

Tucker
WIRELINE SERVICES

COMPENSATED NEUTRON

PEL DENSITY LOG

Company RUNNING FOXES PETROLEUM
Well WUNDERLY #14-36D-1
Field DEVON
County BOURBON
State KANSAS
Country USA
API No. 15-011-23821

File No : TUL-55934
Company : RUNNING FOXES PETROLEUM
Well : WUNDERLY #14-36D-1
Field : DEVON
Country : BOURBON
State : KANSAS
Country : USA
API No : 15-011-23821

Location :
490' FSL & 2460' FWL
NE SE SE SW

LSD : Sect : 36 Twp : 24S Rge : 23E

Permanent Datum: GL Elevations: KB 0.00 Ft Services: CNT
Drilling Measured From: GL DF 0.00 Ft LDT
Log Measured From: GL GL 859.00 Ft PIT
Above Permanent Datum: 0.00 Ft

Date	2011-11-03	
Run Number	1	
Depth--Driller	550.0	Ft
Depth--Logger	528.0	Ft
First Reading	505.0	Ft
Last Reading	20.0	Ft
Casing--Driller	20.0	Ft
Casing--Logger	20.0	Ft
Bit Size	5.625	In
Casing Size	8.625	In
Hole Fluid Type	FRESH / NATIVE	
Density	0.0	LBS/GAL
Fluid Loss	0.0	CC
PH/Viscosity	0.0	0.0 SEC
Sample Source	MEASURED	
RM@Measured Temp.	1.300	@ 75 F
RMF@Measured Temp	1.105	@ 75 F
RM@Measured Temp.	1.495	@ 75 F
Source RMF/RMC	CALCULATED/CALCULATED	
RM@BHT	0.942	@ 80 F
Time Circulation Stopped		
Max Recorded Temp.	80	F
Equipment/Base	TRK 127	TULSA
Recorded By	S. DAVIS / R. FRANKLIN	
Witnessed By	C. COUNTS	

The customer is hereby warned that by providing the log data herein, T. W. S. does not agree to provide any interpretation of log data, conversion of log data to physical rock parameters or recommendations. T. W. S. does not guarantee or warrant either expressly or impliedly, the accuracy of any interpretation of log data, conversion of log data to physical rock parameters or recommendations which may be given by T. W. S. personnel. Any interpretation, conversion or recommendation is not part of the consideration for the agreement between the parties and is not part of any part of the charge by T. W. S. for its services. Any user of the log data is warned that said user is not entitled to rely on interpretations, conversions or recommendations as aforesaid.

Bitsize Intervals		Casing Strings		
Size (In)	Bottom (Ft)	Size (In)	Weight (Lbs)	Bottom (Ft)
5.625	550.00	8.625	20.00	20.00

Run Number	1	
Date	2011-11-03	
Date/Time On Bottom	2011-11-03 10:30	
Depth to Fluid	20.0	Ft
Salinity	0.000	PPM
RMF@BHT	1.040	@ 80 F
RMC@BHT	1.400	@ 80 F

Run Number 1

Comments

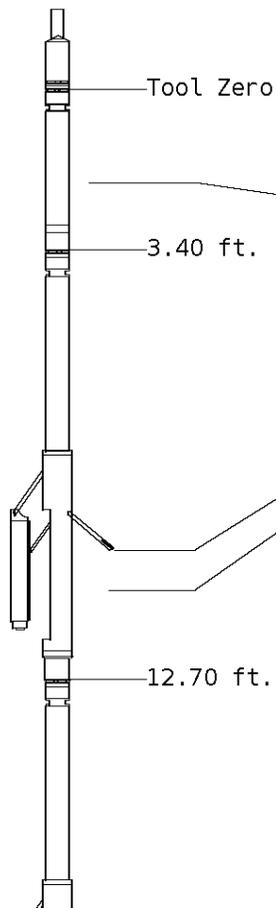
ALL PRESENTATIONS AS PER CUSTOMER REQUEST
 GRT, CNT, LDT, AND PIT RUN IN COMBINATION.
 CALIPERS ORIENTED ON X-Y AXIS.
 2.71 G/CC USED TO CALCULATED POROSITY.
 ANNULAR HOLE VOLUME CALCULATED USING 2.875" PRODUCTION CASING.

GRT: GRP.
 CNT: PHIN, CLCNIN
 LDT: PORL, LCORN, PECLN, LDENN, PORLLS, CLLDIN.
 PIT: ILD, ILM, SPU, SFLAEC

OPERATORS:
 A. WARREN
 S. DAVIS
 T. HOBBS

Tool String Schematic

Total Tool Length - 43.49 ft.
Maximum Outside diameter - 4.80 in.
Net Weight in Air - 743.00 lbs.



Tool: GRT-B **Length:** 3.40 ft. **O.D.** 3.60 in.
 Gamma Ray Controller

Sonde ID :GRT-BA-121

Measure Point	Tool Offset	Stack Offset	Bottom Offset
GRP	2.00	2.00	41.49

Tool: CNT-AA **Length:** 9.30 ft. **O.D.** 4.36 in.
 Compensated Neutron A Pad on NDT-A

Sonde ID :NDT-AB-400

Source ID :N-1044

Pad ID :CNP-AA-116

Measure Point	Tool Offset	Stack Offset	Bottom Offset
CLCN	6.00	9.40	34.09
PHIN	6.80	10.20	33.29

