COMPOSITE LOG

COMPANY	O'BRIEN RESOURCES, LLC.
WELL	MSJ-PENNER 28 #3
FIELD	WILDCAT
PROVINCE/COUNTY	GOVE
COUNTRY/STATE	U.S.A. / KANSAS
LOCATION	1382' FNL & 2362' FWL

SEC 28	TWP 14S	RGE 30W	Other Services
Latitude			
Longitude			
API Number	15-063-22212		

Permanent Datum GL, Elevation 2798 feet
Log Measured From KB
Drilling Measured From KB @ 13 feet

Elevations:	feet
KB	2811.00
DF	2809.00
GL	2798.00

Date	19-NOV-2014				
Run Number	ONE				
Service Order	7577-103540900				
Depth Driller	4650.00	feet			
Depth Logger	4650.00	feet			
First Reading	4647.00	feet			
Last Reading	3700.00	feet			
Casing Driller	286.00	feet			
Casing Logger	288.00	feet			
Bit Size	7.875	inches			
Hole Fluid Type	CHEMICAL				
Density / Viscosity	9.20 lb/USg		47.00 CP		
PH / Fluid Loss	9.50		9.20 ml/30Min		
Sample Source	MUD PIT				
Rm @ Measured Temp	1.73 @ 75.0	ohm-m			
Rmf @ Measured Temp	1.38 @ 75.0	ohm-m			
Rmc @ Measured Temp	2.08 @ 75.0	ohm-m			
Source Rmf / Rmc	CALC		CALC		
Rm @ BHT	1.17 @113.0	ohm-m			
Time Since Circulation	4 HOURS				
Max Recorded Temp	113.00	deg F			
Equipment / Base	13244		LIB		
Recorded By	JEFFREY RANDLE				
Witnessed By	KURT TALBOTT				
JOB #	LB14-360				

BOREHOLE RECORD

Last Edited: 19-NOV-2014 01:28

Bit Size inches	Depth From feet	Depth To feet
7.875	286.00	4650.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	8.625	0.00	286.00	24.00

REMARKS

- SOFTWARE ISSUE: WLS 14.03.5114.
- RUN ONE: MCG, MML, MDN, MPD, MFE, MAI RUN IN COMBINATION.
  - HARDWARE: DUAL BOWSPRING USED ON MDN.
  0.5 INCH STANDOFF USED ON MFE.
  0.5 INCH STANDOFF USED ON MAI.
- 2.71 G/CC LIMESTONE DENSITY MATRIX USED TO CALCULATE POROSITY.
- BOREHOLE RUGOSITY, TIGHT PULLS, AND WASHOUTS WILL AFFECT DATA QUALITY.
- ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST.
- TOTAL HOLE VOLUME FROM TD TO SURFACE CASING: 1663 CU.FT.
- ANNULAR HOLE VOLUME WITH 5.5 INCH PRODUCTION CASING FROM TD TO 3700 FEET: 167 CU.FT.
- RIG: MAVERICK DRILLING #108

- RIG: MAVERICK DRILLING #100.

- ENGINEER: J. RANDLE.

- OPERATOR: J. LaPOINT, S. LARES.

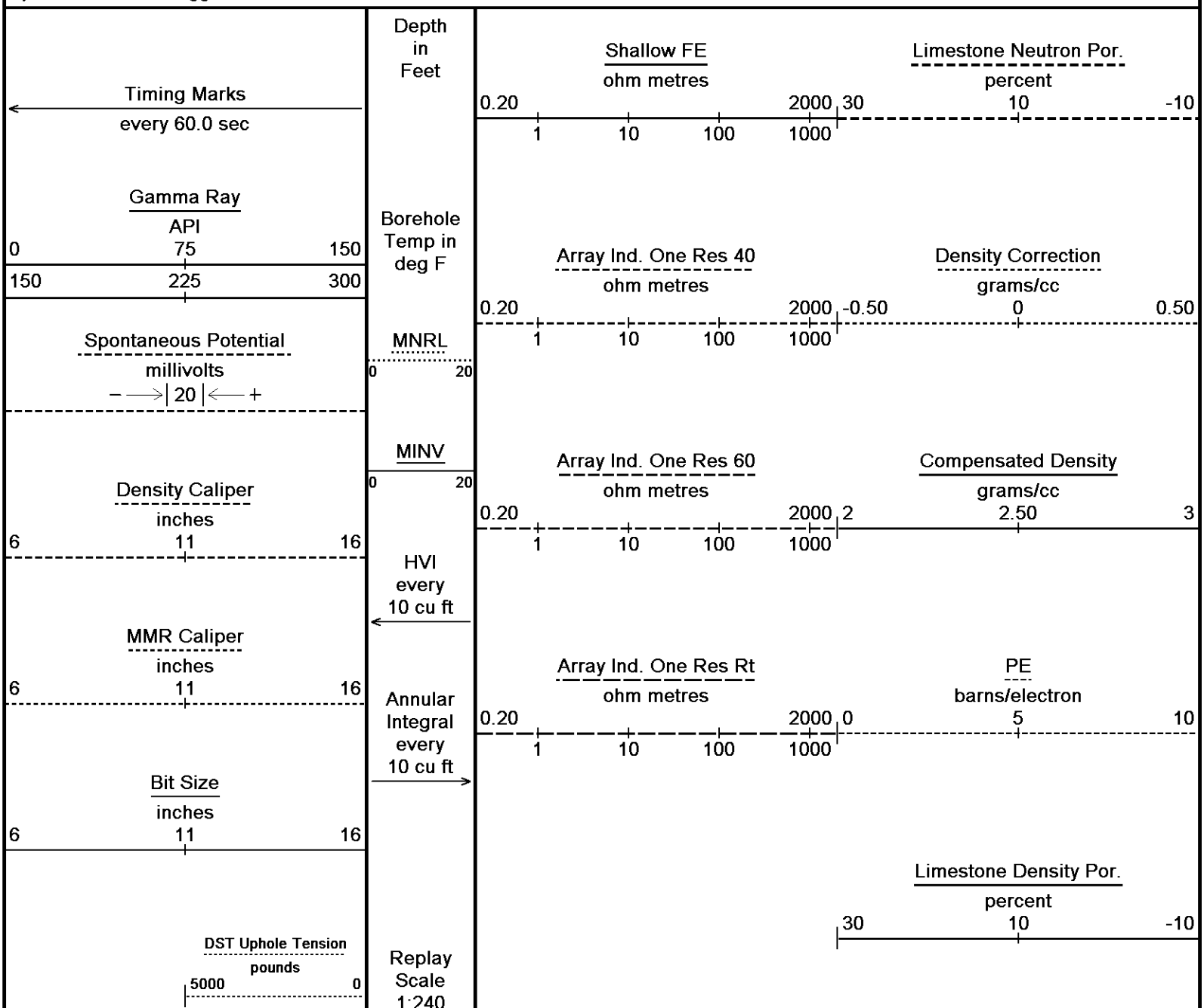
In interpreting, communicating or providing information and/or making recommendations, either written or oral, as to logs or test or other data, type or amount of material, or Work or other service to be furnished, or manner of performance, or in predicting results to be obtained, the Contractor will give the Company the benefit of the Contractor's best judgment based on its experience and will perform all such Work in a good and workmanlike manner. Any interpretation of test or other data, and any recommendation or reservoir description based upon such interpretations, are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and assumptions are not infallible, and with respect to which professional engineers and analysts may differ. ACCORDINGLY ANY INTERPRETATION OR RECOMMENDATION RESULTING FROM THE SERVICES WILL BE AT THE SOLE RISK OF THE COMPANY, AND THE CONTRACTOR CANNOT AND DOES NOT WARRANT THE ACCURACY, CORRECTNESS OR COMPLETENESS OF ANY SUCH INTERPRETATION OR RECOMMENDATION, WHICH INTERPRETATIONS AND RECOMMENDATIONS SHOULD NOT, THEREFORE, UNDER ANY CIRCUMSTANCES BE RELIED UPON AS THE SOLE OR MAIN BASIS FOR ANY DRILLING, COMPLETION, WELL TREATMENT, PRODUCTION OR FINANCIAL DECISION, OR ANY PROCEDURE INVOLVING ANY RISK TO THE SAFETY OF ANY DRILLING ACTIVITY, DRILLING RIG OR ITS CREW OR ANY OTHER INDIVIDUAL. THE COMPANY HAS FULL RESPONSIBILITY FOR ALL DECISIONS CONCERNING THE SERVICES.

