

Tucker
WIRELINE SERVICES

COMPENSATED NEUTRON

PEL DENSITY LOG

Company RUNNING FOXES PETROLEUM
Well WUNDERLY 11-36D-4
Field DEVON
County BOURBON
State KANSAS
Country USA
API No. 15-011-23824-00-00

File No : TUL-56804
Company : RUNNING FOXES PETROLEUM
Well : WUNDERLY 11-36D-4
Field : DEVON
County : BOURBON
State : KANSAS
Country : USA
API No : 15-011-23824-00-00

Location :
1470' FSL & 2460' FWL
SE SE NE SW

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

Permanent Datum: GL Elevations: KB 0.00 Ft CNT
Drilling Measured From: GL DF 0.00 Ft LDT
Log Measured From: GL DF 0.00 Ft PIT
Above Permanent Datum: 0.00 Ft GL 868.00 Ft

Date	2011-08-29	
Run Number	1	
Depth--Driller	575.0	Ft
Depth--Logger	575.0	Ft
First Reading	557.0	Ft
Last Reading	20.0	Ft
Casing--Driller	20.0	Ft
Casing--Logger	20.0	Ft
Bit Size	6.750	In
Casing Size	8.625	In
Hole Fluid Type	WATER	
Density	0.0	LBS/GAL
Fluid Loss	0.0	CC
PH/Viscosity	0.0	0.0 SEC
Sample Source	MEASURED	
RM@Measured Temp.	3.400	@ 84 F
RMF@Measured Temp	2.720	@ 84 F
RMG@Measured Temp.	4.080	@ 84 F
Source RMF/RMG	CALCULATED/CALCULATED	
RM@BHT	3.360	@ 85 F
Time Circulation Stopped	2011-08-29 08:00	
Max Recorded Temp.	85	F
Equipment/Base	TRK 127	TULSA
Recorded By	B BAILEY, R AUSTIN	
Witnessed By	A. GREENE	

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)
6.750	575.00	8.625	25.00	20.00

Run Number	1	
Date	2011-08-29	
Date/Time On Bottom	2011-08-29 10:00	
Depth to Fluid	0.0	Ft
Salinity	0.000	PPM
RMF@BHT	2.688	@ 85 F
RMC@BHT	4.032	@ 85 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 4.500" PRODUCTION CASING.

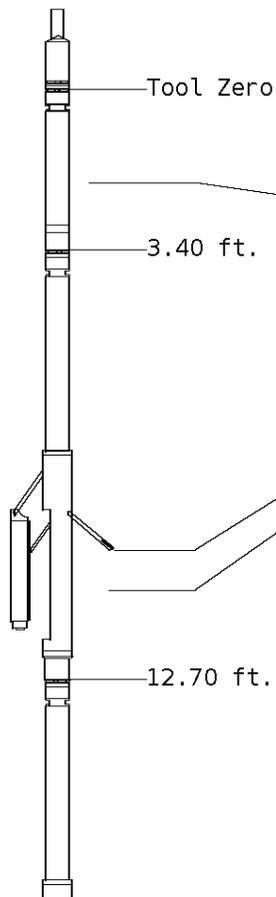
GRT: GRP.
 CNT: PHIN, CLCNIN
 LDT: PORL, LCORN, PECLN, LDENN, PORLLS, CLLDIN.
 PIT: ILD, ILM, SPU, SFLAEC

OPERATORS:

M.BURKE
 JT. TORBERT

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-14

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

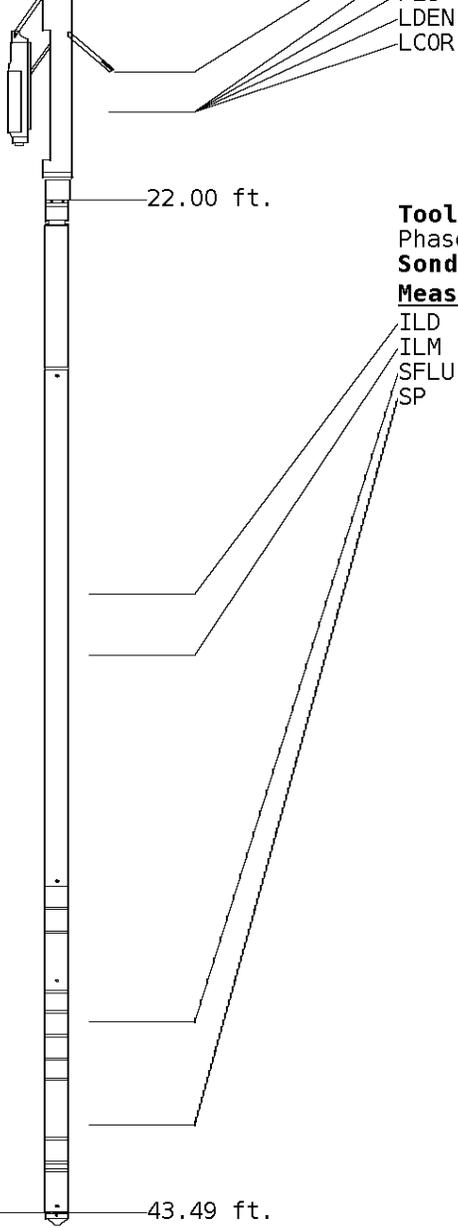
Tool: LDT-DA **Length:** 9.30 ft. **O.D.** 4.80 in.
 Litho Density D Pad on NDT-A

Sonde ID : NDT-BB-149

Source ID : CSV-587

Pad ID : LDP-DA-01

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-25

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_WUNDERLY_11-36D-4_AUG29_STK
Segment: V1.D1.S5 Reprocess of main
Reference: 0