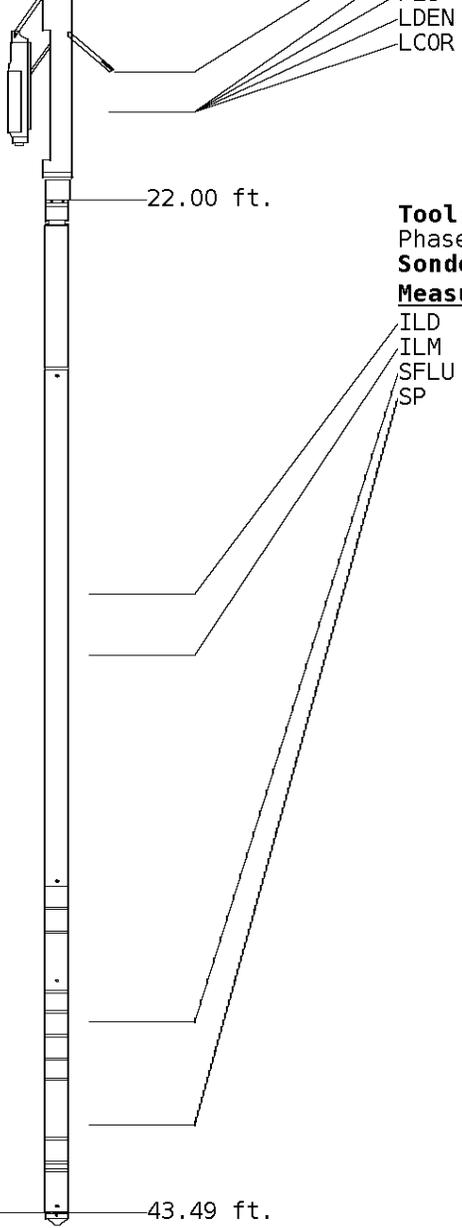
Tool: LDT-DA **Length:** 9.30 ft. **O.D.** 4.80 in.
 Litho Density D Pad on NDT-A

Sonde ID :PDT-GA-464

Source ID :CSV-587

Pad ID :LDP-DA-02

Measure Point	Tool Offset	Stack Offset	Bottom Offset
CLLD	6.00	18.70	24.79
PEL	7.00	19.70	23.79
PES	7.40	20.10	23.39



7.20 19.90 23.59
 7.20 19.90 23.59

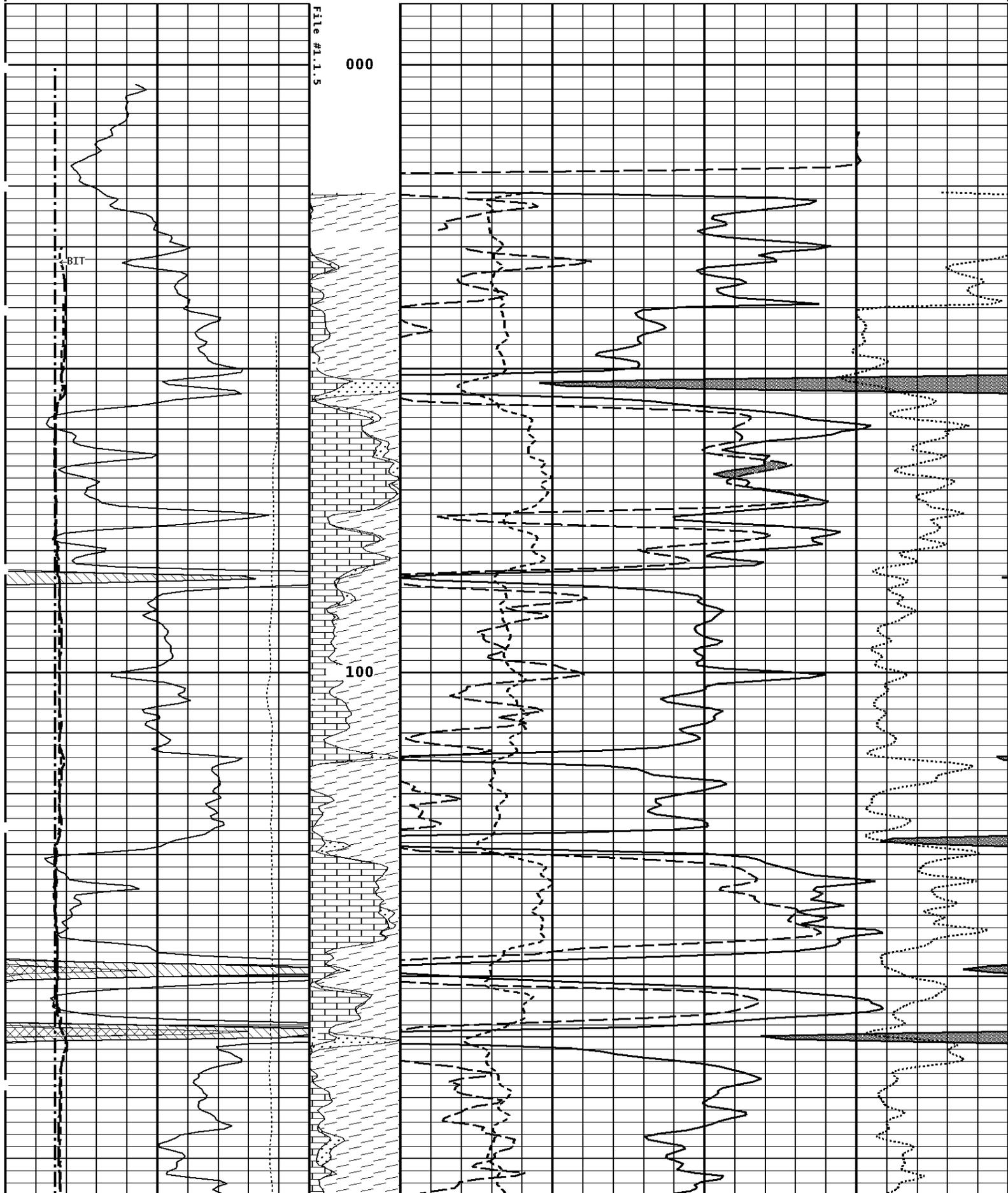
Tool: PIT-CA **Length:** 21.49 ft. **O.D.** 3.62 in.
 Phased Dual Induction w/ RM & D
Sonde ID :PIT-AC-13

