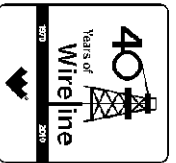




Weatherford[®]

MICRORESISTIVITY LOG

COMPANY **RED OAK ENERGY, INC.**
WELL **PRAIRIE WIND #1-35**
FIELD **WILDCAT**
PROVINCE/COUNTY **WALLACE**
COUNTRY/STATE **U.S.A. / KANSAS**
LOCATION **1658' FSL & 420' FWL**
NE SW NW SW



SEC 35	TWP 14S	RGE 41W	Other Services MPD/MDN	MAI/MFE
API Number	15-199-20391	MSS		

Permanent Datum G.L., Elevation 3778 feet
 Log Measured From KB
 Drilling Measured From K.B.

Date	08-DEC-2011	Elevations:	feet
Run Number	ONE	KB	3791.00
Depth Driller	5201.00	DF	3789.00
Depth Logger	5202.00	GL	3778.00

Hole Fluid Type	CHEMICAL	Density / Viscosity	9.40 lb/USg	56.00 CP
PH / Fluid Loss	10.00		8.00 ml/30Min	
Sample Source	FLOWLINE			
Rm @ Measured Temp	0.76 @ 91.0		ohm-m	
Rmf @ Measured Temp	0.61 @ 91.0		ohm-m	
Rmc @ Measured Temp	0.91 @ 91.0		ohm-m	
Source Rmf / Rmc	CALC		CALC	
Rm @ BHT	0.57 @122.0		ohm-m	
Time Since Circulation	4 HOURS			
Max Recorded Temp	122.00		deg F	
Equipment Name	COMPACT			
Equipment / Base	13025		LIB	
Recorded By	L. SCOTT			
Witnessed By	KEVIN DAVIS			
S.O.# / JOB#	3531213			SEAN DEENIHAN LB11-310

BOREHOLE RECORD

Last Edited: 08-DEC-2011 21:56

Bit Size inches	Depth From feet	Depth To feet
7.875	392.00	5202.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	8.625	0.00	392.00	24.00

REMARKS

Tools Used: MPD, MCG, MDN, MFE, MAI, MML, MSS
 Hardware: MPD: 8 inch profile plate used. MAI, MSS and MFE: 0.5 Inch standoffs used. MDN: Dual Bowspring used.
 2.71 G/CC Limestone density matrix used to calculate porosity.
 Sonic porosity calculated using a Limestone scale (47.5 usec/ft.).
 Borehole rugosity, tight pulls, and washouts will affect data quality.
 All intervals logged and scaled per customer's request.
 Annular volume with 5.5 inch production casing = 194 cu. ft.
 Total hole volume= 1854 cu. ft.
 Service order #3531213
 Rig: Murfin #25
 Engineer(s): L. Scott
 Operator(s): N. Adame

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.

5 INCH MAIN

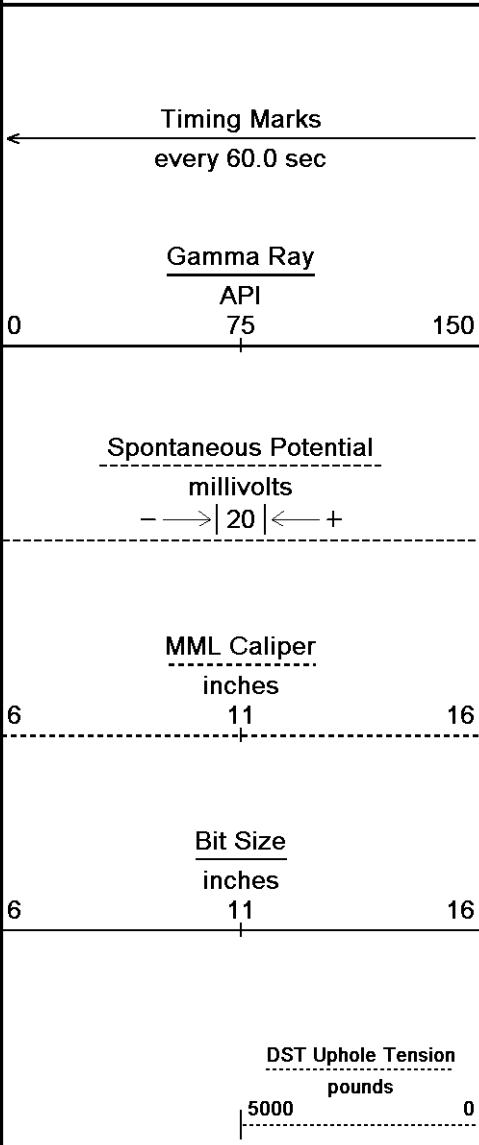
Depth Based Data - Maximum Sampling Increment 10.0cm

Plotted on 08-DEC-2011 23:15

Filename: C:\Minimus 11.03.4044\Data\Red Oak Prairie Wind 1-35\Red Oak Praire Wind 1-35_002.dta

Recorded on 08-DEC-2011 20:36

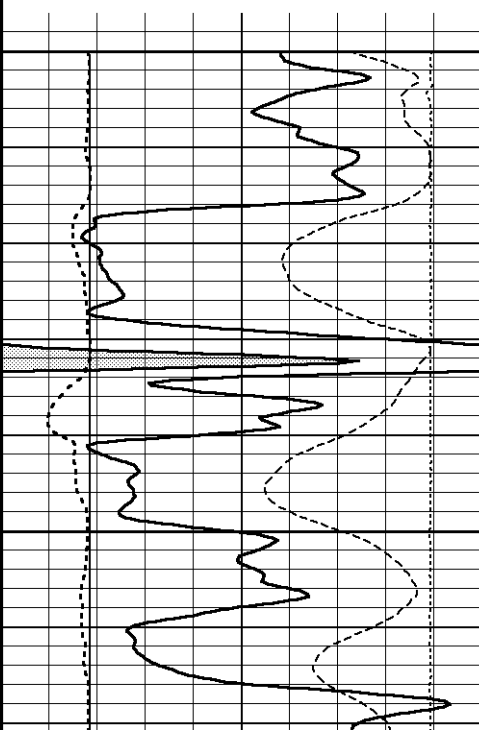
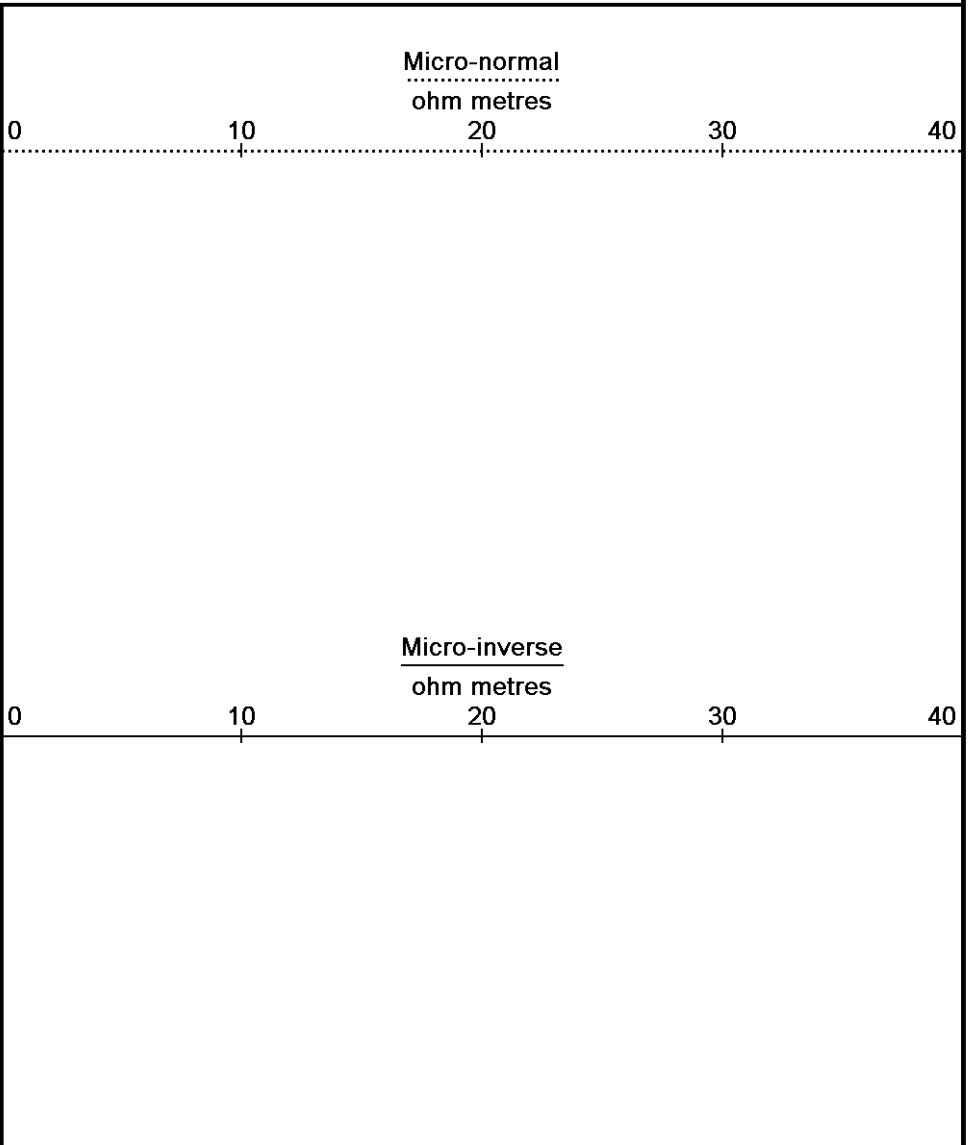
System Versions: Logged with 11.03.4044 Plotted with 11.03.4044



