish gray, mottled, tan, in part chalky, firm to crumpled, rare moderately hard, blocky to subblocky, smooth to gritty, partly grainy, cryptocrystalline to microcrystalline debris, predominately mudstone, rare wackestone, calcarenite, commonly dolomitic & locally grading to dolomitic limestone, traces of calcite inclusions, traces bituminous in part (?), abundant of shale fragments, local disseminated pyrite, traces of loose coarse quartz grains, poor intercrystalline visible porosity, no shows.
- 1,325.00 to 1,330.00    80% **Shale**  
(5.00)  
light to medium gray, dark gray, brownish gray, occasionally greenish gray, moderately hard to hard, partly friable, sub blocky to blocky, smooth to gritty, commonly micromicaceous, partly limy, partly dull earthy texture, rare subfissile, partly platy & rare thinly laminated, occasionally silty, partly carbonaceous, traces off white to gray argillaceous limestone, traces of coarse quartz grain with some siltstone stringers, calcareous.

## Sample Descriptions

Storage Units: Metric

1,325.00 to 1,330.00 (5.00)	20% <b>Limestone</b> off white, light brown, brownish gray, mottled, tan, in part chalky, firm to crumpled, rare moderately hard, blocky to subblocky, smooth to gritty, partly grainy, cryptocrystalline to microcrystalline debris, predominately mudstone, rare wackestone, calcarenite, commonly dolomitic & locally grading to dolomitic limestone, traces of calcite inclusions, abundant of shale fragments, local disseminated pyrite, traces of loose coarse quartz grains, poor intercrystalline visible porosity, no shows.
1,330.00 to 1,335.00 (5.00)	60% <b>Shale</b> gray, dark gray, brownish gray, occasionally greenish gray, moderately hard to hard, partly friable, sub blocky to blocky, smooth to gritty, commonly micromicaceous, partly limy, partly dull earthy texture, rare subfissile, partly platy, rare thinly laminated, occasionally silty, partly carbonaceous, traces of argillaceous limestone, traces of granular pyrite, calcareous.  40% <b>Limestone</b> off white, light brown, brownish gray, mottled, tan, in part chalky, firm to crumpled, rare moderately hard, blocky to subblocky, smooth to gritty, partly grainy, cryptocrystalline to microcrystalline debris, predominately mudstone, rare wackestone, calcarenite, commonly dolomitic & locally grading to dolomitic limestone, traces of calcite inclusions, traces bituminous in part (?), abundant of shale fragments, local disseminated pyrite, traces of loose coarse quartz grains, poor intercrystalline visible porosity, no shows.
1,335.00 to 1,340.00 (5.00)	60% <b>Shale</b> gray, dark gray, brownish gray, occasionally greenish gray, moderately hard to hard, partly friable, sub blocky to blocky, smooth to gritty, commonly micromicaceous, partly limy, partly dull earthy texture, rare subfissile, partly platy, rare thinly laminated, occasionally silty, partly carbonaceous, traces of argillaceous limestone, traces of granular pyrite, calcareous.  40% <b>Limestone</b> off white, light brown, brownish gray, mottled, tan, in part chalky, firm to crumpled, rare moderately hard, blocky to subblocky, smooth to gritty, partly grainy, cryptocrystalline to microcrystalline debris, predominately mudstone, rare wackestone, calcarenite, commonly dolomitic & locally grading to dolomitic limestone, traces of calcite inclusions, traces bituminous in part (?), abundant of shale fragments, local disseminated pyrite, traces of loose coarse quartz grains, poor intercrystalline visible porosity, no shows.
1,340.00 to 1,345.00 (5.00)	80% <b>Shale</b> gray, dark gray, brownish gray, occasionally greenish gray, moderately hard to hard, partly friable, sub blocky to blocky, smooth to gritty, commonly micromicaceous, partly limy, partly dull earthy texture, rare subfissile, partly platy & rare thinly laminated, occasionally silty, partly carbonaceous, traces of argillaceous limestone, traces of coarse quartz graing with some siltstone stringers, calcareous.



## Sample Descriptions

Storage Units: Metric

1,340.00 to 1,345.00    20% **Limestone**  
(5.00)  
off white, light brown, brownish gray, mottled, tan, in part chalky, firm to crumpled, rare moderately hard, blocky to subblocky, smooth to gritty, partly grainy, cryptocrystalline to microcrystalline debris, predominately mudstone, rare wackestone, calcarenite, commonly dolomitic & locally grading to dolomitic limestone, traces of calcite inclusions, traces bituminous in part (?), abundant of shale fragments, local disseminated pyrite, traces of loose coarse quartz grains, poor intercrystalline visible porosity, no shows.

**Slave Point: 1,345.00 MD, 1,345.00 TVD, -570.20 SSL**

1,345.00 to 1,350.00    80% **Limestone**  
(5.00)  
off white, mottled, tan, creamy, dark brown, occasional dark brown oil stain, firm to crumpled to moderately hard, lumpy to blocky, partly subblocky, partly chalky, predominately cryptocrystalline to microcrystalline, occasionally fine crystalline debris, predominately wackestone to mudstone, locally dolomitic, intraclasts & occasionally bioclastic debris, commonly loose grains to predominately peloids, calcarenite, traces of fine crystalline dolomite, rare calcite infill, dense with trace poor intracrystalline porosity, traces of light brown oil show, no visible staining, very weak odour, light pale brownish yellow natural sample fluorescence, very faint cut, no residual ring fluorescence, poor show.

20% **Shale**  
gray, dark gray, brownish gray, occasionally greenish gray, moderately hard to hard, partly friable, sub blocky to blocky, smooth to gritty, commonly micromicaceous, partly limy, partly dull earthy texture, rare subfissile, partly platy, rare thinly laminated, occasionally silty, partly carbonaceous, traces of argillaceous limestone, traces of granular pyrite, calcareous.

1,350.00 to 1,355.00    100% **Limestone**  
(5.00)  
predominately brown, off white, light yellow with dark brown stain, occasionally tan, dark brown, firm, friable to crumpled to moderately hard, lumpy to blocky, predominately cryptocrystalline to microcrystalline, rare very fine crystalline debris, predominately wackestone, partly mudstone, intraclasts & occasionally bioclastic debris, calcarenite, partly argillaceous, traces of fine crystalline dolomite, rare siltstone stringer & greenish brown shale fragments inclusion, traces of loose coarse quartz grains, good visible intracrystalline porosity, weak odour, no visible staining, patchy golden white natural sample fluorescence, slow faint cut, pale yellowish brown residual ring fluorescence, good show.

1,355.00 to 1,360.00    100% **Limestone**  
(5.00)  
predominately brown, off white, occasional dark brown oil stain, dark brown, firm, friable to crumpled to moderately hard, lumpy to blocky, predominately cryptocrystalline to microcrystalline, rare very fine crystalline debris, predominately wackestone, partly mudstone, intraclasts & occasionally bioclastic debris, calcarenite, partly argillaceous, traces of fine crystalline dolomite, rare siltstone stringer & greenish brown shale fragments inclusion, traces of loose coarse quartz grains, good visible intracrystalline porosity, weak odour, no visible staining, patchy brownish yellow natural sample fluorescence, slow faint cut, pale yellowish white residual ring fluorescence, good show.



## Sample Descriptions

Storage Units:      Metric

1,360.00 to 1,365.00 (5.00)	<b>100%Limestone</b> predominately brown, off white, occasional dark brown oil stain, dark brown, firm, friable to crumpled to moderately hard, lumpy to blocky, predominately cryptocrystalline to microcrystalline, rare very fine crystalline debris, predominately wackestone, partly mudstone, intraclasts & occasionally bioclastic debris, calcarenite, partly argillaceous, traces of fine crystalline dolomite, rare siltstone stringer & greenish brown shale fragments inclusion, traces of loose coarse quartz grains, good visible intracrystalline porosity, weak odour, no visible staining, patchy brownish yellow natural sample fluorescence, slow faint cut, pale yellowish white residual ring fluorescence, good show.
1,365.00 to 1,370.00 (5.00)	<b>100%Limestone</b> brown, tan, off white, greenish brown, light yellow with dark brown stain, dark brown, firm, friable to crumpled to moderately hard, lumpy to blocky, predominately microcrystalline to very fine crystalline debris, partly cryptocrystalline, predominately wackestone, partly mudstone, intraclasts & occasionally bioclastic debris, calcarenite, partly argillaceous, traces of fine crystalline dolomite, local bituminous partings, rare siltstone stringer & greenish brown shale fragments inclusion, traces of loose coarse quartz grains, good visible intracrystalline porosity, weak odour, no visible staining, patchy golden white natural sample fluorescence, slow faint cut, pale yellowish brown residual ring fluorescence, good show.
1,370.00 to 1,375.00 (5.00)	<b>100%Limestone</b> off white, mottled, tan, creamy, dark brown, occasional dark brown oil stain, firm to crumpled to moderately hard, lumpy to blocky, partly subblocky, partly chalky, predominately cryptocrystalline to microcrystalline, occasionally fine crystalline debris, predominately wackestone to mudstone, locally dolomitic, intraclasts & occasionally bioclastic debris, commonly loose grains to predominately peloids, calcarenite, traces of fine crystalline dolomite, rare calcite infill, fair to good visible intracrystalline porosity, weak odour, no visible staining, patchy brownish yellow natural sample fluorescence, slow faint cut, pale yellowish white residual ring fluorescence, good show.
1,375.00 to 1,380.00 (5.00)	<b>100%Limestone</b> brown, off white, greenish brown, dark brown, light yellow with dark brown stain, tan, firm, friable to crumpled to moderately hard, lumpy to blocky, predominately microcrystalline to very fine crystalline debris, partly cryptocrystalline, predominately wackestone, partly mudstone, partly grainy, intraclasts & occasionally bioclastic debris, calcarenite, argillaceous in parts, traces of fine crystalline dolomite, local bituminous partings, rare siltstone stringer & greenish brown shale fragments inclusion, traces of loose coarse quartz grains, good visible intracrystalline porosity, weak odour, no visible staining, traces of golden white natural sample fluorescence, slow faint cut, pale brownish yellow residual ring fluorescence, fair show.



## Sample Descriptions

Storage Units: Metric

1,380.00 to 1,385.00 100% **Limestone**  
(5.00)  
brown, tan, greenish brown, dark brown, occasional dark brown oil stain, firm, friable to crumpled to moderately hard, lumpy to blocky, predominately microcrystalline to very fine crystalline debris, partly cryptocrystalline, predominately wackestone, partly mudstone, partly grainy, intraclasts & occasionally bioclastic debris, calcarenite, argillaceous in parts, traces of fine crystalline dolomite, local bituminous partings, rare calcite infill, rare siltstone stringer & greenish brown shale fragments inclusion, traces of loose coarse quartz grains, good visible intracrystalline porosity, weak odour, no visible staining, traces of yellowish brown natural sample fluorescence, slow faint cut, pale brownish yellow residual ring fluorescence, fair show.

**F4 Marker: 1,385.00 MD, 1,385.00 TVD, -610.20 SSL**

1,385.00 to 1,390.00 80% **Limestone**  
(5.00)  
brown, light yellow with dark brown stain, occasionally tan, dark brown, firm, friable to crumpled to moderately hard, blocky to subblocky, smooth to gritty, predominately microcrystalline to very fine crystalline debris, partly cryptocrystalline, predominately wackestone, partly mudstone, partly argillaceous, traces of fine crystalline dolomite, traces of greenish brown shale fragments, abundant of anhydrite inclusion, loose coarse quartz grains, tight visible intracrystalline porosity, no shows.

20% **Shale**  
medium gray to brownish gray, greenish gray, firm, friable, moderately hard to hard, sub blocky to blocky, commonly micromicaceous, rare dull earthy texture, partly clayey, soft & sticky, rare subfissile, partly platy, occasionally silty, partly carbonaceous, abundant crystalline limestone, traces of fine crystalline dolomite, traces of bituminous (?) fragments, traces of coarse quartz grain, traces of anhydrite inclusion, non to slightly calcareous.

**Watt Mountain: 1,393.50 MD, 1,393.50 TVD, -618.70 SSL**

1,390.00 to 1,395.00 80% **Limestone**  
(5.00)  
gray, brownish gray, off white, mottled, light yellow with dark brown stain, light brown, dark brown, firm to crumpled to moderately hard, blocky to subblocky, smooth to gritty, predominately microcrystalline to crystalline debris, predominately wackestone to packstone, locally grading to dolomitic limestone, intraclasts & occasionally bioclastic debris, commonly loose grains to predominately peloids, calcarenite, traces of fine crystalline dolomite, traces of coarse quartz grain, traces of anhydrite inclusion, abundant of gray to greenish gray shale fragments, vuggy to fair visible intracrystalline porosity, very faint odour, no visible staining, traces of light brown oil show, light brownish yellow sample fluorescence, faint cut, no residual ring fluorescence, poor show.

20% **Shale**  
gray, greenish gray, moderately hard to hard, partly friable, sub blocky to blocky, commonly micromicaceous, rare dull earthy texture, partly clayey & soft to firm, rare subfissile, partly platy, occasionally silty, partly carbonaceous, abundant crystalline limestone, traces of fine crystalline dolomite, traces of bituminous (?) fragments, non to slightly calcareous.



## Sulphur Pt Ls: 1,398.50 MD, 1,398.50 TVD, -623.70 SSL

1,395.00 to 1,400.00 (5.00)	<b>80% Limestone</b> brown, light yellow with dark brown stain, occasionally tan, dark brown, firm, friable to crumpled to moderately hard, blocky to subblocky, smooth to gritty, predominately microcrystalline to very fine crystalline debris, partly cryptocrystalline, predominately wackestone, partly mudstone, partly argillaceous, traces of fine crystalline dolomite, traces of greenish brown shale fragments, abundant of anhydrite inclusion, loose coarse quartz grains, fair visible intracrystalline porosity, traces of light brown oil show, weak odor, light brownish yellow sample fluorescence, faint cut, no residual ring fluorescence, poor show.
	<b>20% Shale</b> gray, greenish gray, green, moderately hard to hard, partly friable, sub blocky to blocky, smooth to gritty, commonly micromicaceous, rare dull earthy texture, rare subfissile, occasionally thinly laminated, occasionally silty, partly carbonaceous, abundant crystalline limestone, traces of fine crystalline dolomite, abundant of bituminous (?) fragments with dark brown to black minerals, traces of coarse quartz grain with granular pyrite, traces of anhydrite inclusion, calcareous.
1,400.00 to 1,405.00 (5.00)	<b>100%Limestone</b> off white, mottled, light yellow with dark brown stain, light to dark brown, firm to crumpled to moderately hard, blocky to subblocky, smooth to gritty, predominately cryptocrystalline, partly microcrystalline, wackestone to packstone, occasionally grading to very fine crystalline grainstone, locally grading to dolomitic limestone, intraclasts & occasionally bioclastic debris, commonly loose grains to predominately peloids, calcarenite, abundant of very fine crystalline dolomite, traces of coarse quartz grain, traces of anhydrite inclusion, abundant of gray to greenish gray shale fragments, vuggy to fair visible intracrystalline porosity, very faint odour, no visible staining, traces of light brown oil show, light brownish yellow sample fluorescence, faint cut, no residual ring fluorescence, poor show.
1,405.00 to 1,410.00 (5.00)	<b>100%Limestone</b> off white, mottled, light yellow with dark brown stain, light to dark brown, firm to crumpled to moderately hard, blocky to subblocky, smooth to gritty, predominately cryptocrystalline, partly microcrystalline, wackestone to packstone, occasionally grading to very fine crystalline grainstone, locally grading to dolomitic limestone, intraclasts & occasionally bioclastic debris, commonly loose grains to predominately peloids, calcarenite, abundant of very fine crystalline dolomite, traces of coarse quartz grain, traces of anhydrite inclusion, abundant of gray to greenish gray shale fragments, vuggy to fair visible intracrystalline porosity, very faint odour, no visible staining, traces of light brown oil show, light brownish yellow sample fluorescence, faint cut, no residual ring fluorescence, poor show.



1,410.00 to 1,415.00 (5.00)	<p><b>60% Limestone</b> off white, mottled, light yellow with dark brown stain, light brown, dark brown, firm to crumpled to moderately hard, blocky to subblocky, predominately microcrystalline to crystalline debris, predominately wackestone to packstone, intraclasts &amp; occasionally bioclastic debris, abundant of fine crystalline dolomite inclusion, traces of coarse quartz grain, fair to good visible intracrystalline porosity, very faint odour, no visible staining, traces of light brown oil show, light brownish yellow sample fluorescence, faint cut, no residual ring fluorescence, poor show.</p> <p><b>40% Dolomite</b> white, off white, mottled, tan, light gray, light brown, blocky to subblocky, smooth to gritty, partly chalky predominately cryptocrystalline debris, predominately mudstone, partly wackestone, slightly argillaceous, rare evidence of fractures surface with bituminous coating, abundant limestone inclusion, fossiliferous, abundant of calcite, traces of loose quartz grains, traces of anhydrite inclusion, vuggy visible intracrystalline porosity, very faint odour, no visible staining, patchy light brown oil show, light brownish yellow sample fluorescence, faint cut, faint milky white residual ring fluorescence, fair to good show.</p>
<b>Sulphur Pt Dol: 1,415.00 MD, 1,415.00 TVD, -640.20 SSL</b>	
1,415.00 to 1,420.00 (5.00)	<p><b>80% Dolomite</b> off white, light brown, mottled, tan, stony, creamy, reddish brown, firm to crumpled to moderately hard, blocky to subblocky, smooth to gritty, partly earthy &amp; chalky, ratty, predominately cryptocrystalline debris, mudstone, partly packstone, slightly argillaceous, abundant limestone inclusion, locally grading to dolomitic limestone, calcarenite, fossiliferous, abundant of calcite and anhydrite inclusions, traces of bituminous partings, traces of shale grain, vuggy to good visible intracrystalline porosity, weak odour, no visible staining, patchy light brown oil show, light brownish yellow sample fluorescence, faint cut, faint milky white residual ring fluorescence, poor show.</p> <p><b>20% Limestone</b> light brown, off white, mottled, light yellow with dark brown stain, dark brown, partly tan, firm to crumpled to moderately hard, blocky to subblocky, smooth to gritty, predominately microcrystalline to crystalline debris, predominately wackestone to packstone, locally grading to dolomitic limestone, intraclasts &amp; occasionally bioclastic debris, commonly loose grains to predominately peloids, calcarenite, abundant of fine crystalline dolomite, traces of coarse quartz grain, vuggy to fair visible intracrystalline porosity, very faint odour, no visible staining, traces of light brown oil show, light brownish yellow sample fluorescence, faint cut, no residual ring fluorescence, poor show.</p>
1,420.00 to 1,425.00 (5.00)	<p><b>100% Dolomite</b> mottled, tan, light gray, light brown, blocky to subblocky, smooth to gritty, partly chalky predominately cryptocrystalline debris, predominately mudstone, partly wackestone, slightly argillaceous, rare evidence of fractures surface with bituminous coating, abundant limestone inclusion, fossiliferous, abundant of calcite, traces of loose quartz grains, traces of anhydrite inclusion, vuggy visible intracrystalline porosity, weak odor, no visible staining, patchy light brown oil show, light brownish yellow sample fluorescence, faint cut, faint milky white residual ring fluorescence. NB; live oil flow noticed at shaker.</p>



## Sample Descriptions

Storage Units:    Metric

### Muskeg: 1,429.00 MD, 1,429.00 TVD, -654.20 SSL

1,425.00 to 1,430.00 (5.00)	70% <b>Dolomite</b> light brown, mottled, tan, off white, firm to crumpled to moderately hard, blocky to subblocky, smooth to gritty, partly earthy & chalky, ratty, predominately cryptocrystalline debris, predominately mudstone, partly wackestone, slightly argillaceous, abundant limestone & anhydrite inclusion, calcarenite, no visible intracrystalline porosity, no shows.
	30% <b>Anhydrite</b> white, off white, hyaline, tan, irregularly shaped, sharp, angular, abundant of calcite inclusion, traces of fine crystalline limestone with abundant of brownish gray to tan dolomite inclusion.
1,430.00 to 1,435.00 (5.00)	50% <b>Anhydrite</b> white, off white, light brown, light gray, white, interbedded with dolomite, interbedded with limestone with patchy faint oil stain and black bituminous(?) and black minerals, moderately hard, very hard in parts, blocky, cryptocrystalline to micro crystalline, grading to thromb stone debris.
	50% <b>Dolomite</b> light gray, light brown, mottled, tan, stained, creamy, reddish brown, firm to crumpled to moderately hard, blocky to subblocky, smooth to gritty, partly earthy & chalky, ratty, predominately cryptocrystalline debris, mudstone, partly packstone, slightly argillaceous, abundant limestone inclusion, locally grading to dolomitic limestone, calcarenite, fossiliferous, abundant of calcite and anhydrite inclusions, traces of bituminous partings with some black minerals, traces of shale grain, tight intracrystalline porosity, no shows.
1,435.00 to 1,440.00 (5.00)	70% <b>Dolomite</b> light brown, mottled, tan, off white, firm to crumpled to moderately hard, blocky to subblocky, smooth to gritty, partly earthy & chalky, ratty, predominately cryptocrystalline debris, predominately mudstone, partly wackestone, slightly argillaceous, abundant anhydrite inclusion with some limestone, calcarenite, no visible intracrystalline porosity, no shows.
	30% <b>Anhydrite</b> white, off white, hyaline, tan, irregularly shaped, sharp, angular, abundant of calcite inclusion, traces of fine crystalline limestone with abundant of brownish gray to tan dolomite inclusion, traces of greenish brown shale fragments, traces of carbonaceous material.
1,440.00 to 1,445.00 (5.00)	60% <b>Dolomite</b> light brown, mottled, tan, off white, firm to crumpled to moderately hard, blocky to subblocky, smooth to gritty, partly earthy & chalky, ratty, predominately cryptocrystalline debris, predominately mudstone, partly wackestone, slightly argillaceous, abundant anhydrite inclusion with some limestone, calcarenite, no visible intracrystalline porosity, no shows.
	40% <b>Anhydrite</b> white, off white, hyaline, tan, irregularly shaped, sharp, angular, abundant of calcite inclusion, traces of fine crystalline limestone with abundant of brownish gray to tan dolomite inclusion, traces of greenish brown shale fragments, traces of carbonaceous material.

## Sample Descriptions

Storage Units:    Metric

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1,445.00 to 1,450.00 (5.00)	60% <b>Dolomite</b> light gray, light brown, mottled, tan, stained, creamy, reddish brown, firm to crumpled to moderately hard, blocky to subblocky, smooth to gritty, partly earthy & chalky, ratty, predominately cryptocrystalline debris, mudstone, partly packstone, slightly argillaceous, abundant limestone inclusion, locally grading to dolomitic limestone, calcarenite, fossiliferous, abundant of calcite and anhydrite inclusions, traces of bituminous partings with some black minerals, traces of shale grain, tight intracrystalline porosity, no shows.
	40% <b>Anhydrite</b> white, off white, hyaline, tan, irregularly shaped, sharp, angular, abundant of calcite inclusion, traces of fine crystalline limestone with abundant of brownish gray to tan dolomite inclusion, traces of greenish brown shale fragments, traces of carbonaceous material.

**Well Information**

**Operator:** Paramount Resources Ltd.  
**Well Name:** Para Et Al Cameron L-73  
**Location:** 300/L-73-60-10-117-15  
**UWI:** 300-L-73-6010-117150  
**Pool:** Sulphur Point & Slave Point.  
**Field:** Cameron Hills.  
**Province / State:** Northwest Territory  
**Country:** Canada



**Paramount**  
resources ltd.

**Elevations**

**Reference:** MSL **Ground:** 770.8 m  
**Cut(-) / Fill(+):** -0 m **Kelly Bushing:** 774.8 m  
**K.B. to Ground:** 4 m **Casing Flange:** 4 m

**Total Depth**

Measurement Type	Measured Depth	True Vertical Depth
Drillers TD (Tally)	1450 m	1450 m
Drillers TD (Strap or SLM)	1450 m	1450 m
Loggers TD	1448.6 m	1448.6 m

**Surface Co - Ordinates**

**Well Type:** Straight **Longitude:** 117°29'54.3" **Latitude:** 60°2'38.3"  
**N / S Co - Ordinates:** n/a.  
**E / W Co - Ordinates:** n/a.

**Bottom Hole Co - Ordinates**

**Longitude:** 117°29'54.3" **Latitude:** 60°2'38.3"  
**N / S Co - Ordinates:** n/a.  
**E / W Co - Ordinates:** n/a.

**Drilling Fluid Summary**

Fluid Type	From	To
Gel Chem	0 m	436 m
Floc Water	436 m	856 m
Gel Chem	856 m	1450 m

**Casing Summary**

Type	Hole Size	Casing Size	Landed At
Surface	311 mm	219.1 mm	436 m
Production	200 mm	139.7 mm	1450 m

**Well Summary**

**Spud Date:** Feb 18, 2007 @ 10:00hrs **Contractor:** Precision Rig# 129.  
**TD Date:** Feb 27, 2007 @ 06:00hrs **Rig Release Date:**

**Work Schedule**

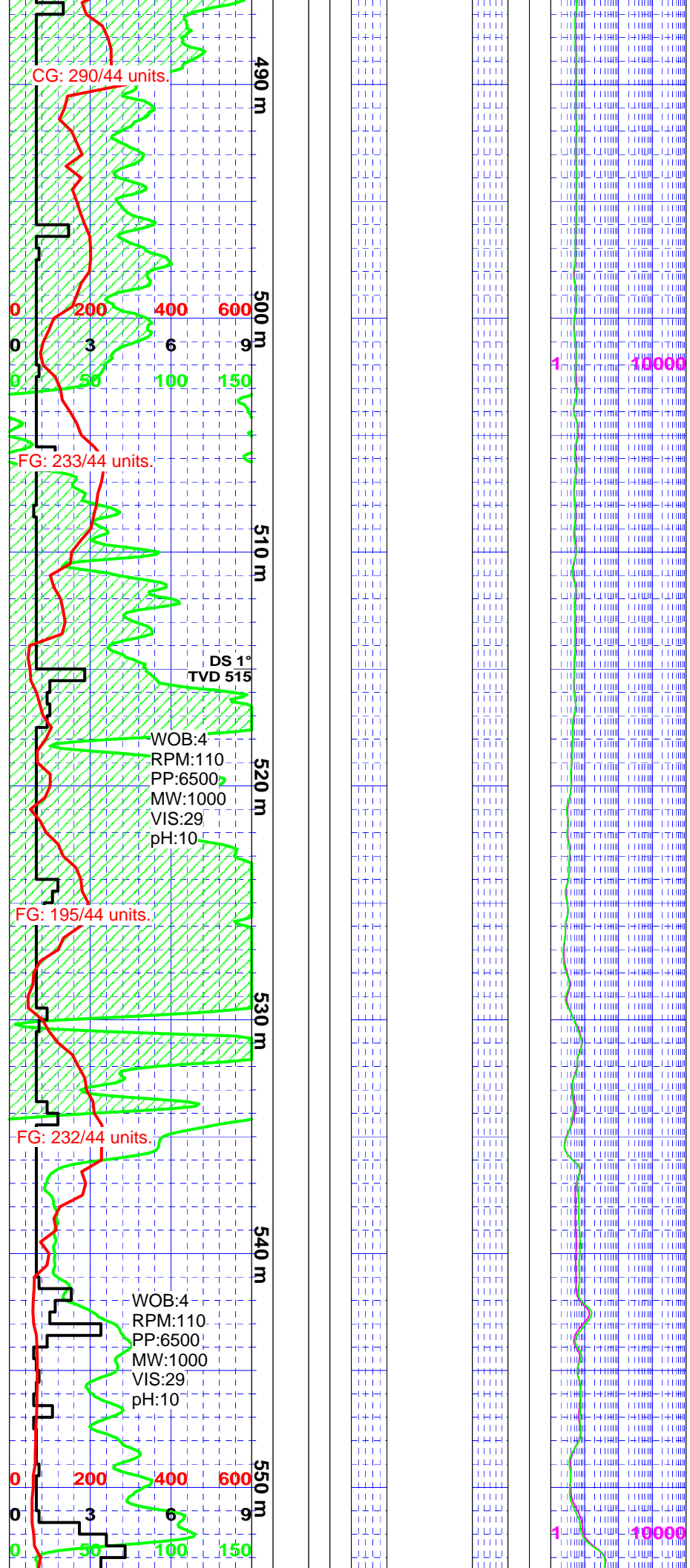
Contractor	Geologist	Log Interval	Dates Logged
Khan Petroleum Ltd.	Azim Ahmed	1280 m - 1450 m	Feb 18, 2007 - Mar 1, 2007

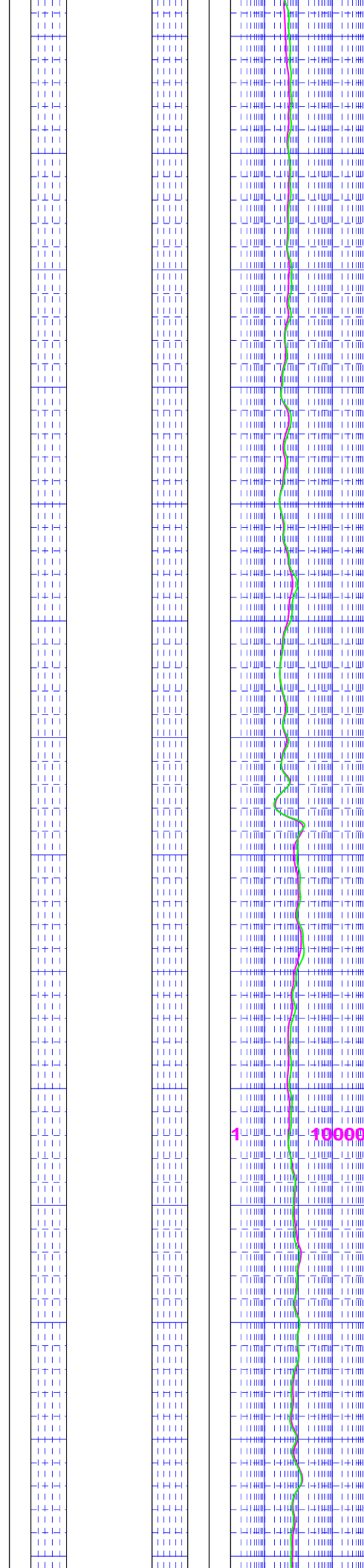
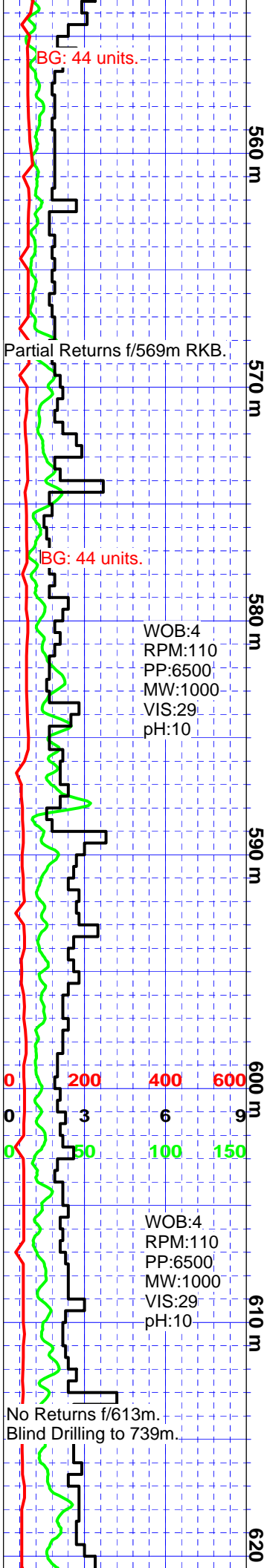
**Remarks**

Composite Striplog Presentation - Scales 1:240



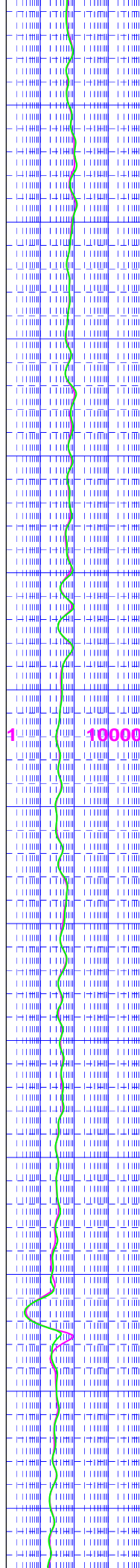
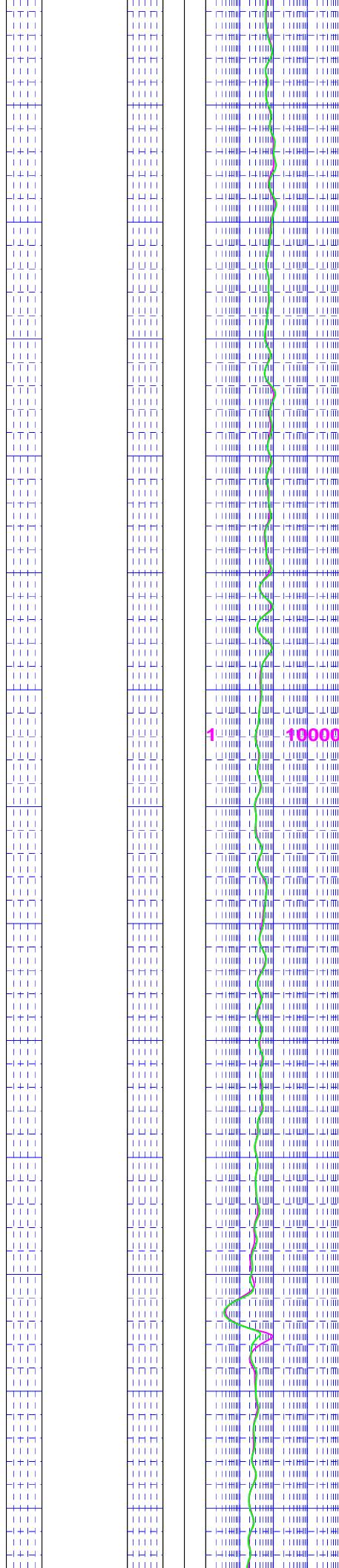
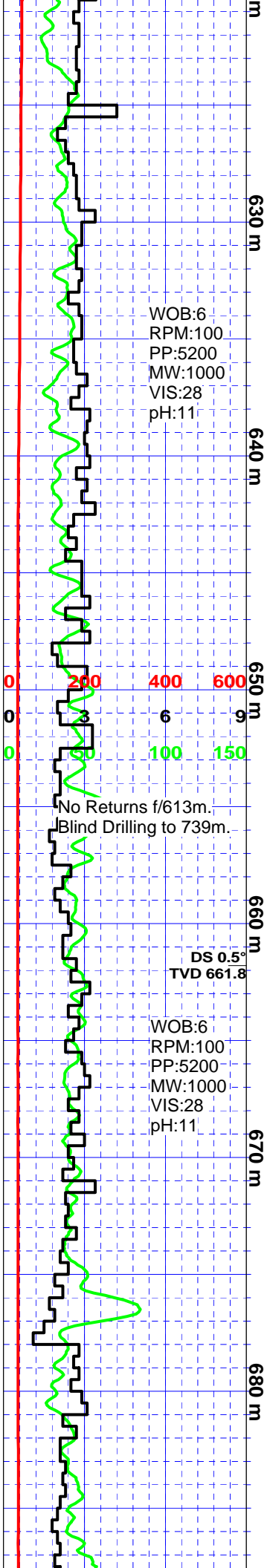
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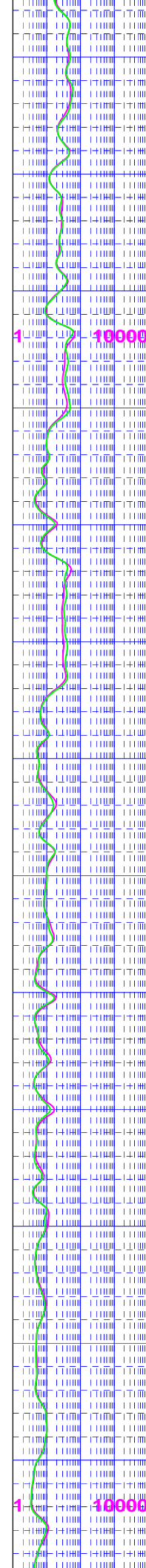
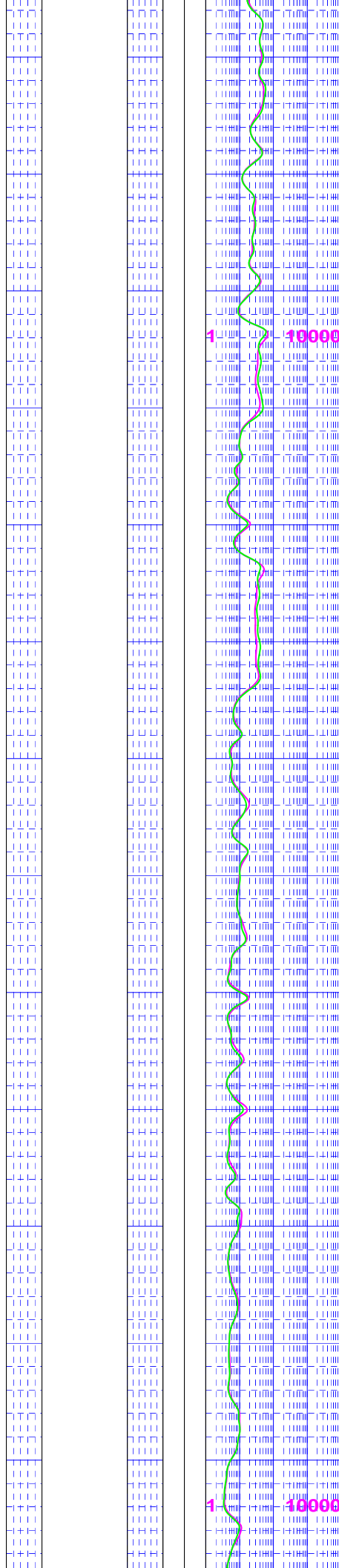
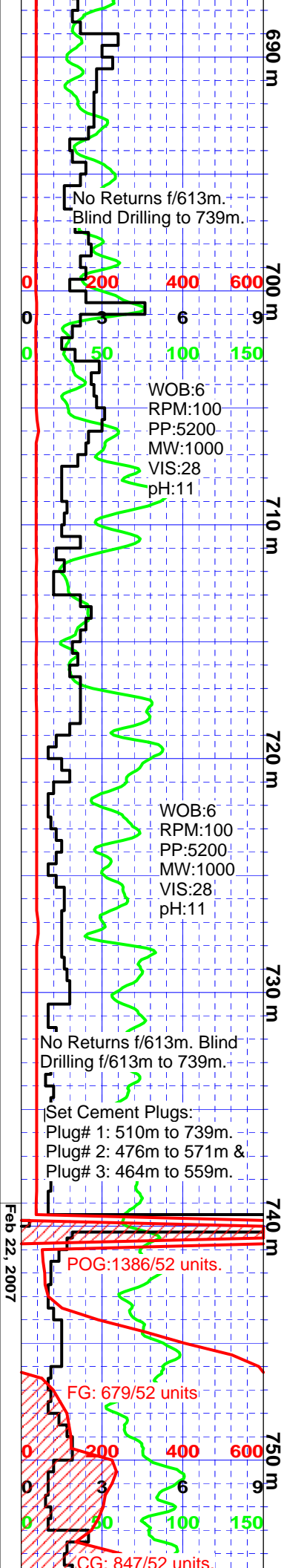




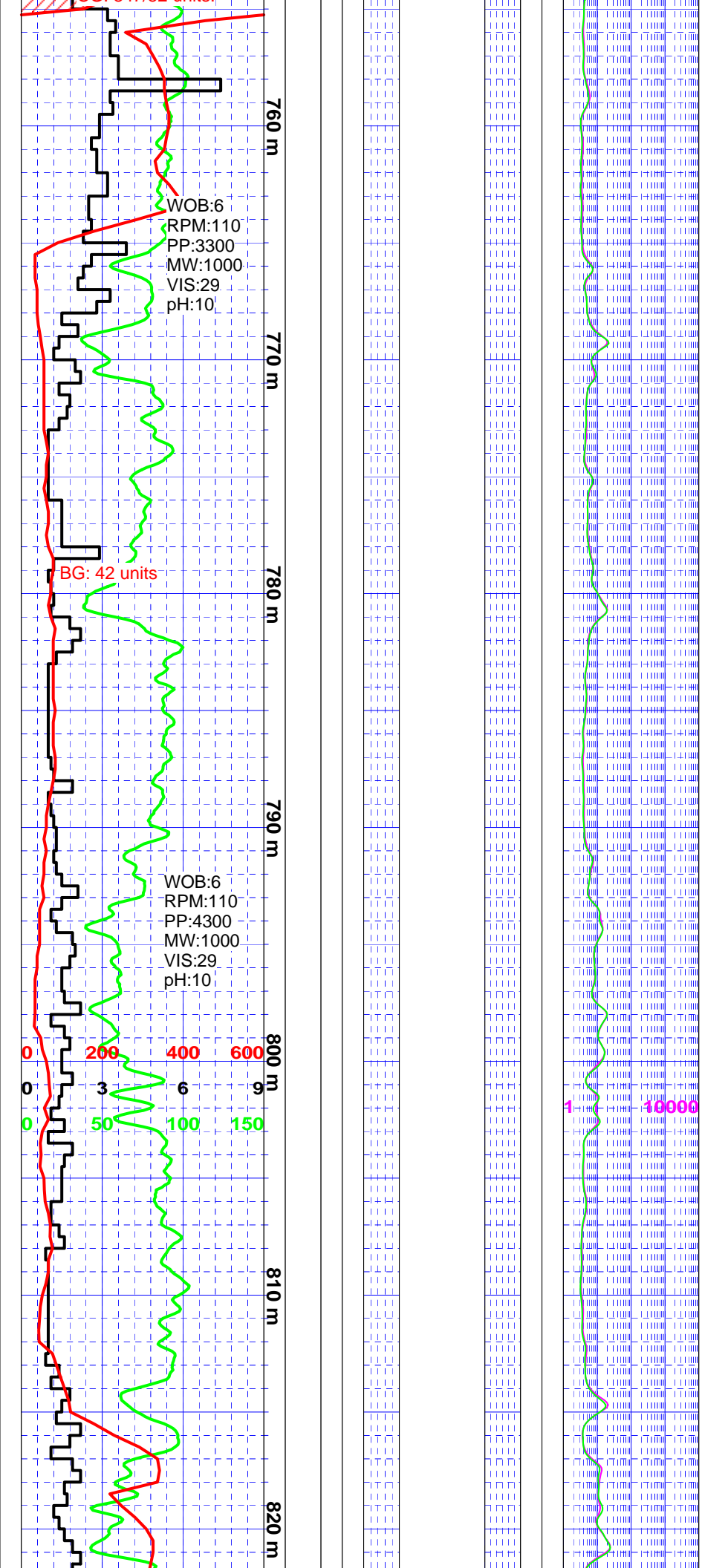
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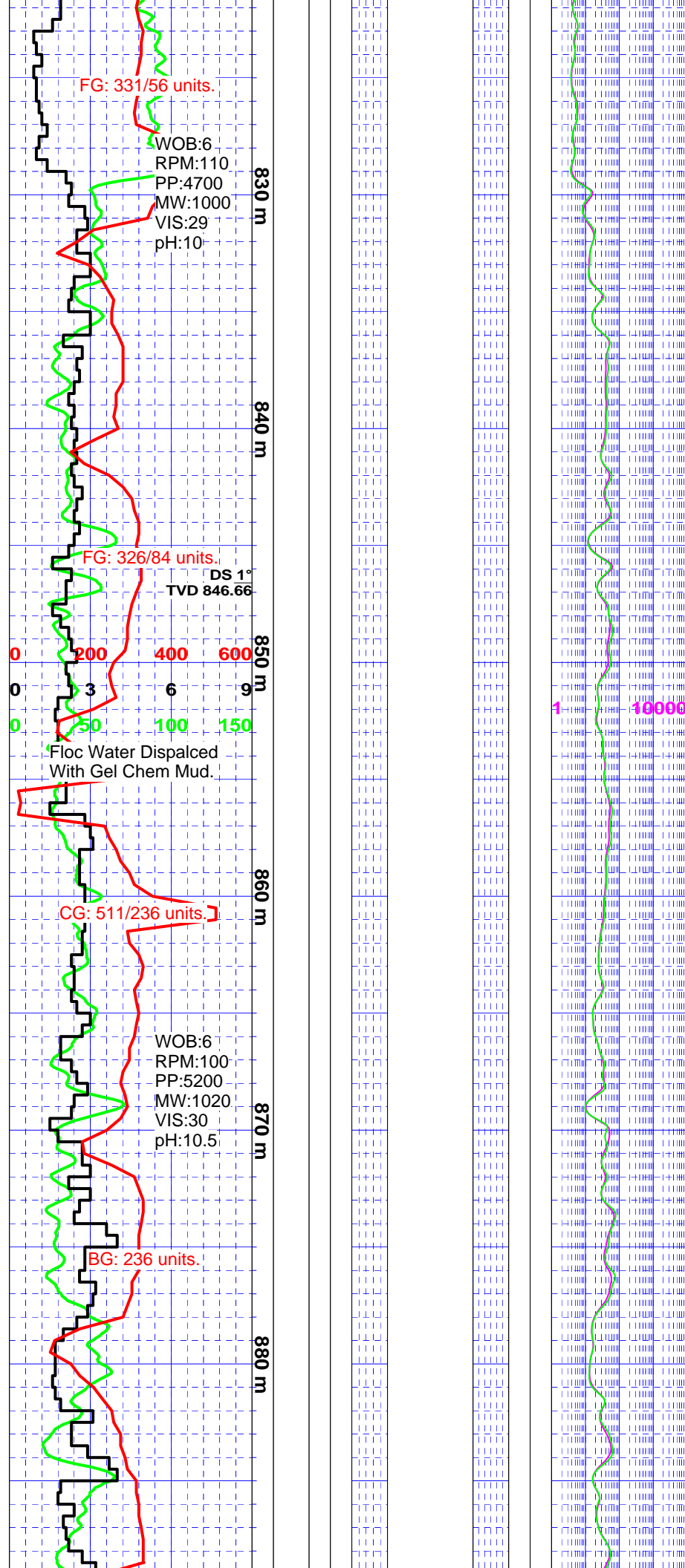


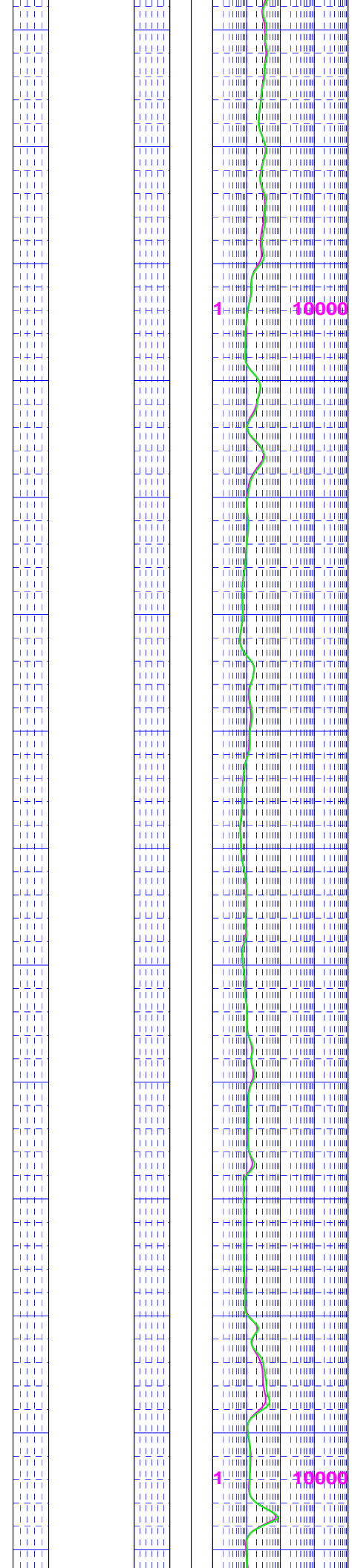
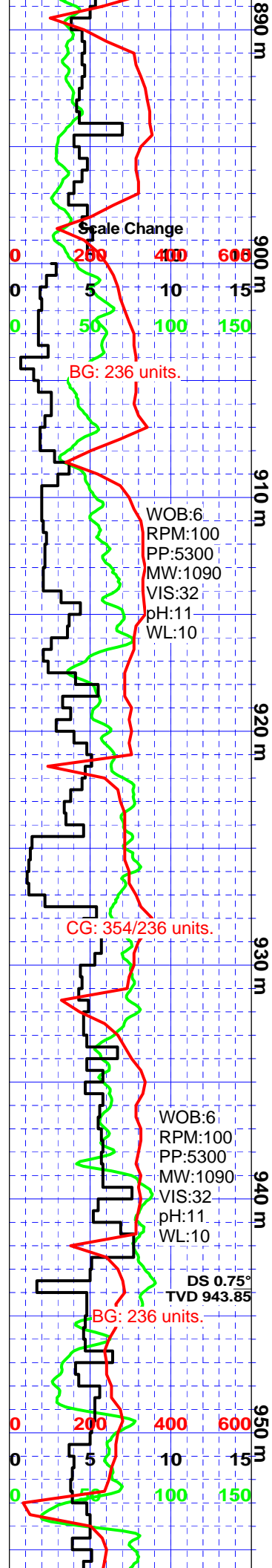


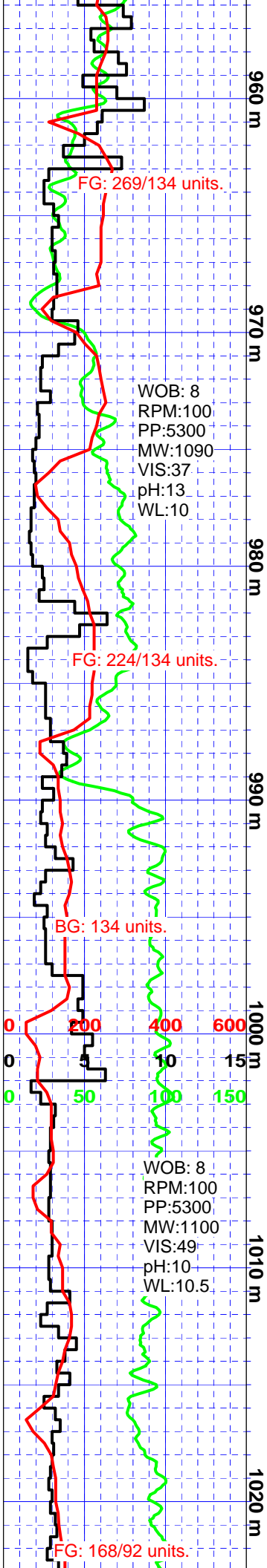
Feb 22, 2007



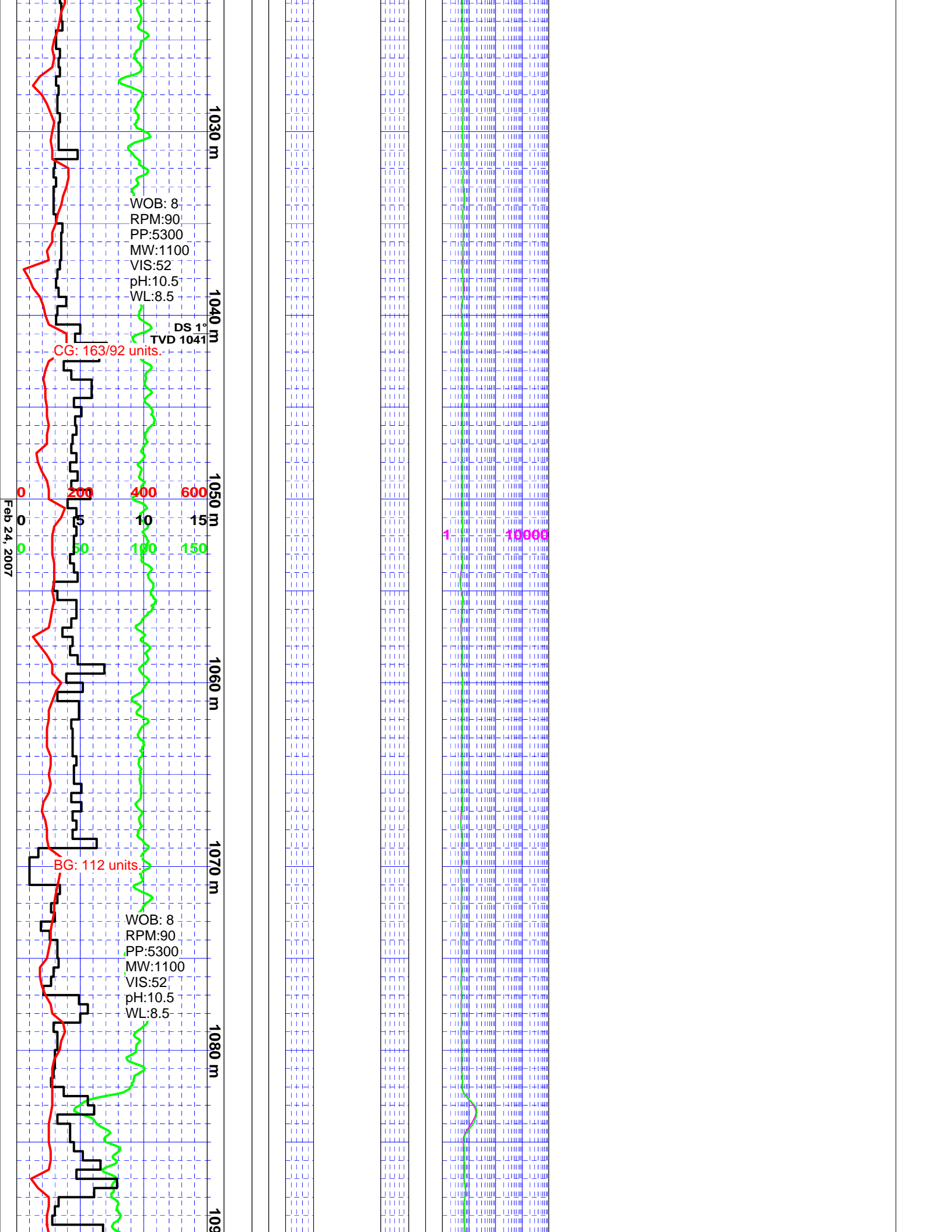


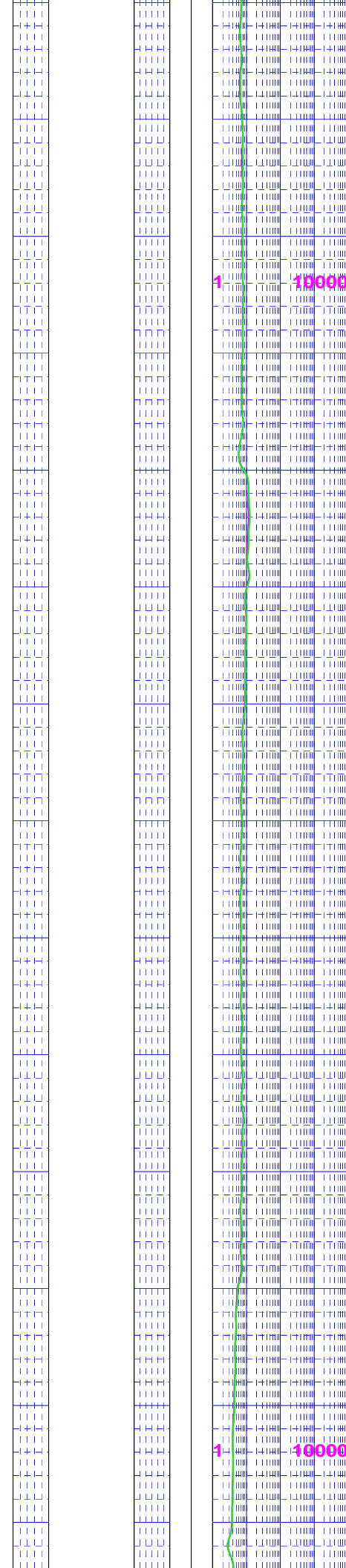
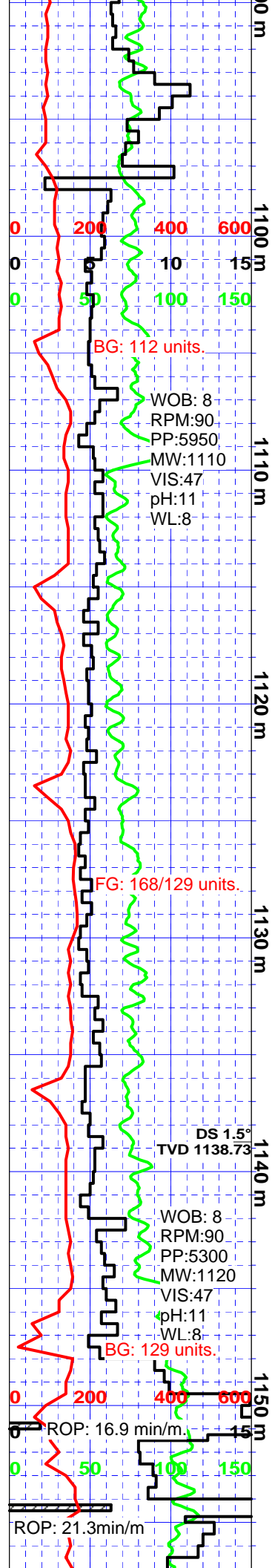


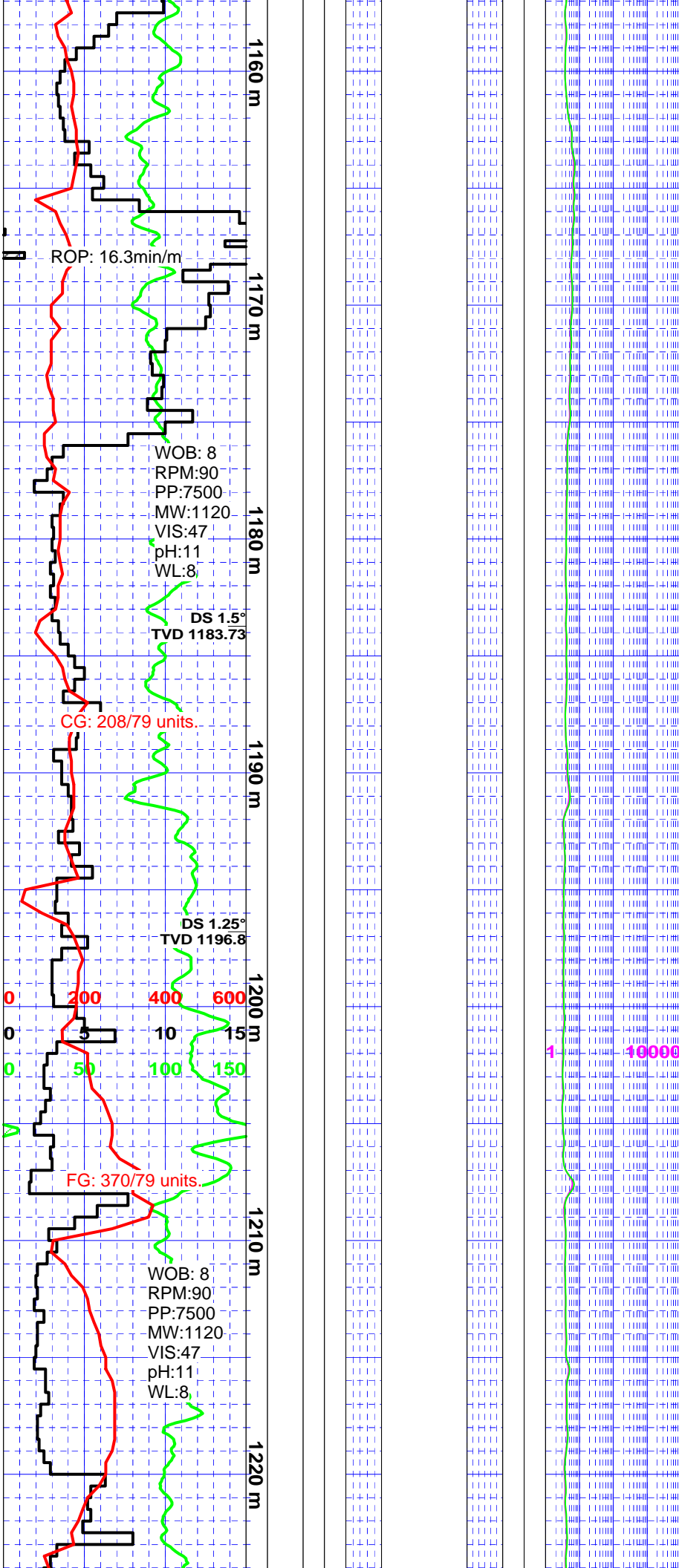




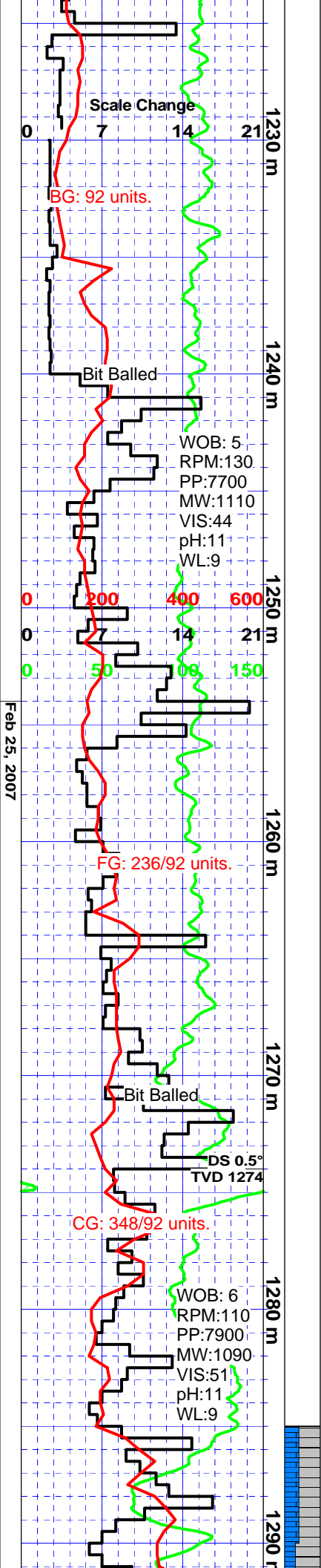






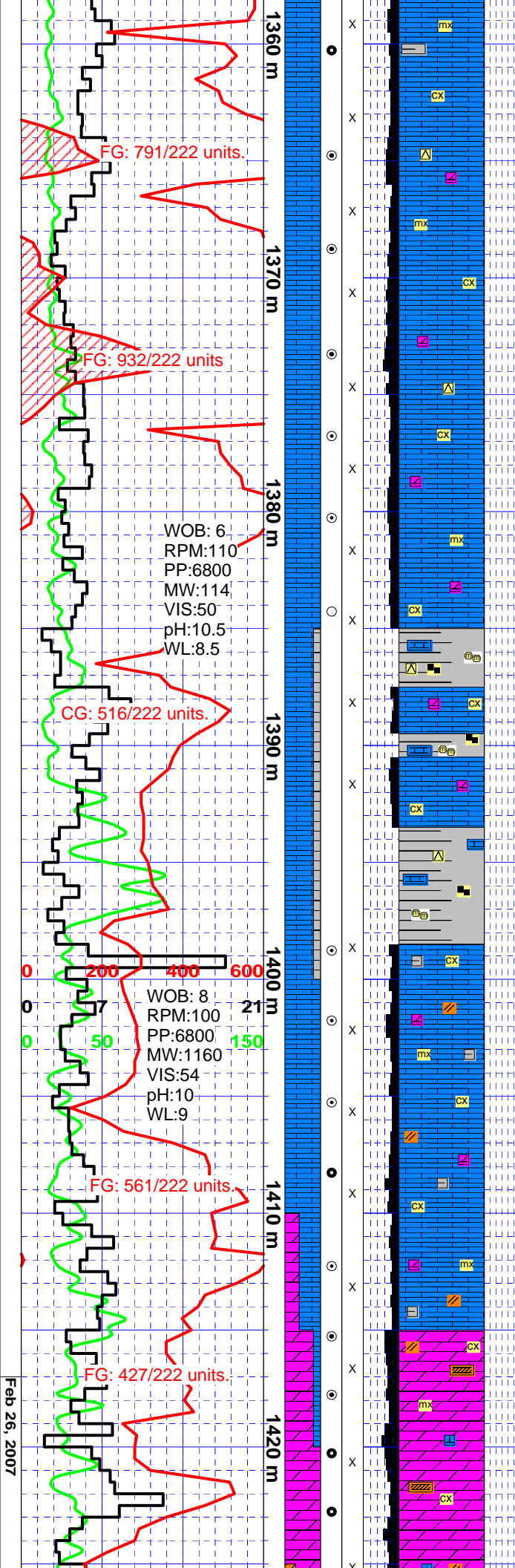






**Sample Point** Sh: lt gy - dk gy, gnsh gy, frm, fri, ptly modly hd - hd, (TVD: 1285) splty - blk, micmica, dull rthy tex, mud stone incl, sm (SSL: -510.20) wxy tex in parts, fis - sbfis, ptly plty, carb, in pt calc grdg - arg ls, abnt of lt gy, gn gy - tan mcxln ls incl, abnt of dk brn - blk mnrls, rr slty, v calcs - shally ls.





occlly biocl deb, calcar, ptly arg, trs of f xln dol, rr sltst strg & gnsh brn sh frags incl, trs of lse c qtz grs, g vis intrxl por, wk odour, no vis stng, ptch golden wh natural spl flor, slow fnt cut, pale yelsh brn resdl ring flor, g shw.

**Ls:** brn, tan, off wh, gnsh brn, lt yel / dk brn stn, dk brn, frm, fri - crpld - modly hd, lmpy - blkly, predly micxl - v f xln deb, ptly crpxl, predly wkest, ptly mdst, intcls & occlly biocl deb, calcar, ptly arg, trs of f xln dol, loc bits ptgs, rr sltst strg & gnsh brn sh frags incl, trs of lse c qtz grs, g vis intrxl por, wk odour, no vis stng, ptch golden wh natural spl flor, slow fnt cut, pale yelsh brn resdl ring flor, g shw.

**Ls:** brn, off wh, gnsh brn, dk brn, lt yel / dk brn stn, tan, frm, fri - crpld - modly hd, lmpy - blkly, predly micxl - v f xln deb, ptly crpxl, predly wkest, ptly mdst, ptly gry, intcls & occlly biocl deb, calcar, arg in parts, trs of f xln dol, loc bits ptgs, rr sltst strg & gnsh brn sh frags incl, trs of lse c qtz grs, g vis intrxl por, wk odour, no vis stng, trs of golden wh natural spl flor, slow fnt cut, pale brnsh yel resdl ring flor, fr shw.

**F4 Marker Sh:** m gy - brnsh gy, gnsh gy, frm, fri, modly hd - hd, (TVD: 1385) sb blkly - blkly, comly micmica, rr dull rthy tex, ptly clyy, (SSL: -610.20) sft & sticky, rr sbfis, ptly ptly, occlly slty, ptly carb, abnt xln ls, trs of f xln dol, trs of bits (?) frags, trs of c qtz gr, trs of anhy incl, nn - sly calcs.

**Wait Mountain (TVD: 1393.5) (SSL: -618.70)** Sh: gy, gnsh gy, gn, modly hd - hd, ptly fri, sb blkly - blkly, sm grty, comly micmica, rr dull rthy tex, rr sbfis, occlly thinly lamd, occlly slty, ptly carb, abnt xln ls, trs of f xln dol, abnt of bits (?) frags / dk brn - blk mnrls, trs of c qtz gr / gran pyr, trs of anhy incl, calcs.

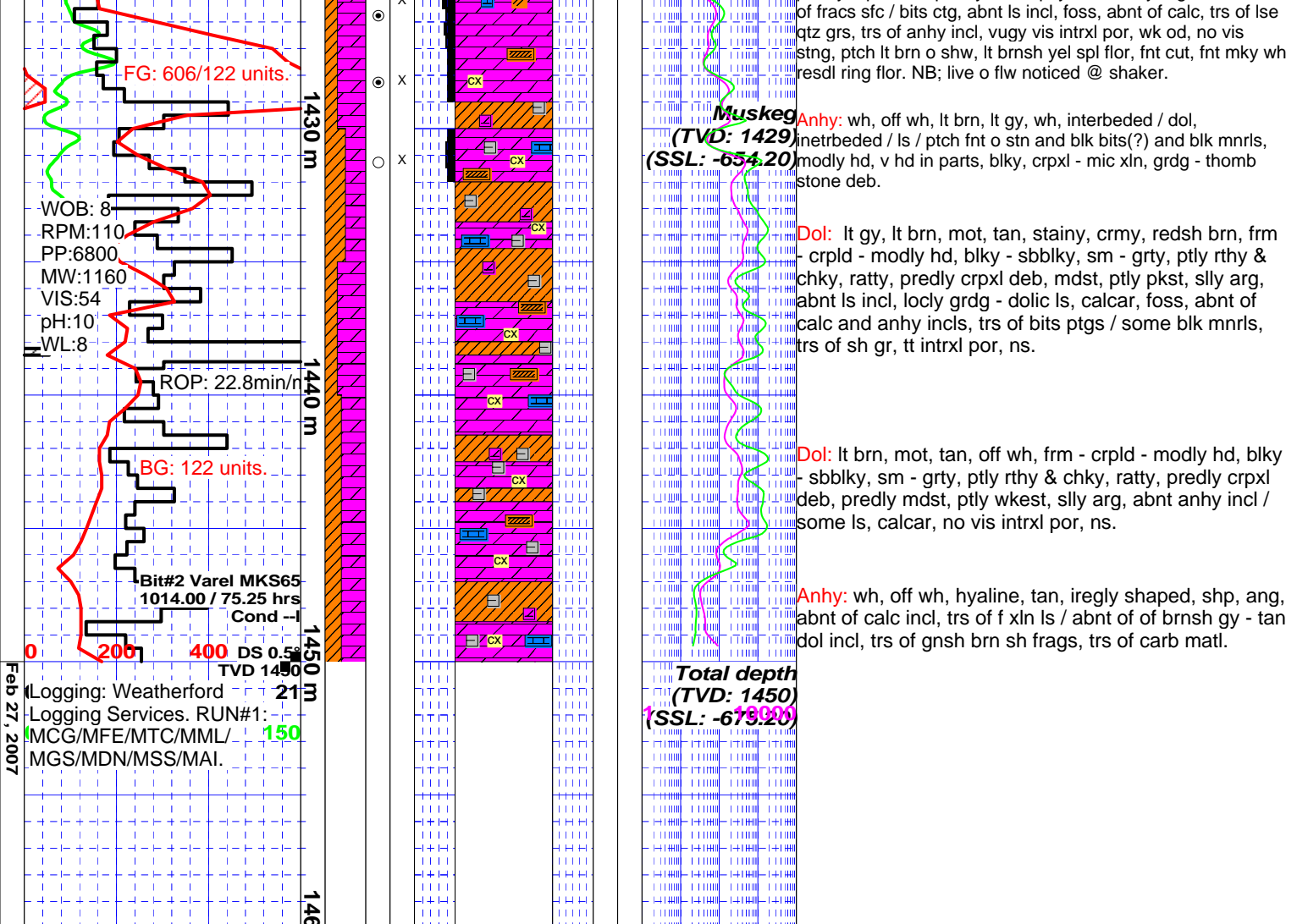
**Sulphur Pt Ls (TVD: 1398.5) (SSL: -623.70)** Ls: brn, lt yel / dk brn stn, occlly tan, dk brn, frm, fri - crpld - modly hd, blkly - sbbkly, sm - grty, predly micxl - v f xln deb, ptly crpxl, predly wkest, ptly mdst, ptly arg, trs of f xln dol, trs of gnsh brn sh frags, abnt of anhy incl, lse c qtz grs, fr vis intrxl por, trs of lt brn o shw, wk od, lt brnsh yel spl flor, fnt cut, no resdl ring flor, p shw.

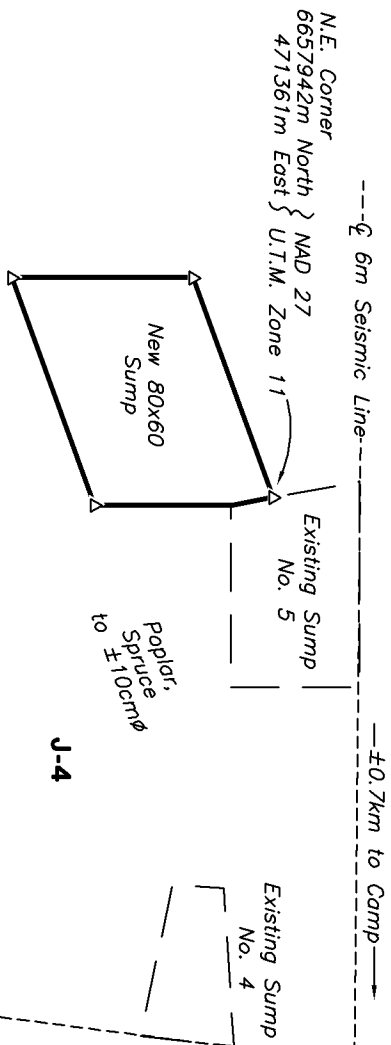
**Ls:** off wh, mot, lt yel / dk brn stn, lt - dk brn, frm - crpld - modly hd, blkly - sbbkly, sm - grty, predly crpxl, ptly micxl, wkest - pkst, occlly grdg - v f xln grst, locly grdg - dolc ls, intcls & occlly biocl deb, comly lse grs - predly peloids, calcar, abnt of v f xln dol, trs of c qtz gr, trs of anhy incl, abnt of gy - gnsh gy sh frags, vugy - fr vis intrxl por, v fnt odour, no vis stng, trs of lt brn o shw, lt brnsh yel spl flor, fnt cut, no resdl ring flor, p shw.

**Sulphur Pt Dol (TVD: 1415) (SSL: -640.20)** Dol: off wh, lt brn, mot, tan, stn, crmy, redsh brn, frm - crpld - modly hd, blkly - sbbkly, sm - grty, ptly rthy & chky, ratty, predly crpxl deb, mdst, ptly pkst, sly arg, abnt ls incl, locly grdg - dolc ls, calcar, foss, abnt of calc and anhy incl, trs of bits ptgs, trs of sh gr, vugy - g vis intrxl por, wk odour, no vis stng, ptch lt brn o shw, lt brnsh yel spl flor, fnt cut, fnt mky wh resdl ring flor, p shw.

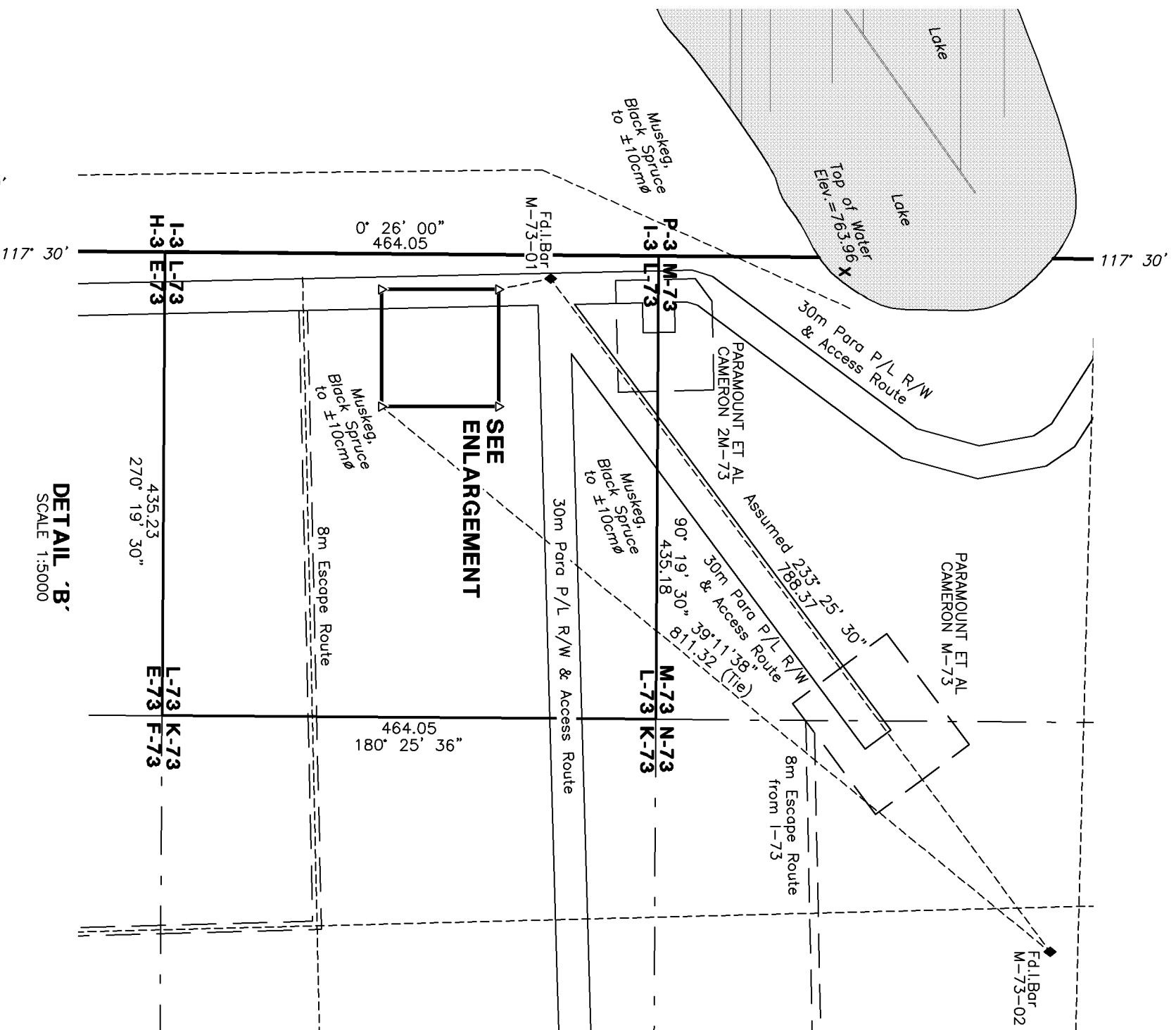
**Dol:** mot, tan, lt gy, lt brn, blkly - sbbkly, sm - grty, ptly chky predly crpxl deb, predly mdst, ptly wkest, sly arg, rr evidence



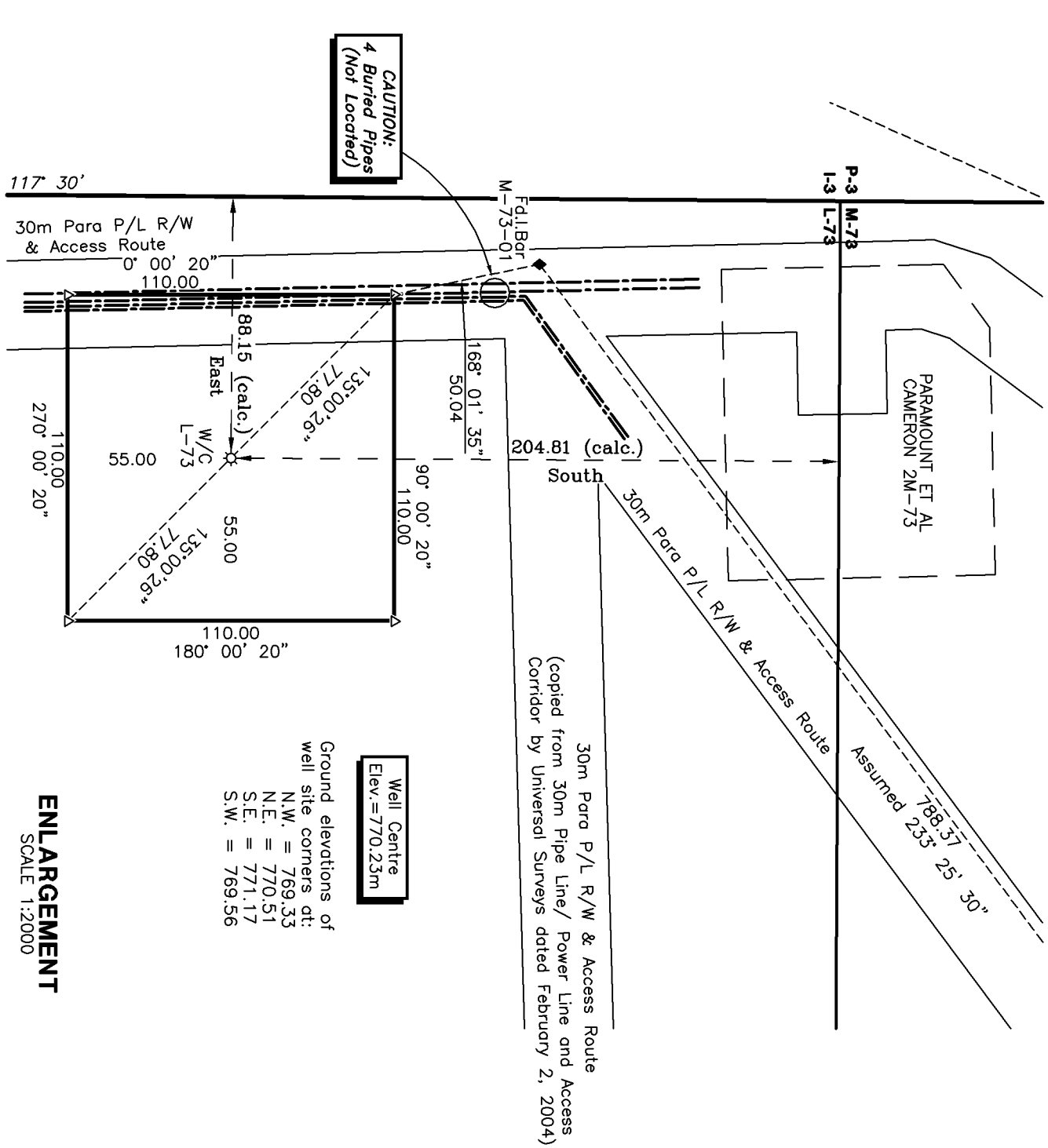




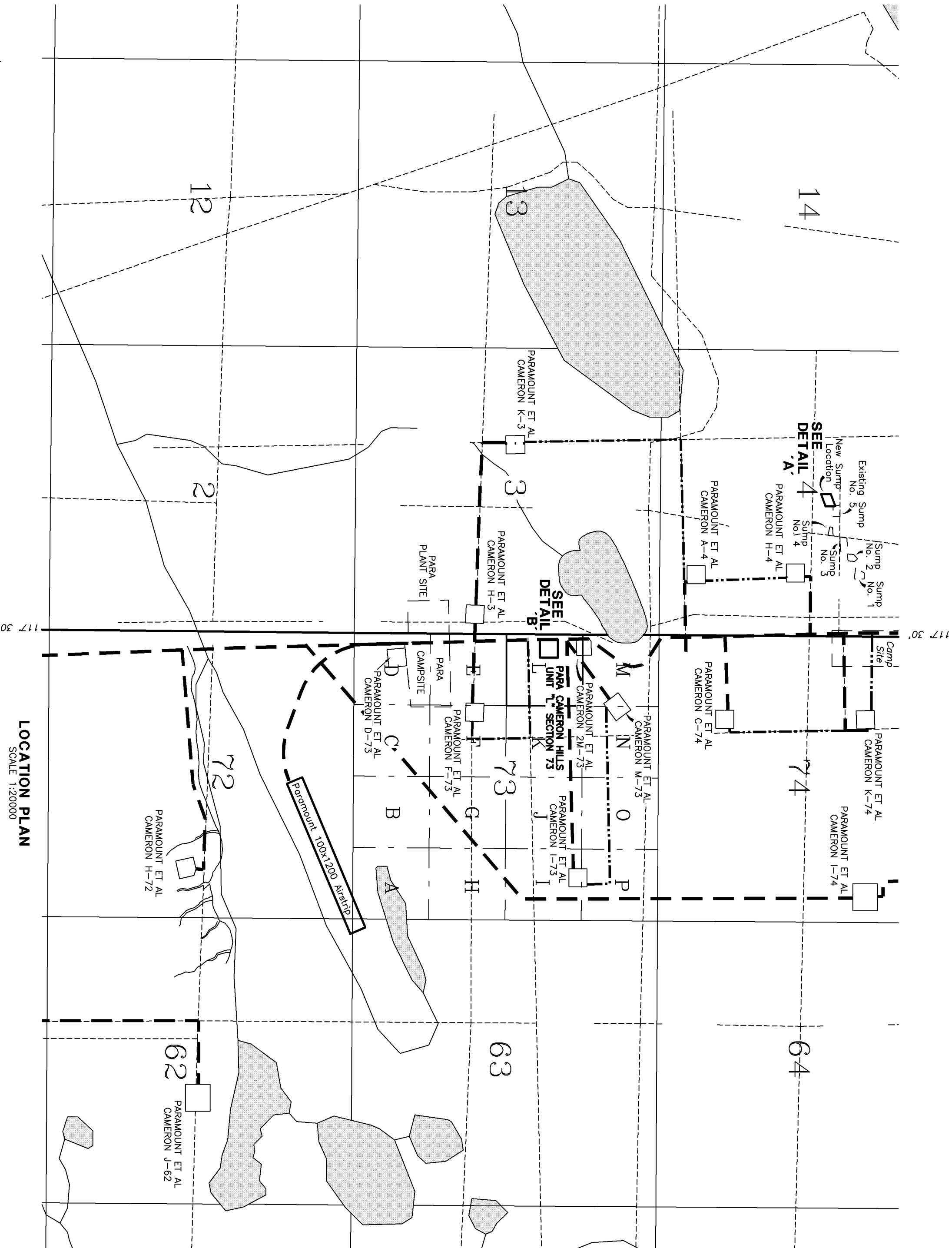
DETAIL 'A'  
SCALE 1:2500



DETAIL 'B'  
SCALE 1:5000



ENLARGEMENT  
SCALE 1:2000



LOCATION PLAN  
SCALE 1:20000

GEOGRAPHIC AND UTM COORDINATES (1983 NAD)				
Station	Latitude(N)	Longitude(W)	Northing	Easting
M-73-1 (Fixed)	60°02'42.099"	117°30'03.664"	6656531.54	472092.71
M-73-2 (Adjusted)	60°02'57.431"	117°29'22.984"	6657001.10	472725.48
PROPOSED WELL	60°02'58.756"	117°29'59.379"	6656427.61	472158.06
L-73 WEEL CORNER				770.23

Geoid Separation H12

GRID AREA 60°10', 117°15'- GEOGRAPHIC AND UTM COORDINATES (1927 NAD)				
N.E.	60°10'00"	117°15'00"	666722.78	466125.26
N.W.	60°10'00"	117°30'00"	6668271.56	472250.65
S.E.	60°00'00"	117°30'00"	6661310.02	472110.25
L-73, N.W.	60°02'45.002"	117°30'00.000"	6661230.97	468025.06
L-73, N.E.	60°02'45.027"	117°29'31.874"	6666411.97	472148.86
L-73, S.E.	60°02'50.027"	117°29'31.874"	6665947.93	472560.58
L-73, S.W.	60°02'50.001"	117°30'00.000"	6665950.40	472145.35
PROPOSED WELL GEOGRAPHIC AND UTM COORDINATES (1927 NAD)				
L-73 W/C (SURVEYED)	60°02'58.586"	117°29'54.302"	6666208.14	472225.47
N.E.	60°02'40.177"	117°29'50.772"	6666264.10	472280.49
N.W.	60°02'40.150"	117°29'57.889"	6666264.11	472180.37
S.E.	60°02'58.621"	117°29'50.720"	6666154.10	472280.48
S.W.	60°02'58.595"	117°29'57.828"	6666154.11	472180.48

BEARING TREES			
STATION	BEARING	DISTANCE	TREE
M-73-1	200° 39'	15.63	15 cm Spruce
	266° 41'	15.20	8 cm Spruce
	301° 12'	13.79	6 cm Spruce
M-73-2	342° 55'	9.35	9 cm Spruce
	225° 01'	14.54	13 cm Spruce
	178° 19'	17.87	16 cm Spruce

## AREA REQUIRED:

WELL SITE: 105m x 106m = 1.111 ha.

## PLAN AND FIELD NOTES OF SURVEY OF PROPOSED EXPLORATORY WELL PARA ET AL CAMERON L-73 IN UNIT L, SECTION 73

GRID AREA 60° 10', 117° 15'

NORTHWEST TERRITORIES  
CANADA OIL AND GAS REGULATIONS  
EXPLORATORY WELL, NORTHWEST TERRITORIES

SCALE 1:20,000



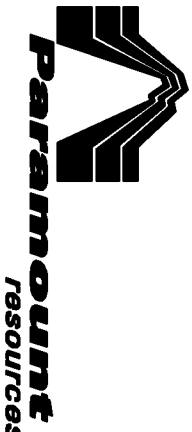
SURREYED FOR  
PARAMOUNT RESOURCES LTD.

## AFFIDAVIT

THIS SURVEY WAS EXECUTED ON THE DATE OF JULY 3rd 2005  
BY JOHN E. LANDRY, C.L.S.

CERTIFIED CORRECT ON THE 31st DAY OF JANUARY, 2007

JOHN E. LANDRY  
CANADA LANDS SURVEYOR



## LEGEND

UTM coordinates are computed for Zone 11, Central Meridian  
117° W. Bearings were derived from differentially corrected GPS  
Observations, and are referred to meridian 117° W.  
Distances are expressed in metres and decimal thereof.  
Distances shown in brackets are measured distances reduced  
to the horizontal at general ground level.  
For the computation of coordinates measured distances have been  
combined scale factor of 0.999492 applying them by an average  
All other dimensions are based on NAD83 datum.  
Distances shown are 974 000 subdivisions of UTM plane, NAD 27 Datum.  
(C.S. 77) Monuments placed are shown thus:.....  
(C.S. 77) Monuments placed are shown thus:.....  
C.G.C. point placed is shown thus:.....  
Buried pipe lines are shown thus:.....  
Sismic lines are shown thus:.....  
Access roads are shown thus:.....  
Escape routes are shown thus:.....  
Survey points are shown thus:.....  
Pipe location data derived from Static Pipe showing  
30m Pipe Line/ Power Line and Access Corridor by  
Universal Surveys dated February 2, 2004.

3	UPDATE PLAN (19209)	DON	Jan 29/07
2	REVISED WELL NAME	WLS	NOV 3/05
1	REVISED WELL LOCATION (1991)	LAC, NB	JULY 25/05
0	PLAN ISSUED	JNP	OCT 26/04
BY	DESCRIPTION	BY	DATE
JOHN E. LANDRY			
CANADA LANDS SURVEYOR			
McILHANNY LAND SURVEYS LTD.	Plan No.: 1 of 1		SCALE AS SHOWN
PROFESSIONAL LAND SURVEYORS	File No.: 15815		
158, 1630-18 Avenue	Job No.: 321115815		
Edmonton, AB			
PH: (780) 451-3420 FAX: (780) 462-7033			



## PHOTO DENSITY DUAL SPACED NEUTRON

COMPANY **PARAMOUNT RESOURCES LTD**  
WELL **PARA ET AL CAMERON L-73**  
FIELD **CAMERON HILLS**  
PROVINCE/COUNTY **NORTHWEST TERRITORIES**  
COUNTRY/STATE **CANADA**  
LOCATION **300/L-73-60-10-117-15**

**FIELD PRINT**

LSD	SEC	TWP	RGE	Other Services			
API Number Permit Number 1159				MICROLOG ARRAY INDUCTION		COMPENSATED SONIC XY CALIPERS	
Permanent Datum GROUND LEVEL, Elevation 770.8 metres						Elevations:	metres
Log Measured From 4.0 M above Permanent Datum						KB	774.80
Drilling Measured From KELLY BUSHING						DF	
						GL	770.80
Date			27-FEB-2007				
Run Number			1				
Depth Driller			1450.00		metres		
Depth Logger			1448.60		metres		
First Reading			1440.40		metre		
Last Reading			0.00		metre		
Casing Driller			436.00		metres		
Casing Logger			435.00		metres		
Bit Size			200.00		mm		
Hole Fluid Type			GELCHEM				
Density / Viscosity			1180.0 kg/M3		85.00 sec/L		
PH / Fluid Loss			10.00		8.00 ml/30Min		
Sample Source			FLOWLINE				
Rm @ Measured Temp			0.54 @ 25.0		ohm-m		
Rmf @ Measured Temp			0.41 @ 25.0		ohm-m		
Rmc @ Measured Temp			0.63 @ 25.0		ohm-m		
Source Rmf / Rmc			PRESS		FILTER		
Rm @ BHT			0.36 @ 47.0		ohm-m		
Time Since Circulation			8.5 HRS				
Max Recorded Temp			47.00		deg C		
Equipment Name			13132				
Equipment / Base			QUINT		GPR		
Recorded By			L. SUTHERLAND				
Witnessed By			A. AHMED				
CIRC STOP			05:30 FEB 27			Last Line	

### BOREHOLE RECORD

Last Edited: 28-FEB-2007 03:49

Bit Size	Depth From	Depth To
millimetres	metres	metres
311.000	0.00	436.00
200.000	436.00	1450.00

### CASING RECORD

Type	Size	Depth From	Shoe Depth	Weight
	millimetres	metres	metres	pounds/ft
SURFACE	219.100	0.00	436.00	35.70

### REMARKS

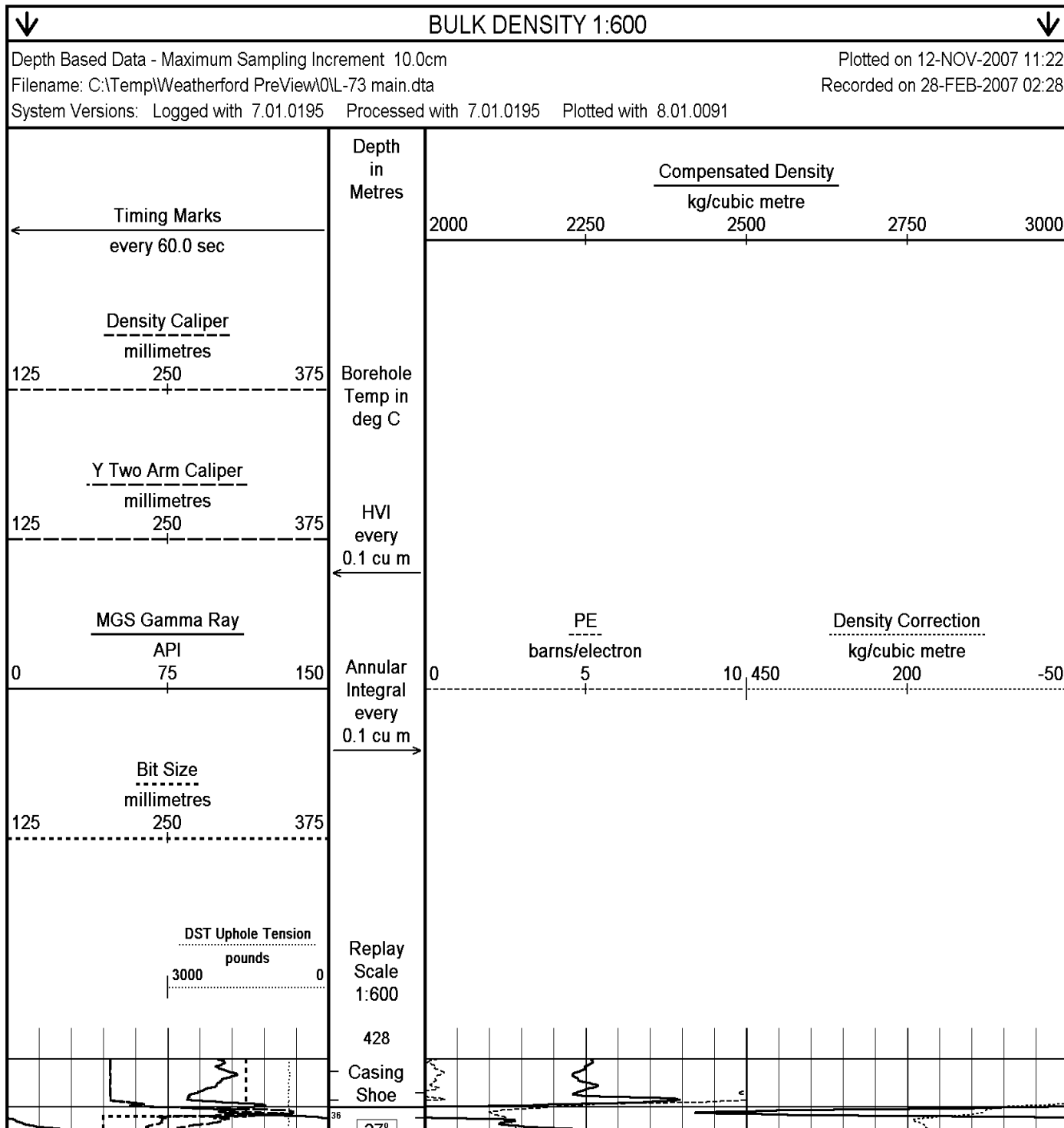
- 1) SOFTWARE ISSUE: WLS 7.01.0195
- 2) CUSTOMER SCALES AND INTERVALS LOGGED.
- 3) MAI, MSS, MPD, MDN, MML, ISC, MGS, MTC, MFE, MCG RAN IN COMBINATION.
- 4) HARDWARE: MAI: TWO 25.4 MM STANDOFFS  
MSS: THREE 25.4 MM STANDOFFS  
MDN: DUAL NEUTRON BOWSPRING  
MTC: ONE SIX-LEAF CENTRALIZER

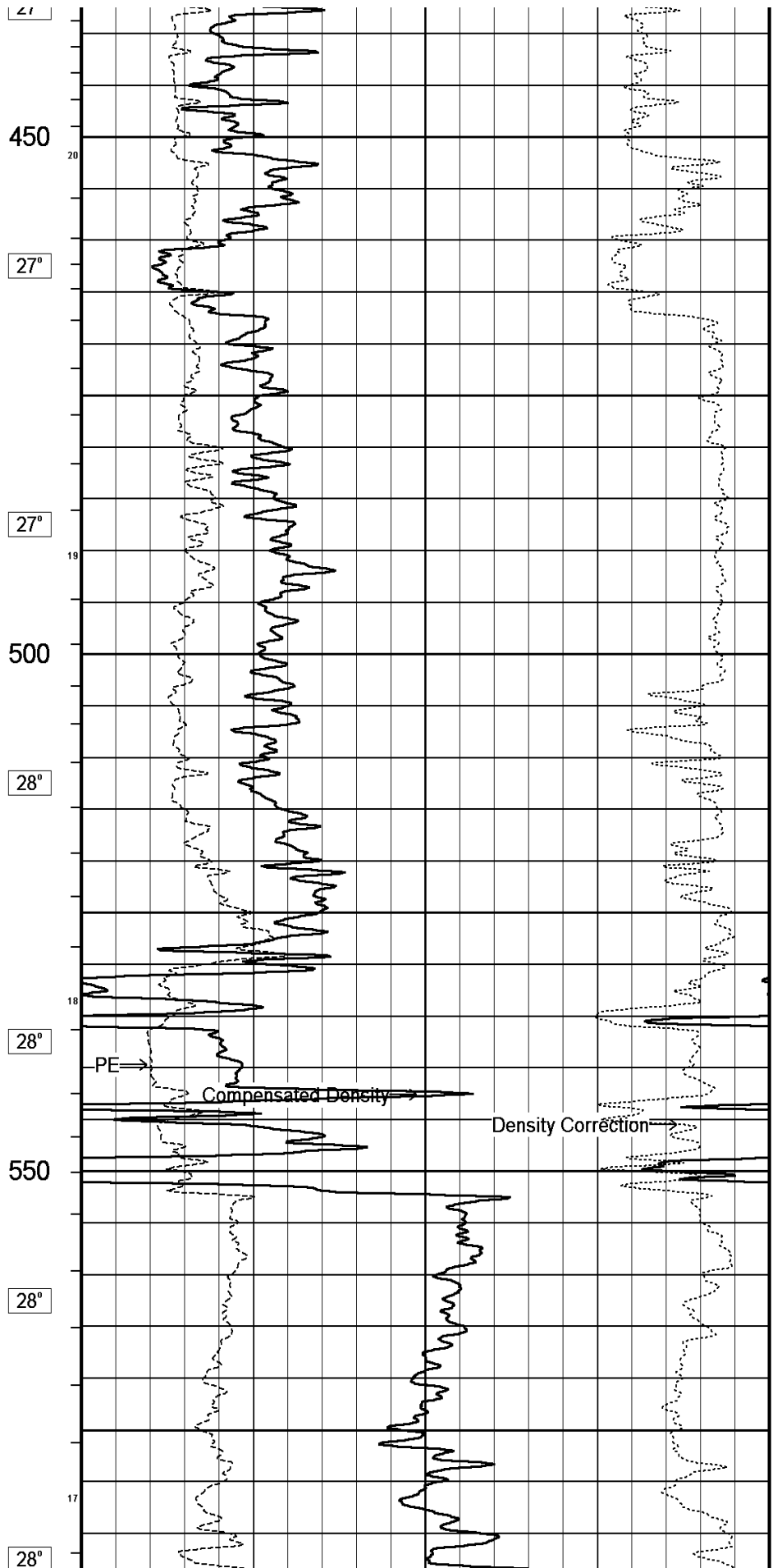
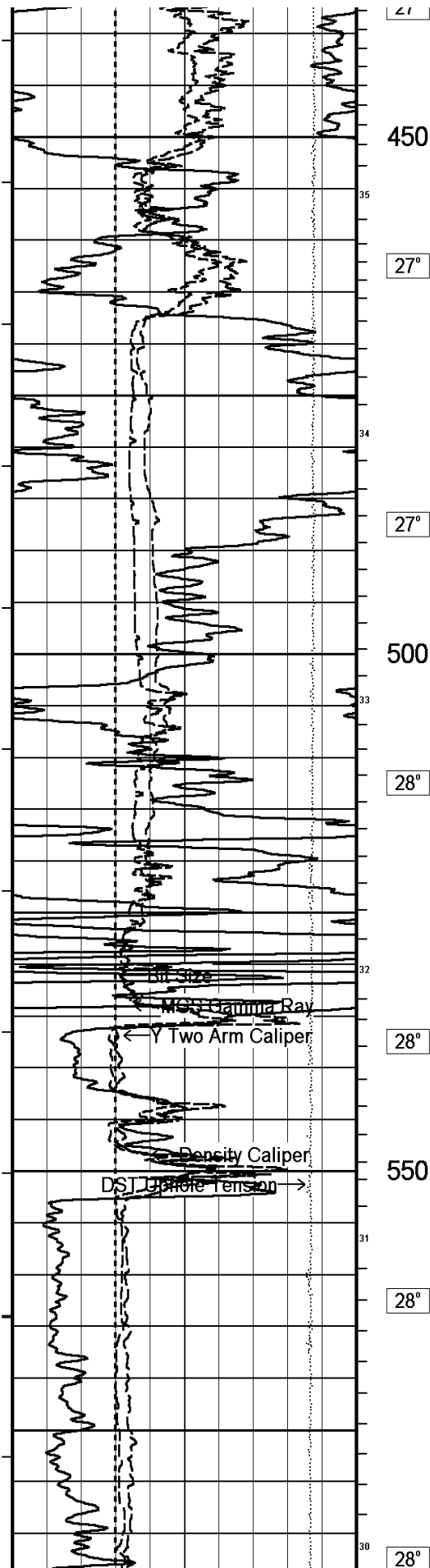
- 5) SAP# 4147855 FIELD TICKET # 30074798
- 6) # FIELD PRINTS = 3 # FINAL PRINTS = UNKNOWN

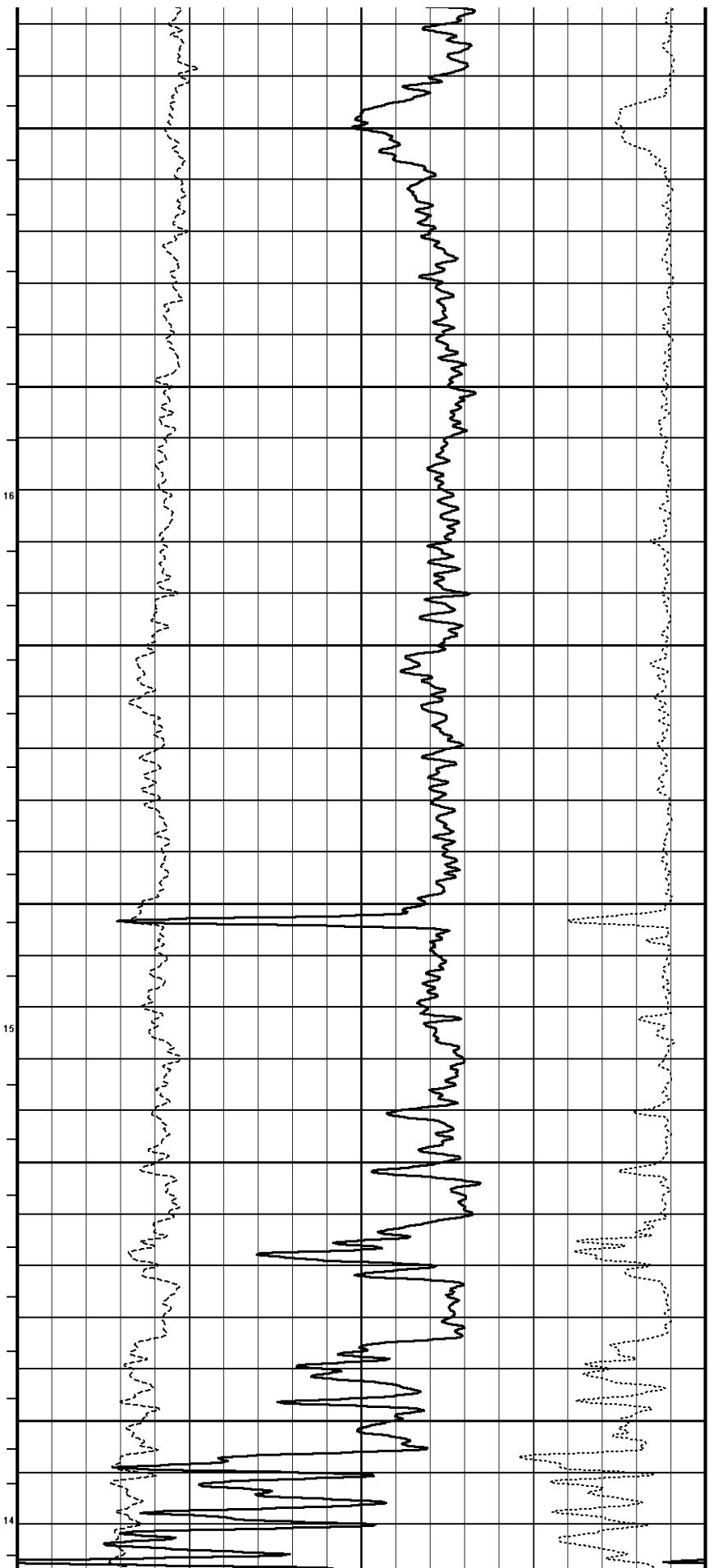
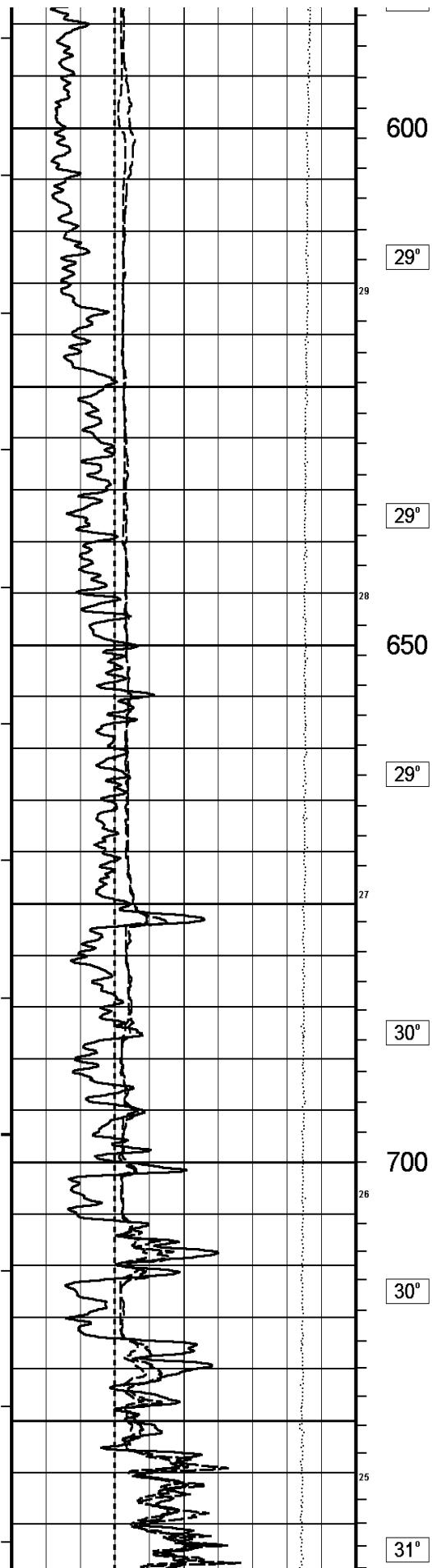


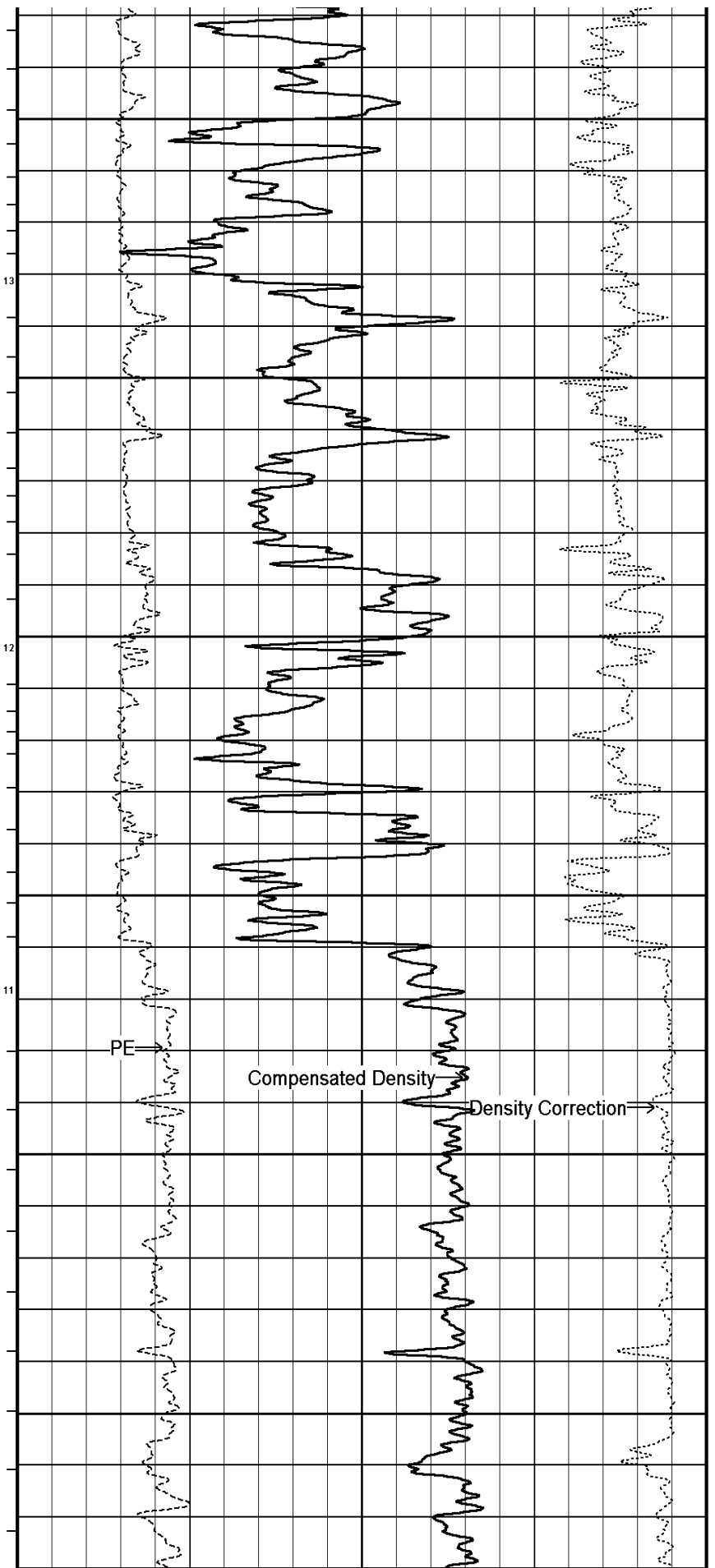
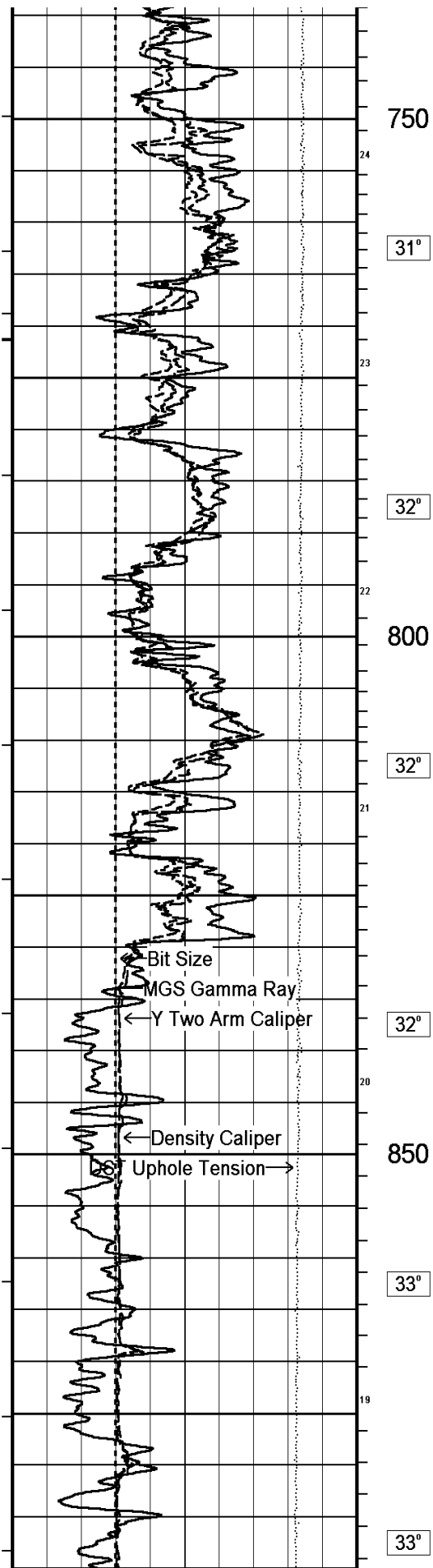
- 7) RIG: PD # 129
- 8) HOLE \_CEMENT VOLUMES CALCULATED USING DENSITY CALIPER AND TWO ARM CALIPER IN COMBINATION :  
HOLE VOLUME = 36.05 CU.M.  
ANNULAR VOLUME USING 139.7 MM PRODUCTION CASING = 20.65 CU.M
- 9) AREAS OF BOREHOLE RUGOSITY MAY CAUSE POOR DENSITY PAD CONTACT RESULTING IN HIGH DENSITY CORRECTION AND  
THUS INVALID DENSITY POROSITY DATA AT THOSE INTERVALS.
- 10) SONIC FREE PIPE: 378M

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.

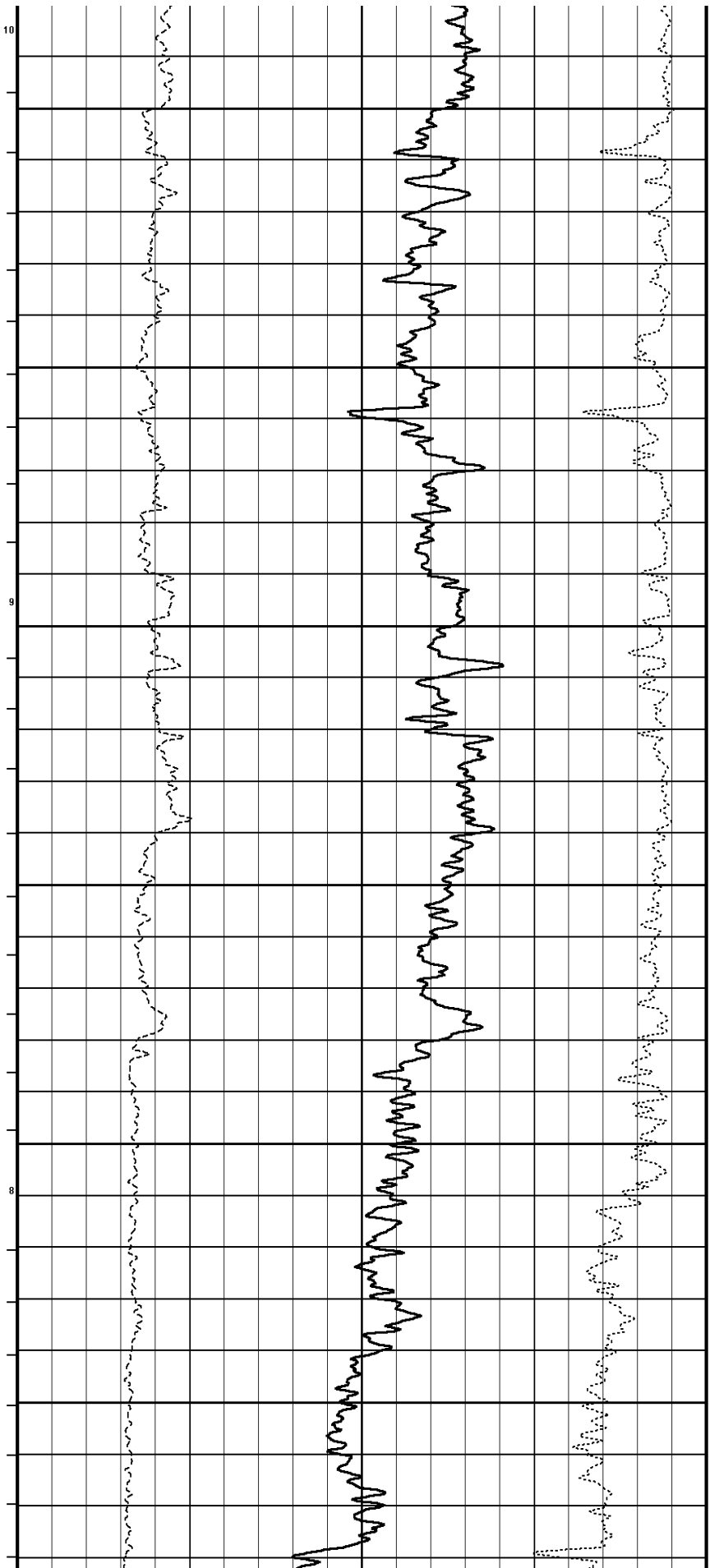
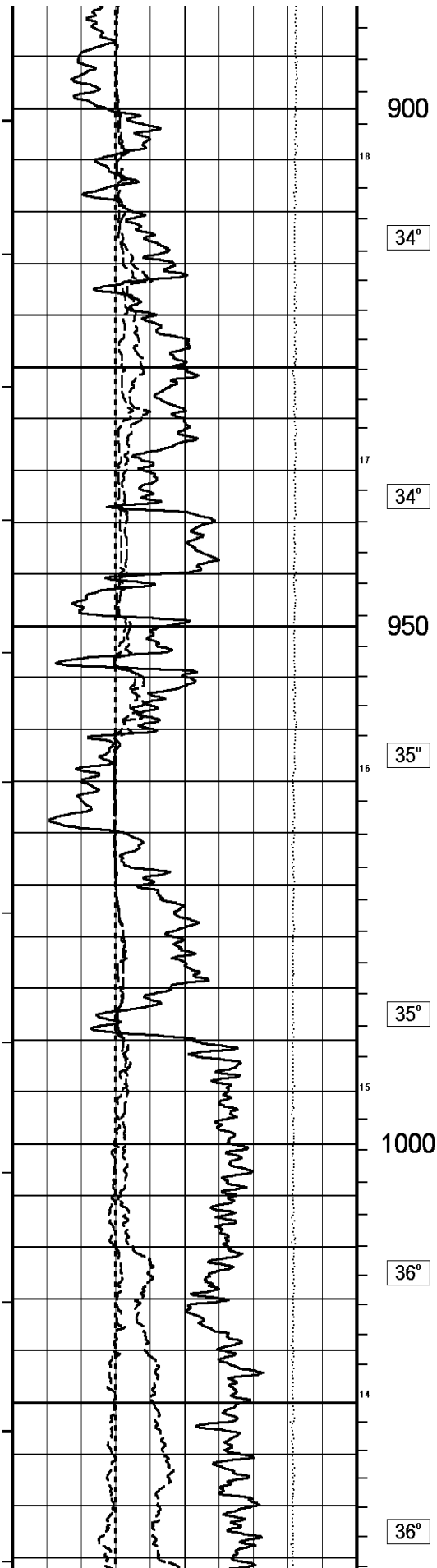


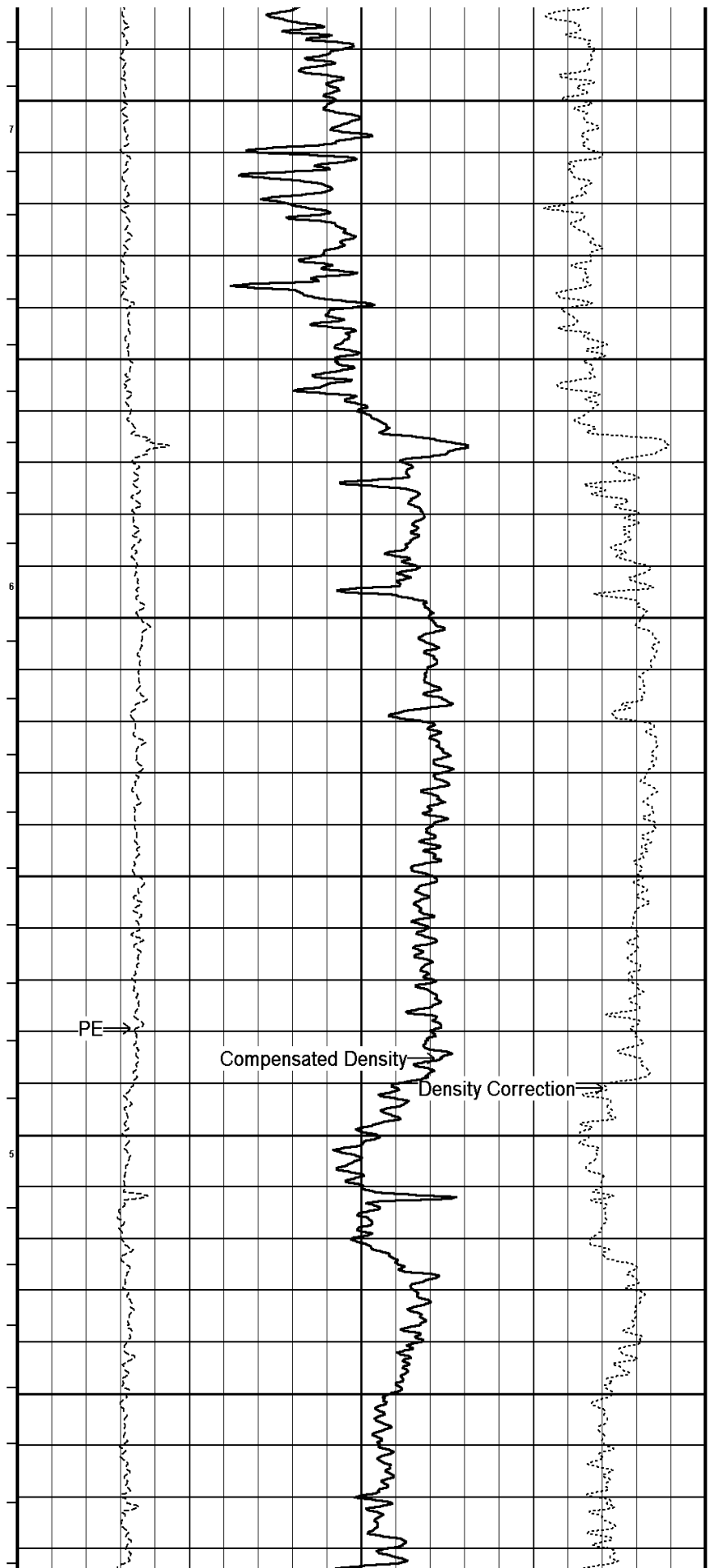
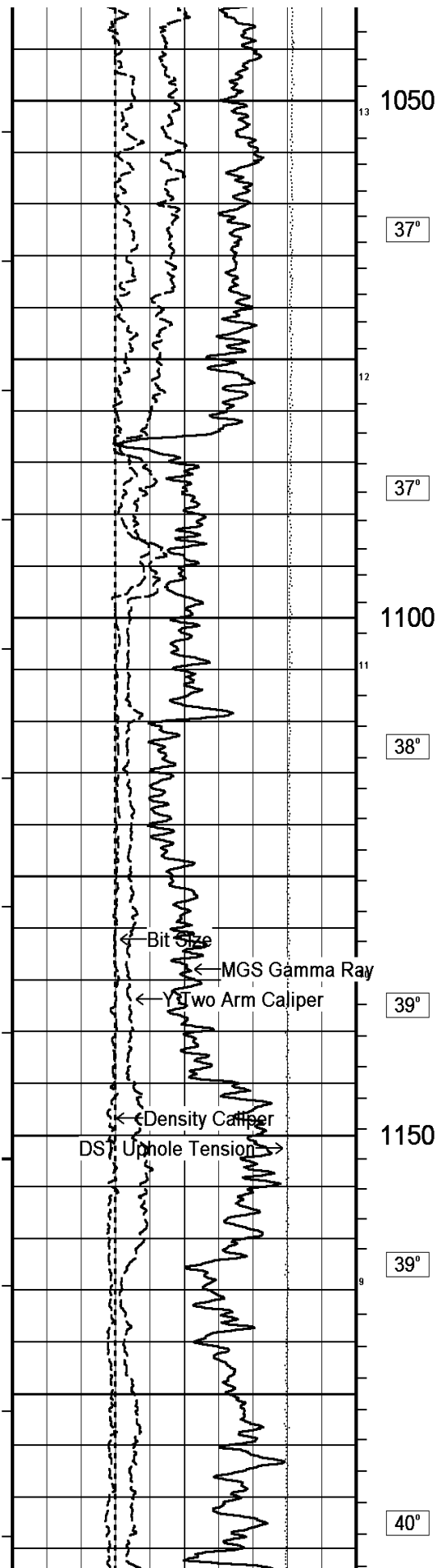


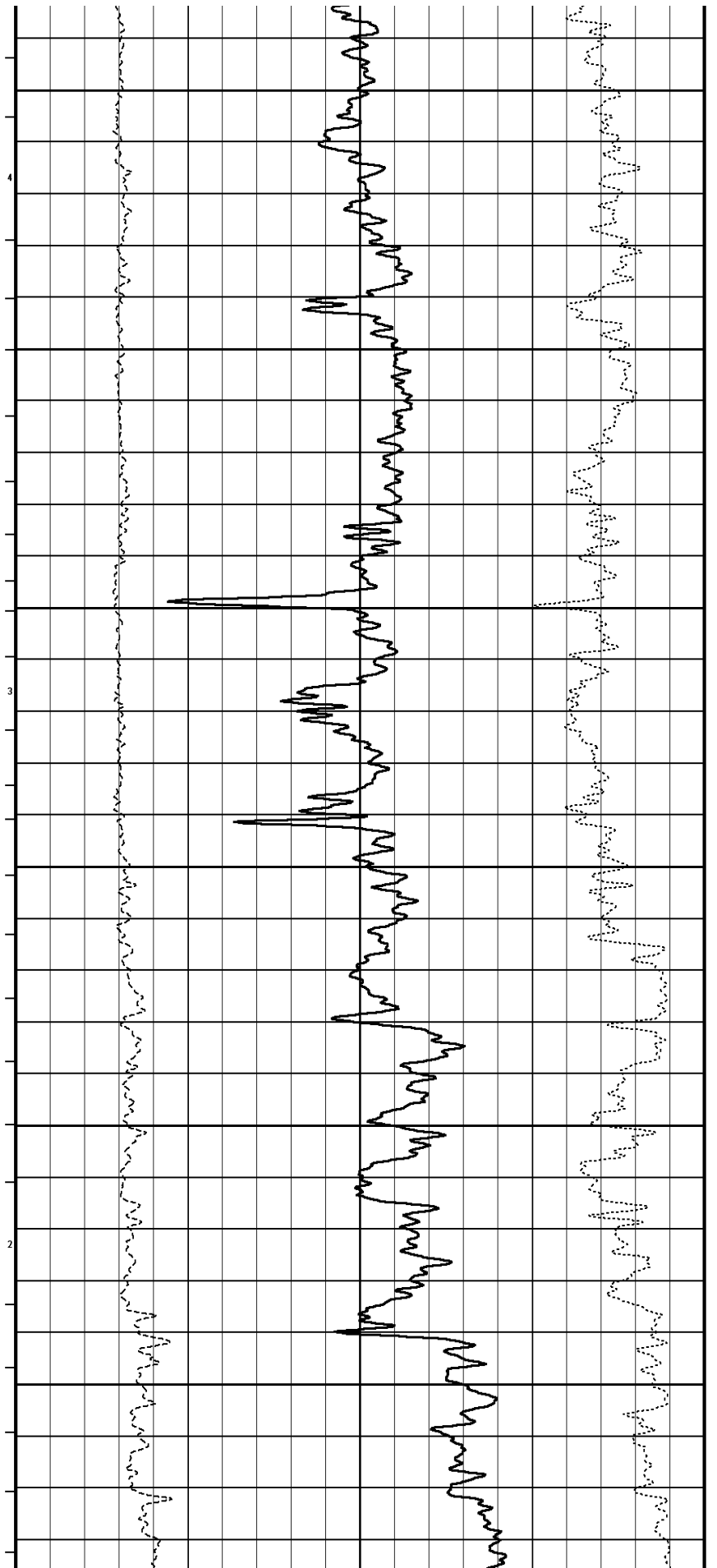
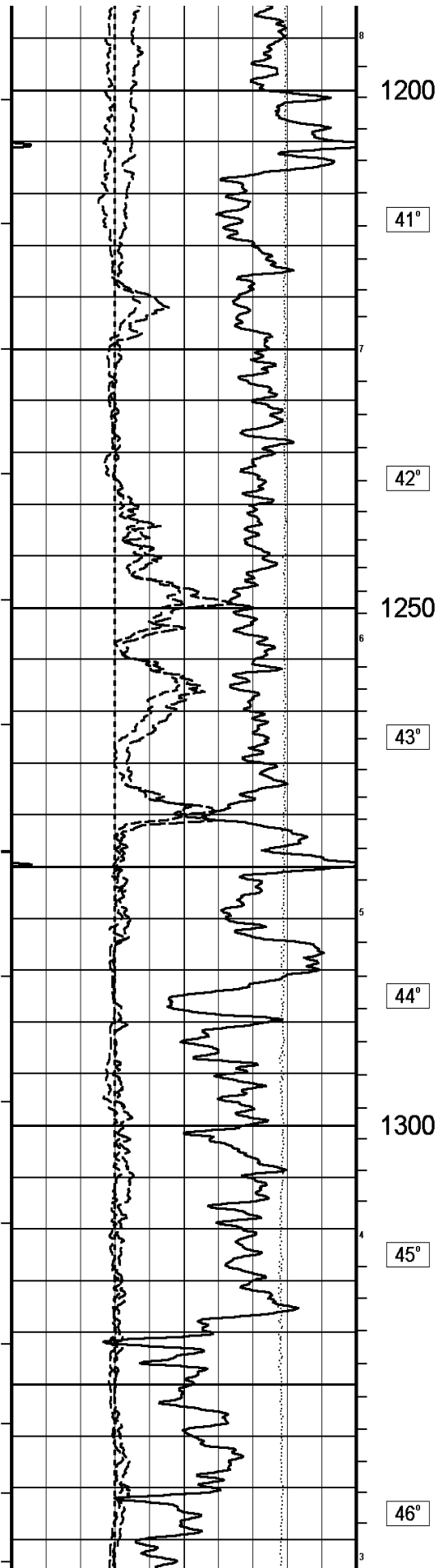


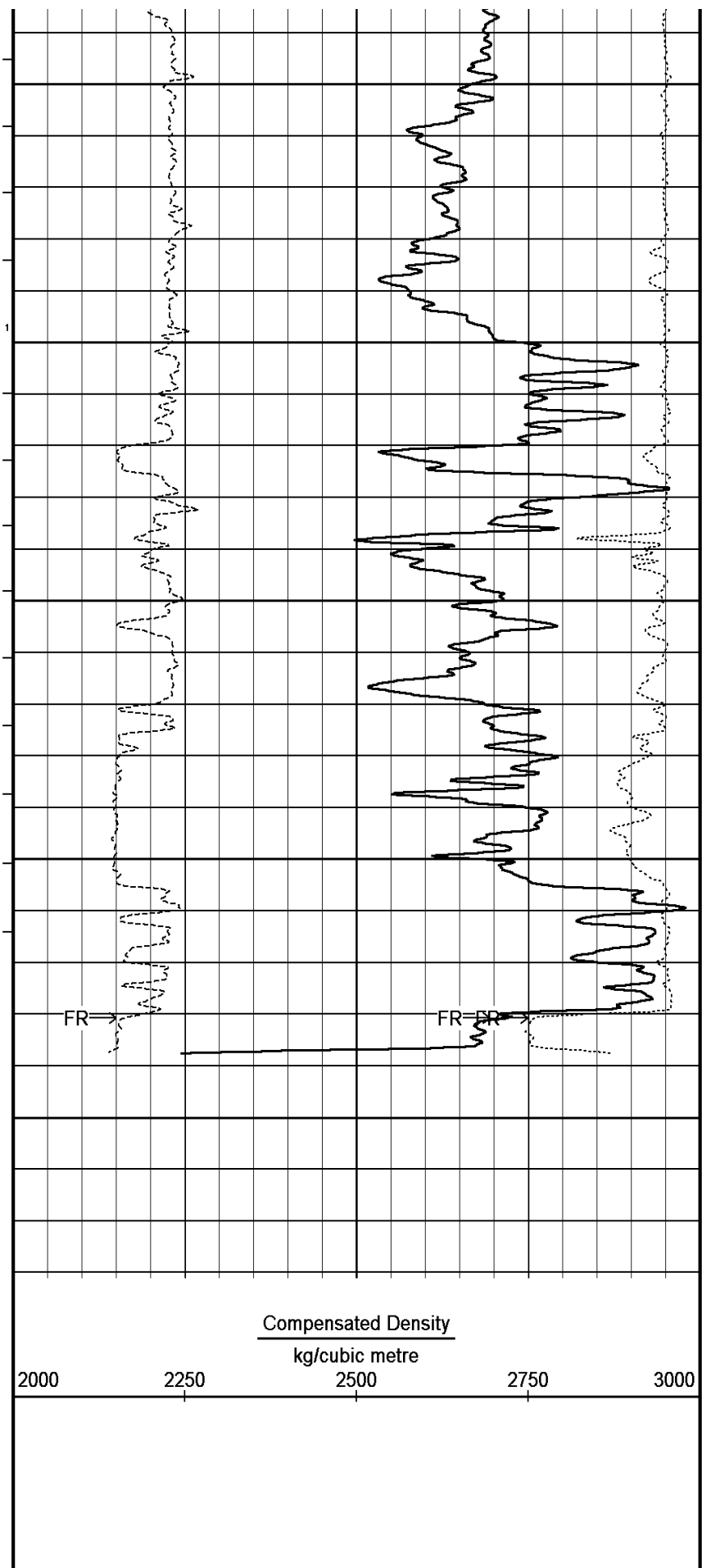
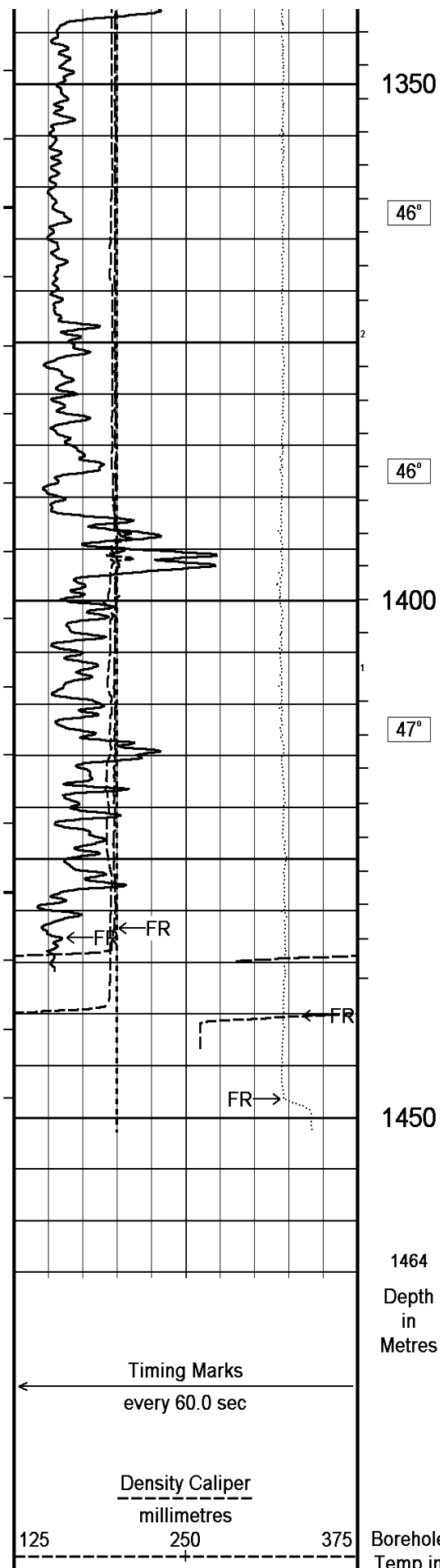




