

HALLIBURTON

TRIPLE COMBO LOG

COMPANY		SHELL E&P	
WELL		RANDOLPH TRUST 2107 31-1	
FIELD/BLOCK		WILDCAT	
COUNTY		RICE	
STATE		KANSAS	
COMPANY		SHELL E&P	
WELL		RANDOLPH TRUST 2107 31-1	
FIELD/BLOCK		WILDCAT	
COUNTY		RICE	
STATE		KANSAS	
Permanent Datum	GL	Elev: 1612.0 ft	Elev: K.B. 1635.0 ft
Log measured from	KB	23.0 ft above perm. Datum	D.F. 1635.0 ft
Drilling measured from	KB		G.L. 1612.0 ft
Date	11-Feb-13		
Run No.	ONE		
Depth - Driller	3895.00 ft		
Depth - Logger	3845.0 ft		
Bottom - Logged Interval	3630.0 ft		
Top - Logged Interval	522.0 ft		
Casing - Driller	9.625 in @ 530.0 ft		@
Casing - Logger	522.0 ft		
Bit Size	8.750 in		@
Type Fluid in Hole	WATER BASED		
Density	8.8 ppg	58.00 s/qt	
PH	9.80 pH	5.4 cpm	
Source of Sample	FLOWLINE		
Rm @ Meas. Temperature	0.250 ohmm @ 70.00 degF		@
Rimf @ Meas. Temperature	0.21 ohmm @ 70.00 degF		@
Rimc @ Meas. Temperature	0.290 ohmm @ 70.00 degF		@
Source Rimf	MEASURED	MEASURED	
Rim @ BHT	0.15 ohmm @ 125.0 degF		@
Time Since Circulation	12.0 hr		
Time on Bottom	11-Feb-13 12:38		
Max. Rec. Temperature	125.0 degF @ 3845.0 ft		@
Equipment	10782954	LIBERAL	
Recorded By	THOMAS HYDE		
Witnessed By	A. LATIFZAI		

API No.: 15-159-22722-00-00
 Location: 450' FNL 365' FEL
 LATITUDE: 38°11'N
 LONGITUDE: 98°07'W

Other Services:
 CSNG
 MRIL
 WSTT
 XRMIL

Fold here

Service Ticket No.: 900208334		API Serial No.: 15-159-22722-00-00		PGM Version: WL INSITE R3.8.4 (Build 5)				
CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE				RESISTIVITY SCALE CHANGES				
Date	Sample No.			Type Log	Depth	Scale Up Hole	Scale Down Hole	
Depth-Driller								
Type Fluid in Hole								
Density	Viscosity							
Ph	Fluid Loss							
Source of Sample				RESISTIVITY EQUIPMENT DATA				
Rm @ Meas. Temp		@	@	Run No.	Tool Type & No.	Pad Type	Tool Pos.	Other

Rmf @ Meas. Temp.	@	@	ONE	ACRT	N/A	1.5" S.O.	N/A
Rmc @ Meas. Temp.	@	@		I776			
Source Rmf	Rmc			S10929775			
Rm @ BHT	@	@					
Rmf @ BHT	@	@					
Rmc @ BHT	@	@					

EQUIPMENT DATA

GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	ONE	Run No.		Run No.	ONE	Run No.	ONE
Serial No.	10811258	Serial No.		Serial No.	10673803	Serial No.	10735145
Model No.	GTET	Model No.		Model No.	SDLT	Model No.	DSNT
Diameter	3.625"	No. of Cent.		Diameter	4.5"	Diameter	3.625"
Detector Model No.	T-102	Spacing		Log Type	GAM-GAM	Log Type	NEU-NEU
Type	SCINT			Source Type	Cs137	Source Type	Am241Be
Length	8"	LSA [Y/N]		Serial No.	5073GW	Serial No.	DSN436
Distance to Source	10'	FWDA [Y/N]		Strength	1.5 Ci	Strength	15 Ci

LOGGING DATA

GENERAL			GAMMA		ACOUSTIC			DENSITY			NEUTRON			
Run	Depth		Speed	Scale		Scale		Matrix	Scale		Matrix	Scale		Matrix
No.	From	To	ft/min	L	R	L	R		L	R		L	R	
ONE	3845	522	REC	0	150				45	-15	2.71	45	-15	LIME

DIRECTIONAL INFORMATION

Maximum Deviation	@	KOP	@
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Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 7 INCH CASING

CL = 7,000 MG/L NaCl Eq = 9,614 PPM

TOOL RUN AS PER SKETCH, 1.5" STANDOFF ON ACRT, 2 CENTRALIZERS ON WSTT

DECENTRALIZERS ON THE DSNT, FLEX USED TO ENSURE DECOUPLING

LATITUDE: 38°11' N LONGITUDE: 98°07' W, SHOP CALS DONE EVERY 30 DAYS WHEN POSSIBLE

DIPOLE USED TO ACQUIRE SHEAR AND COMPRESSIONAL DATA, SONIC CURVES CHECKED INSIDE CASING READING 55.5 US/FT, EXPECTED 57 US/FT

CALIPER CHECKED IN CASING, VALUE OF 8.79" RECORDED, EXPECTED 8.9", CORRECTION APPLIED = 0.11"

ALL RUNS CORRELATED WITH FIRST TRIPLE-CSNG-WSTT-XRMI, TD NOT REACHED DUE TO CUSTOMER REQUEST

ALL RUNS ZEROED AT RIG FLOOR, TOP DRIVE RIG

INDUCTION LOG USES THE COMPUTE STANDOFF MODEL, THE 2 FOOT RESOLUTION DATA FOR INDUCTION IS PRESENTED

THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES LIBERAL, KANSAS 620-624-8123 TODAY'S CREW V. JAIME K. KING

HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR RECOMMENDATIONS AGREES THAT HALLIBURTON IS NOT RESPONSIBLE EXCEPT WHERE DUE TO GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, FOR ANY LOSS, DAMAGES, OR EXPENSES RESULTING FROM THE USE THEREOF.

HALLIBURTON

CUSTOMER EVENT LOG

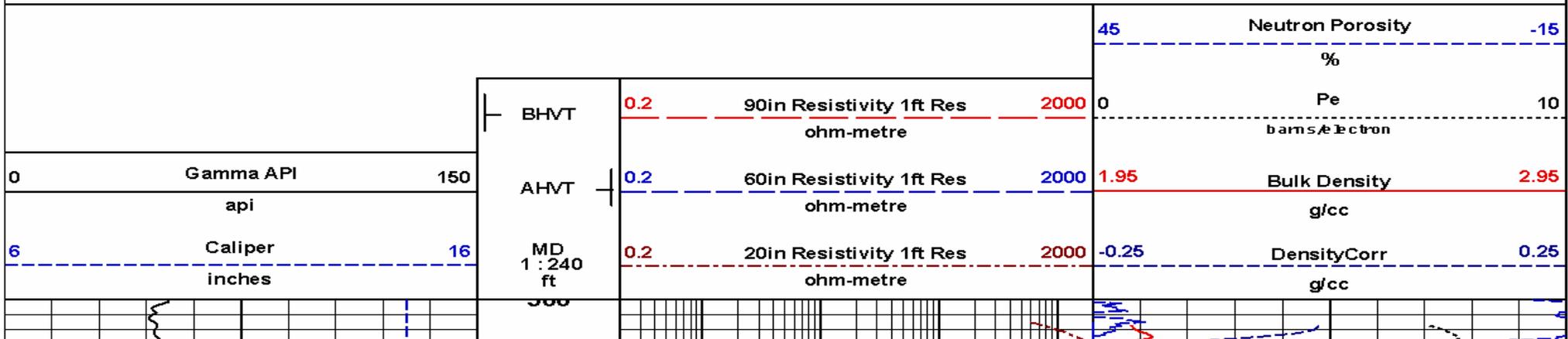
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	11-Feb-13 11:51:16	3672.74	Halting 001 11-Feb-13 11:34 Dn @370.3f
	11-Feb-13 11:53:09	3845.50	Logging 002 11-Feb-13 11:53 Up @3845.5f
	11-Feb-13 12:20:52	3437.23	Halting 002 11-Feb-13 11:53 Up @3845.5f
	11-Feb-13 12:23:02	3640.25	Logging 003 11-Feb-13 12:23 Up @3640.3f
	11-Feb-13 12:26:37	3599.49	Halting 003 11-Feb-13 12:23 Up @3640.3f
	11-Feb-13 12:38:06	3742.50	Logging 004 11-Feb-13 12:38 Up @3742.5f
	11-Feb-13 14:36:40	506.36	Halting 004 11-Feb-13 12:38 Up @3742.5f

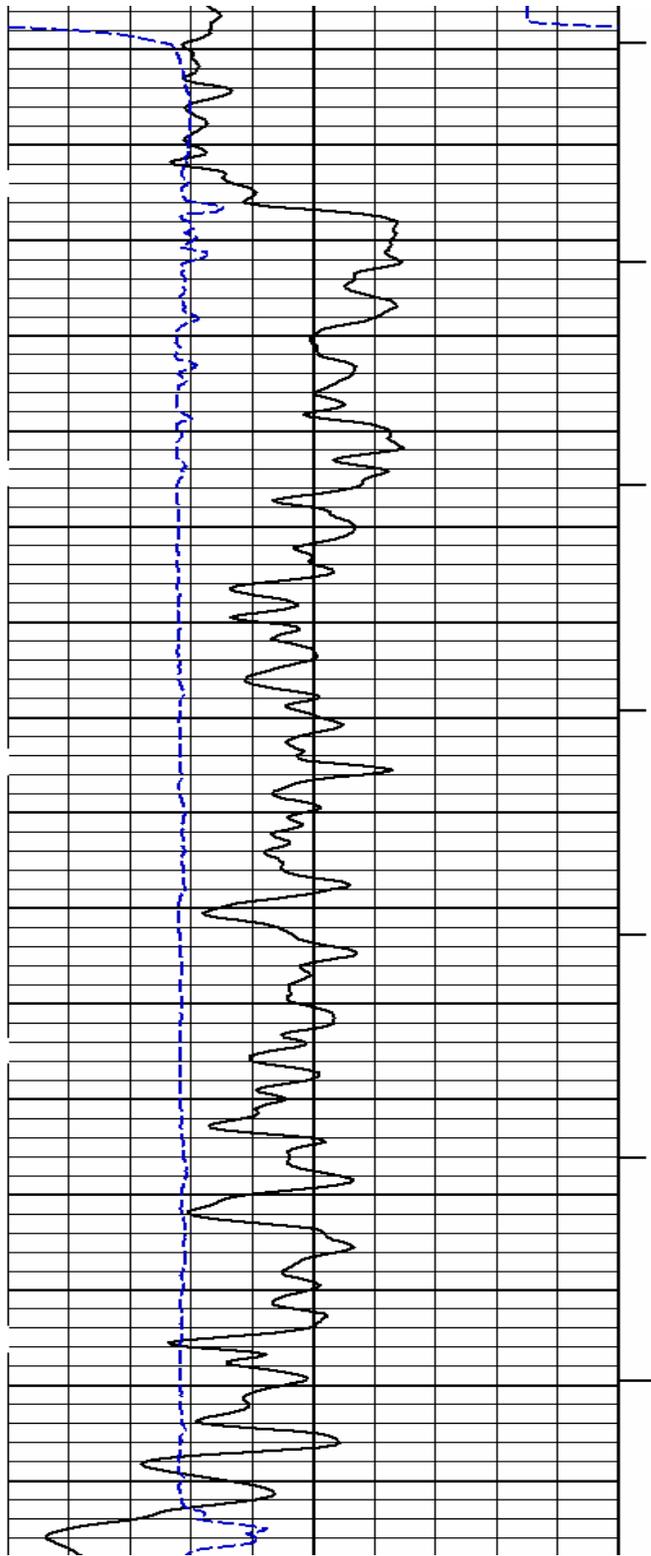
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Plot Time: 12-Feb-13 15:23:57
 Plot Range: 500 ft to 3742.33 ft
 Data: RANDOLPH_210731\Well Based™
 Plot File: \\TC\TC_5_NO_ML_MAIN_SHELL

5 INCH MAIN LOG

5 INCH MAIN MD

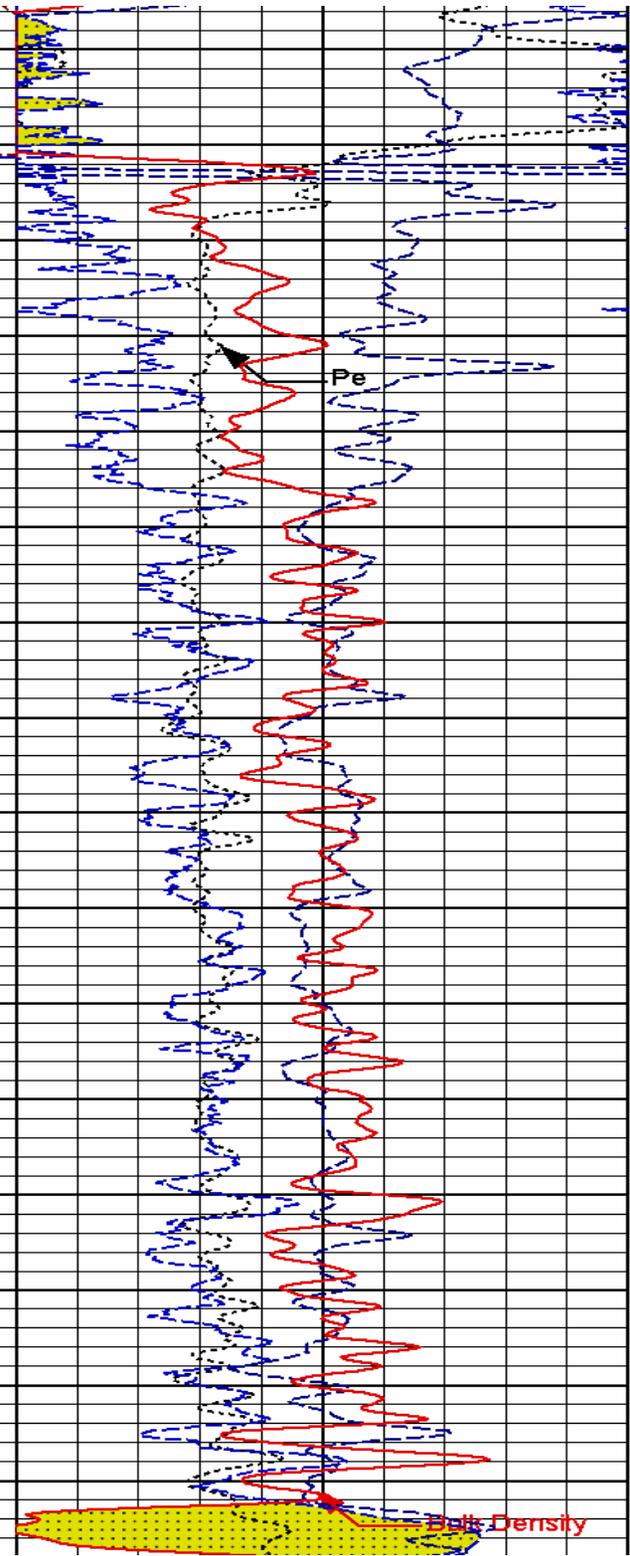
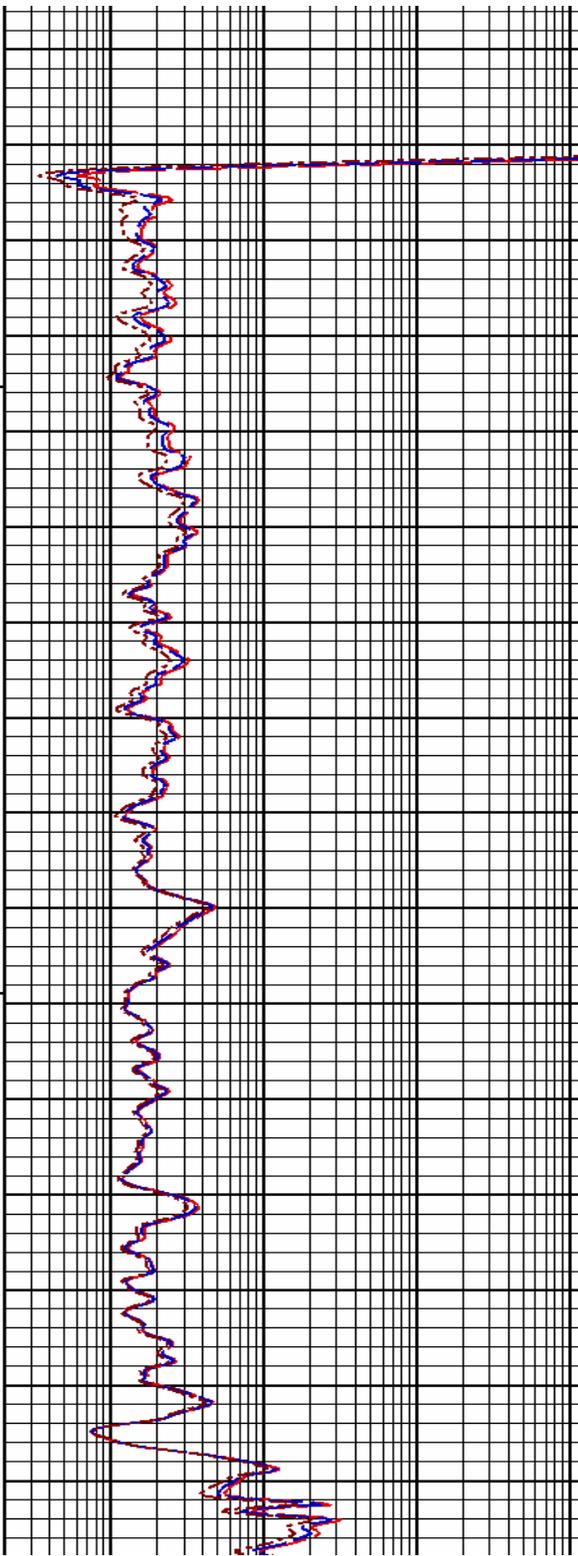




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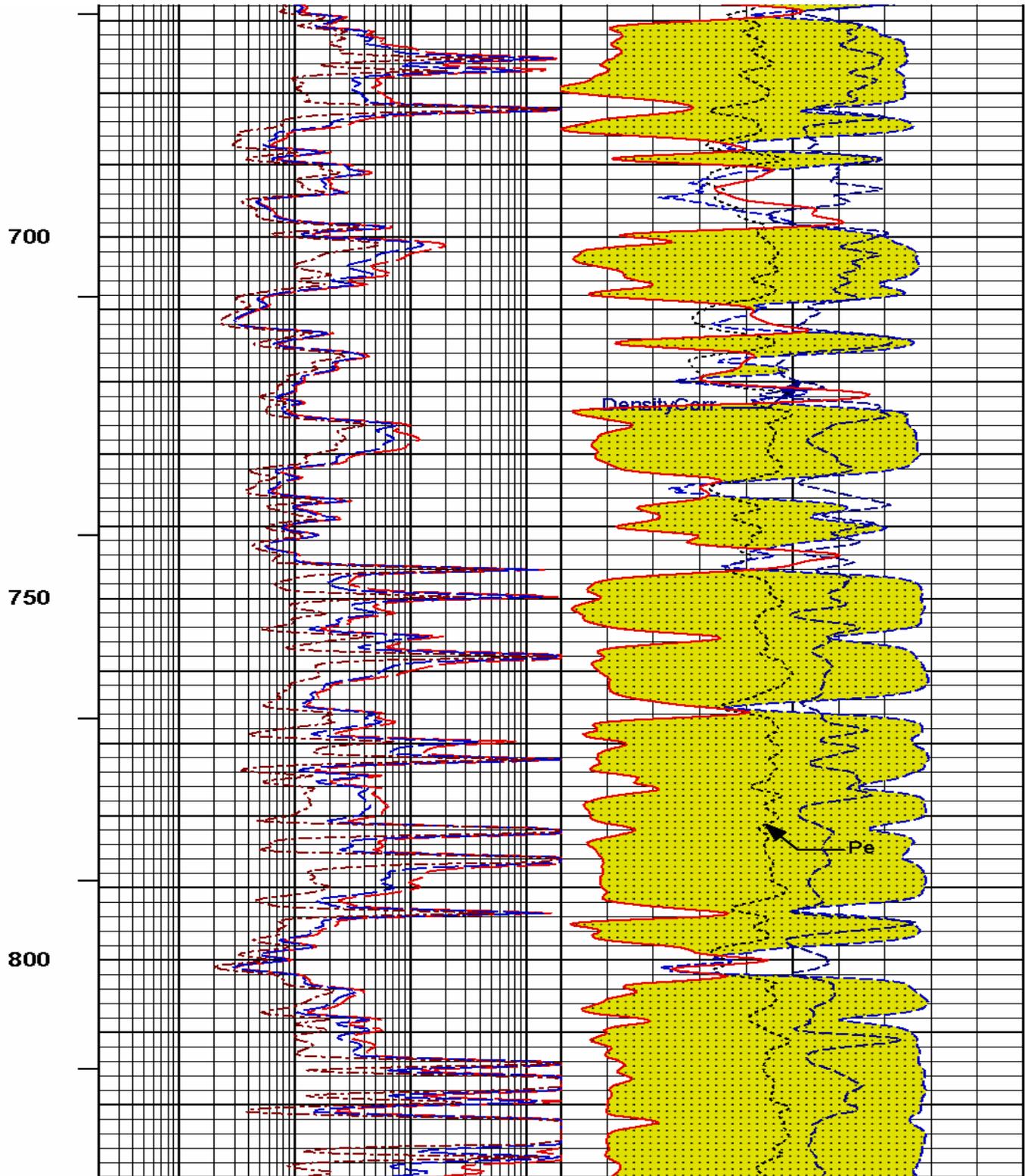
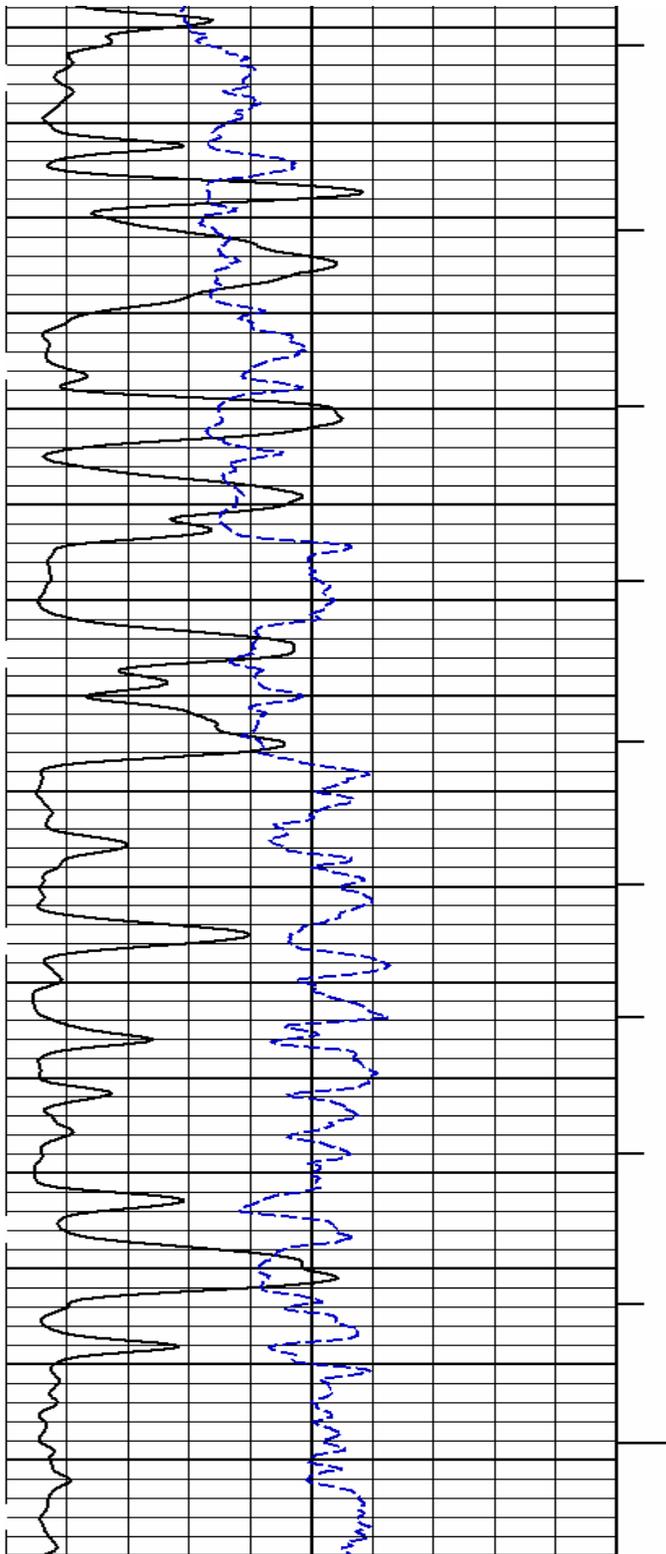
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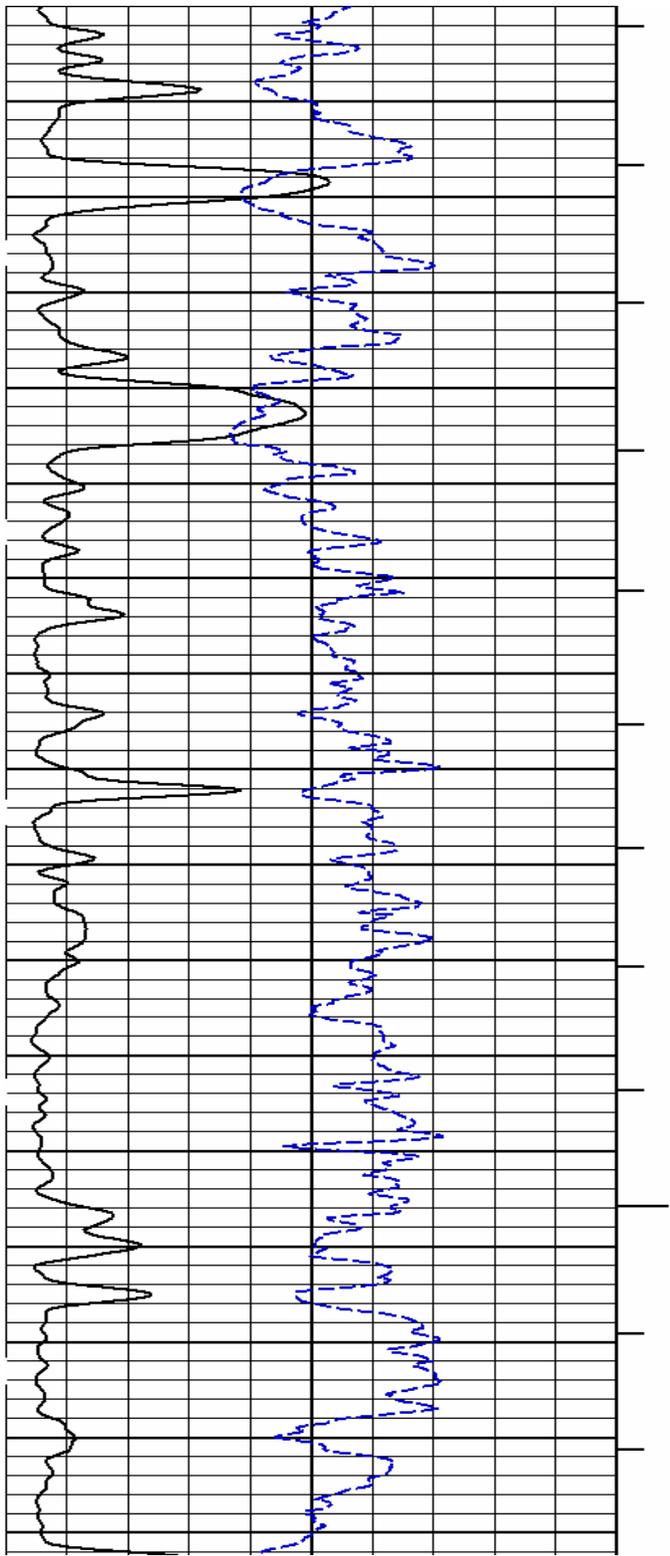
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Pe