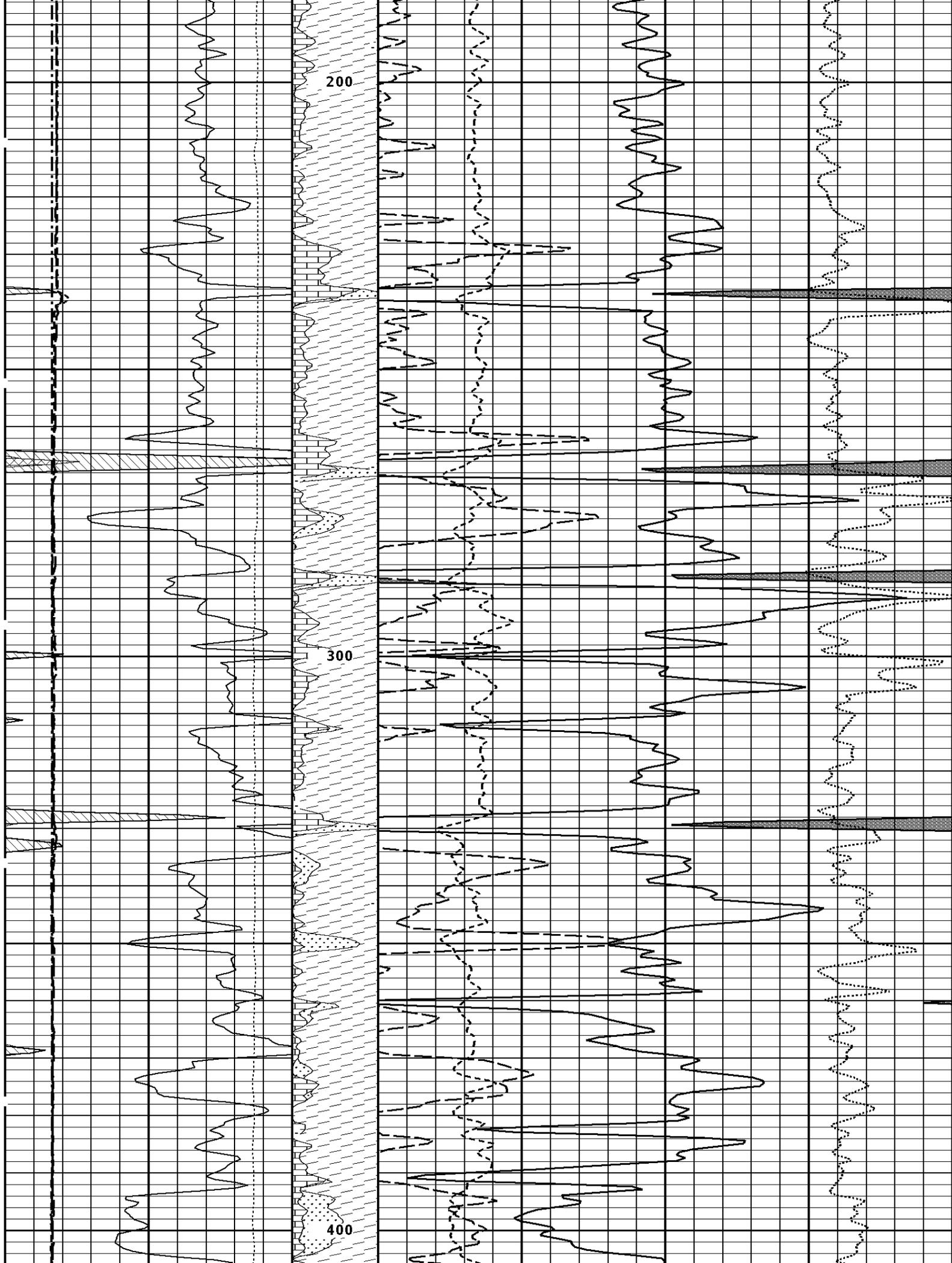
Measure Point	Tool Offset	Stack Offset	Bottom Offset
ILD	8.92	30.92	12.56
ILM	10.10	32.10	11.39
SFLU	17.49	39.49	4.00
SP	20.60	42.60	0.88

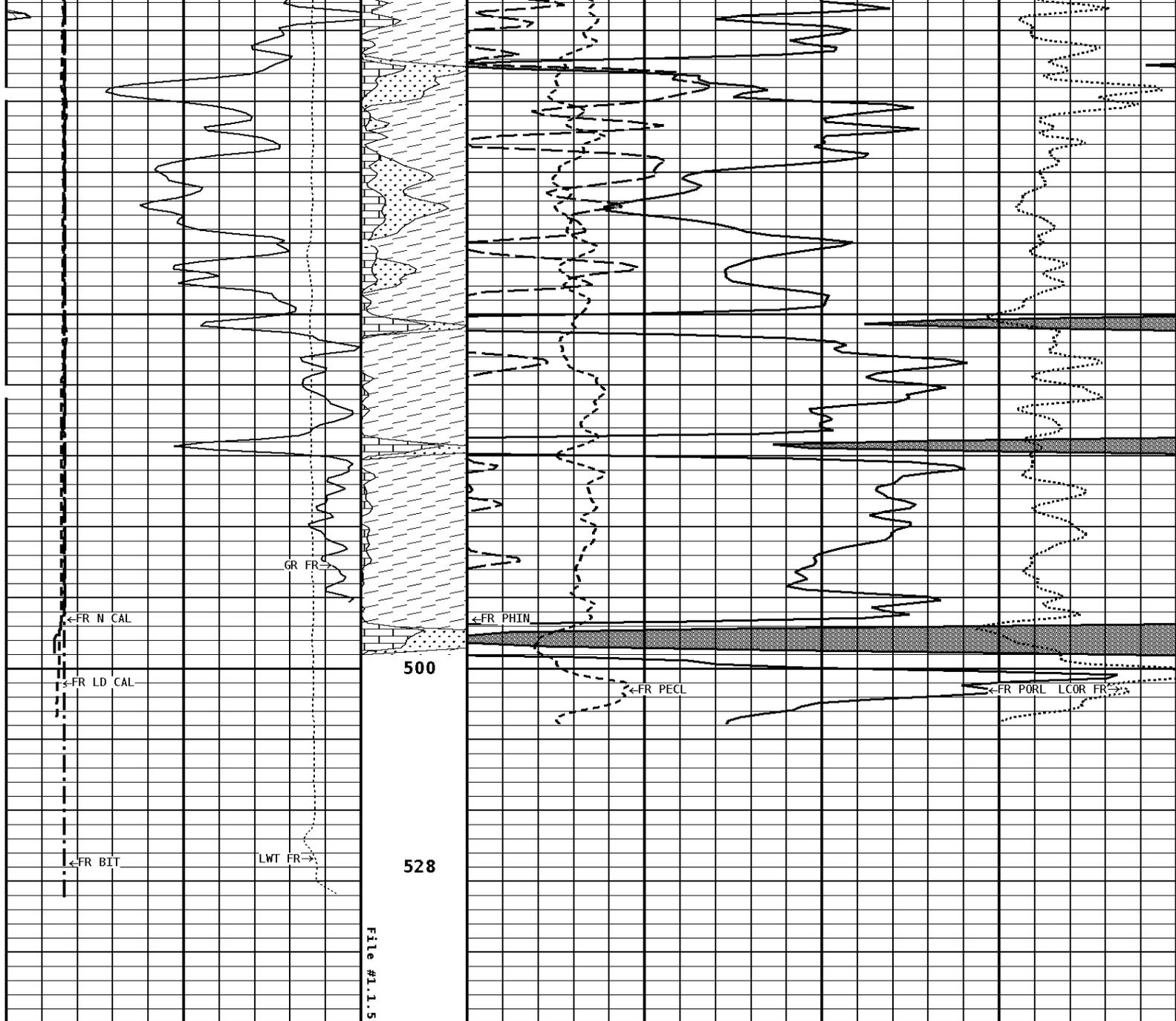
Well File: rfp_wun_14_36d_1_stk_nov_3 **Scale:** 1:240
Segment: V1.D1.S5 Reprocess of segment_003 **Acquired:** 2011-11/03 10:37 3.2.0-10220
Reference: 0 **Processed:** 2011-11/03 11:17 3.2.0-10220

