Tucker WIRELINE SERVICES

COMPENSATED NEUTRON

PEL DENSITY LOG

Company RUNNING FOXES PETROLEUM,
Well BUCK RUB 3-36D
Field
County BOURBON
State KANSAS
Country USA
API No. 15-011-23802-00-00

File No : TUL-56788
Company : RUNNING FOXES PETROLEUM, INC
Well : BUCK RUB 3-36D
Field :
County : BOURBON
State : KANSAS
Country : USA
API No : 15-011-23802-00-00

Location :
990' FNL & 990' FEL

LSD : **Sect :** 25 **Twp :** 24S **Rge :** 25E

Permanent Datum:	GL		**Elevations:**			**Services:**
Drilling Measured From:	GL		**KB**	0.00	Ft	CNT
Log Measured From:	GL		**DF**	0.00	Ft	LDT
Above Permanent Datum:	0.00	Ft	**GL**	836.00	Ft	PIT

Date	2011-08-04						
Run Number	1						
Depth--Driller	460.0	Ft					
Depth--Logger	460.0	Ft					
First Reading	436.0	Ft					
Last Reading	20.0	Ft					
Casing--Driller	20.0	Ft					
Casing--Logger	20.0	Ft					
Bit Size	6.250	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.	0.900	@ 90 F					
RMF@Measured Temp	0.720	@ 90 F					
RMC@Measured Temp.	1.080	@ 90 F					
Source RMF/RMC	CALCULATED	CLACULATED					
RM@BHT	0.900	@ 90 F					
Time Circulation Stopped	2011-08-04 08:30						
Max Recorded Temp.	90	F					
Equipment/Base	TRK 127	TULSA					
Recorded By	B BAILEY, R AUSTIN						
Witnessed By	C COUNTS						

Bitsize Intervals

Size (In)	Bottom (Ft)
6.250	460.00

Casing Strings

Size (In)	Weight (Lbs)	Bottom (Ft)
8.625	30.00	20.00

Run Number	1		
Date	2011-08-04		
Date/Time On Bottom	2011-08-04 12:45		
Depth to Fluid	189.0	Ft	
Salinity	0.000	PPM	
RMF@BHT	0.720	@ 90 F	
RMC@BHT	1.080	@ 90 F	

Run Number 1

Comments

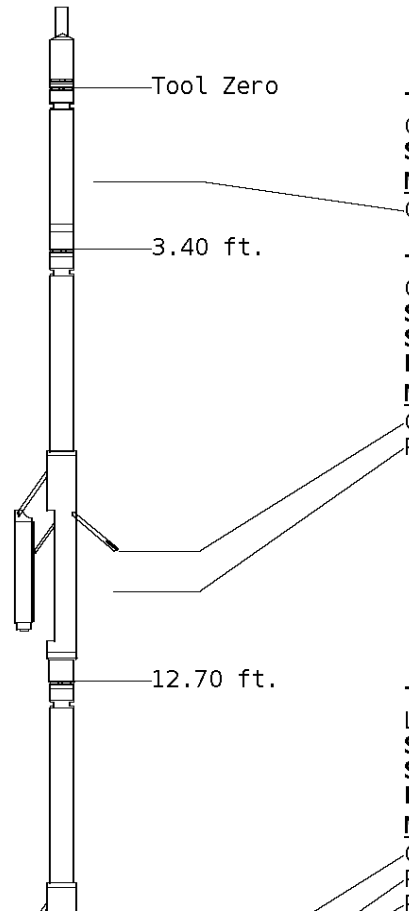
ALL PRESENTATIONS AS PER CUSTOMER REQUEST.
GRT, CNT, LDT, PIT RUN IN COMBINATION.
CALIPERS ORIENTED ON X-Y AXIS.
2.71 G/CC USED TO CALCULATE POROSITY.
ANNULAR HOLE VOLUME CALCULATED USING 2.875" PRODUCTION CASING.
PHIN, SP AND SFL CUT OFF AT 189' DUE TO FLUID LEVEL