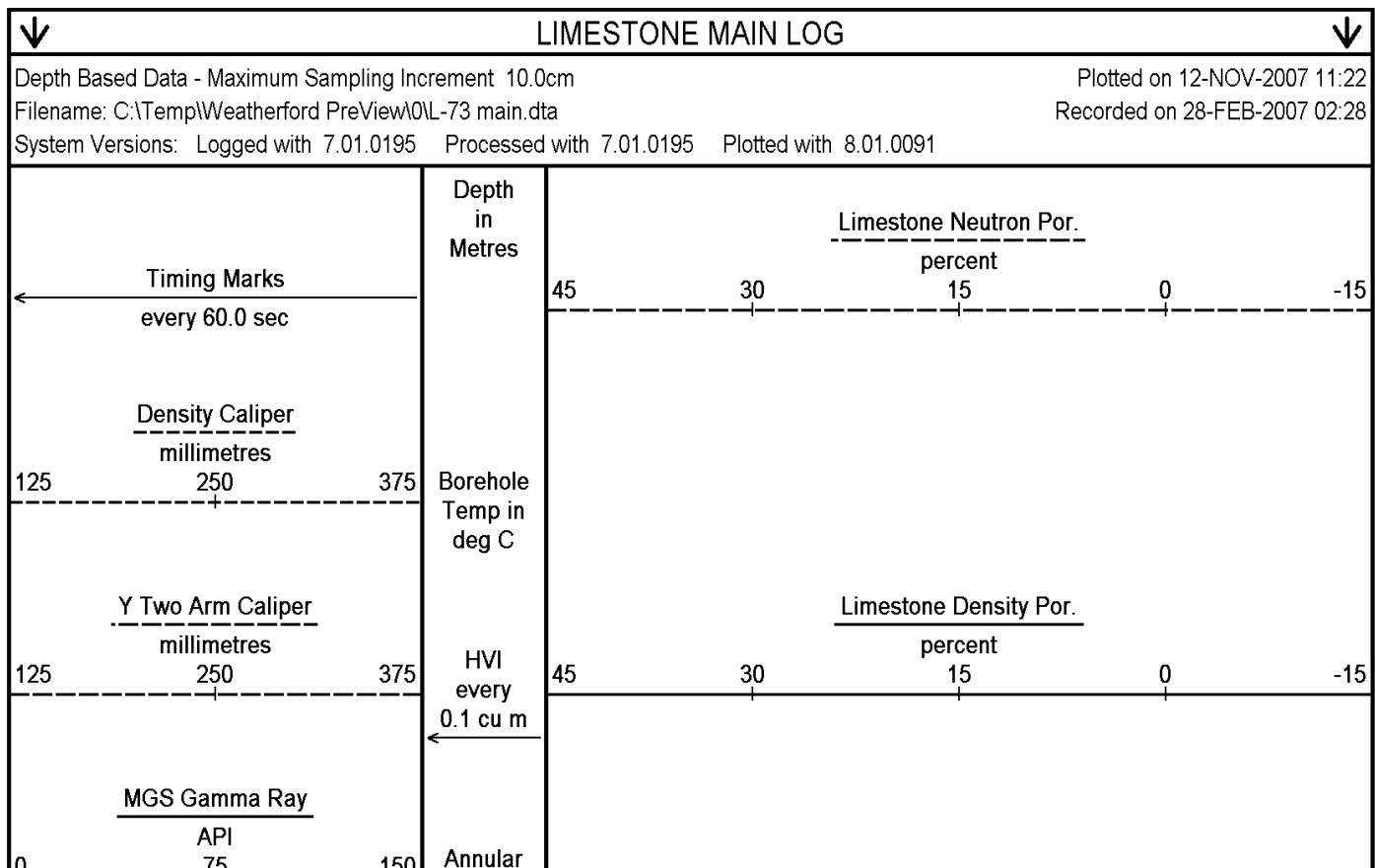
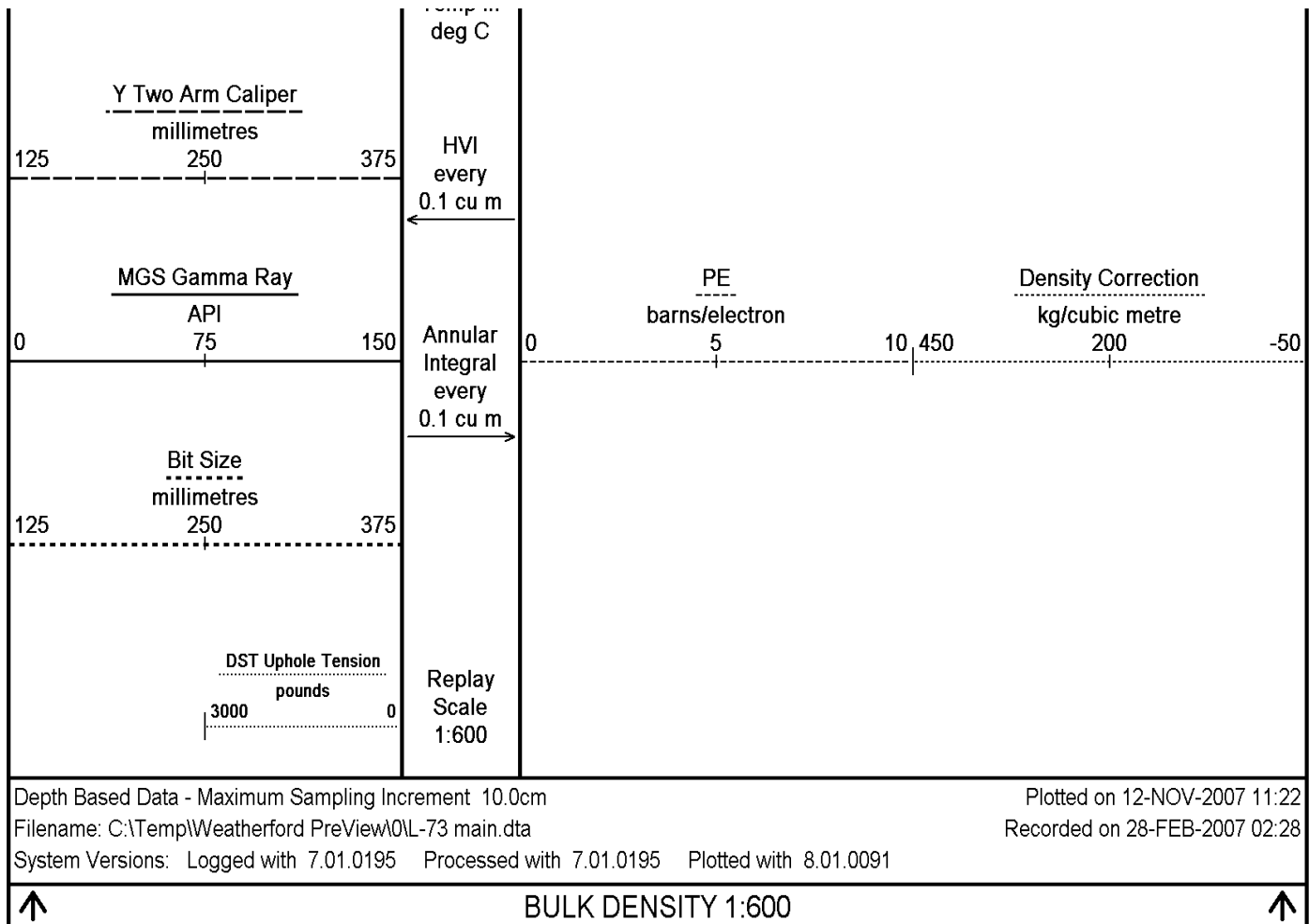


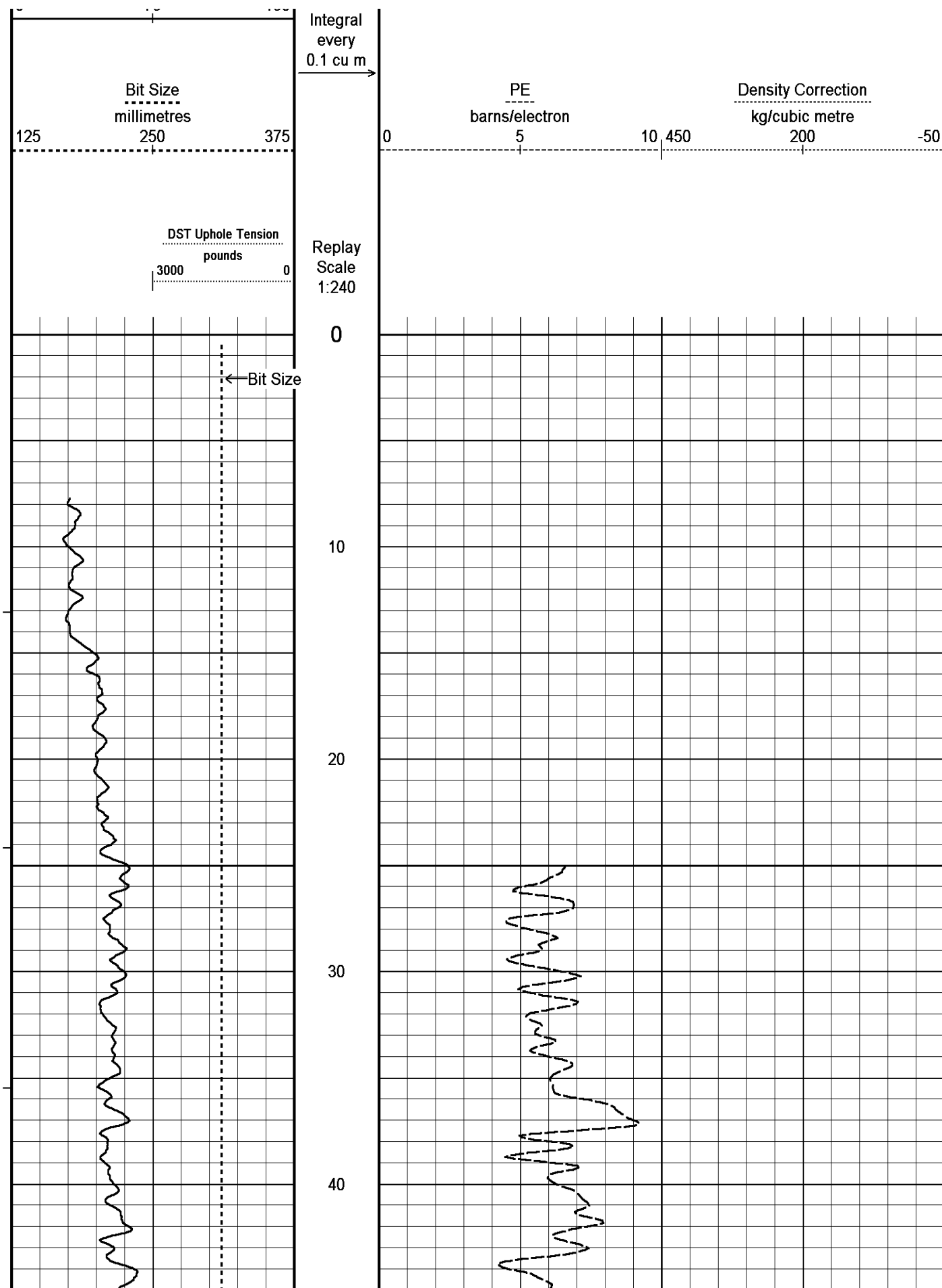


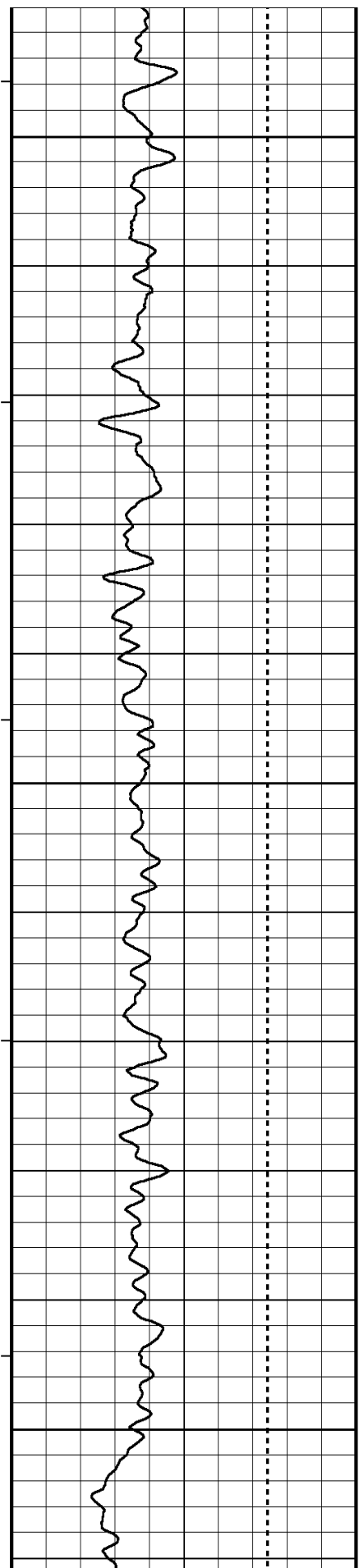












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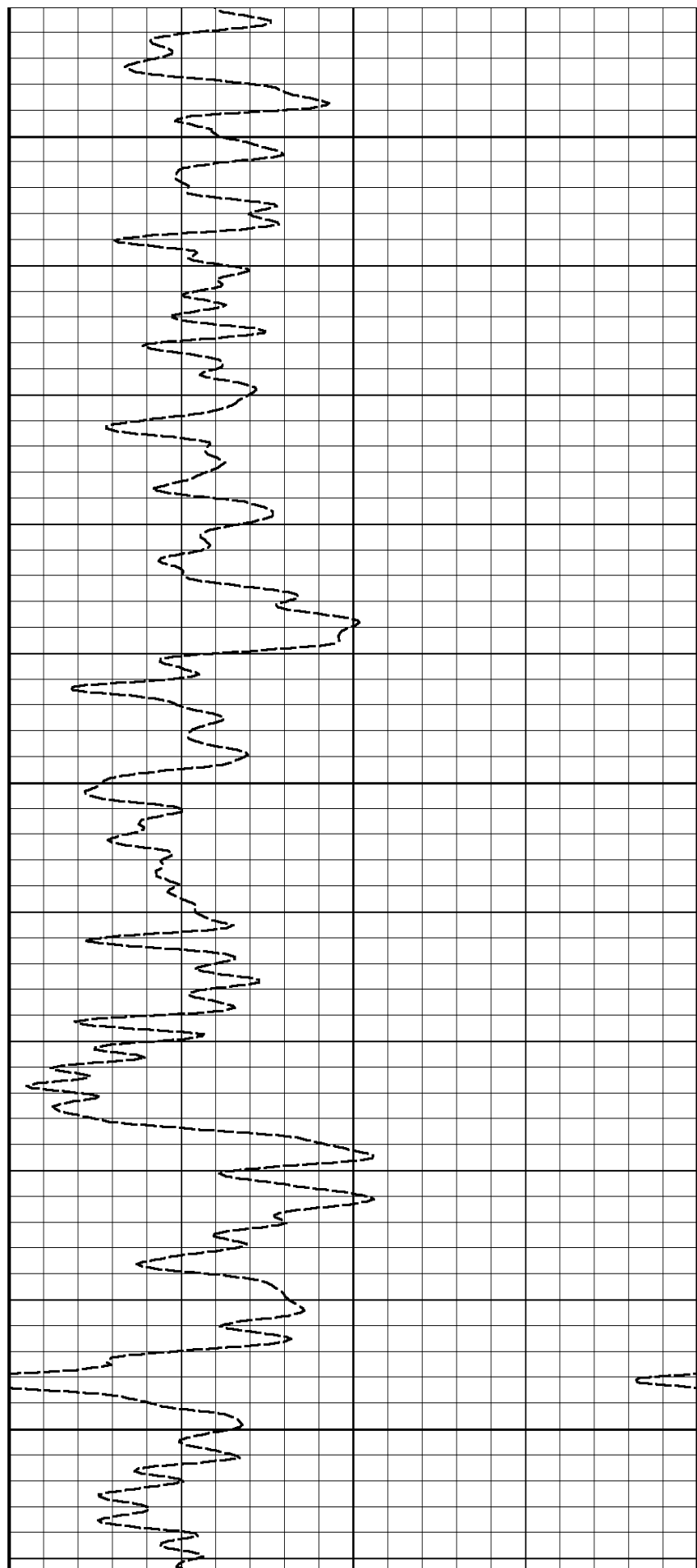
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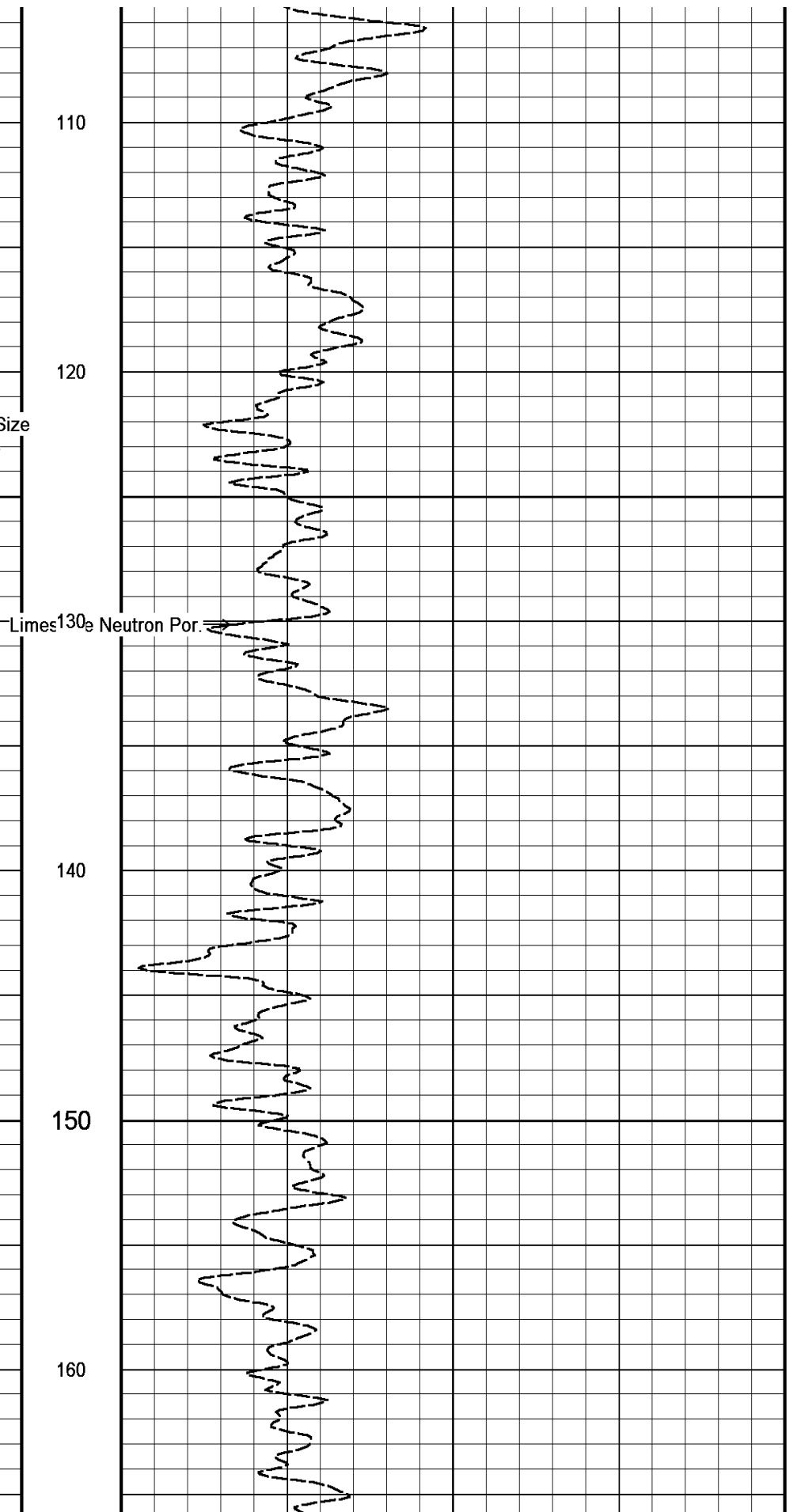
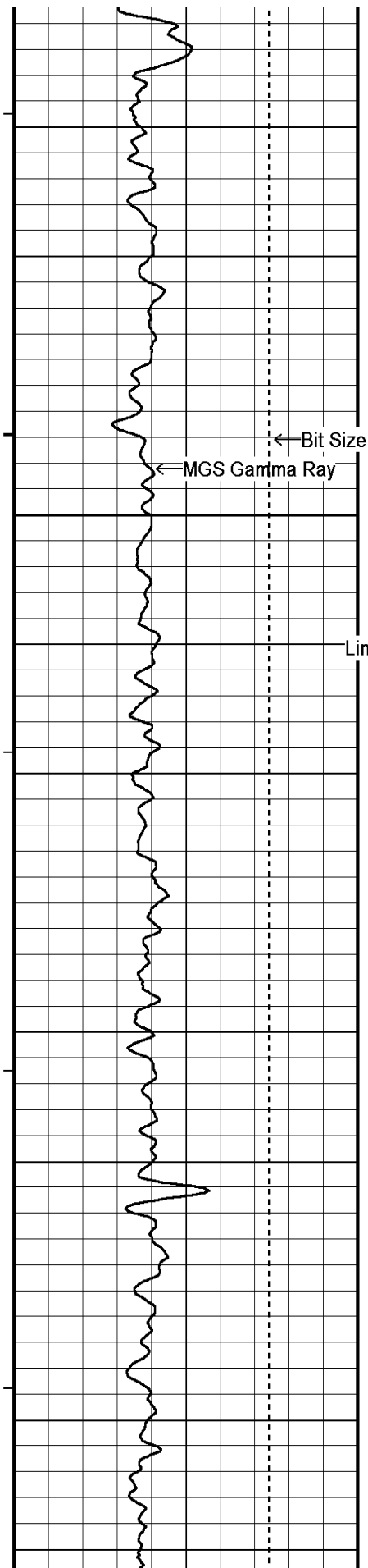
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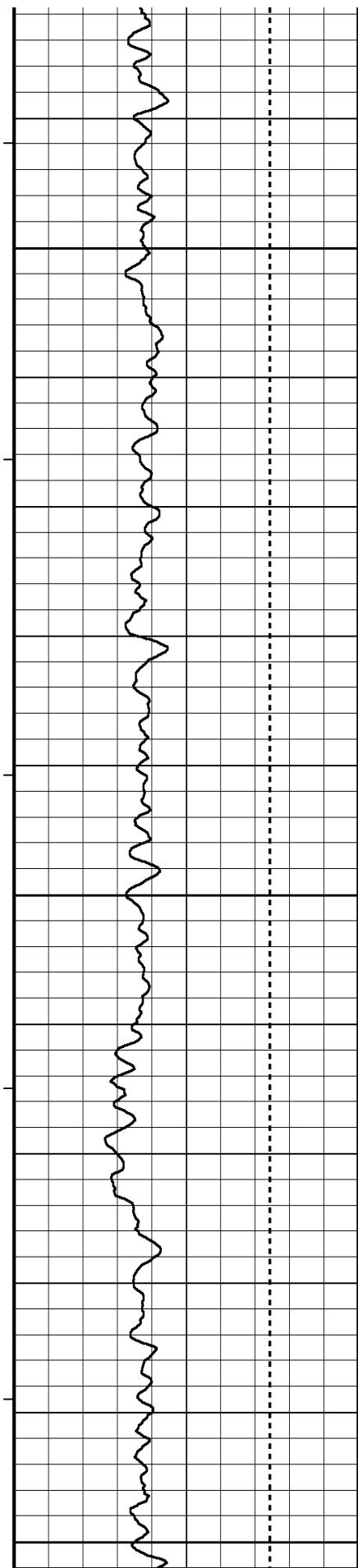
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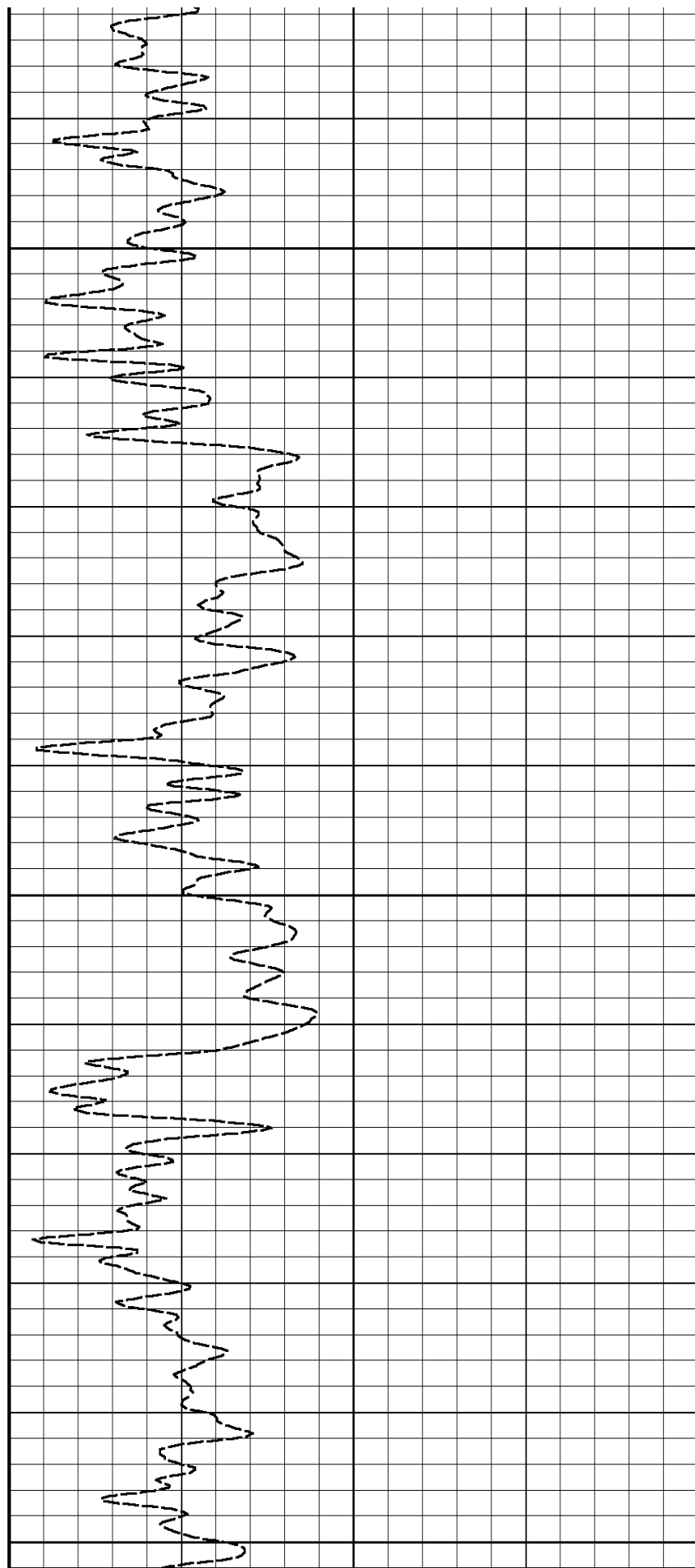
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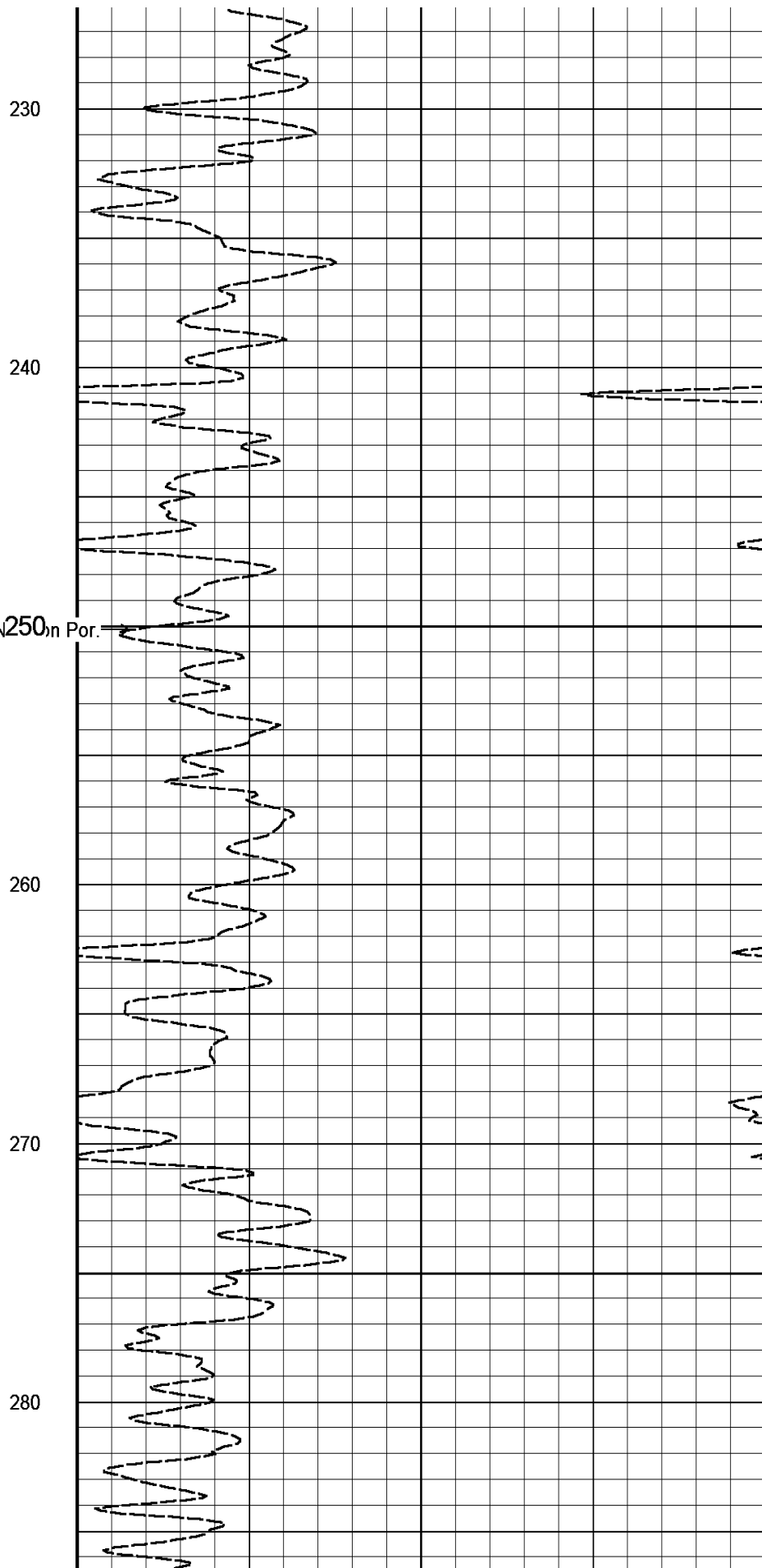
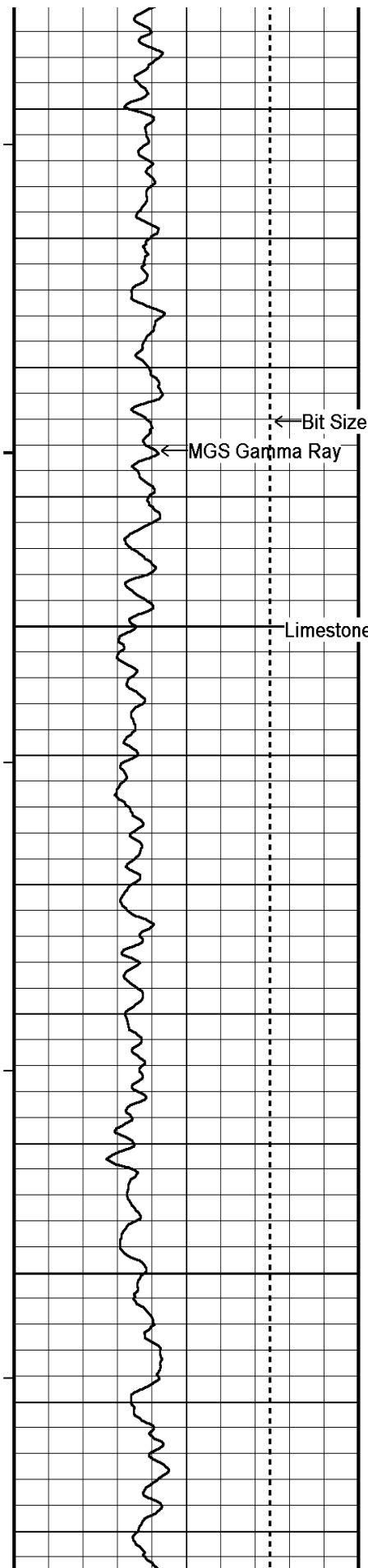
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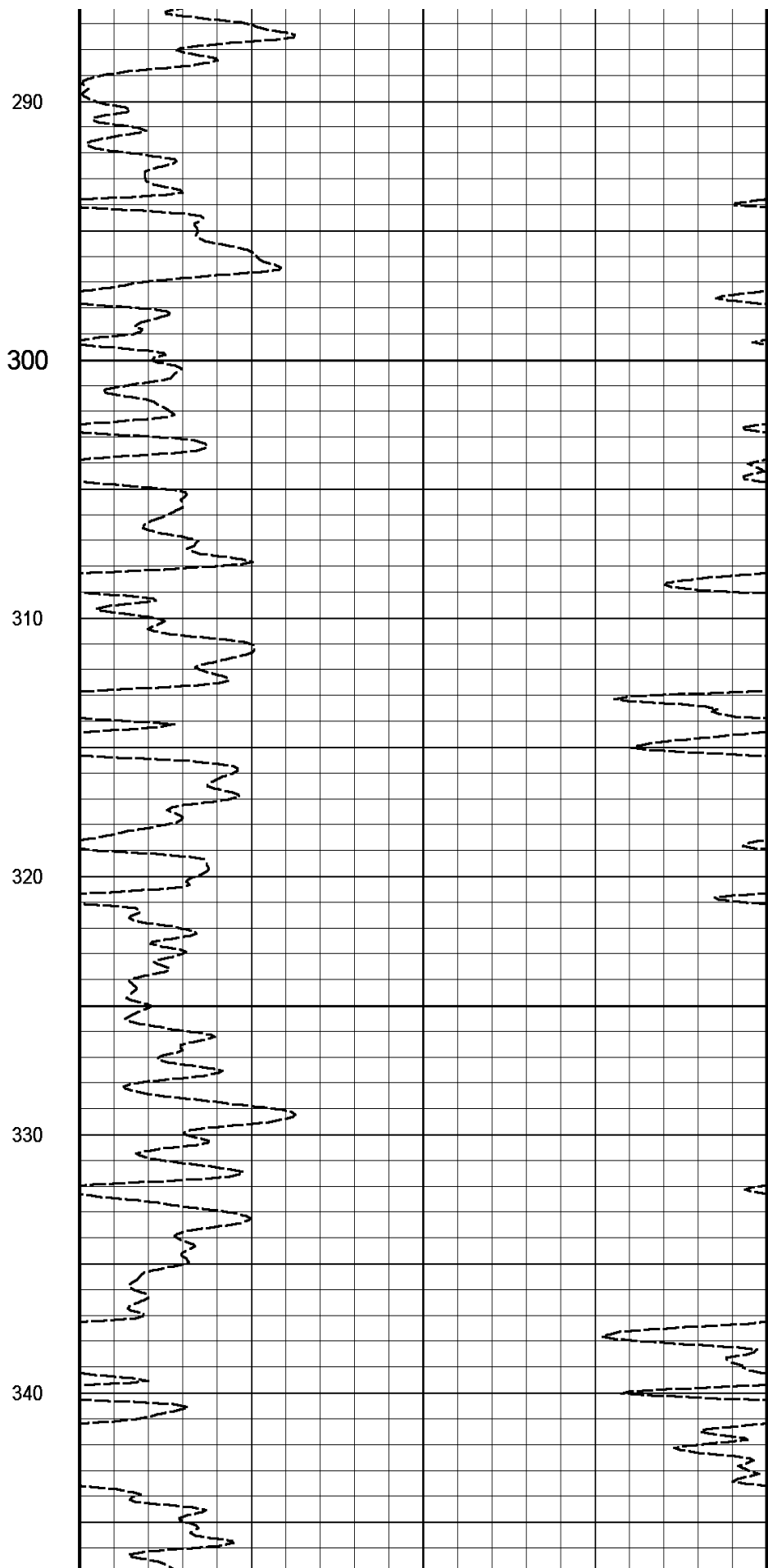
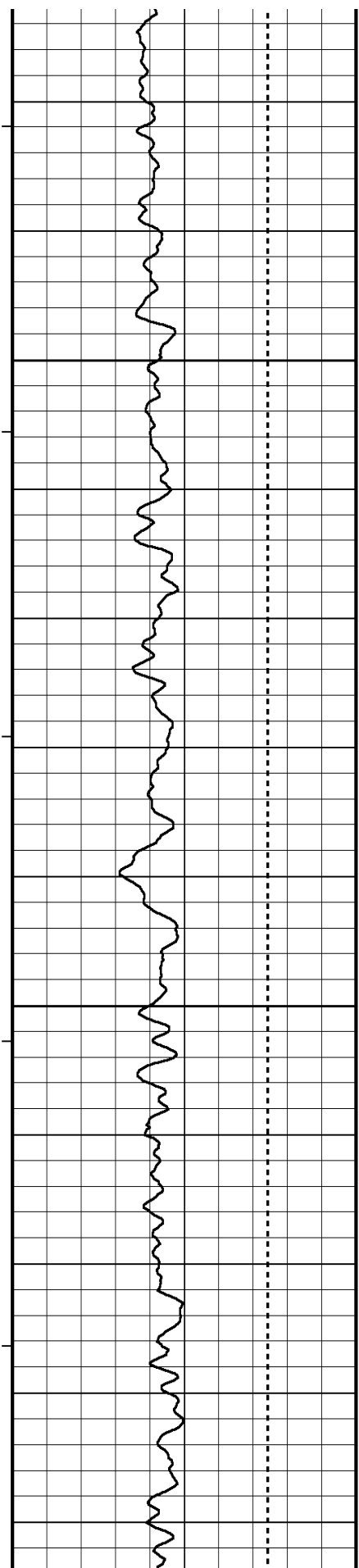
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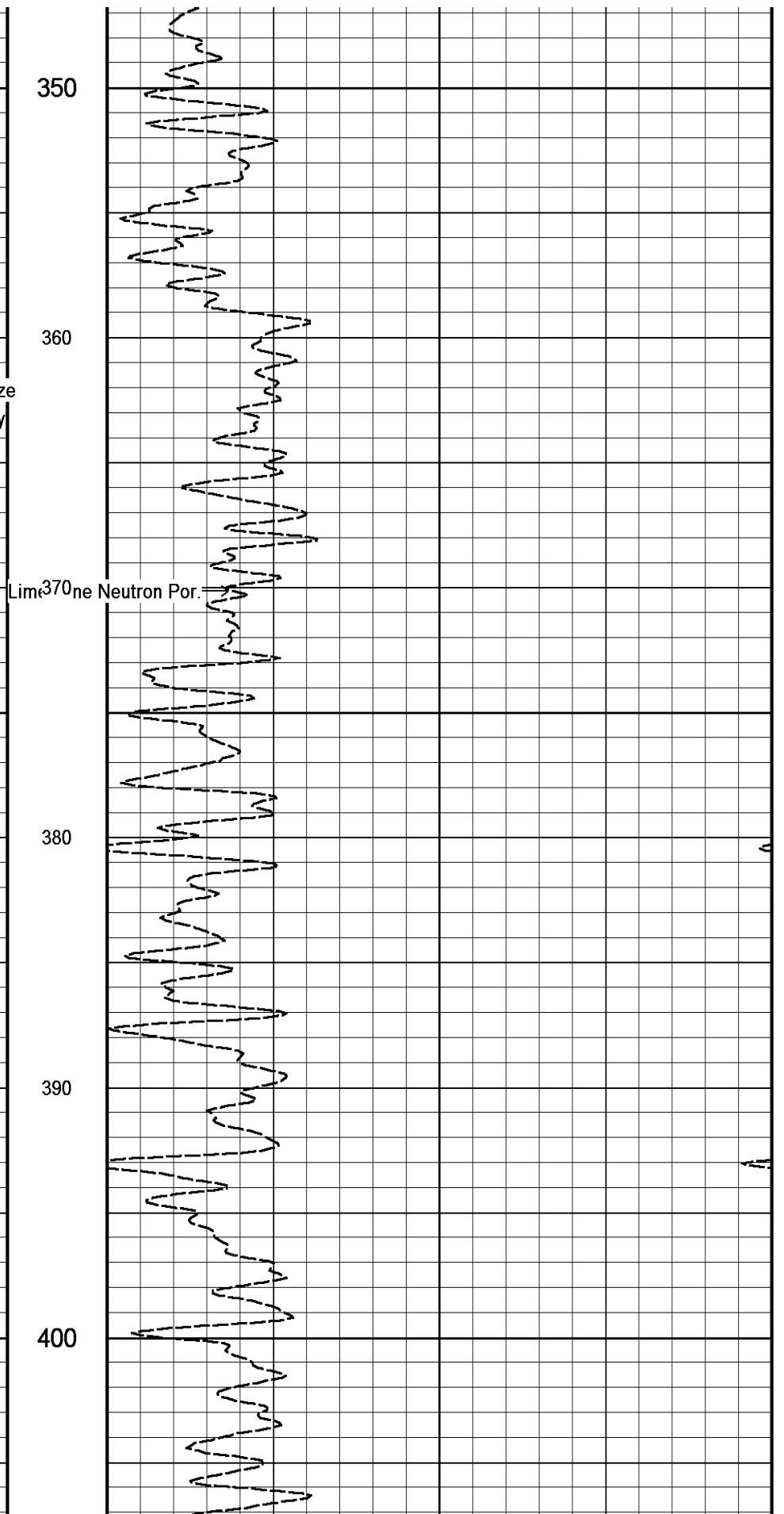
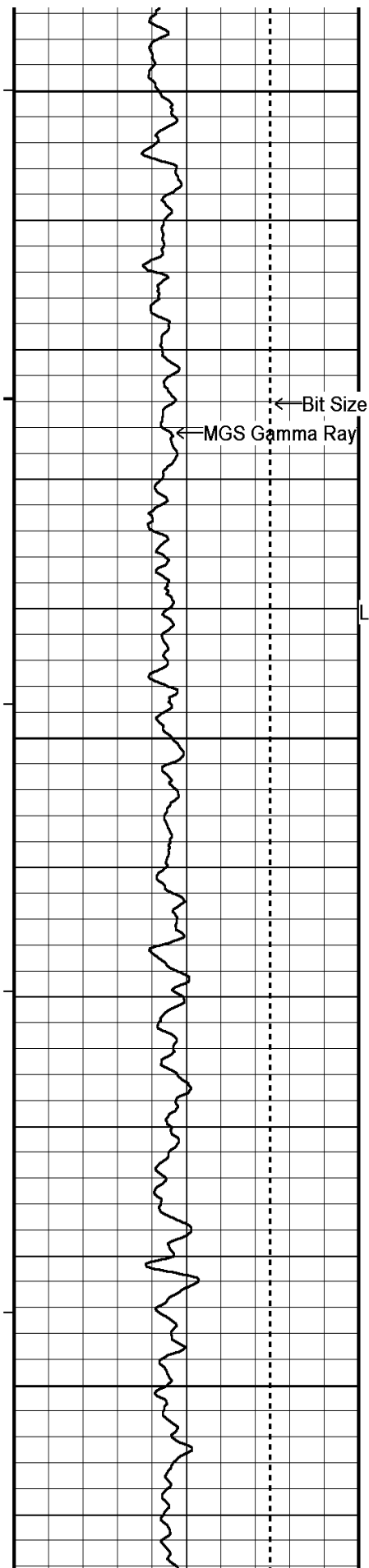
210

220

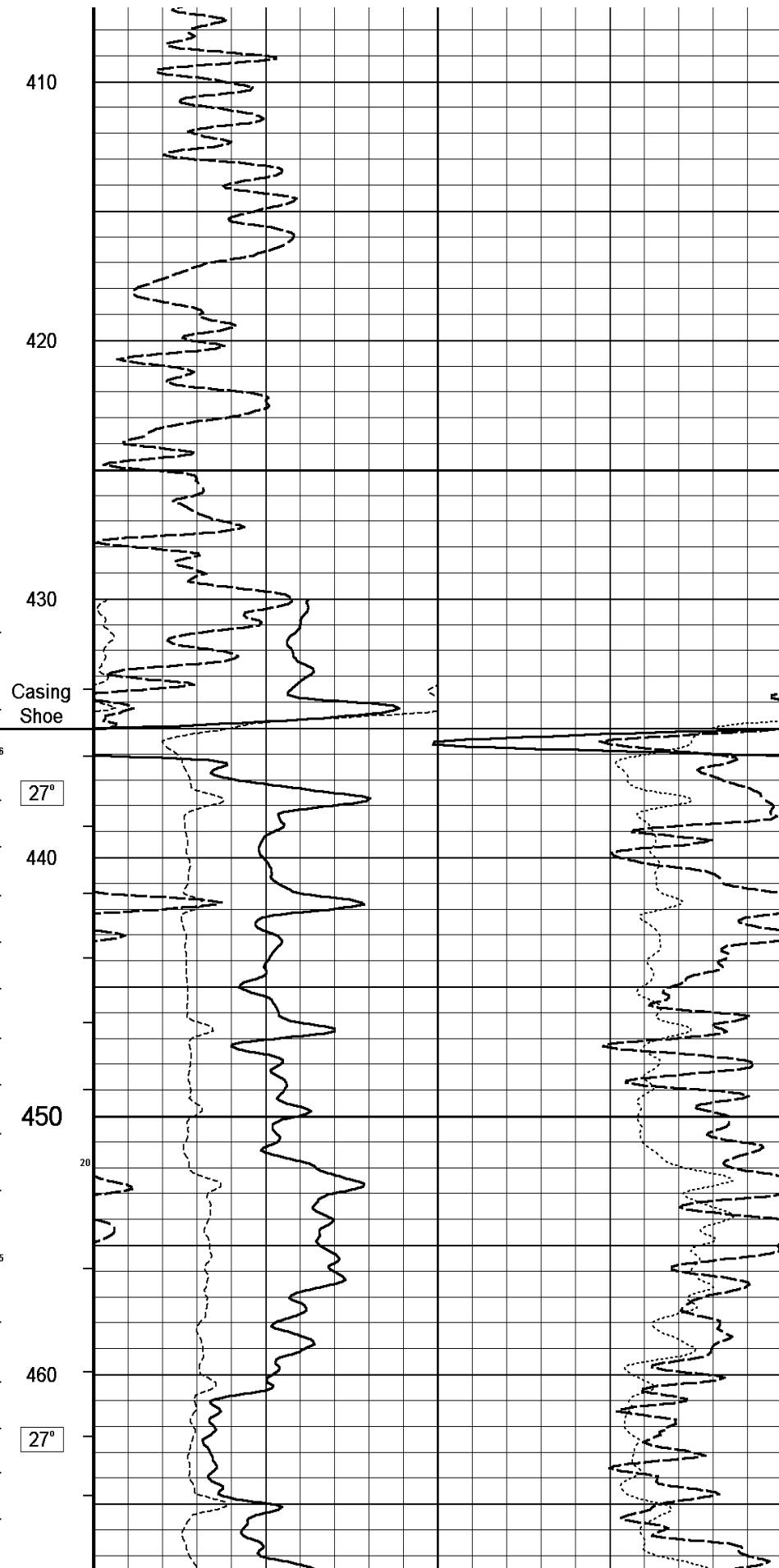
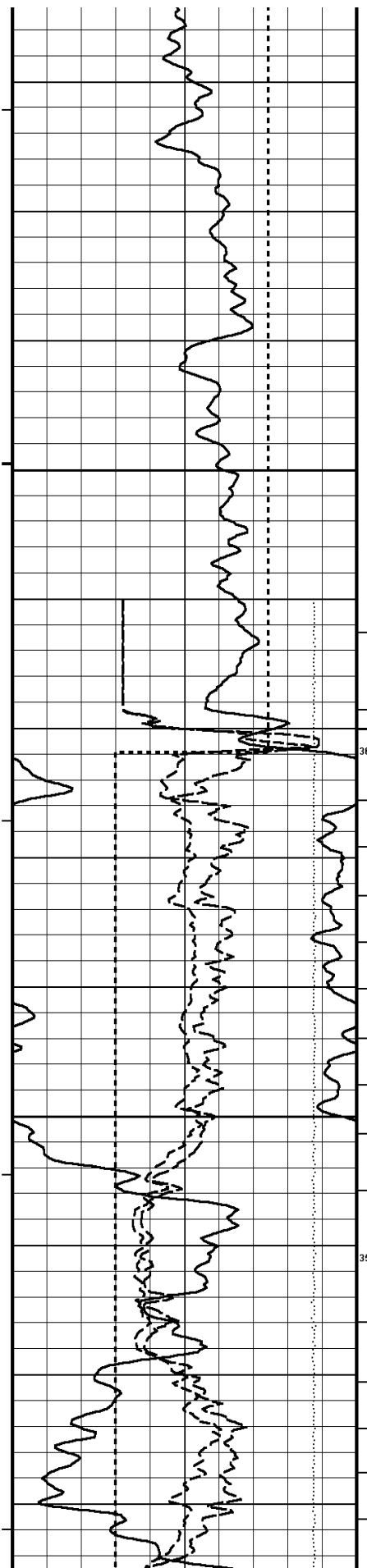


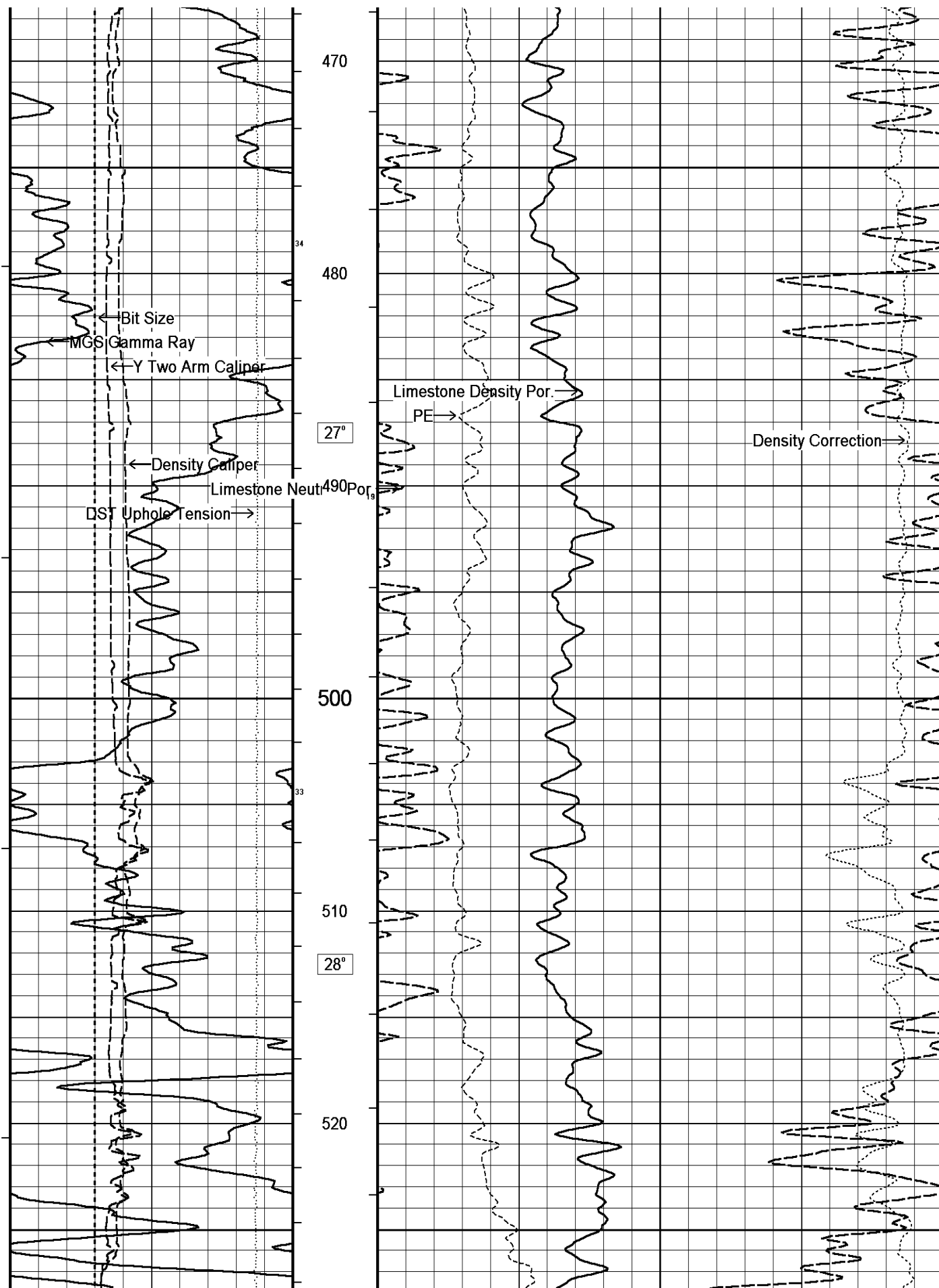


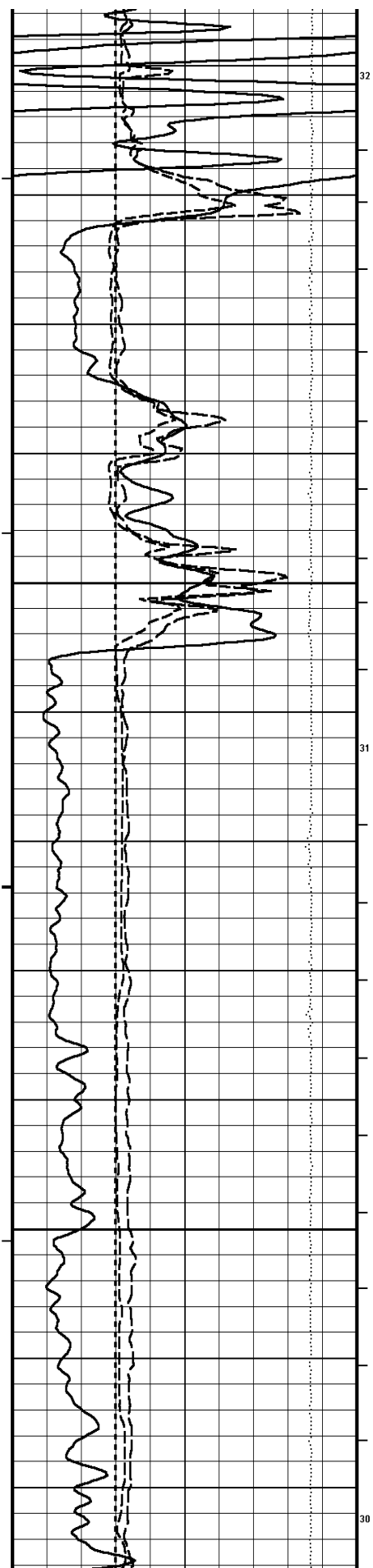




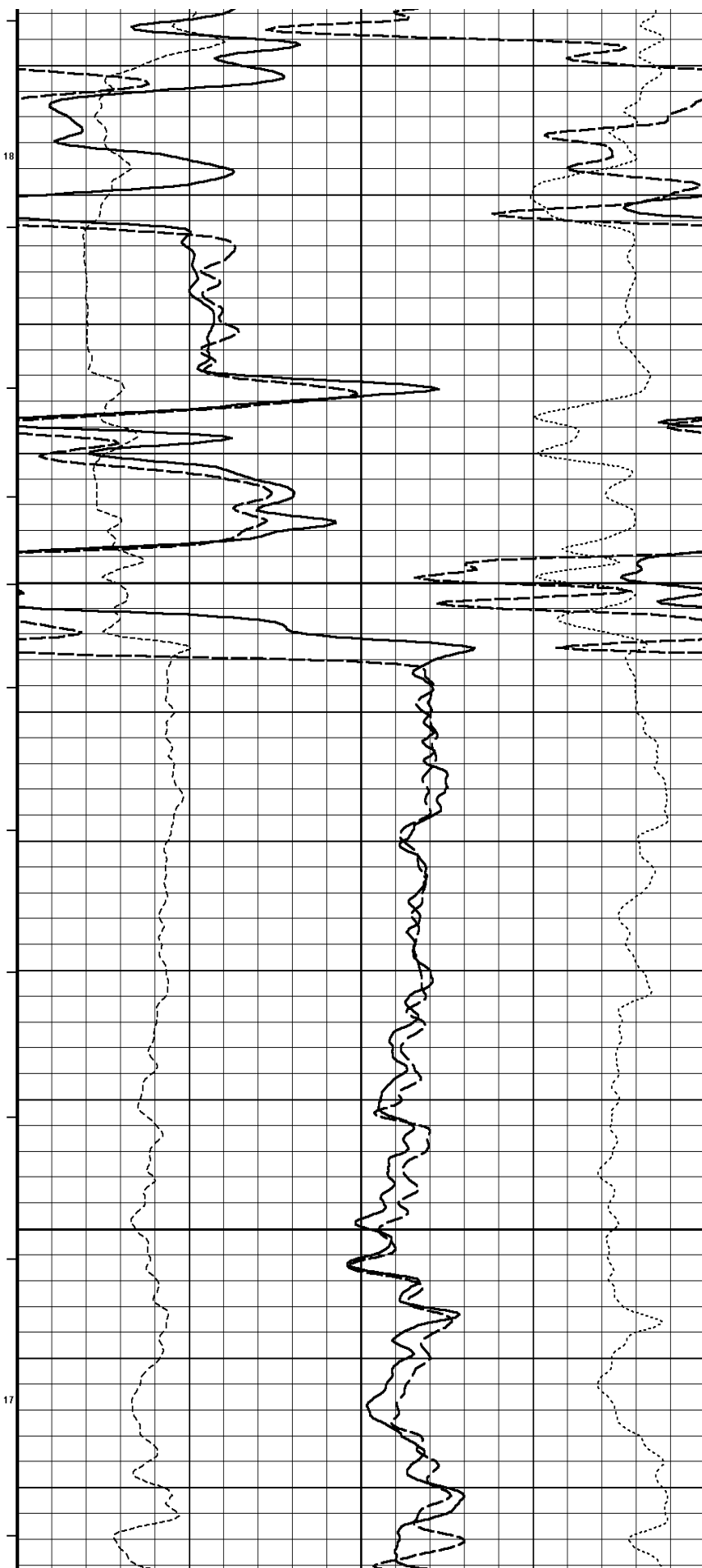


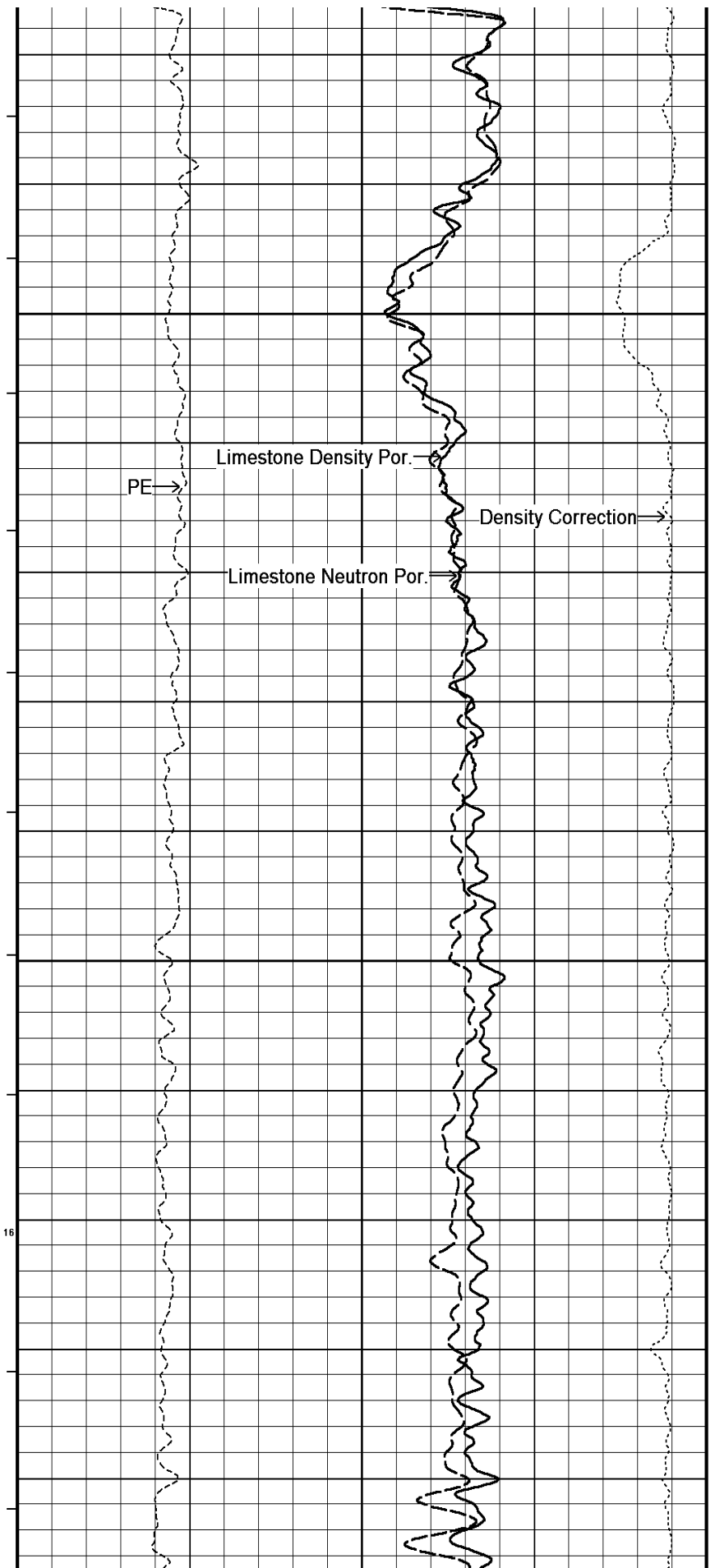
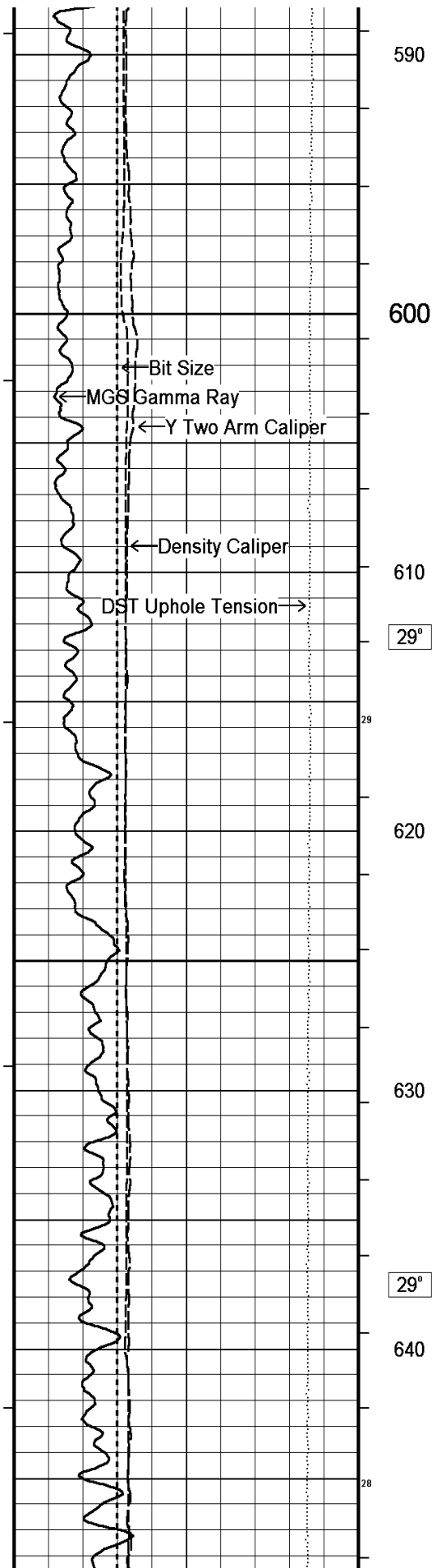




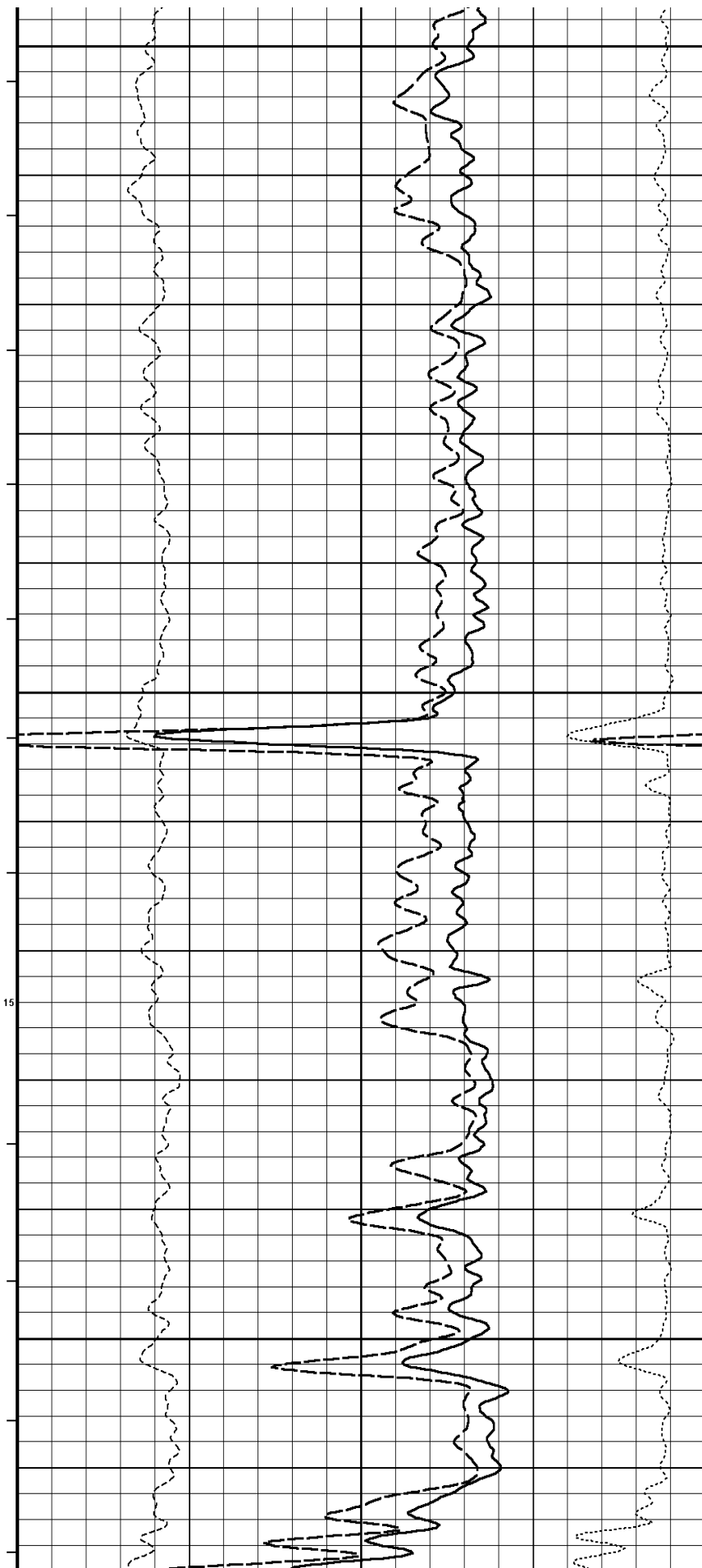
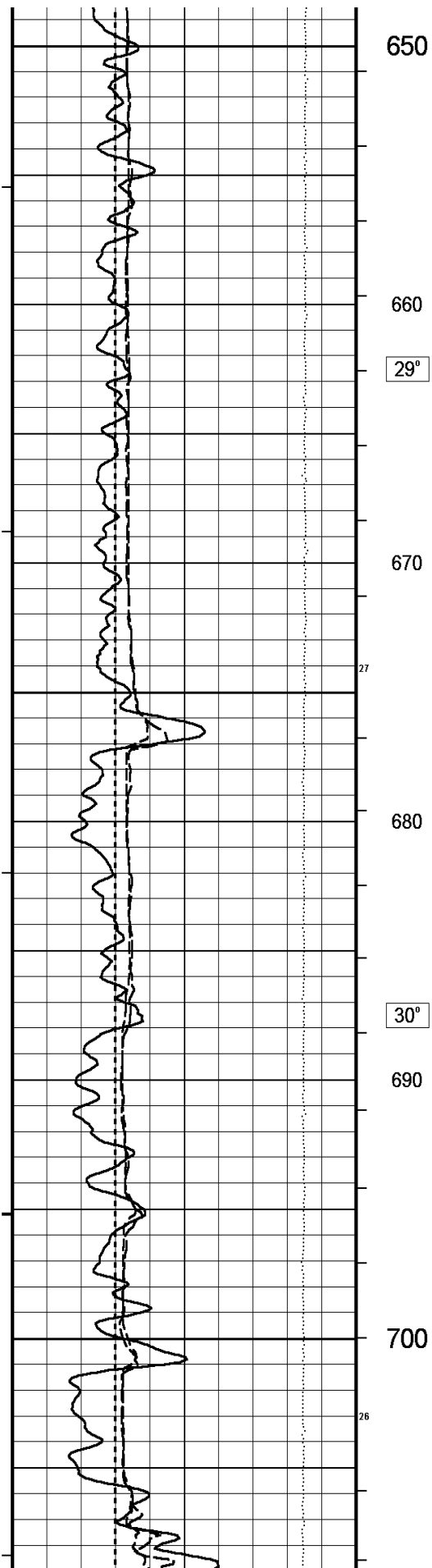


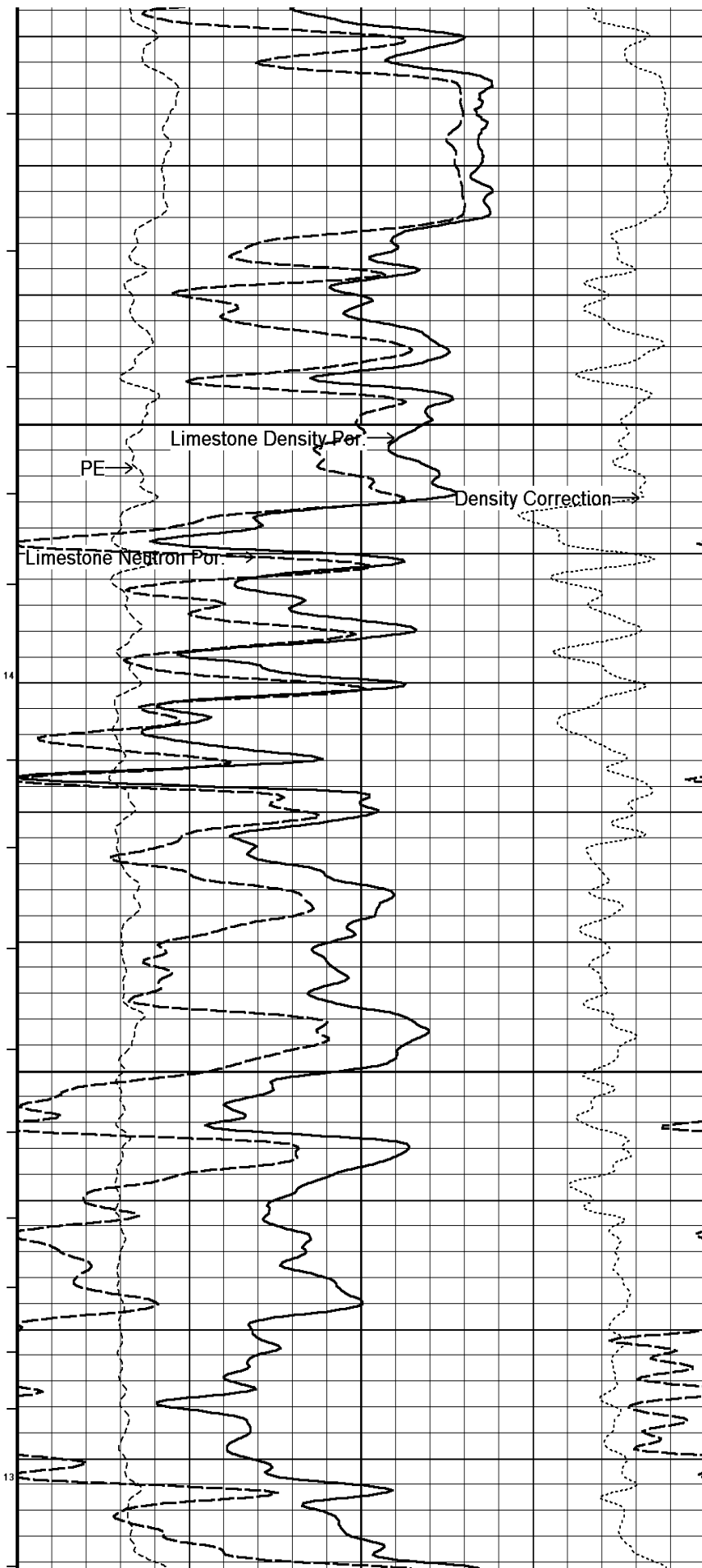
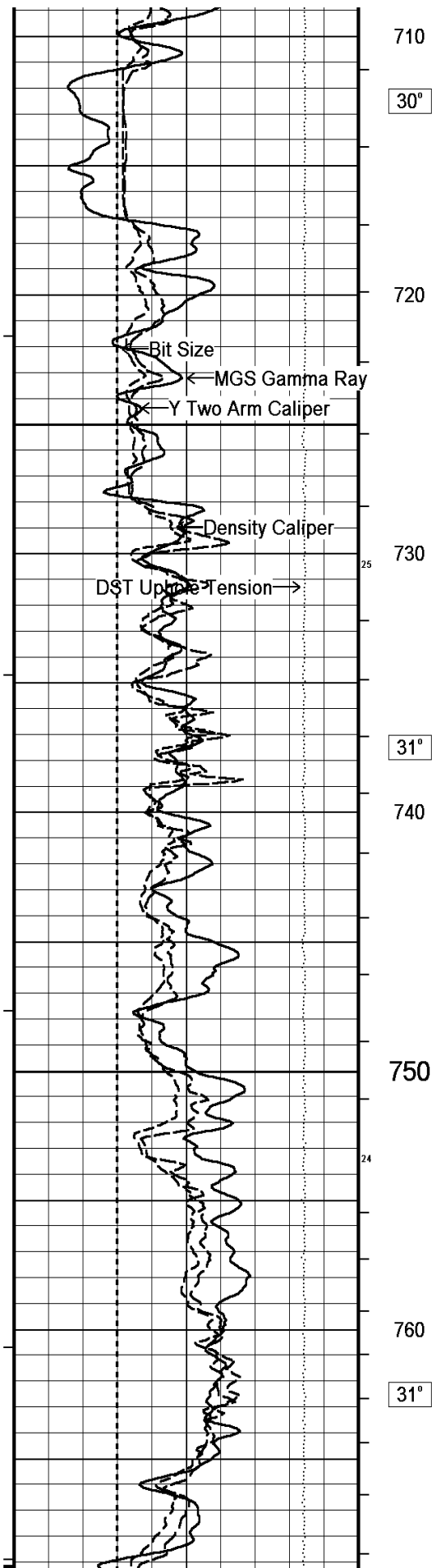
530  
18  
28°  
540  
550  
31  
560  
28°  
570  
580  
17  
30  
28°

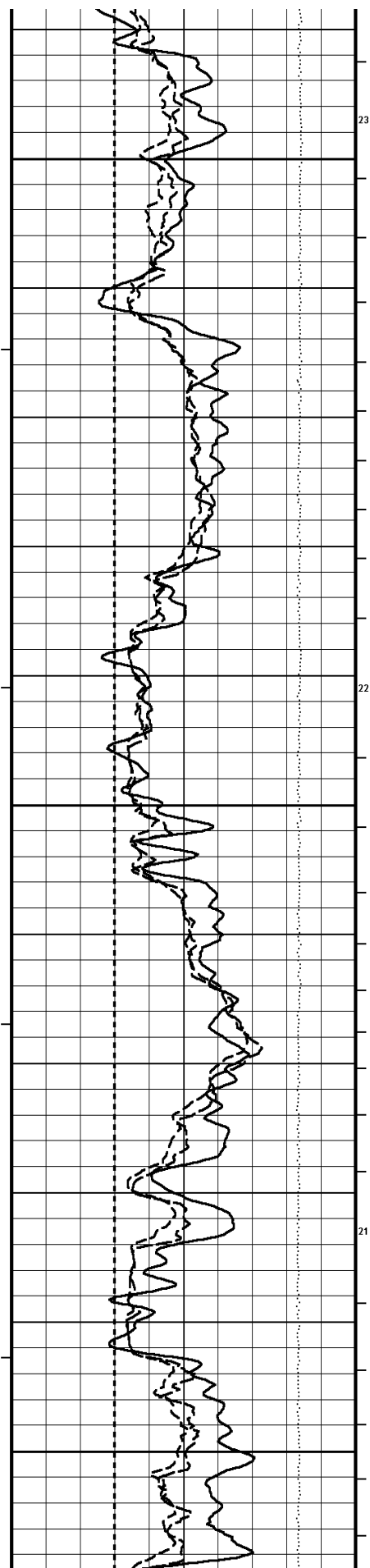












770

780

32°

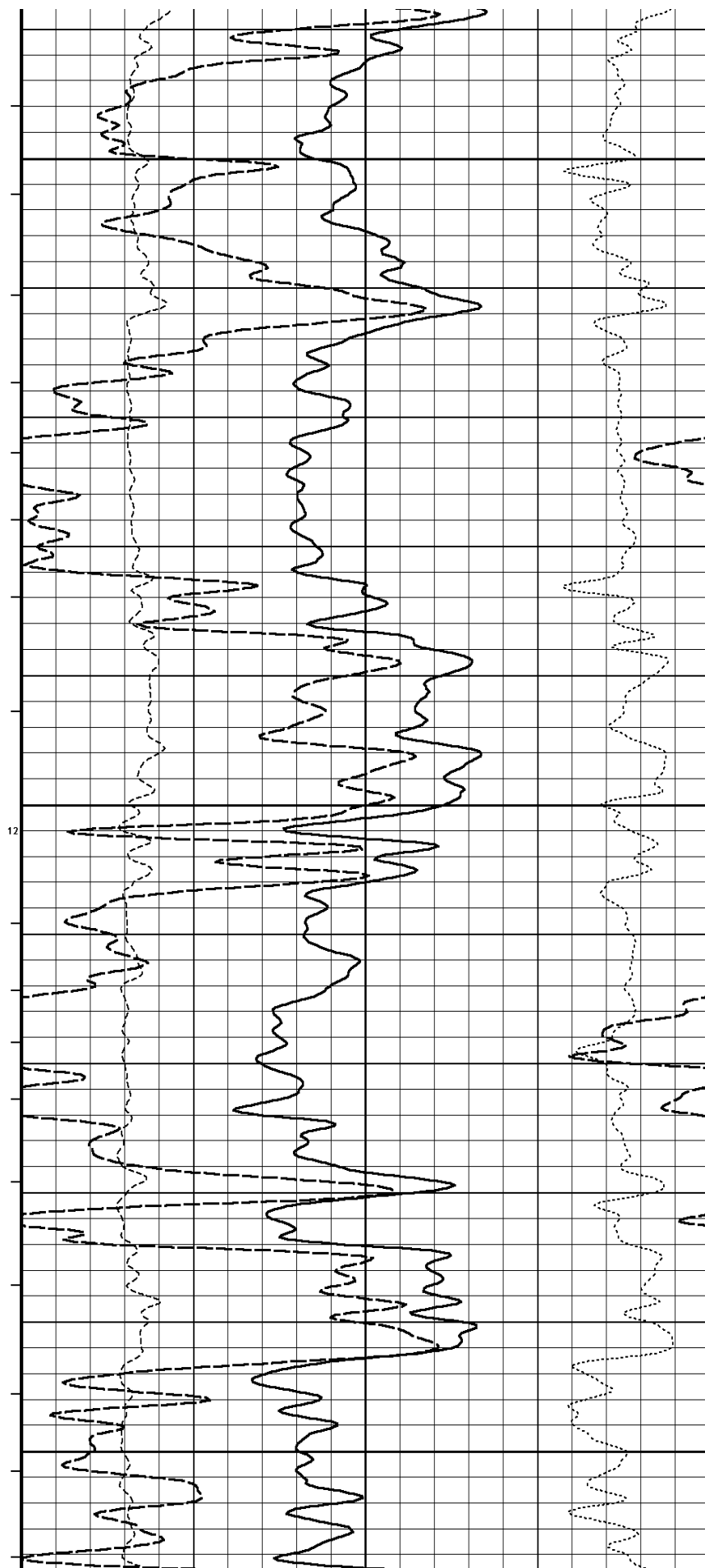
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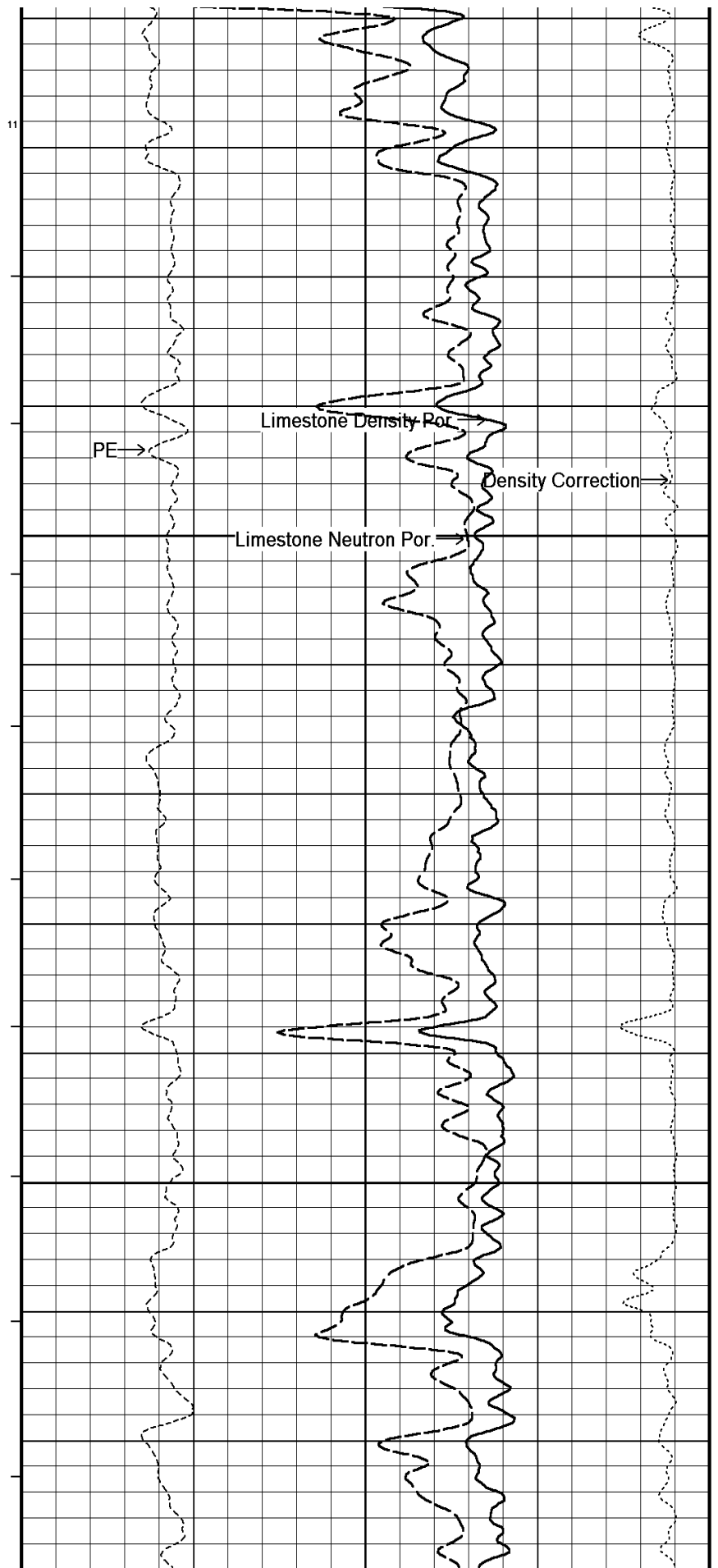
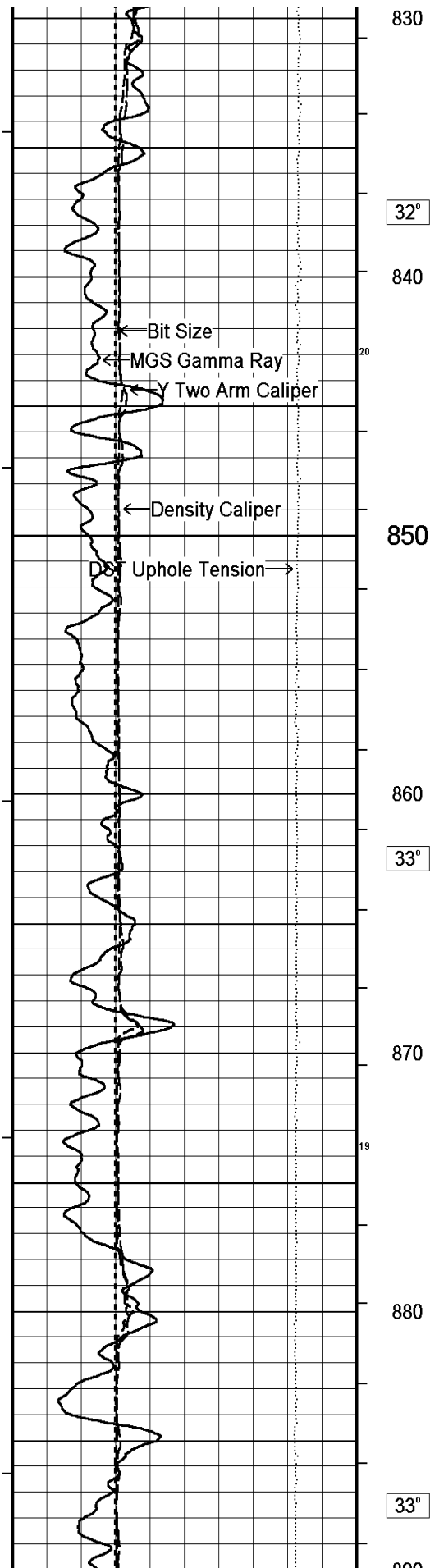
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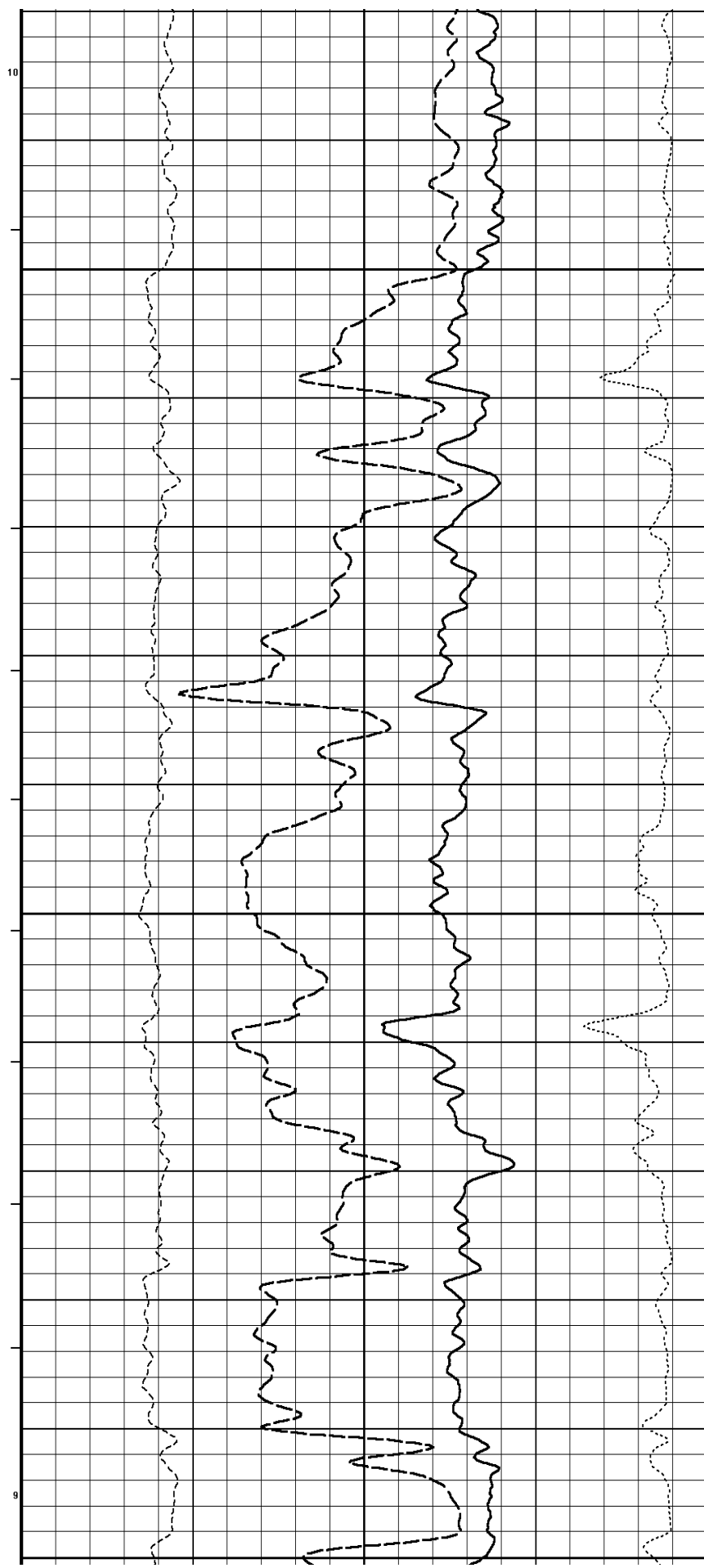
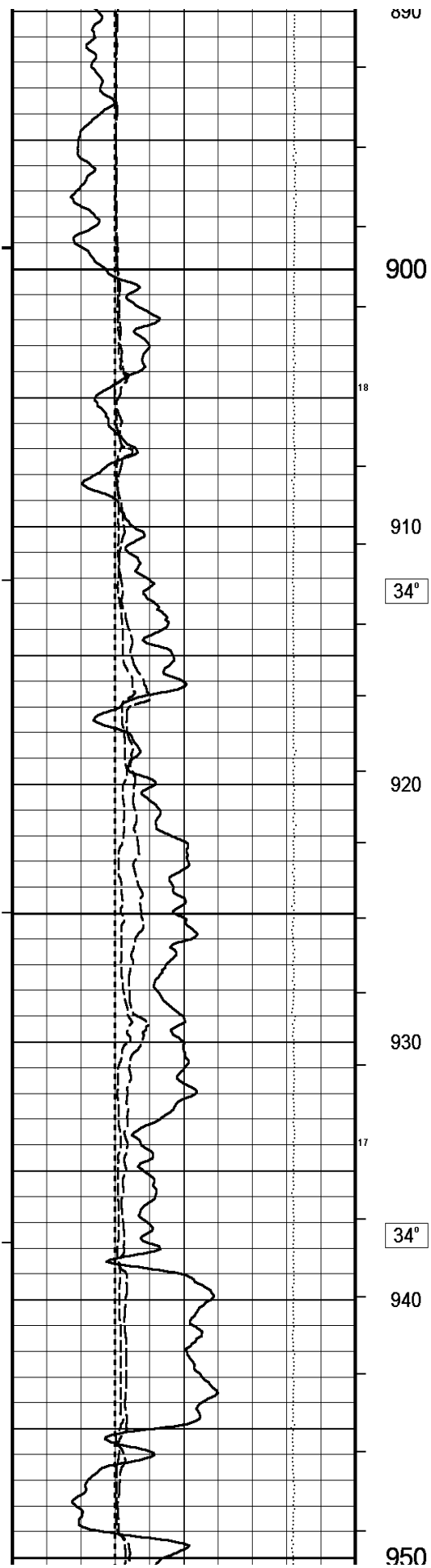
810

32°

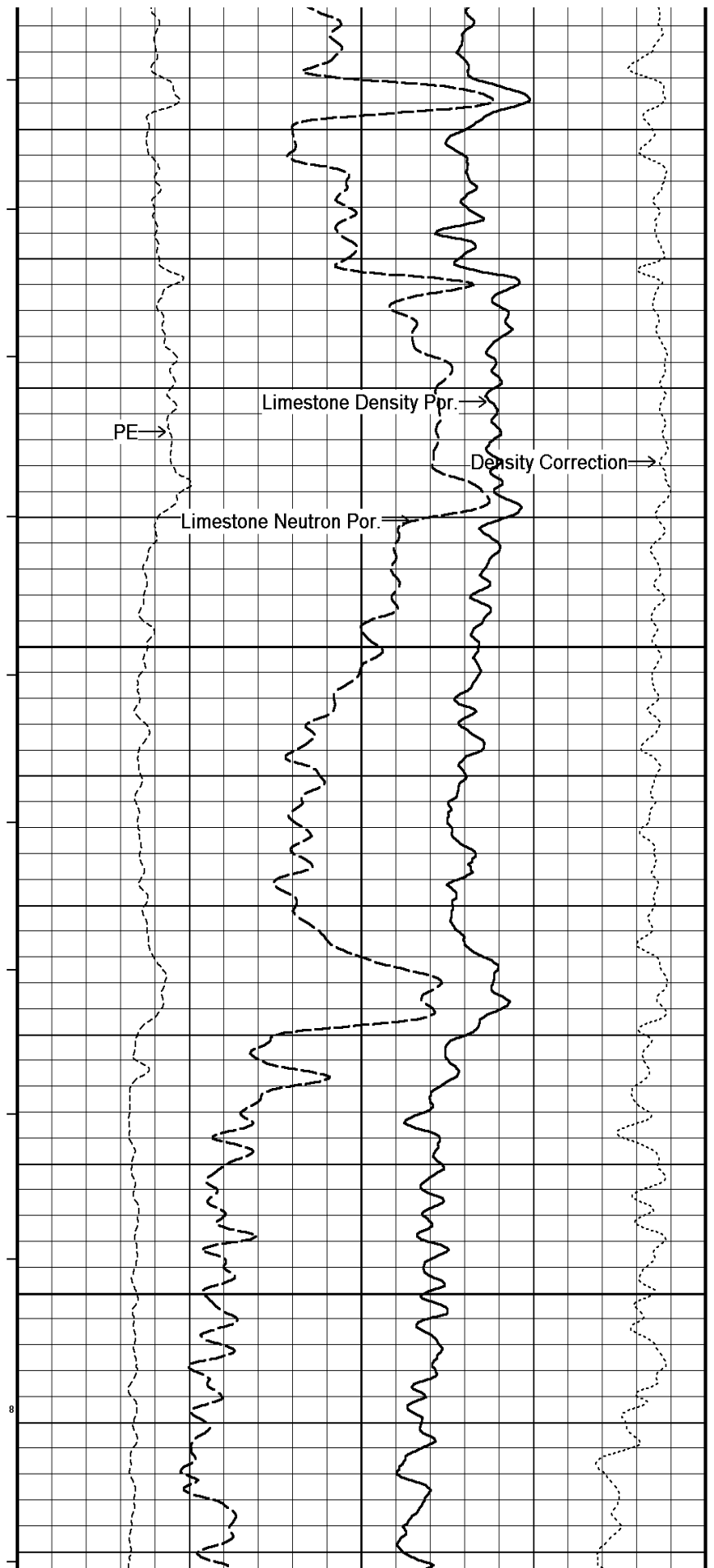
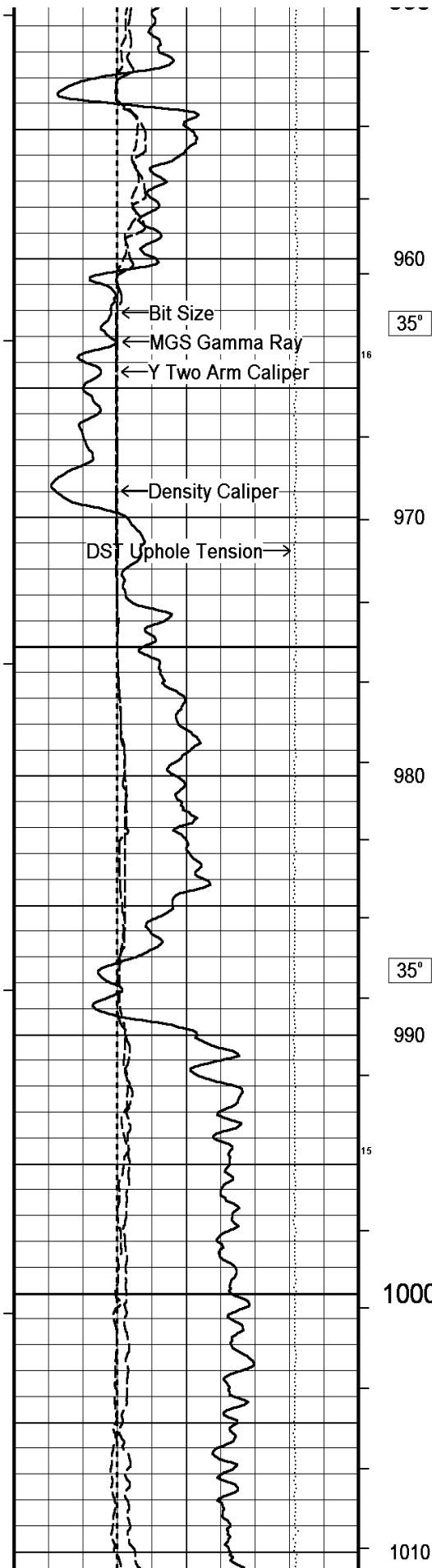
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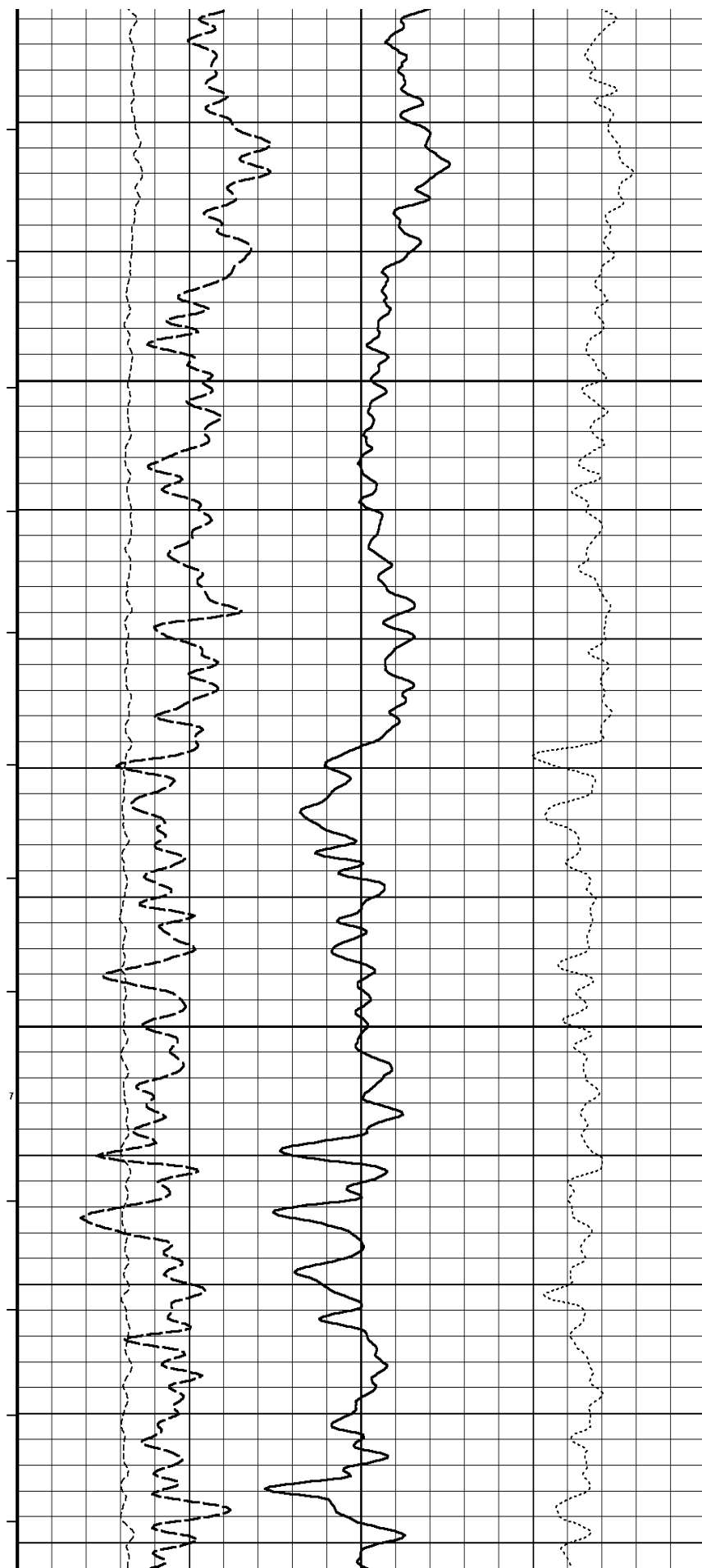
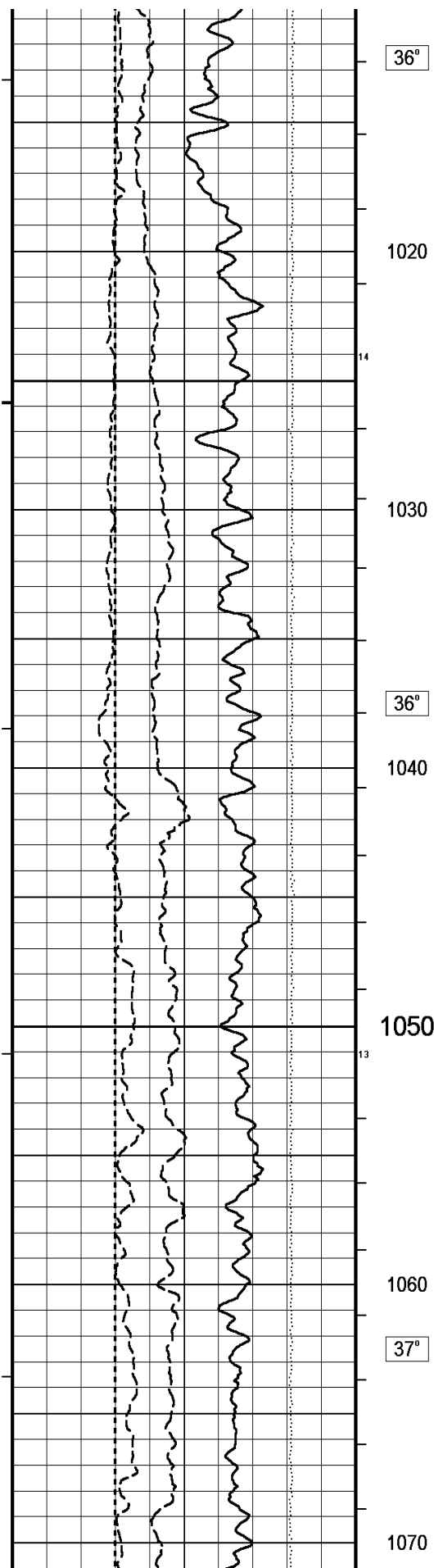


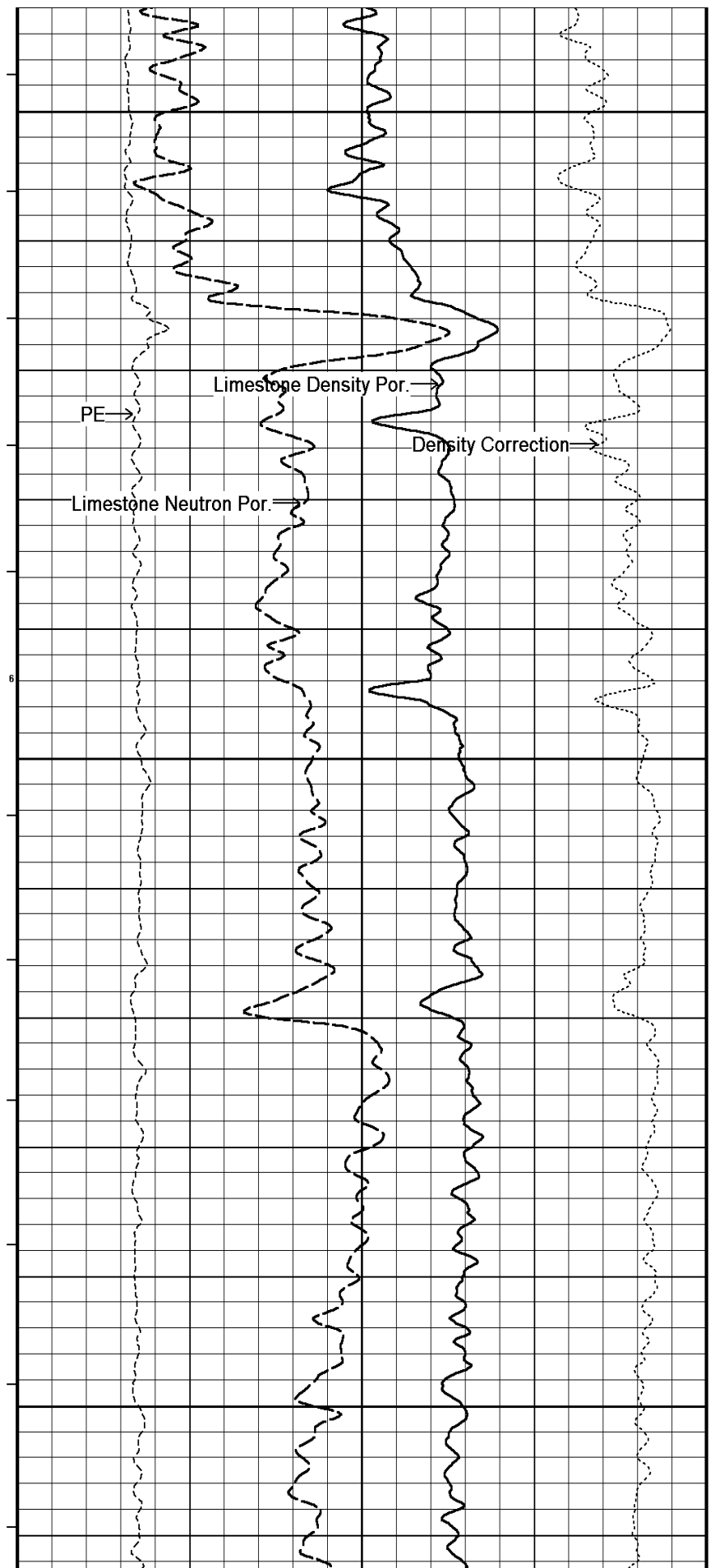
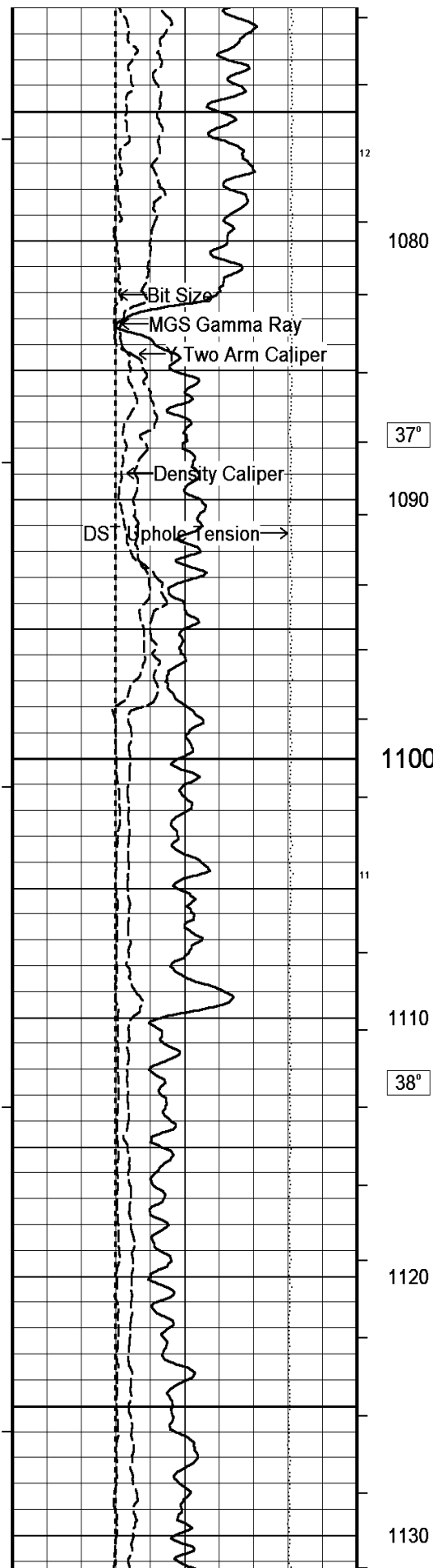


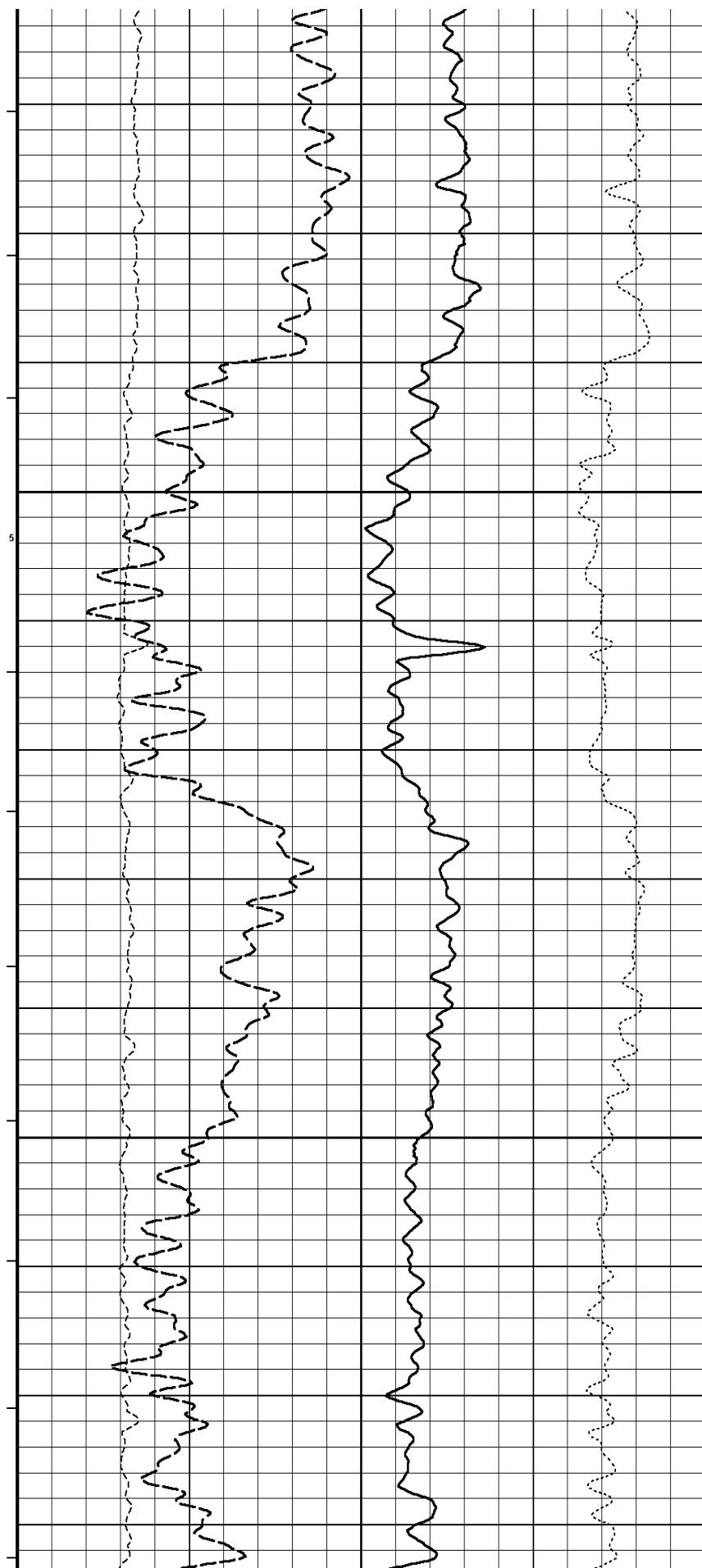
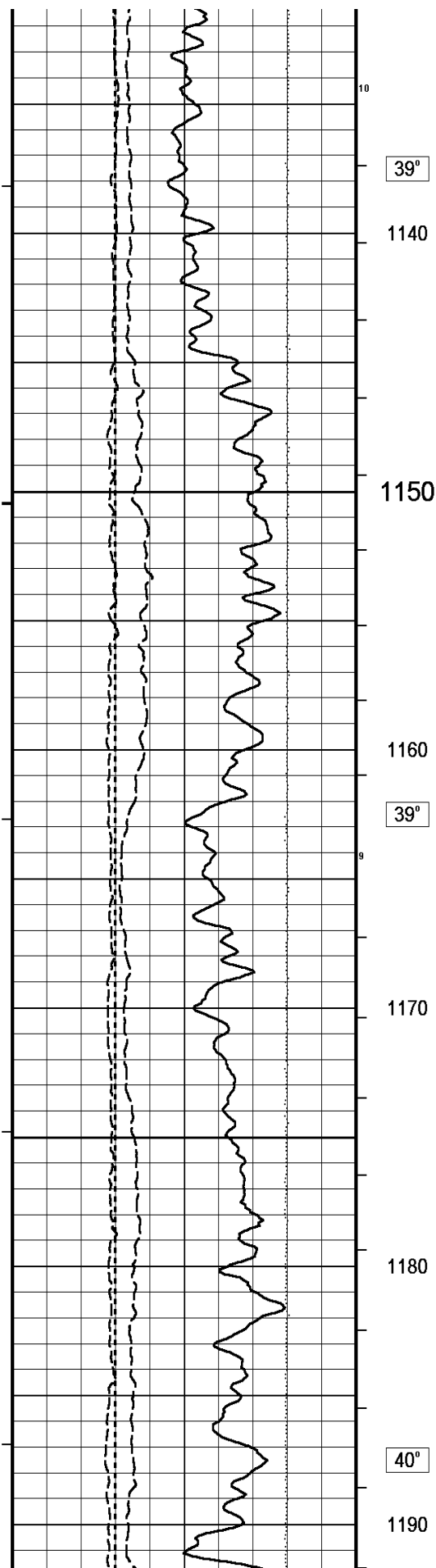


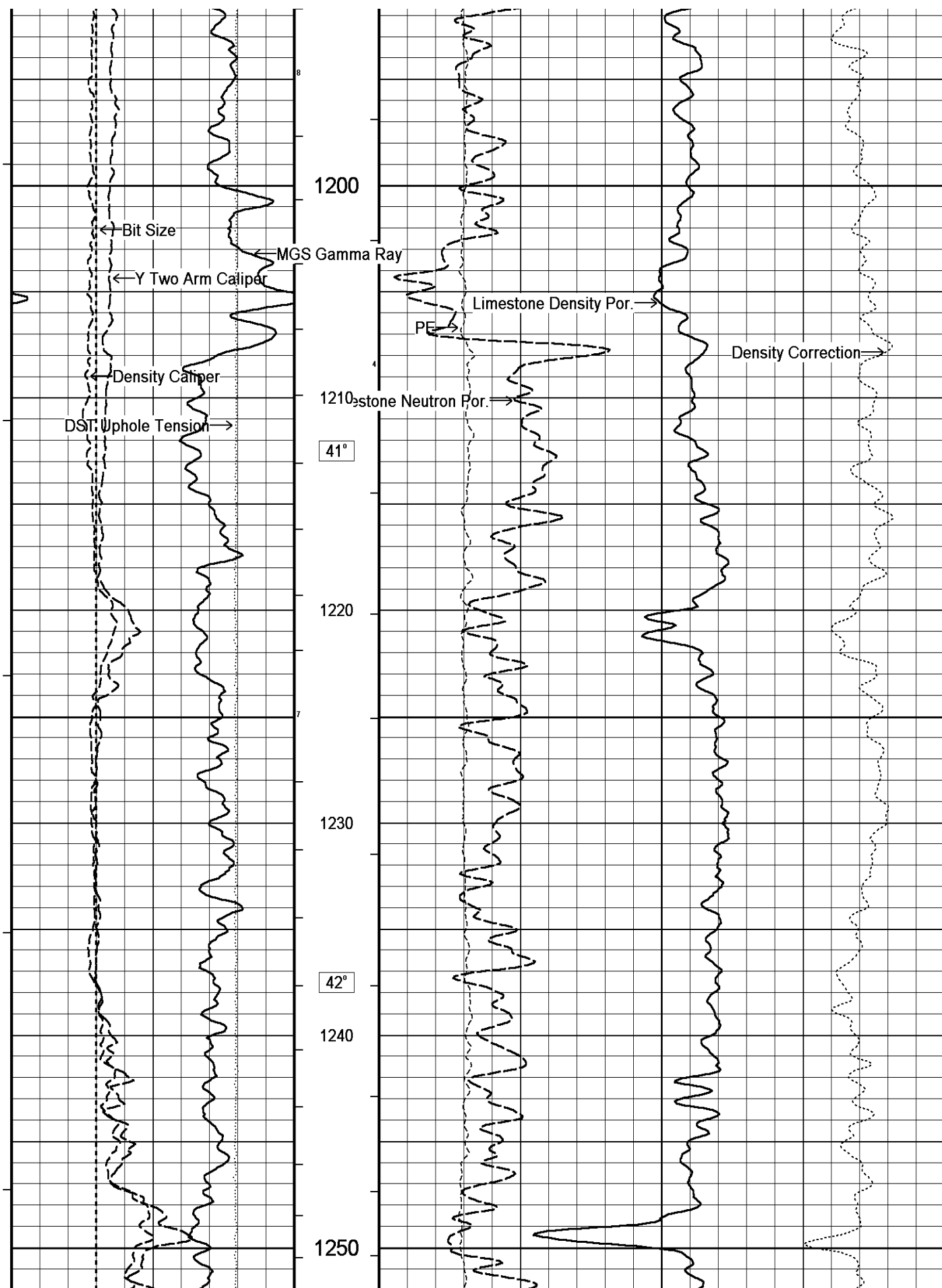




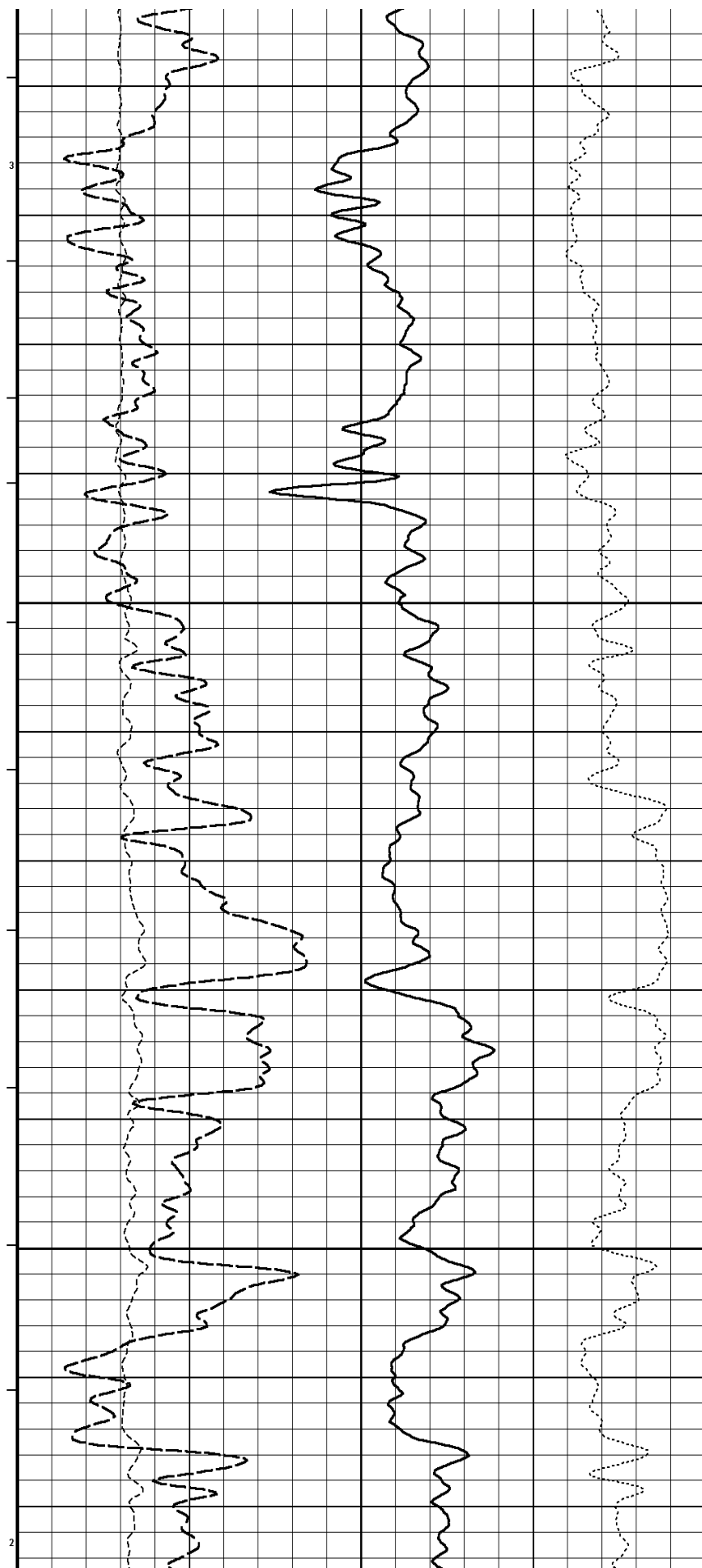
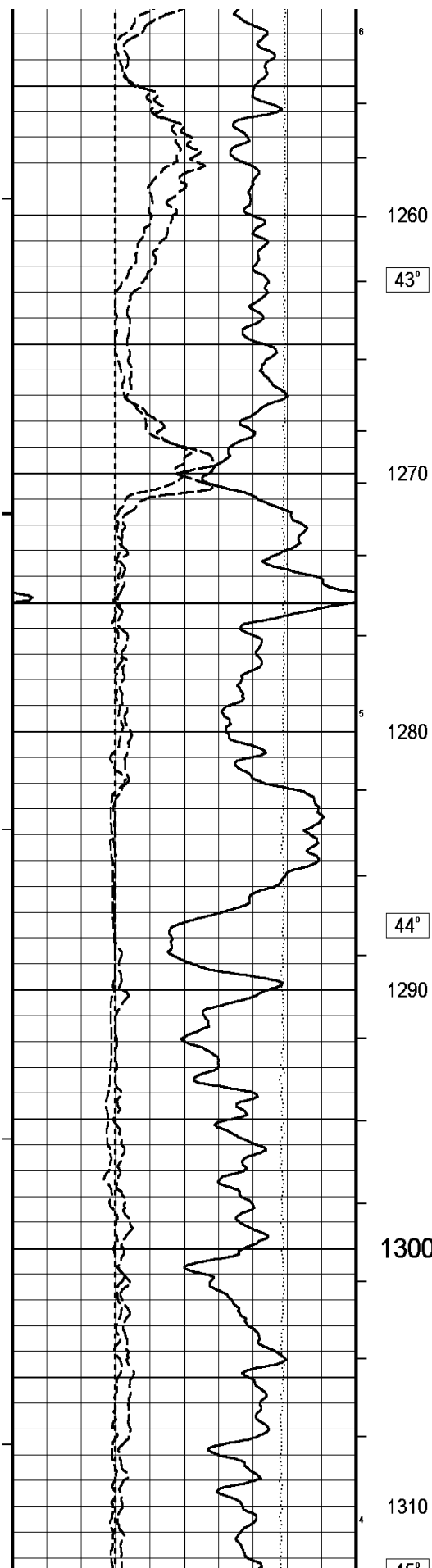


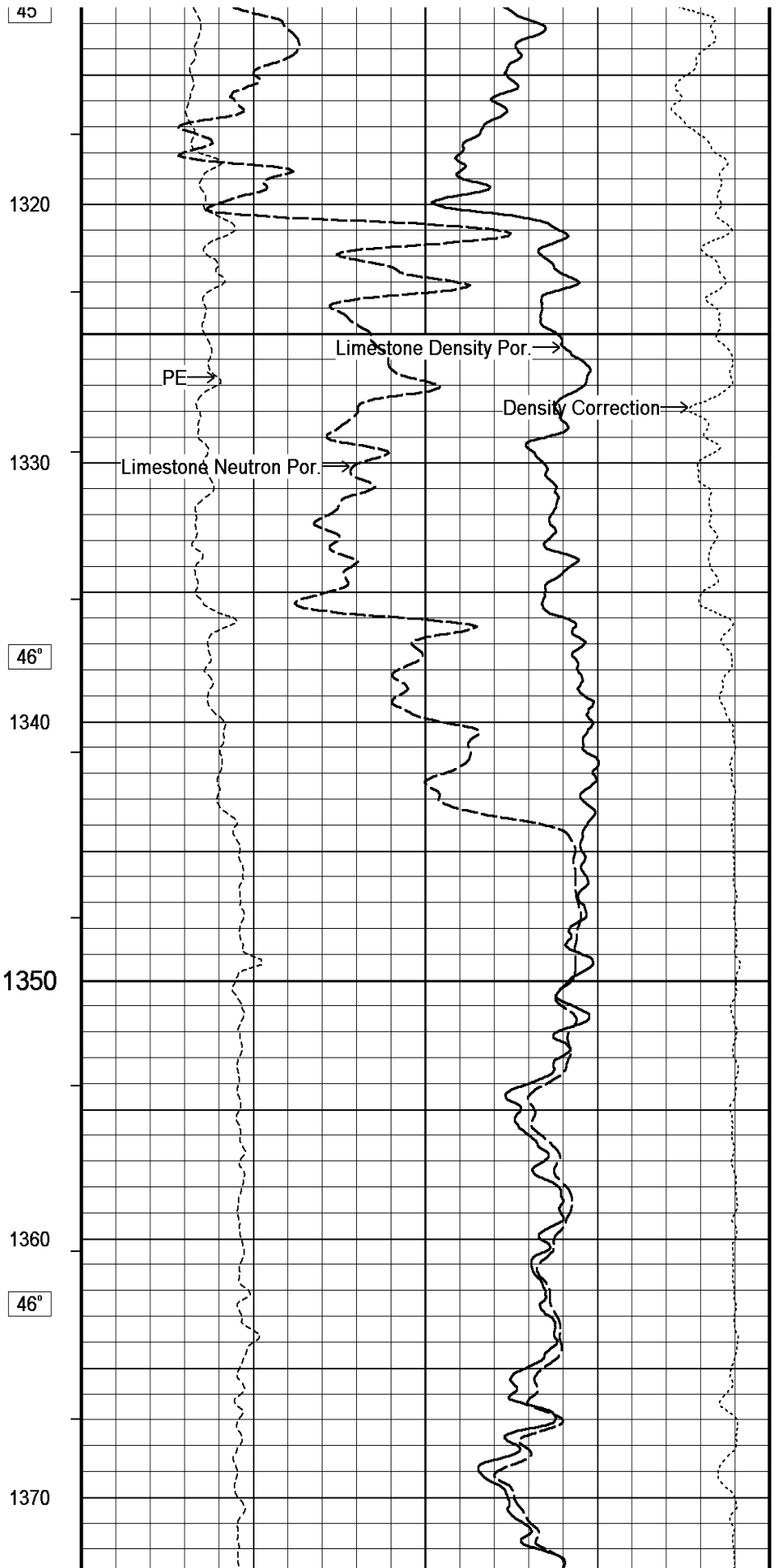
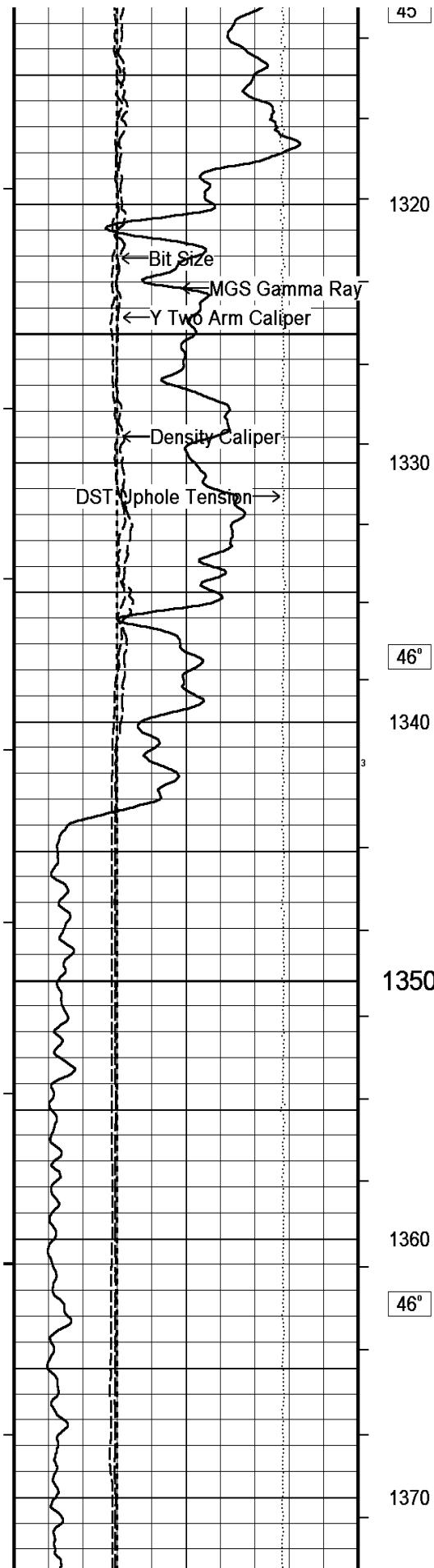


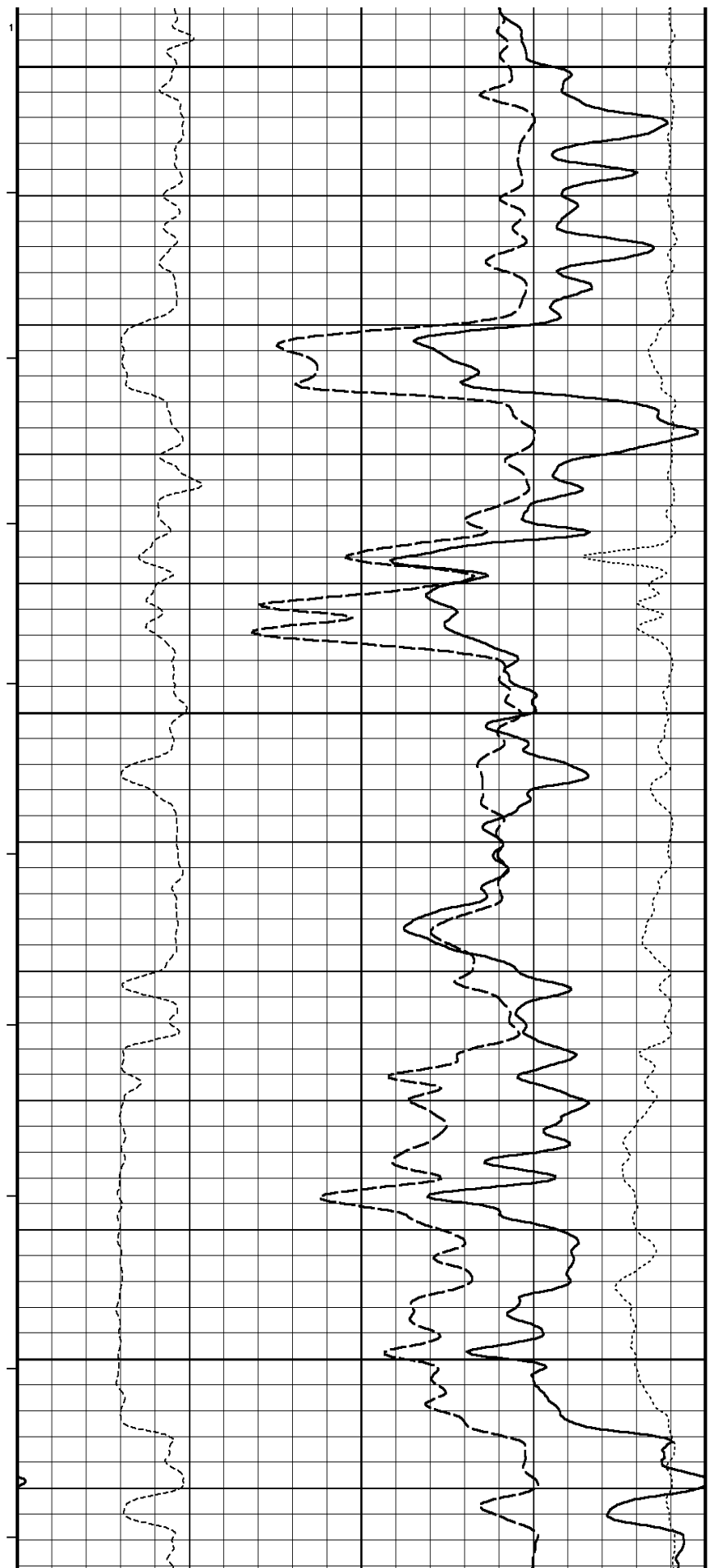
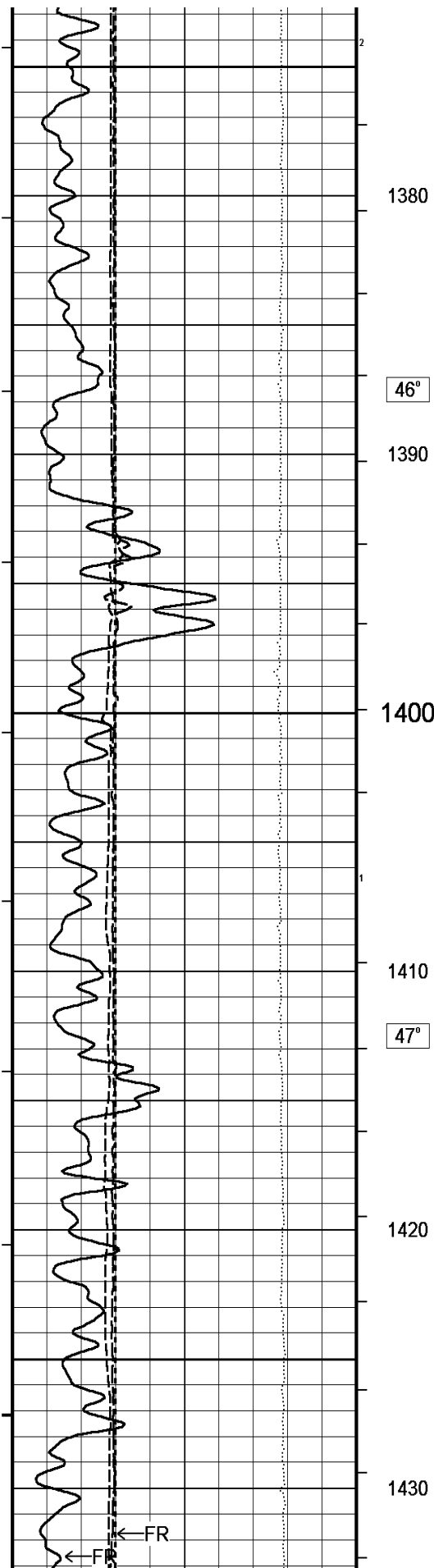


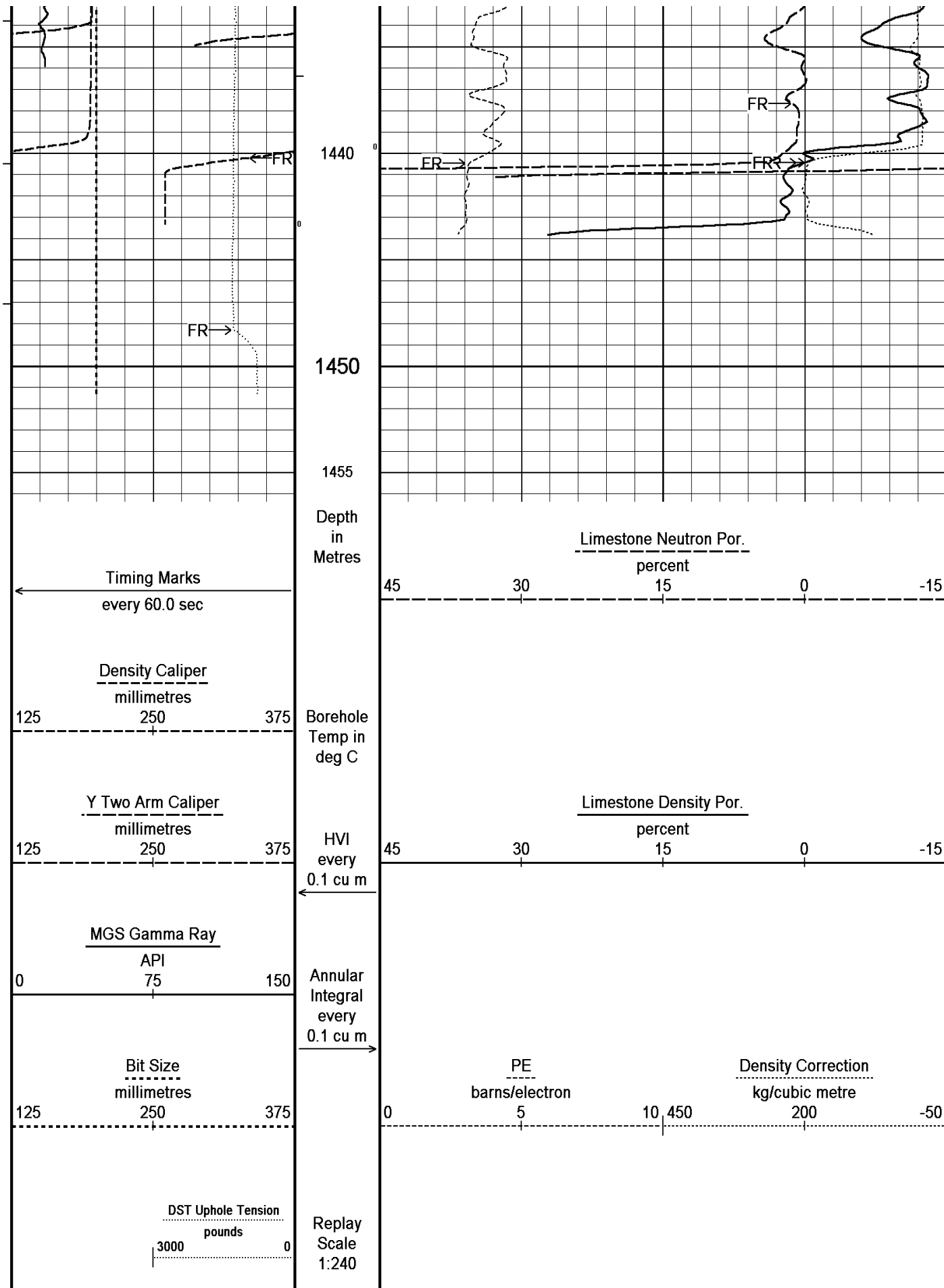












Depth Based Data - Maximum Sampling Increment 10.0cm

Plotted on 12-NOV-2007 11:22

Filename: C:\Temp\Weatherford PreView\0\L-73 main.dta

Recorded on 28-FEB-2007 02:28

System Versions: Logged with 7.01.0195 Processed with 7.01.0195 Plotted with 8.01.0091



## LIMESTONE MAIN LOG



## LIMESTONE REPEAT LIMESTONE MAIN LOG



Depth Based Data - Maximum Sampling Increment 10.0cm

Plotted on 12-NOV-2007 11:22

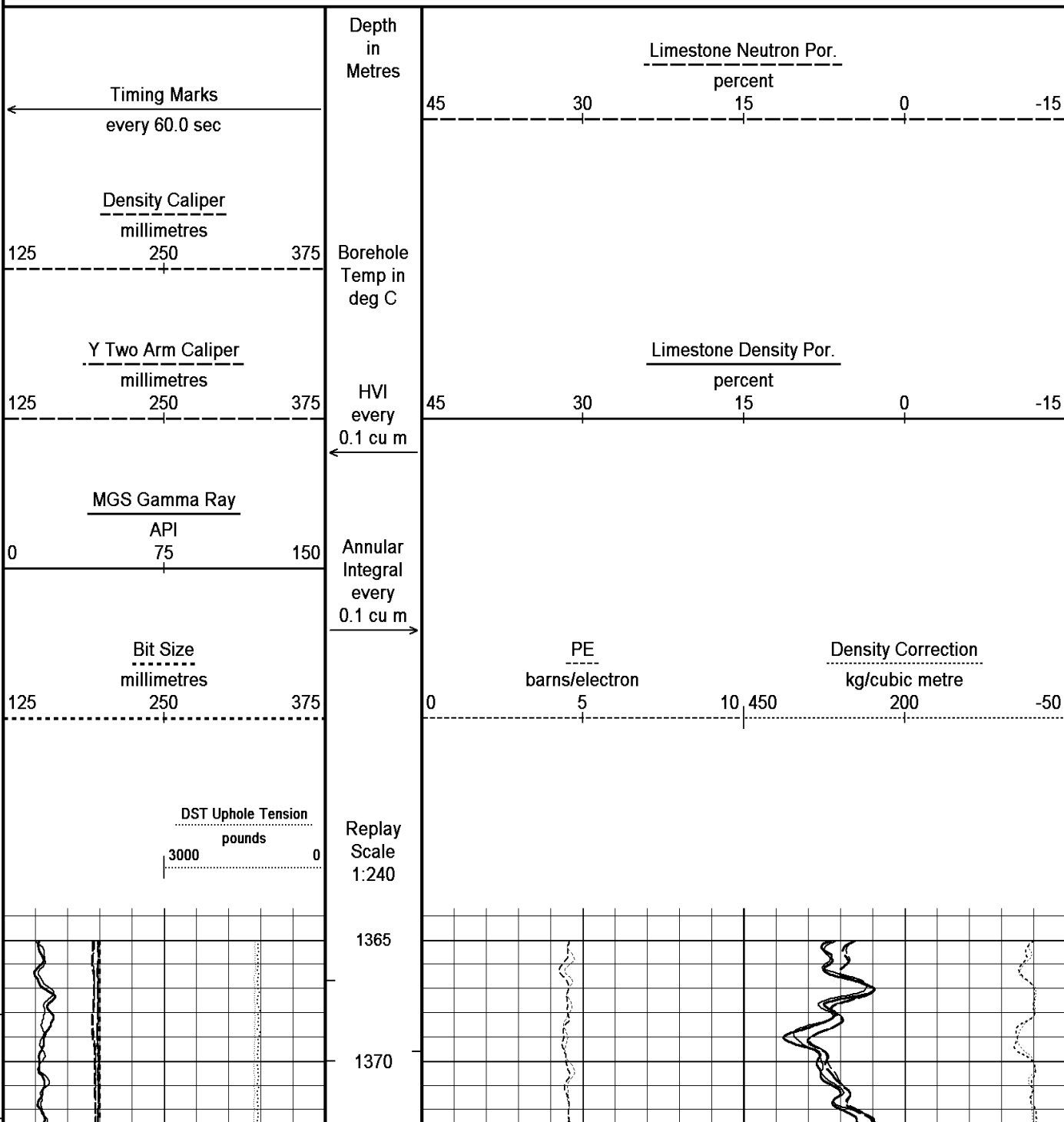
Filename: C:\Temp\Weatherford PreView\0\L-73 rpt.dta