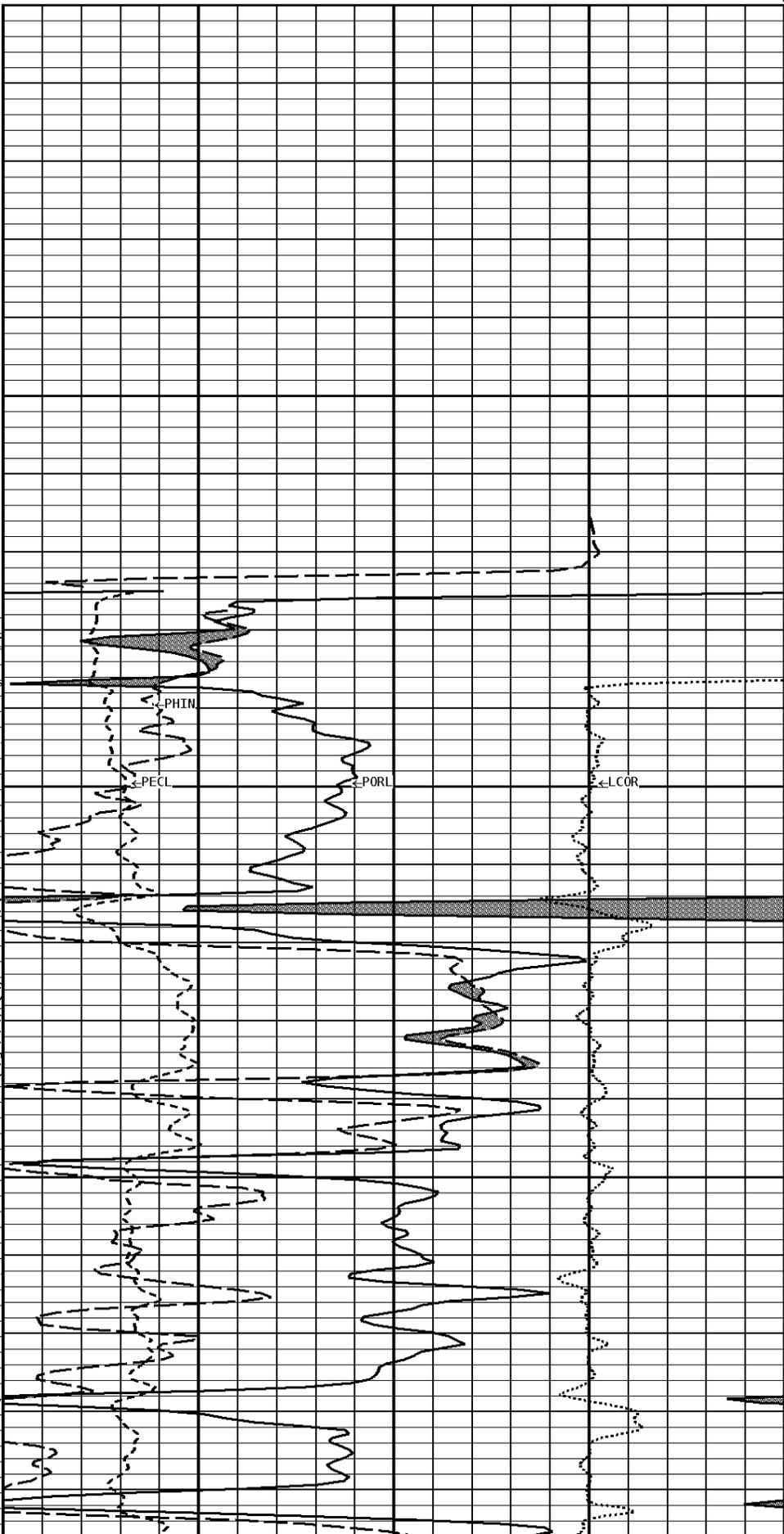
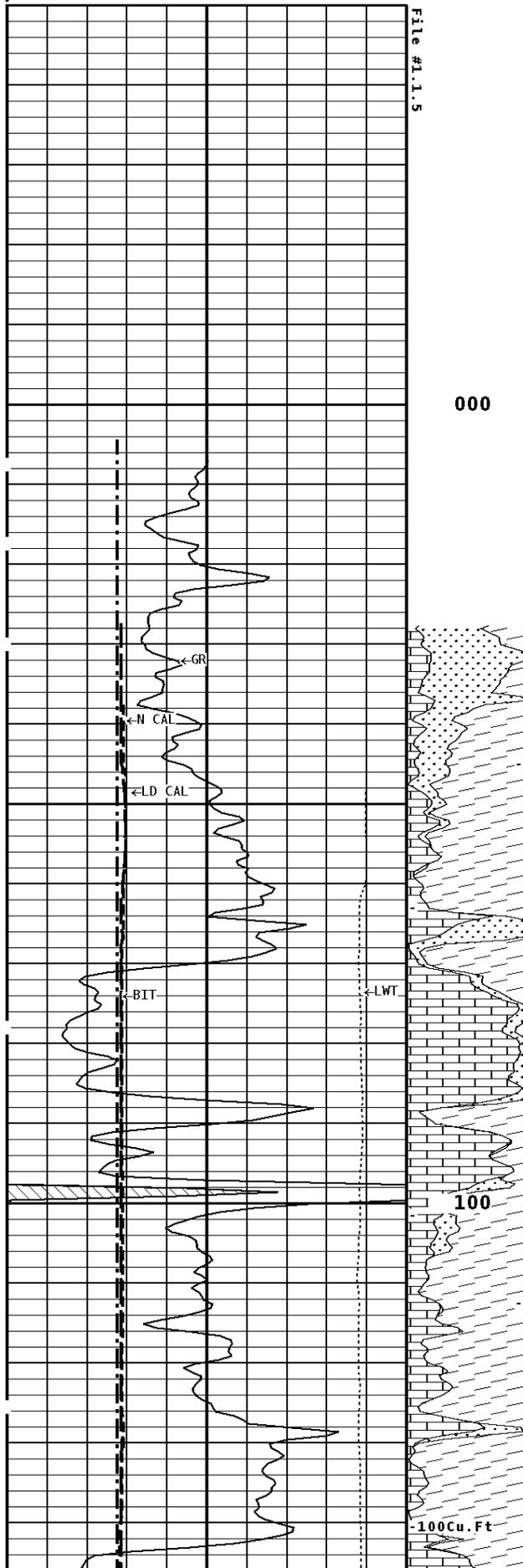
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Acquired: 2011-08/29 09:58 3.2.0-10220
Processed: 2011-08/29 10:11 3.2.0-10220

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		DENSITY CORRECTION G/CC
4	14	0	10 -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