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

OPERATORS:
J. TORBERT
J. THOMAS

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

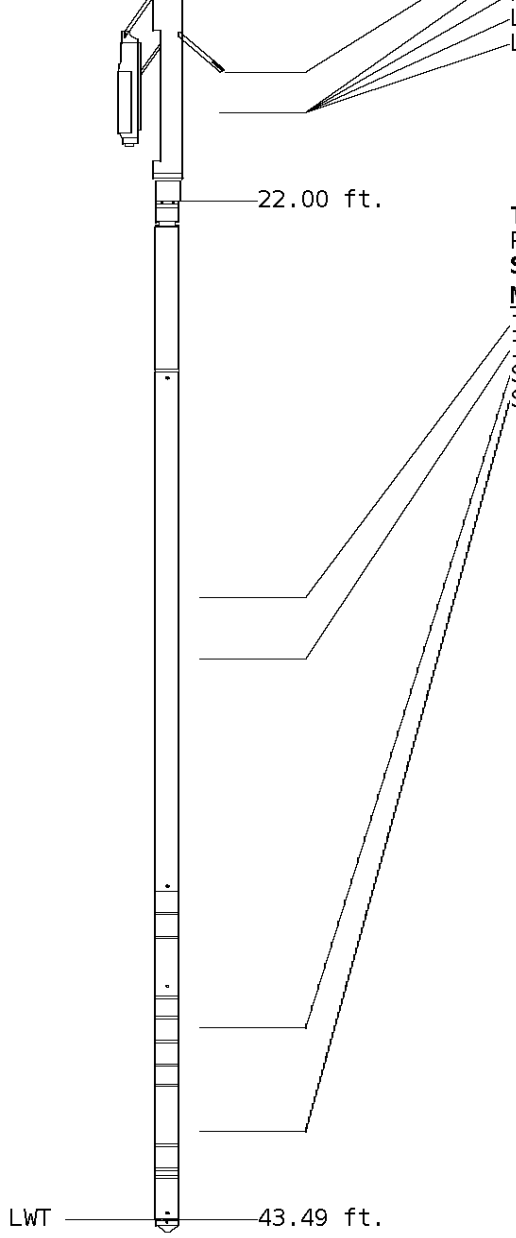
Tool: CNT-AA **Length:** 9.30 **ft.** **O.D.** 4.36 **in.**
Compensated Neutron A Pad on NDT-A
Sonde ID :NDT-AB-400
Source ID :N-1044
Pad ID :CNP-AA-116

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-465
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

LDEN	7.20	19.90	23.59
LCOR	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_BACKRUB_AUG4_STK **Scale:** 1:240
Segment: V1.D1.S6 Reprocess of main pass **Acquired:** 2011-08/04 13:08 3.2.0-10140
Reference: 0 **Processed:** 2011-08/04 13:21 3.2.0-10140

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

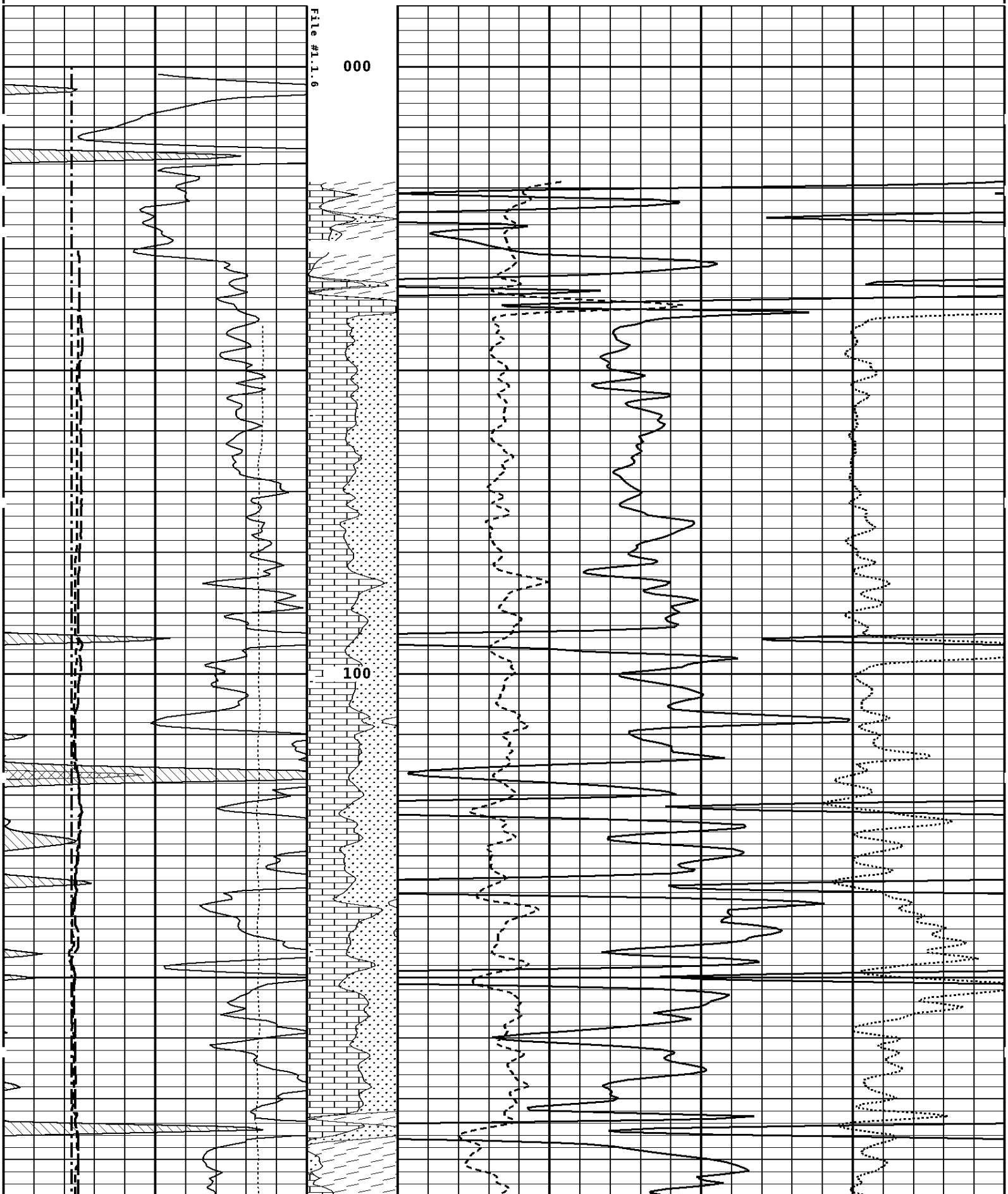
NEUTRON POROSITY PERCENT (LIMESTONE MATRIX)
30 — -10

