Weatherford®

COMPACT PHOTO DENSITY COMPENSATED NEUTRON MICROLOG SONIC LOG

COMPANY	SHORELINE ENERGY PARTNERS, LLC.
WELL	SEIFERT 1-27
FIELD	WILDCAT
PROVINCE/COUNTY	HARPER
COUNTRY/STATE	U.S.A. / KANSAS
LOCATION	115' FNL & 150' FWL

40 Years of Wireline 1970 2010

SEC	TWP	RGE	Other Services
27	34S	5W	

API Number 15-077-21753
Permit Number

Permanent Datum G.L., Elevation 1206 feet
Log Measured From K.B. @ 10 FEET above Permanent Datum
Drilling Measured From K.B.

Elevations:	feet
KB	1216.00
DF	1214.00
GL	1206.00

Date	28-SEP-2011			
Run Number	ONE			
Depth Driller	5355.00	feet		
Depth Logger	5352.00	feet		
First Reading	5349.00	feet		
Last Reading	348.00	feet		
Casing Driller	350.00	feet		
Casing Logger	348.00	feet		
Bit Size	7.785	inches		
Hole Fluid Type	GEL			
Density / Viscosity	9.00 lb/USg	67.00 CP		
PH / Fluid Loss	9.00	13.80 ml/30Min		
Sample Source	MUD PIT			
Rm @ Measured Temp	1.50 @ 82.0	ohm-m		
Rmf @ Measured Temp	1.20 @ 82.0	ohm-m		
Rmc @ Measured Temp	1.80 @ 82.0	ohm-m		
Source Rmf / Rmc	CALC	CALC		
Rm @ BHT	0.89 @137.0	ohm-m		
Time Since Circulation	6 HOURS			
Max Recorded Temp	137.00	deg F		
Equipment Name	COMPACT			
Equipment / Base	13226	OKC		
Recorded By	B. ALLEN			
Witnessed By	C. PARKER		H. LEWIS	

BOREHOLE RECORD

Last Edited: 28-SEP-2011 19:57

Bit Size inches	Depth From feet	Depth To feet
7.875	350.00	5355.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	8.625	0.00	350.00	29.00

REMARKS

TOOLS RAN: SHA, MCG, MML, MDN, MPD, MFE, MAI RAN IN COMBINATION

HARDWARE: MAI: TWO 0.5 INCH STANDOFFS USED.
MDN: DUAL NEUTRON BOW SPRINGS USED.
MPD: 8 INCH PROFILE PLATE USED.

2.71 G/CC DENSITY MATRIX USED TO CALCULATE POROSITY
ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST.

TOTAL HOLE VOLUME FROM TD TO 3300' = 950 CU.FT.
ANNULAR HOLE VOLUME WITH 5.5 INCH PRODUCTION CASING FROM TD TO 3300' = 610 CU.FT.

SERVICE ORDER # 3534146
RIG: LANDMARK DRILLING #6

ENGINEER: B. ALLEN

OPERATOR(S): R. POGUE

OPERATOR(S): R. POOLE

5 INCH MAIN LOG

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 29-SEP-2011 08:14
Filename: C:\Users\garcianr\AppData\Local\Temp\Weatherford PreView\0\SEIFERT 1-27_003.dta
Recorded on 28-SEP-2011 18:24
System Versions: Logged with 11.02.2782 Plotted with 12.01.3513

Timing Marks
every 60.0 sec

Gamma Ray
API
0 75 150
150 225 300

Spontaneous Potential
millivolts
– → | 20 | ← +

Density Caliper
inches
6 11 16

Bit Size
inches
6 11 16

MML Caliper
inches
6 11 16

DST Uphole Tension
pounds
10000 0

Depth in Feet

Borehole Temp in deg F

HVI every 10 cu ft

Annular Integral every 10 cu ft

MINV
0 20

MNRL
0 20

Replay Scale 1:240

3800

Shallow FE
ohm metres
0.20 2000
1 10 100 1000

Limestone Neutron Por.
percent
30 10 -10

Array Ind One Res 40
ohm metres
0.20 2000
1 10 100 1000

Density Correction
grams/cc
-0.25 0 0.25

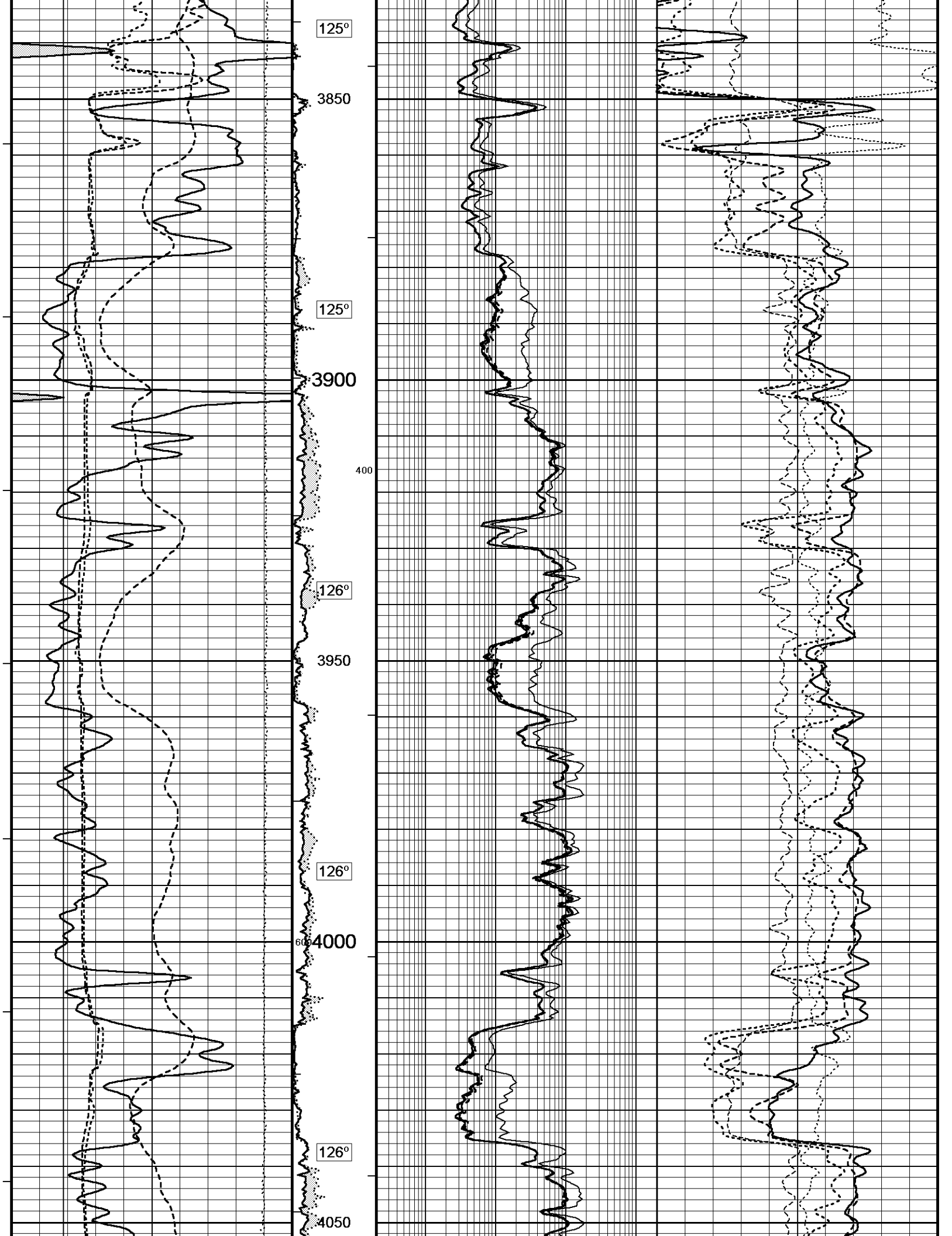
Array Ind One Res 60
ohm metres
0.20 2000
1 10 100 1000