Depth
in
Feet

Borehole
Temp in
deg F

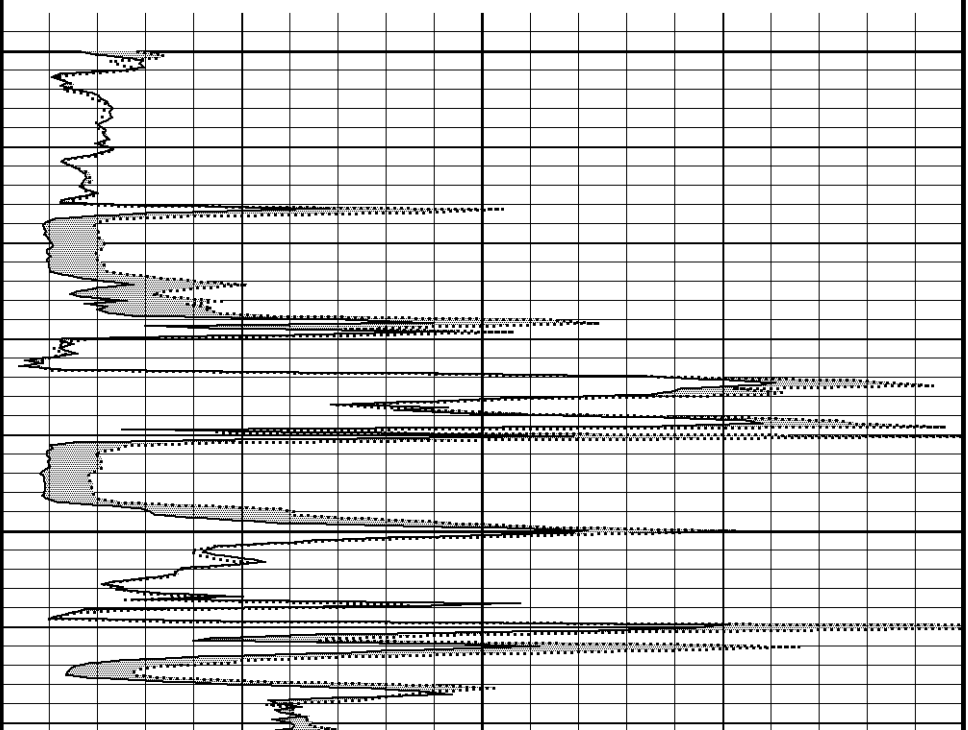
Replay
Scale
1:240

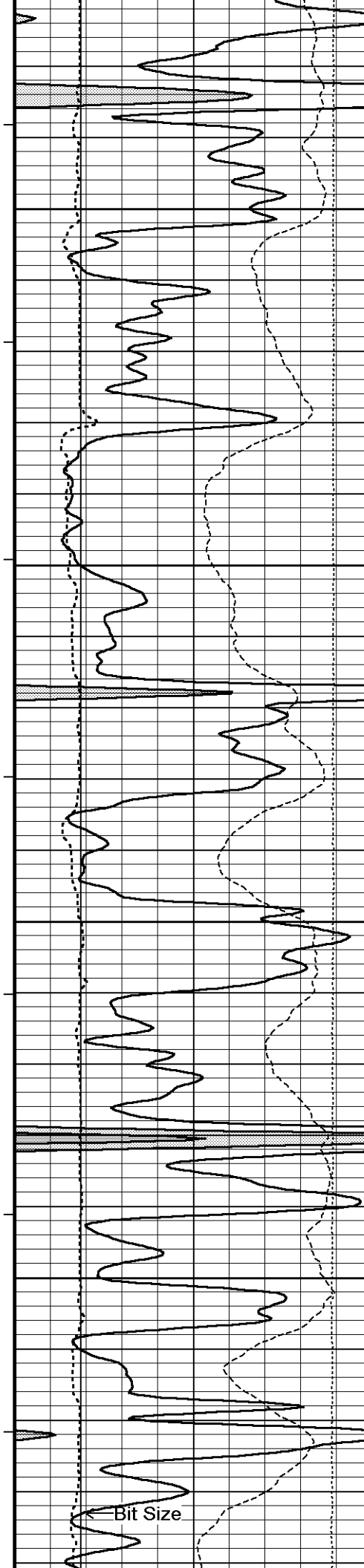


4100

114°

4150





114°

4200

114°

4250

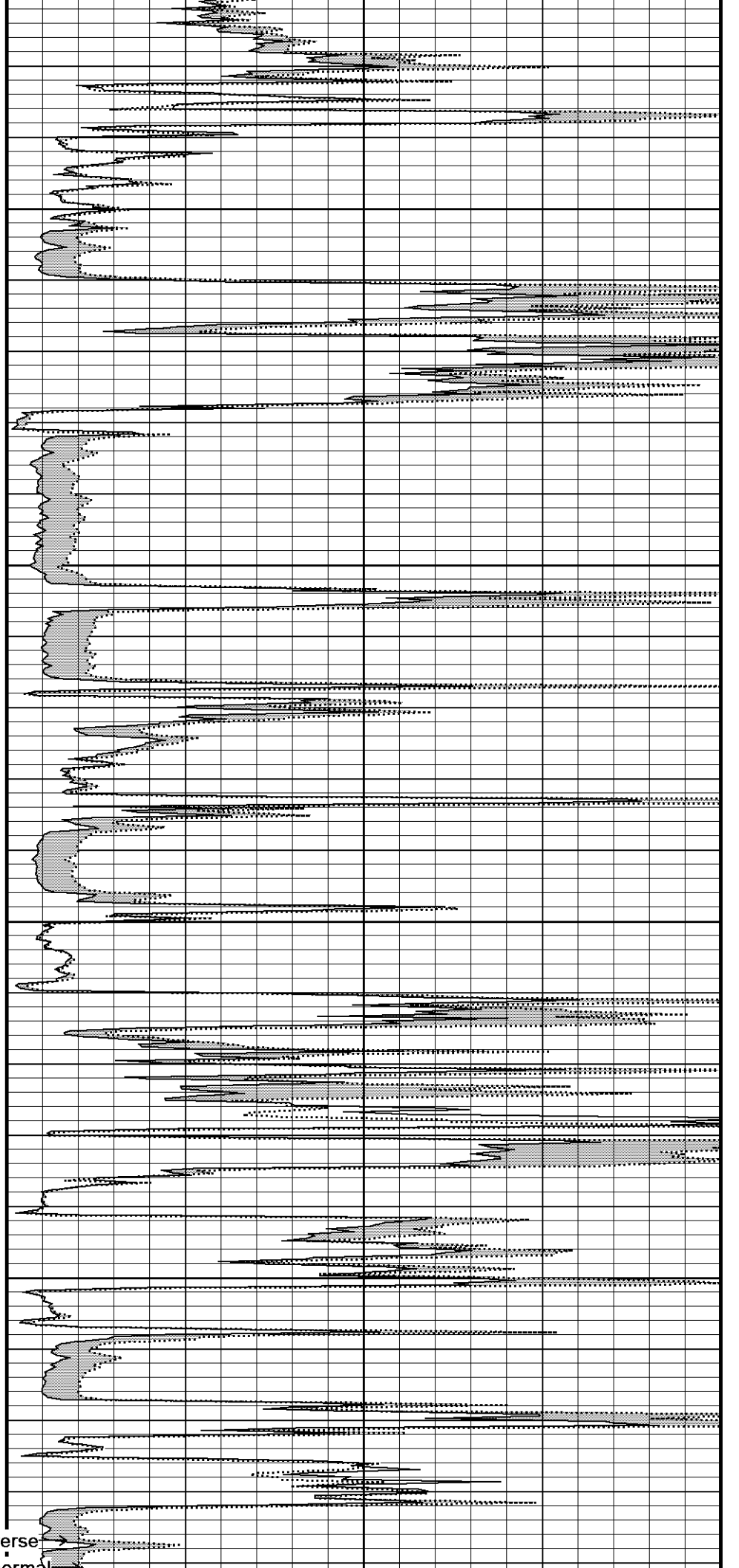
114°

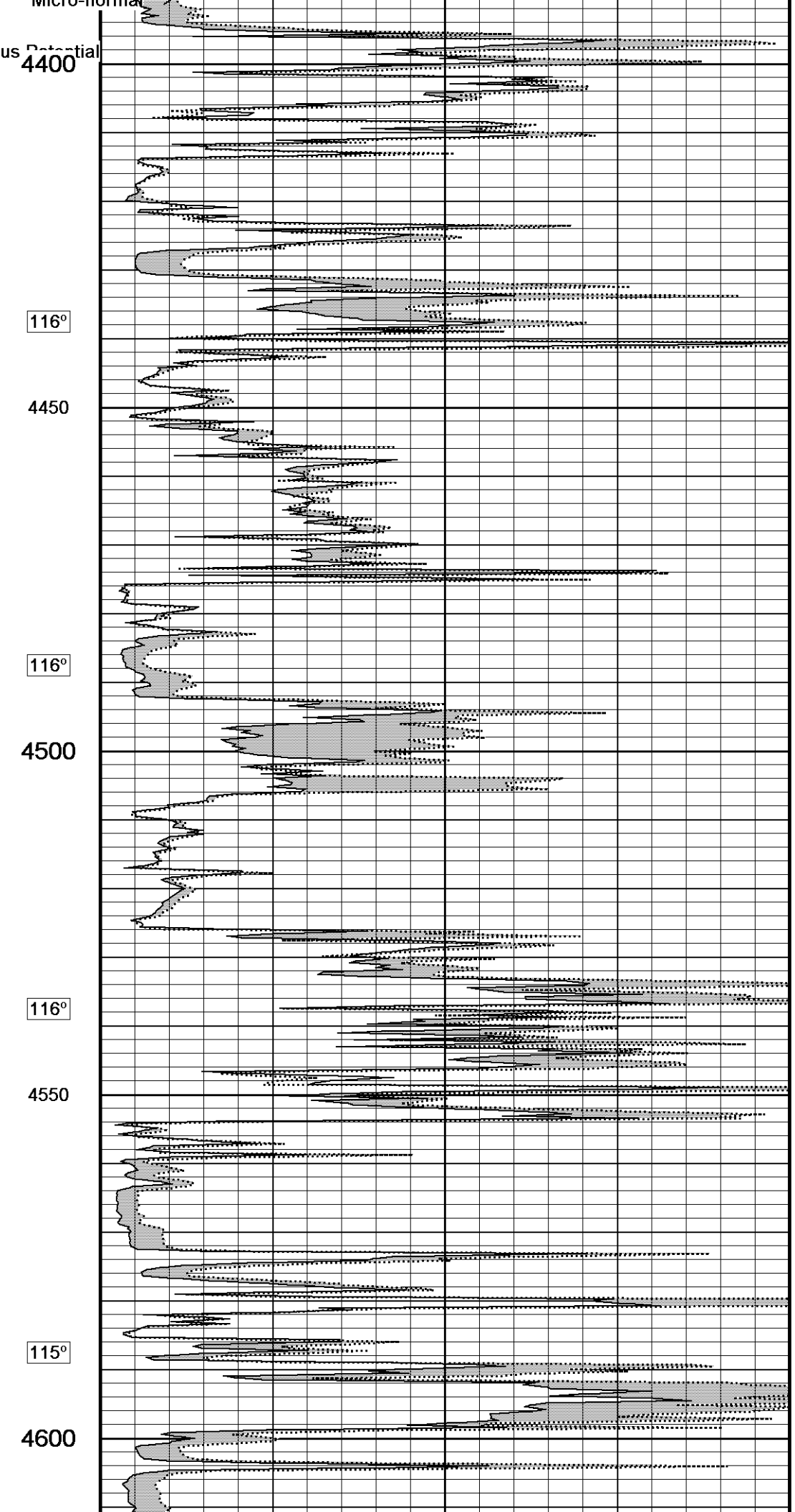
4300

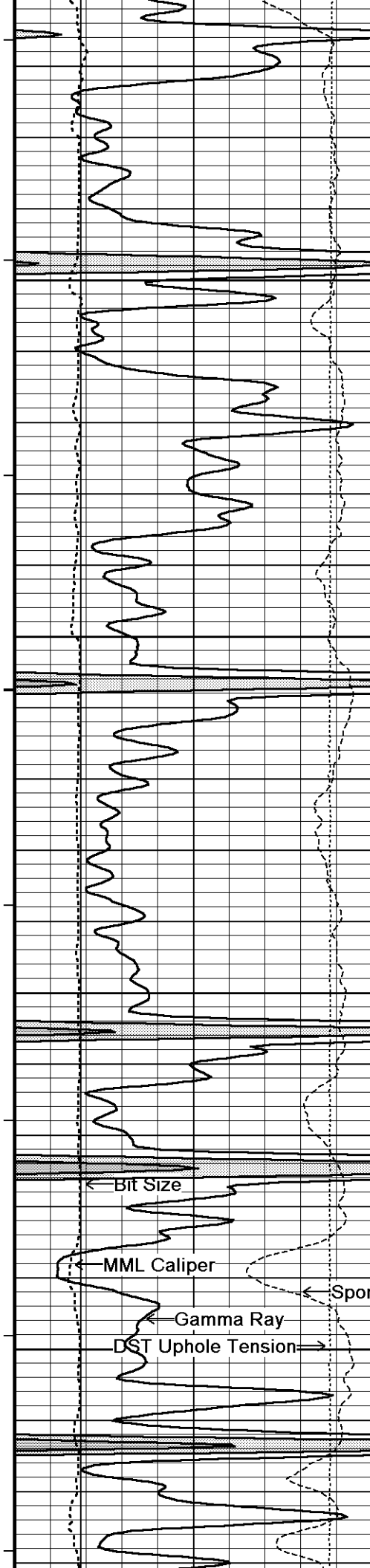
115°

4350

Micro-inverse
Micro-normal







116°

4650

