Tucker ENERGY SERVICES

COMPOSITE LOG

PIT-ML-LDT-CNT-GR-SP

Company DENNIS D. AND/ OR PEGGY D. HODGES
Well #6
Field FINNERTY
County COFFEY
State KANSAS
Country USA
API No. 15-031-23391

File No : TUL-57264
Company : DENNIS D. AND/ OR PEGGY D. HODGES
Well : HODGES #6
Field : FINNERTY
County : COFFEY
State : KANSAS
Country : USA
API No : 15-031-23391

Location :
SW SW NW NW
1077' FNL & 170' FWL

LSD : **Sect :** 12 **Twp :** 21 **Rge :** 13

Permanent Datum:	GL	**Elevations:**		**Services:**	
Drilling Measured From:	GL	**KB**	0.00 Ft	CNT	MST
Log Measured From:	GL	**DF**	0.00 Ft	LDT	PIT
Above Permanent Datum:	0.00 Ft	**GL**	1139.00 Ft	XYT	

Date	2012-10-17			
Run Number	1			
Depth--Driller	1825.0 Ft			
Depth--Logger	1822.0 Ft			
First Reading	1821.0 Ft			
Last Reading	150.0 Ft			
Casing--Driller	150.0 Ft			
Casing--Logger	150.0 Ft			
Bit Size	7.875 In			
Casing Size	8.625 In			
Hole Fluid Type	WATER BASED MUD			
Density	9.2 LBS/GAL			
Fluid Loss	0.0 CC			
PH/Viscosity	0.0	49.0 SEC		
Sample Source	MEASURED			
RM@Measured Temp.	2.600 @ 64 F			
RMF@Measured Temp	2.266 @ 64 F			
RMC@Measured Temp.	3.146 @ 64 F			
Source RMF/RMC	CALCULATED	CALCULATED		
RM@BHT	1.921 @ 89 F			
Time Circulation Stopped	2012-10-17 14:30			
Max Recorded Temp.	89 F			
Equipment/Base	TRK 122	DENTON		
Recorded By	I. CERINO LOPEZ / R. KING			
Witnessed By	D. GRIFFIN			

The customer is hereby warned that by providing the log data herein, T. E. S. does not agree to provide any interpretation of log data, conversion of log data to physical rock parameters or recommendations. T. E. 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. E. 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. E. 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

Size (In)	Bottom (Ft)
7.875	1825.00

Casing Strings

Size (In)	Weight (Lbs)	Bottom (Ft)
8.625	24.00	150.00

Run Number	1
Date	2012-10-17
Date/Time On Bottom	2012-10-17 20:15
Depth to Fluid	0.0 Ft
Salinity	0.000 PPM
RMF@BHT	1.691 @ 89 F
RMC@BHT	2.325 @ 89 F

Run Number 1

Comments

ALL PRESENTATIONS AS PER CLIENTS REQUEST

ALL PRESENTATION AS PER CLIENTS REQUEST.

GRT, CNT, LDT, MLT, & PIT RUN IN COMBINATION.
2.71 G/CC DENSITY MATRIX USED TO CALCULATE DENSITY POROSITY.
5.50" PRODUCTION CASING USED TO CALCULATE ANNULAR HOLE VOLUME.
CALIPERS ORIENTED 90 DEGREES OUT OF PHASE.
NO STANDOFF DEPLOYED ON PIT TOOL.
PHIN IS CALIPER CORRECTED.
HIRES LOGGED FROM TD-1300', AS CLIENT REQUESTED.

RIG: THREE RIVERS EXPLORATION, LLC RIG #1

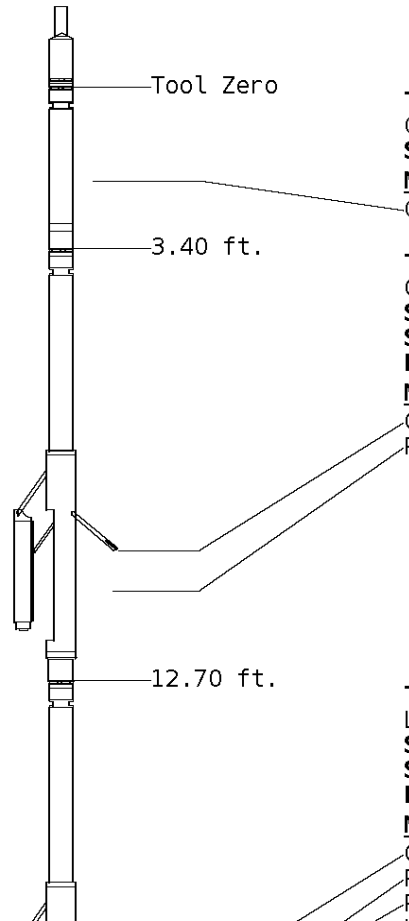
GRP: GRP, GRX
CNT: PHIN, CLCNIN, PHXN
LDT: LDEN, PECL, PECS, LCOR, PORL, CLLDIN, PRXL, LDENX, LCORX
MLT: INV_RF, NOR_RF, MSCLPIN
PIT: ILD, ILM, CIRD, SFLAEC, SPU

!THANK YOU FOR USING TUCKER WIRELINE SERVICES!

OPERATORS:
C. BOHANNON
T. EVANS

Tool String Schematic

Total Tool Length - 52.95 **ft.**
Maximum Outside diameter - 6.00 **in.**
Net Weight in Air - 943.00 **lbs.**



Tool: GRT-B **Length:** 3.40 **ft.** **O.D.** 3.60 **in.**
Gamma Ray Controller
Sonde ID :GRT-BB-117

Measure Point	Tool Offset	Stack Offset	Bottom Offset
GRP	2.00	2.00	50.95

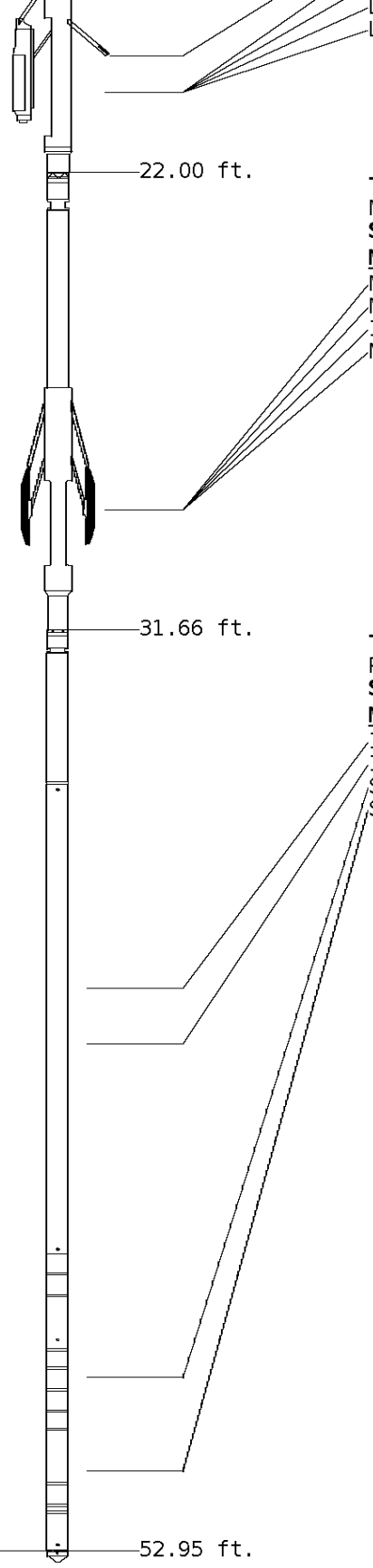
Tool: CNT-AA **Length:** 9.30 **ft.** **O.D.** 4.36 **in.**
Compensated Neutron A Pad on NDT-A
Sonde ID :NDT-BB-103
Source ID :N-1043
Pad ID :CNP-AA-101

Measure Point	Tool Offset	Stack Offset	Bottom Offset
CLCN	6.00	9.40	43.55
PHIN	6.80	10.20	42.75