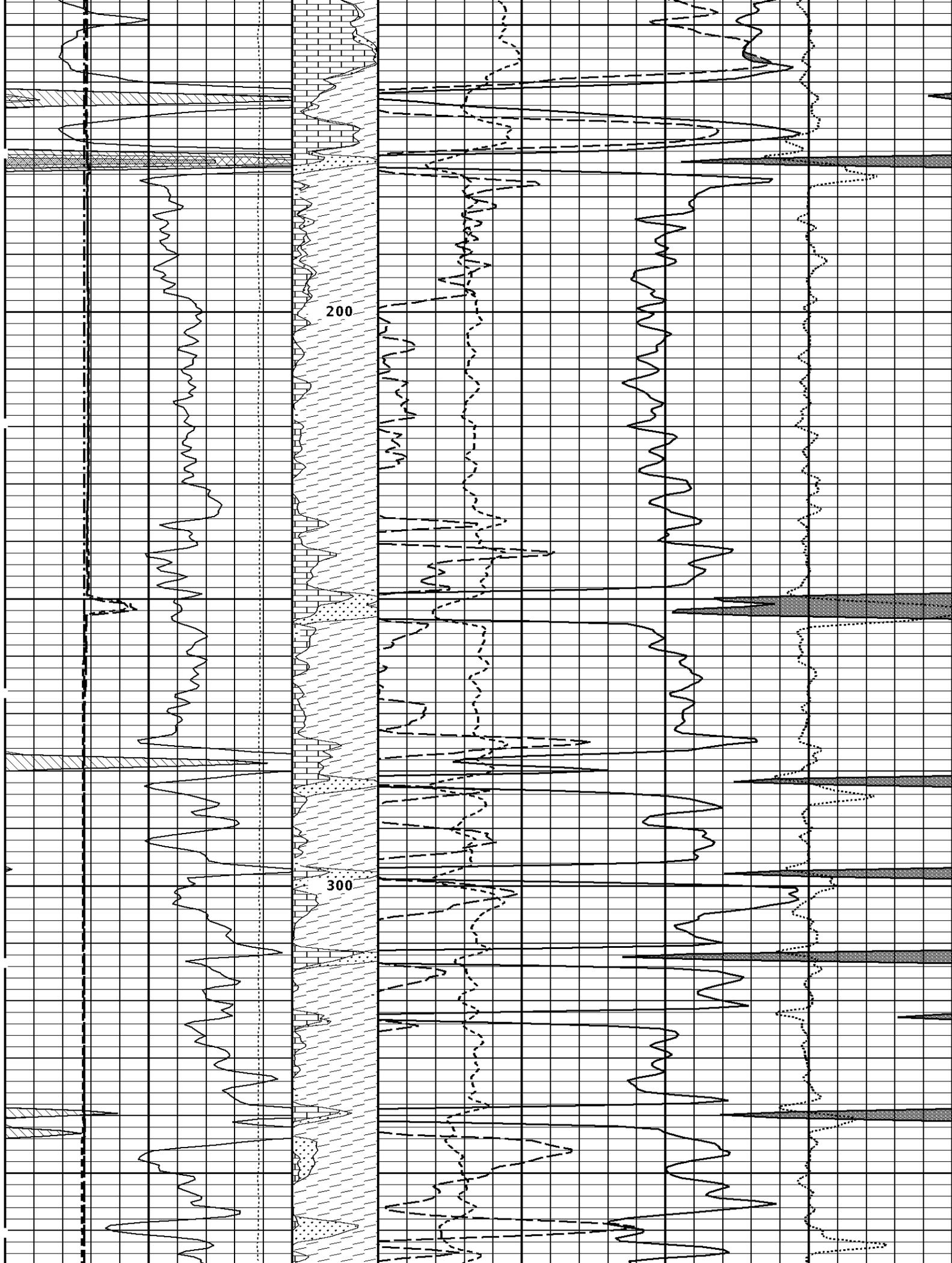
1:240 MAIN SECTION

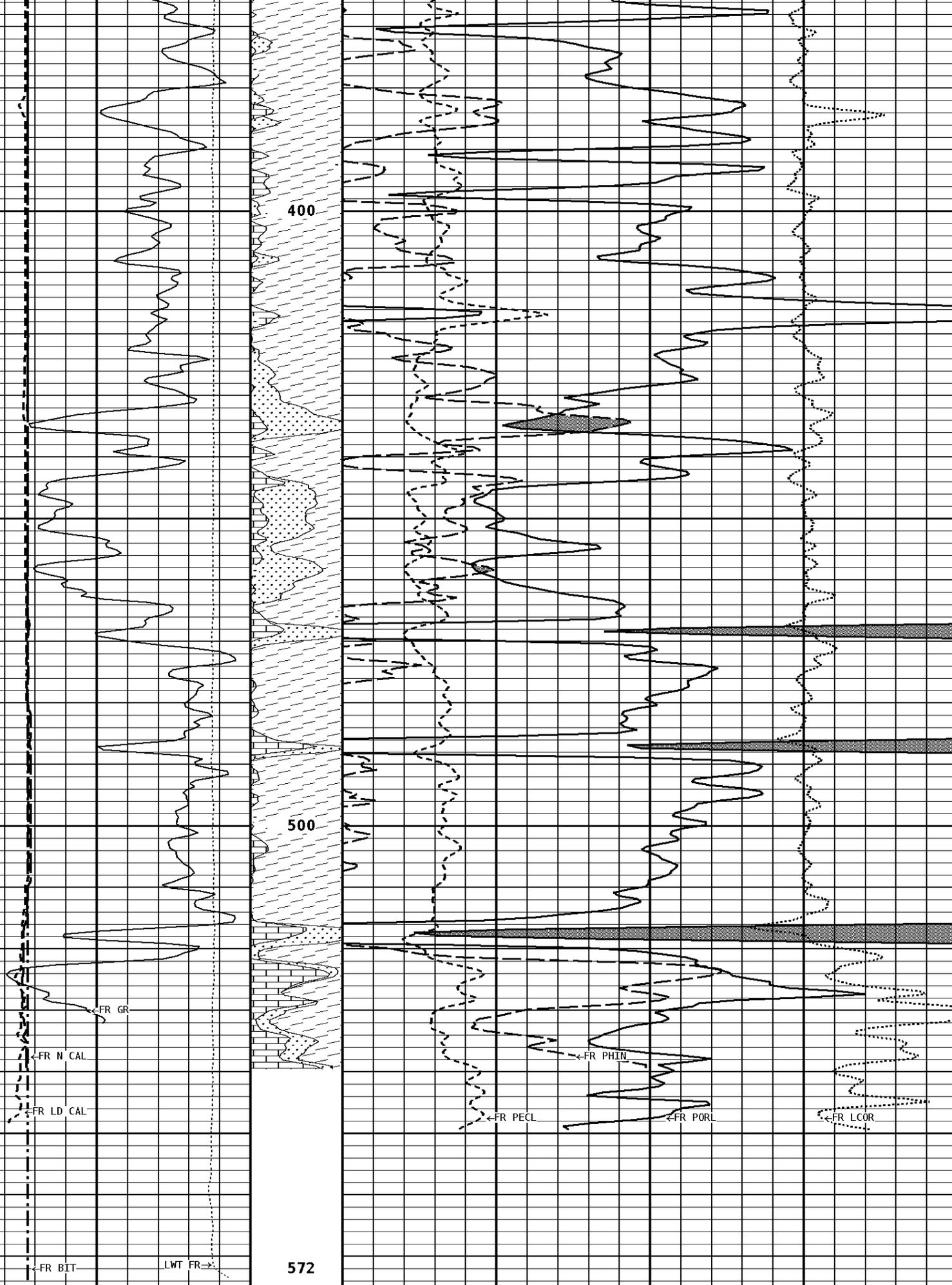
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100 Cu. Ft





400

500

←FR GR

←FR N CAL

←FR LD CAL

←FR BIT

LWT FR→

572

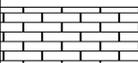
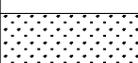
←FR PHIN