PE
barns/electron
0 5 10

Array Ind One Res Rt
ohm metres
0.20 2000
1 10 100 1000

Limestone Density Por.
percent
30 10 -10

Limestone H-R Sonic Por.
percent
30 10 -10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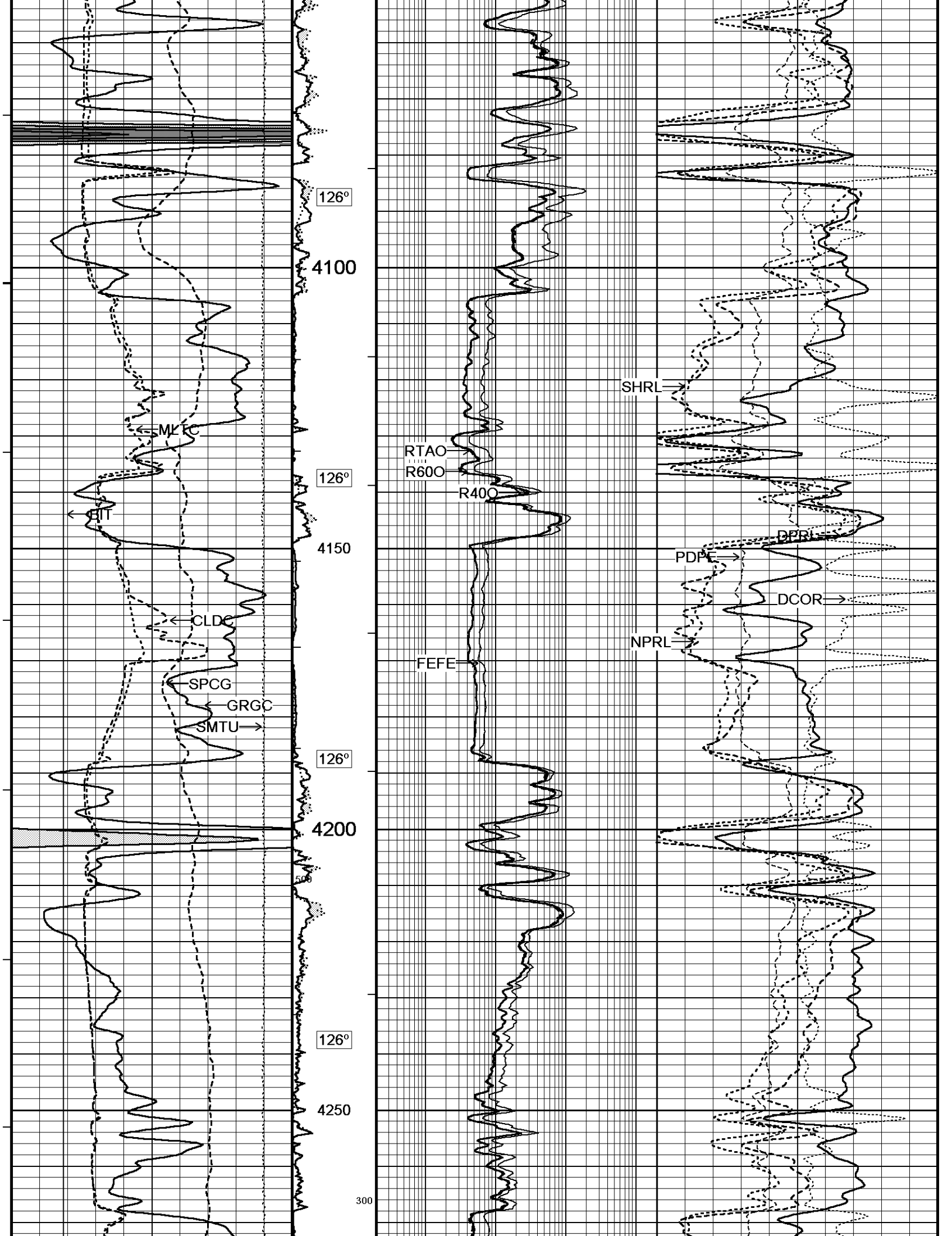
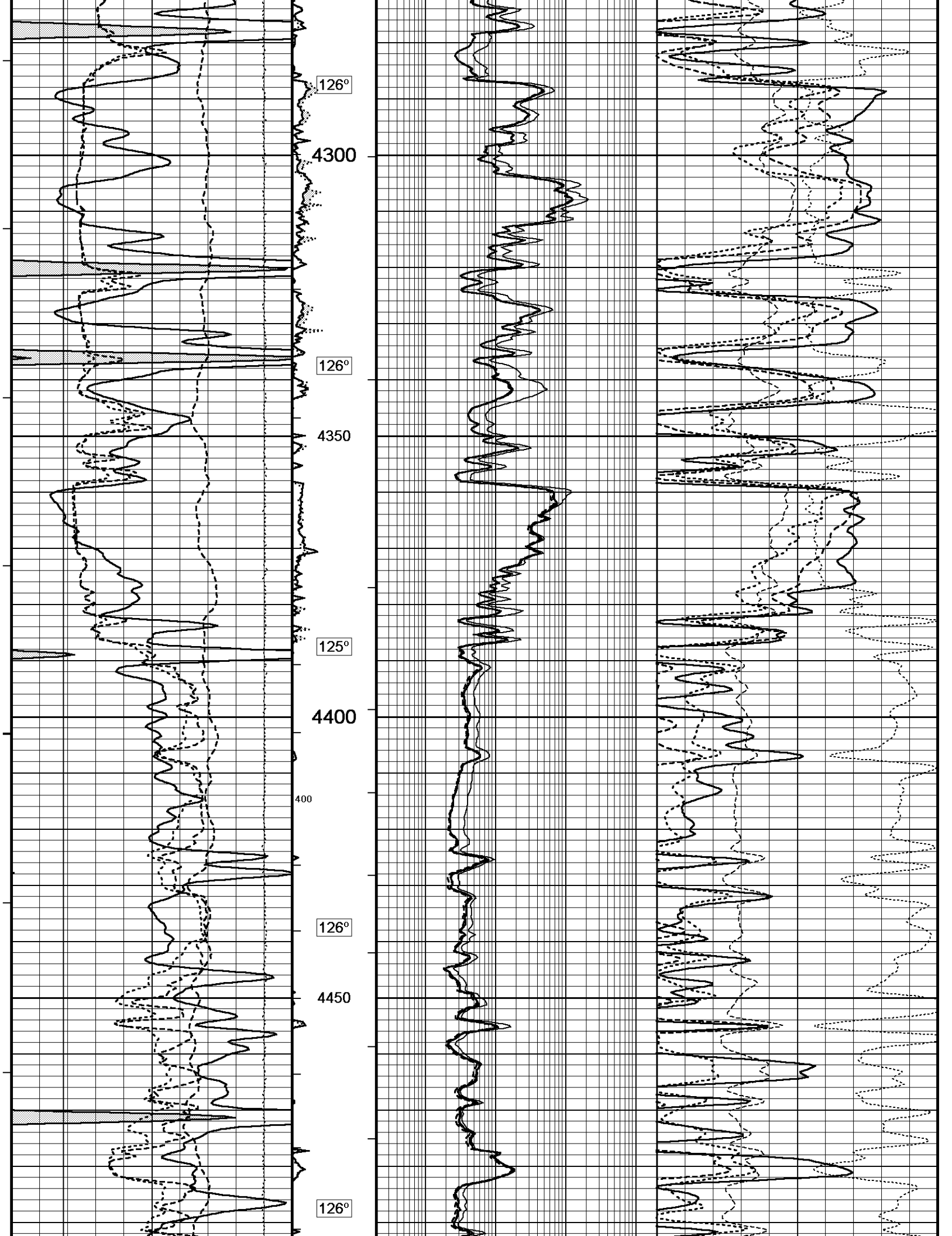
3850
125°
3900
400
126°
3950
126°
600
4000
126°
4050