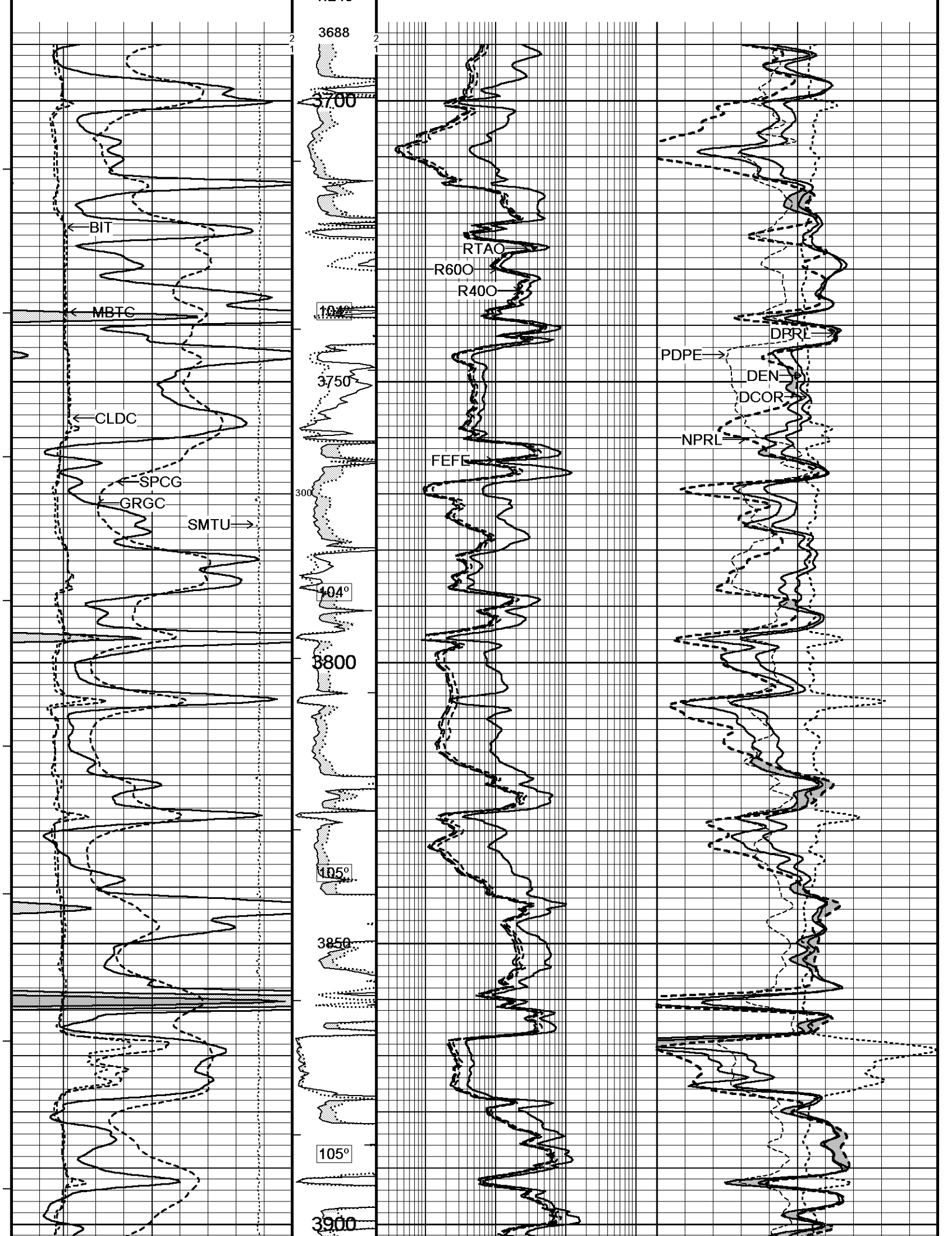
5 INCH MAIN

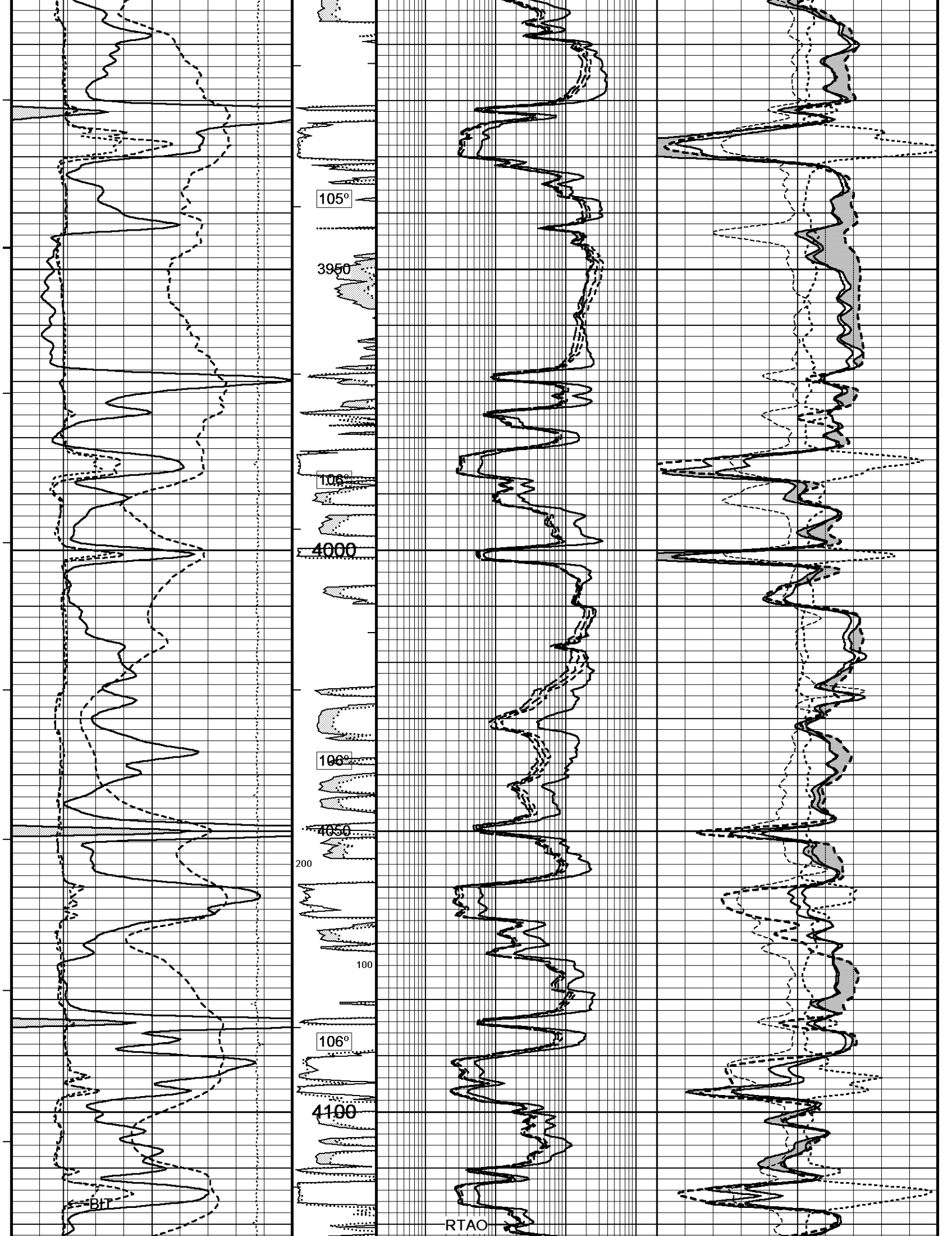
Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 19-NOV-2014 06:19

