Tucker WIRELINE SERVICES

COMPENSATED NEUTRON
PEL DENSITY LOG

File No. : TUL-56634
Company : RUNNING FOXES PETROLEUM, INC.
Well : GROSS #11-6D-2
Field : DEVON
County : BOURBON
State : KANSAS
Country : USA

Location : API: #15-083-21685-00-00
1850' FSL & 2200' FWL
NW SE NE SW

Sect : 06 Twp : 25N Rge : 24E

Recorded By : R. FRANKLIN
Witnessed By : C. COUNTS

Date : DEC 21 2010
Run No. : 1

Permanent Datum :	GL	
Drilling Measured From :	GL	
Log Measured From:	GL	
Above Permanent Datum :	0.00	FT
Depth--Driller :	430.0	FT
Depth--Logger :	423.0	FT
Bottom Log Interval :	420.0	FT
Top Log Interval :	20.0	FT
Casing Depth--Driller:	20.0	FT
Casing Depth--Logger :	20.0	FT
Casing Diameter :	7.000	IN
Bit Size :	6.750	IN

Unit No. : 127
Location : TULSA

Elevations :
KB : FT
DF : FT
GL : 879.00 FT

Additional Services

PIT

Run Number 1

Depth To Fluid	0.0	FT		
Fluid Type In Hole :	FRESH / NATIVE			
Density :	0.000	SG		
Viscosity :	0.000	SEC		
pH :	0.000			
Fluid Loss :	0.000			
Salinity :	0.000	KPPM		
			60	F
RM Source :	MEASURED			
RM :	10.000	OHMM at	60	F
RM at BHT :	8.370	OHMM at	73	F
RMF Source :	CALCULATED			
RMF :	8.500	OHMM at	60	F
RMF at BHT :	7.110	OHMM at	73	F
RMC Source :	CALCULATED			

RMC :	11.500	OHMM at	60	F
RMC at BHT :	9.620	OHMM at	73	F
Max Recorded Temp. :			73	F
Time Circulation Stopped :				
Operating Rig Time, Hrs. :			2.0	

- Sonde Serial Numbers -

GRTB	GRT-BA-14
PIT_B	PIT-AB-12

Casing Strings

Size (IN)	Weight (LB/FT)	Bottom (FT)
7.000	15.00	20.00

- Comments -

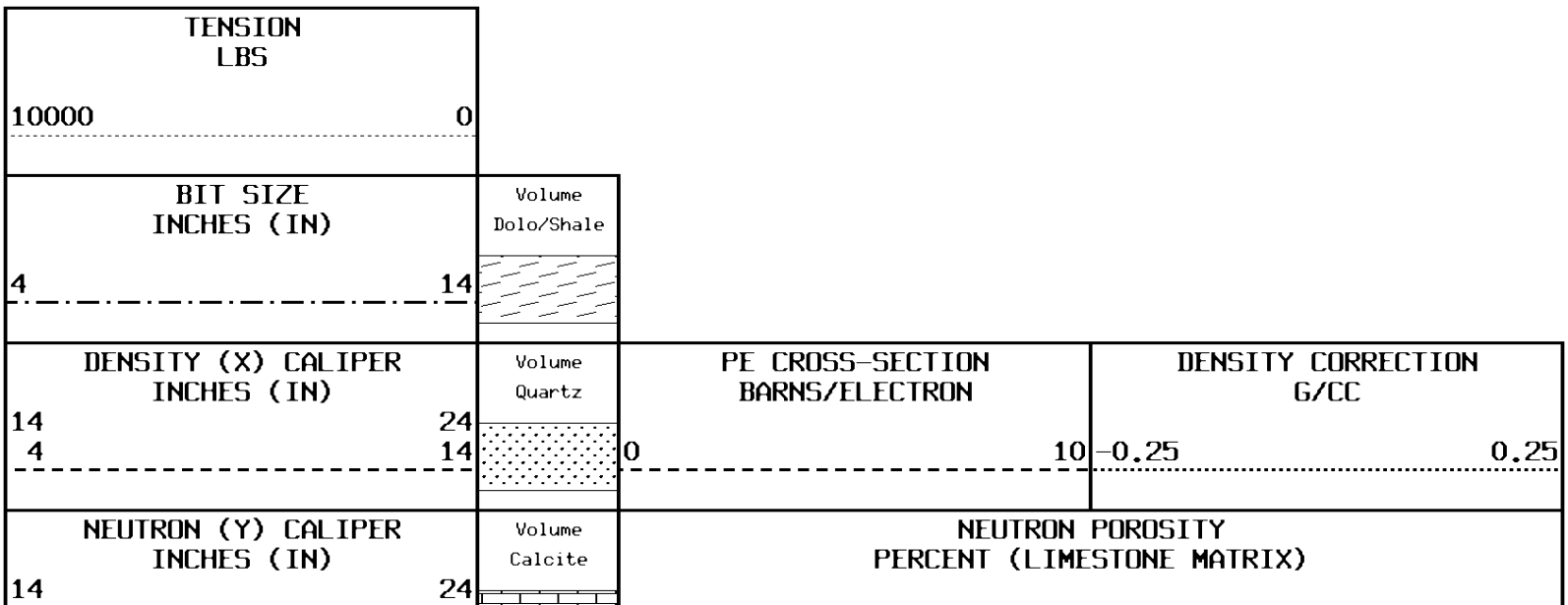
ALL PRESENTATIONS AS PER CUSTOMER REQUEST.