Bulk Density

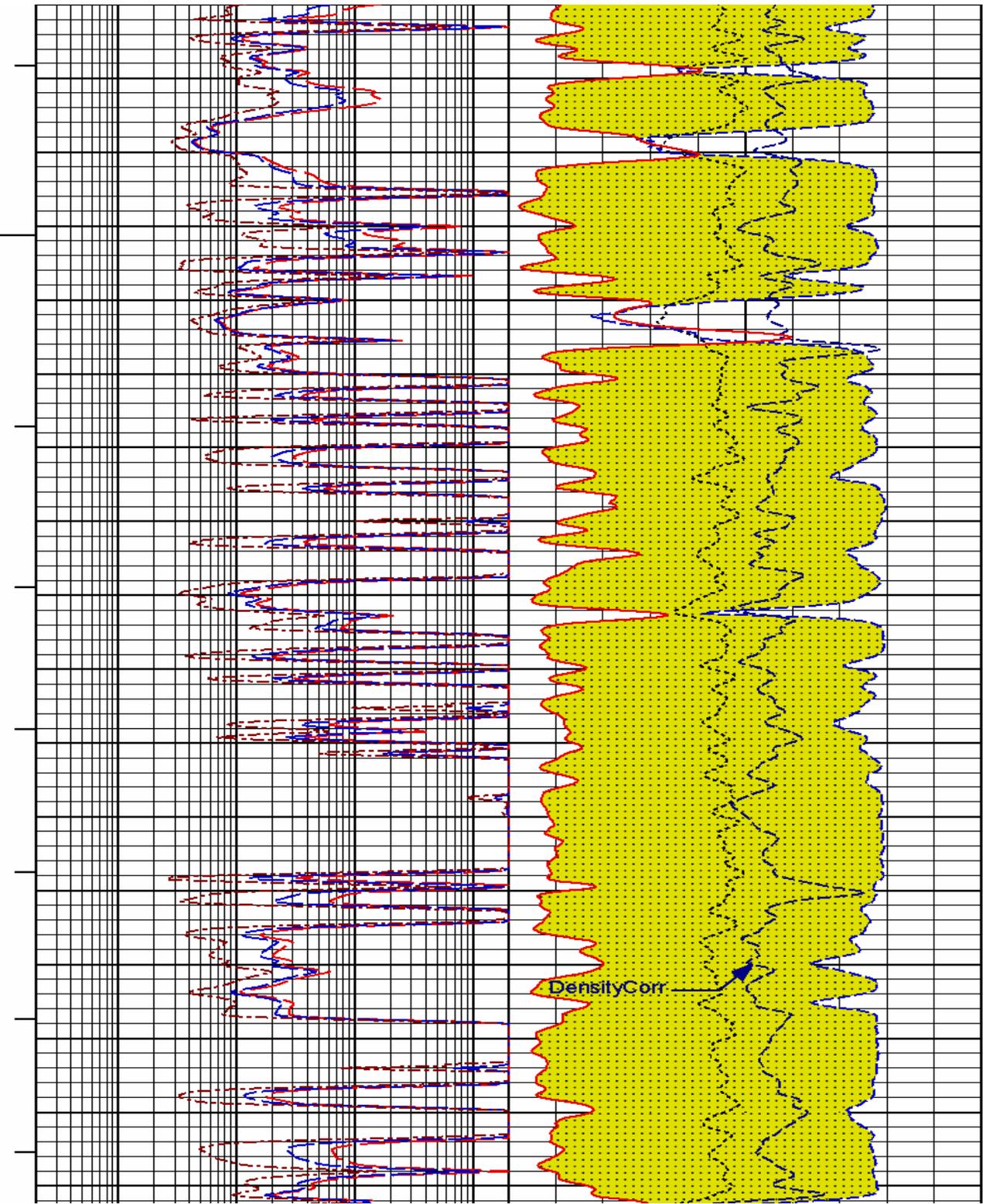




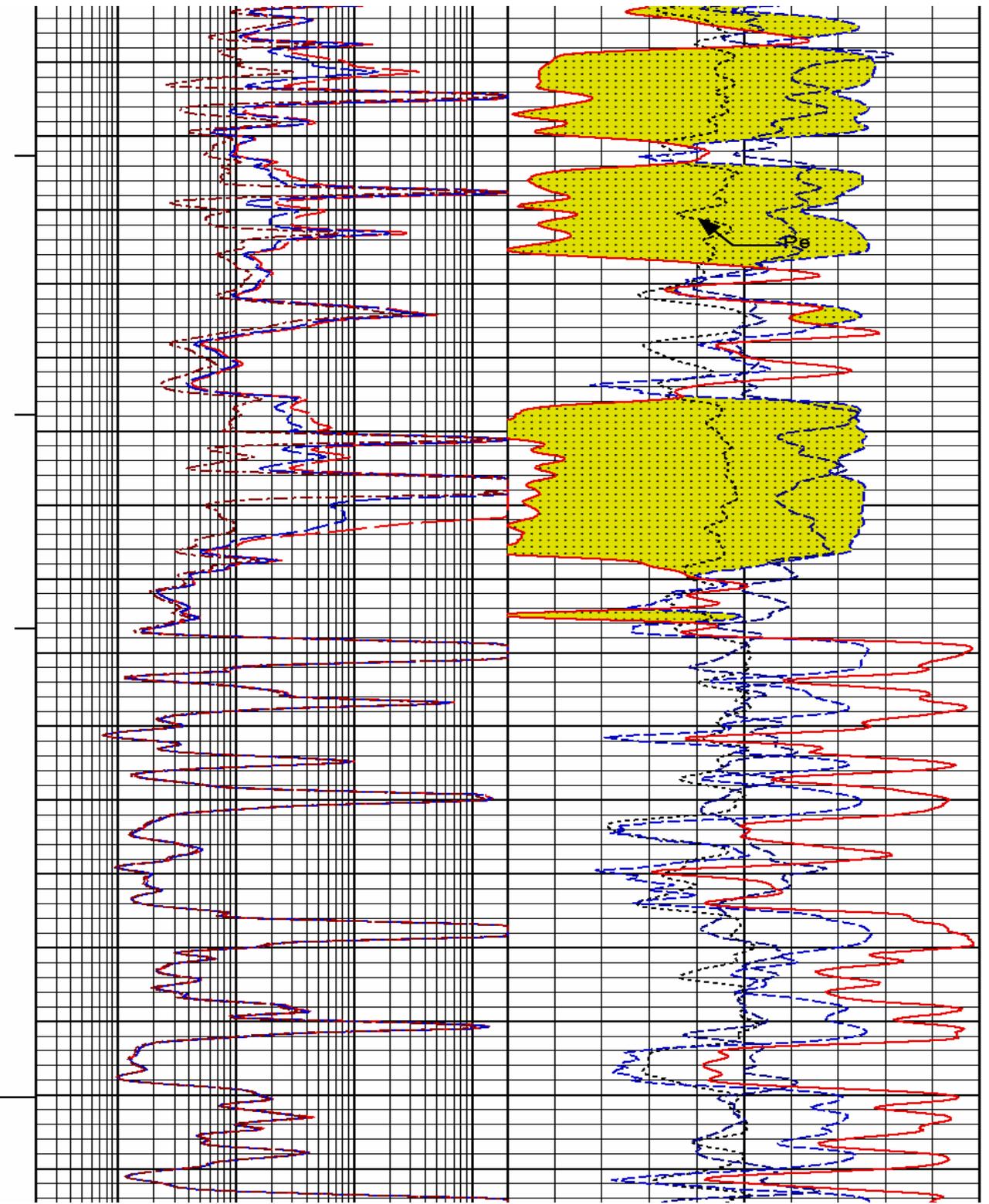
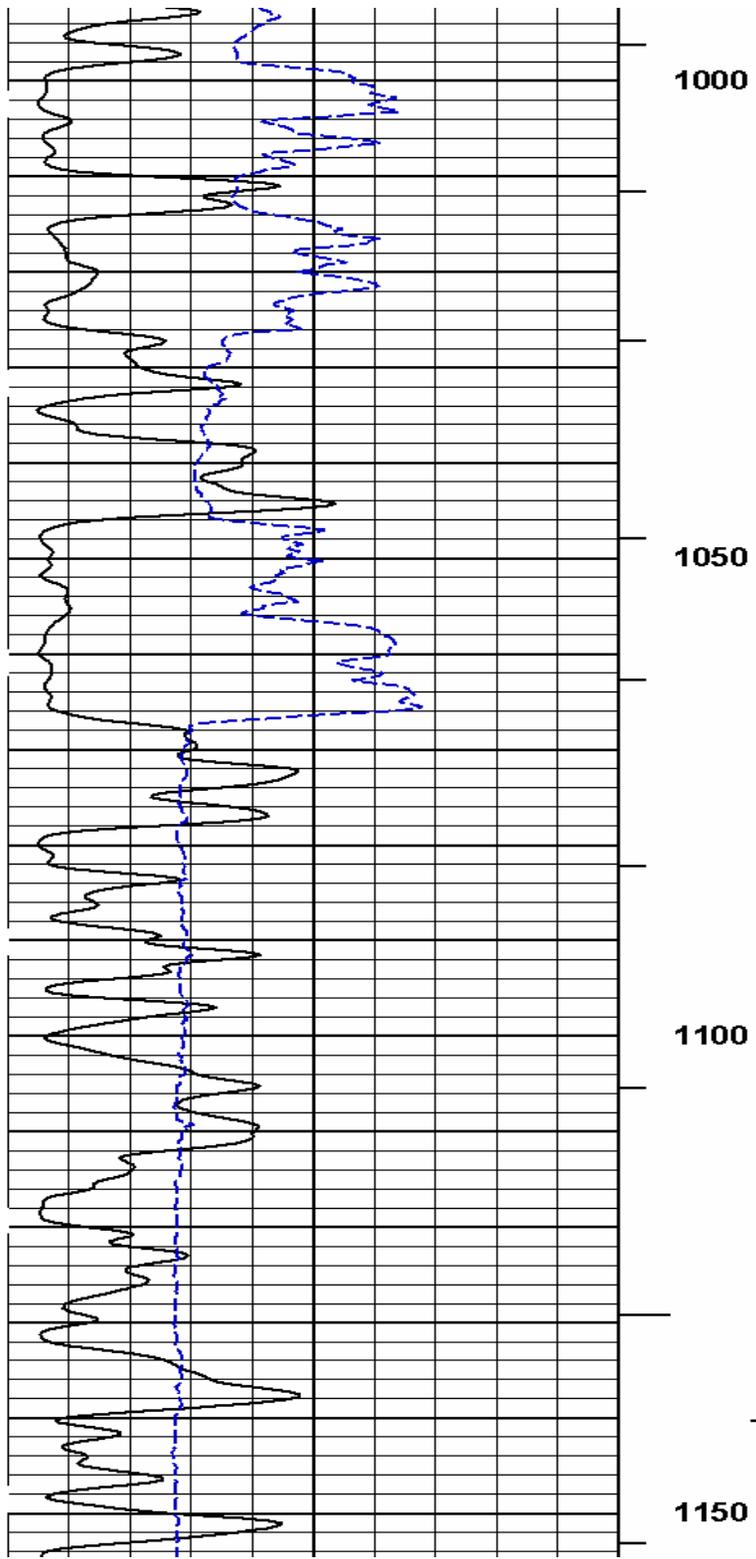
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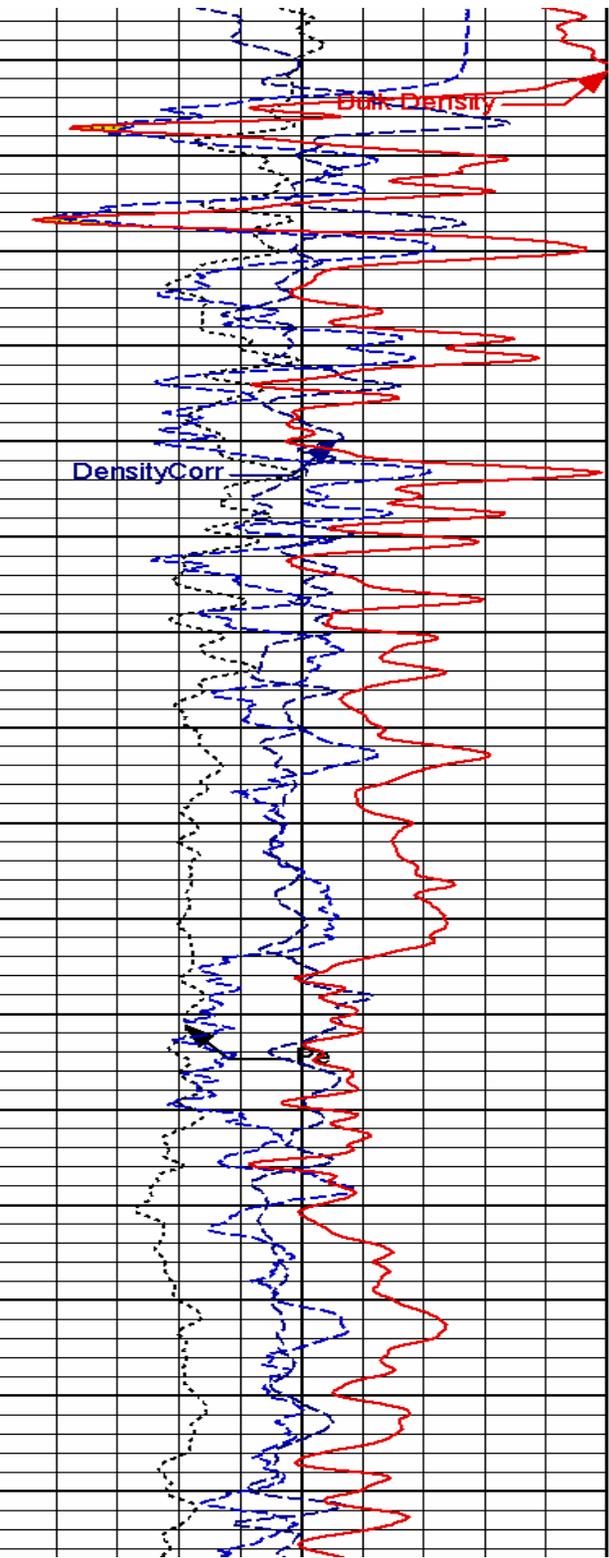
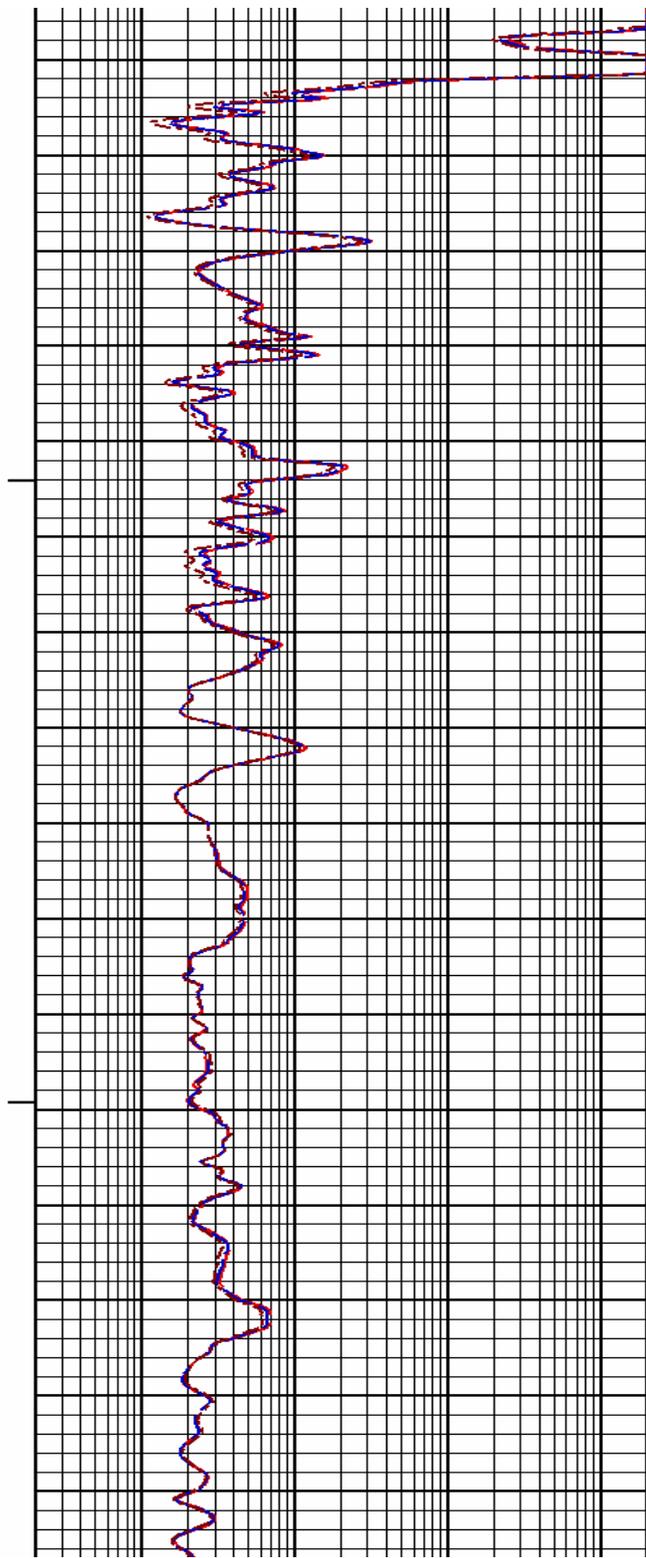
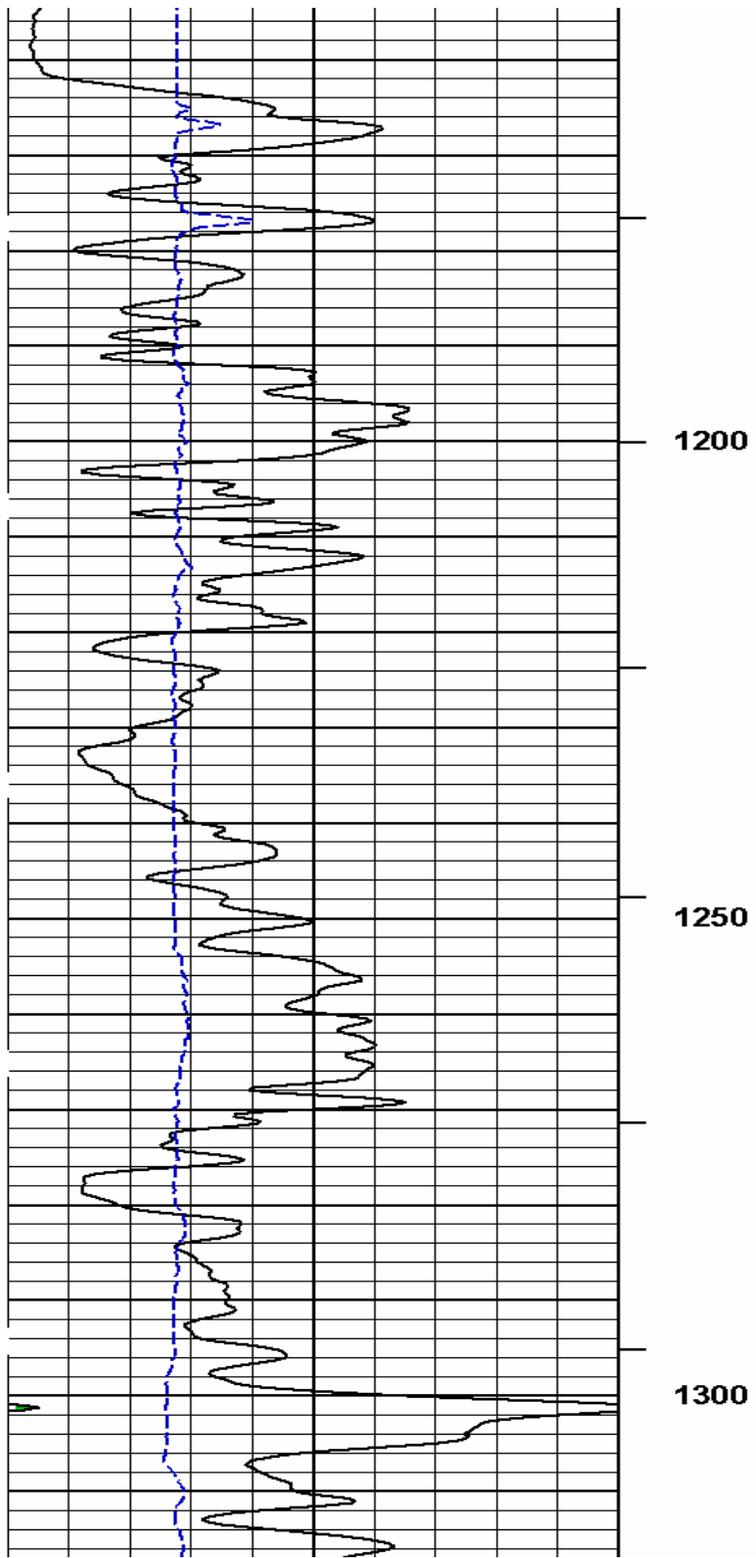
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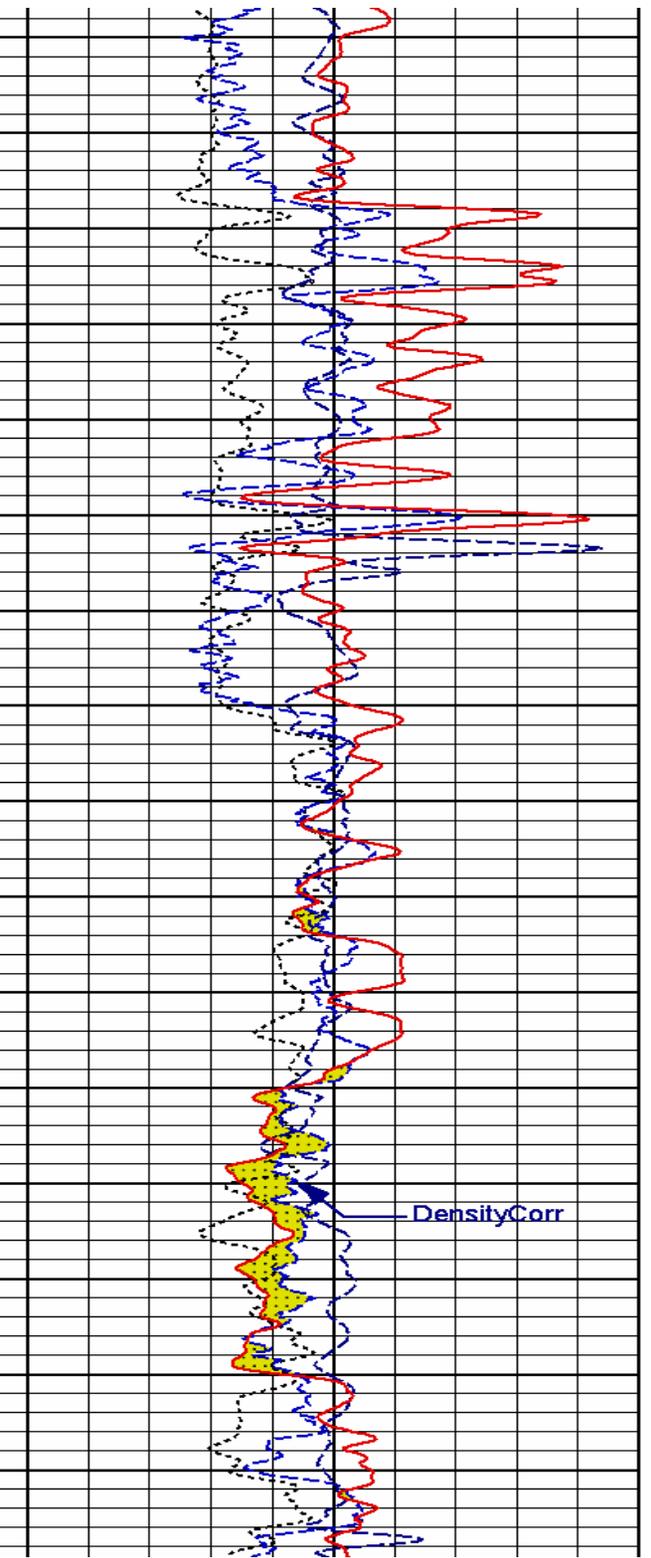
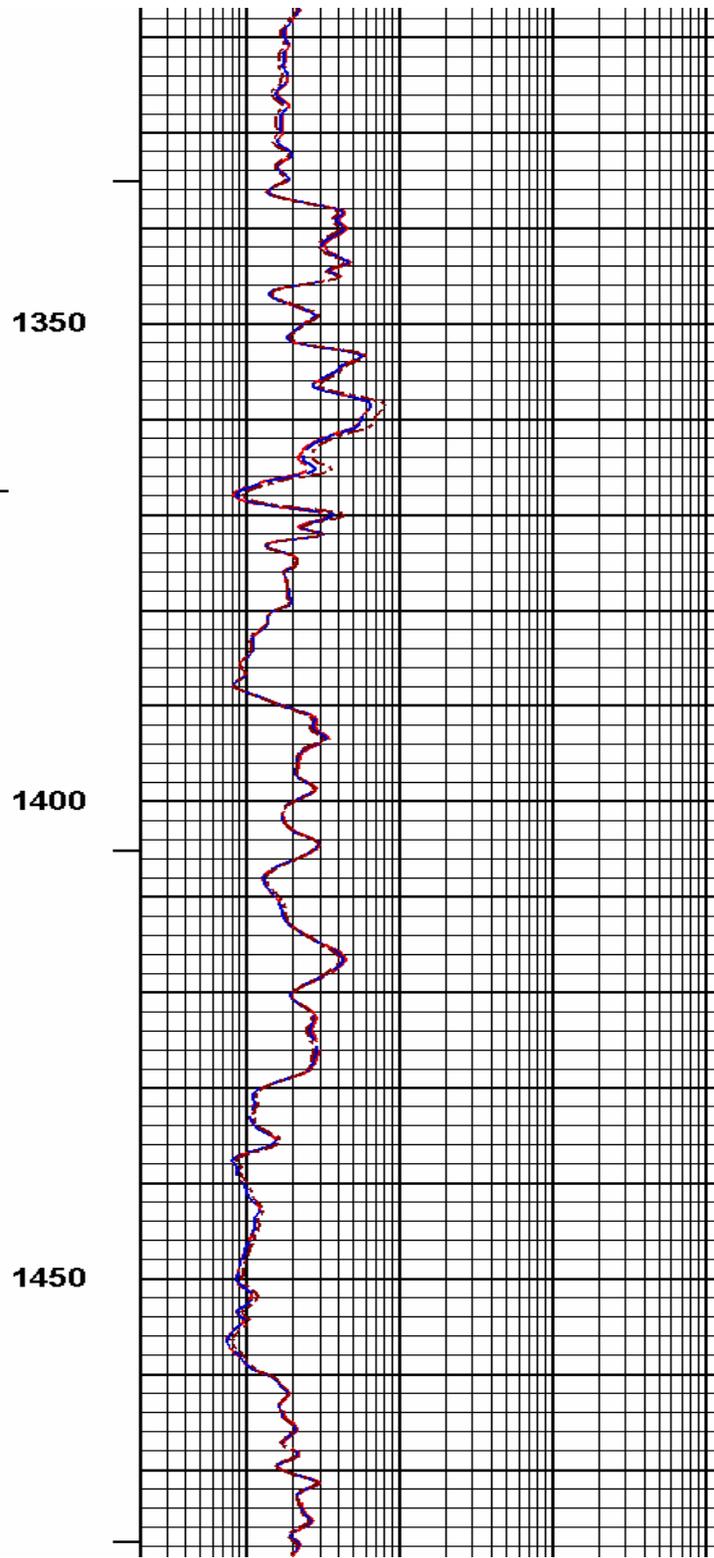
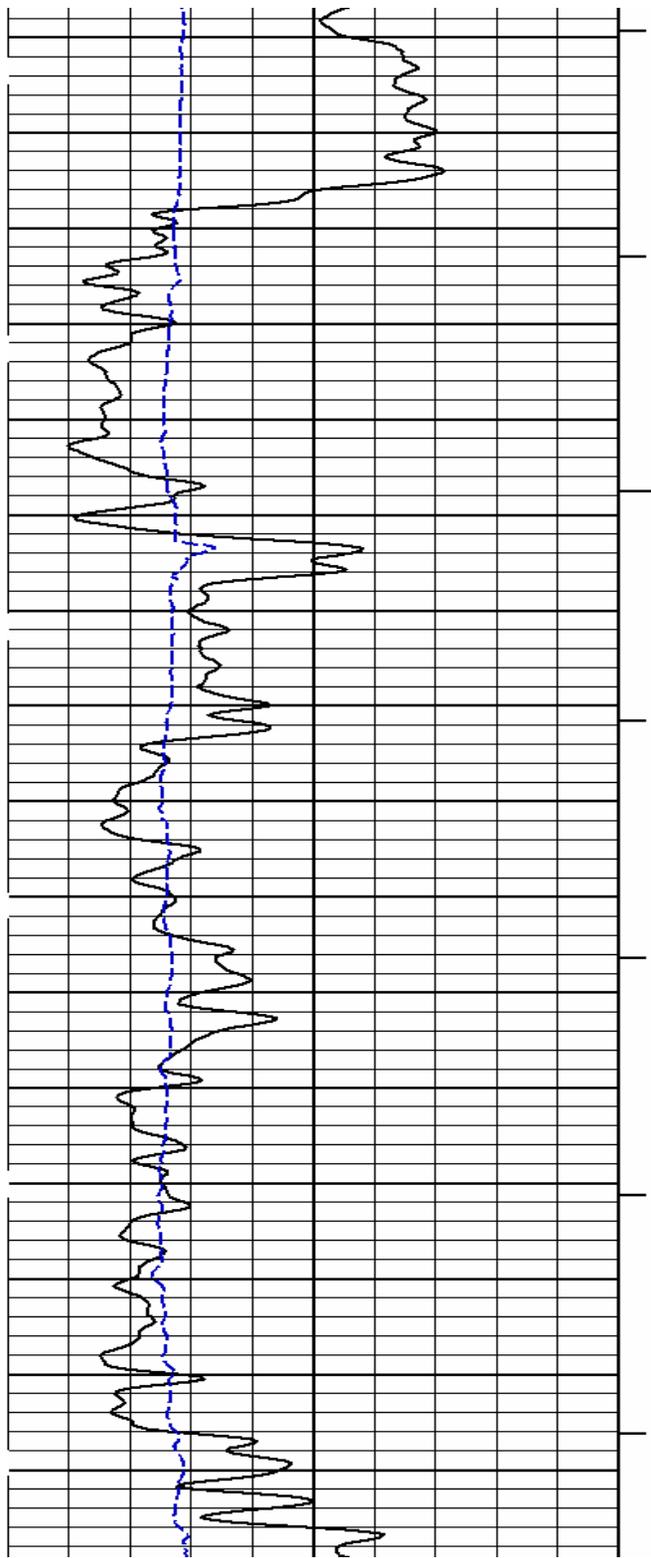
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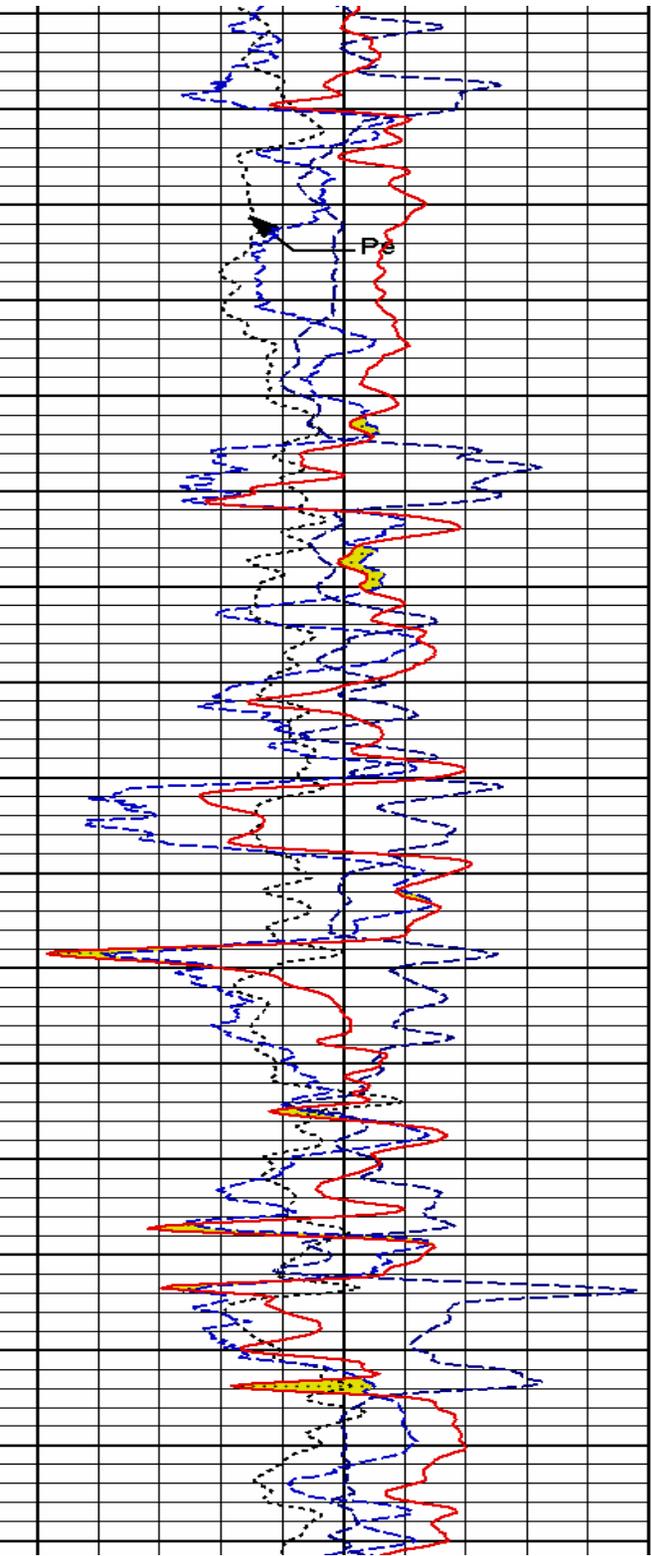
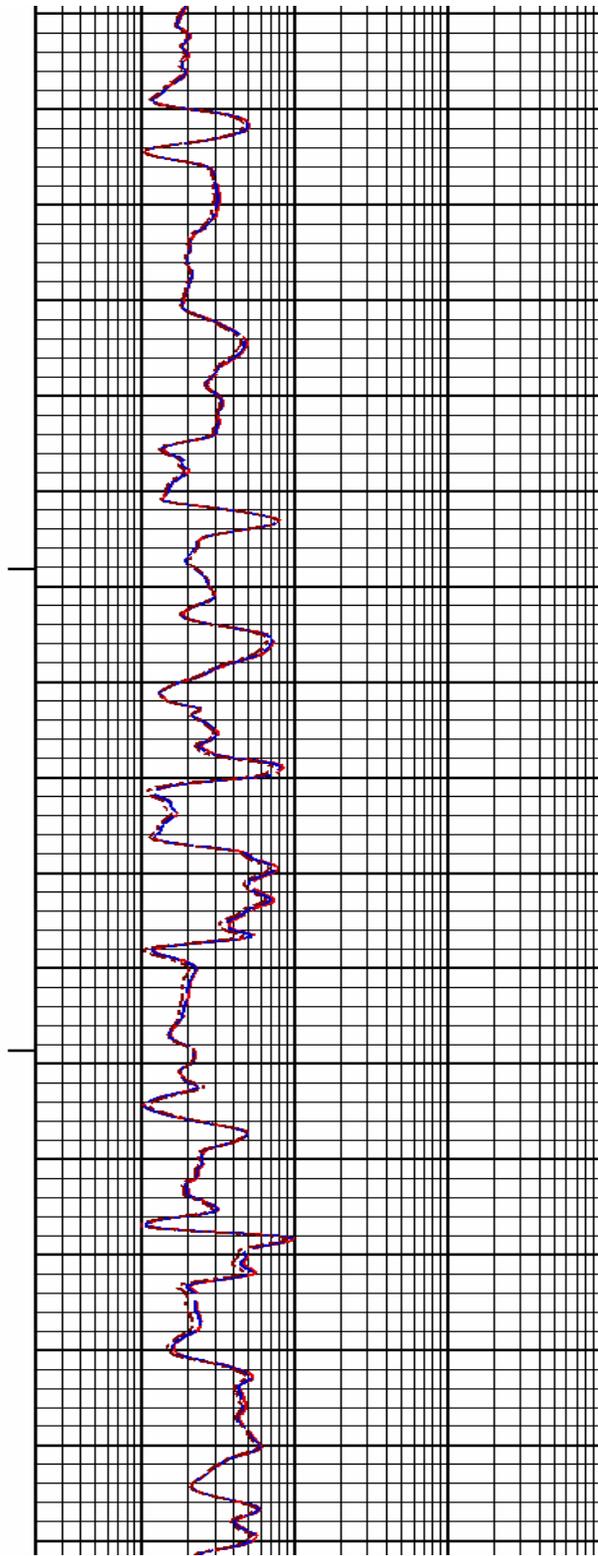
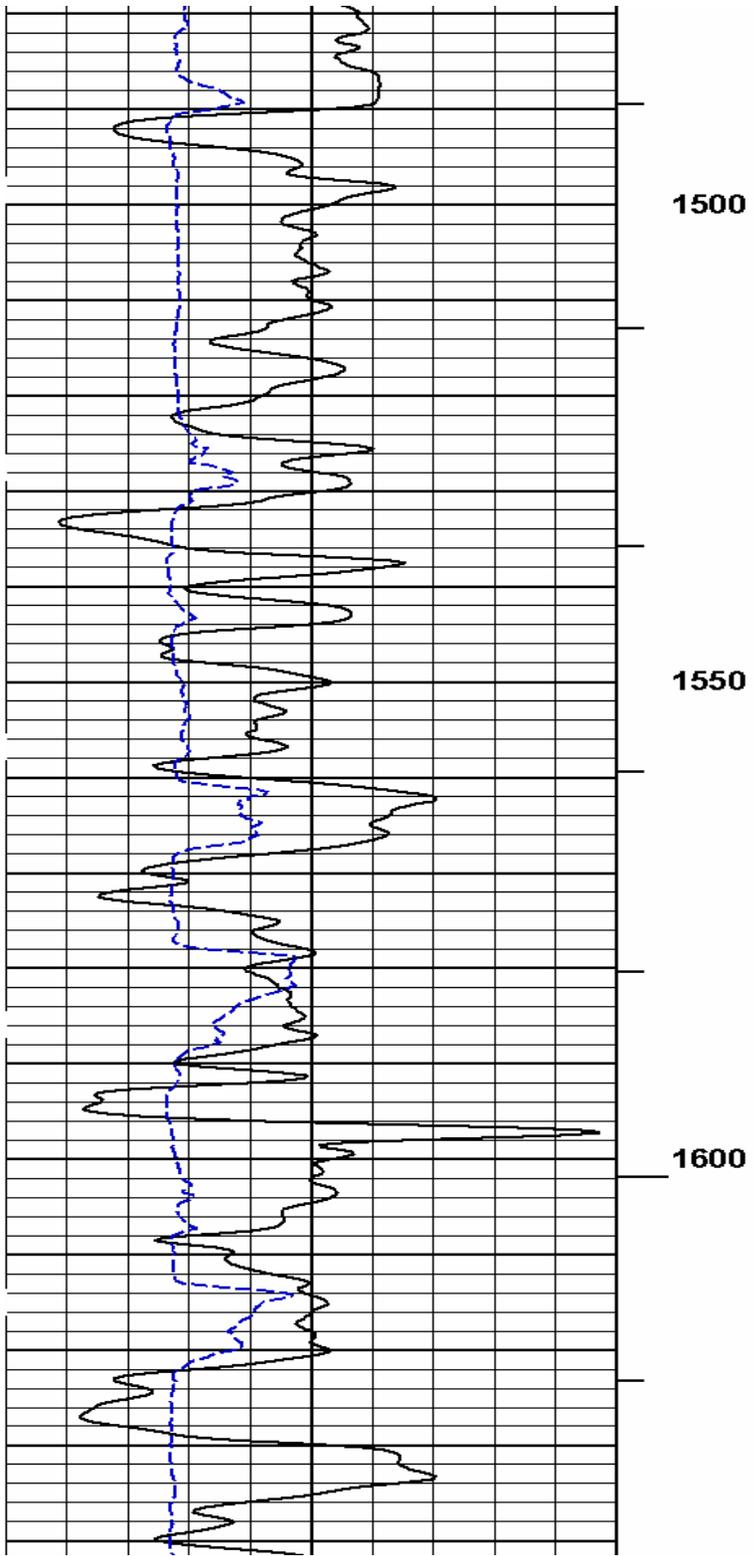