←FR PECL

←FR PORL

←FR LCOR

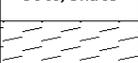
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GAMMA RAY API UNITS 200  400 0 200		- BHV AHV - CU. FT	DENSITY POROSITY PERCENT (2.71 g/cc) 70 30 -10 -50	
NEUTRON (Y) CALIPER INCHES (IN) 14 24 4 14		Volume Calcite 	NEUTRON POROSITY PERCENT (LIMESTONE MATRIX) 30 -10	
DENSITY (X) CALIPER INCHES (IN) 14 24 4 14		Volume Quartz 	PE CROSS-SECTION BARNS/ELECTRON 0 10	DENSITY CORRECTION G/CC -0.25 0.25
BIT SIZE INCHES (IN) 4 14		Volume Dolo/Shale 		
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 _____	6.750 in
Casing Diameter _____	4.500 in
Casing Correction (PHI N) _____	Disable

Well File: RFP_WUNDERLY_11-36D-4_AUG29_STK Segment: V1.D1.S3 Reprocess of repeat Reference: 0	Scale: 1:240 Acquired: 2011-08/29 09:48 3.2.0-10220 Processed: 2011-08/29 10:12 3.2.0-10220
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TENSION LBS 10000 0				
BIT SIZE INCHES (IN) 4 14		Volume Dolo/Shale 		
DENSITY (X) CALIPER INCHES (IN) 14 24 4 14		Volume Quartz 	PE CROSS-SECTION BARNS/ELECTRON 0 10	DENSITY CORRECTION G/CC -0.25 0.25
NEUTRON (Y) CALIPER INCHES (IN) 14 24 4 14		Volume Calcite 	NEUTRON POROSITY PERCENT (LIMESTONE MATRIX) 30 -10	
GAMMA RAY		- BHV AHV -	DENSITY POROSITY	