WELL LOGGED USING SPLIT RUNS.
GRT AND PIT RAN IN COMBINATION ON RUN #1.
GRT, CNT, AND LDT RAN IN COMBINATION ON RUN #2.
CALIPERS ORIENTED ON THE X-Y AXIS.
PHIN IS CALIPER CORRECTED.
2.71 G/CC USED TO CALCULATE POROSITY.
ANNULAR HOLE VOLUME CALCULATED USING 2.875" PRODUCTION CASING.
TOOL STACK DIAGRAM NOT PRESENTED DUE TO SPLIT RUNS.

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

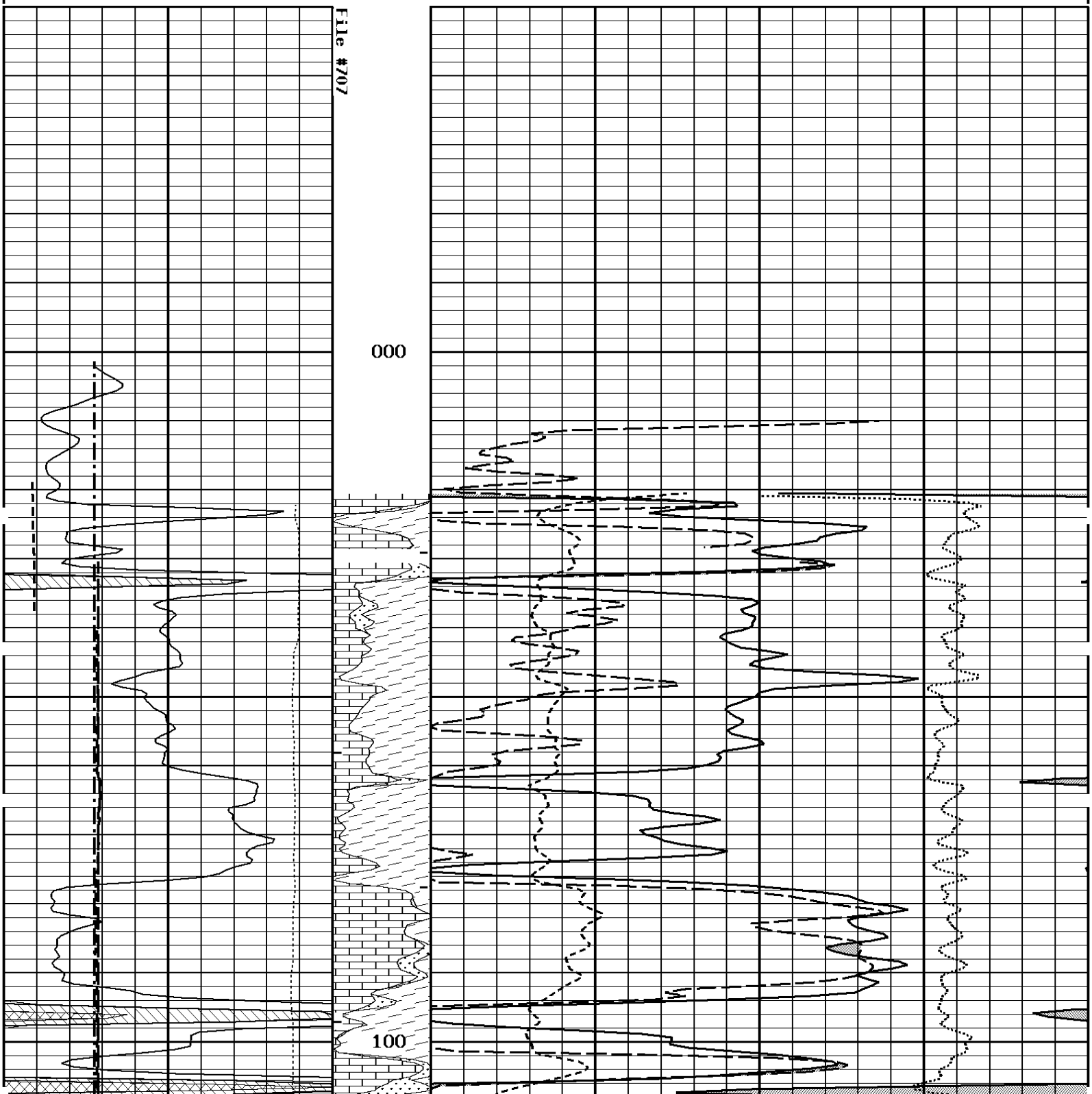
OPERATORS:
S. DAVIS
M. GARNER

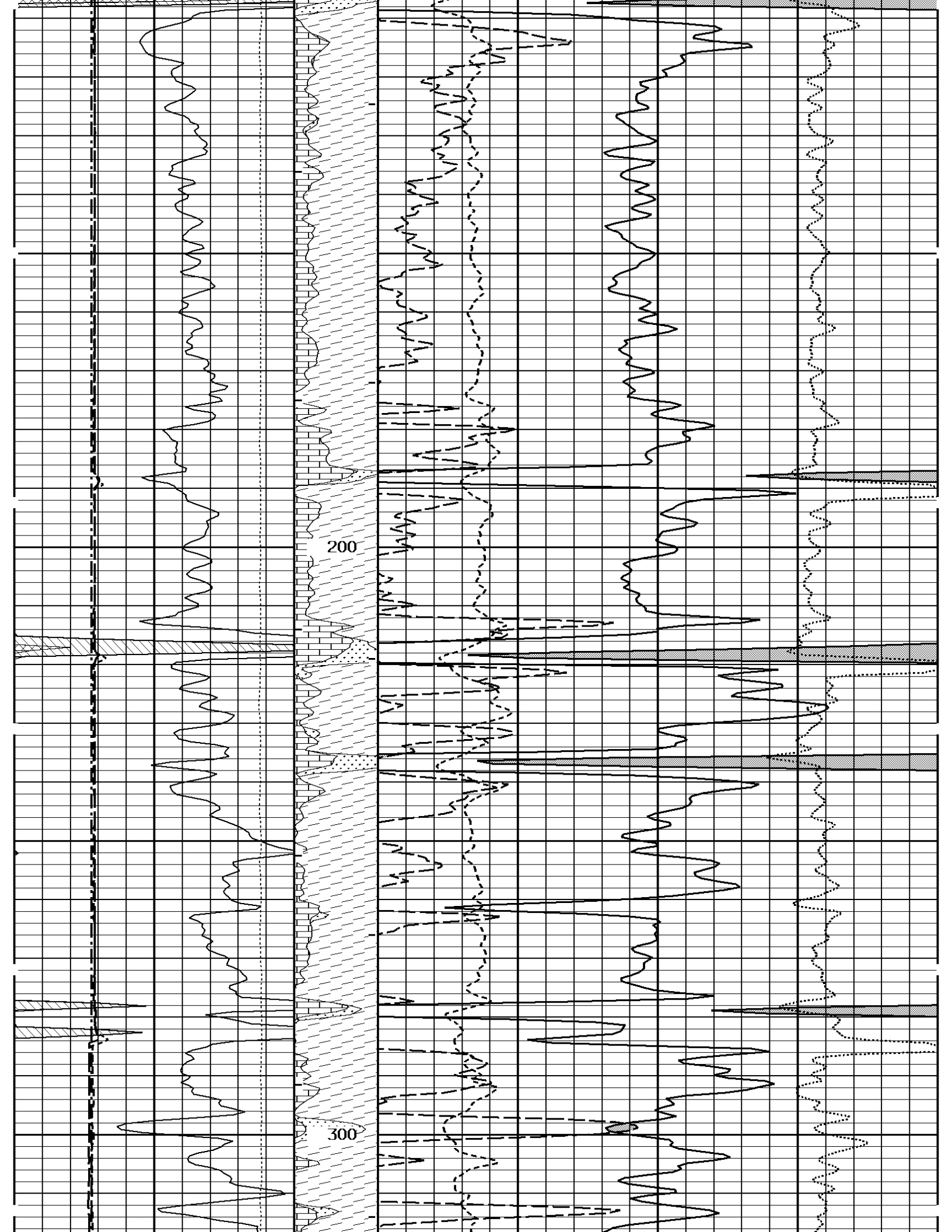
THANK YOU FOR USING TUCKER WIRELINE SERVICES!