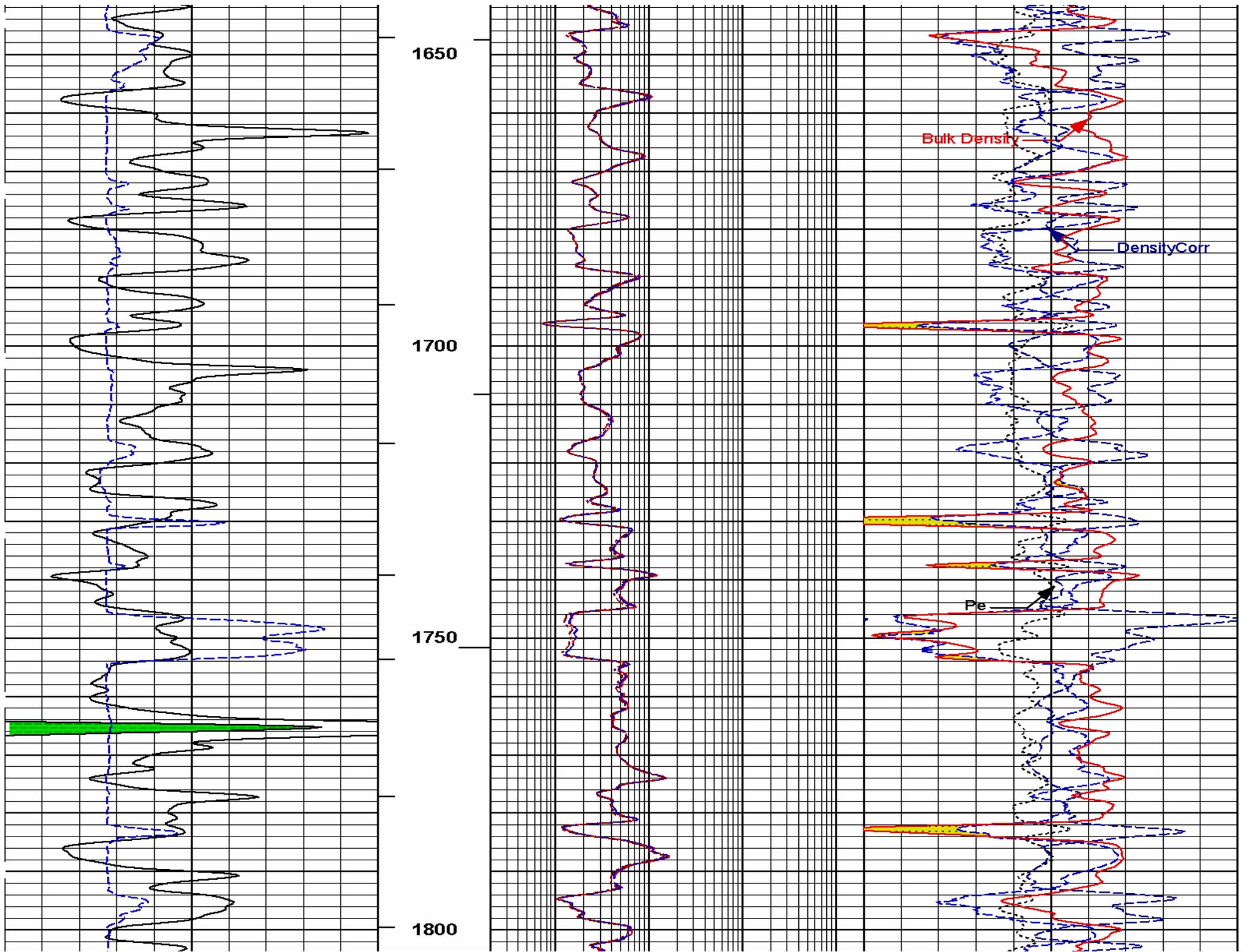
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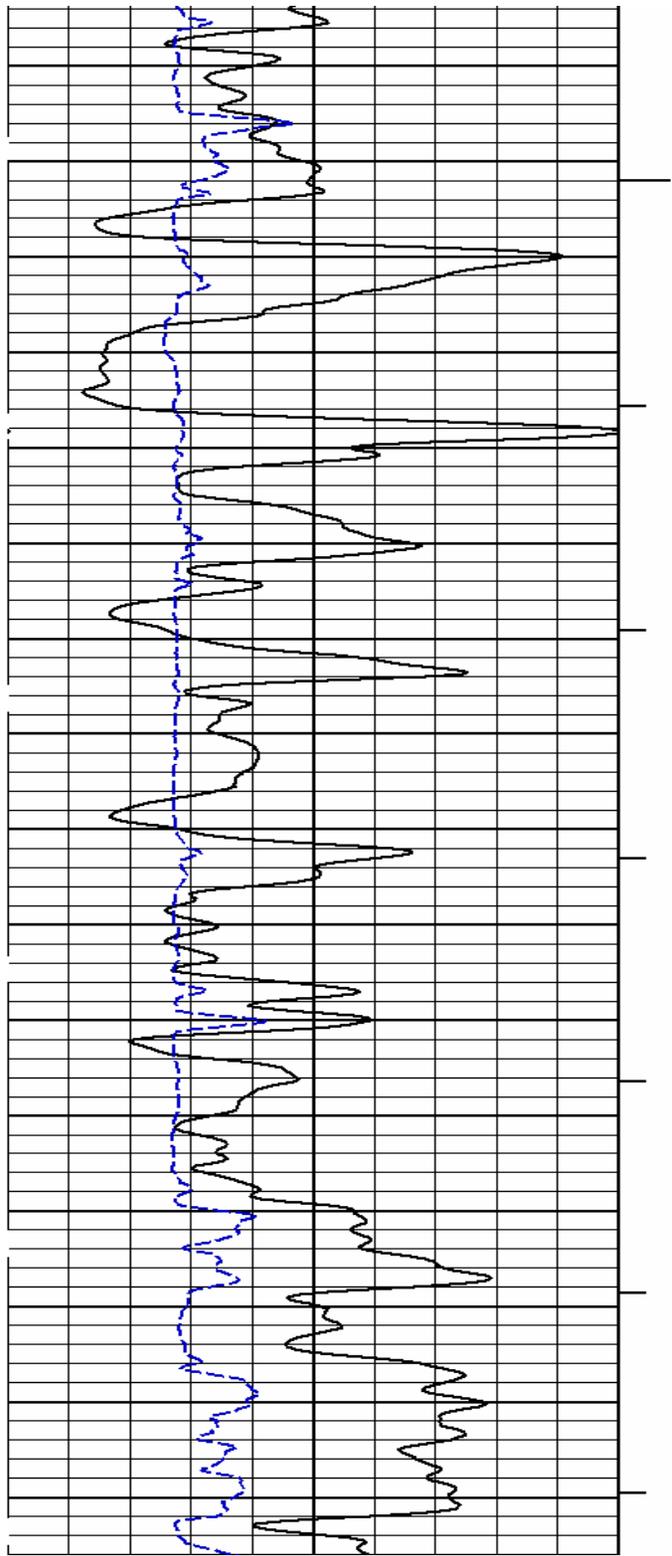








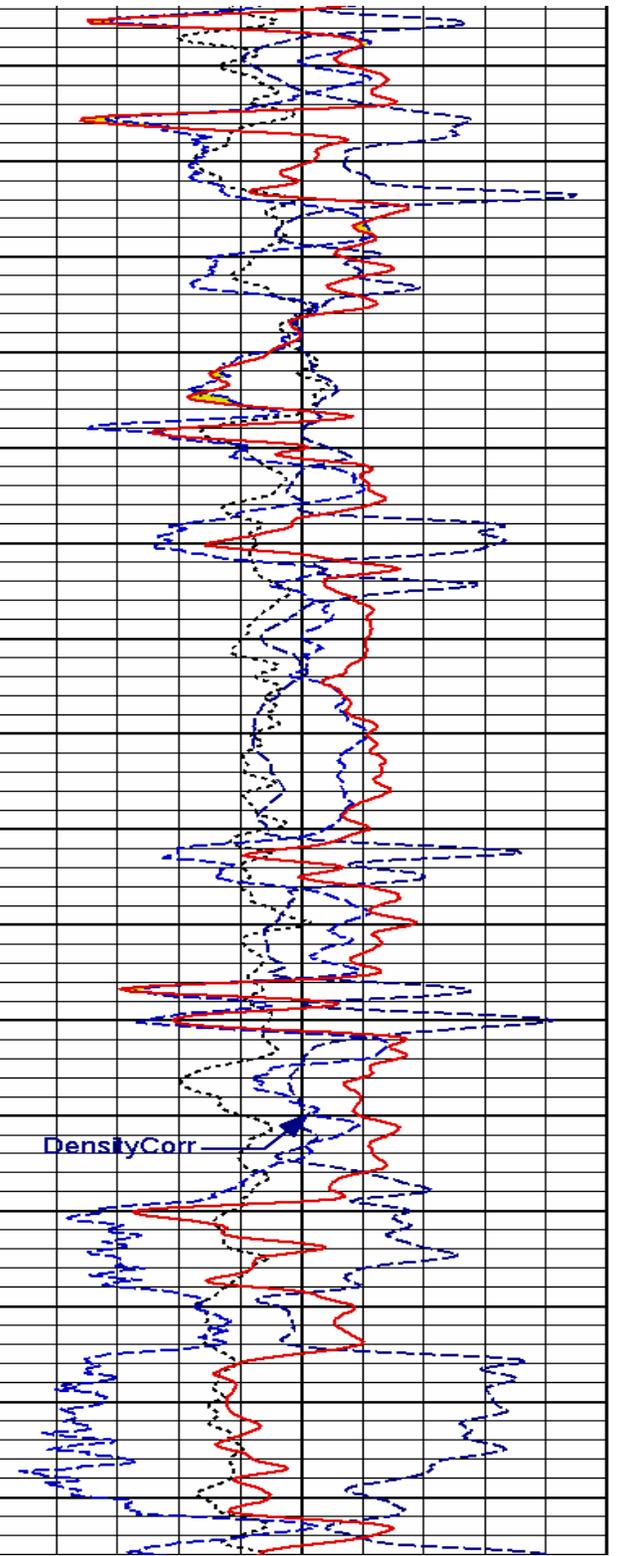
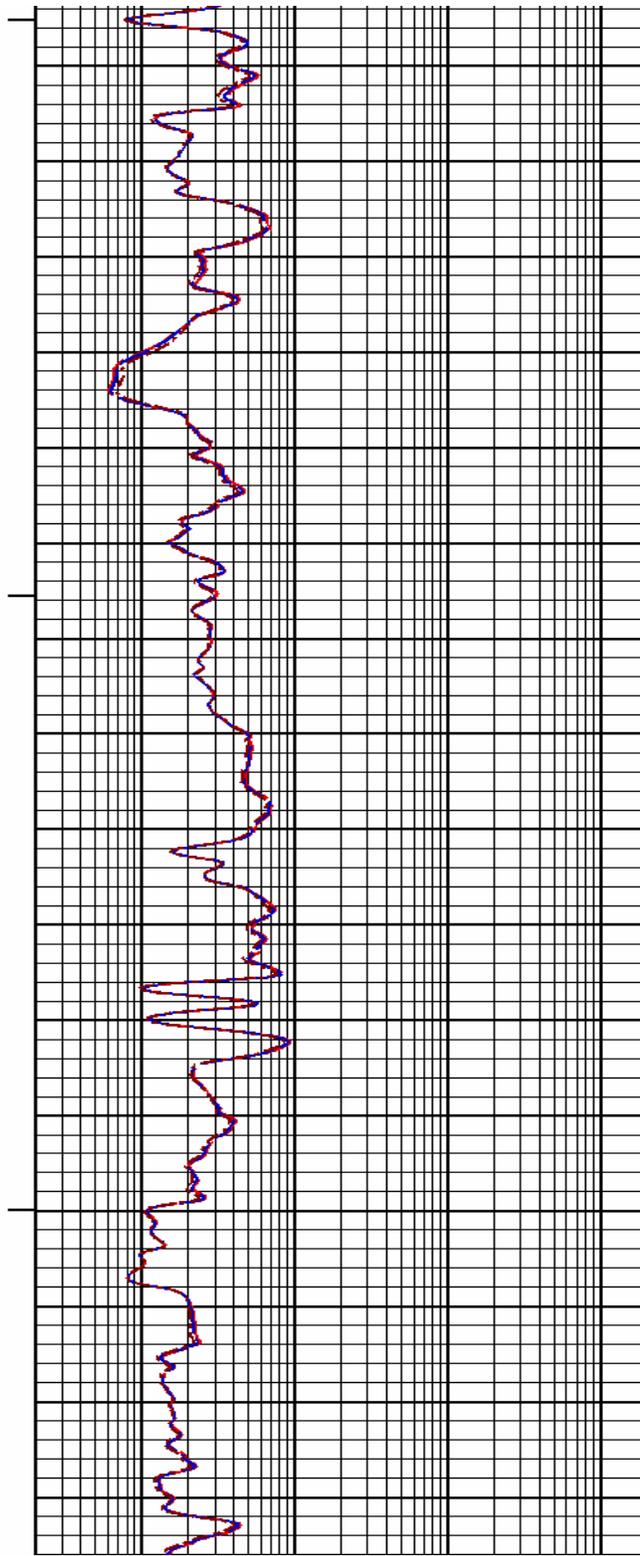