116°

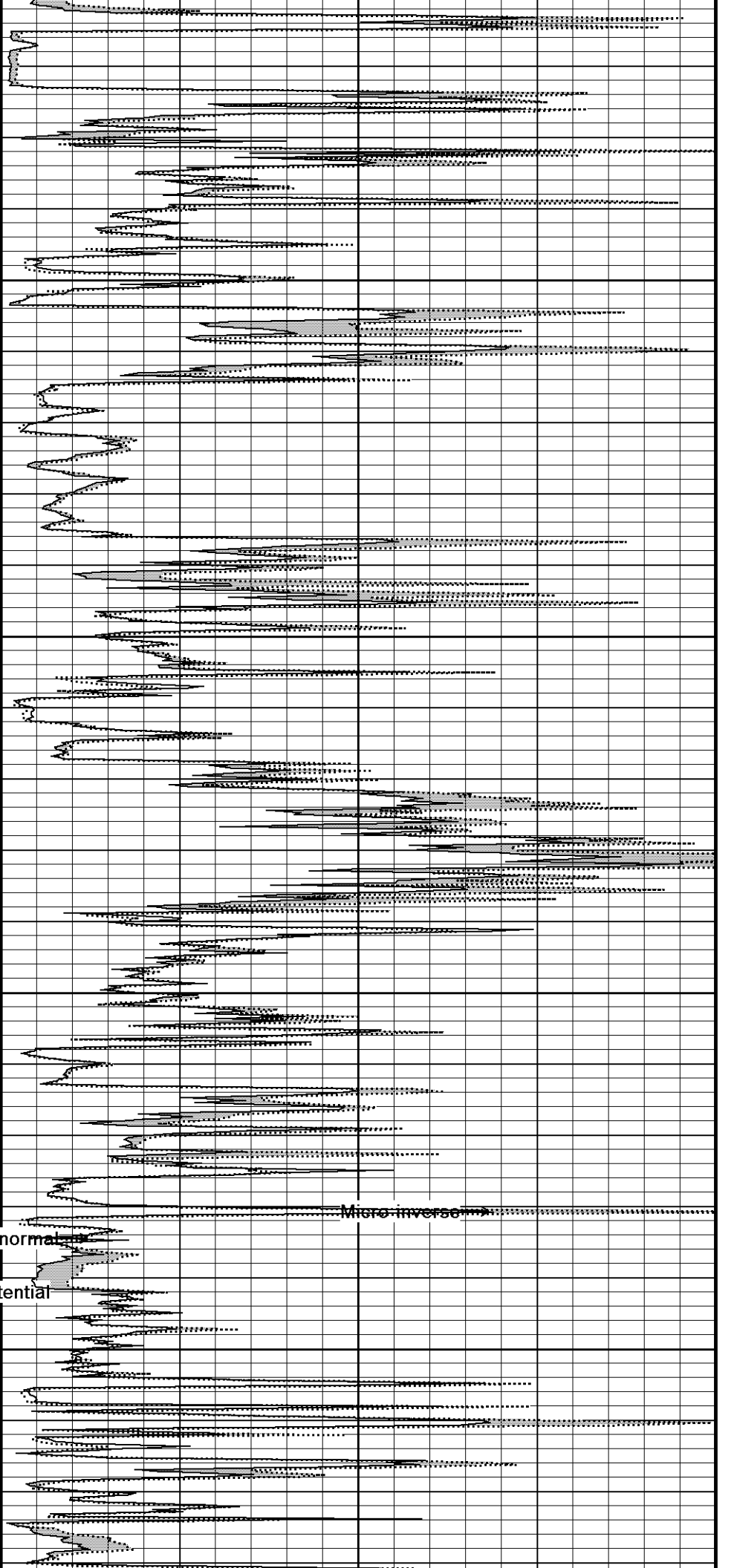
4700

116°

4750

117°

4800



← Bit Size

← MML Caliper

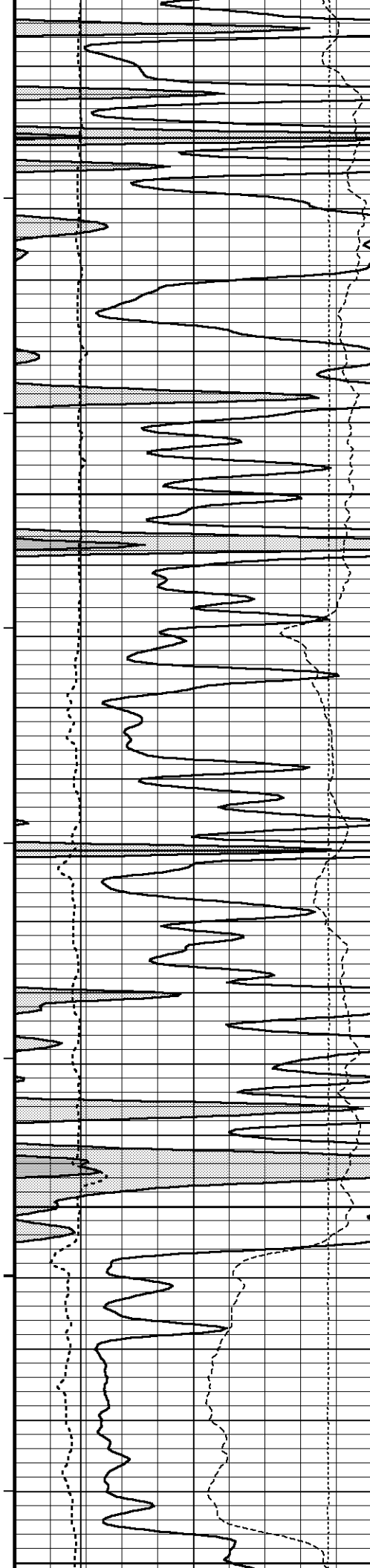
← Gamma Ray

DST Uphole Tension →

← Spontaneous Potential

Micro-normal

Micro-inverse



117°

4850

119°

4900

119°

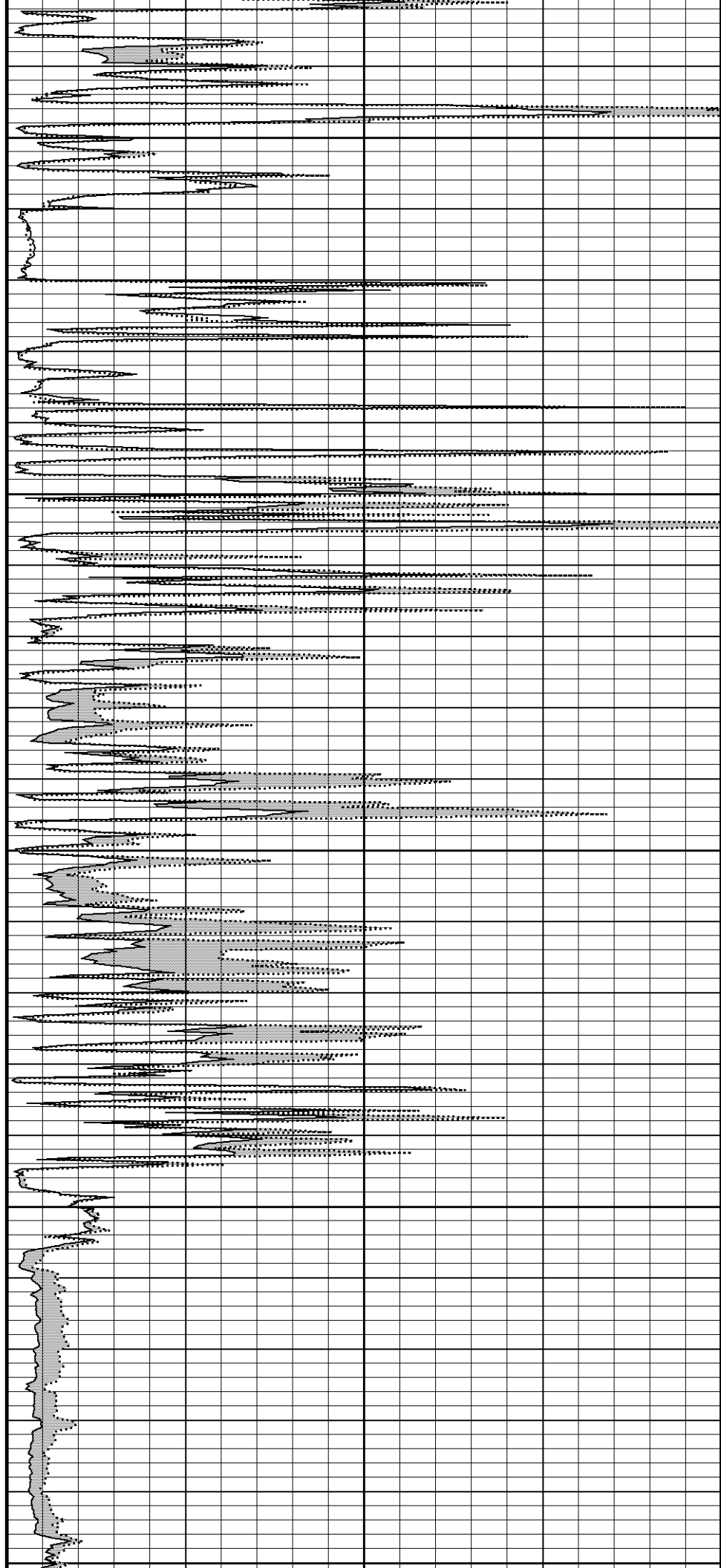
4950

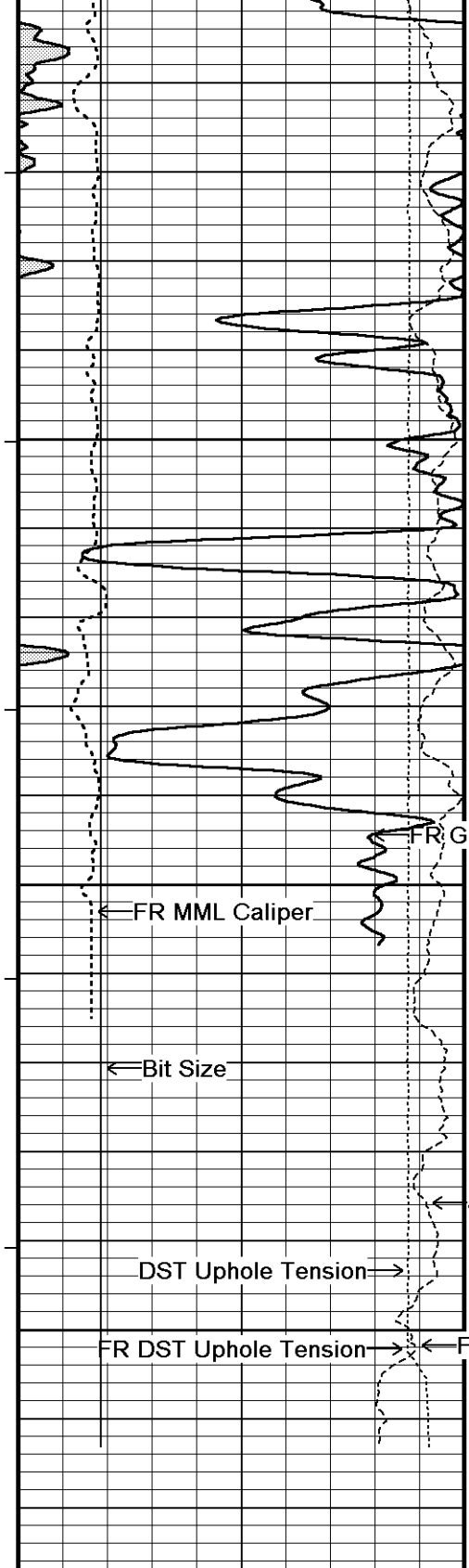
121°

5000