126°
4100
MLFC
126°
RTAO
R60O
R40O
SHRL
BIT
4150
DPRL
PDPE
DCOR
CLDC
NPRL
FEFE
SPCG
GRGC
SMTU
126°
4200
126°
4250
300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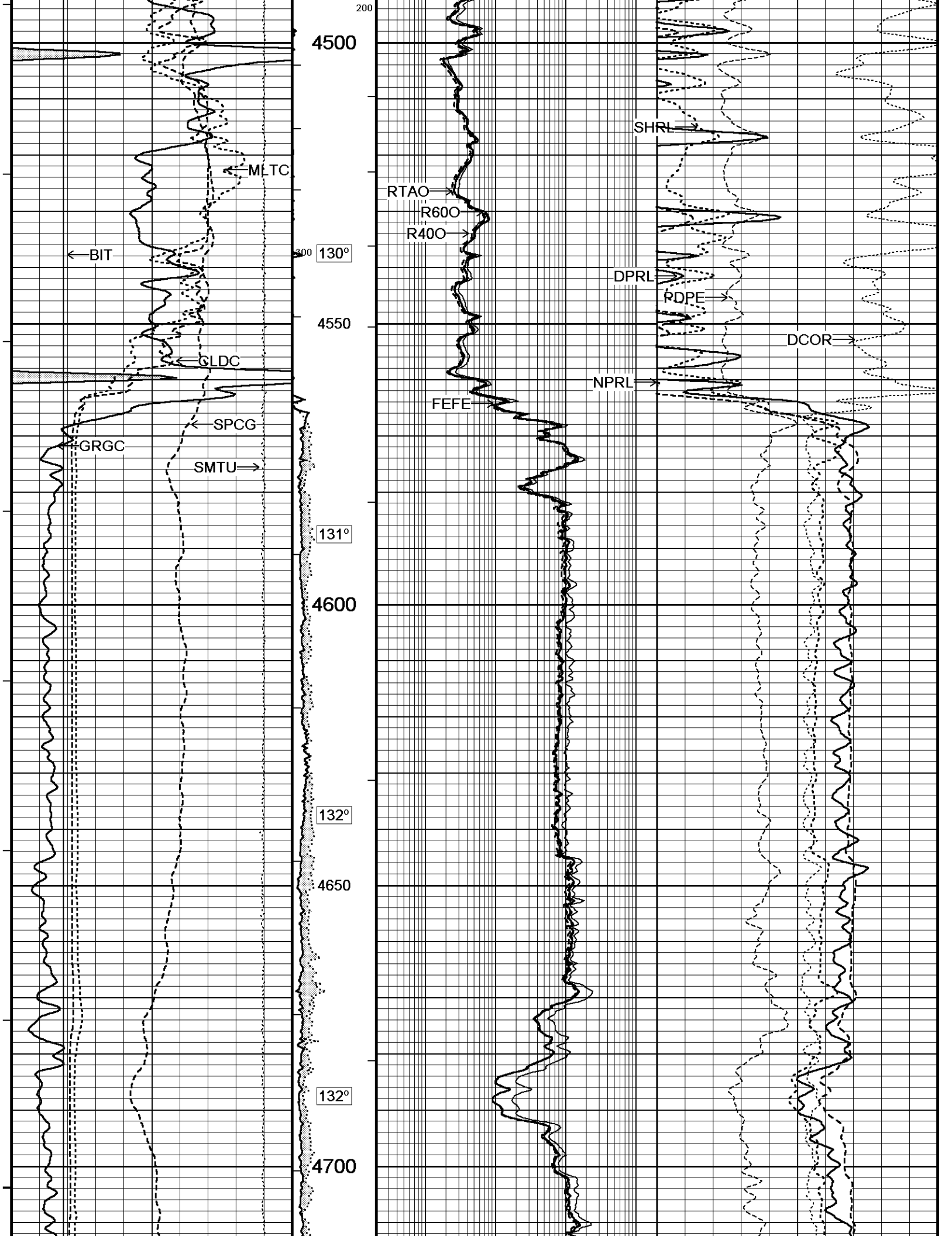