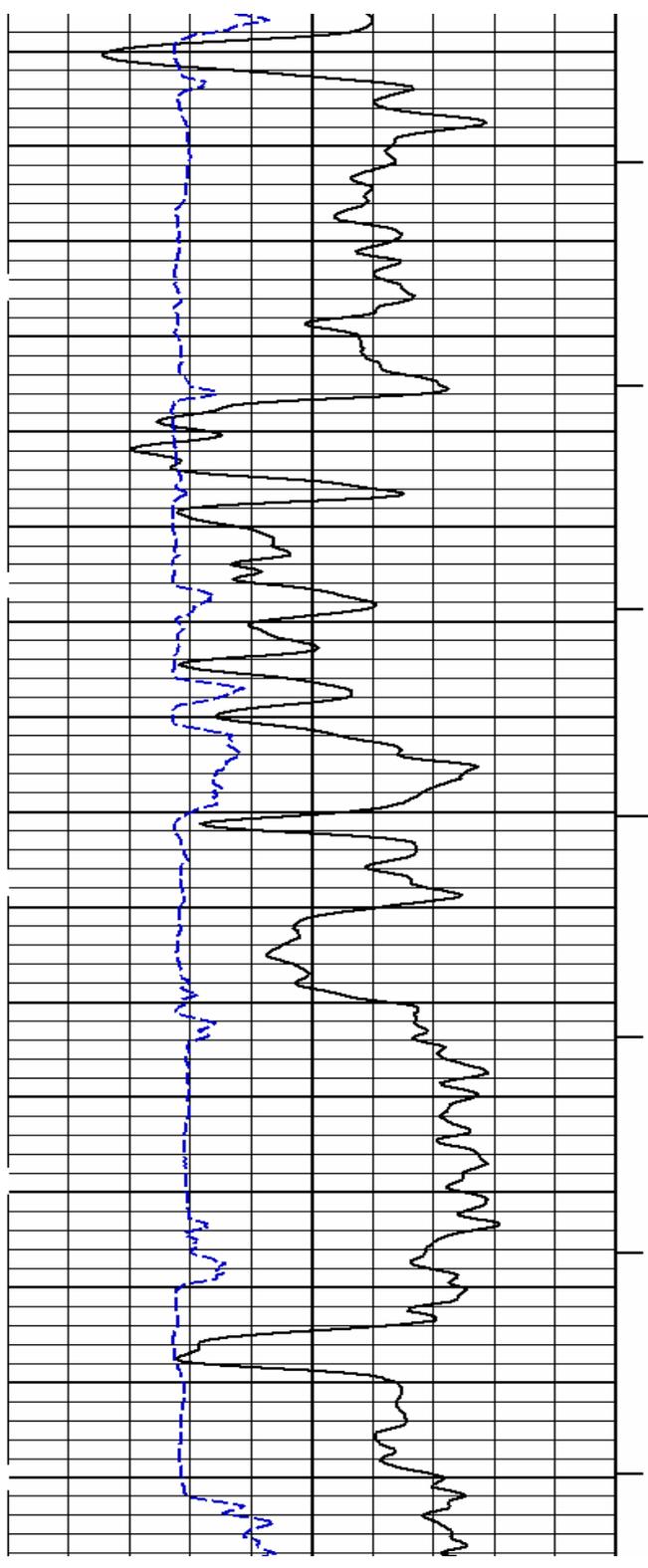


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1900

1950

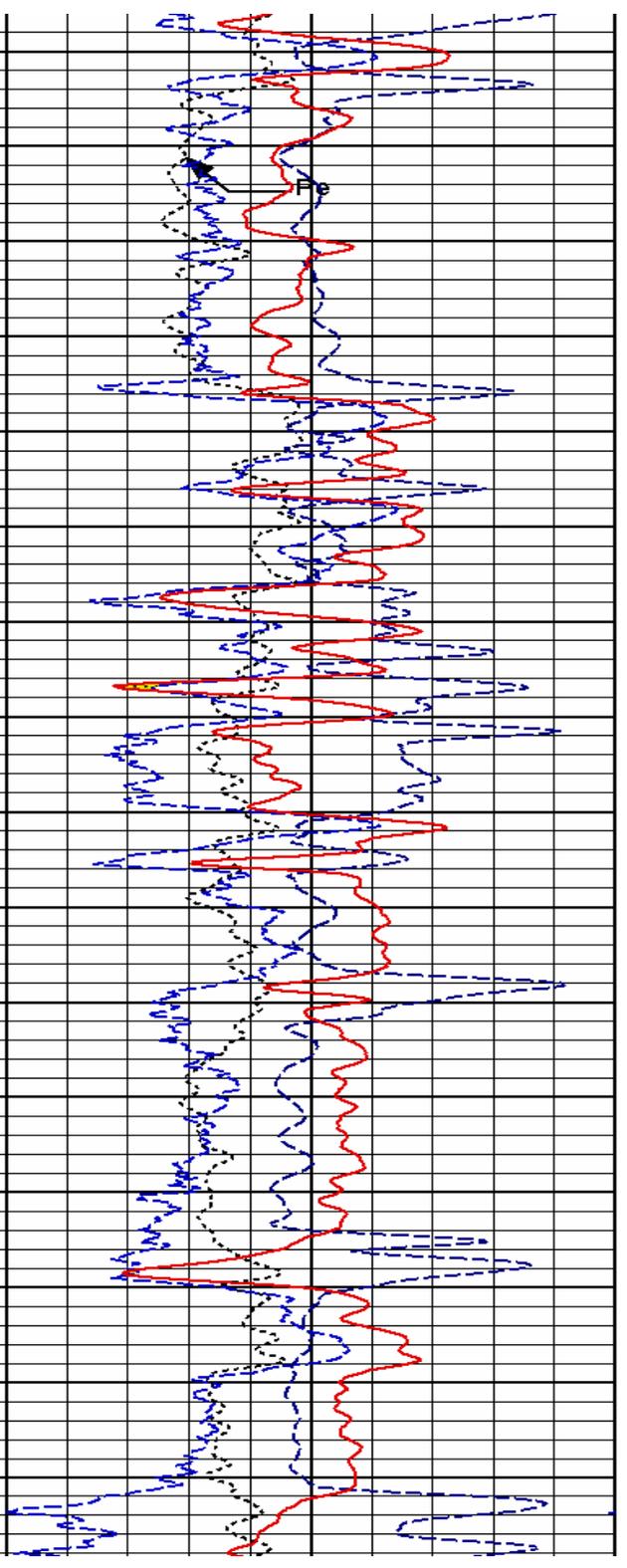
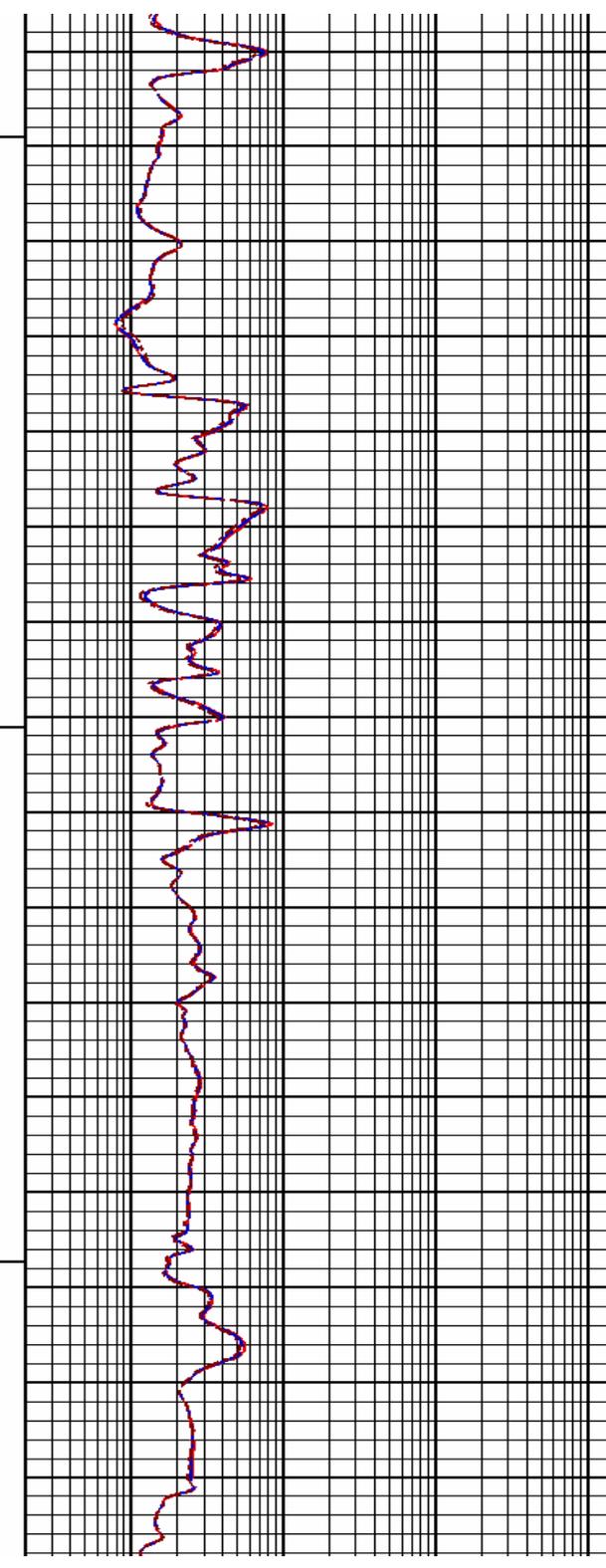


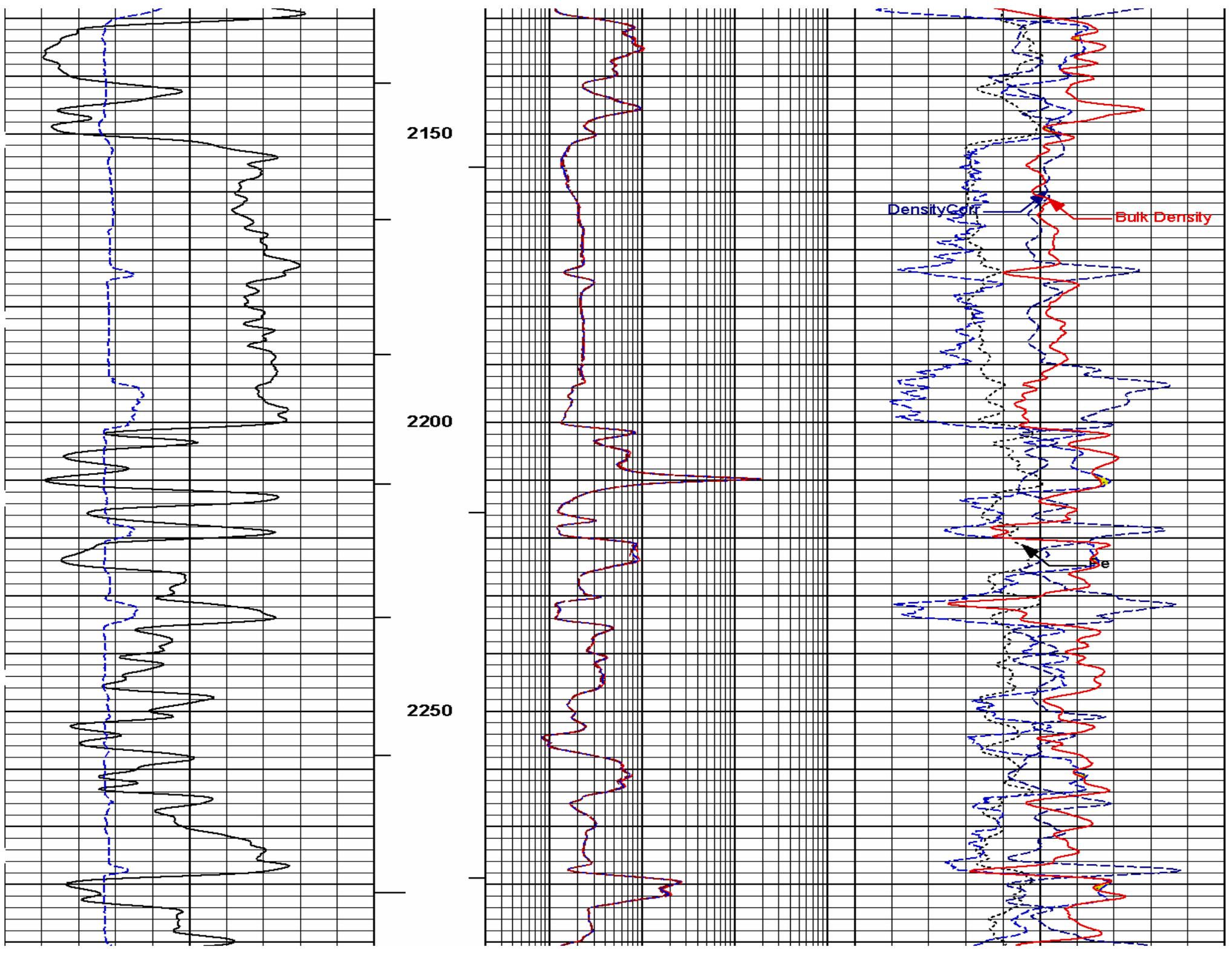


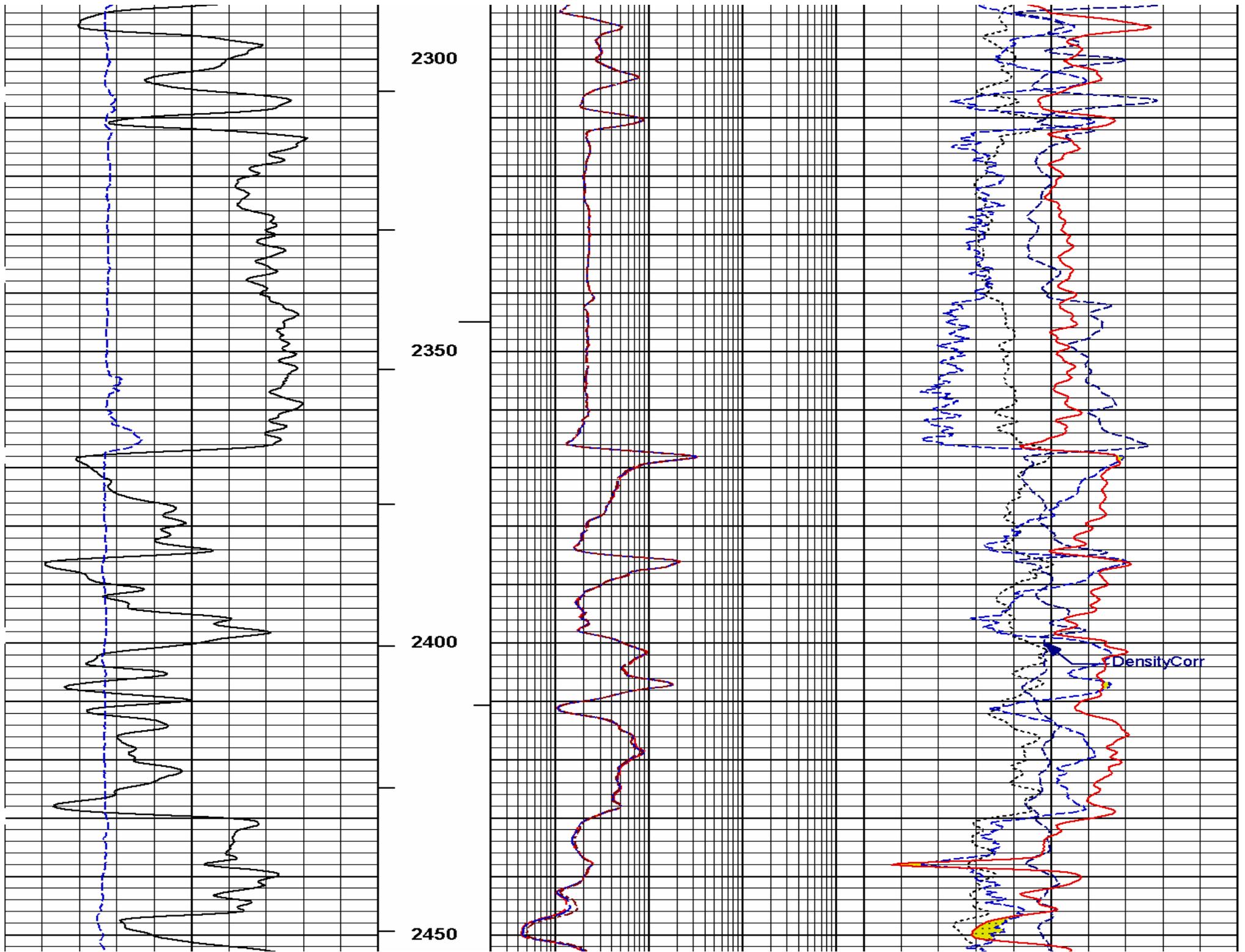
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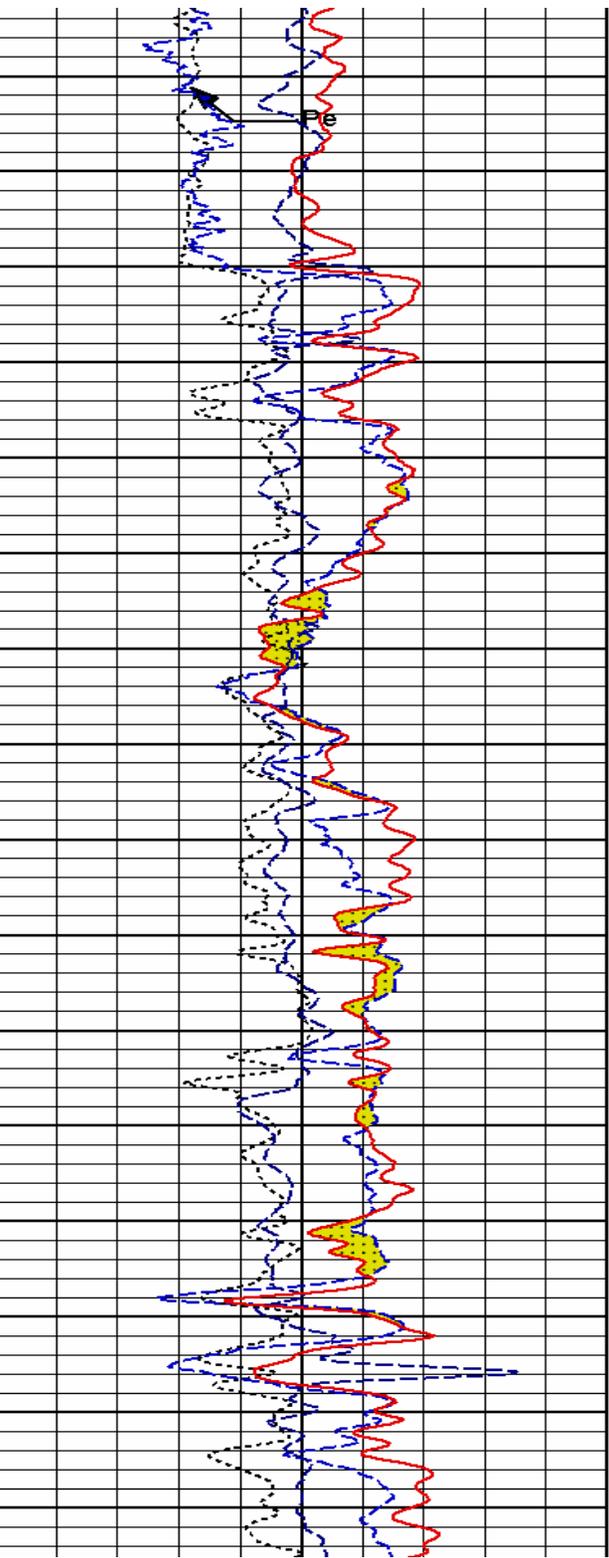
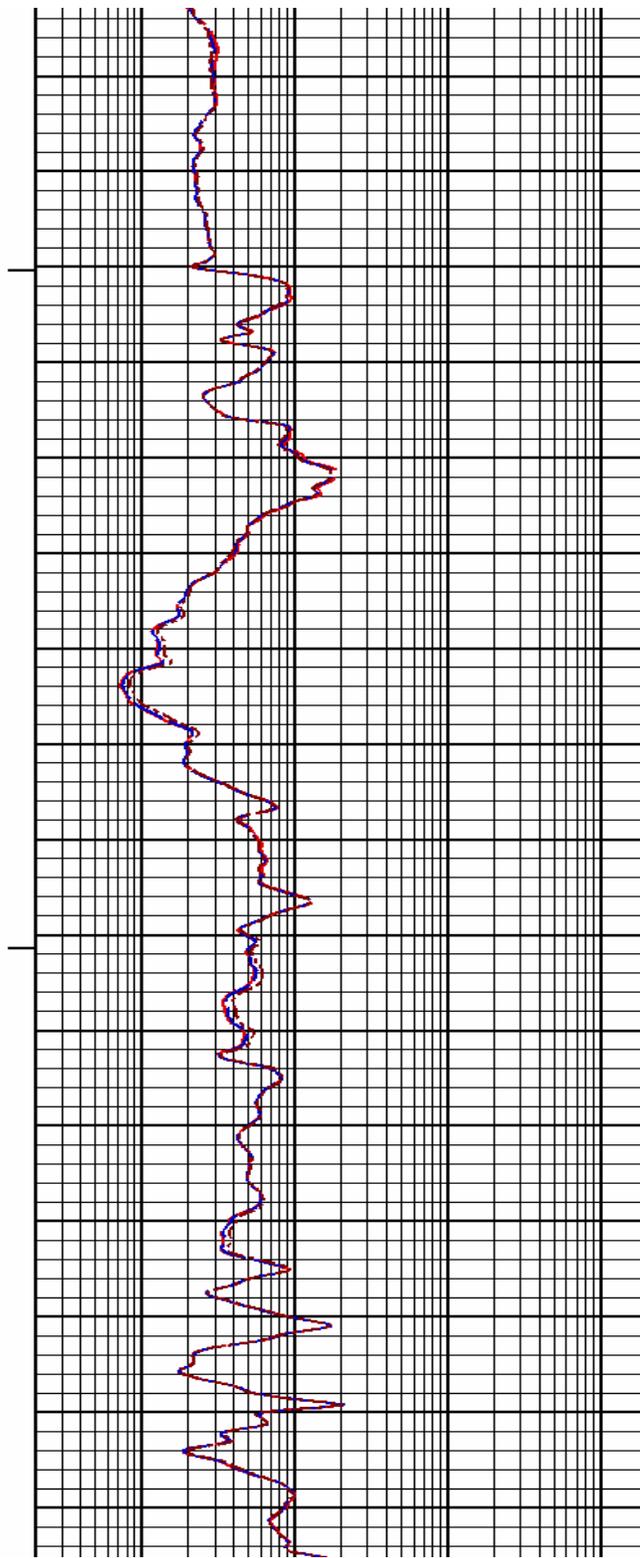
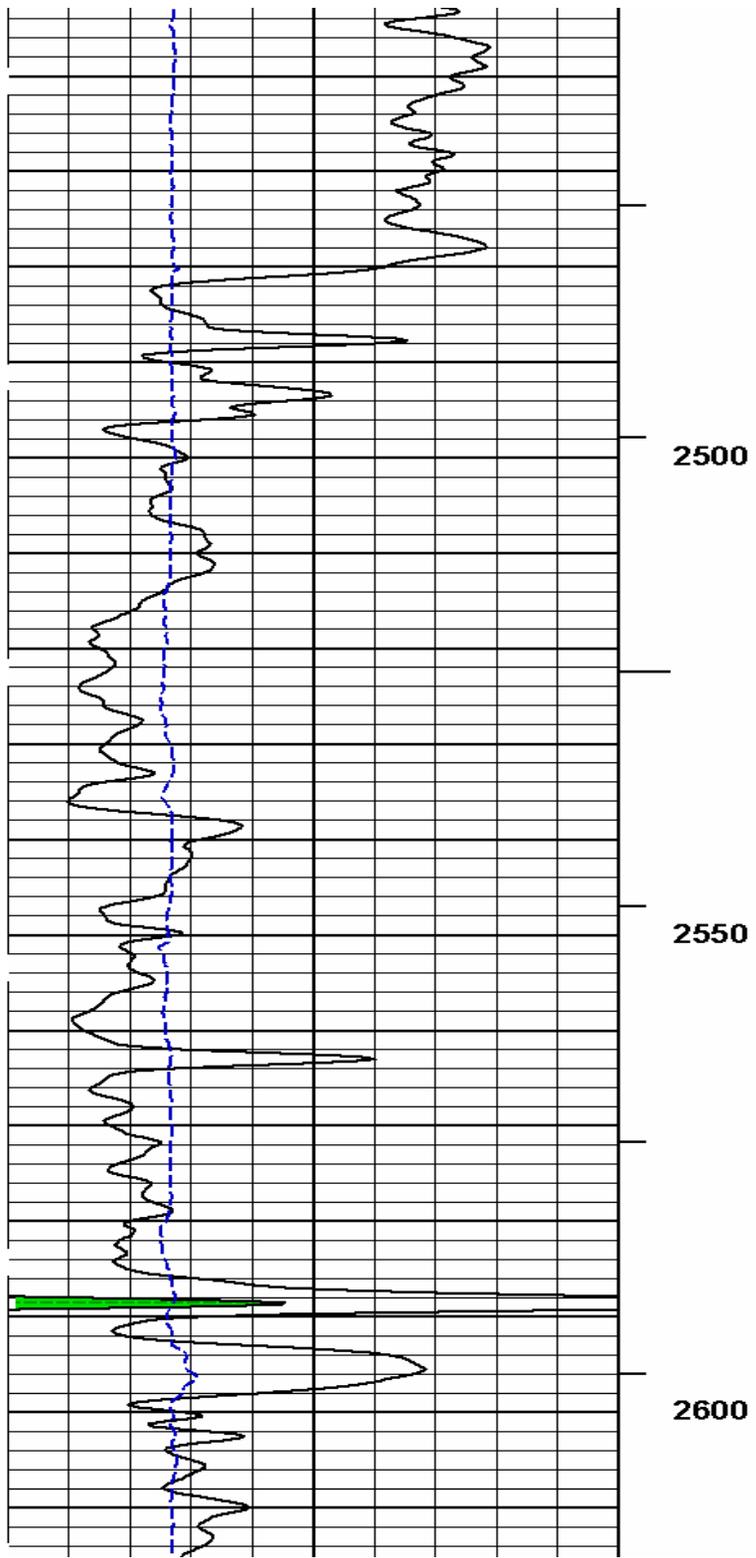
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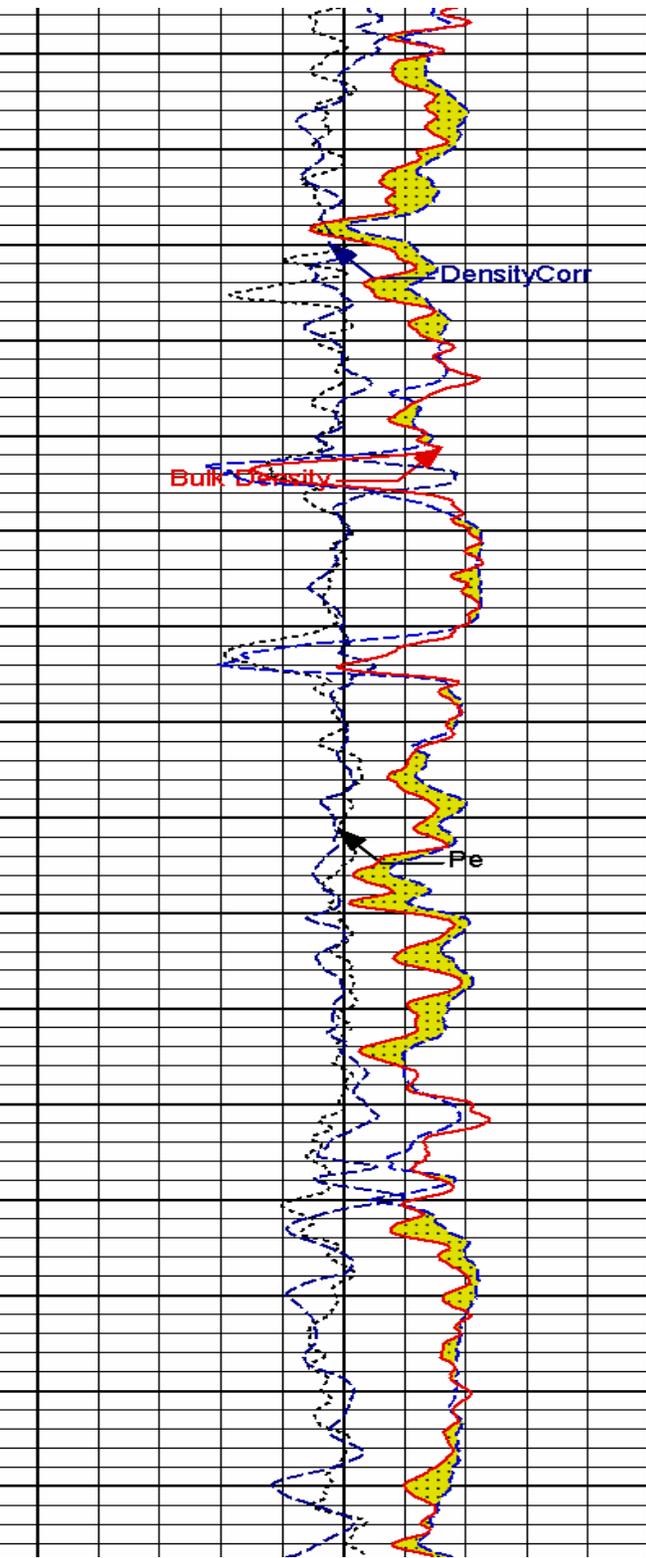
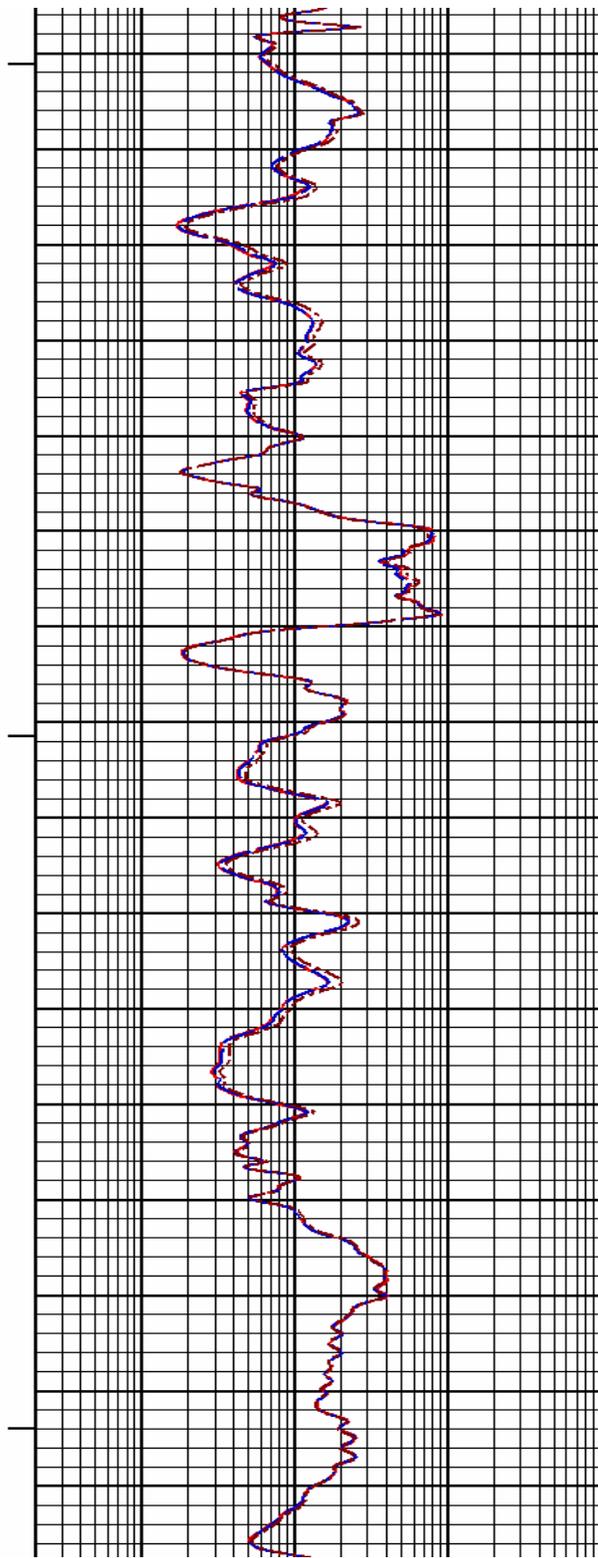
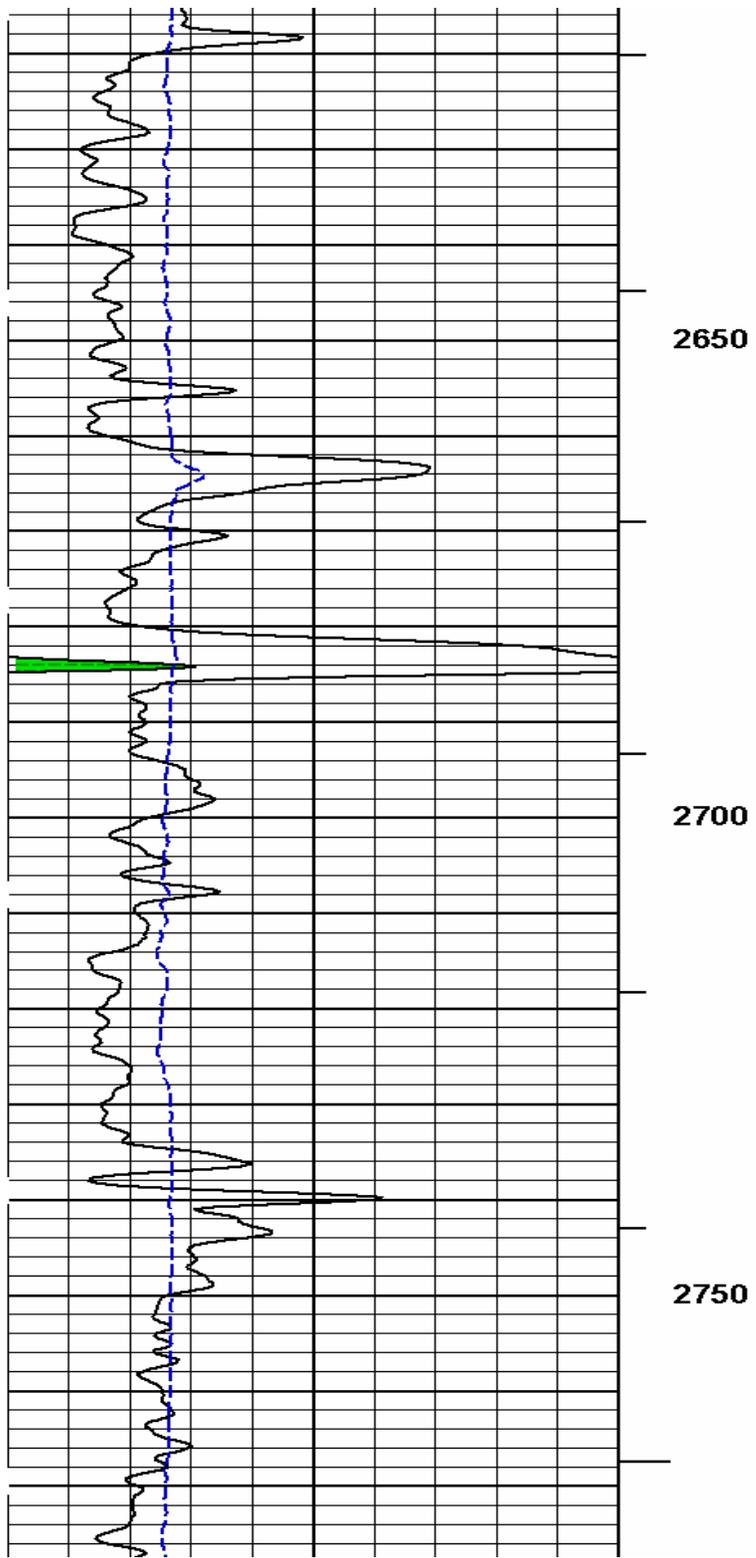
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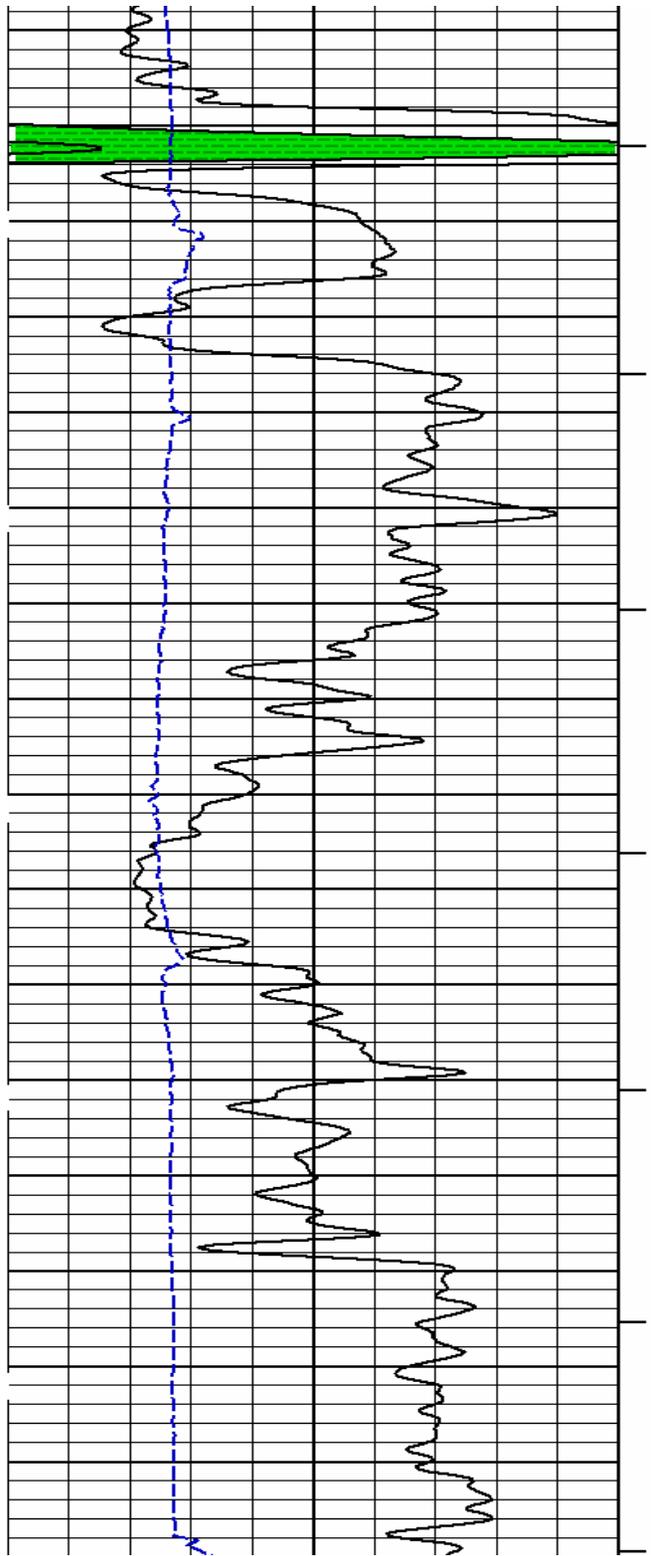