Recorded on 28-FEB-2007 01:43

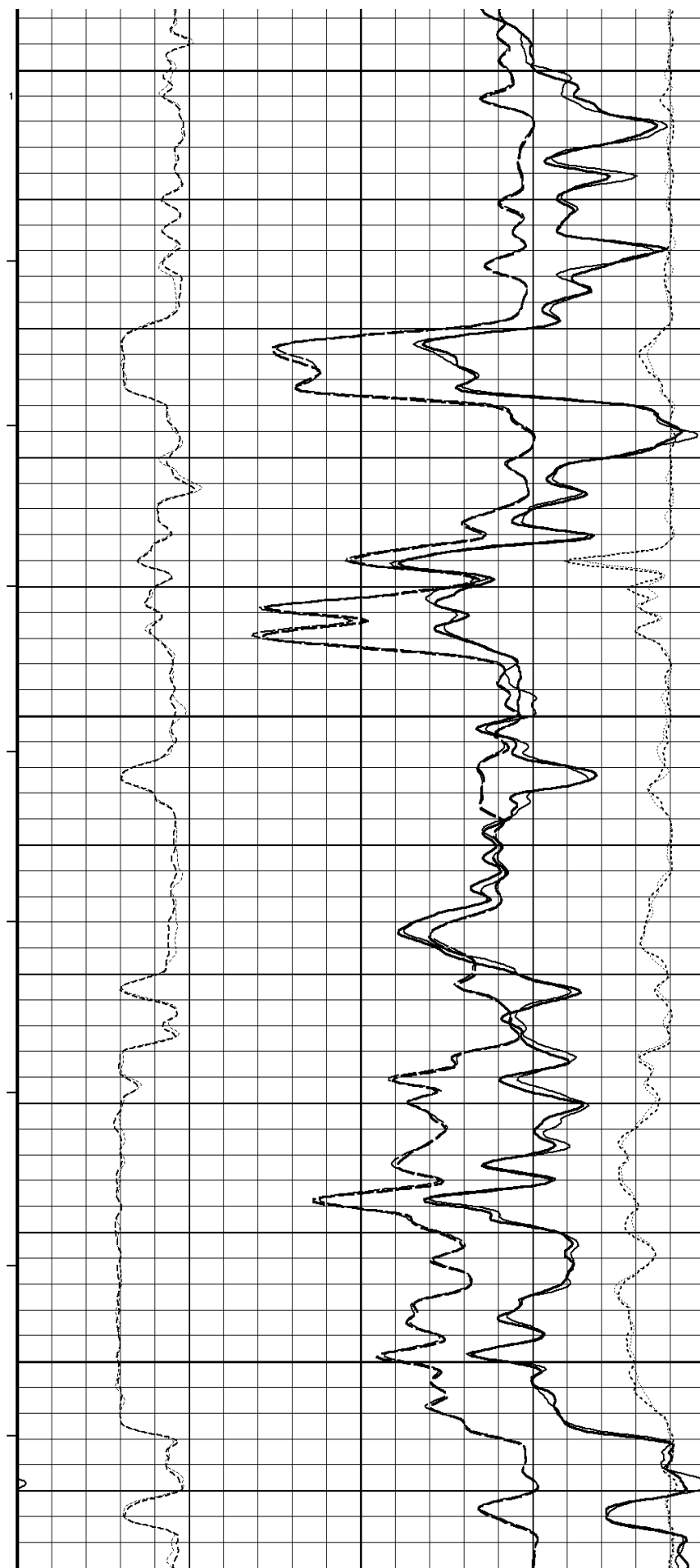
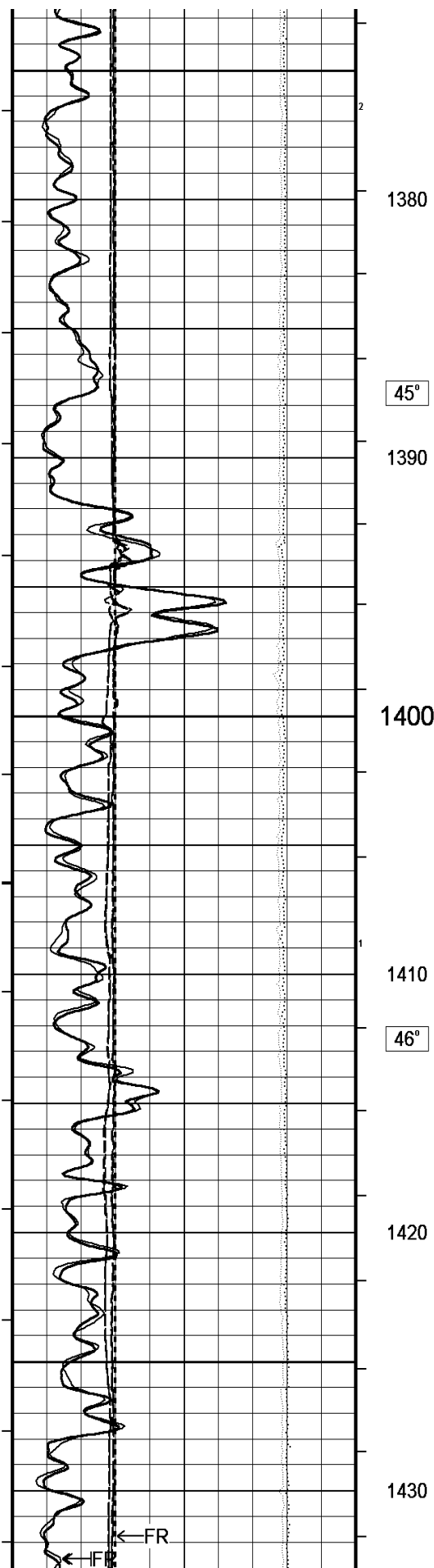
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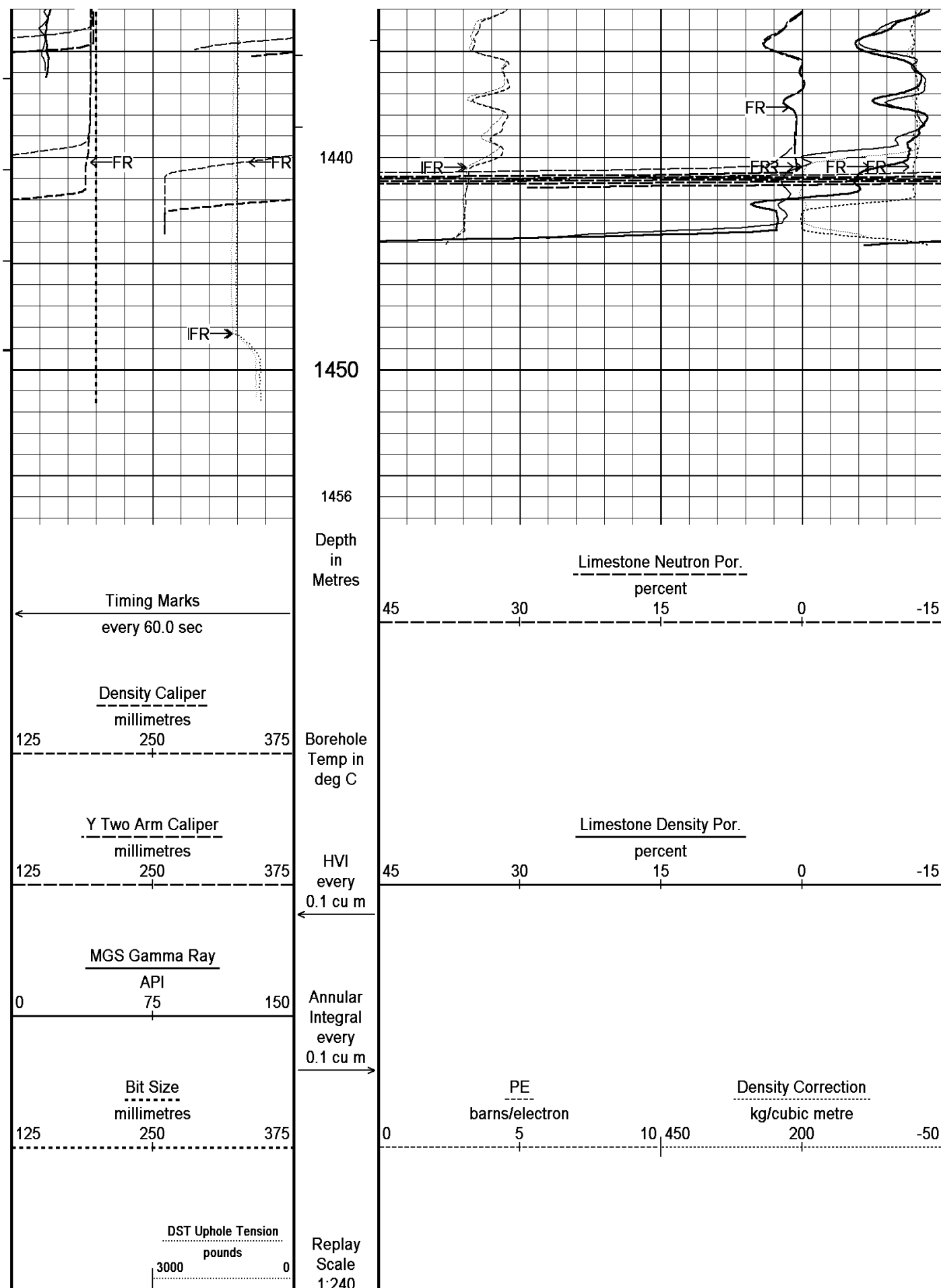
Recorded on 28-FEB-2007 02:28

System Versions: Logged with 7.01.0195 Processed with 7.01.0195 Plotted with 8.01.0091









Depth Based Data - Maximum Sampling Increment 10.0cm

Filename: C:\Temp\Weatherford PreView\0\L-73 rpt.dta

Filename: C:\Temp\Weatherford PreView\0\L-73 main.dta

System Versions: Logged with 7.01.0195 Processed with 7.01.0195 Plotted with 8.01.0091

Plotted on 12-NOV-2007 11:22

Recorded on 28-FEB-2007 01:43

Recorded on 28-FEB-2007 02:28



## LIMESTONE REPEAT LIMESTONE MAIN LOG



## DOLOMITE MAIN LOG



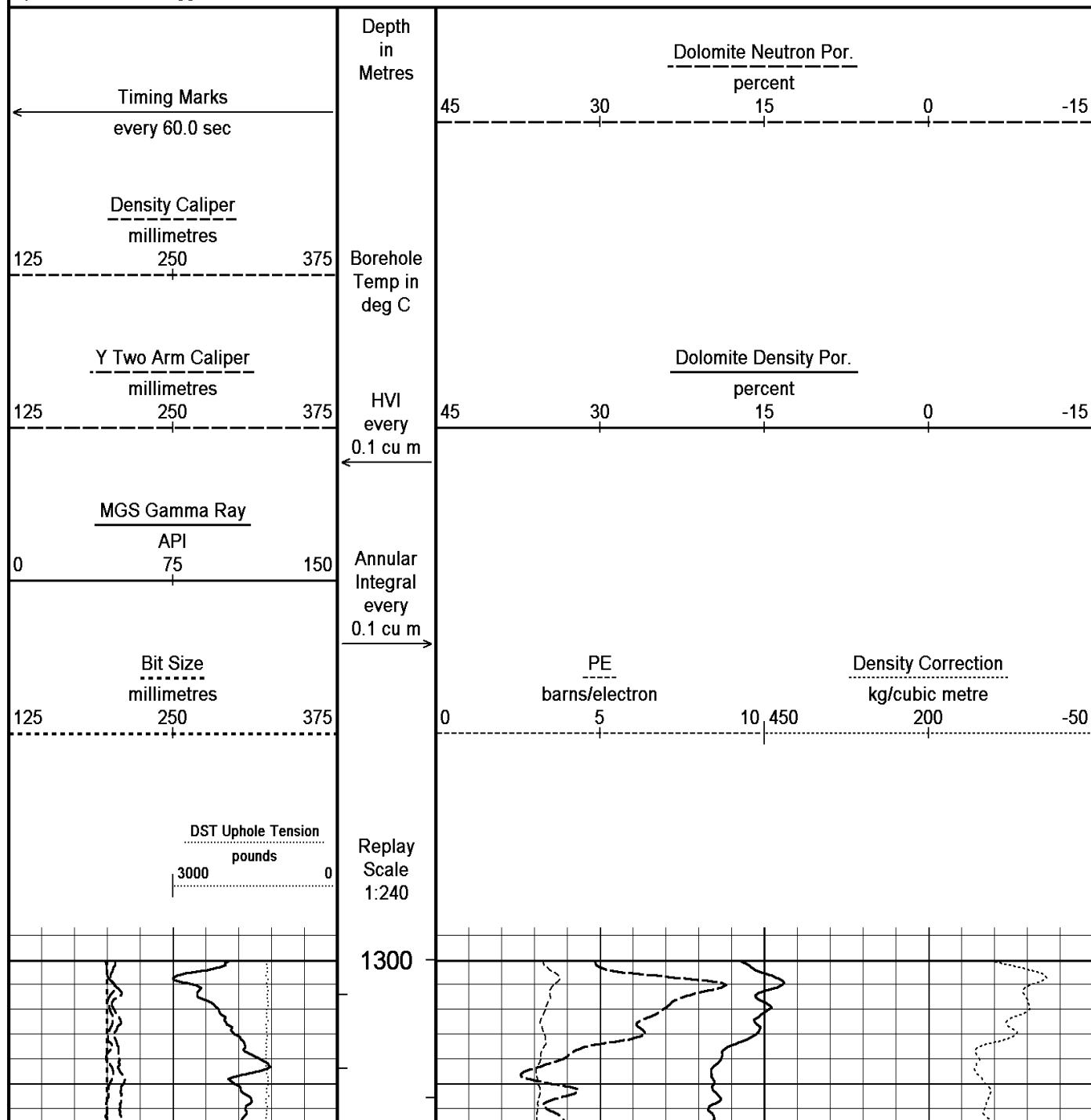
Depth Based Data - Maximum Sampling Increment 10.0cm

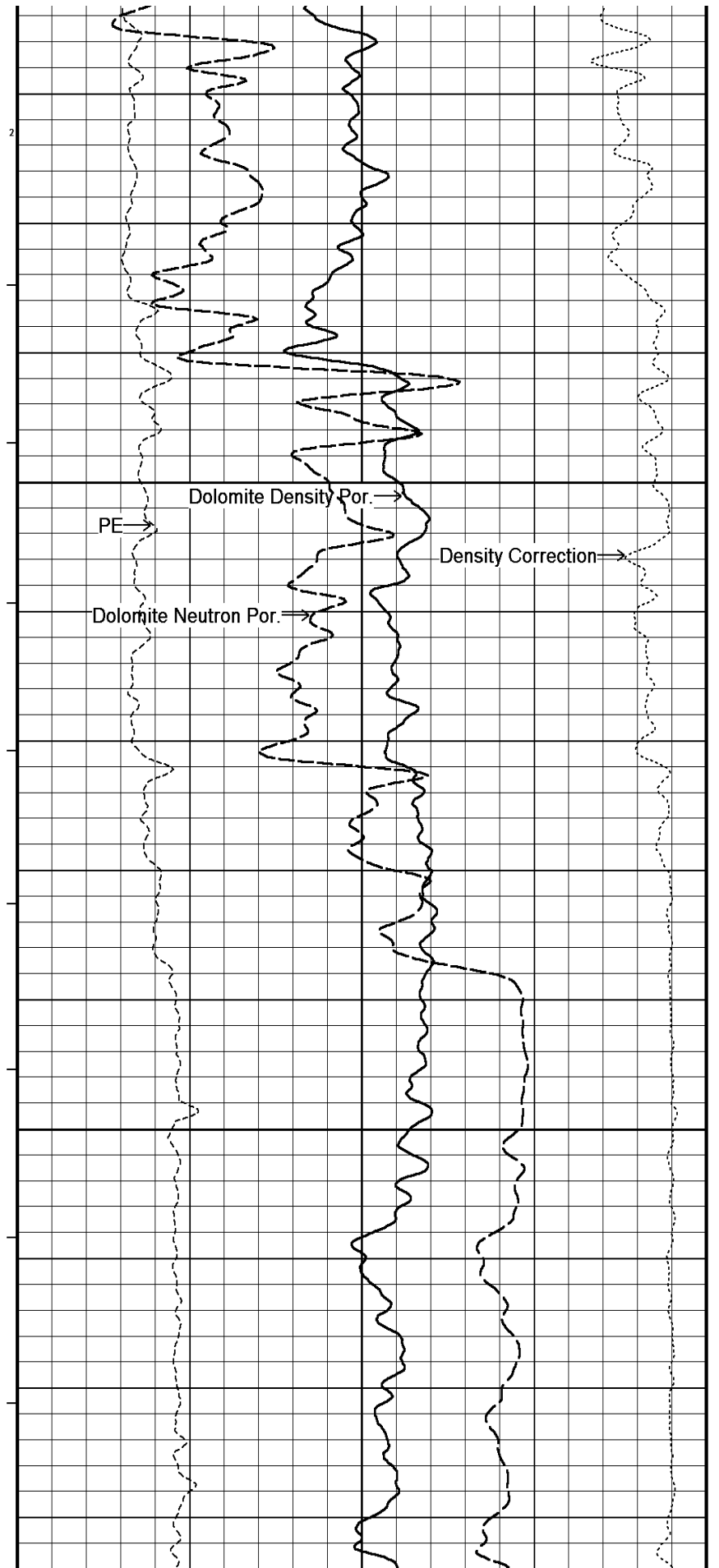
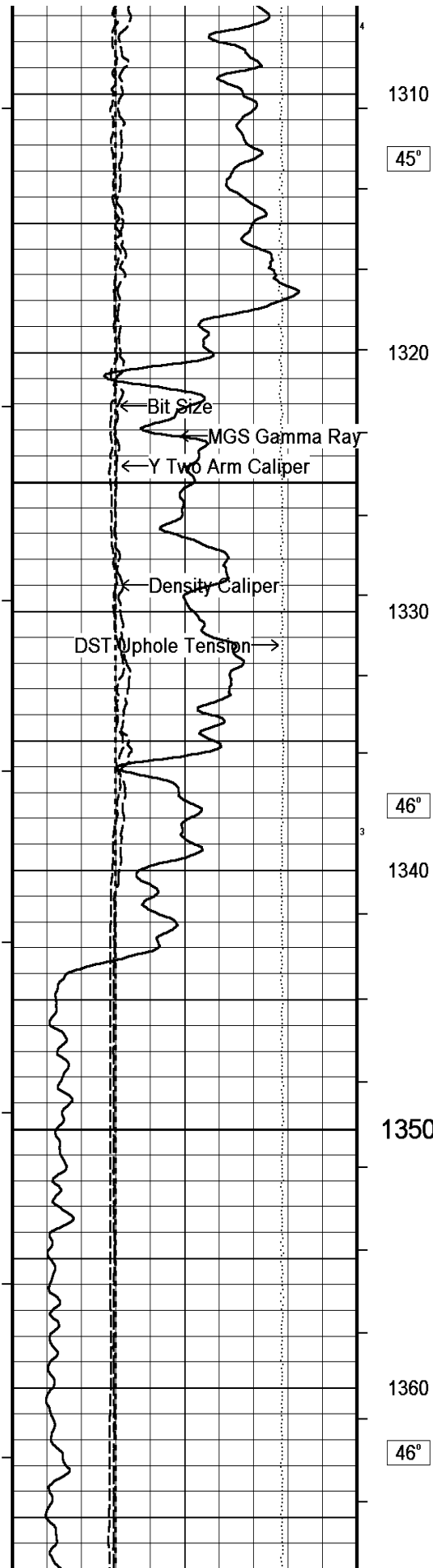
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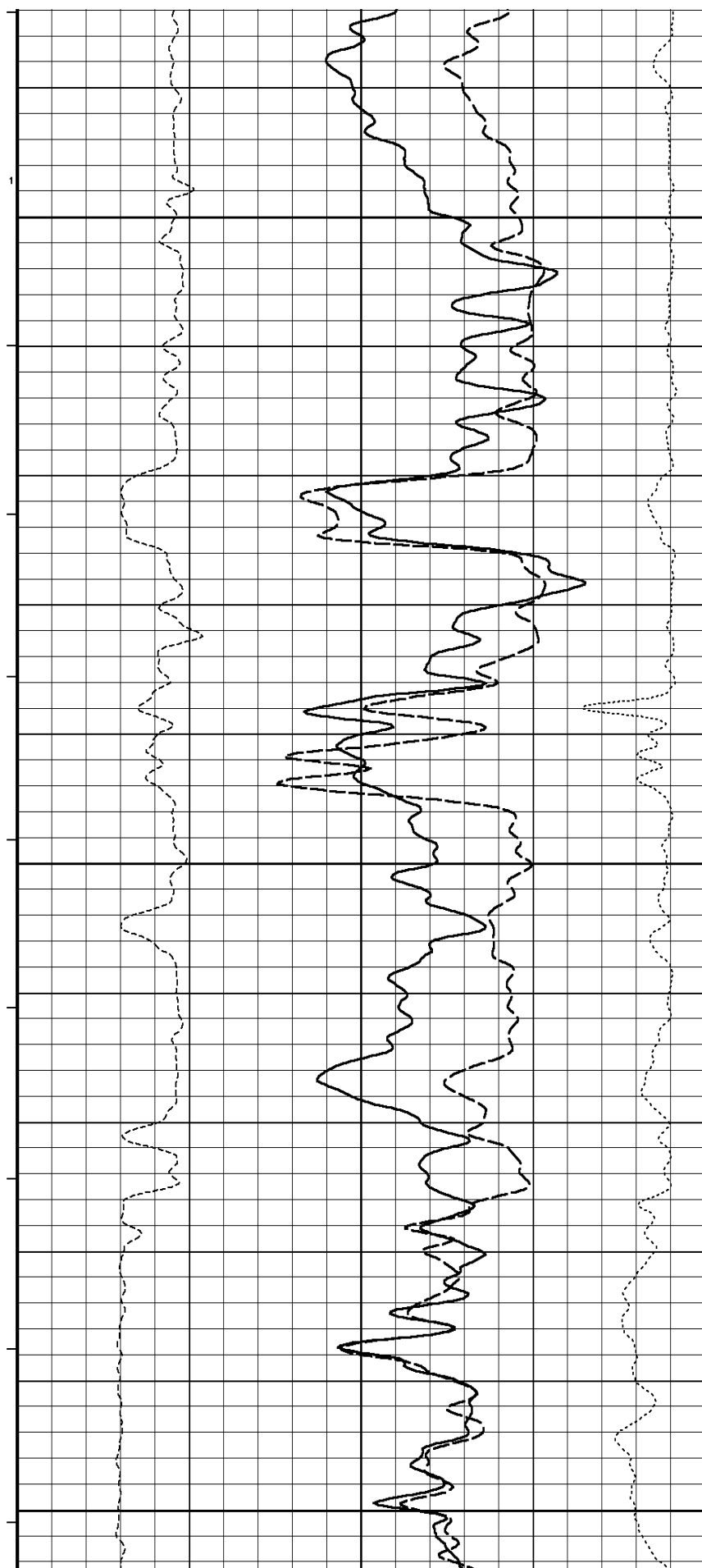
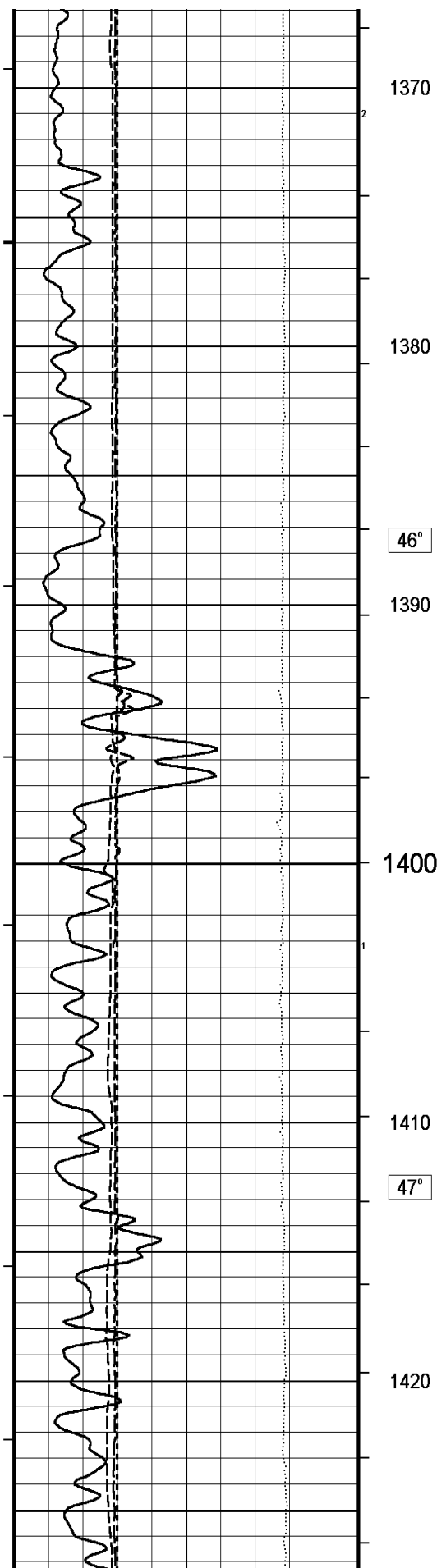
System Versions: Logged with 7.01.0195 Processed with 7.01.0195 Plotted with 8.01.0091

Plotted on 12-NOV-2007 11:22

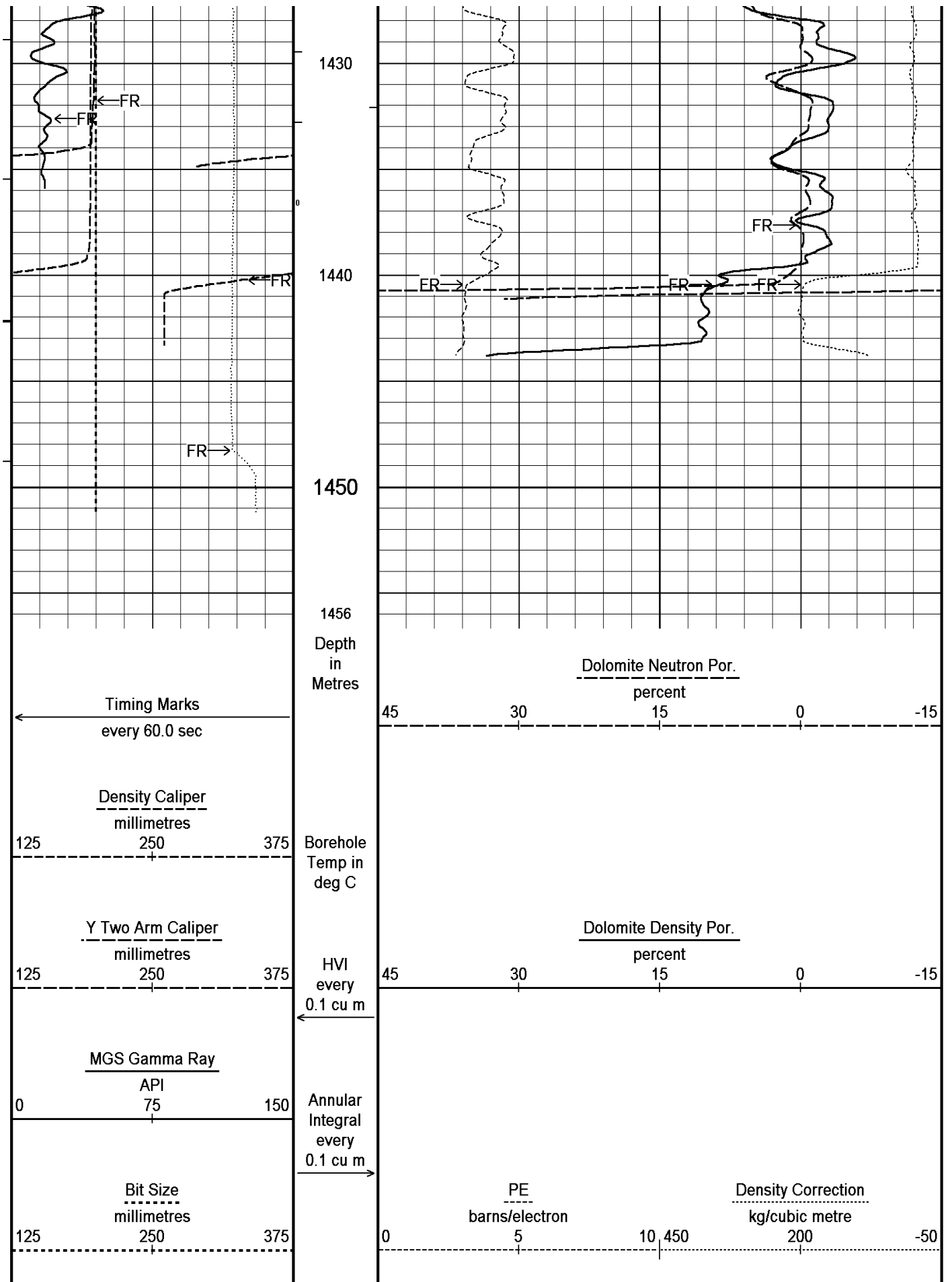
Recorded on 28-FEB-2007 02:28



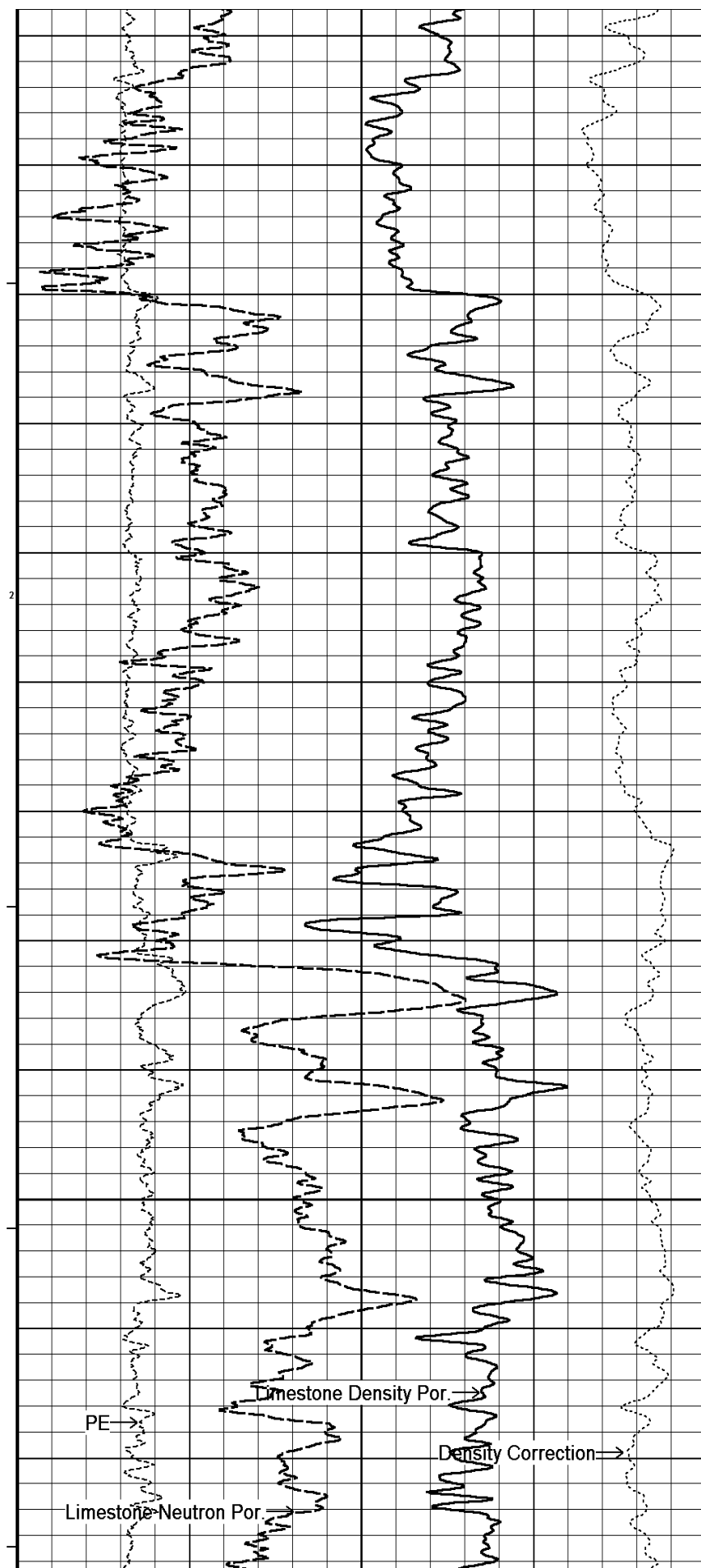
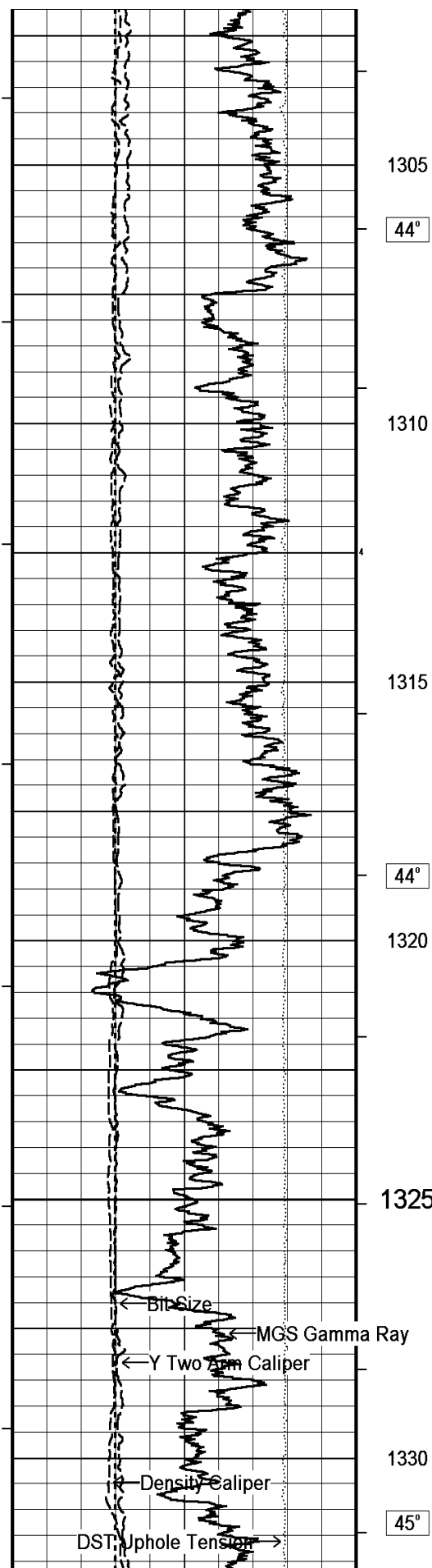


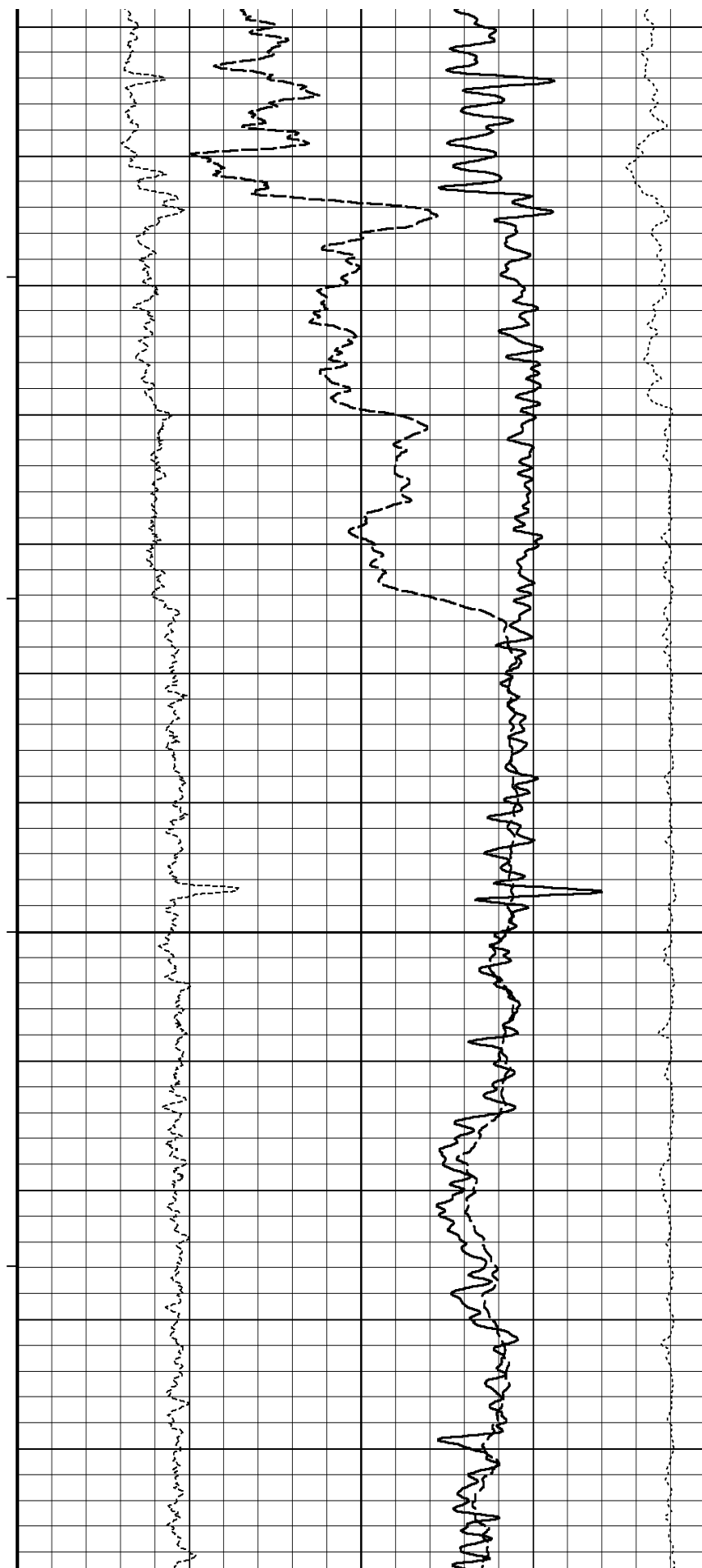
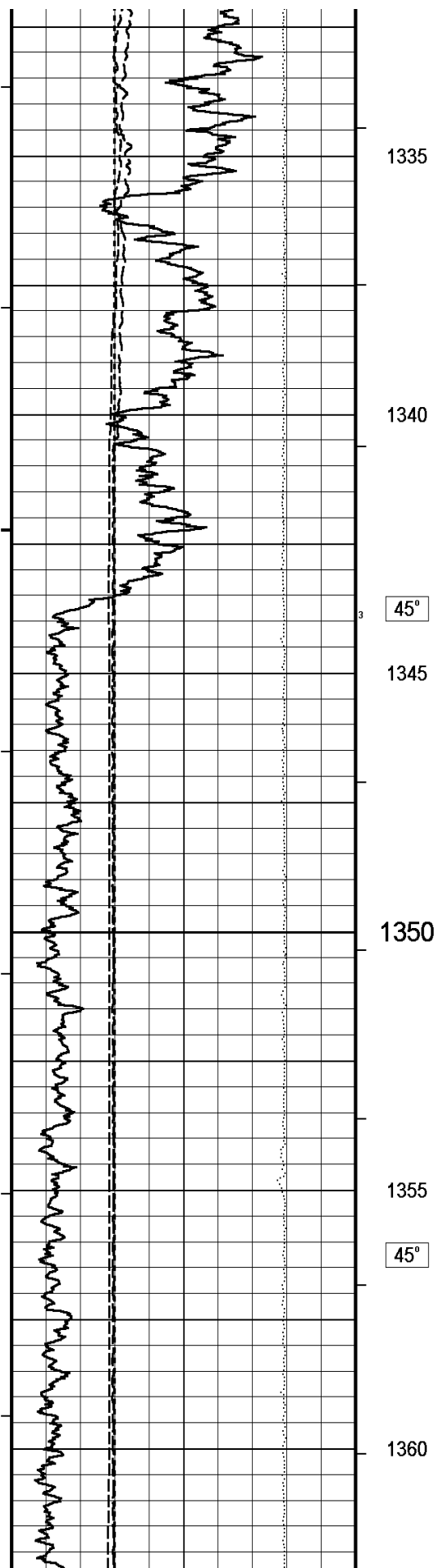


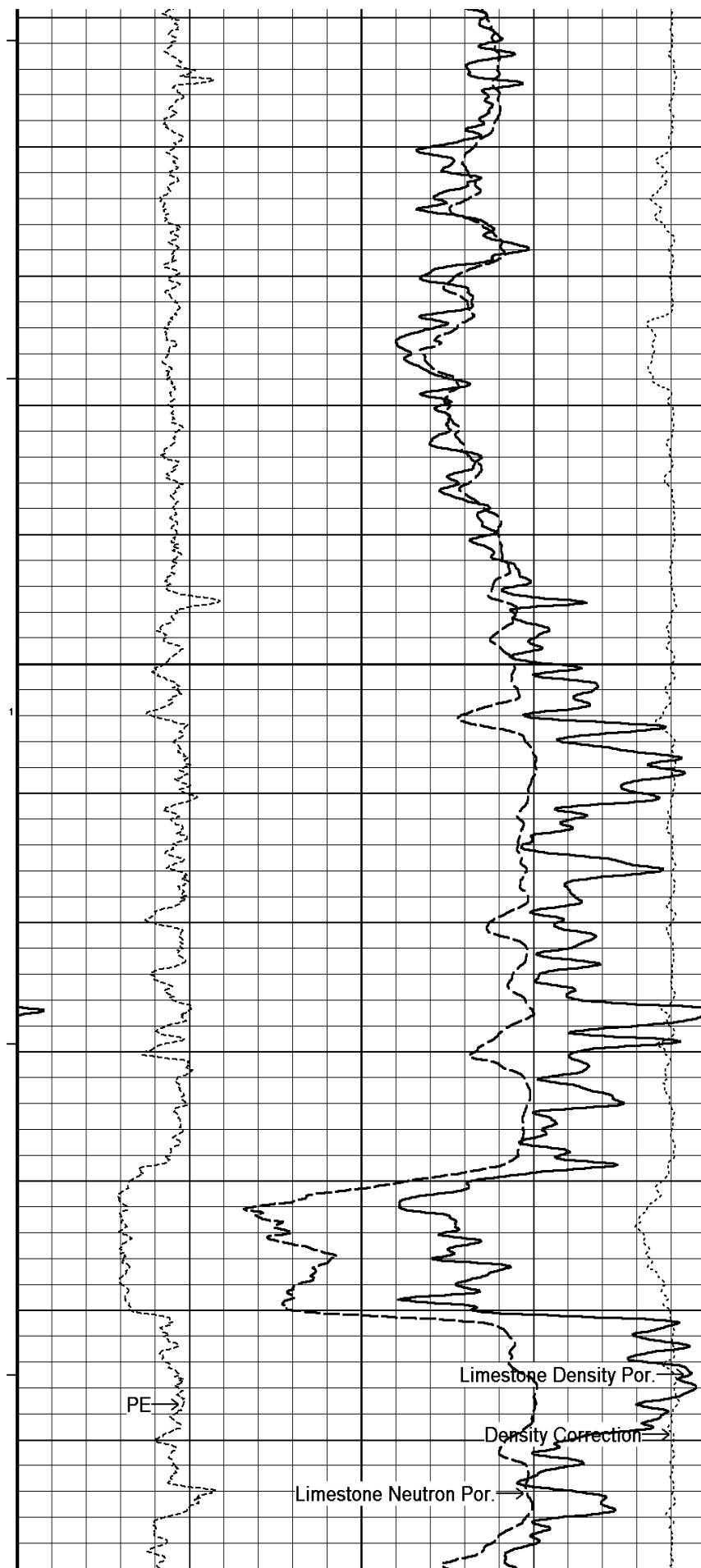
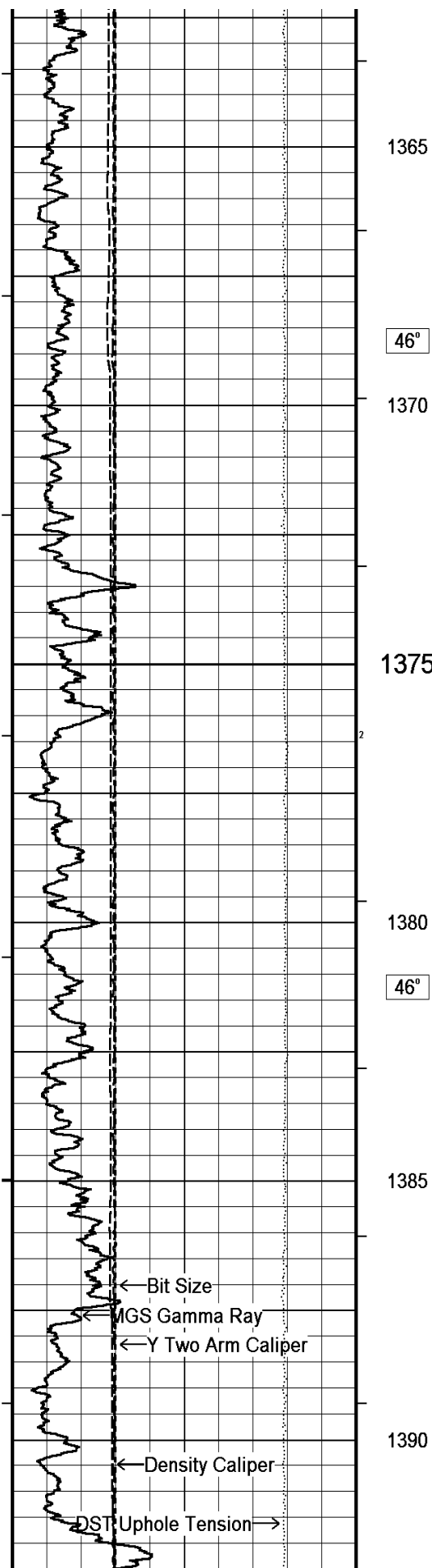


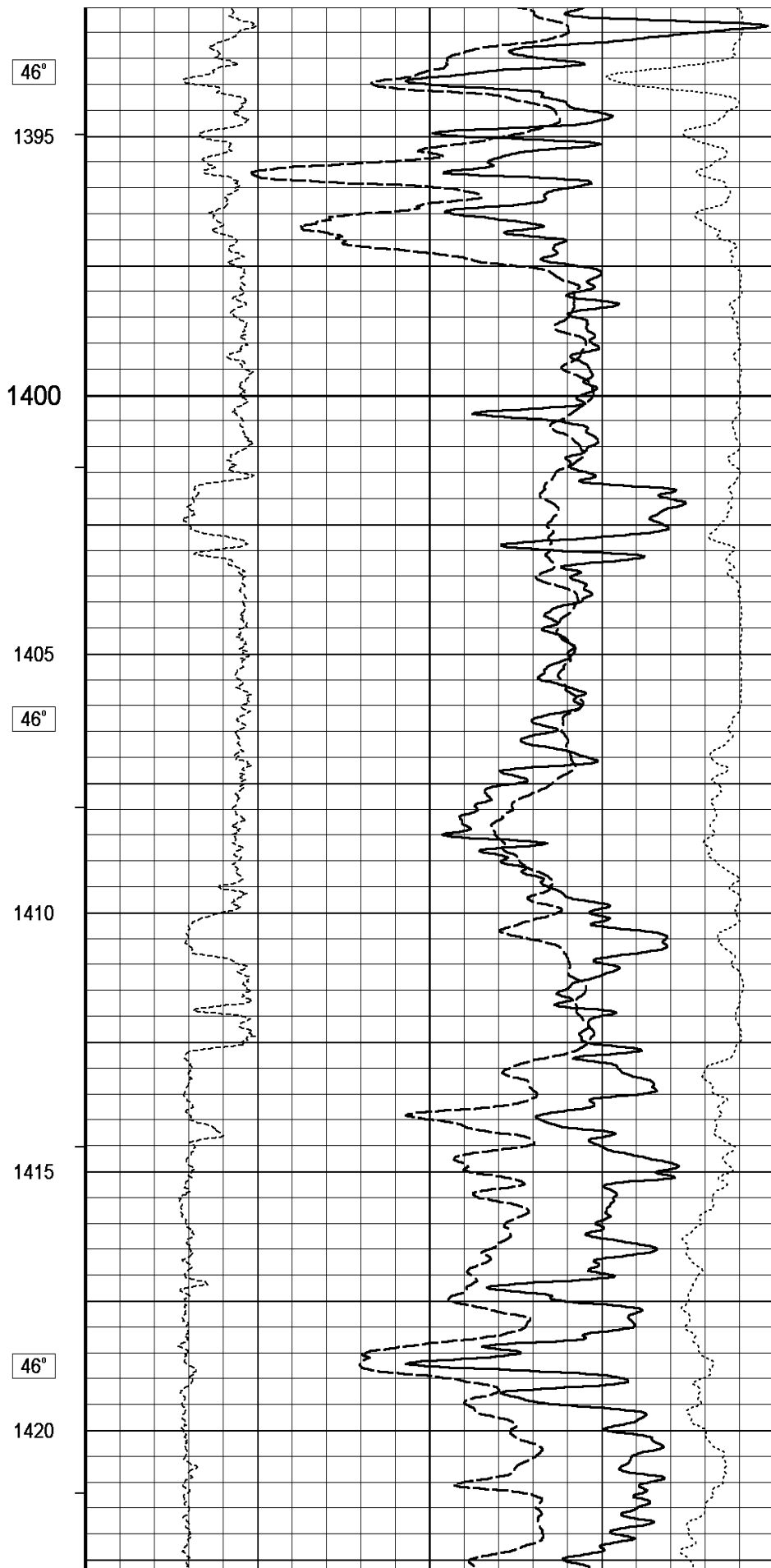
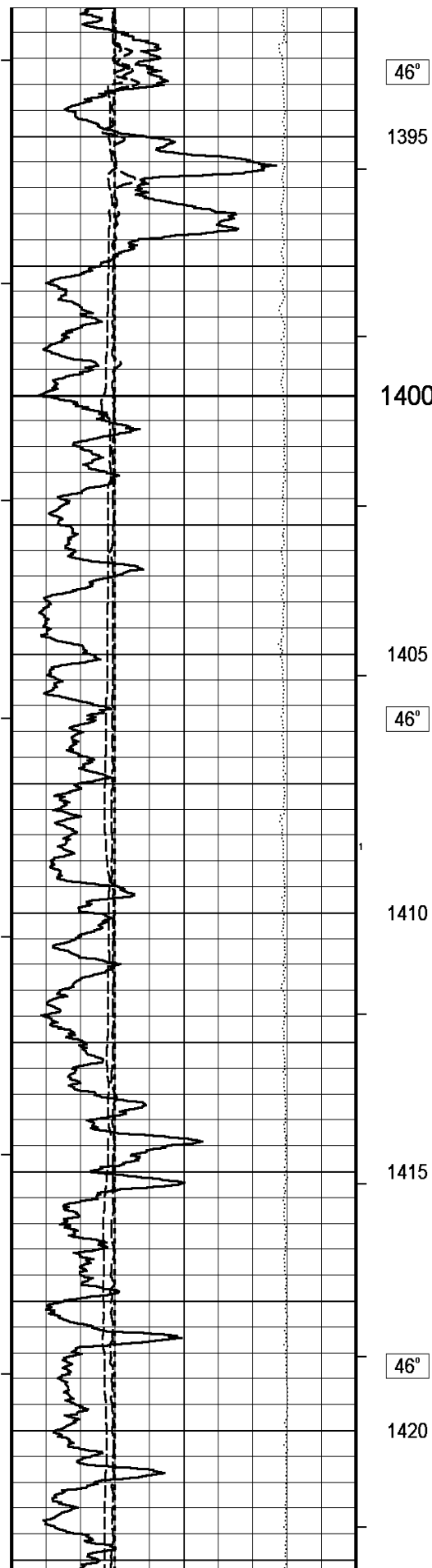




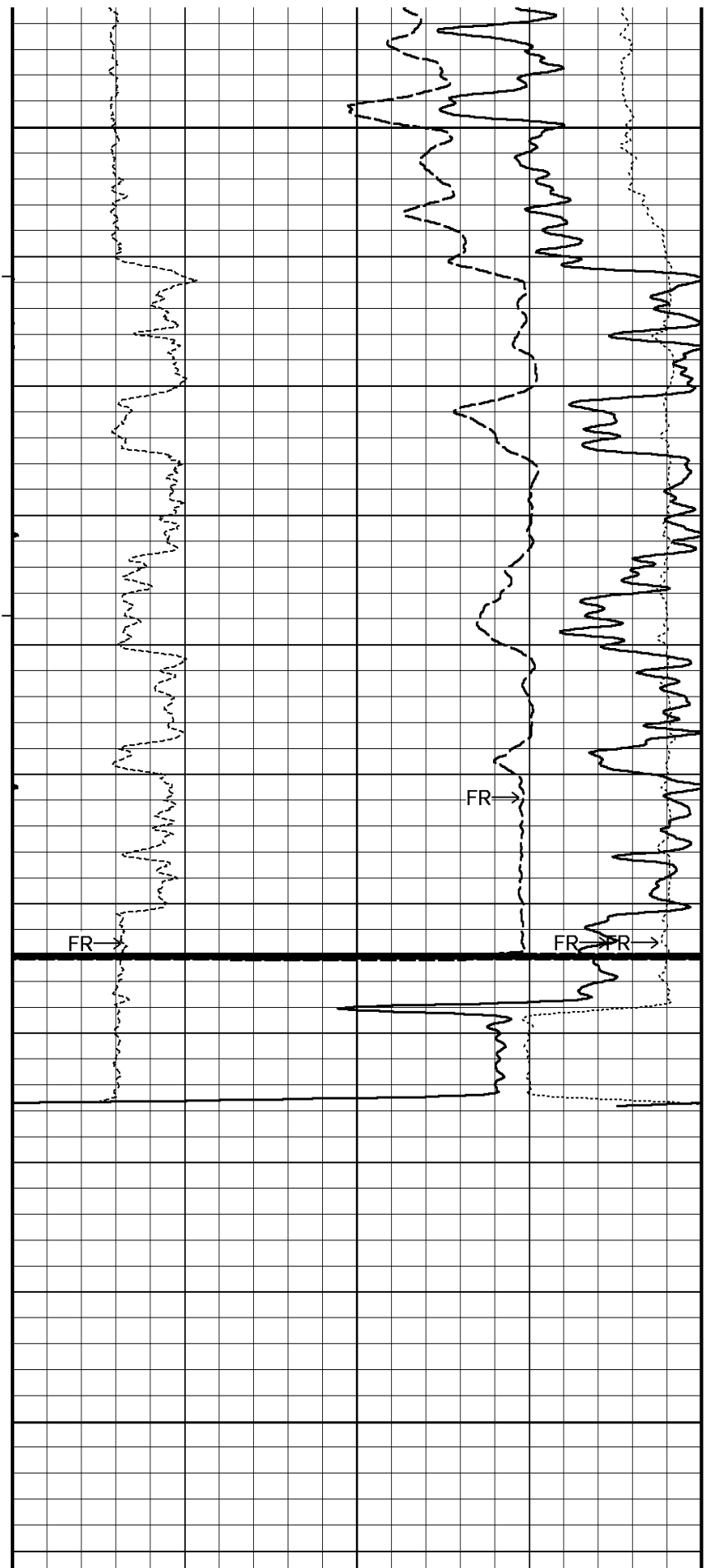
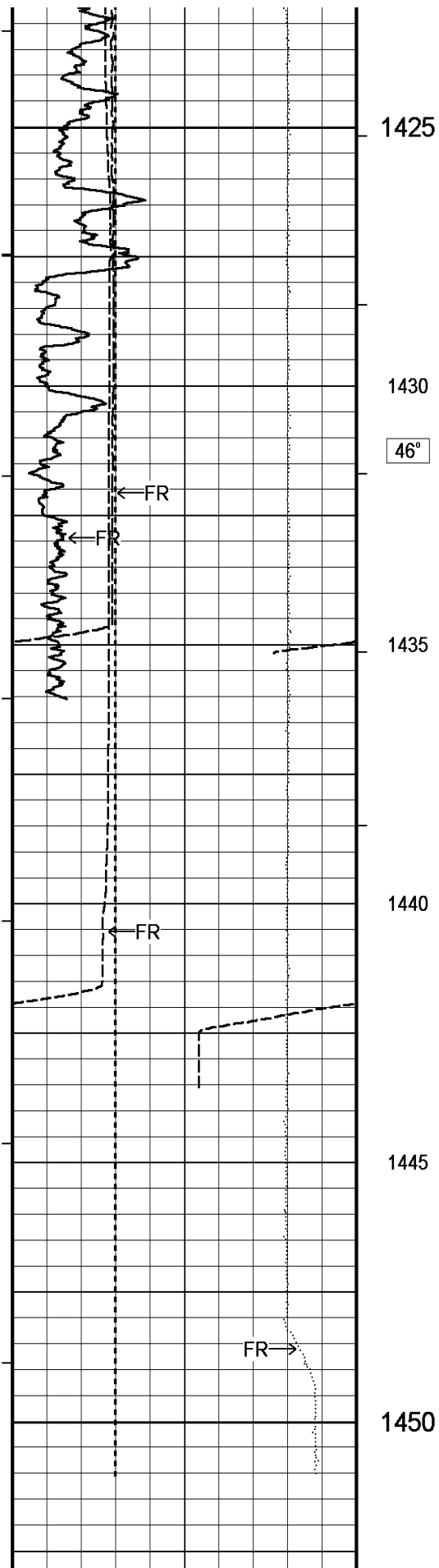


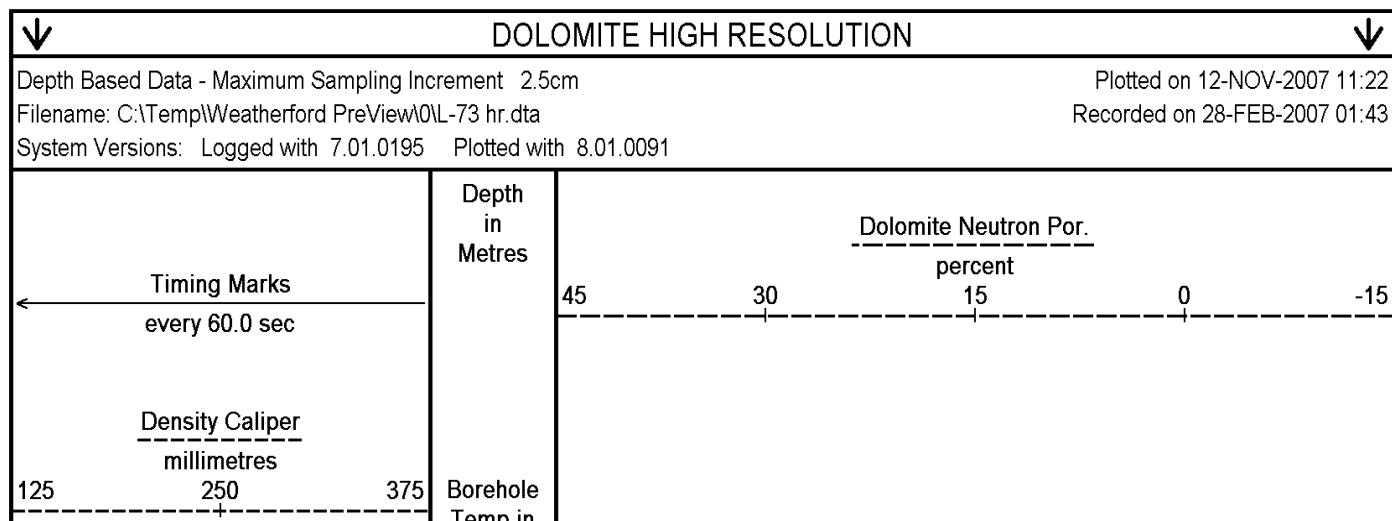
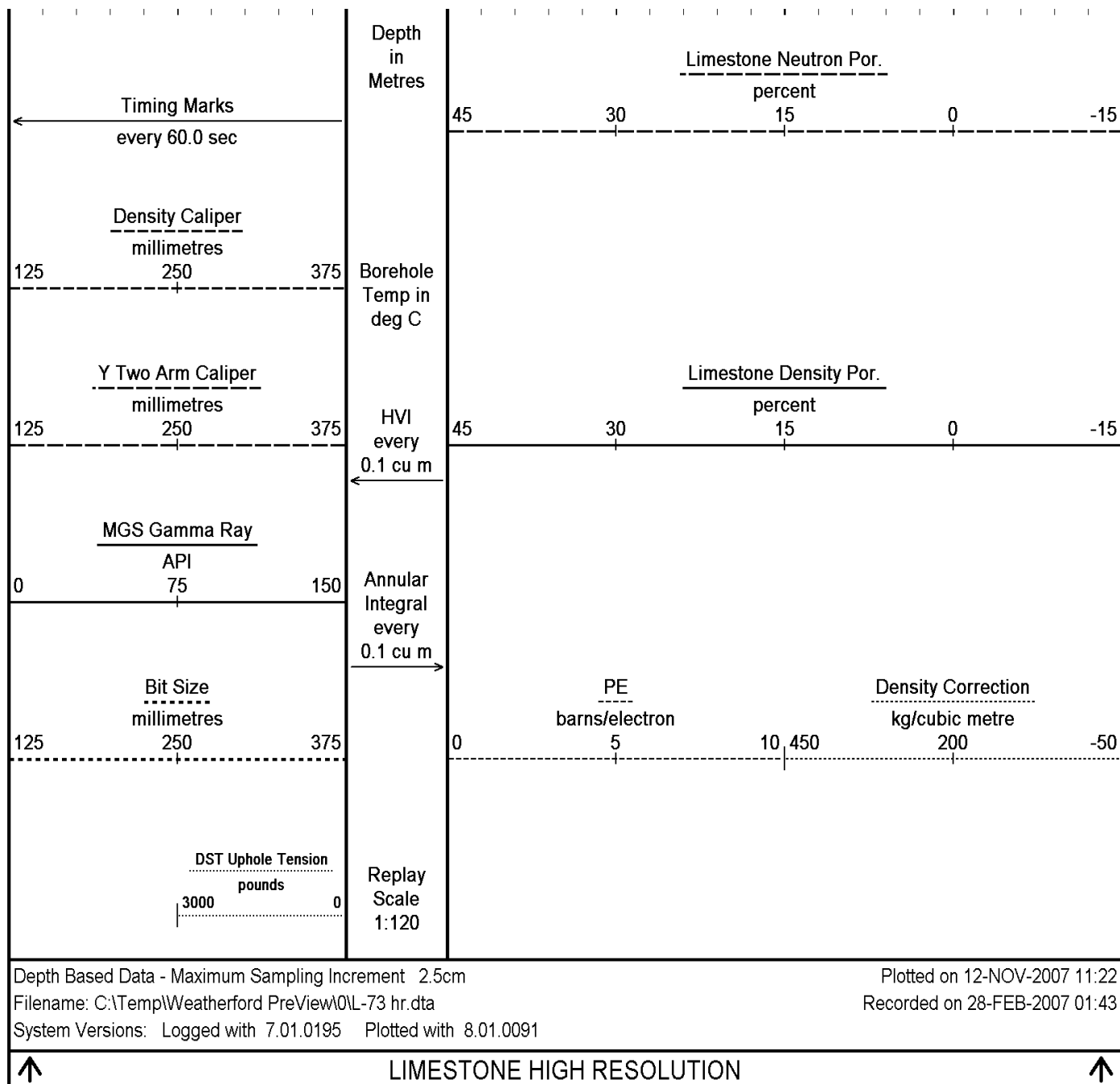


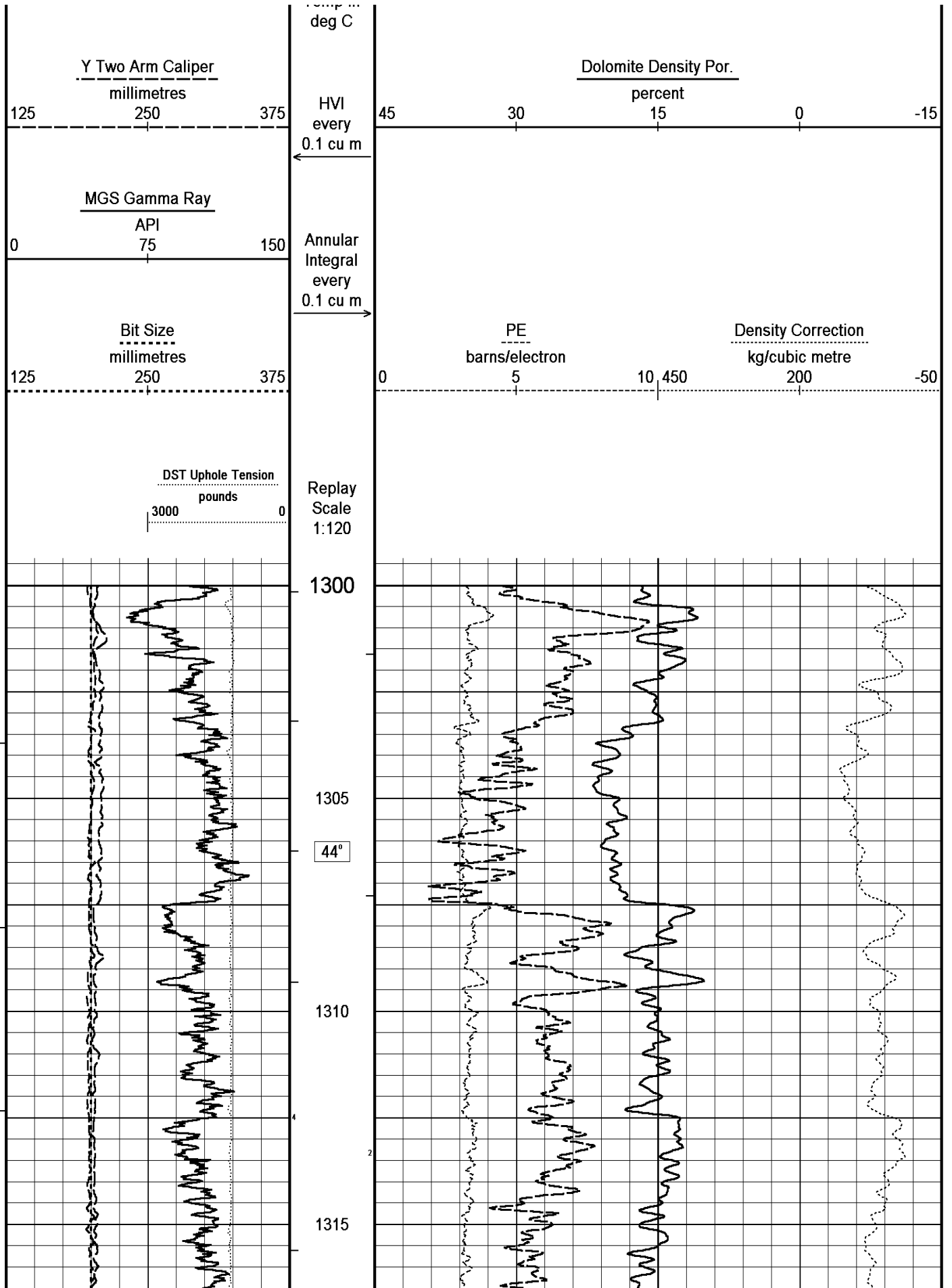


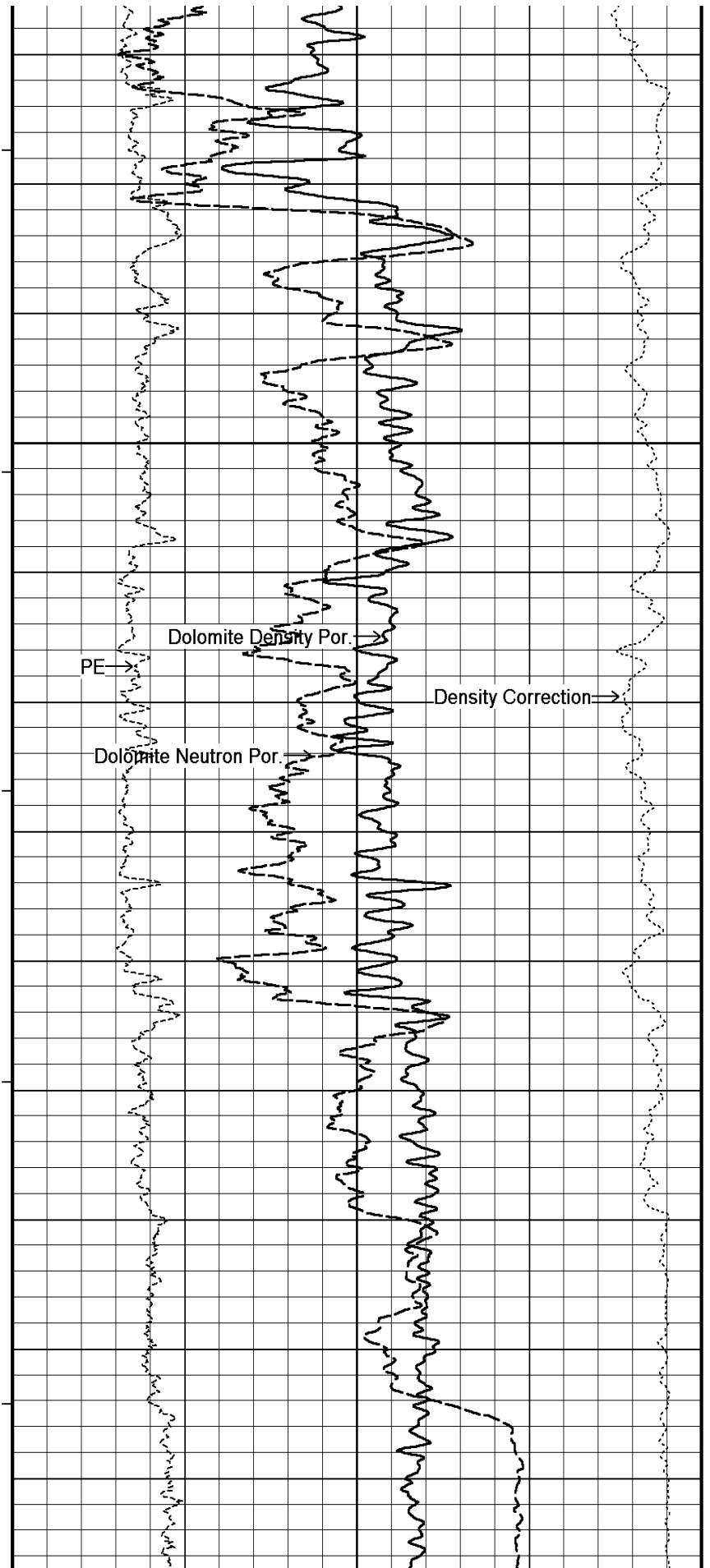
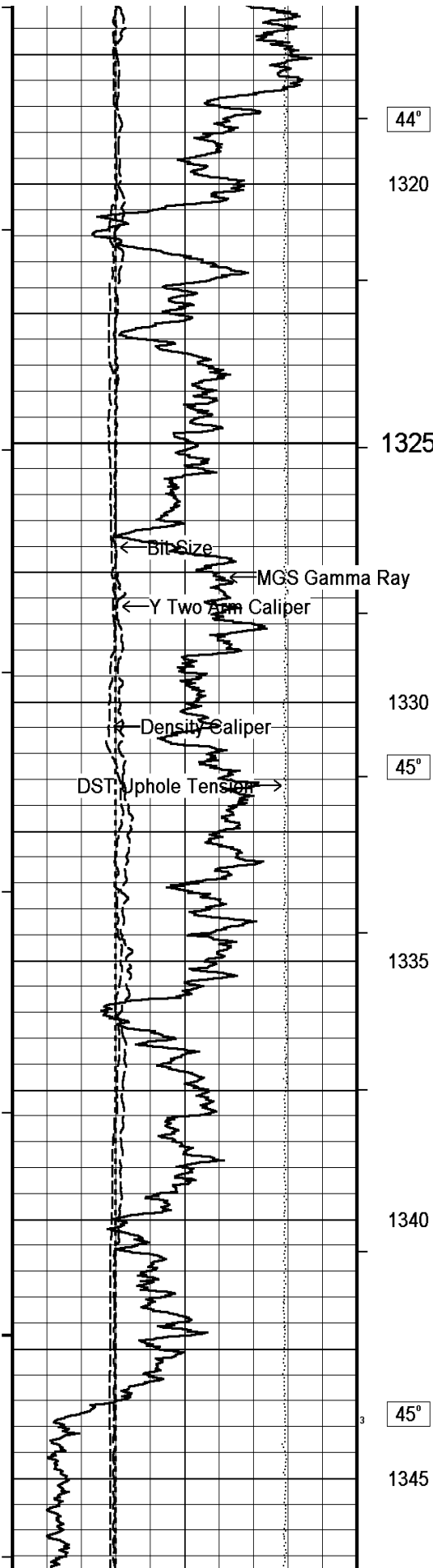


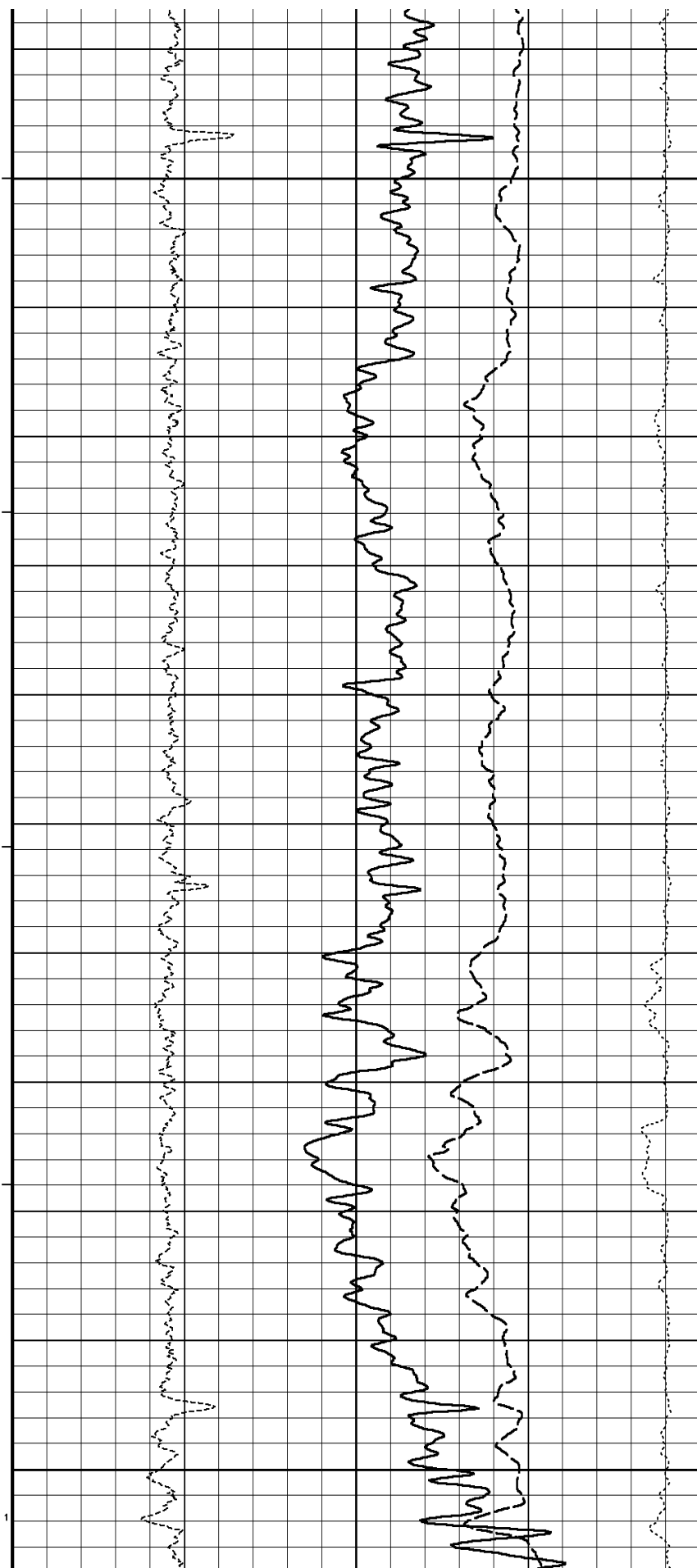
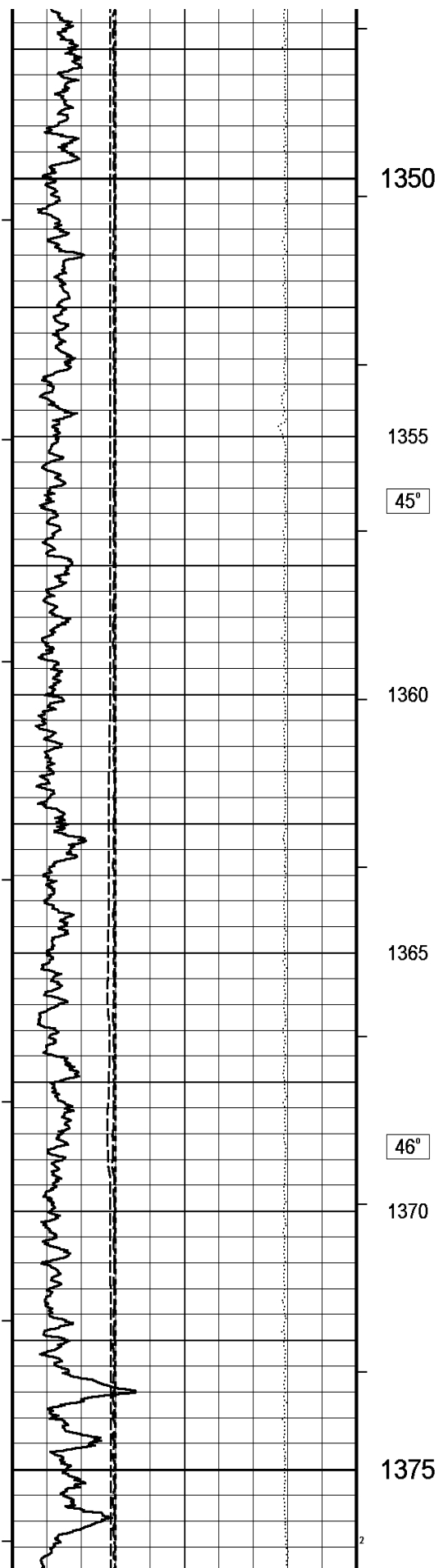


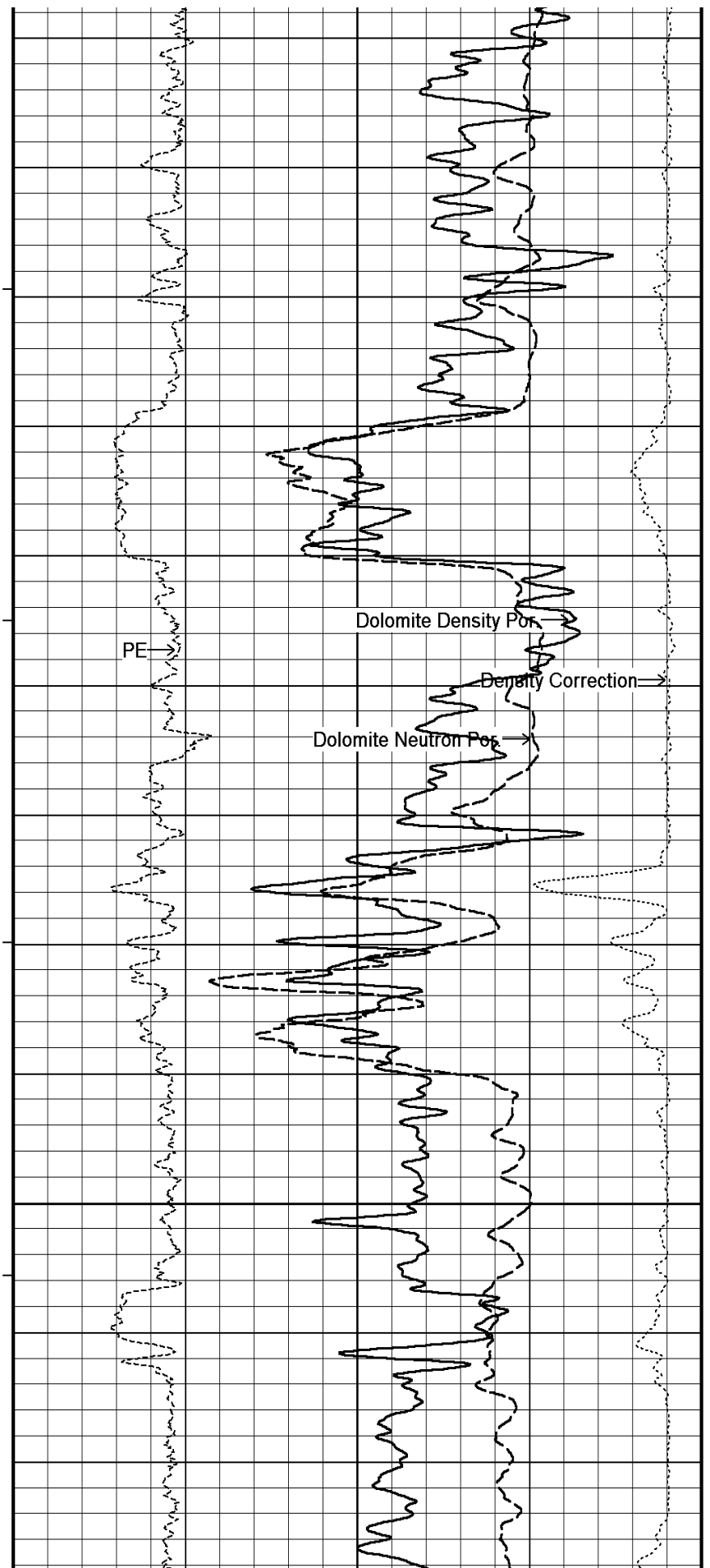
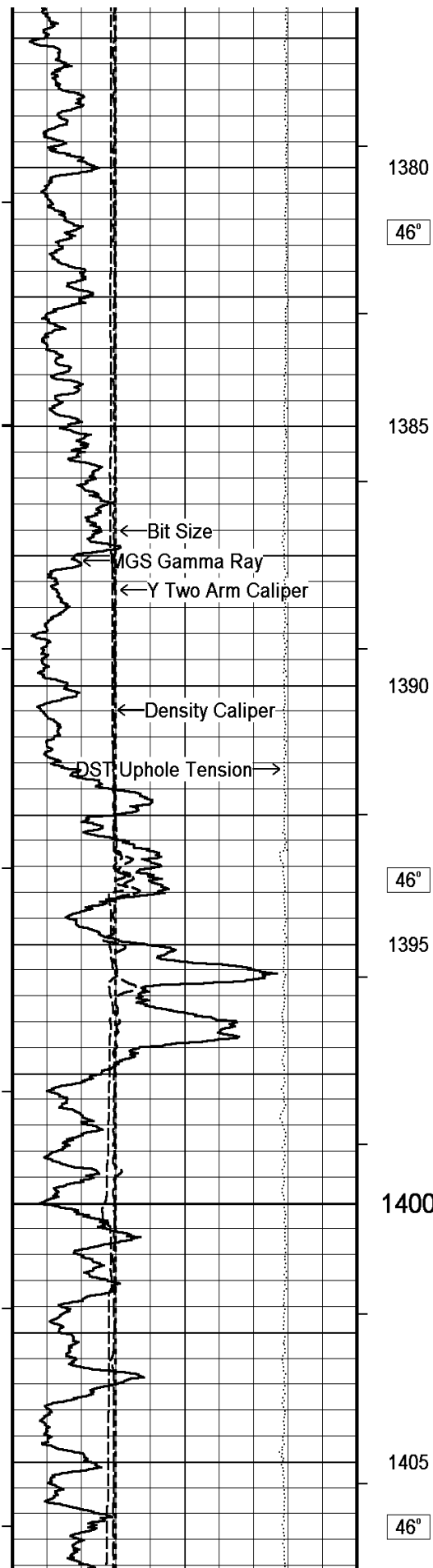




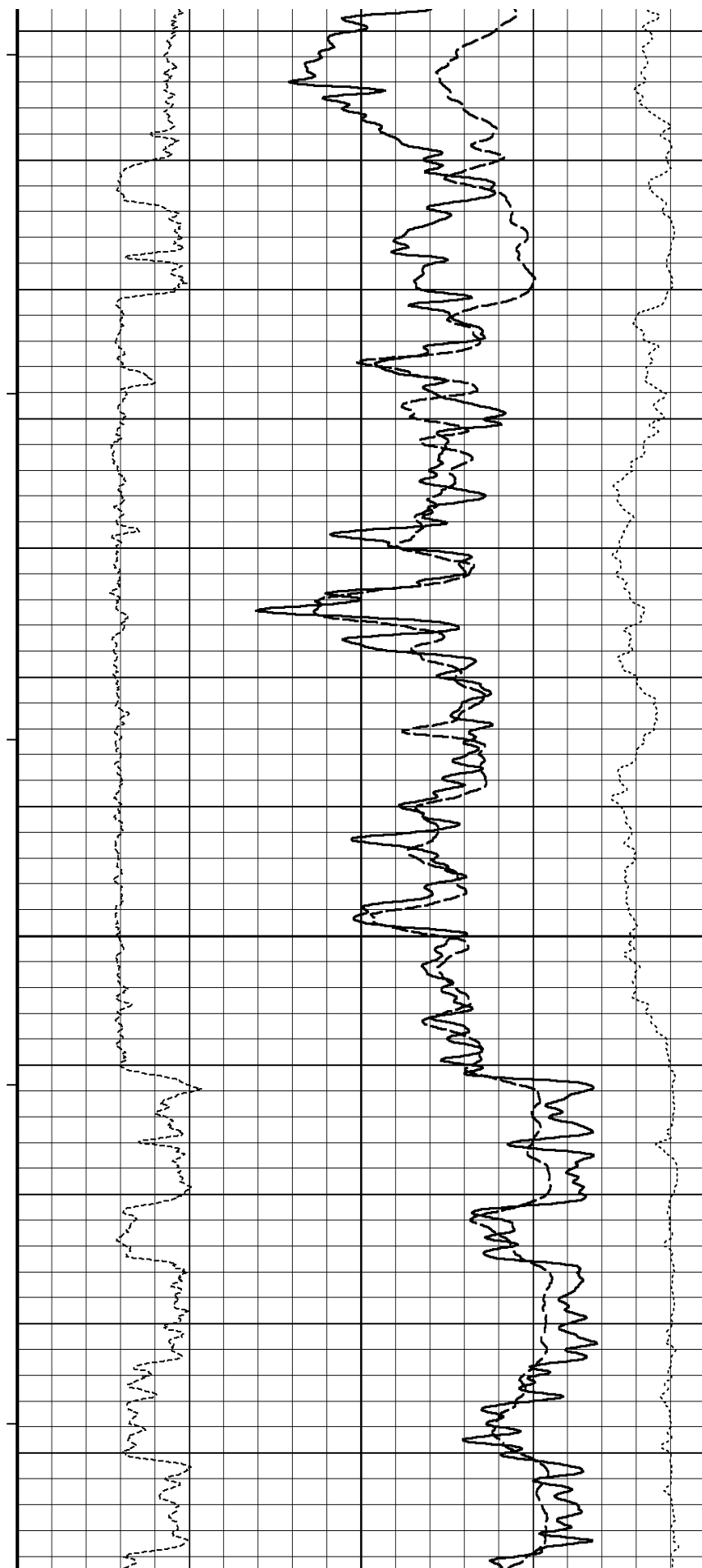
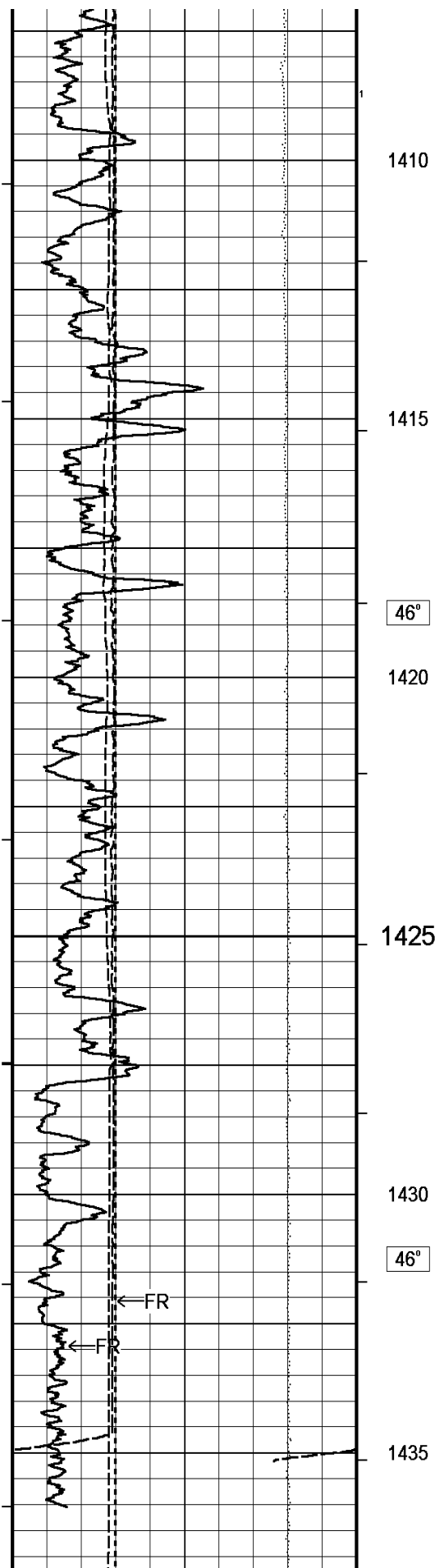


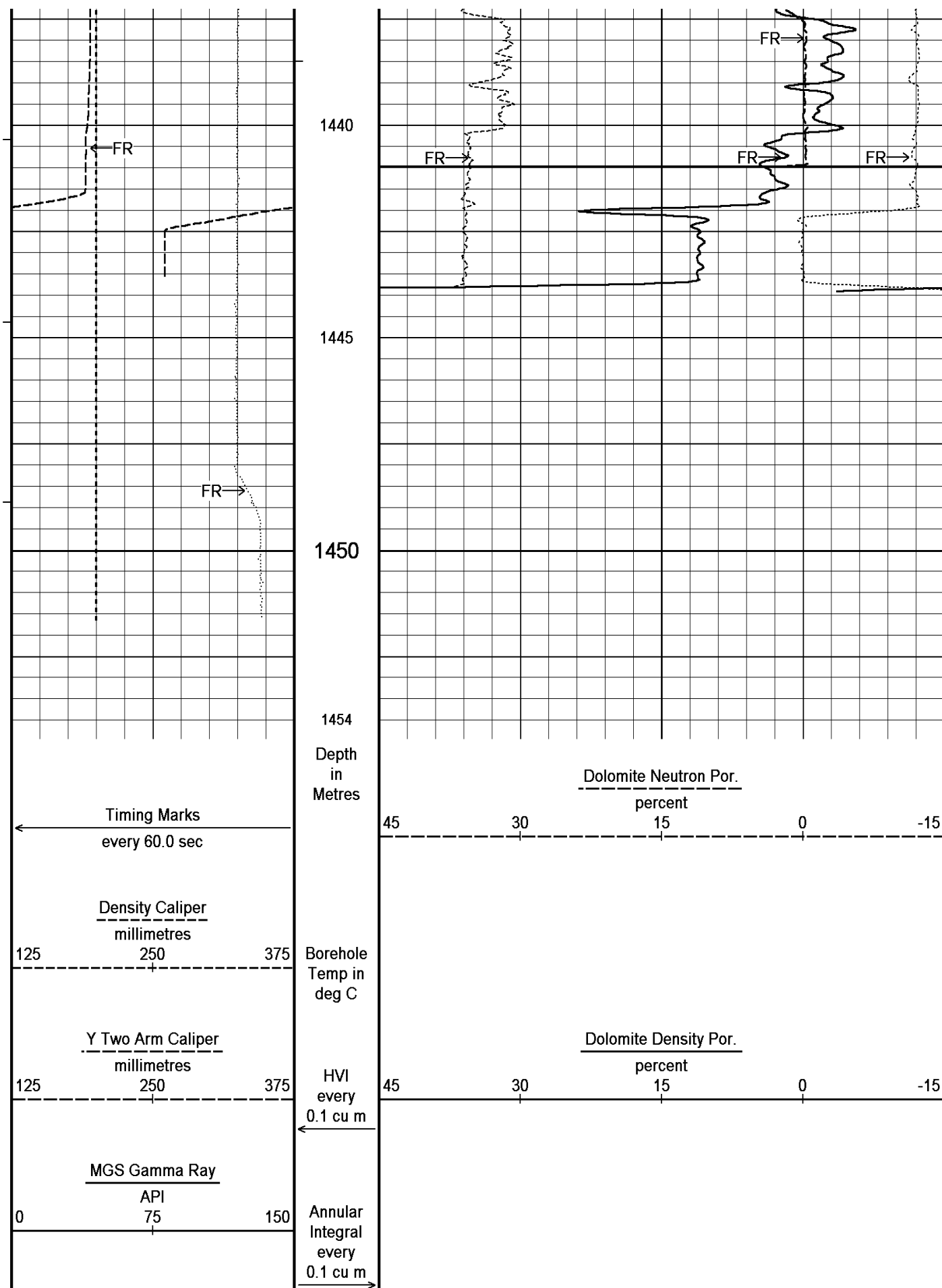


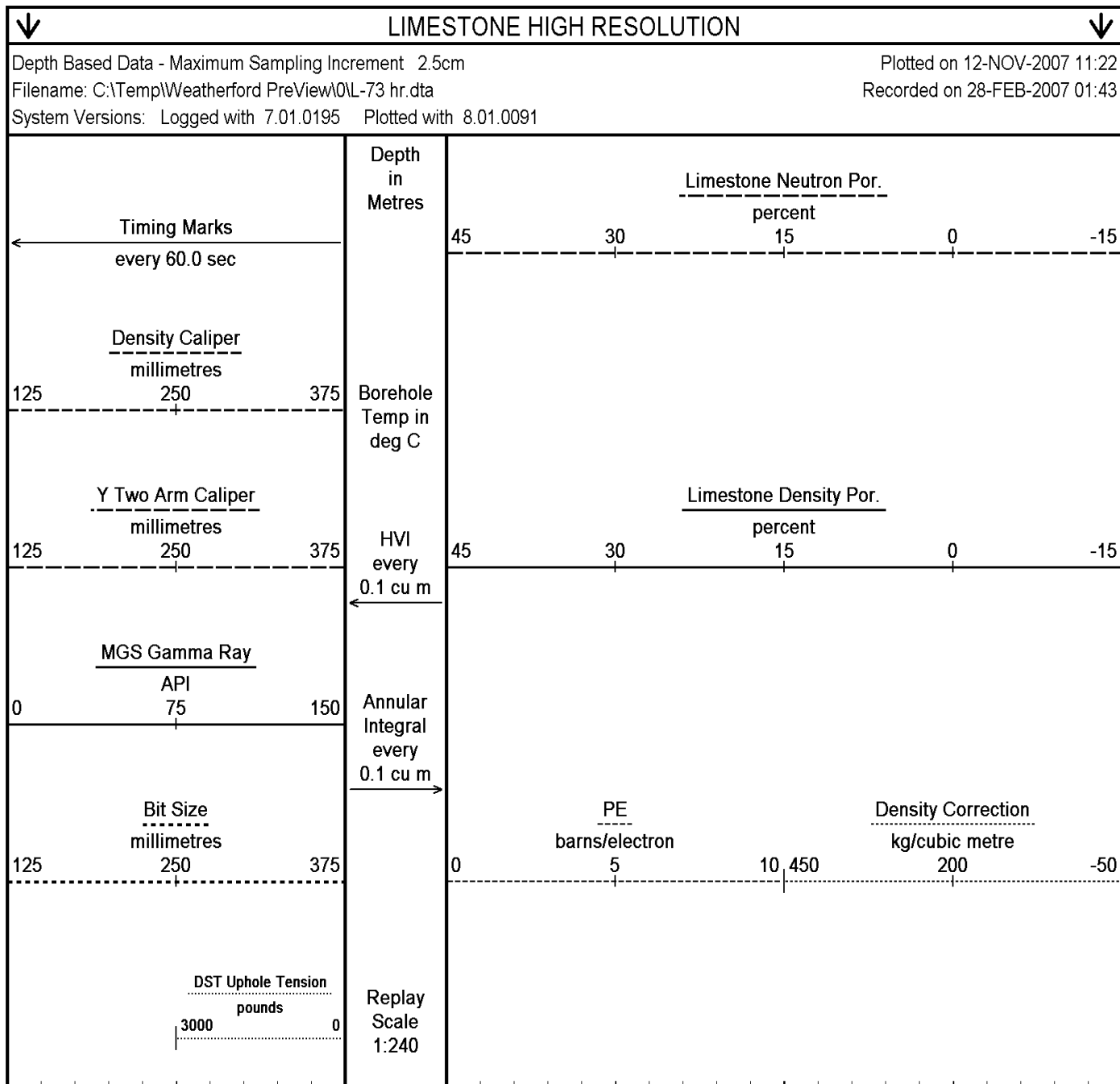
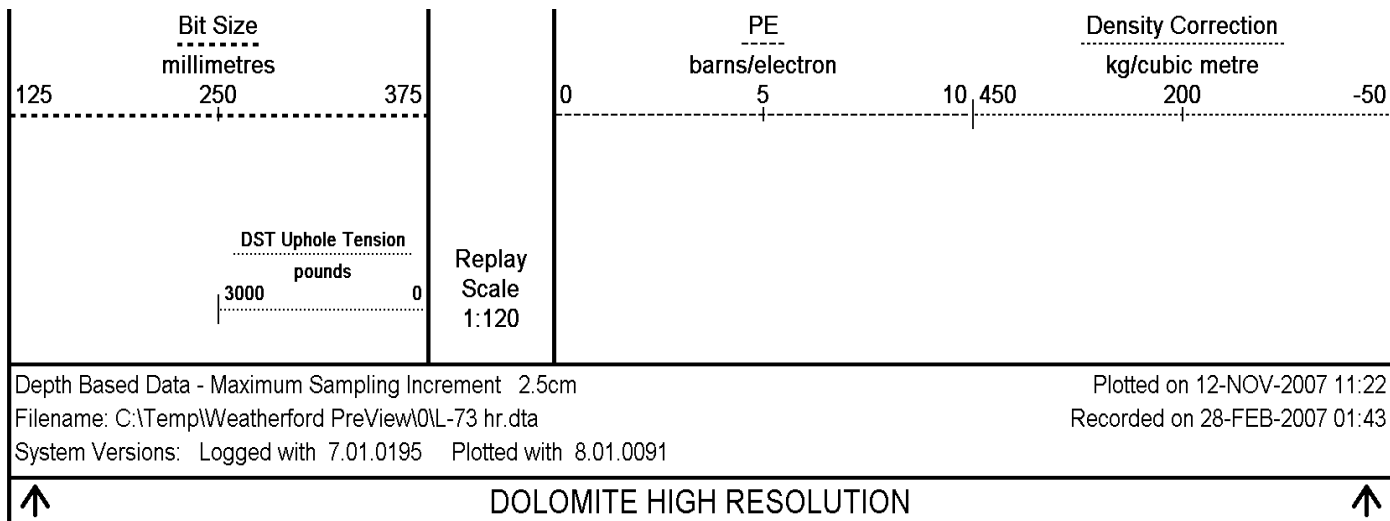


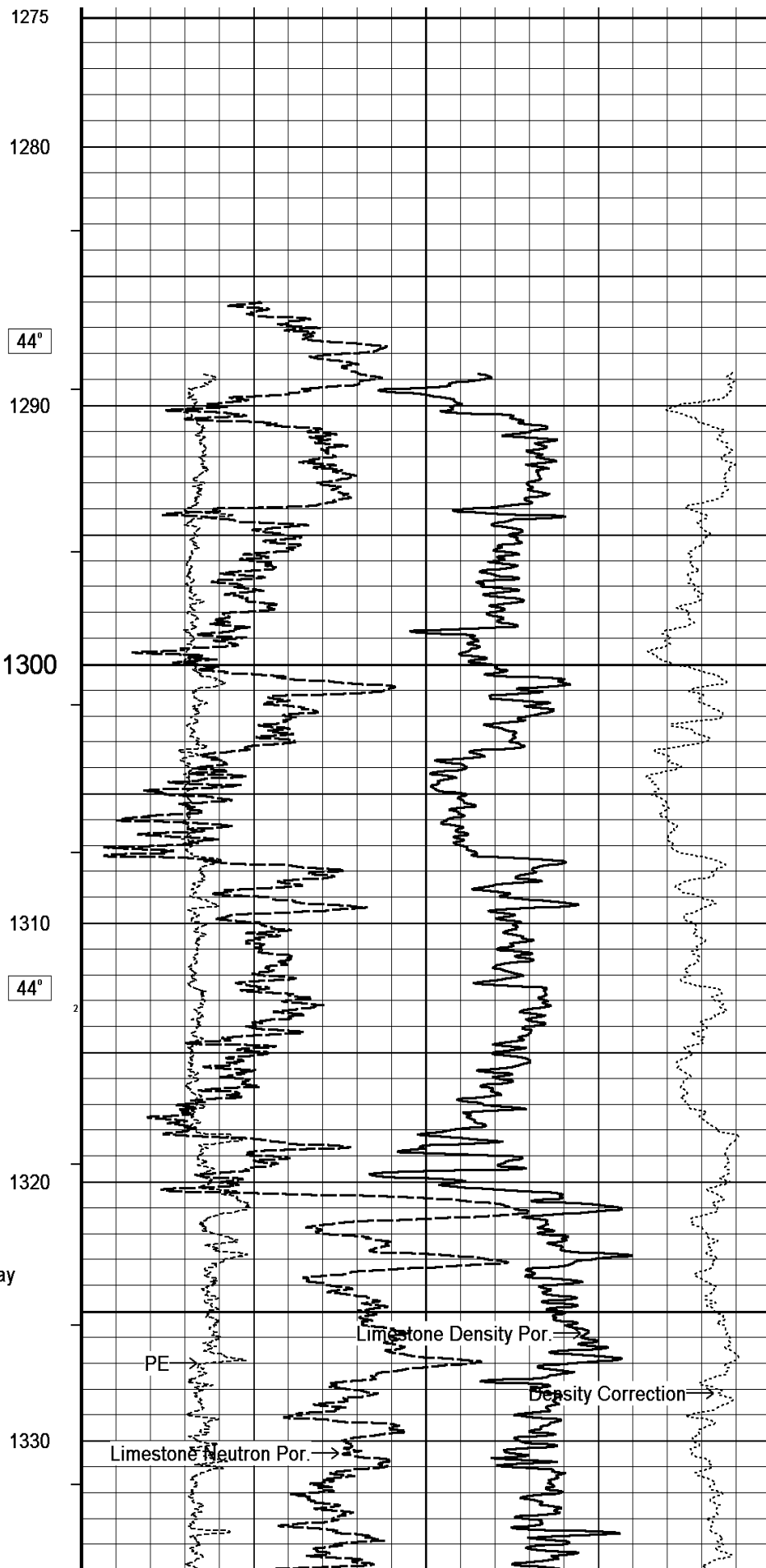
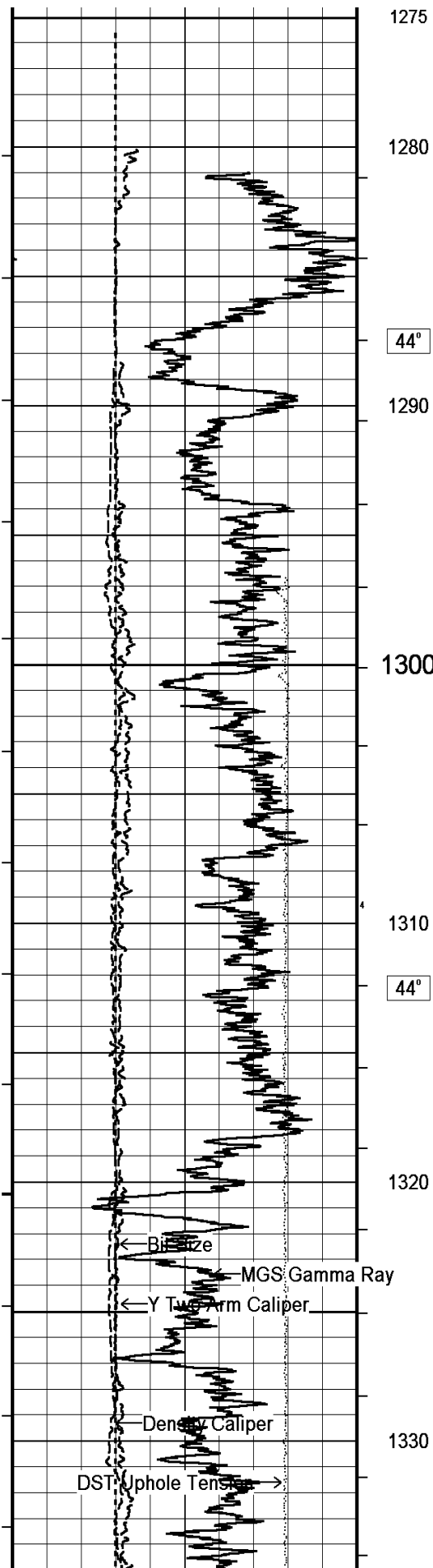


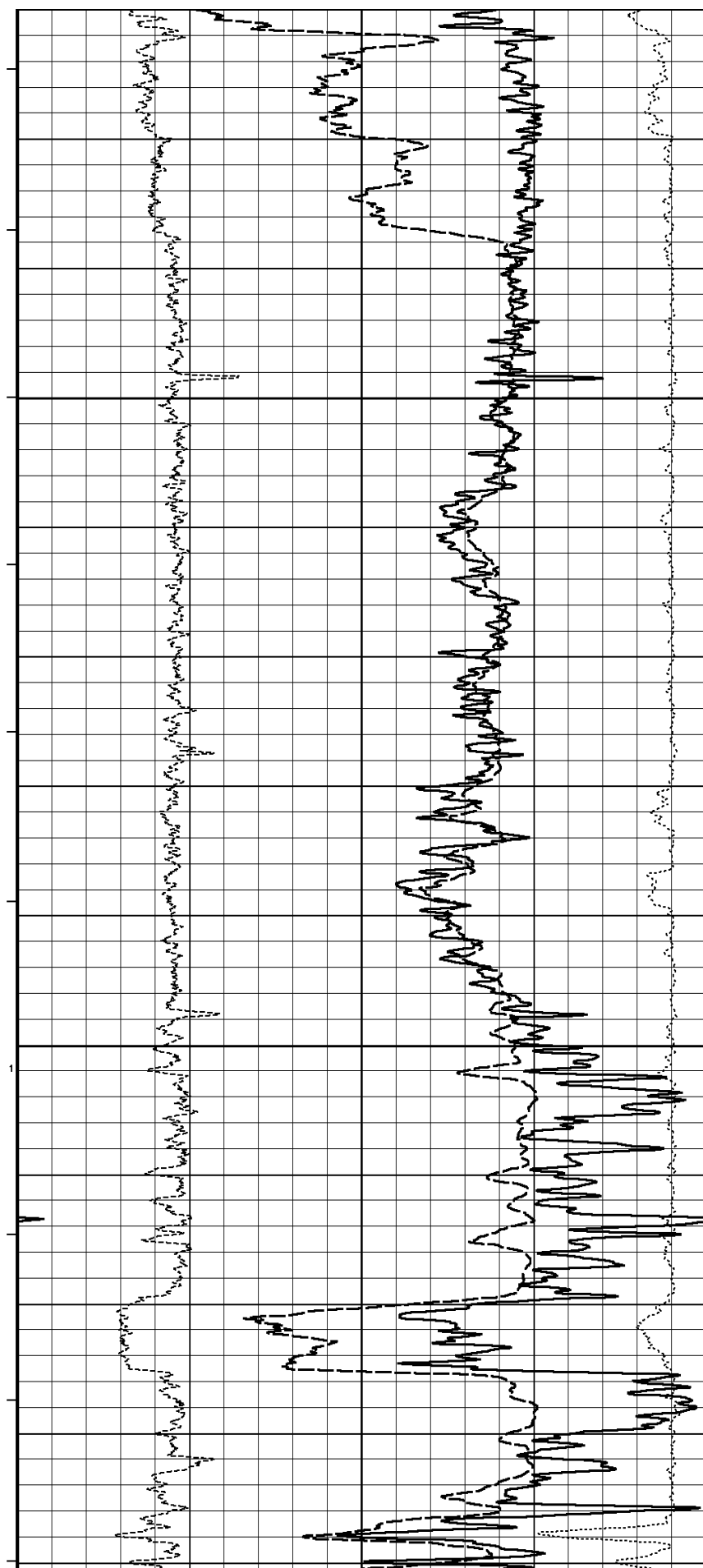
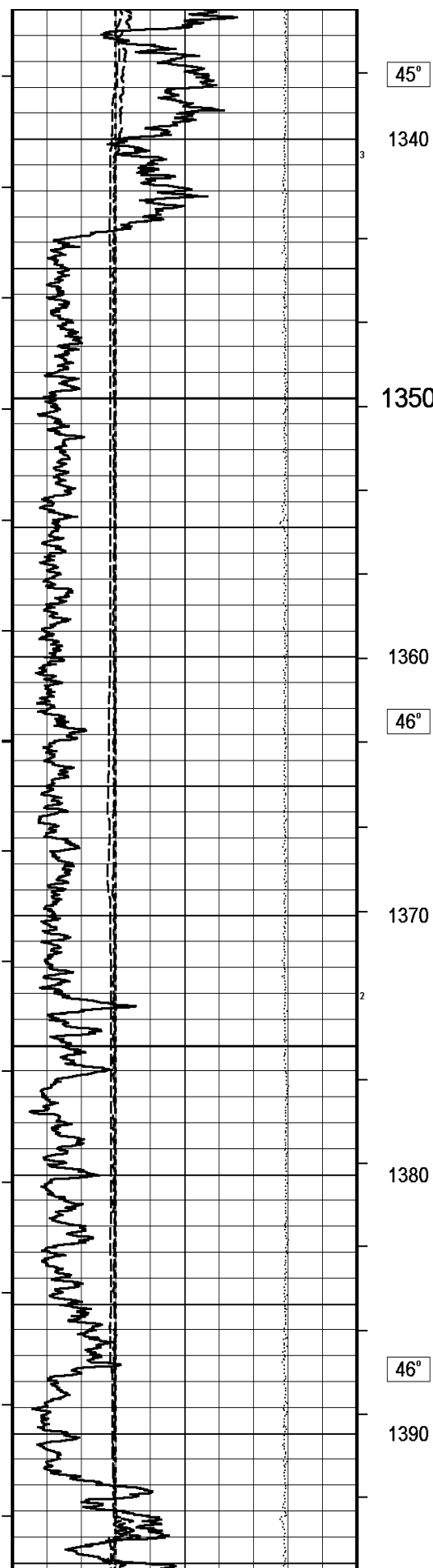


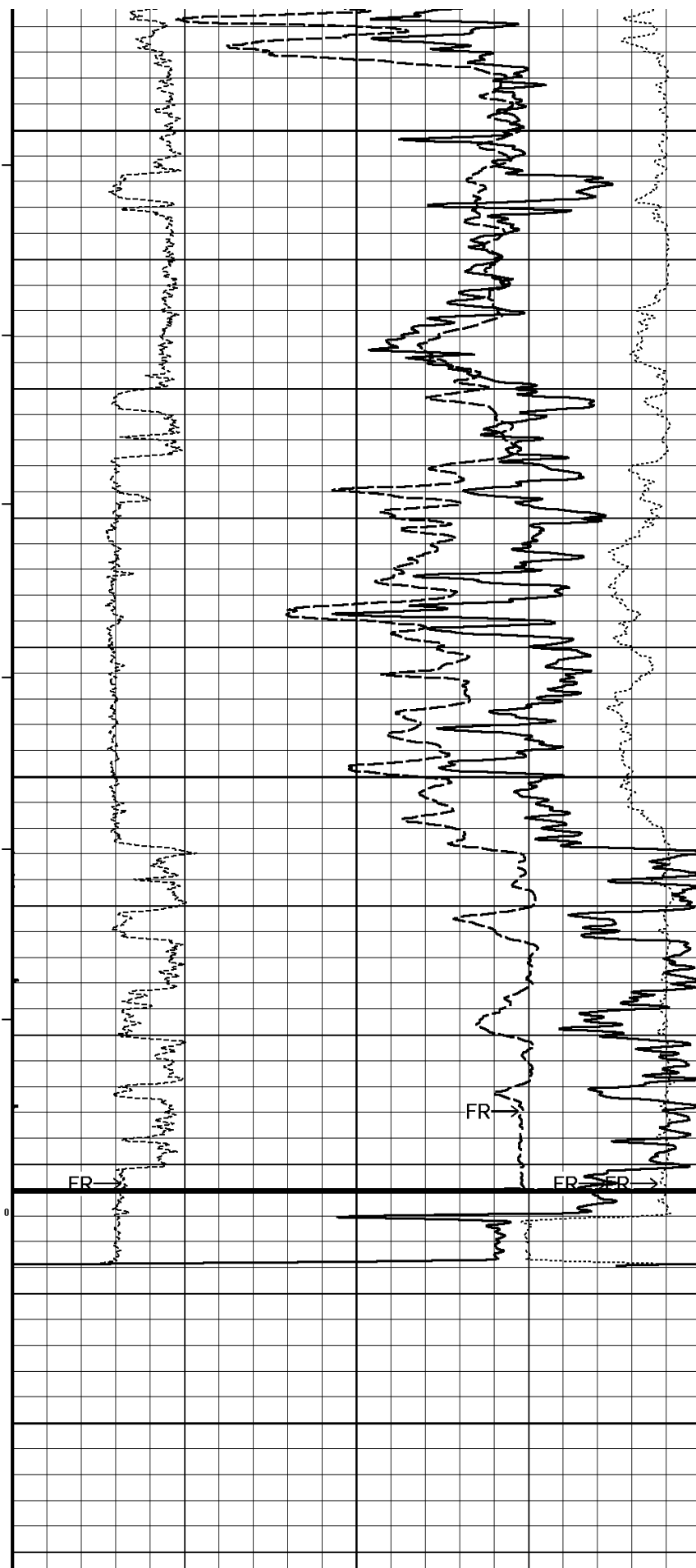
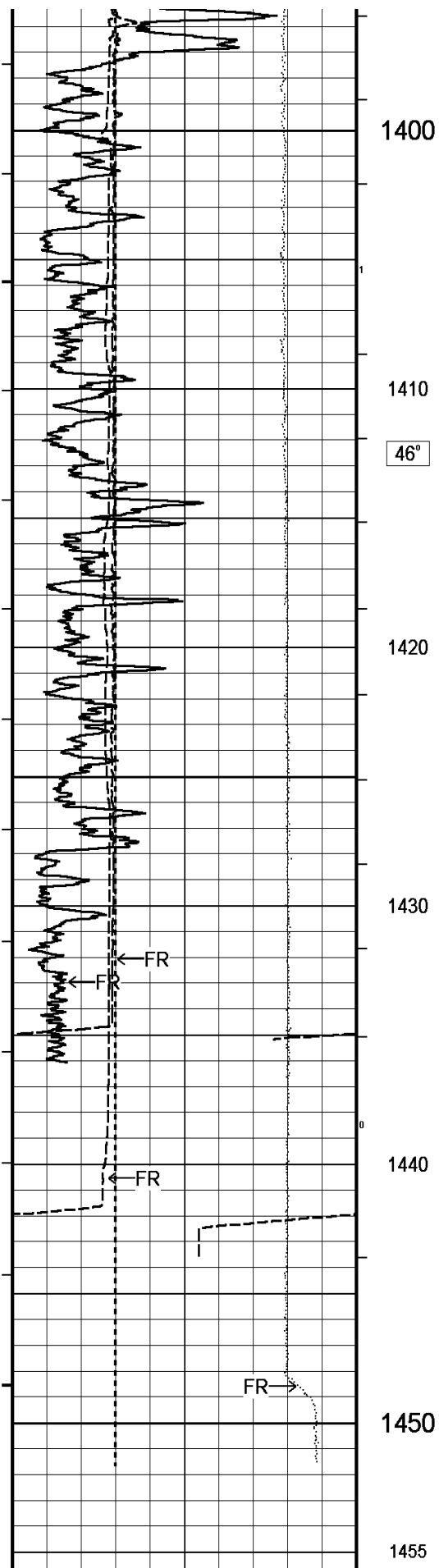




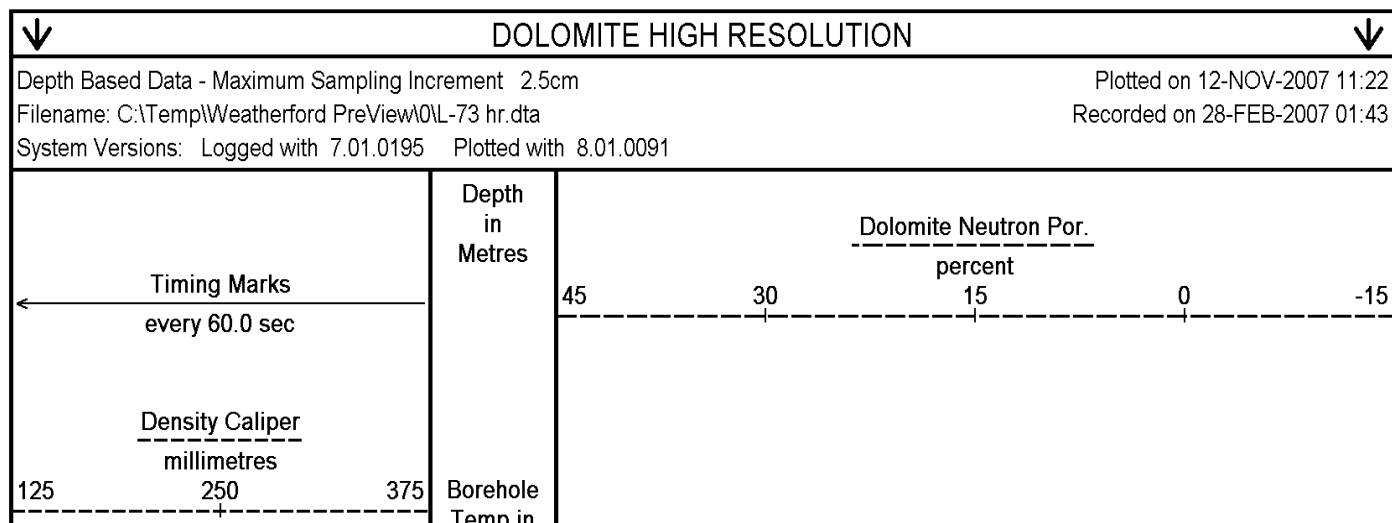
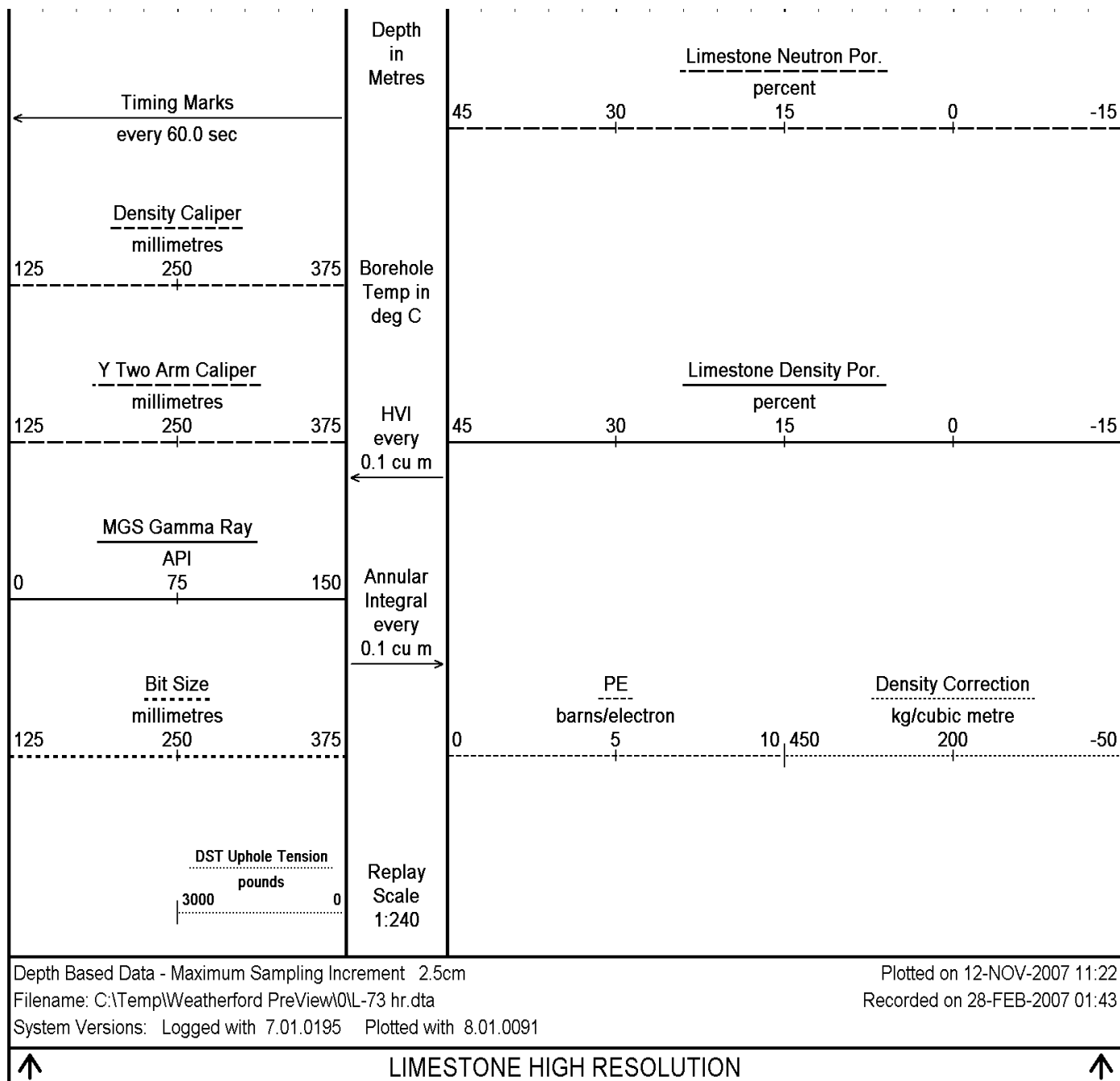


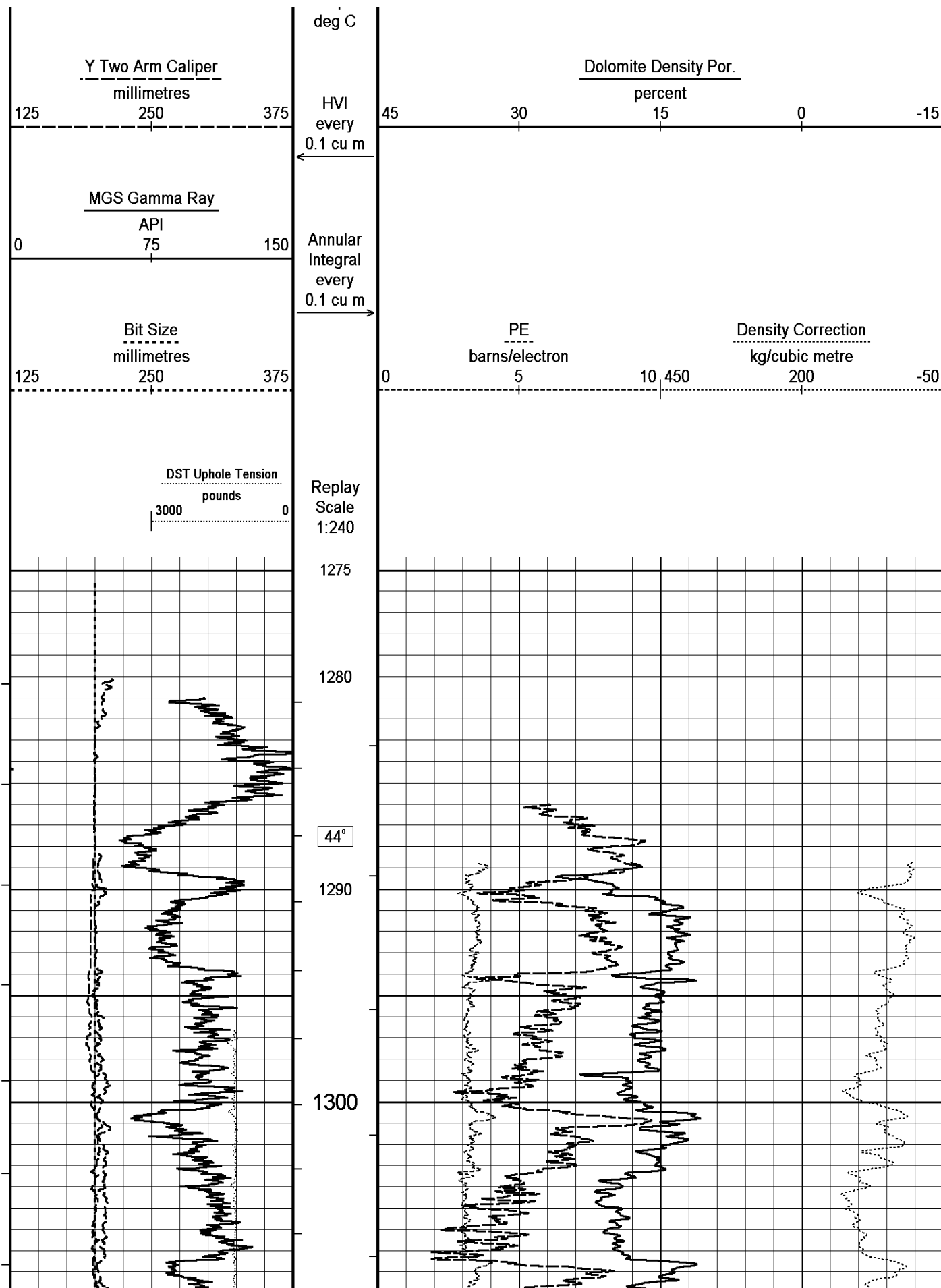


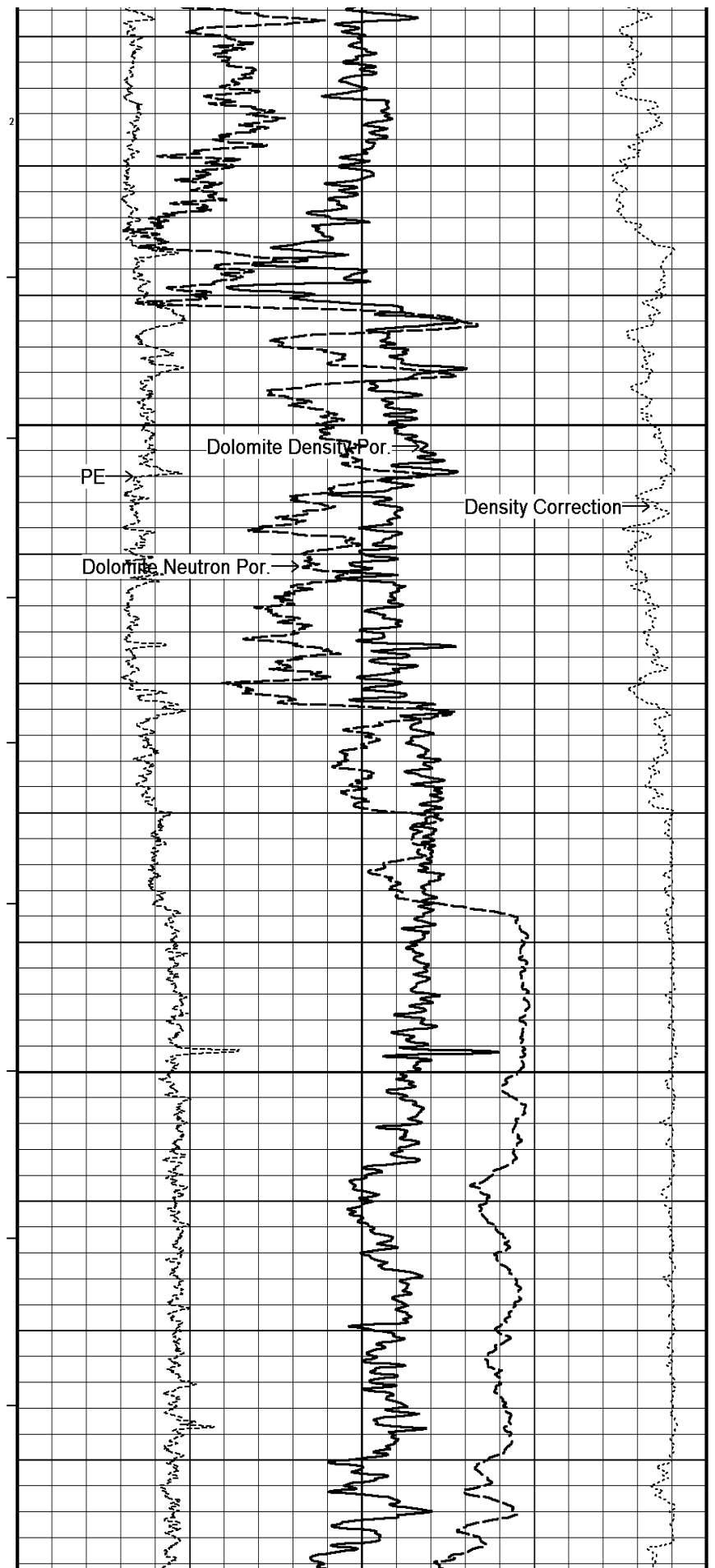
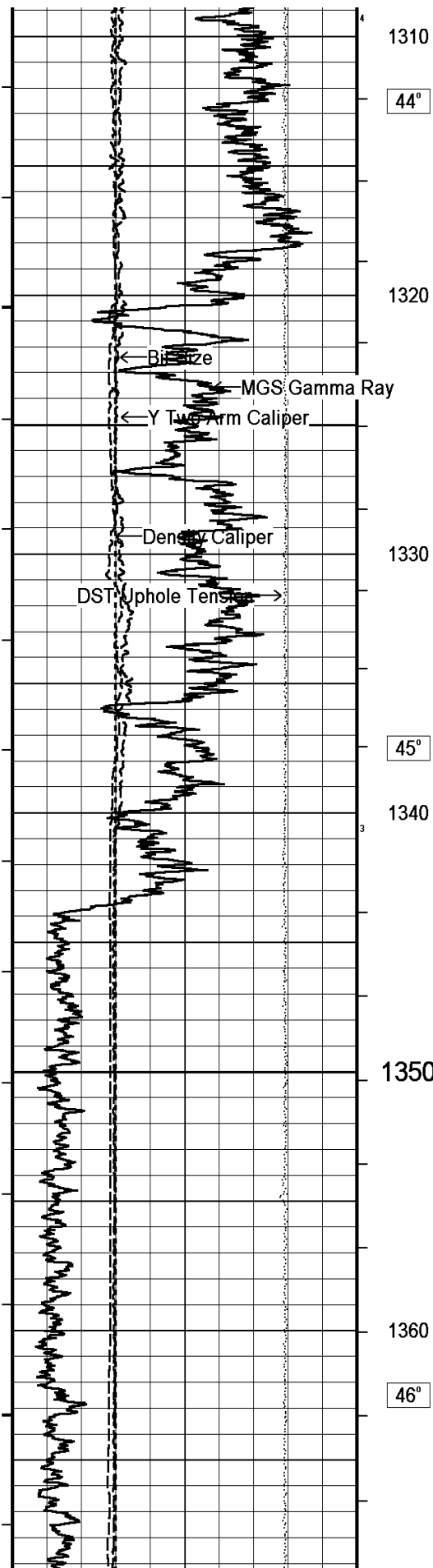


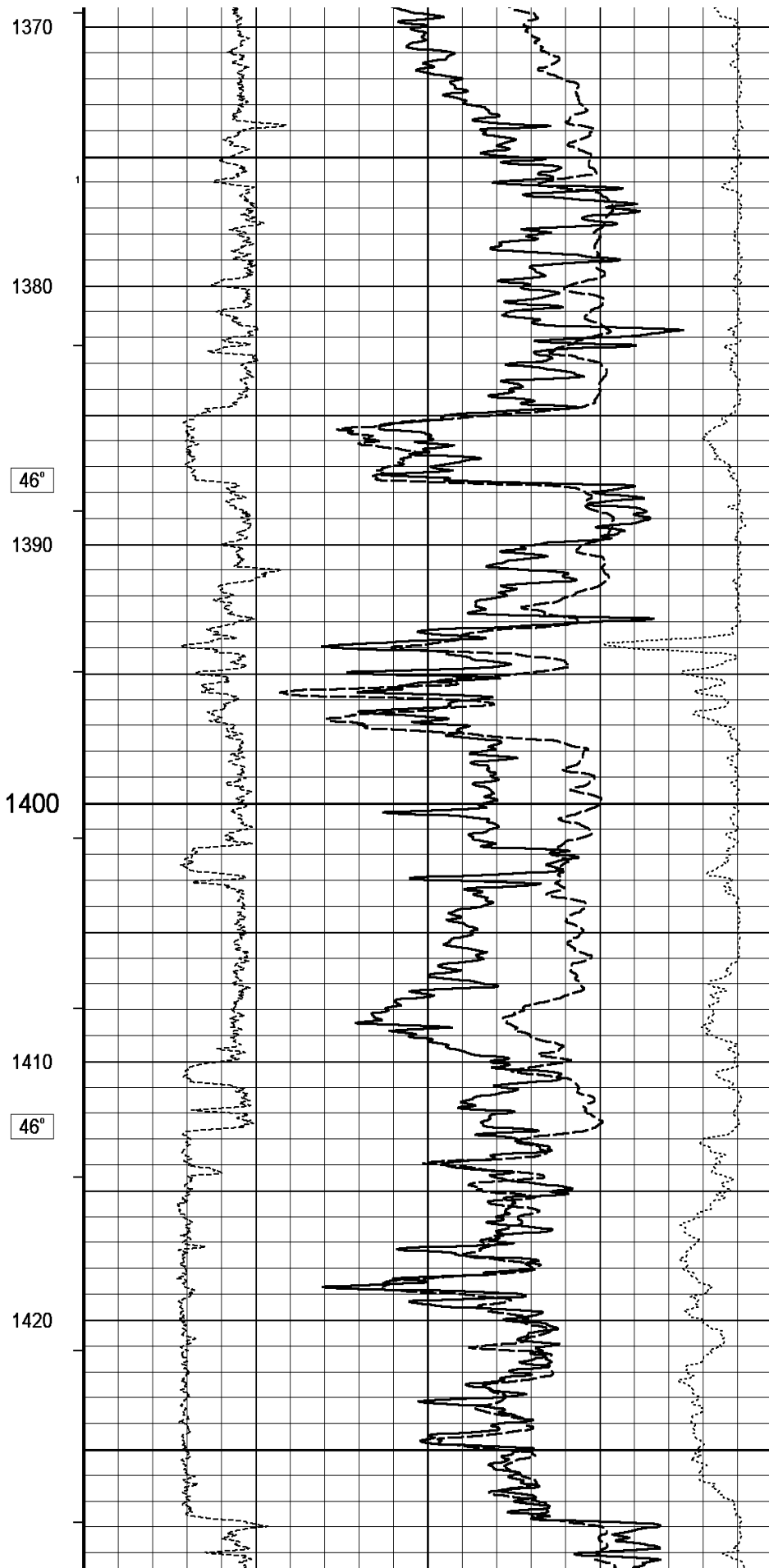
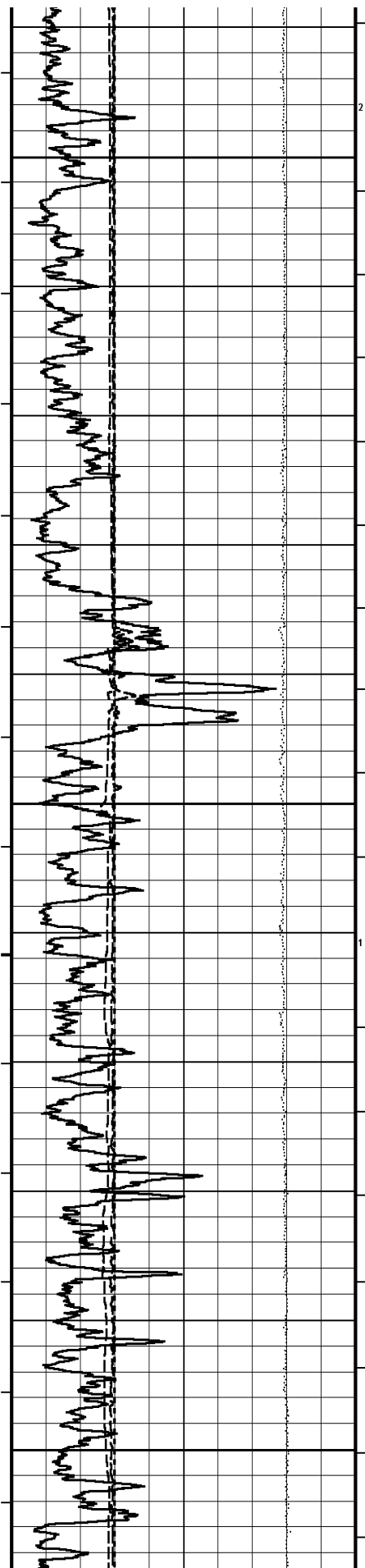