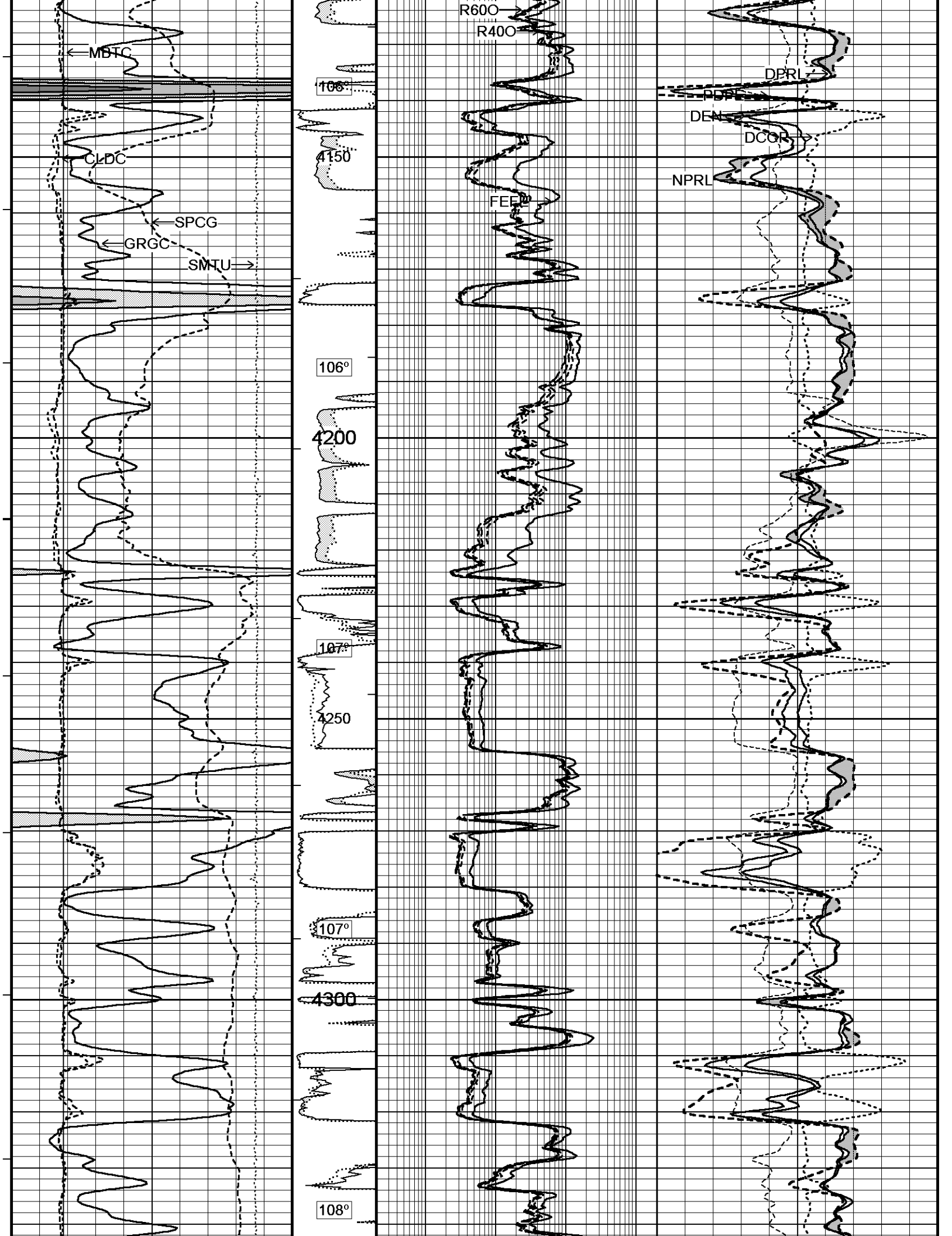
Filename: C:\Minimus 14.03.4558\Logs\O'Brien (LA) MSJ-P...\O'Brien (LA) MSJ-Penner 28 #3 Main.dta — Recorded on 19-NOV-2014 03:27