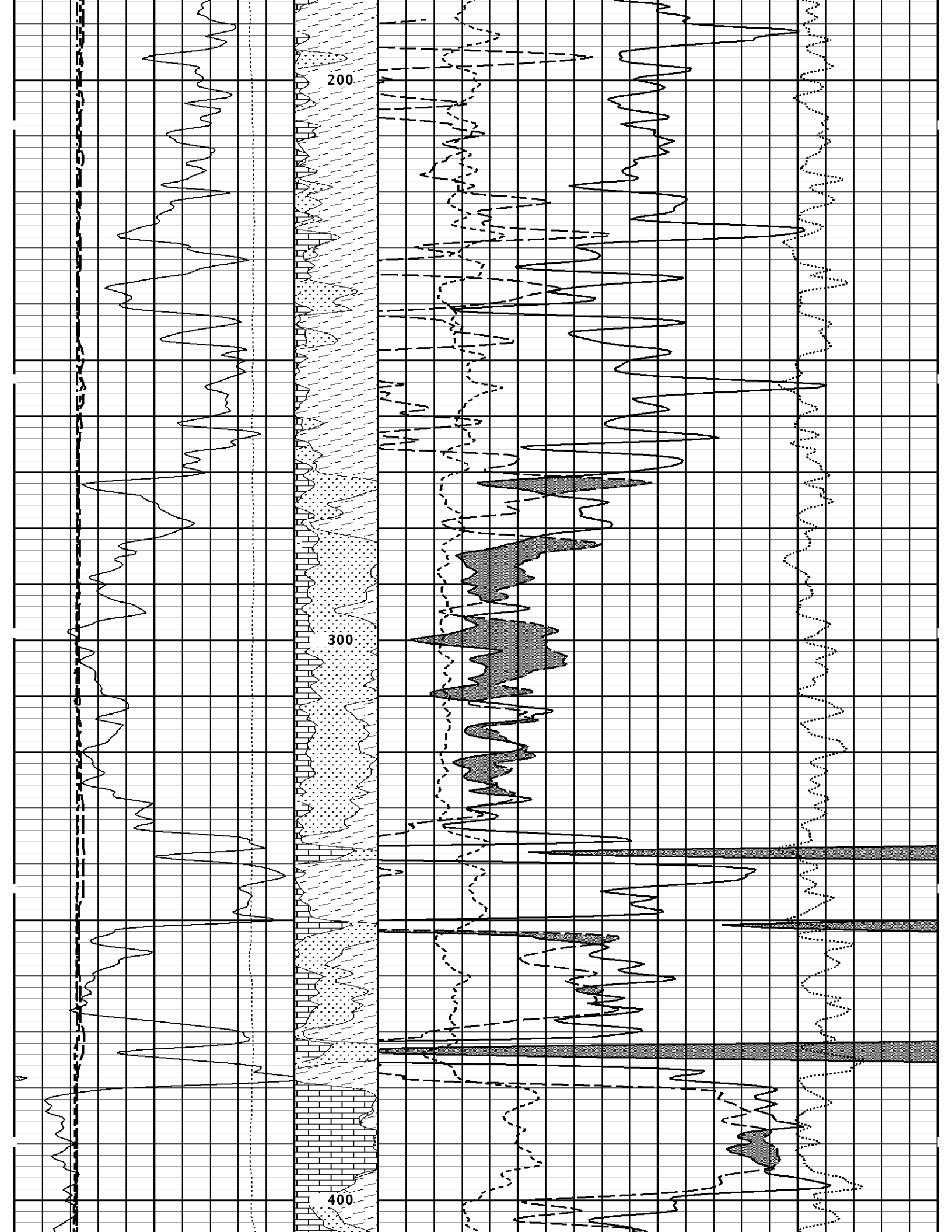
GAMMA RAY API UNITS
200 — 400
0 — 200

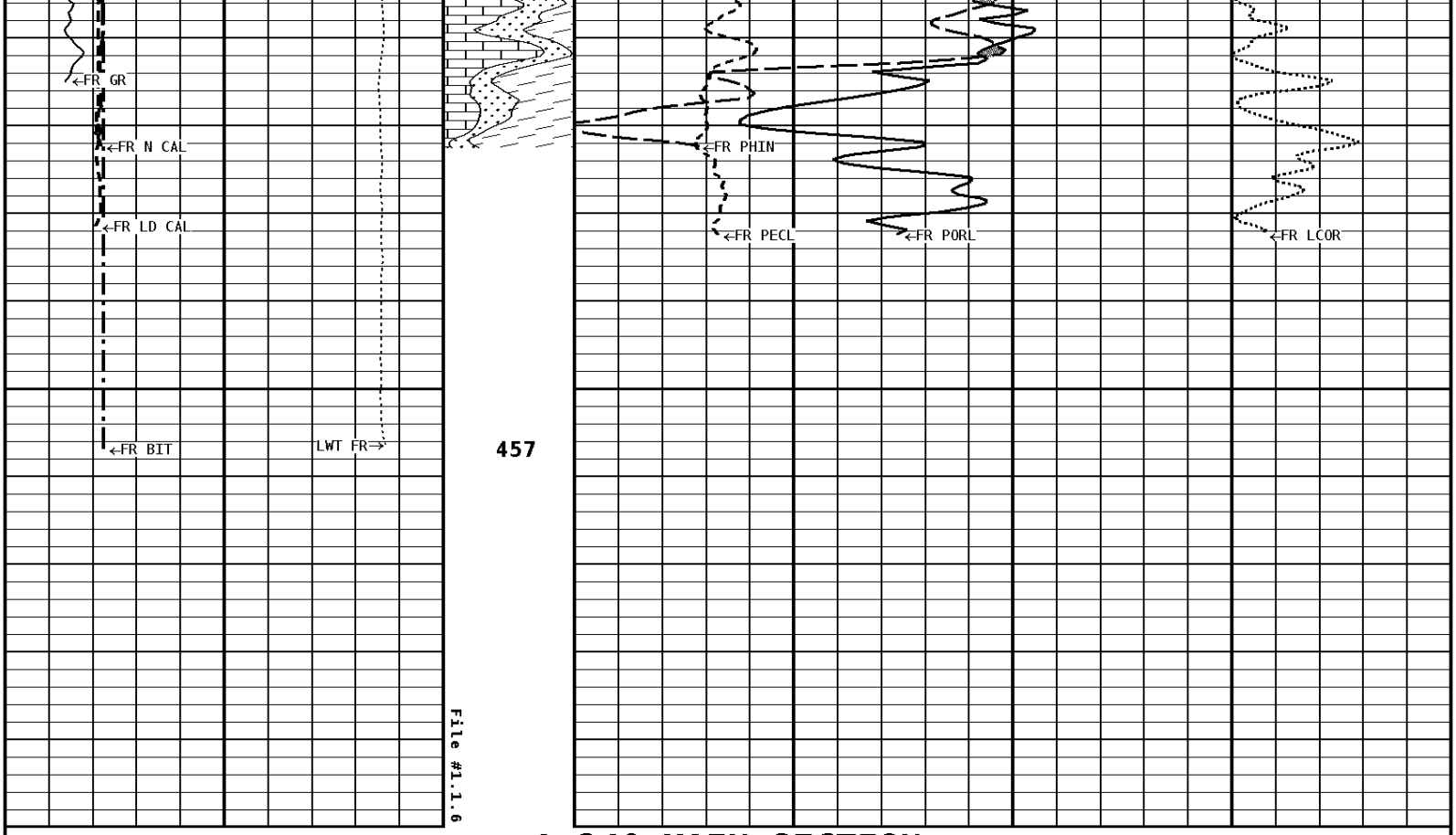
-BHV AHV- CU.FT

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

1:240 MAIN SECTION




200
300
400



1:240 MAIN SECTION

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
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	6.250	in
Casing Diameter	2.875	in

Casing Correction (PHI N)_____ Disable

Well File: RFP_BACKRUB_AUG4_STK **Scale:** 1:240
Segment: V1.D1.S4 Reprocess repeat pass **Acquired:** 2011-08/04 12:54 3.2.0-10140
Reference: 0 **Processed:** 2011-08/04 13:02 3.2.0-10140