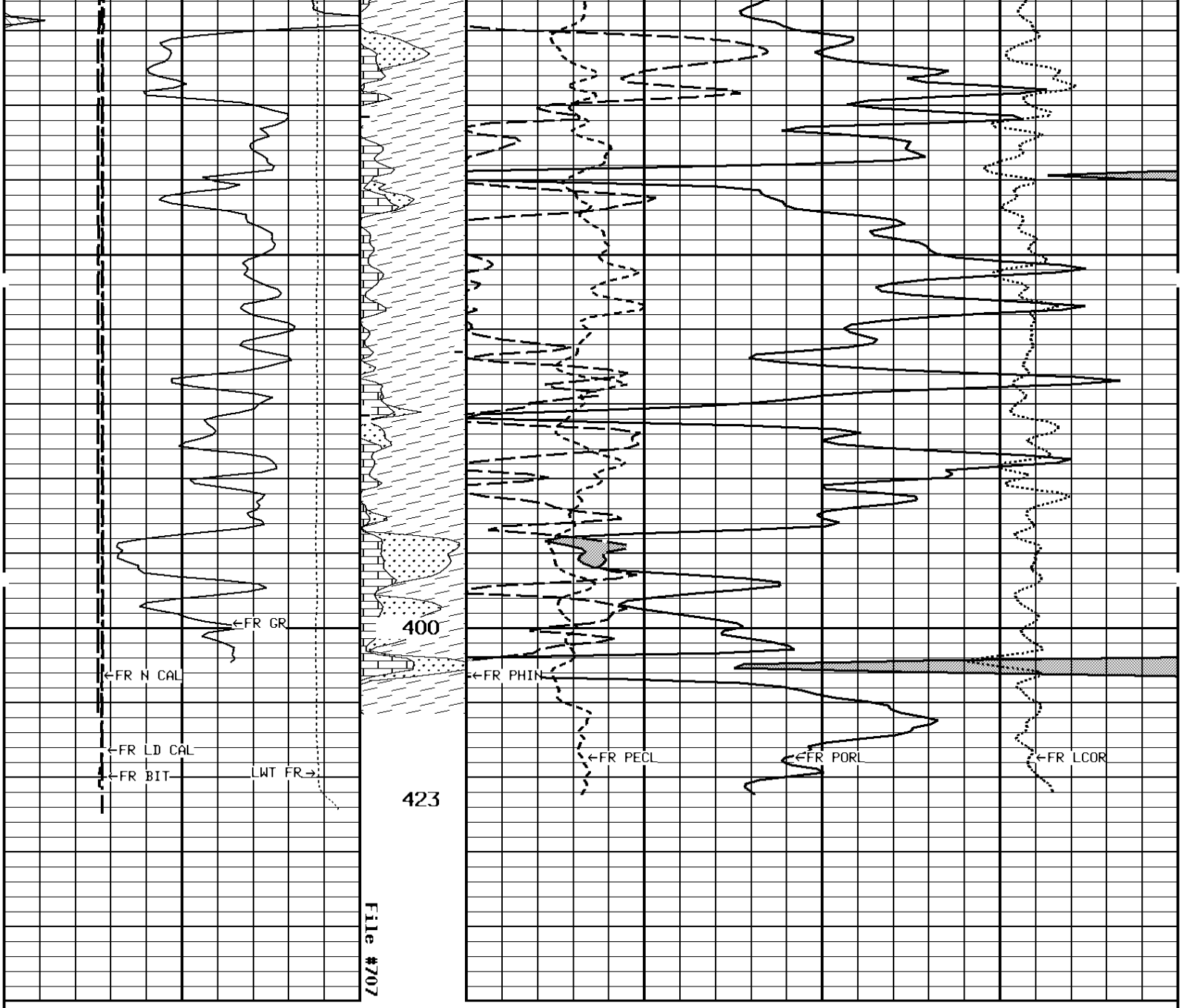


4 14		30 -10
GAMMA RAY API UNITS 200 400 0 200	-BHV AHV- CU.FT	DENSITY POROSITY PERCENT (2.71 g/cc) 70 30 30 -10 -10 -50

1:240 MAIN SECTION




200
300



1:240 MAIN SECTION

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
NEUTRON (Y) CALIPER INCHES (IN)	**Volume Calcite**	**NEUTRON POROSITY PERCENT (LIMESTONE MATRIX)**
14 24 4 14		30 -10
DENSITY (X) CALIPER INCHES (IN)	**Volume Quartz**	**PE CROSS-SECTION BARNS/ELECTRON** / **DENSITY CORRECTION G/CC**