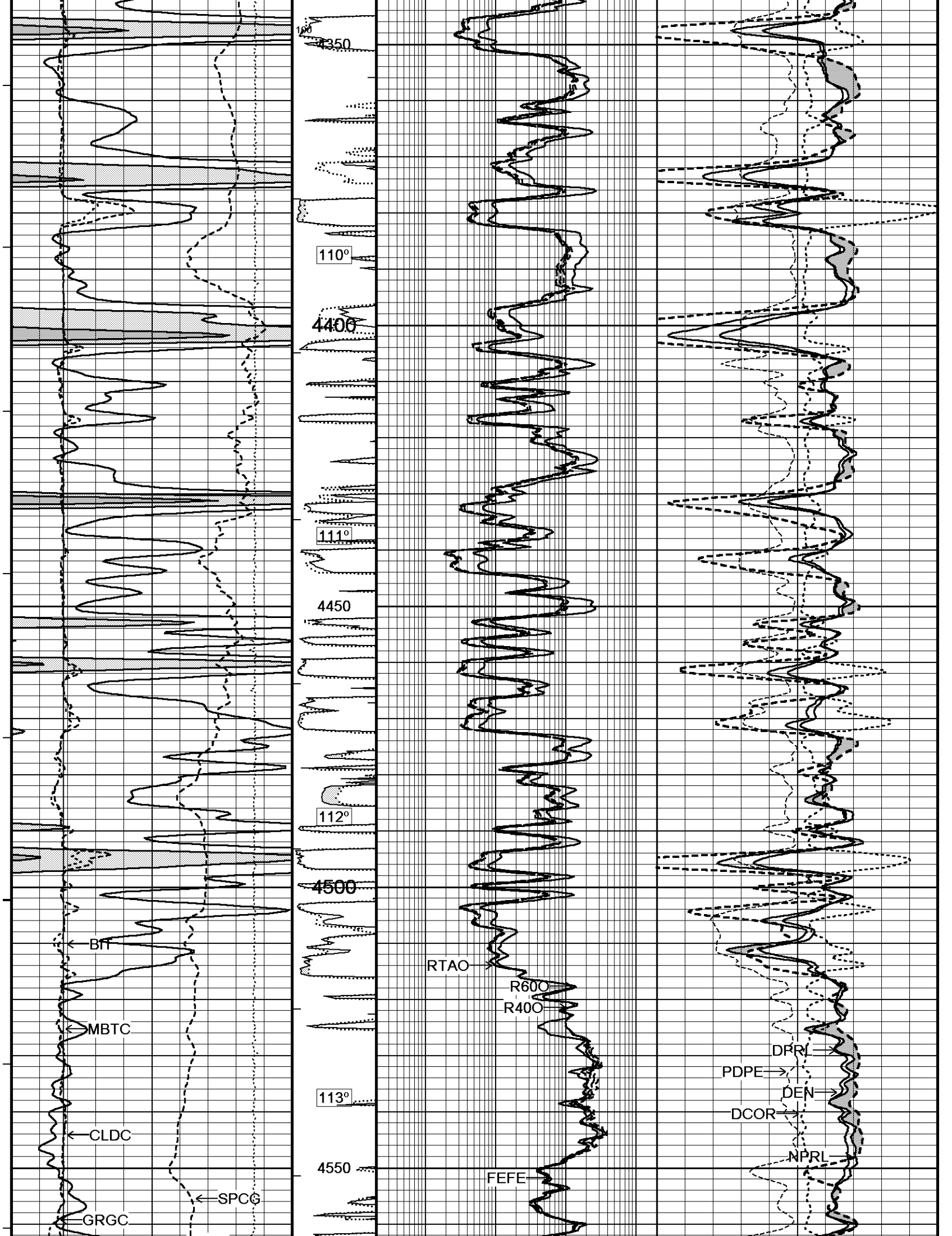
System Versions: Logged with 14.03.5114 Plotted with 14.03.5114

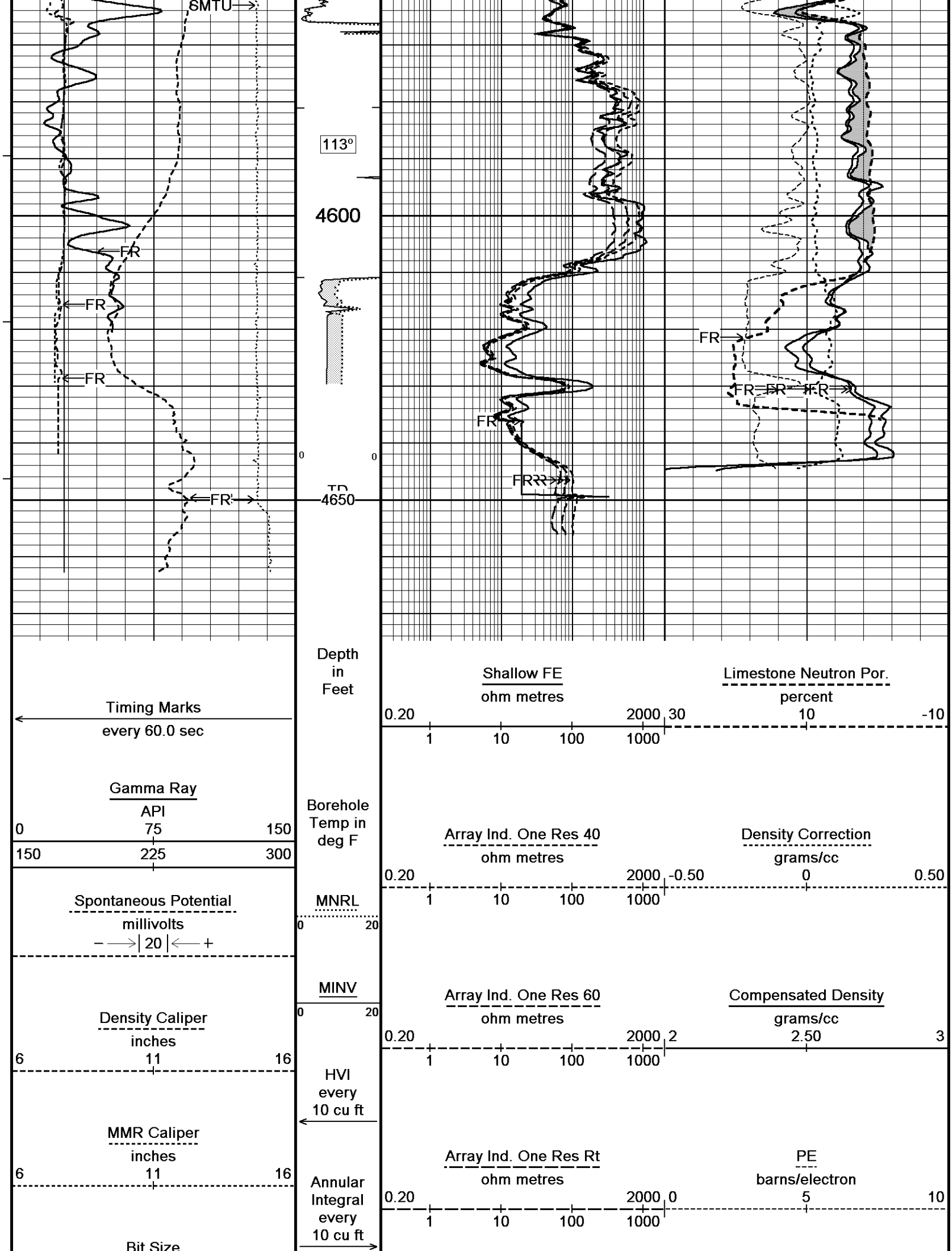



3688
3700
BIT
MBTC
CLDC
SPCG
GRGC
SMTU
104°
3750
300
104°
3800
105°
3850
105°
3900
RTAO
R60O
R40O
FEFE
DPRL
PDPE
DEN
DCOR
NPRL