TENSION LBS					
10000	0				
BIT SIZE INCHES (IN)		Volume Dolo/Shale			
4	14				
DENSITY (X) CALIPER INCHES (IN)		Volume Quartz	PE CROSS-SECTION BARNs/ELECTRON	DENSITY CORRECTION G/CC	
14	24		0	10	-0.25
4	14				0.25
NEUTRON (Y) CALIPER INCHES (IN)		Volume Calcite	NEUTRON POROSITY PERCENT (LIMESTONE MATRIX)		
14	24		30		
4	14			-10	
GAMMA RAY API UNITS		- BHV AHV - CU. FT	DENSITY POROSITY PERCENT (2.71 g/cc)		
200	400		70	30	
0	200		30	-10	
			-10	-50	

1:240 MAIN SECTION







1:240 MAIN SECTION

GAMMA RAY API UNITS 200 0 400 200	-BHV AHV- CU.FT	DENSITY POROSITY PERCENT (2.71 g/cc)	
		70	30
NEUTRON (Y) CALIPER INCHES (IN) 14 4 24 14	Volume Calcite	NEUTRON POROSITY PERCENT (LIMESTONE MATRIX)	
		30	-10
DENSITY (X) CALIPER INCHES (IN) 14 4 24 14	Volume Quartz	PE CROSS-SECTION BARNS/ELECTRON	DENSITY CORRECTION G/CC
		0	10 -0.25
BIT SIZE INCHES (IN)	Volume DoLo/Shale		

4	14
TENSION LBS	
10000	0

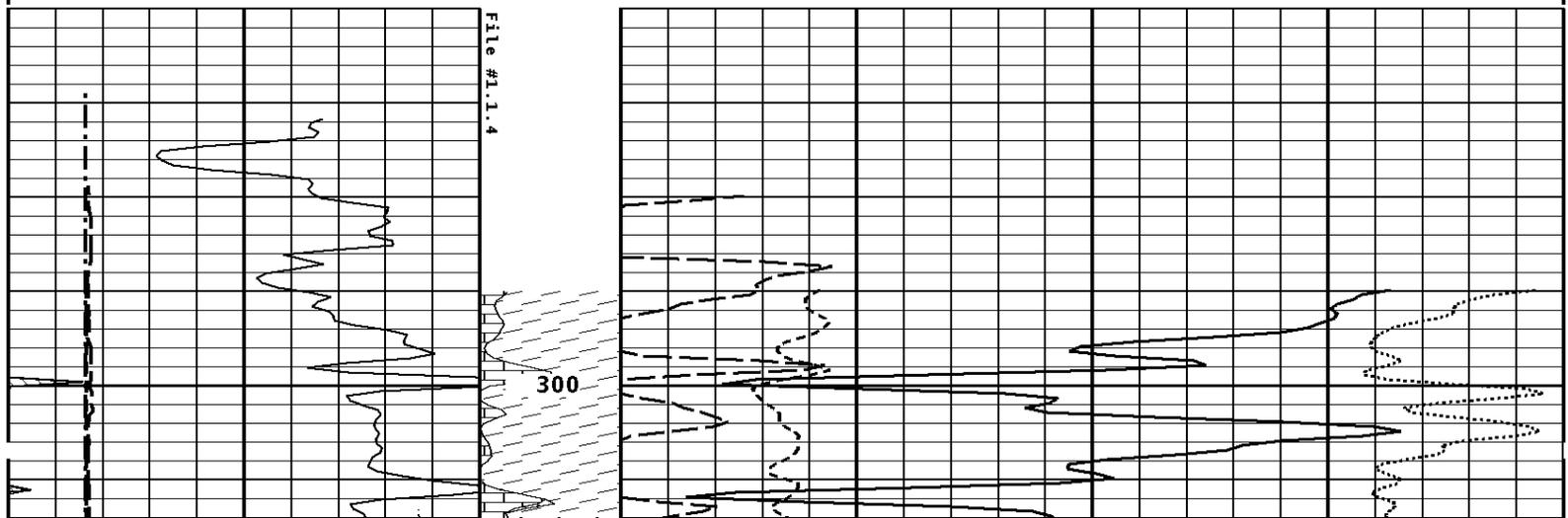
* Borehole Zone Factors *

Zone 1 99999.0 to 0.0 Feet		
Matrix Density	2.71	g/cc
Fluid Density	1.00	g/cc
Formation Matrix	Limestone	
Drill Bit Size	5.625	in
Casing Diameter	2.875	in
Casing Correction (PHI N)	Disable	