14 24 4 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 F

Matrix Density	2.71	G/C3
Fluid Density	1.00	G/C3
Formation Matrix	Limestone	
Drill Bit Size	6.750	IN
Production Casing Diameter	2.875	IN
Casing Correction (PHI N)	Disable	

TENSION LBS
10000 — 0

BIT SIZE INCHES (IN)	Volume Dolo/Shale
4 — 14	

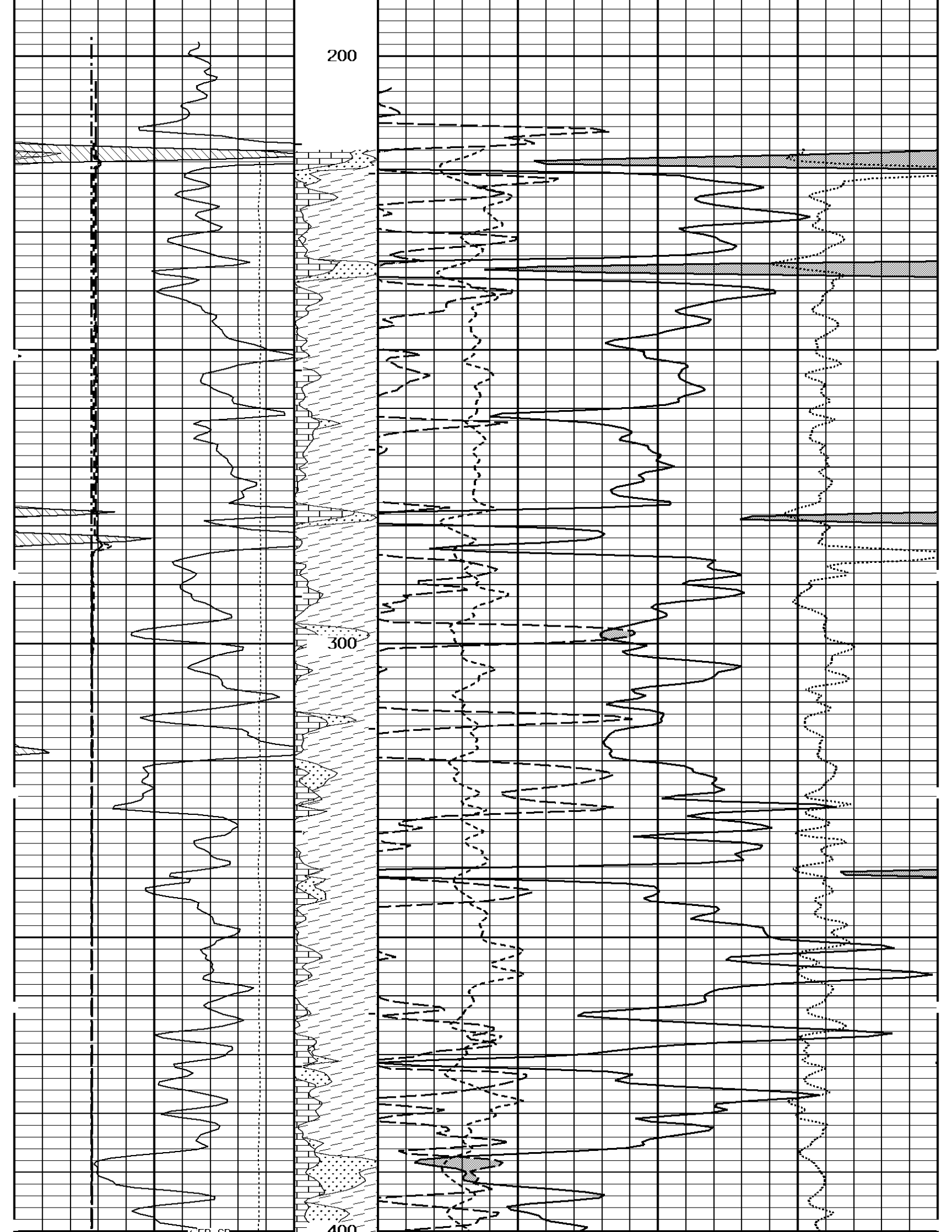
DENSITY (X) CALIPER INCHES (IN)	Volume Quartz	PE CROSS-SECTION BARNS/ELECTRON	DENSITY CORRECTION G/CC
14 — 24 4 — 14		0 — 10	-0.25 — 0.25