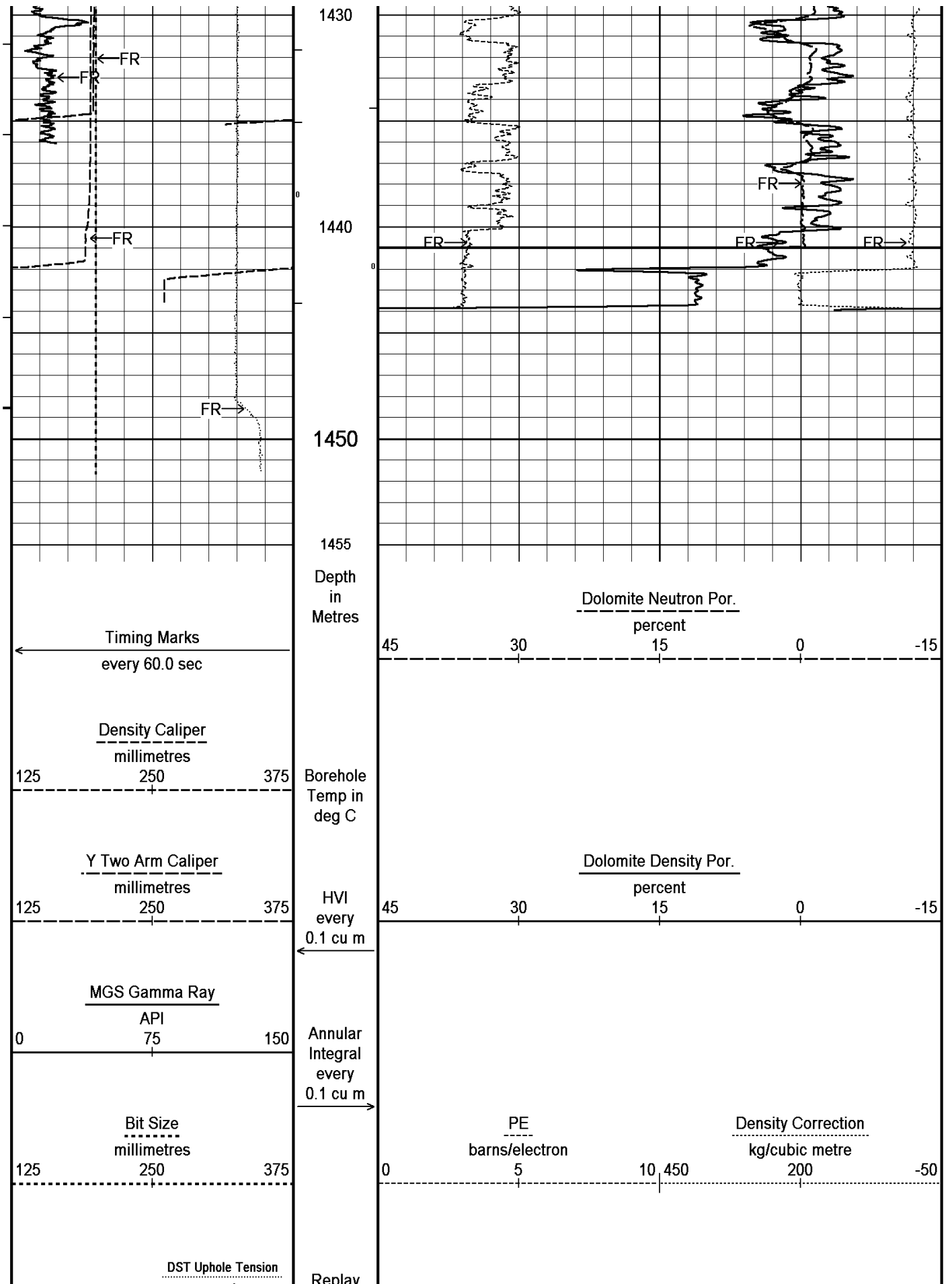












<p>pounds</p> <div style="display: flex; justify-content: space-between; align-items: center;"> <span>3000</span> <span>0</span> </div>	<p>Scale</p> <p>1:240</p>	
Depth Based Data - Maximum Sampling Increment 2.5cm Filename: C:\Temp\Weatherford PreView\0\L-73 hr.dta System Versions: Logged with 7.01.0195 Plotted with 8.01.0091		Plotted on 12-NOV-2007 11:22 Recorded on 28-FEB-2007 01:43
<div style="display: flex; justify-content: space-between; align-items: center;"> <span>↑</span> <span>DOLOMITE HIGH RESOLUTION</span> <span>↑</span> </div>		

BEFORE SURVEY CALIBRATION																																																			
			C:\Temp\Weatherford PreView\0\L-73 main.dta																																																
General Constants All 000		Last Edited on 28-FEB-2007,00:23																																																	
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Gamma Calibration MCG 131		Field Calibration on 26-FEB-2007 10:56																																																	
	Measured	Calibrated (API)																																																	
Background	56	35																																																	
Calibrator (Gross)	1332	829																																																	
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Gamma Constants MCG 131		Last Edited on 27-FEB-2007,23:06																																																	
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Concentration of KCl	0.00		kppm																																																
SP Calibration MCG 131		Field Calibration on 24-FEB-2007 11:45																																																	
	Measured	Calibrated (mV)																																																	
Reference 1	101.0	100.0																																																	
Reference 2	-99.3	-100.0																																																	
High Resolution Temperature Calibration MCG 131		Field Calibration on 15-DEC-2006,15:05																																																	
	Measured	Calibrated(Deg C)																																																	
Lower	1.00	1.00																																																	
Upper	10.00	10.00																																																	
High Resolution Temperature Constants MCG 131																																																			
Pre-filter Length		11																																																	



FE Calibration MFE 111			Base Calibration on 15-FEB-2007 19:40 Field Check on 28-FEB-2007 00:16
Base Calibration			
	Measured	Calibrated (ohm-m)	
Reference 1	0.0	0.0	
Reference 2	983.2	126.8	
Base Check		278.8	
Field Check		279.0	
FE Constants MFE 111			Last Edited on 25-FEB-2007,03:56
Caliper Source for FE correction	Density Caliper		
Rm Source for FE correction	Temperature Corr		
Temp. for Rm Corr.	MCG External Temperature		
Stand-off	Centred	millimetres	
Caliper Calibration MTC 024			Base Calibration on 6-FEB-2007 10:21 Field Calibration on 28-FEB-2007,00:43
Base Calibration			
Reading No	Measured	Calibrator Size (mm)	
1	15472	110.00	
2	18252	162.00	
3	21045	212.00	
4	23841	262.00	
5	26691	311.00	
6	N/A	N/A	
Field Calibration			
	Measured Caliper (mm)	Actual Caliper (mm)	
	210.30	205.70	
Gamma Calibration MGS 029			Field Calibration on 20-FEB-2007,01:19
	Measured	Calibrated (API)	
Background	58	38	
Calibrator (Gross)	1286	832	
Calibrator (Net)	1228	794	
Gamma Constants MGS 029			Last Edited on 27-FEB-2007,23:06
Gamma Calibrator Number	GRCC095		
Mud Density	1180.00	kg/m3	
Caliper Source for Processing	Density Caliper		
Tool Position	Centred		
Concentration of KCl	0.00	kppm	
SP Calibration MGS 029			Field Calibration on 7-DEC-2006,17:01
	Measured	Calibrated (mV)	
Reference 1	100.0	100.0	
Reference 2	-100.0	-100.0	
High Resolution Temperature Calibration MGS 029			Field Calibration on 7-DEC-2006,17:01
	Measured	Calibrated(Deg C)	
Lower	1.00	1.00	
Upper	5.00	5.00	
High Resolution Temperature Constants MGS 029			
Pre-filter Length	11		
Micro Laterolog Constants MMR 031			
Micro Laterolog K Factor	0.0128		

Standoff Offset	0.0000	inches
Borehole Correction Constants		
Mud Cake Source	Constant Value	
Mud Cake Thickness	0.4000	inches
Mud Cake Thickness Caliper	0	
Mud Cake Resistivity	0.1500	ohm-m
Caliper Calibration MMR 031		Base Calibration on 27-FEB-2007,13:43 Field Calibration on 28-FEB-2007,00:43
Base Calibration		
Reading No	Measured	Calibrator Size (mm)
1	14876	162.00
2	17978	212.00
3	21602	262.00
4	24308	311.00
5	0	0.00
6	N/A	N/A
Field Calibration		
	Measured Caliper (mm)	Actual Caliper (mm)
	205.60	205.70
Micro Normal and Micro Inverse Calibration MMR 031		Base Calibration on 27-FEB-2007,13:43 Field Check on 28-FEB-2007 00:43
Base Calibration		
Channel	Resistor 1	Resistor 2
Micro Normal	9.8	49.9
Micro Inverse	9.8	49.8
Channel	Measured	Calibrated (ohm-m)
	Resistor 1	Resistor 2
Micro Normal	5.1	25.6
Micro Inverse	3.4	16.9
Channel	Base Check (ohm-m)	Field Check (ohm-m)
Micro Normal	94.7	92.9
Micro Inverse	61.6	61.6
Micro Normal and Micro Inverse Constants MMR 031		Last Edited on 25-NOV-2006,14:14
Micro Normal K Factor	0.5110	
Micro Inverse K Factor	0.3380	
Standoff Offset	0.0000	millimetres
Neutron Calibration MDN 016		Base Calibration on 11-JAN-2007 20:47 Field Check on 27-FEB-2007 23:30
Base Calibration		
	Measured	Calibrated (cps)
	Near	Far
	3219	98
Ratio	32.703	33.764
Field Calibrator at Base		Calibrated (cps)
		2486
Ratio		0.681
Field Check		Calibrated (cps)
		2568
Ratio		0.682
Neutron Constants MDN 016		Last Edited on 25-FEB-2007,03:55
Neutron Source Id	277	
Neutron Jig Number	N636	
Epithermal Neutron	No	
Caliper Source for Processing	Density Caliper	
Stand-off	0.00	mm
Mud Density	1000.00	kg/m3
Limestone Sigma	7.10	cm



## Caliper Calibration MPD 093

Base Calibration on 11-JAN-2007 21:58

Field Calibration on 28-FEB-2007,00:44

## Base Calibration

Reading No	Measured	Calibrator Size (mm)
1	15040	110.00
2	23085	162.00
3	31440	212.00
4	40233	262.00
5	49152	311.00
6	N/A	N/A

## Field Calibration

Measured Caliper (mm)	Actual Caliper (mm)
207.70	205.70

## Sonic Constants MSS 003

Last Edited on 27-FEB-2007,23:07

Maximum Boundary Contrast	328.08	micro-sec/m
Fluid Transit Time	620.08	micro-sec/m
Limestone Transit Time	155.84	micro-sec/m
Sandstone Transit Time	182.09	micro-sec/m
Dolomite Transit Time	142.72	micro-sec/m
Sonic used for Porosities	3-5' Compensated Sonic	
Correction for Sonde Skew	Applied	
Cycle Stretch Algorithm	Applied	
MN3FT	N/A	micro-sec
MX3FT	N/A	micro-sec
Hunt-Raymer Constant	0.00	0

## Fixed Gate Parameters

Start Time (micro-sec)	End Time (micro-sec)	Discriminator (mV)	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

## Down Hole Fixed Gate Parameters

Gate Start	N/A	micro-sec
Gate Width	N/A	micro-sec
Initial Discriminator Level	0.0000	mVolts

## Full Waveform Parameters

Use 3' Waveform to derive TR	N/A	
Use 4' Waveform to derive TR	N/A	
Use 5' Waveform to derive TR	N/A	
Use 6' Waveform to derive TR	N/A	
3' Waveform Discriminator Level	N/A	mV
4' Waveform Discriminator Level	N/A	mV
5' Waveform Discriminator Level	N/A	mV
6' Waveform Discriminator Level	N/A	mV
3' Waveform Filter	N/A	
4' Waveform Filter	N/A	
5' Waveform Filter	N/A	
6' Waveform Filter	N/A	
Semblance Level	N/A	
Semblance Window Width	N/A	micro-sec
Sonic 1 Despiker	N/A	N/A
Sonic 2 Despiker	N/A	N/A

## Induction Calibration MAI 154

Base Calibration on 14-JAN-2007 01:38

Field Check on 28-FEB-2007 00:33

## Base Calibration

Test Loop Calibration	Measured	Calibrated (mmho/m)
-----------------------	----------	---------------------

Channel	Low	High	Low	High
1	16.6	470.6	9.3	966.2
2	6.3	383.0	7.6	821.4
3	4.0	264.7	5.2	566.0
4	2.3	136.2	2.6	279.2
Array Temperature	22.3		Deg C	
Channel	Base Check (mmho/m)		Field Check (mmho/m)	
	Low	High	Low	High
1	13.1	3867.2	15.3	3866.9
2	29.6	3530.7	30.2	3528.9
3	26.8	3001.8	27.1	2999.9
4	18.4	2040.8	18.6	2039.5
Deep	15.3	1926.8	15.7	1925.6
Medium	39.6	3962.8	39.7	3960.1
Shallow	45.8	5270.7	46.6	5268.1
Array Temperature	12.1		28.0 Deg C	

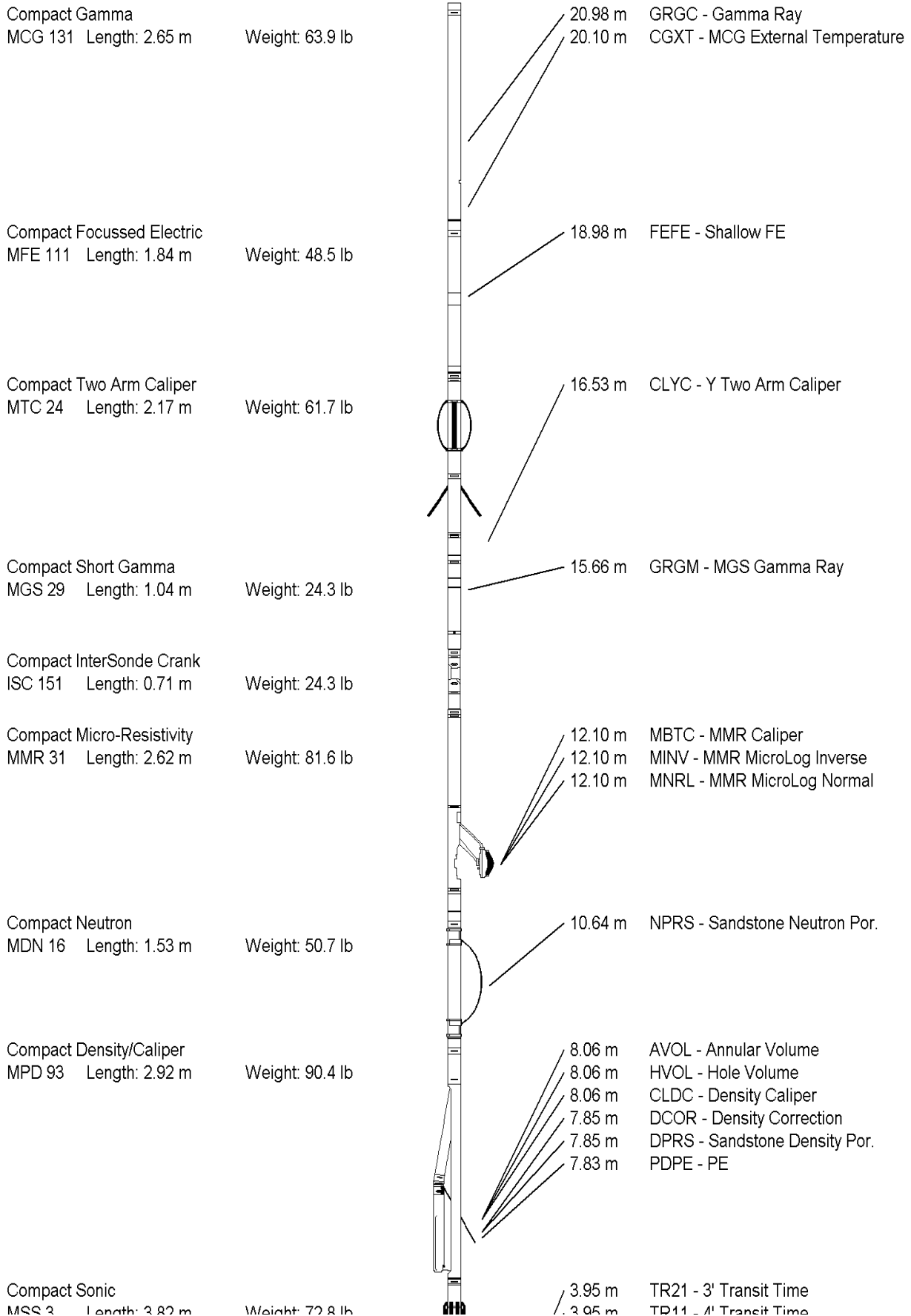
Induction Constants MAI 154			Last Edited on 27-FEB-2007,23:07	
Induction Model		VECTAR		
Caliper for Borehole Corr.		Density Caliper		
Hole Size for Borehole Correction		N/A millimetres		
Stand-off		25.40 millimetres		
Number of Fins on Stand-off		5.0000		
Stand-off Fin Width		25.4000 millimetres		
Borehole Corr. Rm Source		Temperature Corr		
Temp. for Rm Corr.		MCG External Temperature		
Squasher Start		0.0020 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	

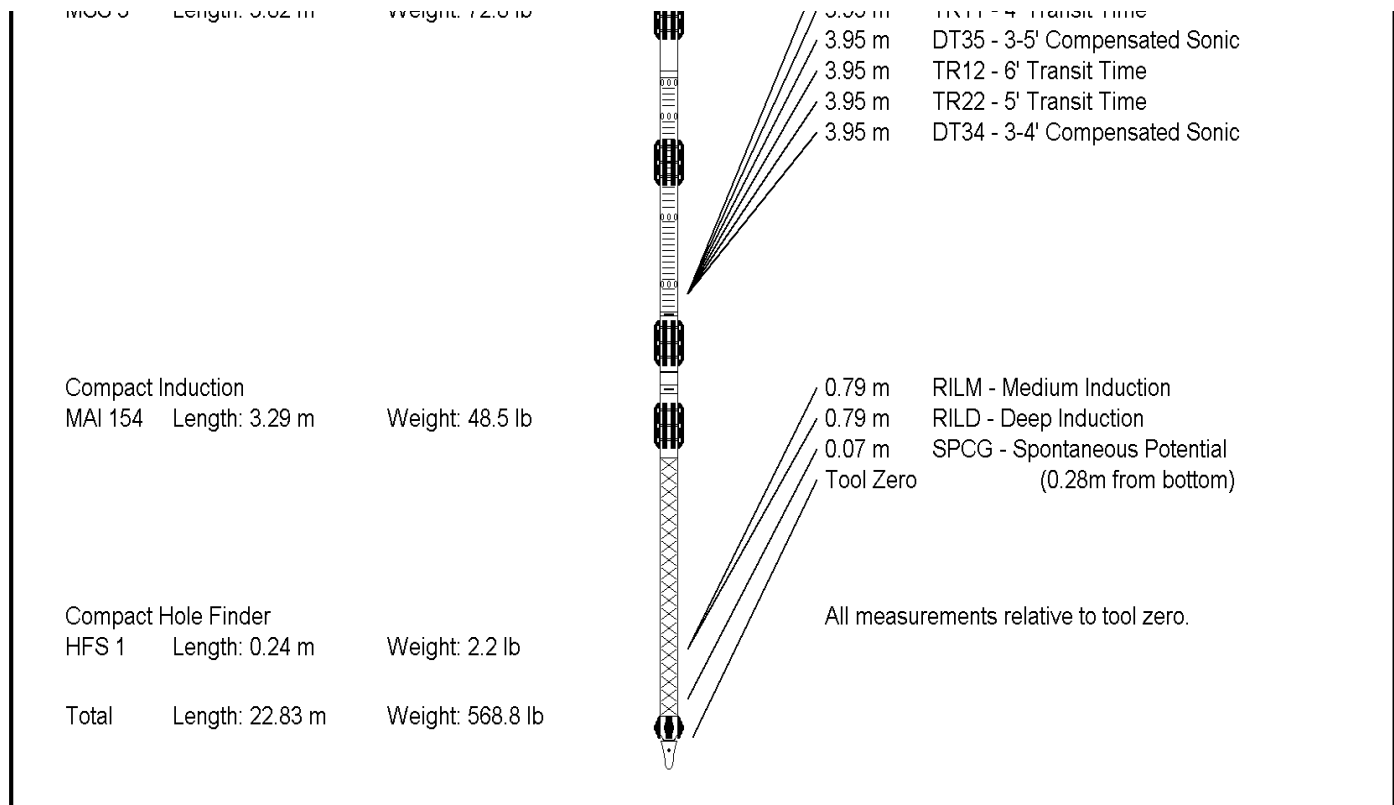
High Resolution Temperature Calibration MAI 154			Field Calibration on 16-DEC-2006,08:07	
	Measured	Calibrated(Deg C)		
Lower	1.00	1.00		
Upper	10.00	10.00		


High Resolution Temperature Constants MAI 154	
Pre-filter Length	11

# DOWNHOLE EQUIPMENT

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COMPANY		PARAMOUNT RESOURCES LTD			
WELL		PARA ET AL CAMERON L-73			
FIELD		CAMERON HILLS			
PROVINCE/COUNTY		NORTHWEST TERRITORIES			
COUNTRY/STATE		CANADA			
Elevation Kelly Bushing	774.80	metres	First Reading	1440.40	metre
Elevation Drill Floor		metres	Depth Driller	1450.00	metres
Elevation Ground Level	770.80	metres	Depth Logger	1448.60	metres
 <div> <div>PHOTO DENSITY</div> <div>DUAL SPACED NEUTRON</div> </div>					





## MINI PLOT

COMPANY		PARAMOUNT RESOURCES LTD		
WELL		PARA ET AL CAMERON L-73		
FIELD		CAMERON HILLS		
PROVINCE/COUNTY		NORTHWEST TERRITORIES		
COUNTRY/STATE		CANADA		
LOCATION		300/L-73-60-10-117-15		
		<b>FIELD PRINT</b>		
LSD	SEC	TWP	RGE	Other Services
API Number		MICROLOG		COMPENSATED SONIC
Permit Number 1159				XY CALIPERS
Permanent Datum GROUND LEVEL, Elevation 770.8 metres				Elevations: metres
Log Measured From 4.0 M above Permanent Datum				KB 774.80
Drilling Measured From KELLY BUSHING				DF
				GL 770.80
Date	27-FEB-2007			
Run Number	1			
Depth Driller	1450.00	metres		
Depth Logger	1448.60	metres		
First Reading	1447.50	metre		
Last Reading	435.00	metre		
Casing Driller	436.00	metres		
Casing Logger	435.00	metres		
Bit Size	200.00	mm		
Hole Fluid Type	GELCHEM			
Density / Viscosity	1180.0 kg/M3	85.00 sec/L		
PH / Fluid Loss	10.00	8.00 ml/30Min		
Sample Source	FLOWLINE			
Rm @ Measured Temp	0.54 @ 25.0	ohm-m		
Rmf @ Measured Temp	0.41 @ 25.0	ohm-m		
Rmc @ Measured Temp	0.63 @ 25.0	ohm-m		
Source Rmf / Rmc	PRESS	FILTER		
Rm @ BHT	0.36 @ 47.0	ohm-m		
Time Since Circulation	8.5 HRS			
Max Recorded Temp	47.00	deg C		
Equipment Name	13132			
Equipment / Base	QUINT	GPR		
Recorded By	L. SUTHERLAND			
Witnessed By	A. AHMED			
CIRC STOP	05:30 FEB 27	Last Line		

### BOREHOLE RECORD

Bit Size millimetres	Depth From metres		Depth To metres	
	311.000	0.00	436.00	
	200.000	436.00	1450.00	

### CASING RECORD

Type	Size millimetres	Depth From metres	Shoe Depth metres	Weight pounds/ft
SURFACE	219.100	0.00	436.00	35.70

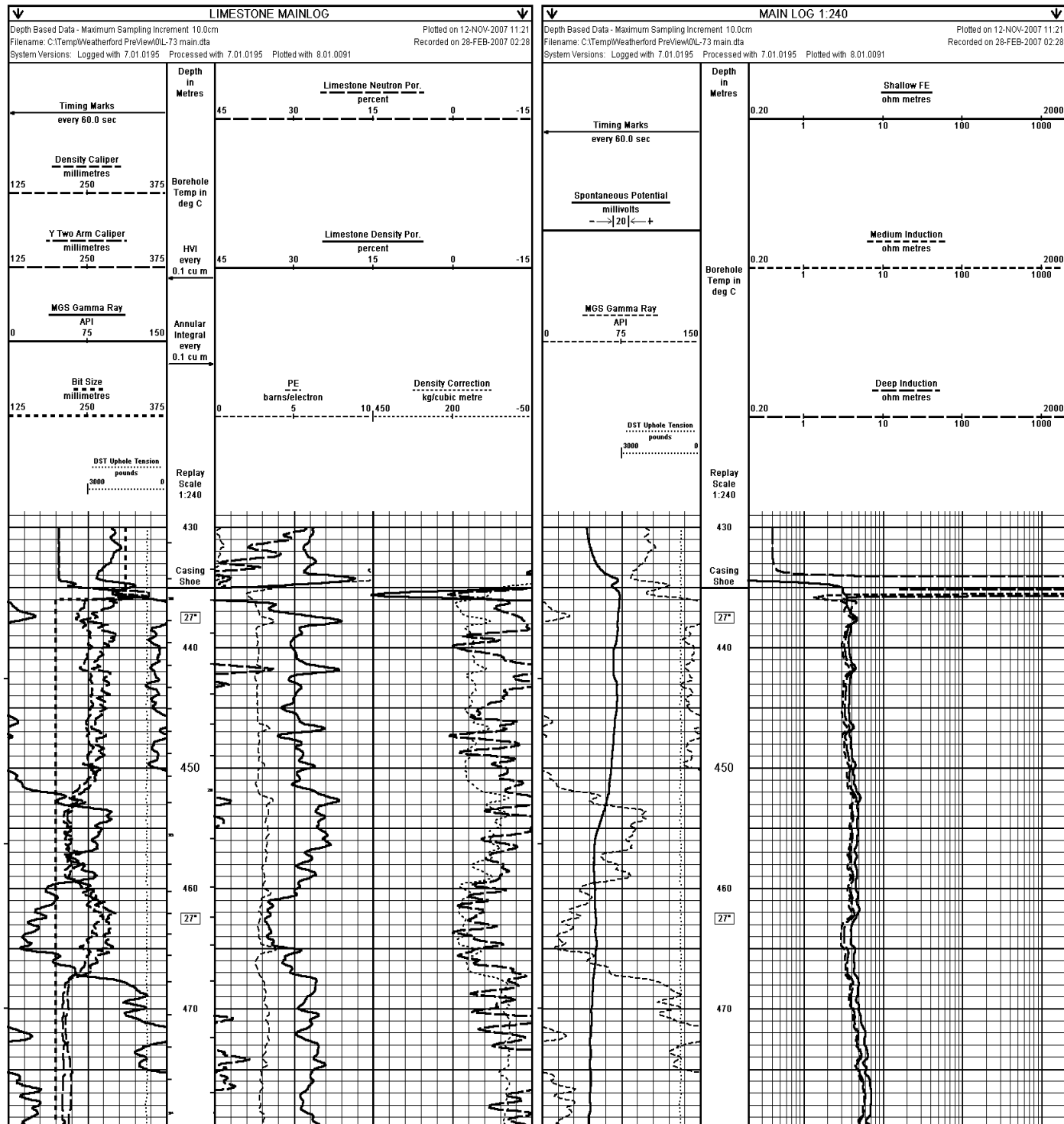
### REMARKS

- 1) SOFTWARE ISSUE: WLS 7.01.0195
- 2) CUSTOMER SCALES AND INTERVALS LOGGED.
- 3) MAI, MSS, MPD, MDN, MML, ISC, MGS, MTC, MFE, MCG RAN IN COMBINATION.
- 4) HARDWARE: MAI: TWO 25.4 MM STANDOFFS  
MSS: THREE 25.4 MM STANDOFFS  
MDN: DUAL NEUTRON BOWSPRING  
MTC: ONE SIX-LEAF CENTRALIZER

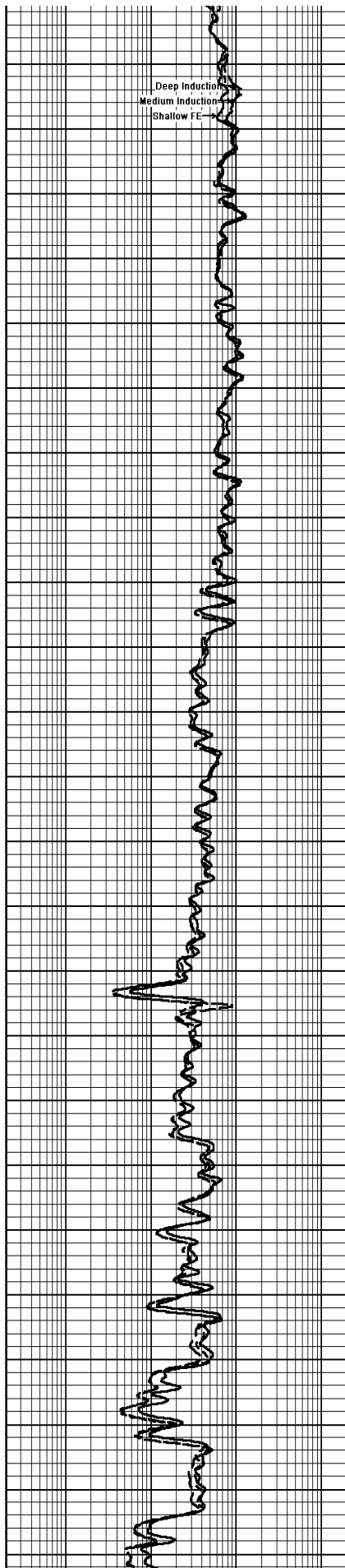
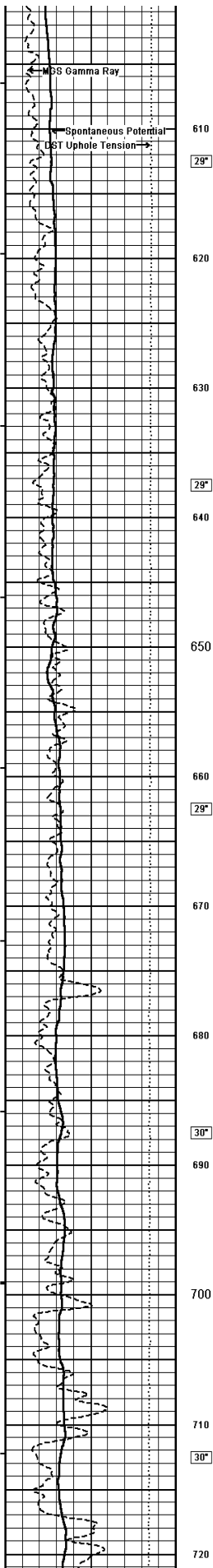
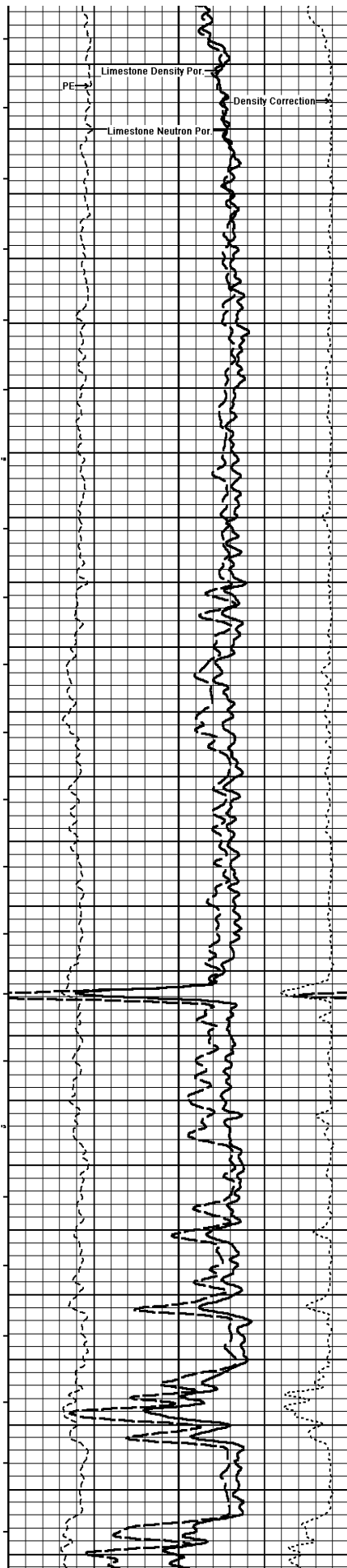
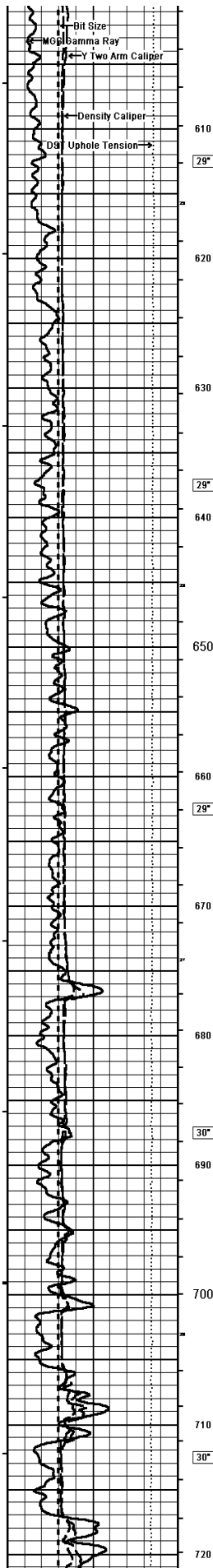
- 5) SAP# 4147855 FIELD TICKET # 30074798
- 6) # FIELD PRINTS = 3 # FINAL PRINTS = UNKNOWN

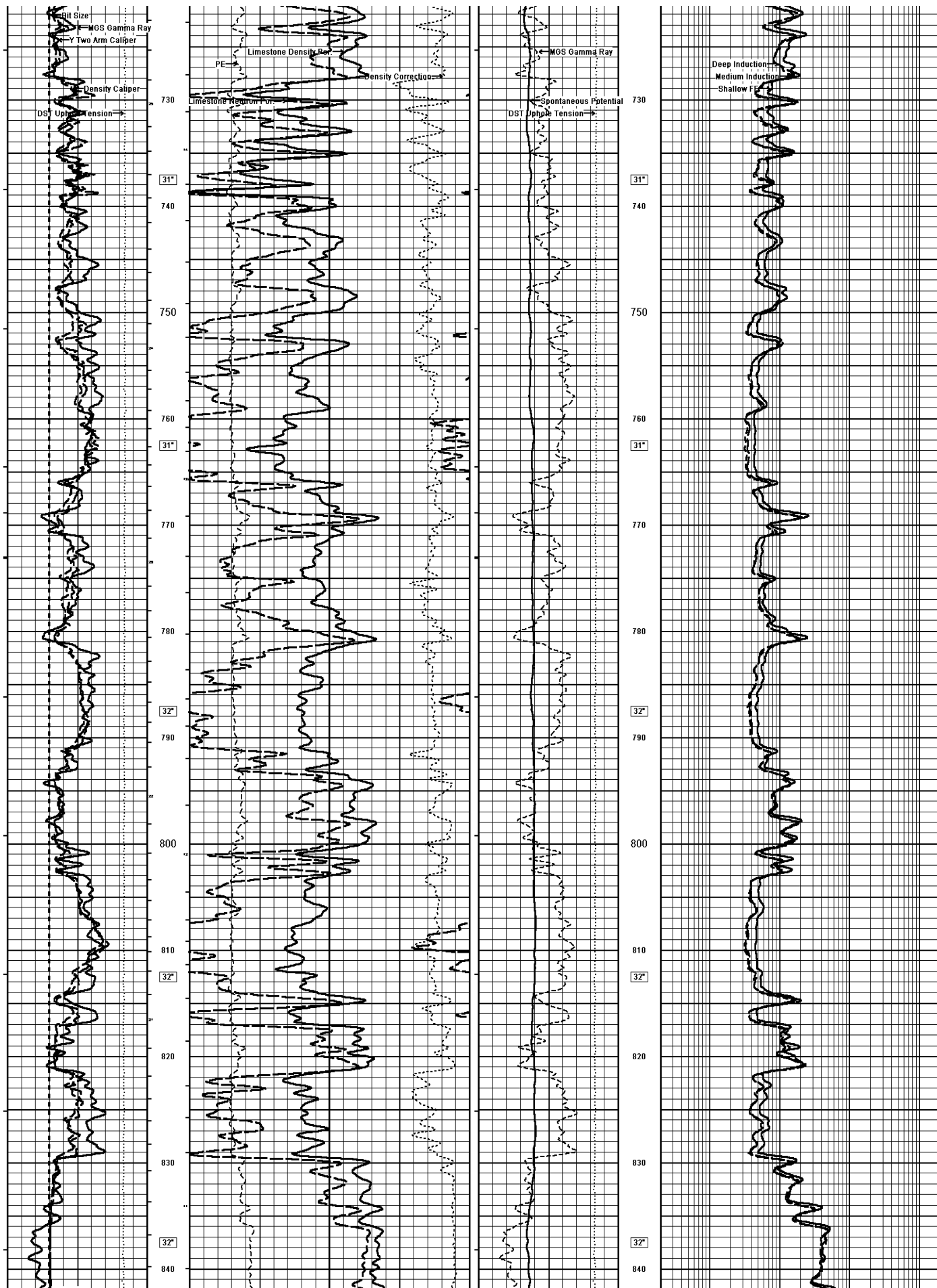
- 7) RIG: PD # 129
- 8) HOLE CEMENT VOLUMES CALCULATED USING DENSITY CALIPER AND TWO ARM CALIPER IN COMBINATION :  
HOLE VOLUME = 36.05 CU.M.  
ANNULAR VOLUME USING 139.7 MM PRODUCTION CASING = 20.65 CU.M
- 9) AREAS OF BOREHOLE RUGOSITY MAY CAUSE POOR DENSITY PAD CONTACT RESULTING IN HIGH DENSITY CORRECTION AND THUS INVALID DENSITY POROSITY DATA AT THOSE INTERVALS.
- 10) SONIC FREE PIPE: 378M

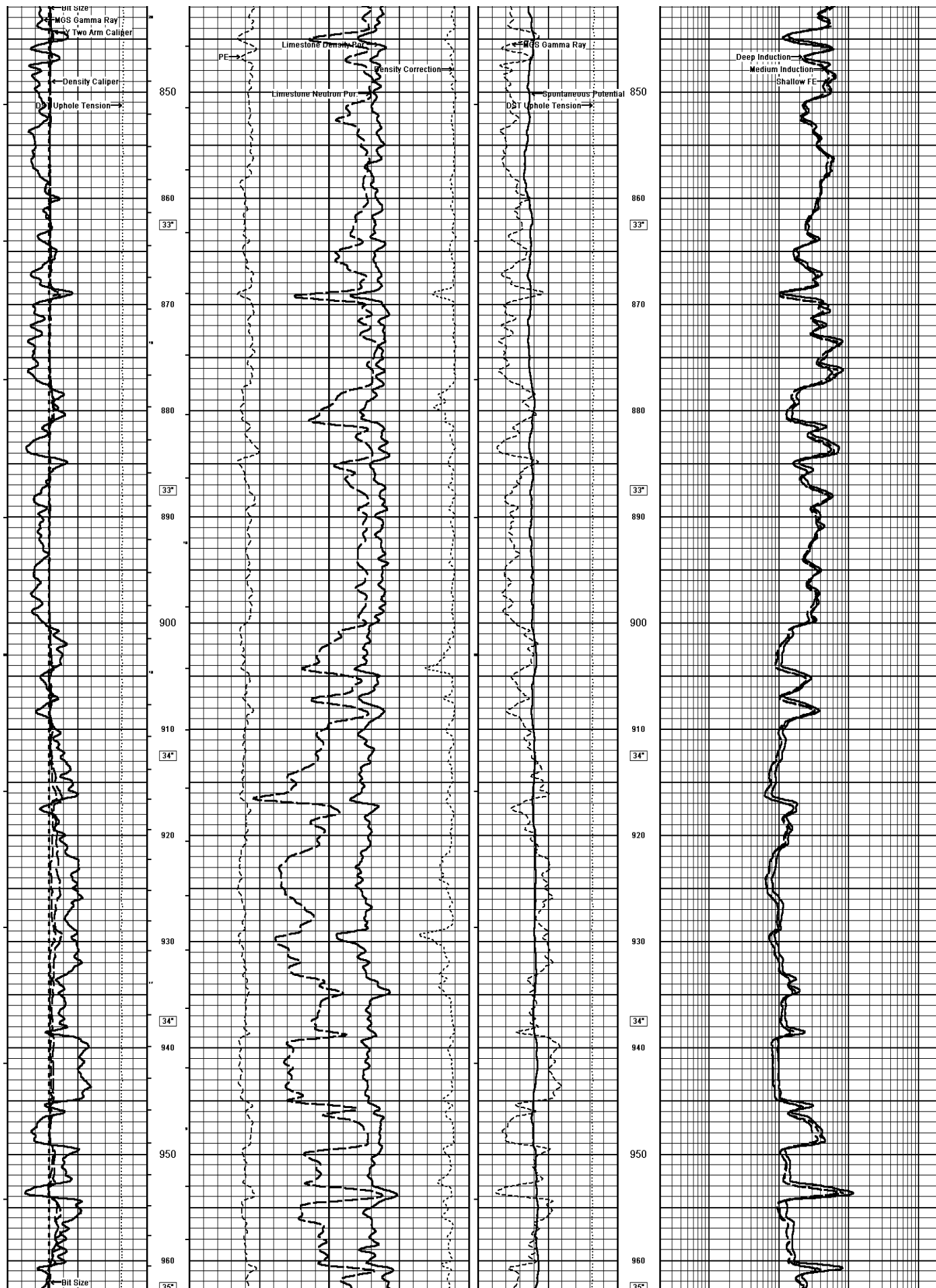
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs, 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.

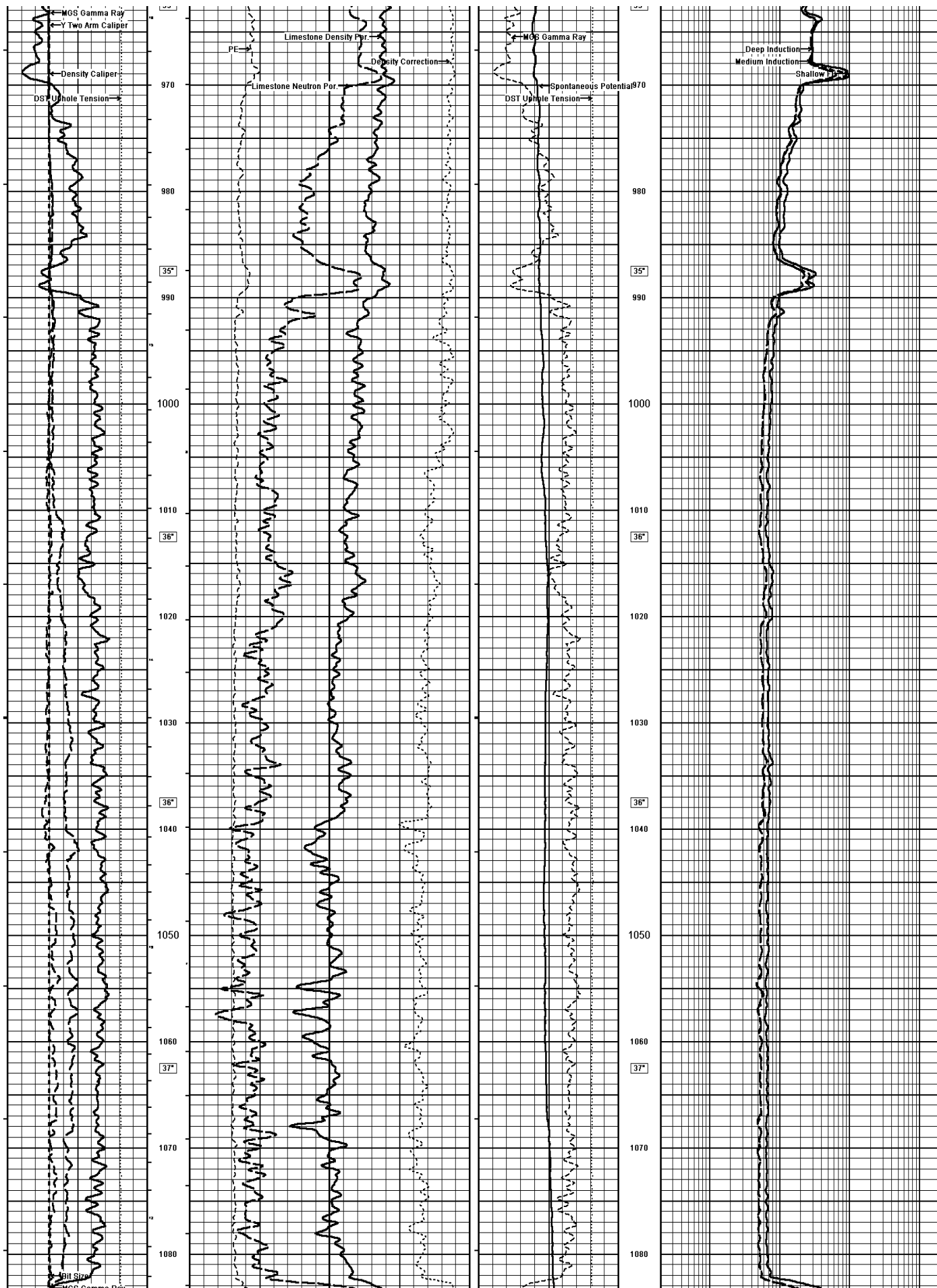




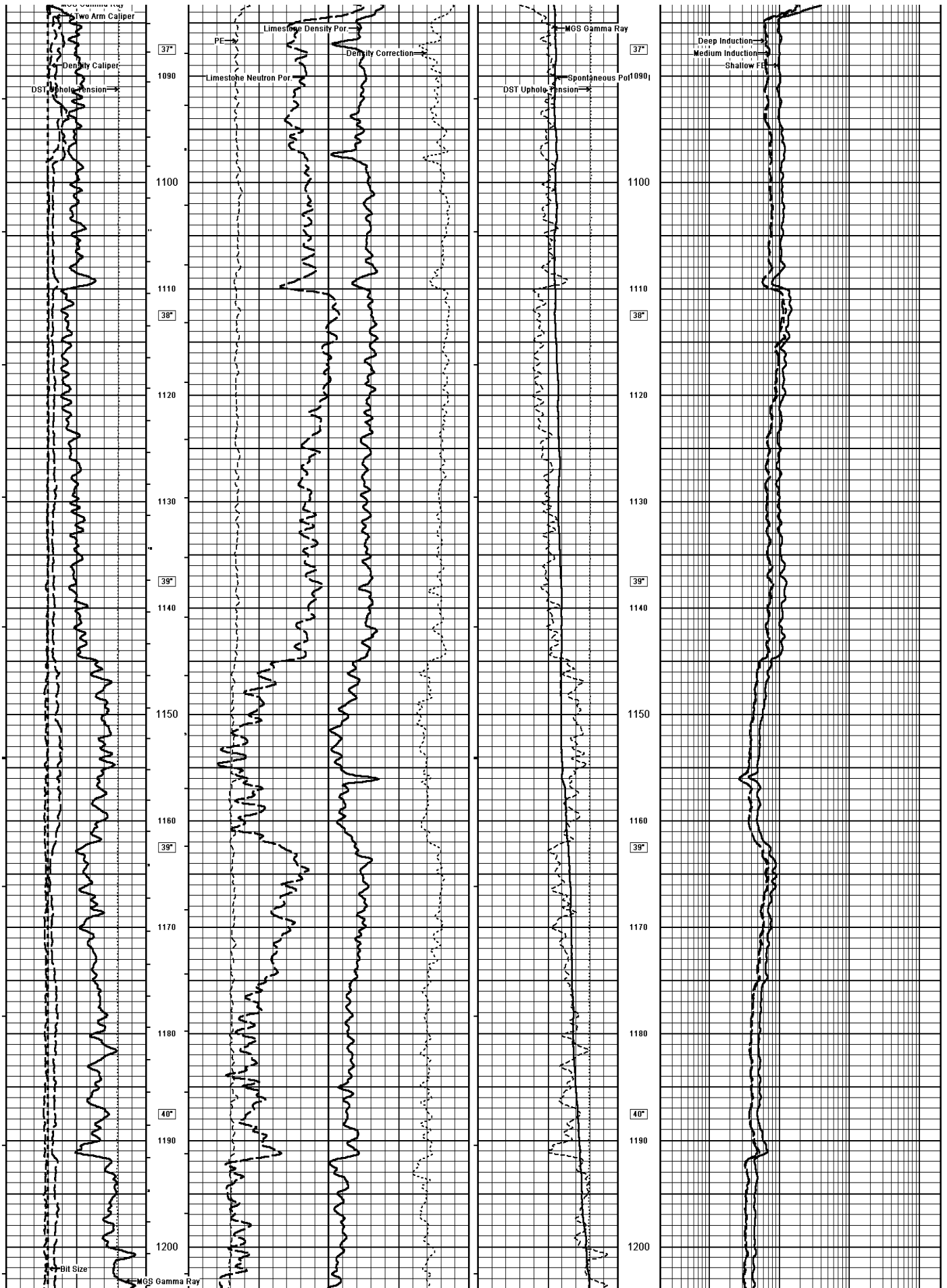


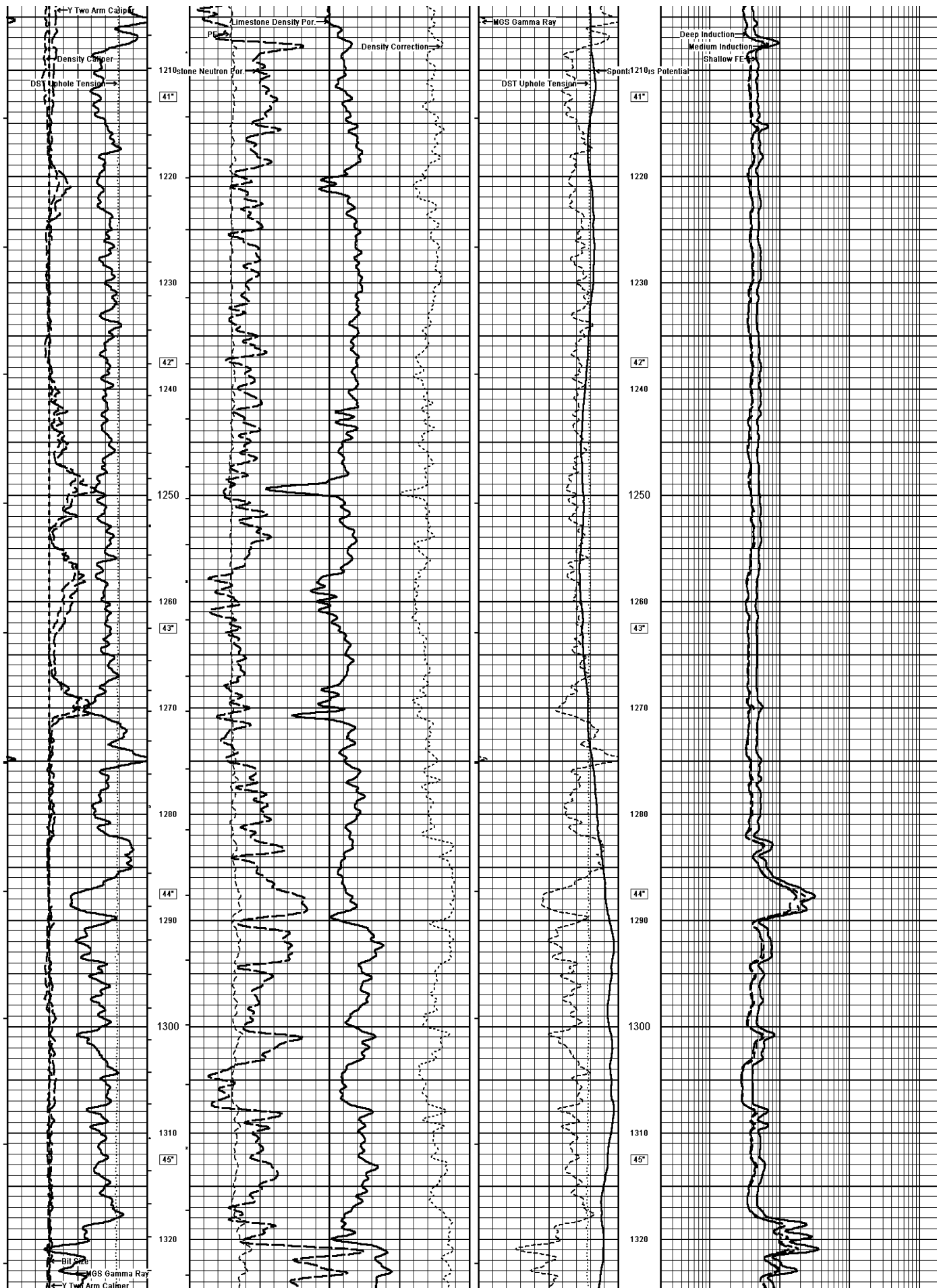


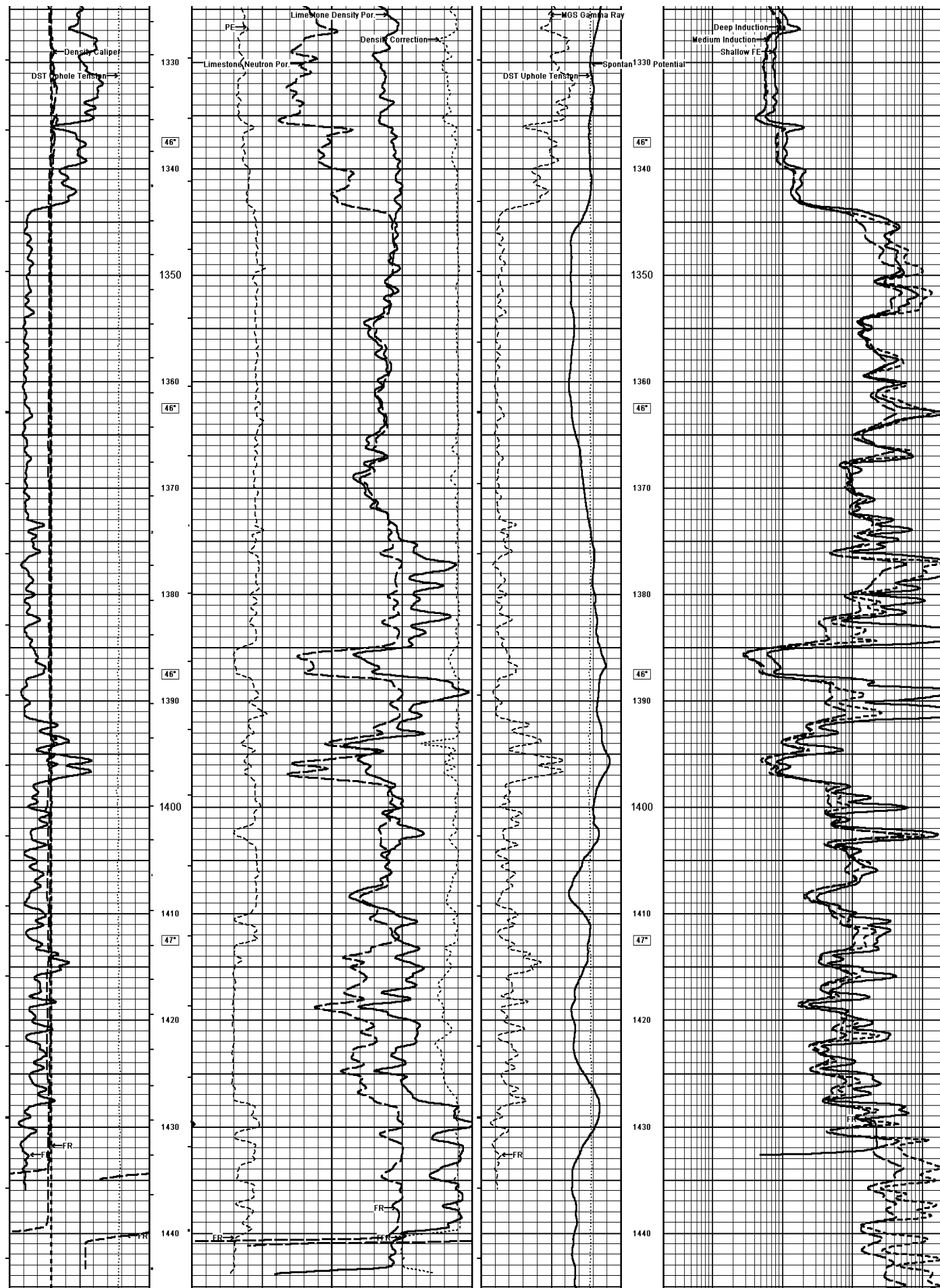


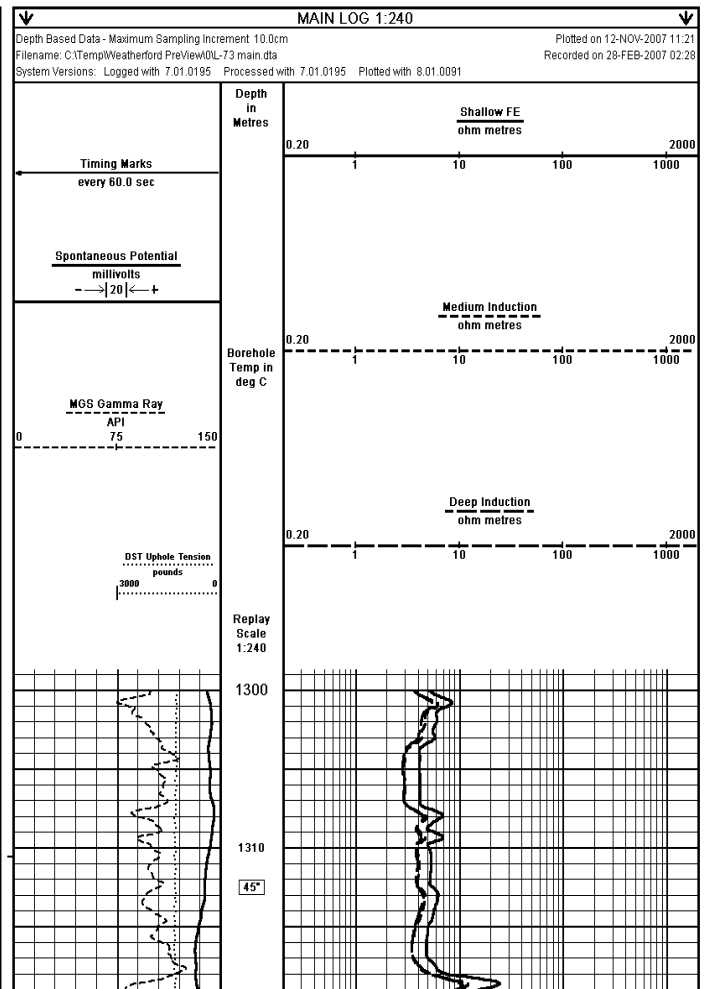
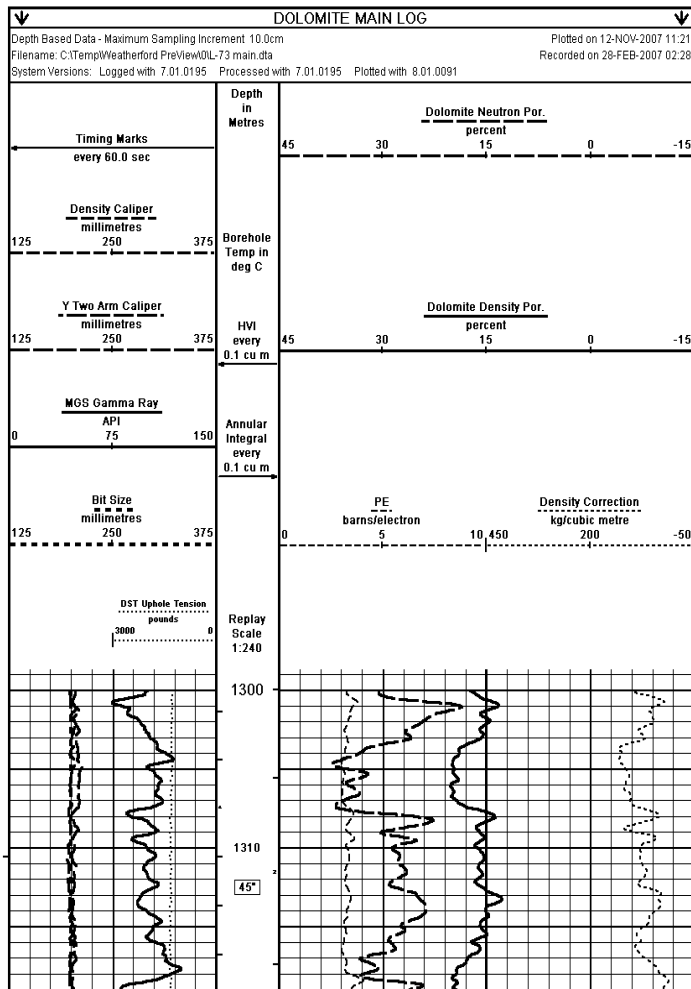
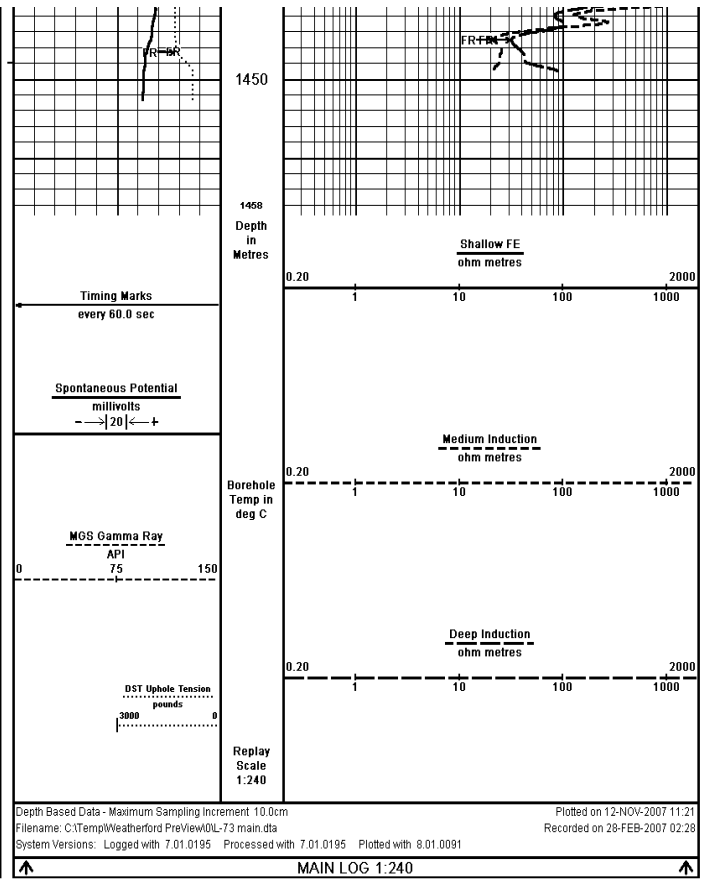
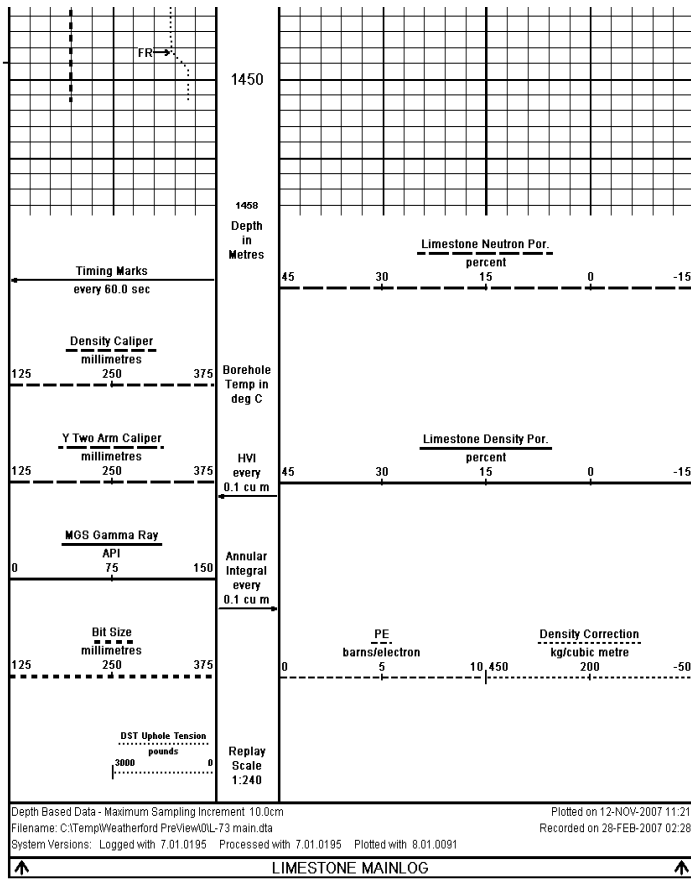


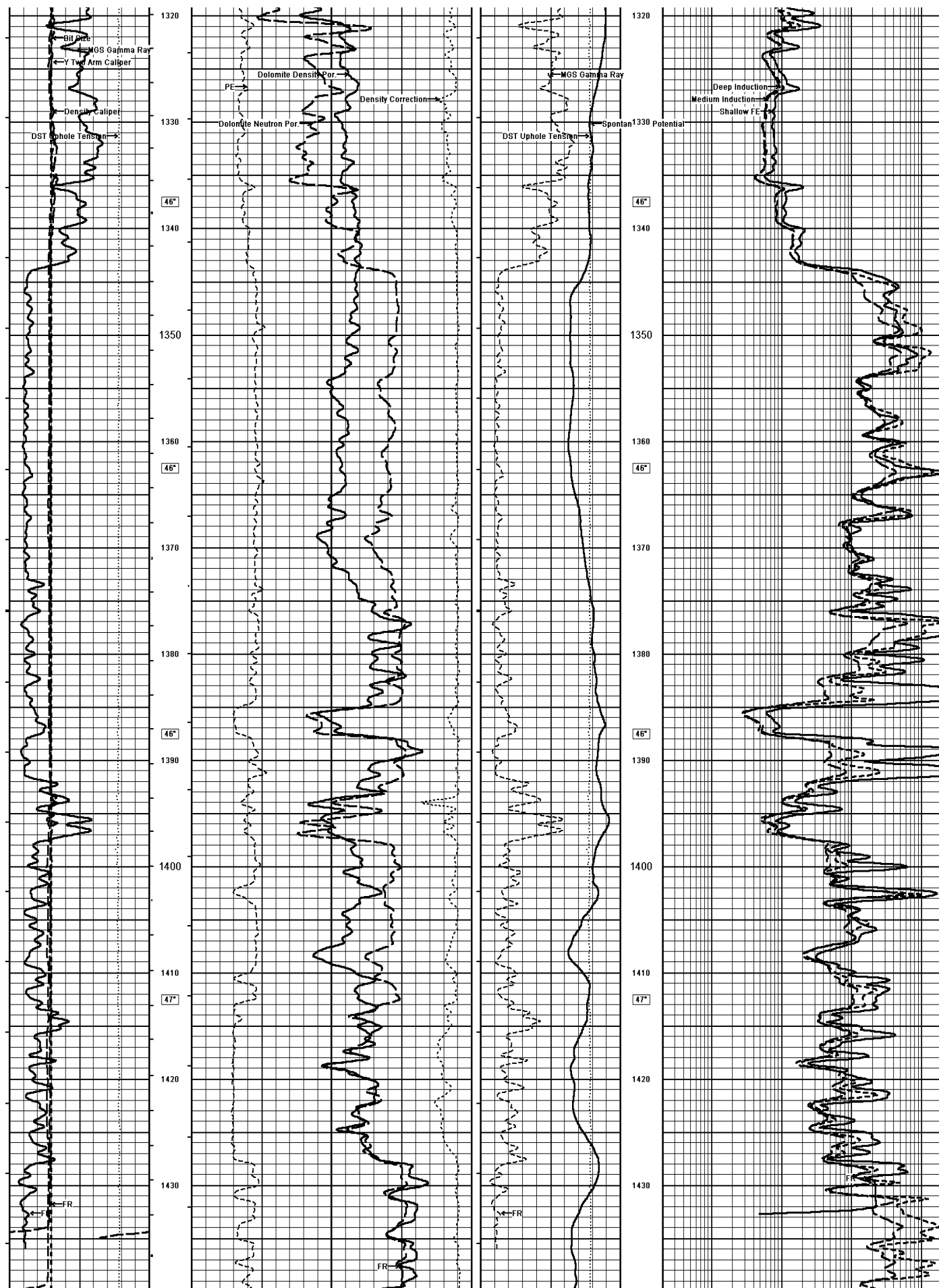


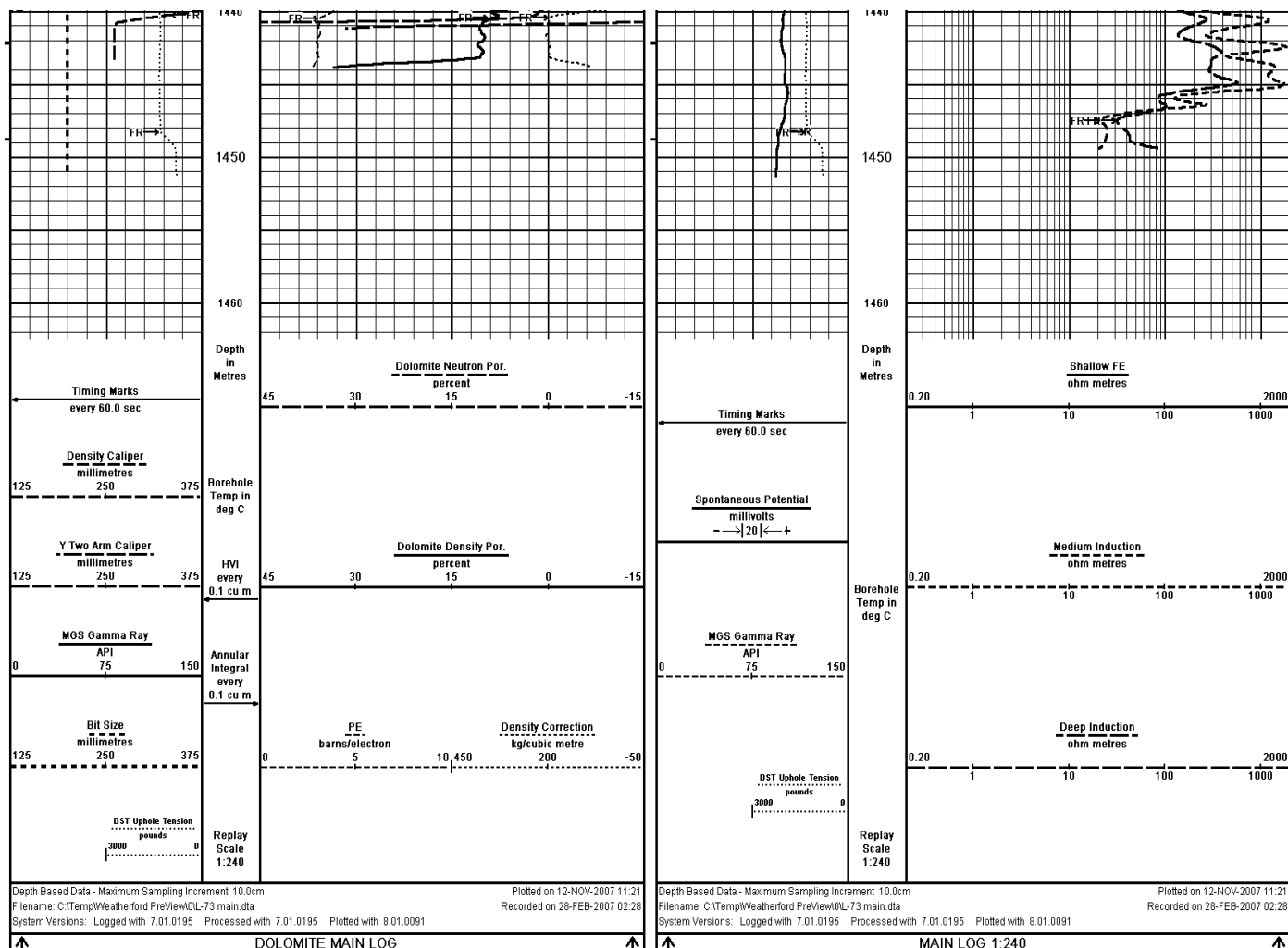












## BEFORE SURVEY CALIBRATION

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General Constants All 000

Last Edited on 28-FEB-2007,00:23

### General Parameters

Mud Resistivity	0.540	ohm-metres
Mud Resistivity Temperature	25.000	degrees C
Water Level	0.000	metres
Density/Neutron Processing	Wet Hole	

### Hole/Annular Volume and Differential Caliper Parameters

HVOL Caliper 1	Density Caliper	
HVOL Caliper 2	Y Two Arm Caliper	
Annular Volume Diameter	139.700	mm
Caliper for Differential Caliper	Density Caliper	

### Rwa Parameters

Porosity used	Base Density Porosity
Resistivity used	Deep Induction
RWA Constant A	0.610
RWA Constant M	2.150

### Gamma Calibration MCG 131

Field Calibration on 26-FEB-2007 10:56

	Measured	Calibrated (API)
Background	56	35

Calibrator (Gross)	1332	829	
Calibrator (Net)	1277	794	
Gamma Constants MCG 131			Last Edited on 27-FEB-2007,23:06
Gamma Calibrator Number	GRC 095		
Mud Density	1180.00	kg/m3	
Caliper Source for Processing	Density Caliper		
Tool Position	Centred		
Concentration of KCl	0.00	kppm	
SP Calibration MCG 131			Field Calibration on 24-FEB-2007 11:45
	Measured	Calibrated (mV)	
Reference 1	101.0	100.0	
Reference 2	-99.3	-100.0	
High Resolution Temperature Calibration MCG 131			Field Calibration on 15-DEC-2006,15:05
	Measured	Calibrated(Deg C)	
Lower	1.00	1.00	
Upper	10.00	10.00	
High Resolution Temperature Constants MCG 131			
Pre-filter Length	11		
FE Calibration MFE 111			Base Calibration on 15-FEB-2007 19:40 Field Check on 28-FEB-2007 00:16
Base Calibration			
	Measured	Calibrated (ohm-m)	
Reference 1	0.0	0.0	
Reference 2	983.2	126.8	
Base Check		278.8	
Field Check		279.0	
FE Constants MFE 111			Last Edited on 25-FEB-2007,03:56
Caliper Source for FE correction	Density Caliper		
Rm Source for FE correction	Temperature Corr		
Temp. for Rm Corr.	MCG External Temperature		
Stand-off	Centred	millimetres	
Caliper Calibration MTC 024			Base Calibration on 6-FEB-2007 10:21 Field Calibration on 28-FEB-2007,00:43
Base Calibration			
Reading No	Measured	Calibrator Size (mm)	
1	15472	110.00	
2	18252	162.00	
3	21045	212.00	
4	23841	262.00	
5	26691	311.00	
6	N/A	N/A	
Field Calibration			
	Measured Caliper (mm)	Actual Caliper (mm)	
	210.30	205.70	
Gamma Calibration MGS 029			Field Calibration on 20-FEB-2007,01:19
	Measured	Calibrated (API)	
Background	58	38	
Calibrator (Gross)	1286	832	
Calibrator (Net)	1228	794	



## Gamma Constants MGS 029

Last Edited on 27-FEB-2007,23:06

Gamma Calibrator Number	GRCC095	
Mud Density	1180.00	kg/m3
Caliper Source for Processing	Density Caliper	
Tool Position	Centred	
Concentration of KCl	0.00	kppm

## SP Calibration MGS 029

Field Calibration on 7-DEC-2006,17:01

	Measured	Calibrated (mV)
Reference 1	100.0	100.0
Reference 2	-100.0	-100.0

## High Resolution Temperature Calibration MGS 029

Field Calibration on 7-DEC-2006,17:01

	Measured	Calibrated(Deg C)
Lower	1.00	1.00
Upper	5.00	5.00

## High Resolution Temperature Constants MGS 029

Pre-filter Length	11
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## Micro Laterolog Constants MMR 031

Micro Laterolog K Factor	0.0128	
Standoff Offset	0.0000	inches

## Borehole Correction Constants

Mud Cake Source	Constant Value	
Mud Cake Thickness	0.4000	inches
Mud Cake Thickness Caliper	0	
Mud Cake Resistivity	0.1500	ohm-m

## Caliper Calibration MMR 031

Base Calibration on 27-FEB-2007,13:43

Field Calibration on 28-FEB-2007,00:43

## Base Calibration

Reading No	Measured	Calibrator Size (mm)
1	14876	162.00
2	17978	212.00
3	21602	262.00
4	24308	311.00
5	0	0.00
6	N/A	N/A

## Field Calibration

Measured Caliper (mm)	Actual Caliper (mm)
205.60	205.70

## Micro Normal and Micro Inverse Calibration MMR 031

Base Calibration on 27-FEB-2007,13:43

Field Check on 28-FEB-2007 00:34

## Base Calibration

		Measured	Calibrated (ohm-m)
Channel	Resistor 1	Resistor 2	Resistor 1 Resistor 2
Micro Normal	9.8	49.9	5.1 25.6
Micro Inverse	9.8	49.8	3.4 16.9

Channel	Base Check (ohm-m)	Field Check (ohm-m)
Micro Normal	94.7	92.9
Micro Inverse	61.6	61.6

## Micro Normal and Micro Inverse Constants MMR 031

Last Edited on 25-NOV-2006,14:14

Micro Normal K Factor	0.5110	
Micro Inverse K Factor	0.3380	
Standoff Offset	0.0000	millimetres

Standard Offset		0.0000		millimetres	
Neutron Calibration MDN 016				Base Calibration on 11-JAN-2007 20:47 Field Check on 27-FEB-2007 23:30	
Base Calibration					
		Measured		Calibrated (cps)	
	Near	Far	Near	Far	
	3219	98	3714	110	
Ratio	32.703		33.764		
Field Calibrator at Base					
			Calibrated (cps)		
			2486	3648	
Ratio			0.681		
Field Check					
			Calibrated (cps)		
			2568	3767	
Ratio			0.682		
Neutron Constants MDN 016				Last Edited on 25-FEB-2007,03:55	
Neutron Source Id		277			
Neutron Jig Number		N636			
Epithermal Neutron		No			
Caliper Source for Processing		Density Caliper			
Stand-off		0.00		mm	
Mud Density		1000.00		kg/m3	
Limestone Sigma		7.10		cu	
Sandstone Sigma		4.26		cu	
Dolomite Sigma		4.70		cu	
Formation Pressure Source		Constant Value			
Formation Pressure		0.00		kPa	
Temperature Source		Constant Value			
Temperature		20.00		degrees C	
Mud Salinity		0.00		kppm	
Formation Fluid Salinity Source		Constant Value			
Formation Fluid Salinity		0.00		kppm	
Barite Mud Correction		Not Applied			
Photo Density Calibration MPD 093				Base Calibration on 21-FEB-2007 18:37 Field Check on 27-FEB-2007 23:24	
Density Calibration					
Base Calibration					
		Measured		Calibrated (sdu)	
	Near	Far	Near	Far	
Reference 1	66461	35432	60352	31615	
Reference 2	27582	2460	25043	2540	
Field Check at Base					
	738.4	855.4			
Field Check					
	743.9	865.6			
PE Calibration					
Base Calibration					
	WS	Measured	Calibrated		
		WH	Ratio		
Background	135	656			
Reference 1	27020	66295	0.410	0.400	
Reference 2	7311	27477	0.268	0.272	
Field Check at Base					
	135.0	656.2			
Field Check					
	134.5	658.1			

## Density Constants MPD 093

Last Edited on 27-FEB-2007,23:07

Density Source Id	1615B	
Nylon Calibrator Number	608	
Aluminium/Fe Calibrator Number	608	
Density Shoe Profile	4 inch	
Caliper Source for Processing	Density Caliper	
PE Correction to Density	Not Applied	
Mud Density	1180.00	kg/m3
Mud Density Z/A Correction	1.11	
Mud Filtrate Density	1000.00	kg/m3
Dry Hole Mud Filtrate Density	1000.00	kg/m3
DNCT	0.00	kg/m3
CRCT	0.00	kg/m3
Density Z/A Correction	0	

Matrix Density (kg/m3)	Depth (m)
2710.00	
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

## Caliper Calibration MPD 093

 Base Calibration on 11-JAN-2007 21:58  
 Field Calibration on 28-FEB-2007,00:44

Base Calibration		
Reading No	Measured	Calibrator Size (mm)
1	15040	110.00
2	23085	162.00
3	31440	212.00
4	40233	262.00
5	49152	311.00
6	N/A	N/A

Field Calibration		
	Measured Caliper (mm)	Actual Caliper (mm)
	207.70	205.70

## Sonic Constants MSS 003

Last Edited on 27-FEB-2007,23:07

Maximum Boundary Contrast	328.08	micro-sec/m
Fluid Transit Time	620.08	micro-sec/m
Limestone Transit Time	155.84	micro-sec/m
Sandstone Transit Time	182.09	micro-sec/m
Dolomite Transit Time	142.72	micro-sec/m
Sonic used for Porosities	3-5' Compensated Sonic	
Correction for Sonde Skew	Applied	
Cycle Stretch Algorithm	Applied	
MN3FT	N/A	micro-sec
MX3FT	N/A	micro-sec
Hunt-Raymer Constant	0.00	0

## Fixed Gate Parameters

Start Time (micro-sec)	End Time (micro-sec)	Discriminator (mV)	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

## Down Hole Fixed Gate Parameters

Gate Start	N/A	micro-sec
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Gate Start	N/A	micro-sec
Gate Width	N/A	micro-sec
Initial Discriminator Level	0.0000	mVolts
Full Waveform Parameters		
Use 3' Waveform to derive TR	N/A	
Use 4' Waveform to derive TR	N/A	
Use 5' Waveform to derive TR	N/A	
Use 6' Waveform to derive TR	N/A	
3' Waveform Discriminator Level	N/A	mV
4' Waveform Discriminator Level	N/A	mV
5' Waveform Discriminator Level	N/A	mV
6' Waveform Discriminator Level	N/A	mV
3' Waveform Filter	N/A	
4' Waveform Filter	N/A	
5' Waveform Filter	N/A	
6' Waveform Filter	N/A	
Semblance Level	N/A	
Semblance Window Width	N/A	micro-sec
Sonic 1 Despiker	N/A	N/A
Sonic 2 Despiker	N/A	N/A
Induction Calibration MAI 154		
		Base Calibration on 14-JAN-2007 01:38
		Field Check on 28-FEB-2007 00:33
Base Calibration		
Test Loop Calibration	Measured	Calibrated (mmho/m)
Channel	Low High	Low High
1	16.6 470.6	9.3 966.2
2	6.3 383.0	7.6 821.4
3	4.0 264.7	5.2 566.0
4	2.3 136.2	2.6 279.2
Array Temperature	22.3	Deg C
Channel	Base Check (mmho/m)	Field Check (mmho/m)
	Low High	Low High
1	13.1 3867.2	15.3 3866.9
2	29.6 3530.7	30.2 3528.9
3	26.8 3001.8	27.1 2999.9
4	18.4 2040.8	18.6 2039.5
Deep	15.3 1926.8	15.7 1925.6
Medium	39.6 3962.8	39.7 3960.1
Shallow	45.8 5270.7	46.6 5268.1
Array Temperature	12.1	28.0 Deg C
Induction Constants MAI 154		
		Last Edited on 27-FEB-2007,23:07
Induction Model	VECTAR	
Caliper for Borehole Corr.	Density Caliper	
Hole Size for Borehole Correction	N/A	millimetres
Stand-off	25.40	millimetres
Number of Fins on Stand-off	5.0000	
Stand-off Fin Width	25.4000	millimetres
Borehole Corr. Rm Source	Temperature Corr	
Temp. for Rm Corr.	MCG External Temperature	
Squasher Start	0.0020	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

#### High Resolution Temperature Calibration MAI 154

Field Calibration on 16-DEC-2006,08:07

	Measured	Calibrated(Deg C)
Lower	1.00	1.00
Upper	10.00	10.00

#### High Resolution Temperature Constants MAI 154

Pre-filter Length	11
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### DOWNHOLE EQUIPMENT

C:\Temp\Weatherford PreView\01L-73 main.dta

Compact Gamma  
MCG 131 Length: 2.65 m

Weight: 63.9 lb

20.98 m GRGC - Gamma Ray  
20.10 m CGXT - MCG External Temperature

Compact Focused Electric  
MFE 111 Length: 1.84 m

Weight: 48.5 lb

18.98 m FEFE - Shallow FE

Compact Two Arm Caliper  
MTC 24 Length: 2.17 m

Weight: 61.7 lb

16.53 m CLYC - Y Two Arm Caliper

Compact Short Gamma  
MGS 29 Length: 1.04 m

Weight: 24.3 lb

15.66 m GRGM - MGS Gamma Ray

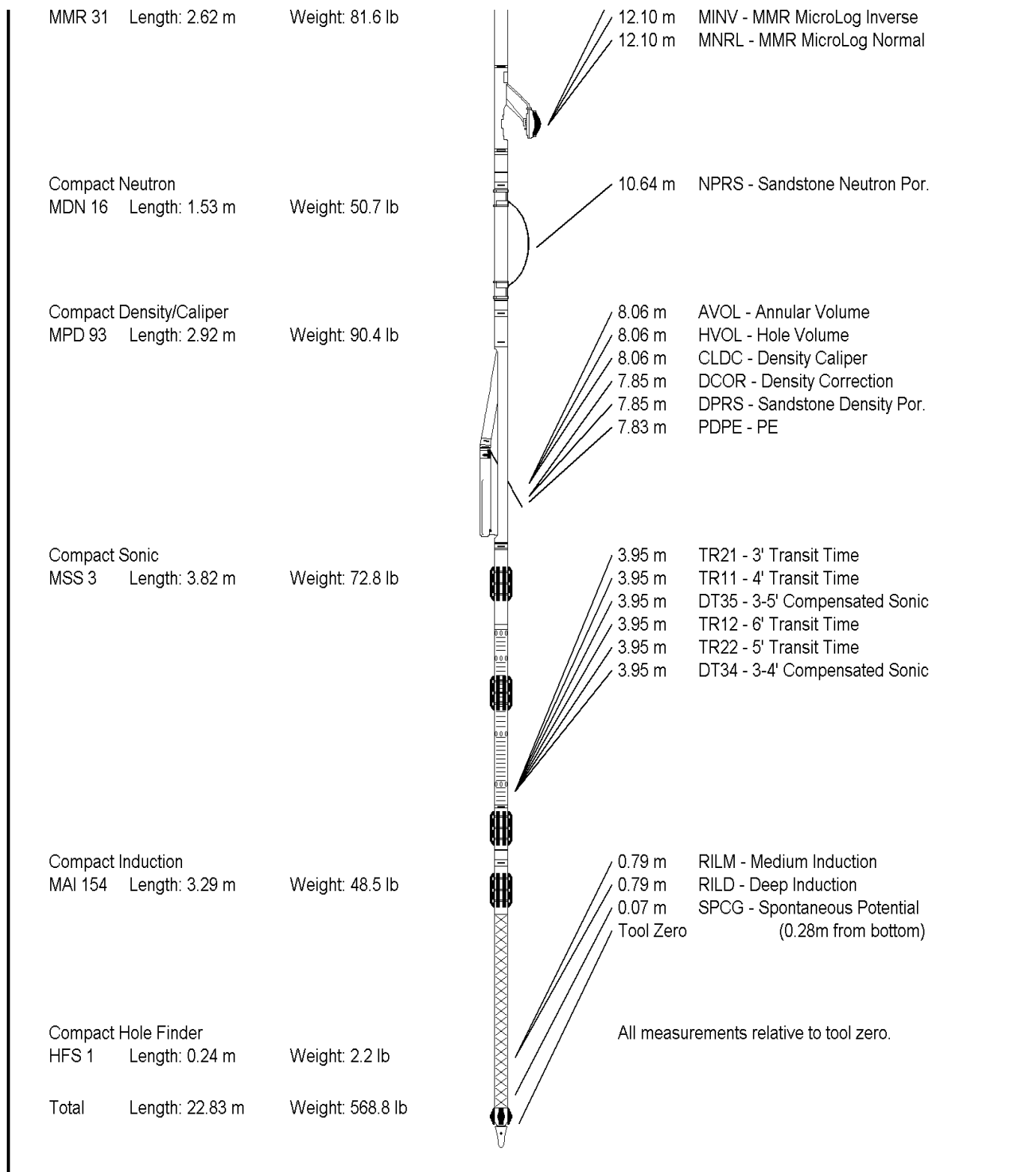
Compact InterSonde Crank  
ISC 151 Length: 0.71 m

Weight: 24.3 lb

Compact Micro-Resistivity

12.10 m MBTC - MMR Caliper





COMPANY	PARAMOUNT RESOURCES LTD				
WELL	PARA ET AL CAMERON L-73				
FIELD	CAMERON HILLS				
PROVINCE/COUNTY	NORTHWEST TERRITORIES				
COUNTRY/STATE	CANADA				
Elevation Kelly Bushing	774.80	metres	First Reading	1447.50	metre
Elevation Drill Floor		metres	Depth Driller	1450.00	metres

Elevation Dm 1100		metres	Depth Dm 1100	1400.00	metres
Elevation Ground Level	770.80	metres	Depth Logger	1448.60	metres



**Weatherford®**

MINI PLOT





# MICROLOG

COMPANY		PARAMOUNT RESOURCES LTD	
WELL		PARA ET AL CAMERON L-73	
FIELD		CAMERON HILLS	
PROVINCE/COUNTY		NORTHWEST TERRITORIES	
COUNTRY/STATE		CANADA	
LOCATION		300/L-73-60-10-117-15	
LSD	SEC	TWP	RGE
API Number		Other Services	
Permit Number 1159		PHOTO DENSITY	
		DUAL SPACED NEUTRON	
		COMPENSATED SONIC	
		XY CALIPERS	
Permanent Datum GROUND LEVEL, Elevation 770.8 metres		Elevations: metres	
Log Measured From 4.0 M above Permanent Datum		KB 774.80	
Drilling Measured From KELLY BUSHING		DF	
		GL 770.80	
Date	27-FEB-2007		
Run Number	1		
Depth Driller	1450.00	metres	
Depth Logger	1448.60	metres	
First Reading	1436.20	metre	
Last Reading	1300.00	metre	
Casing Driller	436.00	metres	
Casing Logger	435.00	metres	
Bit Size	200.00	mm	
Hole Fluid Type	GELCHEM		
Density / Viscosity	1180.0 kg/M3	85.00 sec/L	
PH / Fluid Loss	10.00	8.00 ml/30Min	
Sample Source	FLOWLINE		
Rm @ Measured Temp	0.54 @ 25.0	ohm-m	
Rmf @ Measured Temp	0.41 @ 25.0	ohm-m	
Rmc @ Measured Temp	0.63 @ 25.0	ohm-m	
Source Rmf / Rmc	PRESS	FILTER	
Rm @ BHT	0.36 @ 47.0	ohm-m	
Time Since Circulation	8.5 HRS		
Max Recorded Temp	47.00	deg C	
Equipment Name	13132		
Equipment / Base	QUINT	GPR	
Recorded By	L. SUTHERLAND		
Witnessed By	A. AHMED		
CIRC STOP	05:30 FEB 27	Last Line	

## BOREHOLE RECORD

Bit Size millimetres	Depth From metres		Depth To metres
	311.000	0.00	
	200.000	436.00	

## CASING RECORD

Type	Size millimetres	Depth From metres		Shoe Depth metres	Weight pounds/ft
		219.100	0.00		
SURFACE				436.00	35.70

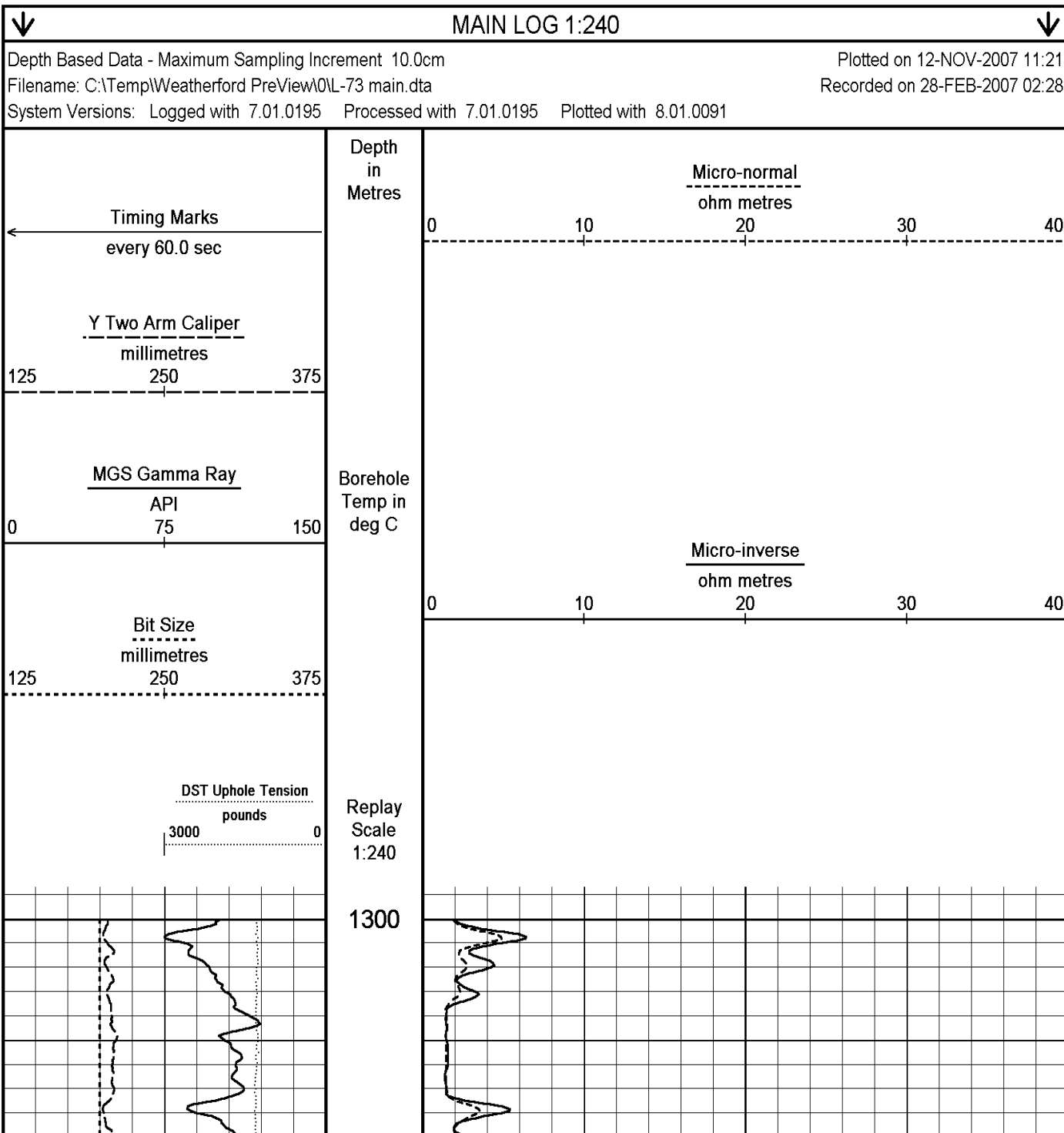
## REMARKS

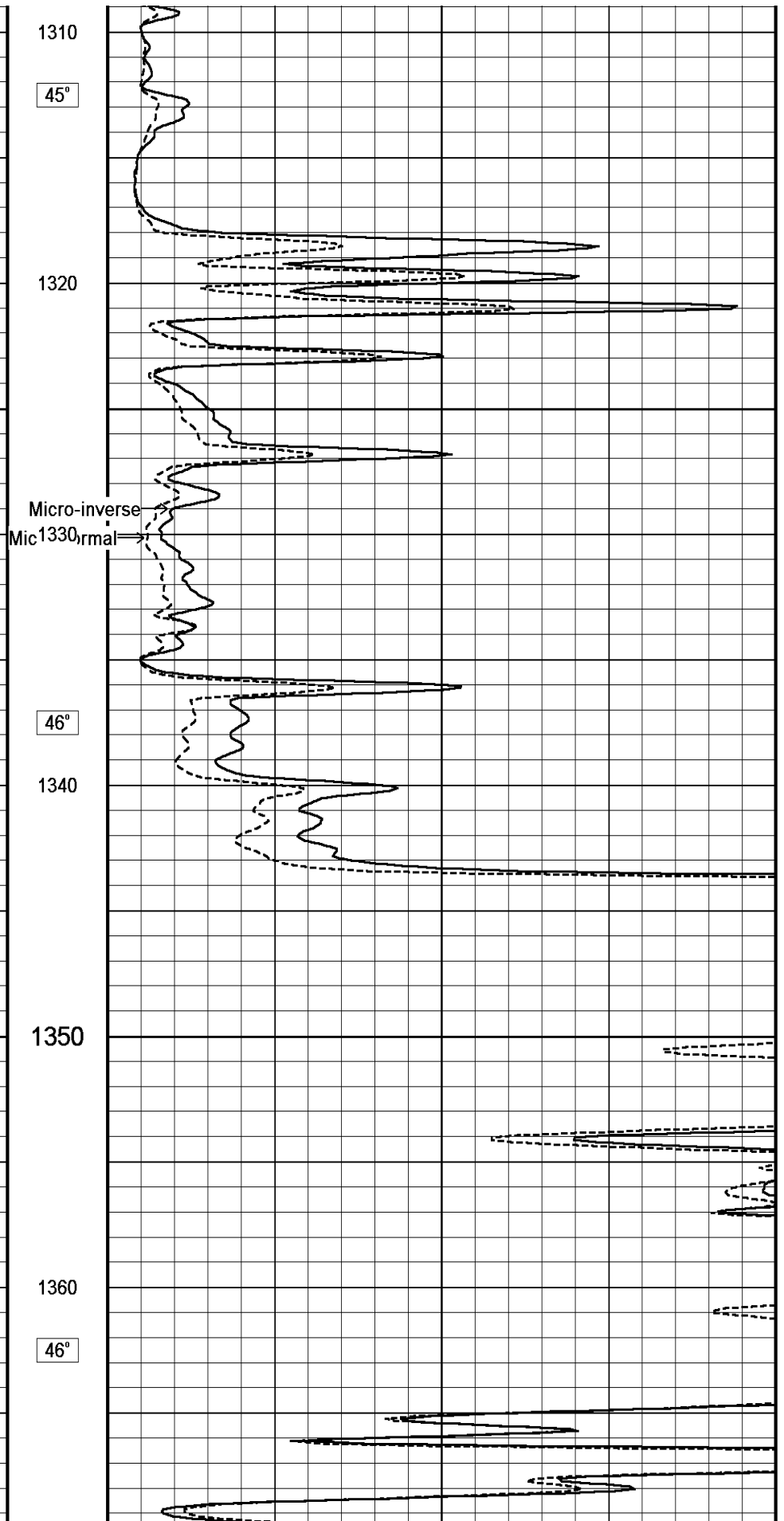
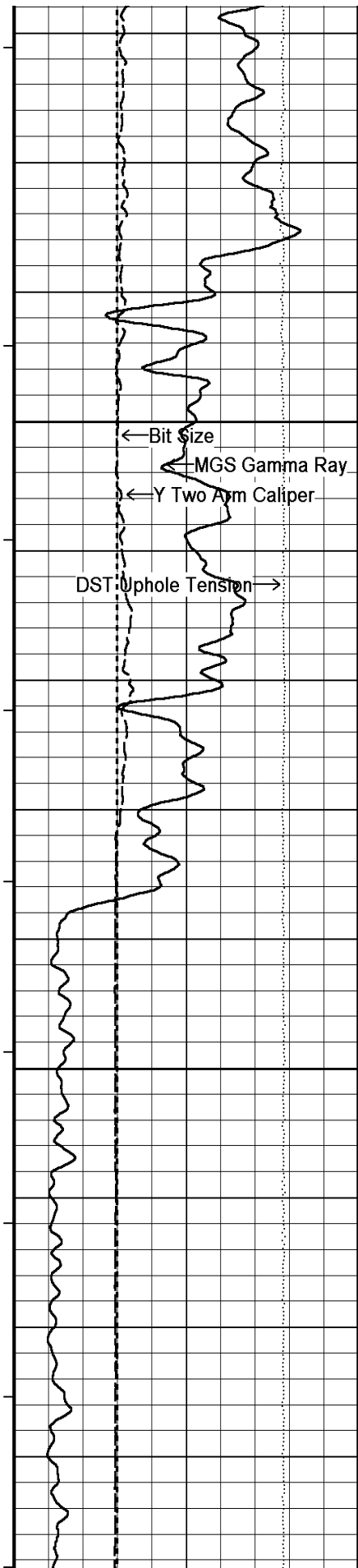
- 1) SOFTWARE ISSUE: WLS 7.01.0195
- 2) CUSTOMER SCALES AND INTERVALS LOGGED.
- 3) MAI, MSS, MPD, MDN, MML, ISC, MGS, MTC, MFE, MCG RAN IN COMBINATION.
- 4) HARDWARE: MAI: TWO 25.4 MM STANDOFFS  
MSS: THREE 25.4 MM STANDOFFS  
MDN: DUAL NEUTRON BOWSPRING  
MTC: ONE SIX-LEAF CENTRALIZER

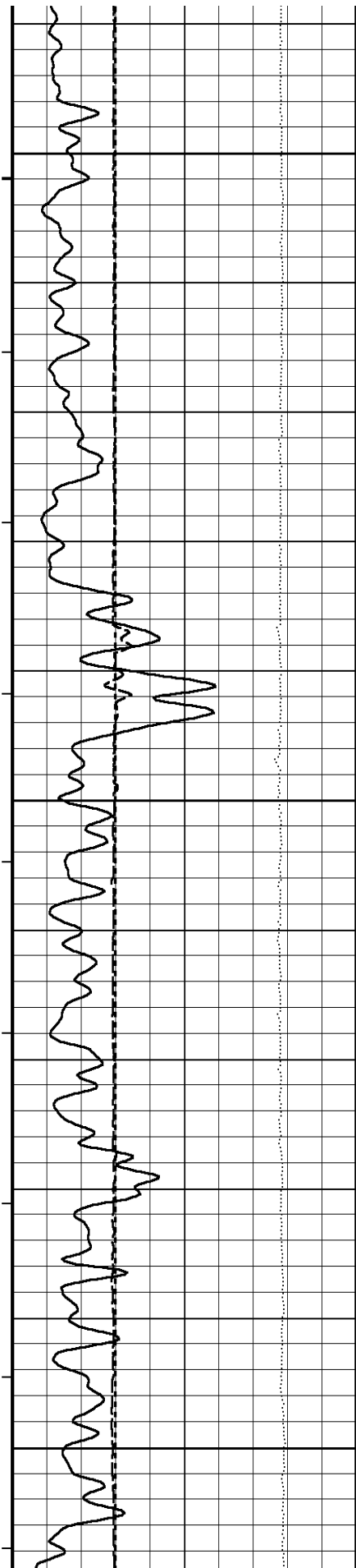
- 5) SAP# 4147855 FIELD TICKET # 30074798
- 6) # FIELD PRINTS = 3 # FINAL PRINTS = UNKNOWN

- 7) RIG: PD # 129
- 8) HOLE \_CEMENT VOLUMES CALCULATED USING DENSITY CALIPER AND TWO ARM CALIPER IN COMBINATION :  
 HOLE VOLUME = 36.05 CU.M.  
 ANNULAR VOLUME USING 139.7 MM PRODUCTION CASING = 20.65 CU.M
- 9) AREAS OF BOREHOLE RUGOSITY MAY CAUSE POOR DENSITY PAD CONTACT RESULTING IN HIGH DENSITY CORRECTION AND  
 THUS INVALID DENSITY POROSITY DATA AT THOSE INTERVALS.
- 10) SONIC FREE PIPE: 378M

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.







1370

1380

46°

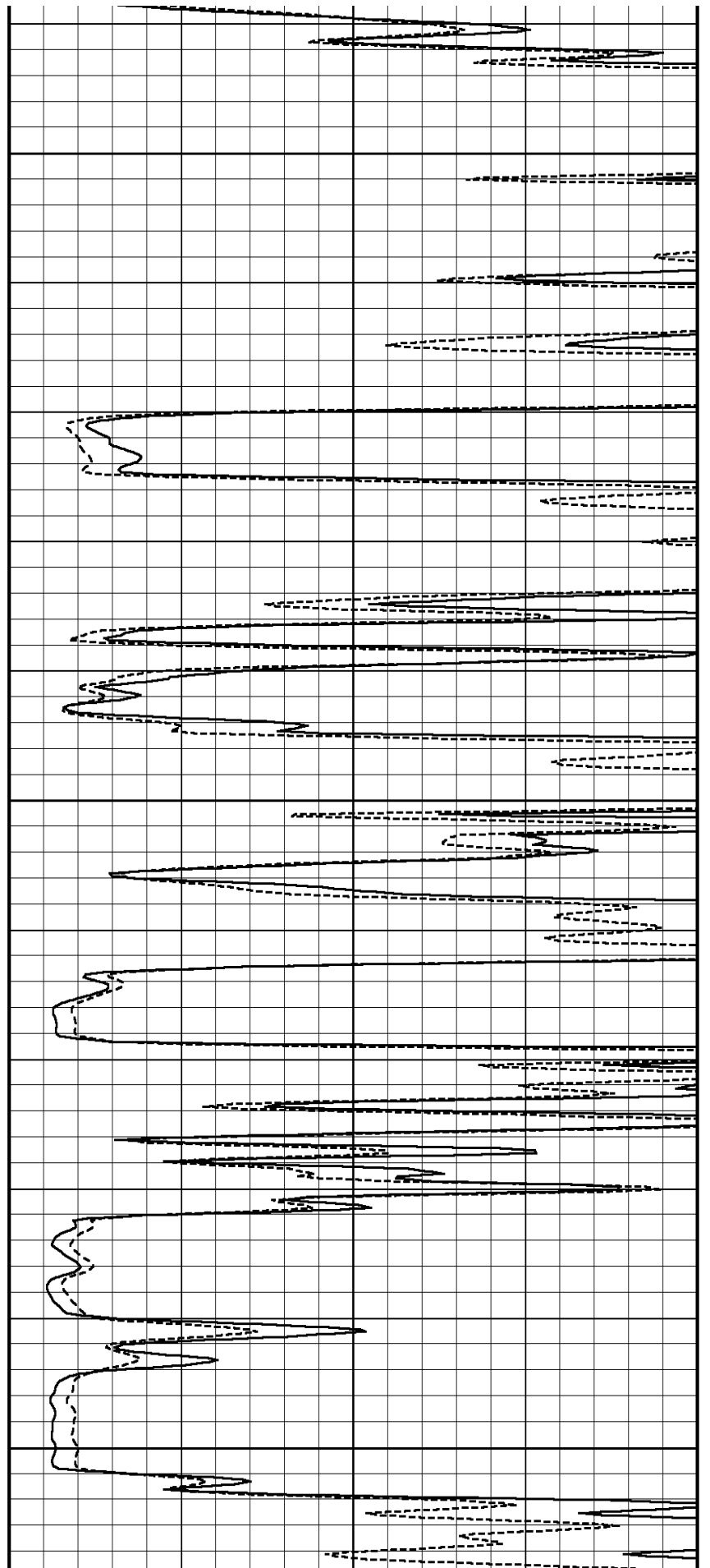
1390

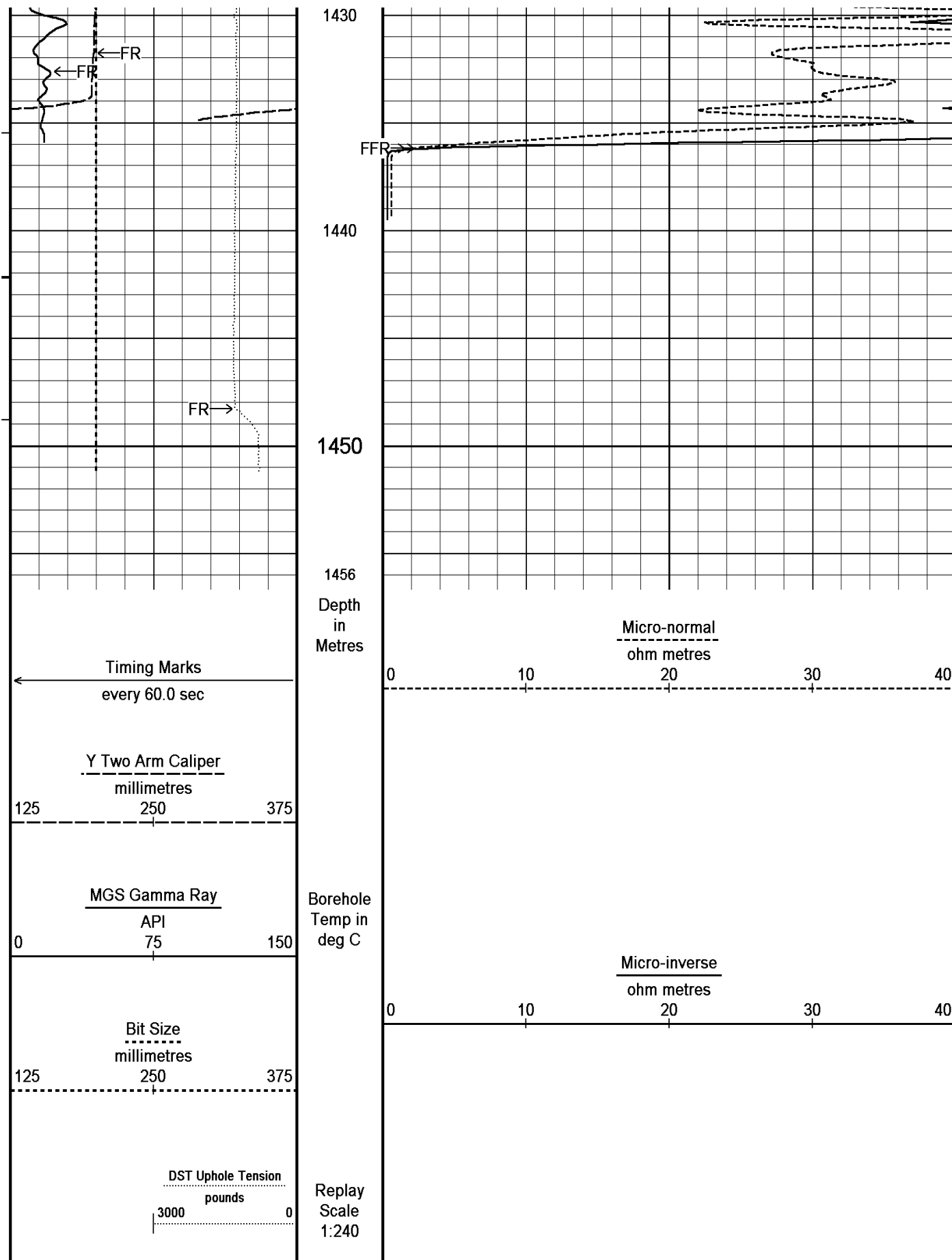
1400

1410

47°

1420





↑ MAIN LOG 1:240 ↑

↓ REPEAT SECTION ↓

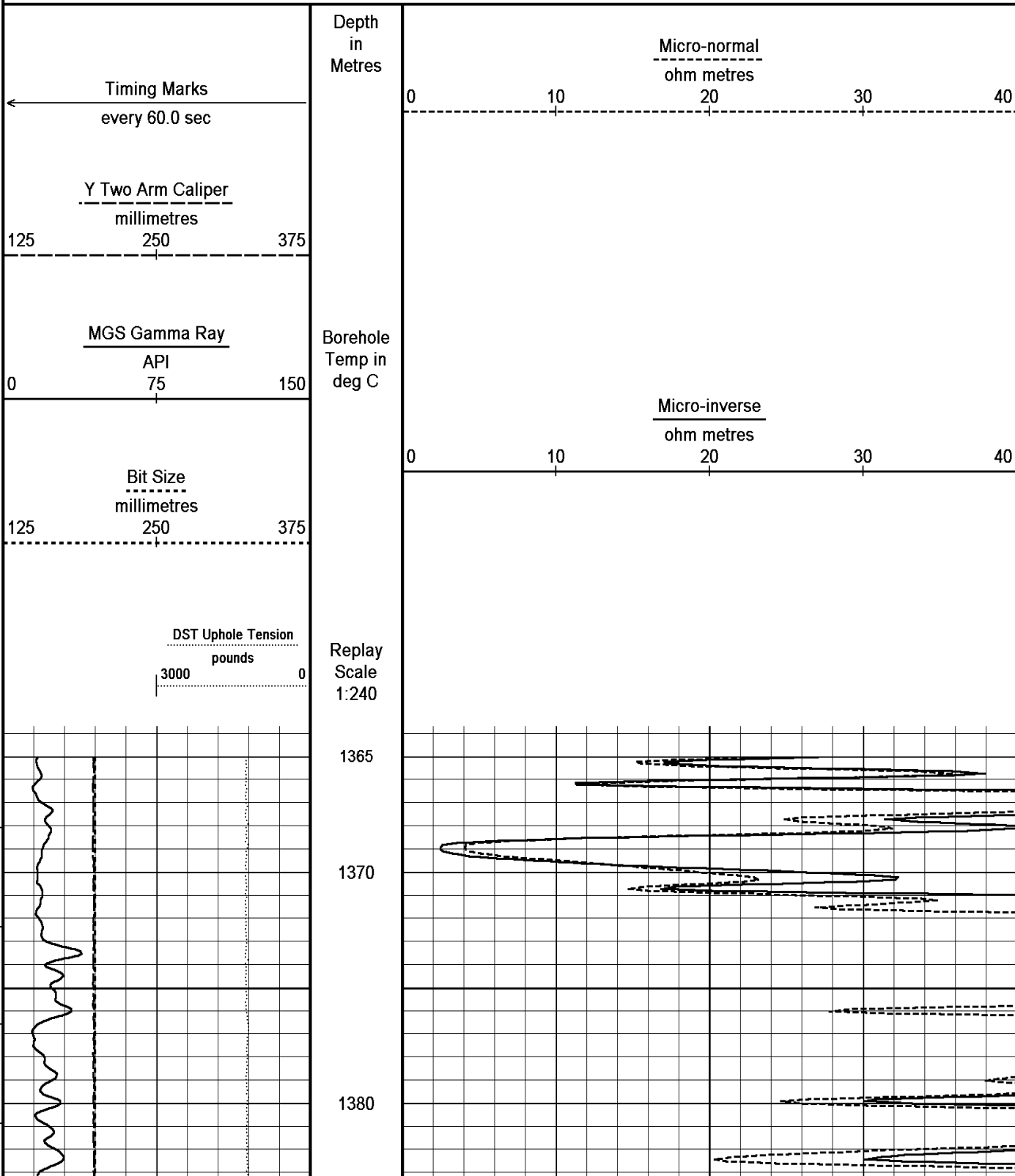
Depth Based Data - Maximum Sampling Increment 10.0cm

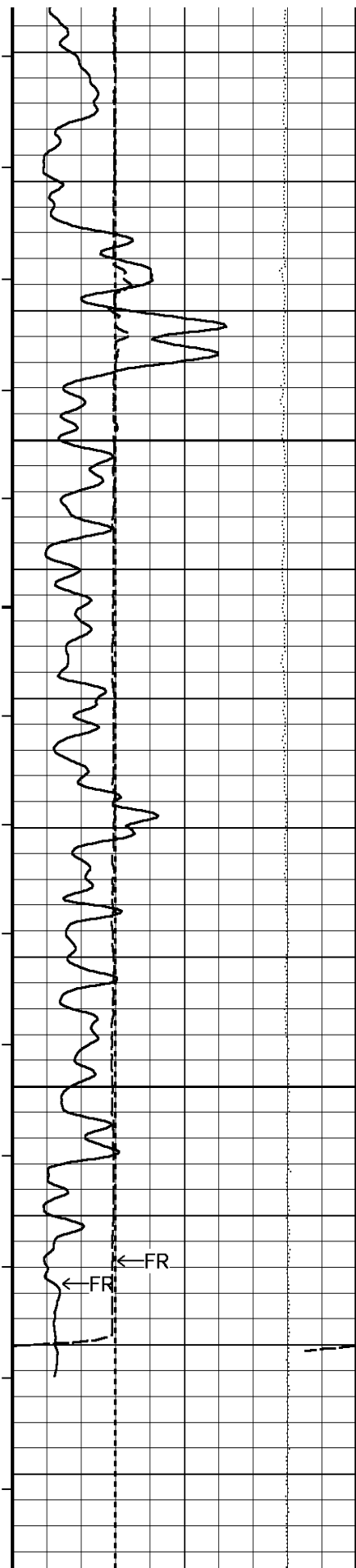
Plotted on 12-NOV-2007 11:21

Filename: C:\Temp\Weatherford PreView\0\VL-73 rpt.dta

Recorded on 28-FEB-2007 01:43

System Versions: Logged with 7.01.0195 Processed with 7.01.0195 Plotted with 8.01.0091





45°

1390

1400

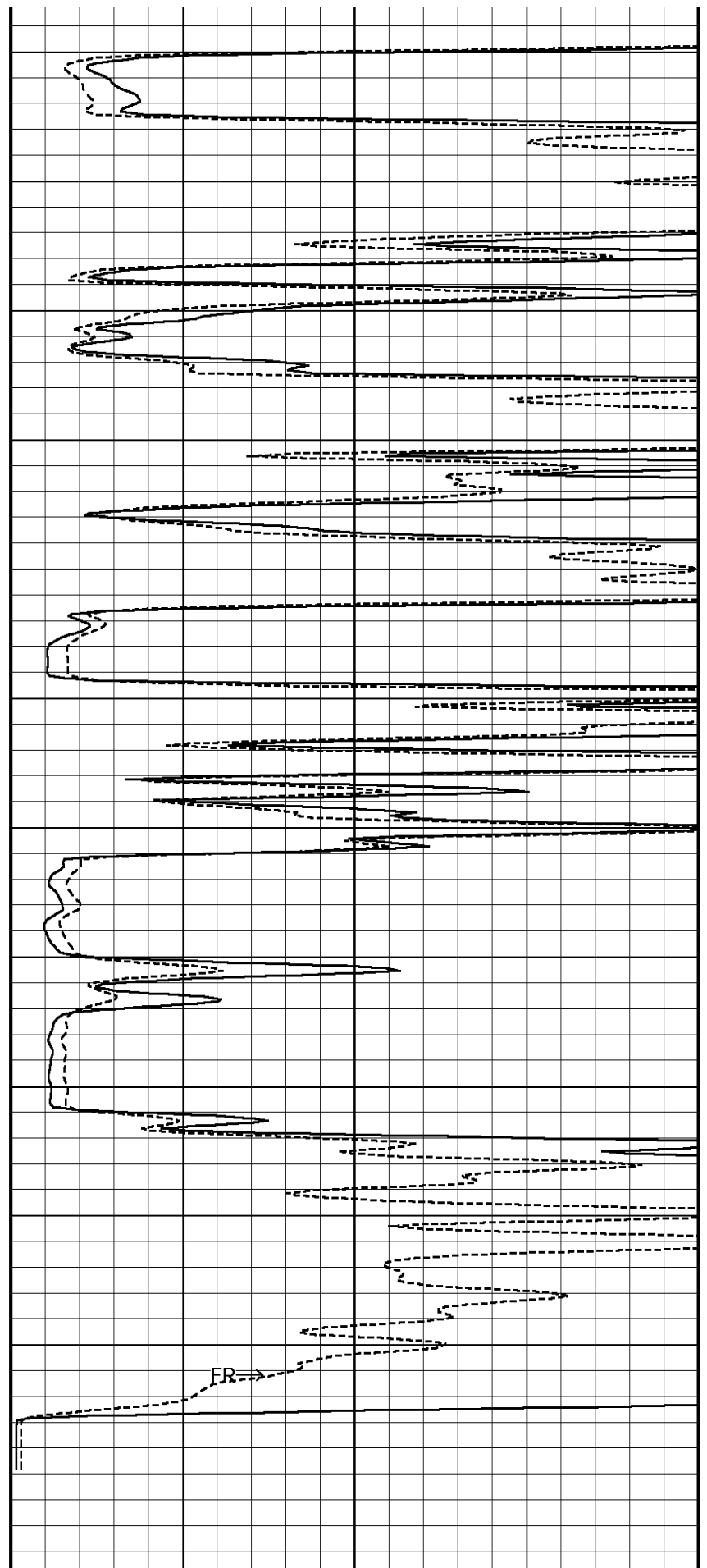
1410

46°

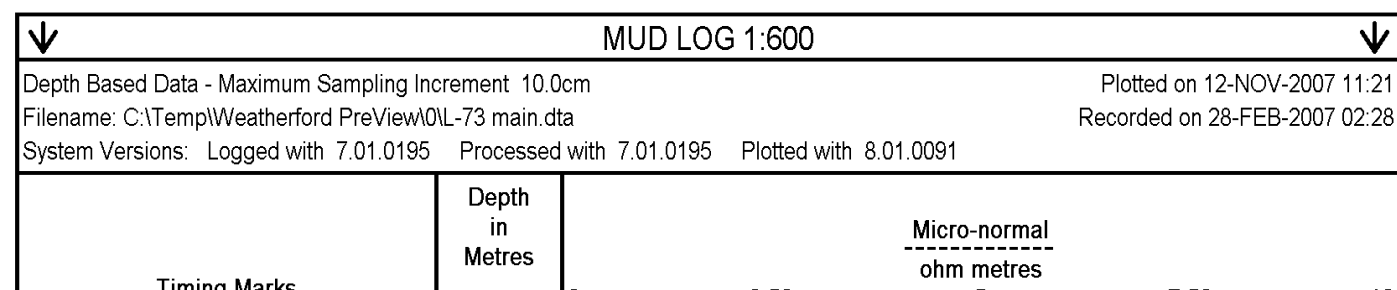
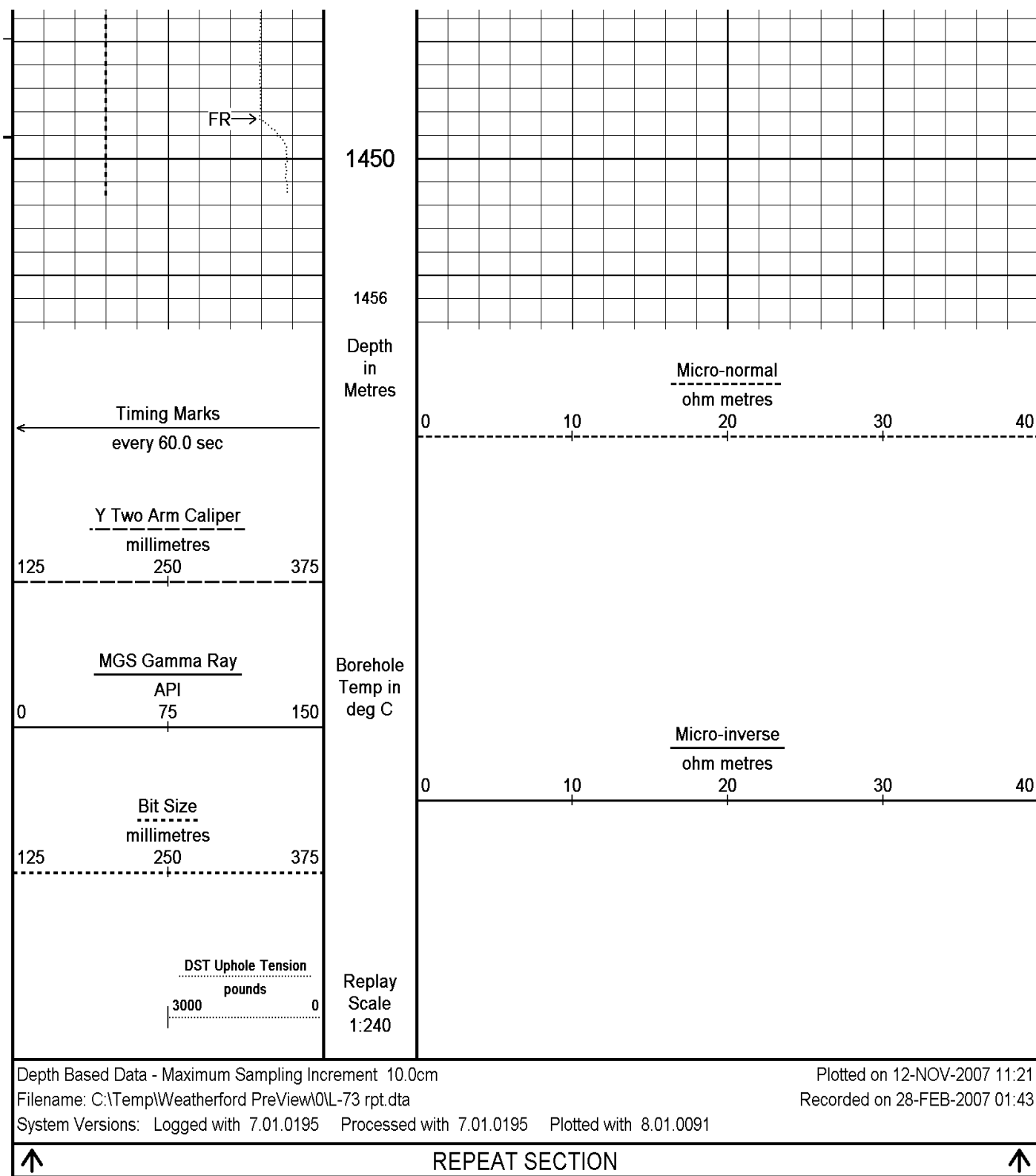
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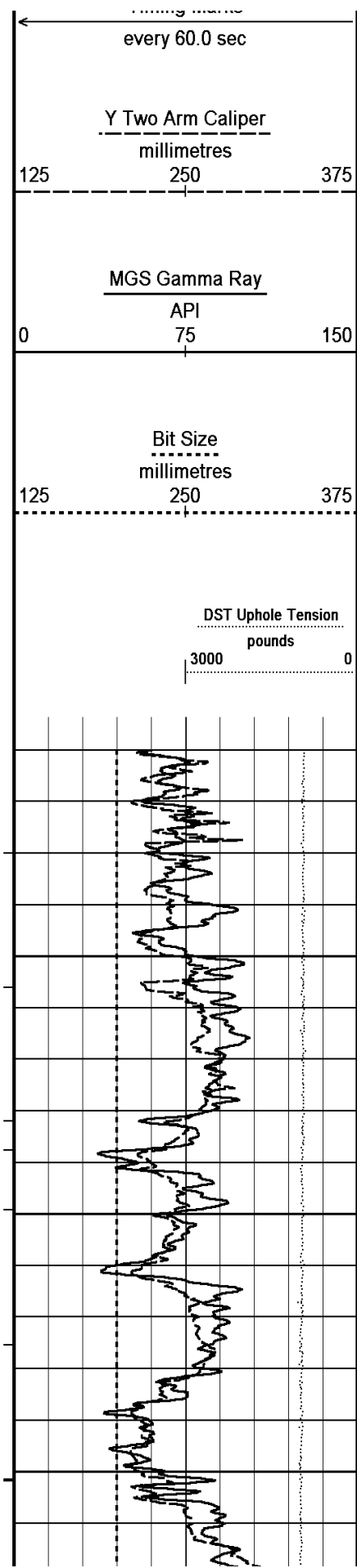
1430

1440









Borehole  
Temp in  
deg C

Replay  
Scale  
1:600

728

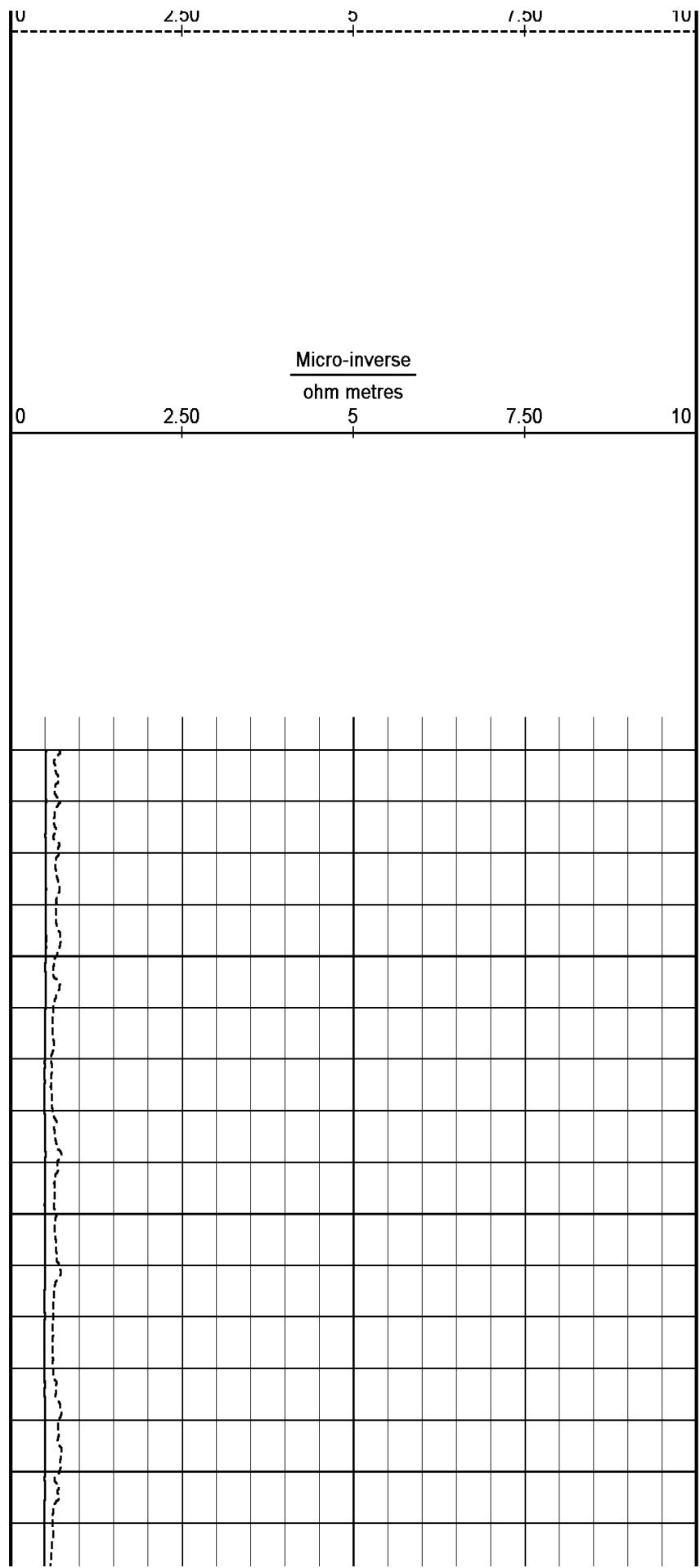
31°

750

31°

32°

800





Water Level	0.000	metres
Density/Neutron Processing	Wet Hole	
Hole/Annular Volume and Differential Caliper Parameters		
HVOL Caliper 1	Density Caliper	
HVOL Caliper 2	Y Two Arm Caliper	
Annular Volume Diameter	139.700	mm
Caliper for Differential Caliper	Density Caliper	
Rwa Parameters		
Porosity used	Base Density Porosity	
Resistivity used	Deep Induction	
RWA Constant A	0.610	
RWA Constant M	2.150	
Gamma Calibration MCG 131		
	Measured	Calibrated (API)
Background	56	35
Calibrator (Gross)	1332	829
Calibrator (Net)	1277	794
Field Calibration on 26-FEB-2007 10:56		
Gamma Constants MCG 131		
Last Edited on 27-FEB-2007,23:06		
Gamma Calibrator Number	GRC 095	
Mud Density	1180.00	kg/m3
Caliper Source for Processing	Density Caliper	
Tool Position	Centred	
Concentration of KCl	0.00	kppm
SP Calibration MCG 131		
Field Calibration on 24-FEB-2007 11:45		
	Measured	Calibrated (mV)
Reference 1	101.0	100.0
Reference 2	-99.3	-100.0
High Resolution Temperature Calibration MCG 131		
Field Calibration on 15-DEC-2006,15:05		
	Measured	Calibrated(Deg C)
Lower	1.00	1.00
Upper	10.00	10.00
High Resolution Temperature Constants MCG 131		
Pre-filter Length	11	
FE Calibration MFE 111		
Base Calibration on 15-FEB-2007 19:40		
Field Check on 28-FEB-2007 00:16		
Base Calibration		
	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	983.2	126.8
Base Check		278.8
Field Check		279.0
FE Constants MFE 111		
Last Edited on 25-FEB-2007,03:56		
Caliper Source for FE correction	Density Caliper	
Rm Source for FE correction	Temperature Corr	
Temp. for Rm Corr.	MCG External Temperature	
Stand-off	Centred	millimetres
Caliper Calibration MTC 024		
Base Calibration on 6-FEB-2007 10:21		
Field Calibration on 28-FEB-2007,00:43		
Base Calibration		

Base Calibration		
Reading No	Measured	Calibrator Size (mm)
1	15472	110.00
2	18252	162.00
3	21045	212.00
4	23841	262.00
5	26691	311.00
6	N/A	N/A
Field Calibration		
	Measured Caliper (mm)	Actual Caliper (mm)
	210.30	205.70

Gamma Calibration MGS 029			Field Calibration on 20-FEB-2007,01:19
	Measured	Calibrated (API)	
Background	58	38	
Calibrator (Gross)	1286	832	
Calibrator (Net)	1228	794	

Gamma Constants MGS 029			Last Edited on 27-FEB-2007,23:06
Gamma Calibrator Number	GRCC095		
Mud Density	1180.00	kg/m3	
Caliper Source for Processing	Density Caliper		
Tool Position	Centred		
Concentration of KCl	0.00	kppm	

SP Calibration MGS 029			Field Calibration on 7-DEC-2006,17:01
	Measured	Calibrated (mV)	
Reference 1	100.0	100.0	
Reference 2	-100.0	-100.0	

High Resolution Temperature Calibration MGS 029			Field Calibration on 7-DEC-2006,17:01
	Measured	Calibrated(Deg C)	
Lower	1.00	1.00	
Upper	5.00	5.00	

High Resolution Temperature Constants MGS 029		
Pre-filter Length	11	

Micro Laterolog Constants MMR 031		
Micro Laterolog K Factor	0.0128	
Standoff Offset	0.0000	inches
Borehole Correction Constants		
Mud Cake Source	Constant Value	
Mud Cake Thickness	0.4000	inches
Mud Cake Thickness Caliper	0	
Mud Cake Resistivity	0.1500	ohm-m

Caliper Calibration MMR 031			Base Calibration on 27-FEB-2007,13:43	Field Calibration on 28-FEB-2007,00:43
Base Calibration				
Reading No	Measured	Calibrator Size (mm)		
1	14876	162.00		
2	17978	212.00		
3	21602	262.00		
4	24308	311.00		
5	0	0.00		
6	N/A	N/A		
Field Calibration				

Measured Caliper (mm)		Actual Caliper (mm)		
205.60		205.70		
Micro Normal and Micro Inverse Calibration MMR 031				
Base Calibration on 27-FEB-2007,13:43 Field Check on 28-FEB-2007 00:34				
Base Calibration				
Channel	Measured		Calibrated (ohm-m)	
	Resistor 1	Resistor 2	Resistor 1	Resistor 2
Micro Normal	9.8	49.9	5.1	25.6
Micro Inverse	9.8	49.8	3.4	16.9
Channel	Base Check (ohm-m)		Field Check (ohm-m)	
Micro Normal	94.7		92.9	
Micro Inverse	61.6		61.6	
Micro Normal and Micro Inverse Constants MMR 031				
Last Edited on 25-NOV-2006,14:14				
Micro Normal K Factor		0.5110		
Micro Inverse K Factor		0.3380		
Standoff Offset		0.0000 millimetres		
Neutron Calibration MDN 016				
Base Calibration on 11-JAN-2007 20:47 Field Check on 27-FEB-2007 23:30				
Base Calibration				
	Measured		Calibrated (cps)	
	Near	Far	Near	Far
	3219	98	3714	110
Ratio	32.703		33.764	
Field Calibrator at Base			Calibrated (cps)	
			2486	3648
Ratio			0.681	
Field Check			Calibrated (cps)	
			2568	3767
Ratio			0.682	
Neutron Constants MDN 016				
Last Edited on 25-FEB-2007,03:55				
Neutron Source Id		277		
Neutron Jig Number		N636		
Epithermal Neutron		No		
Caliper Source for Processing		Density Caliper		
Stand-off		0.00	mm	
Mud Density		1000.00	kg/m3	
Limestone Sigma		7.10	cu	
Sandstone Sigma		4.26	cu	
Dolomite Sigma		4.70	cu	
Formation Pressure Source		Constant Value		
Formation Pressure		0.00	kPa	
Temperature Source		Constant Value		
Temperature		20.00	degrees C	
Mud Salinity		0.00	kppm	
Formation Fluid Salinity Source		Constant Value		
Formation Fluid Salinity		0.00	kppm	
Barite Mud Correction		Not Applied		
Photo Density Calibration MPD 093				
Base Calibration on 21-FEB-2007 18:37 Field Check on 27-FEB-2007 23:24				
Density Calibration				
Base Calibration				
	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	66461	35432	60352	31615
Reference 2	27582	2460	25043	2540

Field Check at Base	738.4	855.4		
Field Check	743.9	865.6		
PE Calibration				
Base Calibration		Measured		Calibrated
	WS	WH	Ratio	Ratio
Background	135	656		
Reference 1	27020	66295	0.410	0.400
Reference 2	7311	27477	0.268	0.272
Field Check at Base	135.0	656.2		
Field Check	134.5	658.1		

#### Density Constants MPD 093

Last Edited on 27-FEB-2007,23:07

Density Source Id 1615B  
 Nylon Calibrator Number 608  
 Aluminium/Fe Calibrator Number 608  
 Density Shoe Profile 4 inch  
 Caliper Source for Processing Density Caliper  
 PE Correction to Density Not Applied  
 Mud Density 1180.00 kg/m3  
 Mud Density Z/A Correction 1.11  
 Mud Filtrate Density 1000.00 kg/m3  
 Dry Hole Mud Filtrate Density 1000.00 kg/m3  
 DNCT 0.00 kg/m3  
 CRCT 0.00 kg/m3  
 Density Z/A Correction 0

Matrix Density (kg/m3)	Depth (m)
2710.00	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

#### Caliper Calibration MPD 093

Base Calibration on 11-JAN-2007 21:58

Field Calibration on 28-FEB-2007,00:44

Base Calibration	Measured	Calibrator Size (mm)
Reading No		
1	15040	110.00
2	23085	162.00
3	31440	212.00
4	40233	262.00
5	49152	311.00
6	N/A	N/A

Field Calibration	Measured Caliper (mm)	Actual Caliper (mm)
	207.70	205.70

#### Sonic Constants MSS 003

Last Edited on 27-FEB-2007,23:07

Maximum Boundary Contrast	328.08	micro-sec/m
Fluid Transit Time	620.08	micro-sec/m
Limestone Transit Time	155.84	micro-sec/m

Sandstone Transit Time	182.09	micro-sec/m
Dolomite Transit Time	142.72	micro-sec/m
Sonic used for Porosities	3-5' Compensated Sonic	
Correction for Sonde Skew	Applied	
Cycle Stretch Algorithm	Applied	
MN3FT	N/A	micro-sec
MX3FT	N/A	micro-sec
Hunt-Raymer Constant	0.00	0

#### Fixed Gate Parameters

Start Time (micro-sec)	End Time (micro-sec)	Discriminator (mV)	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

#### Down Hole Fixed Gate Parameters

Gate Start	N/A	micro-sec
Gate Width	N/A	micro-sec
Initial Discriminator Level	0.0000	mVolts

#### Full Waveform Parameters

Use 3' Waveform to derive TR	N/A
Use 4' Waveform to derive TR	N/A
Use 5' Waveform to derive TR	N/A
Use 6' Waveform to derive TR	N/A
3' Waveform Discriminator Level	N/A mV
4' Waveform Discriminator Level	N/A mV
5' Waveform Discriminator Level	N/A mV
6' Waveform Discriminator Level	N/A mV
3' Waveform Filter	N/A
4' Waveform Filter	N/A
5' Waveform Filter	N/A
6' Waveform Filter	N/A
Semblance Level	N/A
Semblance Window Width	N/A micro-sec
Sonic 1 Despiker	N/A
Sonic 2 Despiker	N/A

#### Induction Calibration MAI 154

Base Calibration on 14-JAN-2007 01:38  
Field Check on 28-FEB-2007 00:33

#### Base Calibration

Test Loop Calibration	Measured		Calibrated (mmho/m)	
Channel	Low	High	Low	High
1	16.6	470.6	9.3	966.2
2	6.3	383.0	7.6	821.4
3	4.0	264.7	5.2	566.0
4	2.3	136.2	2.6	279.2

Array Temperature	22.3	Deg C
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Channel	Base Check (mmho/m)		Field Check (mmho/m)	
	Low	High	Low	High
1	13.1	3867.2	15.3	3866.9
2	29.6	3530.7	30.2	3528.9
3	26.8	3001.8	27.1	2999.9
4	18.4	2040.8	18.6	2039.5
Deep	15.3	1926.8	15.7	1925.6
Medium	39.6	3962.8	39.7	3960.1
Shallow	45.8	5270.7	46.6	5268.1

Array Temperature	12.1	28.0	Deg C
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Induction Model		VECTAR	
Caliper for Borehole Corr.		Density Caliper	
Hole Size for Borehole Correction		N/A	millimetres
Stand-off		25.40	millimetres
Number of Fins on Stand-off		5.0000	
Stand-off Fin Width		25.4000	millimetres
Borehole Corr. Rm Source		Temperature Corr	
Temp. for Rm Corr.	MCG External Temperature		
Squasher Start		0.0020	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

## High Resolution Temperature Calibration MAI 154

Field Calibration on 16-DEC-2006,08:07

	Measured	Calibrated(Deg C)
Lower	1.00	1.00
Upper	10.00	10.00

## High Resolution Temperature Constants MAI 154

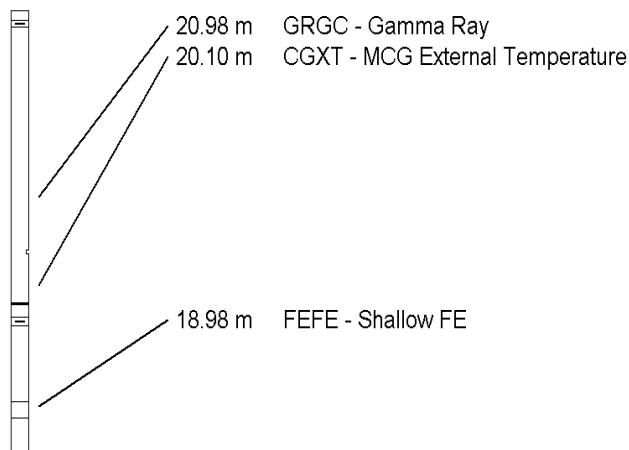
Pre-filter Length	11
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## DOWNHOLE EQUIPMENT

C:\Temp\Weatherford PreView\01L-73 main.dta

Compact Gamma  
MCG 131 Length: 2.65 m

Weight: 63.9 lb



Compact Focussed Electric  
MFE 111 Length: 1.84 m

Weight: 48.5 lb

Compact Two Arm Caliper  
MTC 24 Length: 2.17 m

Weight: 61.7 lb

16.53 m CLYC - Y Two Arm Caliper

Compact Short Gamma  
MGS 29 Length: 1.04 m

Weight: 24.3 lb

15.66 m GRGM - MGS Gamma Ray

Compact InterSonde Crank  
ISC 151 Length: 0.71 m

Weight: 24.3 lb

Compact Micro-Resistivity  
MMR 31 Length: 2.62 m

Weight: 81.6 lb

12.10 m MBTC - MMR Caliper  
12.10 m MINV - MMR MicroLog Inverse  
12.10 m MNRL - MMR MicroLog Normal

Compact Neutron  
MDN 16 Length: 1.53 m

Weight: 50.7 lb

10.64 m NPRS - Sandstone Neutron Por.