API UNITS



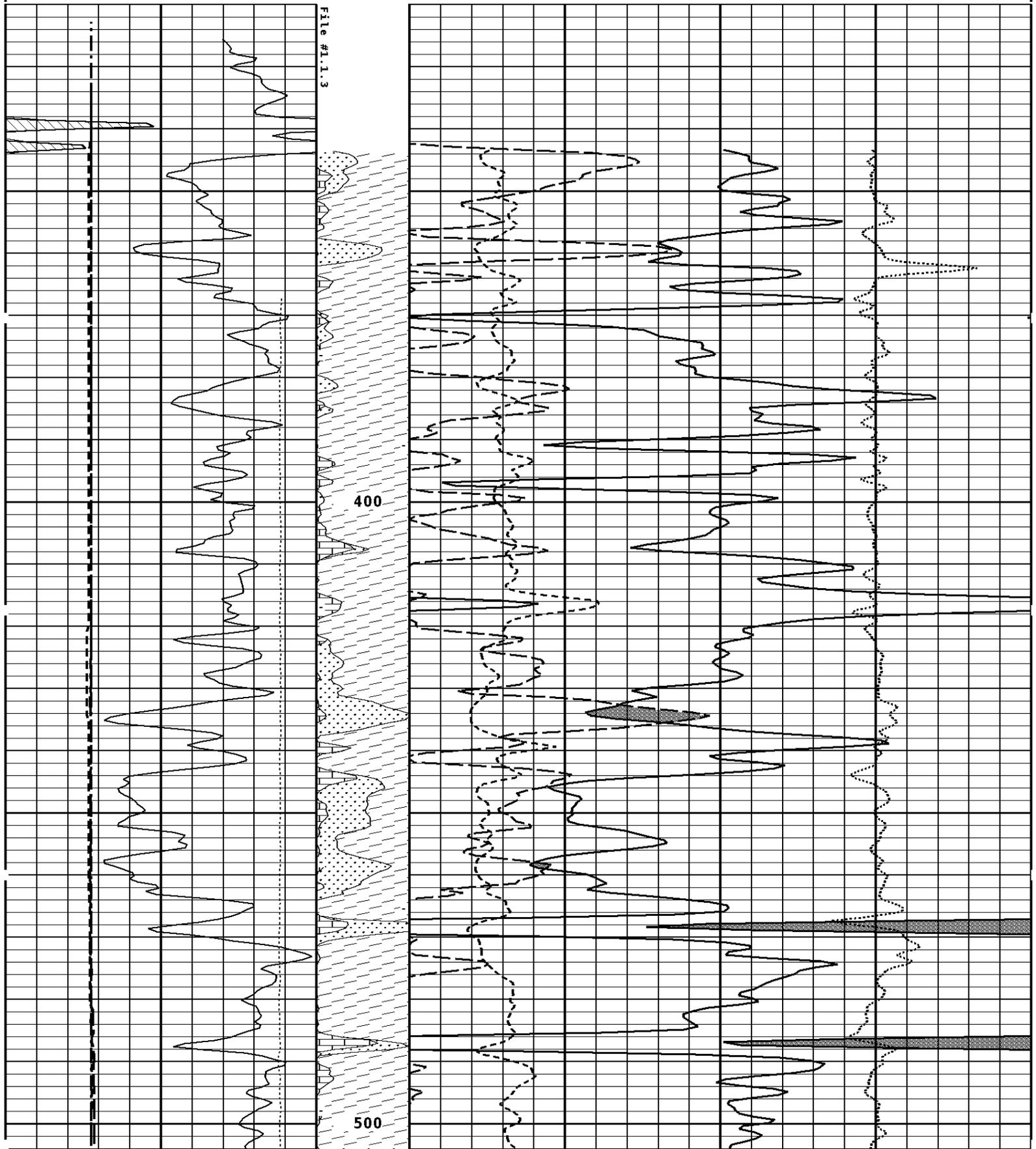
CU. FT

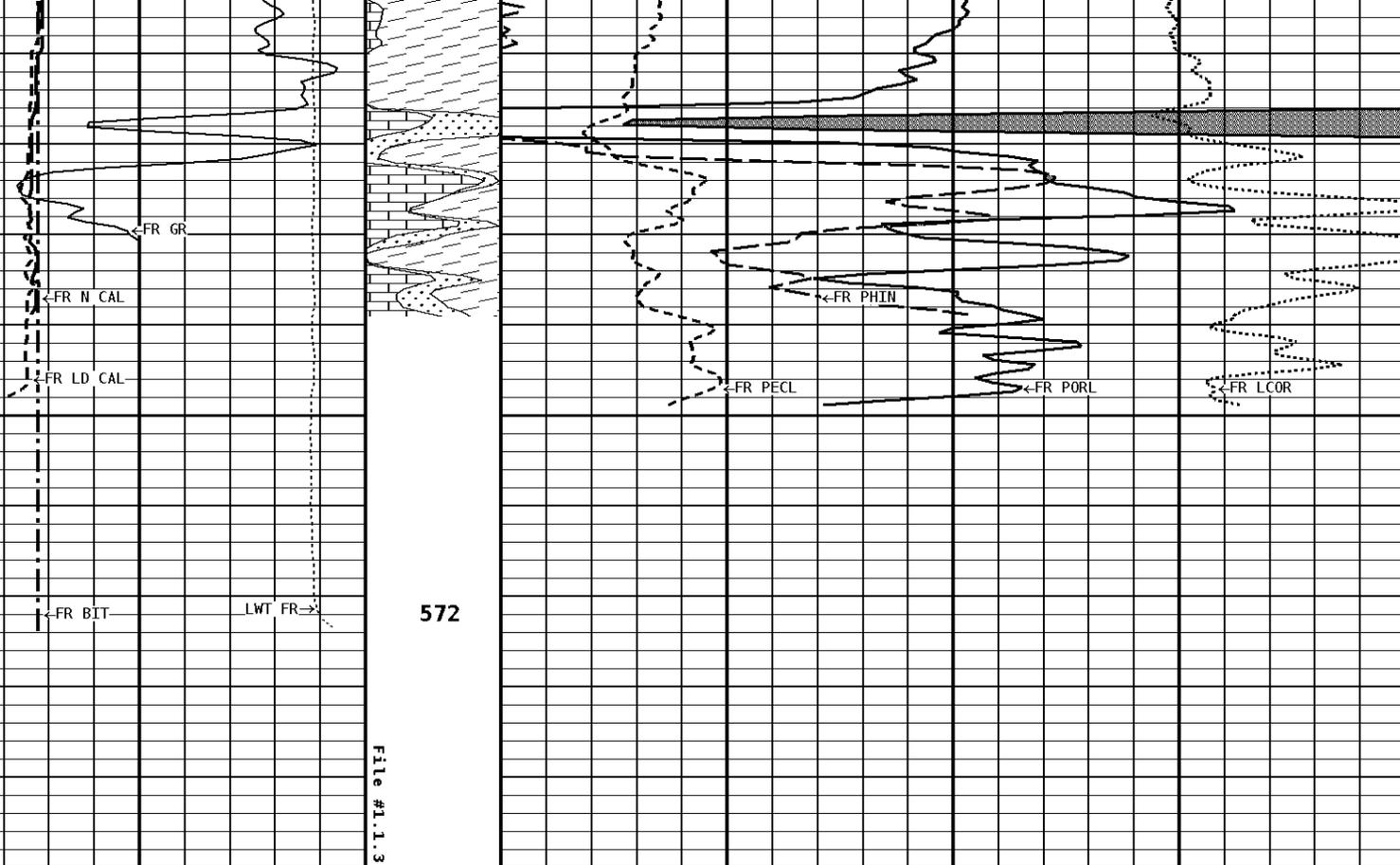
70
30
-10

PERCENT (2.71 g/cc)

30
-10
-50

1:240 REPEAT SECTION





1:240 REPEAT SECTION

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

* Borehole Zone Factors *

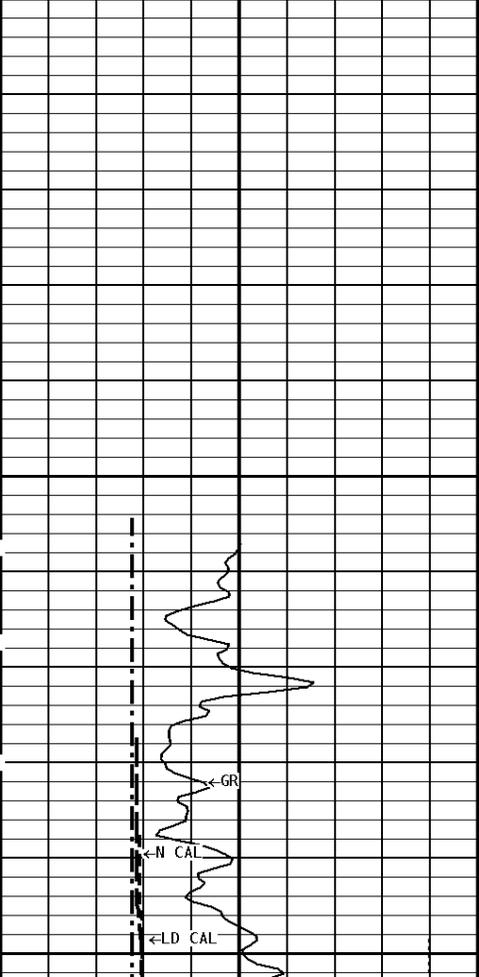
Zone 1 99999.0 to 0.0 Feet		
Matrix Density	_____	2.71 g/cc
Fluid Density	_____	1.00 g/cc
Formation Matrix	_____	Limestone
Drill Bit Size	_____	6.750 in
Casing Diameter	_____	4.500 in

Well File: RFP WUNDERLY 11-36D-4 AUG29 STK Scale: 1:240
 Segment: V1.D1.S5 Reprocess of main Acquired: 2011-08/29 09:58 3.2.0-10220
 Reference: 0 Processed: 2011-08/29 10:11 3.2.0-10220

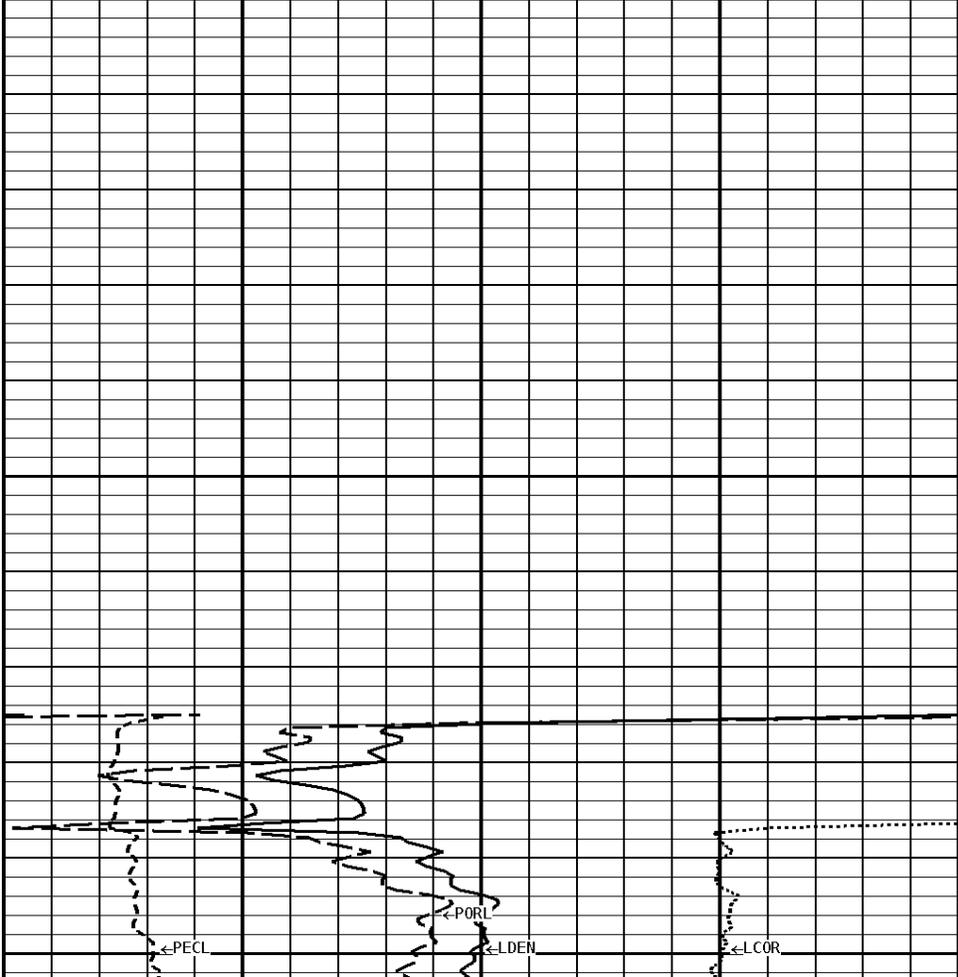
TENSION LBS	
10000	0
BIT SIZE INCHES (IN)	
4	14
DENSITY (X) CALIPER INCHES (IN)	
14	24
4	14
NEUTRON (Y) CALIPER INCHES (IN)	
14	24
4	14
GAMMA RAY API UNITS	
200	400
0	200