Tool: LDT-AA **Length:** 9.30 **ft.** **O.D.** 4.80 **in.**
Litho Density A Pad on NDT-A
Sonde ID :NDT-BB-139
Source ID :CSV-C2
Pad ID :LDP-BA-20

Measure Point	Tool Offset	Stack Offset	Bottom Offset
CLLD	6.00	18.70	34.25
PEL	7.00	19.70	33.25
PES	7.40	20.10	32.85

LDEN	7.20	19.90	33.05
LCOR	7.20	19.90	33.05



Tool: MST-DA **Length:** 9.66 **ft.** **O.D.** 6.00 **in.**
Micro Spherically Focused (IC)
Sonde ID :MST-DA-29

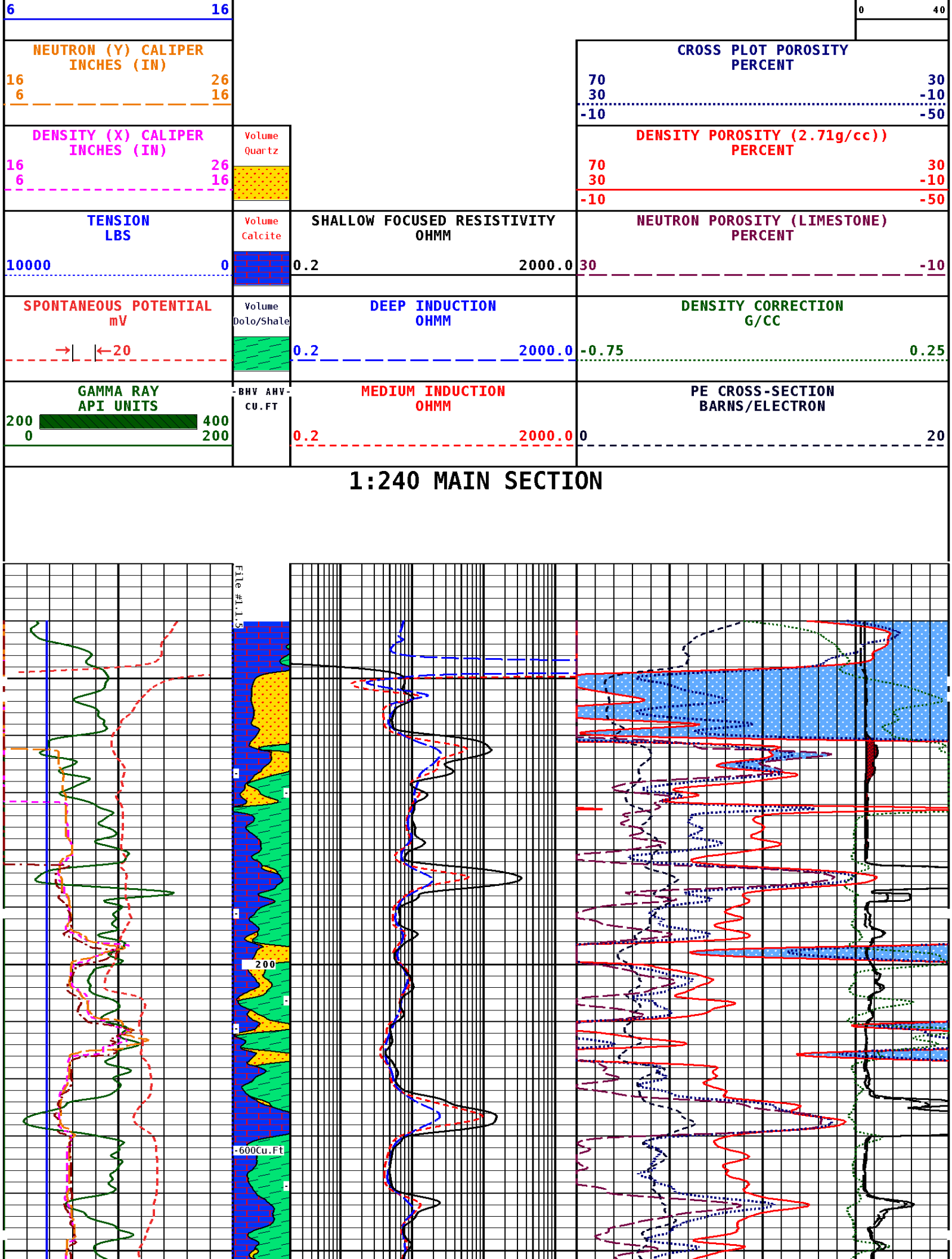
Measure Point	Tool Offset	Stack Offset	Bottom Offset
MSFL	7.60	29.60	23.35
MSCLP	7.60	29.60	23.35
INV	7.60	29.60	23.35
NOR	7.60	29.60	23.35

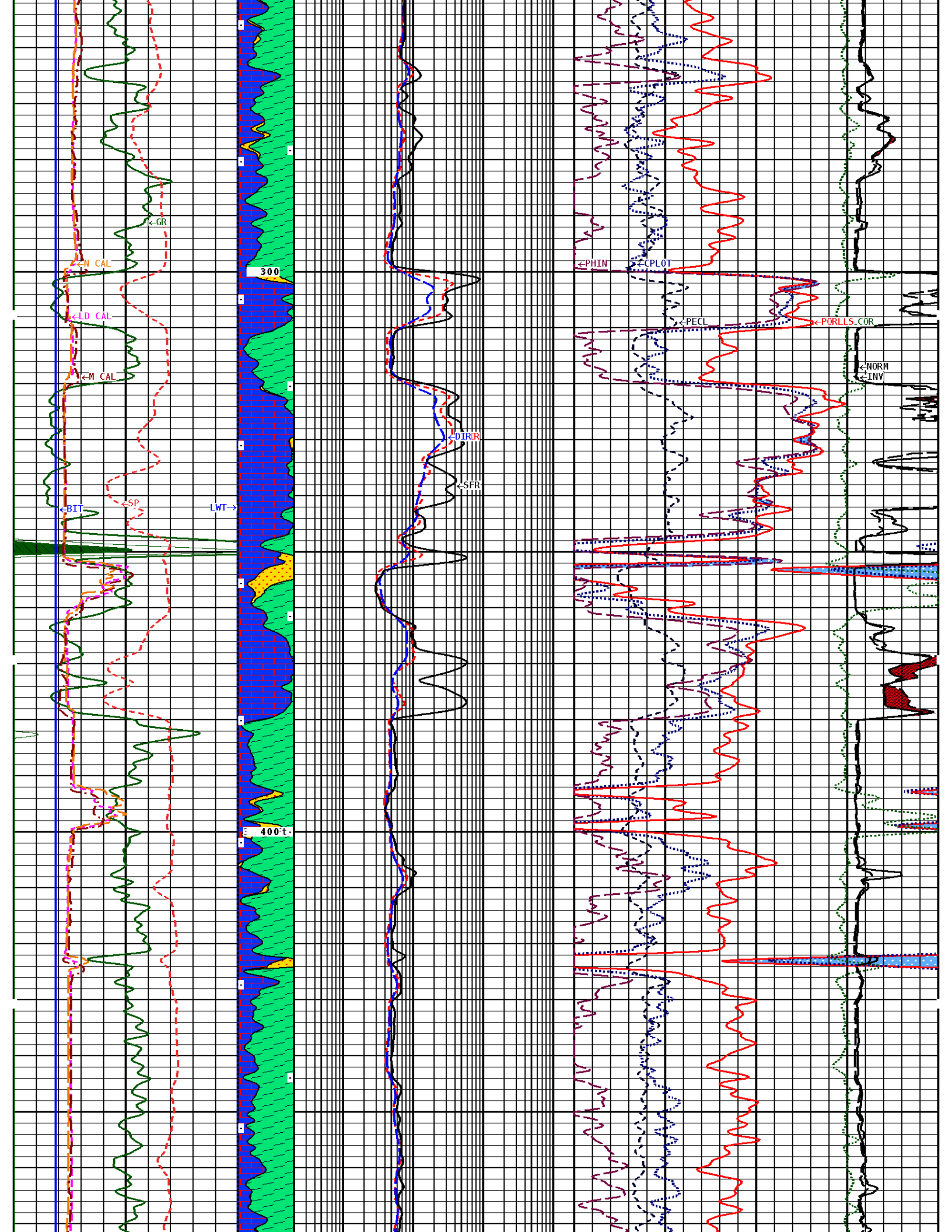
Tool: PIT-CA **Length:** 21.29 **ft.** **O.D.** 3.62 **in.**
Phased Dual Induction
Sonde ID :PIT-AB-14