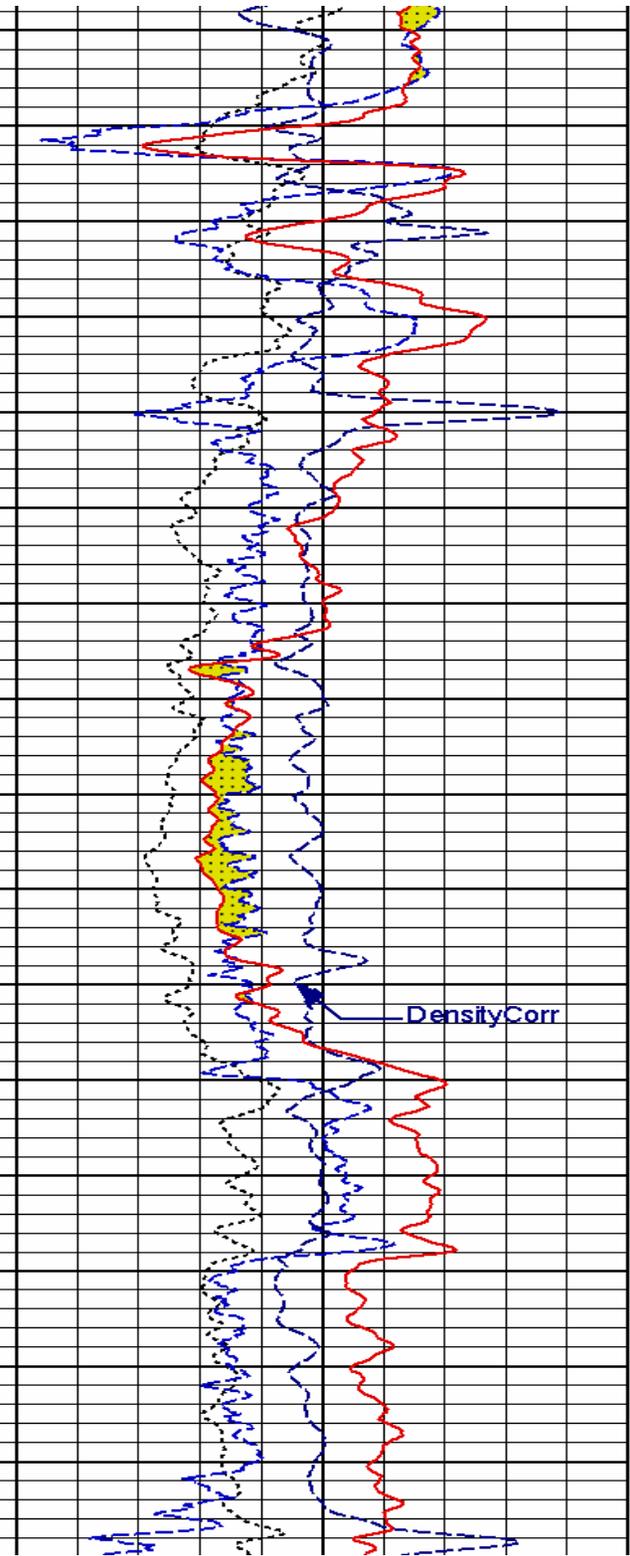
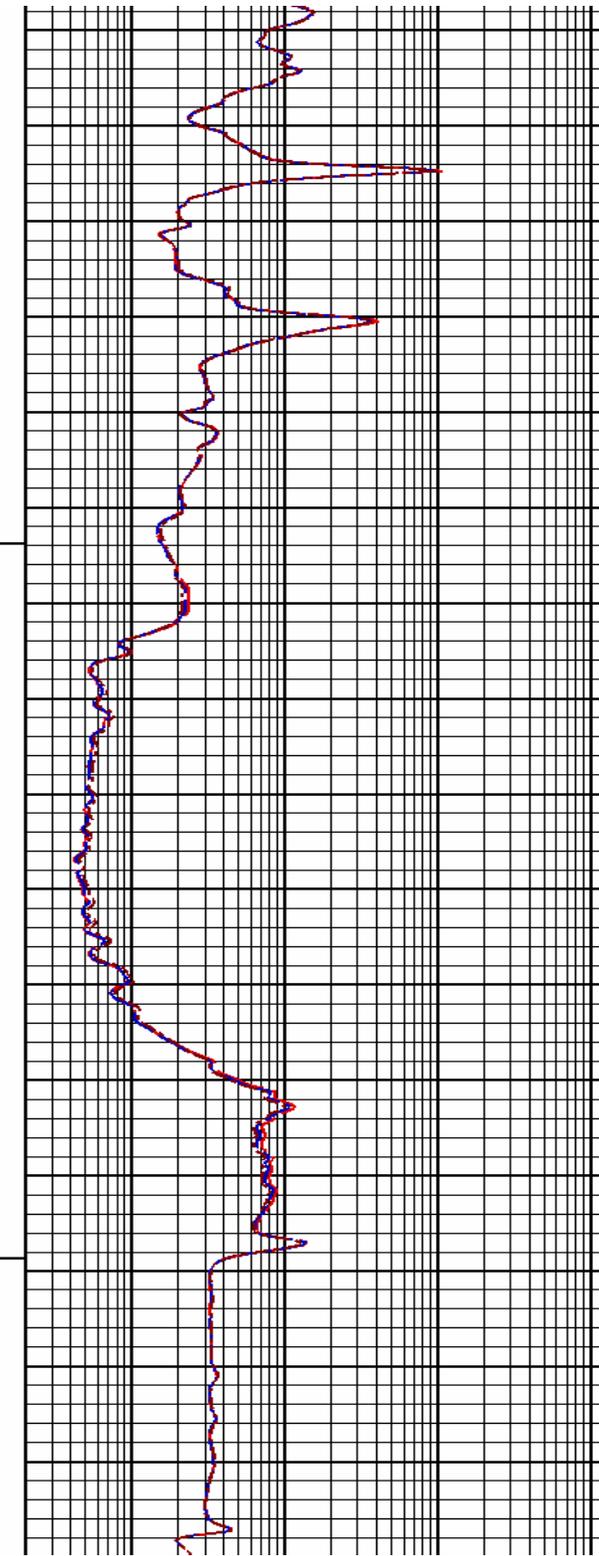