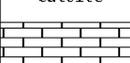
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Segment: V1.D1.S4 Reprocess of segment_002	Acquired: 2011-11/03 10:24 3.2.0-10220
Reference: 0	Processed: 2011-11/03 11:17 3.2.0-10220

TENSION LBS			
10000	0		
BIT SIZE INCHES (IN)		Volume Dolo/Shale	
4	14		
DENSITY (X) CALIPER INCHES (IN)		Volume Quartz	PE CROSS-SECTION BARNs/ELECTRON
14	24		
4	14	0	10
			DENSITY CORRECTION G/CC
			-0.25
			0.25
NEUTRON (Y) CALIPER INCHES (IN)		Volume Calcite	NEUTRON POROSITY PERCENT (LIMESTONE MATRIX)
14	24		
4	14	30	-10
GAMMA RAY API UNITS		- BHV AHV - CU. FT	DENSITY POROSITY PERCENT (2.71 g/cc)
200	400		
0	200	70	30
		30	-10
		-10	-50

1:240 REPEAT SECTION



1:240 REPEAT SECTION

GAMMA RAY API UNITS 	- BHV AHV - CU. FT	DENSITY POROSITY PERCENT (2.71 g/cc)	
200 0		70 30 -10	30 -10 -50
NEUTRON (Y) CALIPER INCHES (IN)	Volume Calcite 	NEUTRON POROSITY PERCENT (LIMESTONE MATRIX)	
14 4	24 14	30	-10
DENSITY (X) CALIPER INCHES (IN)	Volume Quartz 	PE CROSS-SECTION BARNS/ELECTRON	DENSITY CORRECTION G/CC
14 4	24 14	0 10	-0.25 0.25
BIT SIZE INCHES (IN)	Volume DoLo/Shale 		
4	14		
TENSION LBS			
10000	0		

*** Borehole Zone Factors ***

Zone 1 99999.0 to 0.0 Feet			
Matrix Density	_____	2.71	g/cc
Fluid Density	_____	1.00	g/cc
Formation Matrix	_____	Limestone	
Drill Bit Size	_____	5.625	in
Casing Diameter	_____	2.875	in
Casing Correction (PHI N)	_____	Disable	

Well File: rfp_wun_14_36d_1_stk_nov_3	Scale: 1:240
Segment: V1.D1.S5 Reprocess of segment_003	Acquired: 2011-11/03 10:37 3.2.0-10220
Reference: 0	Processed: 2011-11/03 11:17 3.2.0-10220

TENSION LBS 10000 ----- 0	
BIT SIZE INCHES (IN) 4 ----- 14	
DENSITY (X) CALIPER INCHES (IN) 14 ----- 24 4 ----- 14	PE CROSS-SECTION BARNS/ELECTRON
	0 ----- 10 -0.25 ----- 0.25
NEUTRON (Y) CALIPER INCHES (IN) 14 ----- 24 4 ----- 14	DENSITY POROSITY PERCENT (2.71 g/cc)
	70 ----- 30 ----- -10 ----- -50
GAMMA RAY	COMPENSATED BULK DENSITY