105°
3950
106°
4000
106°
4050
200
100
106°
4100
BIT
RTAO


MBTC
CLDC
SPCG
GRGC
SMTU
R60O
R40O
FEEC
DPRL
PDPE
DEN
DCOR
NPRL
106°
4150
106°
4200
107°
4250
107°
4300
108°


4350
110°
4400
111°
4450
112°
4500
113°
4550
BIT
MBTC
CLDC
SPCG
GRGC
RTAO
R60O
R40O
FEFE
DPRL
PDPE
DEN
DCOR
NPRL


SMTU
113°
4600
FR
FR
FR
FR
FR
FR
FR
FR
FR
FR
0
0
TD
4650
Depth
in
Feet
Timing Marks
every 60.0 sec
Shallow FE
ohm metres
0.20
2000
1
10
100
1000
Limestone Neutron Por.
percent
30
10
-10
Gamma Ray
API
0
75
150
150
225
300
Borehole
Temp in
deg F
Array Ind. One Res 40
ohm metres
0.20
2000
1
10
100
1000
Density Correction
grams/cc
-0.50
0
0.50
Spontaneous Potential
millivolts
– 20 +
MNRL
0
20
MINV
0
20
Array Ind. One Res 60
ohm metres
0.20
2000
1
10
100
1000
Compensated Density
grams/cc
2
2.50
3
Density Caliper
inches
6
11
16
HVI
every
10 cu ft
MMR Caliper
inches
6
11
16
Array Ind. One Res Rt
ohm metres
0.20
2000
1
10
100
1000
PE
barns/electron
0
5
10
Annular
Integral
every
10 cu ft
Bit Size

Bit Size
inches
6 11 16

DST Uphole Tension
pounds
5000 0

Replay
Scale
1:240

Limestone Density Por.
percent
30 10 -10

Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:\Minimus 14.03.4558\Logs\O'Brien (LA) MSJ-P...\O'Brien (LA) MSJ-Penner 28 #3 Main.dta
System Versions: Logged with 14.03.5114 Plotted with 14.03.5114

Plotted on 19-NOV-2014 06:19
Recorded on 19-NOV-2014 03:27

5 INCH MAIN

REPEAT SECTION

Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:\Minimus 14.03.4558\Logs\O'Brien (LA) MSJ-...\O'Brien (LA) MSJ-Penner 28 #3 Repeat.dta
System Versions: Logged with 14.03.5114 Plotted with 14.03.5114