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

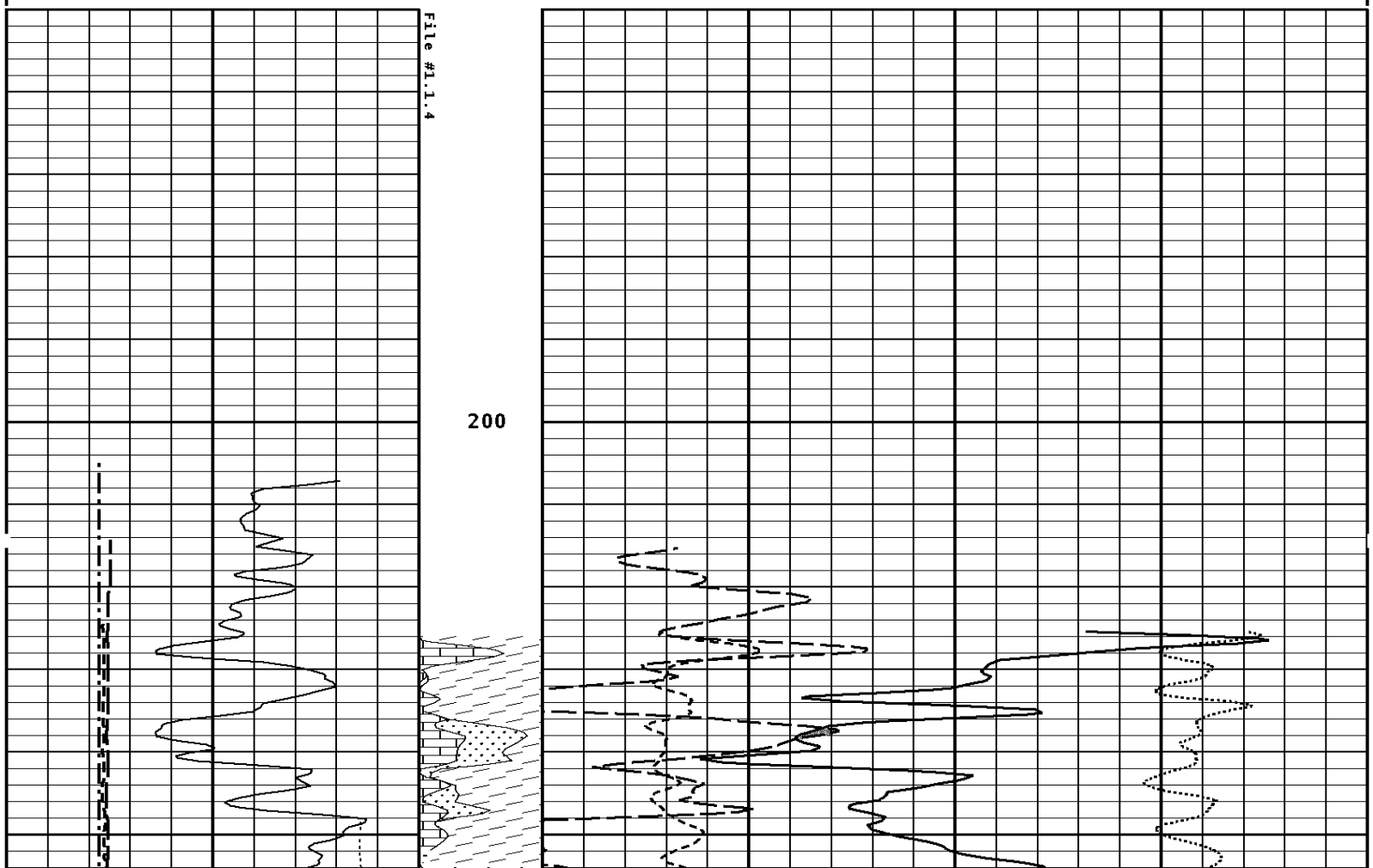
NEUTRON POROSITY
PERCENT (LIMESTONE MATRIX)
30 -10