GAMMA RAY
API UNITS

-BHV ARV-
CU. FT

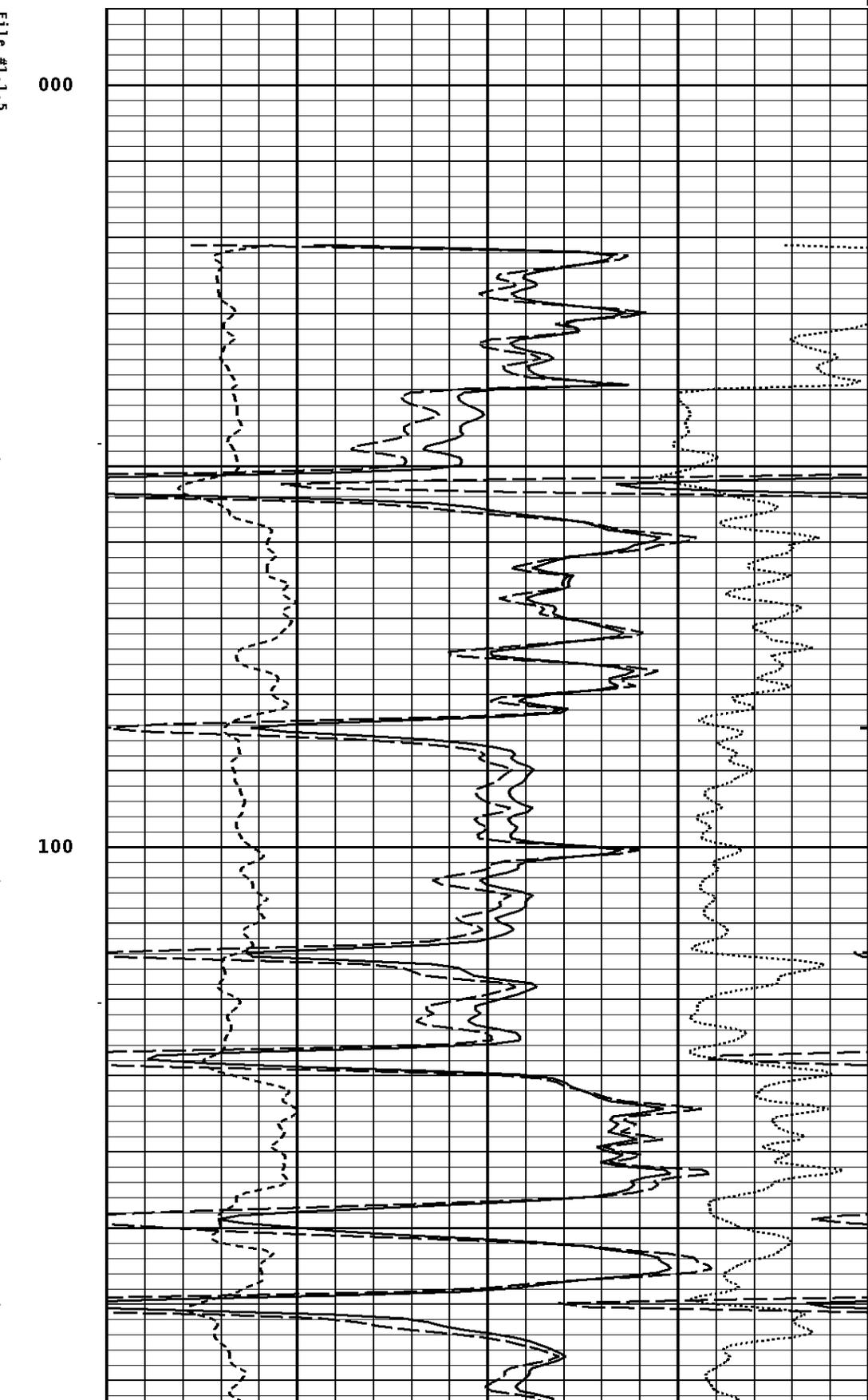
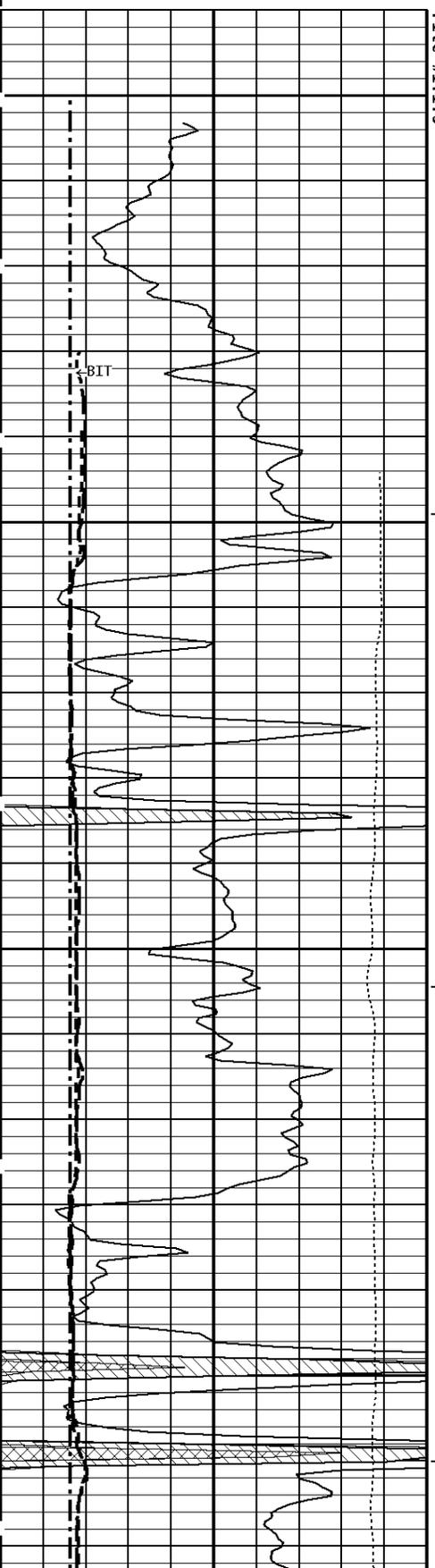
COMPENSATED BULK DENSITY
G/CC