Measure Point	Tool Offset	Stack Offset	Bottom Offset
ILD	8.73	40.39	12.56
ILM	9.90	41.56	11.39
SFLU	17.29	48.95	4.00
SP	20.41	52.07	0.88

Well File: HODGES_HODGES6_OCT17-MSTK **Scale:** 1:240
Segment: V1.D1.S5 MAIN-RPO **Acquired:** 2012-10/17 20:36 3.2.0-11172
Reference: 0 **Processed:** 2012-10/17 21:38 3.2.0-11172

CALIPER MICRO INCHES (IN)		NORMAL OHMM
16	26	0 40
6	16	
BIT SIZE INCHES (IN)		INVERSE OHMM


6
16
0
40
NEUTRON (Y) CALIPER
INCHES (IN)
16
26
6
16
CROSS PLOT POROSITY
PERCENT
70
30
30
-10
-10
-50
DENSITY (X) CALIPER
INCHES (IN)
16
26
6
16
Volume
Quartz
DENSITY POROSITY (2.71g/cc))
PERCENT
70
30
30
-10
-10
-50
TENSION
LBS
10000
0
Volume
Calcite
SHALLOW FOCUSED RESISTIVITY
OHMM
0.2
2000.0
NEUTRON POROSITY (LIMESTONE)
PERCENT
30
-10
SPONTANEOUS POTENTIAL
mV
20
Volume
Dolo/Shale
DEEP INDUCTION
OHMM
0.2
2000.0
DENSITY CORRECTION
G/CC
-0.75
0.25
GAMMA RAY
API UNITS
200
0
400
200
-BHV AHV-
CU.FT
MEDIUM INDUCTION
OHMM
0.2
2000.0
PE CROSS-SECTION
BARNS/ELECTRON
0
20
1:240 MAIN SECTION
File 1.1.5
200
-600Cu.Ft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←BIT
←SP