Plotted on 19-NOV-2014 06:19
Recorded on 19-NOV-2014 03:06

Timing Marks
every 60.0 sec

Depth
in
Feet

Shallow FE
ohm metres
0.20 2000
1 10 100 1000

Limestone Neutron Por.
percent
30 10 -10

Gamma Ray
API
0 75 150
150 225 300

Borehole
Temp in
deg F

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

Density Correction
grams/cc
-0.50 0 0.50

Spontaneous Potential
millivolts
− → | 20 | ← +

MNRL
0 20

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

Compensated Density
grams/cc
2 2.50 3

MINV
0 20

Density Caliper
inches
6 11 16

HVI
every
10 cu ft

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

PE
barns/electron
0 5 10

MMR Caliper
inches
6 11 16

Annular
Integral
every
10 cu ft

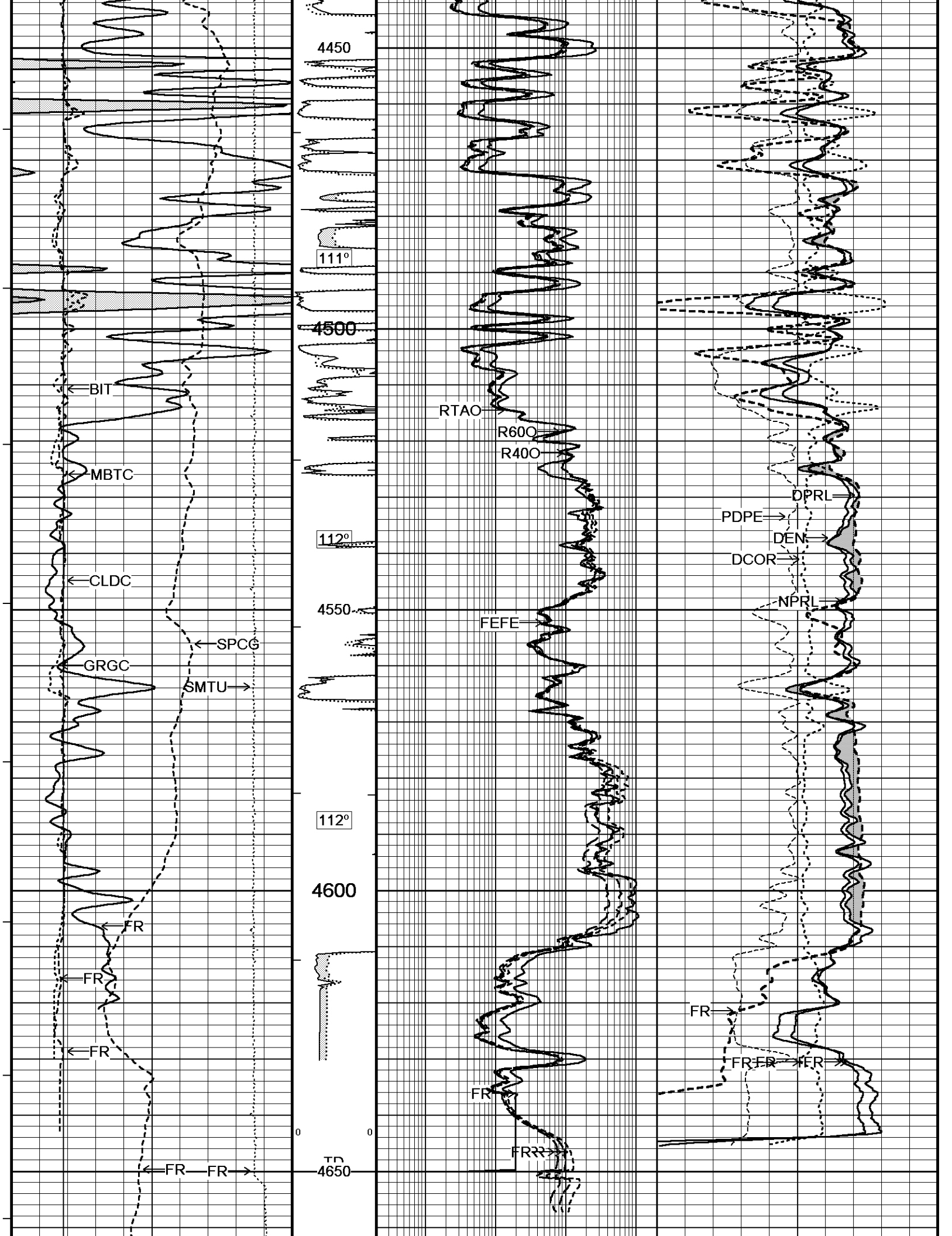
Bit Size
inches
6 11 16

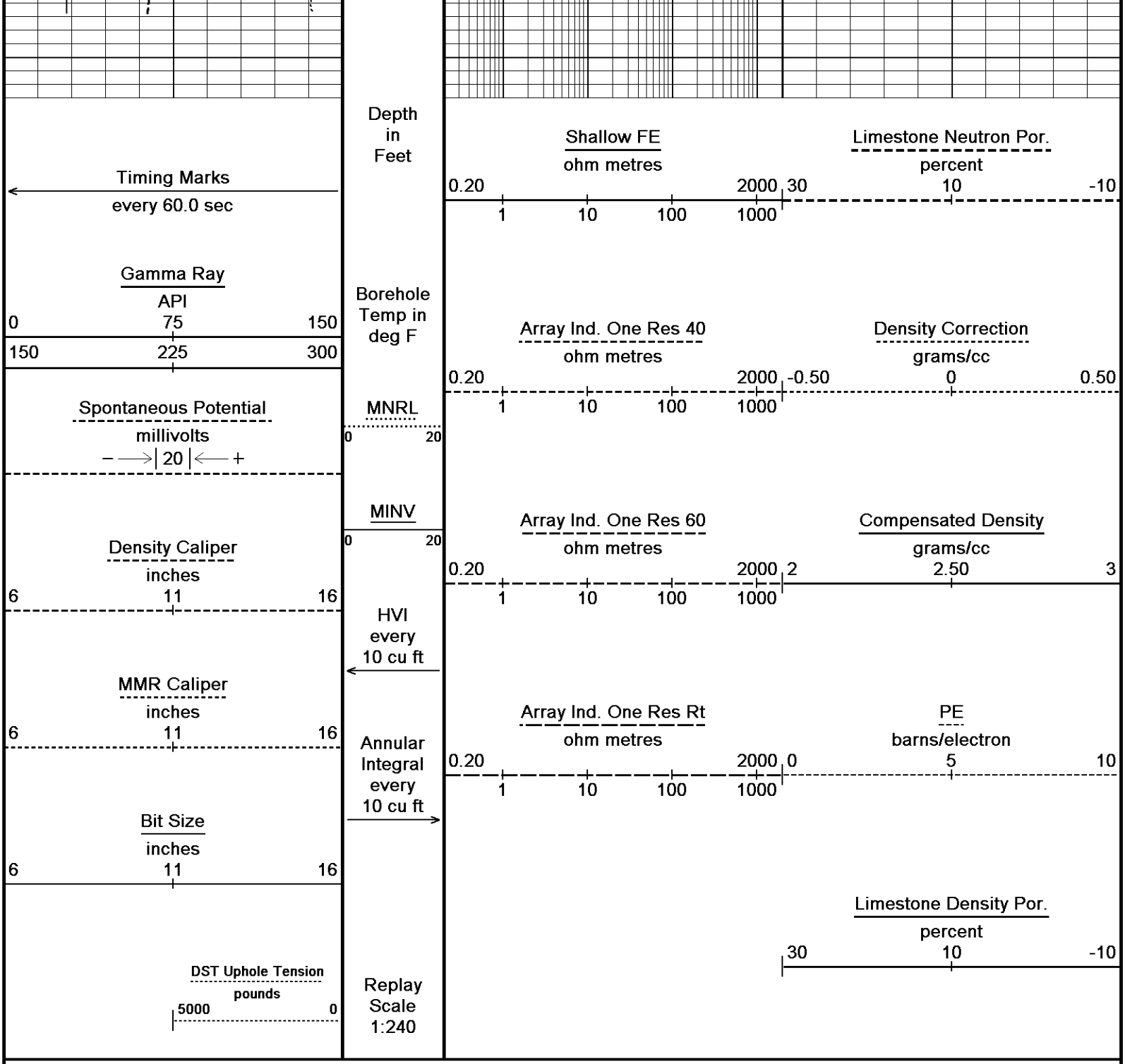
Limestone Density Por.
percent
30 10 -10

DST Uphole Tension
pounds
5000 0

Replay
Scale
1:240

4438


4450
111°
4500
BIT
MBTC
CLDC
SPCG
GRGC
SMTU
112°
4550
112°
4600
FR
FR
FR
FR
FR
0
0
TD
4650
RTAO
R60O
R40O
FEFE
FR
FRRR
DPRL
PDPE
DEN
DCOR
NPRL
FR
FR FR FR



Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 19-NOV-2014 06:19

Filename: C:\Minimus 14.03.4558\Logs\O'Brien (LA) MSJ-...\O'Brien (LA) MSJ-Penner 28 #3 Repeat.dta — Recorded on 19-NOV-2014 03:06

System Versions: Logged with 14.03.5114 Plotted with 14.03.5114

REPEAT SECTION

BEFORE SURVEY CALIBRATION

C:\Minimus 14.03.4558\Logs\O'Brien (LA) MSJ-Penner 28 #3\O'Brien (LA) MSJ-Penner 28 #3 Repeat.dta

General Constants All 000 — Last Edited on 19-NOV-2014,01:48

General Parameters		
Mud Resistivity	1.730	ohm-metres
Mud Resistivity Temperature	75.000	degrees F
Water Level	0.000	feet
Borehole Fluid 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	Crossplot Porosity
Resistivity used	Array Ind. Four Res Rt
RWA Constant A	0.610
RWA Constant M	2.150
SW/APOR Tool Source	0.000

Down-hole Tension Calibration SMS 0

Field Calibration on 19-NOV-2014 02:09

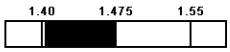
Reading No	Measured	Calibrated (lbs)
1	15332.97	0.00
2	15825.43	407.90

Gamma Calibration MCG-C 208

Field Calibration on 18-NOV-2014 15:49

	Measured	Calibrated (API)
Background	67	48
Calibrator (Gross)	1084	773
Calibrator (Net)	1017	725