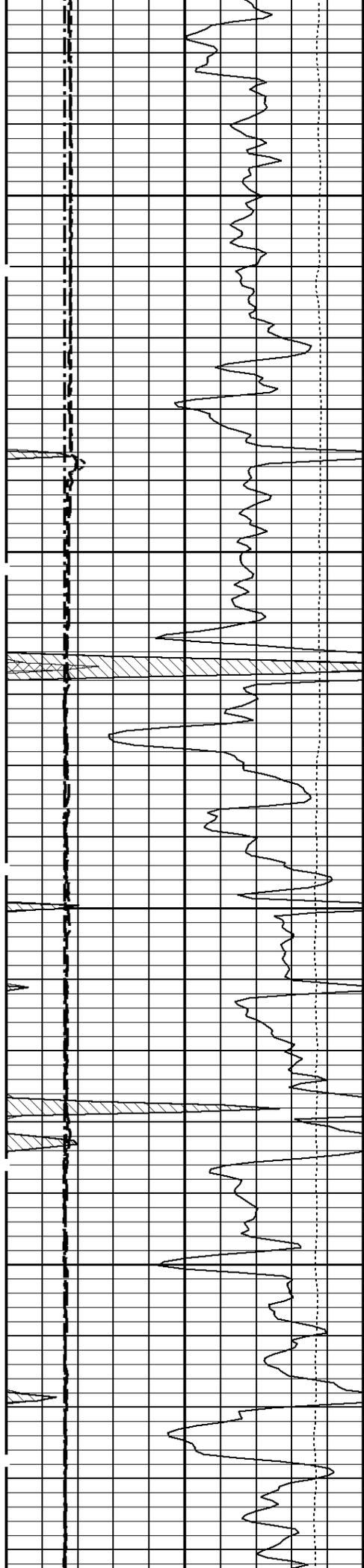


3.0
2.0
1.0

4.0
3.0
2.0

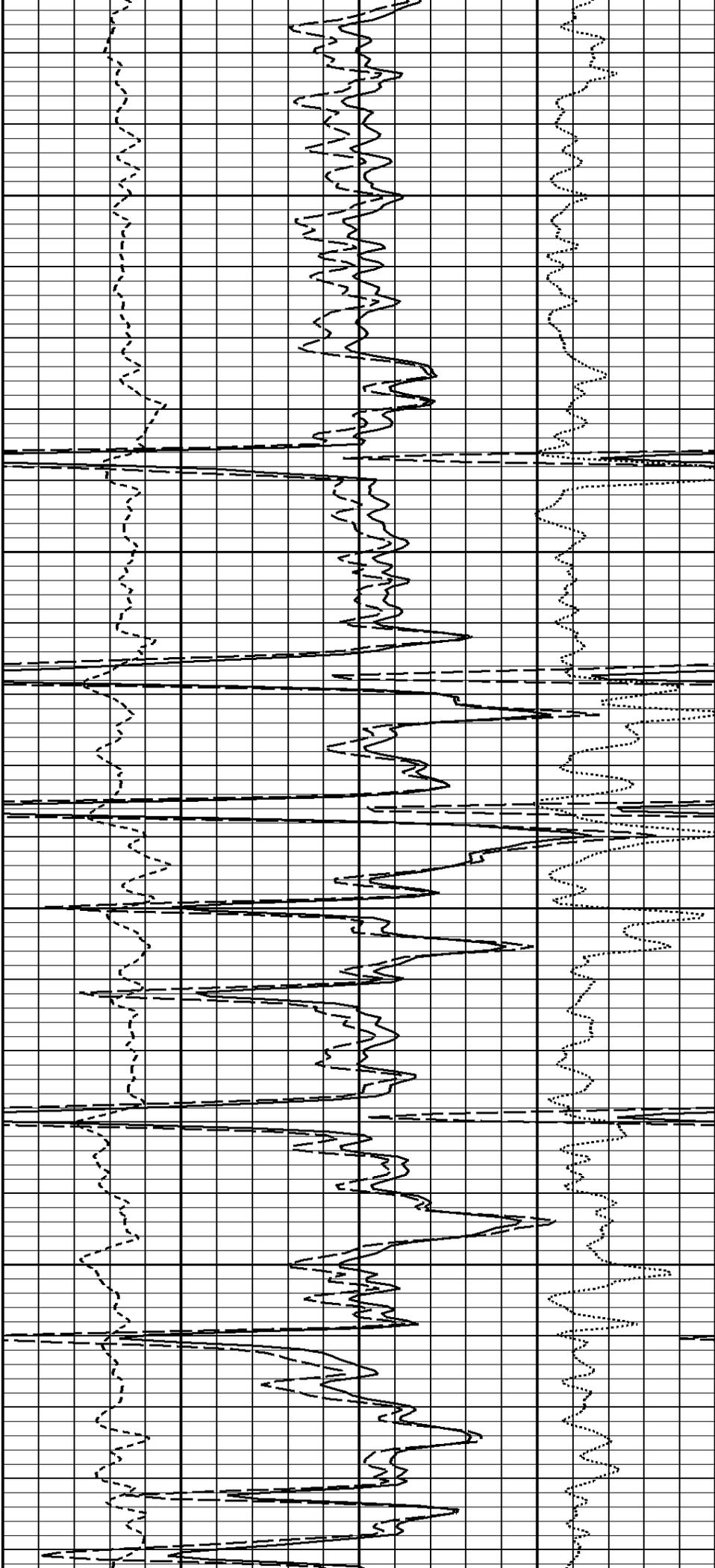
1:240 MAIN SECTION BULK DENSITY

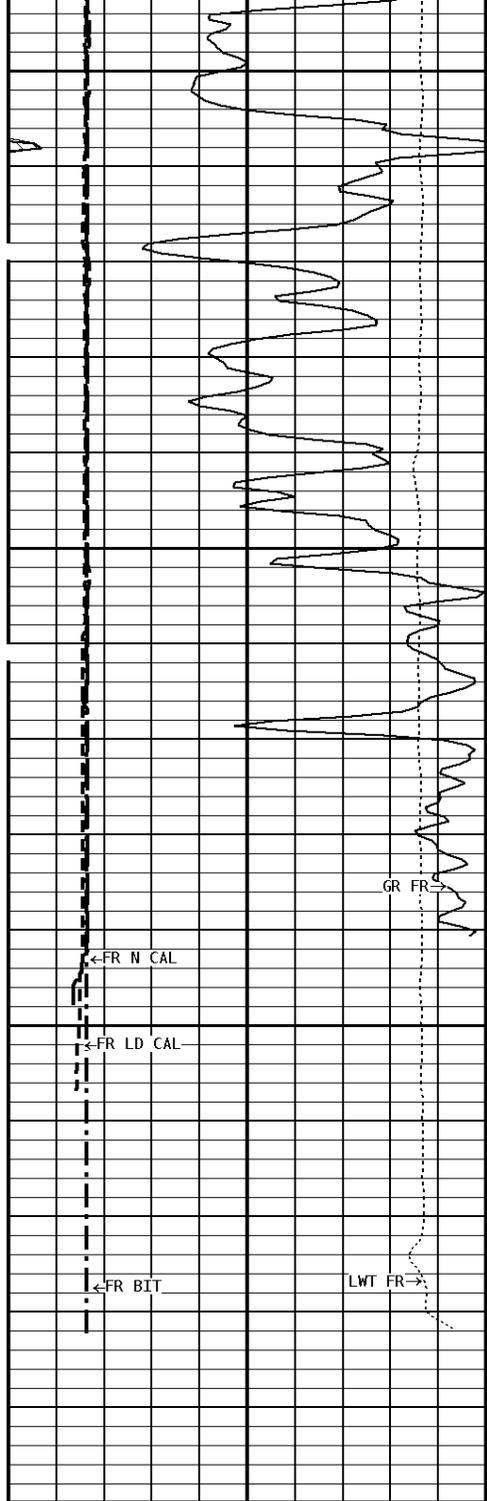




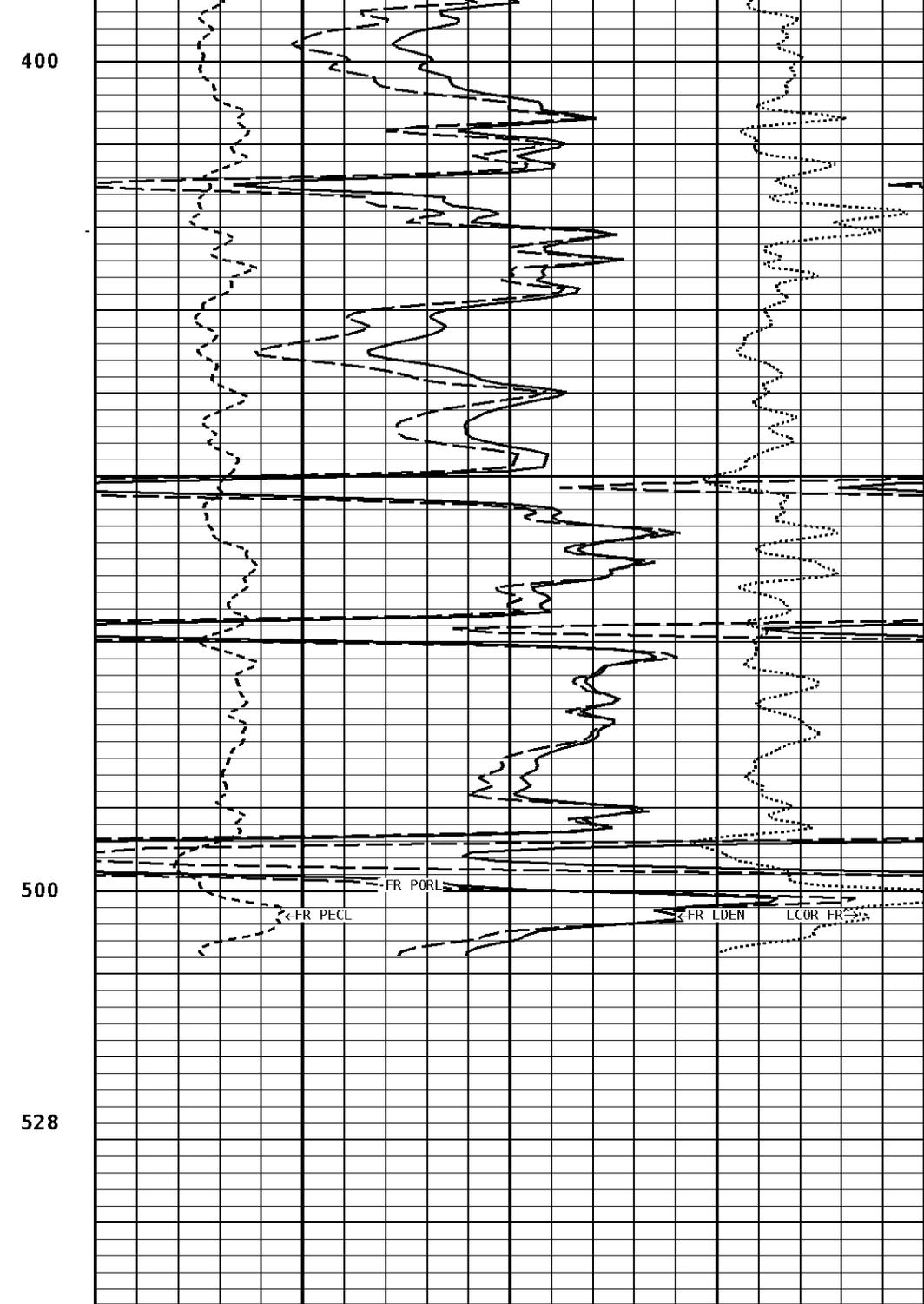
200

300





File #1.1.5



**1:240 MAIN SECTION
BULK DENSITY**

GAMMA RAY API UNITS 200 0 400 200		- BHV AHV - CU. FT	COMPENSATED BULK DENSITY G/CC 3.0 4.0 2.0 3.0 1.0 2.0	
NEUTRON (Y) CALIPER INCHES (IN) 14 24 4 14			DENSITY POROSITY PERCENT (2.71 g/cc) 70 30 30 -10 -10 -50	
DENSITY (X) CALIPER INCHES (IN) 14 24 4 14			PE CROSS-SECTION BARN/ELECTRON	DENSITY CORRECTION G/CC

4	14
BIT SIZE INCHES (IN)	
4	14
TENSION LBS	
10000	0

0	10	-0.25	0.25
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*** Borehole Zone Factors ***

Zone 1 99999.0 to 0.0 Feet			
Matrix Density	_____	2.71	g/cc
Fluid Density	_____	1.00	g/cc
Formation Matrix	_____	Limestone	
Drill Bit Size	_____	5.625	in
Casing Diameter	_____	2.875	in
Casing Correction (PHI N)	_____	Disable	

*** Calibration Summary ***

Shop Calibration GRT-B						
Performed : 16-May-2011			Time : 10:12			
Sensor Suite : GR-GR5			ID : GRT-BA-121			
	Background	Measured Jig	Units	Calibrated Jig	Units	