LWT→
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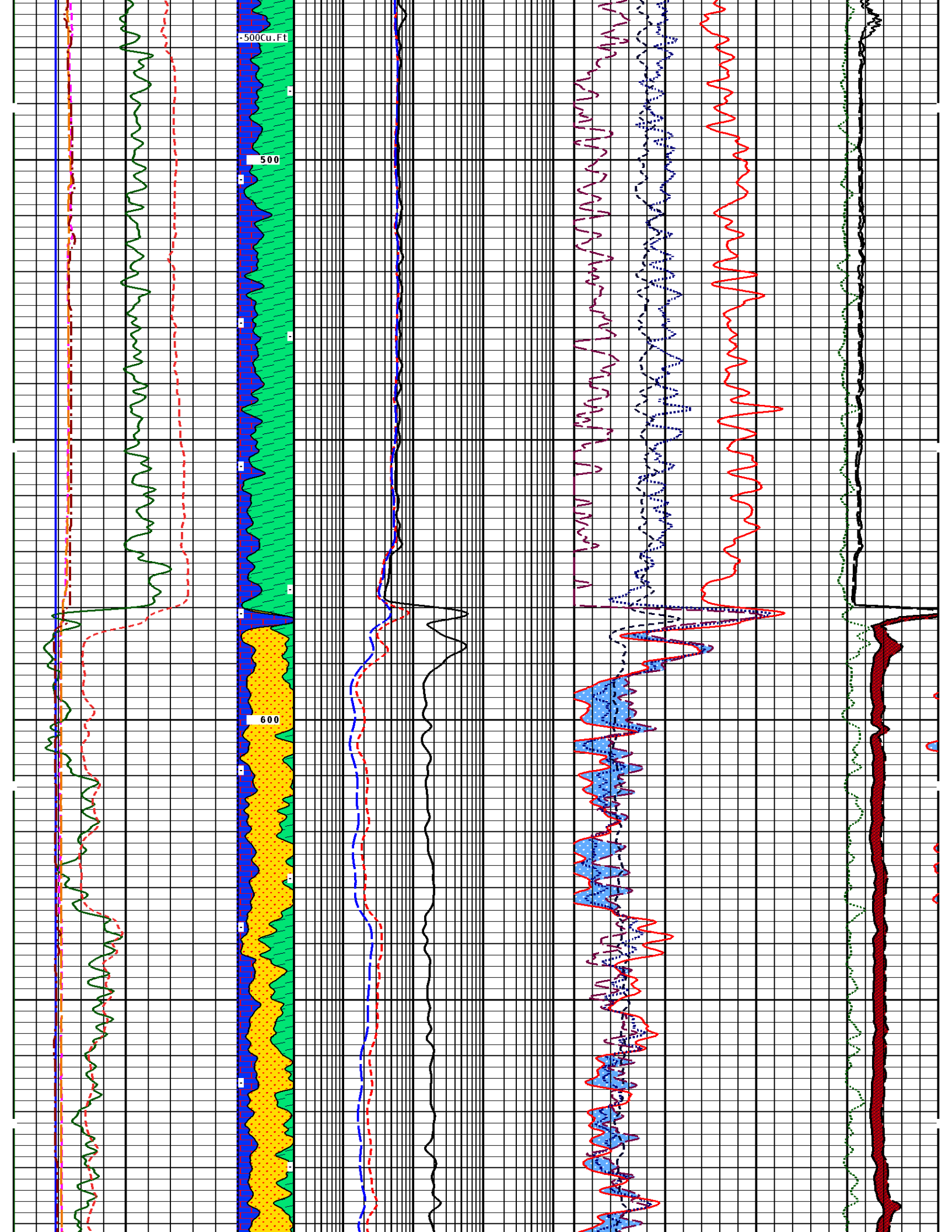
←PECL
←PORLLS.COR
←NORM
←INV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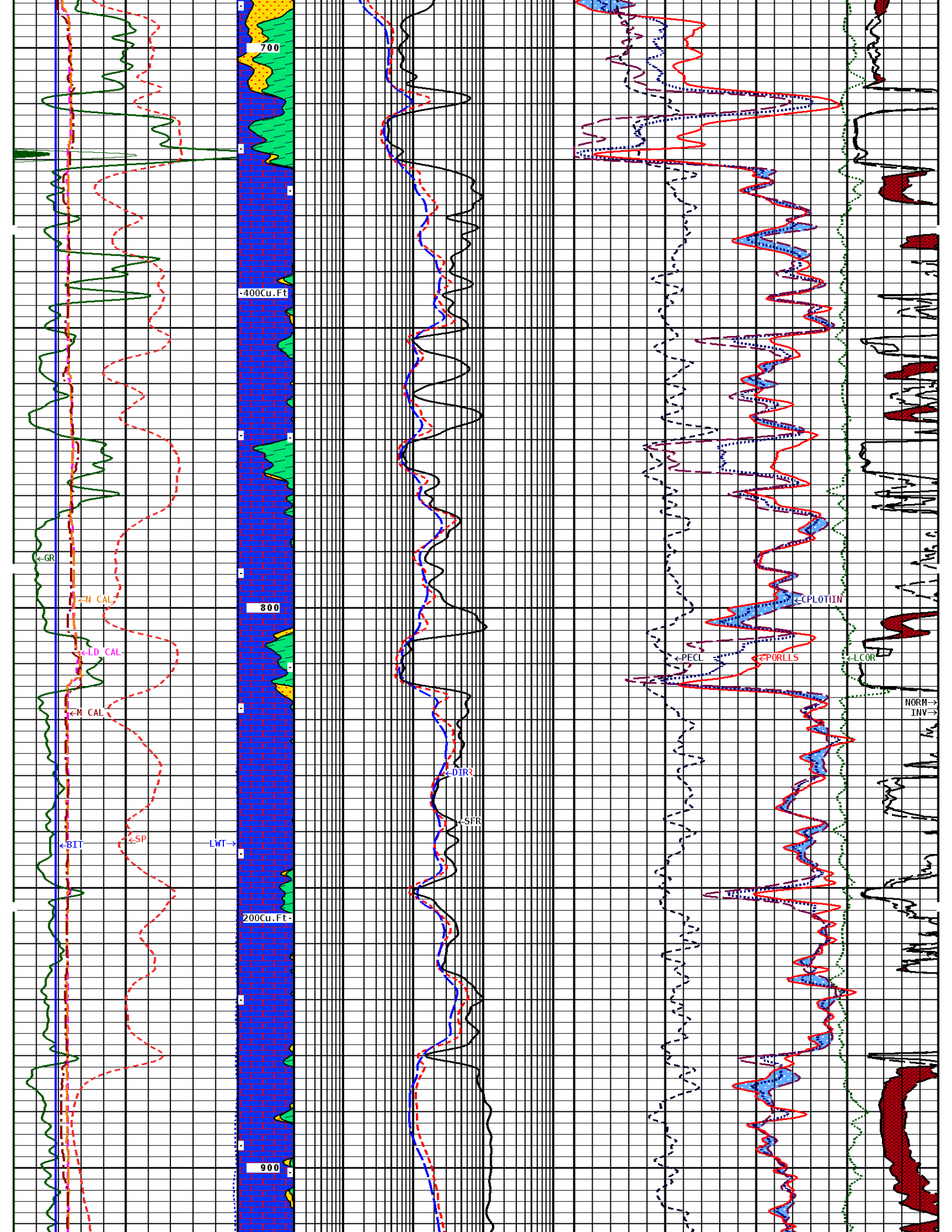
500
600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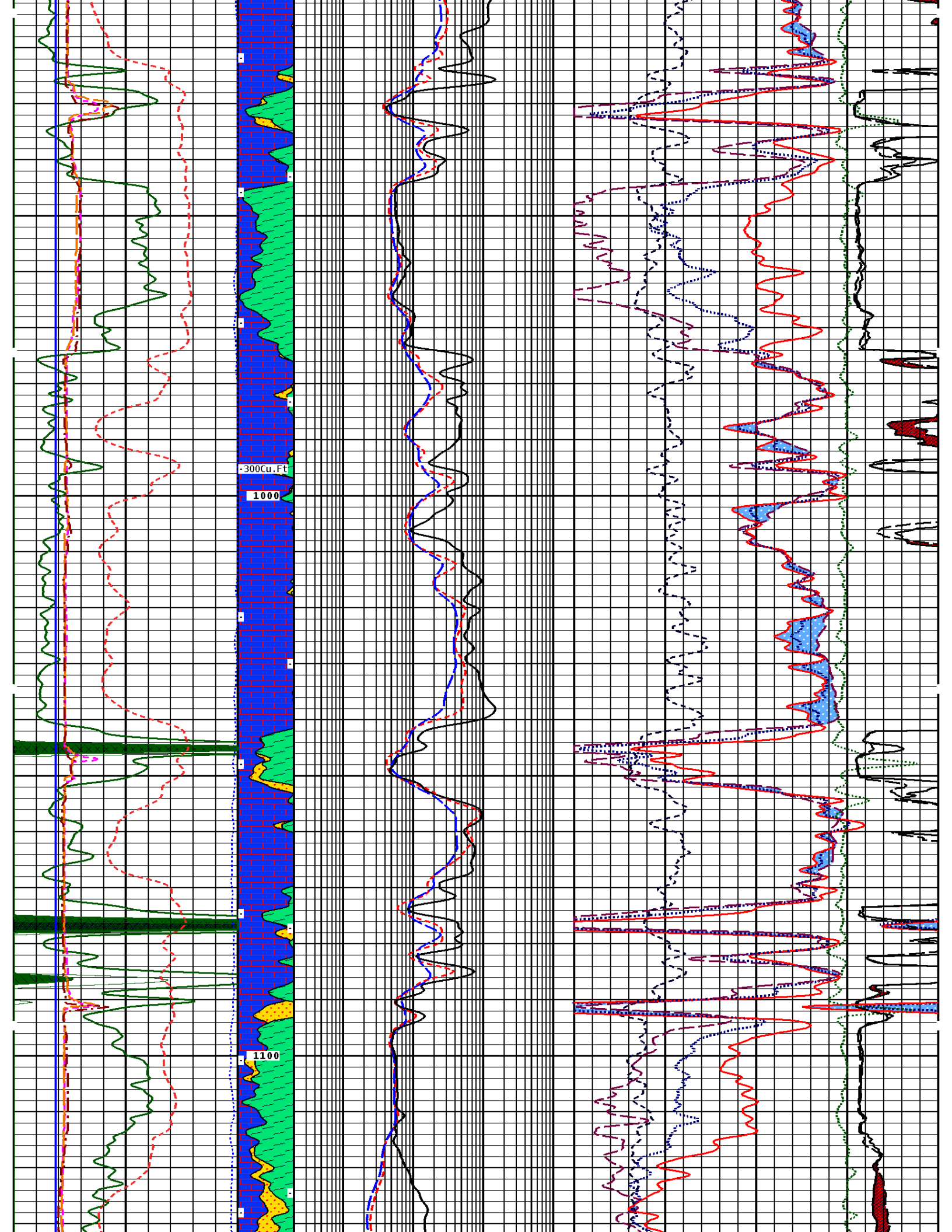
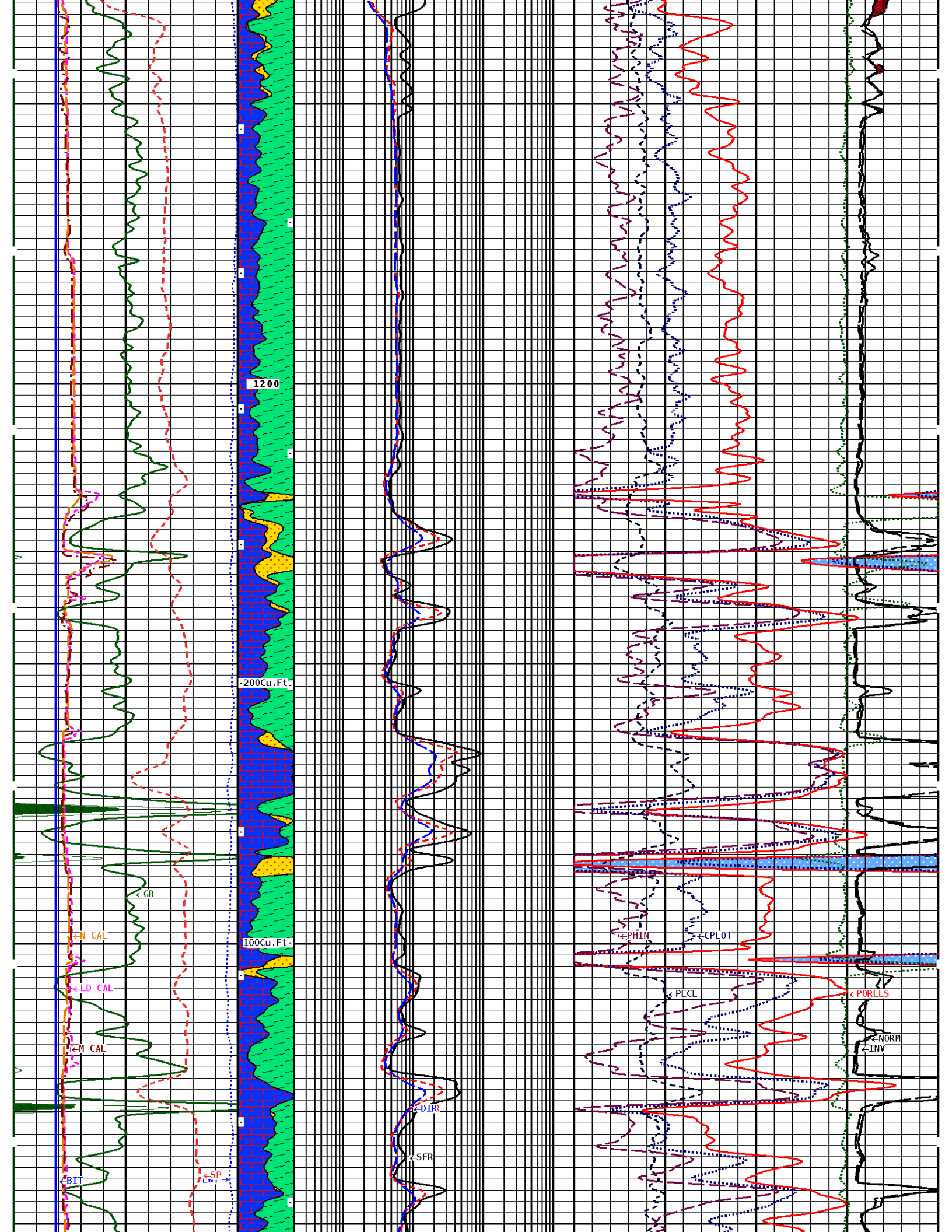
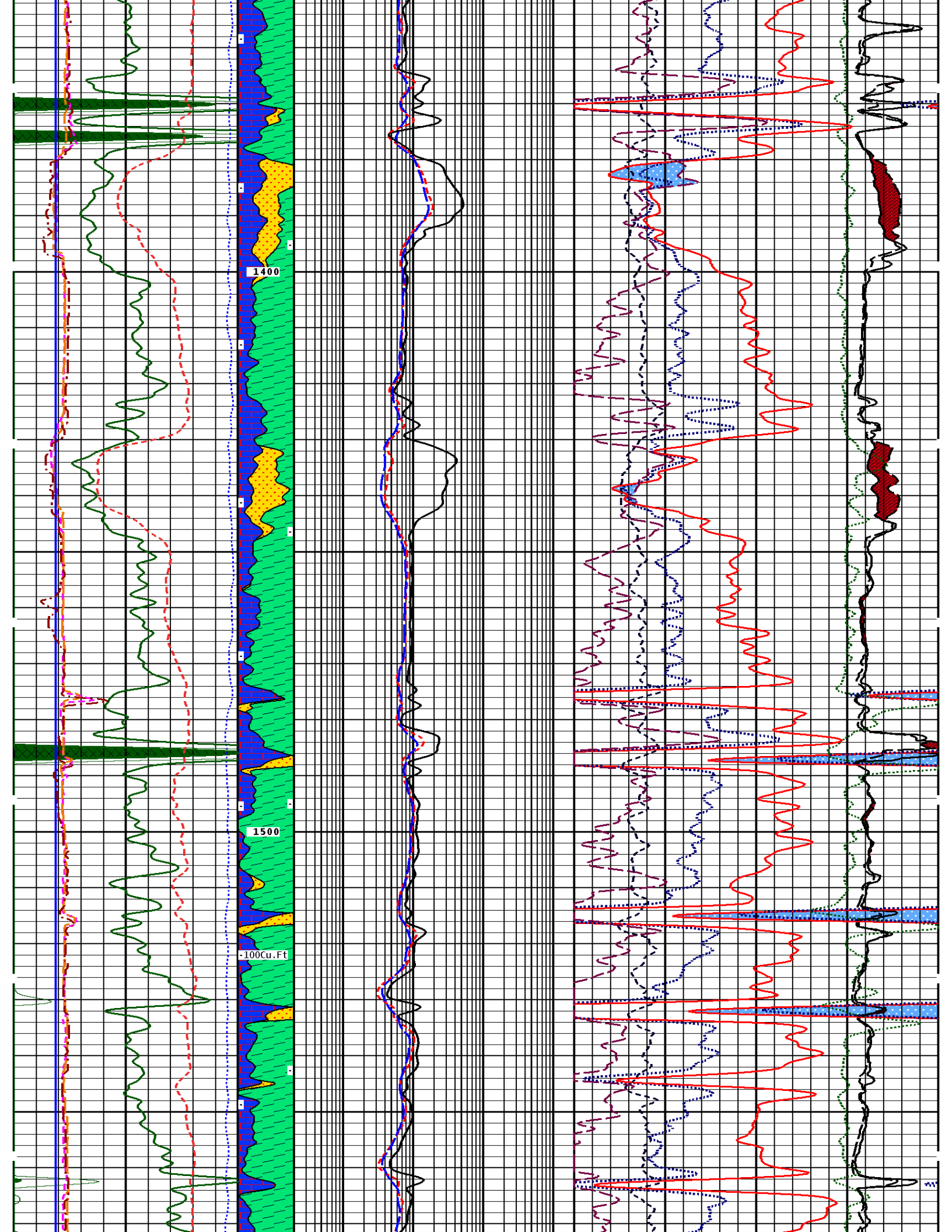
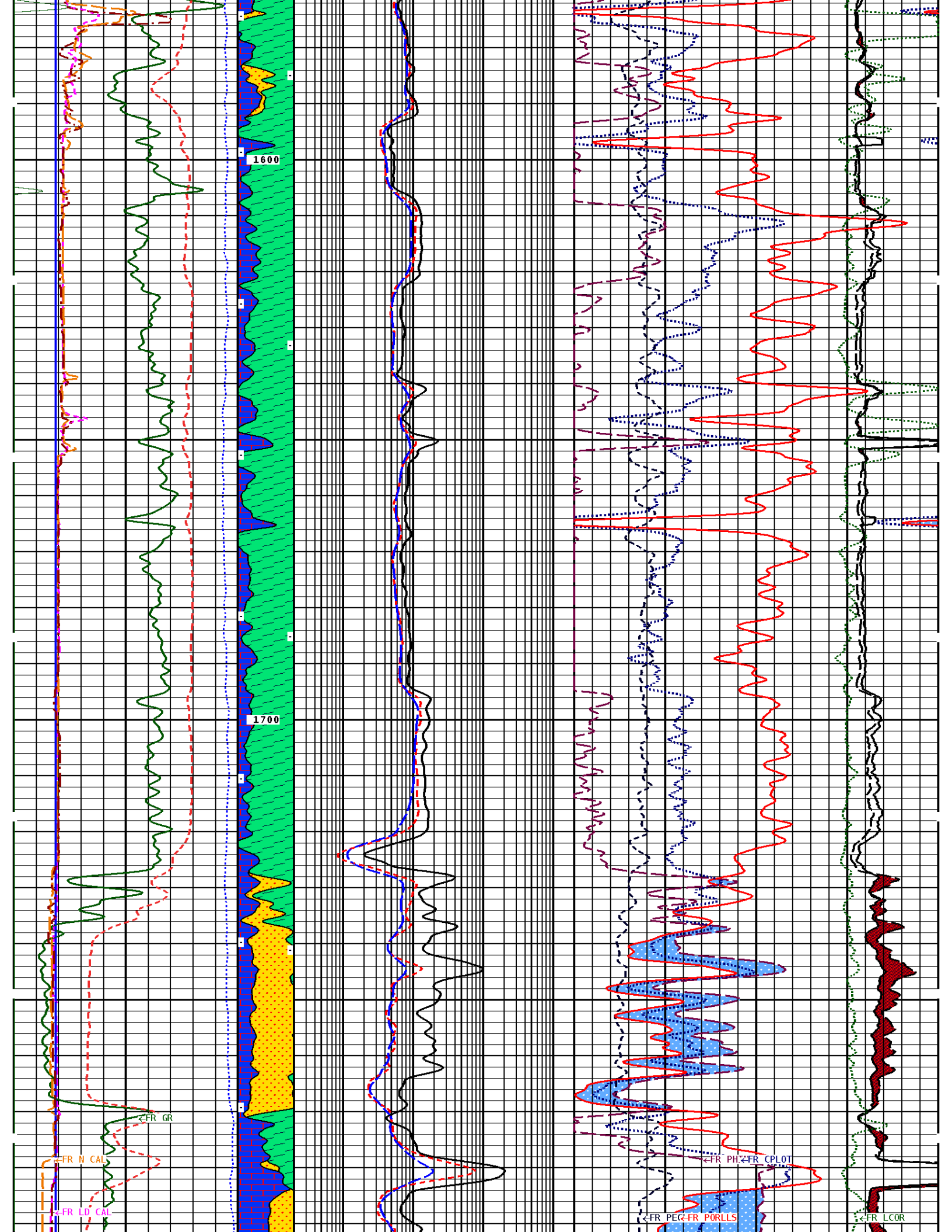
400Cu.Ft
800
200Cu.Ft
900
GR
N CAL
LD CAL
M CAL
BIT
SP
LWT
DIR
SFR
CPLOTIN
PECL
PORLLS
LCOR
NORM
INV