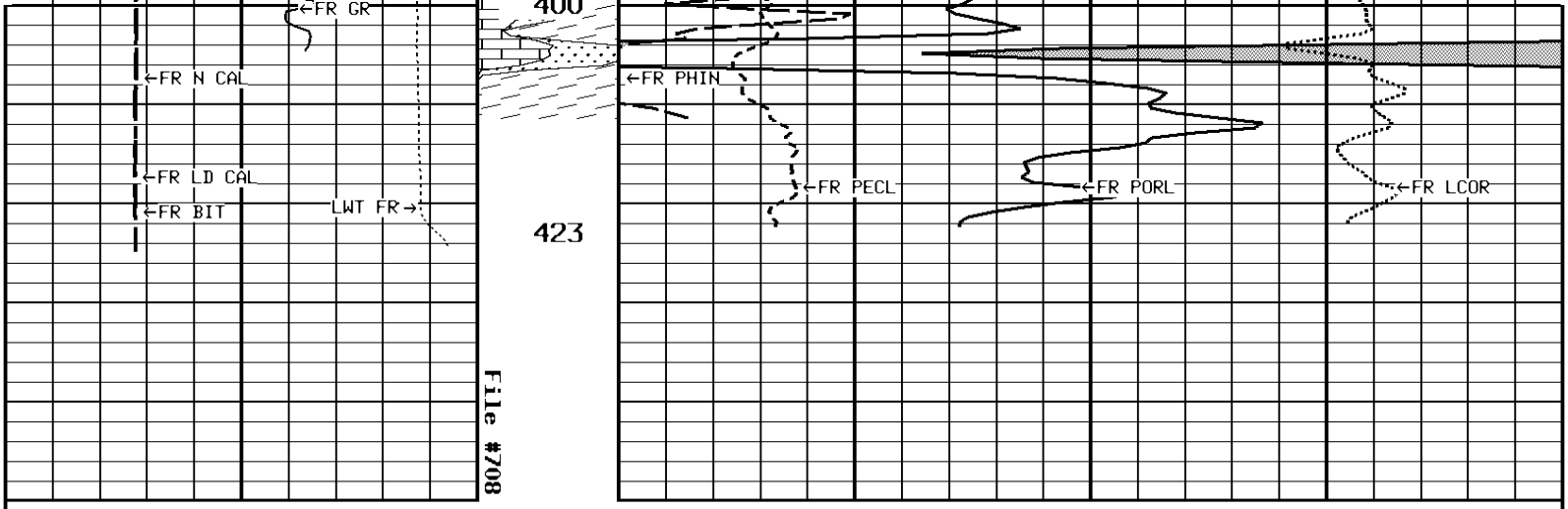
NEUTRON (Y) CALIPER INCHES (IN)	Volume Calcite	NEUTRON POROSITY PERCENT (LIMESTONE MATRIX)
14 — 24 4 — 14		30 — -10

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 REPEAT SECTION

File # 708


200
300
400



1:240 REPEAT SECTION

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

NEUTRON (Y) CALIPER INCHES (IN)	Volume Calcite	NEUTRON POROSITY PERCENT (LIMESTONE MATRIX)
14 — 24		
4 — 14		30 — −10

DENSITY (X) CALIPER INCHES (IN)	Volume Quartz	PE CROSS-SECTION BARNS/ELECTRON	DENSITY CORRECTION G/CC
14 — 24			
4 — 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 F