Gamma Calibration Tolerances MCG-C 208

Ratio 1.402 

Counts/API

Gamma Constants MCG-C 208

Last Edited on 19-NOV-2014,01:47

Gamma Calibrator Number	GRC038	
GRC-M Calibrator Jig in Use?	NO	
Inactive Background Jig in Use?	NO	
Mud Density	1.10	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl		kppm
K Mud Type	Chloride	
K Mud Concentration	0.00	%

SP Calibration MCG-C 208

Field Calibration on 18-NOV-2014 15:38

	Measured	Calibrated (mV)
Reference 1	100.2	99.1
Reference 2	-98.0	-99.3

High Resolution Temperature Calibration MCG-C 208

Field Calibration on 23-SEP-2014,19:44

	Measured	Calibrated(Deg F)
Lower	10.00	10.00
Upper	100.00	100.00

High Resolution Temperature Constants MCG-C 208

Last Edited on 23-SEP-2014,19:44

Pre-filter Length	11

Caliper Calibration MMR-C.A 248

Base Calibration on 23-OCT-2014 09:52
Field Calibration on 18-NOV-2014 15:35

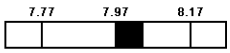
Base Calibration

Reading No	Measured	Calibrator Size (in)
1	13737	5.96
2	17108	7.98
3	20397	9.85
4	24360	11.92
5	0	0.00
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
8.04	7.97

Caliper Calibration Tolerances MMR-C.A 248

Short Arm Field Cal. 8.04 

in

Micro Normal and Micro Inverse Calibration MMR-C.A 248

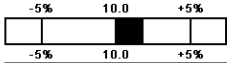
Base Calibration on 23-OCT-2014 10:02
Field Check on 18-NOV-2014 15:36

Base Calibration

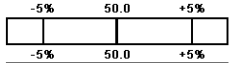
Channel	Measured Resistor 1	Measured Resistor 2	Calibrated (ohm-m) Resistor 1	Calibrated (ohm-m) Resistor 2
Micro Normal	10.2	49.9	5.1	25.6
Micro Inverse	9.9	49.5	3.4	16.9

Channel	Base Check (ohm-m)	Field Check (ohm-m)
Micro Normal	93.5	93.5
Micro Inverse	62.2	62.2

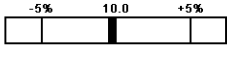
Micro Normal & Micro Inverse Calibration Tolerance MMR-C.A 248

Micro Normal Res. 1 10.2 

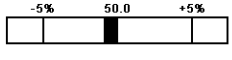
ohm

Micro Normal Res. 2 49.9 

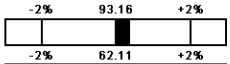
ohm

Micro Inverse Res. 1 9.9 

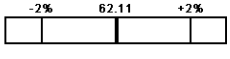
ohm

Micro Inverse Res. 2 49.5 

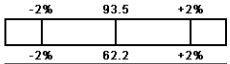
ohm

Micro Normal Base Check 93.5 

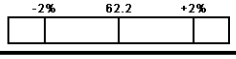
ohm-m

Micro Inverse Base Check 62.2 

ohm-m

Micro Normal Field Check 93.5 

ohm-m

Micro Inverse Field Check 62.2 

ohm-m

Micro Normal and Micro Inverse Constants MMR-C.A 248

Last Edited on 19-SEP-2014,16:14

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	0.0000	inches

Micro-Resistivity Caliper Constants MMR-C.A 248

Last Edited on

Sonde Configuration	Resistivity Mode

Micro Laterolog Calibration MMR-C.A 248

Base Calibration on 31-DEC-1999 00:00
Field Check on 31-DEC-1999 00:00

Base Calibration

Measured Ref 1	Measured Ref 2	Calibrated (ohm-m) Ref 1	Calibrated (ohm-m) Ref 2
0.0	0.0	0.0	0.0

Base Check (ohm-m)	Field Check (ohm-m)
0.0	0.0

Micro Laterolog Constants MMR-C.A 248

Last Edited on 23-SEP-2014,18:59

Pad Type	6 in Solid Nylon B23059	
Micro Laterolog K Factor	0.0128	
Standoff Offset	0.0000	inches

Mudcake Thickness Correction Constants

Mud Cake Source	Constant Value	
Mud Cake Thickness	0.4000	inches
Mud Cake Thickness Caliper	N/A	
Mud Cake Resistivity	0.1500	ohm-m
Mud Cake Resistivity Temp.	68.00	Deg F
Mud Cake Resistivity Source	Constant Value	
Temp. Source Rmc Correc.	N/A	

Neutron Calibration MDN-A.B 163

Base Calibration on 22-OCT-2014 17:32
Field Check on 18-NOV-2014 15:53

Base Calibration

	Measured Near	Measured Far	Calibrated (cps) Near	Calibrated (cps) Far
	3042	93	3714	110
Ratio	32.627		33.764	

Field Calibrator at Base	Calibrated (cps)	
	1687	2482
Ratio	0.680	

Field Check	Calibrated (cps)	
	1672	2427
Ratio	0.689	

Neutron Calibration Tolerances MDN-A.B 163

Near Reading	3042	-25% 3500 +25%	cps	Far Reading	93	-50% 106 +50% cps
Ratio	32.627	-5% 33 +5%				
Base Check	0.680	0.65 0.7 0.75				
Field Check	0.689	0.660 0.680 0.700				

Neutron Constants MDN-A.B 163

Last Edited on 19-NOV-2014,01:46

Neutron Source Id	P58125B	
Neutron Jig Number	5824NE	
Air Hole Processing	Legacy	
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
Salinity Correction	Not Applied	
Formation Fluid Salinity Source	None	
Formation Fluid Salinity	N/A	kppm
Barite Mud Correction	Not Applied	

FE Calibration MFE-A.A 55

Base Calibration on 23-OCT-2014 09:18
Field Check on 18-NOV-2014 15:28

Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	950.6	126.8
Base Check		282.0
Field Check		281.8

FE Calibration Tolerances MFE-A.A 55

Reference 2	950.6	-3% 980.0 +3%	ohm
Base Check	282.0	-2% 277.0 +2%	ohm-m
Field Check	281.8	-2% 282.0 +2%	ohm-m

FE Constants MFE-A.A 55

Last Edited on 19-NOV-2014,01:46

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

Induction Calibration MAI-A.A 5

Base Calibration on 22-OCT-2014,13:28
Field Check on 18-NOV-2014 15:27

Base Calibration

Base Calibration

Test Loop Calibration	Measured		Calibrated (mmho/m)	
Channel	Low	High	Low	High
1	16.3	470.8	9.3	966.2
2	5.6	376.1	7.6	821.4
3	2.6	266.1	5.2	566.0
4	1.6	130.0	2.6	279.2

Array Temperature 71.1 Deg F

Test Loop Calibration Verified

Channel	Base Check (mmho/m)		Field Check (mmho/m)	
	Low	High	Low	High
1			14.7	3862.6
2			31.6	3591.0
3			29.7	2971.9
4			20.8	2126.6
Deep			18.4	1912.8
Medium			42.9	3861.7
Shallow			47.0	5372.5