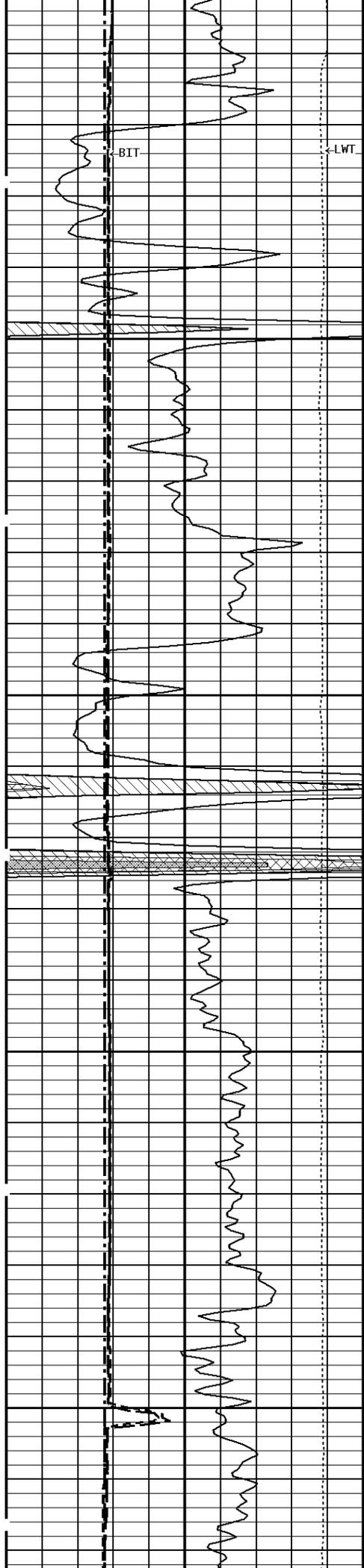
PE CROSS-SECTION BARNS/ELECTRON		DENSITY CORRECTION G/CC	
0	10	-0.25	0.25
DENSITY POROSITY PERCENT (2.71 g/cc)			
70			30
30			-10
-10			-50
- BHV AHV - CU. FT		COMPENSATED BULK DENSITY G/CC	
3.0			4.0
2.0			3.0
1.0			2.0