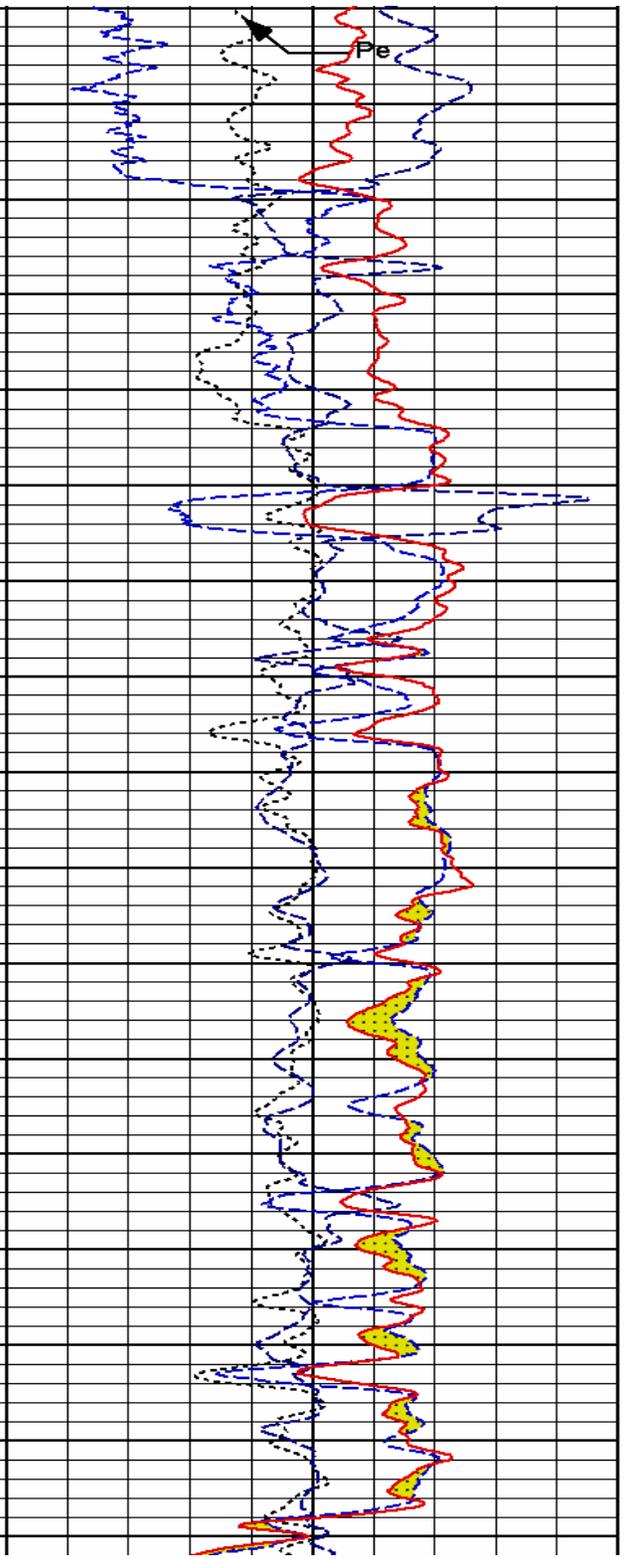
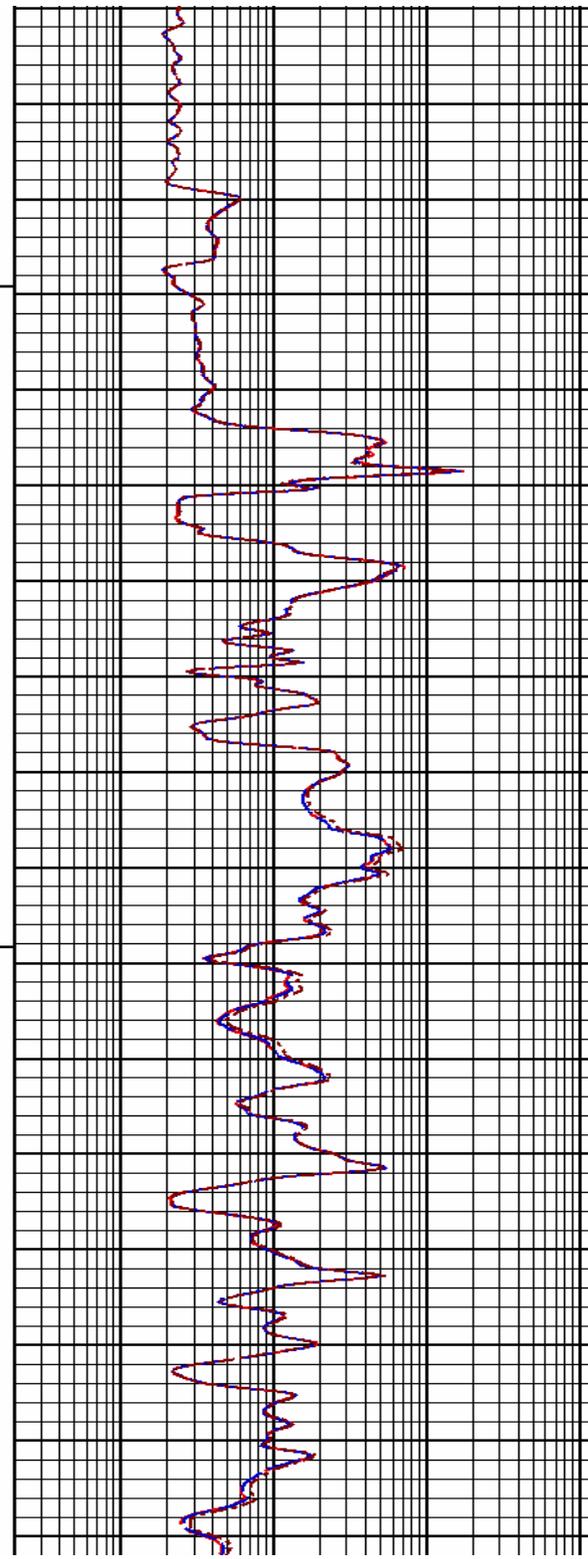
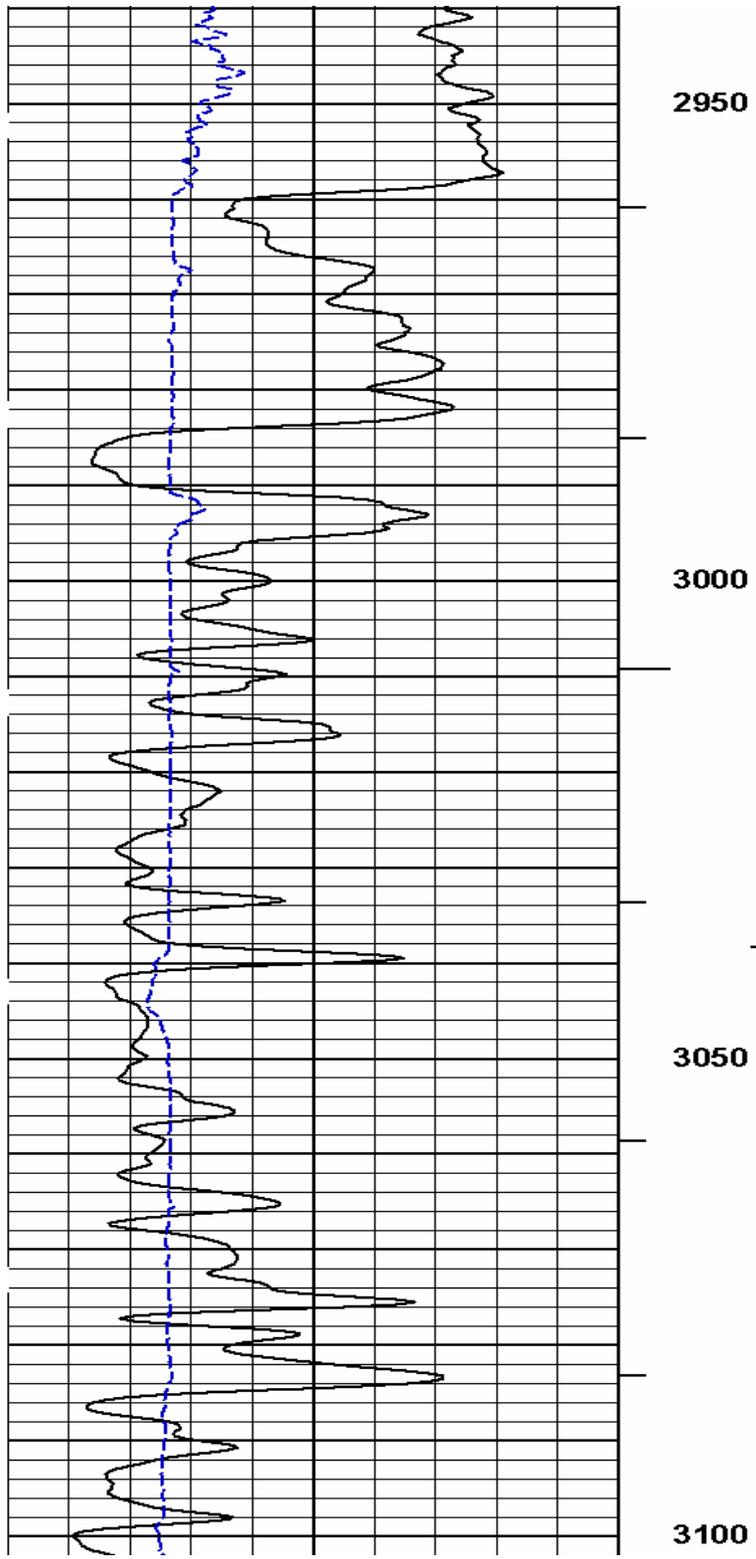
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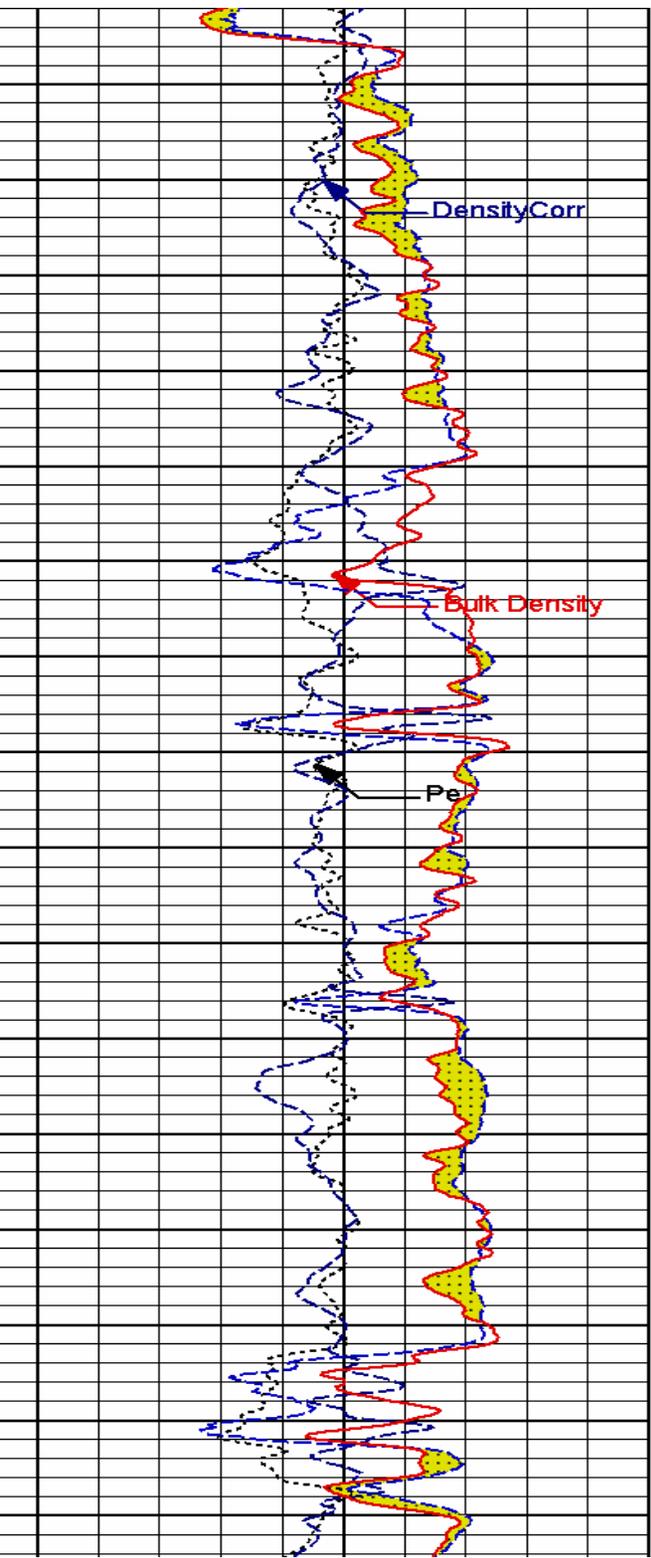
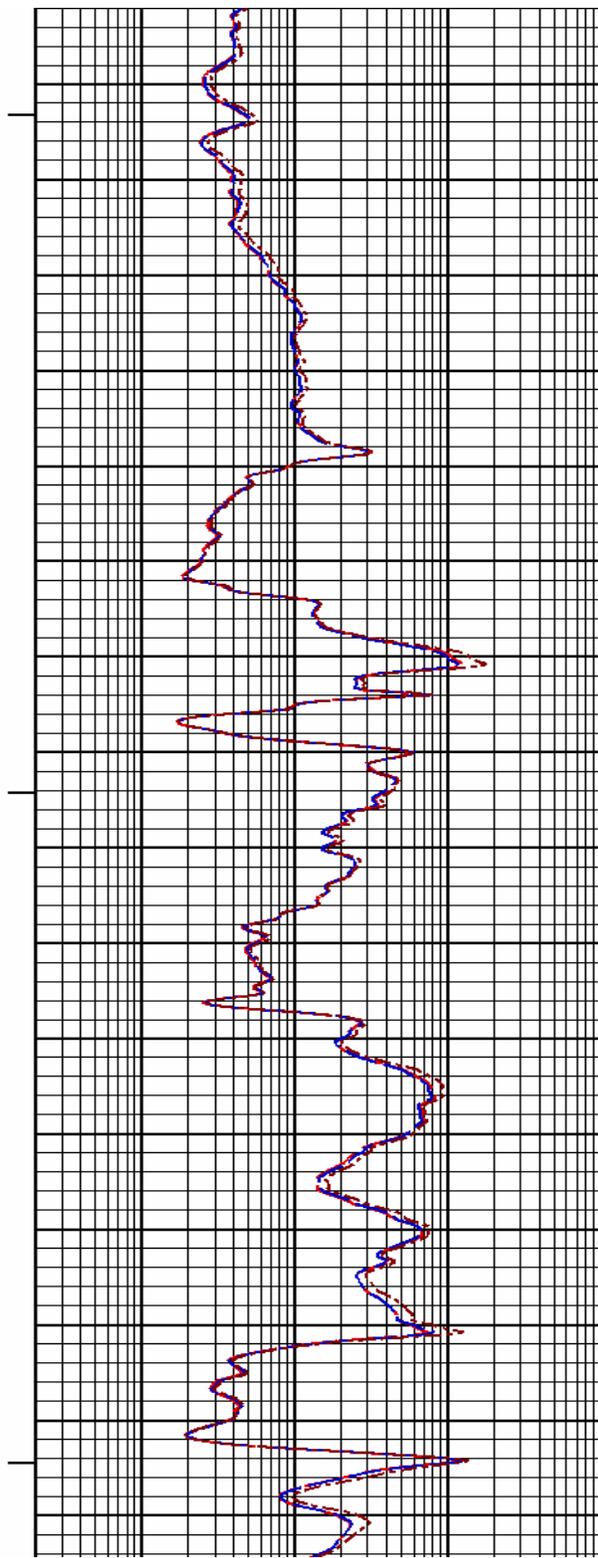
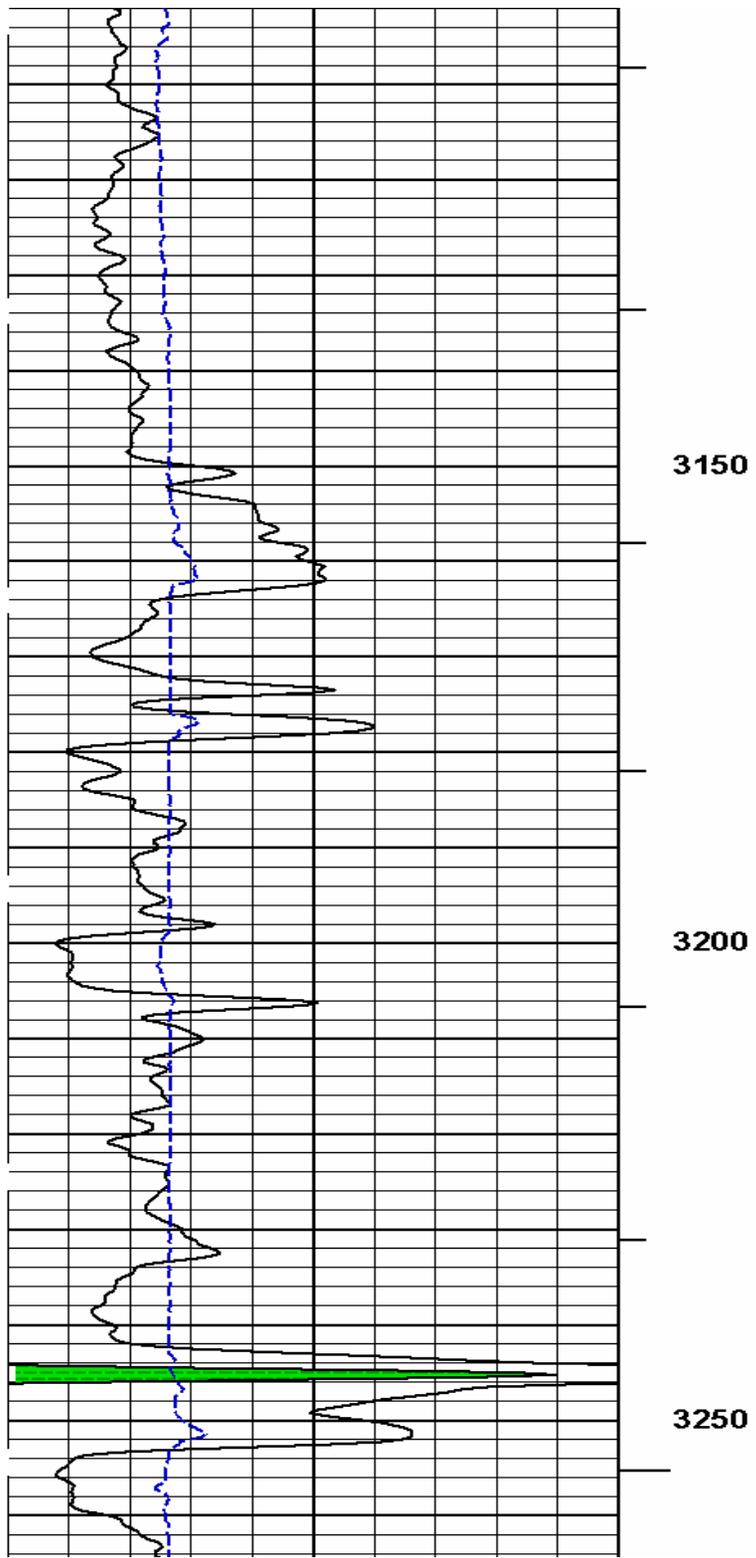
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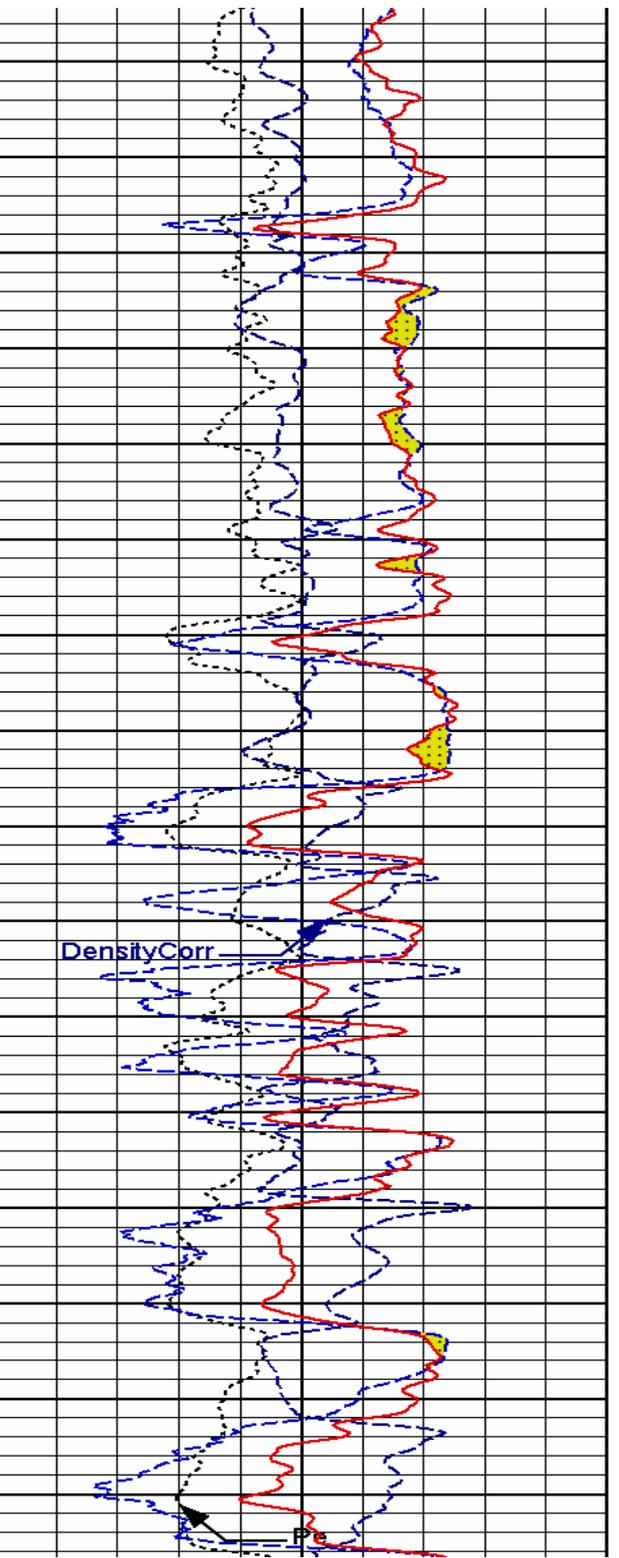
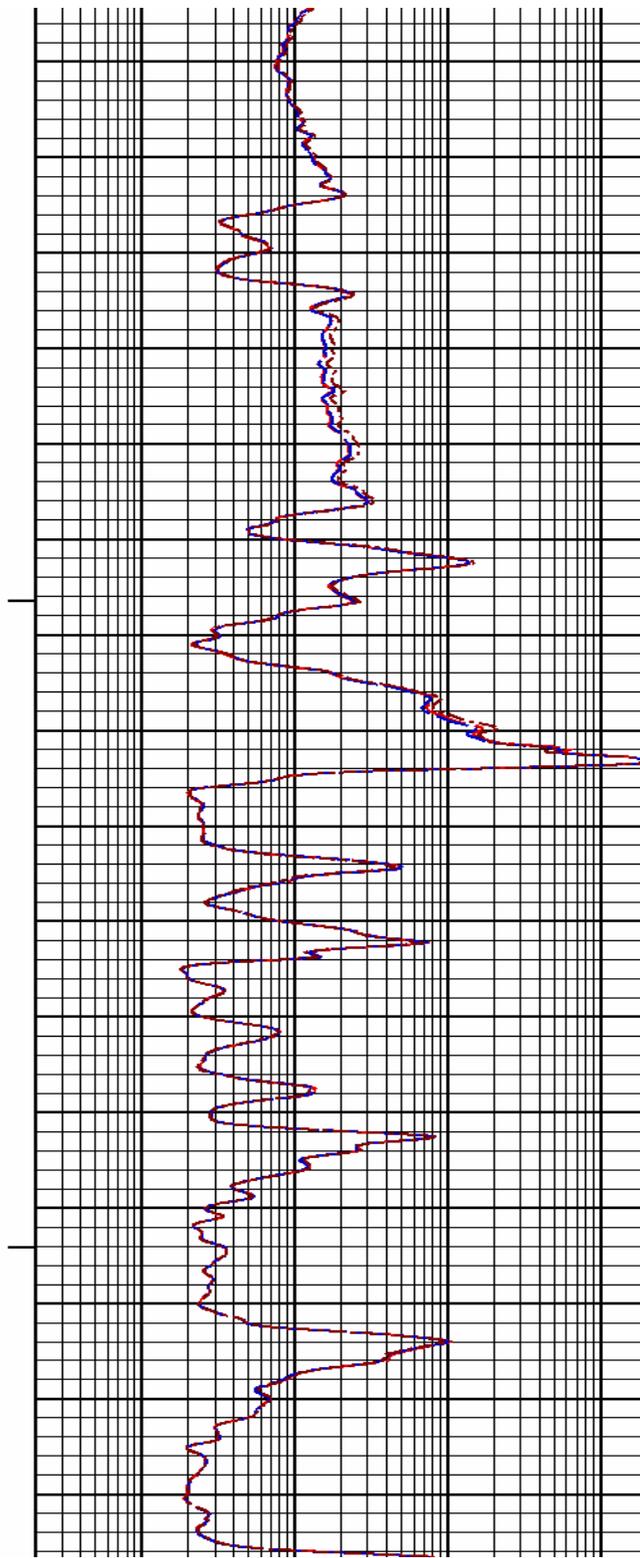
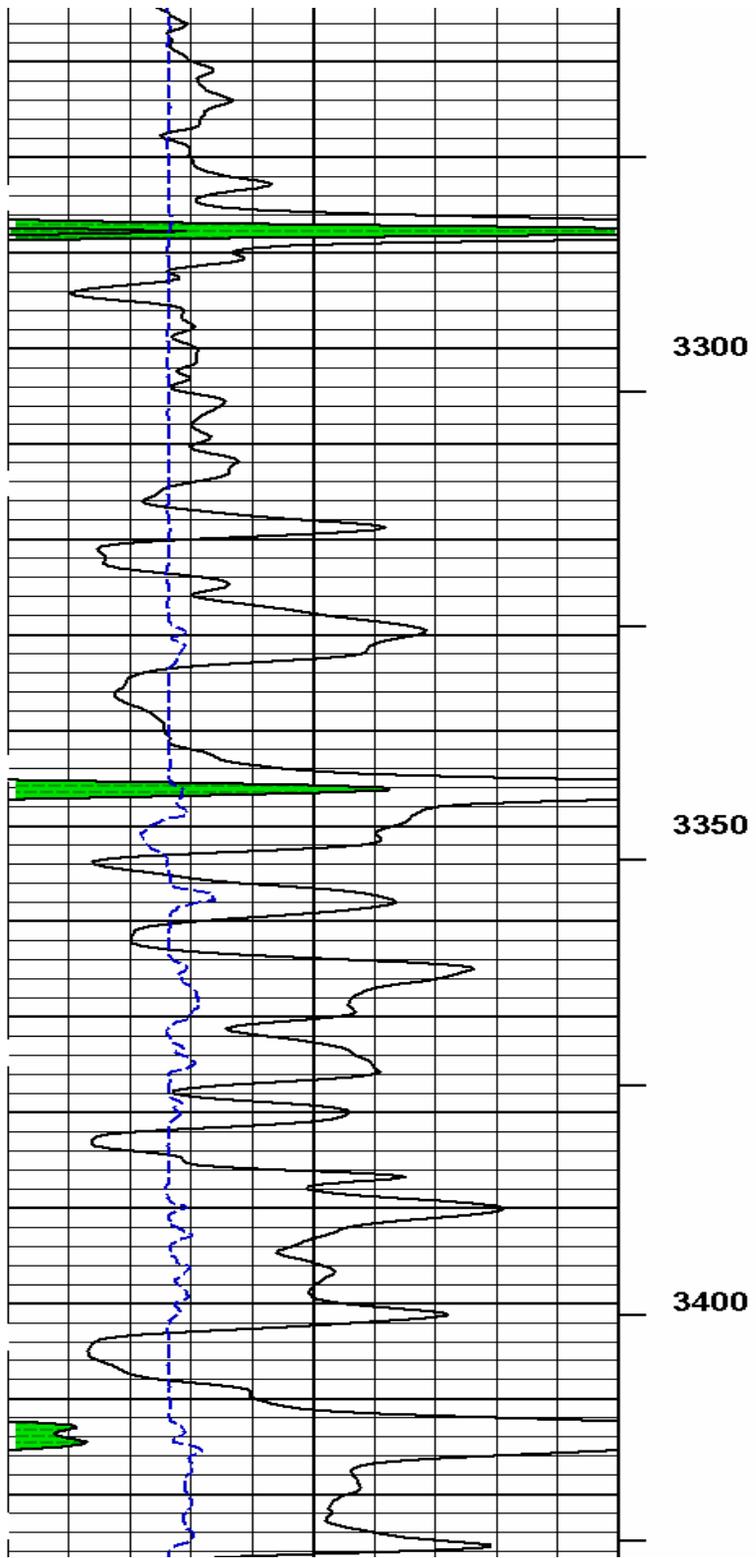
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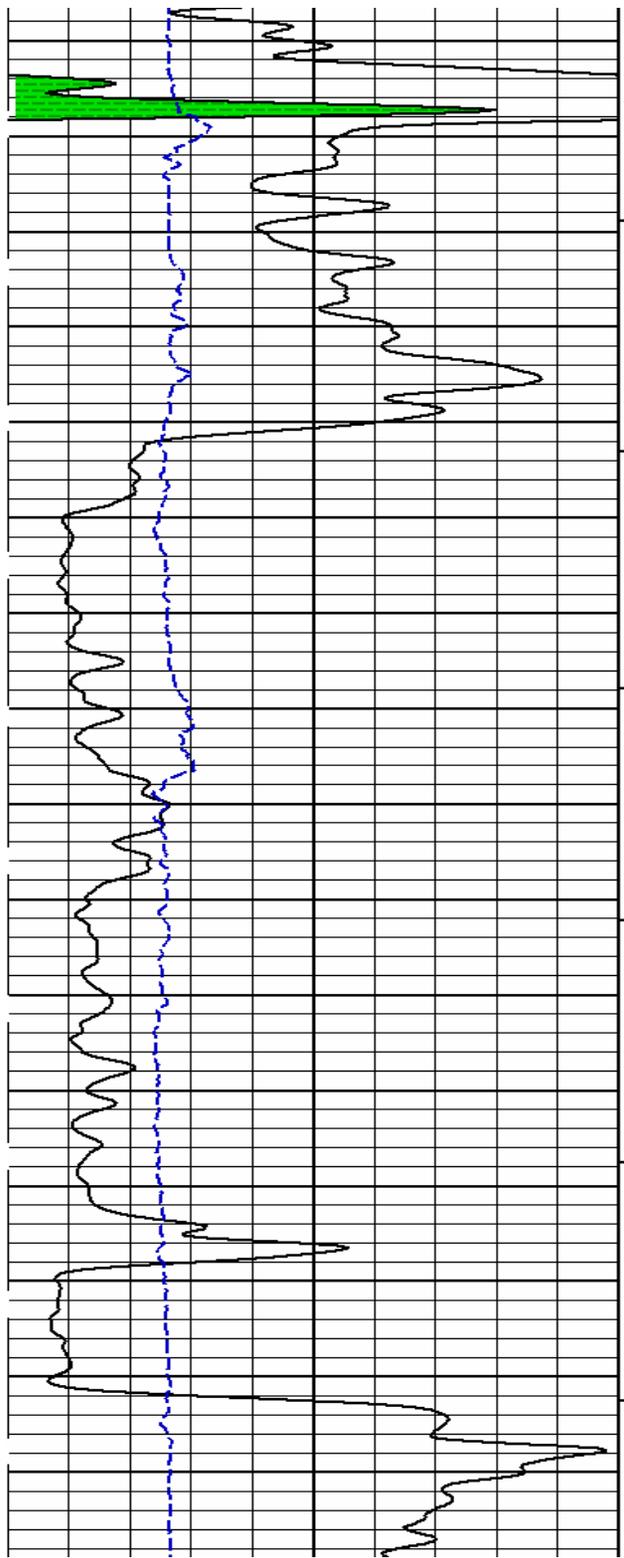


DensityCorr





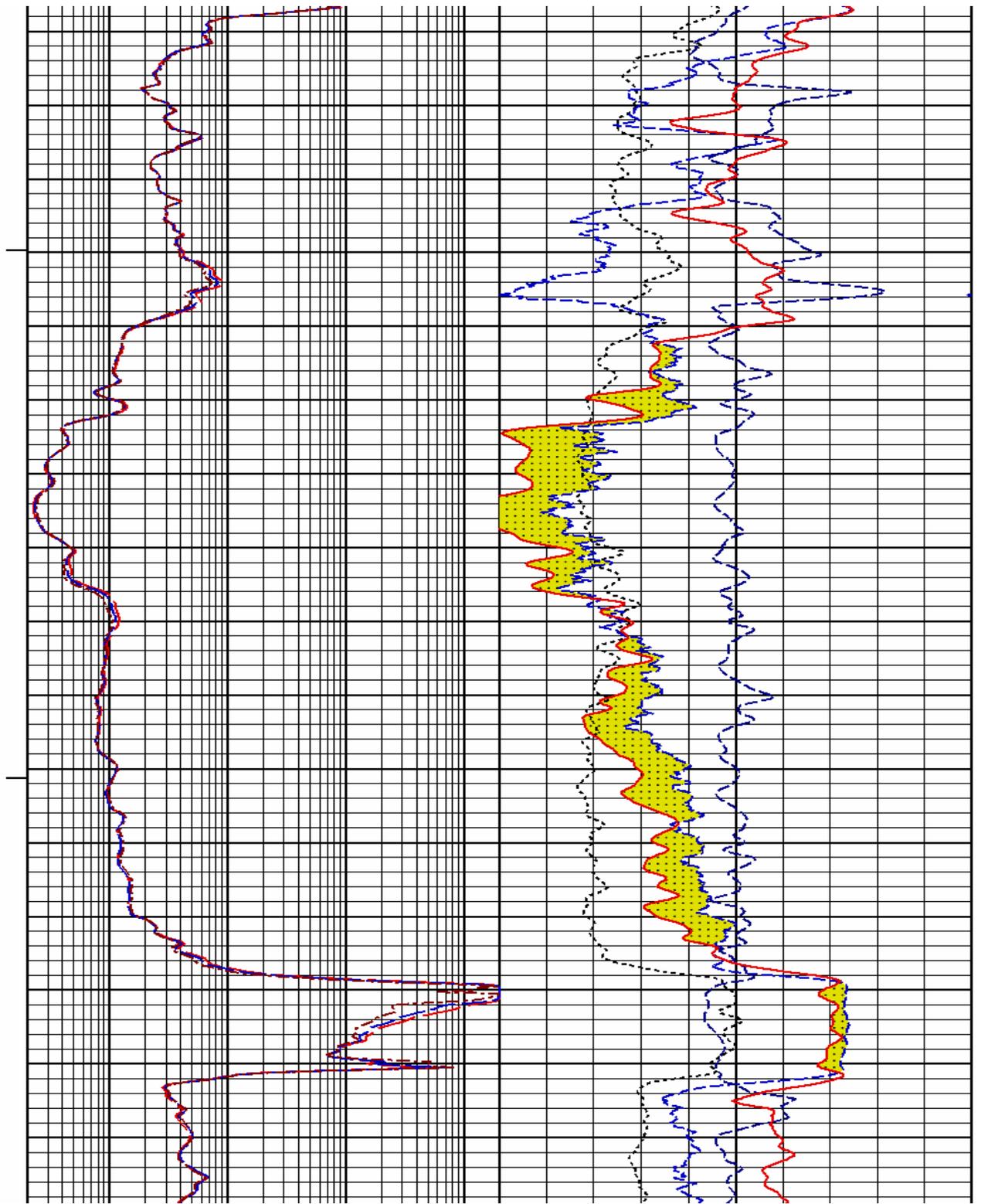


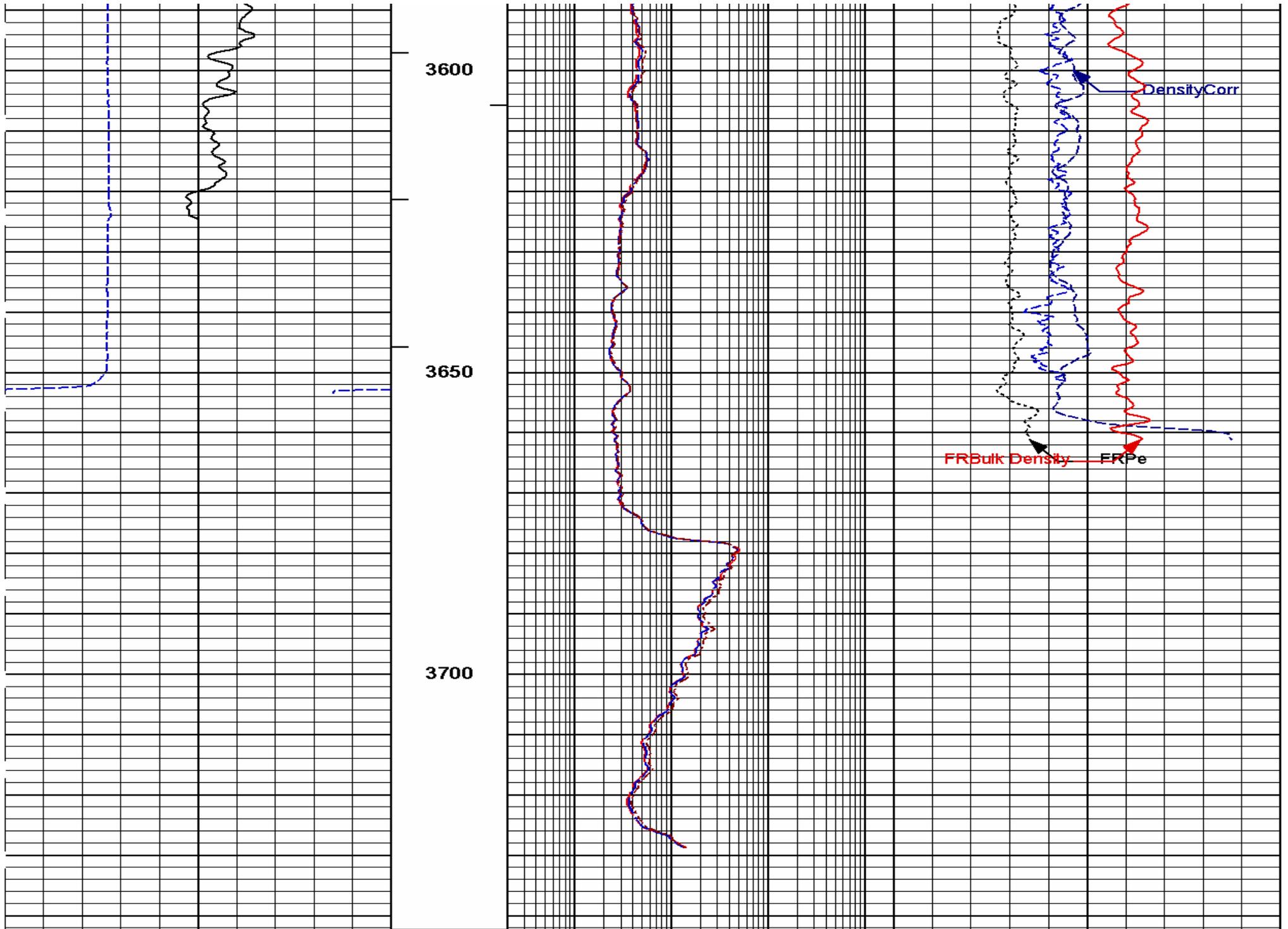


3450

3500

3550





6 Caliper inches 16

MD 1 : 240 ft

0.2 20in Resistivity 1ft Res 2000 ohm-metre

-0.25 DensityCorr g/cc 0.25

0	Gamma API	150	AHVT	0.2	60in Resistivity 1ft Res	2000	1.95	Bulk Density	2.95
	api				ohm-metre			g/cc	
			BHVT	0.2	90in Resistivity 1ft Res	2000	0	Pe	10
					ohm-metre			barns/Electron	
							45	Neutron Porosity	-15
								%	