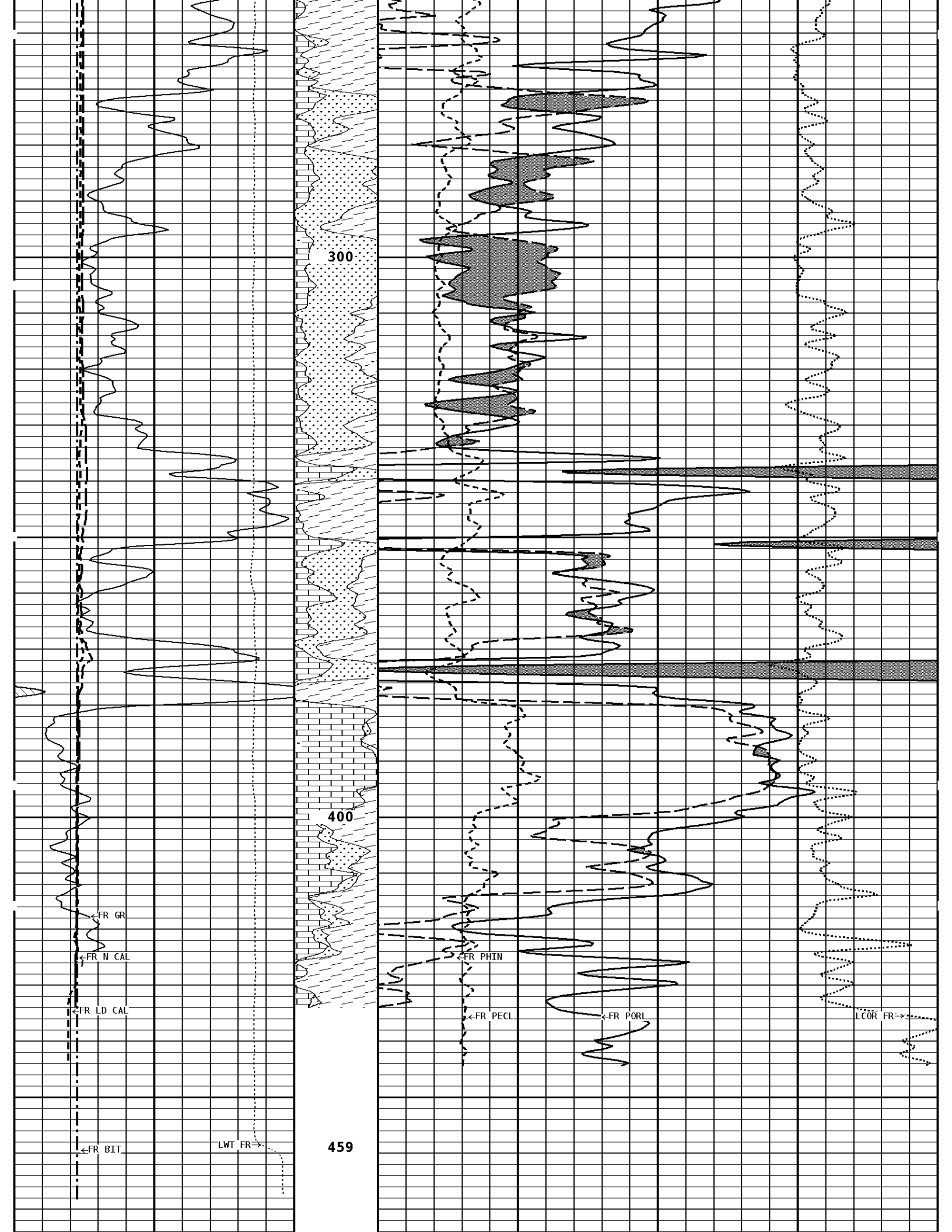
GAMMA RAY
API UNITS
200 400
0 200

-BHV AHV-
CU.FT

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

1:240 REPEAT SECTION




300
400
459
←FR GR
←FR N CAL
←FR LD CAL
←FR BIT
LWT FR→
←FR PHIN
←FR PECL
←FR PORL
LCOR FR→

File #1.1.4

1:240 REPEAT 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 Feet

Matrix Density	2.71	g/cc
Fluid Density	1.00	g/cc
Formation Matrix	Limestone	
Drill Bit Size	6.250	in