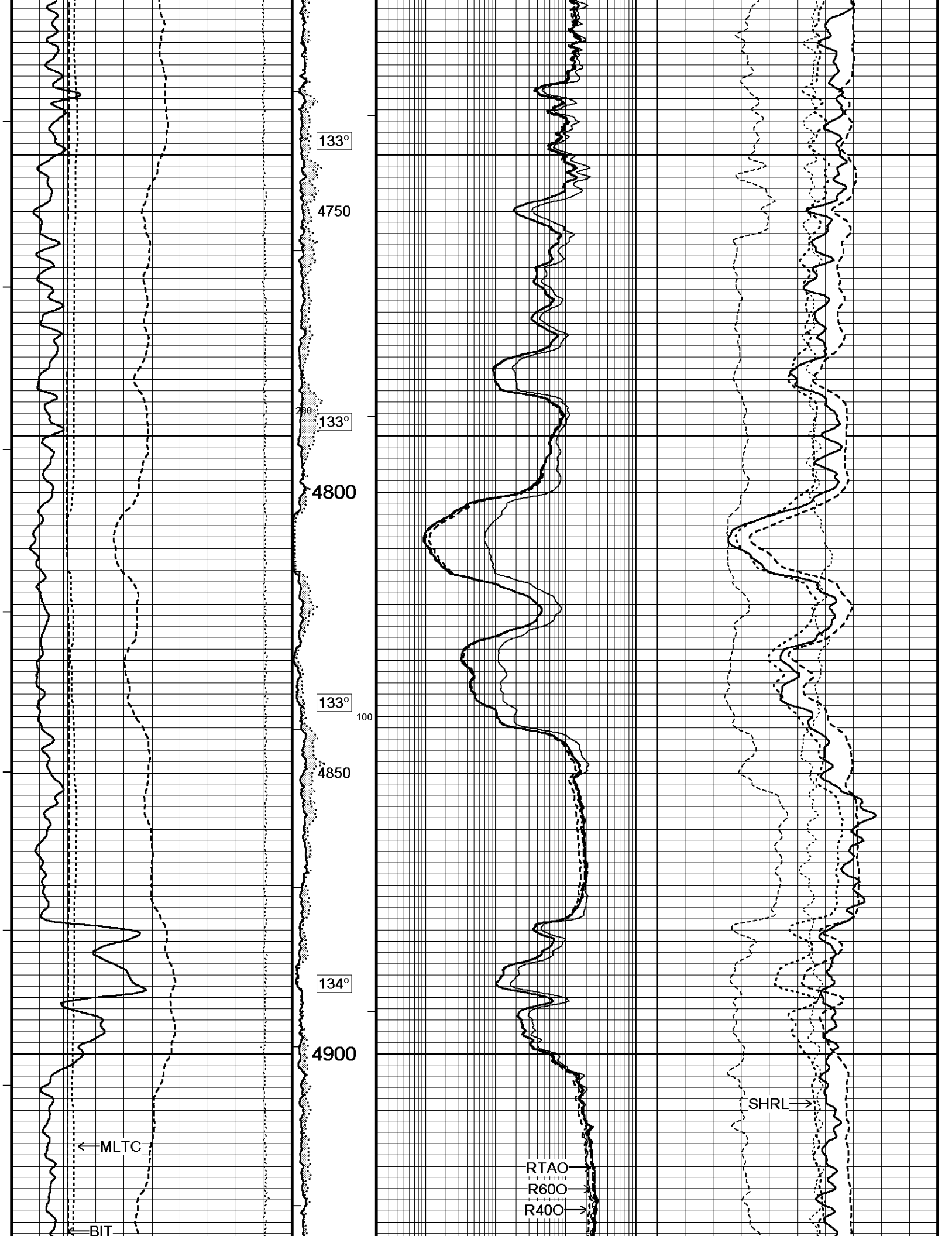
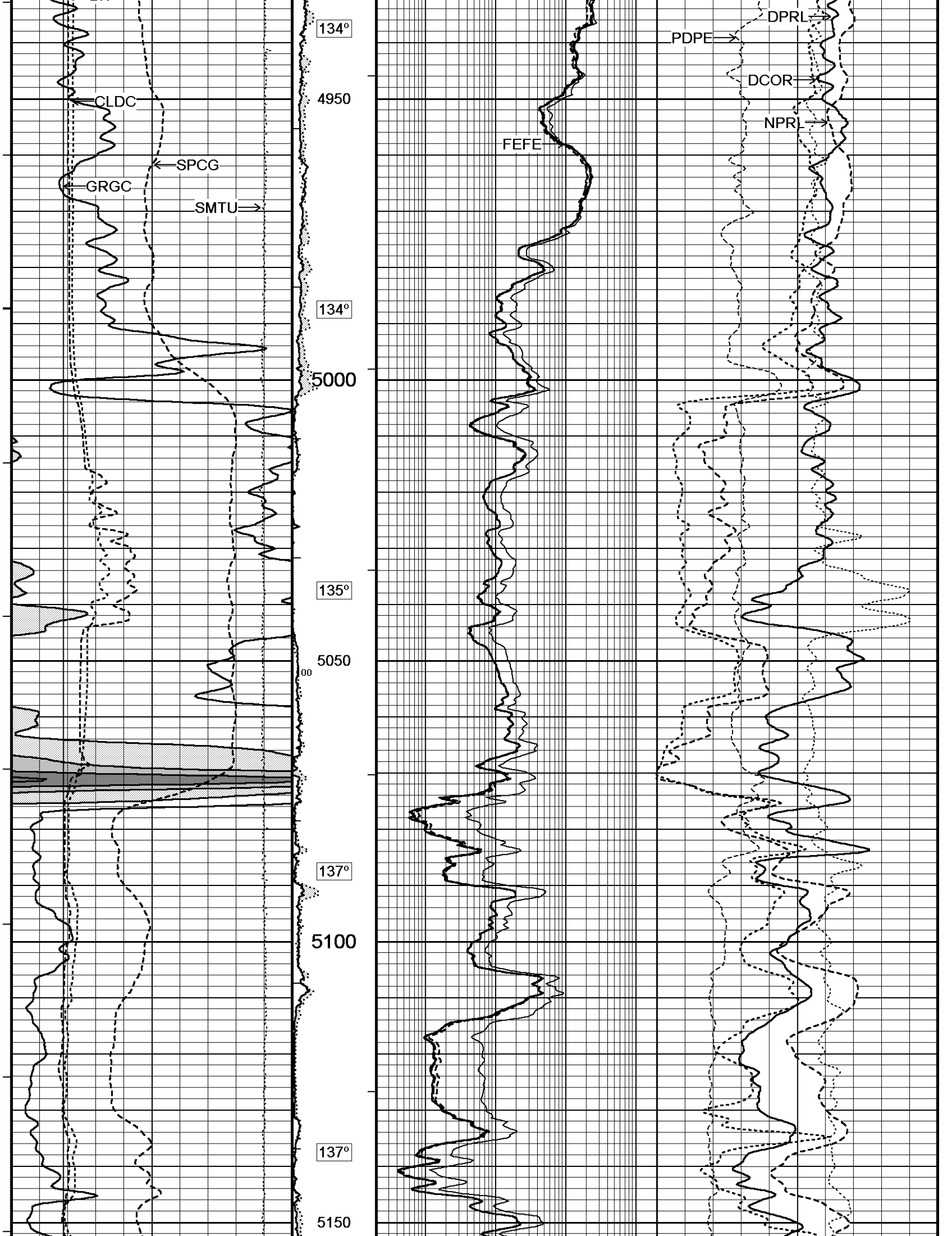
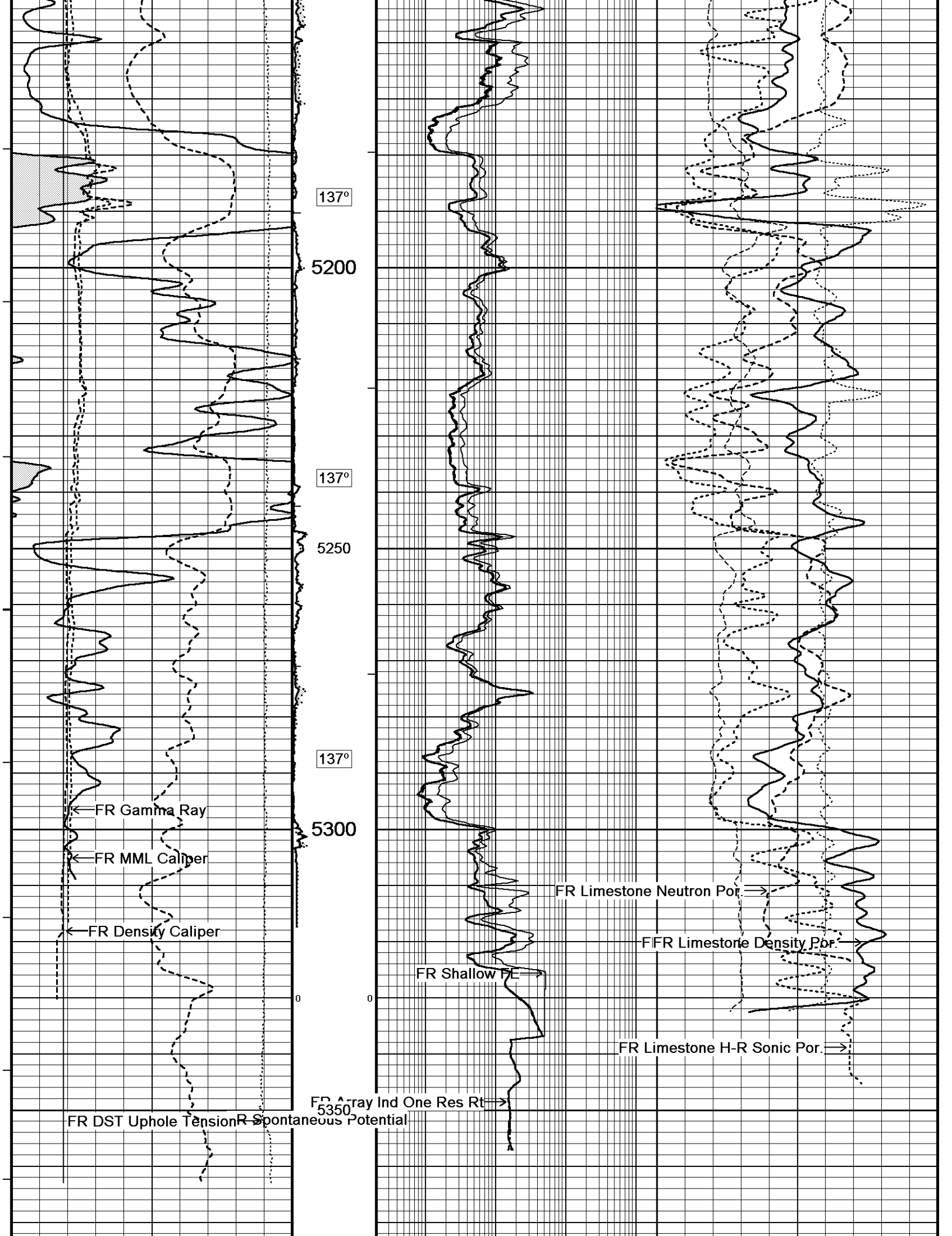
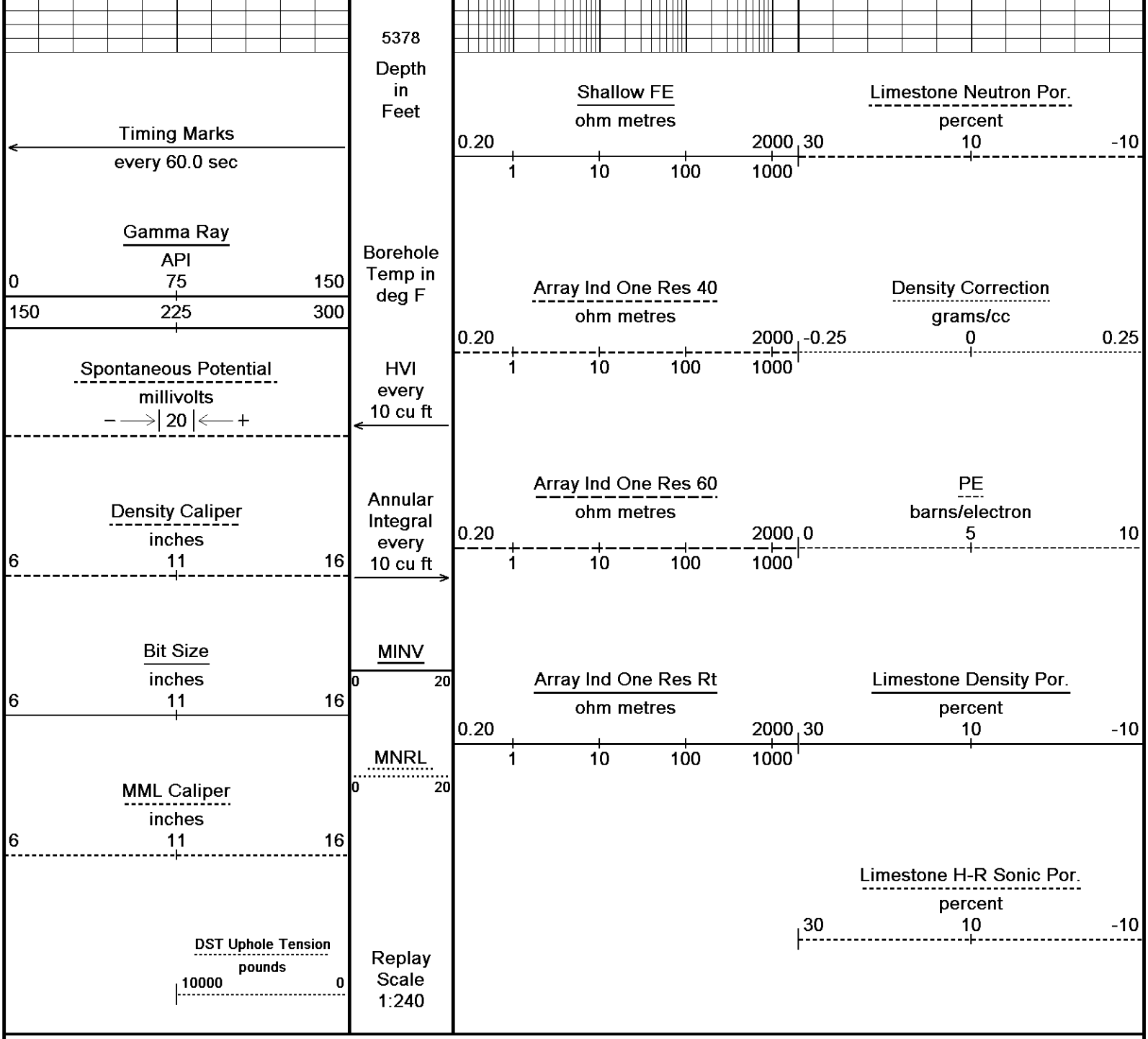
4300
126°
4350
125°
4400
400
126°
4450
126°