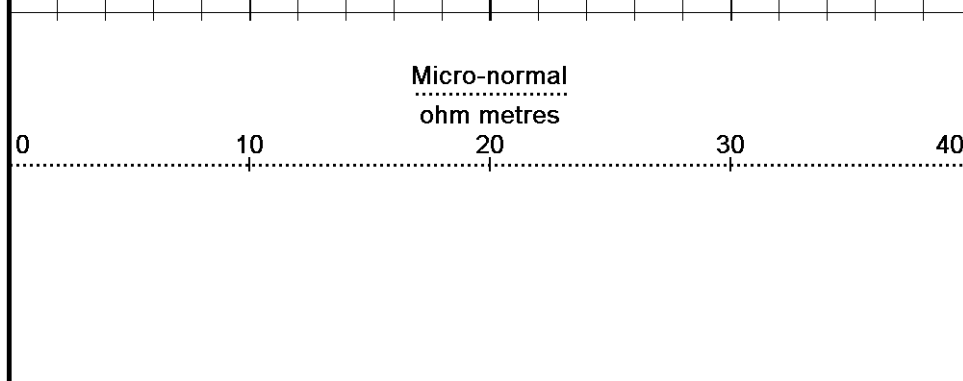
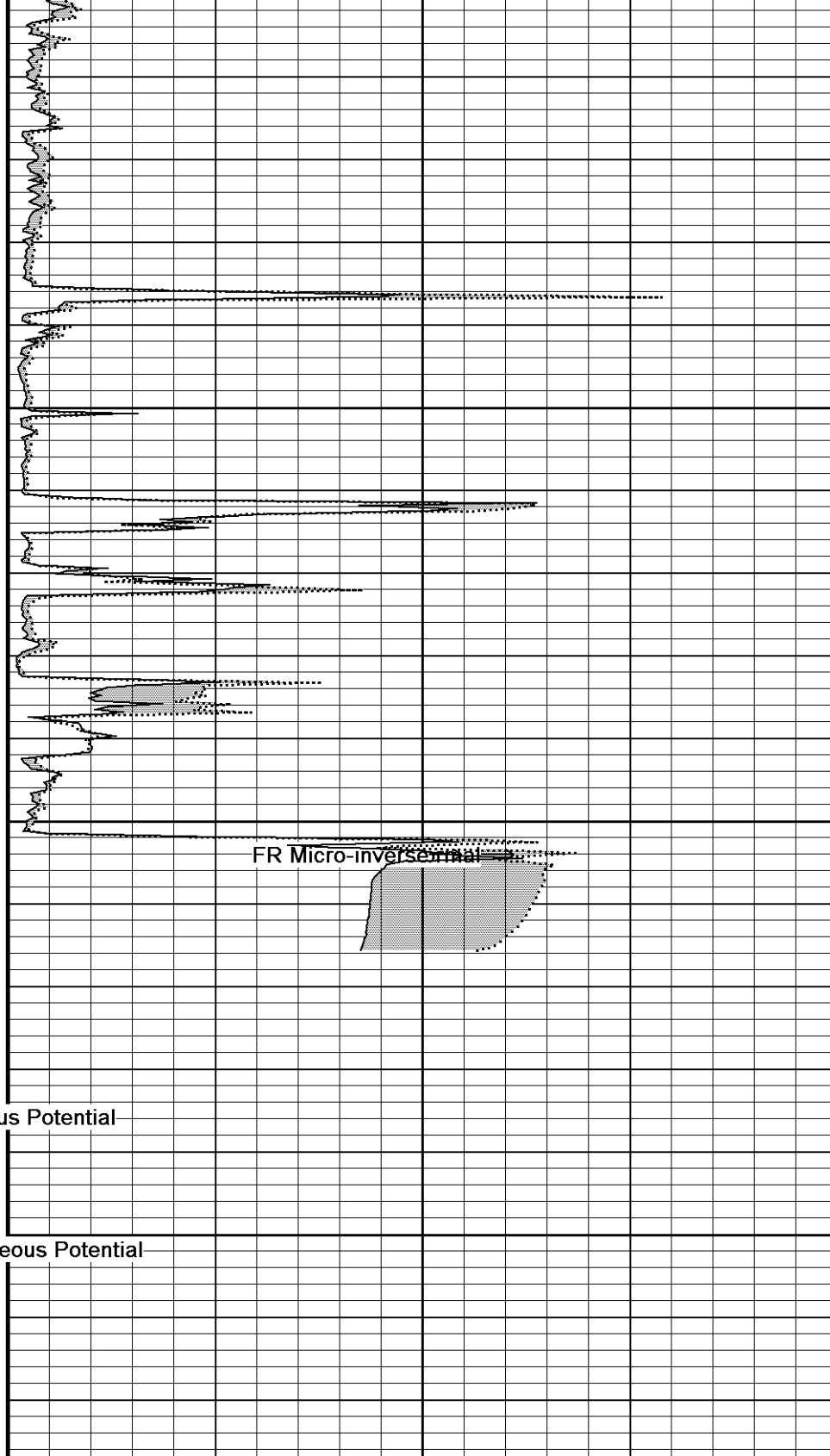
122°

5050



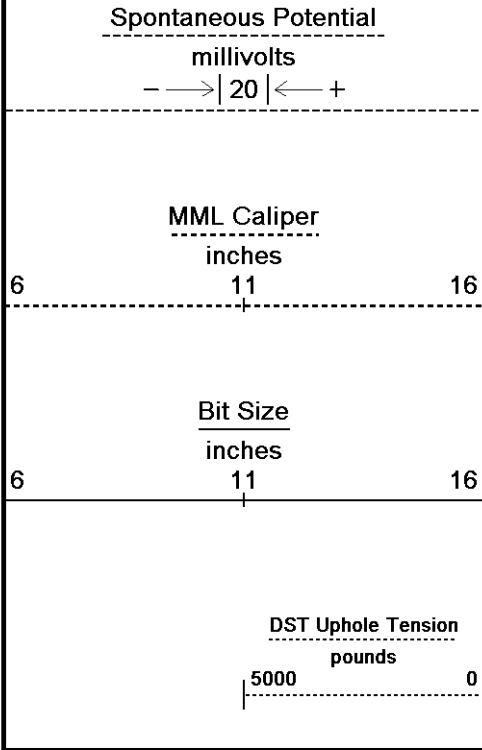


5000
 122°
 5100
 122°
 5150
 5200
 5226
 Depth in Feet



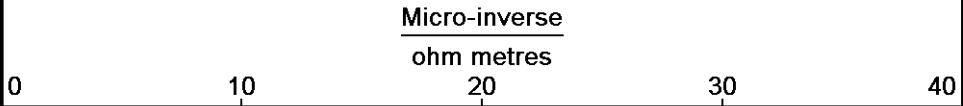
Timing Marks every 60.0 sec

Gamma Ray
 API
 0 75 150



Borehole
Temp in
deg F

Replay
Scale
1:240

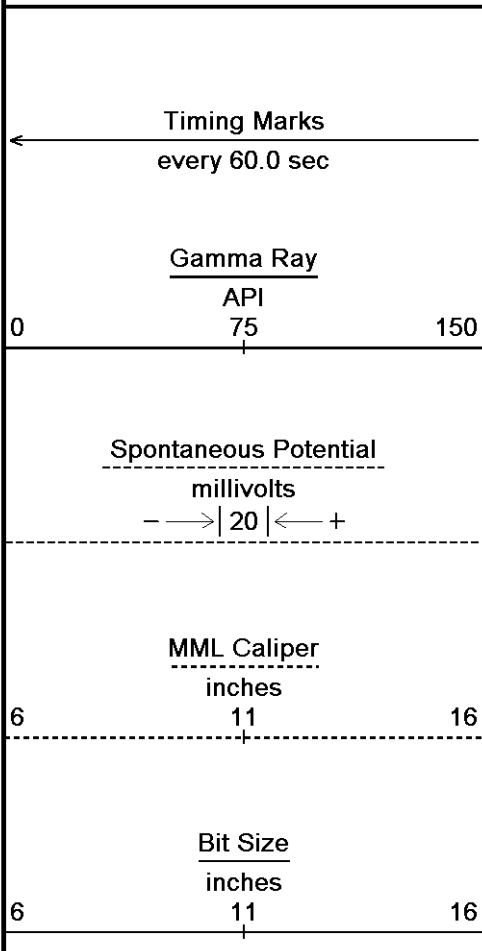


Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 08-DEC-2011 23:15
 Filename: C:\Minimus 11.03.4044\Data\Red Oak Prairie Wind 1-35\Red Oak Praire Wind 1-35_002.dta Recorded on 08-DEC-2011 20:36
 System Versions: Logged with 11.03.4044 Plotted with 11.03.4044

↑ 5 INCH MAIN ↑

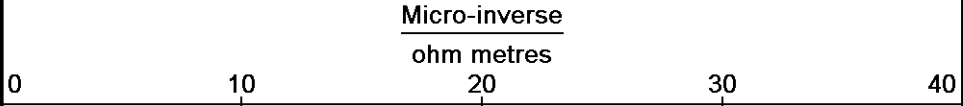
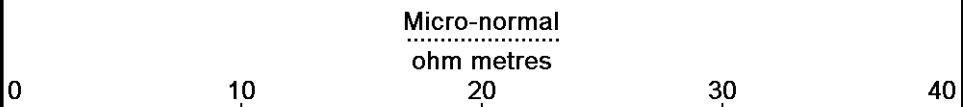
↓ REPEAT SECTION ↓

Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 08-DEC-2011 23:15
 Filename: C:\Minimus 11.03.4044\Data\Red Oak Prairie Wind 1-35\Red Oak Praire Wind 1-35_001.dta Recorded on 08-DEC-2011 20:19
 System Versions: Logged with 11.03.4044 Plotted with 11.03.4044



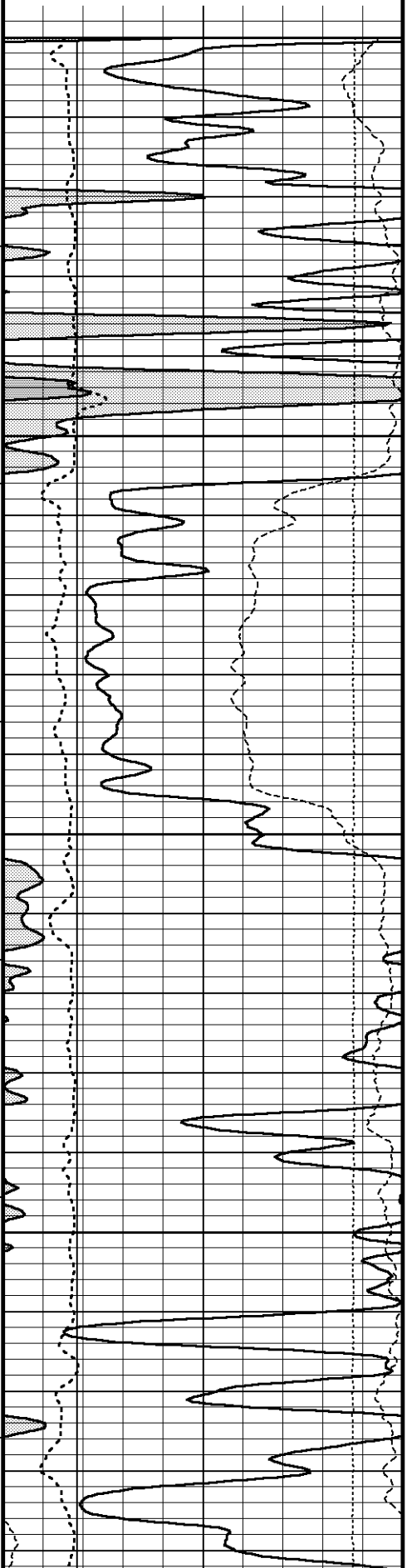
Depth
in
Feet

Borehole
Temp in
deg F



DST Uphole Tension
pounds
5000 0

Replay
Scale
1:240



4950

120°

5000

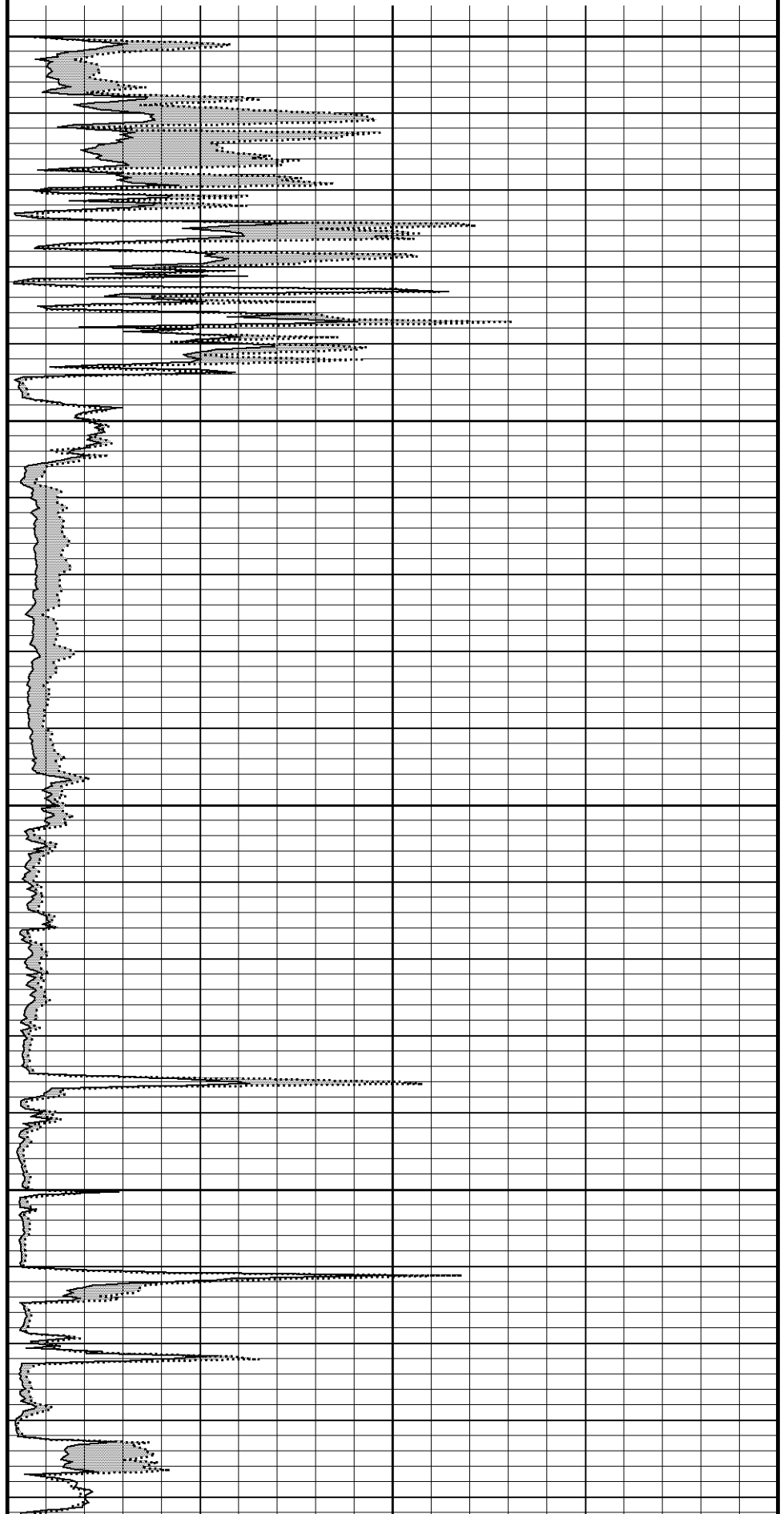
120°

5050

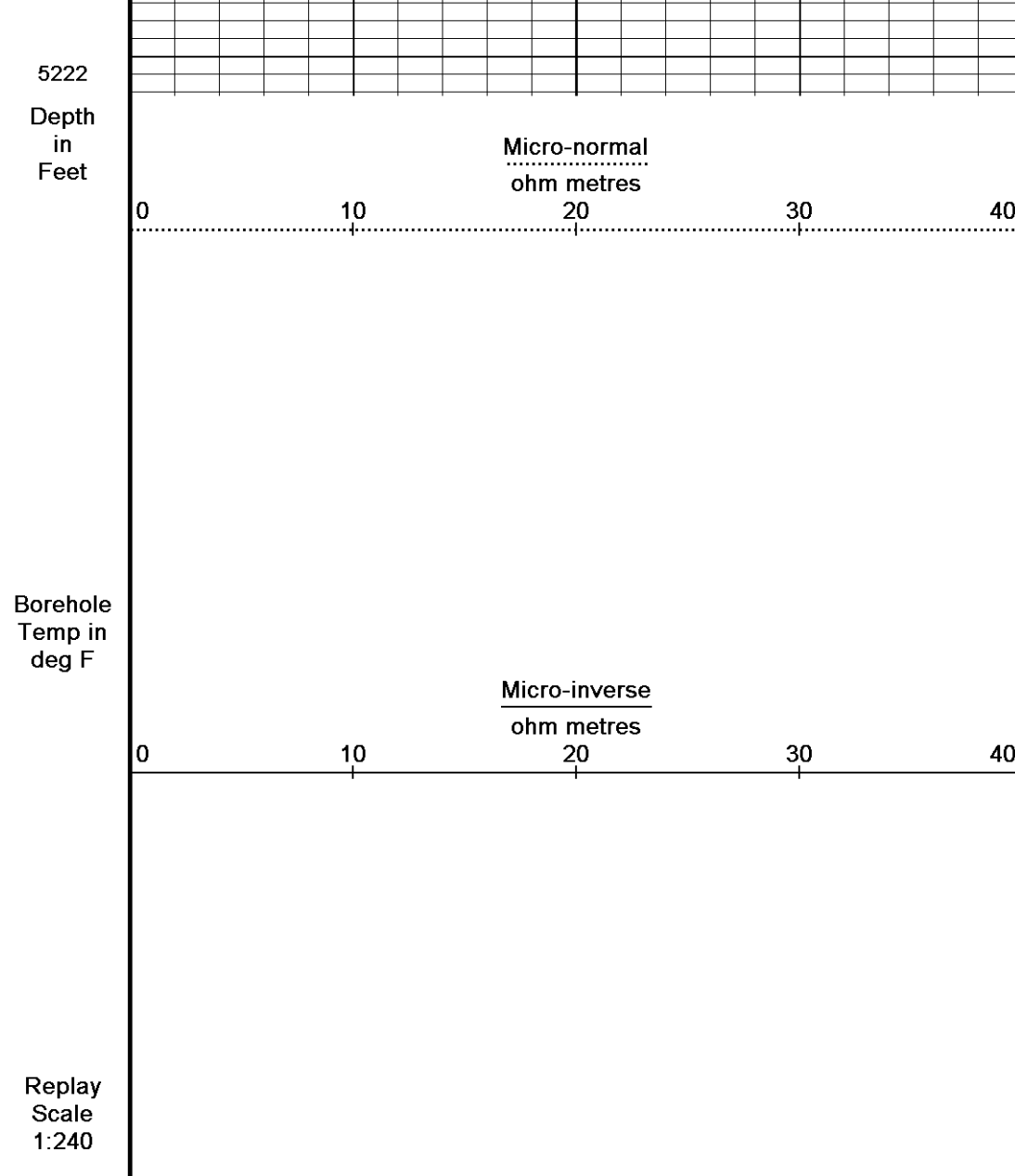
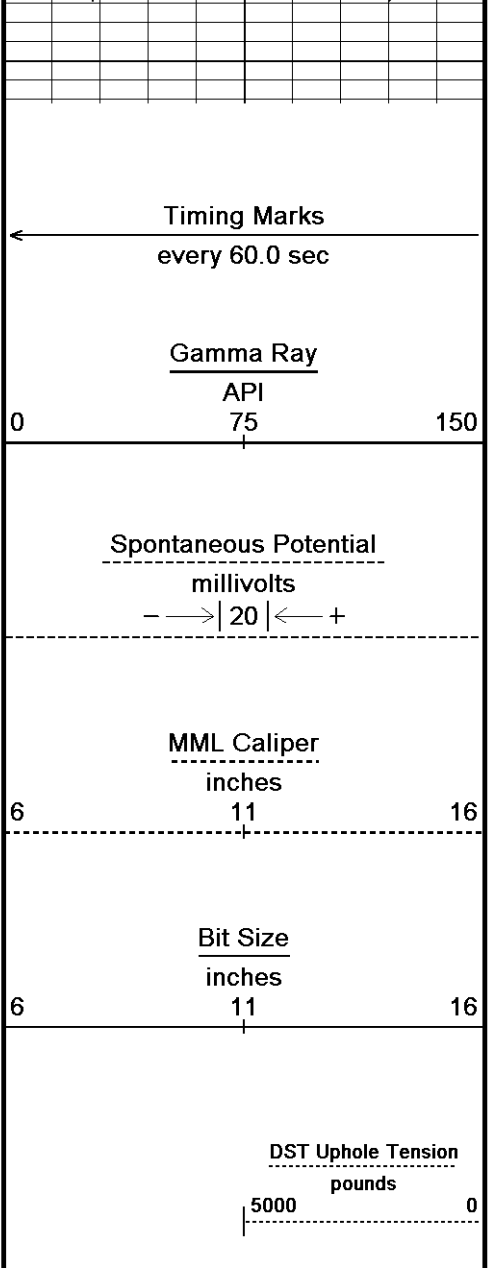
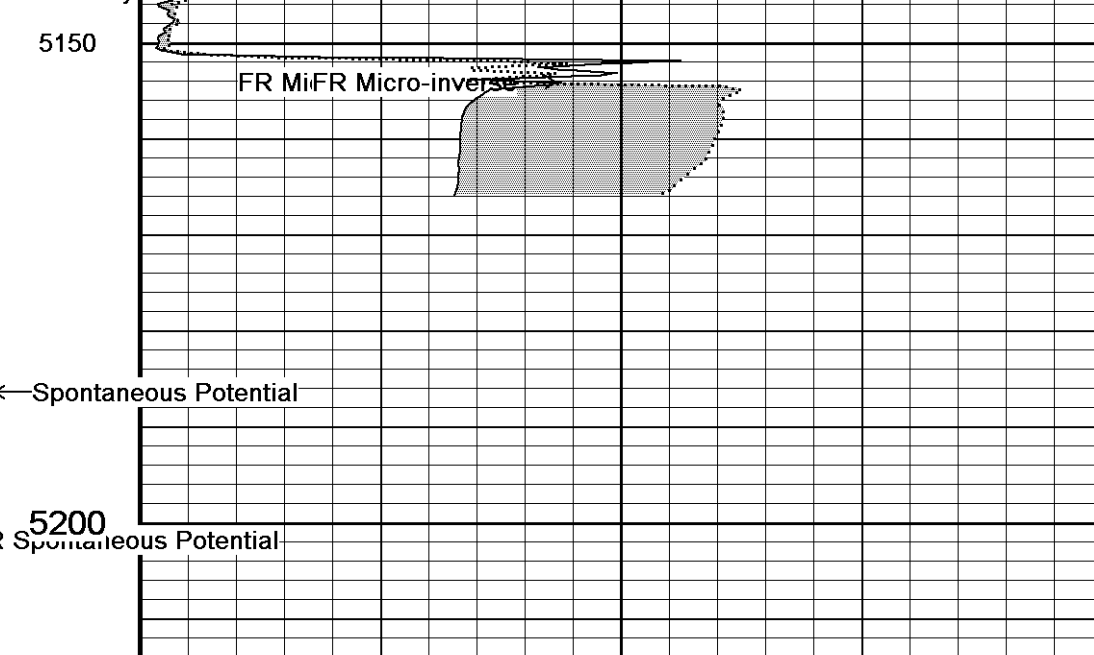
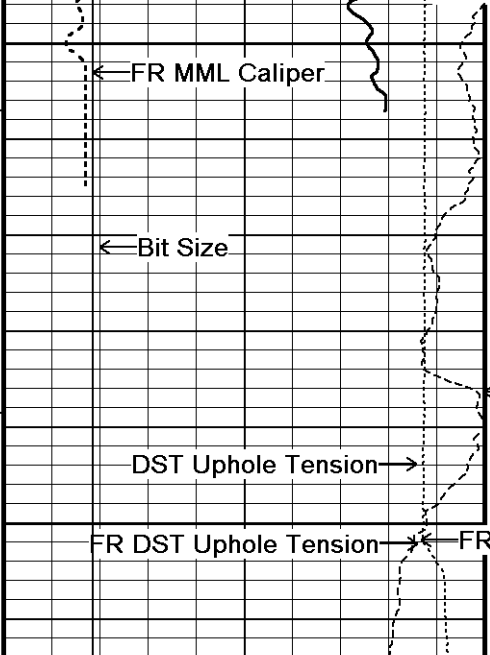
121°

5100

121°



← FR Gamma Ray



Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 08-DEC-2011 23:15
 Filename: C:\Minimus 11.03.4044\Data\Red Oak Prairie Wind 1-35\Red Oak Praire Wind 1-35_001.dta
 Recorded on 08-DEC-2011 20:19
 System Versions: Logged with 11.03.4044 Plotted with 11.03.4044

BEFORE SURVEY CALIBRATION

C:\Minimus 11.03.4044\Data\Red Oak Prairie Wind 1-35\Red Oak Praire Wind 1-35.dta

Down-hole Tension Calibration All 000

Field Calibration on 30-JUN-2010