HALLIBURTON

Plot Time: 12-Feb-13 15:24:19
 Plot Range: 500 ft to 3742.33 ft
 Data: RANDOLPH_210731\Well Based*\1
 Plot File: \\TC\TC_5_NO_ML_MAIN_SHELL

5 INCH MAIN LOG

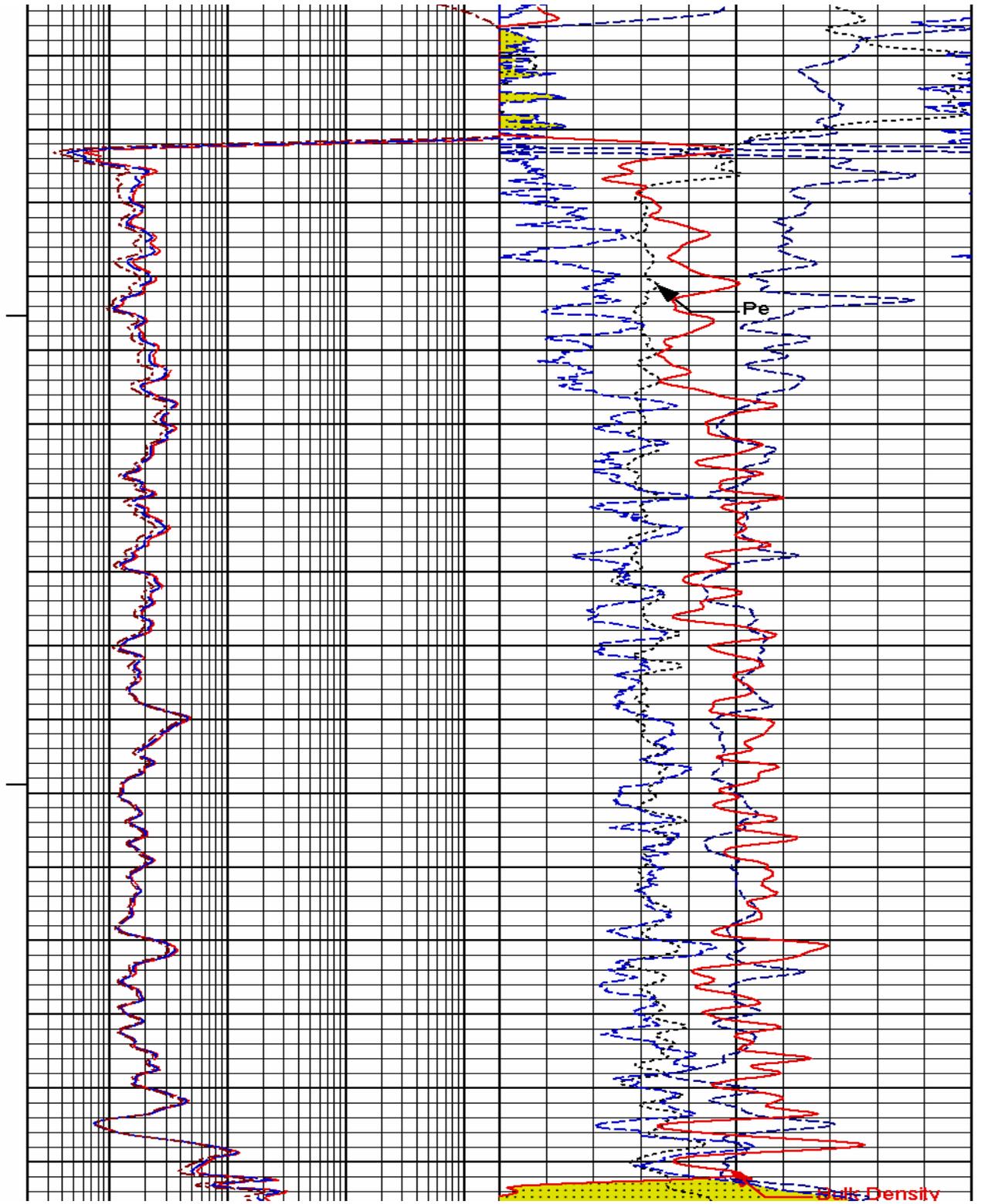
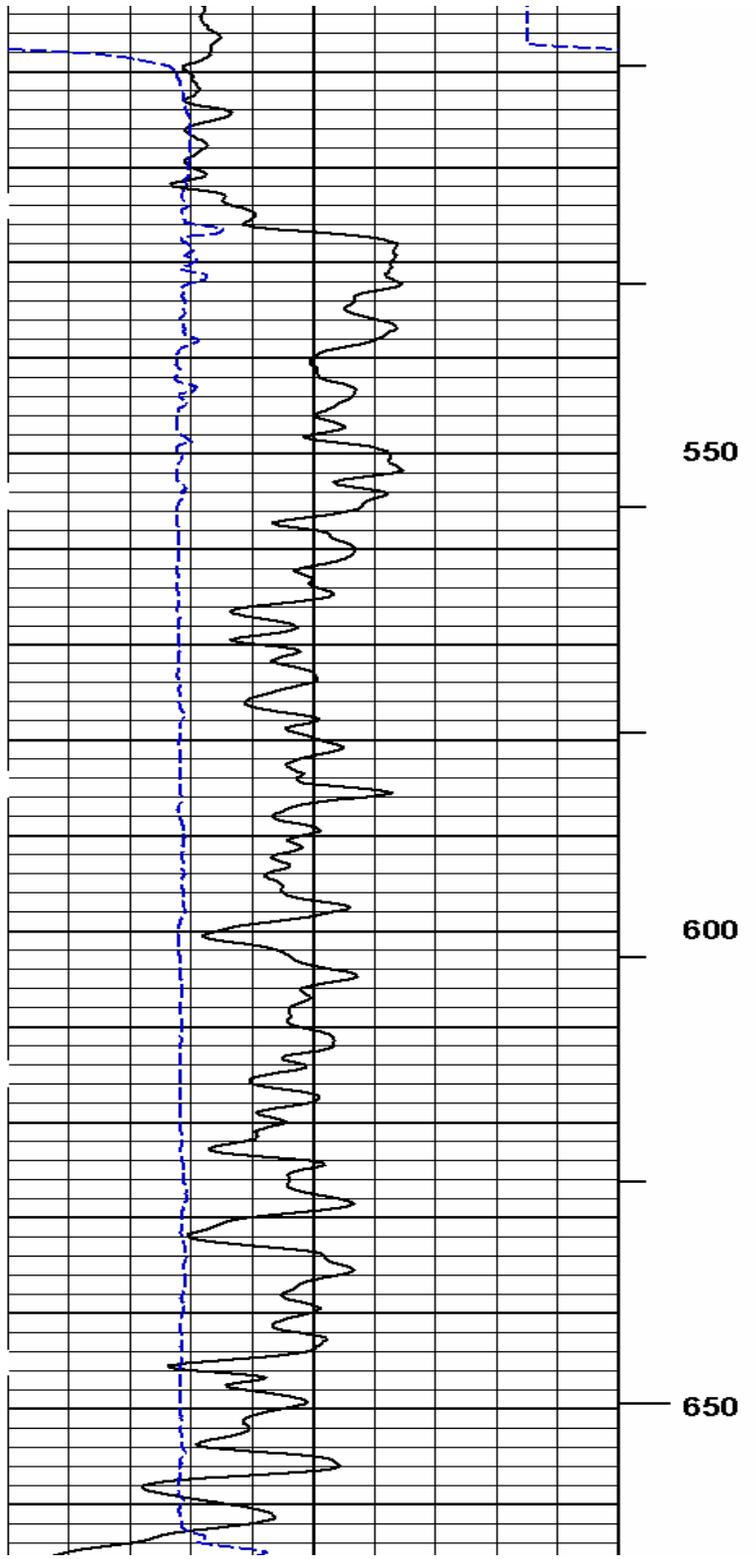
HALLIBURTON

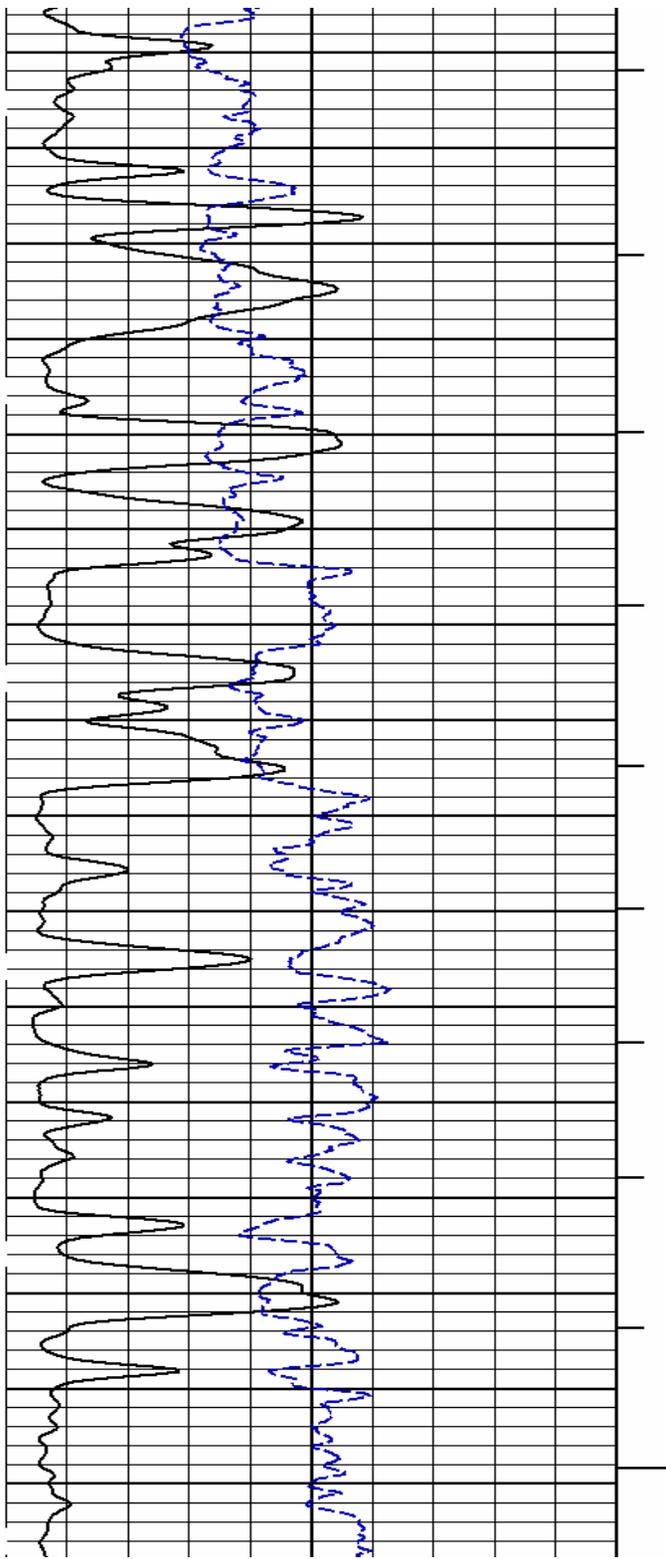
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 Plot Range: 500 ft to 3742.33 ft
 Data: RANDOLPH_210731\Well Based*\1
 Plot File: \\TC\TC_5_NO_ML_MAIN_SHELL

5 INCH MAIN LOG

5 INCH MAIN TVD

							45	Neutron Porosity	-15
								%	
			BHVT	0.2	90in Resistivity 1ft Res	2000	0	Pe	10
					ohm-metre			barns/Electron	
0	Gamma API	150	AHVT	0.2	60in Resistivity 1ft Res	2000	1.95	Bulk Density	2.95
	api				ohm-metre			g/cc	
6	Caliper	16	Depth	0.2	20in Resistivity 1ft Res	2000	-0.25	DensityCorr	0.25
	inches		1:240		ohm-metre			g/cc	
			ft						

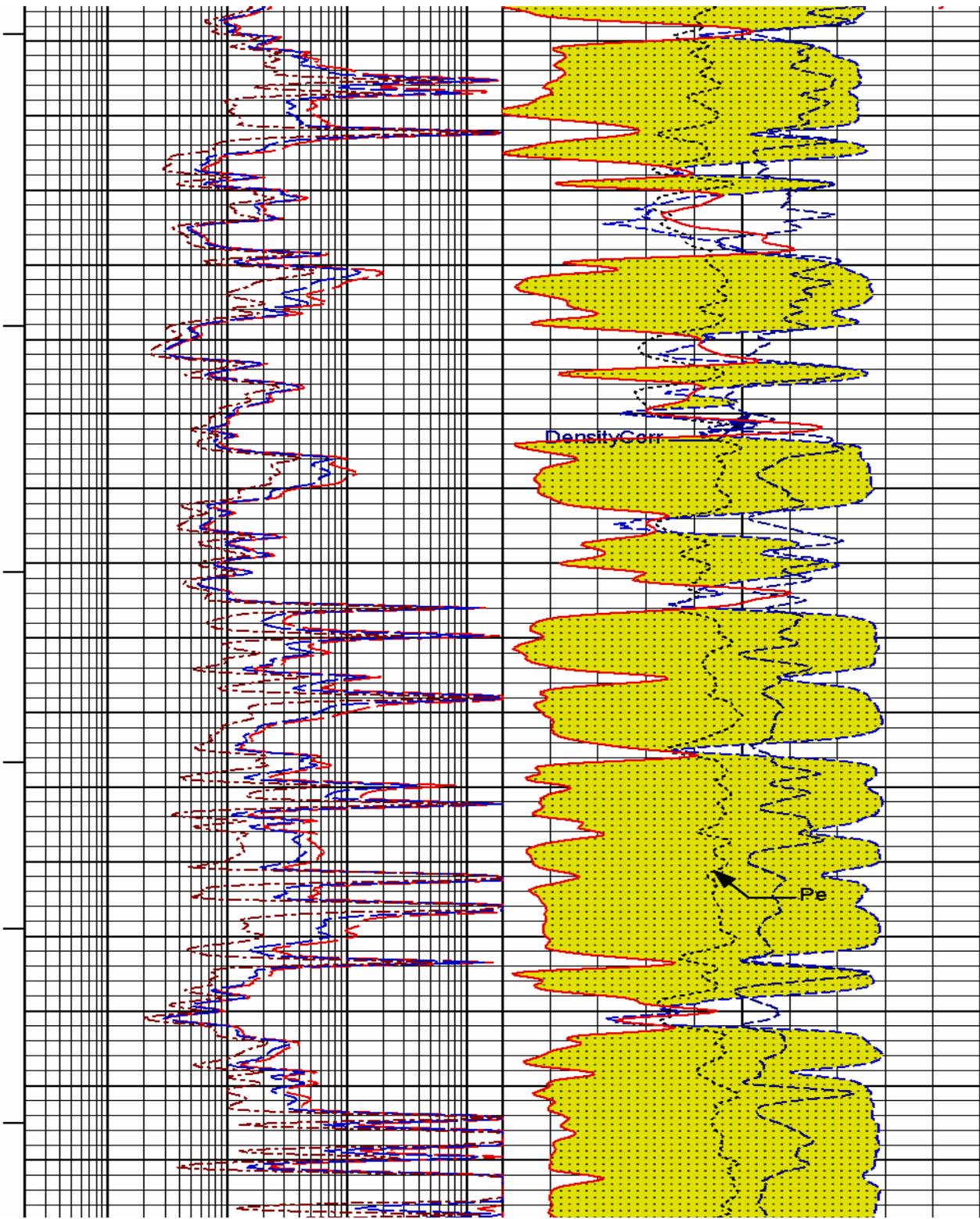




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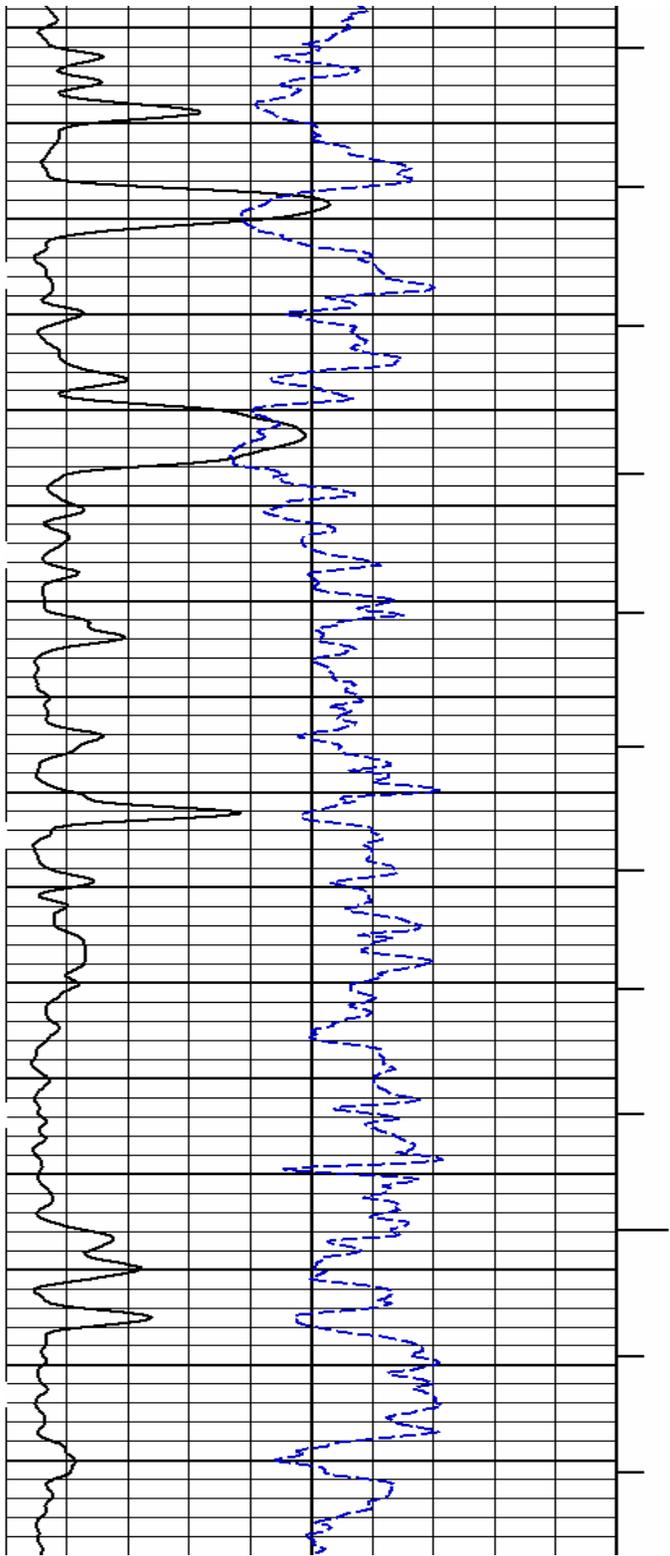
750

800



DensityCorr

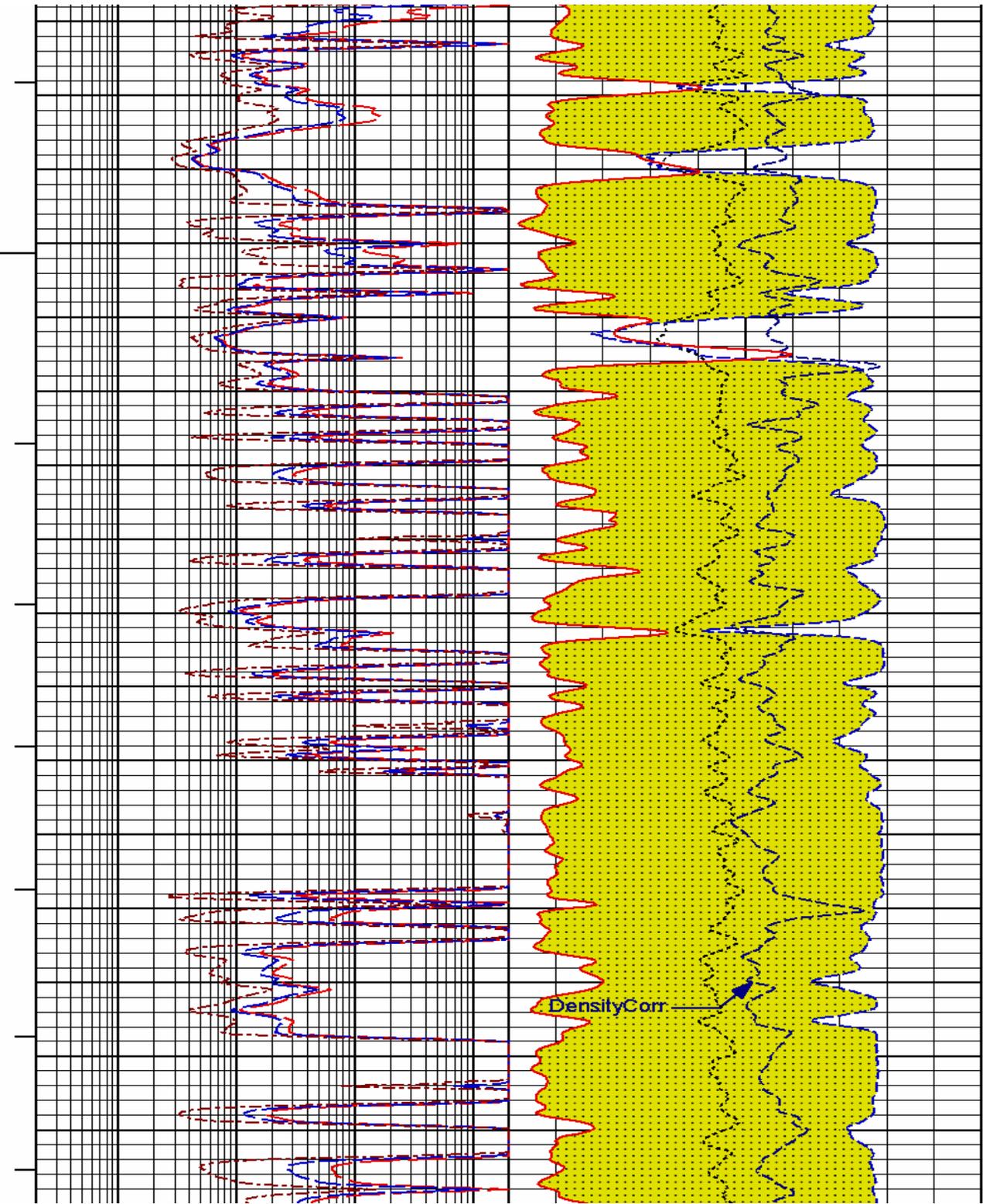
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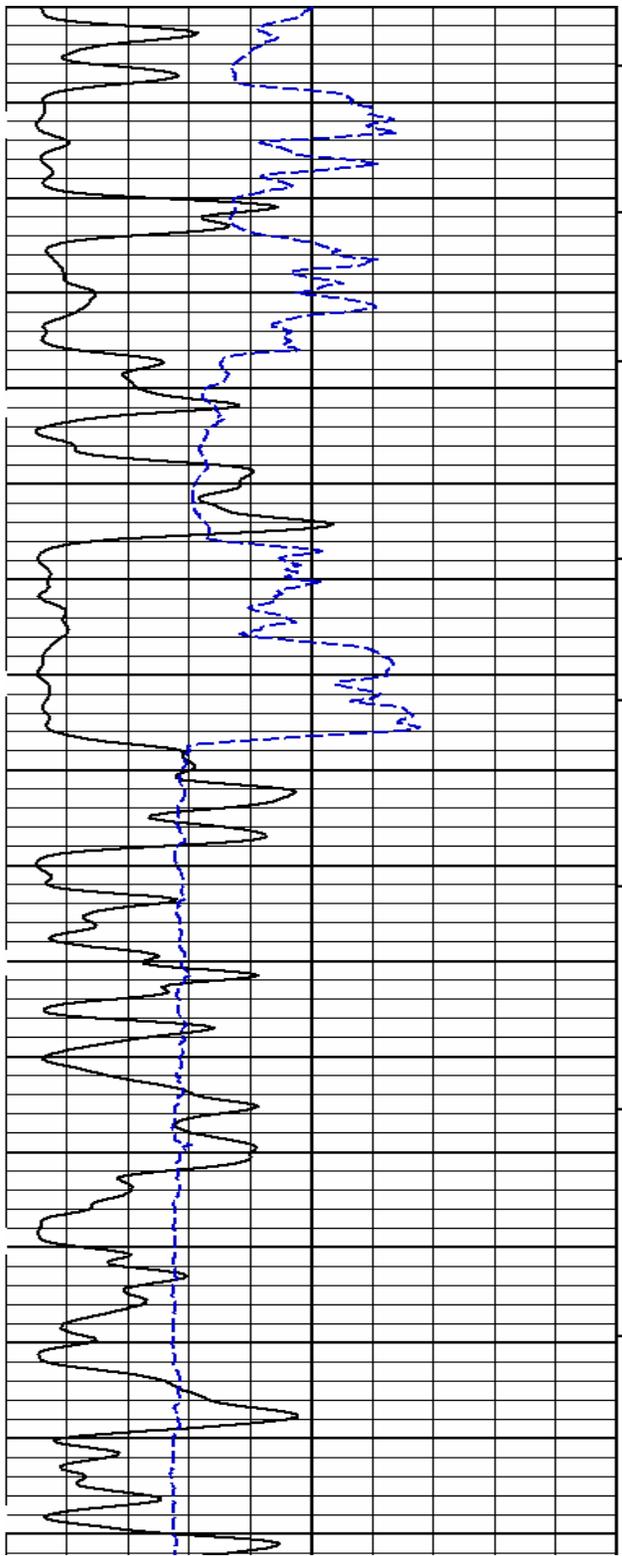
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DensityCorr