Matrix Density	2.71	G/C3
Fluid Density	1.00	G/C3
Formation Matrix	Limestone	
Drill Bit Size	6.750	IN
Production Casing Diameter	2.875	IN
Casing Correction (PHI N)	Disable	

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

-BHV AHV-
CU.FT

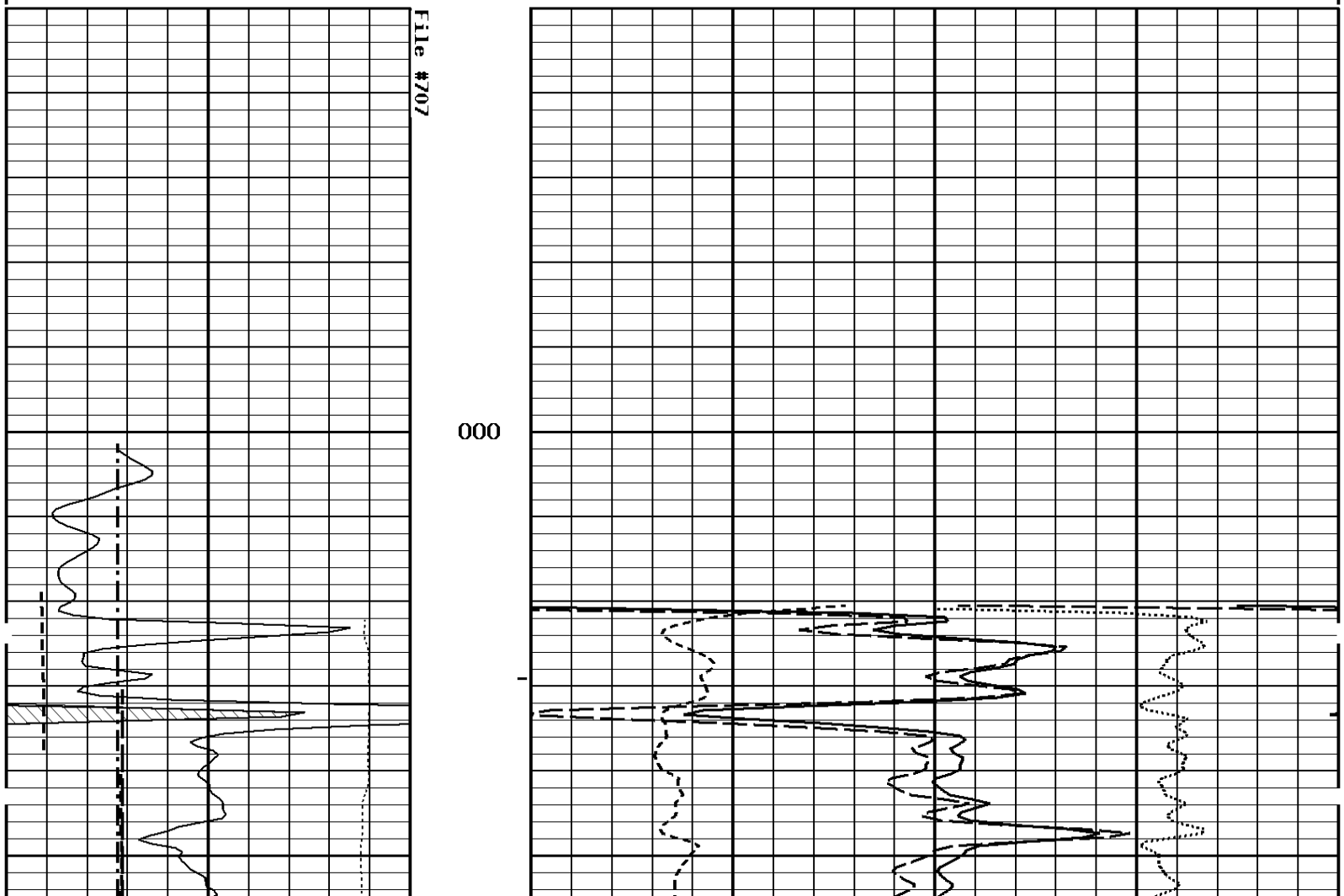
PE CROSS-SECTION
BARNS/ELECTRON
0 10

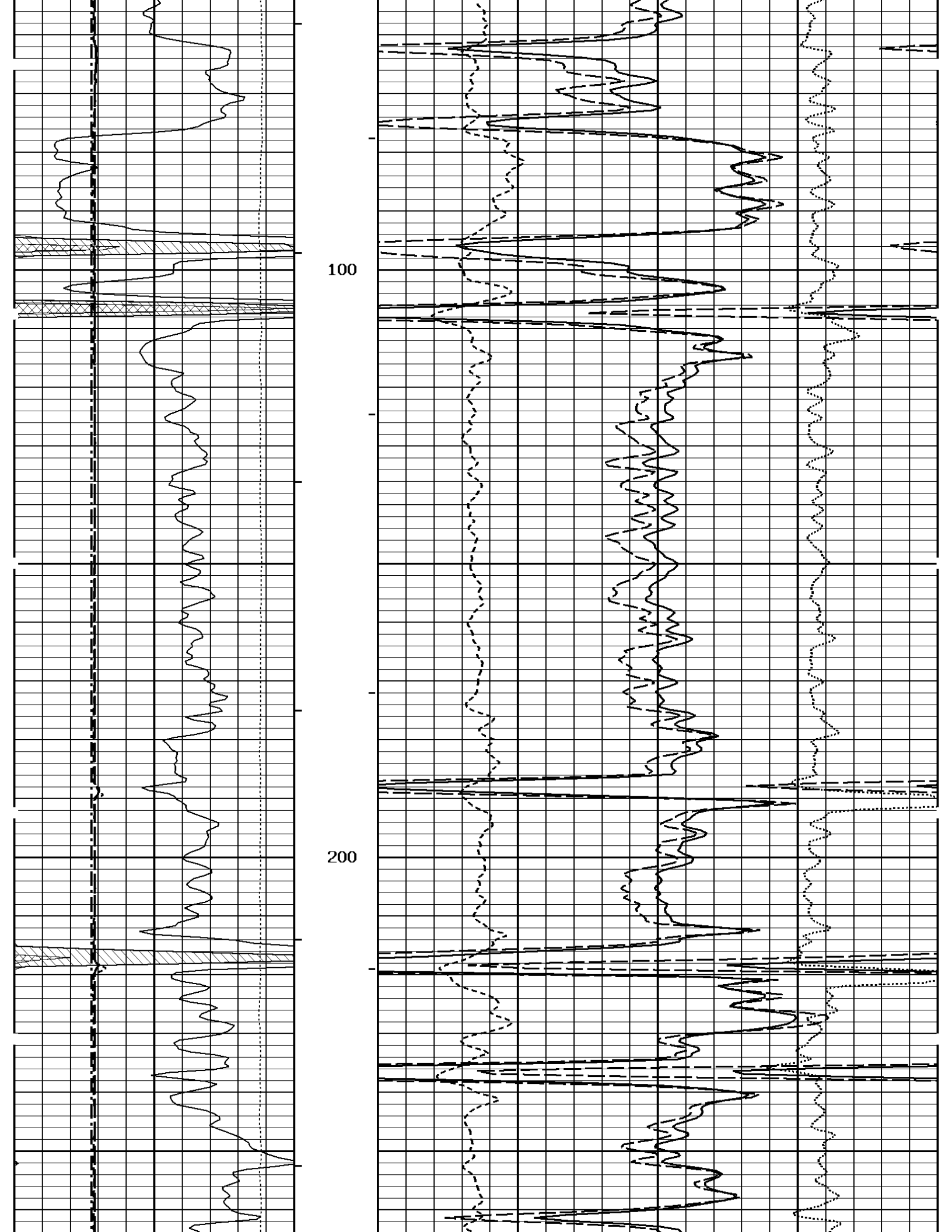
DENSITY CORRECTION
G/CC
-0.25 0.25

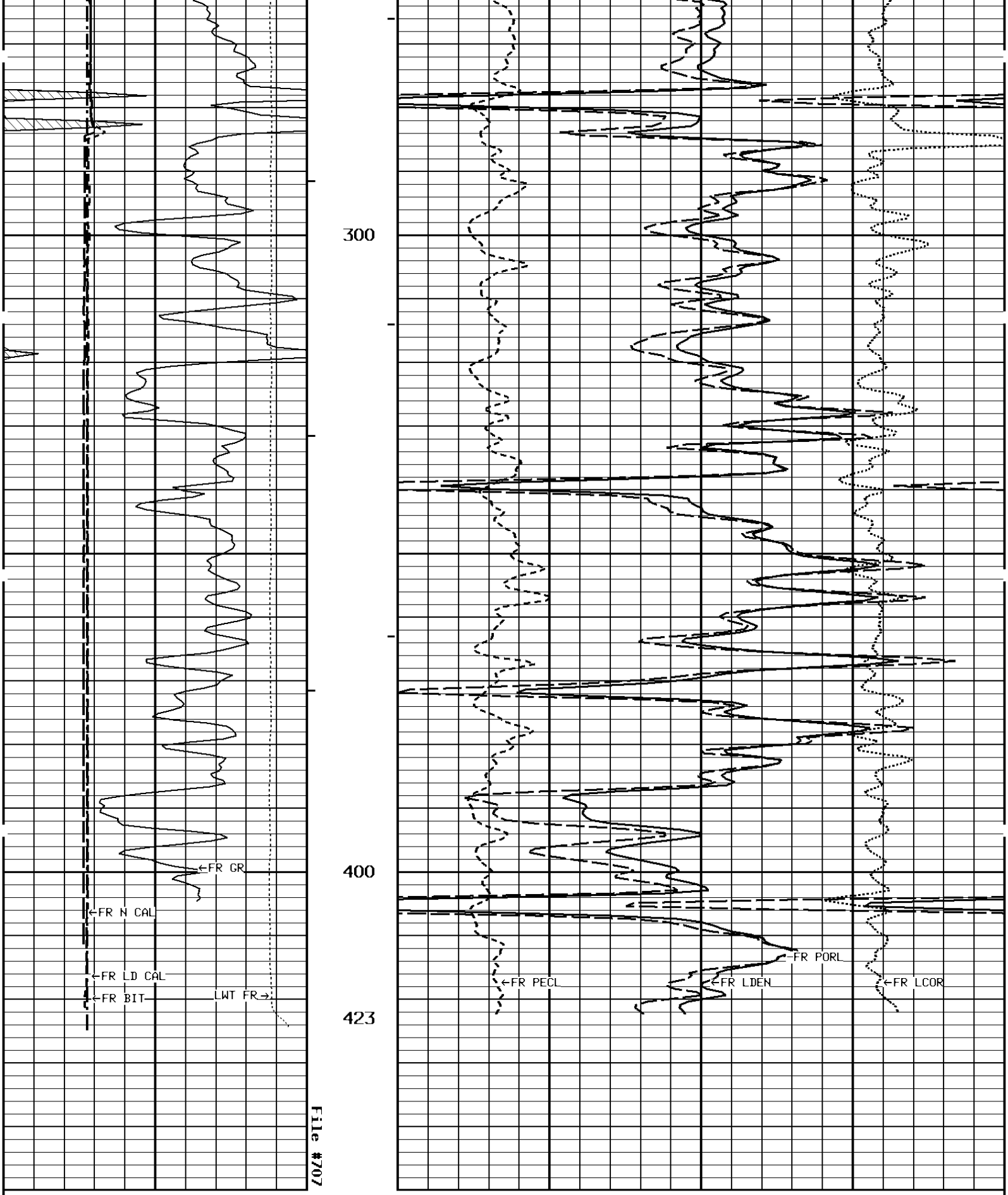
DENSITY POROSITY
PERCENT (2.71 g/cc)
70 30
30 -10
-10 -50