Casing Diameter	2.875	in
Casing Correction (PHI N)	Disable	

Well File: RFP_BACKRUB_AUG4_STK **Scale:** 1:240
Segment: V1.D1.S6 Reprocess of main pass **Acquired:** 2011-08/04 13:08 3.2.0-10140
Reference: 0 **Processed:** 2011-08/04 13:21 3.2.0-10140

TENSION LBS
10000 0

BIT SIZE INCHES (IN)
4 14

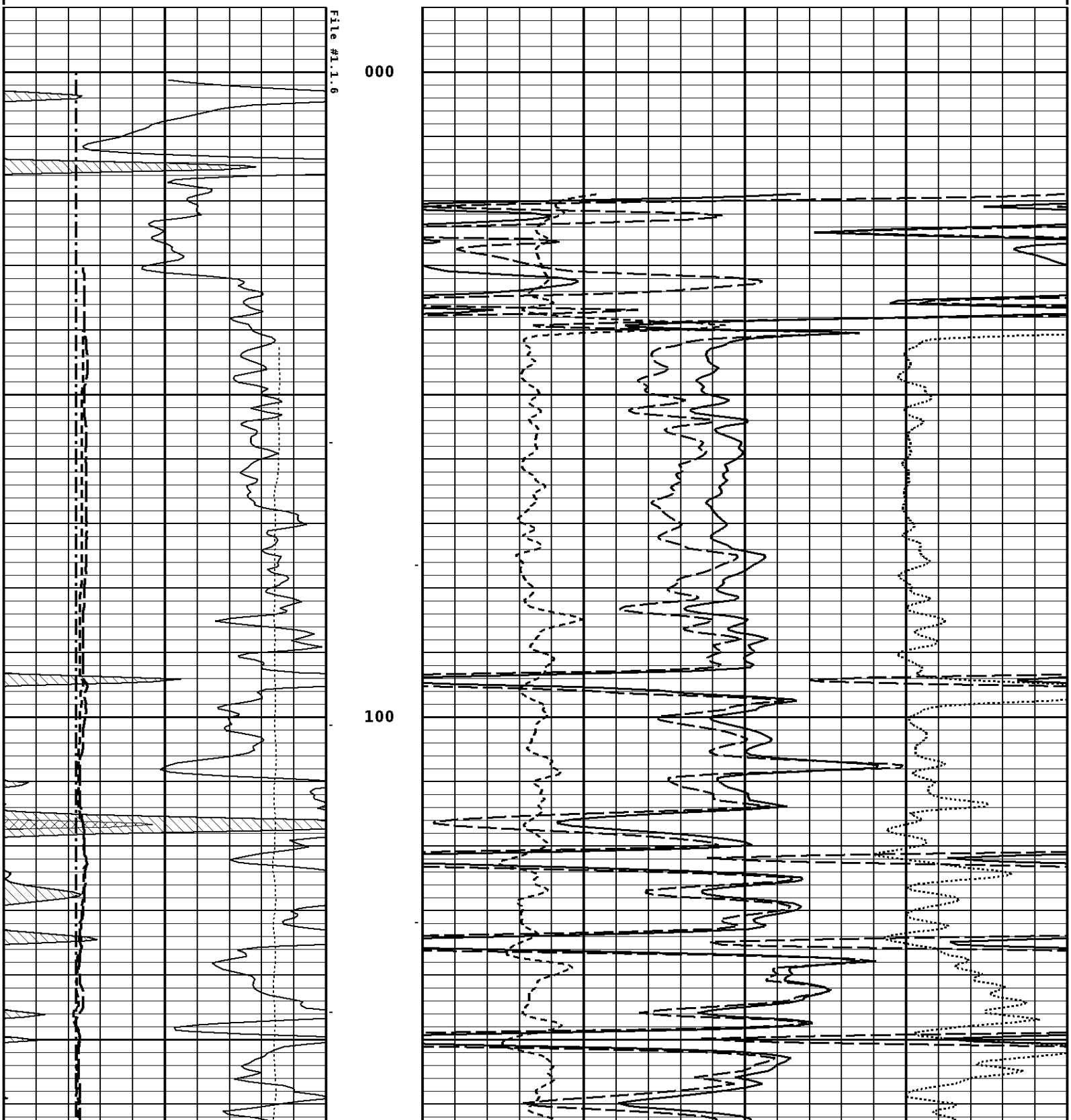
DENSITY (X) CALIPER INCHES (IN)	PE CROSS-SECTION BARNS/ELECTRON	DENSITY CORRECTION G/CC
14 24 4 14	0 10	-0.25 0.25