200
4500
MLTC
RTAO
R60O
R40O
SHRL
BIT
300
130°
DPRL
RDPE
4550
DCOR
CLDC
NPRL
FEFE
SPCG
GRGC
SMTU
131°
4600
132°
4650
132°
4700


133°
4750
200
133°
4800
133°
100
4850
134°
4900
MLTC
BIT
RTAO
R60O
R40O
SHRL


CLDC
SPCG
GRGC
SMTU
134°
4950
134°
5000
135°
5050
137°
5100
137°
5150
FEFE
DPRL
PDPE
DCOR
NPRL


137°
5200
137°
5250
137°
5300
FR Gamma Ray
FR MML Caliper
FR Density Caliper
FR DST Uphole Tension
0
0
FR Shallow FE
FD Array Ind One Res Rt
5350
R Spontaneous Potential
FR Limestone Neutron Por.
FFR Limestone Density Por.
FR Limestone H-R Sonic Por.



Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 29-SEP-2011 08:14
Filename: C:\Users\garcianr\AppData\Local\Temp\Weatherford PreView\0\SEIFERT 1-27_003.dta
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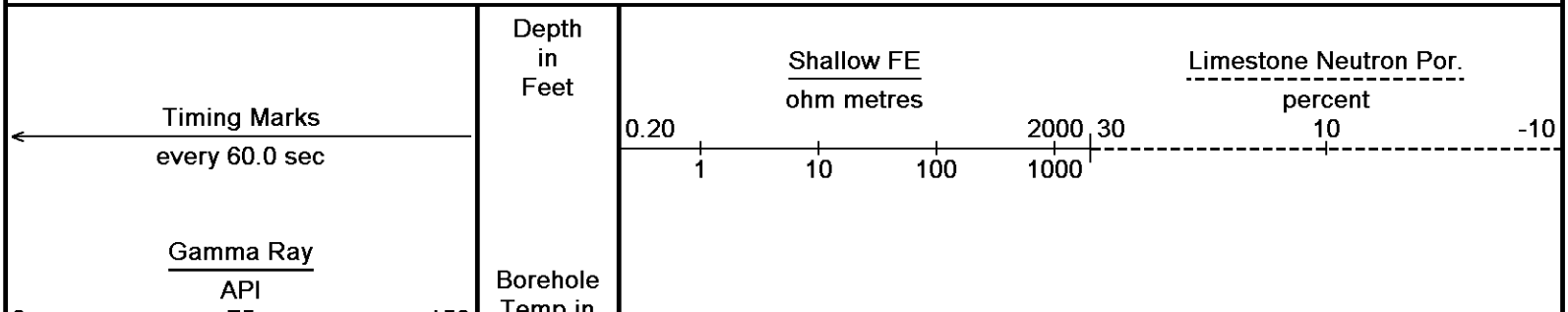
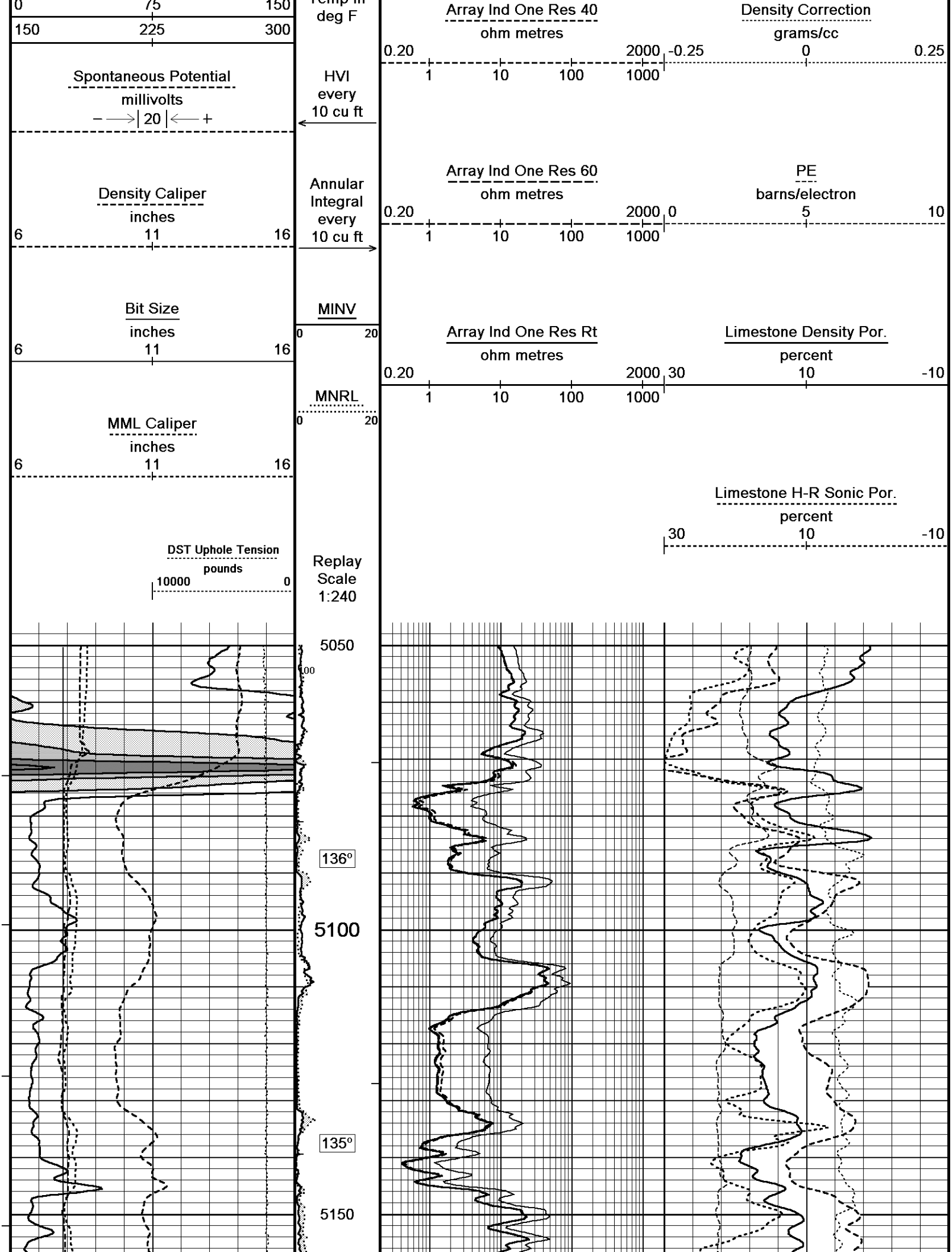
System Versions: Logged with 11.02.2782 Plotted with 12.01.3513