Compact Density/Caliper  
MPD 93 Length: 2.92 m

Weight: 90.4 lb

8.06 m AVOL - Annular Volume  
8.06 m HVOL - Hole Volume  
8.06 m CLDC - Density Caliper  
7.85 m DCOR - Density Correction  
7.85 m DPRS - Sandstone Density Por.  
7.83 m PDPE - PE

Compact Sonic  
MSS 3 Length: 3.82 m

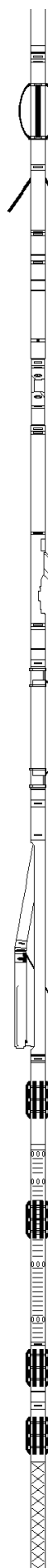
Weight: 72.8 lb

3.95 m TR21 - 3' Transit Time  
3.95 m TR11 - 4' Transit Time  
3.95 m DT35 - 3-5' Compensated Sonic  
3.95 m TR12 - 6' Transit Time  
3.95 m TR22 - 5' Transit Time  
3.95 m DT34 - 3-4' Compensated Sonic

Compact Induction  
MAI 154 Length: 3.29 m

Weight: 48.5 lb

0.79 m RILM - Medium Induction  
0.79 m RILD - Deep Induction  
0.07 m SPCG - Spontaneous Potential  
Tool Zero (0.28m from bottom)

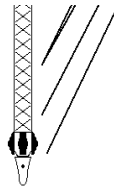


Compact Hole Finder  
HFS 1      Length: 0.24 m

Weight: 2.2 lb

Total      Length: 22.83 m

Weight: 568.8 lb



All measurements relative to tool zero.

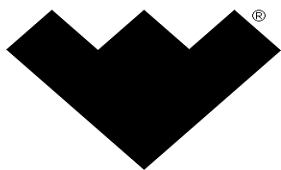
COMPANY	PARAMOUNT RESOURCES LTD
WELL	PARA ET AL CAMERON L-73
FIELD	CAMERON HILLS
PROVINCE/COUNTY	NORTHWEST TERRITORIES
COUNTRY/STATE	CANADA

Elevation Kelly Bushing	774.80	metres	First Reading	1436.20	metre
Elevation Drill Floor		metres	Depth Driller	1450.00	metres
Elevation Ground Level	770.80	metres	Depth Logger	1448.60	metres



**Weatherford®**

MICROLOG



## COMPENSATED SONIC

COMPANY	PARAMOUNT RESOURCES LTD				
WELL	PARA ET AL CAMERON L-73				
FIELD	CAMERON HILLS				
PROVINCE/COUNTY	NORTHWEST TERRITORIES				
COUNTRY/STATE	CANADA				
LOCATION	300/L-73-60-10-117-15 <b>FIELD PRINT</b>				
LSD	SEC	TWP	RGE	Other Services	
API Number				PHOTO DENSITY	DUAL SPACED NEUTRON
Permit Number 1159				MICROLOG	
				ARRAY INDUCTION	XY CALIPERS
Permanent Datum GROUND LEVEL, Elevation 770.8 metres					Elevations: metres
Log Measured From 4.0 M above Permanent Datum					KB 774.80
Drilling Measured From KELLY BUSHING					DF
					GL 770.80
Date	27-FEB-2007				
Run Number	1				
Depth Driller	1450.00	metres			
Depth Logger	1448.60	metres			
First Reading	1444.30	metre			
Last Reading	435.00	metre			
Casing Driller	436.00	metres			
Casing Logger	435.00	metres			
Bit Size	200.00	mm			
Hole Fluid Type	GELCHEM				
Density / Viscosity	1180.0 kg/M3	85.00	sec/L		
PH / Fluid Loss	10.00	8.00	ml/30Min		
Sample Source	FLOWLINE				
Rm @ Measured Temp	0.54 @ 25.0	ohm-m			
Rmf @ Measured Temp	0.41 @ 25.0	ohm-m			
Rmc @ Measured Temp	0.63 @ 25.0	ohm-m			
Source Rmf / Rmc	PRESS	FILTER			
Rm @ BHT	0.36 @ 47.0	ohm-m			
Time Since Circulation	8.5 HRS				
Max Recorded Temp	47.00	deg C			
Equipment Name	13132				
Equipment / Base	QUINT	GPR			
Recorded By	L. SUTHERLAND				
Witnessed By	A. AHMED				
CIRC STOP	05:30 FEB 27	Last Line			

BOREHOLE RECORD					Last Edited: 28-FEB-2007 03:49	
Bit Size millimetres		Depth From metres		Depth To metres		
311.000		0.00		436.00		
200.000		436.00		1450.00		
CASING RECORD						
Type	Size millimetres	Depth From metres	Shoe Depth metres	Weight pounds/ft		
SURFACE	219.100	0.00	436.00	35.70		

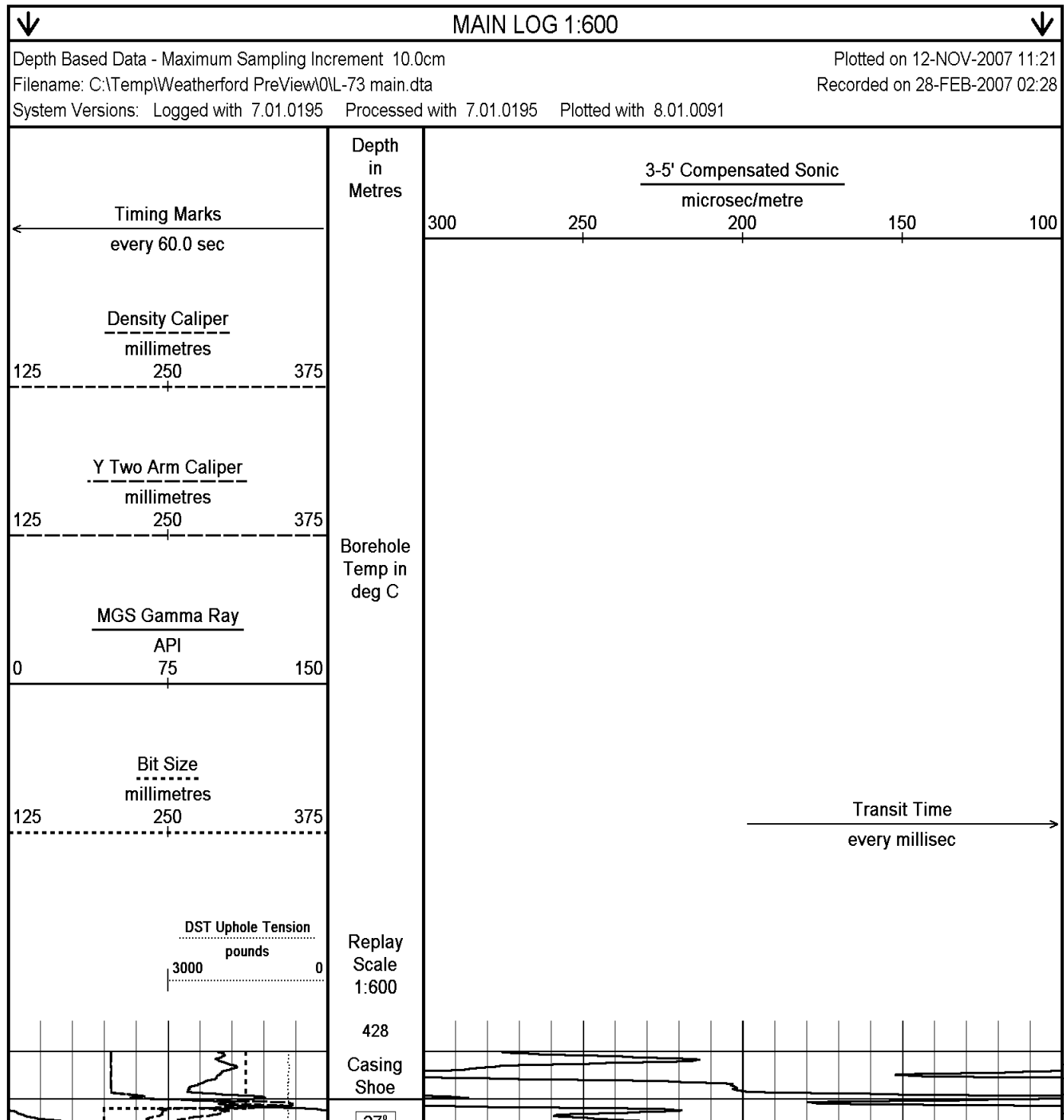
## REMARKS

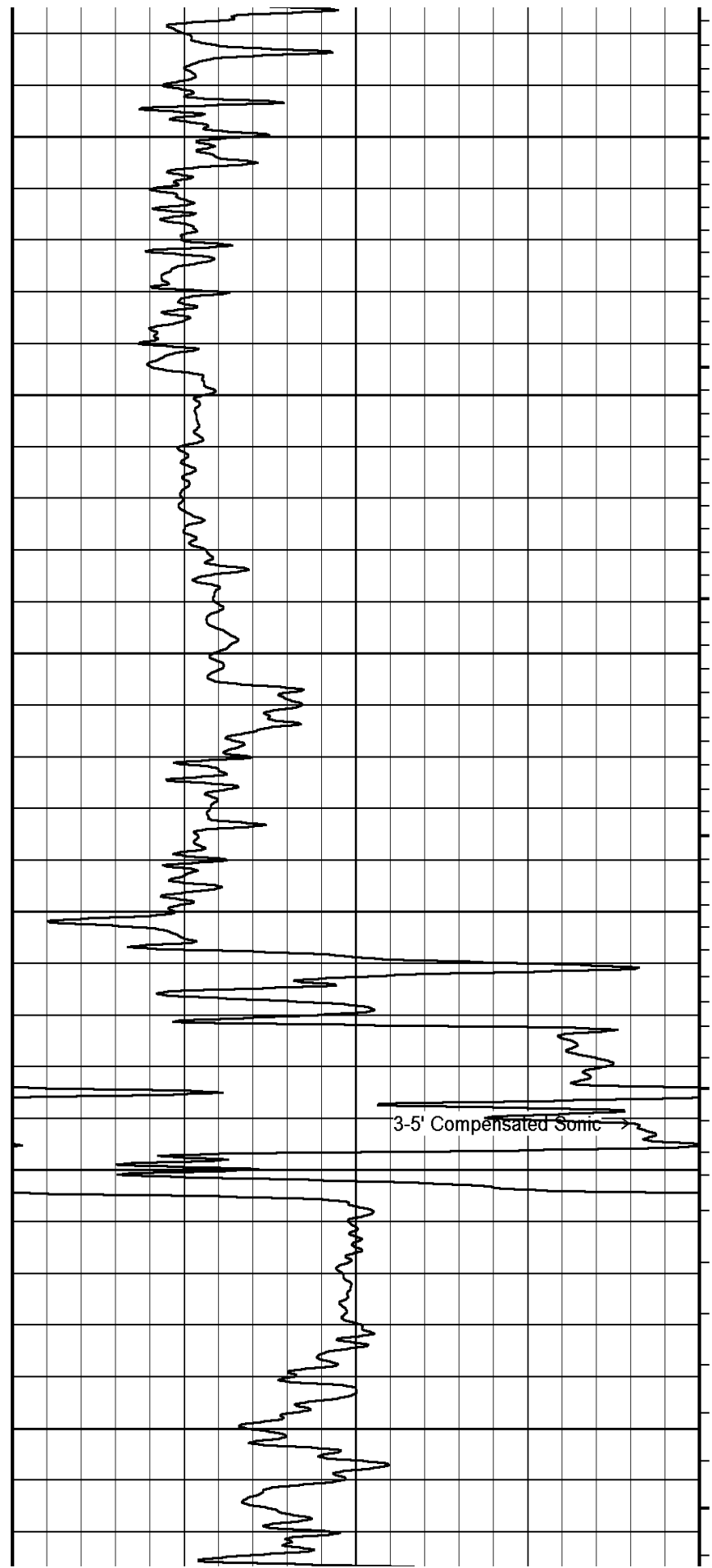
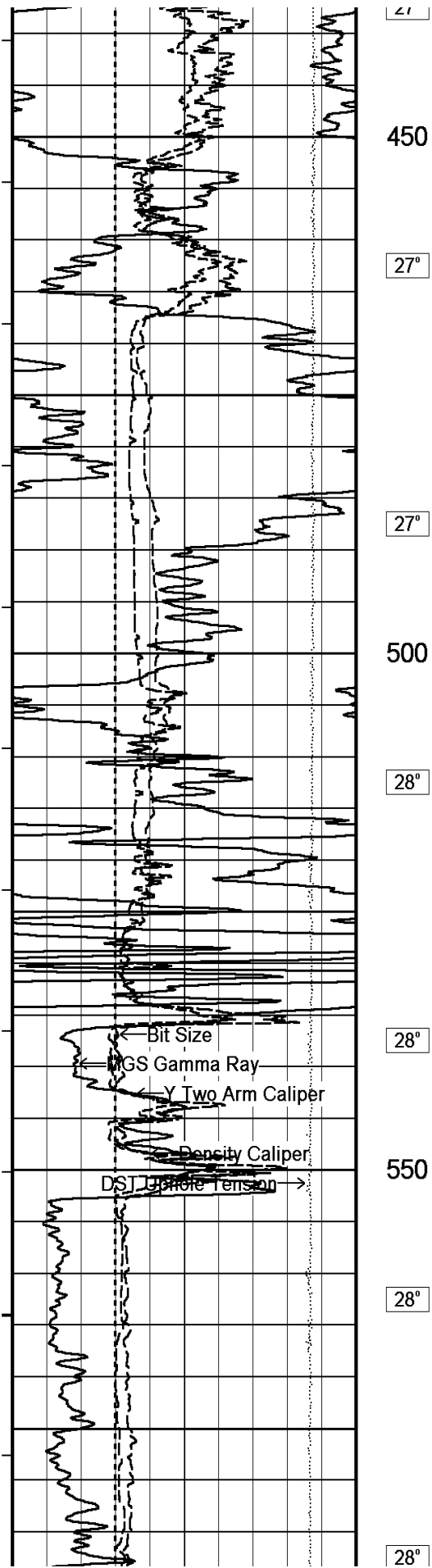
- 1) SOFTWARE ISSUE: WLS 7.01.0195
- 2) CUSTOMER SCALES AND INTERVALS LOGGED.
- 3) MAI, MSS, MPD, MDN, MML, ISC, MGS, MTC, MFE, MCG RAN IN COMBINATION.
- 4) HARDWARE: MAI: TWO 25.4 MM STANDOFFS  
MSS: THREE 25.4 MM STANDOFFS  
MDN: DUAL NEUTRON BOWSPRING  
MTC: ONE SIX-LEAF CENTRALIZER

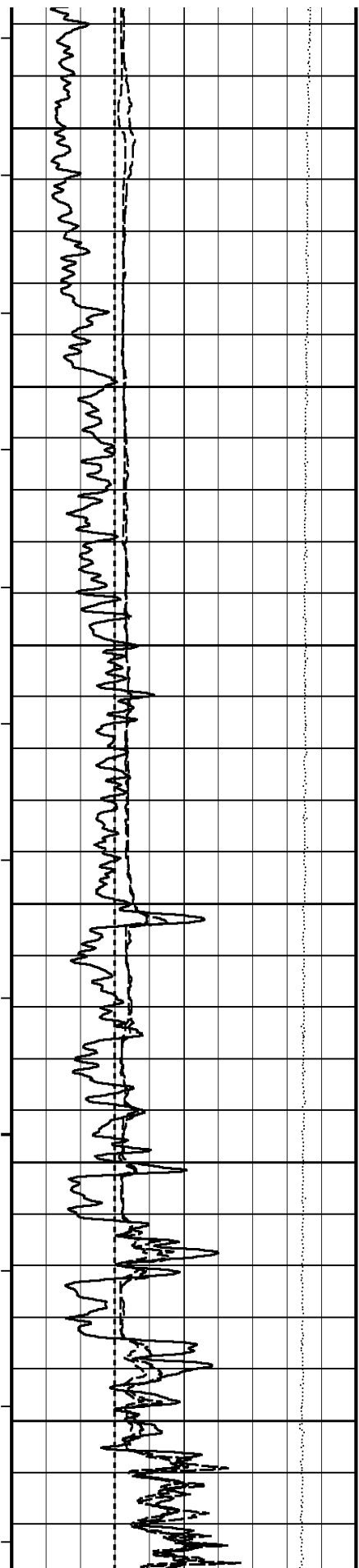
- 5) SAP# 4147855 FIELD TICKET # 30074798
- 6) # FIELD PRINTS = 3 # FINAL PRINTS = UNKNOWN

- 7) RIG: PD # 129  
8) HOLE\_CEMENT VOLUMES CALCULATED USING DENSITY CALIPER AND TWO ARM CALIPER IN COMBINATION :  
HOLE VOLUME = 36.05 CU.M.  
ANNULAR VOLUME USING 139.7 MM PRODUCTION CASING = 20.65 CU.M  
9) AREAS OF BOREHOLE RUGOSITY MAY CAUSE POOR DENSITY PAD CONTACT RESULTING IN HIGH DENSITY CORRECTION AND  
THUS INVALID DENSITY POROSITY DATA AT THOSE INTERVALS.  
10) SONIC FREE PIPE: 378M

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.







600

29°

29°

650

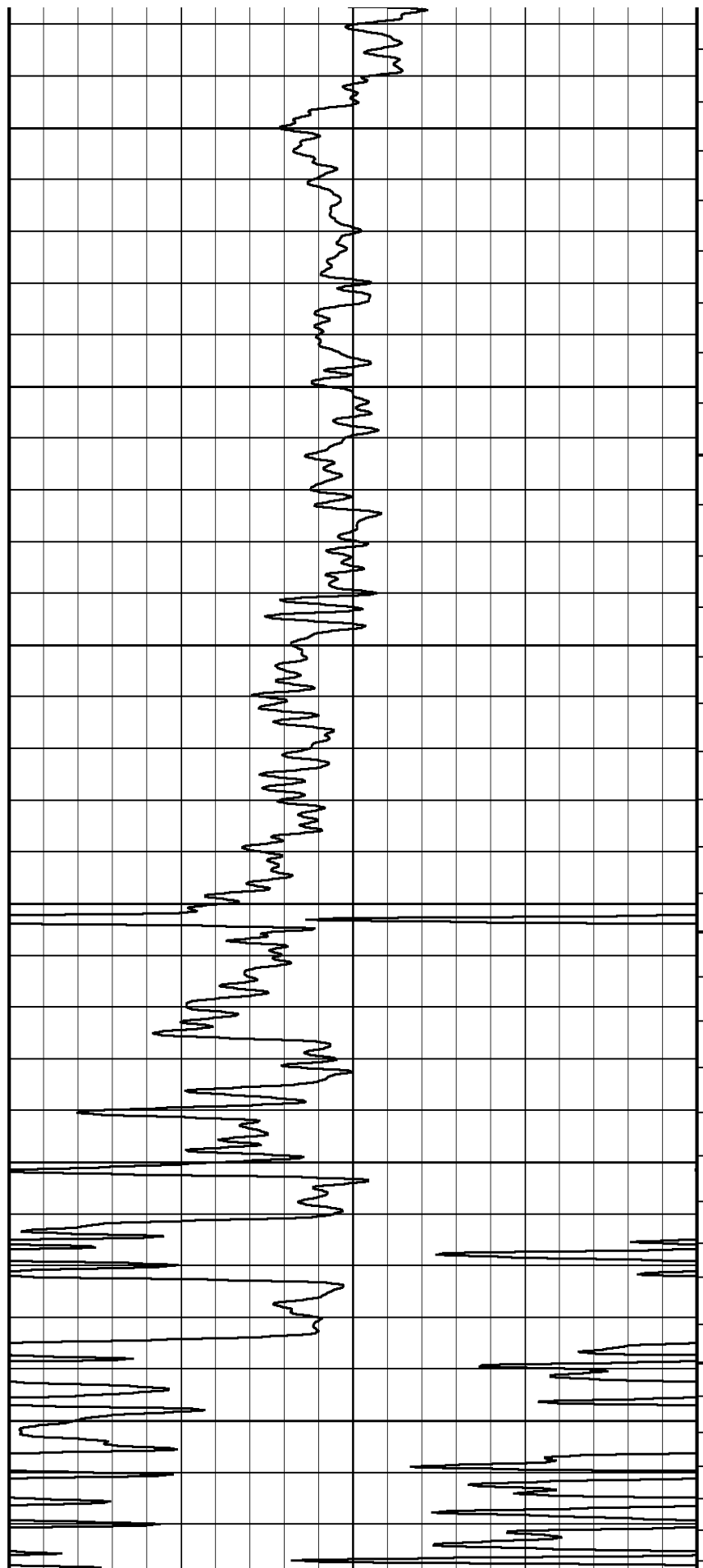
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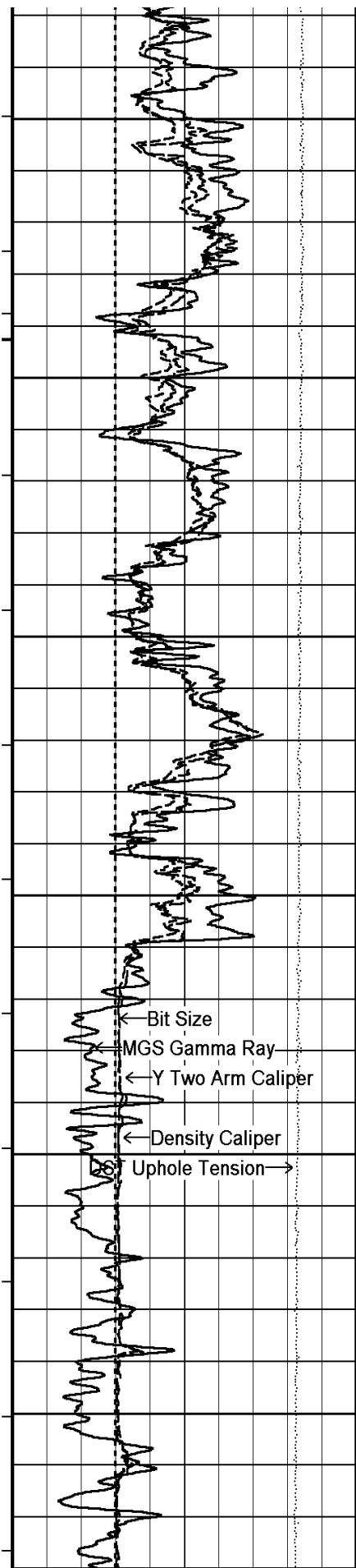
30°

700

30°

31°





750

31°

32°

800

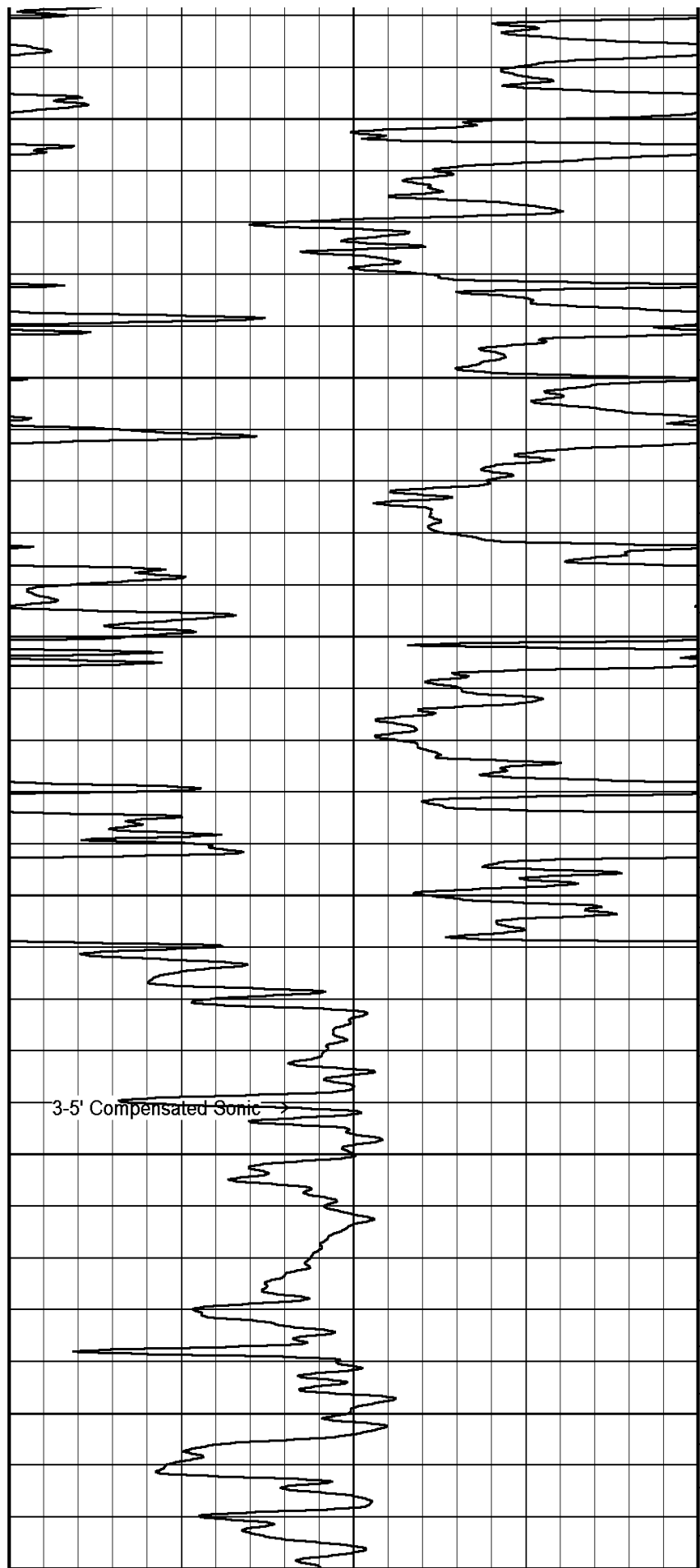
32°

32°

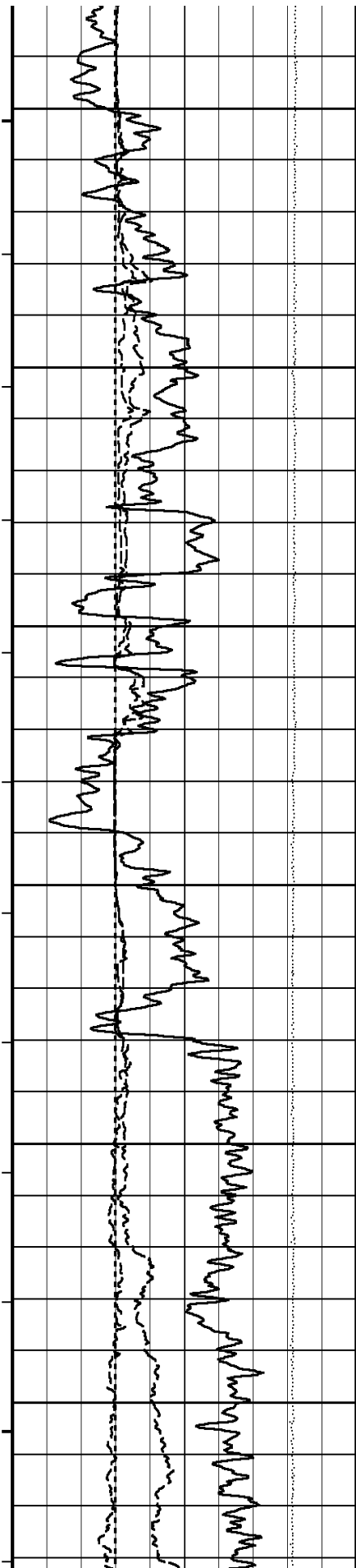
850

33°

33°







900

34°

34°

950

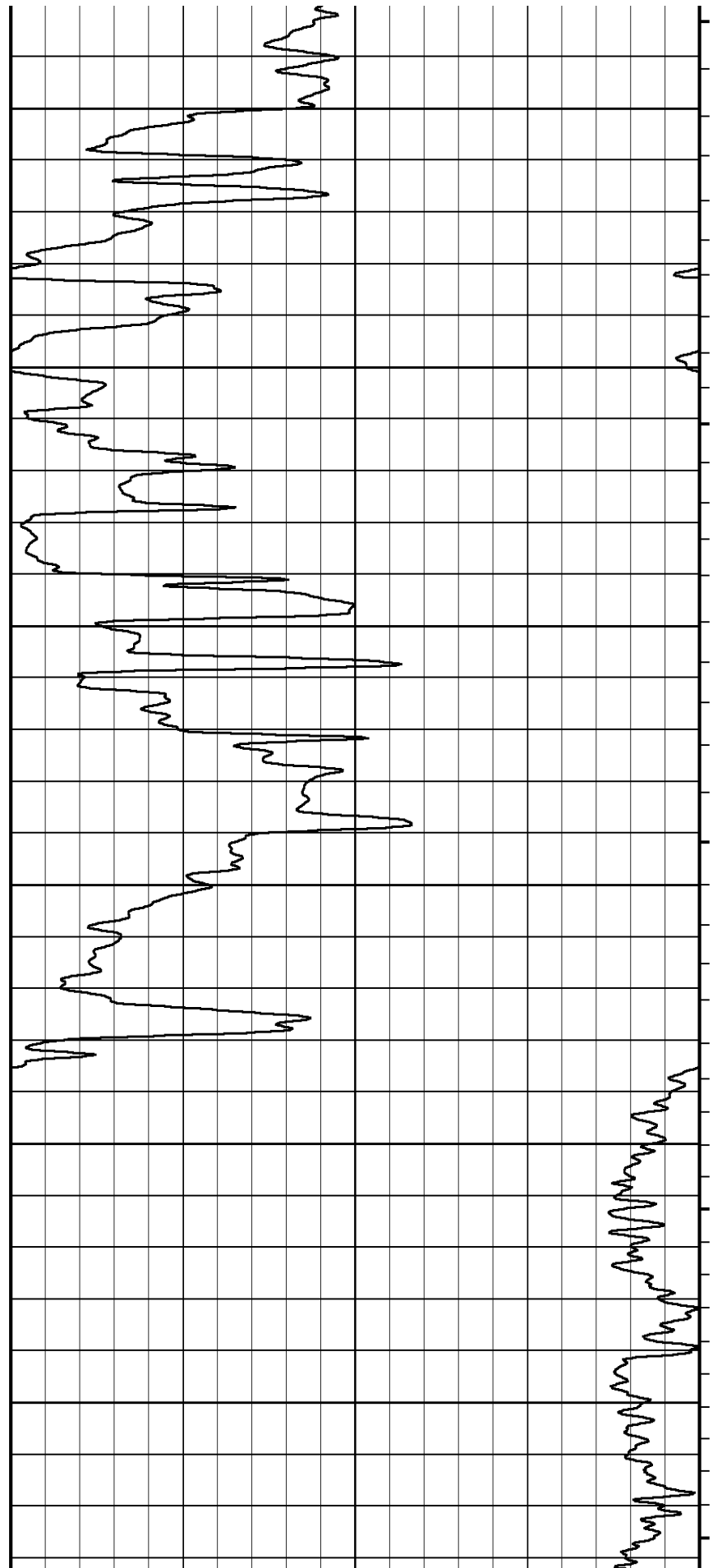
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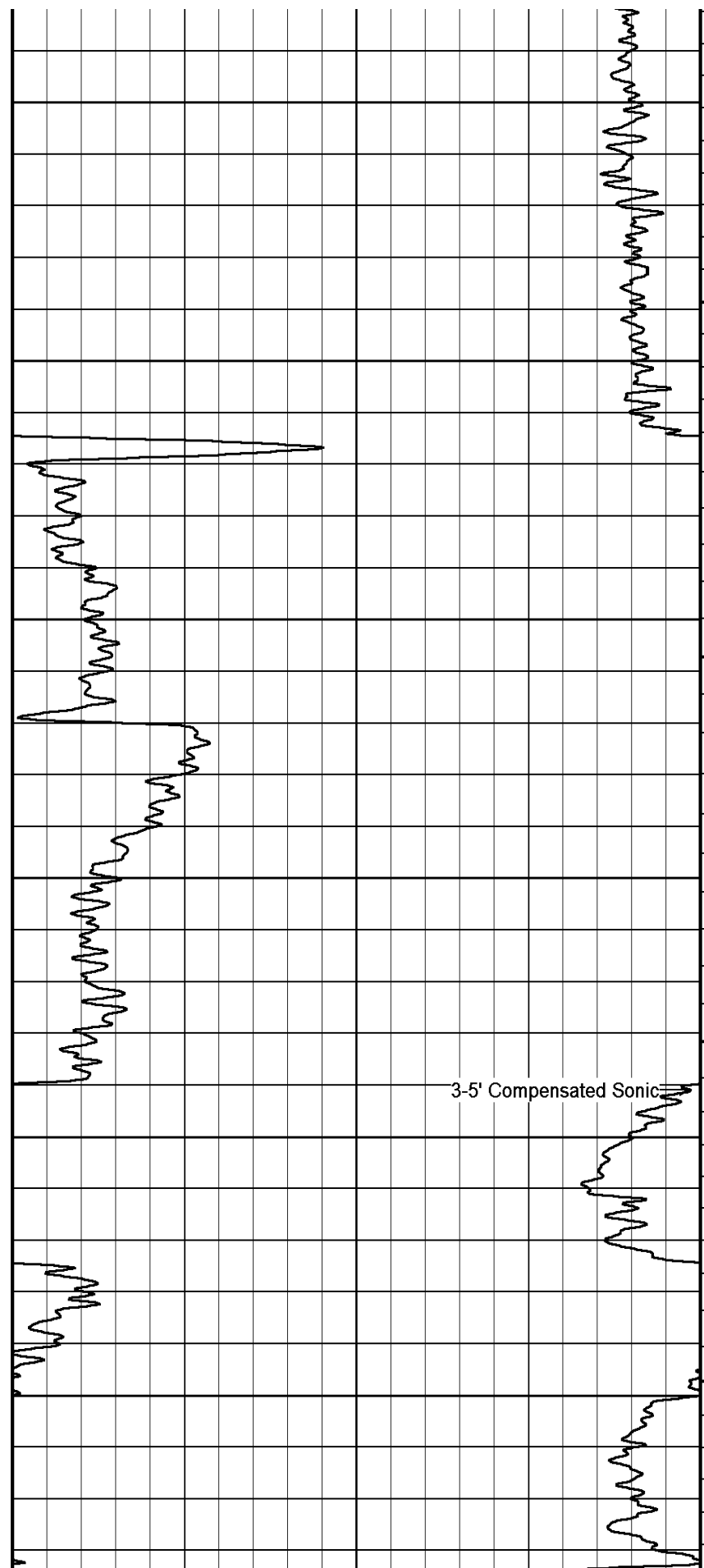
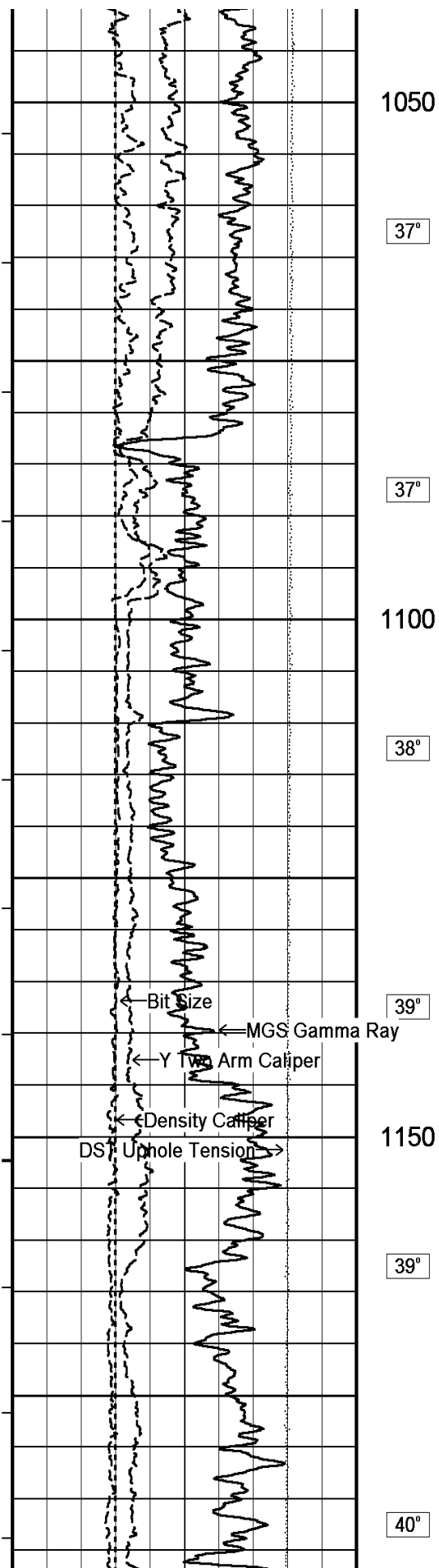
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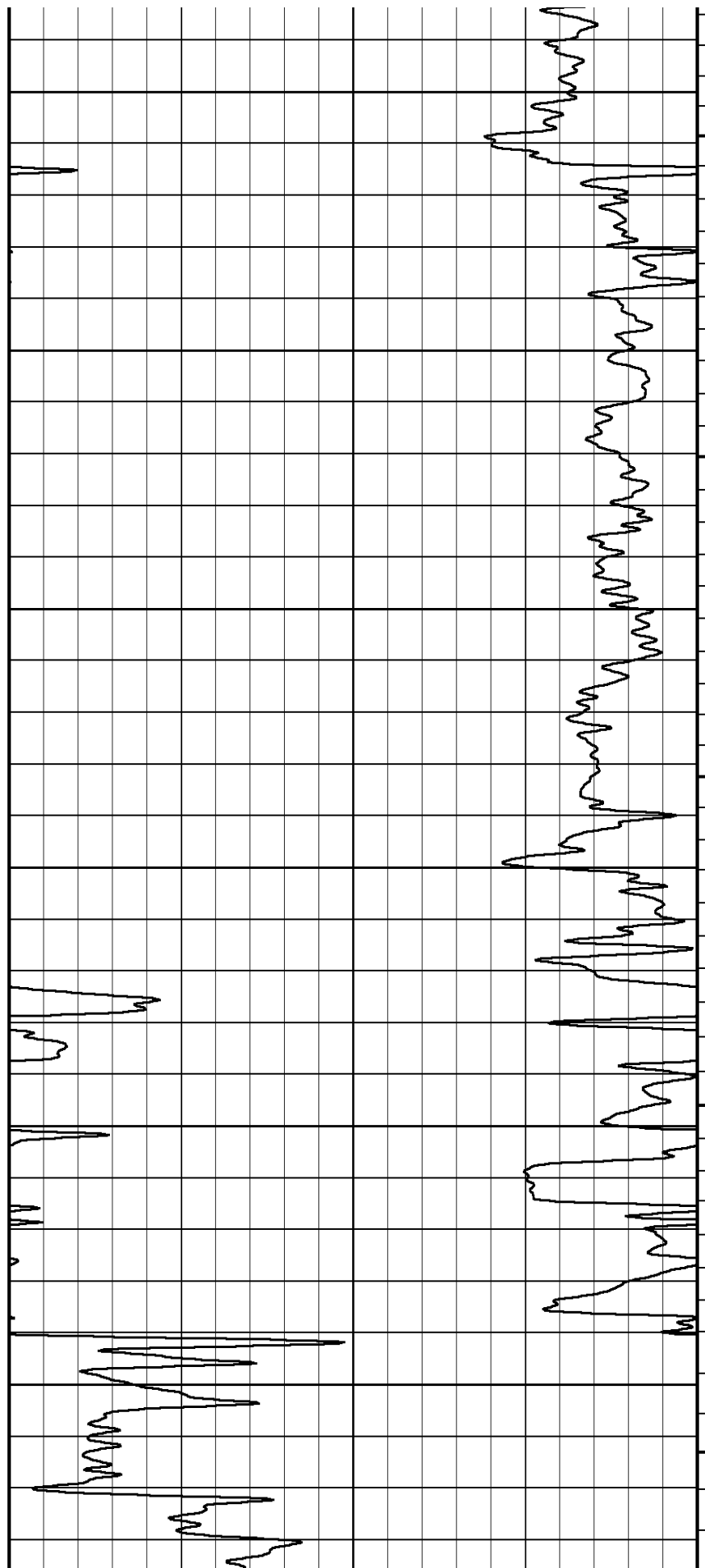
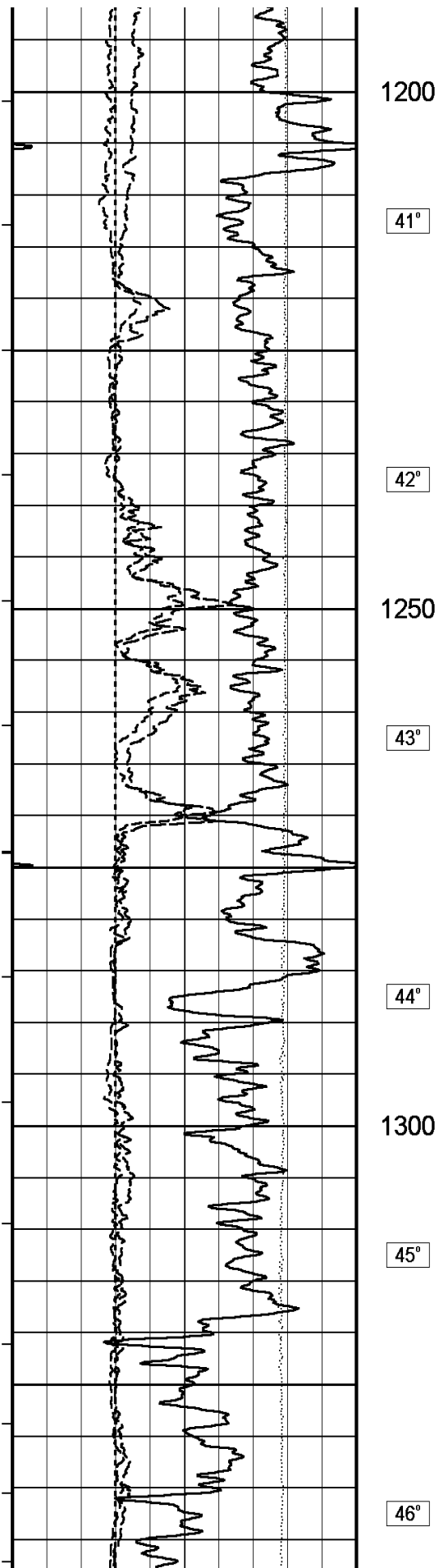
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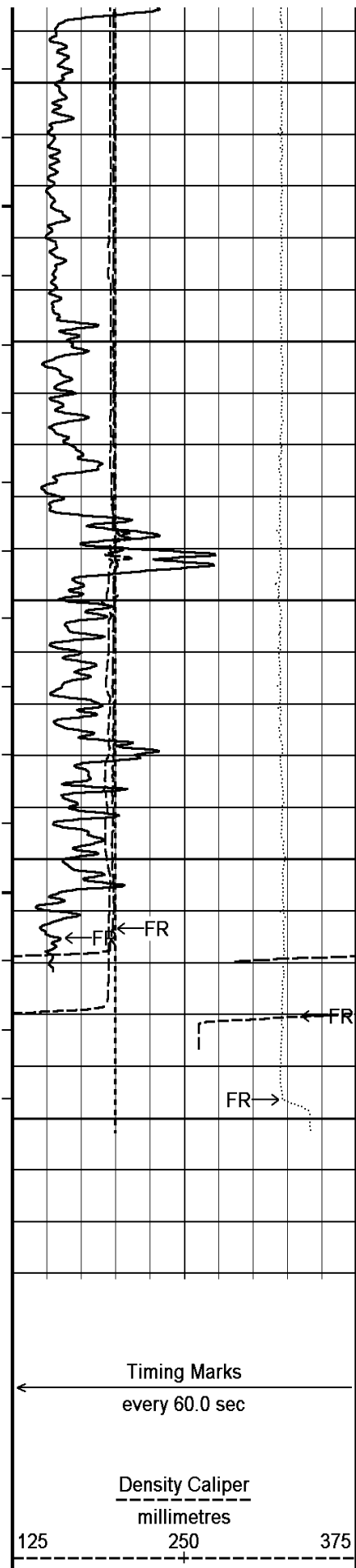
36°

36°









1350

46°

46°

1400

47°

1450

1464

Depth in Metres

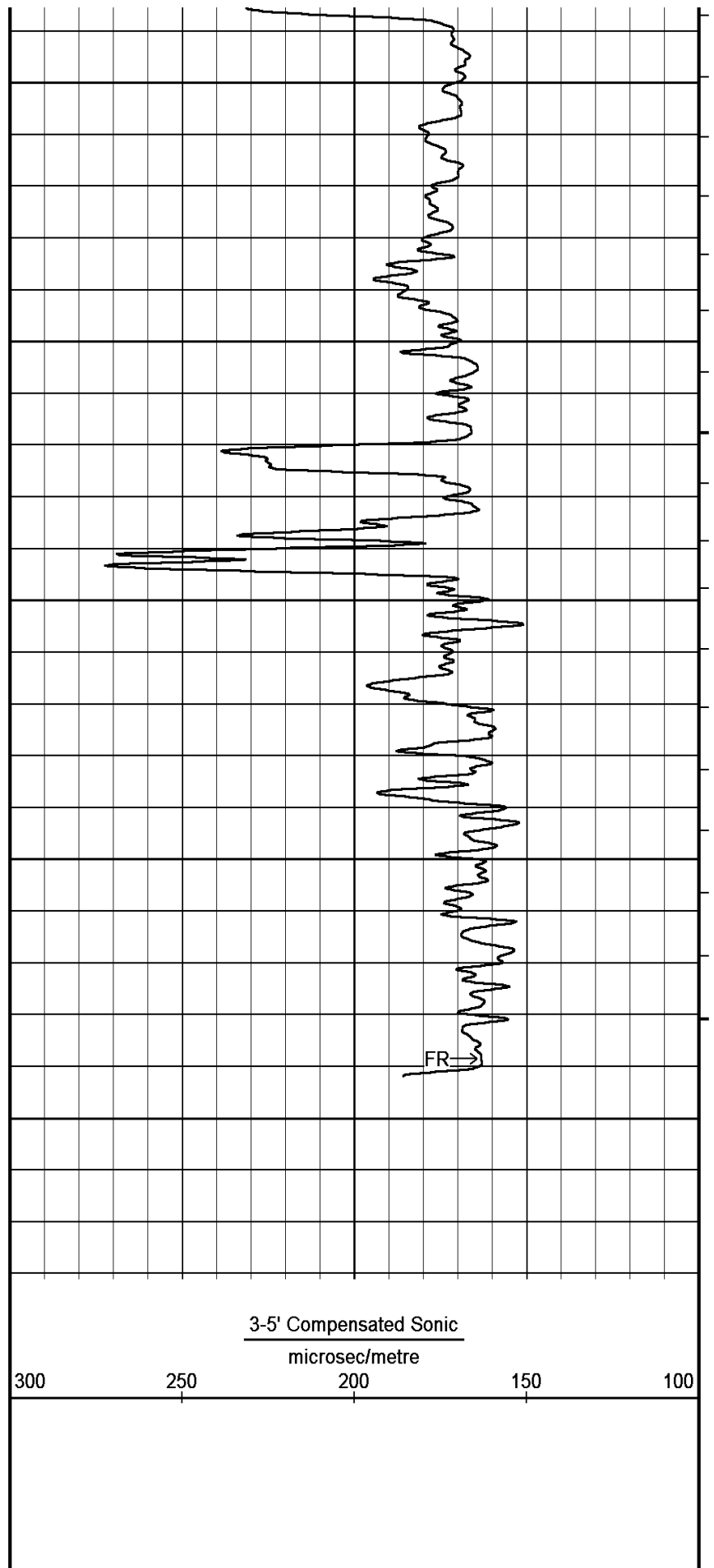
Timing Marks every 60.0 sec

Density Caliper millimetres

125

250

375



3-5' Compensated Sonic microsec/metre

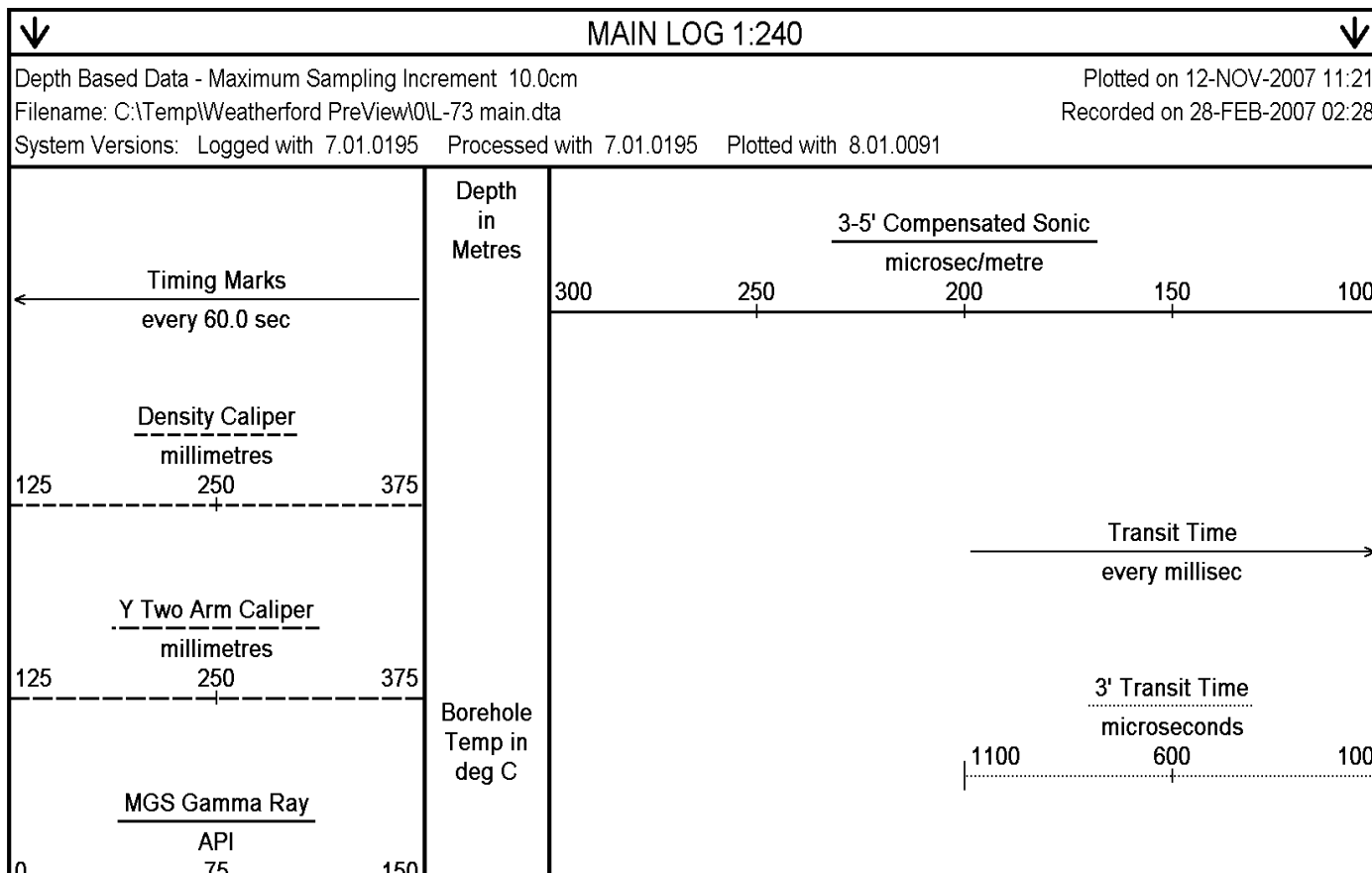
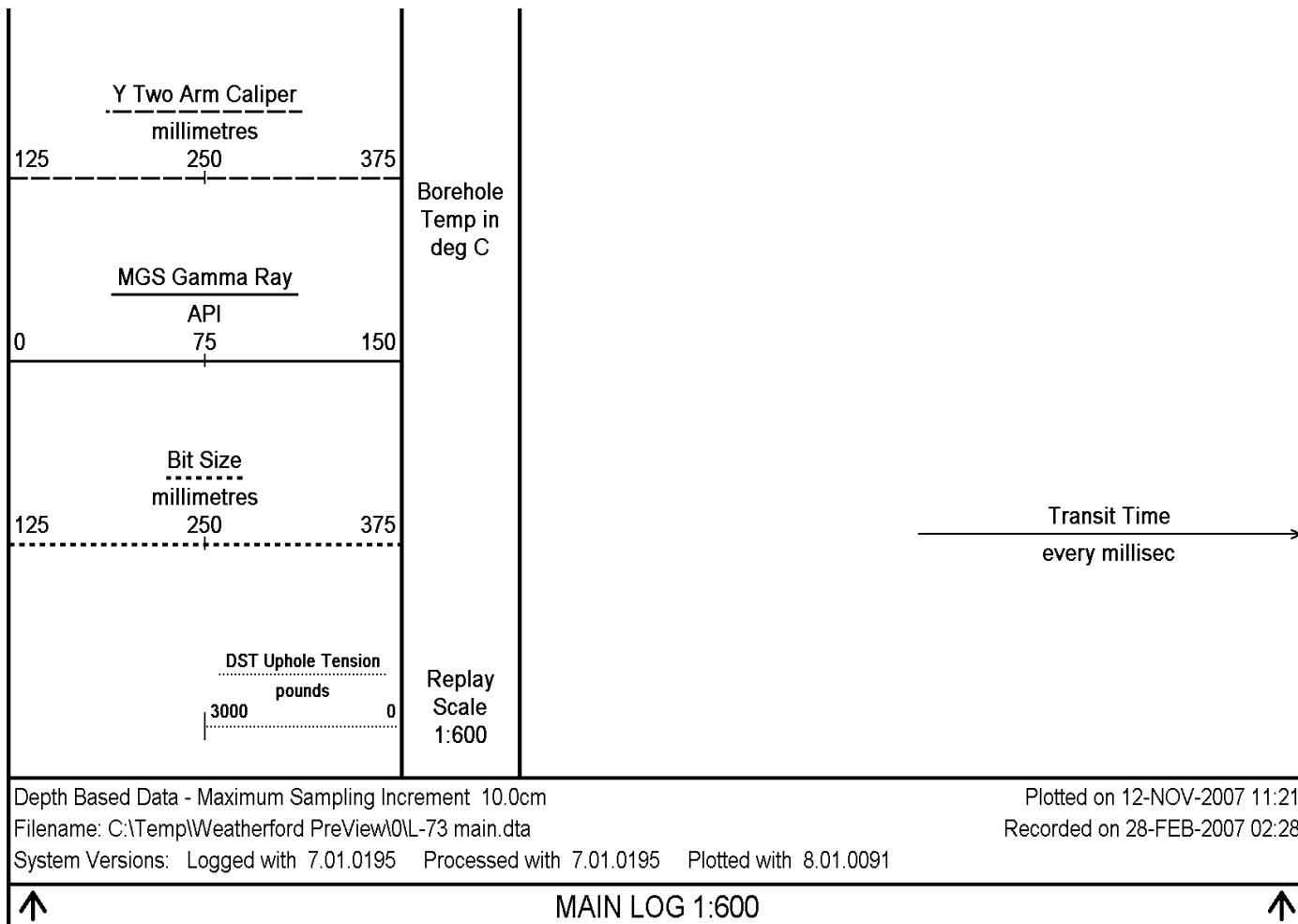
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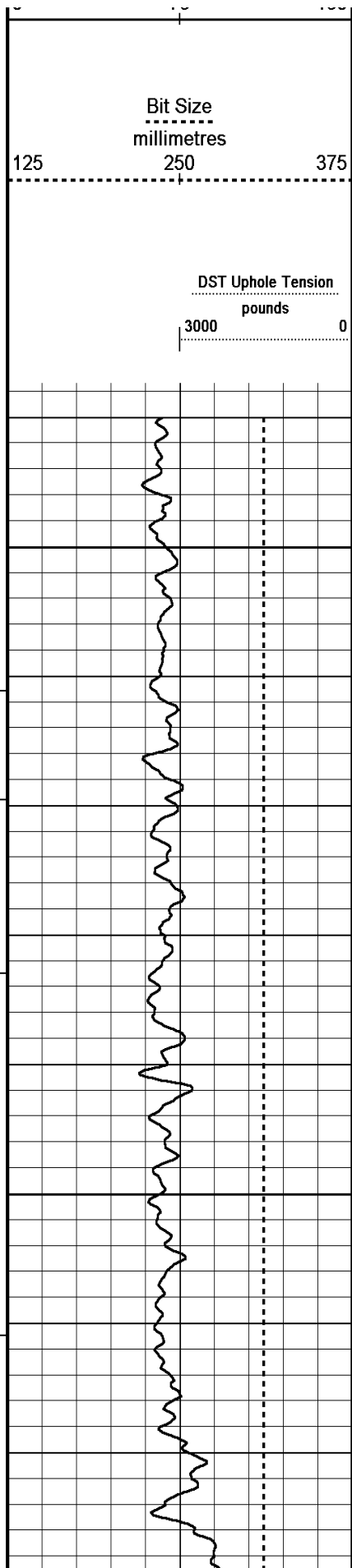
250

200

150

100





Replay  
Scale  
1:240

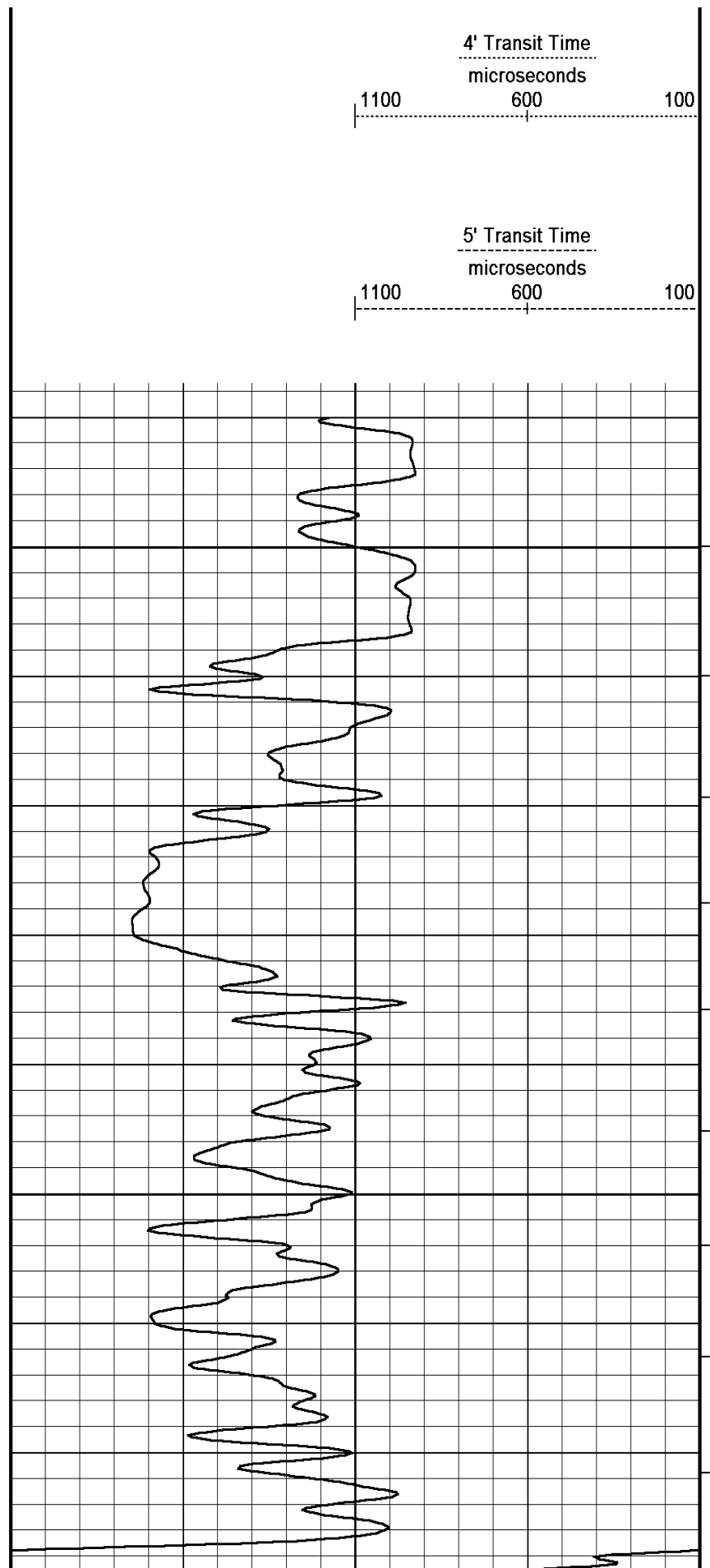
370

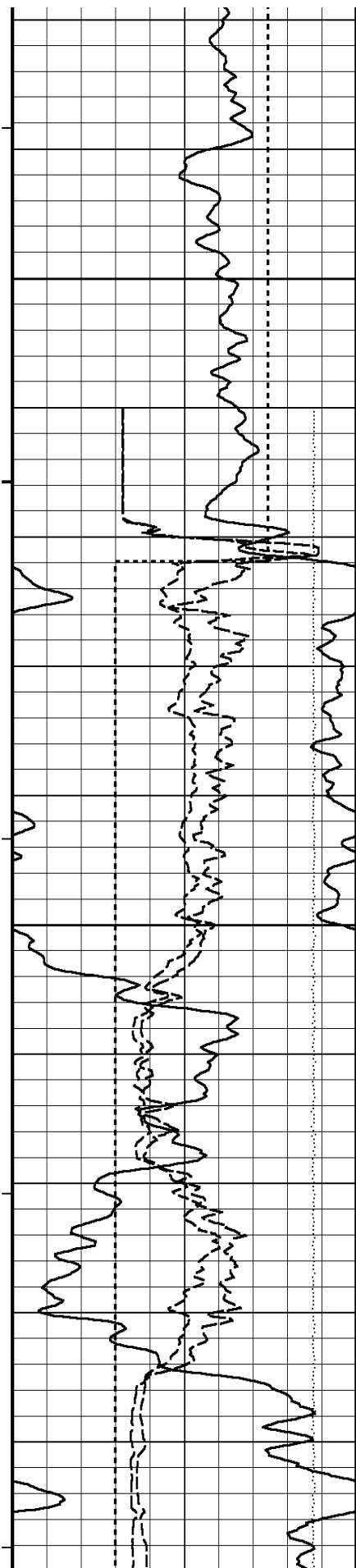
380

390

400

410





420

430

Casing  
Shoe

27°

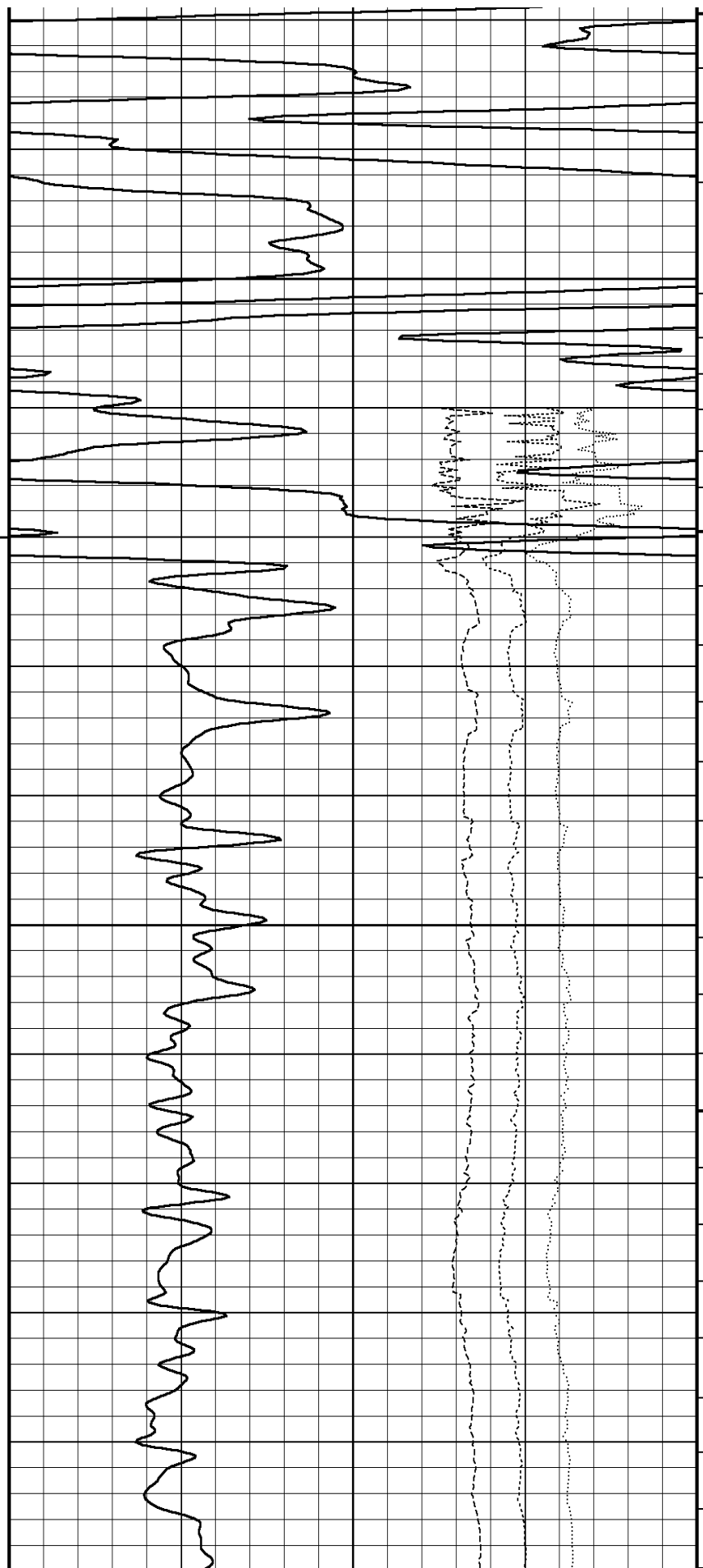
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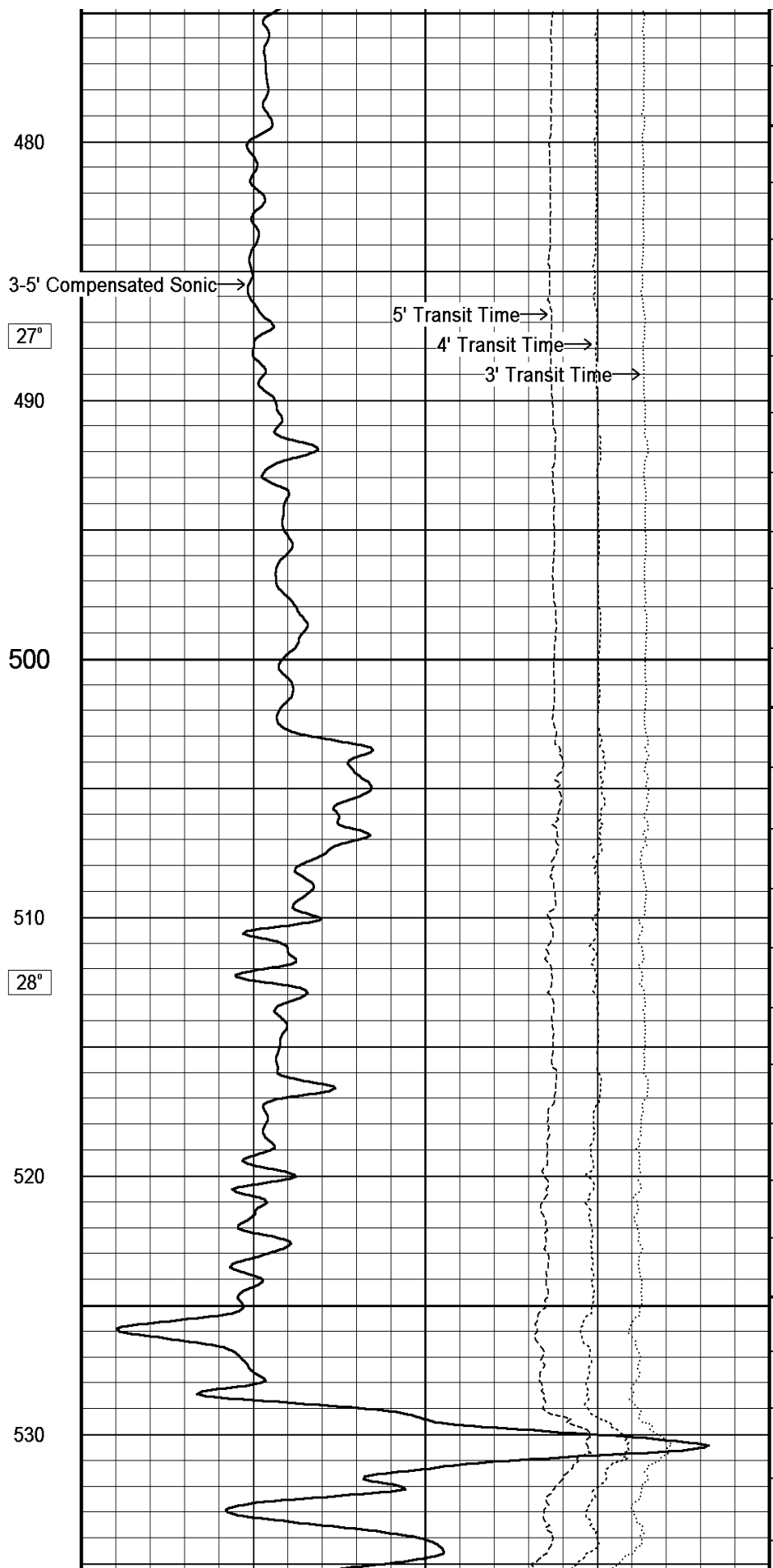
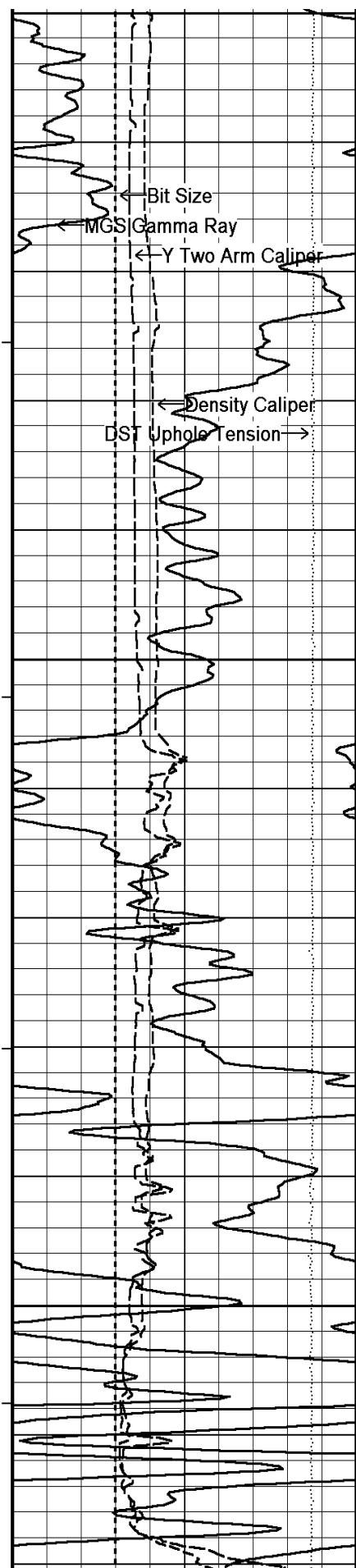
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460

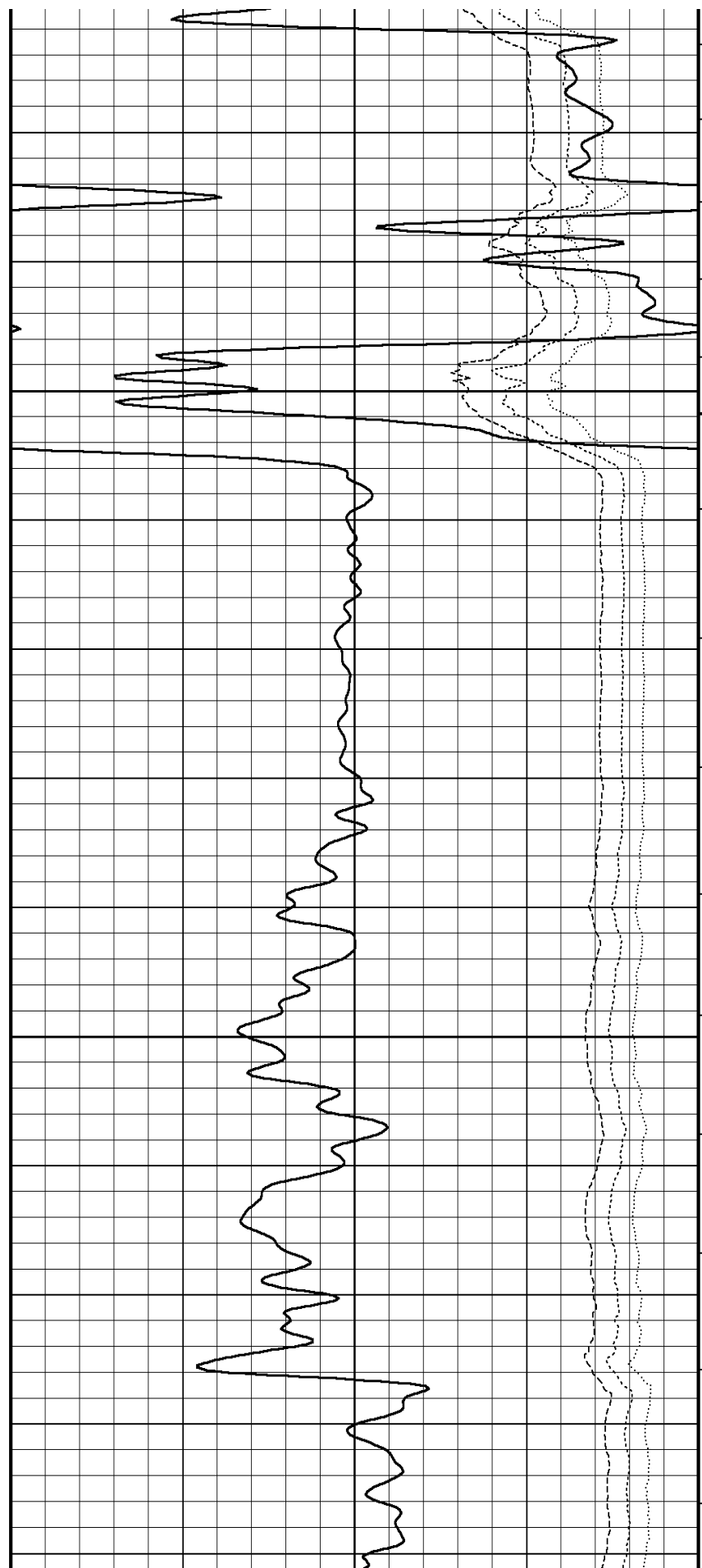
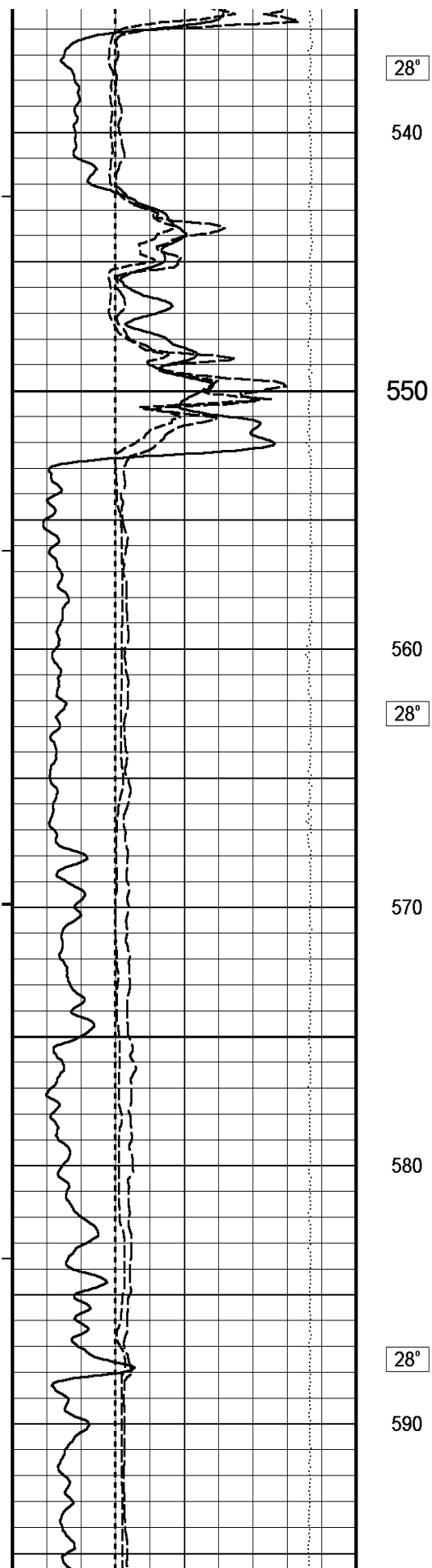
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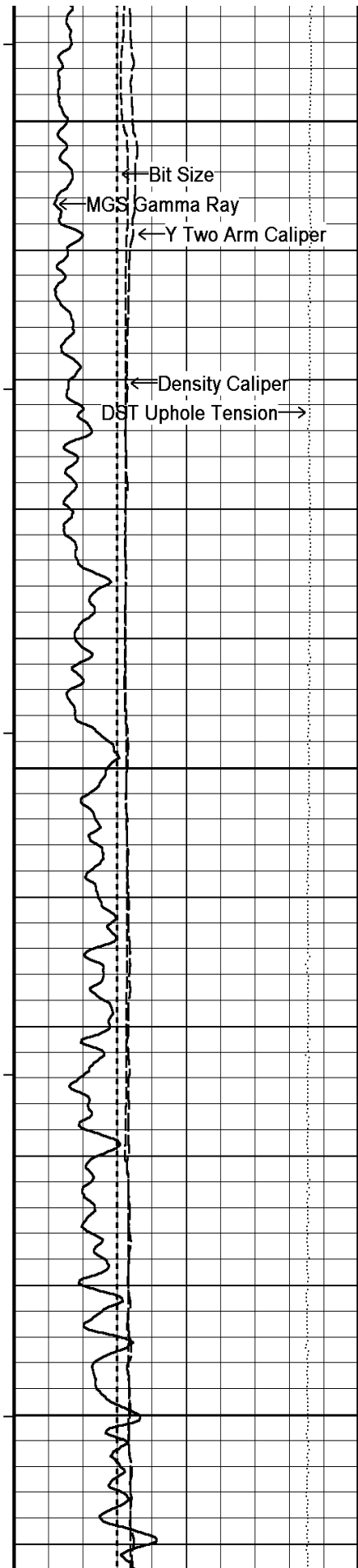
470











600

3-5' Compensated Sonic

5' Transit Time

4' Transit Time

3' Transit Time

610

29°

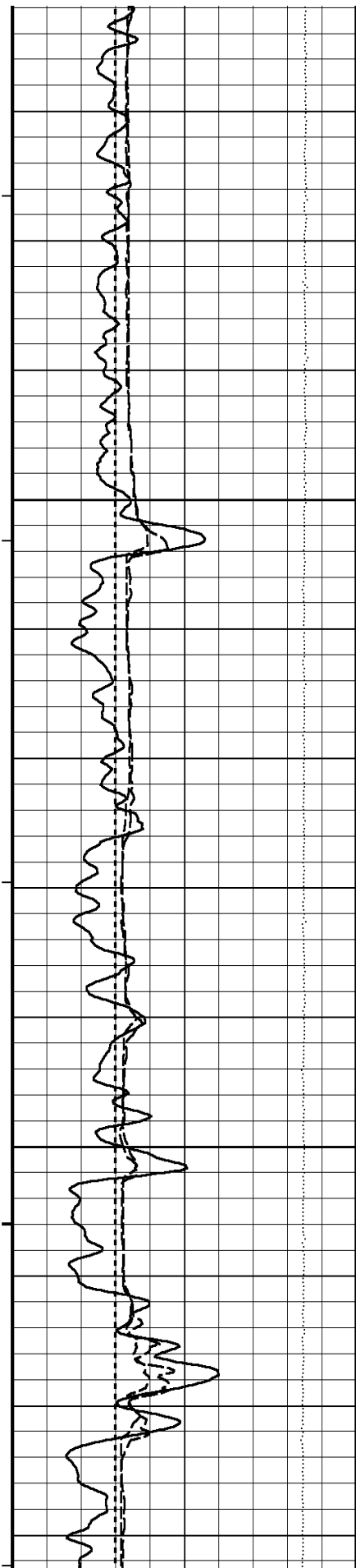
620

630

29°

640

650



660

29°

670

680

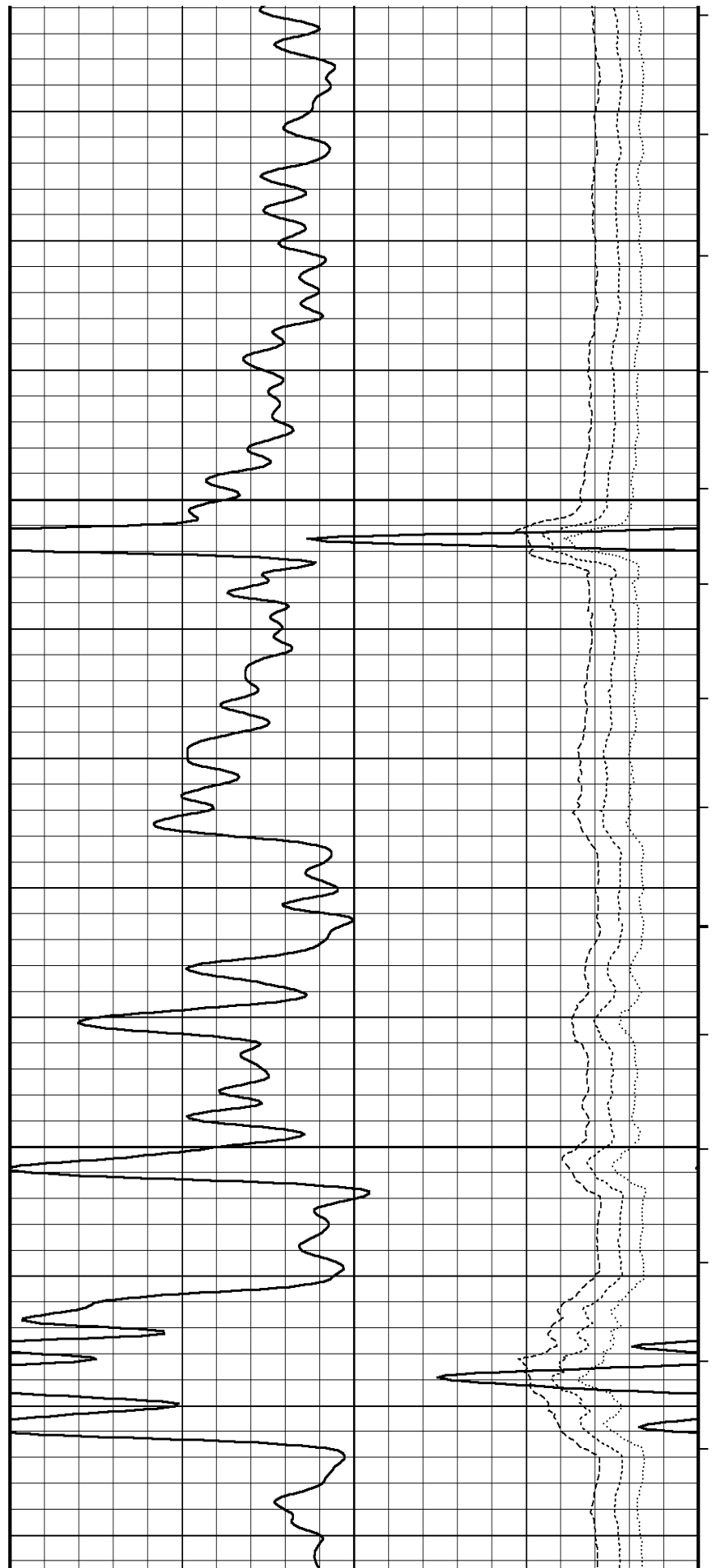
30°

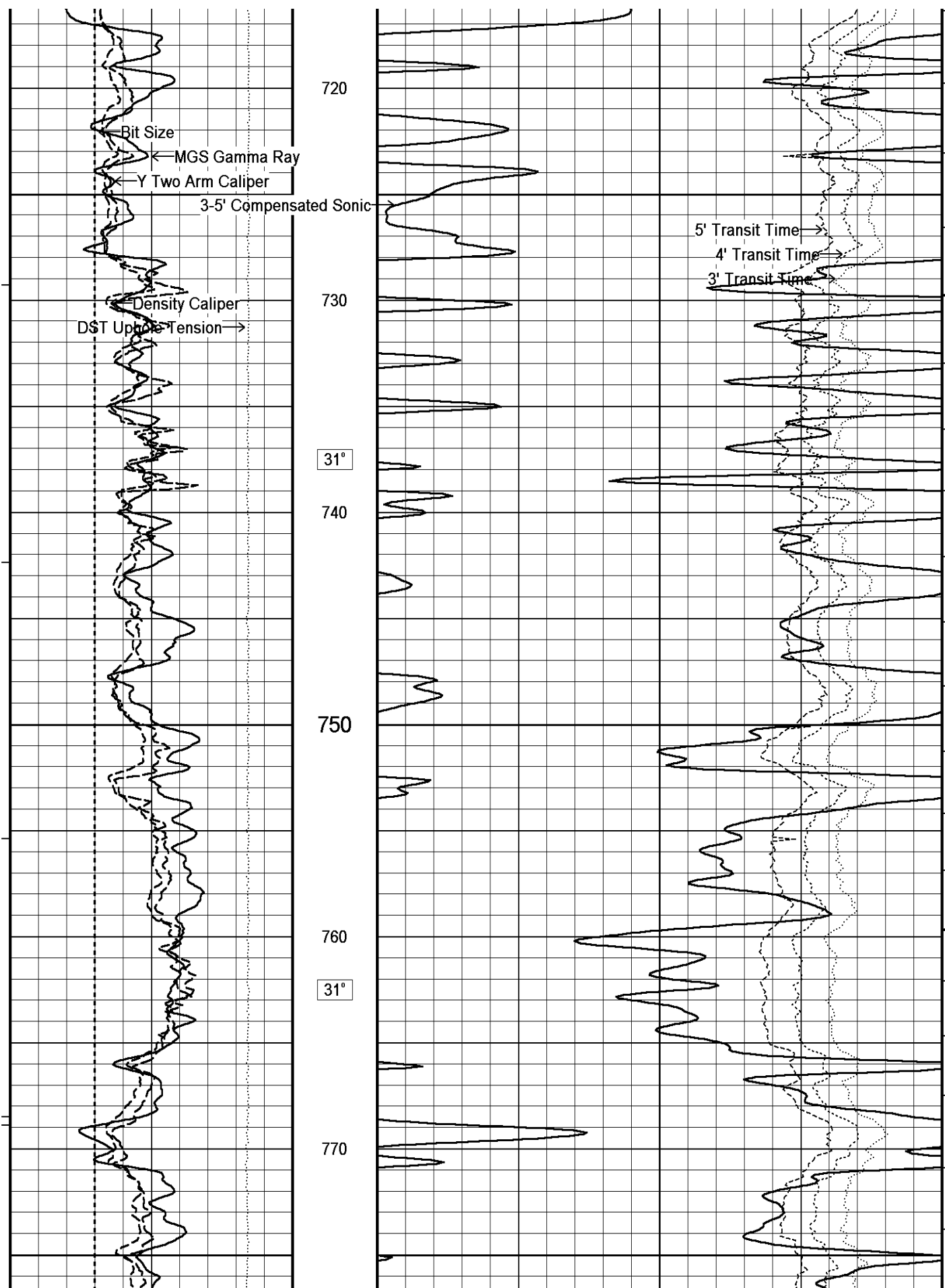
690

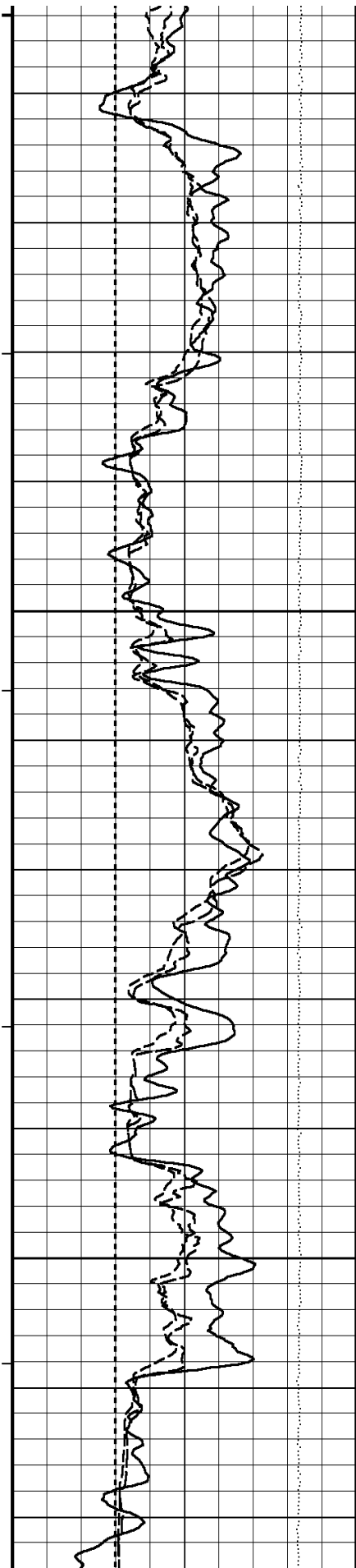
700

710

30°







780

32°

790

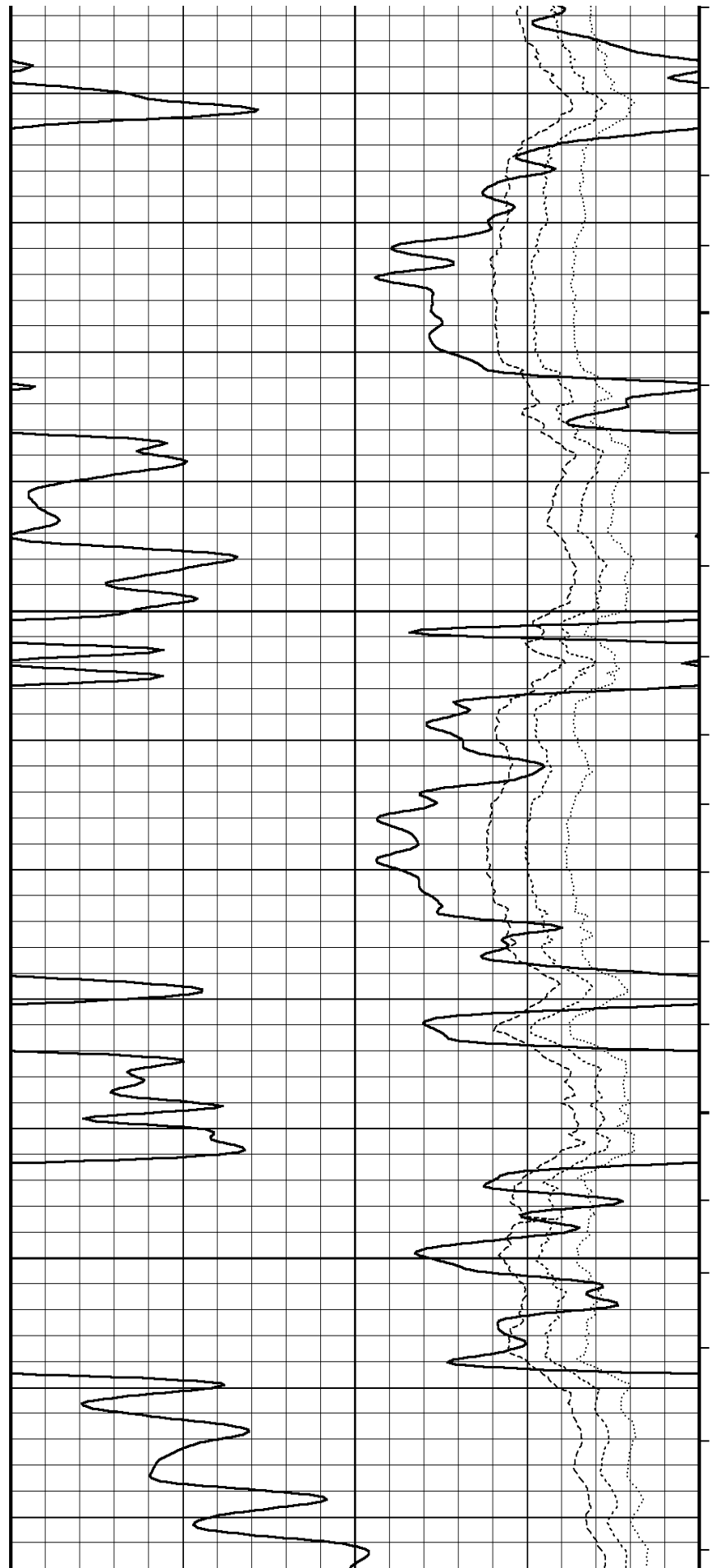
800

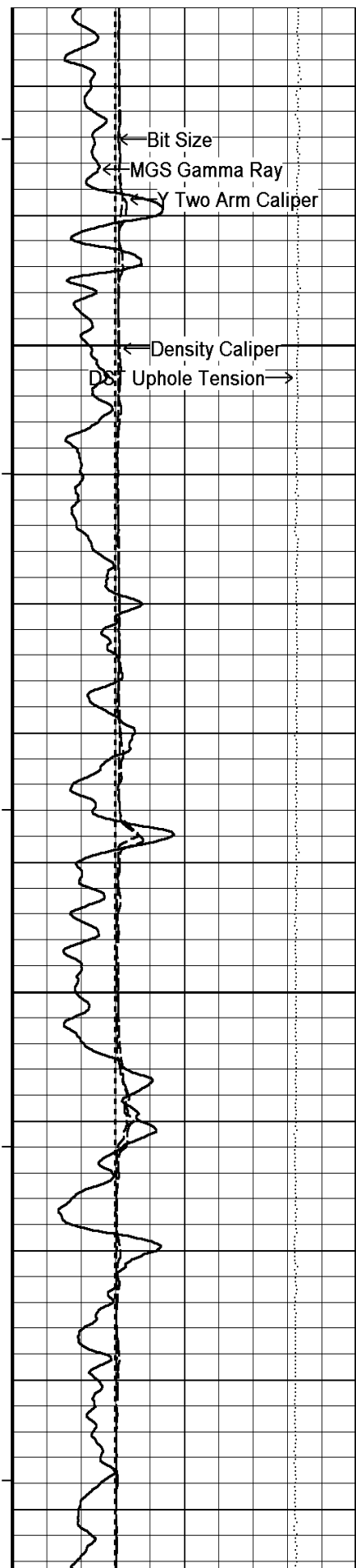
810

32°

820

830





32°

840

850

860

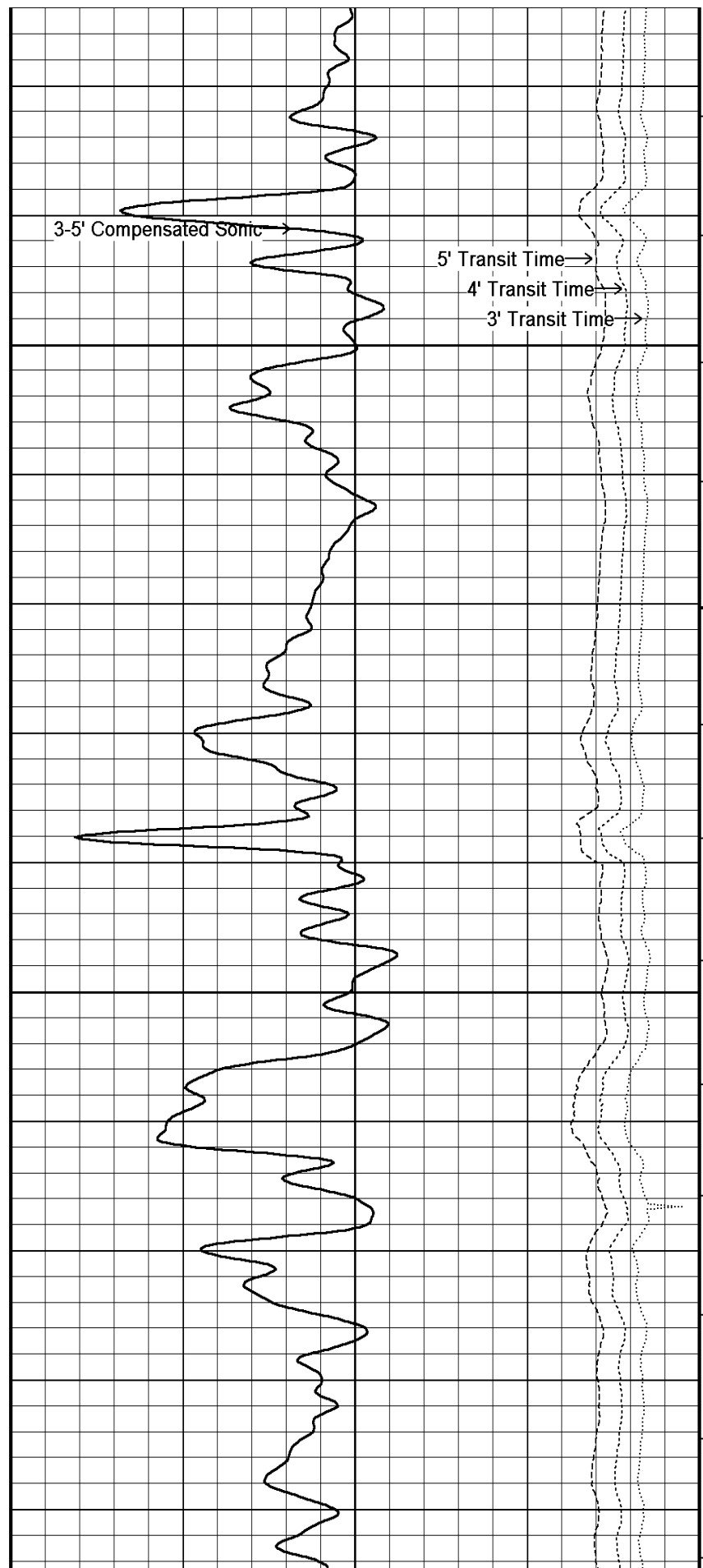
33°

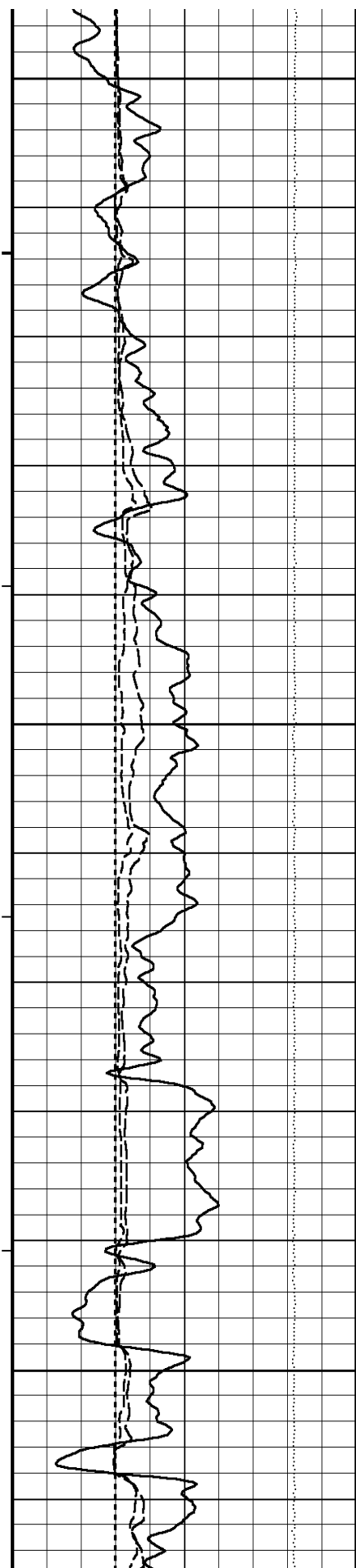
870

880

33°

890





900

910

34°

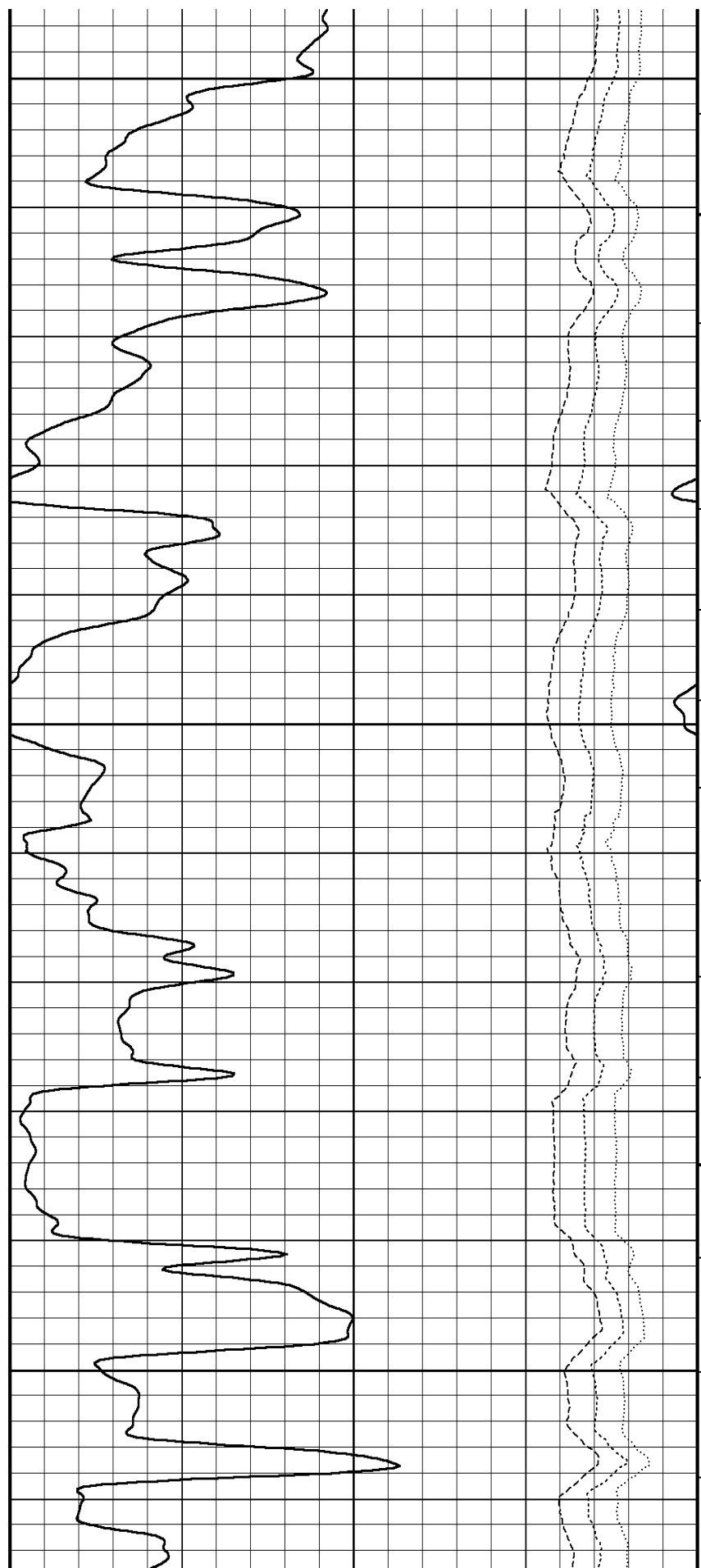
920

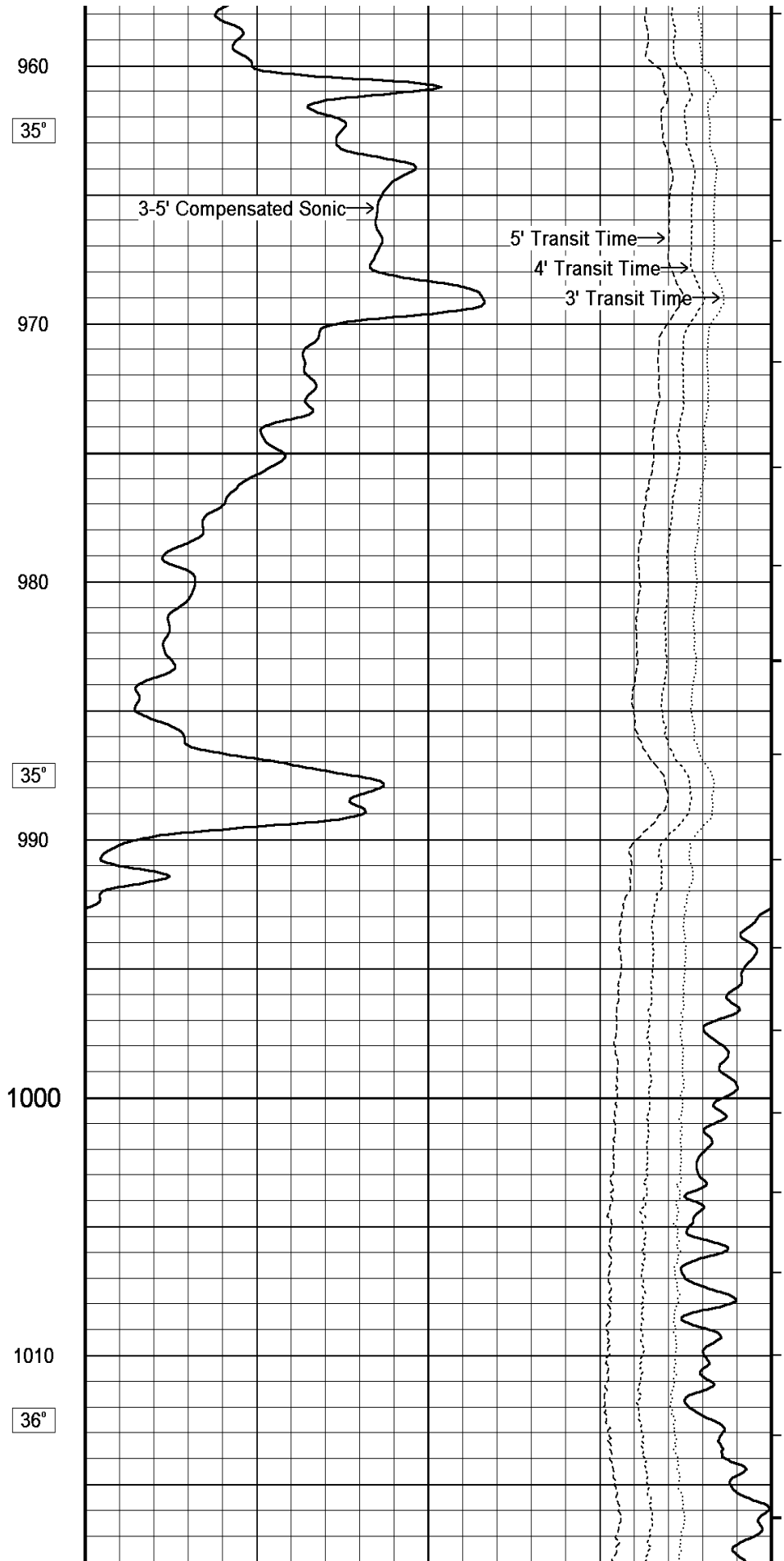
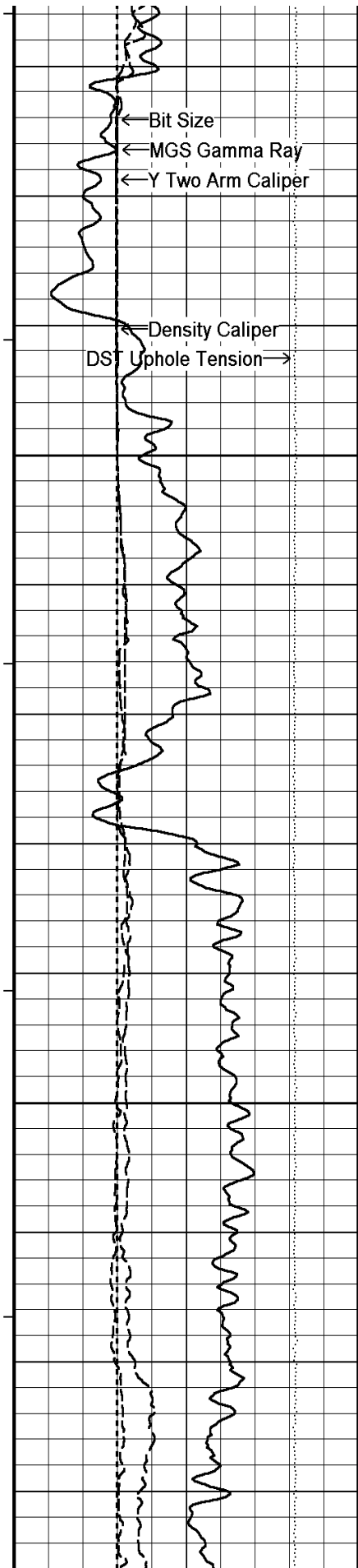
930

34°

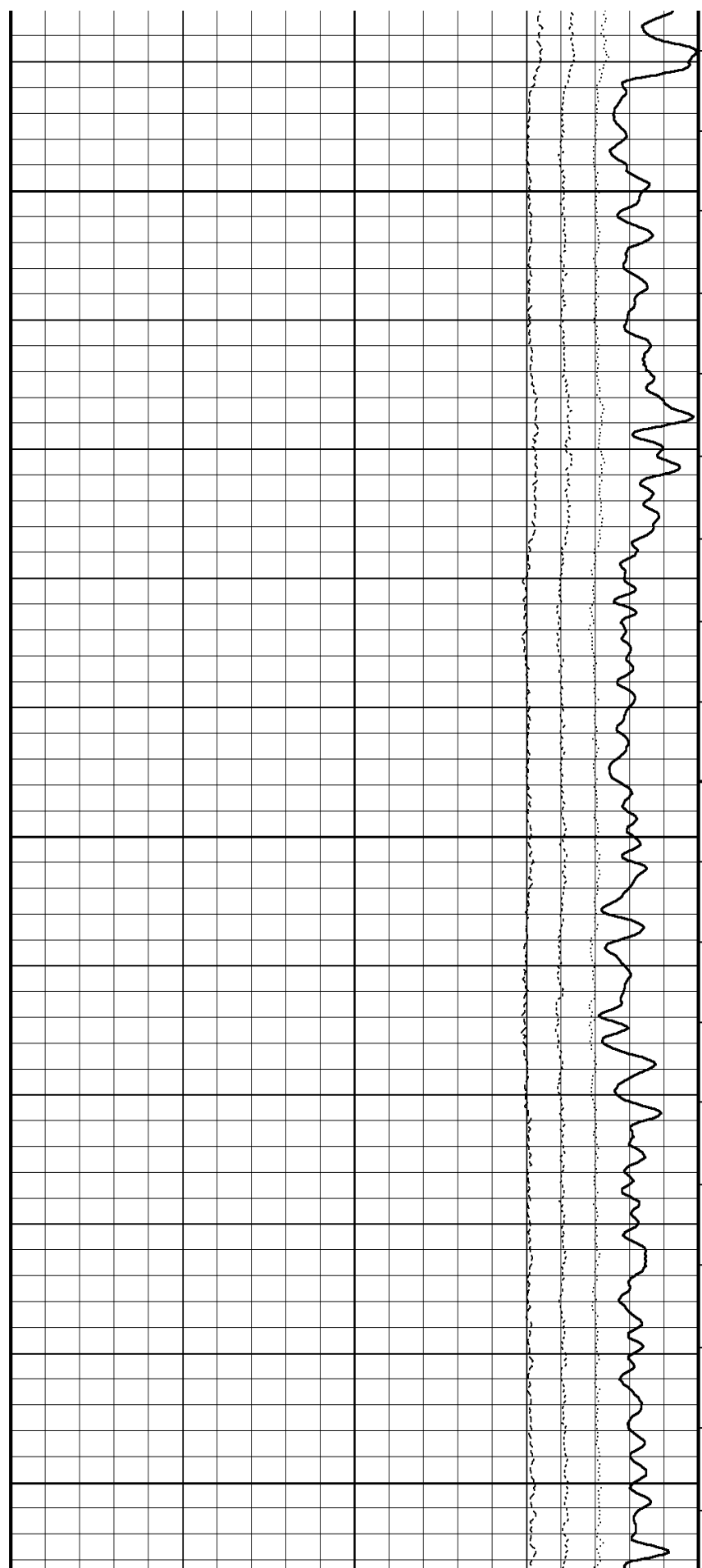
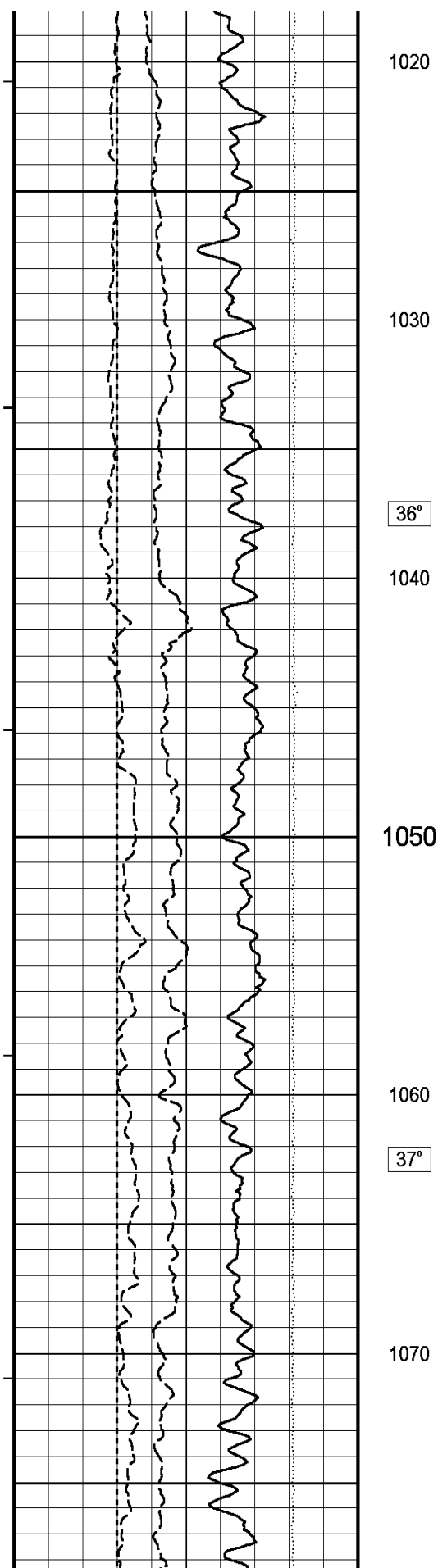
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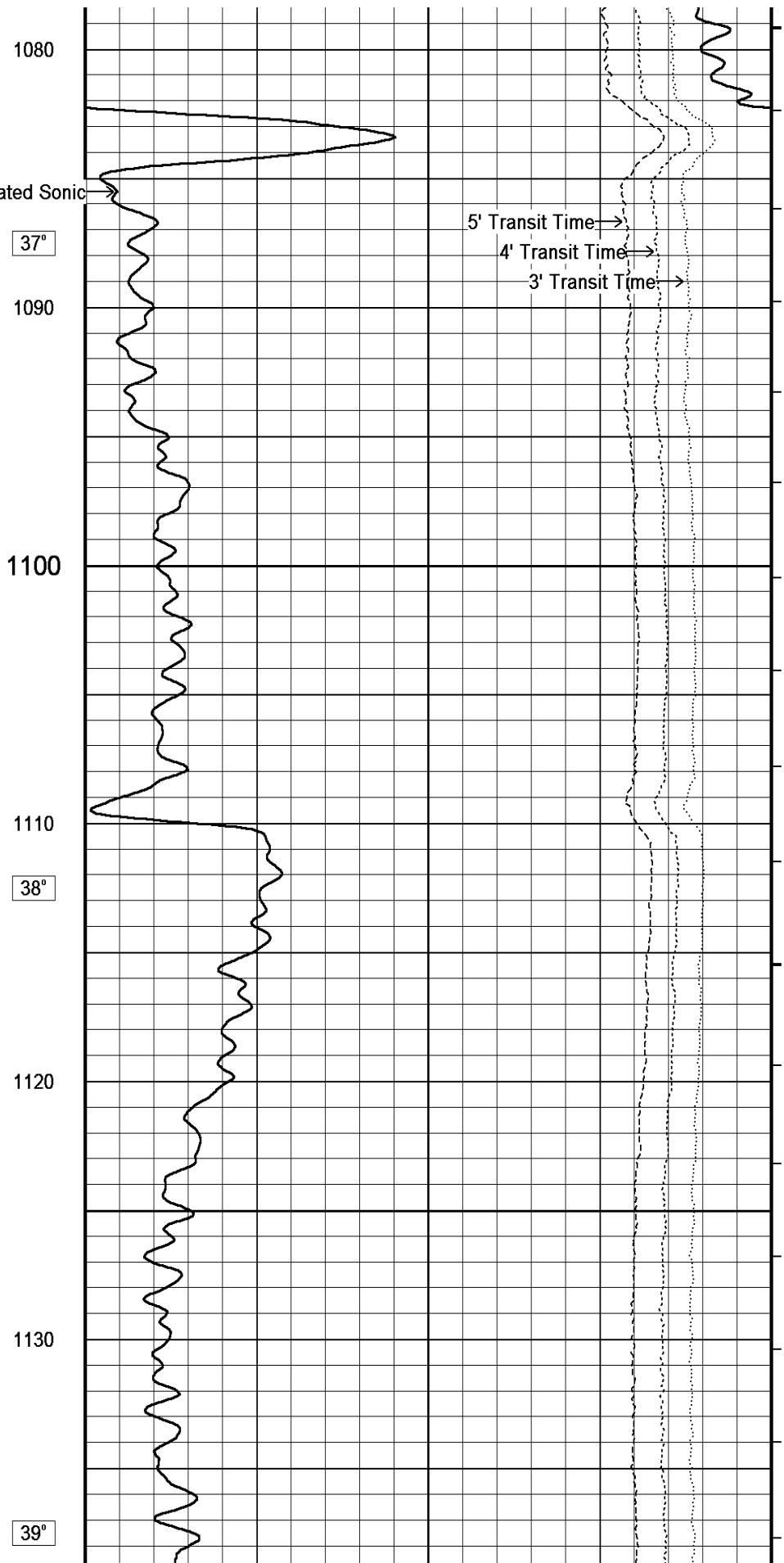
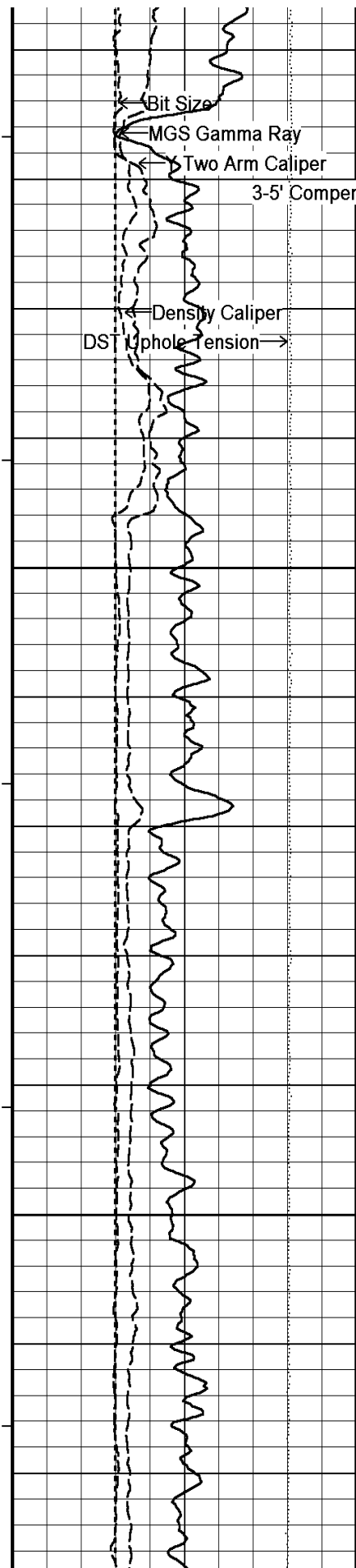
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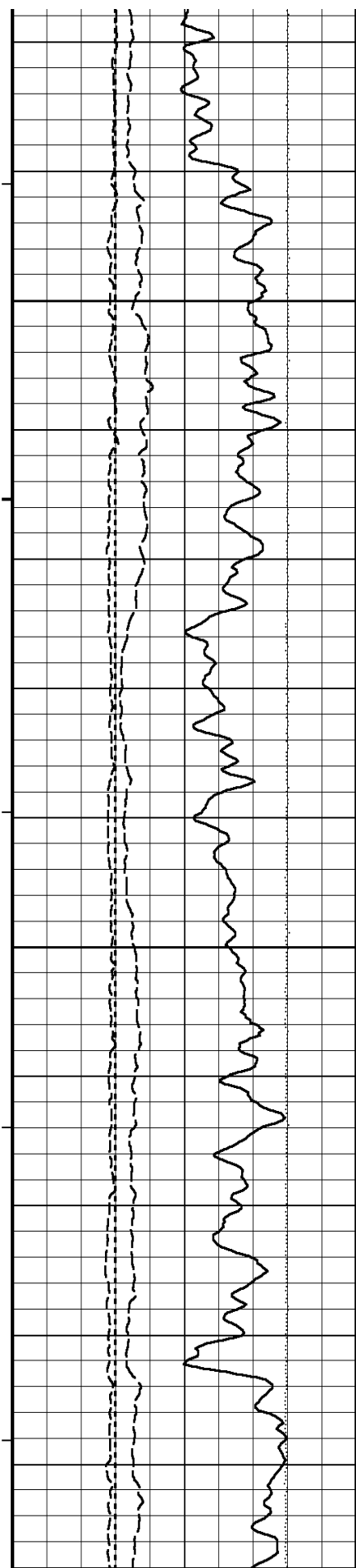












1140

1150

1160

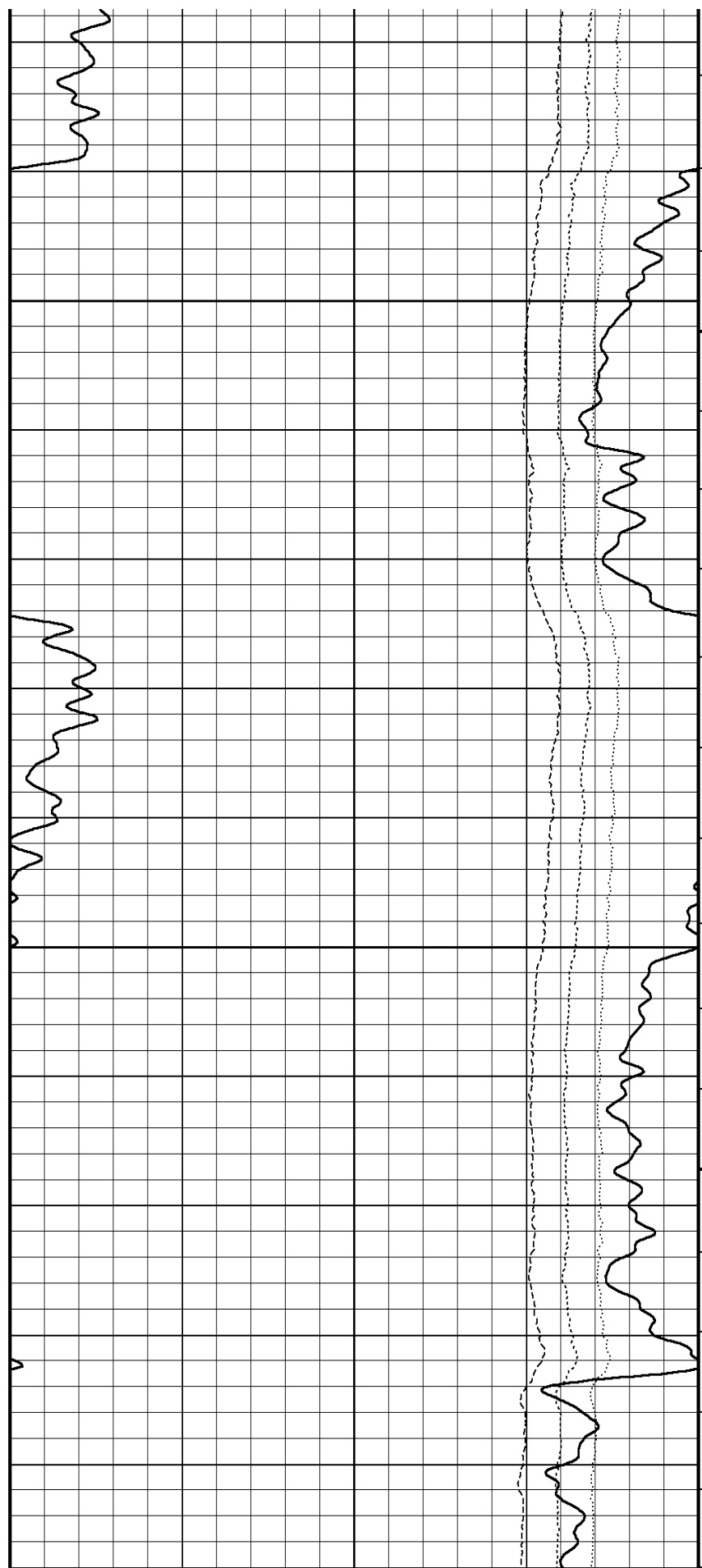
39°

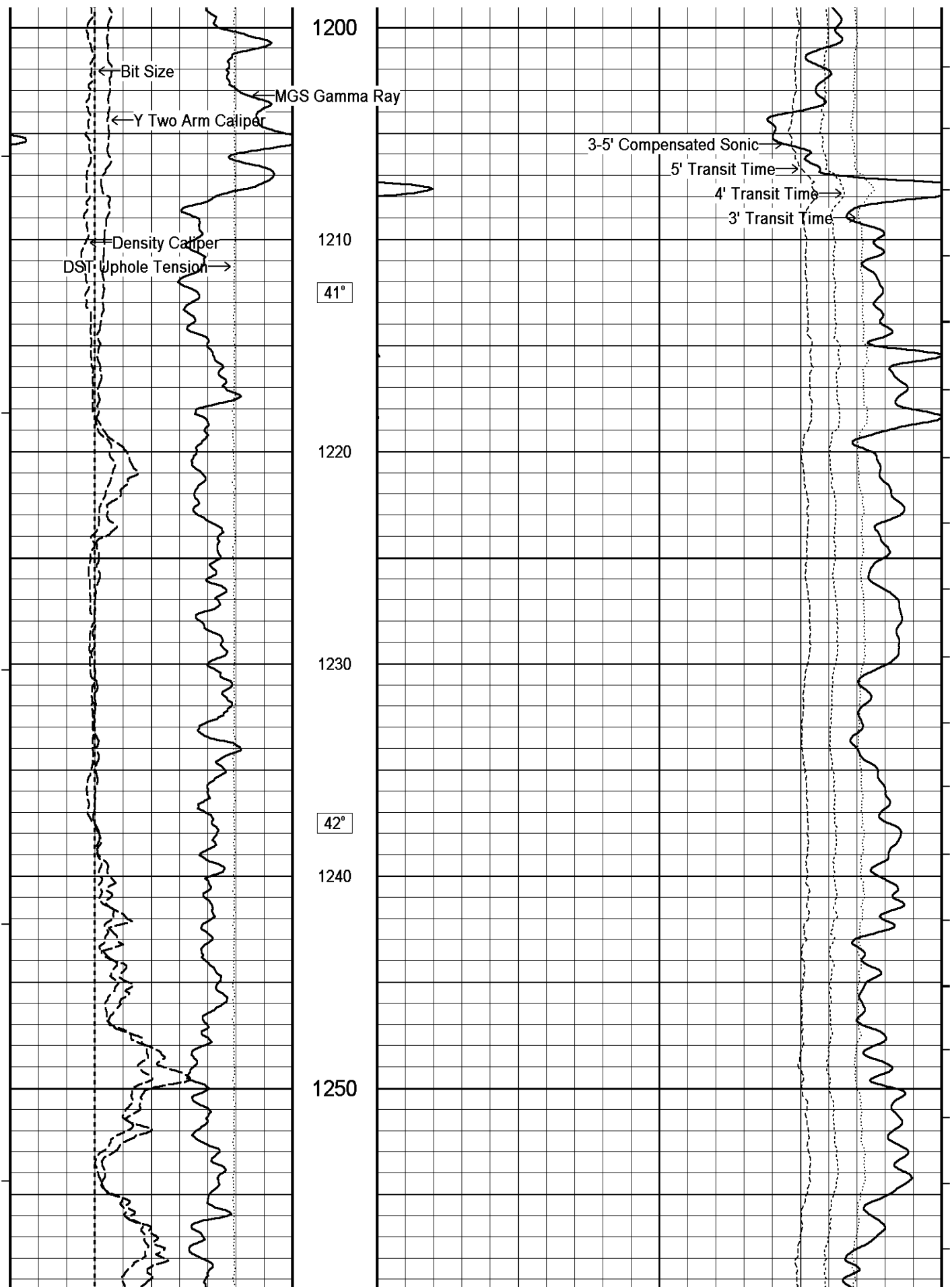
1170

1180

40°

1190







1260

43°

1270

1280

44°

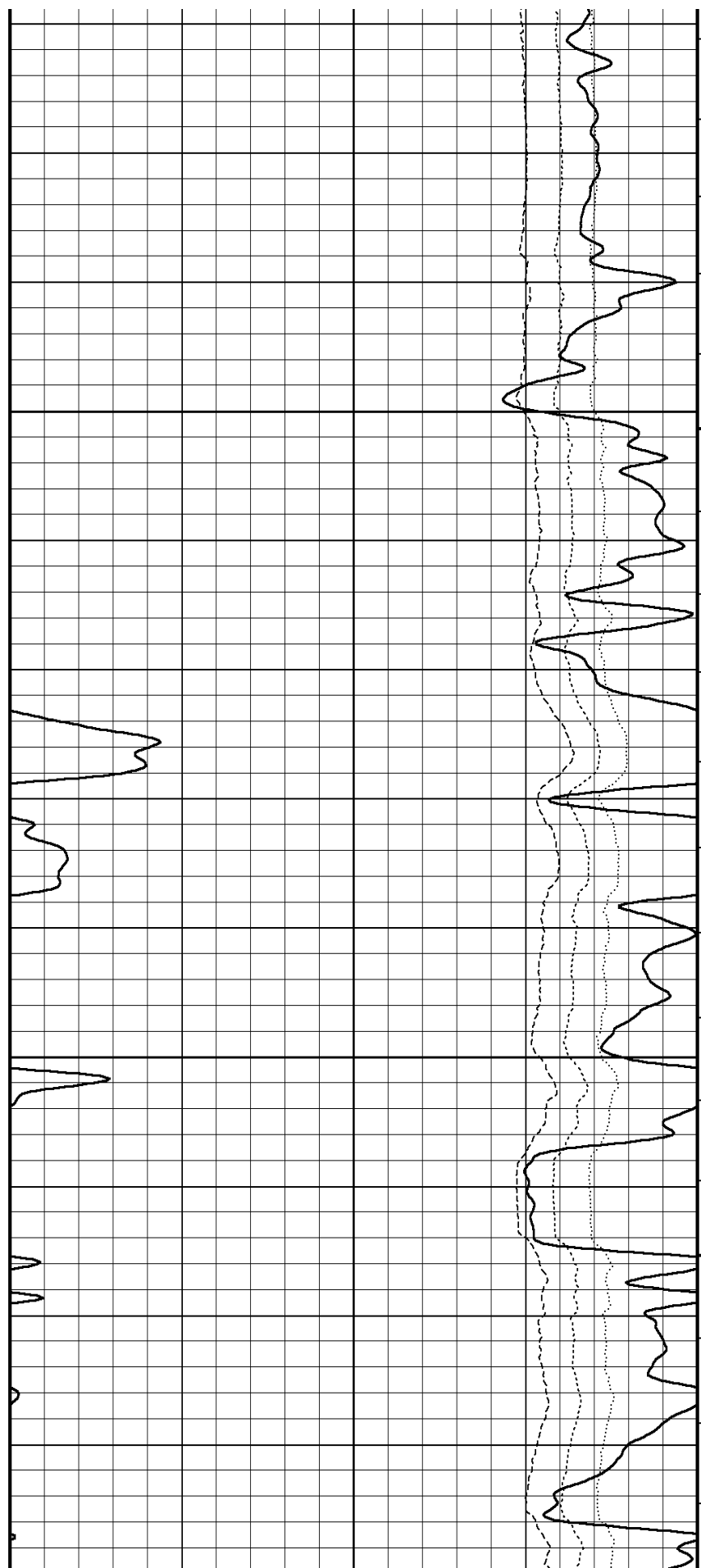
1290

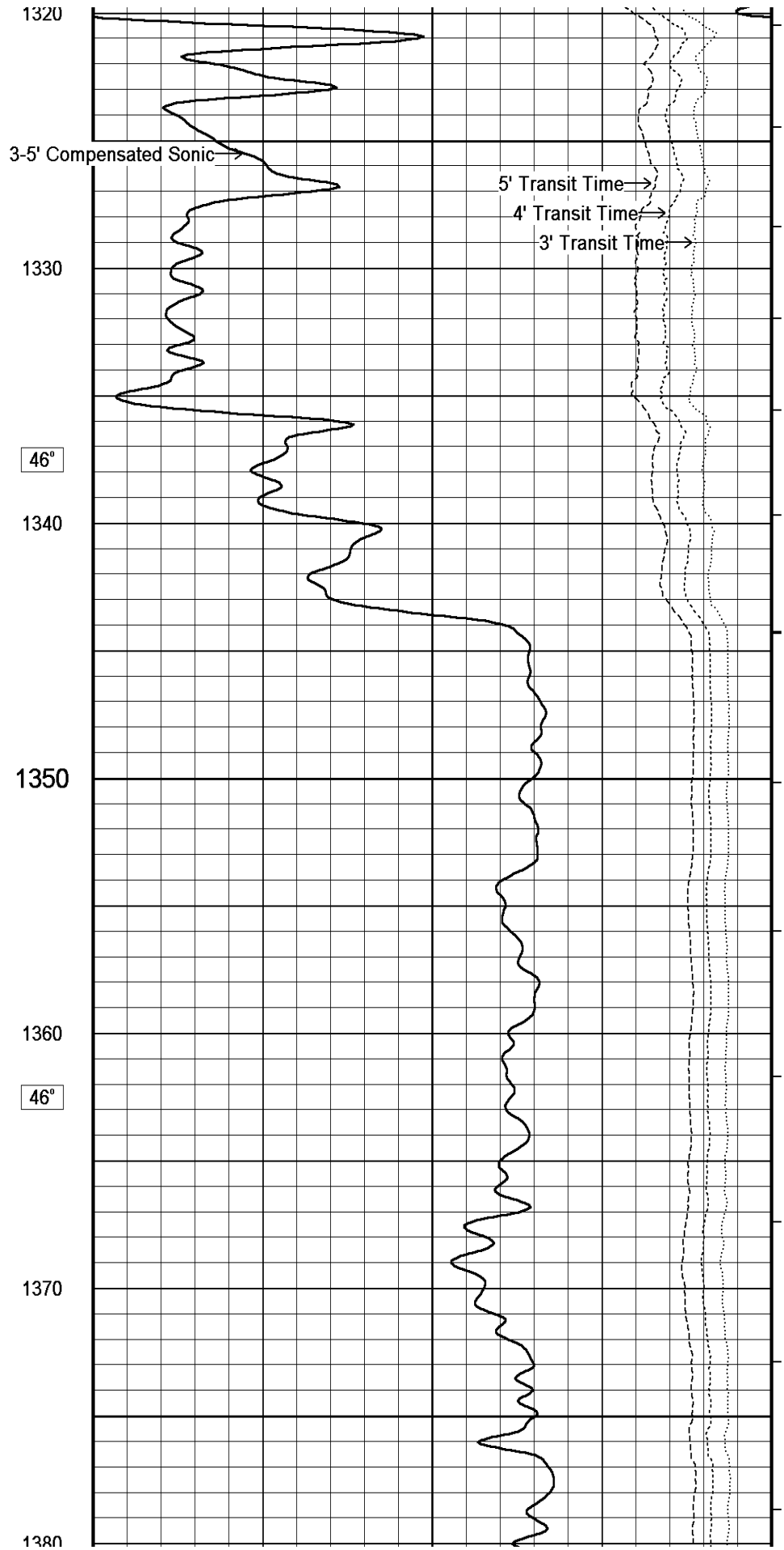
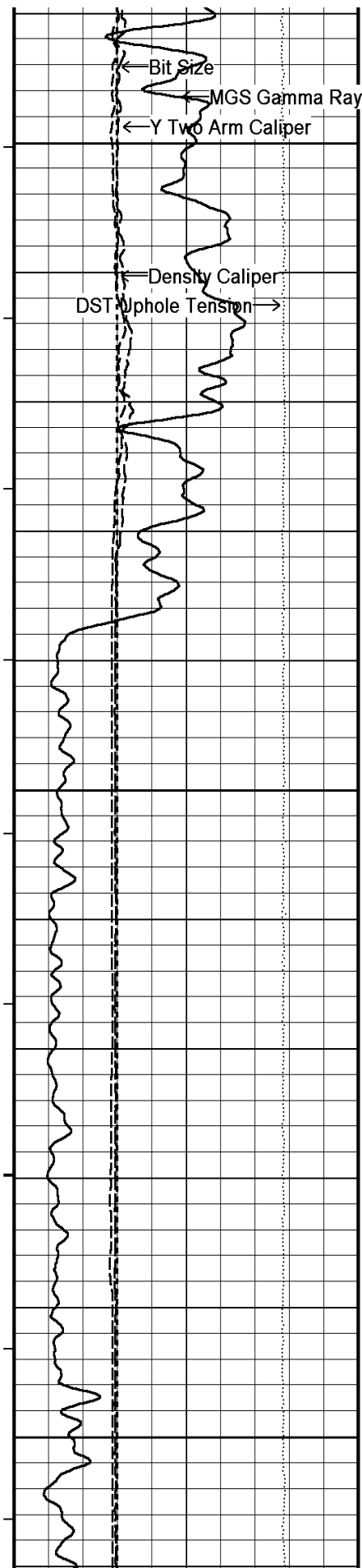
1300