Reading No	Measured	Calibrated (lbs)
1	14112.01	10.00
2	15164.79	427.00

General Constants All 000

Last Edited on 08-DEC-2011,15:57

General Parameters

Mud Resistivity	0.760	ohm-metres
Mud Resistivity Temperature	91.000	degrees F
Water Level	0.000	feet
Density/Neutron Processing	Wet Hole	

Hole/Annular Volume and Differential Caliper Parameters

HVOL Method	Single Caliper	
HVOL Caliper 1	Density Caliper	
HVOL Caliper 2	N/A	
Annular Volume Diameter	5.500	inches
Caliper for Differential Caliper	Density Caliper	

Rwa Parameters

Porosity used	Base Density Porosity
Resistivity used	Array Ind. One Res Rt
RWA Constant A	1.000
RWA Constant M	2.000

Down-hole Tension Calibration SMS 0

Field Calibration on 10-SEP-2011 04:32

Reading No	Measured	Calibrated (lbs)
1	-2243.52	0.00
2	-2203.03	480.60

High Resolution Temperature Calibration MCG-C 139

Field Calibration on 02-AUG-2011,17:13

	Measured	Calibrated(Deg F)
Lower	50.00	50.00
Upper	75.00	75.00

High Resolution Temperature Constants MCG-C 139

Last Edited on

Pre-filter Length	11
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SP Calibration MCG-C 139