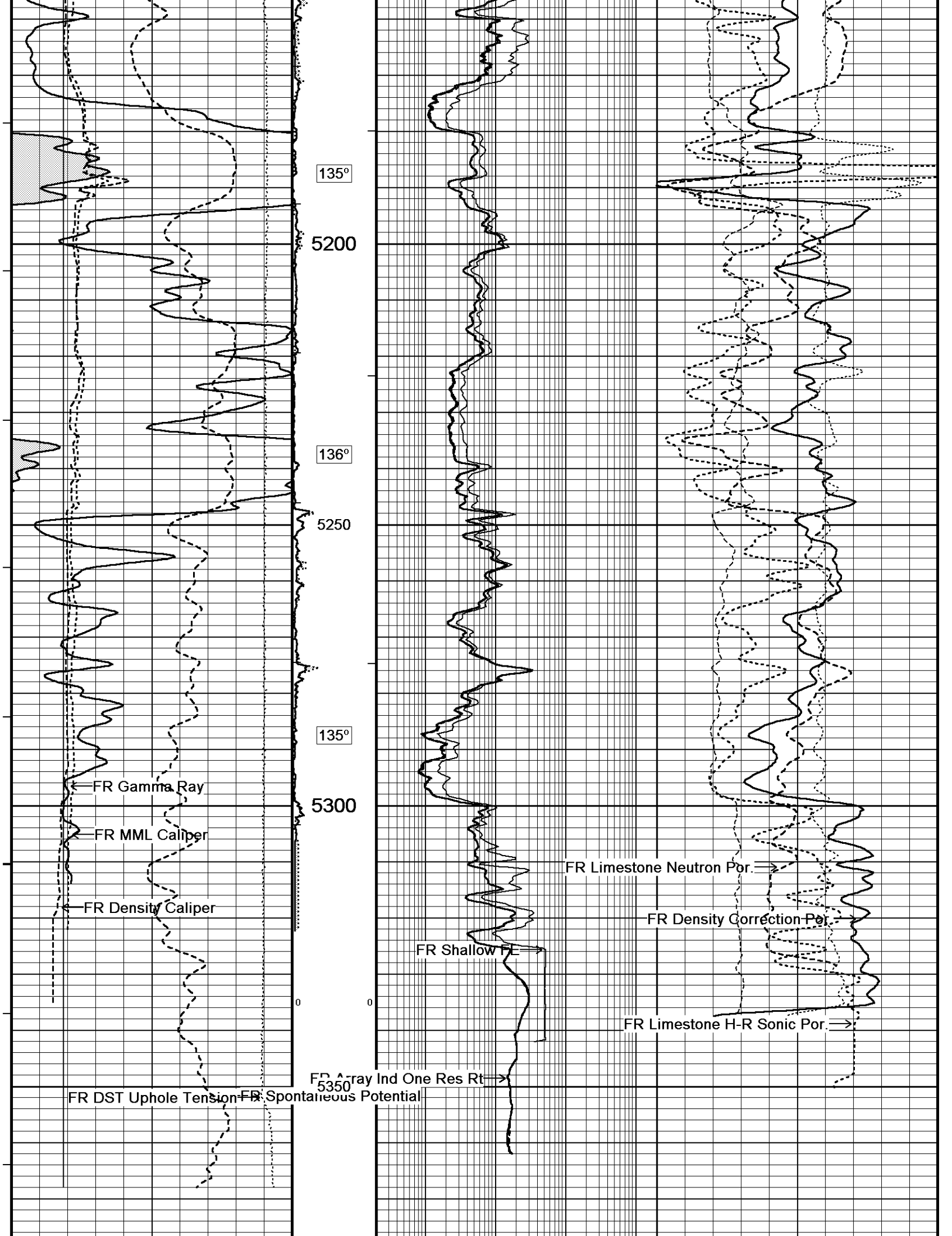
5 INCH MAIN LOG

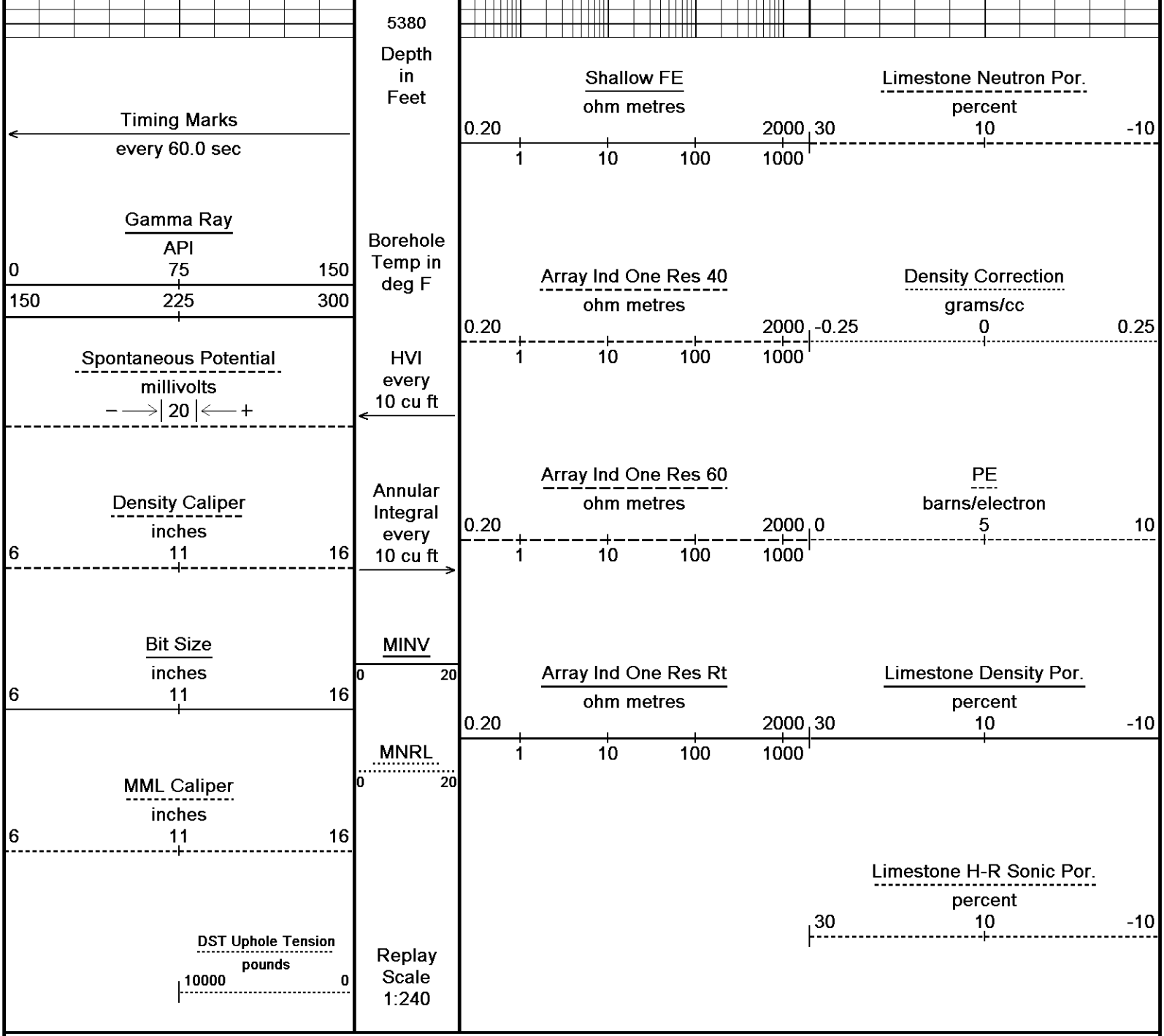
REPEAT SECTION

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 29-SEP-2011 08:14
Filename: C:\Users\garcianr\AppData\Local\Temp\Weatherford PreView\0\SEIFERT 1-27_002.dta
Recorded on 28-SEP-2011 18:07
System Versions: Logged with 11.02.2782 Plotted with 12.01.3513




0 75 150
Temp in deg F
150 225 300
Array Ind One Res 40
ohm metres
0.20 2000
1 10 100 1000
Density Correction
grams/cc
-0.25 0 0.25
Spontaneous Potential
millivolts
– 20 +
HVI every 10 cu ft
Array Ind One Res 60
ohm metres
0.20 2000
1 10 100 1000
PE
barns/electron
0 5 10
Density Caliper
inches
6 11 16
Annular Integral every 10 cu ft
MINV
0 20
Array Ind One Res Rt
ohm metres
0.20 2000
1 10 100 1000
Limestone Density Por.
percent
30 10 -10
Bit Size
inches
6 11 16
MNRL
0 20
MML Caliper
inches
6 11 16
Limestone H-R Sonic Por.
percent
30 10 -10
DST Uphole Tension
pounds
10000 0
Replay Scale 1:240
5050
136°
5100
135°
5150


135°
5200
136°
5250
135°
5300
FR Gamma Ray
FR MML Caliper
FR Density Caliper
FR Limestone Neutron Por.
FR Density Correction Por.
FR Shallow Fl
0
0
FR Limestone H-R Sonic Por.
FR Array Ind One Res Rt
5350
FR DST Uphole Tension
FR Spontaneous Potential



Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 29-SEP-2011 08:14
Filename: C:\Users\garcianr\AppData\Local\Temp\Weatherford PreView\0\SEIFERT 1-27_002.dta
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System Versions: Logged with 11.02.2782 Plotted with 12.01.3513

REPEAT SECTION

BEFORE SURVEY CALIBRATION

C:\Users\garcianr\AppData\Local\Temp\Weatherford PreView\0\SEIFERT 1-27.dta

General Constants All 000

Last Edited on 28-SEP-2011 18:30

General Parameters		
Mud Resistivity	1.500	ohm-metres
Mud Resistivity Temperature	82.000	degrees F
Water Level	0.000	feet
Density/Neutron Processing	Wet Hole	
Hole/Annular Volume and Differential Caliper Parameters		
HVOL Method	Single Caliper	
HVOL Caliper 1	Density Caliper	
HVOL Caliper 2	N/A	
Annular Volume Diameter	5.500	inches

Caliper for Differential Caliper	None
Rwa Parameters	
Porosity used	Limestone Density Por.
Resistivity used	Array Ind. One Res Rt
RWA Constant A	0.610
RWA Constant M	2.150

Down-hole Tension Calibration SMS 0

Field Calibration on 10-SEP-2011 14:39

Reading No	Measured	Calibrated (lbs)
1	14299.72	0.00
2	15662.60	358.00

Gamma Calibration MCG-D.A 328

Field Calibration on 28-SEP-2011 17:04

	Measured	Calibrated (API)
Background	42	29
Calibrator (Gross)	1361	926
Calibrator (Net)	1319	897