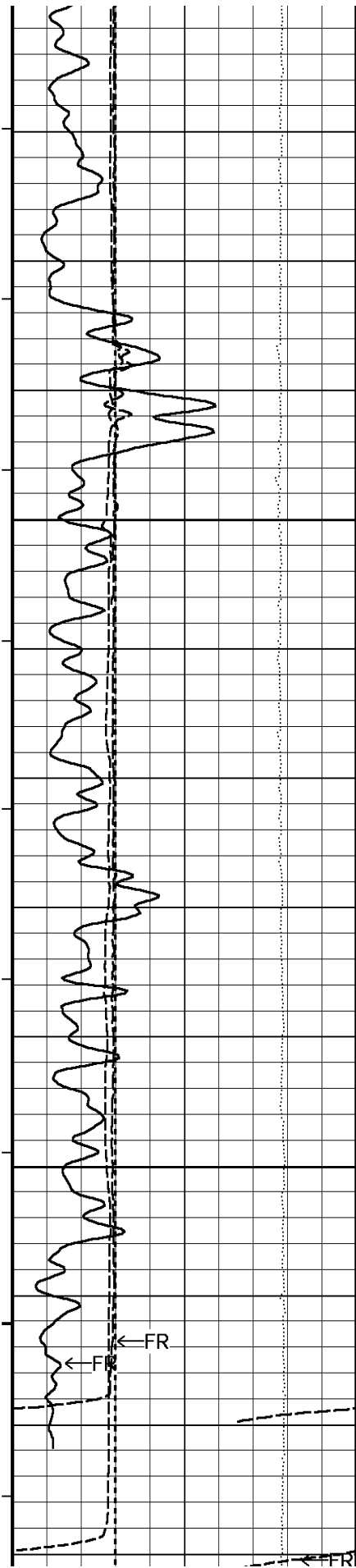
1310

45°

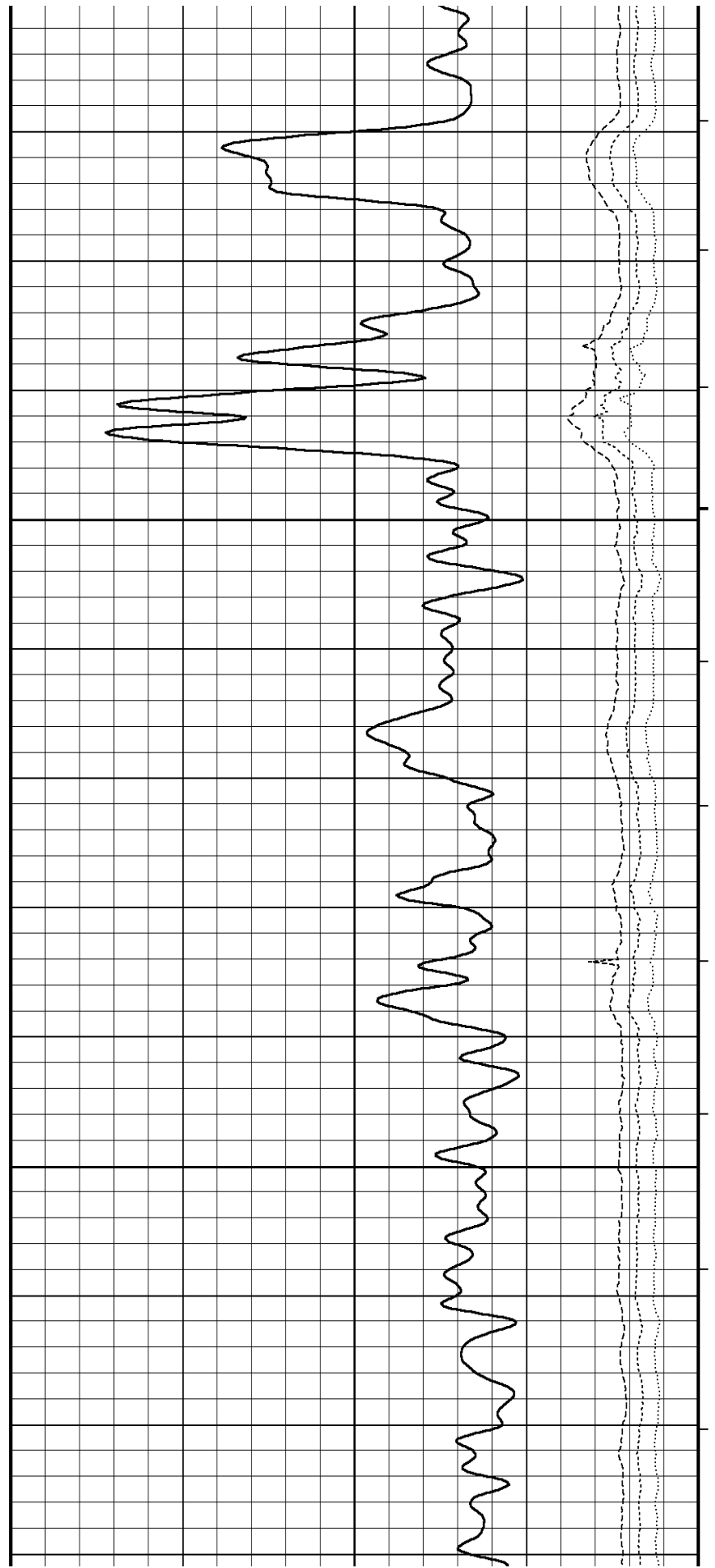
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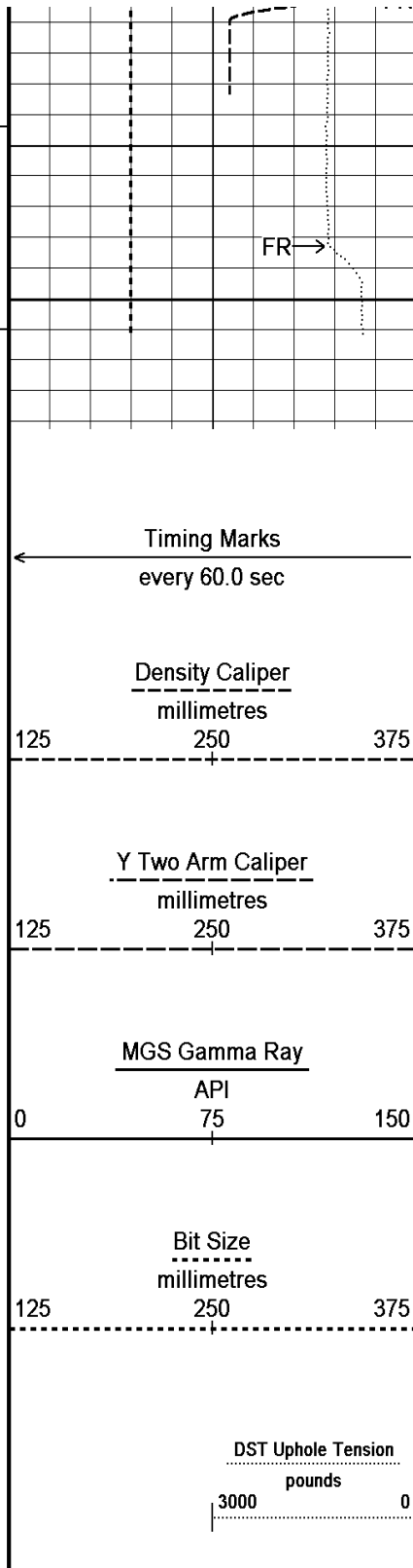






1390 46° 1400 1410 47° 1420 1430 1440





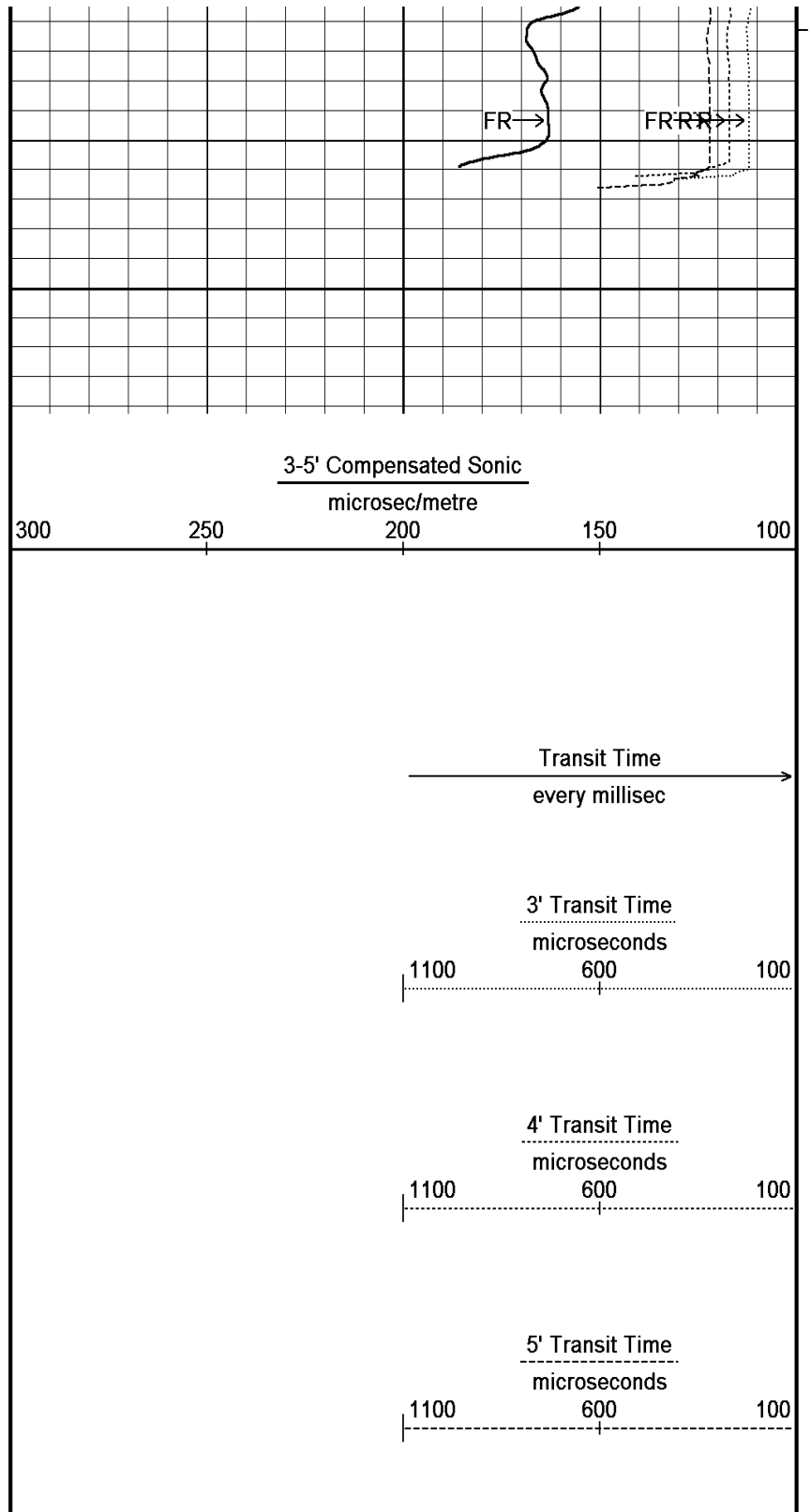
1450

1453

Depth  
in  
Metres

Borehole  
Temp in  
deg C

Replay  
Scale  
1:240



FR→

FR→→→→

Depth Based Data - Maximum Sampling Increment 10.0cm

Filename: C:\Temp\Weatherford PreView\01L-73 main.dta

System Versions: Logged with 7.01.0195 Processed with 7.01.0195 Plotted with 8.01.0091

Plotted on 12-NOV-2007 11:21

Recorded on 28-FEB-2007 02:28



MAIN LOG 1:240



REPEAT SECTION  
MAIN LOG 1:240





Depth Based Data - Maximum Sampling Increment 10.0cm

Filename: C:\Temp\Weatherford PreView\0\L-73 rpt.dta

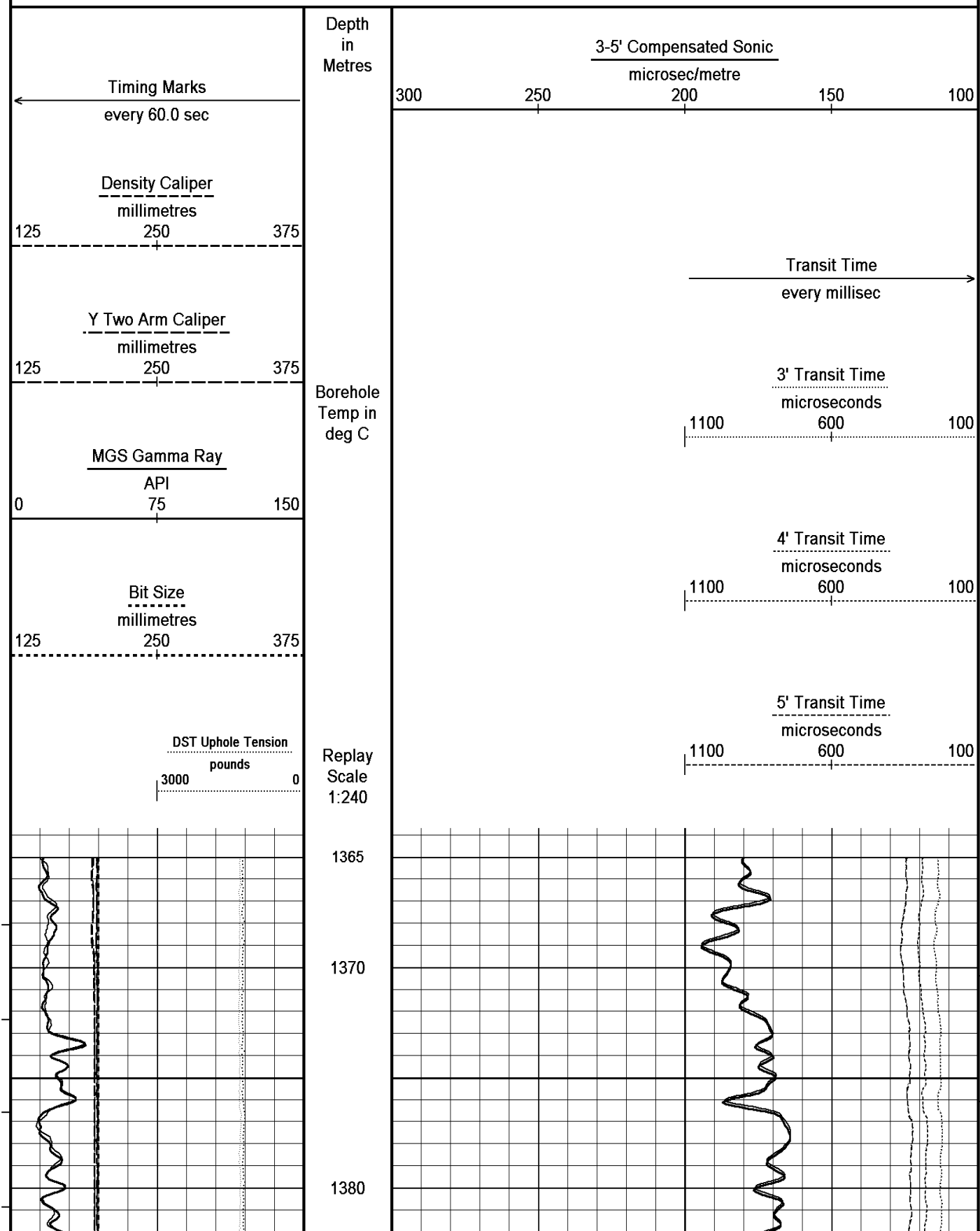
Filename: C:\Temp\Weatherford PreView\0\L-73 main.dta

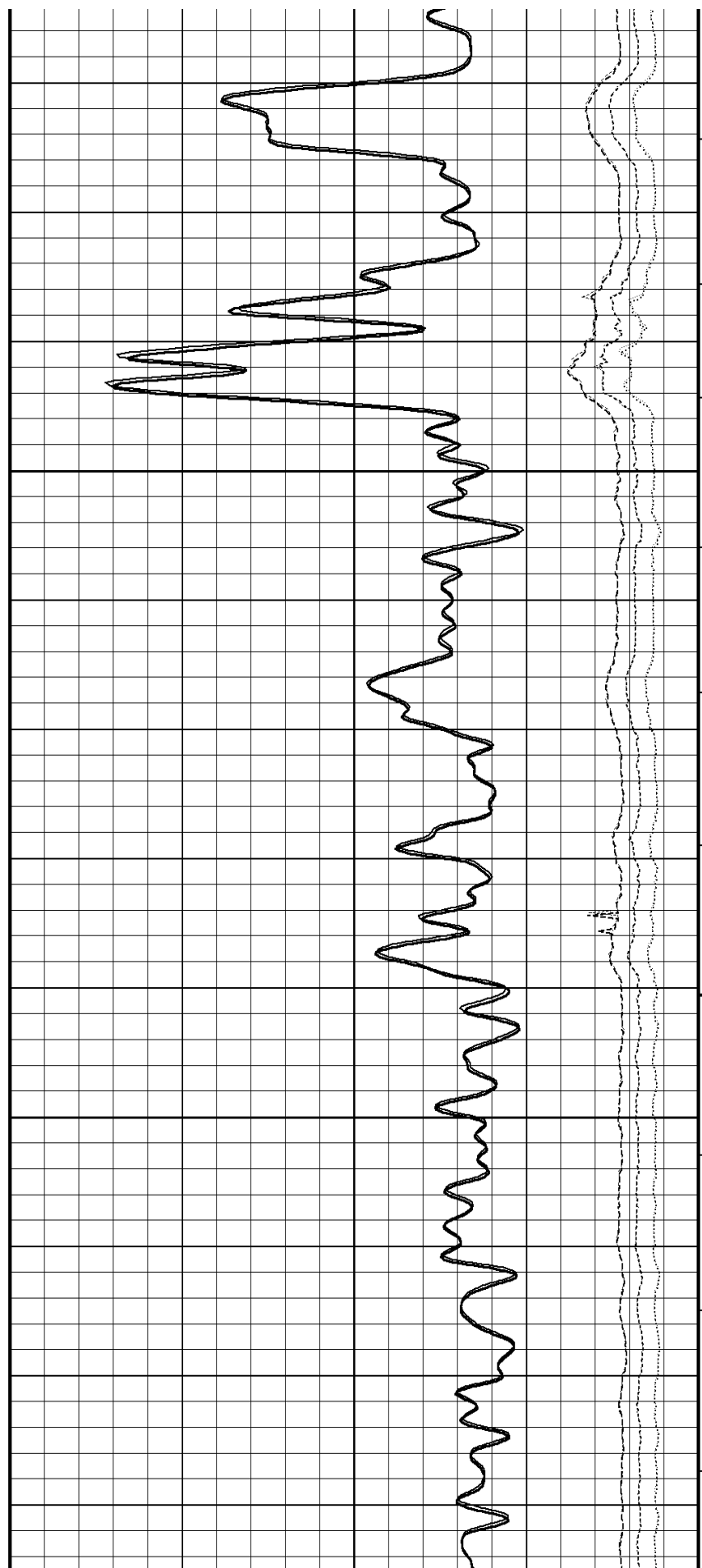
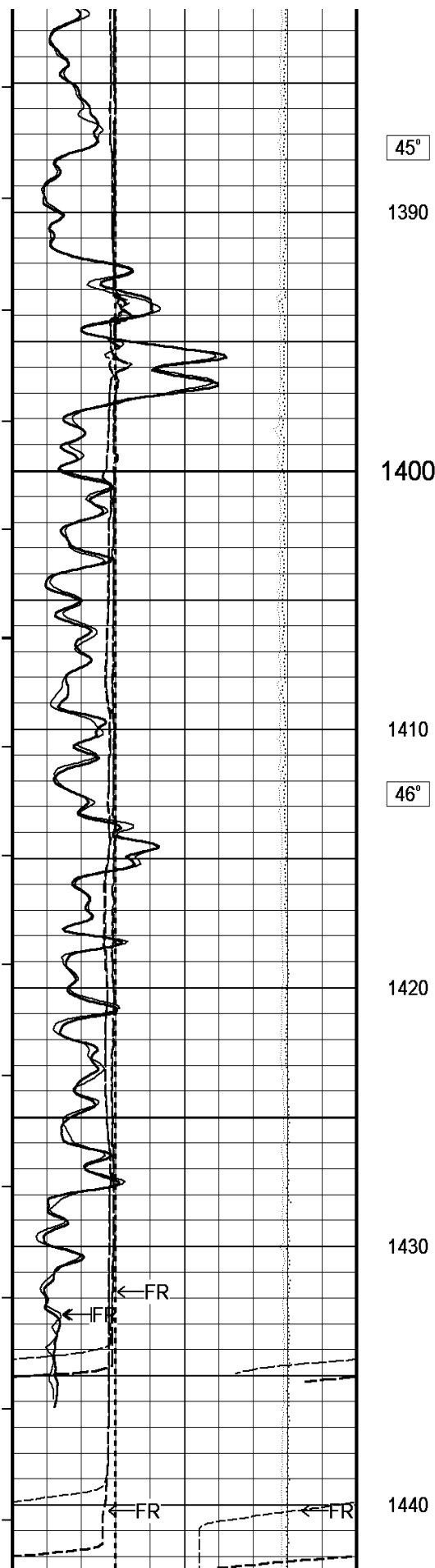
System Versions: Logged with 7.01.0195 Processed with 7.01.0195 Plotted with 8.01.0091

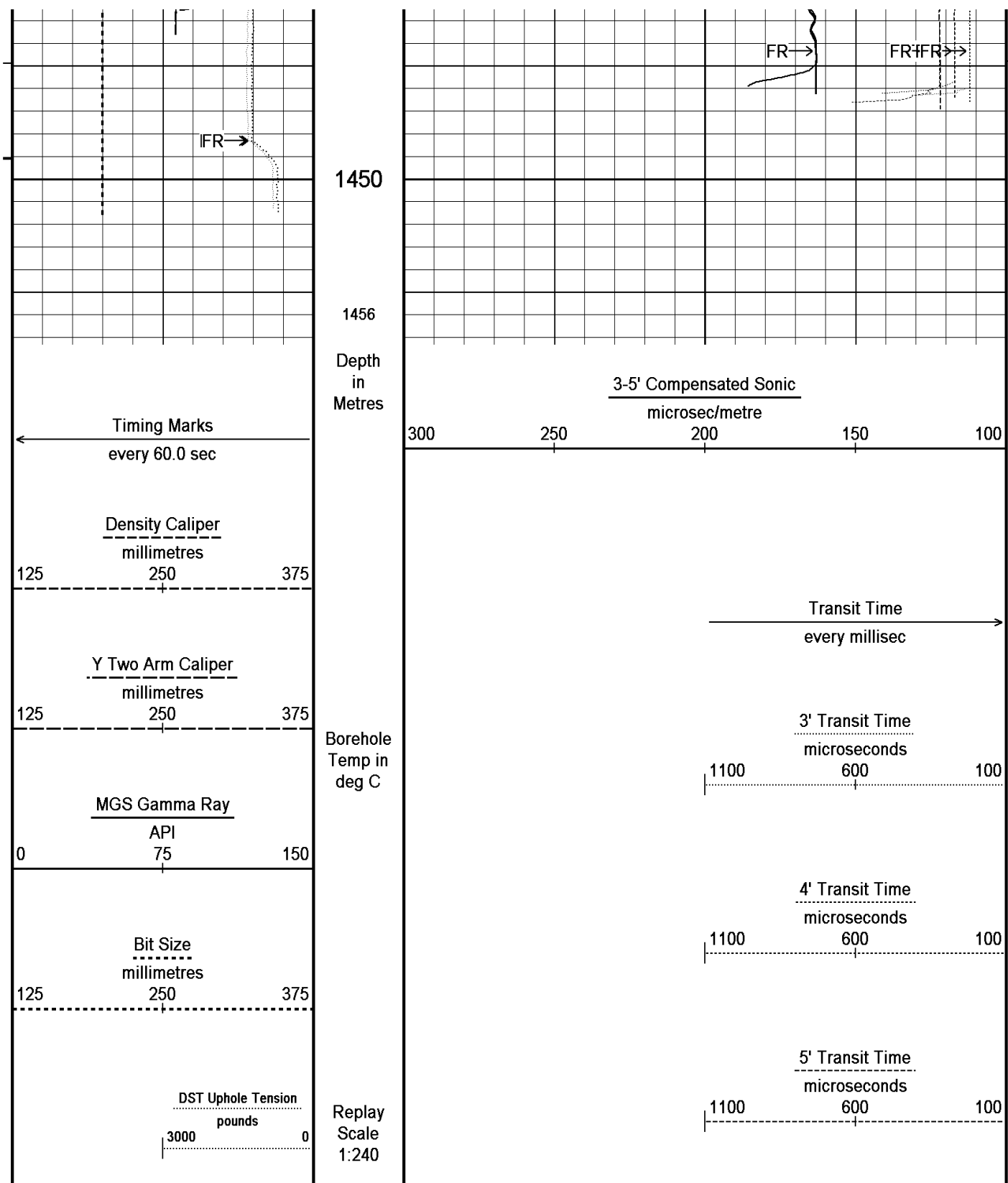
Plotted on 12-NOV-2007 11:21

Recorded on 28-FEB-2007 01:43

Recorded on 28-FEB-2007 02:28







Depth Based Data - Maximum Sampling Increment 10.0cm

Filename: C:\Temp\Weatherford PreView\0\L-73 rpt.dta

Filename: C:\Temp\Weatherford PreView\0\L-73 main.dta

System Versions: Logged with 7.01.0195 Processed with 7.01.0195 Plotted with 8.01.0091

Plotted on 12-NOV-2007 11:21

Recorded on 28-FEB-2007 01:43

Recorded on 28-FEB-2007 02:28



REPEAT SECTION  
MAIN LOG 1:240



# BEFORE SURVEY CALIBRATION

C:\Temp\Weatherford PreView\01L-73 main.dta

## General Constants All 000

Last Edited on 28-FEB-2007,00:23

### General Parameters

Mud Resistivity	0.540	ohm-metres
Mud Resistivity Temperature	25.000	degrees C
Water Level	0.000	metres
Density/Neutron Processing	Wet Hole	

### Hole/Annular Volume and Differential Caliper Parameters

HVOL Caliper 1	Density Caliper	
HVOL Caliper 2	Y Two Arm Caliper	
Annular Volume Diameter	139.700	mm
Caliper for Differential Caliper	Density Caliper	

### Rwa Parameters

Porosity used	Base Density Porosity
Resistivity used	Deep Induction
RWA Constant A	0.610
RWA Constant M	2.150

## Gamma Calibration MCG 131

Field Calibration on 26-FEB-2007 10:56

	Measured	Calibrated (API)
Background	56	35
Calibrator (Gross)	1332	829
Calibrator (Net)	1277	794

## Gamma Constants MCG 131

Last Edited on 27-FEB-2007,23:06

Gamma Calibrator Number	GRC 095	
Mud Density	1180.00	kg/m3
Caliper Source for Processing	Density Caliper	
Tool Position	Centred	
Concentration of KCl	0.00	kppm

## SP Calibration MCG 131

Field Calibration on 24-FEB-2007 11:45

	Measured	Calibrated (mV)
Reference 1	101.0	100.0
Reference 2	-99.3	-100.0

## High Resolution Temperature Calibration MCG 131

Field Calibration on 15-DEC-2006,15:05

	Measured	Calibrated(Deg C)
Lower	1.00	1.00
Upper	10.00	10.00

## High Resolution Temperature Constants MCG 131

Pre-filter Length	11
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## FE Calibration MFE 111

Base Calibration on 15-FEB-2007 19:40

Field Check on 28-FEB-2007 00:16

### Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	983.2	126.8

Base Check	278.8
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Field Check	279.0
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FE Constants MFE 111			Last Edited on 25-FEB-2007,03:56
Caliper Source for FE correction	Density Caliper		
Rm Source for FE correction	Temperature Corr		
Temp. for Rm Corr.	MCG External Temperature		
Stand-off	Centred	millimetres	
Caliper Calibration MTC 024			Base Calibration on 6-FEB-2007 10:21 Field Calibration on 28-FEB-2007,00:43
Base Calibration			
Reading No	Measured	Calibrator Size (mm)	
1	15472	110.00	
2	18252	162.00	
3	21045	212.00	
4	23841	262.00	
5	26691	311.00	
6	N/A	N/A	
Field Calibration			
	Measured Caliper (mm)	Actual Caliper (mm)	
	210.30	205.70	
Gamma Calibration MGS 029			Field Calibration on 20-FEB-2007,01:19
	Measured	Calibrated (API)	
Background	58	38	
Calibrator (Gross)	1286	832	
Calibrator (Net)	1228	794	
Gamma Constants MGS 029			Last Edited on 27-FEB-2007,23:06
Gamma Calibrator Number	GRCC095		
Mud Density	1180.00	kg/m3	
Caliper Source for Processing	Density Caliper		
Tool Position	Centred		
Concentration of KCl	0.00	kppm	
SP Calibration MGS 029			Field Calibration on 7-DEC-2006,17:01
	Measured	Calibrated (mV)	
Reference 1	100.0	100.0	
Reference 2	-100.0	-100.0	
High Resolution Temperature Calibration MGS 029			Field Calibration on 7-DEC-2006,17:01
	Measured	Calibrated(Deg C)	
Lower	1.00	1.00	
Upper	5.00	5.00	
High Resolution Temperature Constants MGS 029			
Pre-filter Length	11		
Micro Laterolog Constants MMR 031			
Micro Laterolog K Factor	0.0128		
Standoff Offset	0.0000	inches	
Borehole Correction Constants			
Mud Cake Source	Constant Value		
Mud Cake Thickness	0.4000	inches	
Mud Cake Thickness Caliper	0		
Mud Cake Resistivity	0.1500	ohm-m	
Caliper Calibration MMR 031			Base Calibration on 27-FEB-2007,13:43 Field Calibration on 28-FEB-2007,00:43

Base Calibration				
Reading No	Measured		Calibrator Size (mm)	
1	14876		162.00	
2	17978		212.00	
3	21602		262.00	
4	24308		311.00	
5	0		0.00	
6	N/A		N/A	
Field Calibration				
	Measured Caliper (mm)		Actual Caliper (mm)	
	205.60		205.70	

Micro Normal and Micro Inverse Calibration MMR 031					Base Calibration on 27-FEB-2007,13:43	
					Field Check on 28-FEB-2007 00:34	
Base Calibration						
Channel	Resistor 1	Measured		Calibrated (ohm-m)		
		Resistor 2	Resistor 1	Resistor 2		
Micro Normal	9.8	49.9	5.1	25.6		
Micro Inverse	9.8	49.8	3.4	16.9		
Channel		Base Check (ohm-m)		Field Check (ohm-m)		
Micro Normal		94.7		92.9		
Micro Inverse		61.6		61.6		

Micro Normal and Micro Inverse Constants MMR 031					Last Edited on 25-NOV-2006,14:14	
Micro Normal K Factor		0.5110				
Micro Inverse K Factor		0.3380				
Standoff Offset		0.0000		millimetres		

Neutron Calibration MDN 016					Base Calibration on 11-JAN-2007 20:47	
					Field Check on 27-FEB-2007 23:30	
Base Calibration						
		Measured		Calibrated (cps)		
		Near	Far	Near	Far	
		3219	98	3714	110	
Ratio		32.703		33.764		
Field Calibrator at Base				Calibrated (cps)		
				2486	3648	
Ratio				0.681		
Field Check				Calibrated (cps)		
				2568	3767	
Ratio				0.682		

Neutron Constants MDN 016					Last Edited on 25-FEB-2007,03:55	
Neutron Source Id		277				
Neutron Jig Number		N636				
Epithermal Neutron		No				
Caliper Source for Processing		Density Caliper				
Stand-off		0.00	mm			
Mud Density		1000.00	kg/m3			
Limestone Sigma		7.10	cu			
Sandstone Sigma		4.26	cu			
Dolomite Sigma		4.70	cu			
Formation Pressure Source		Constant Value				
Formation Pressure		0.00	kPa			
Temperature Source		Constant Value				
Temperature		20.00	degrees C			
Mud Salinity		0.00	kppm			
Formation Fluid Salinity Source		Constant Value				
Formation Fluid Salinity		0.00	kppm			



Field Calibration				
Measured Caliper (mm)		Actual Caliper (mm)		
207.70		205.70		
Sonic Constants MSS 003				Last Edited on 27-FEB-2007,23:07
Maximum Boundary Contrast	328.08	micro-sec/m		
Fluid Transit Time	620.08	micro-sec/m		
Limestone Transit Time	155.84	micro-sec/m		
Sandstone Transit Time	182.09	micro-sec/m		
Dolomite Transit Time	142.72	micro-sec/m		
Sonic used for Porosities	3-5' Compensated Sonic			
Correction for Sonde Skew	Applied			
Cycle Stretch Algorithm	Applied			
MN3FT	N/A	micro-sec		
MX3FT	N/A	micro-sec		
Hunt-Raymer Constant	0.00	0		
Fixed Gate Parameters				
Start Time (micro-sec)	End Time (micro-sec)	Discriminator (mV)	N/A	
N/A	N/A	N/A		
N/A	N/A	N/A	N/A	
N/A	N/A	N/A	N/A	
N/A	N/A	N/A	N/A	
N/A	N/A	N/A	N/A	
Down Hole Fixed Gate Parameters				
Gate Start	N/A	micro-sec		
Gate Width	N/A	micro-sec		
Initial Discriminator Level	0.0000	mVolts		
Full Waveform Parameters				
Use 3' Waveform to derive TR	N/A			
Use 4' Waveform to derive TR	N/A			
Use 5' Waveform to derive TR	N/A			
Use 6' Waveform to derive TR	N/A			
3' Waveform Discriminator Level	N/A	mV		
4' Waveform Discriminator Level	N/A	mV		
5' Waveform Discriminator Level	N/A	mV		
6' Waveform Discriminator Level	N/A	mV		
3' Waveform Filter	N/A			
4' Waveform Filter	N/A			
5' Waveform Filter	N/A			
6' Waveform Filter	N/A			
Semblance Level	N/A			
Semblance Window Width	N/A	micro-sec		
Sonic 1 Despiker	N/A	N/A		
Sonic 2 Despiker	N/A	N/A		
Induction Calibration MAI 154				Base Calibration on 14-JAN-2007 01:38
				Field Check on 28-FEB-2007 00:33
Base Calibration				
Test Loop Calibration		Measured	Calibrated (mmho/m)	
Channel	Low	High	Low	High
1	16.6	470.6	9.3	966.2
2	6.3	383.0	7.6	821.4
3	4.0	264.7	5.2	566.0
4	2.3	136.2	2.6	279.2
Array Temperature	22.3	Deg C		
Channel	Base Check (mmho/m)		Field Check (mmho/m)	
	Low	High	Low	High



1	13.1	3867.2	15.3	3866.9
2	29.6	3530.7	30.2	3528.9
3	26.8	3001.8	27.1	2999.9
4	18.4	2040.8	18.6	2039.5
Deep	15.3	1926.8	15.7	1925.6
Medium	39.6	3962.8	39.7	3960.1
Shallow	45.8	5270.7	46.6	5268.1
Array Temperature		12.1	28.0	Deg C

#### Induction Constants MAI 154

Last Edited on 27-FEB-2007,23:07

Induction Model	VECTAR			
Caliper for Borehole Corr.	Density Caliper			
Hole Size for Borehole Correction	N/A			
Stand-off	25.40			
Number of Fins on Stand-off	5.0000			
Stand-off Fin Width	25.4000			
Borehole Corr. Rm Source	Temperature Corr			
Temp. for Rm Corr.	MCG External Temperature			
Squasher Start	0.0020			

#### 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

#### High Resolution Temperature Calibration MAI 154

Field Calibration on 16-DEC-2006,08:07

	Measured	Calibrated(Deg C)
Lower	1.00	1.00
Upper	10.00	10.00

#### High Resolution Temperature Constants MAI 154

Pre-filter Length	11
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### DOWNHOLE EQUIPMENT

C:\Temp\Weatherford PreView\01L-73 main.dta

Compact Gamma  
MCG 131 Length: 2.65 m

Weight: 63.9 lb



20.98 m

GRGC - Gamma Ray

20.10 m

CGXT - MCG External Temperature

Compact Focussed Electric  
MFE 111 Length: 1.84 m

Weight: 48.5 lb

18.98 m FEFE - Shallow FE

Compact Two Arm Caliper  
MTC 24 Length: 2.17 m

Weight: 61.7 lb

16.53 m CLYC - Y Two Arm Caliper

Compact Short Gamma  
MGS 29 Length: 1.04 m

Weight: 24.3 lb

15.66 m GRGM - MGS Gamma Ray

Compact InterSonde Crank  
ISC 151 Length: 0.71 m

Weight: 24.3 lb

Compact Micro-Resistivity  
MMR 31 Length: 2.62 m

Weight: 81.6 lb

12.10 m MBTC - MMR Caliper  
12.10 m MINV - MMR MicroLog Inverse  
12.10 m MNRL - MMR MicroLog Normal

Compact Neutron  
MDN 16 Length: 1.53 m

Weight: 50.7 lb

10.64 m NPRS - Sandstone Neutron Por.

Compact Density/Caliper  
MPD 93 Length: 2.92 m

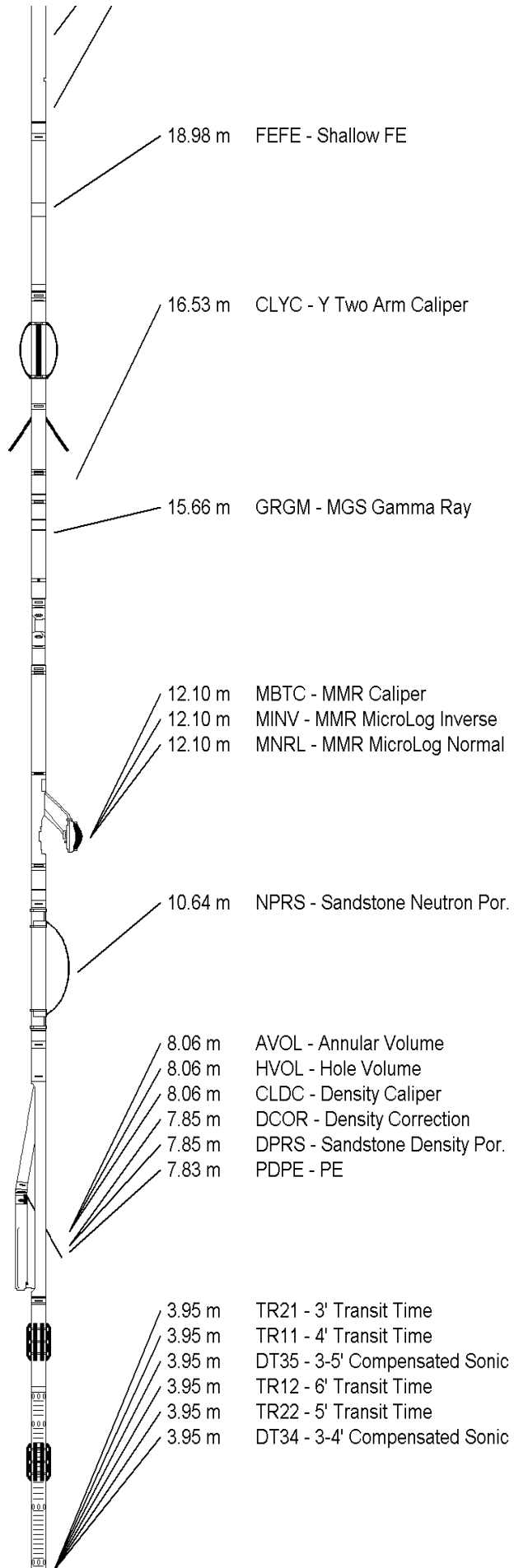
Weight: 90.4 lb

8.06 m AVOL - Annular Volume  
8.06 m HVOL - Hole Volume  
8.06 m CLDC - Density Caliper  
7.85 m DCOR - Density Correction  
7.85 m DPRS - Sandstone Density Por.  
7.83 m PDPE - PE

Compact Sonic  
MSS 3 Length: 3.82 m

Weight: 72.8 lb

3.95 m TR21 - 3' Transit Time  
3.95 m TR11 - 4' Transit Time  
3.95 m DT35 - 3-5' Compensated Sonic  
3.95 m TR12 - 6' Transit Time  
3.95 m TR22 - 5' Transit Time  
3.95 m DT34 - 3-4' Compensated Sonic



Compact Induction  
MAI 154 Length: 3.29 m Weight: 48.5 lb

Compact Hole Finder  
HFS 1 Length: 0.24 m Weight: 2.2 lb

Total Length: 22.83 m Weight: 568.8 lb



0.79 m RILM - Medium Induction  
0.79 m RILD - Deep Induction  
0.07 m SPCG - Spontaneous Potential  
Tool Zero (0.28m from bottom)

All measurements relative to tool zero.

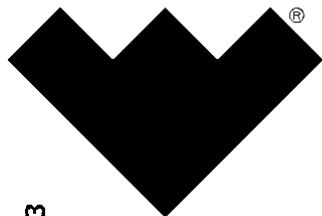
COMPANY	PARAMOUNT RESOURCES LTD
WELL	PARA ET AL CAMERON L-73
FIELD	CAMERON HILLS
PROVINCE/COUNTY	NORTHWEST TERRITORIES
COUNTRY/STATE	CANADA

Elevation Kelly Bushing	774.80	metres	First Reading	1444.30	metre
Elevation Drill Floor		metres	Depth Driller	1450.00	metres
Elevation Ground Level	770.80	metres	Depth Logger	1448.60	metres



**Weatherford®**

COMPENSATED SONIC



## SECTOR BOND TOOL

PROVINCE N.W.T  
FIELD CAMERON  
WELL PARAMOUNT et al CAMERON L73  
300/L-73-60-10-117-15  
COMPANY PARAMOUNT RESOURCES LTD

COMPANY PARAMOUNT RESOURCES LTD

WELL PARAMOUNT et al CAMERON L73  
300/L-73-60-10-117-15

FIELD CAMERON

PROVINCE N.W.T

LSD Sec. Twp. Rge.  
Perm. Datum Ground Level Elev.770.80  
Log measured from K.B. , 4.00 m above  
Permanent Datum.Other Services:  
PERFORATEUWI 300L736010117150  
Licence 2033ELEV.K.B.774.80  
G.L.770.80

Date	MARCH 15 2007	Shot Density	No. of Shots	Perf. Interval	
Service Order	4313637			From	To
Run No.	ONE				
BHT	0°C				
Depth-Driller	1450.0				
Depth-Logger	1432.0				
Btm.Log Inter.	1432.0				
Top Log Inter.	1200.0				
Fluid in Hole	WATER	Gun Type			
Fluid Level	150.0	Gun Size			
Bit Size (mm)	0.0	Tubing/Casing Record			
Unit #	14215	Size mm	Wt. Kg/m	From	To
Location	HIGH LEVEL	219.10	35.70	SURFACE	436.0
Recorded By	D.BOIRE	139.70	23.07	SURFACE	1450.0
Witnessed By	R.OBRIGEWITCH				

## Other Services

Service	Type	Size	Depth
Bridge Plug			
Produc. Packer			
Cement Retainer			
Cement			
Tubing Bottom	Junk Basket Type		

All interpretations of log data are opinions based on inferences from electrical or other measurements. We do not guarantee the accuracy or correctness of any interpretation or recommendation and we shall not be liable or responsible for any loss, cost, damages or expenses incurred or sustained by anyone resulting from any interpretation or recommendation made by any of our employees or agents.

REMARKS Rig: PWS #34

Service Order # 4313637

CORRELATED TO PRECISION ENERGY SERVICES PHOTO DENSITY DUAL SPACED NEUTRON LOG

DATED FEBRUARY 07 2007

TICKET # 10155022

## EQUIPMENT DATA

Run No.	Tool Type	Tool No.	Other
ONE	SBTAA	166	SECTOR
	CTBAA	183	CCL - TELEMETRY
	GRBAA	183	GAMMA RAY

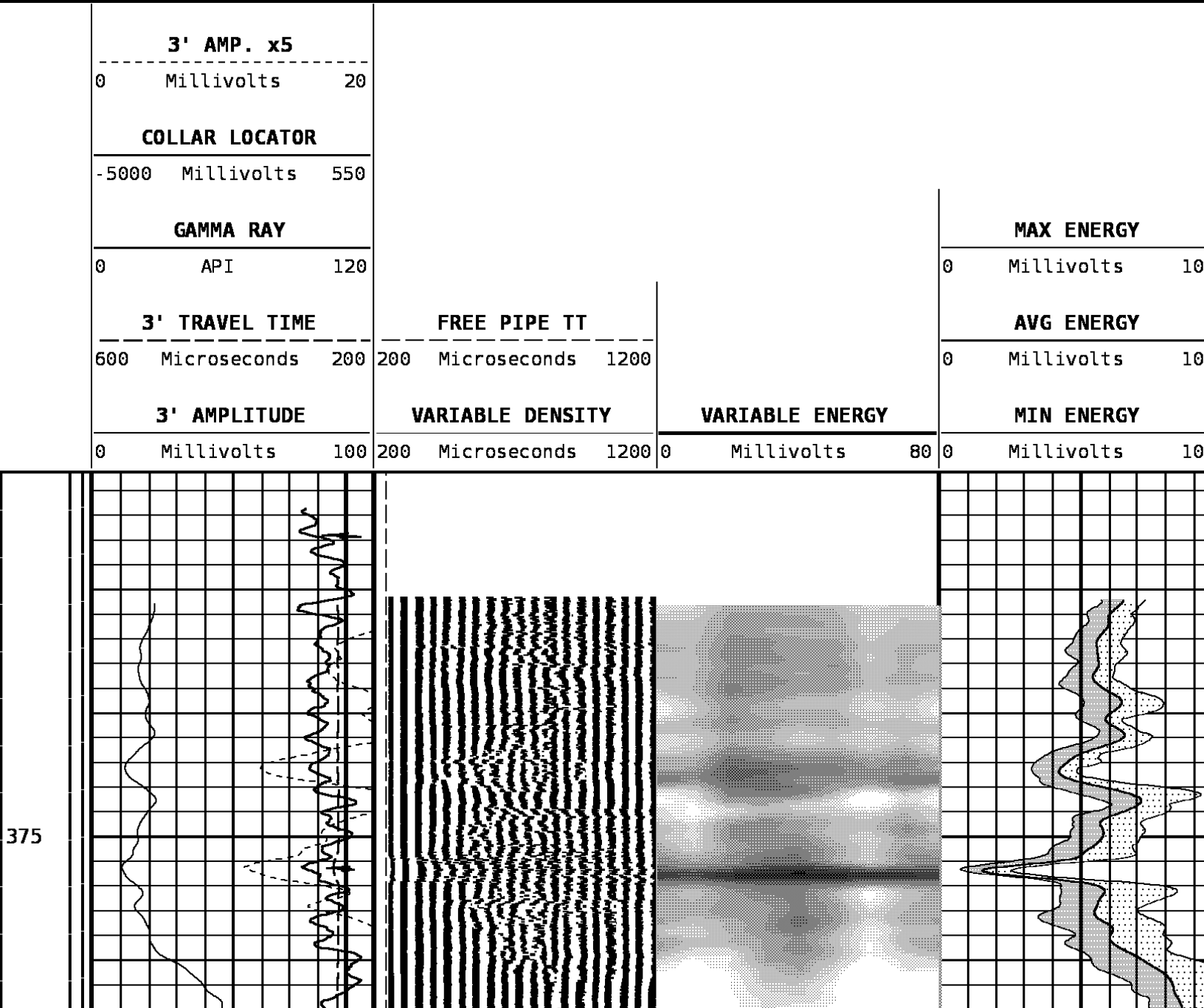

DEPTH SCALE: 1:240

VERSION: 7021587 R

CEMENT TOP

4313637 CTOP1

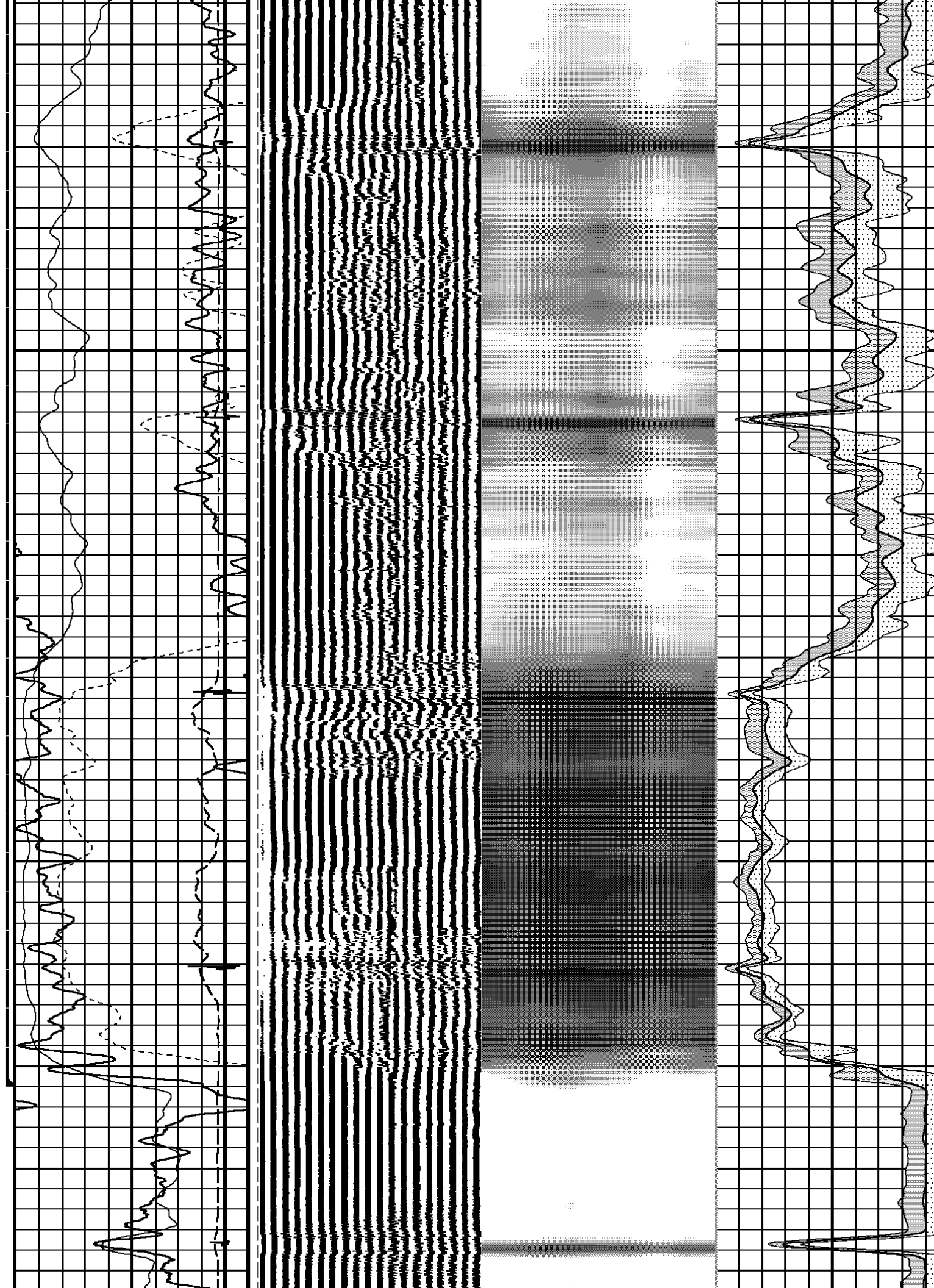
FINISH DEPTH: 367.5 Meters DIRECTION: UP DATE: 03/15/2007 TIME: 10:20 MODE: RECOMPUTE  
RECOMPUTED DATE: 03/15/2007 TIME: 10:20



375

400

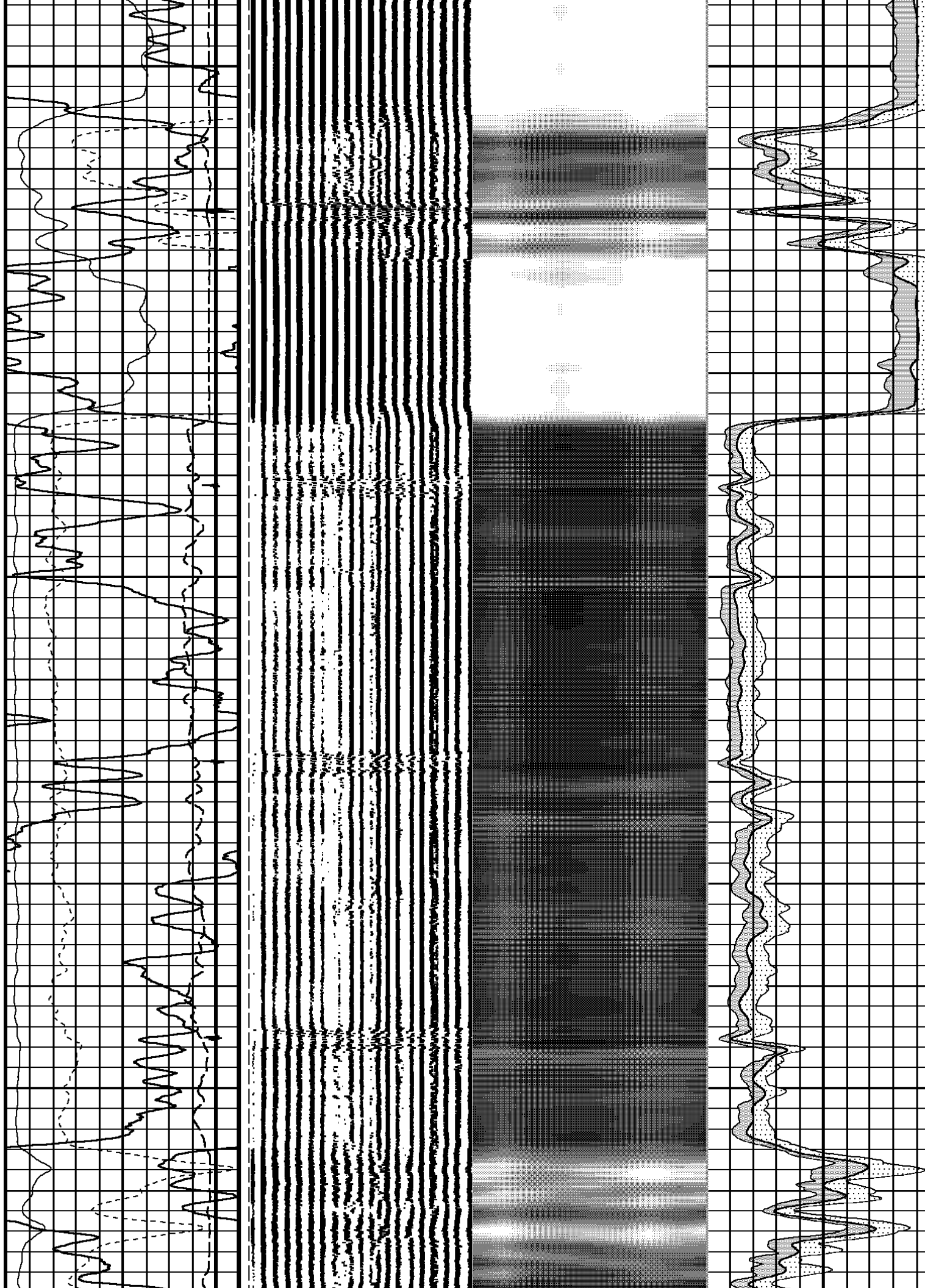
425



450

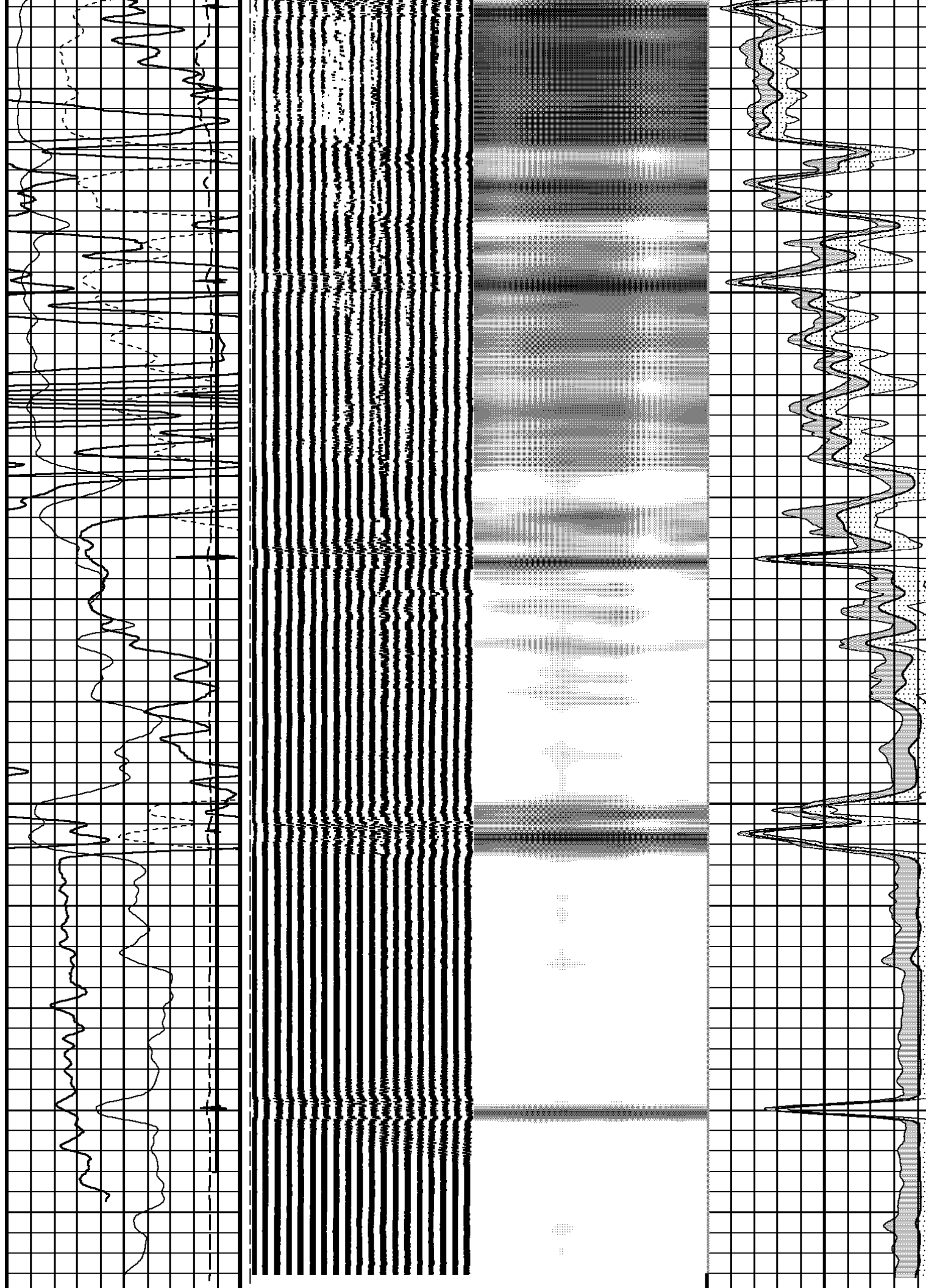
475

500



525

550

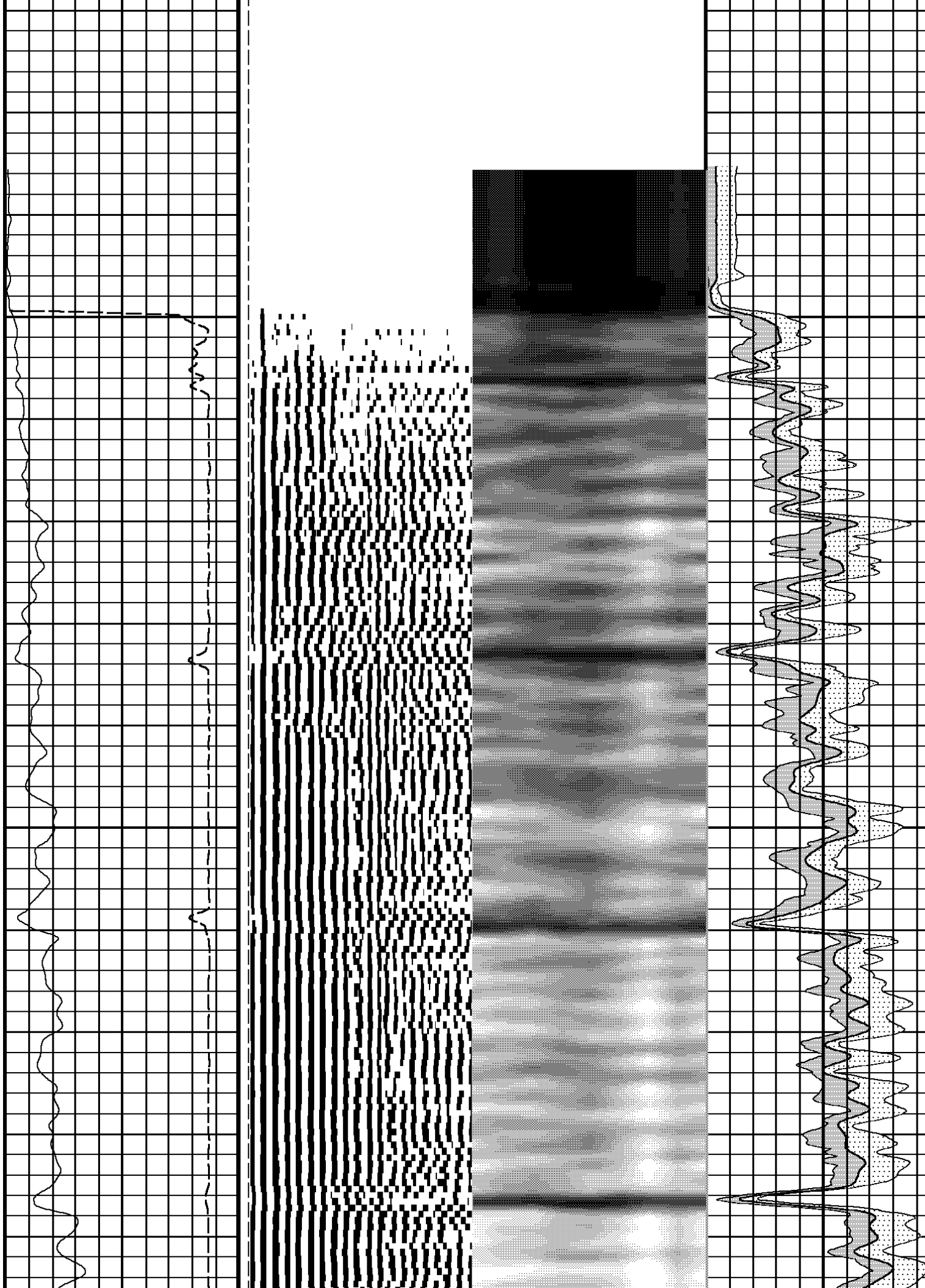






150

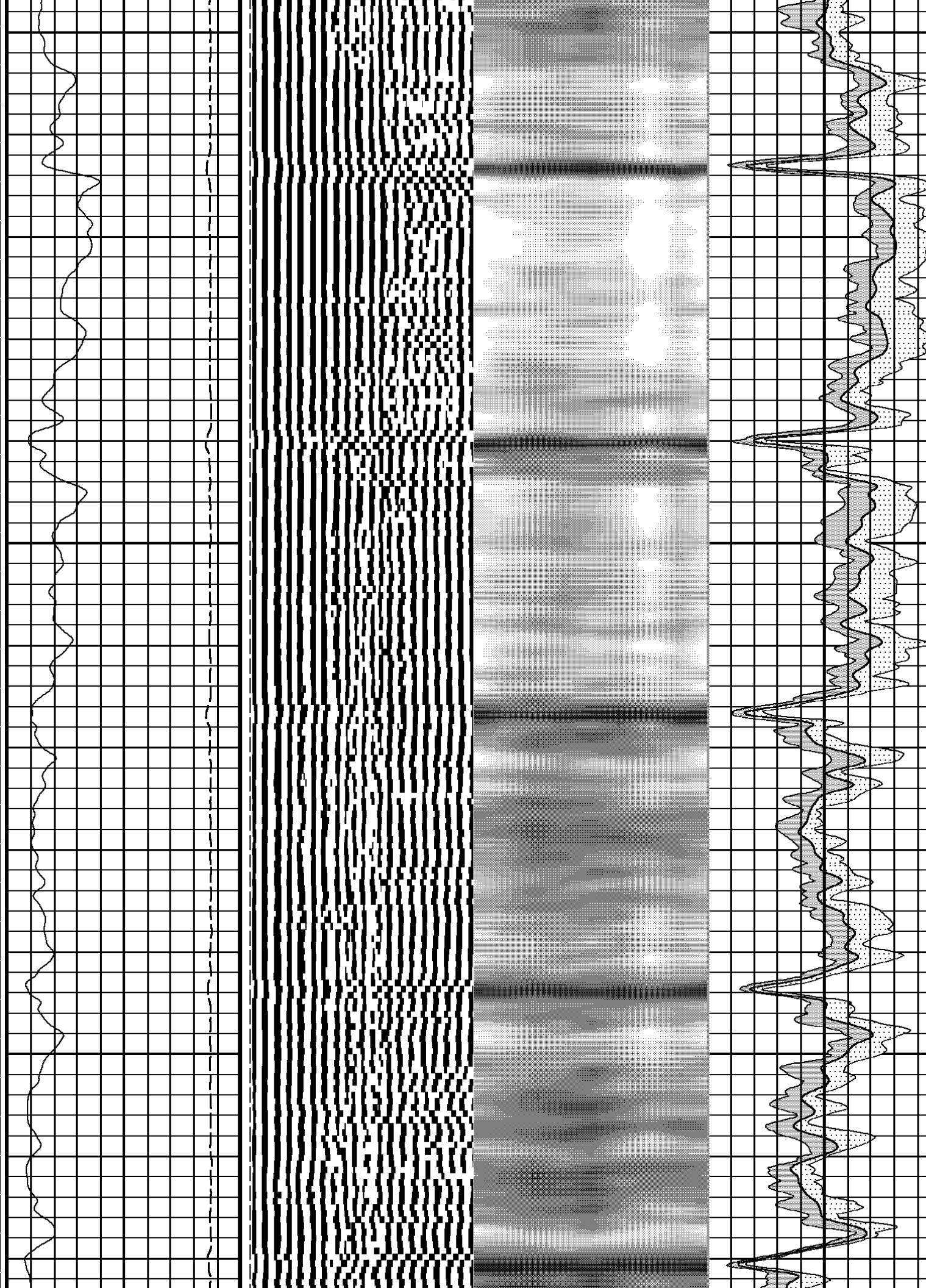
175

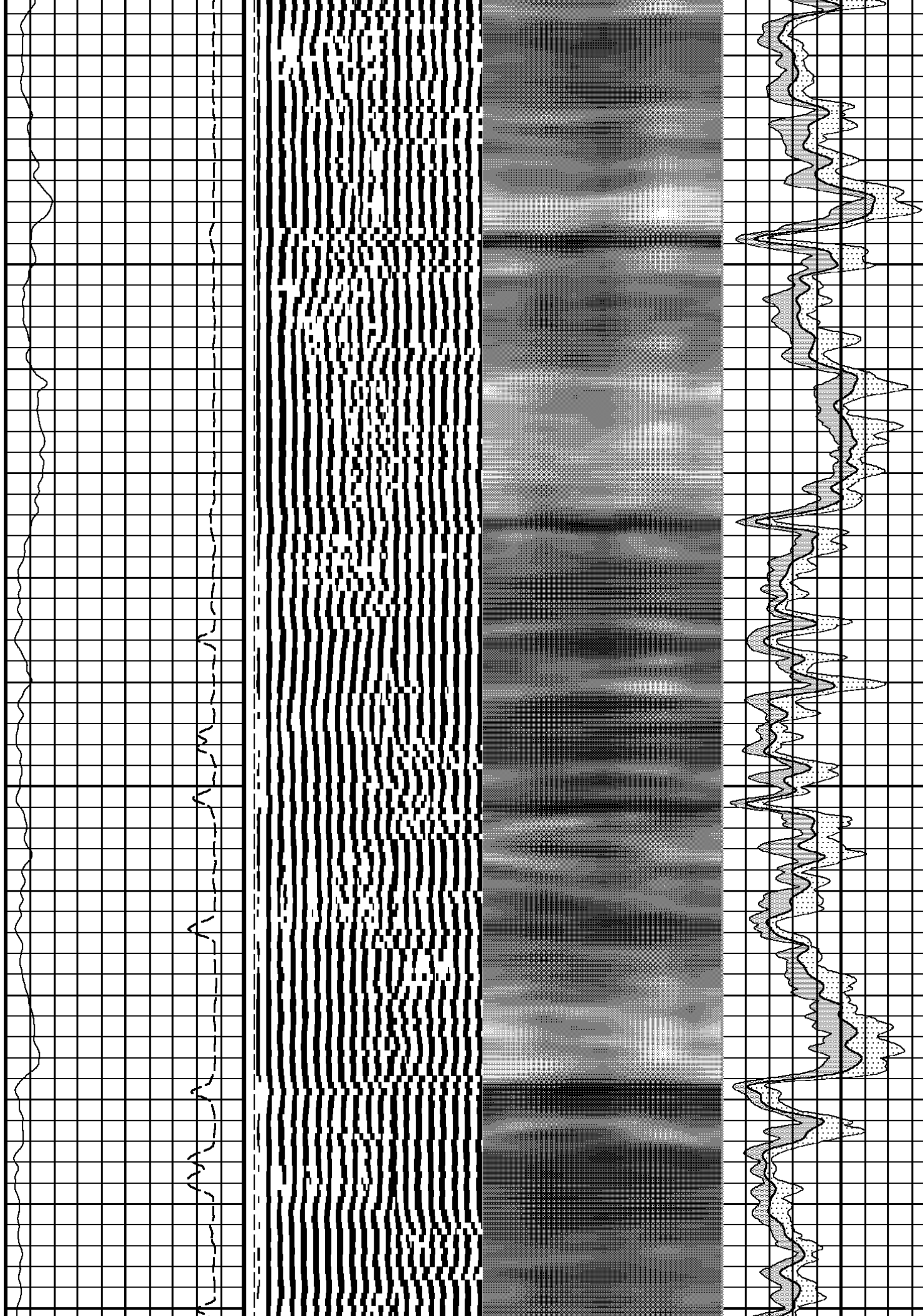


200

225

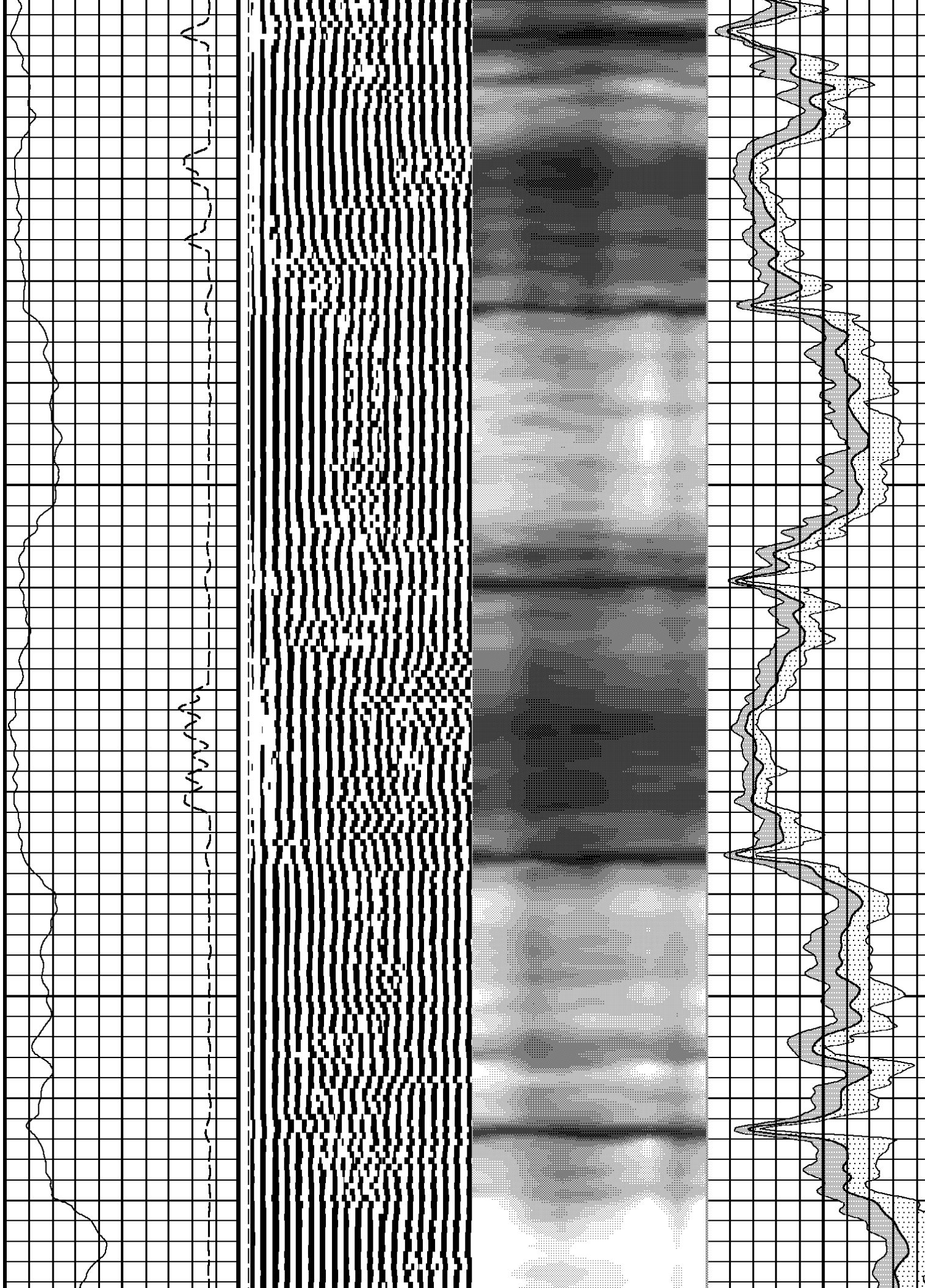
250





350

375

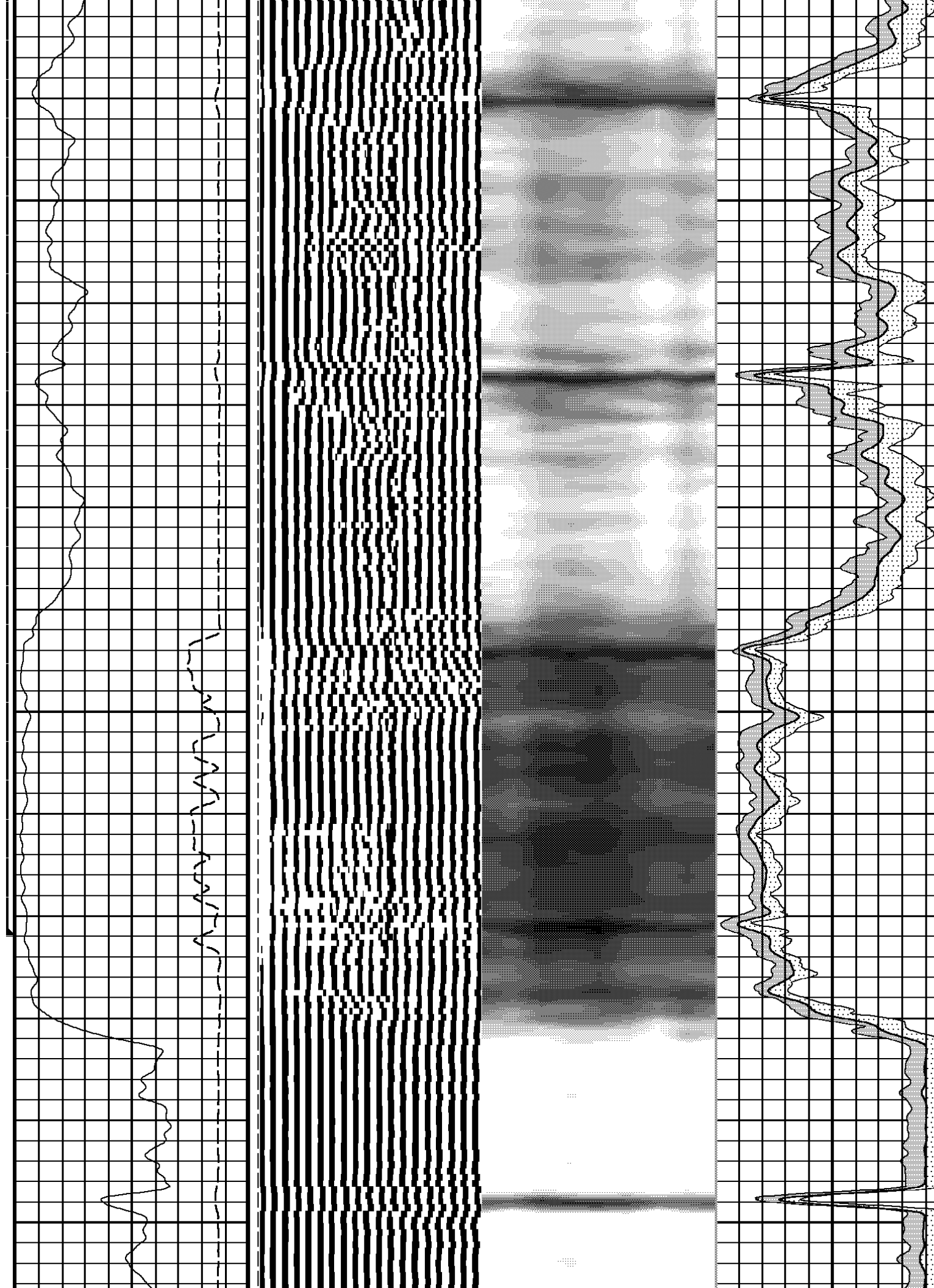




400

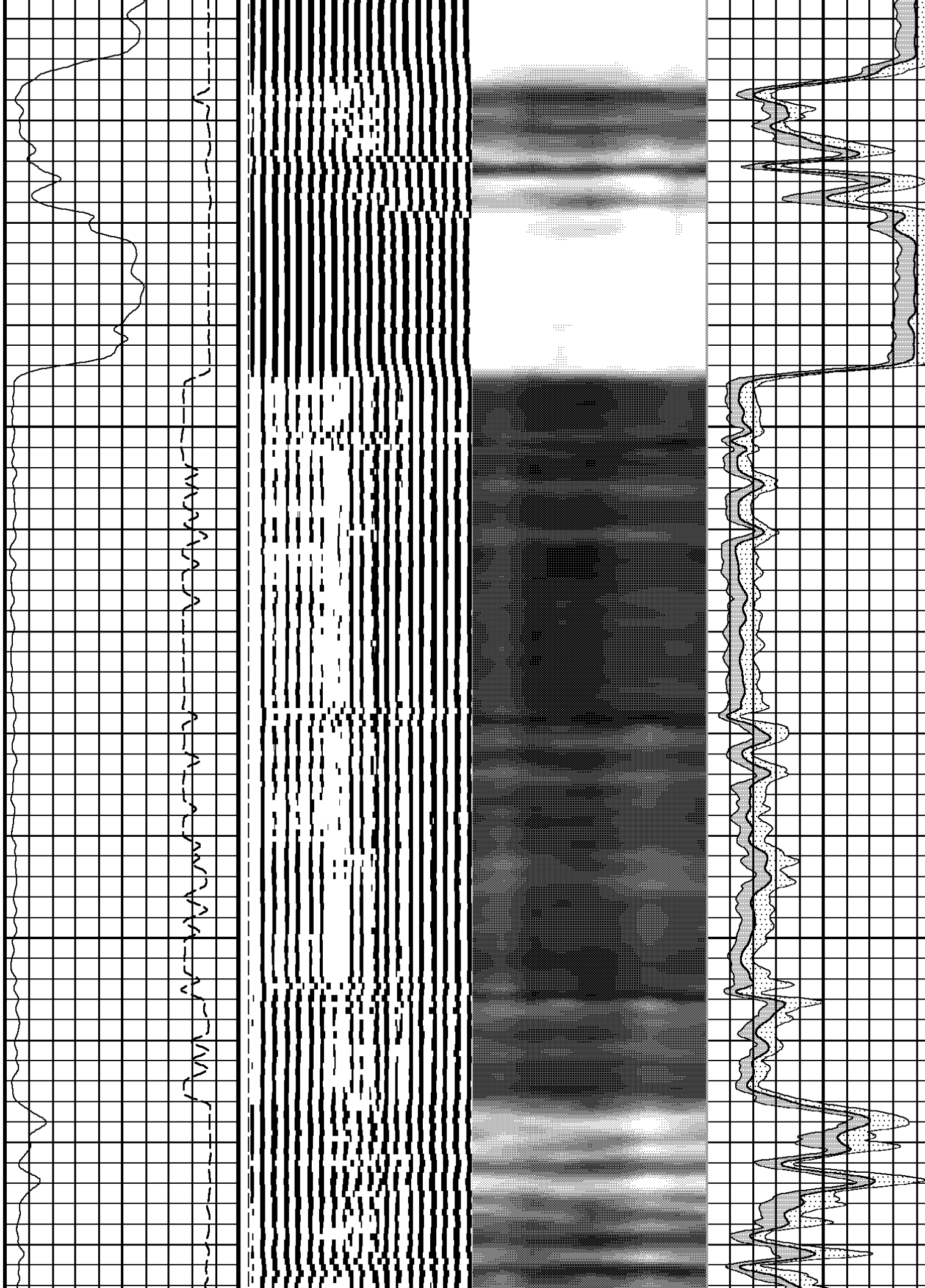
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450



475

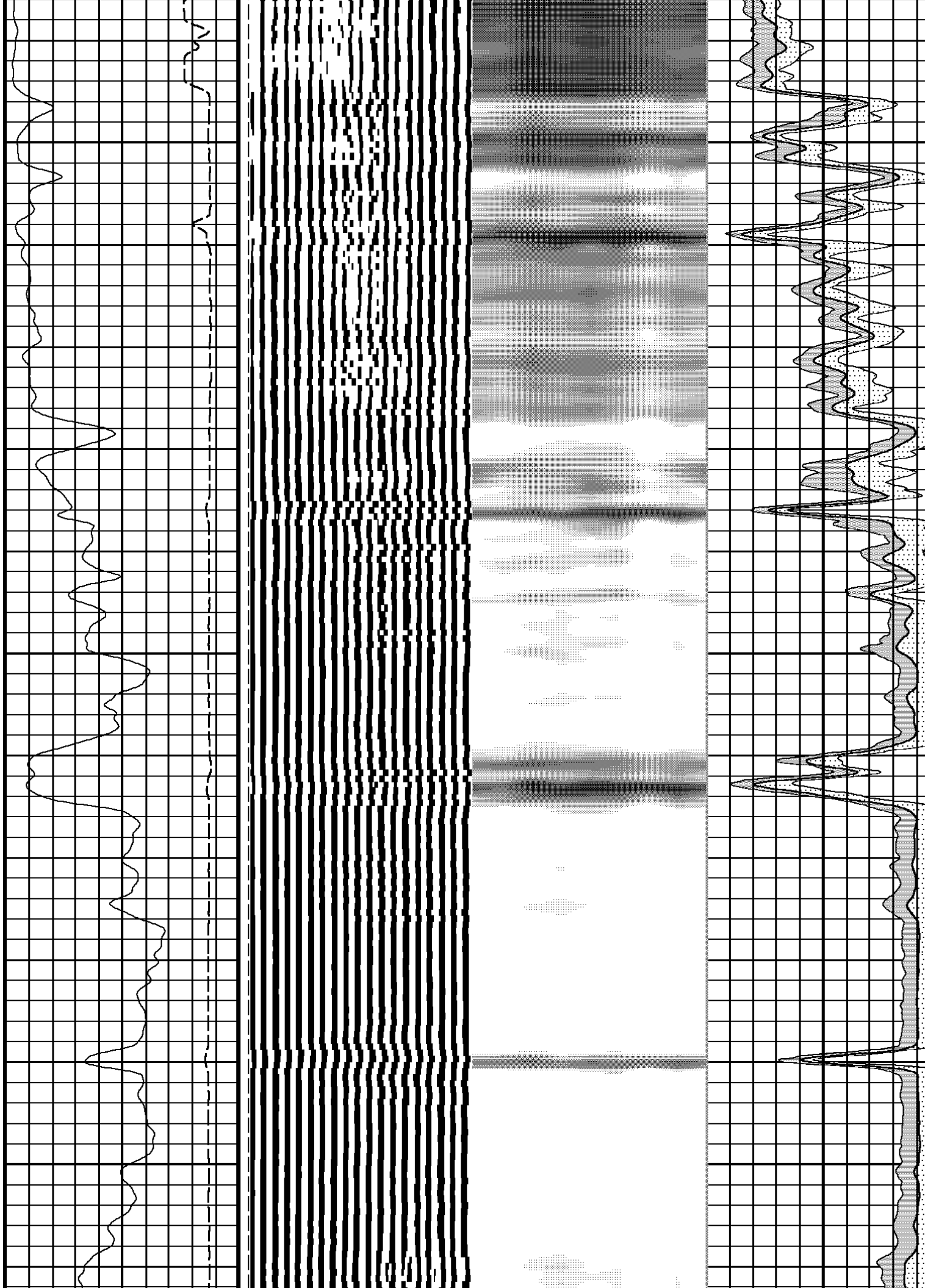
500



525

550

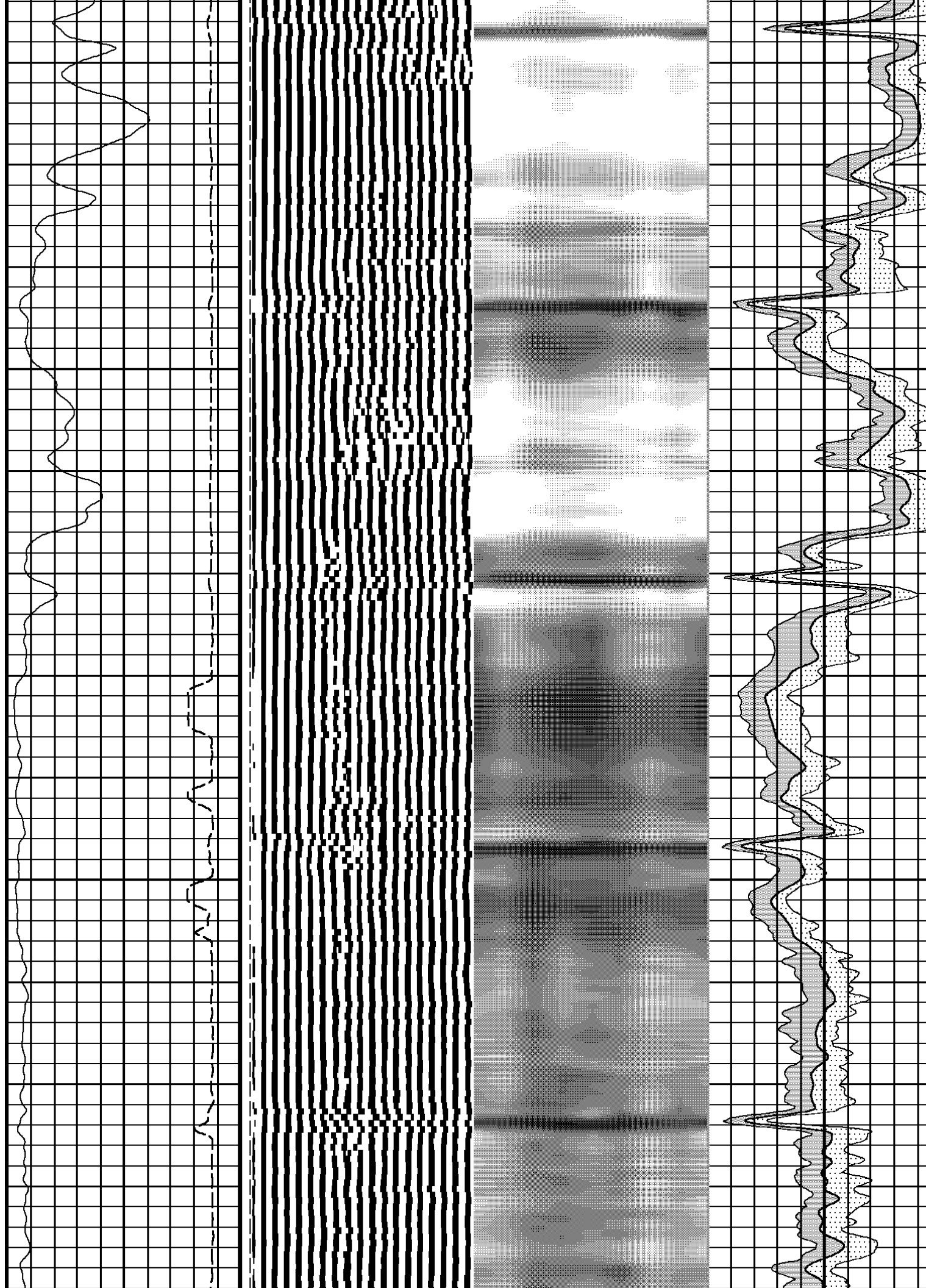
575





600

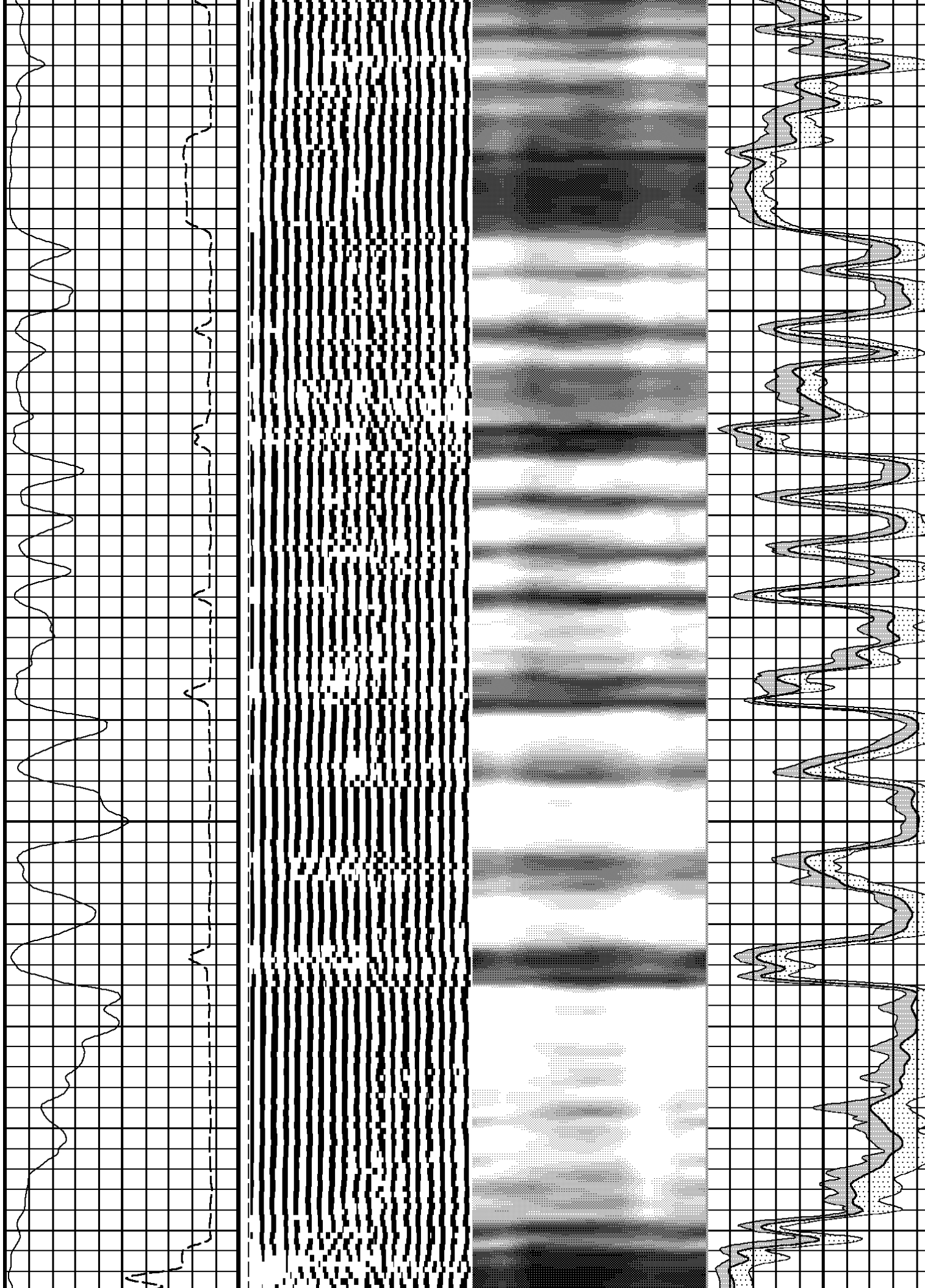
625



700

725

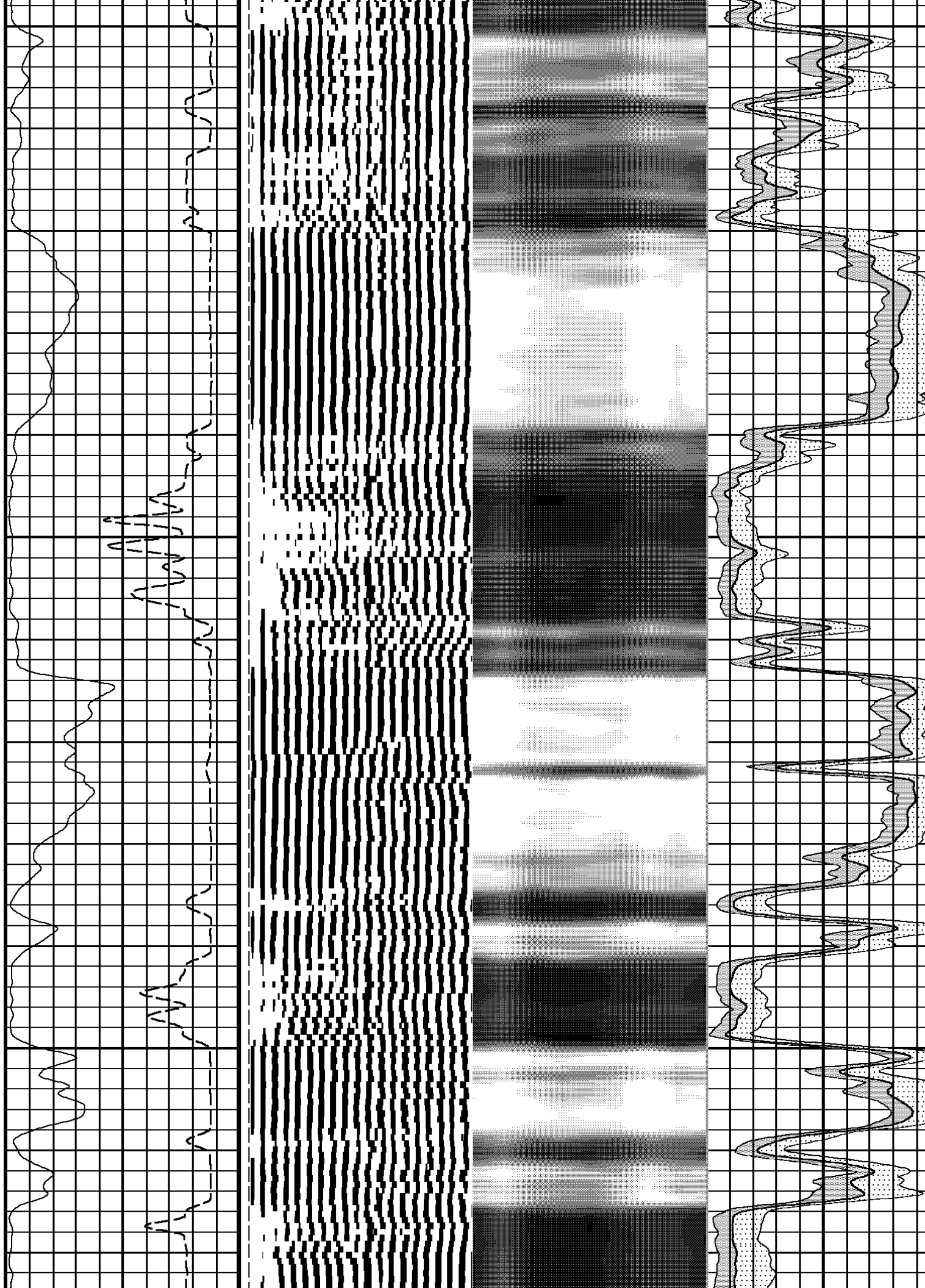
750



775

800

825

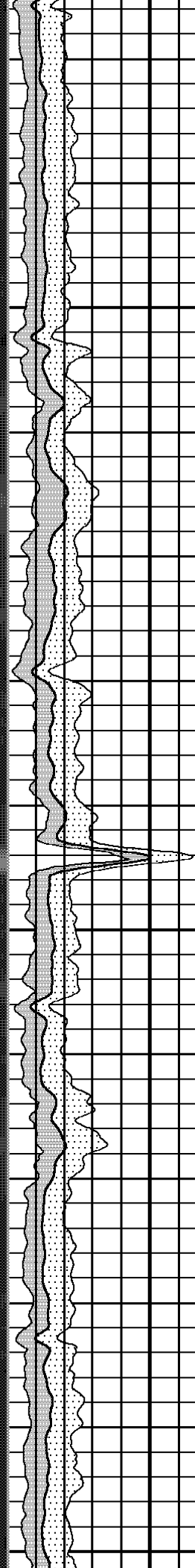
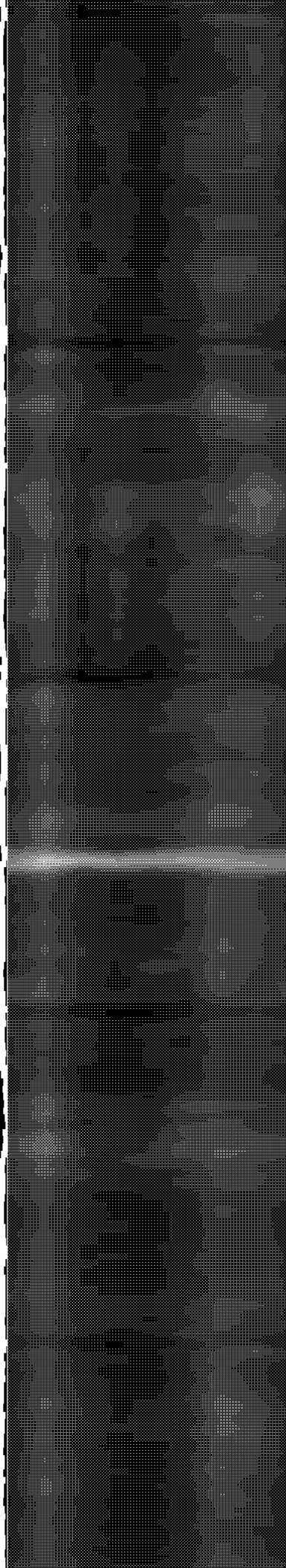
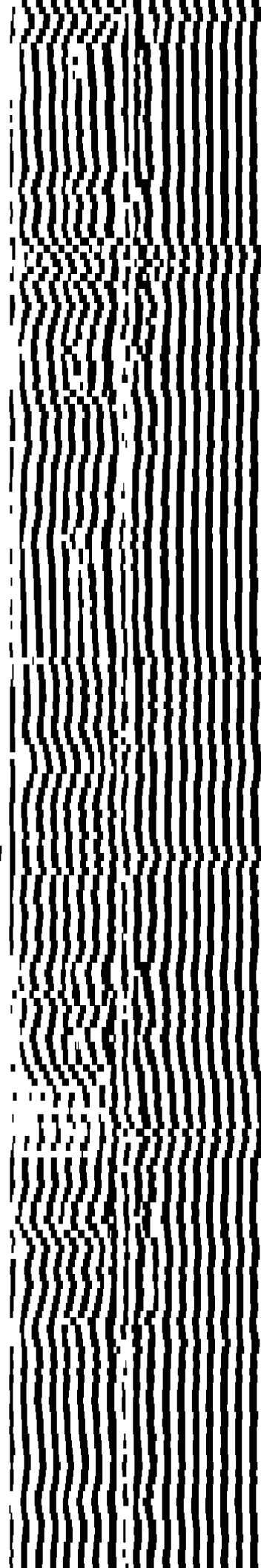
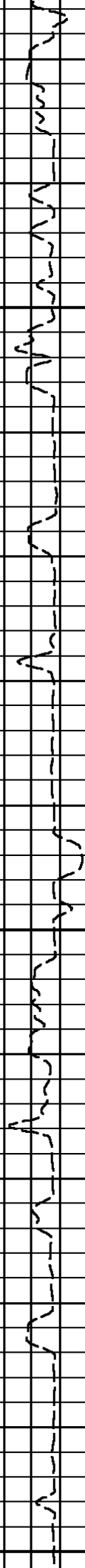


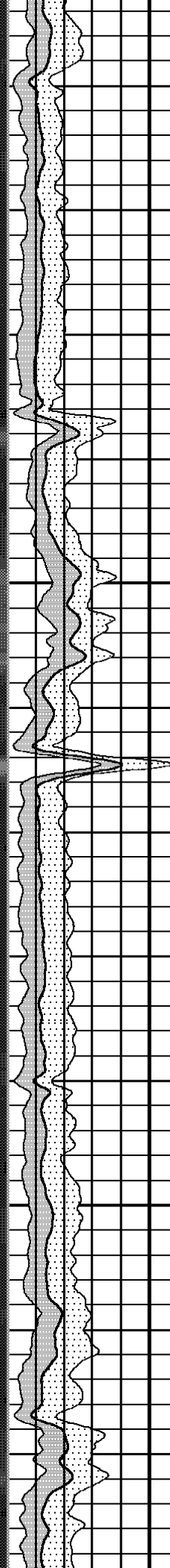
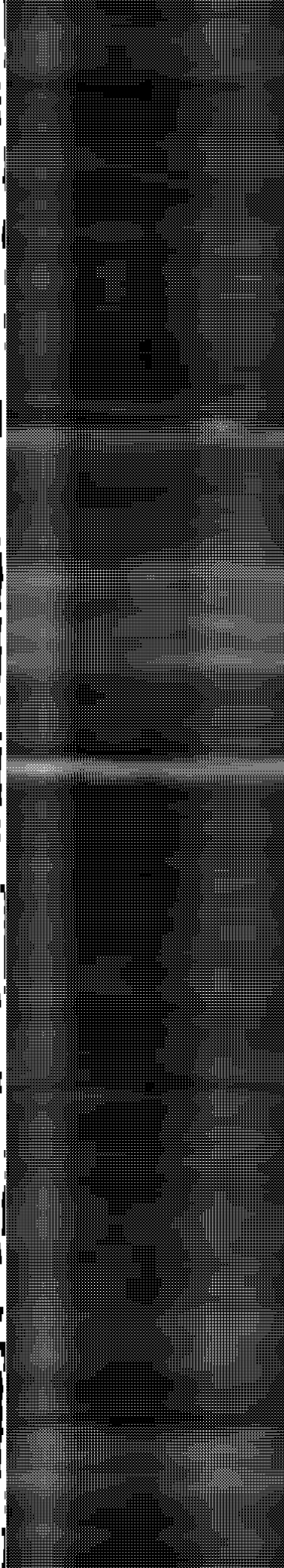
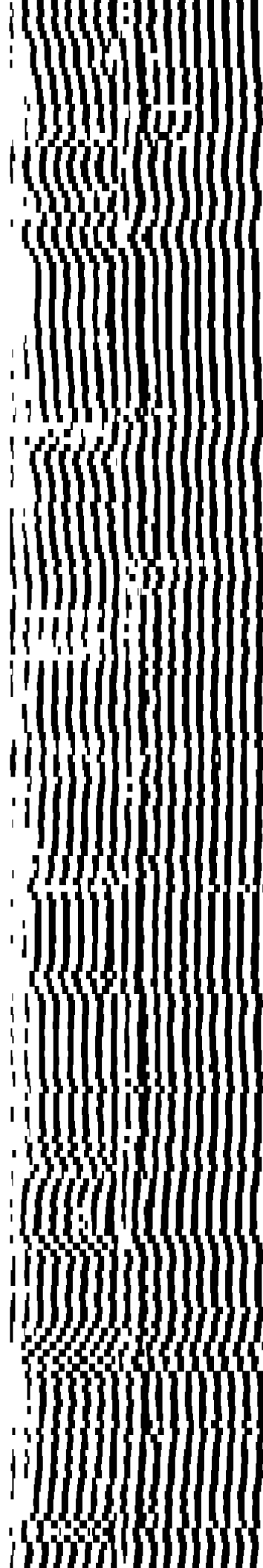
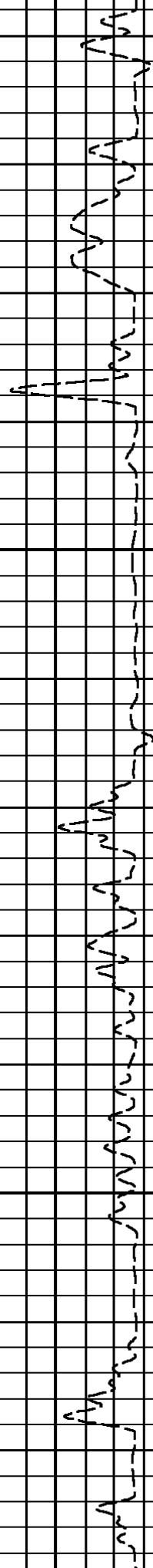


850

875

900

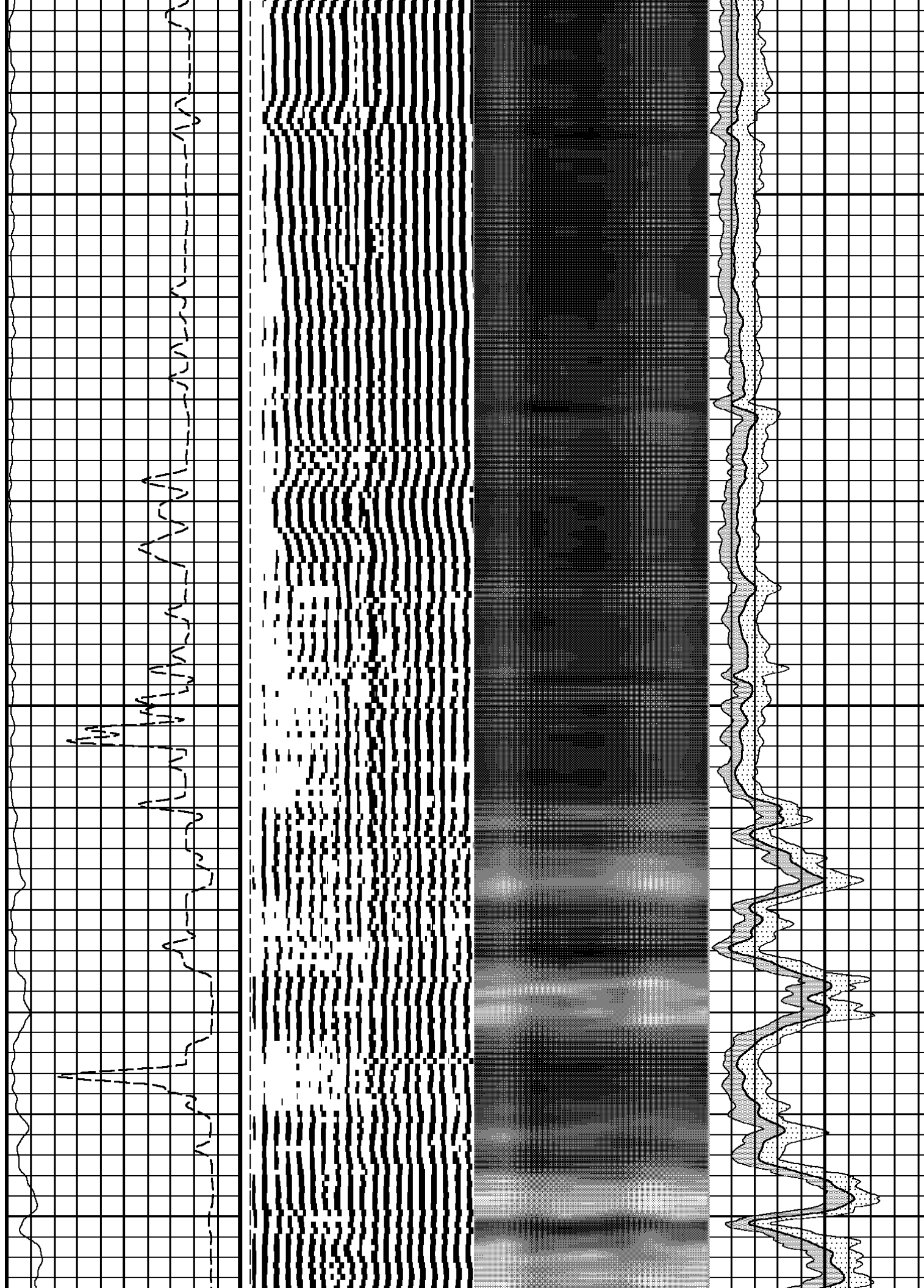




975

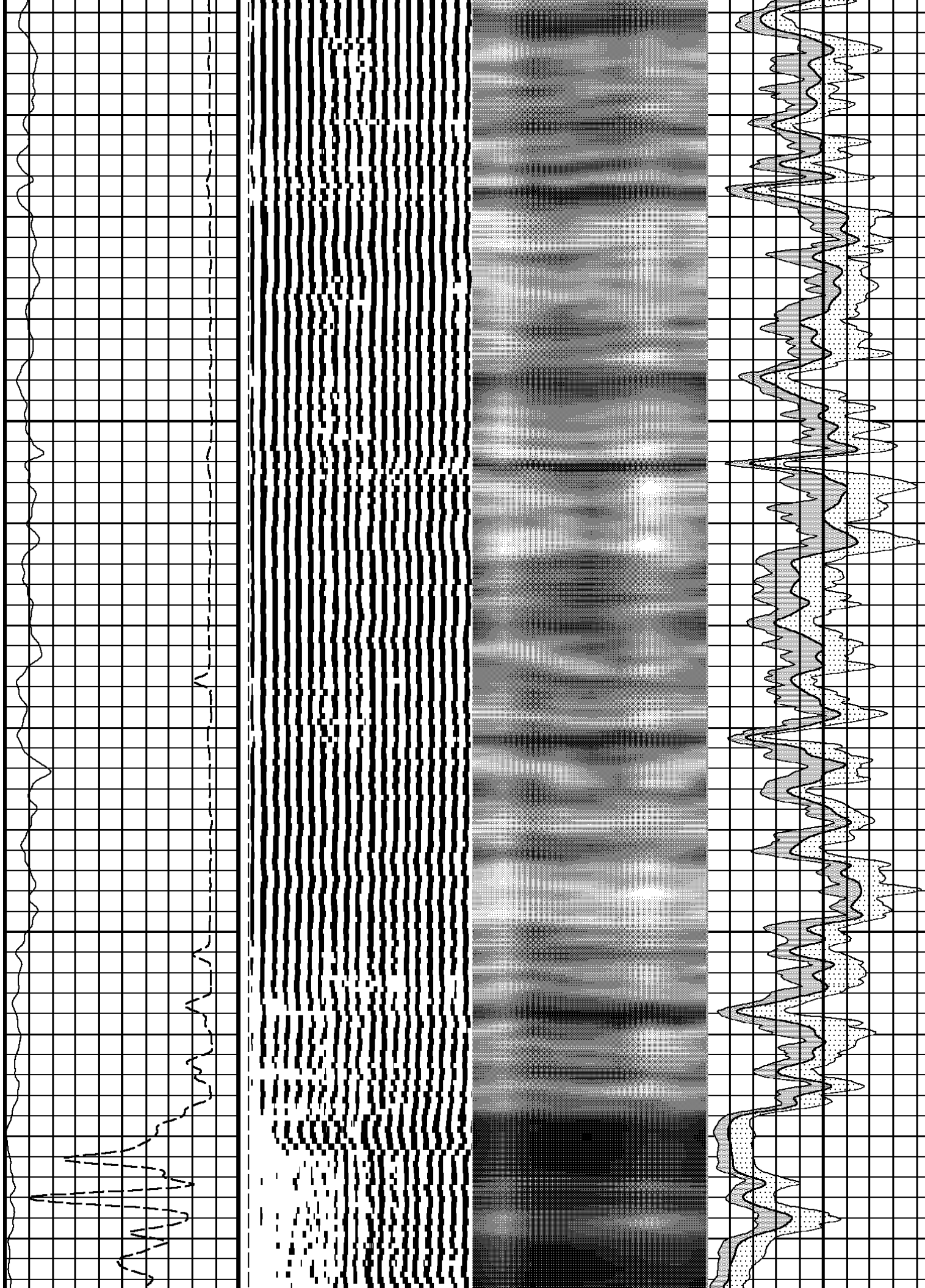
1000

1025



1050

1075

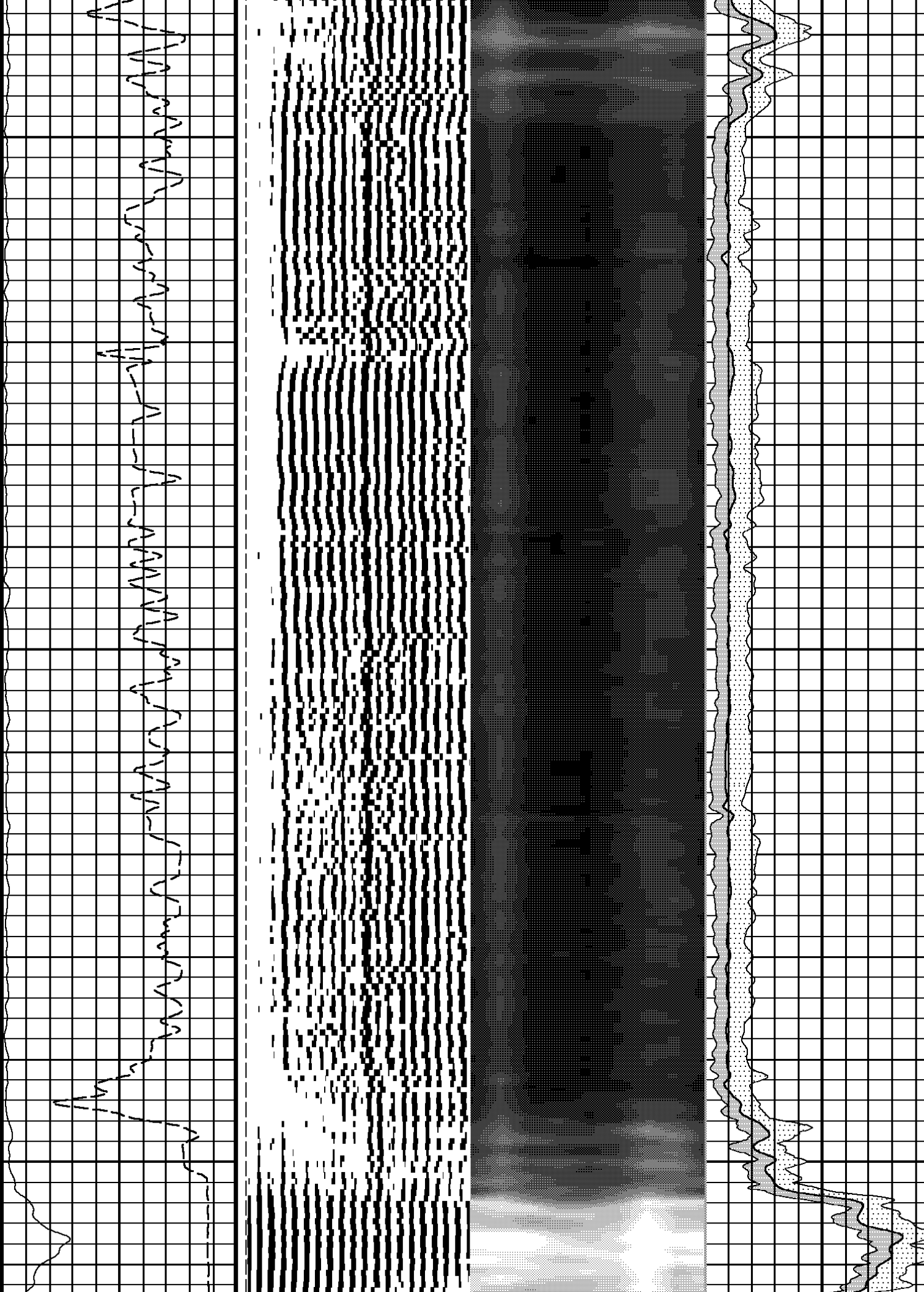




1100

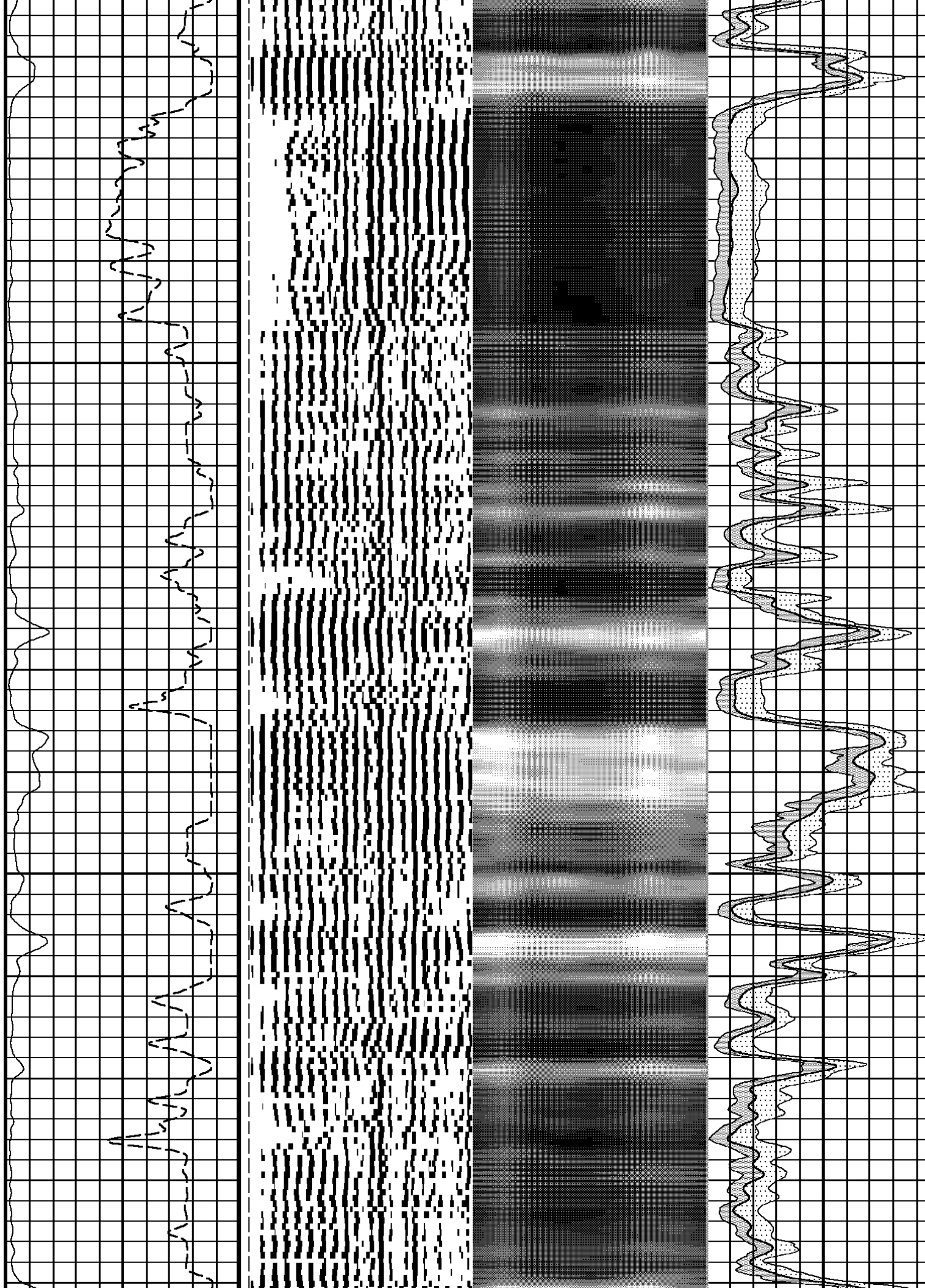
1125

1150



1175

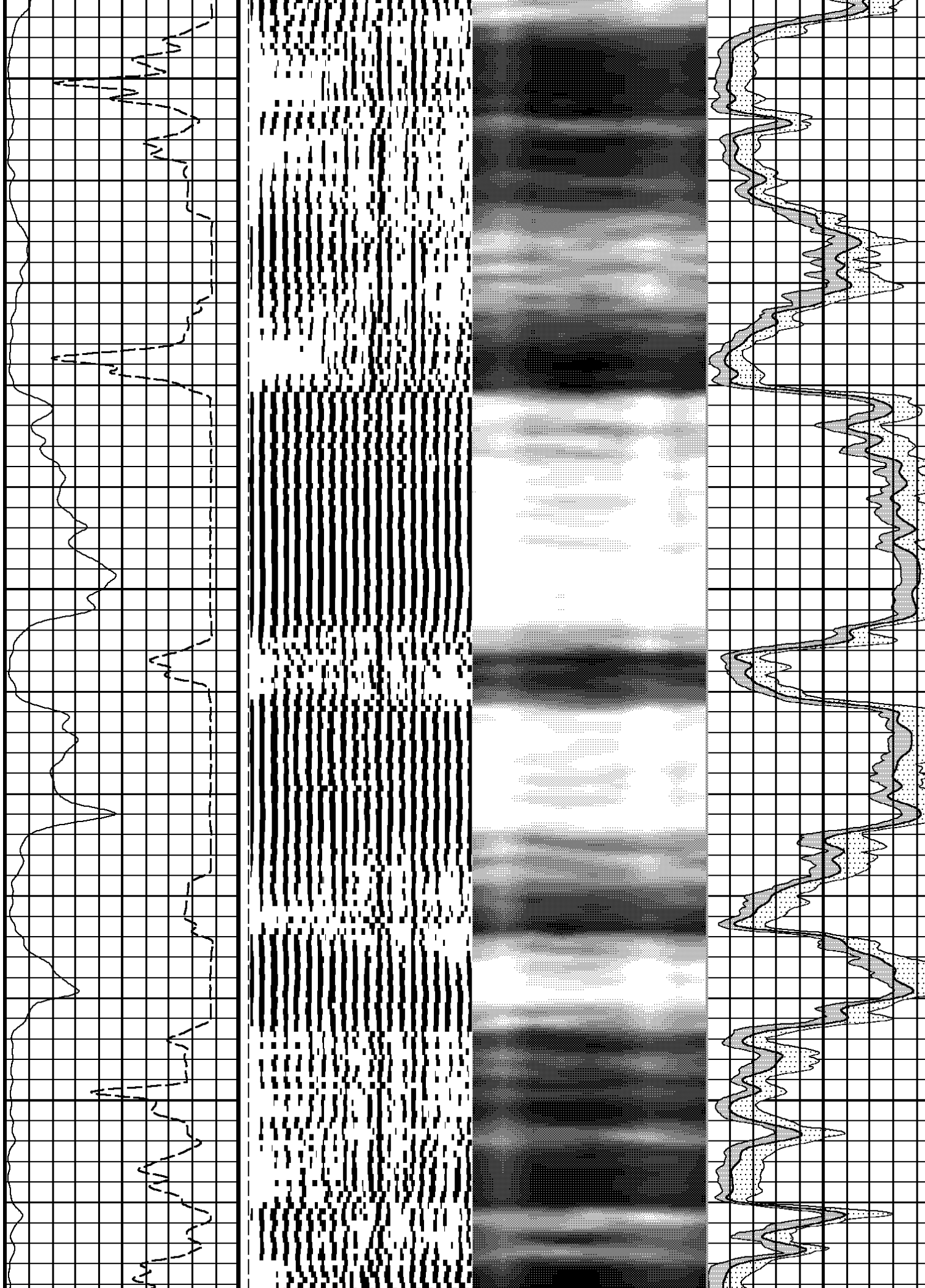
1200



1225

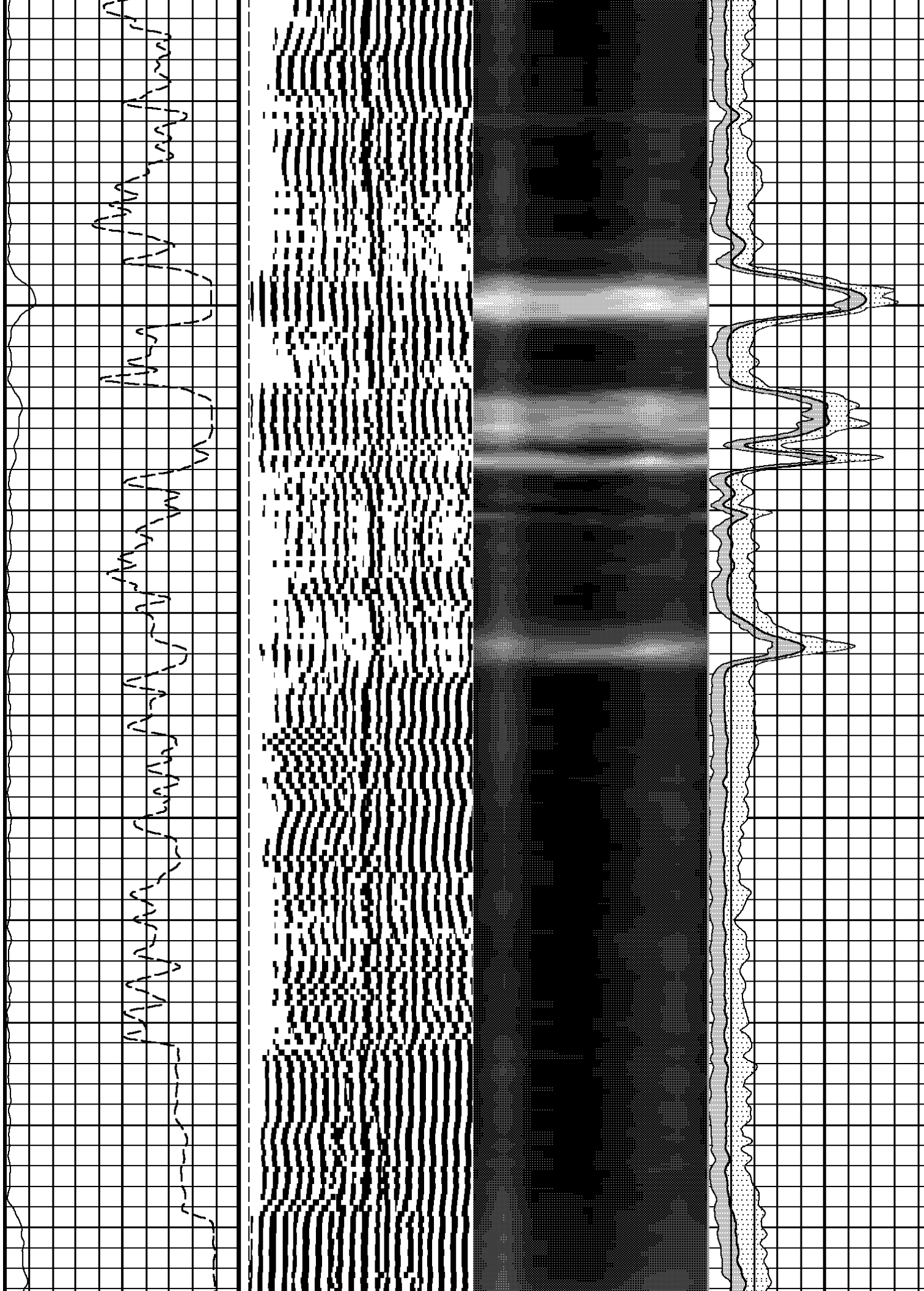
1250

1275



1300

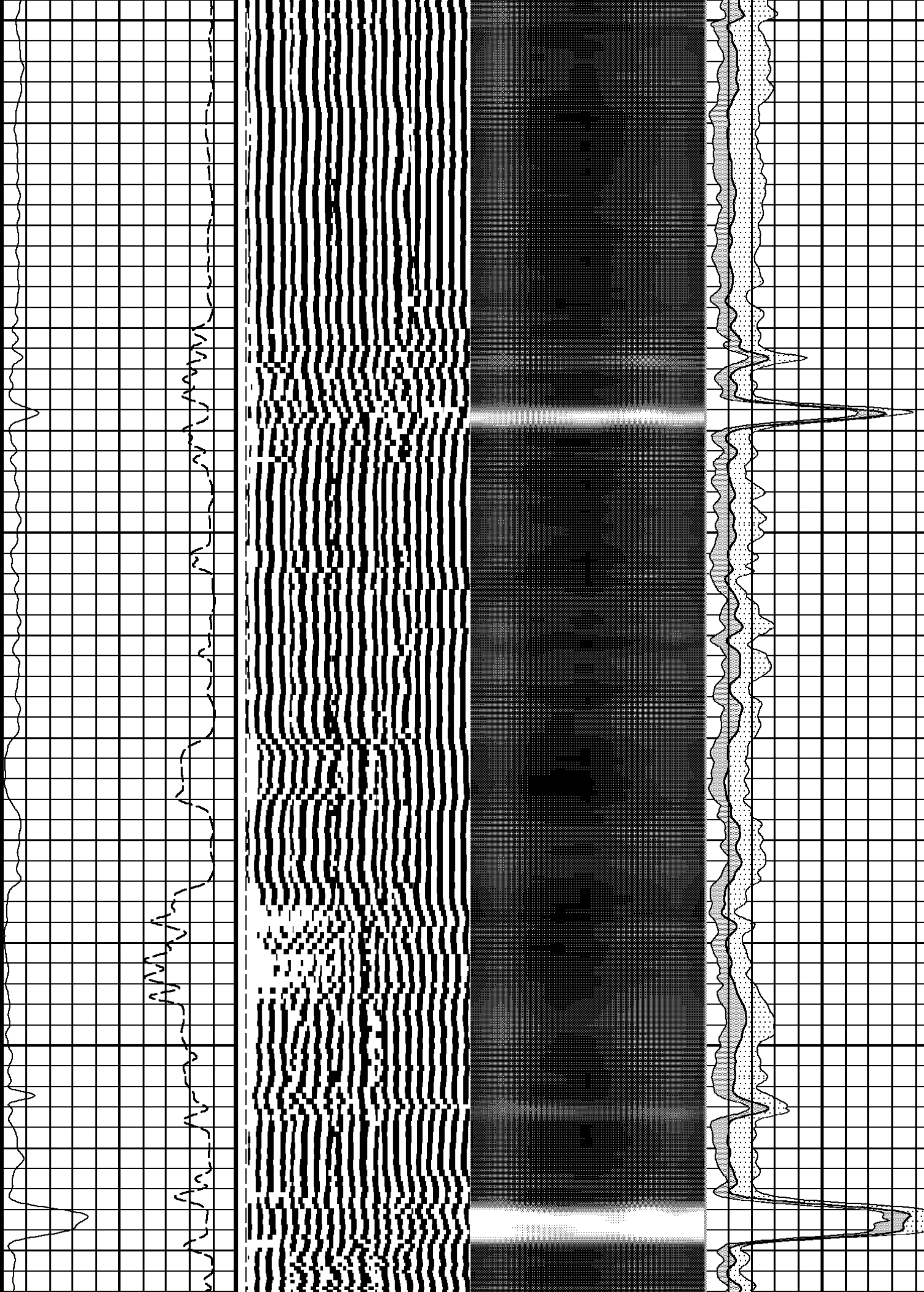
1325



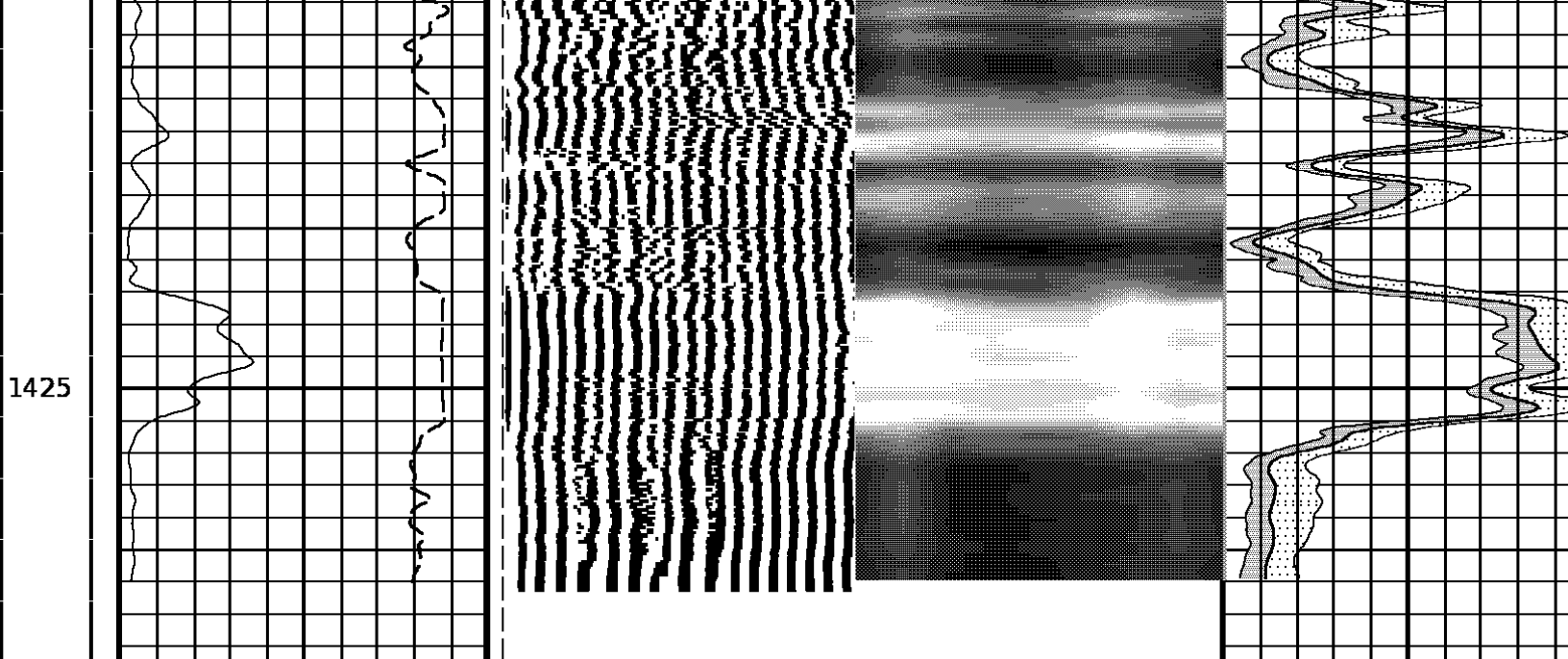
1350

1375

1400







3' AMPLITUDE			VARIABLE DENSITY			VARIABLE ENERGY			MIN ENERGY		
0	Millivolts	100	200	Microseconds	1200	0	Millivolts	80	0	Millivolts	10
3' TRAVEL TIME			FREE PIPE TT						AVG ENERGY		
600	Microseconds	200	200	Microseconds	1200				0	Millivolts	10
									MAX ENERGY		
									0	Millivolts	10

START DEPTH: 1433.5    DIRECTION: UP    DATE: 03/15/2007    TIME: 09:21    MODE: TRACE PLAYBACK

4313637 HSD1

HIGH SPEED DOWN

DEPTH SCALE: 1:240    VERSION: 7021587 R

DEPTH SCALE: 1:240    VERSION: 7021587 R

MAIN PASS

4313637 MAIN

FINISH DEPTH: 1175.2 Meters    DIRECTION: UP    DATE: 03/15/2007    TIME: 09:36    MODE: TRACE PLAYBACK

COLLAR LOCATOR

-5000	Millivolts	550
GAMMA RAY		
0	API	120
3' TRAVEL TIME		
600	Microseconds	200
3' AMPLITUDE		
0	Millivolts	100