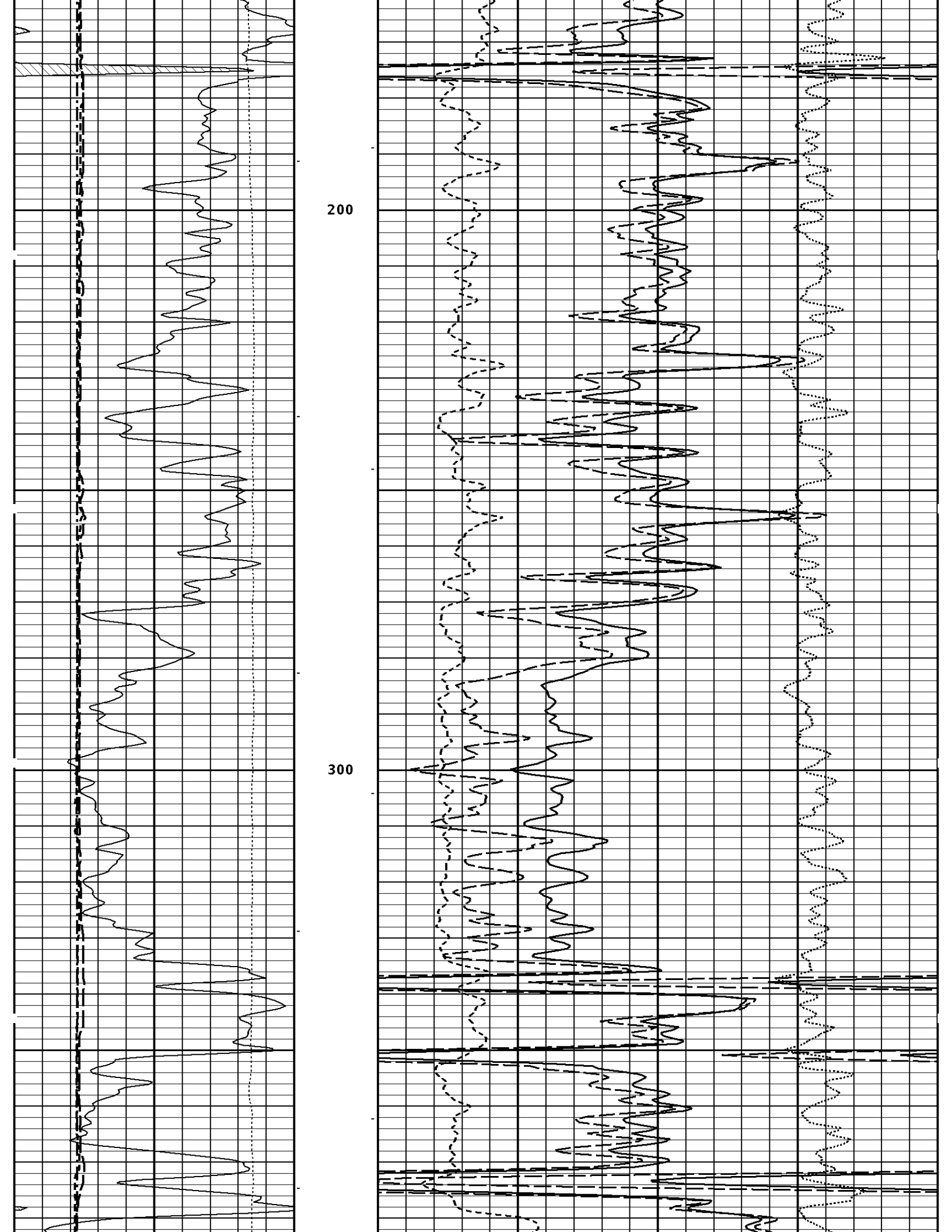
NEUTRON (Y) CALIPER INCHES (IN)	DENSITY POROSITY PERCENT (2.71 g/cc)
14 24	70 30