Array Temperature 66.1 Deg F

Induction Calibration Tolerances MAI-A.A 5

Low Conductivity 1	16.3	13.0 17.0 21.0	mmho/m	High Conductivity 1	470.8	430.0 475.0 520.0	mmho/m
Low Conductivity 2	5.6	4.5 6.0 7.5	mmho/m	High Conductivity 2	376.1	345.0 385.0 425.0	mmho/m
Low Conductivity 3	2.6	1.0 3.5 6.0	mmho/m	High Conductivity 3	266.1	240.0 260.0 280.0	mmho/m
Low Conductivity 4	1.6	0.0 2.0 4.0	mmho/m	High Conductivity 4	130.0	120.0 135.0 150.0	mmho/m
Background Vx 1	0.0	-110.0 -32.5 45.0	mmho/m	Phase Check Loop 1	0.0	-2.0 0.0 2.0	%
Background Vx 2	0.0	-35.0 20.0 75.0	mmho/m	Phase Check Loop 2	0.0	-2.0 0.0 2.0	%
Background Vx 3	0.0	-60.0 2.5 65.0	mmho/m	Phase Check Loop 3	0.0	-2.0 0.0 2.0	%
Background Vx 4	0.0	-50.0 -17.5 15.0	mmho/m	Phase Check Loop 4	0.0	-2.0 0.0 2.0	%

Induction Constants MAI-A.A 5

Last Edited on 19-NOV-2014,01:46

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	0.00	inches
Number of Fins on Stand-off	8.0000	
Stand-off Fin Angle	45.00	degrees
Stand-off Fin Width	0.0000	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-A.A 5

Field Calibration on 01-NOV-2014,01:00

	Measured	Calibrated(Deg F)
Lower	10.00	10.00
Upper	100.00	100.00

High Resolution Temperature Constants MAI-A.A 5

Last Edited on 01-NOV-2014,01:00

Pre-filter Length	11

Photo Density Calibration MPD-D.A 481

Base Calibration on 22-OCT-2014 15:53
Field Check on 18-NOV-2014 15:33

Density Calibration

Base Calibration	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Background	1210	1421		
Reference 1	55376	26233	59556	30836
Reference 2	22300	2596	24941	2541

Field Check at Base

1210.3	1420.8

Field Check

1209.8	1419.4

PE Calibration

Base Calibration	Measured			Calibrated
	WS	WH	Ratio	Ratio
Background	227	1078		
Reference 1	23980	55175	0.439	0.371
Reference 2	6780	22159	0.311	0.272

Field Check at Base

226.9	1078.0

Field Check

229.4	1079.9

Photo Density Calibration Tolerances MPD-D.A 481

Near Density Ratio	2.57	-5% 2.52 +5%	Far Density Ratio	21.11	-5% 21.00 +5%
PE Calibration	0.120	0.089 0.110 0.131			
Near Den. Field Check	1209.8	-3% 1210.3 +3%	Far Den. Field Check	1419.4	-3% 1420.8 +3%
PE WS Field Check	229.4	-6% 226.9 +6%	PE WH Field Check	1079.9	-6% 1078.0 +6%

Density Constants MPD-D.A 481

Last Edited on 19-NOV-2014,01:46

Density Source Id	P50557B	
Nylon Calibrator Number	DNCE695	
Aluminium Calibrator Number	DACD698	
Density Shoe Profile	8 inch	
Caliper Source for Processing	Density Caliper	
PE Correction to Density	Not Applied	
Mud Density	1.10	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 (m)
2.71	

0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00

Caliper Calibration MPD-D.A 481

Base Calibration on 22-OCT-2014 15:01
Field Calibration on 18-NOV-2014 15:29

Base Calibration

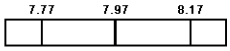
Reading No	Measured	Calibrator Size (in)
1	17509	3.99
2	27597	5.98
3	37616	7.97
4	47437	9.86
5	58570	11.92
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
7.96	7.97

Caliper Calibration Tolerances MPD-D.A 481

Short Arm Field Cal. 7.96 in



DOWNHOLE EQUIPMENT

C:\Minimus 14.03.4558\Logs\O'Brien (LA) MSJ-Penner 28 #3\O'Brien (LA) MSJ-Penner 28 #3 Repeat.dta

CBH-C, Cablehead, 11 pin
CBH-C 0 LG: 2.40 ft WT: 24.3 lb OD: 2.244 in

Compact Comms Gamma
MCG-C 208 LG: 8.70 ft WT: 63.9 lb OD: 2.244 in

Compact Micro-Resistivity
MMR-C.A 248 LG: 8.59 ft WT: 81.6 lb OD: 4.882 in

Compact Neutron
MDN-A.B 163 LG: 5.04 ft WT: 50.7 lb OD: 2.244 in

Compact Density/Caliper
MPD-D.A 481 LG: 9.59 ft WT: 90.4 lb OD: 2.449 in

Compact Focussed Electric
MFE-A.A 55 LG: 6.05 ft WT: 48.5 lb OD: 2.244 in

Compact Induction
MAI-A.A 5 LG: 10.81 ft WT: 48.5 lb OD: 2.244 in

Total Length: 51.18 ft Weight: 407.9 lb

43.50 ft	GRGC - Gamma Ray
40.59 ft	CGXT - MCG External Temperature
34.24 ft	MBTC - MMR Caliper
33.24 ft	MINV - MMR MicroLog Inverse
33.24 ft	MNRL - MMR MicroLog Normal
28.45 ft	NPRL - Limestone Neutron Por.
21.21 ft	AVOL - Annular Volume
21.21 ft	HVOL - Hole Volume
21.21 ft	CLDC - Density Caliper
19.28 ft	DEN - Compensated Density
19.28 ft	DCOR - Density Correction
19.28 ft	DPRL - Limestone Density Por.
19.22 ft	PDPE - PE
13.72 ft	FEFE - Shallow FE
3.34 ft	R40O - Array Ind. One Res 40
3.34 ft	RTAO - Array Ind. One Res Rt
3.34 ft	R60O - Array Ind. One Res 60
0.23 ft	SPCG - Spontaneous Potential
Tool Zero	(0.13ft from bottom)
-0.13 ft	SMTU - DST Uphole Tension

COMPANY	O'BRIEN RESOURCES, LLC.
WELL	MSJ-PENNER 28 #3
FIELD	WILDCAT
PROVINCE/COUNTY	GOVE
COUNTRY/STATE	U.S.A. / KANSAS

Elevation Kelly Bushing	2811.00	feet	First Reading	4647.00	feet
Elevation Drill Floor	2809.00	feet	Depth Driller	4650.00	feet
Elevation Ground Level	2798.00	feet	Depth Logger	4650.00	feet

Weatherford®

COMPOSITE LOG