-300Cu.Ft
1000
1100


1200
200Cu.Ft
100Cu.Ft
GR
N CAL
LD CAL
M CAL
BIT
SP
DIR
SFR
PHIN
CPLOT
PECL
PORLLS
NORM
INV


1400
1500
-100Cu.Ft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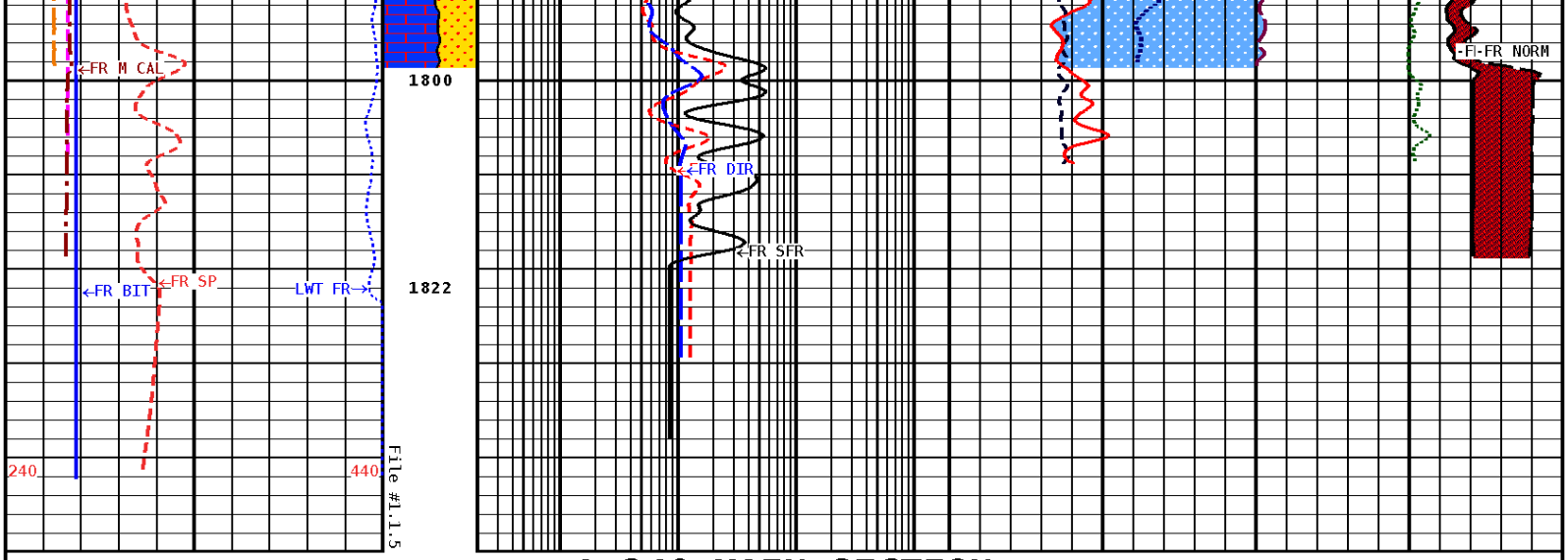
1700
FR GR
FR N CAL
FR LD CAL
FR PH
FR CPLOT
FR PE
FR PORLLS
FR LCOR



1:240 MAIN SECTION

GAMMA RAY **API UNITS** 200 — 400 0 — 200	-BHV AHV- CU.FT	**MEDIUM INDUCTION** **OHMM** 0.2 — 2000.0	**PE CROSS-SECTION** **BARNS/ELECTRON** 0 — 20
SPONTANEOUS POTENTIAL **mV** → | |← 20	Volume Dolo/Shale	**DEEP INDUCTION** **OHMM** 0.2 — 2000.0	**DENSITY CORRECTION** **G/CC** -0.75 — 0.25
TENSION **LBS** 10000 — 0	Volume Calcite	**SHALLOW FOCUSED RESISTIVITY** **OHMM** 0.2 — 2000.0	**NEUTRON POROSITY (LIMESTONE)** **PERCENT** 30 — -10
DENSITY (X) CALIPER **INCHES (IN)** 16 — 26 6 — 16	Volume Quartz		**DENSITY POROSITY (2.71g/cc))** **PERCENT** 70 — 30 30 — -10 -10 — -50
NEUTRON (Y) CALIPER **INCHES (IN)** 16 — 26 6 — 16			**CROSS PLOT POROSITY** **PERCENT** 70 — 30 30 — -10 -10 — -50
BIT SIZE **INCHES (IN)** 6 — 16			**INVERSE** **OHMM** 0 — 40
CALIPER MICRO **INCHES (IN)** 16 — 26 6 — 16			**NORMAL** **OHMM** 0 — 40

*** 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	7.875	in
Casing Diameter	5.500	in
Casing Thickness	0.250	in
Casing Correction (PHI N)	Disable	
BHT Depth	1822.000	ft
Borehole Temperature	89.0	degF
Temperature Gradient	1.00	DFHF

Resistivity Of Mud	2.600	ohm/m
Resistivity Of Mud Temperature	64.00	degF

Well File: HODGES_HODGES6_OCT17-MSTK **Scale:** 1:240
Segment: V1.D1.S4 REPEAT-RPO **Acquired:** 2012-10/17 20:21 3.2.0-11172
Reference: 0 **Processed:** 2012-10/17 21:38 3.2.0-11172