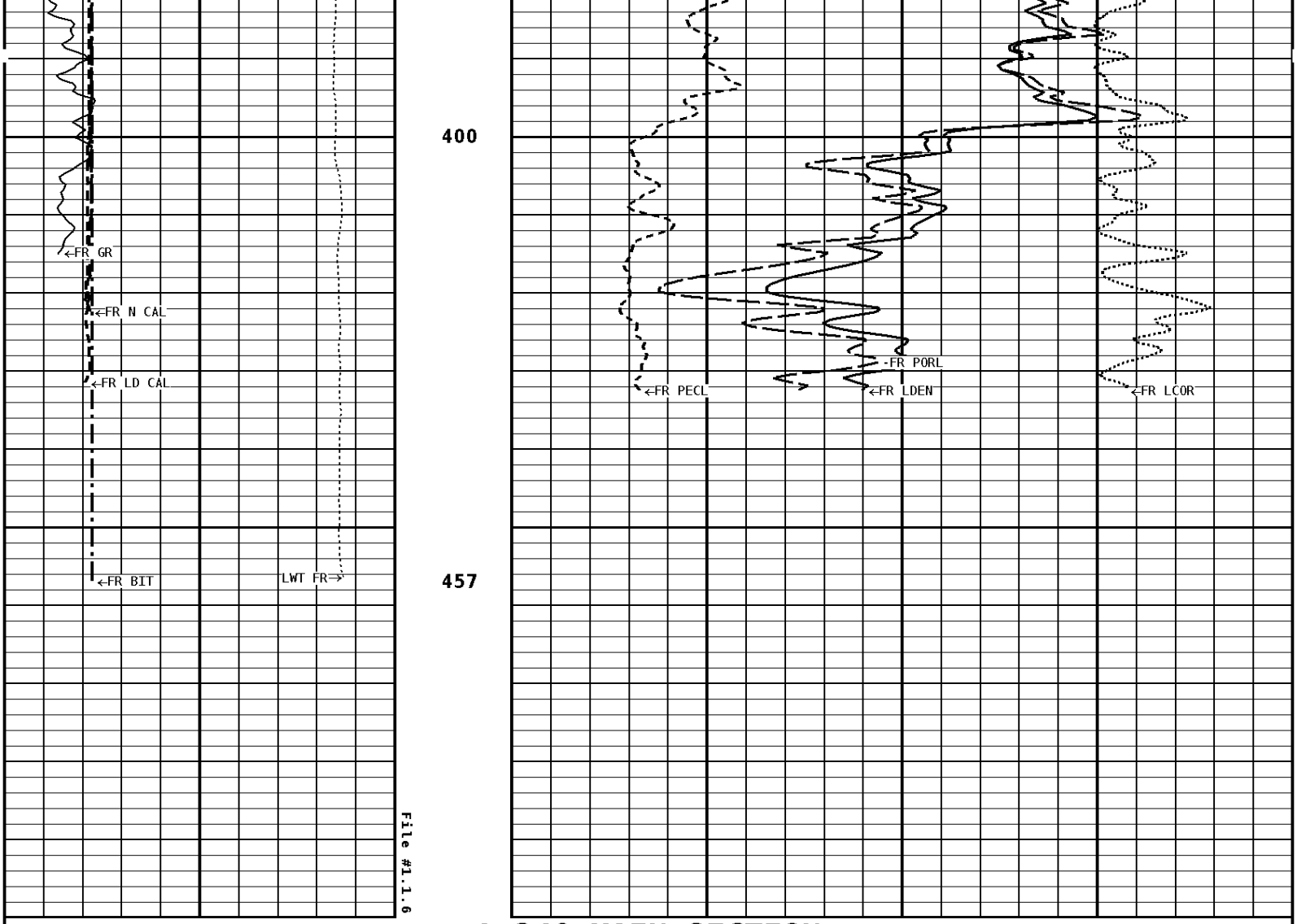
14 24		70 30
4 14		30 -10
		-10 -50

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

1:240 MAIN SECTION
BULK DENSITY




200
300



1:240 MAIN SECTION
BULK DENSITY

GAMMA RAY API UNITS	-BHV AHV- CU.FT	COMPENSATED BULK DENSITY G/CC
200 400 0 200		3.0 4.0 2.0 3.0 1.0 2.0
NEUTRON (Y) CALIPER INCHES (IN)		DENSITY POROSITY PERCENT (2.71 g/cc)
14 24 4 14		70 30 30 -10 -10 -50
DENSITY (X) CALIPER INCHES (IN)		PE CROSS-SECTION BARNS/ELECTRON
14 24 4 14		0 10
BIT SIZE INCHES (IN)		DENSITY CORRECTION G/CC
4 14		-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	6.250	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

	Measured 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	Jig - Measured Ring#2	Jig - Calibrated Ring#1	Jig - Calibrated Ring#2	Units
CL # 1	8.8	14.8	6.0	12.0	IN.

Performed : 13-Jul-2011 Time : 11:29
Sensor Suite : BHC NEUT ID : CNP-AA-116
Source ID : N-1044

	Tank Measured	Tank Calibrated	Verification Jig	Units
N/F	3.8805	3.6893	3.7029	
Porosity	23.5	20.5	20.7	%

Shop Calibration
LDT-DA

Performed : 15-MAY-2011 Time : 08:26
Sensor Suite : CALI-LTH ID : PDT-GA-465

	Jig - Measured Ring#1	Jig - Measured Ring#2	Jig - Calibrated Ring#1	Jig - Calibrated Ring#2	Units
CL # 1	6.5	12.5	6.0	12.0	IN.

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