**1:240 MAIN SECTION
BULK DENSITY**

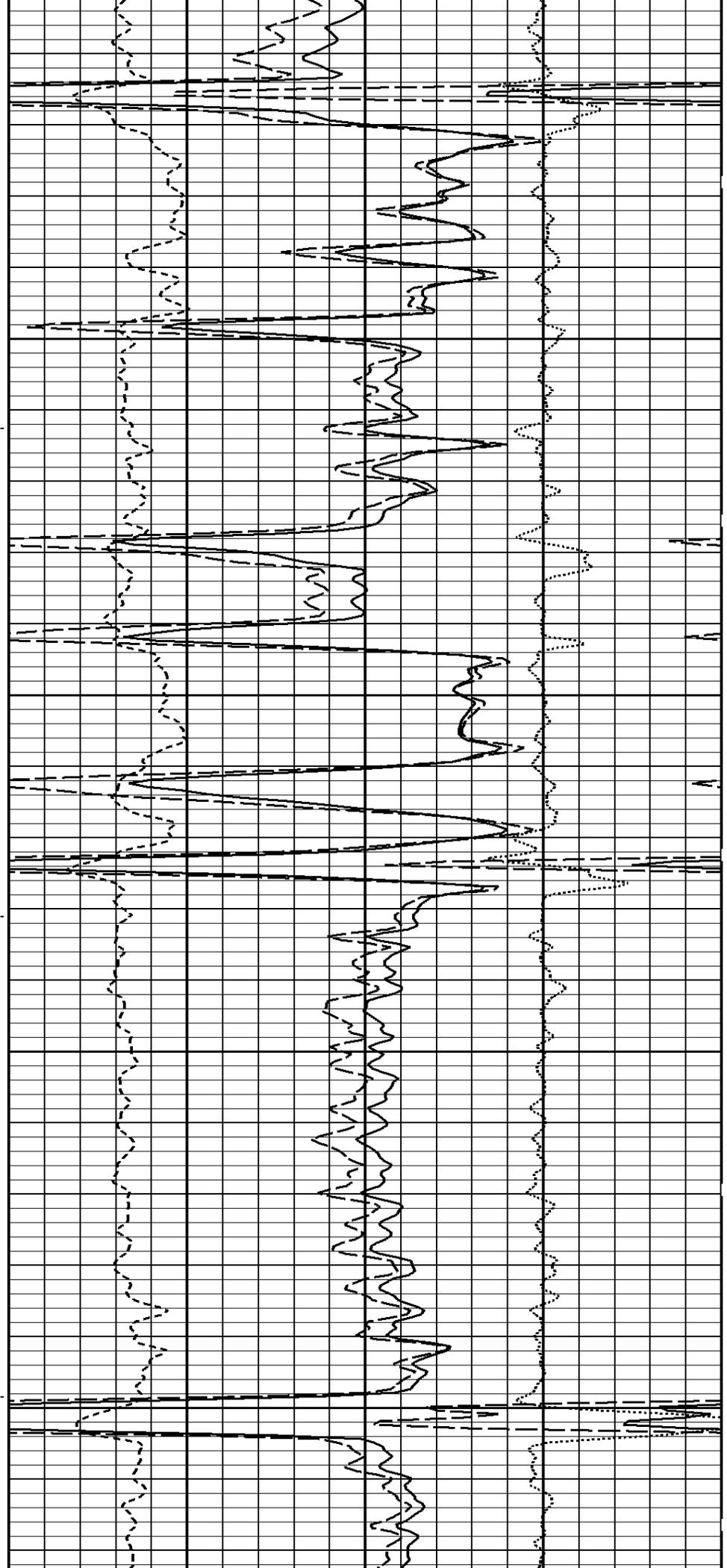


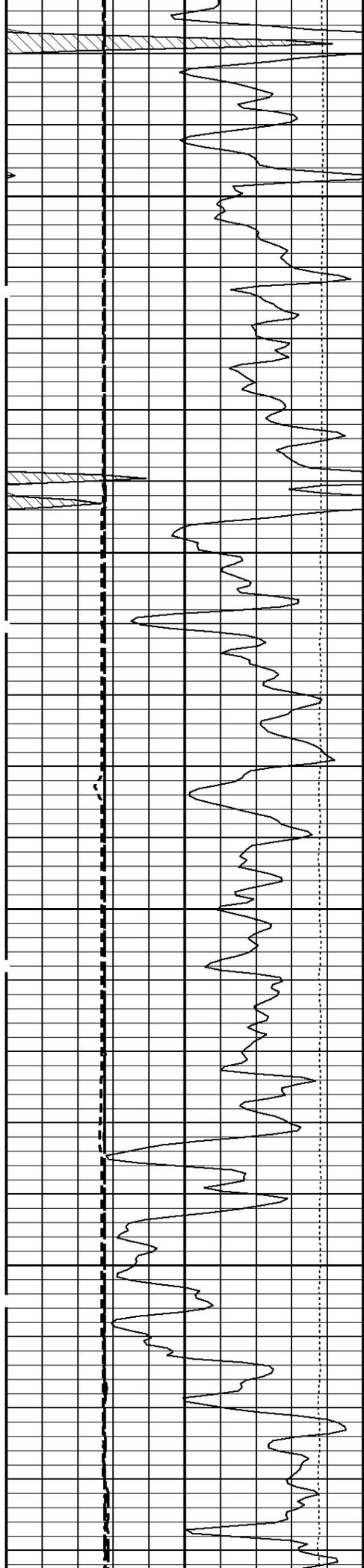
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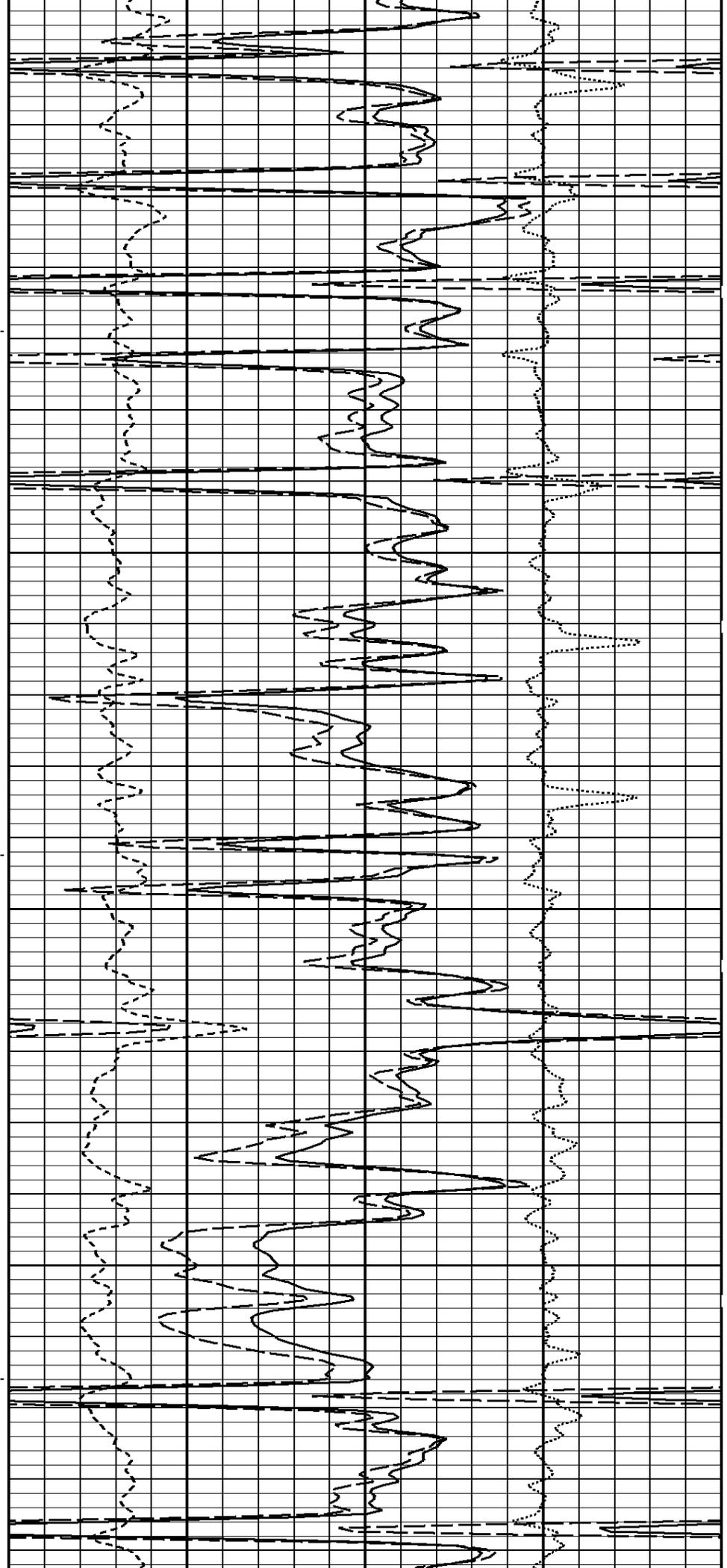
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100Cu. Ft
200