GR	51	355	CPS	175	GRAPI	
Shop Calibration CNT-AA						
Performed : 21-MAR-2011			Time : 11:09			
Sensor Suite : CALI-BCN			ID : NDT-AB-400			
	Jig - Measured Ring#1 Ring#2	Jig - Calibrated Ring#1 Ring#2		Units		
CL # 1	8.6 14.6	6.0 12.0		IN.		
Shop Calibration LDT-DA						
Performed : 01-MAR-2011			Time : 04:24			
Sensor Suite : CALI-LTH			ID : PDT-GA-464			
	Jig - Measured Ring#1 Ring#2	Jig - Calibrated Ring#1 Ring#2		Units		
CL # 1	7.1 12.8	6.0 12.0		IN.		
Shop Calibration LDP-DA						
Performed : 18-Oct-2011			Time : 11:06			
Sensor Suite : BHCPELNG			ID : LDP-DA-02			
Source ID : CSV-587						
Short Space						
	BKGD	Al	Mg	Al+Fe	Units	
LSW1	67	450	725	302	CPS	
LSW2	73	544	875	389	CPS	
LSW3	272	1365	2134	1156	CPS	
LSW4	355	1309	1817	1162	CPS	
LSW5	34	44	44	42	CPS	
LSW6	90	93	92	92	CPS	
LSW7	61	60	60	60	CPS	
LSW8	2	3	3	2	CPS	
QS	0.198	0.220	0.216	0.215		
PES			2.778	5.967		
SSDN		2.600	1.680		G/CC	

	BKGD	Al	Mg	Al+Fe	Units
LLW1	108	599	2445	377	CPS
LLW2	119	1027	4242	741	CPS
LLW3	443	1995	7320	1720	CPS
LLW4	578	1163	2988	1088	CPS
LLW5	64	68	84	68	CPS
LLW6	186	186	179	185	CPS
LLW7	116	116	111	116	CPS
LLW8	4	5	10	5	CPS
QL	0.233	0.233	0.234	0.228	
PEL			2.697	5.458	
LSDN		2.600	1.680		G/CC