CALIPER MICRO INCHES (IN) 16 6 26 16

BIT SIZE INCHES (IN) 6 16

NEUTRON (Y) CALIPER INCHES (IN) 16 6 26 16

DENSITY (X) CALIPER INCHES (IN) 16 6 26 16

TENSION LBS 10000 0

SPONTANEOUS POTENTIAL mV →| |←20

GAMMA RAY API UNITS 200 0 400 200

Volume Quartz

Volume Calcite

Volume Dolo/Shale

-BHV AHV- CU.FT

SHALLOW FOCUSED RESISTIVITY OHMM 0.2 2000.0

DEEP INDUCTION OHMM 0.2 2000.0

MEDIUM INDUCTION OHMM 0.2 2000.0

NORMAL OHMM 0 40

INVERSE OHMM 0 40

CROSS PLOT POROSITY PERCENT 70 30 -10 30 -10 -50

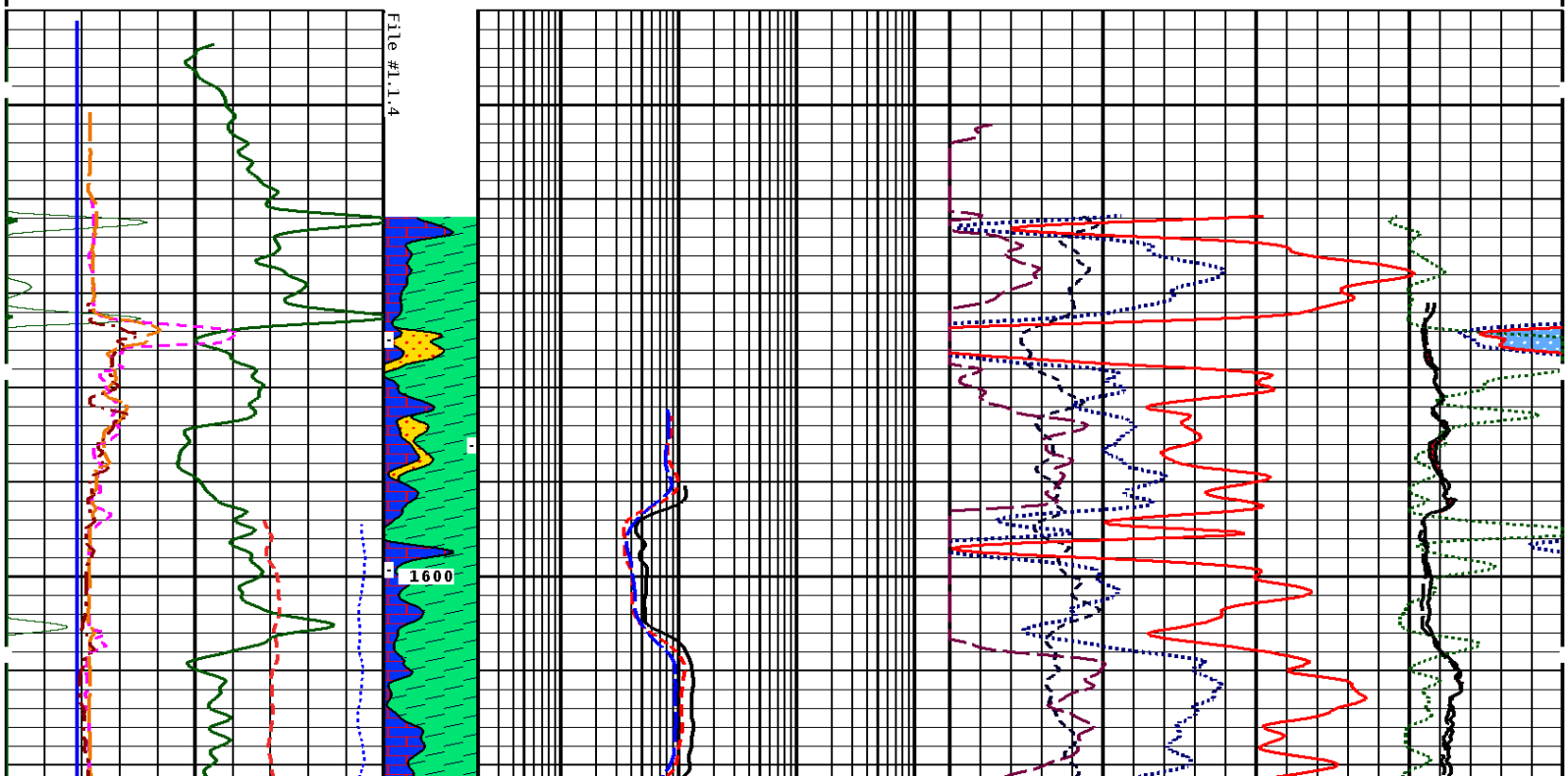
DENSITY POROSITY (2.71g/cc)) PERCENT 70 30 -10 30 -10 -50

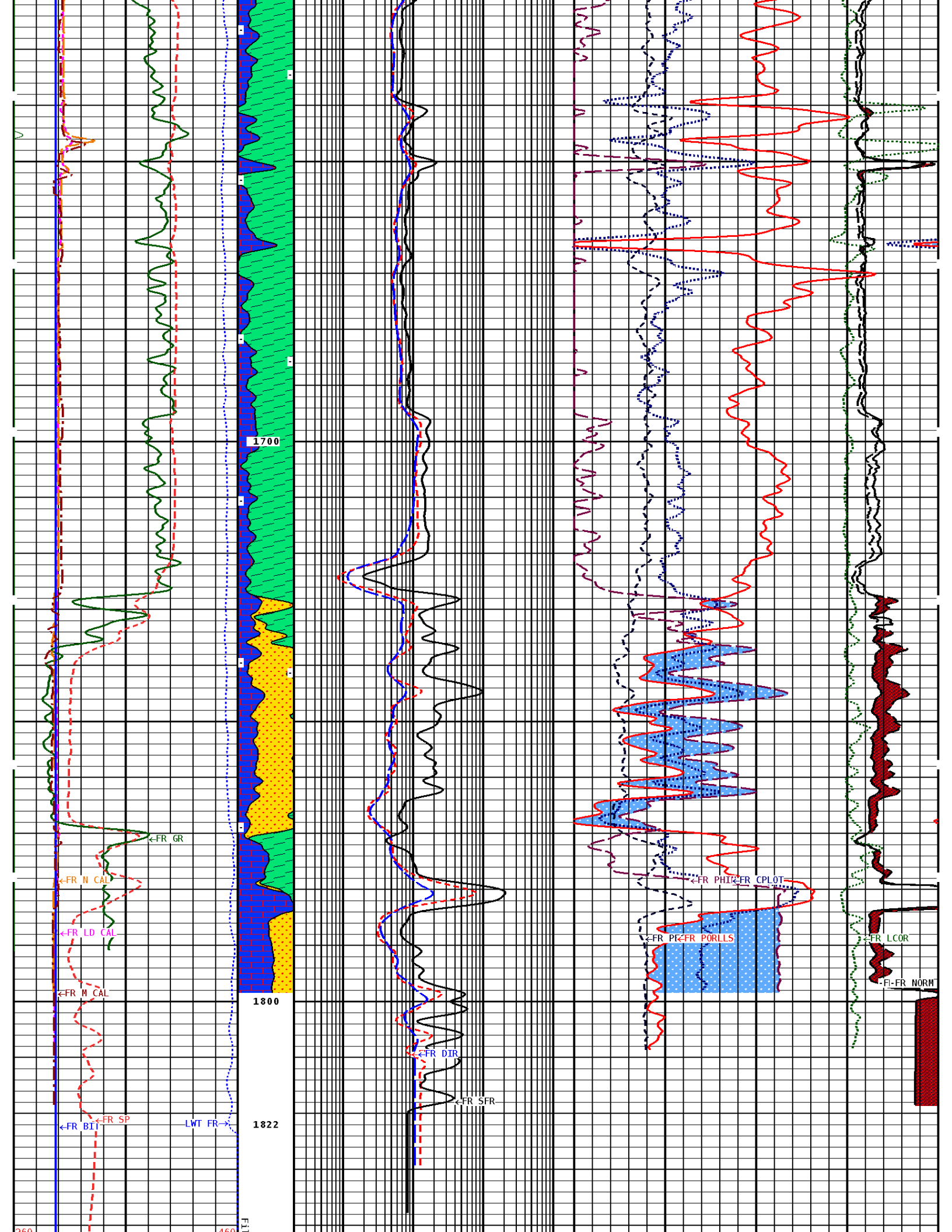
NEUTRON POROSITY (LIMESTONE) PERCENT 30 -10