Gamma Constants MCG-D.A 328

Last Edited on 28-SEP-2011 17:04

Gamma Calibrator Number	13226	
Mud Density	1.08	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl	0.00	kppm

SP Calibration MCG-D.A 328

Field Calibration on 28-SEP-2011 17:04

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

High Resolution Temperature Calibration MCG-D.A 328

Field Calibration on 28-SEP-2011 17:04

	Measured	Calibrated(Deg F)
Lower	50.00	50.00
Upper	150.00	150.00

High Resolution Temperature Constants MCG-D.A 328

Last Edited on

Pre-filter Length	11

Micro Normal and Micro Inverse Calibration MML-A 13

Base Calibration on 22-SEP-2011 17:10
Field Check on 28-SEP-2011 17:04

Base Calibration

		Measured	Calibrated (ohm-m)	
Channel	Resistor 1	Resistor 2	Resistor 1	Resistor 2
Micro Normal	12.3	58.0	2.6	12.8
Micro Inverse	16.4	77.4	1.7	8.4

Channel	Base Check (ohm-m)	Field Check (ohm-m)
Micro Normal	33.6	33.6
Micro Inverse	16.6	16.6

Micro Normal and Micro Inverse Constants MML-A 13

Last Edited on 28-SEP-2011 17:04

Pad Type	8-12 in Soft Rubber Inflatable 006-9011-159	
Micro Normal K Factor	0.5110	
Micro Inverse K Factor	0.3380	
Standoff Offset	N/A	inches

Caliper Calibration MML-A 13

Base Calibration on 22-SEP-2011 16:35
Field Calibration on 28-SEP-2011 18:18

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	13606	5.98
2	16663	7.98
3	20008	9.95
4	23797	12.01
5	0	0.00
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
8.30	8.10

Neutron Calibration MDN-A.A 10

Base Calibration on 12-MAY-2011 19:29
Field Check on 28-SEP-2011 17:04

Base Calibration

	Measured		Calibrated (cps)	
	Near	Far	Near	Far
	3130	98	3714	110
Ratio	31.818		33.764	

Field Calibrator at Base

	Calibrated (cps)	
	1248	1792
Ratio	0.696	

Field Check

	Calibrated (cps)	
	1248	1792
Ratio	0.696	

Neutron Constants MDN-A.A 10

Last Edited on 28-SEP-2011 17:04

Neutron Source Id	P14033B	
Neutron Jig Number	13226	
Epithermal Neutron	No	
Caliper Source for Processing	Density Caliper	
Stand-off	0.00	inches
Mud Density	1.00	gm/cc
Limestone Sigma	7.10	cu
Sandstone Sigma	4.26	cu
Dolomite Sigma	4.70	cu
Formation Pressure Source	Constant Value	
Formation Pressure	0.00	kpsi
Temperature Source	None	
Temperature	N/A	degrees F
Mud Salinity	0.00	kppm
Formation Fluid Salinity Source	Constant Value	
Formation Fluid Salinity	0.00	kppm
Barite Mud Correction	Not Applied	

FE Calibration MFE-A.A 65

Base Calibration on 10-AUG-2011 15:44
Field Check on 28-SEP-2011 17:05

Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	961.4	126.8
Base Check		280.8
Field Check		280.8