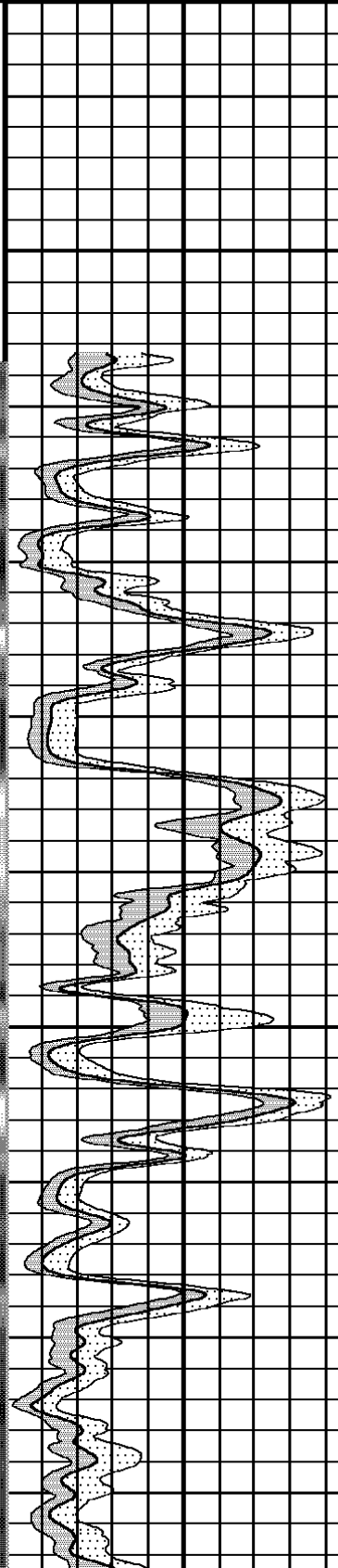
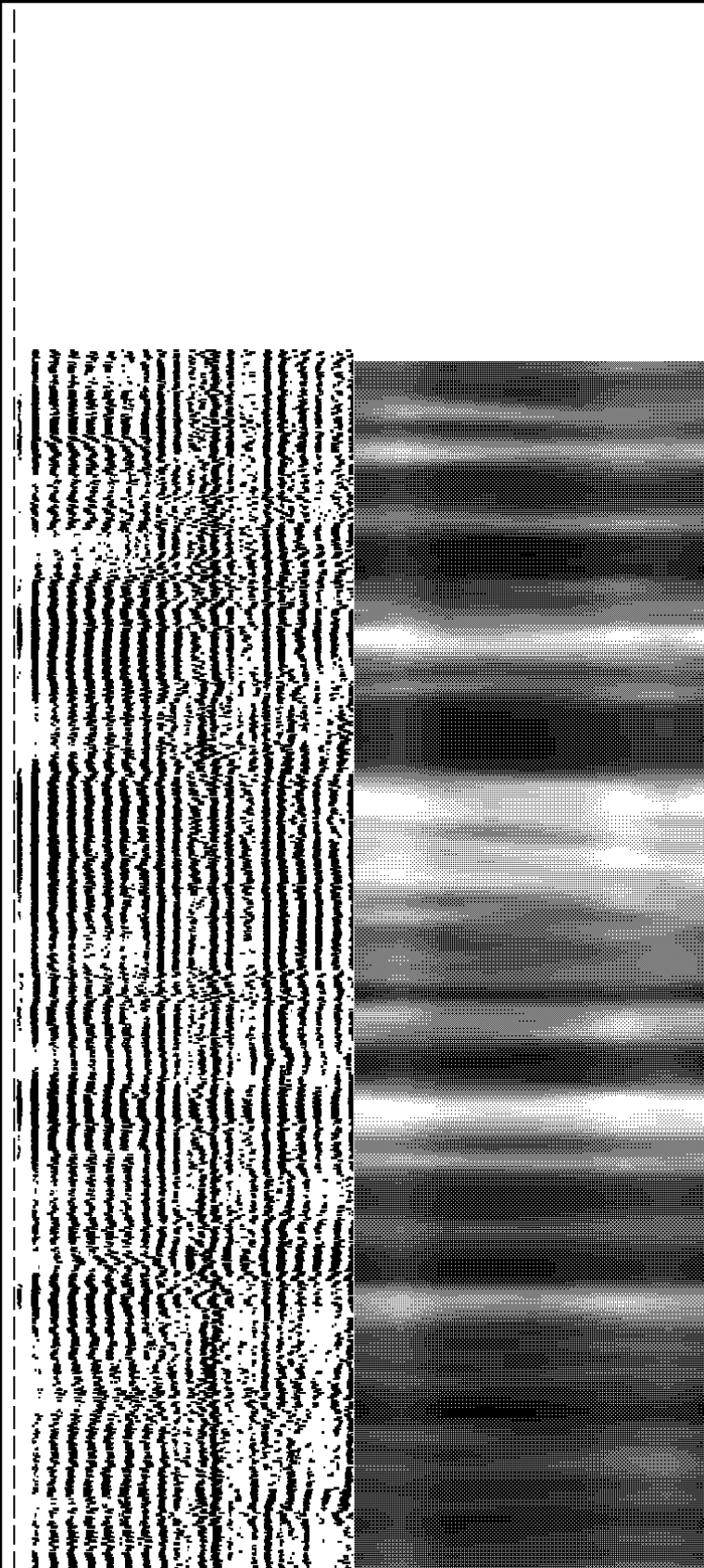
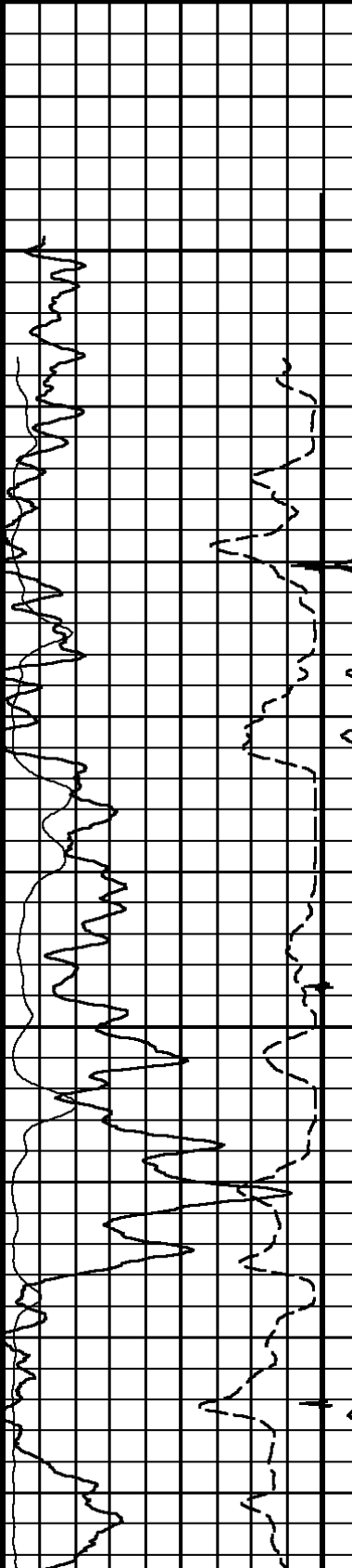
FREE PIPE TT		
200	Microseconds	1200
VARIABLE DENSITY		
200	Microseconds	1200

VARIABLE ENERGY	
0	Millivolts 80

MAX ENERGY		
0	Millivolts	10
AVG ENERGY		
0	Millivolts	10
MIN ENERGY		
0	Millivolts	10

1175

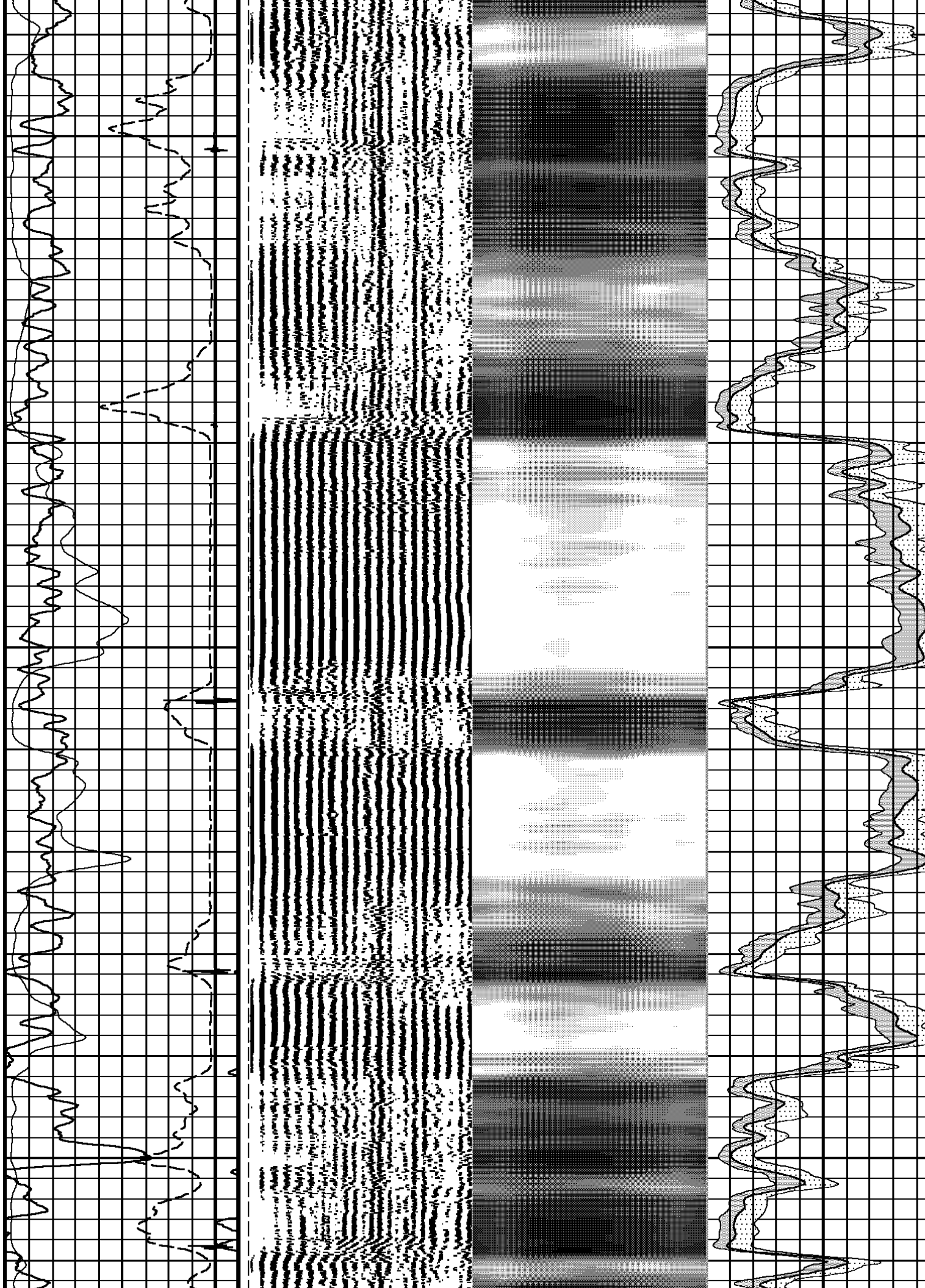
1200



1225

1250

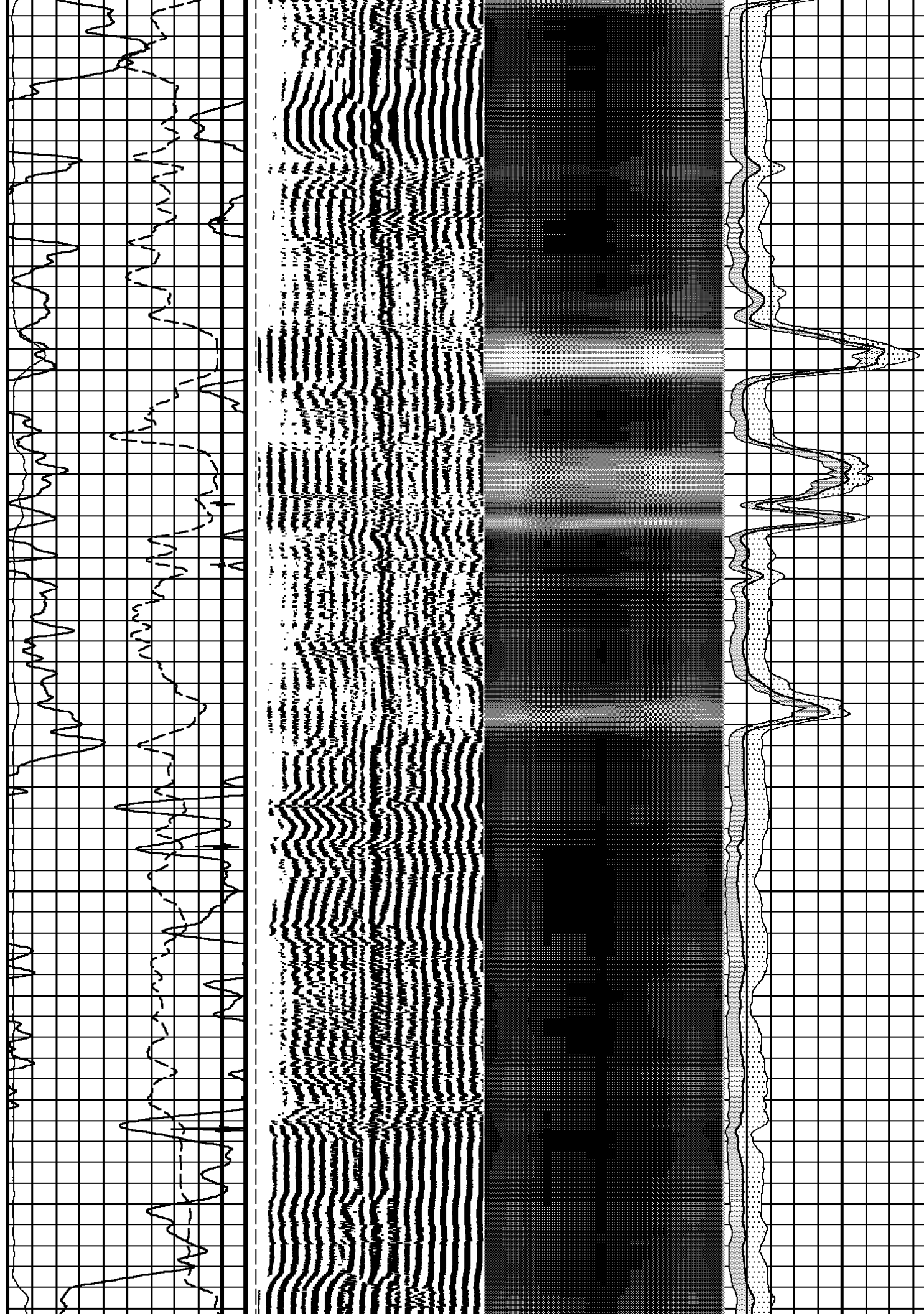
1275





1300

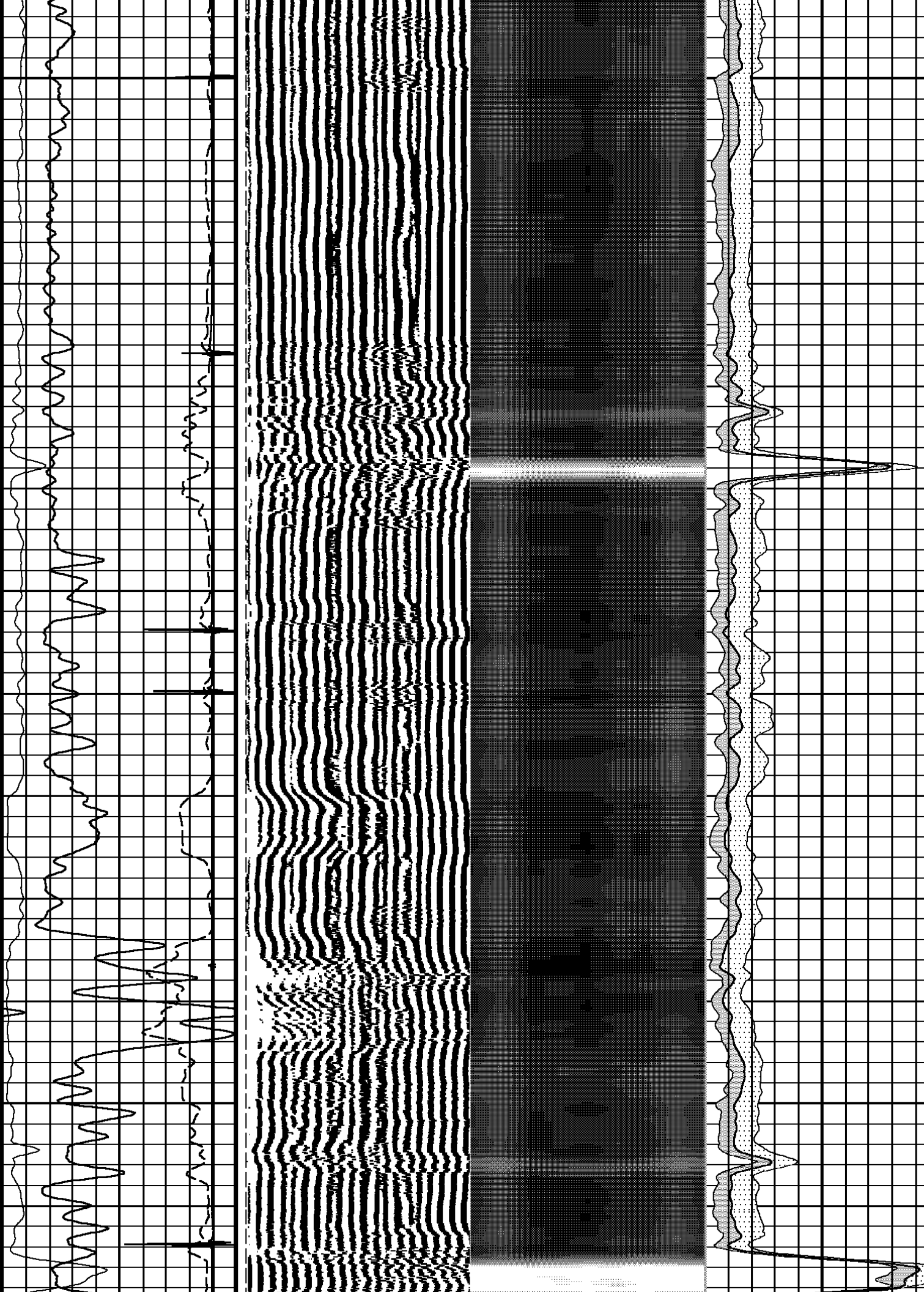
1325

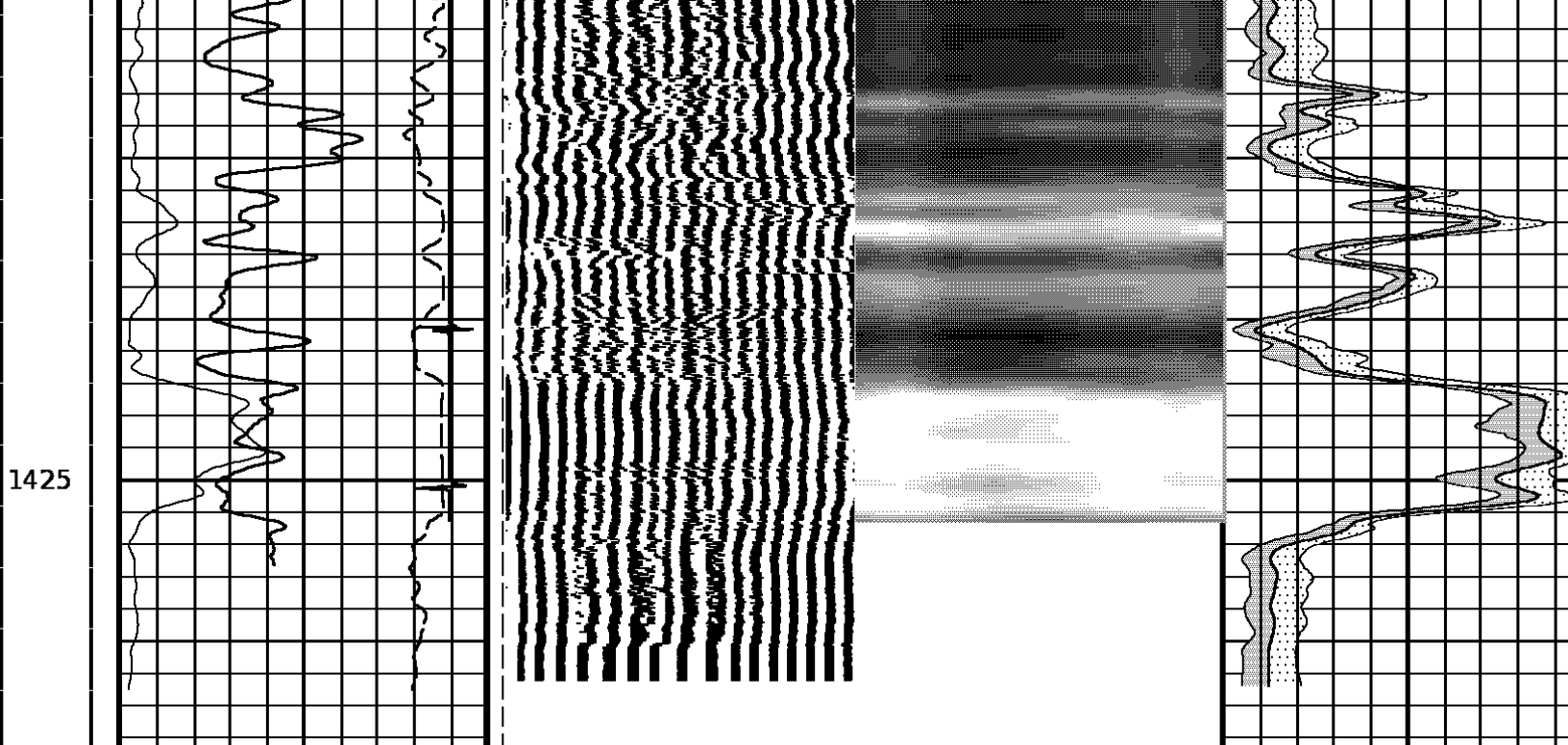


1350

1375

1400





3' AMPLITUDE			VARIABLE DENSITY			VARIABLE ENERGY			MIN ENERGY		
0	Millivolts	100	200	Microseconds	1200	0	Millivolts	80	0	Millivolts	10
3' TRAVEL TIME			FREE PIPE TT						AVG ENERGY		
600	Microseconds	200	200	Microseconds	1200				0	Millivolts	10
GAMMA RAY									MAX ENERGY		
0	API	120							0	Millivolts	10
COLLAR LOCATOR											
-5000	Millivolts	550									

START DEPTH: 1428.2    DIRECTION: UP    DATE: 03/15/2007    TIME: 09:10    MODE: TRACE PLAYBACK

4313637 MAIN

MAIN PASS

DEPTH SCALE: 1:240

VERSION: 7021587 R

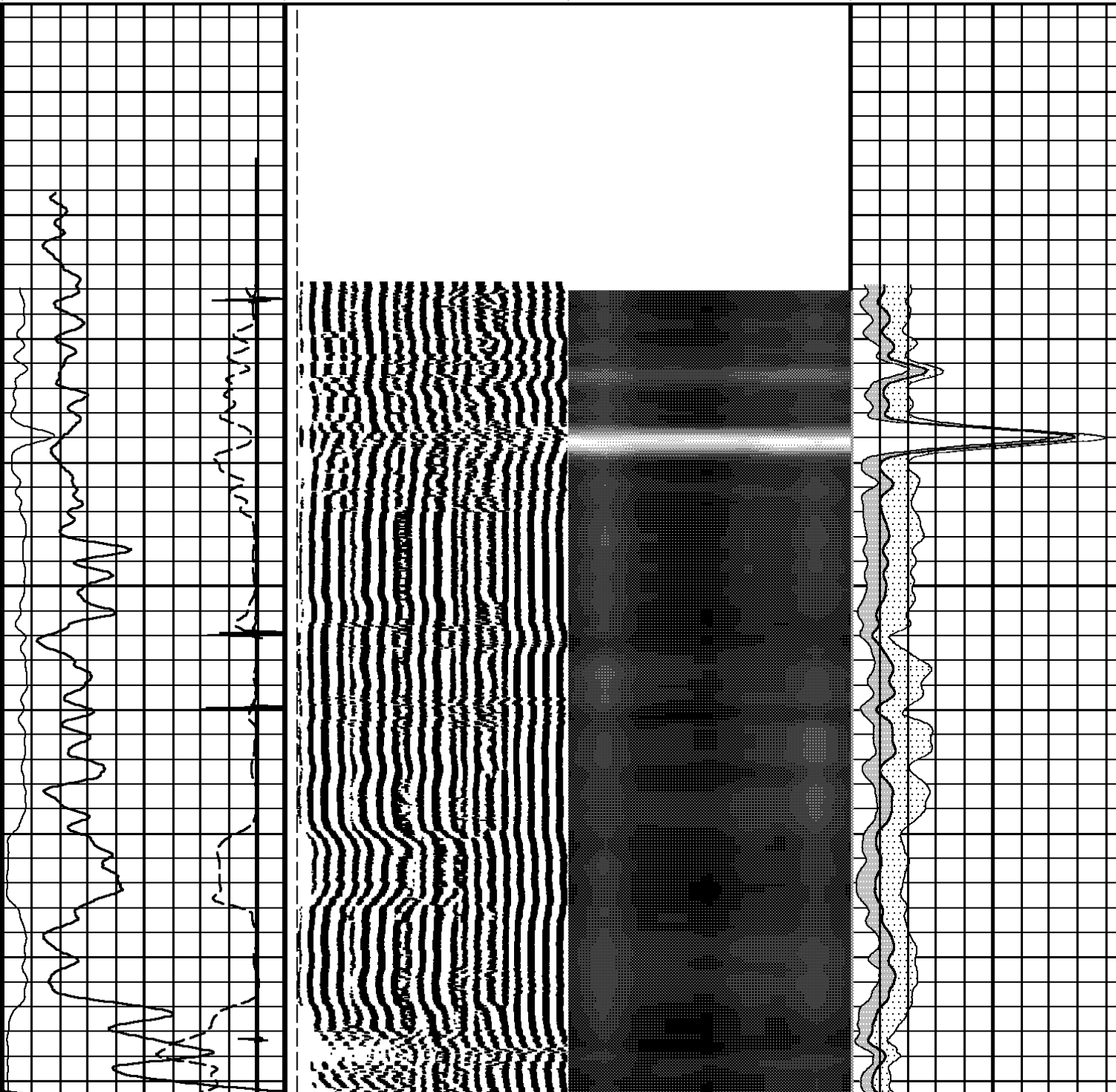
DEPTH SCALE: 1:240

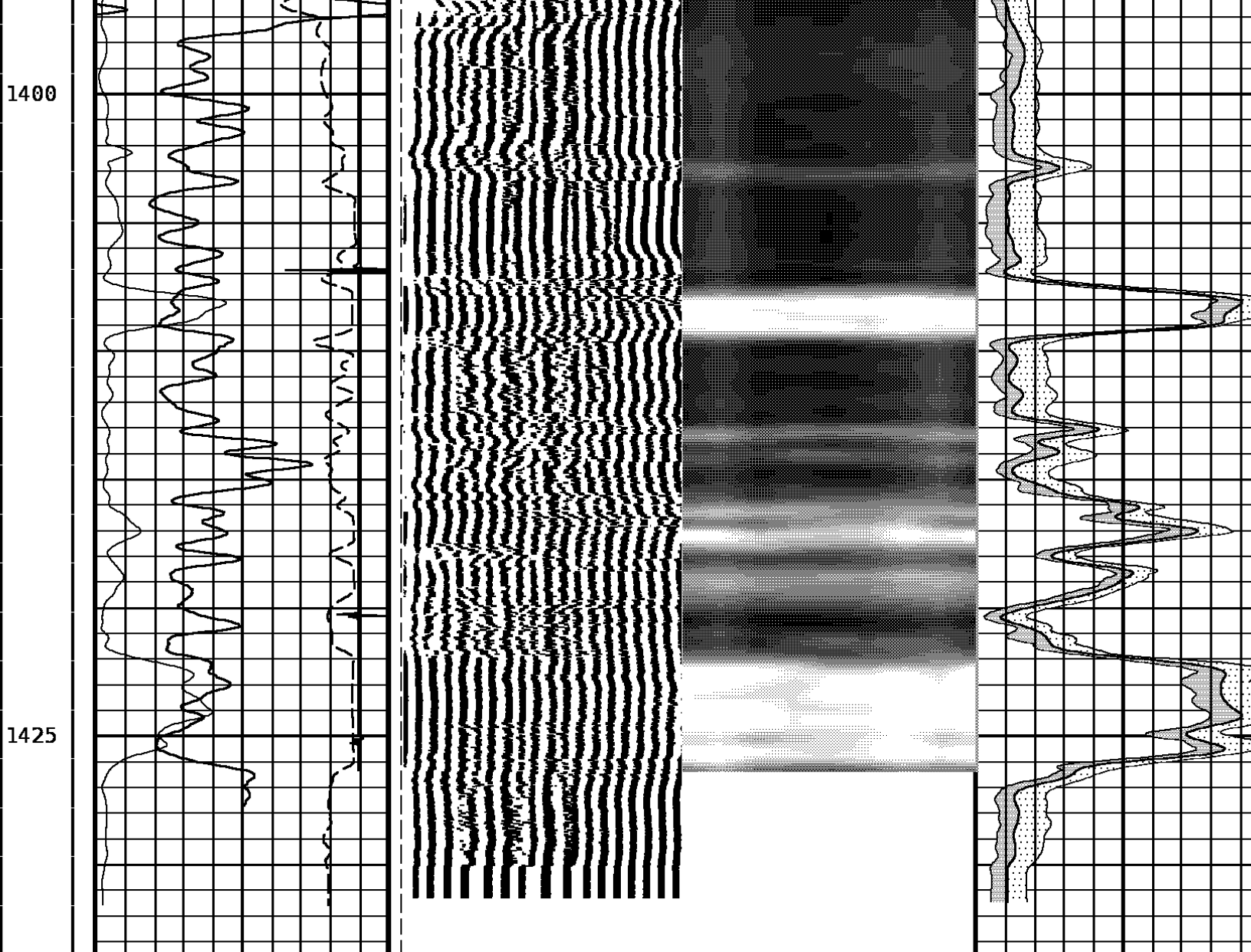
VERSION: 7021587 R

REPEAT PASS

COLLAR LOCATOR											
-5000	Millivolts	550									
GAMMA RAY									MAX ENERGY		
0	API	120							0	Millivolts	10
3' TRAVEL TIME			FREE PIPE TT						AVG ENERGY		
600	Microseconds	200	200	Microseconds	1200				0	Millivolts	10
3' AMPLITUDE			VARIABLE DENSITY			VARIABLE ENERGY			MIN ENERGY		
0	Millivolts	100	200	Microseconds	1200	0	Millivolts	80	0	Millivolts	10

1375





3' AMPLITUDE			VARIABLE DENSITY			VARIABLE ENERGY			MIN ENERGY		
0	Millivolts	100	200	Microseconds	1200	0	Millivolts	80	0	Millivolts	10
3' TRAVEL TIME			FREE PIPE TT						AVG ENERGY		
600	Microseconds	200	200	Microseconds	1200				0	Millivolts	10
GAMMA RAY									MAX ENERGY		
0	API	120							0	Millivolts	10
COLLAR LOCATOR											
-5000	Millivolts	550									

START DEPTH: 1433.5    DIRECTION: UP    DATE: 03/15/2007    TIME: 09:17    MODE: TRACE PLAYBACK

4313637 RPT1

REPEAT PASS

01/01/88	12:00	0.0 M	Ver	Job
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Gamma Ray Before Survey Calibration

Tool Type: GRB-AA	Serial No: 183
Calibrator No:	

Background	Calibrator	Standard	Units
24.5	195.0	120.0	API

Delta Counts Per Sec: 170.5	CPS/API = 1.421
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08/03/05	02:01	18.0 M	Ver 50223795	Job 4246042
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Sector Bond Before Calibration

Tool Type	SBT-AA	Serial No	sbt131
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Sensor	Description	Standard	Measured
AMP 3FT	ZERO	0.00	2.50
	PLUS	72.00	1255.60
AMP 5FT	ZERO	0.00	11.23
	PLUS	60.00	1350.90
1 SECTOR AMP	ZERO	0.00	15.40
	PLUS	90.00	1404.40
2 SECTOR AMP	ZERO	0.00	13.20
	PLUS	90.00	1508.60
3 SECTOR AMP	ZERO	0.00	8.30
	PLUS	90.00	1475.80
4 SECTOR AMP	ZERO	0.00	11.22
	PLUS	90.00	1469.20
5 SECTOR AMP	ZERO	0.00	11.60
	PLUS	90.00	1455.60
6 SECTOR AMP	ZERO	0.00	8.70

7 SECTOR AMP

ZERO

0.00

13.80

PLUS

90.00

1323.60

8 SECTOR AMP

ZERO

0.00

10.10

PLUS

90.00

1465.40

### 1-11/16" Adaptor

Weight 1 kg  
Length 0.31 m  
Max. Diameter 4.28 cm

Total Stack Weight 63.4 kg in air  
Total Stack Length 8.51 m

### Slim Hole Centralizer

Weight 5.4 kg  
Length 0.76 m  
Max. Diameter 6.9 cm

### Collar Locator

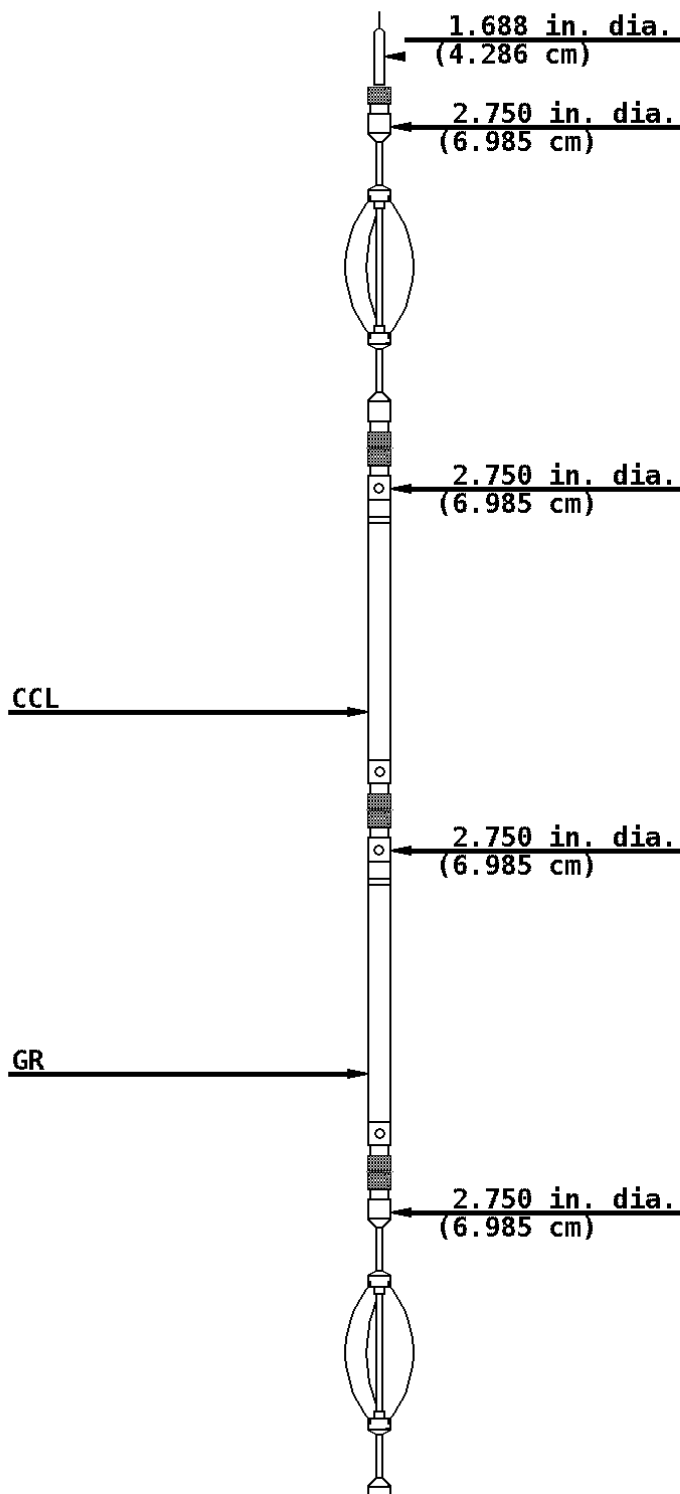
Weight  
Length 1.04 m  
Max. Diameter

### Slim Hole Gamma Ray

Weight  
Length 1.45 m  
Max. Diameter

### Slim Hole Centralizer

Weight 10.8 kg  
Length 0.94 m  
Max. Diameter 6.9 cm



### Sector Bond

Weight 40.8 kg  
Length 3.15 m  
Max. Diameter 6.9 cm

SBT/CBL Tx

SBT Rx 2.37 m

3' Rx 2.22 m

5' Rx 1.91 m

2.750 in. dia.  
(6.985 cm)

### Slim Hole Centralizer

Weight 5.4 kg  
Length 0.76 m  
Max. Diameter 6.9 cm

2.750 in. dia.  
(6.985 cm)

Tool Zero

COMPANY PARAMOUNT RESOURCES LTD

300L736010117150

WELL PARAMOUNT et al CAMERON L73

FIELD CAMERON

PROVINCE N.W.T



**Weatherford®**





## ARRAY INDUCTION

COMPANY	PARAMOUNT RESOURCES LTD				
WELL	PARA ET AL CAMERON L-73				
FIELD	CAMERON HILLS				
PROVINCE/COUNTY	NORTHWEST TERRITORIES				
COUNTRY/STATE	CANADA				
LOCATION	300/L-73-60-10-117-15 <b>FIELD PRINT</b>				
LSD	SEC	TWP	RGE	Other Services	
API Number				PHOTO DENSITY	DUAL SPACED NEUTRON
Permit Number 1159				MICROLOG	COMPENSATED SONIC
					XY CALIPERS
Permanent Datum GROUND LEVEL, Elevation 770.8 metres					Elevations: metres
Log Measured From 4.0 M above Permanent Datum					KB 774.80
Drilling Measured From KELLY BUSHING					DF
					GL 770.80
Date	27-FEB-2007				
Run Number	1				
Depth Driller	1450.00	metres			
Depth Logger	1448.60	metres			
First Reading	1447.50	metre			
Last Reading	435.00	metre			
Casing Driller	436.00	metres			
Casing Logger	435.00	metres			
Bit Size	200.00	mm			
Hole Fluid Type	GELCHEM				
Density / Viscosity	1180.0 kg/M3	85.00	sec/L		
PH / Fluid Loss	10.00	8.00	ml/30Min		
Sample Source	FLOWLINE				
Rm @ Measured Temp	0.54 @ 25.0	ohm-m			
Rmf @ Measured Temp	0.41 @ 25.0	ohm-m			
Rmc @ Measured Temp	0.63 @ 25.0	ohm-m			
Source Rmf / Rmc	PRESS	FILTER			
Rm @ BHT	0.36 @ 47.0	ohm-m			
Time Since Circulation	8.5 HRS				
Max Recorded Temp	47.00	deg C			
Equipment Name	13132				
Equipment / Base	QUINT	GPR			
Recorded By	L. SUTHERLAND				
Witnessed By	A. AHMED				
CIRC STOP	05:30 FEB 27	Last Line			

### BOREHOLE RECORD

Bit Size millimetres	Depth From metres		Depth To metres	
	311.000	0.00	436.00	
	200.000	436.00	1450.00	

### CASING RECORD

Type	Size millimetres	Depth From metres		Shoe Depth metres	Weight pounds/ft
		219.100	0.00	436.00	35.70

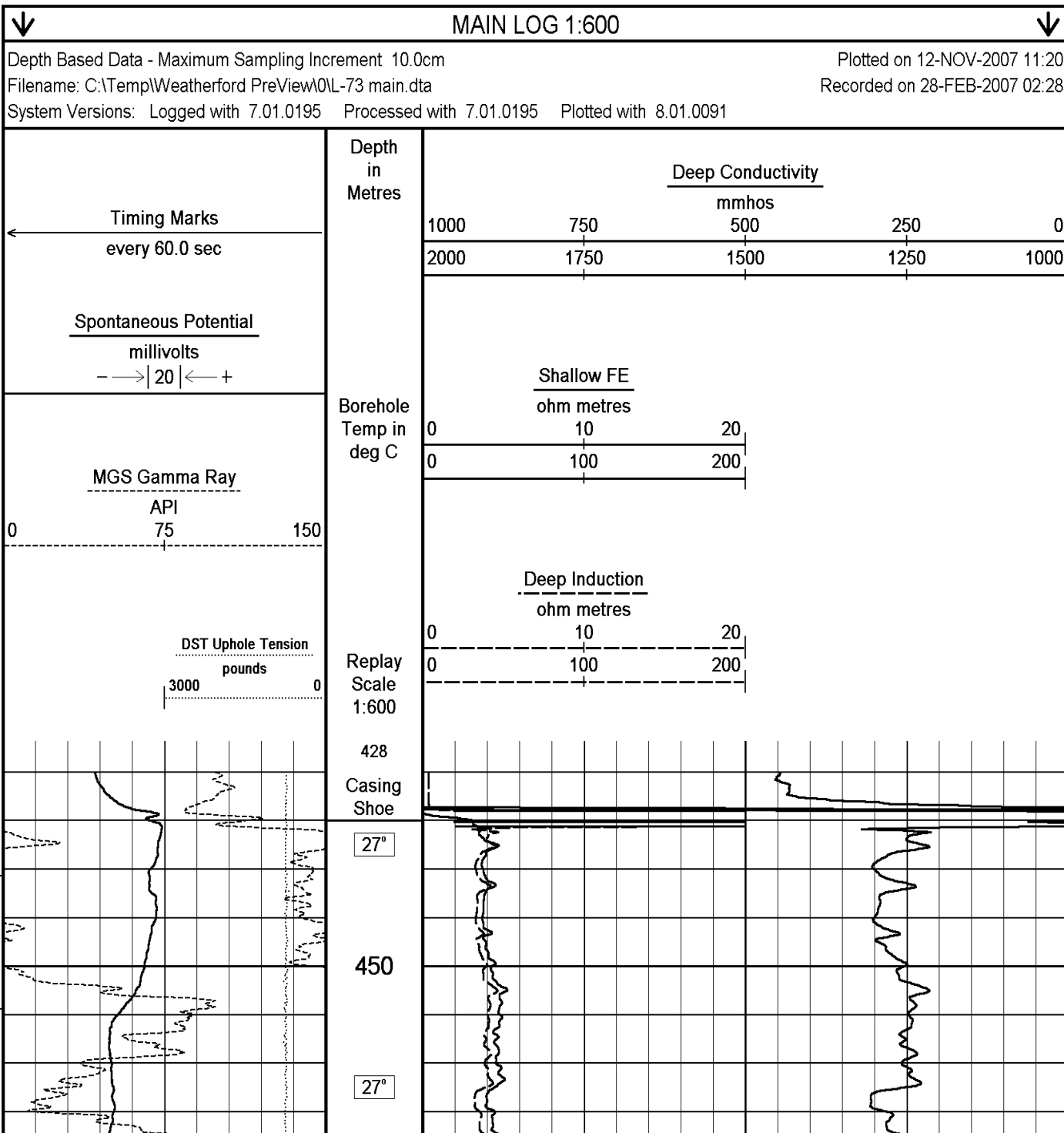
### REMARKS

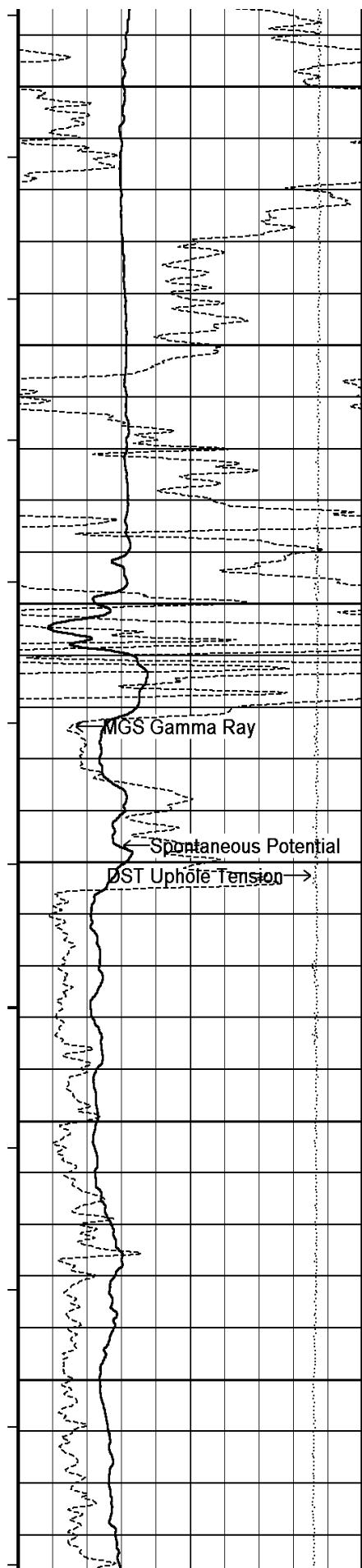
- 1) SOFTWARE ISSUE: WLS 7.01.0195
- 2) CUSTOMER SCALES AND INTERVALS LOGGED.
- 3) MAI, MSS, MPD, MDN, MML, ISC, MGS, MTC, MFE, MCG RAN IN COMBINATION.
- 4) HARDWARE: MAI: TWO 25.4 MM STANDOFFS  
MSS: THREE 25.4 MM STANDOFFS  
MDN: DUAL NEUTRON BOWSPRING  
MTC: ONE SIX-LEAF CENTRALIZER

- 5) SAP# 4147855 FIELD TICKET # 30074798
- 6) # FIELD PRINTS = 3 # FINAL PRINTS = UNKNOWN

- 7) RIG: PD # 129
- 8) HOLE CEMENT VOLUMES CALCULATED USING DENSITY CALIPER AND TWO ARM CALIPER IN COMBINATION :  
 HOLE VOLUME = 36.05 CU.M.  
 ANNULAR VOLUME USING 139.7 MM PRODUCTION CASING = 20.65 CU.M
- 9) AREAS OF BOREHOLE RUGOSITY MAY CAUSE POOR DENSITY PAD CONTACT RESULTING IN HIGH DENSITY CORRECTION AND  
 THUS INVALID DENSITY POROSITY DATA AT THOSE INTERVALS.
- 10) SONIC FREE PIPE: 378M

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.





27°

500

28°

28°

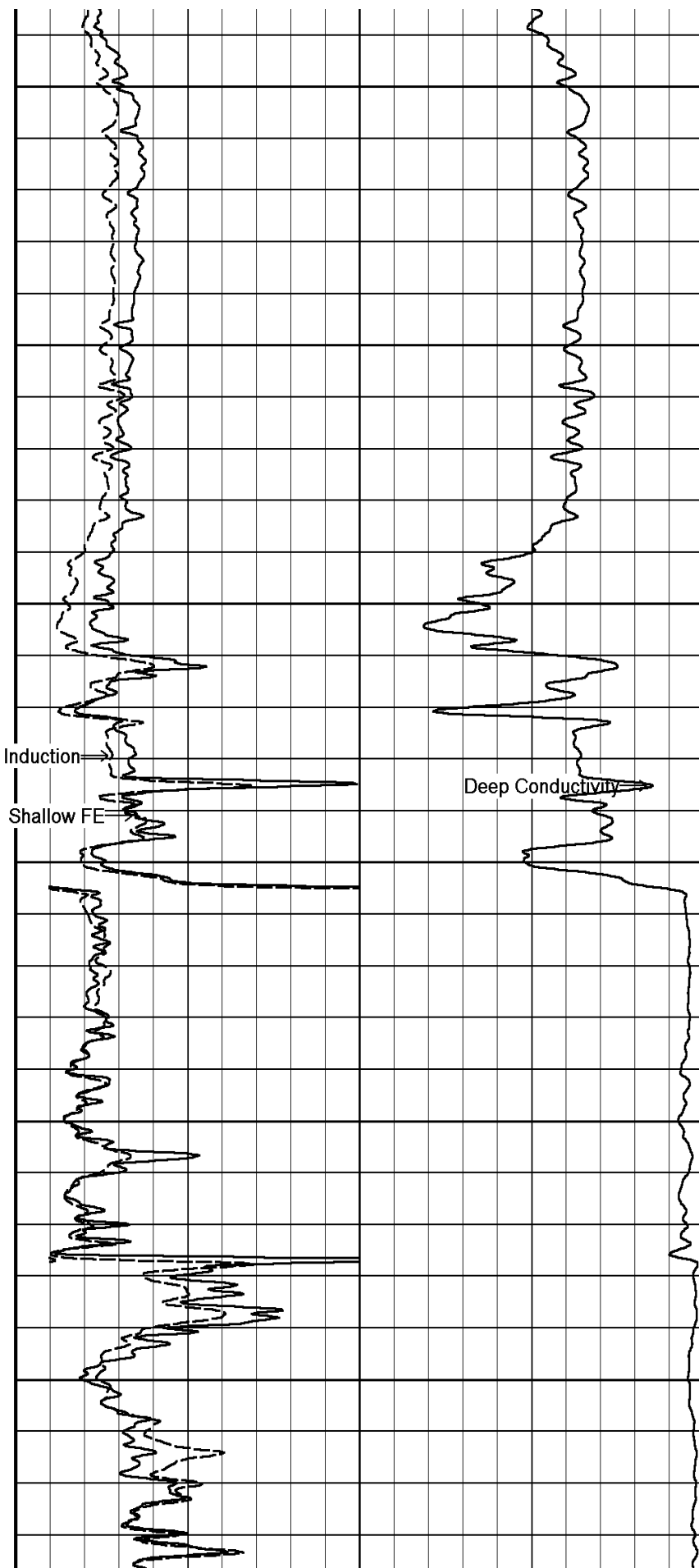
550

28°

28°

600

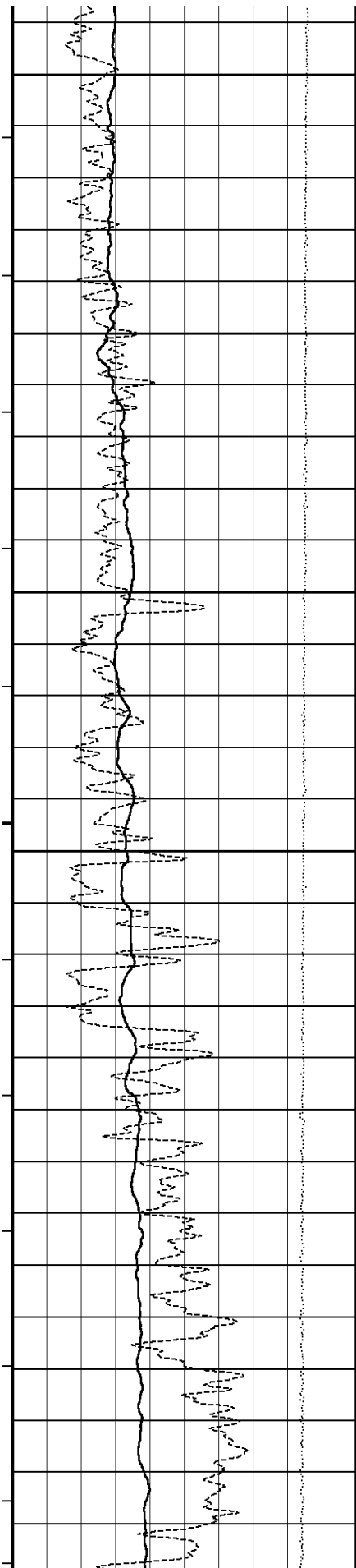
29°



Deep Induction

Shallow FE

Deep Conductivity



29°

650

29°

30°

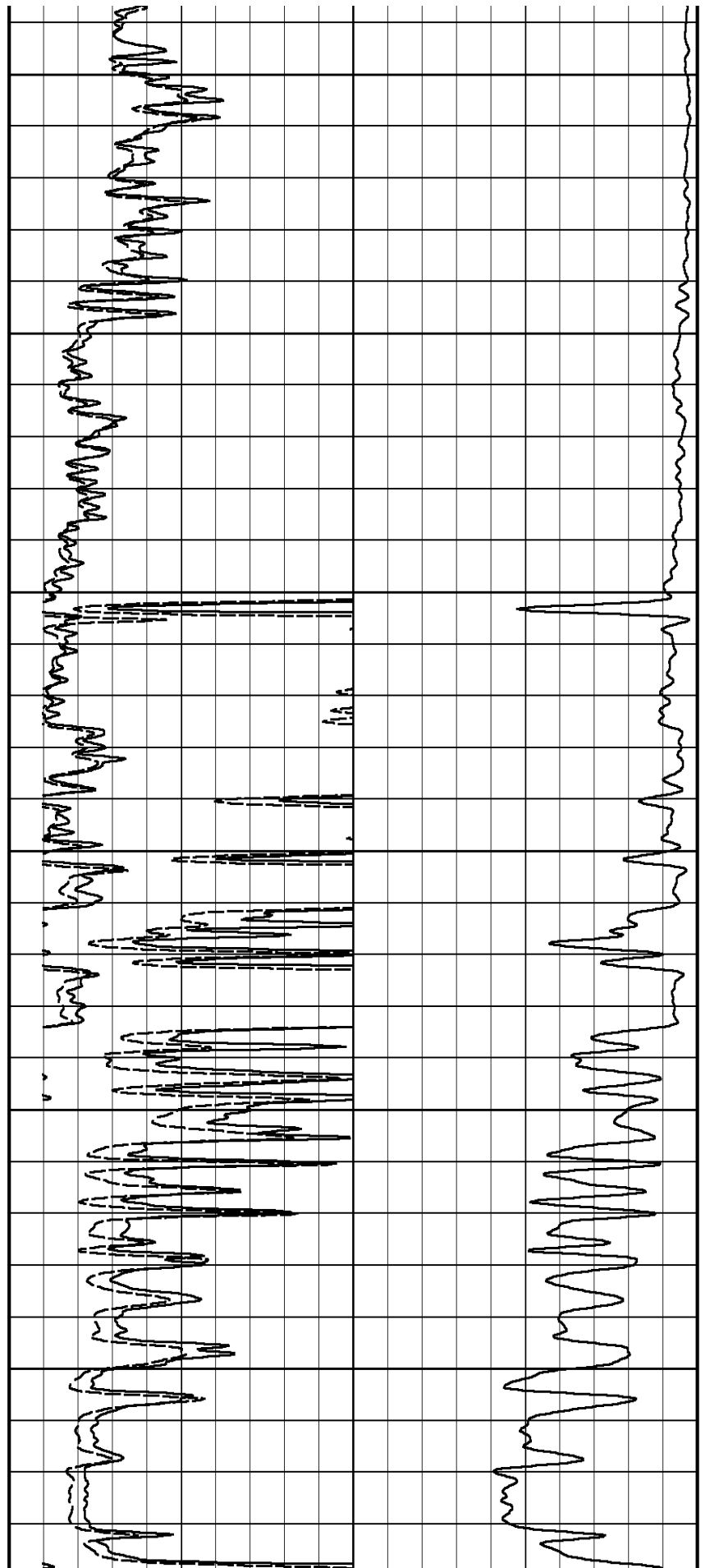
700

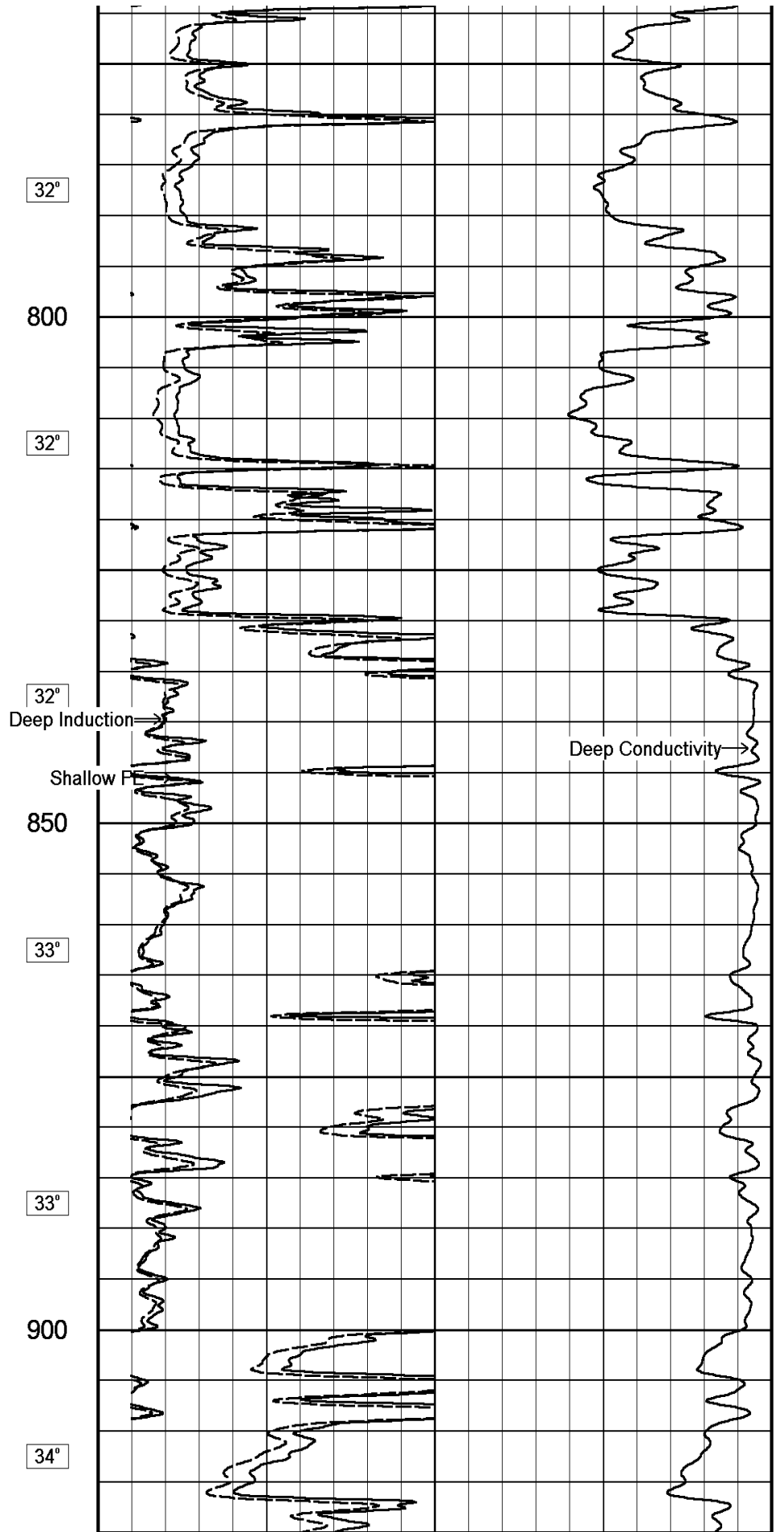
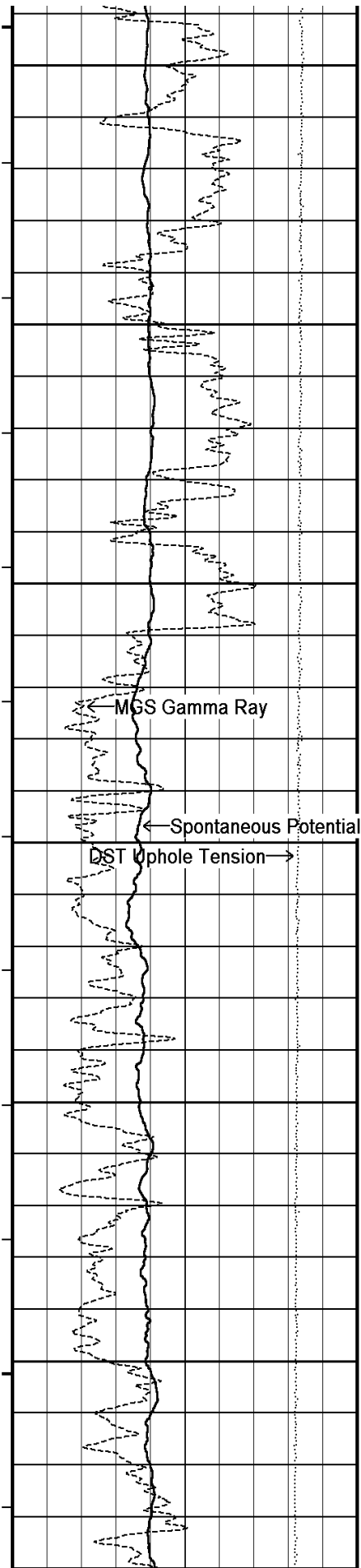
30°

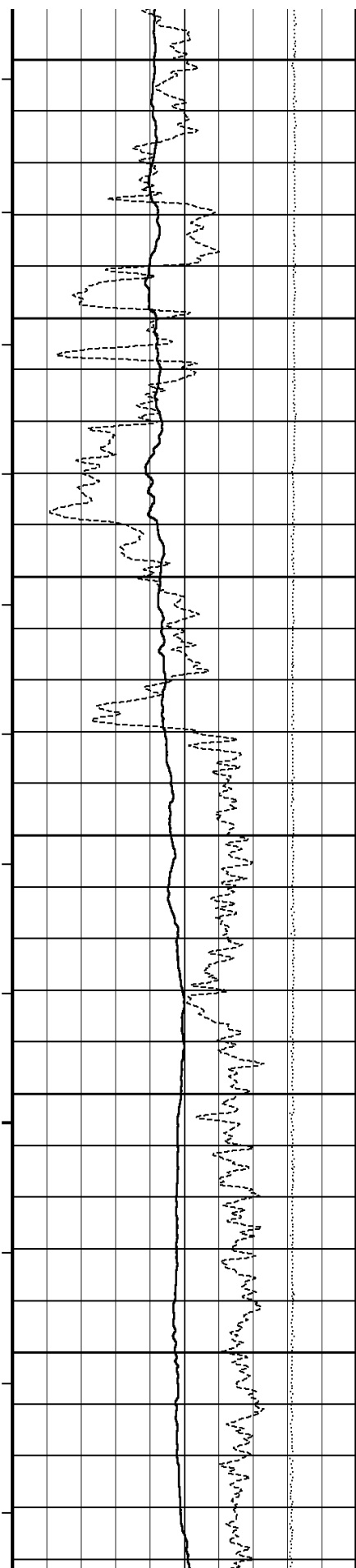
31°

750

31°







34°

950

35°

35°

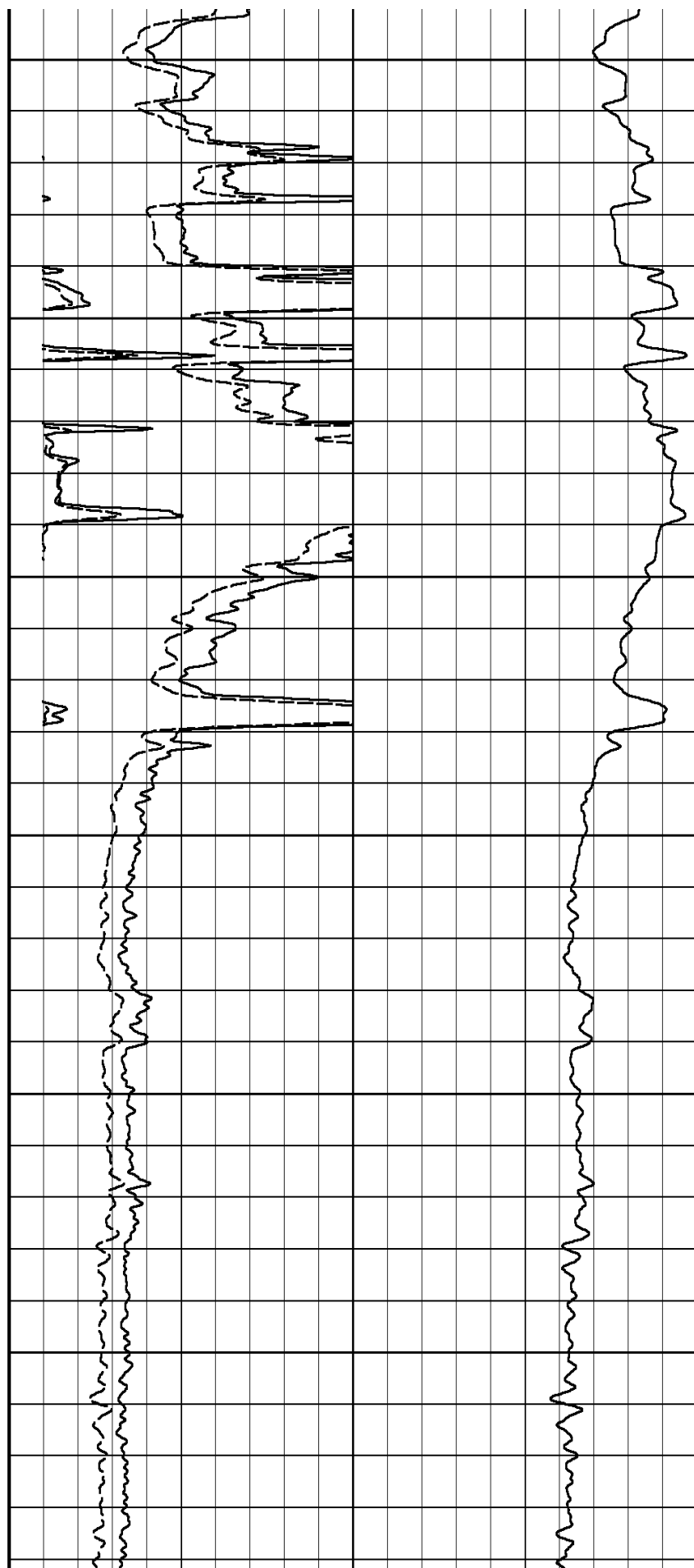
1000

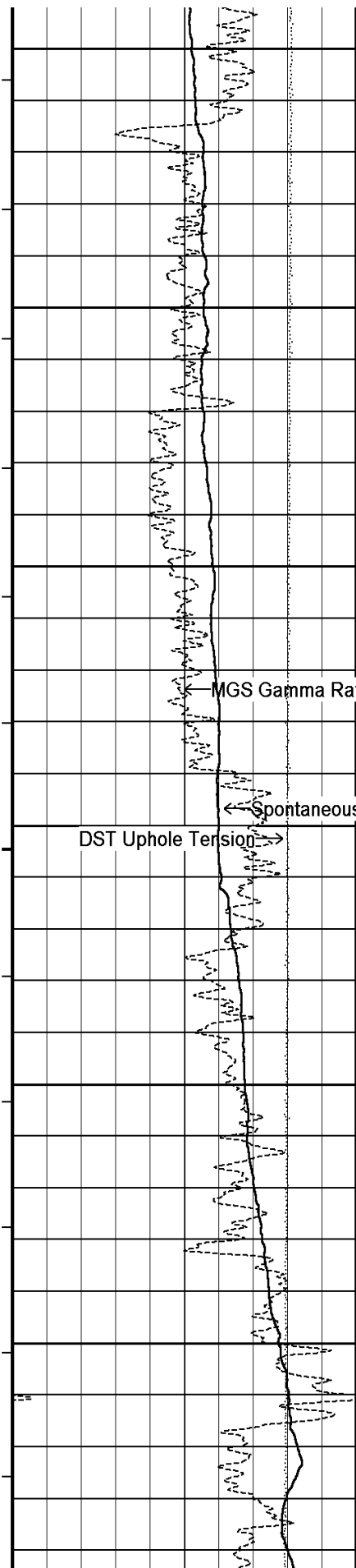
36°

36°

1050

37°





37°

1100

38°

39°

39°

40°

1200

41°

DST Uphole Tension

MGS Gamma Ray

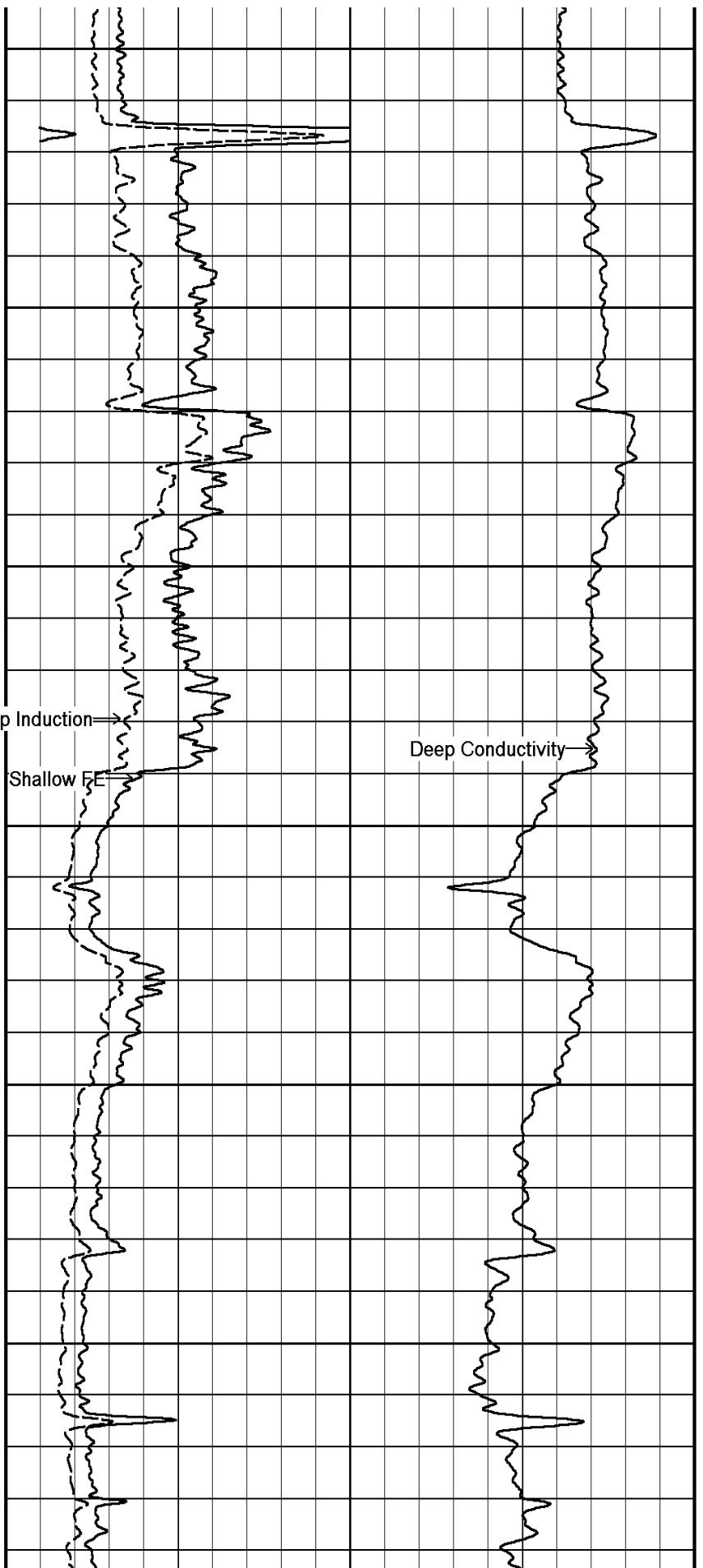
Spontaneous Potential

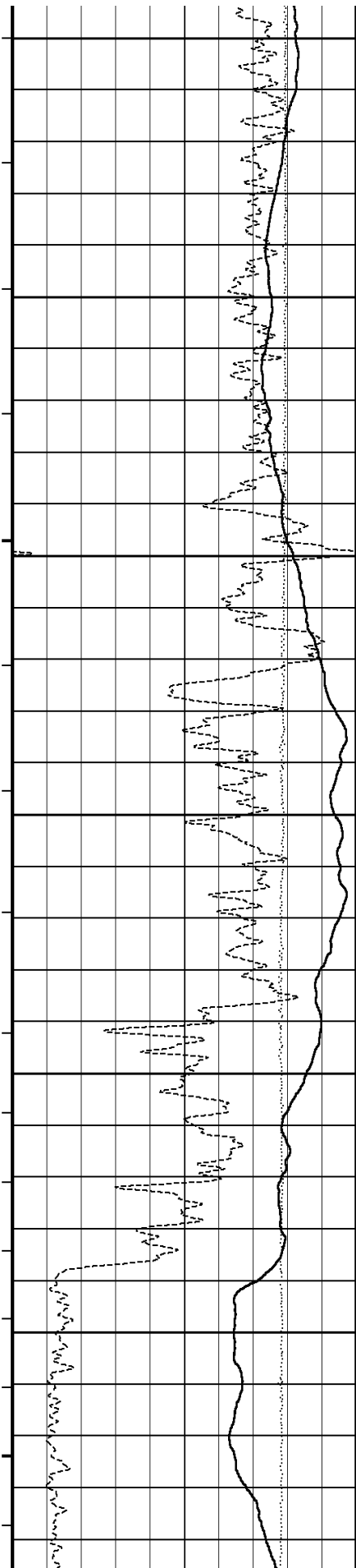
1150

Deep Induction

Shallow FE

Deep Conductivity





42°

1250

43°

44°

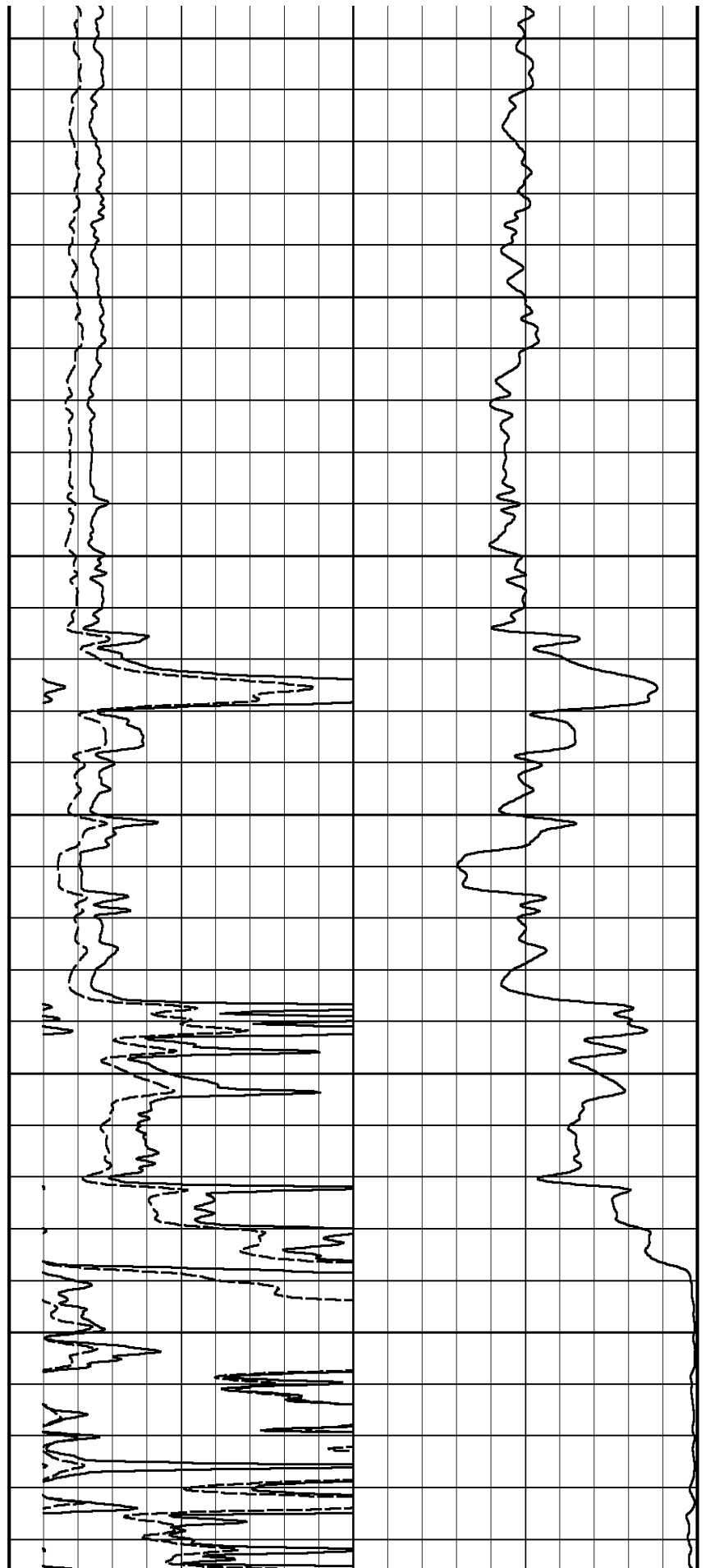
1300

45°

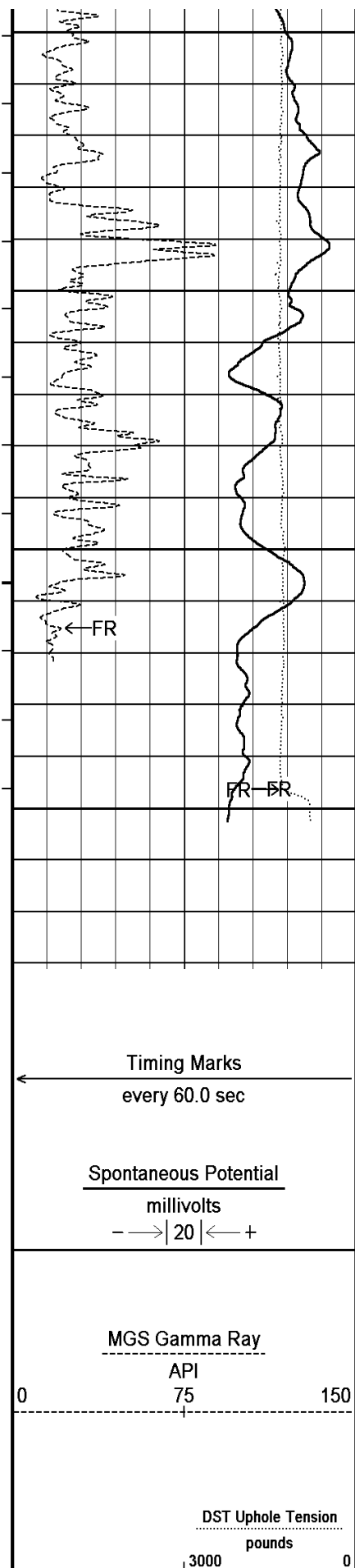
46°

1350

46°







46°

1400

47°

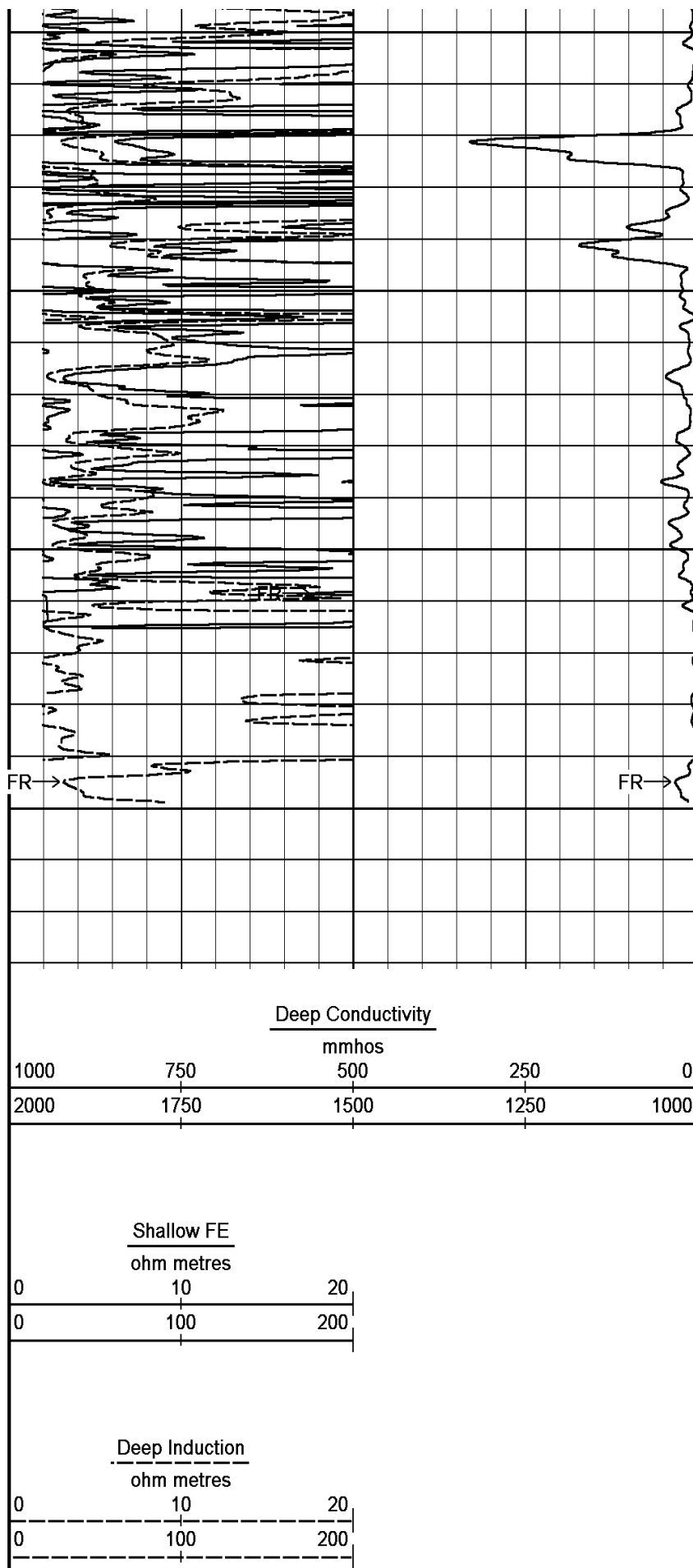
1450

1464

Depth  
in  
Metres

Borehole  
Temp in  
deg C

Replay  
Scale

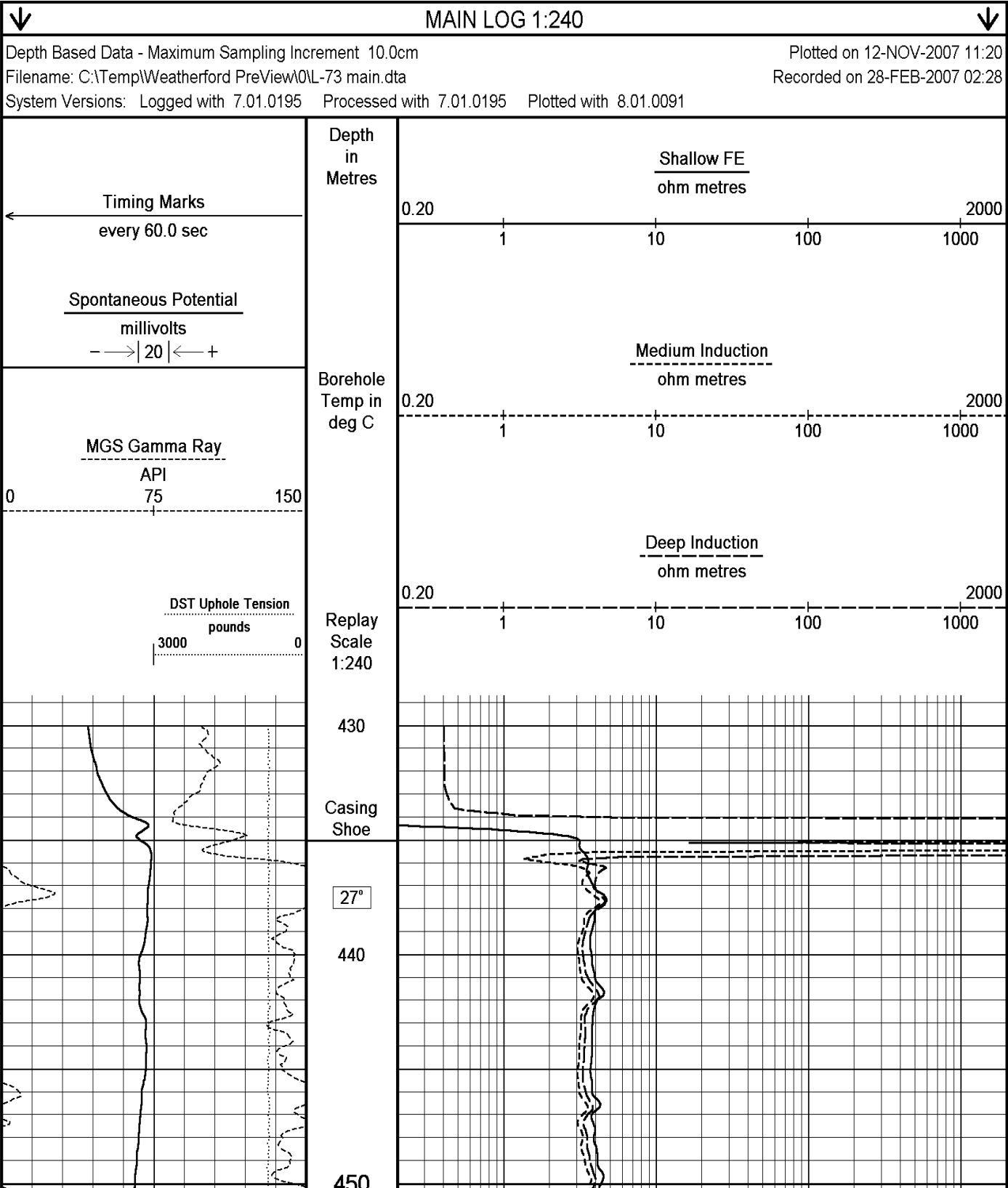


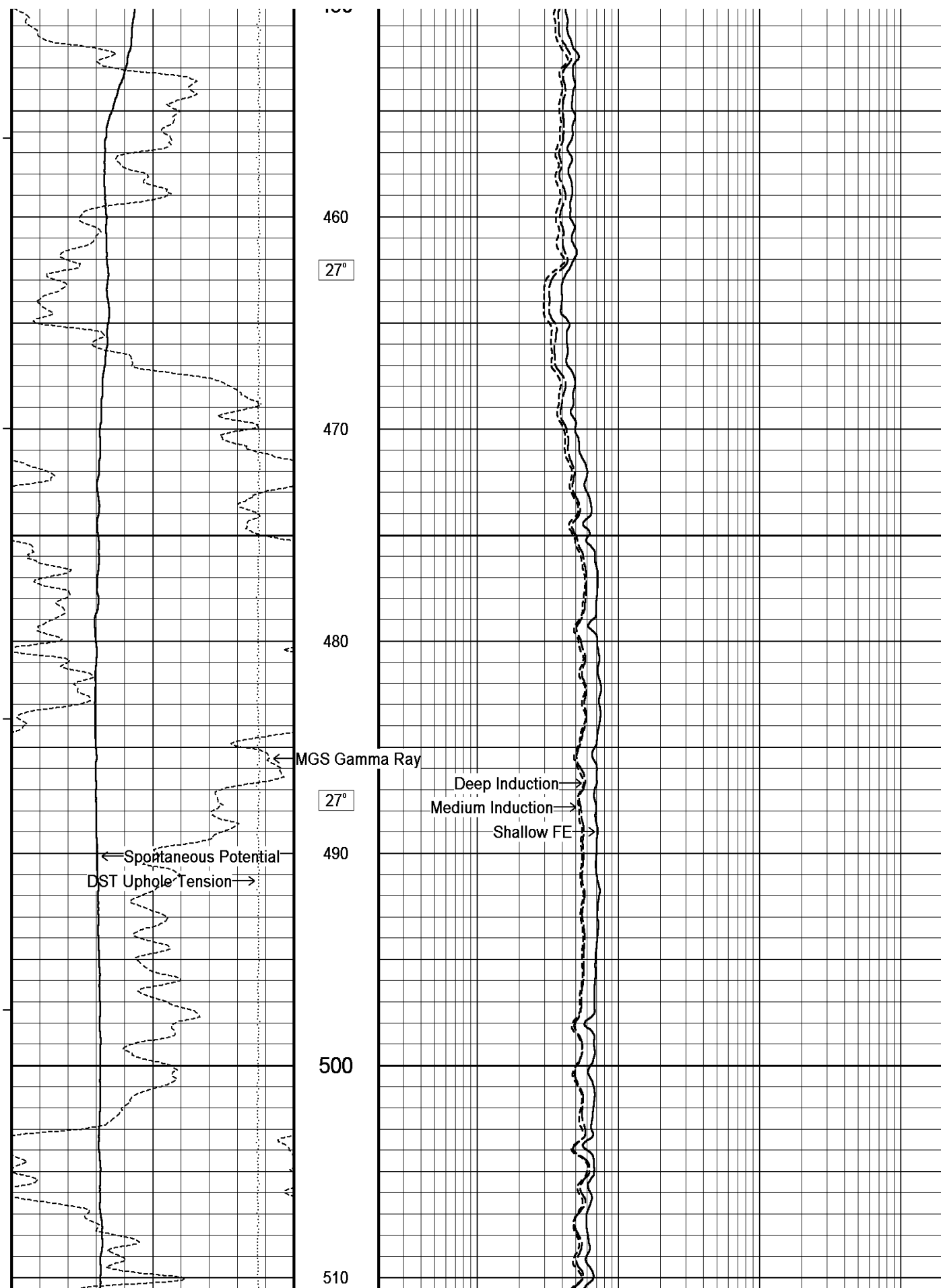
1:600

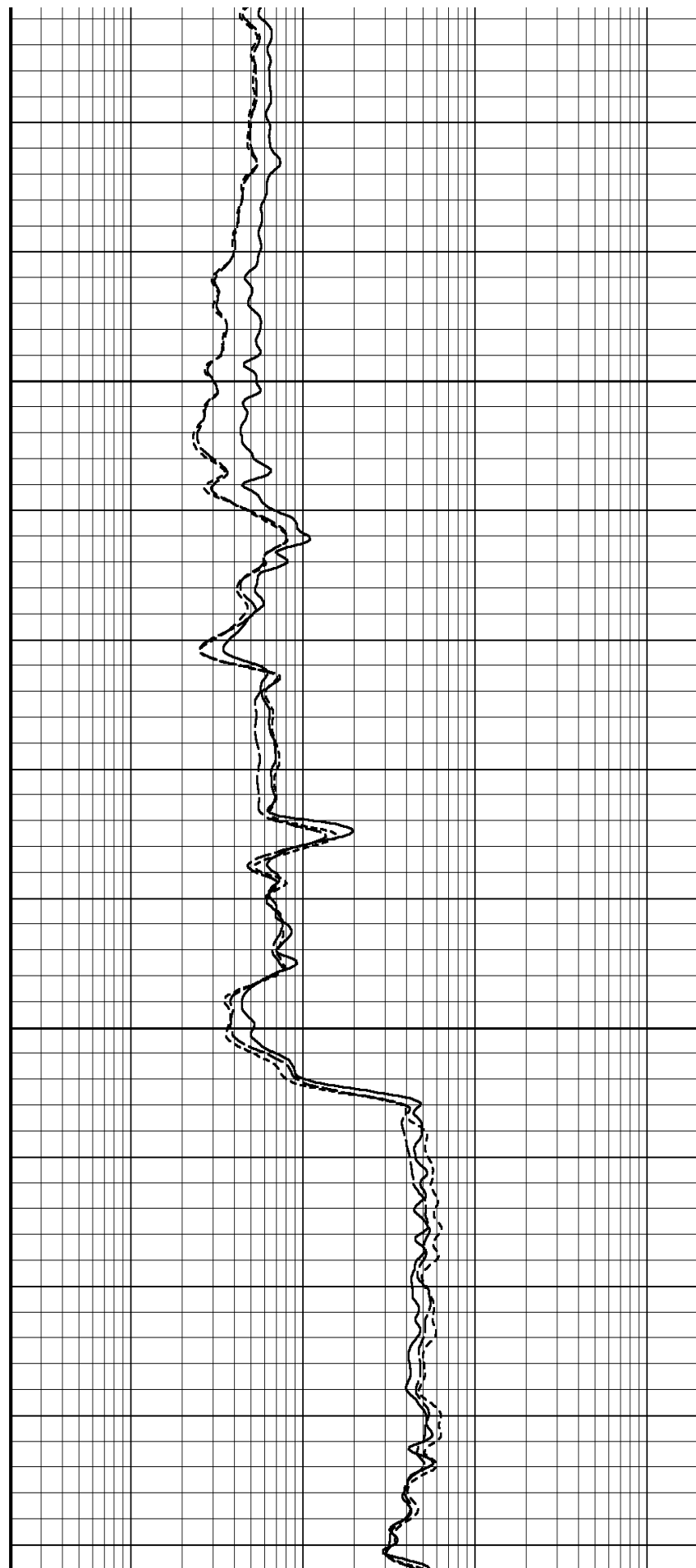
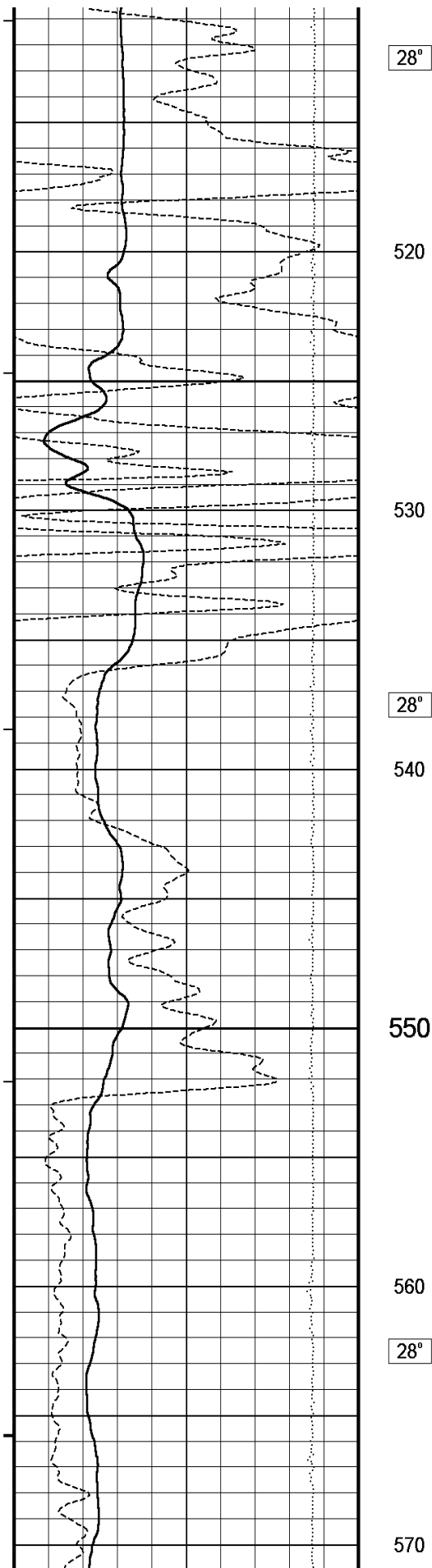
Depth Based Data - Maximum Sampling Increment 10.0cm  
Filename: C:\Temp\Weatherford PreView\0\L-73 main.dta  
System Versions: Logged with 7.01.0195    Processed with 7.01.0195    Plotted with 8.01.0091

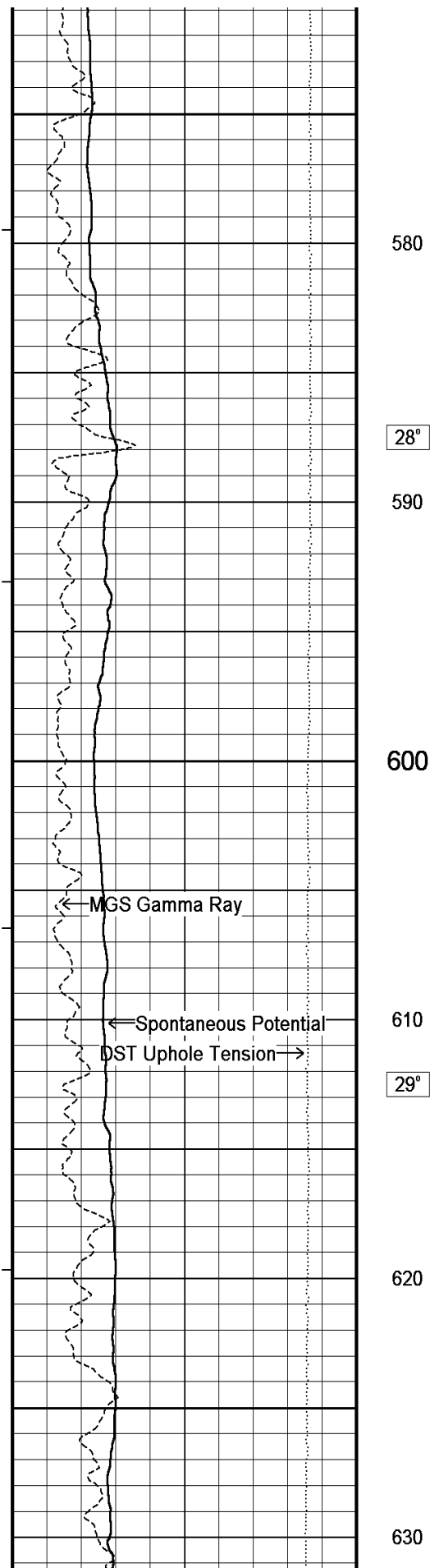
Plotted on 12-NOV-2007 11:20  
Recorded on 28-FEB-2007 02:28

↑MAIN LOG 1:600↓









580

28°

590

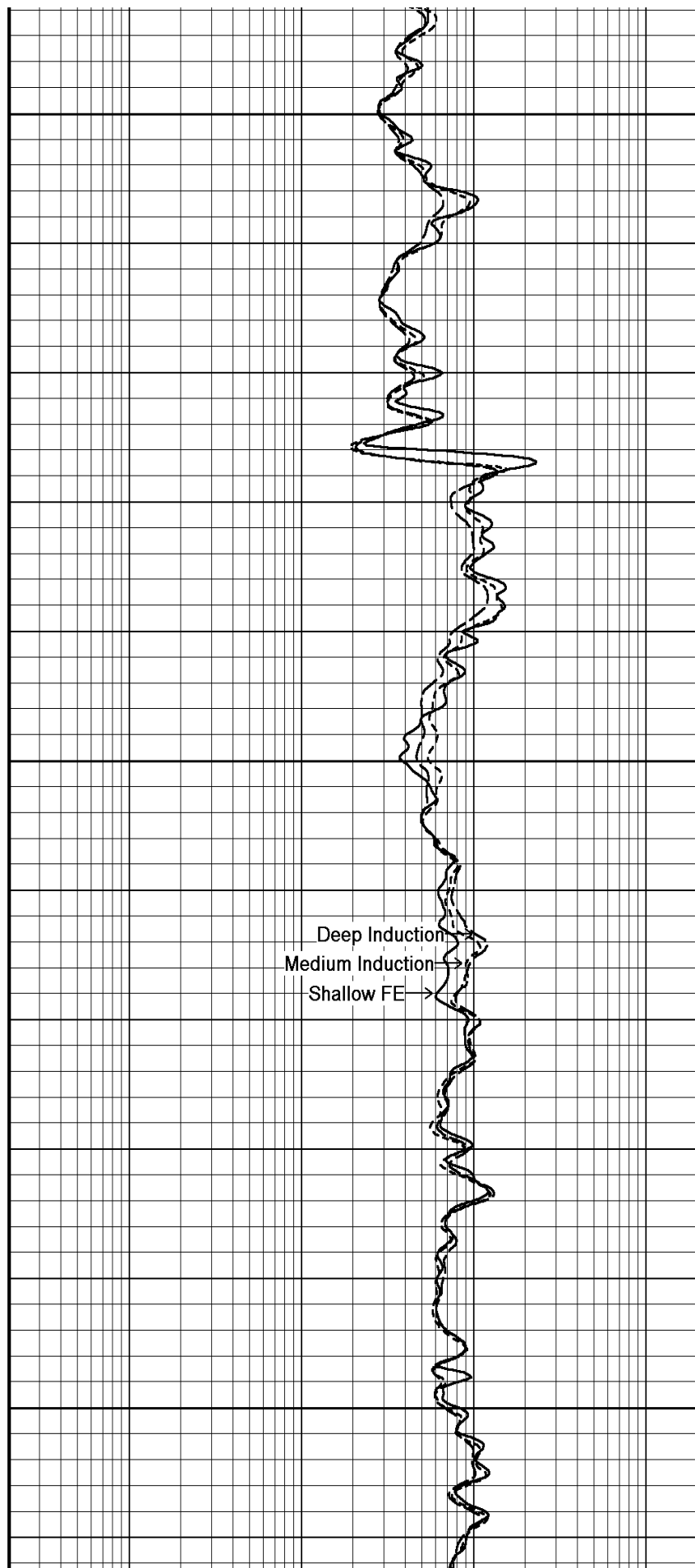
600

610

29°

620

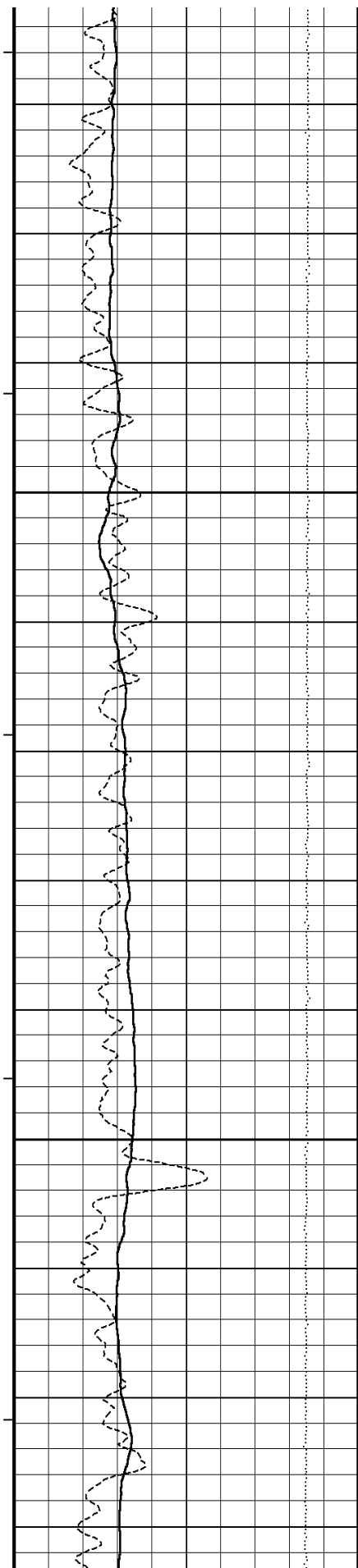
630



Deep Induction

Medium Induction

Shallow FE



29°

640

650

660

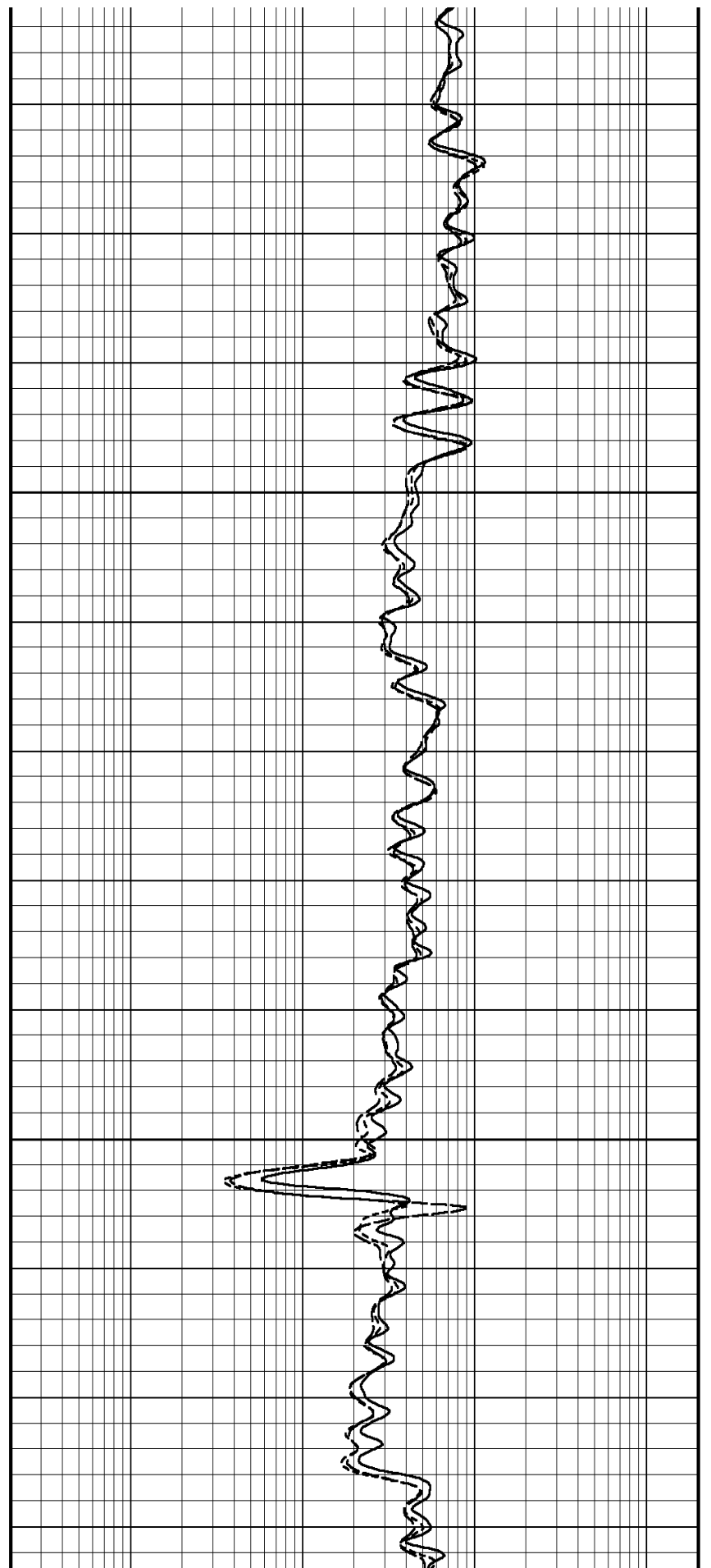
29°

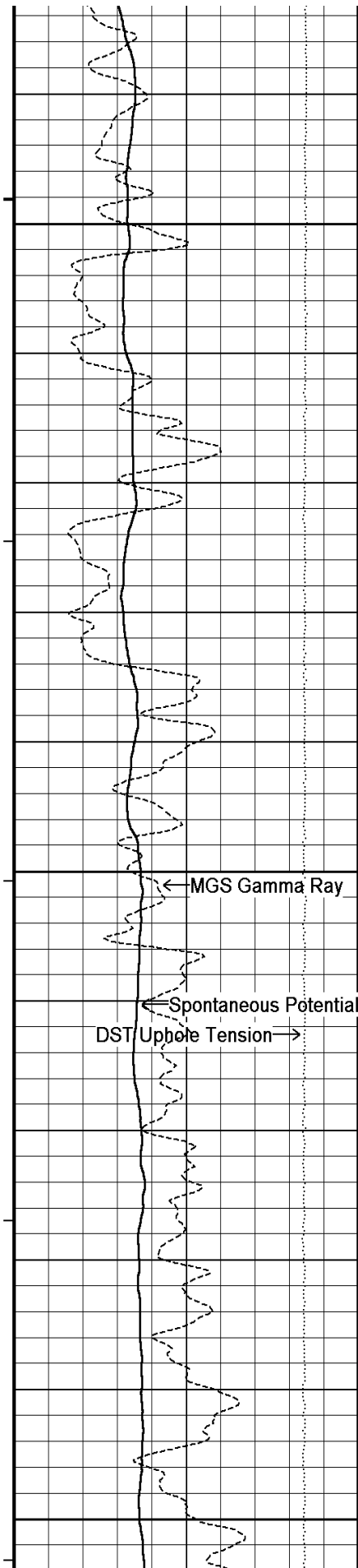
670

680

30°

690





700

710

30°

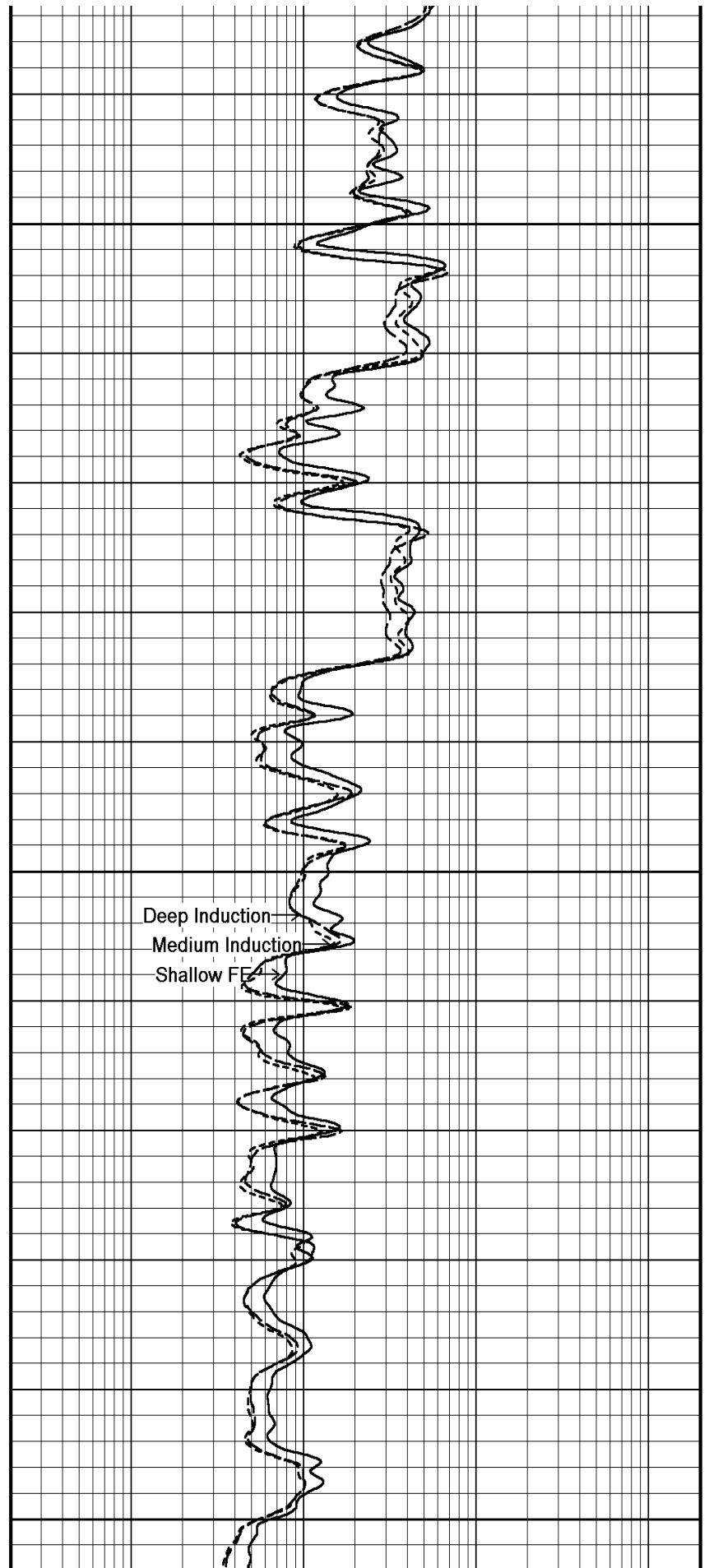
720

730

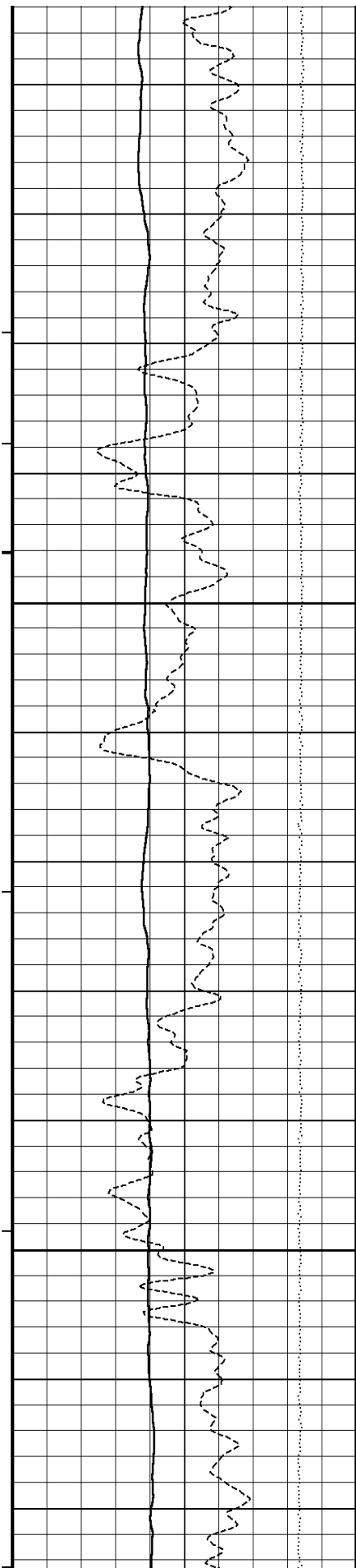
31°

740

750



Deep Induction  
Medium Induction  
Shallow FE



760

31°

770

780

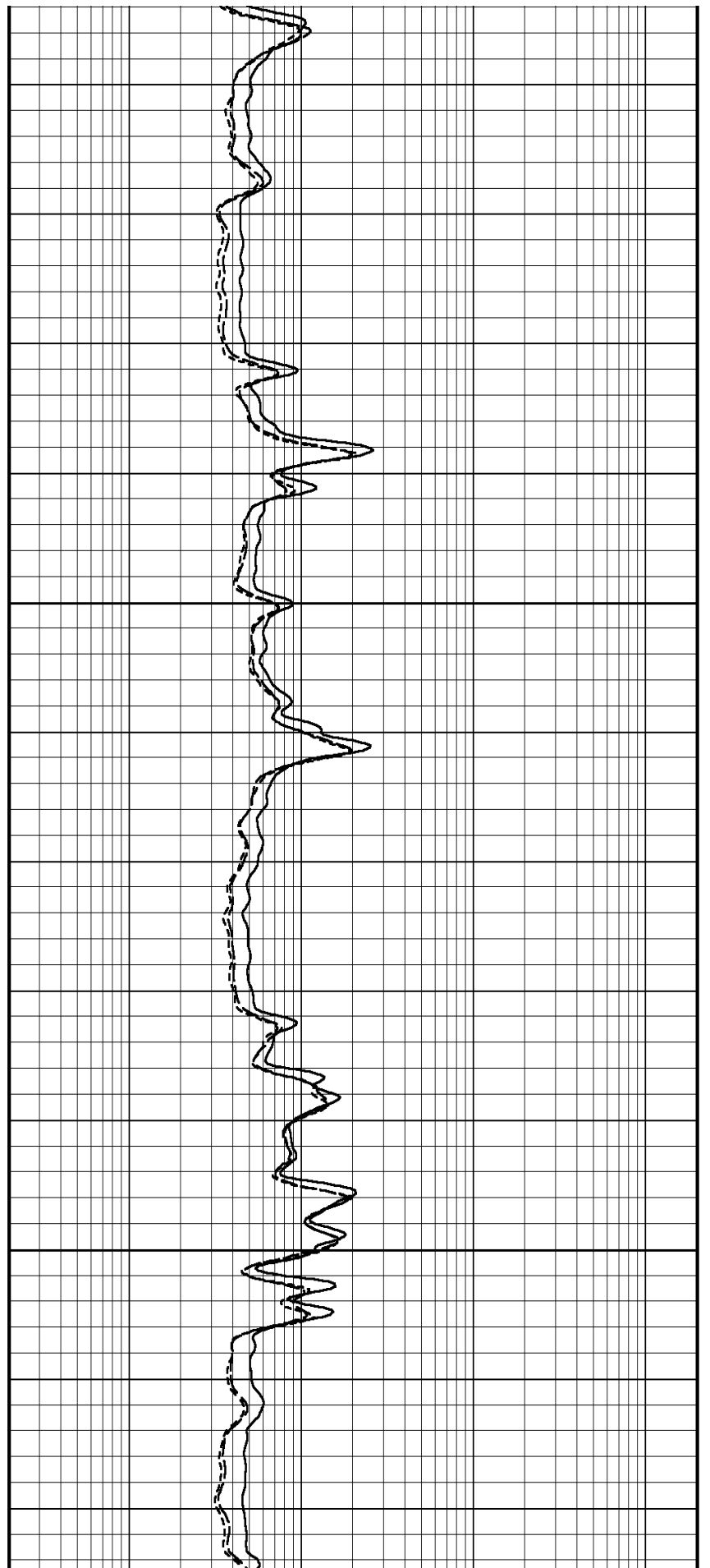
32°

790

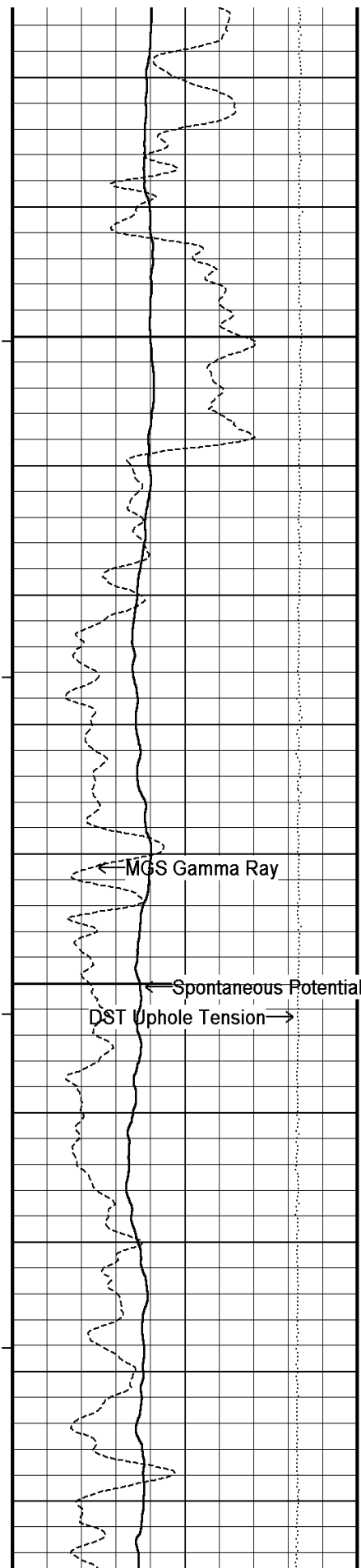
800

810

33°







32°

820

830

32°

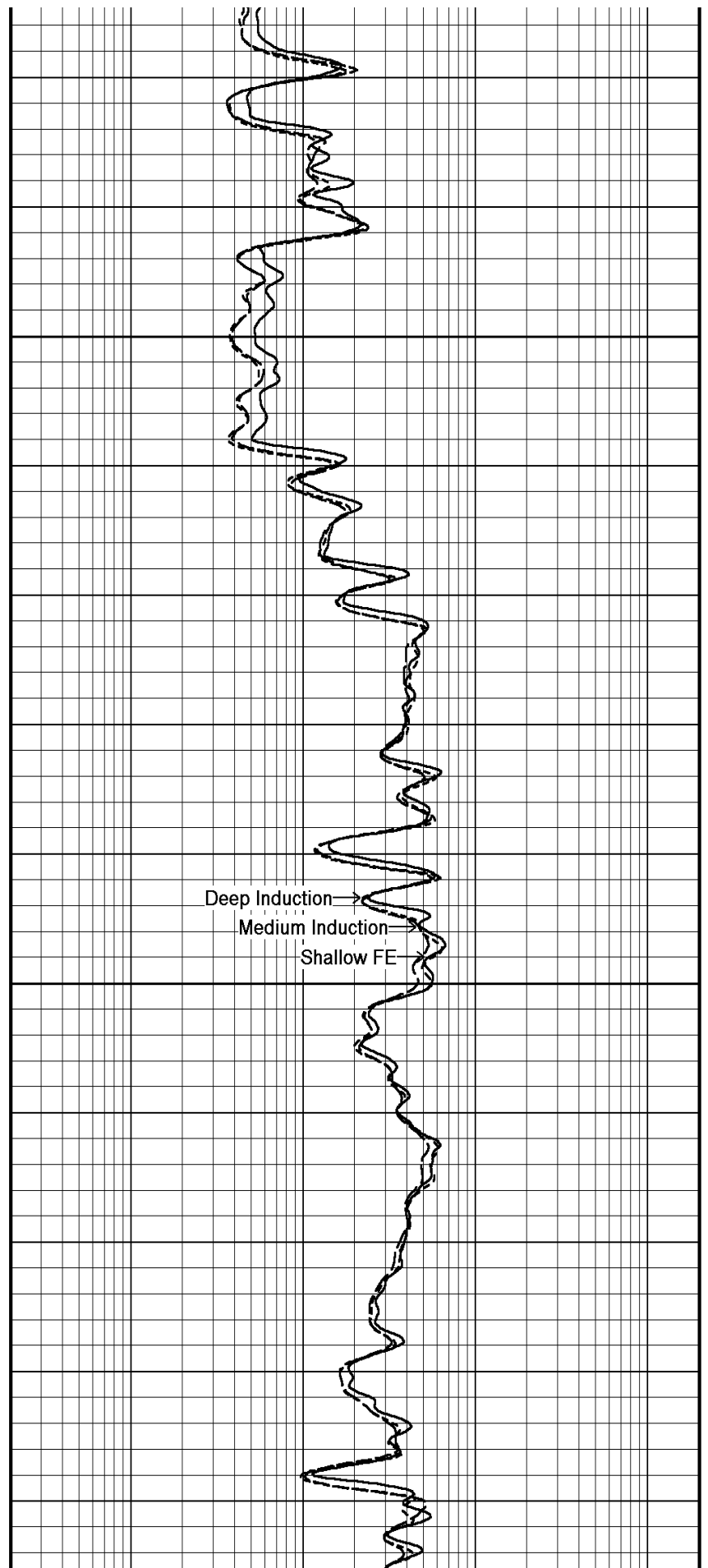
840

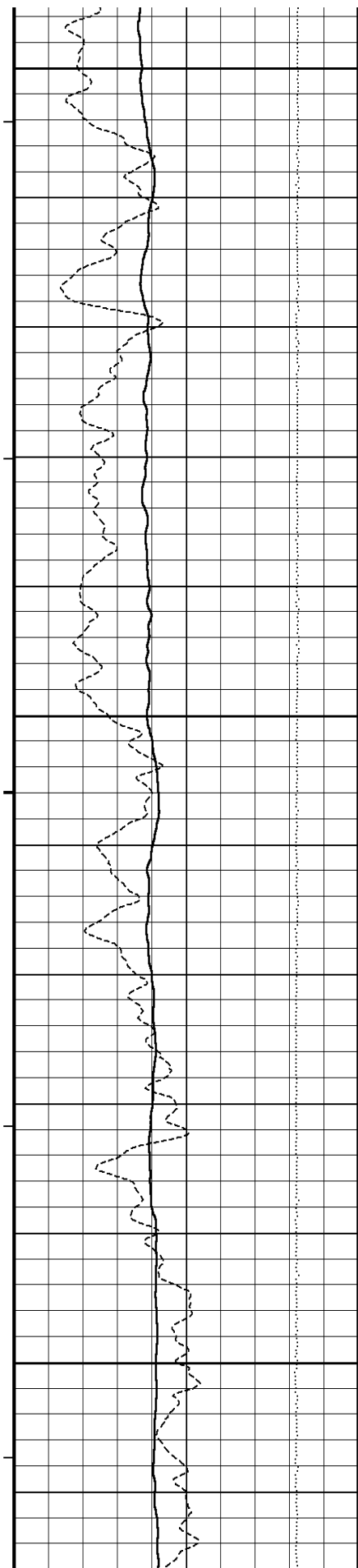
850

860

33°

870





880

33°

890

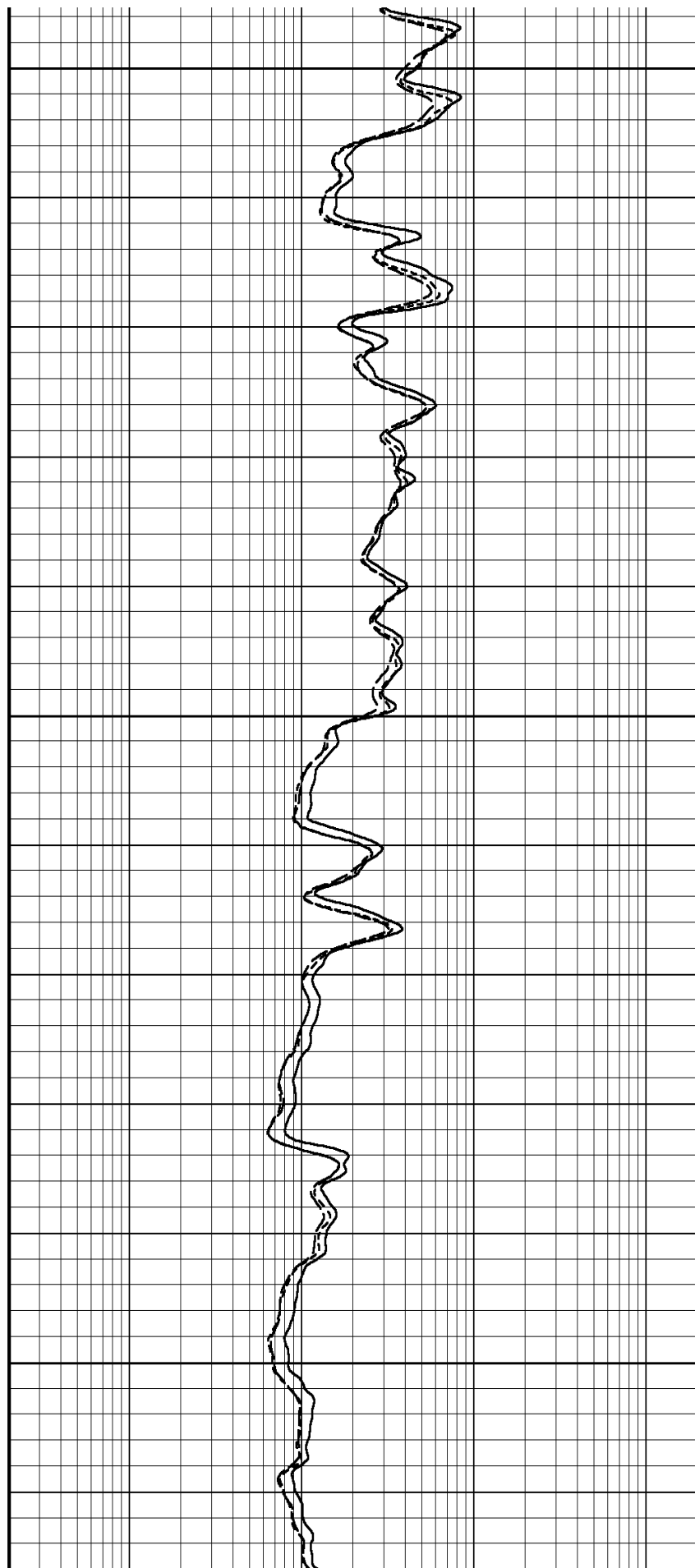
900

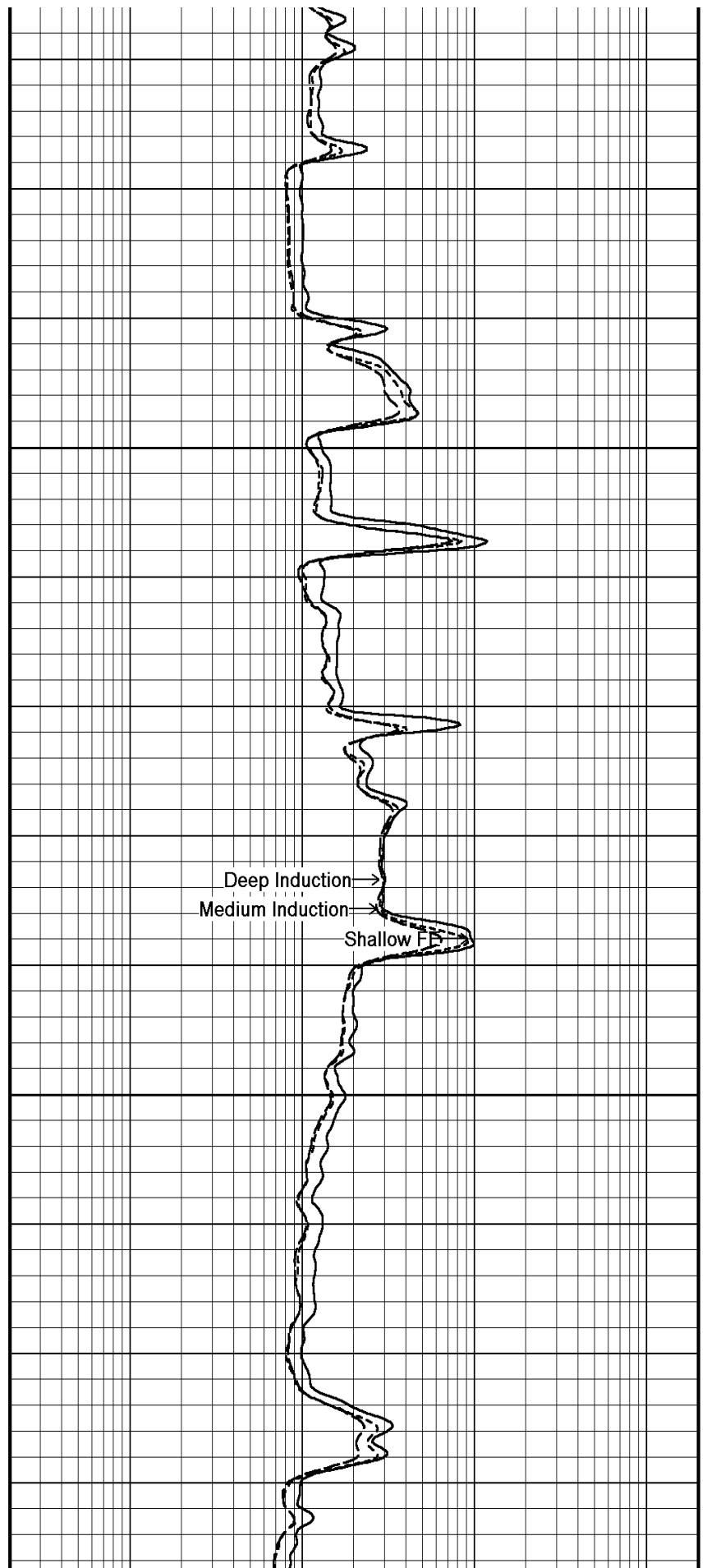
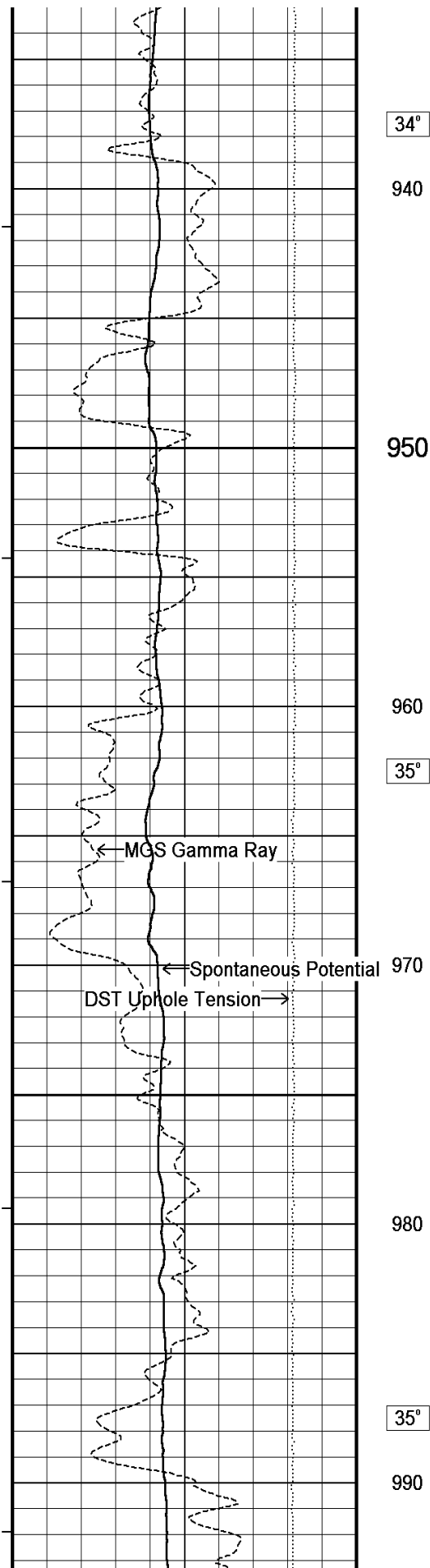
910

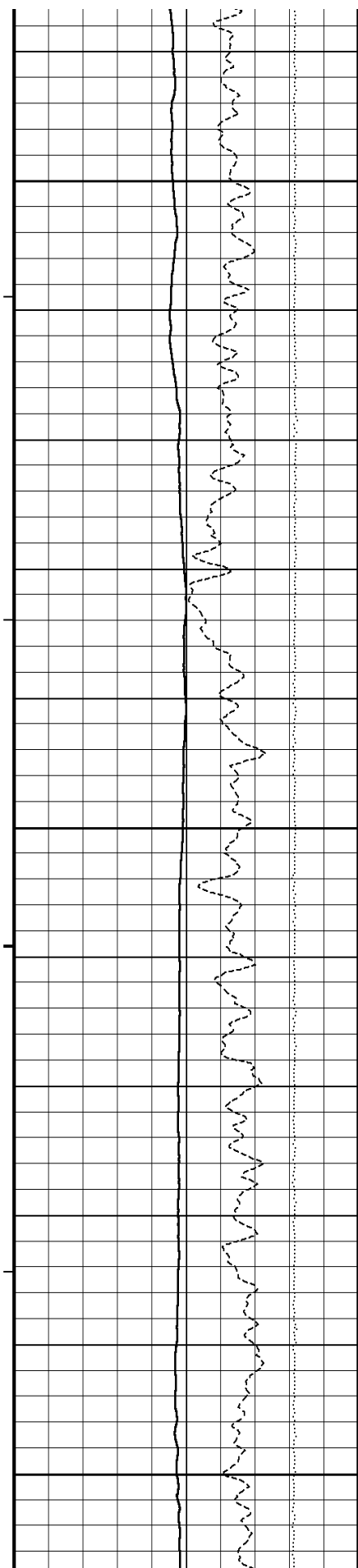
34°

920

930







1000

1010

36°

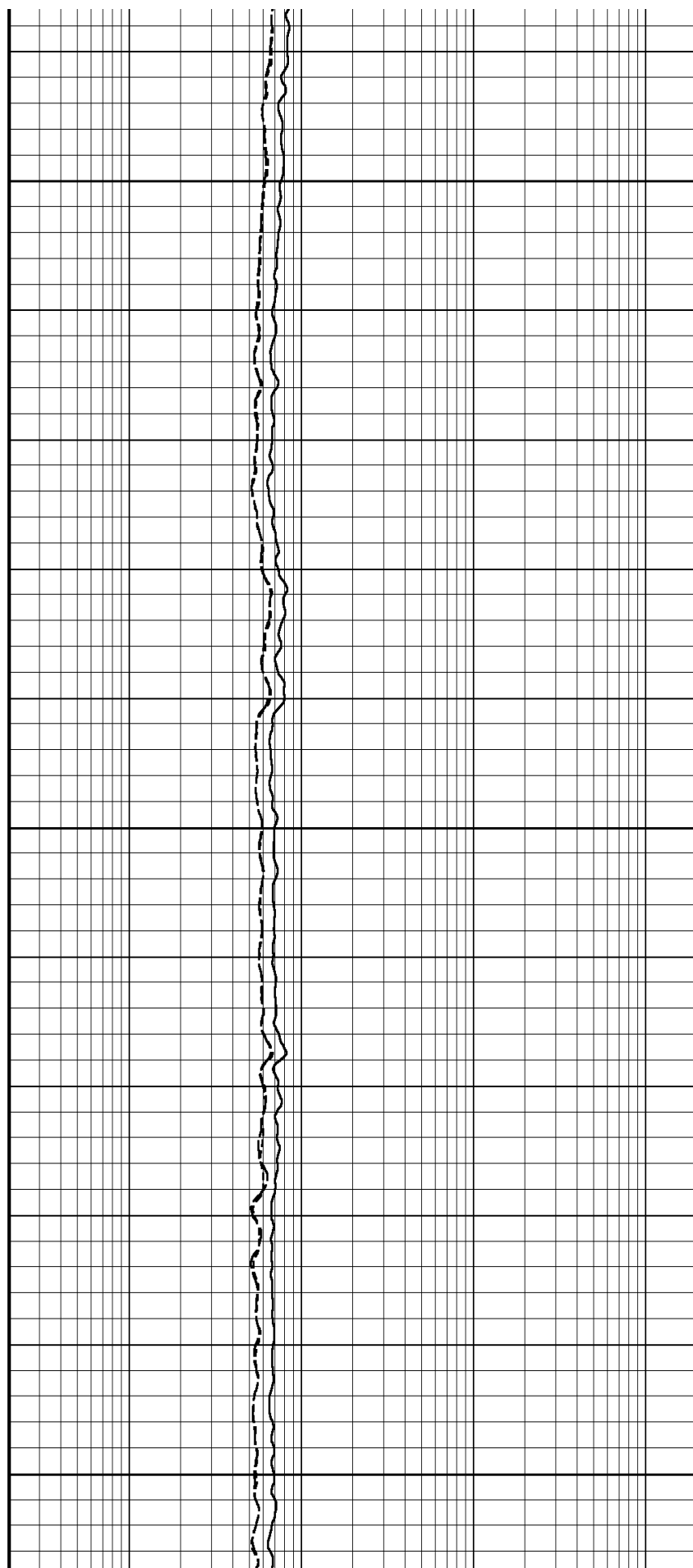
1020

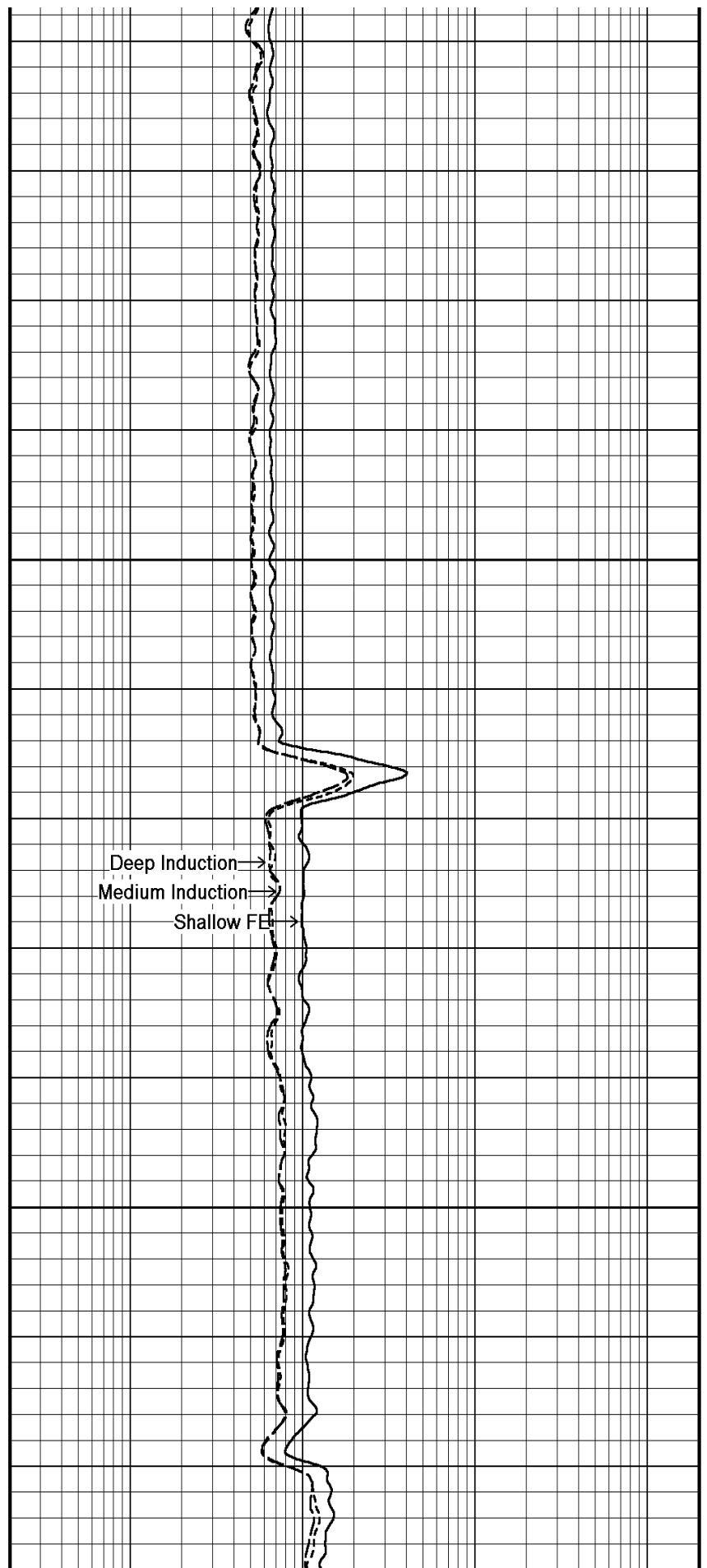
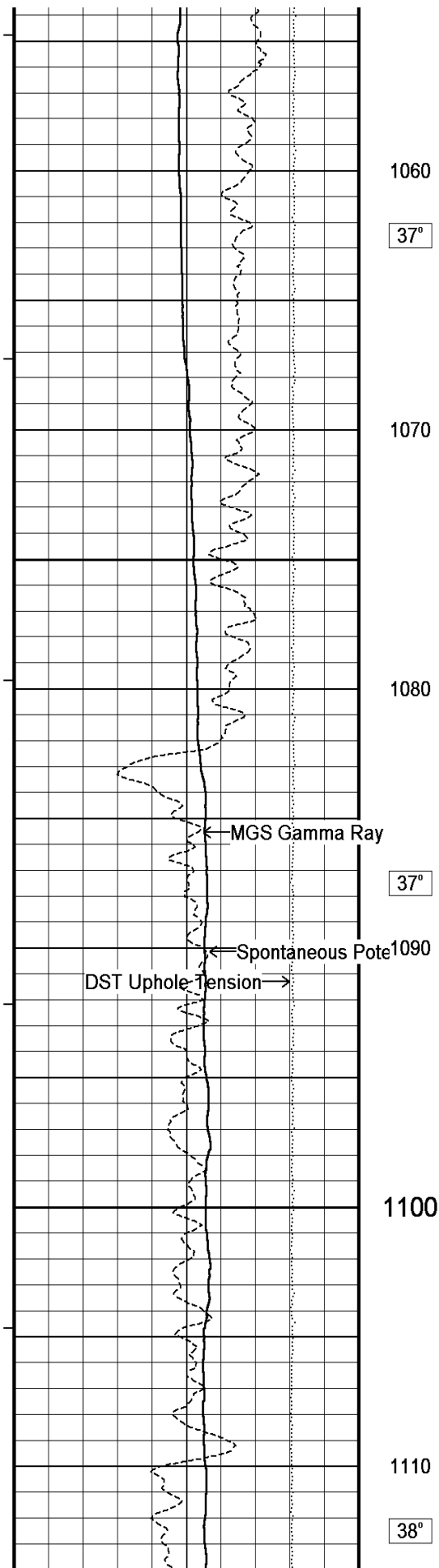
1030