DENSITY CORRECTION G/CC -0.75 0.25

PE CROSS-SECTION BARNS/ELECTRON 0 20

1:240 REPEAT SECTION

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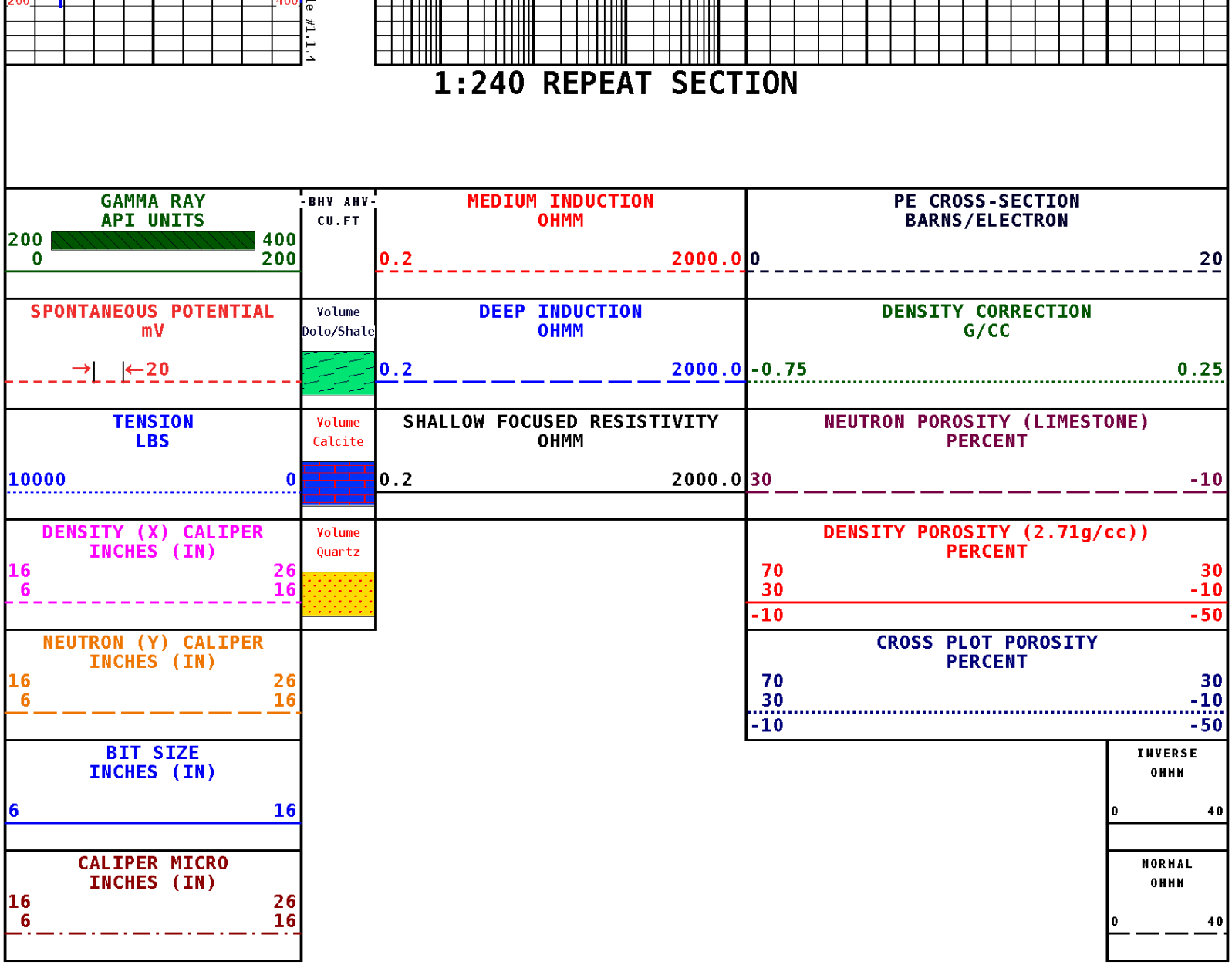
1800
1822
←FR GR
←FR N CAL
←FR LD CAL
←FR M CAL
←FR BIT
←FR SP
LWT FR→
←FR DIR
←FR SFR
←FR PHIE
←FR CPLOT
←FR PE
←FR PORLLS
←FR LCOR
←FR NORM



* 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	7.875	in
Casing Diameter	5.500	in
Casing Thickness	0.250	in
Casing Correction (PHI N)	Disable	
BHT Depth	1822.000	ft
Borehole Temperature	89.0	degF
Temperature Gradient	1.00	DFHF
Resistivity Of Mud	2.600	ohm/m
Resistivity Of Mud Temperature	64.00	degF

* Calibration Summary *

Shop Calibration
GRT-B

Performed : 23-JUL-2012 Time : 12:13
Sensor Suite : GR-GR5 ID : GRT-BB-117

	Measured Background	Measured Jig	Units	Calibrated Jig	Units
GR	45	364	CPS	175	GRAPI

Shop Calibration
CNT-AA

Performed : 23-JUL-2012 Time : 09:30

Sensor Suite : CALI-BCN ID : NDT-BB-103

	Jig - Measured Ring#1	Ring#2	Jig - Calibrated Ring#1	Ring#2	Units
CL # 1	7.9	12.9	6.0	12.0	IN.

Performed : 23-Jul-2012 Time : 18:59
Sensor Suite : BHC NEUT ID : CNP-AA-101
Source ID : N-1043

	Tank Measured	Calibrated	Verification Jig	Units
N/F	3.5058	3.6893	3.7000	
Porosity	17.8	20.5	20.7	%

Shop Calibration
LDT-AA

Performed : 23-JUL-2012 Time : 09:34
Sensor Suite : CALI-LTH ID : NDT-BB-139

	Jig - Measured Ring#1	Ring#2	Jig - Calibrated Ring#1	Ring#2	Units
CL # 1	6.8	11.9	6.0	12.0	IN.

Performed : 23-Jul-2012 Time : 20:19
Sensor Suite : BHC PEB ID : LDP-BA-20
Source ID : CSV-C2

Short Space

	BKGD	Al	Mg	Al+Fe	Units
LSW1	50	715	1305	440	CPS
LSW2	58	1128	2016	764	CPS
LSW3	228	2370	4205	2004	CPS
LSW4	291	1618	2472	1432	CPS
LSW5	23	30	32	29	CPS
LSW6	61	63	67	64	CPS
LSW7	62	63	62	63	CPS
LSW8	1	2	2	1	CPS
QS	-0.009	0.007	0.042	0.003	
PES			2.961	6.761	
SSDN		2.581	1.679		G/CC

Long Space

	BKGD	Al	Mg	Al+Fe	Units
LLW1	49	297	1366	176	CPS
LLW2	59	520	2397	368	CPS
LLW3	225	958	3745	828	CPS
LLW4	291	532	1355	496	CPS
LLW5	25	26	29	26	CPS
LLW6	57	56	57	58	CPS
LLW7	59	58	57	58	CPS
LLW8	2	2	2	2	CPS
QL	-0.021	-0.016	-0.004	0.000	
PEL			2.850	6.594	
LSDN		2.581	1.679		G/CC

Shop Calibration
MST-DA

Performed : 17-Sep-2012 Time : 11:54
Sensor Suite : CALI-MSN ID : MST-DA-29

	Jig - Measured Ring#1	Ring#2	Jig - Calibrated Ring#1	Ring#2	Units
CL # 1	9.4	13.5	6.0	12.0	IN.

Performed : 23-JUL-2012 Time : 13:35
Sensor Suite : MSTDA-NI ID : MST-DA-29

Internal

	Measured Zero	Reference	Units	Calibrated Zero	Reference	Units
INV-V	90.1	30452.9		0.00	1546.00	MV
NOR-V	167.8	31641.5		0.00	1546.00	MV
IN-C	158.5	61272.2		0.00	15.46	UA
INV-R					32.34	OHMM
NOR-R					55.11	OHMM

Shop Calibration
PIT-CA

Performed : 23-JUL-2012 Time : 16:35
Sensor Suite : P-IND-T ID : PIT-AB-14

Medium

Measured Calibrated

	Measured R	Measured X	Calibrated R	Calibrated X	Units
Air	131258	130225	0.2	0.5	MMHOS
Zero	131068	131068	0.0	0.0	MMHOS
Reference	247800	248027	5000.0	5000.0	MMHOS
Loop	151203	173390	2699.8	991.5	MMHOS
Sonde Error			-1.8	-1.8	MMHOS
Cond			5000.0	5000.0	MMHOS

Deep

	Measured R	Measured X	Calibrated R	Calibrated X	Units
Air	128926	131285	0.1	0.0	MMHOS
Zero	131079	131071	0.0	0.0	MMHOS
Reference	231359	231399	2000.0	2000.0	MMHOS
Loop	149015	174621	1264.6	463.2	MMHOS
Sonde Error			-4.3	1.6	MMHOS
Cond			2000.0	2000.0	MMHOS

Temperature

Measured Low	Measured High	Calibrated Low	Calibrated High	Units
16980.0	56920.0	70.0	350.0	DEGF

Performed : 23-JUL-2012 Time : 16:35
Sensor Suite : SFL ID : PIT-AB-14

Internal

	Measured Zero	Measured Reference	Calibrated Zero	Calibrated Reference	Units
Im	32767.0	49666.0	0.0	7028.0	uA
Ib	32769.0	48864.3	0.0	1750.0	mA
MOM1	32805.5	57256.6	0.0	175.0	mV
Equivalent SFL				43.97	OHMM

Performed : 23-JUL-2012 Time : 16:35
Sensor Suite : P-SP ID : PIT-AB-14

Internal

Measured Zero	Measured Reference	Calibrated Zero	Calibrated Reference	Units
32789.6	58948.1	0.0	1000.0	mV

Tucker ENERGY SERVICES

Company: DENNIS D. AND/ OR PEGGY D. HODGES

Well: HODGES #6

Location: SW SW NW NW

Logged: 2012-10-17

K.B. Elev: 0.0