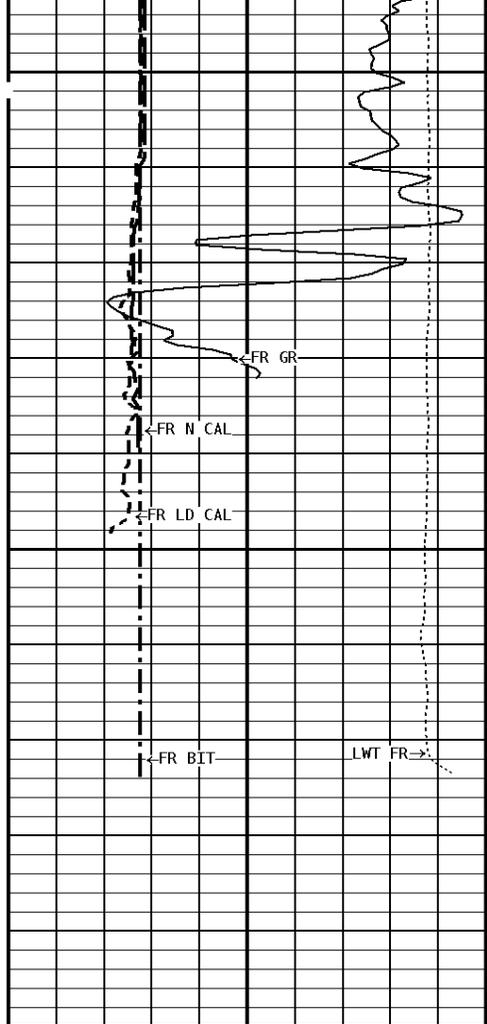




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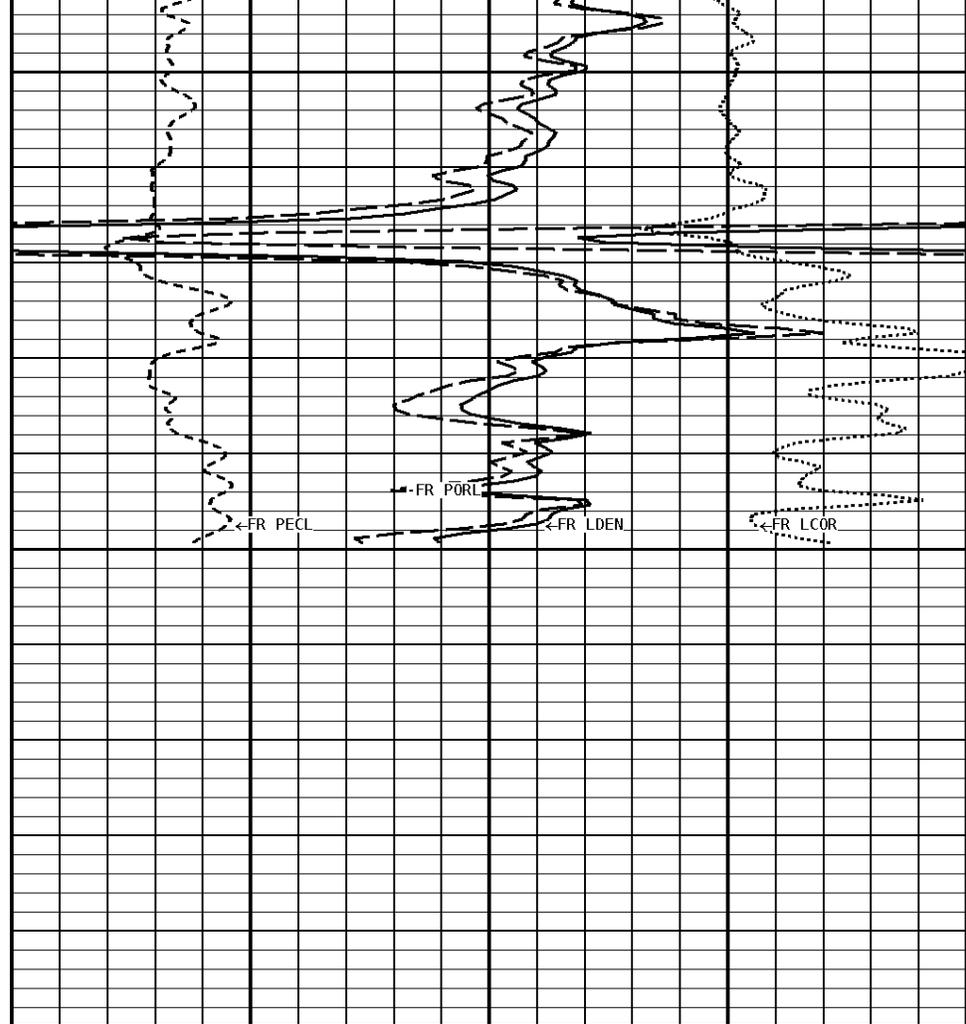
400





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500
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1:240 MAIN SECTION BULK DENSITY

GAMMA RAY API UNITS 200 0 400 200	
NEUTRON (Y) CALIPER INCHES (IN) 14 4 24 14	
DENSITY (X) CALIPER INCHES (IN) 14 4 24 14	
BIT SIZE INCHES (IN) 4 14	
TENSION LBS 10000 0	

-BHV AHV- CU.FT	COMPENSATED BULK DENSITY G/CC 3.0 4.0 2.0 3.0 1.0 2.0	
	DENSITY POROSITY PERCENT (2.71 g/cc) 70 30 30 -10 -10 -50	
	PE CROSS-SECTION BARNS/ELECTRON 0 10	DENSITY CORRECTION G/CC -0.25 0.25

* 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	6.750	in
Casing Diameter	4.500	in
Casing Correction (PHI N)	Disable	

*** Calibration Summary ***

Shop Calibration						
GRT-B						
Performed : 16-MAY-2011			Time : 09:49			
Sensor Suite : GR-GR5			ID : GRT-BA-14			
	Measured	Units	Calibrated	Units		
GR	Background	Jig	Jig	GRAPI		
	50	361	175			
Shop Calibration						
CNT-AA						
Performed : 21-MAR-2011			Time : 11:09			
Sensor Suite : CALI-BCN			ID : NDT-AB-400			
	Jig - Measured	Units	Jig - Calibrated	Units		
CL # 1	Ring#1	Ring#2	Ring#1	Ring#2	IN.	
	8.4	14.4	6.0	12.0		
Shop Calibration						
LDT-DA						
Performed : 13-Jul-2011			Time : 11:29			
Sensor Suite : BHC NEUT			ID : CNP-AA-116			
Source ID : N-1044						
	Measured	Tank	Calibrated	Verification	Units	
N/F	3.8805		3.6893	Jig		
Porosity	23.5		20.5	3.7029		%
				20.7		
Shop Calibration						
LDT-DA						
Performed : 29-SEP-2004			Time : 19:32			
Sensor Suite : CALI-LTH			ID : NDT-BB-149			
	Jig - Measured	Units	Jig - Calibrated	Units		
CL # 1	Ring#1	Ring#2	Ring#1	Ring#2	IN.	
	6.0	12.1	6.0	12.0		
Shop Calibration						
LDP-DA-01						
Performed : 13-Jul-2011			Time : 12:09			
Sensor Suite : BHCPELNG			ID : LDP-DA-01			
Source ID : CSV-587						
Short Space						
	BKGD	Al	Mg	Al+Fe	Units	
LSW1	64	489	798	327	CPS	
LSW2	69	564	908	409	CPS	
LSW3	259	1341	2112	1147	CPS	
LSW4	310	1227	1704	1093	CPS	
LSW5	31	39	42	38	CPS	
LSW6	79	79	78	79	CPS	
LSW7	48	52	52	51	CPS	
LSW8	3	4	4	4	CPS	
QS	0.240	0.209	0.202	0.221		
PES			2.778	5.967		
SSDN		2.600	1.680		G/CC	
Long Space						
	BKGD	Al	Mg	Al+Fe	Units	
LLW1	109	613	2504	393	CPS	
LLW2	123	1058	4276	772	CPS	
LLW3	469	2037	7352	1776	CPS	
LLW4	607	1182	2992	1113	CPS	
LLW5	69	73	90	72	CPS	
LLW6	197	190	183	191	CPS	
LLW7	120	121	118	122	CPS	
LLW8	8	9	14	8	CPS	
QL	0.243	0.222	0.217	0.220		
PEL			2.697	5.458		
LSDN		2.600	1.680		G/CC	