FE Constants MFE-A.A 65

Last Edited on 28-SEP-2011 17:05

Running Mode	No Sleeve	
MFE K Factor	0.1268	
Caliper Source for FE correction	Density Caliper	
Caliper Value for FE correction	N/A	inches
Rm Source for FE correction	Temperature Corr	
Temp. for Rm Corr.	MCG External Temperature	
Stand-off	0.5	inches

Sonic Constants MSS-A.A 101

Last Edited on 28-SEP-2011 17:05

Maximum Boundary Contrast	100.00	micro-sec/ft
Fluid Transit Time	189.00	micro-sec/ft
Limestone Transit Time	47.50	micro-sec/ft
Sandstone Transit Time	55.50	micro-sec/ft
Dolomite Transit Time	43.50	micro-sec/ft
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	83.13	micro-sec/ft

Sonde Mode	Compensated
Hole Type	Open Hole

Sonde Parameters

	Measured	Calibrated
Offset	N/A	0.0000
Free Pipe	N/A	N/A

Peak Amplitude Source N/A

Waveform	Start Time (micro-sec)	Width (micro-sec)	Pre Gain	Start Gain	Discriminator (mV)
3'	N/A	N/A	N/A	N/A	N/A
4'	N/A	N/A	N/A	N/A	N/A
5'	N/A	N/A	N/A	N/A	N/A
6'	N/A	N/A	N/A	N/A	N/A

Processed Fixed Gate Parameters

Waveform Used For Processing N/A

Start Time (micro-sec)	End Time (micro-sec)	Discriminator (mV)	Depth (ft)
N/A	N/A	N/A	
N/A	N/A	N/A	0.00
N/A	N/A	N/A	0.00
N/A	N/A	N/A	0.00
N/A	N/A	N/A	0.00
N/A	N/A	N/A	

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-B.J 393

Base Calibration on 22-SEP-2010 10:00
Field Check on 28-SEP-2011 17:05

Base Calibration

Test Loop Calibration

Channel	Measured Low	Measured High	Calibrated (mmho/m) Low	Calibrated (mmho/m) High
1	17.4	474.6	9.3	966.2
2	6.5	382.5	7.6	821.4
3	3.5	251.8	5.2	566.0
4	2.1	131.0	2.6	279.2

Array Temperature 74.1 Deg F

Channel	Base Check (mmho/m) Low	Base Check (mmho/m) High	Field Check (mmho/m) Low	Field Check (mmho/m) High
1	0.0	0.0	16.2	3824.1
2	0.0	0.0	31.7	3523.5
3	0.0	0.0	31.1	3140.9
4	0.0	0.0	20.8	2111.9
Deep	0.0	0.0	19.9	2110.3
Medium	0.0	0.0	44.9	4139.0
Shallow	0.0	0.0	46.1	5104.5

Array Temperature 0.0 95.0 Deg F

Array Temperature	0.0		Deg F

Induction Constants MAI-B.J 393

Last Edited on 28-SEP-2011 17:06

Induction Model	RtAP-WBM	
Caliper for Borehole Corr.	Density Caliper	
Hole Size for Borehole Correction	N/A	inches
Tool Centred	No	
Stand-off Type	Fins	
Stand-off	0.50	inches
Number of Fins on Stand-off	6.0000	
Stand-off Fin Angle	60.00	degrees
Stand-off Fin Width	0.5000	inches
Borehole Corr. Rm Source	Temperature Corr	
Temp. for Rm Corr.	MCG External Temperature	
Squasher Start	0.0020	mhos/metre
Squasher Offset	N/A	mhos/metre

Borehole Normalisation

DRM1	0.0000	DRC1	0.0000
DRM2	0.0000	DRC2	0.0000
MRM1	0.0000	MRC1	0.0000
MRM2	0.0000	MRC2	0.0000
SRM1	0.0000	SRC1	0.0000
SRM2	0.0000	SRC2	0.0000

Calibration Site Corrections

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

Apparent Porosity and Water Saturation Constants

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

High Resolution Temperature Calibration MAI-B.J 393

Field Calibration on 28-SEP-2011 17:06

	Measured	Calibrated(Deg F)
Lower	50.00	50.00
Upper	100.00	100.00

High Resolution Temperature Constants MAI-B.J 393

Last Edited on

Pre-filter Length	11

Caliper Calibration MPD-A 3

Base Calibration on 10-AUG-2011 16:37
Field Calibration on 28-SEP-2011 18:19

Base Calibration

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

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
8.43	8.10

Photo Density Calibration MPD-A 3

Base Calibration on 21-SEP-2011 15:08
Field Check on 28-SEP-2011 17:05

Density Calibration

Base Calibration	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	47357	25239	60364	31945

Reference 2	20102	2812	25079	2547

Field Check at Base

1315.7	1670.4

Field Check

1315.7	1670.4

PE Calibration

Base Calibration

	WS	WH	Ratio	Calibrated Ratio
Background	242	1164		
Reference 1	19956	47156	0.429	0.399
Reference 2	5535	19946	0.282	0.273

Field Check at Base

241.8	1163.6

Field Check

241.8	1163.6

Density Constants MPD-A 3

Last Edited on 28-SEP-2011 17:05

Density Source Id	260	
Nylon Calibrator Number	633	
Aluminium Calibrator Number	633	
Density Shoe Profile	8 inch	
Caliper Source for Processing	Density Caliper	
PE Correction to Density	Not Applied	
Mud Density	1.08	gm/cc
Mud Density Z/A Multiplier	1.11	
Mud Filtrate Density	1.00	gm/cc
Dry Hole Mud Filtrate Density	1.00	gm/cc
DNCT	0.00	gm/cc
CRCT	0.00	gm/cc
Density Z/A Correction	Hybrid	

Matrix Density (gm/cc)	Depth (ft)
2.71	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00

DOWNHOLE EQUIPMENT

C:\Users\garcianr\AppData\Local\Temp\Weatherford PreView\0\SEIFERT 1-27.dta

SHA-F Compact Swivel Head Adaptor
SHA-F 45 LG: 2.74 ft WT: 26.5 lb OD: 2.24 in

Compact Comms Gamma
MCG-D.A 328 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

55.32 ft GRGC - Gamma Ray

52.42 ft CGXT - MCG External Temperature

Compact Micro-log
MML-A 13 LG: 7.97 ft WT: 81.6 lb OD: 2.24 in

45.70 ft MINV - Micro-inverse
45.70 ft MNRL - Micro-normal
46.69 ft MLTC - MML Caliper

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

40.90 ft NPRL - Limestone Neutron Por.

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

33.66 ft CLDC - Density Caliper
31.73 ft DCOR - Density Correction
31.73 ft DEN - Compensated Density
31.73 ft DPRL - Limestone Density Por.
31.67 ft PDPE - PE

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

26.24 ft FEFE - Shallow FE

Compact Sonic
MSS-A.A 101 LG: 12.52 ft WT: 72.8 lb OD: 2.24 in

12.96 ft DT35 - 3-5' Compensated Sonic
12.96 ft SHRL - Limestone H-R Sonic Por.

Compact Induction
MAI-B.J 393 LG: 10.81 ft WT: 48.5 lb OD: 2.24 in

3.34 ft R60O - Array Ind. One Res 60
3.34 ft RTAO - Array Ind. One Res Rt
3.34 ft R40O - Array Ind. One Res 40

0.23 ft SPCG - Spontaneous Potential

Tool Zero (0.13ft from bottom)
-0.13 ft SMTU - DST Uphole Tension

Total Length: 63.35 ft Weight: 482.8 lb

All measurements relative to tool zero.

COMPANY	SHORELINE ENERGY PARTNERS, LLC.
WELL	SEIFERT 1-27
FIELD	WILDCAT
PROVINCE/COUNTY	HARPER
COUNTRY/STATE	U.S.A. / KANSAS

Elevation Kelly Bushing	1216.00	feet	First Reading	5349.00	feet
Elevation Drill Floor	1214.00	feet	Depth Driller	5355.00	feet

Elevation Ground Level	1206.00	feet	Depth Logger	5352.00	feet

Weatherford®

COMPACT PHOTO DENSITY
COMPENSATED NEUTRON
MICROLOG SONIC LOG