Field Calibration on 29-AUG-2011 09:25

	Measured	Calibrated (mV)
Reference 1	103.7	100.0
Reference 2	-96.7	-100.0

Gamma Calibration MCG-C 139

Field Calibration on 08-DEC-2011 09:30

	Measured	Calibrated (API)
Background	78	53
Calibrator (Gross)	1145	778
Calibrator (Net)	1067	725

Gamma Constants MCG-C 139

Last Edited on 08-DEC-2011,15:06

Gamma Calibrator Number	grc38	
Mud Density	1.13	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl	0.00	kppm

Micro Normal and Micro Inverse Calibration MML-A 16

Base Calibration on 15-NOV-2011 08:45

Field Check on 08-DEC-2011 09:13

Base Calibration

Channel	Measured		Calibrated (ohm-m)	
	Resistor 1	Resistor 2	Resistor 1	Resistor 2
Micro Normal	12.1	60.2	2.6	12.8

Micro Normal	12.1	60.2	2.6	12.8
Micro Inverse	15.7	78.4	1.7	8.4

Channel	Base Check (ohm-m)	Field Check (ohm-m)
Micro Normal	32.1	32.1
Micro Inverse	16.3	16.3

Micro Normal and Micro Inverse Constants MML-A 16

Last Edited on 08-DEC-2011,09:12

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 16

Base Calibration on 15-NOV-2011 08:38
 Field Calibration on 08-DEC-2011 09:23

Base Calibration		
Reading No	Measured	Calibrator Size (in)
1	14184	5.98
2	17582	7.97
3	20836	9.86
4	24886	11.92
5	0	0.00
6	N/A	N/A

Field Calibration	Measured Caliper (in)	Actual Caliper (in)
	6.05	5.98

Neutron Calibration MDN-A.B 66

Base Calibration on 17-OCT-2011 14:32
 Field Check on 08-DEC-2011 09:34

Base Calibration			
	Measured	Calibrated (cps)	
	Near Far	Near Far	
	3086 97	3714 110	
Ratio	31.796	33.764	

Field Calibrator at Base	Calibrated (cps)
	1659 2358
Ratio	0.704

Field Check	Calibrated (cps)
	1650 2359
Ratio	0.699

Neutron Constants MDN-A.B 66

Last Edited on 08-DEC-2011,09:30

Neutron Source Id P58125B
 Neutron Jig Number 5824NE
 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 None
 Formation Pressure N/A kpsi
 Temperature Source Constant Value
 Temperature 68.00 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-C.A 353

Base Calibration on 07-DEC-2011 13:35
 Field Check on 08-DEC-2011 09:12

Base Calibration		
	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	964.8	126.8
Base Check		280.9

FE Constants MFE-C.A 353

Last Edited on 08-DEC-2011,15:57

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-C.K 330

Last Edited on 08-DEC-2011,15:57

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)	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

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

High Resolution Temperature Calibration MAI-A.A 167

Field Calibration on 28-OCT-2011,10:01

	Measured	Calibrated(Deg F)
Lower	1.00	33.80
Upper	11.00	51.80

High Resolution Temperature Constants MAI-A.A 167

Last Edited on

Pre-filter Length 11

Induction Calibration MAI-A.A 167

Base Calibration on 11-MAR-2011,09:58
Field Check on 08-DEC-2011 09:10

Base Calibration

Test Loop Calibration

Channel	Measured		Calibrated (mmho/m)	
	Low	High	Low	High
1	17.3	474.2	9.3	966.2
2	6.3	388.4	7.6	821.4
3	3.3	259.4	5.2	566.0
4	1.9	133.0	2.6	279.2

Array Temperature 76.8 Deg F

Channel	Base Check (mmho/m)		Field Check (mmho/m)	
	Low	High	Low	High
1	0.0	0.0	12.9	3839.1
2	0.0	0.0	29.5	3476.8
3	0.0	0.0	29.1	3052.7
4	0.0	0.0	19.7	2081.3
Deep	0.0	0.0	18.5	2048.5
Medium	0.0	0.0	42.2	3990.9
Shallow	0.0	0.0	43.0	5054.2

Array Temperature 0.0 71.1 Deg F

Induction Constants MAI-A.A 167

Last Edited on 08-DEC-2011,15:58

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	8.0000		
Stand-off Fin Angle	45.00	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

DOWNHOLE EQUIPMENT

C:\Minimus 11.03.4044\Data\Red Oak Prairie Wind 1-35\Red Oak Praire Wind 1-35.dta

Compact Comms Gamma
MCG-C 139 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

Compact Micro-log
MML-A 16 LG: 7.97 ft WT: 81.6 lb OD: 2.24 in

Compact Neutron
MDN-A.B 66 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

Compact Density/Caliper
MPD-B 35 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

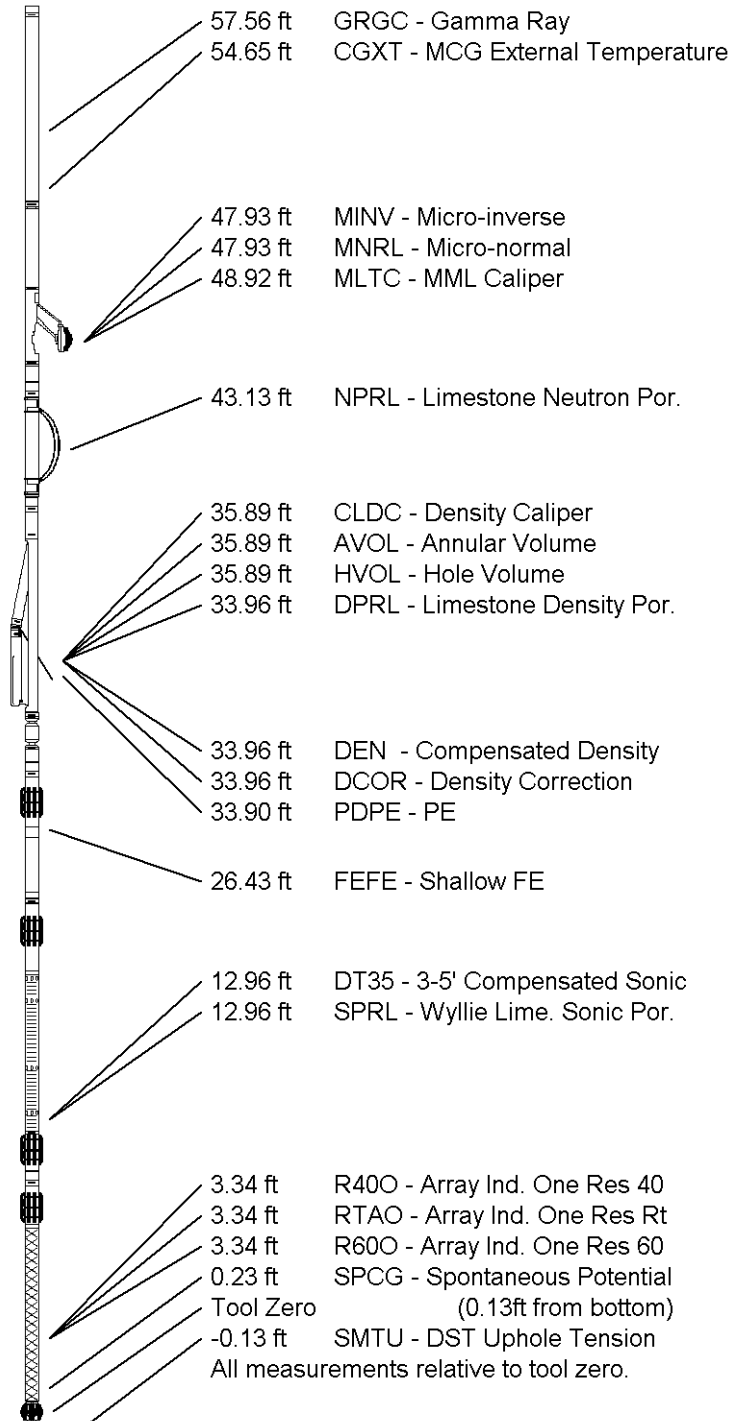
SKJ-D.A Compact Knuckle Joint
SKJ-D.A 36 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

Compact Focussed Electric
MFE-C.A 353 LG: 6.05 ft WT: 48.5 lb OD: 2.24 in

Compact Sonic
MSS-C.K 330 LG: 12.52 ft WT: 72.8 lb OD: 2.24 in

Compact Induction
MAI-A.A 167 LG: 10.81 ft WT: 48.5 lb OD: 2.24 in

Total Length: 62.84 ft Weight: 480.6 lb



COMPANY	RED OAK ENERGY, INC.
WELL	PRAIRIE WIND #1-35
FIELD	WILDCAT
PROVINCE/COUNTY	WALLACE
COUNTRY/STATE	U.S.A. / KANSAS

Elevation Kelly Bushing	3791.00	feet	First Reading	5154.00	feet
Elevation Drill Floor	3789.00	feet	Depth Driller	5201.00	feet
Elevation Ground Level	3778.00	feet	Depth Logger	5202.00	feet