COMPENSATED BULK DENSITY
G/CC
3.0 4.0
2.0 3.0
1.0 2.0

1:240 MAIN SECTION
BULK DENSITY




100
200



1:240 MAIN SECTION
BULK DENSITY

GAMMA RAY API UNITS	-BHV AHV- CU.FT	COMPENSATED BULK DENSITY G/CC
200 400		3.0 4.0
0 200		2.0 3.0
		1.0 2.0

NEUTRON (Y) CALIPER INCHES (IN)	DENSITY POROSITY PERCENT (2.71 g/cc)
14 24	70 30
4 14	30 -10
	-10 -50

DENSITY (X) CALIPER INCHES (IN)	PE CROSS-SECTION BARNS/ELECTRON	DENSITY CORRECTION G/CC
14 24		
4 14	0 10	-0.25 0.25

BIT SIZE INCHES (IN)
4 14

TENSION LBS
10000 0

*** Borehole Zone Factors ***

Zone 1 99999.0 to 0.0 F

Matrix Density	2.71	G/C3
Fluid Density	1.00	G/C3
Formation Matrix	Limestone	
Drill Bit Size	6.750	IN
Production Casing Diameter	2.875	IN
Casing Correction (PHI N)	Disable	

*** Calibration Summary ***

Shop Calibration
GRTB

Performed : 21-Aug-2009 Time : 15:26
Sensor Suite : GR-GR5 ID : GRT-BA-14

	Measured Background	Measured Jig	Units	Calibrated Jig	Units
GR	49	347	CPS	175	GRAPI

Shop Calibration
CNT

Performed : 23-Nov-2010 Time : 11:13
Sensor Suite : BHC NEUT ID : CNP-AA-111
Source ID : N-1044

	Tank Measured	Tank Calibrated	Verification Jig	Units
N/F	3.6301	3.6888	3.7041	
Porosity	19.6	20.5	20.7	%

Performed : 16-AUG-2009 Time : 10:24
Sensor Suite : CALI-BCN ID : CNP-AA-111

	Jig - Measured		Jig - Calibrated		Units
	Ring#1	Ring#2	Ring#1	Ring#2	
CL # 1	7.2	13.2	6.0	12.0	IN.

Shop Calibration
LDTNG

Performed : 19-OCT-2009 Time : 10:55
Sensor Suite : CALIPEL ID : LDP-DA-01

	Jig - Measured		Jig - Calibrated		Units
	Ring#1	Ring#2	Ring#1	Ring#2	
CL # 1	5.2	11.2	6.0	12.0	IN.

Performed : 23-Nov-2010 Time : 13:42
Sensor Suite : BHCPELNG ID : LDP-DA-01
Source ID : CSV-587

Short Space

	BKGD	Al	Mg	Al+Fe	Units
LSW1	63	499	814	328	CPS
LSW2	72	563	917	410	CPS
LSW3	254	1332	2112	1141	CPS
LSW4	314	1226	1705	1080	CPS
LSW5	31	38	40	38	CPS
LSW6	79	80	80	80	CPS
LSW7	53	52	52	52	CPS
LSW8	2	2	3	2	CPS
QS	0.197	0.212	0.212	0.212	
PES			2.778	5.967	
SSDN		2.600	1.680		G/CC

Long Space

	BKGD	Al	Mg	Al+Fe	Units
LLW1	112	642	2650	403	CPS
LLW2	126	1055	4339	774	CPS
LLW3	482	2012	7336	1748	CPS
LLW4	602	1163	2909	1082	CPS
LLW5	71	74	87	74	CPS
LLW6	187	188	180	189	CPS
LLW7	116	116	112	116	CPS
LLW8	11	13	18	12	CPS
QL	0.234	0.237	0.233	0.239	
PEL			2.697	5.458	
LSDN		2.600	1.680		G/CC