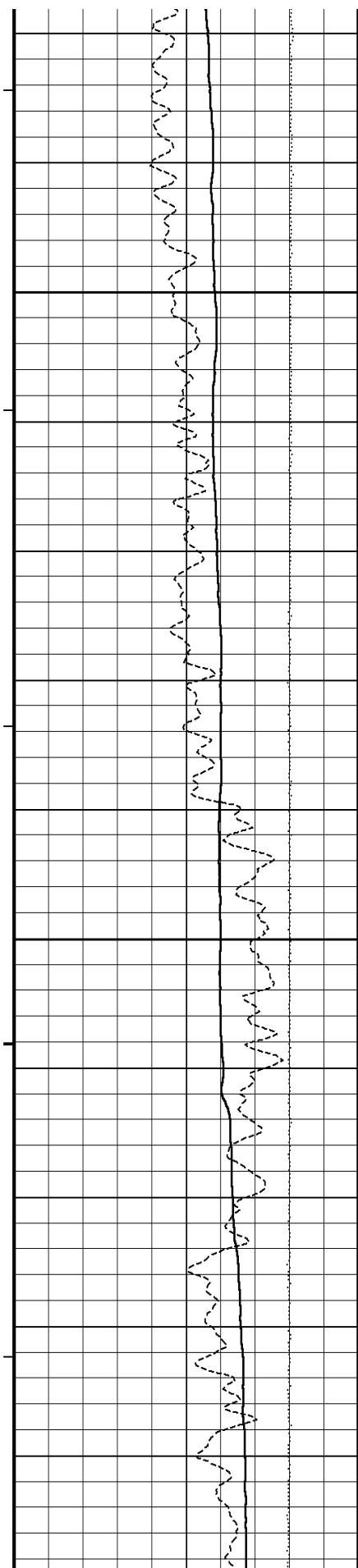
36°

1040

1050







1120

1130

39°

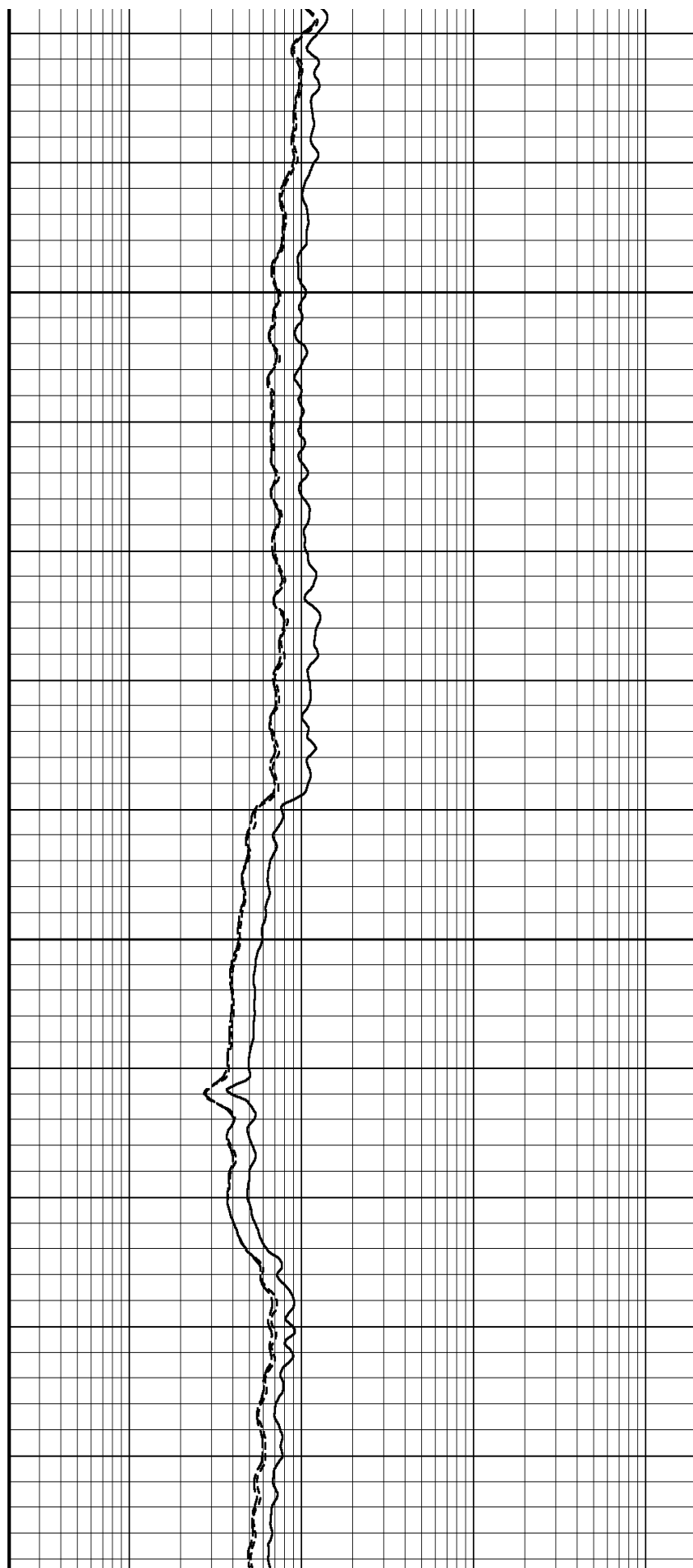
1140

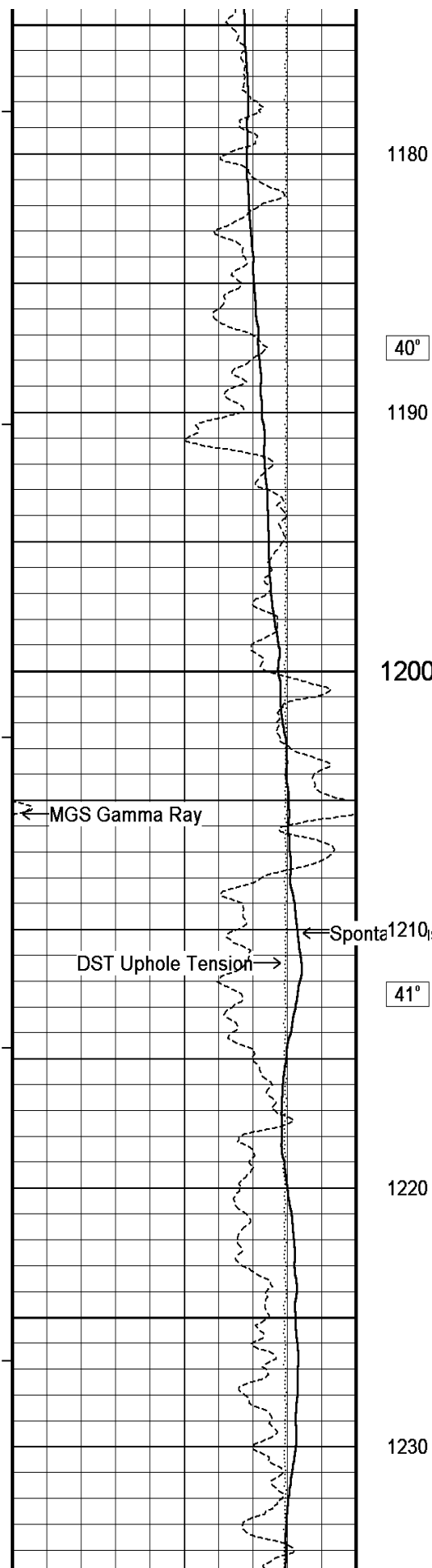
1150

1160

39°

1170





1180

40°

1190

1200

MGS Gamma Ray

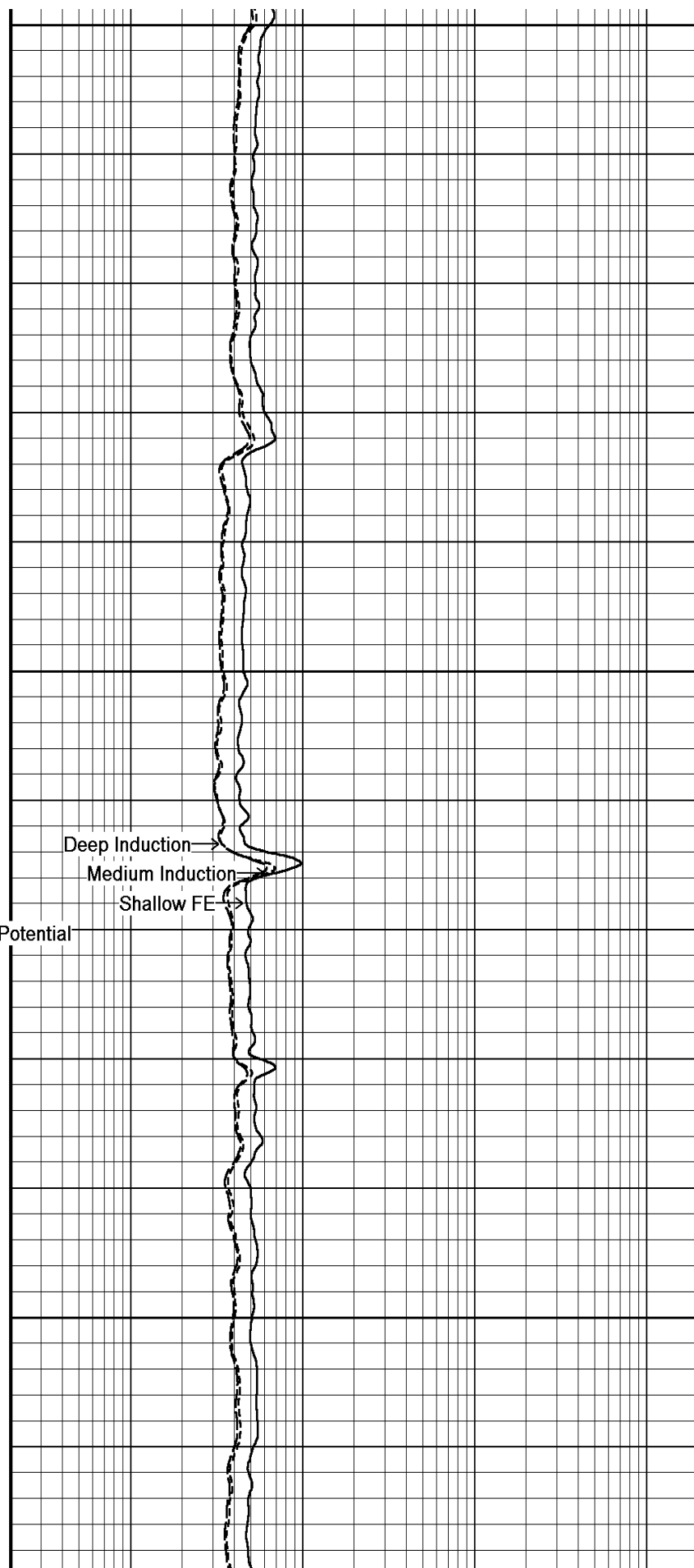
DST Uphole Tension

Spontaneous Potential

41°

1220

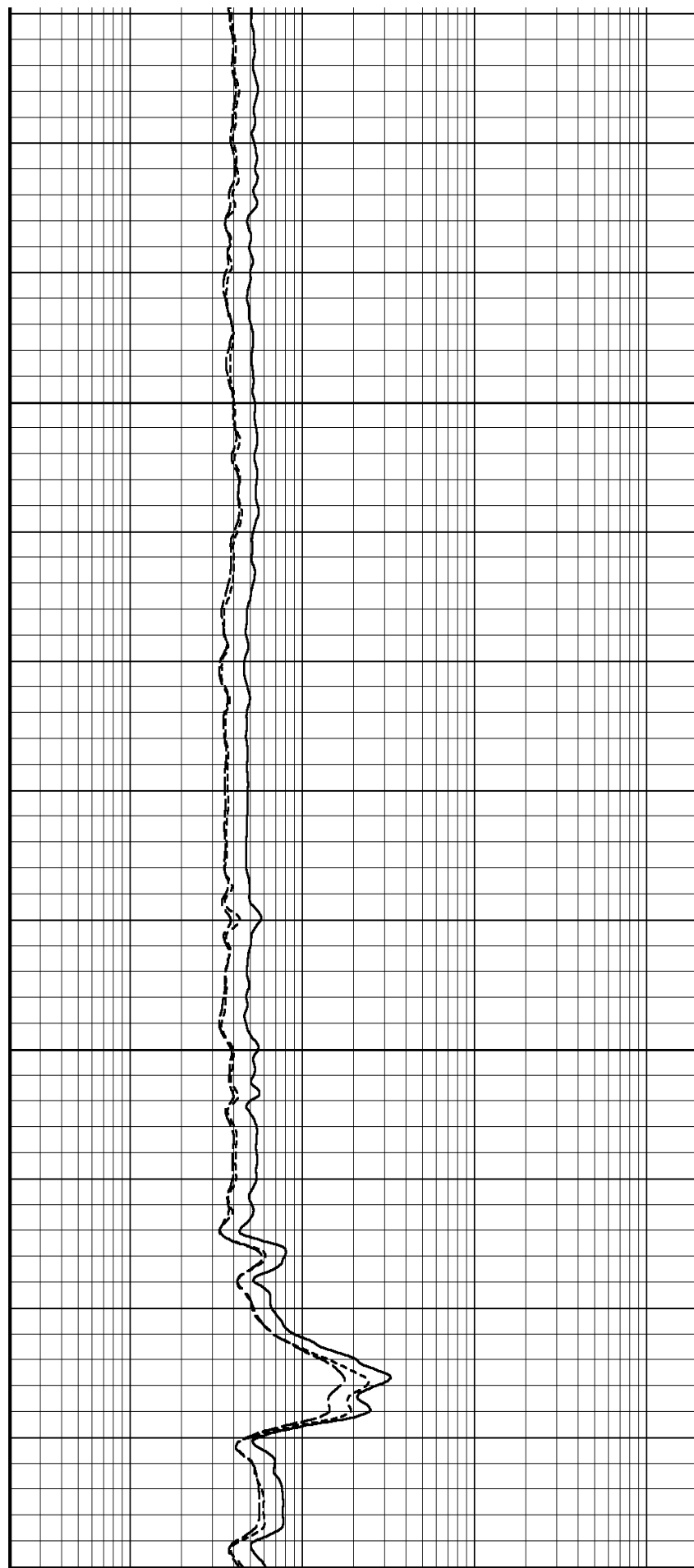
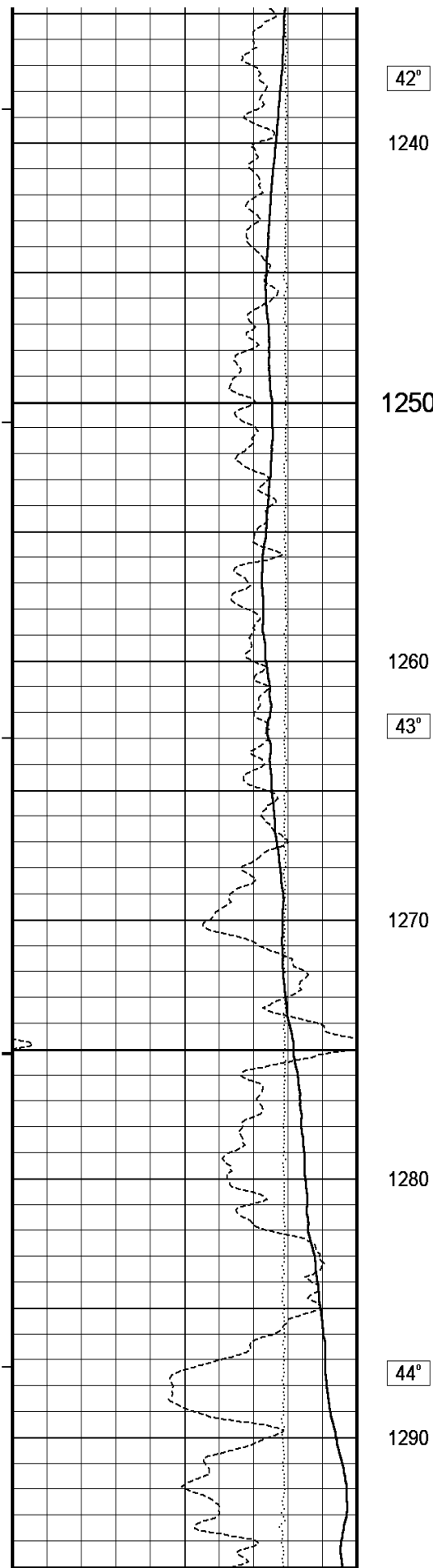
1230



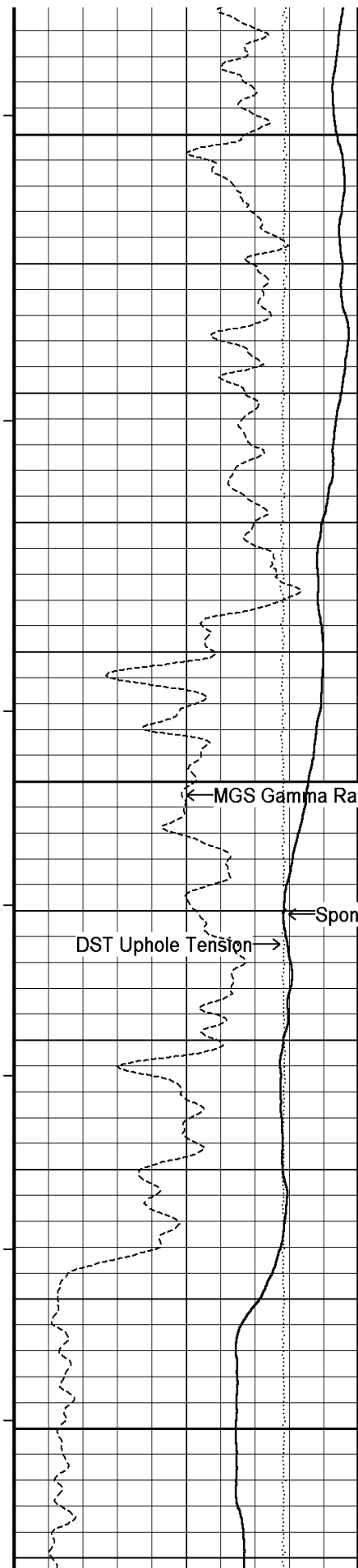
Deep Induction

Medium Induction

Shallow FE







1300

1310

45°

1320

← MGS Gamma Ray

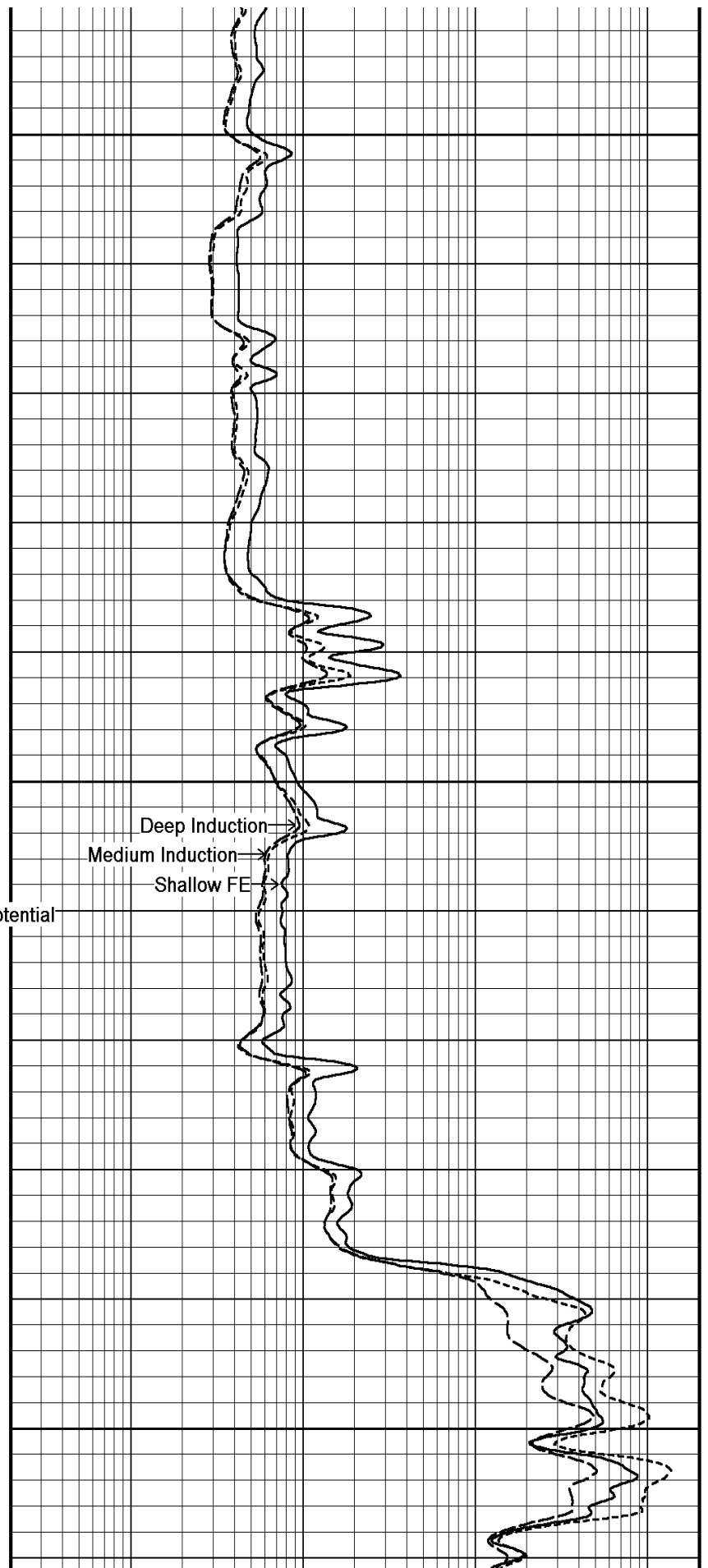
DST Uphole Tension →

← Spontaneous Potential

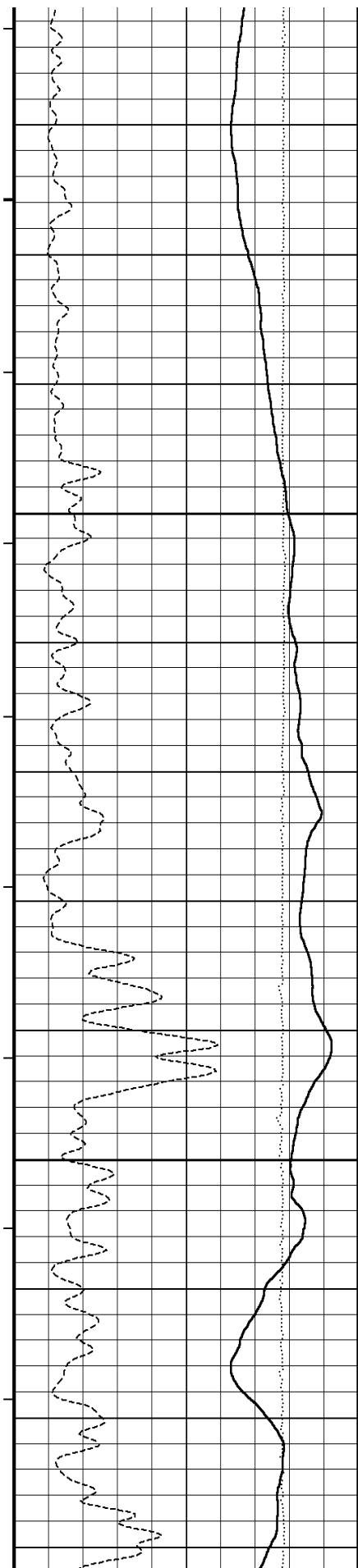
46°

1340

1350



Deep Induction →  
Medium Induction →  
Shallow FE →



1360

$46^\circ$

1370

1380

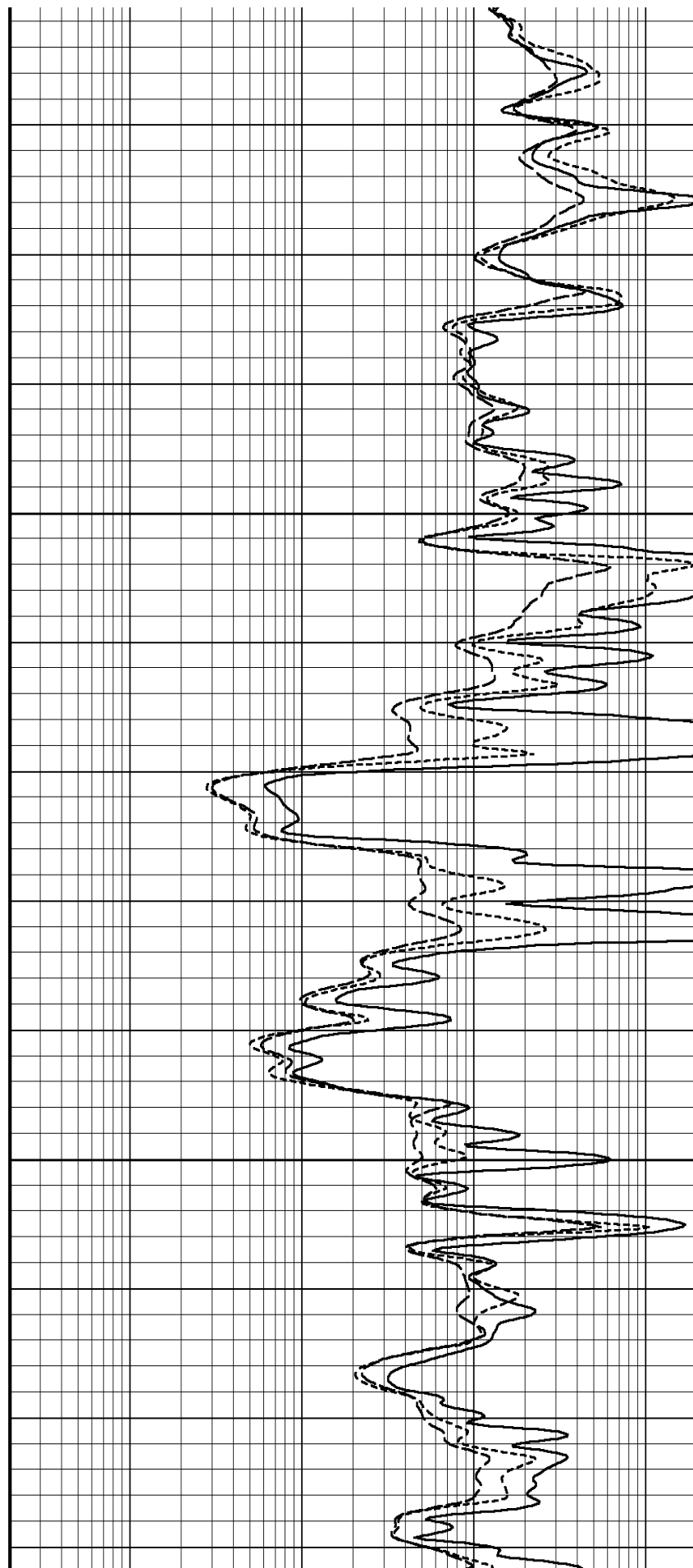
$46^\circ$

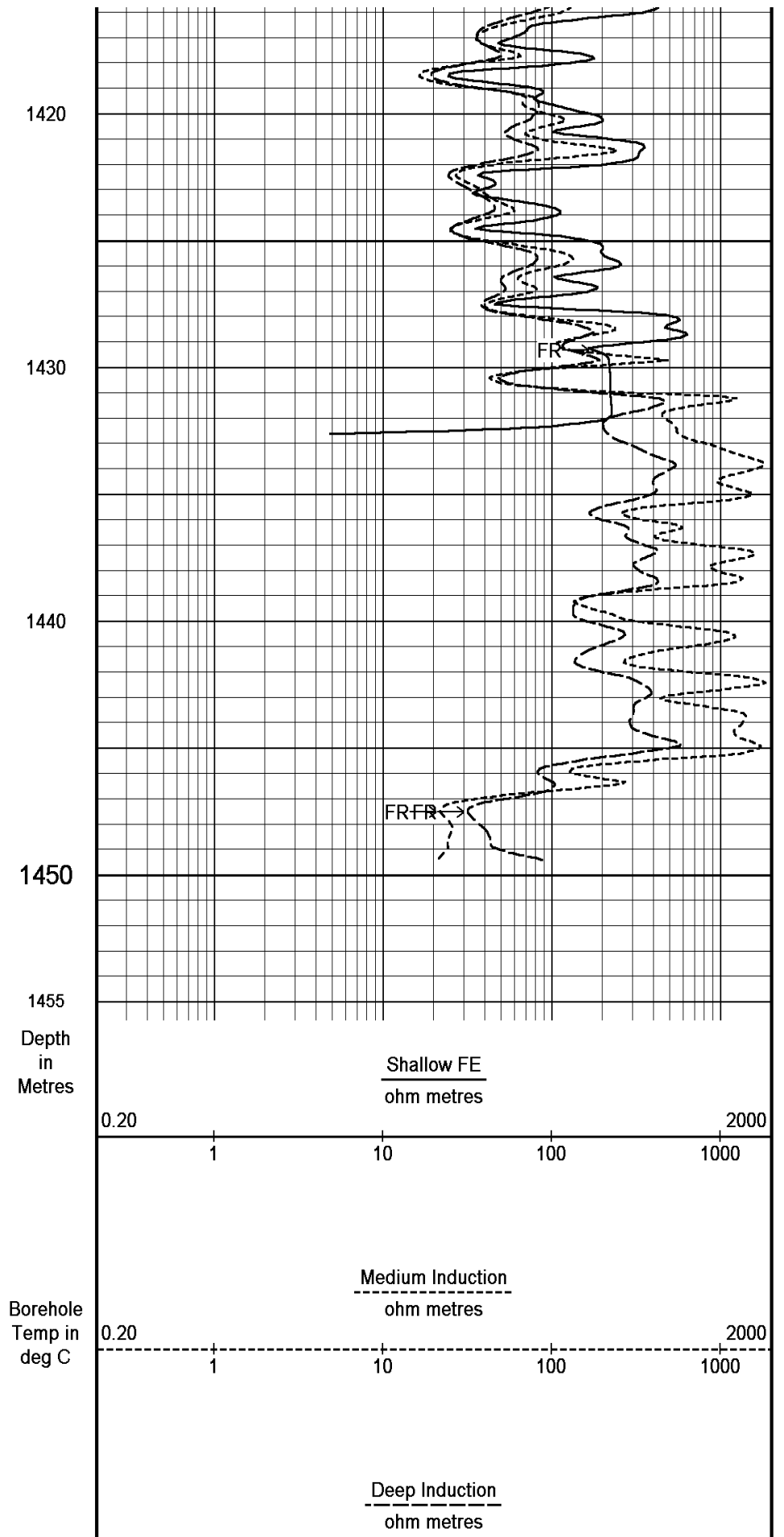
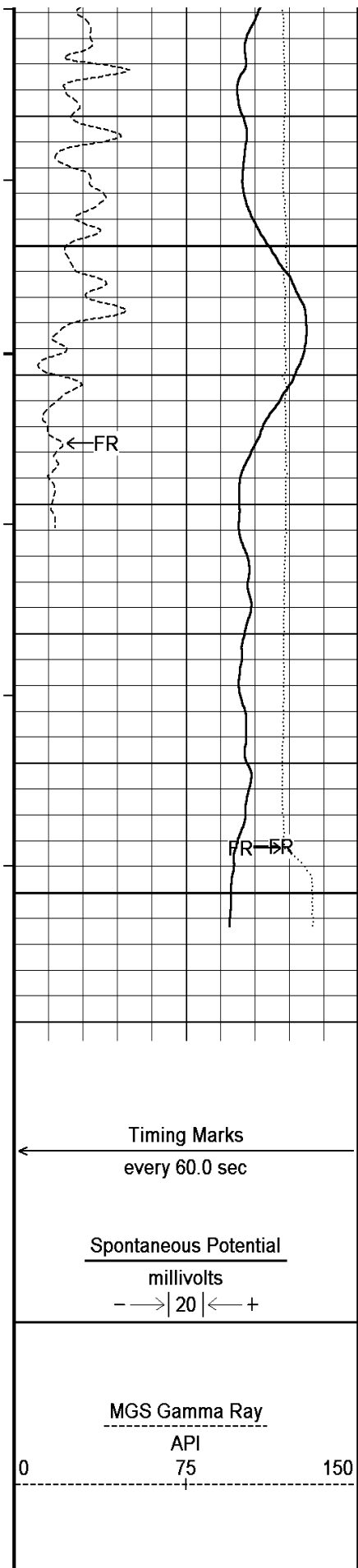
1390

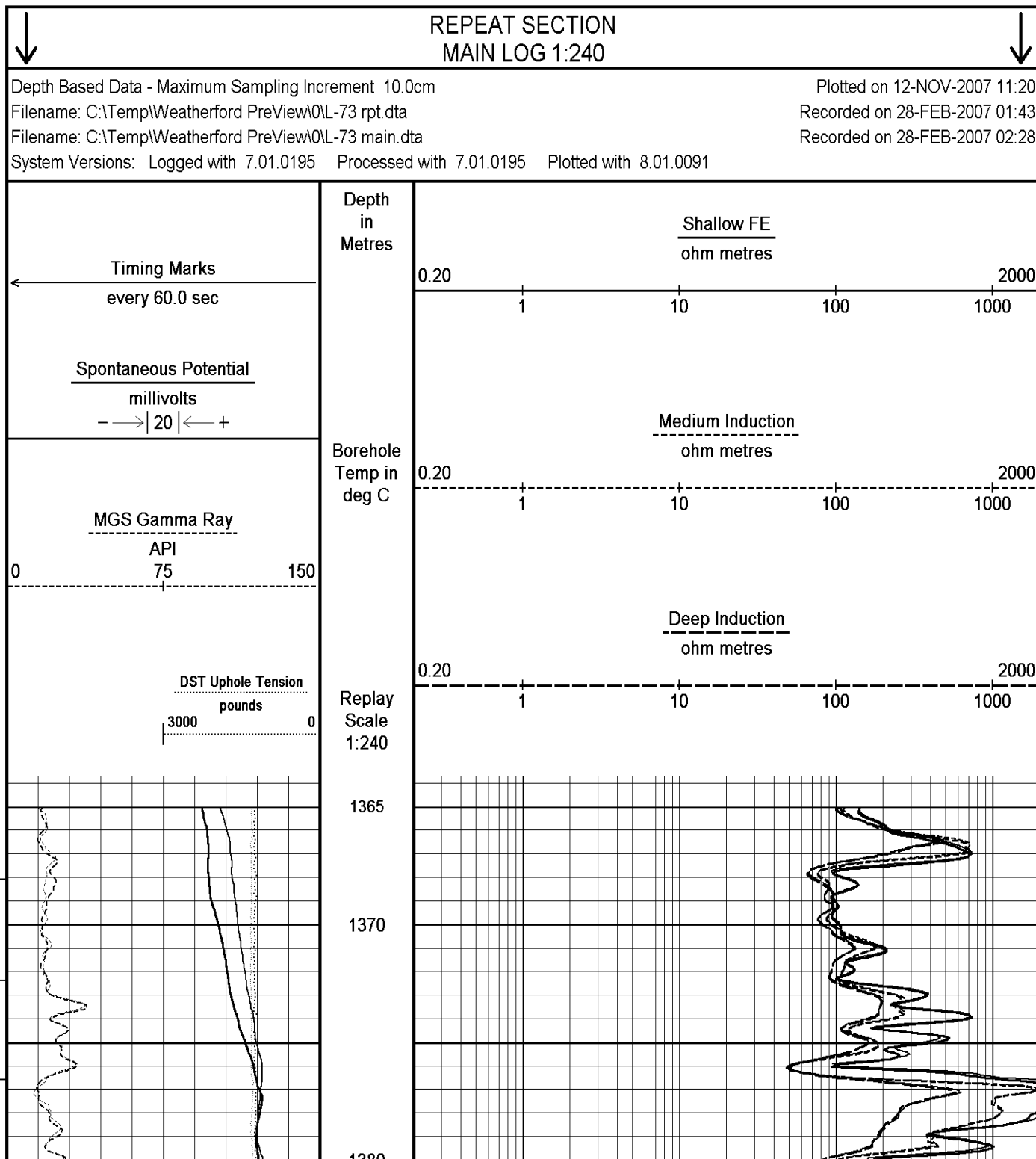
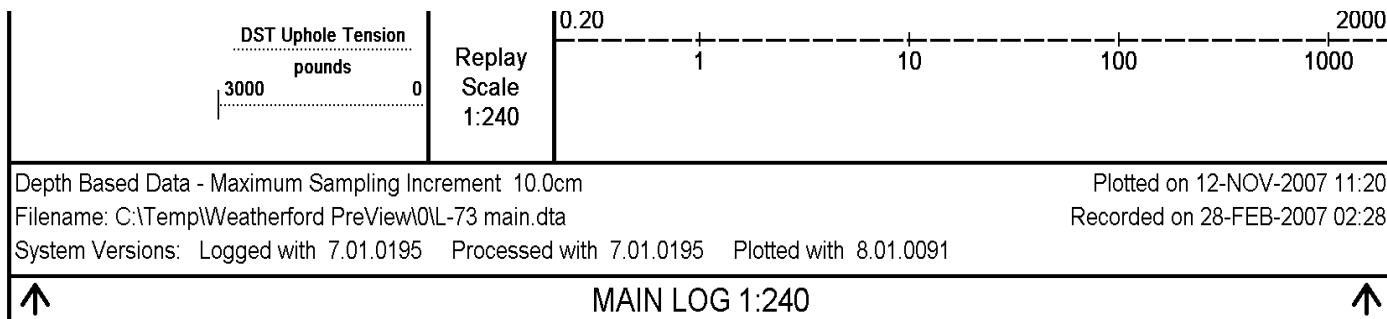
1400

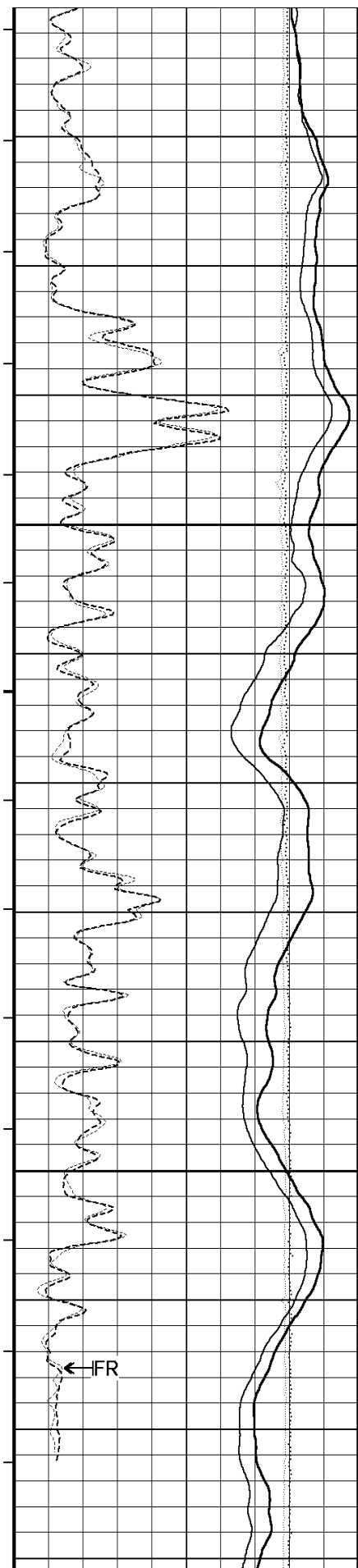
1410

$47^\circ$

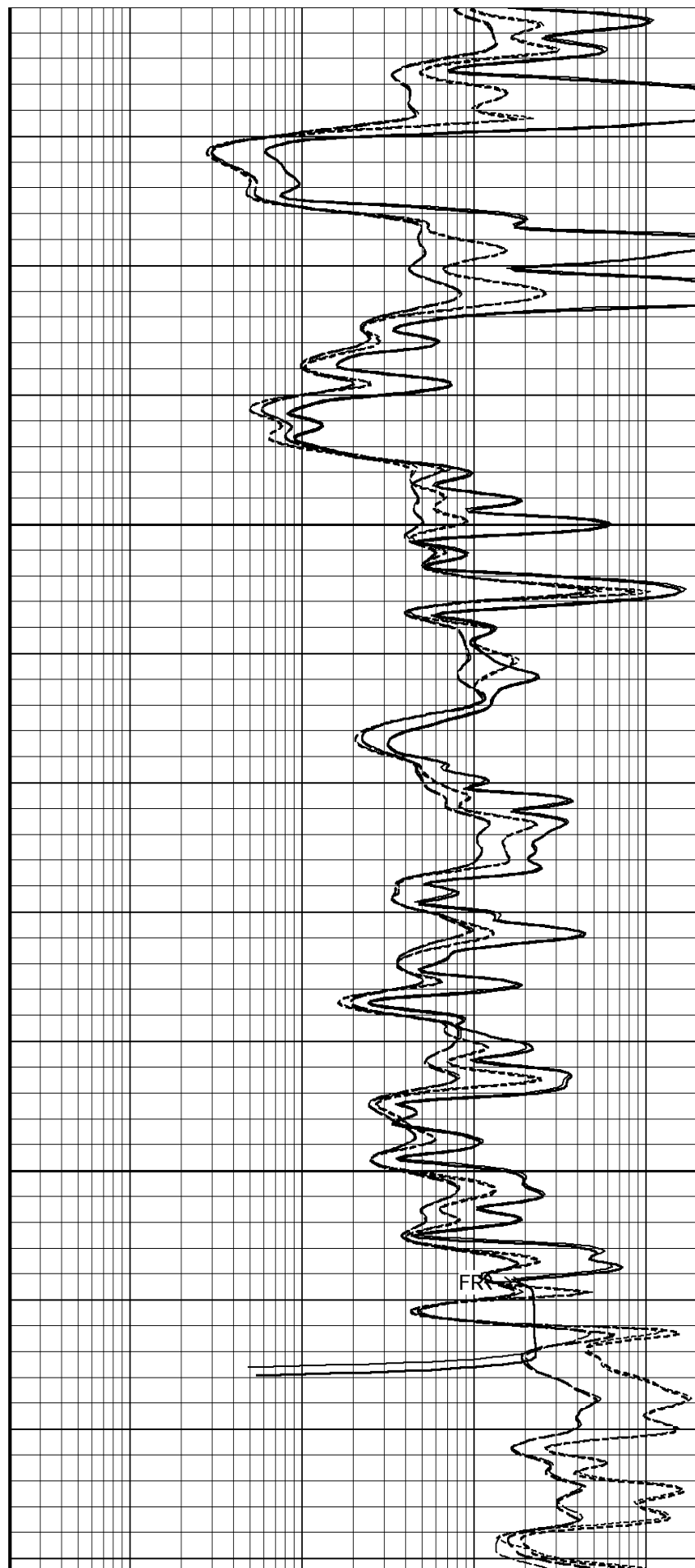


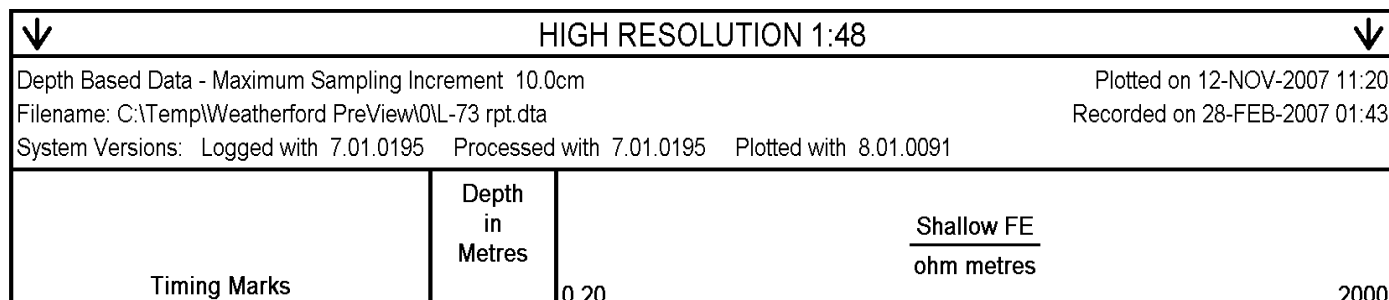
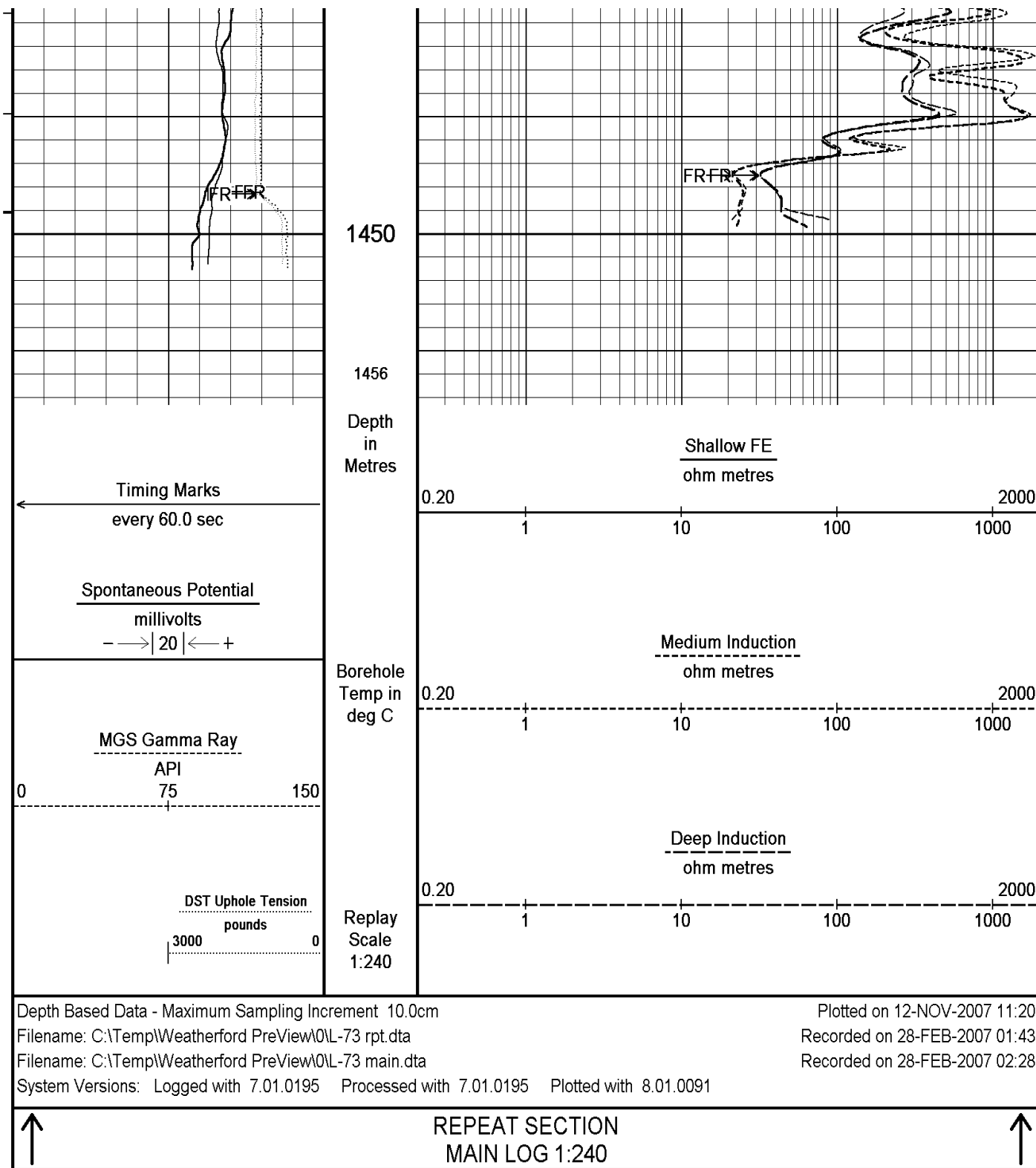


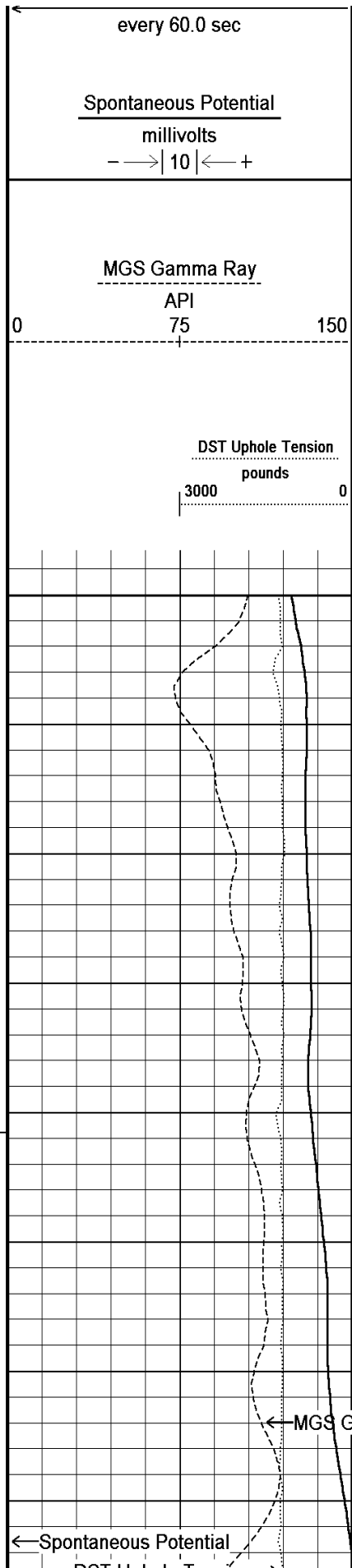




1390 45° 1390 1400 1410 46° 1420 1430 1440







Borehole  
Temp in  
deg C

Replay  
Scale  
1:48

1300

1302

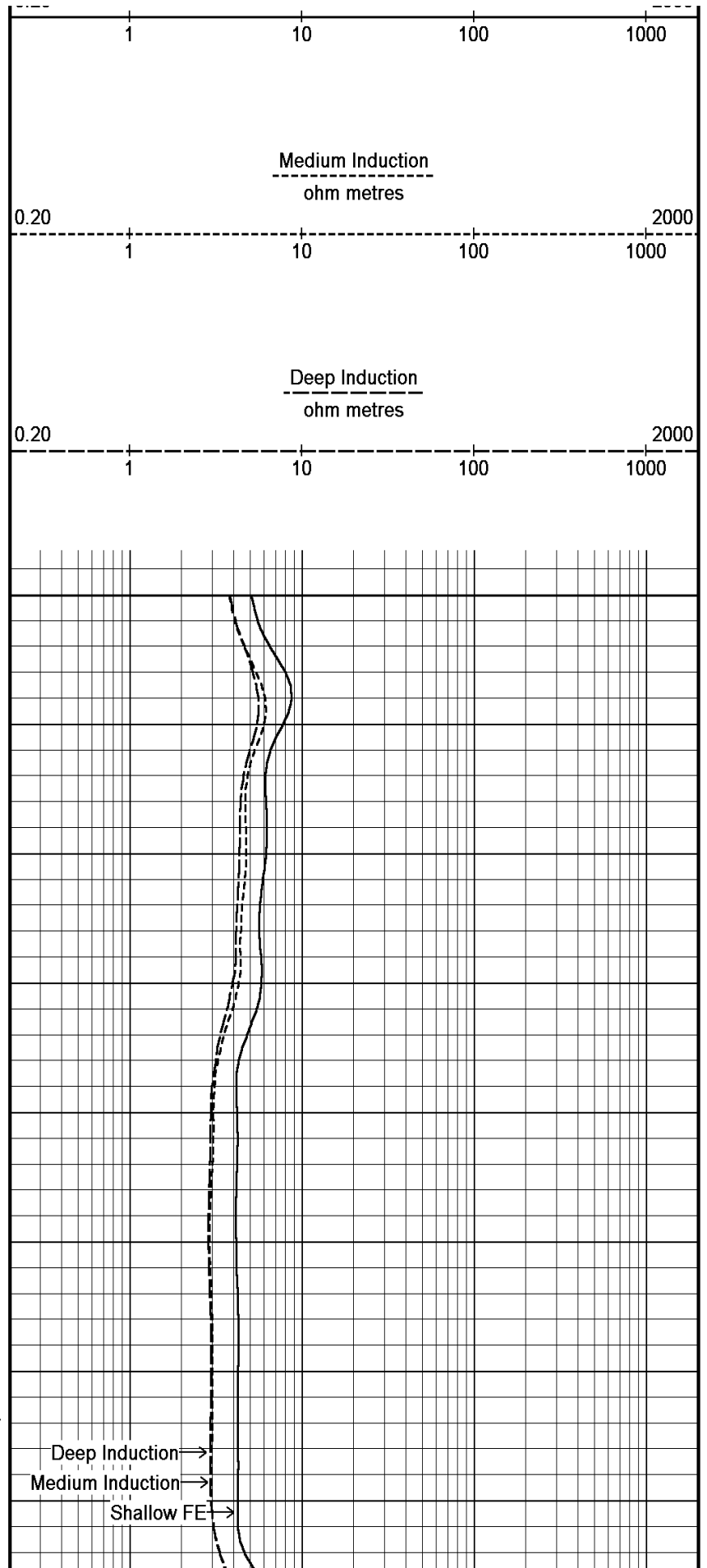
44°

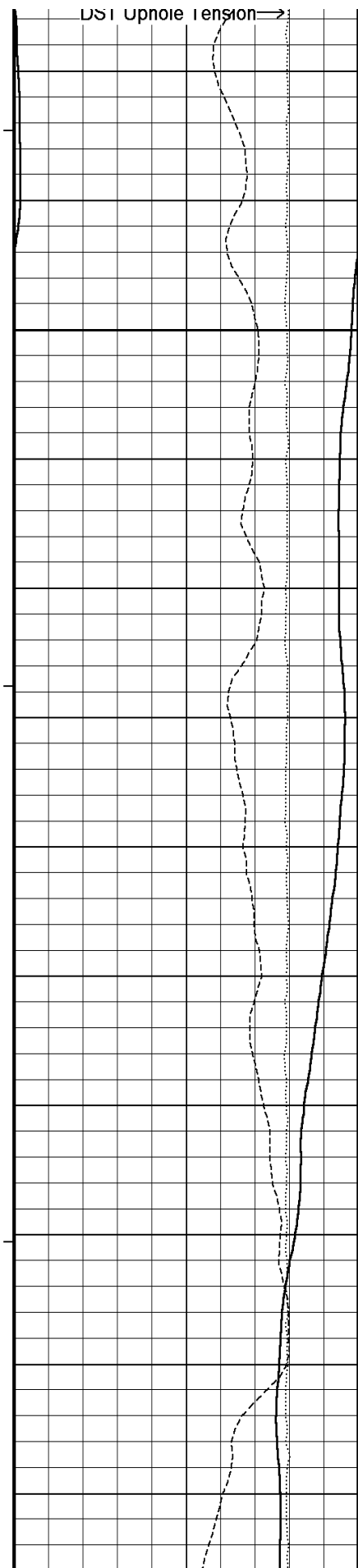
1304

1306

← MGS Gamma Ray

44°





77

1308

1310

1312

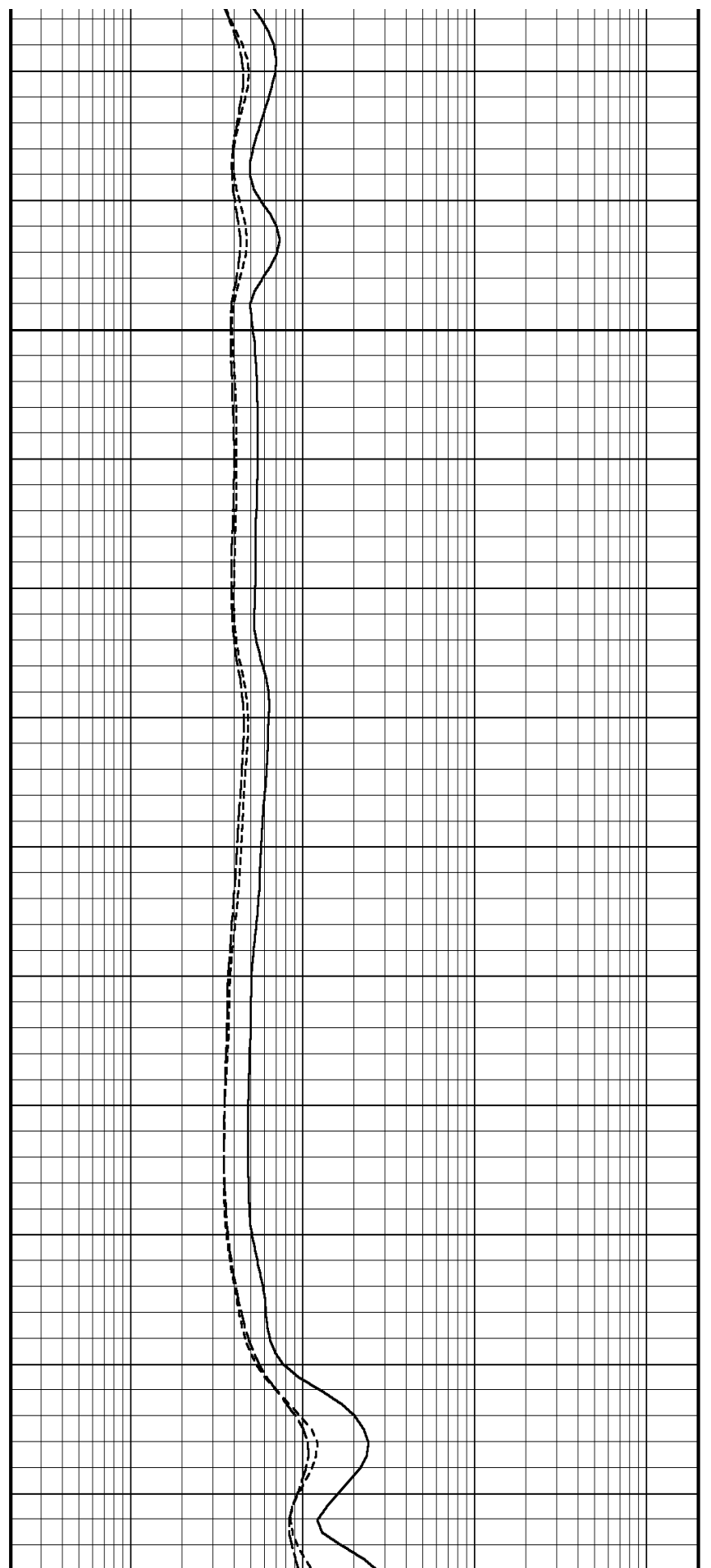
44°

1314

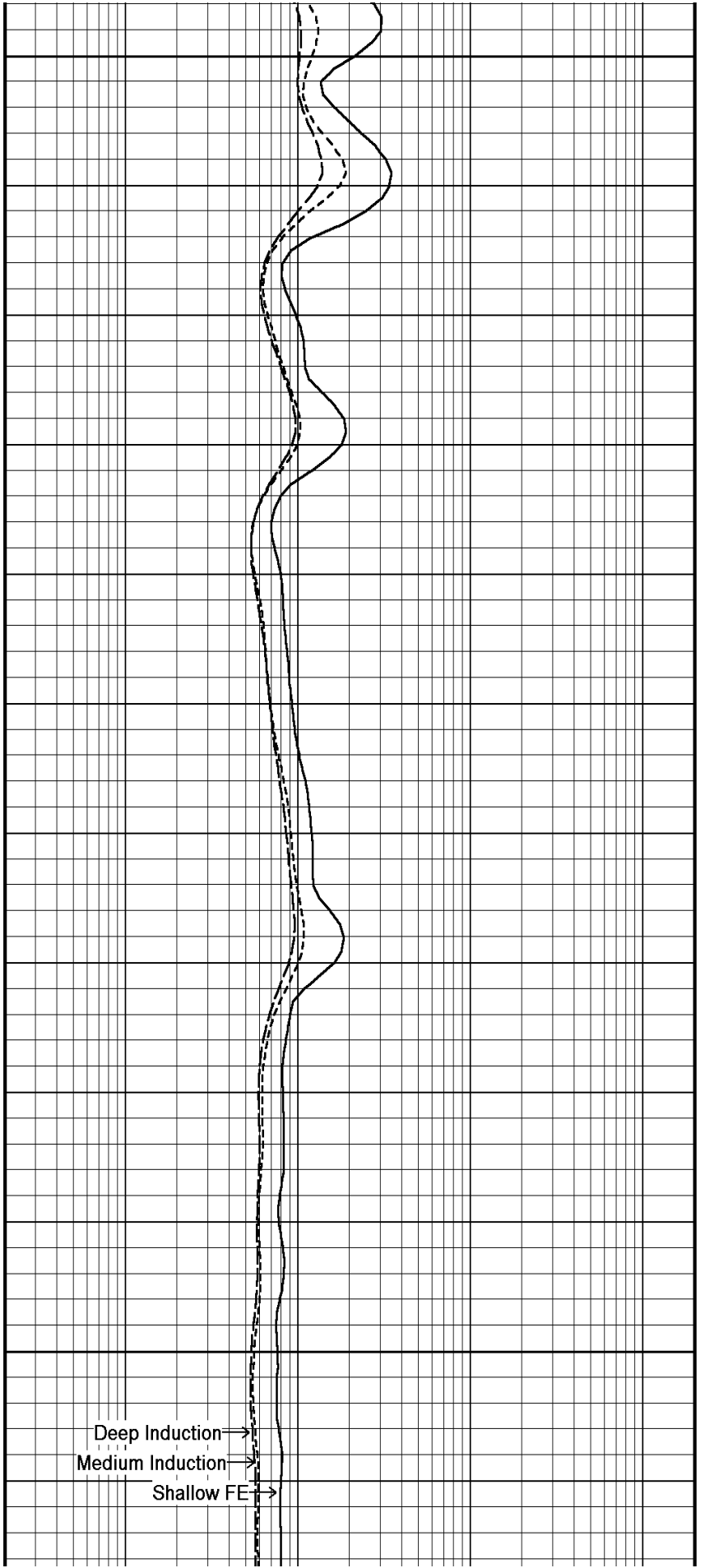
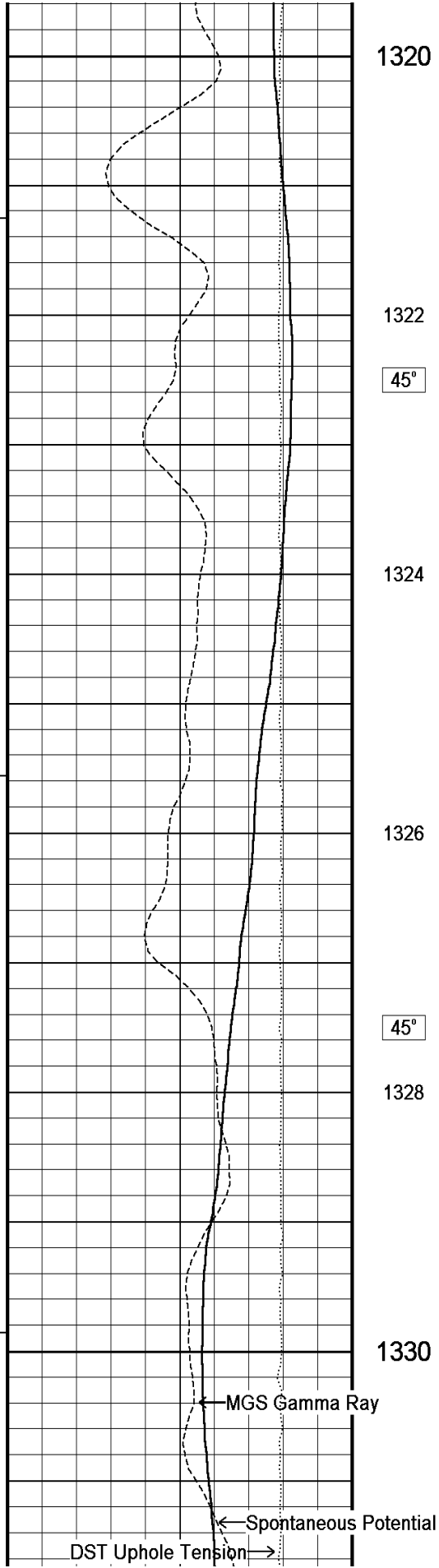
1316

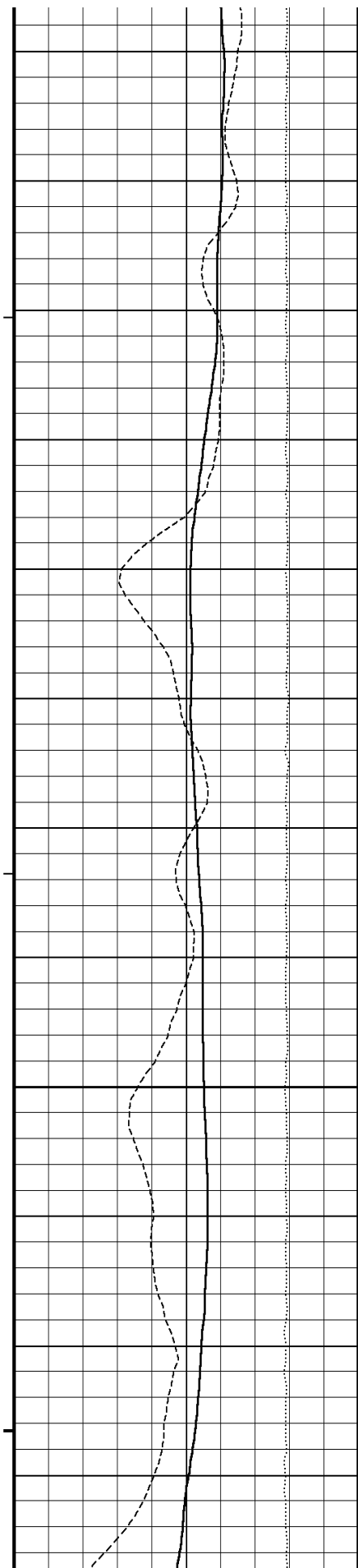
44°

1318









1332

45°

1334

1336

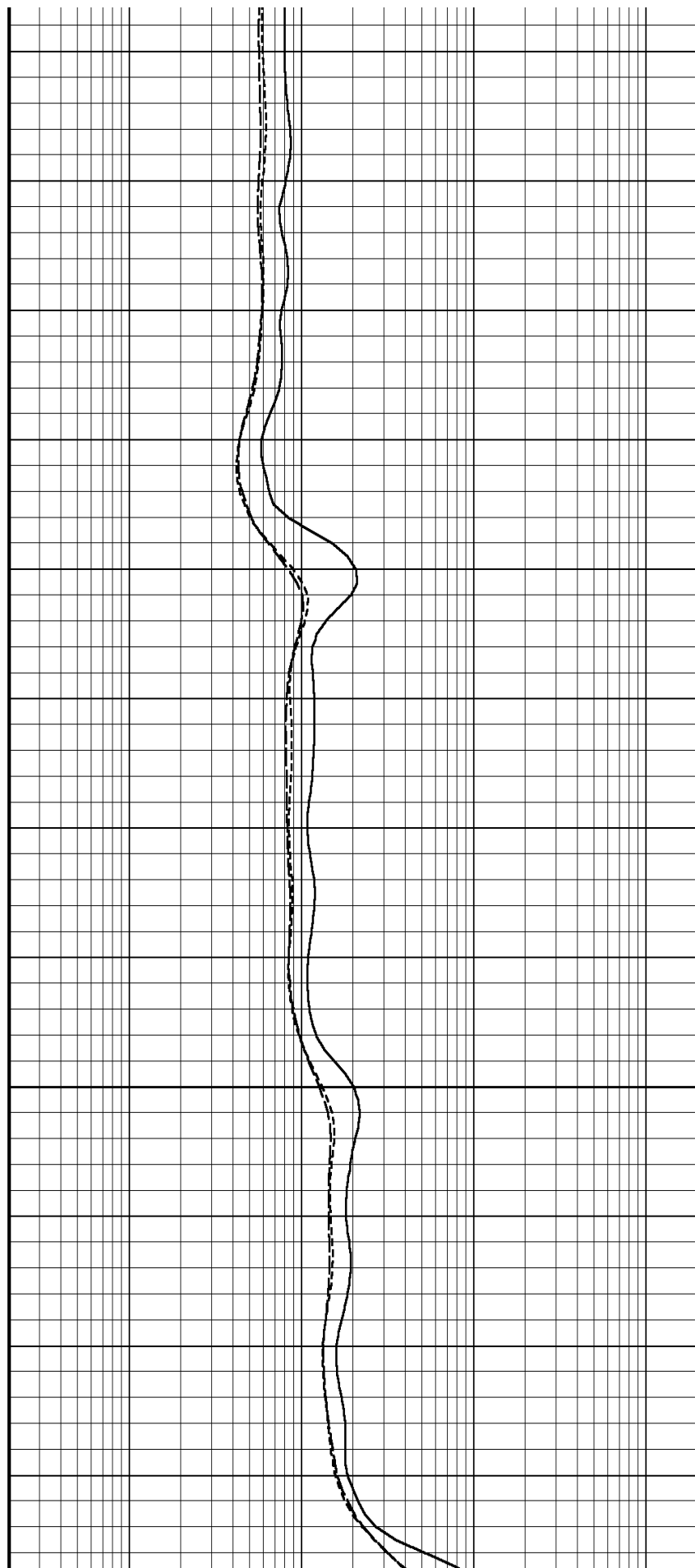
45°

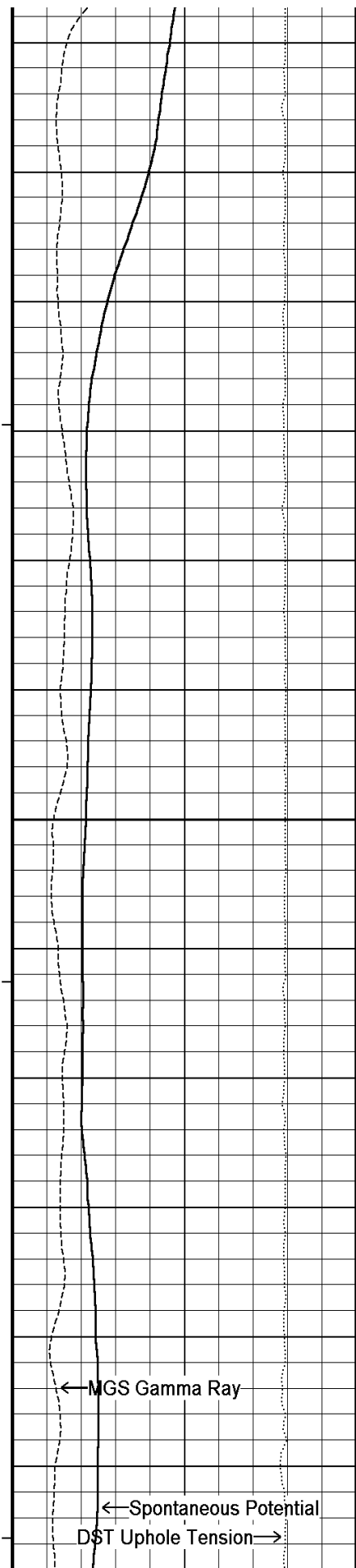
1338

1340

1342

45°





1344

1346

$45^\circ$

1348

1350

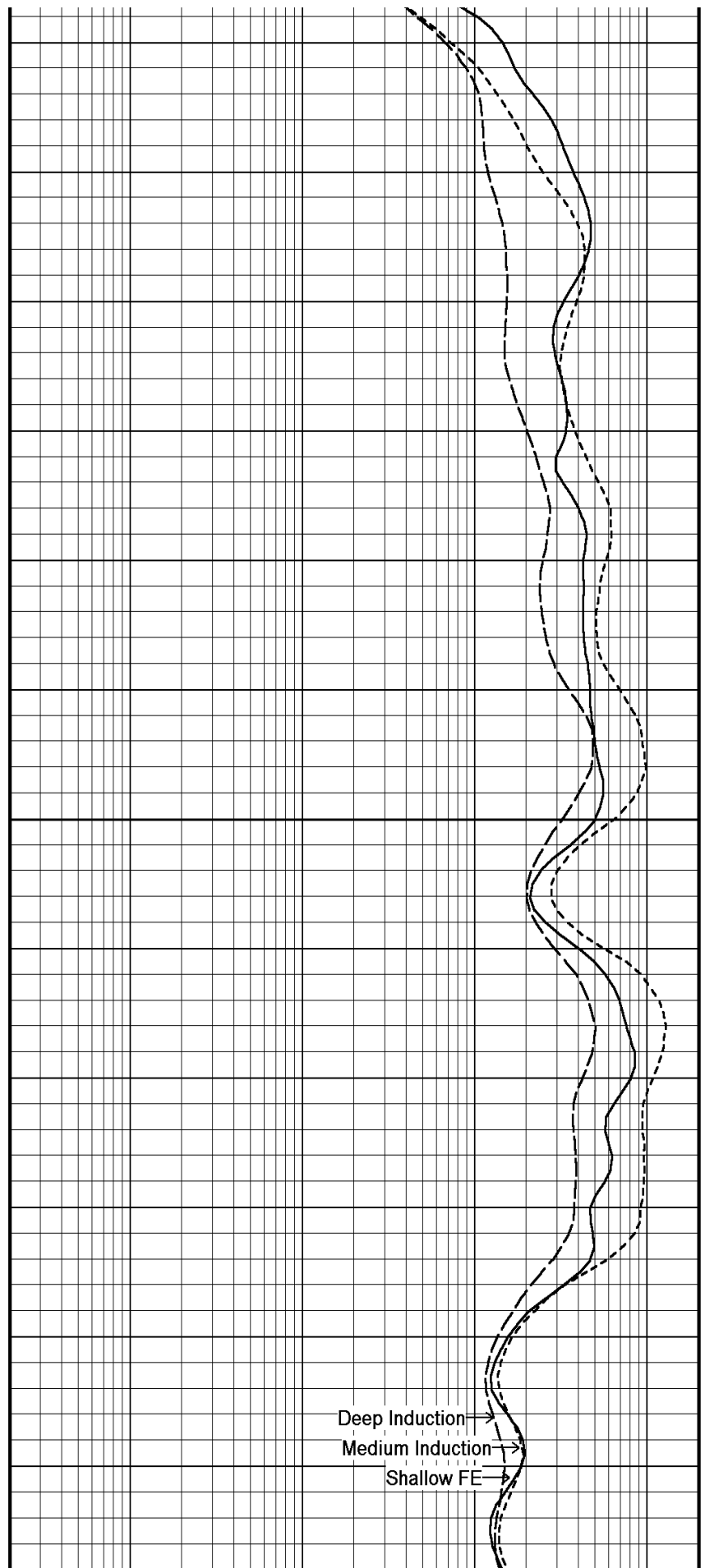
1352

$45^\circ$

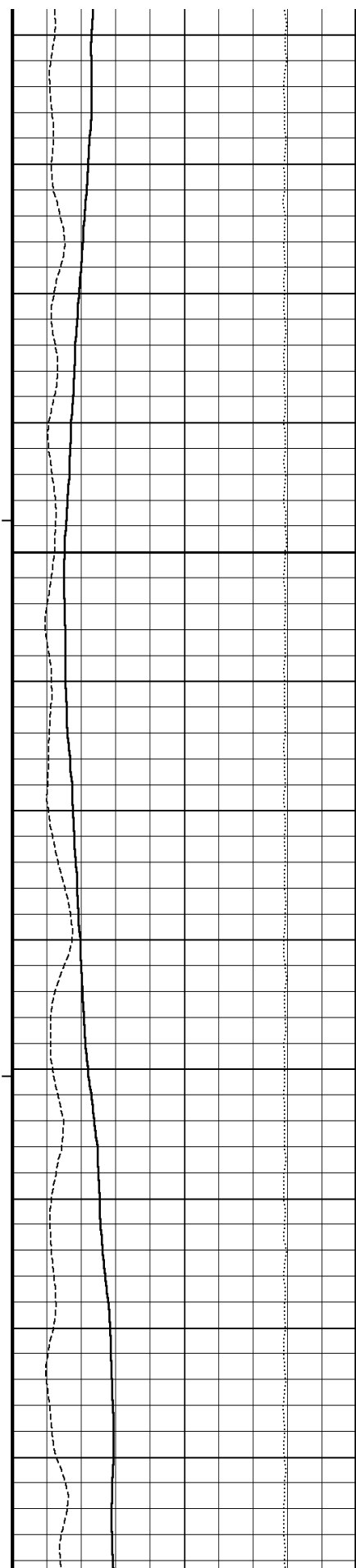
1354

← MGS Gamma Ray

← Spontaneous Potential  
DST Uphole Tension →



Deep Induction  
Medium Induction  
Shallow FE



1356

45°

1358

1360

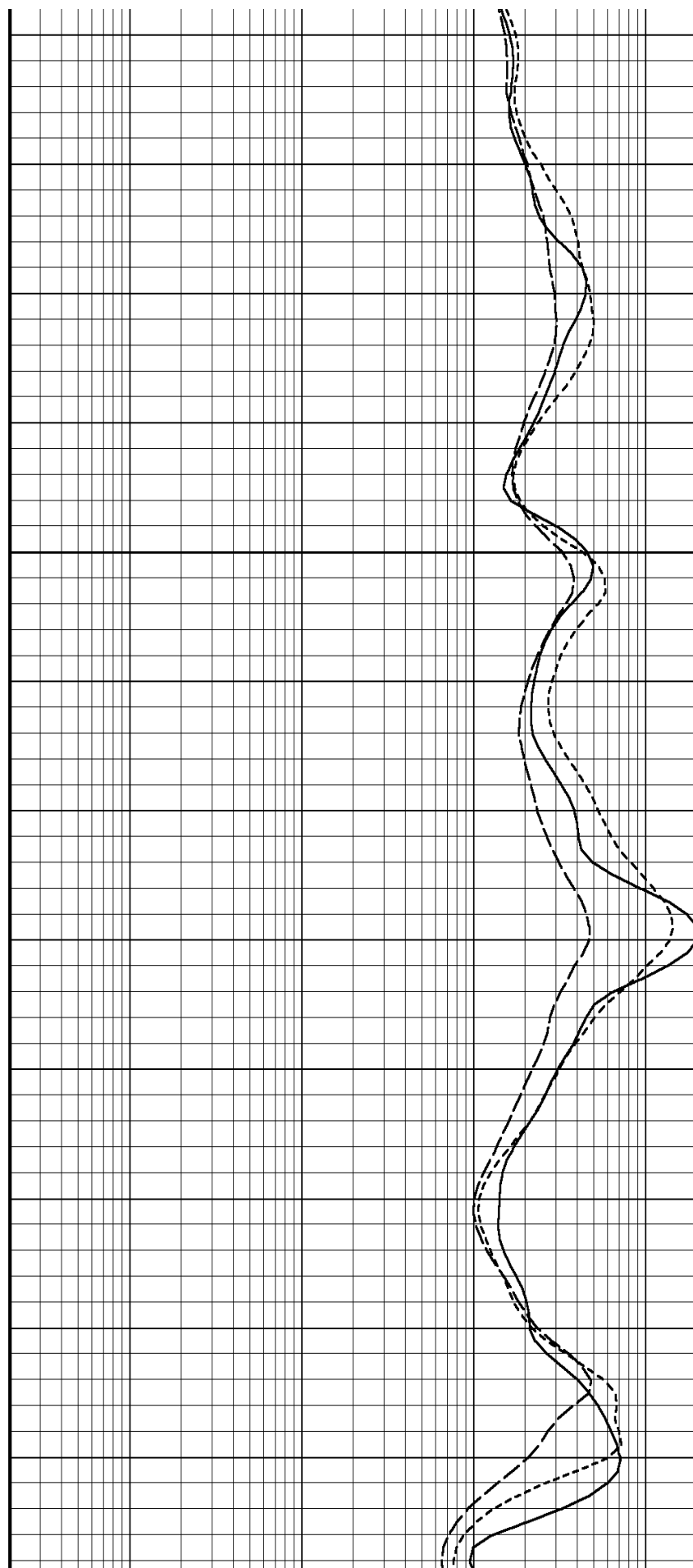
1362

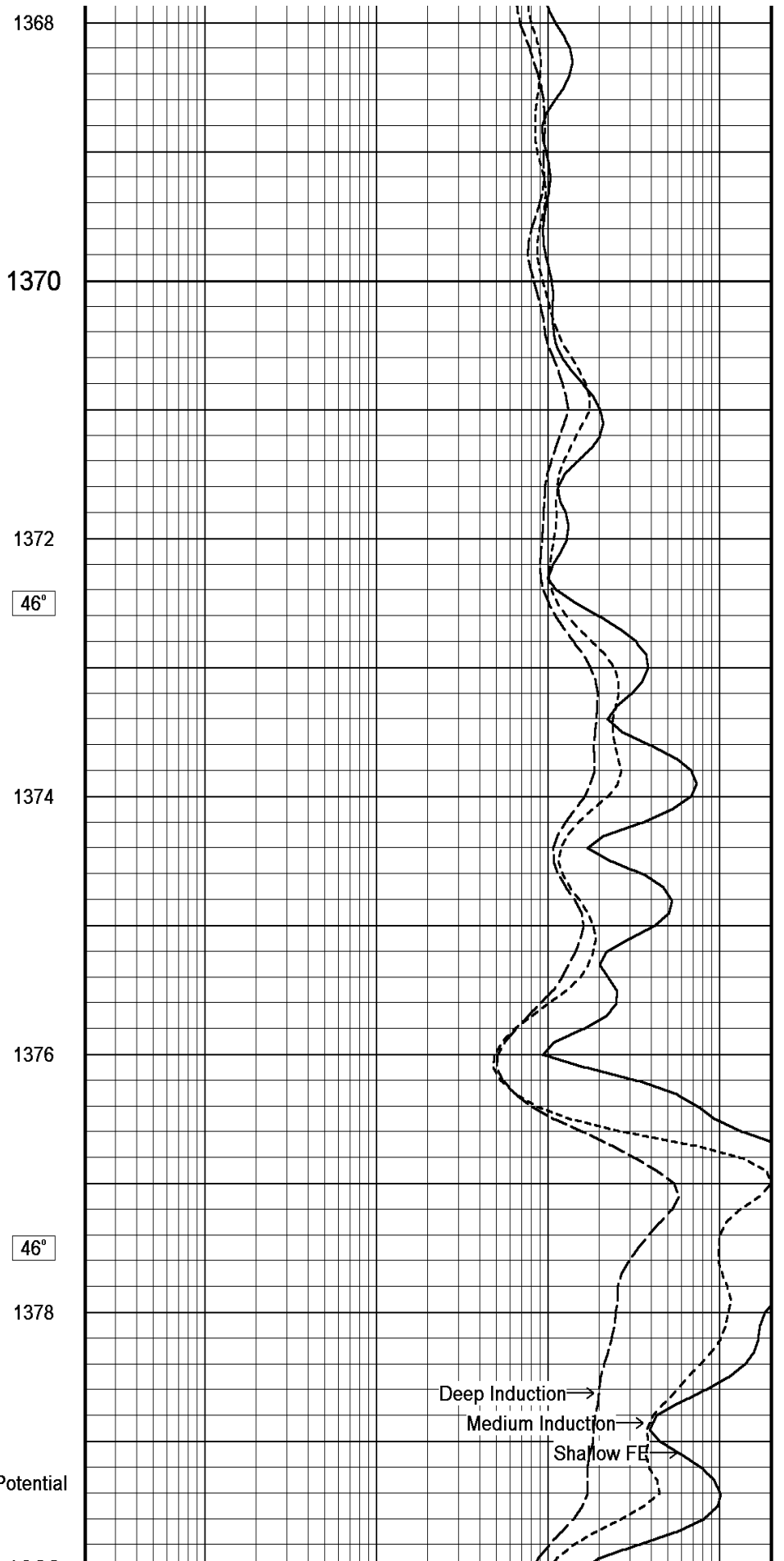
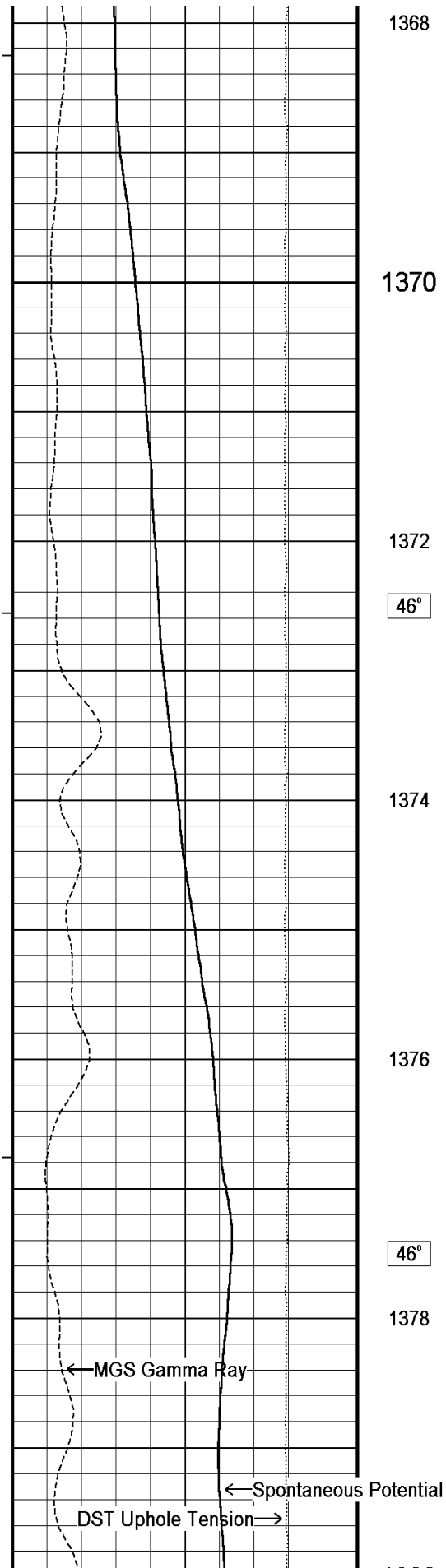
45°

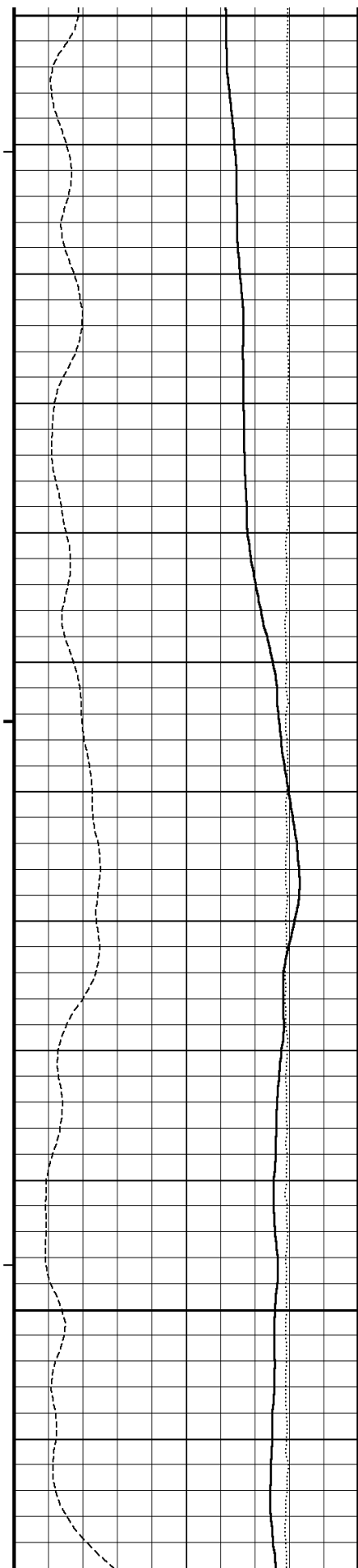
1364

1366

46°







1380

1382

45°

1384

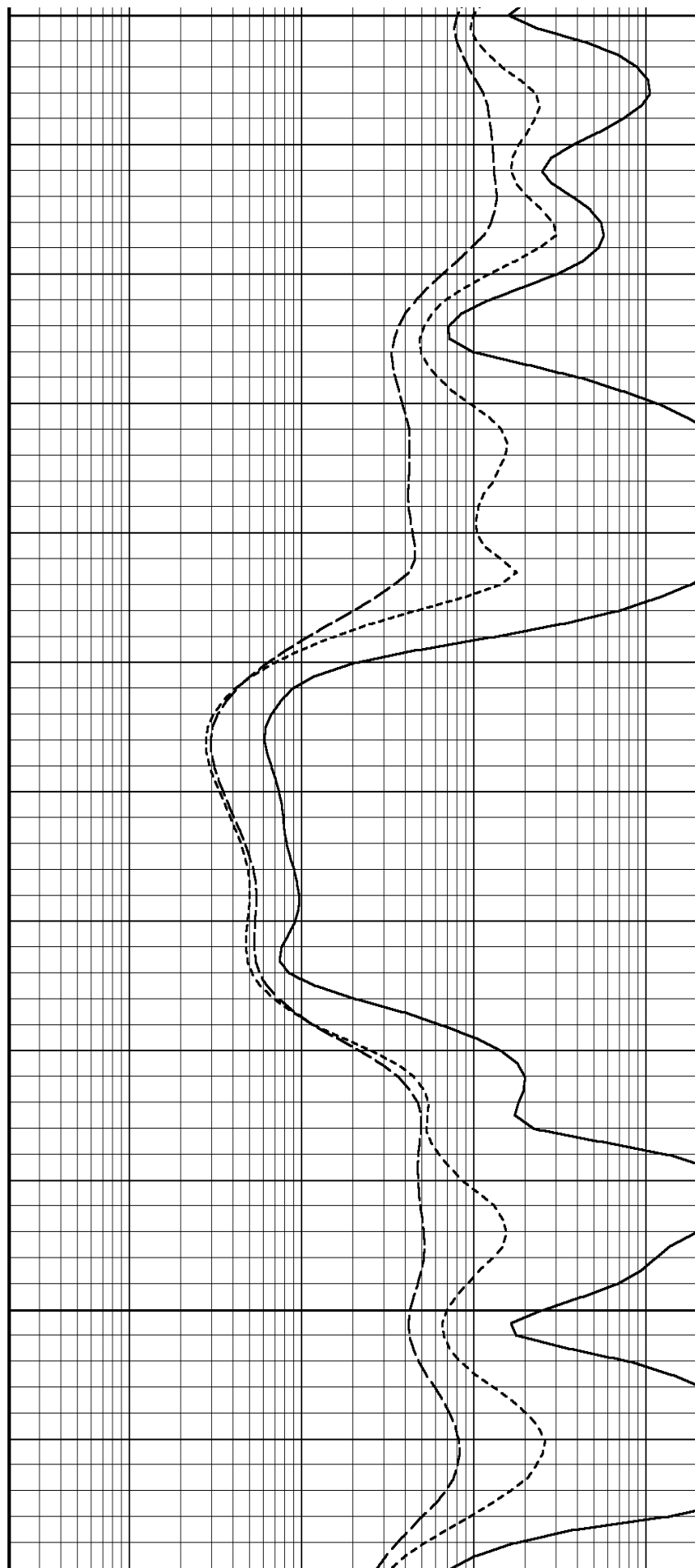
1386

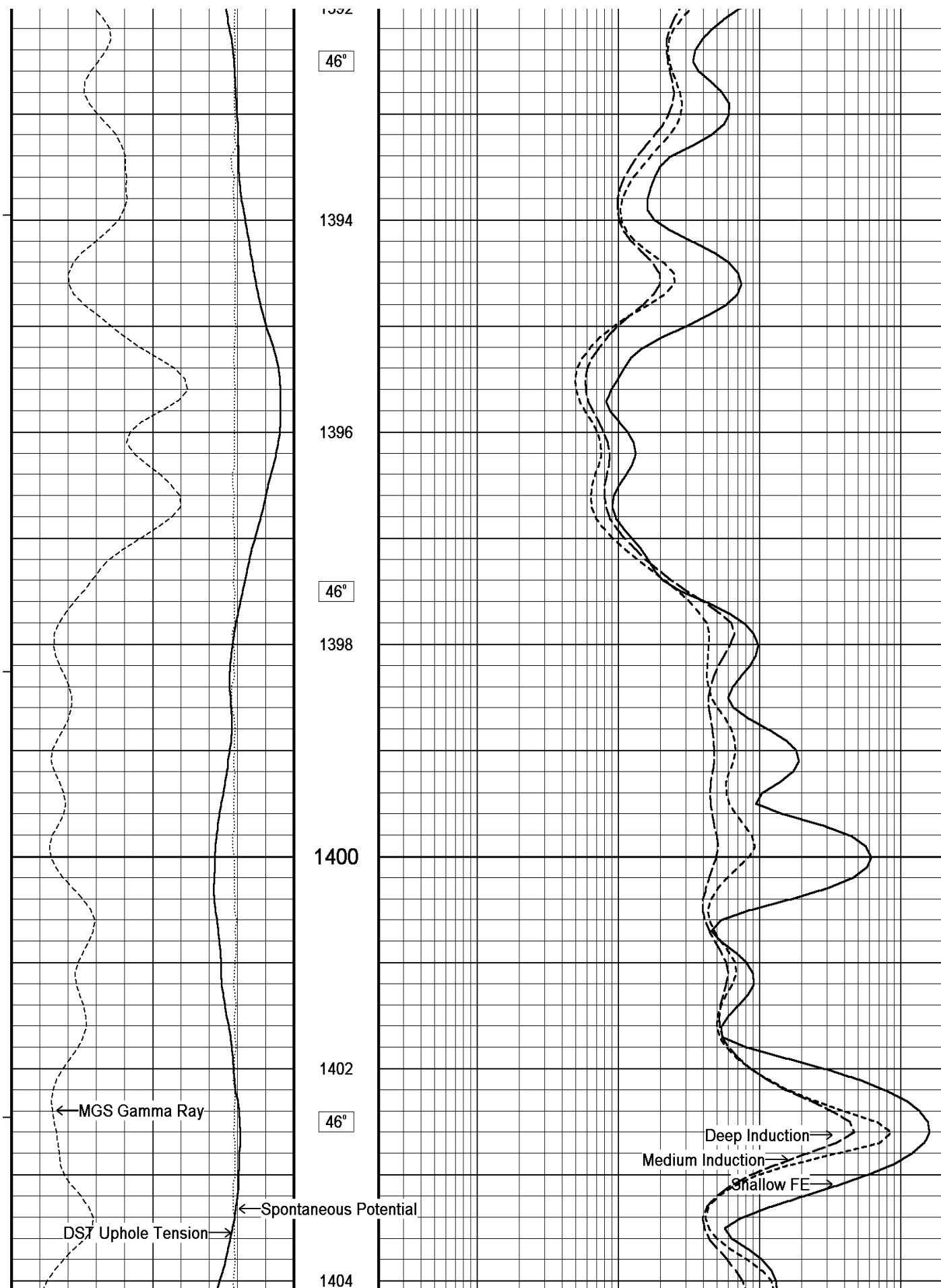
45°

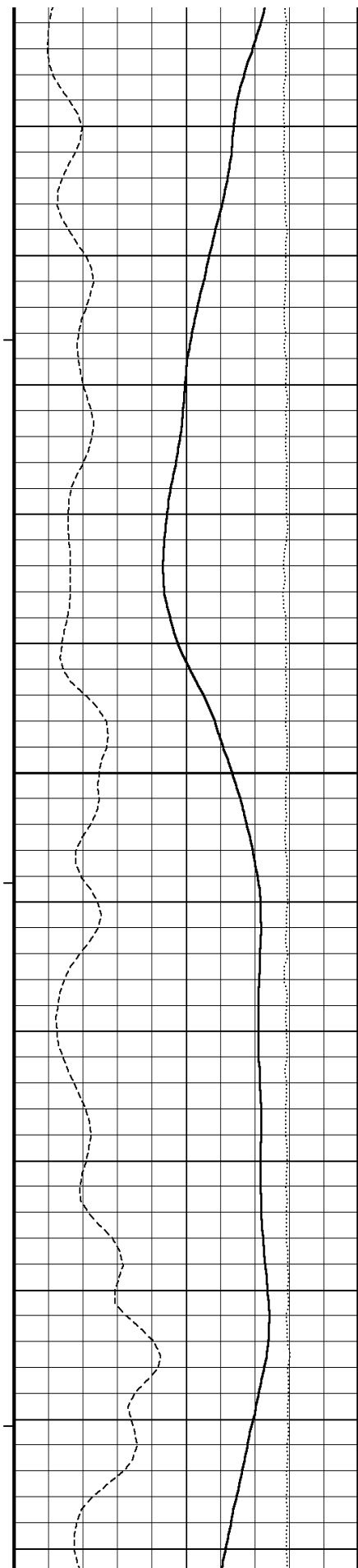
1388

1390

1392







1406

46°

1408

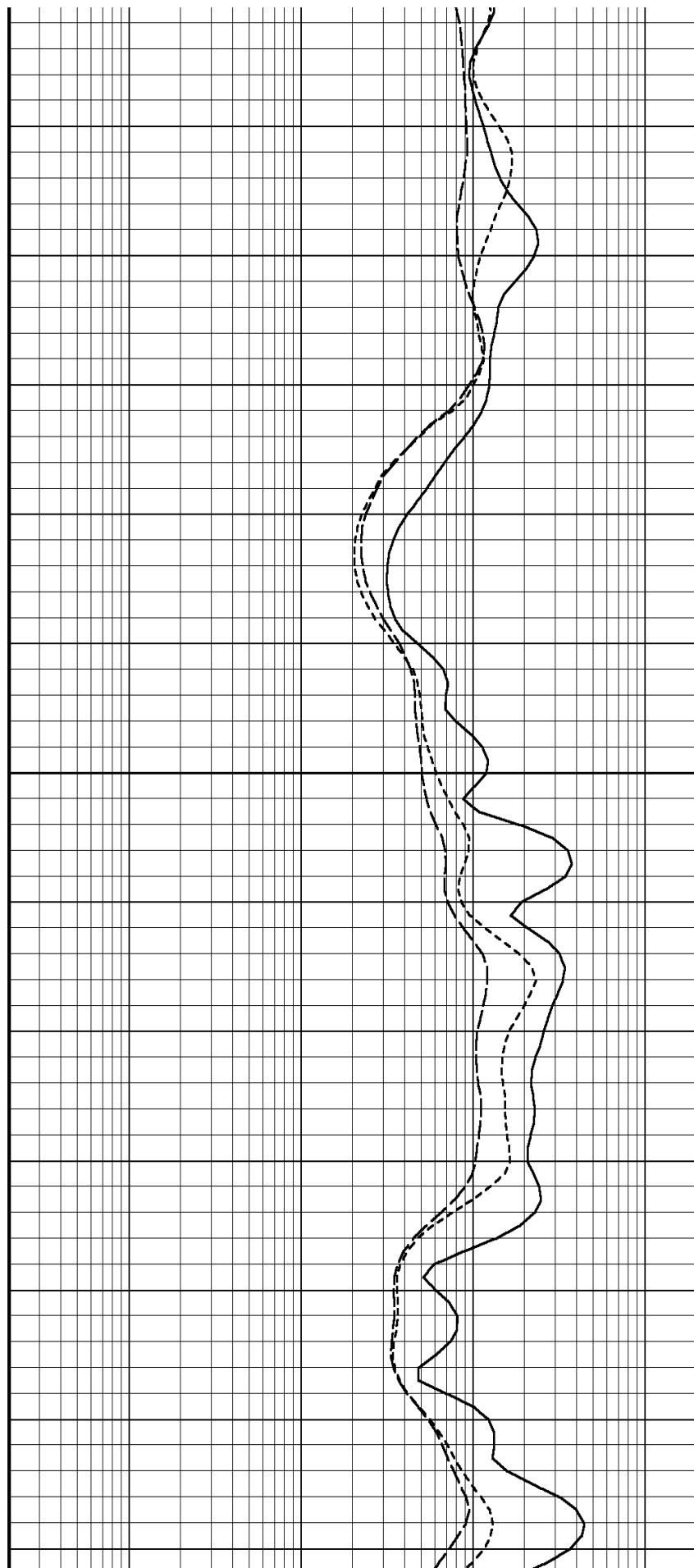
1410

1412

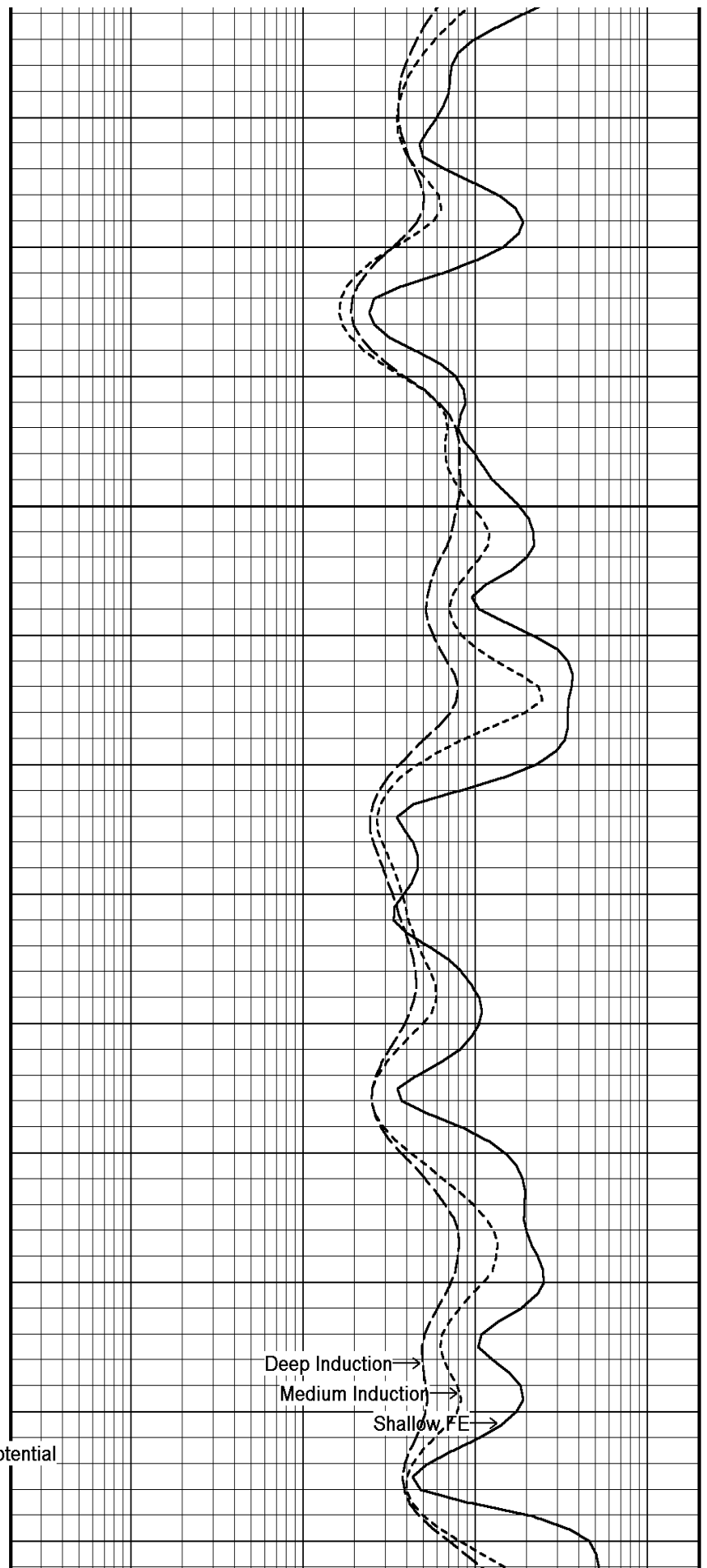
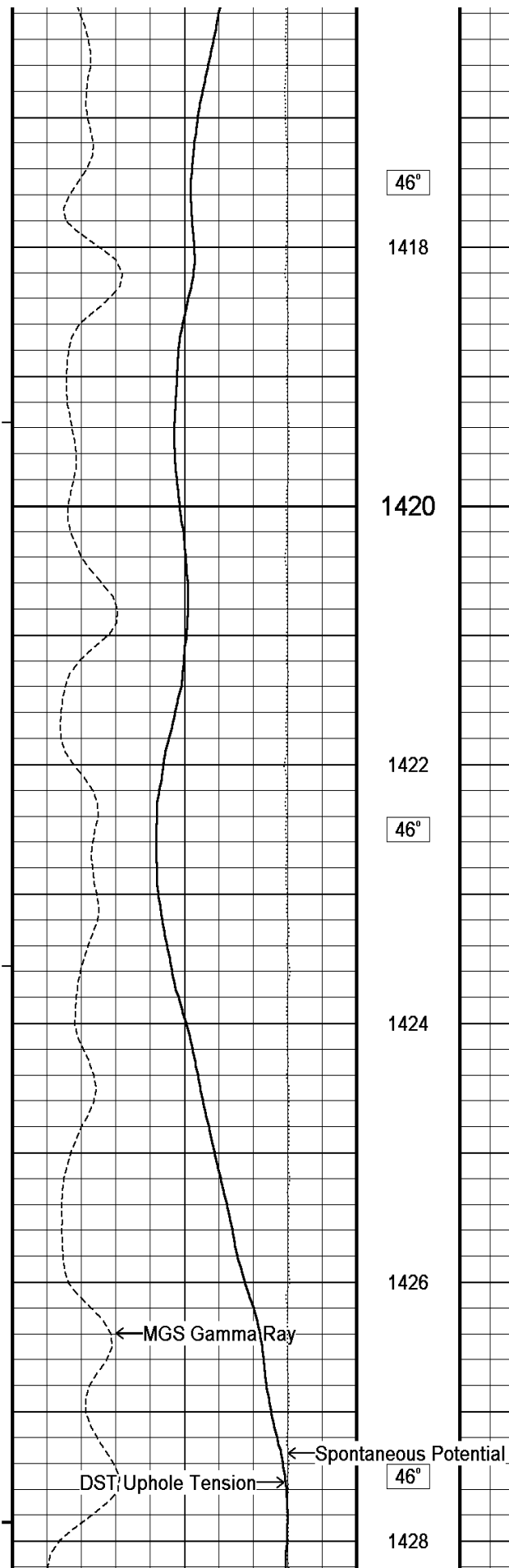
46°

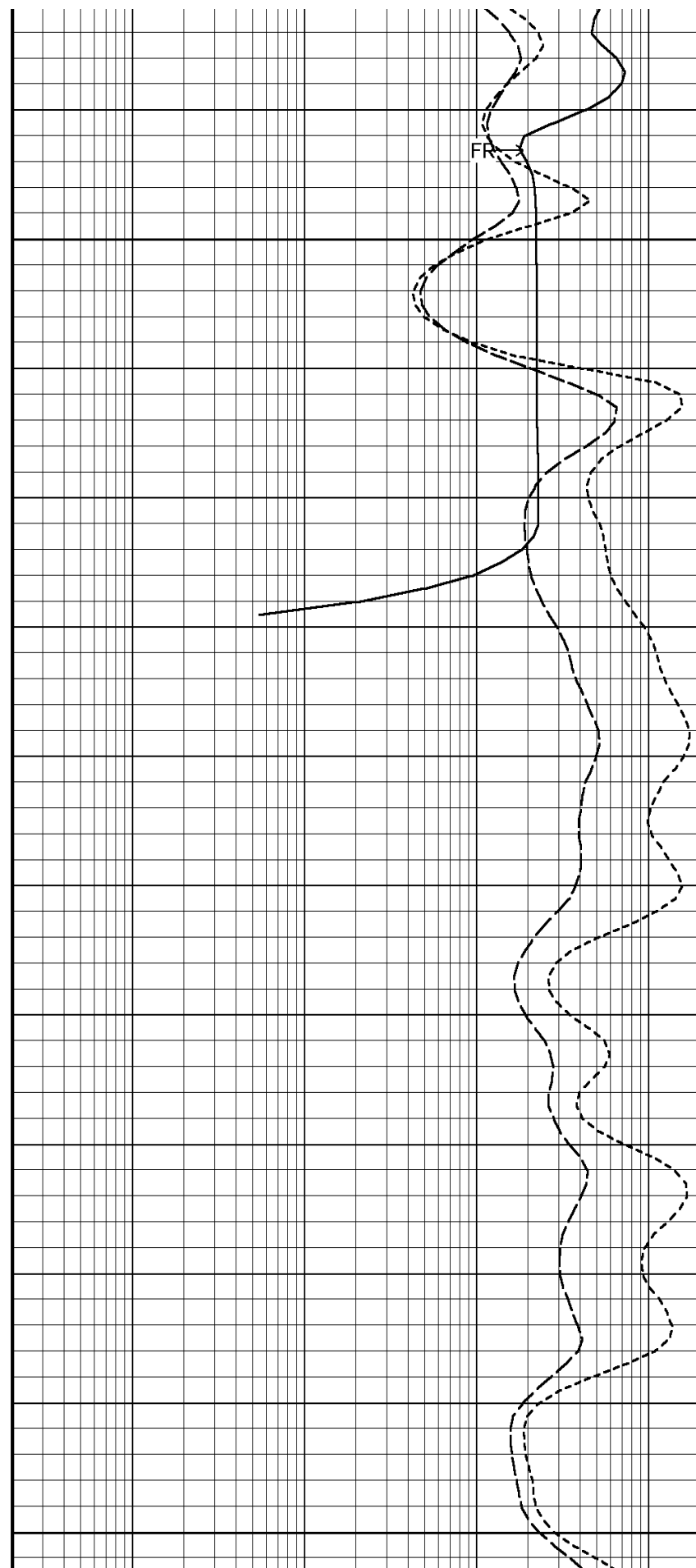
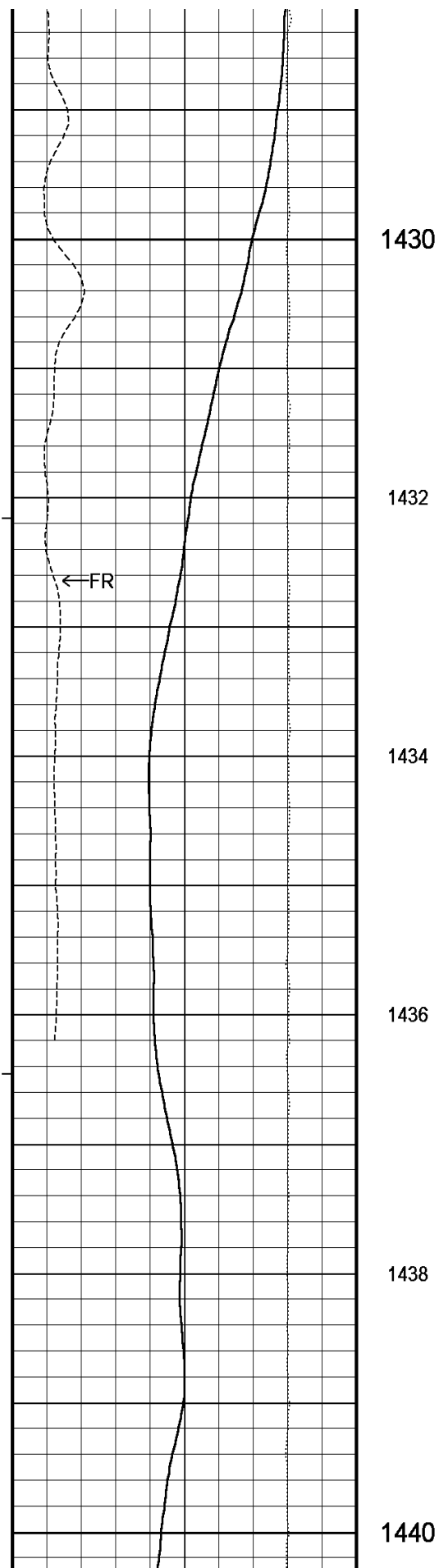
1414

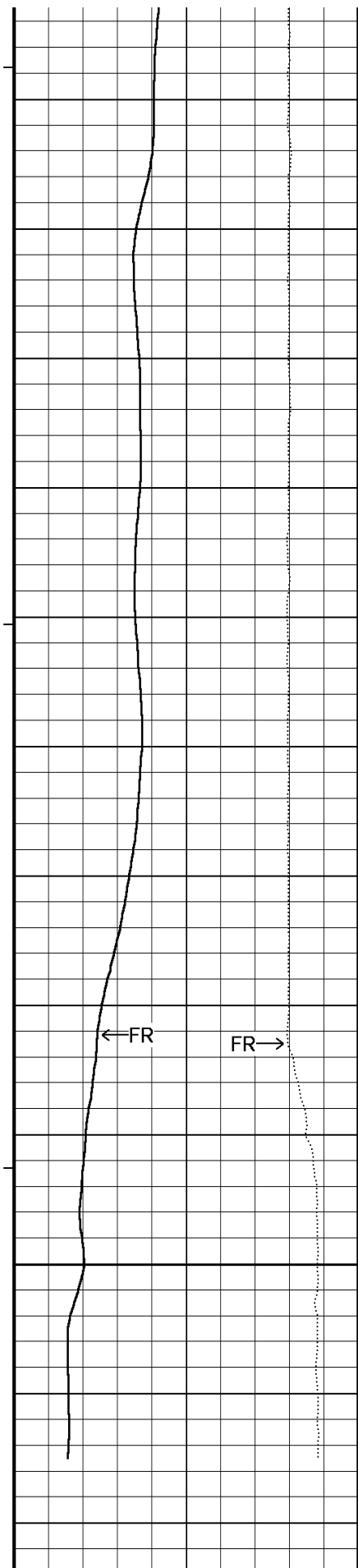
1416











1442

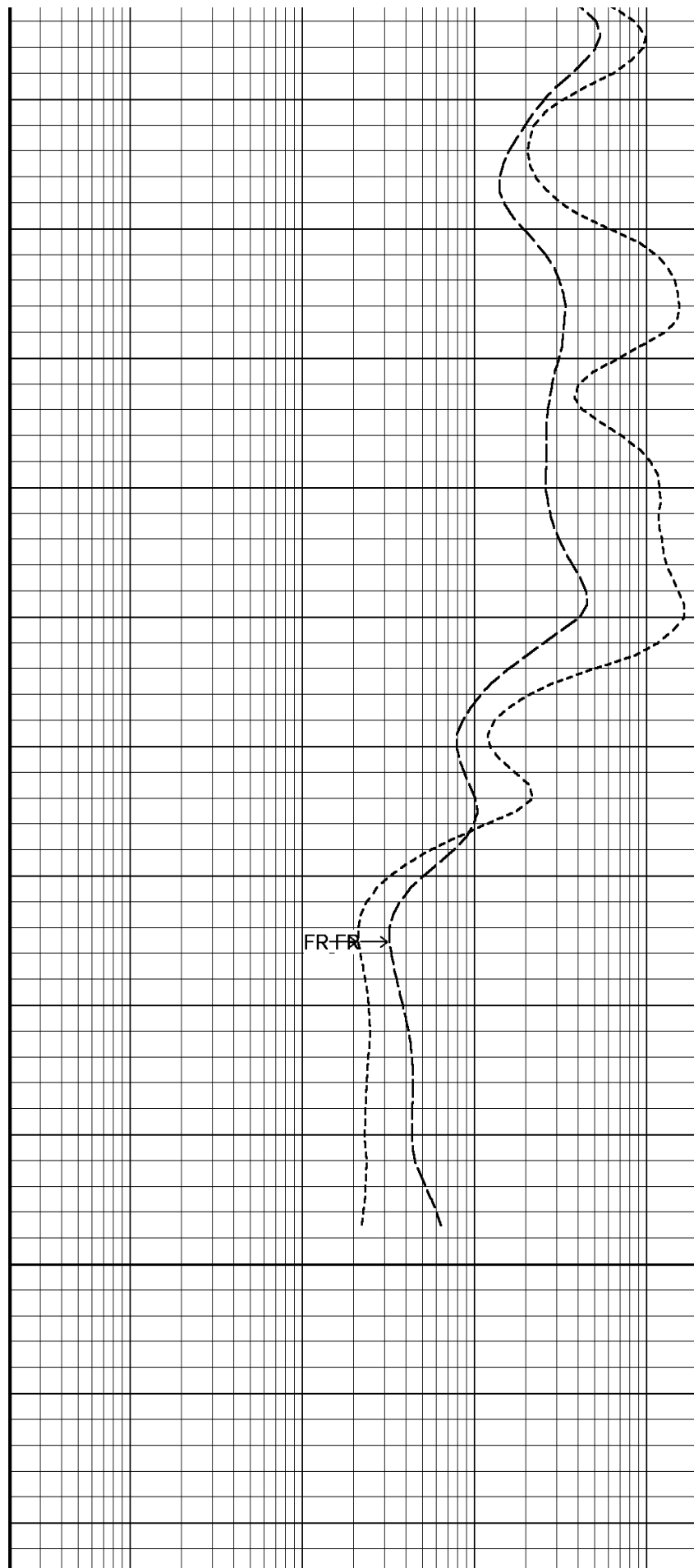
1444

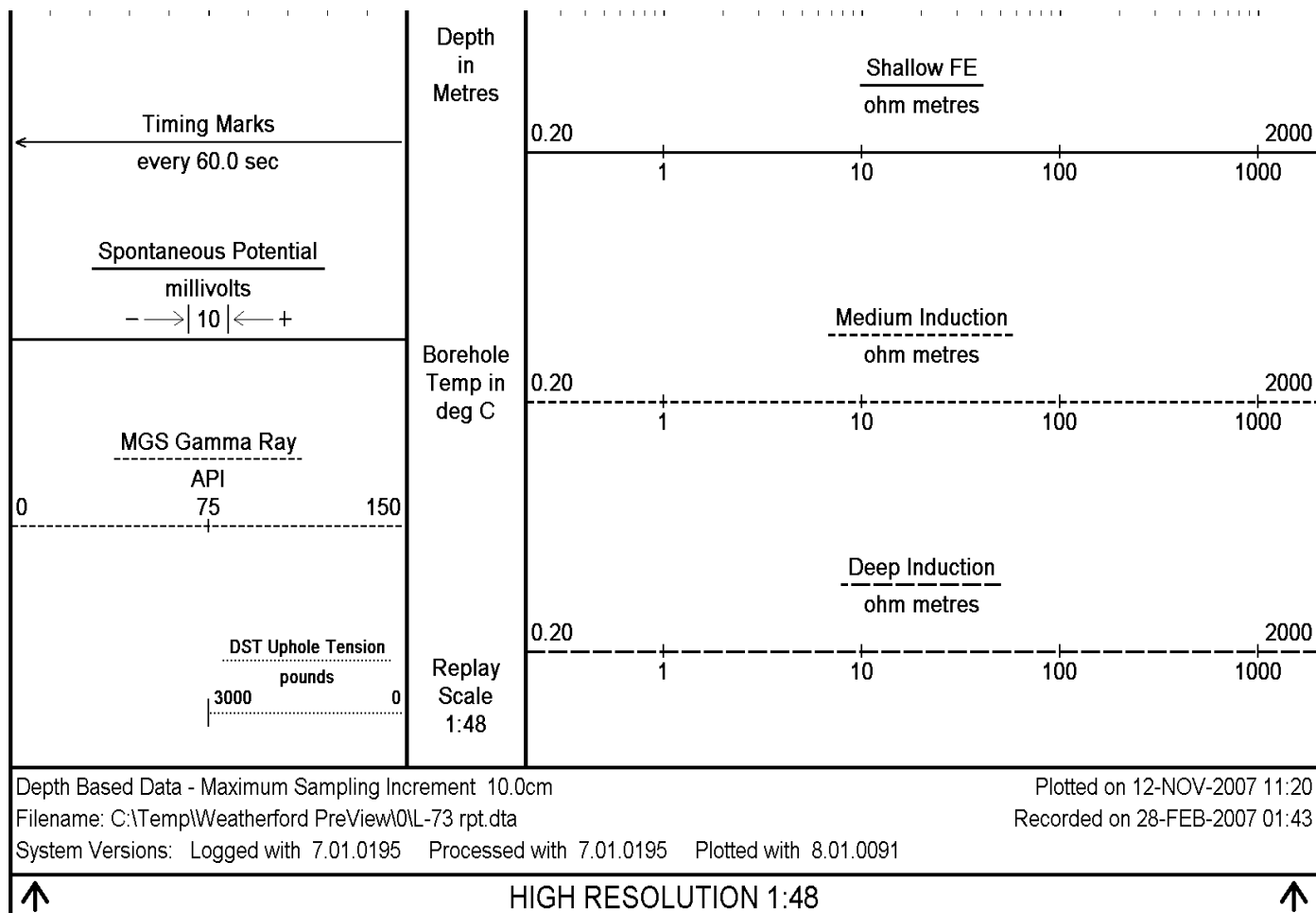
1446

1448

1450

1452





BEFORE SURVEY CALIBRATION		
C:\Temp\Weatherford PreView\0\L-73 main.dta		
General Constants All 000		Last Edited on 28-FEB-2007,00:23
<div style="display: flex; justify-content: space-between;"> <div>General Parameters</div> <div></div> </div> <div style="display: flex; justify-content: space-between;"> <div>Mud Resistivity</div> <div>0.540</div> <div>ohm-metres</div> </div> <div style="display: flex; justify-content: space-between;"> <div>Mud Resistivity Temperature</div> <div>25.000</div> <div>degrees C</div> </div> <div style="display: flex; justify-content: space-between;"> <div>Water Level</div> <div>0.000</div> <div>metres</div> </div> <div style="display: flex; justify-content: space-between;"> <div>Density/Neutron Processing</div> <div>Wet Hole</div> <div></div> </div>		
<div style="display: flex; justify-content: space-between;"> <div>Hole/Annular Volume and Differential Caliper Parameters</div> <div></div> </div> <div style="display: flex; justify-content: space-between;"> <div>HVOL Caliper 1</div> <div>Density Caliper</div> <div></div> </div> <div style="display: flex; justify-content: space-between;"> <div>HVOL Caliper 2</div> <div>Y Two Arm Caliper</div> <div></div> </div> <div style="display: flex; justify-content: space-between;"> <div>Annular Volume Diameter</div> <div>139.700</div> <div>mm</div> </div> <div style="display: flex; justify-content: space-between;"> <div>Caliper for Differential Caliper</div> <div>Density Caliper</div> <div></div> </div>		
<div style="display: flex; justify-content: space-between;"> <div>Rwa Parameters</div> <div></div> </div> <div style="display: flex; justify-content: space-between;"> <div>Porosity used</div> <div>Base Density Porosity</div> <div></div> </div> <div style="display: flex; justify-content: space-between;"> <div>Resistivity used</div> <div>Deep Induction</div> <div></div> </div> <div style="display: flex; justify-content: space-between;"> <div>RWA Constant A</div> <div>0.610</div> <div></div> </div> <div style="display: flex; justify-content: space-between;"> <div>RWA Constant M</div> <div>2.150</div> <div></div> </div>		
Gamma Calibration MCG 131		Field Calibration on 26-FEB-2007 10:56
	Measured	Calibrated (API)
Background	56	35
Calibrator (Gross)	1332	829
Calibrator (Net)	1277	794

Gamma Constants MCG 131			Last Edited on 27-FEB-2007,23:06
Gamma Calibrator Number	GRC 095		
Mud Density	1180.00	kg/m3	
Caliper Source for Processing	Density Caliper		
Tool Position	Centred		
Concentration of KCl	0.00	kppm	
SP Calibration MCG 131			Field Calibration on 24-FEB-2007 11:45
	Measured	Calibrated (mV)	
Reference 1	101.0	100.0	
Reference 2	-99.3	-100.0	
High Resolution Temperature Calibration MCG 131			Field Calibration on 15-DEC-2006,15:05
	Measured	Calibrated(Deg C)	
Lower	1.00	1.00	
Upper	10.00	10.00	
High Resolution Temperature Constants MCG 131			
Pre-filter Length	11		
FE Calibration MFE 111			Base Calibration on 15-FEB-2007 19:40 Field Check on 28-FEB-2007 00:16
Base Calibration			
	Measured	Calibrated (ohm-m)	
Reference 1	0.0	0.0	
Reference 2	983.2	126.8	
Base Check		278.8	
Field Check		279.0	
FE Constants MFE 111			Last Edited on 25-FEB-2007,03:56
Caliper Source for FE correction	Density Caliper		
Rm Source for FE correction	Temperature Corr		
Temp. for Rm Corr.	MCG External Temperature		
Stand-off	Centred	millimetres	
Caliper Calibration MTC 024			Base Calibration on 6-FEB-2007 10:21 Field Calibration on 28-FEB-2007,00:43
Base Calibration			
Reading No	Measured	Calibrator Size (mm)	
1	15472	110.00	
2	18252	162.00	
3	21045	212.00	
4	23841	262.00	
5	26691	311.00	
6	N/A	N/A	
Field Calibration			
	Measured Caliper (mm)	Actual Caliper (mm)	
	210.30	205.70	
Gamma Calibration MGS 029			Field Calibration on 20-FEB-2007,01:19
	Measured	Calibrated (API)	
Background	58	38	
Calibrator (Gross)	1286	832	
Calibrator (Net)	1228	794	
Gamma Constants MGS 029			Last Edited on 27-FEB-2007,23:06

Gamma Calibrator Number	GRCC095		
Mud Density	1180.00	kg/m3	
Caliper Source for Processing	Density Caliper		
Tool Position	Centred		
Concentration of KCl	0.00	kppm	
SP Calibration MGS 029			
	Measured	Calibrated (mV)	Field Calibration on 7-DEC-2006,17:01
Reference 1	100.0	100.0	
Reference 2	-100.0	-100.0	
High Resolution Temperature Calibration MGS 029			
	Measured	Calibrated(Deg C)	Field Calibration on 7-DEC-2006,17:01
Lower	1.00	1.00	
Upper	5.00	5.00	
High Resolution Temperature Constants MGS 029			
Pre-filter Length	11		
Micro Laterolog Constants MMR 031			
Micro Laterolog K Factor	0.0128		
Standoff Offset	0.0000	inches	
Borehole Correction Constants			
Mud Cake Source	Constant Value		
Mud Cake Thickness	0.4000	inches	
Mud Cake Thickness Caliper	0		
Mud Cake Resistivity	0.1500	ohm-m	
Caliper Calibration MMR 031			
			Base Calibration on 27-FEB-2007,13:43
			Field Calibration on 28-FEB-2007,00:43
Base Calibration			
Reading No	Measured	Calibrator Size (mm)	
1	14876	162.00	
2	17978	212.00	
3	21602	262.00	
4	24308	311.00	
5	0	0.00	
6	N/A	N/A	
Field Calibration			
	Measured Caliper (mm)	Actual Caliper (mm)	
	205.60	205.70	
Micro Normal and Micro Inverse Calibration MMR 031			
			Base Calibration on 27-FEB-2007,13:43
			Field Check on 28-FEB-2007 00:34
Base Calibration			
	Measured	Calibrated (ohm-m)	
Channel	Resistor 1 Resistor 2	Resistor 1 Resistor 2	
Micro Normal	9.8 49.9	5.1 25.6	
Micro Inverse	9.8 49.8	3.4 16.9	
Channel	Base Check (ohm-m)	Field Check (ohm-m)	
Micro Normal	94.7	92.9	
Micro Inverse	61.6	61.6	
Micro Normal and Micro Inverse Constants MMR 031			
			Last Edited on 25-NOV-2006,14:14
Micro Normal K Factor	0.5110		
Micro Inverse K Factor	0.3380		
Standoff Offset	0.0000	millimetres	
Neutron Calibration MDN 016			
			Base Calibration on 11-1AN-2007 20:47

Field Check on 27-FEB-2007 23:30

Base Calibration				
	Measured		Calibrated (cps)	
	Near	Far	Near	Far
	3219	98	3714	110
Ratio	32.703		33.764	
Field Calibrator at Base				
			Calibrated (cps)	
			2486	3648
Ratio			0.681	
Field Check				
			Calibrated (cps)	
			2568	3767
Ratio			0.682	

## Neutron Constants MDN 016

Last Edited on 25-FEB-2007,03:55

Neutron Source Id	277	
Neutron Jig Number	N636	
Epithermal Neutron	No	
Caliper Source for Processing	Density Caliper	
Stand-off	0.00	mm
Mud Density	1000.00	kg/m3
Limestone Sigma	7.10	cu
Sandstone Sigma	4.26	cu
Dolomite Sigma	4.70	cu
Formation Pressure Source	Constant Value	
Formation Pressure	0.00	kPa
Temperature Source	Constant Value	
Temperature	20.00	degrees C
Mud Salinity	0.00	kppm
Formation Fluid Salinity Source	Constant Value	
Formation Fluid Salinity	0.00	kppm
Barite Mud Correction	Not Applied	

## Photo Density Calibration MPD 093

Base Calibration on 21-FEB-2007 18:37  
Field Check on 27-FEB-2007 23:24

Density Calibration					
Base Calibration		Measured		Calibrated (sdu)	
		Near	Far	Near	Far
Reference 1		66461	35432	60352	31615
Reference 2		27582	2460	25043	2540
Field Check at Base					
		738.4	855.4		
Field Check					
		743.9	865.6		
PE Calibration					
Base Calibration		Measured		Calibrated	
		WS	WH	Ratio	Ratio
Background		135	656		
Reference 1		27020	66295	0.410	0.400
Reference 2		7311	27477	0.268	0.272
Field Check at Base					
		135.0	656.2		
Field Check					
		134.5	658.1		

## Density Constants MPD 093

Last Edited on 27-FEB-2007,23:07

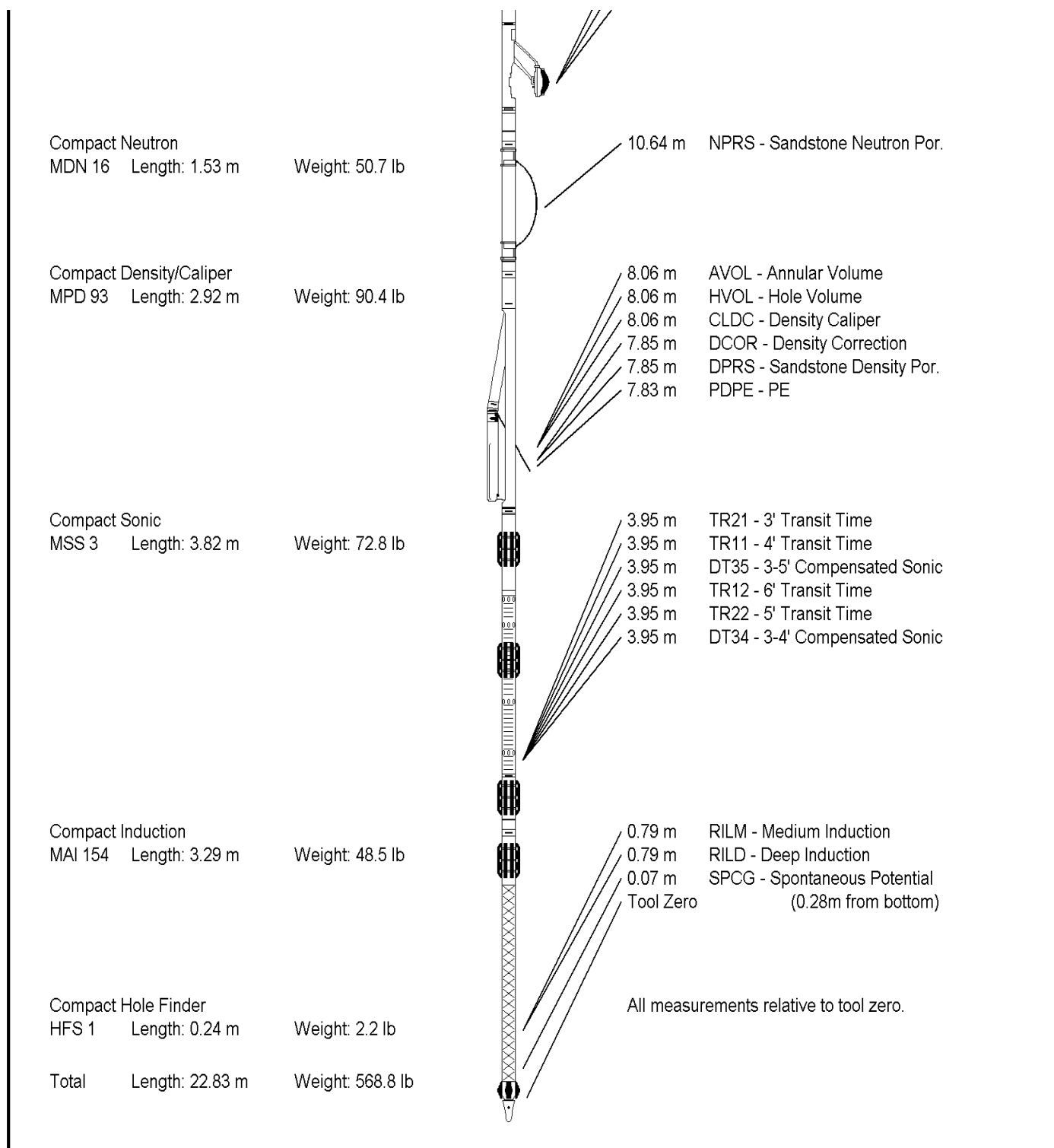
Density Source Id	1615B		
Nylon Calibrator Number	608		
Aluminium/Fe Calibrator Number	608		
Density Shoe Profile	4 inch		
Caliper Source for Processing	Density Caliper		
PE Correction to Density	Not Applied		
Mud Density	1180.00	kg/m3	
Mud Density Z/A Correction	1.11		
Mud Filtrate Density	1000.00	kg/m3	
Dry Hole Mud Filtrate Density	1000.00	kg/m3	
DNCT	0.00	kg/m3	
CRCT	0.00	kg/m3	
Density Z/A Correction	0		
Matrix Density (kg/m3)	Depth (m)		
2710.00	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	0.00		
Caliper Calibration MPD 093			
Base Calibration		Base Calibration on 11-JAN-2007 21:58	
		Field Calibration on 28-FEB-2007,00:44	
Reading No	Measured	Calibrator Size (mm)	
1	15040	110.00	
2	23085	162.00	
3	31440	212.00	
4	40233	262.00	
5	49152	311.00	
6	N/A	N/A	
Field Calibration			
	Measured Caliper (mm)	Actual Caliper (mm)	
	207.70	205.70	
Sonic Constants MSS 003			
Last Edited on 27-FEB-2007,23:07			
Maximum Boundary Contrast	328.08	micro-sec/m	
Fluid Transit Time	620.08	micro-sec/m	
Limestone Transit Time	155.84	micro-sec/m	
Sandstone Transit Time	182.09	micro-sec/m	
Dolomite Transit Time	142.72	micro-sec/m	
Sonic used for Porosities	3-5' Compensated Sonic		
Correction for Sonde Skew	Applied		
Cycle Stretch Algorithm	Applied		
MN3FT	N/A	micro-sec	
MX3FT	N/A	micro-sec	
Hunt-Raymer Constant	0.00	0	
Fixed Gate Parameters			
Start Time (micro-sec)	End Time (micro-sec)	Discriminator (mV)	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
Down Hole Fixed Gate Parameters			
Gate Start	N/A	micro-sec	
Gate Width	N/A	micro-sec	
Initial Discriminator Level	0.0000	mVolts	



Initial Discriminator Level	0.0000	involts
Full Waveform Parameters		
Use 3' Waveform to derive TR	N/A	
Use 4' Waveform to derive TR	N/A	
Use 5' Waveform to derive TR	N/A	
Use 6' Waveform to derive TR	N/A	
3' Waveform Discriminator Level	N/A	mV
4' Waveform Discriminator Level	N/A	mV
5' Waveform Discriminator Level	N/A	mV
6' Waveform Discriminator Level	N/A	mV
3' Waveform Filter	N/A	
4' Waveform Filter	N/A	
5' Waveform Filter	N/A	
6' Waveform Filter	N/A	
Semblance Level	N/A	
Semblance Window Width	N/A	micro-sec
Sonic 1 Despiker	N/A	N/A
Sonic 2 Despiker	N/A	N/A
Induction Calibration MAI 154		
		Base Calibration on 14-JAN-2007 01:38
		Field Check on 28-FEB-2007 00:33
Base Calibration		
Test Loop Calibration	Measured	Calibrated (mmho/m)
Channel	Low High	Low High
1	16.6 470.6	9.3 966.2
2	6.3 383.0	7.6 821.4
3	4.0 264.7	5.2 566.0
4	2.3 136.2	2.6 279.2
Array Temperature	22.3	Deg C
Channel	Base Check (mmho/m)	Field Check (mmho/m)
	Low High	Low High
1	13.1 3867.2	15.3 3866.9
2	29.6 3530.7	30.2 3528.9
3	26.8 3001.8	27.1 2999.9
4	18.4 2040.8	18.6 2039.5
Deep	15.3 1926.8	15.7 1925.6
Medium	39.6 3962.8	39.7 3960.1
Shallow	45.8 5270.7	46.6 5268.1
Array Temperature	12.1	28.0 Deg C
Induction Constants MAI 154		
		Last Edited on 27-FEB-2007,23:07
Induction Model	VECTAR	
Caliper for Borehole Corr.	Density Caliper	
Hole Size for Borehole Correction	N/A	millimetres
Stand-off	25.40	millimetres
Number of Fins on Stand-off	5.0000	
Stand-off Fin Width	25.4000	millimetres
Borehole Corr. Rm Source	Temperature Corr	
Temp. for Rm Corr.	MCG External Temperature	
Squasher Start	0.0020	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
High Resolution Temperature Calibration MAI 154		
	Measured	Calibrated(Deg C)
Lower	1.00	1.00
Upper	10.00	10.00
High Resolution Temperature Constants MAI 154		
Pre-filter Length	11	

DOWNHOLE EQUIPMENT			
C:\Temp\Weatherford PreView\01L-73 main.dta			
Compact Gamma MCG 131   Length: 2.65 m   Weight: 63.9 lb		20.98 m   GRGC - Gamma Ray	
		20.10 m   CGXT - MCG External Temperature	
Compact Focussed Electric MFE 111   Length: 1.84 m   Weight: 48.5 lb		18.98 m   FEFE - Shallow FE	
Compact Two Arm Caliper MTC 24   Length: 2.17 m   Weight: 61.7 lb		16.53 m   CLYC - Y Two Arm Caliper	
Compact Short Gamma MGS 29   Length: 1.04 m   Weight: 24.3 lb		15.66 m   GRGM - MGS Gamma Ray	
Compact InterSonde Crank ISC 151   Length: 0.71 m   Weight: 24.3 lb			
Compact Micro-Resistivity MMR 31   Length: 2.62 m   Weight: 81.6 lb		12.10 m   MBTC - MMR Caliper	
		12.10 m   MINV - MMR MicroLog Inverse	
		12.10 m   MNRL - MMR MicroLog Normal	



COMPANY		PARAMOUNT RESOURCES LTD			
WELL		PARA ET AL CAMERON L-73			
FIELD		CAMERON HILLS			
PROVINCE/COUNTY		NORTHWEST TERRITORIES			
COUNTRY/STATE		CANADA			
Elevation Kelly Bushing	774.80	metres	First Reading	1447.50	metre
Elevation Drill Floor		metres	Depth Driller	1450.00	metres
Elevation Ground Level	770.80	metres	Depth Logger	1448.60	metres



**Weatherford®**

ARRAY INDUCTION

# PARA ET AL CAMERON L-73

60° 10' N, 117° 15' W

WID: 2033

## Bottom Hole Configuration - As Drilled

KB: 774.8 m  
GL: 770.8 m

436

219.1 mm, 35.7 kg/m, J-55 ST&C casing set at 436 mKB. Cemented with 38 t class 'G' cement + 1.5% CaCl<sub>2</sub>. 4.0 m<sup>3</sup> cement returns to surface.

139.7 mm, 23.07 kg/m, J-55, LT&C set at 1450 mKB. Cemented with 23.0 t ThixLite + 1% SMS and 11.0 t Expandomix LWL + 0.1% CFL-3 + 0.2% LTR + 0.2% SPC-II. 6.0 m<sup>3</sup> cement returns to surface.

### FORMATION TOPS

Wabamun 552

Fort Simpson 717

Beaver Hill Lake 1320

Slave Point 1343

F4 Marker 1386

Watt Mountain 1392

Sulphur Point LS 1398

Sulphur Point Dol 1415

Muskeg 1428

1436

Total Depth = 1450

Casing set at 1450 mKB