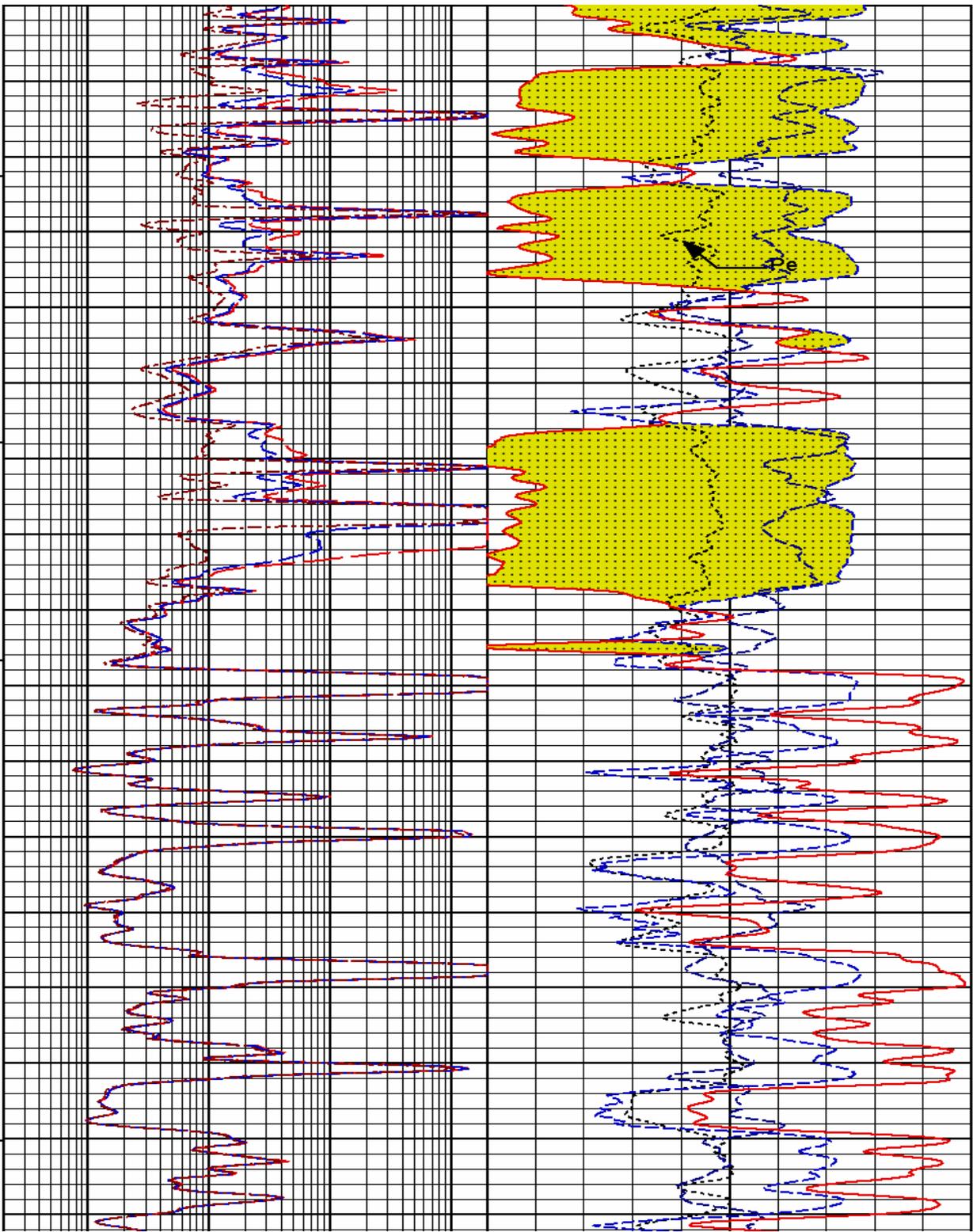


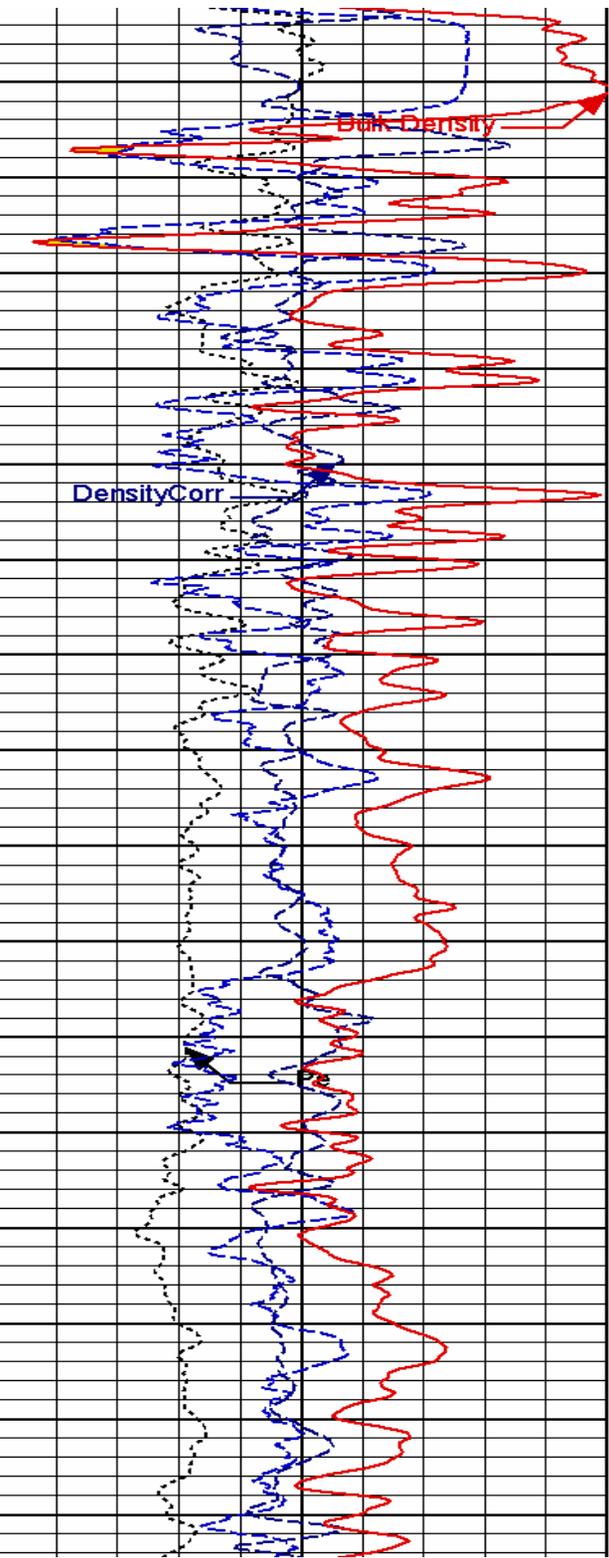
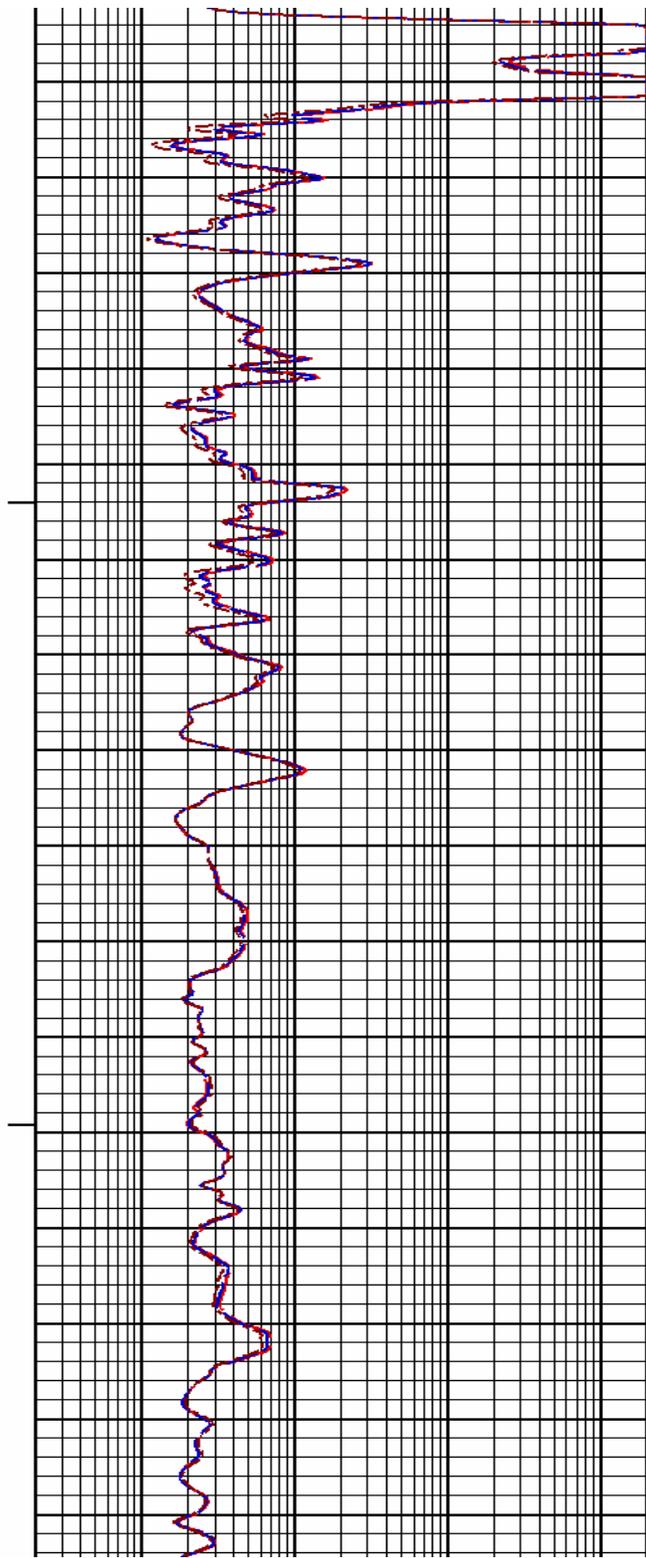
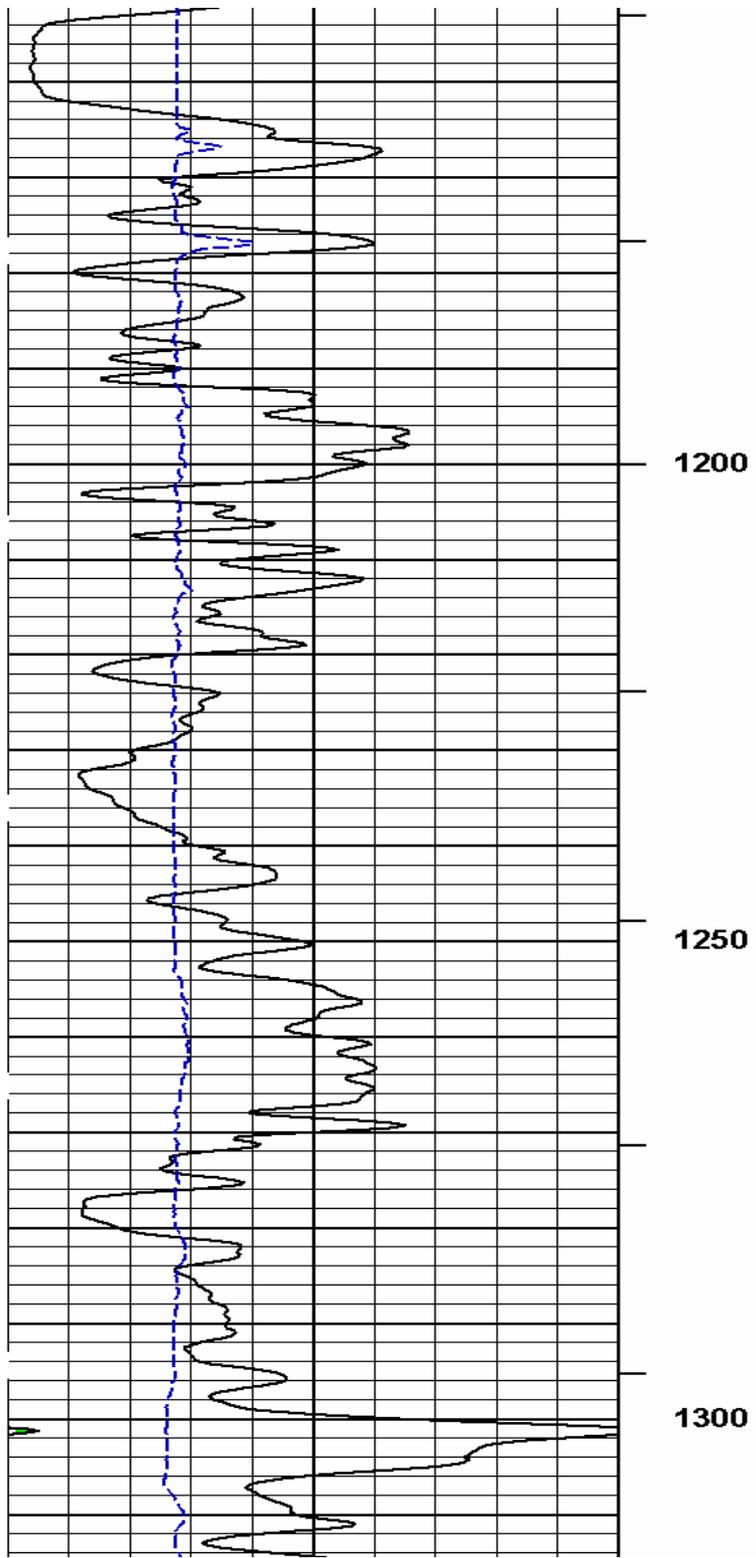
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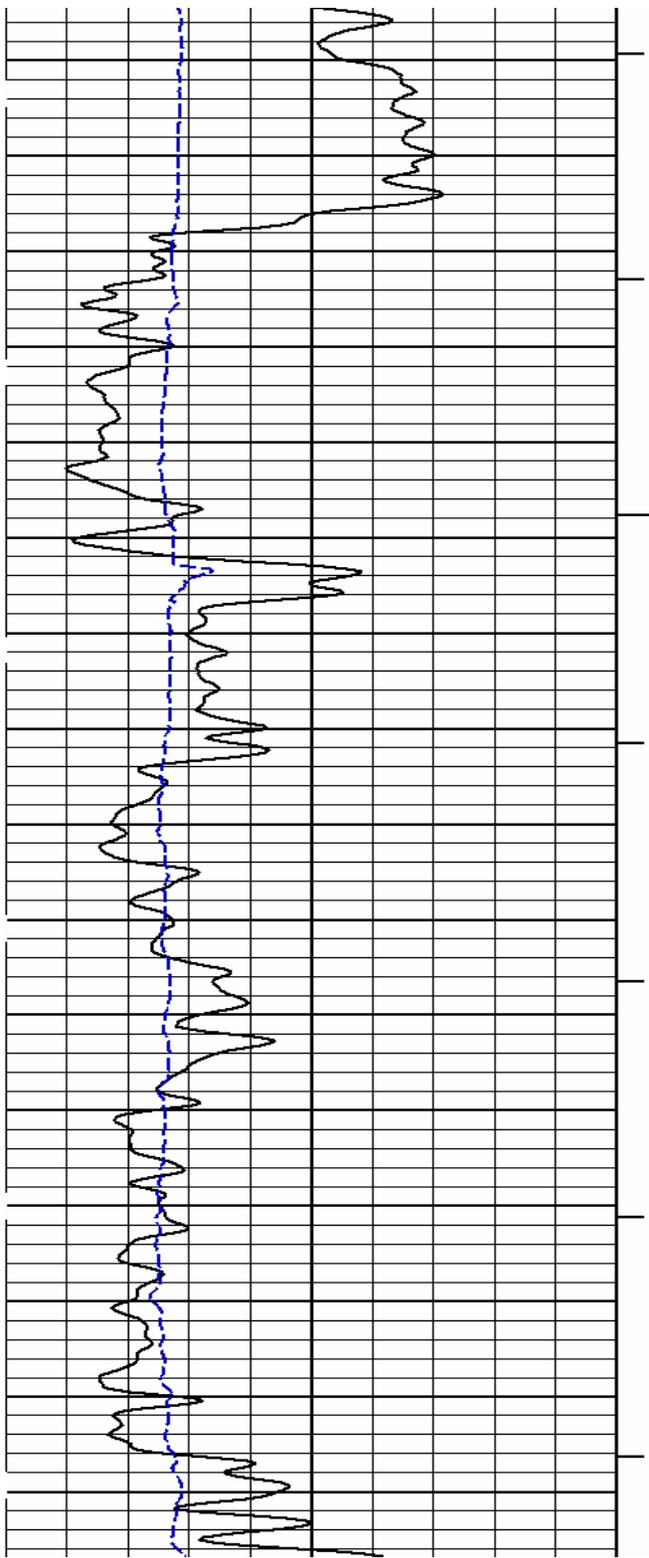
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1100

1150



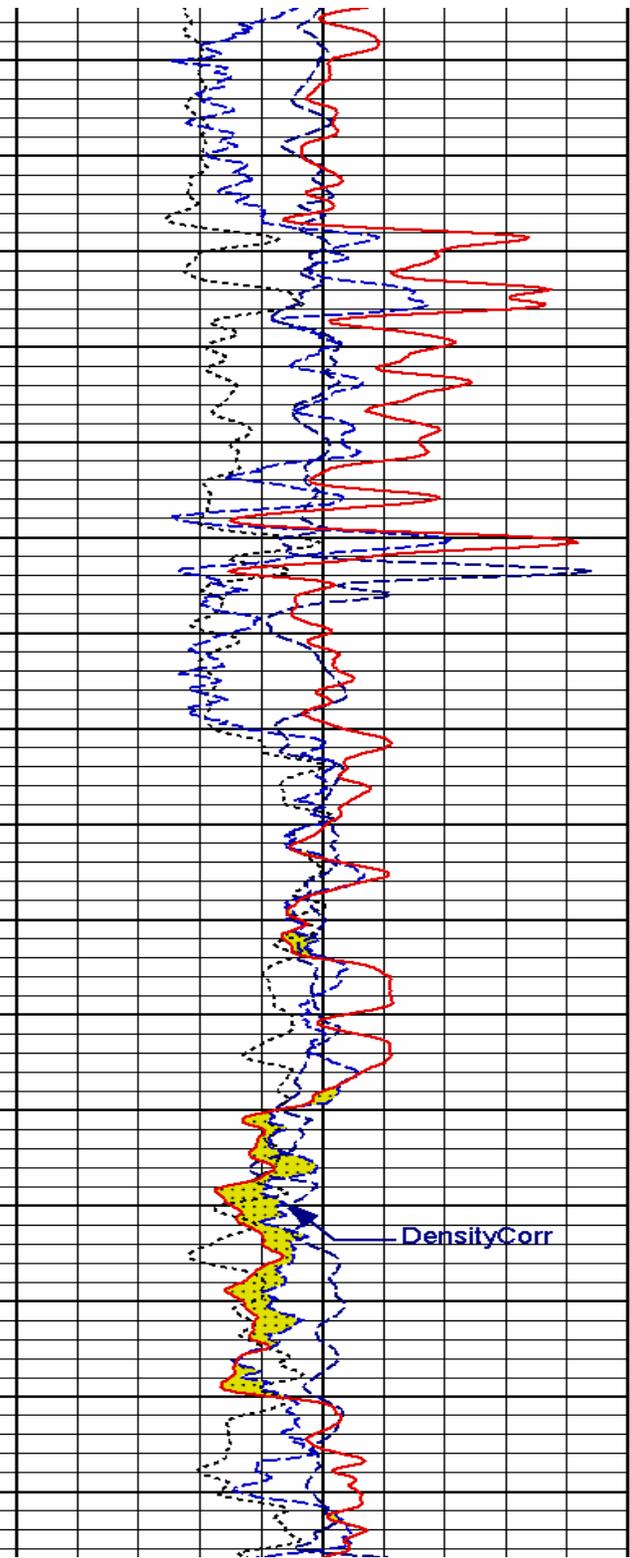
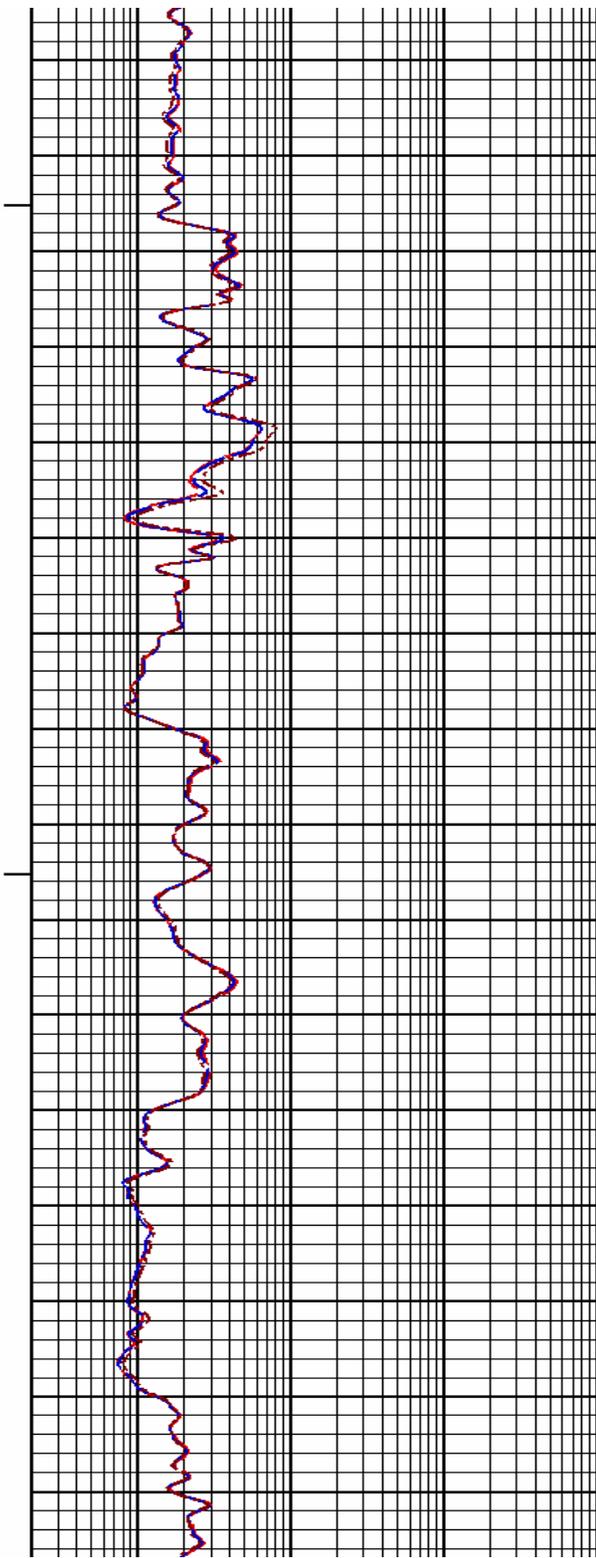


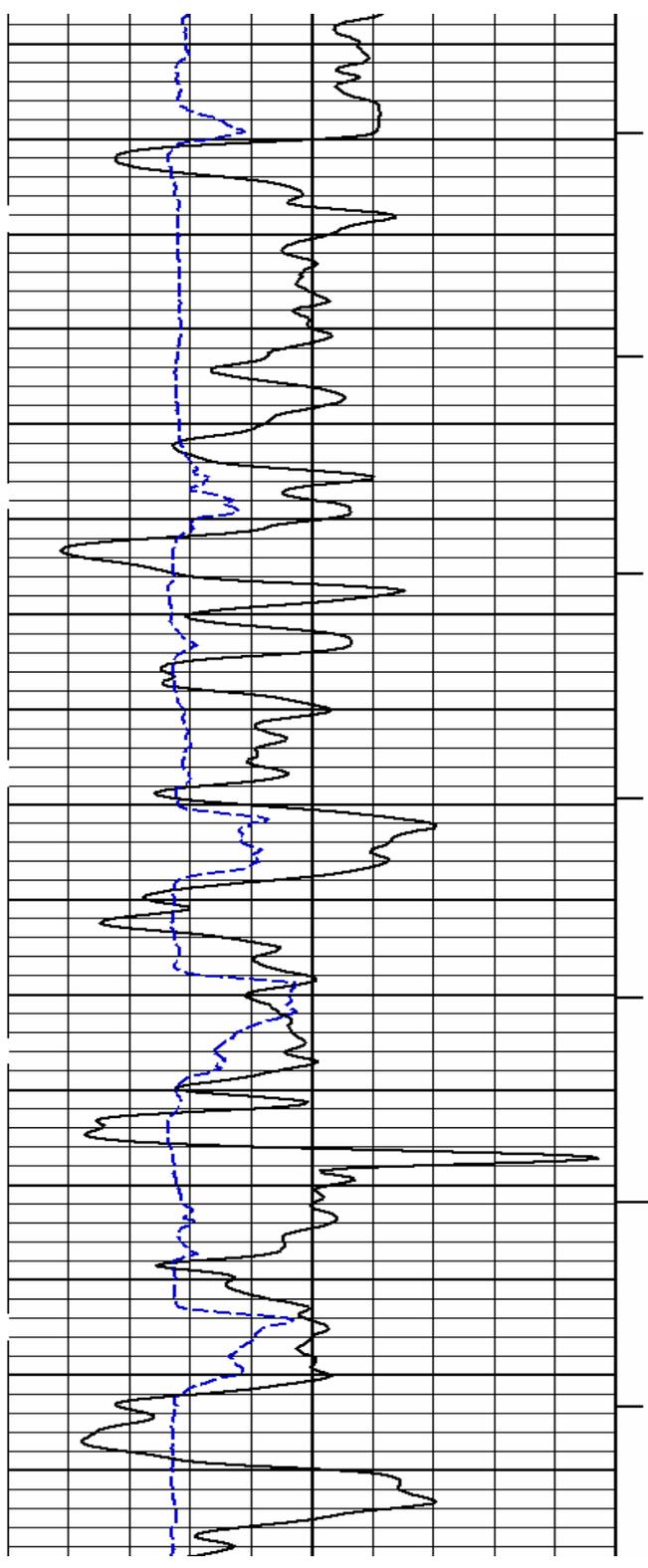


1350

1400

1450

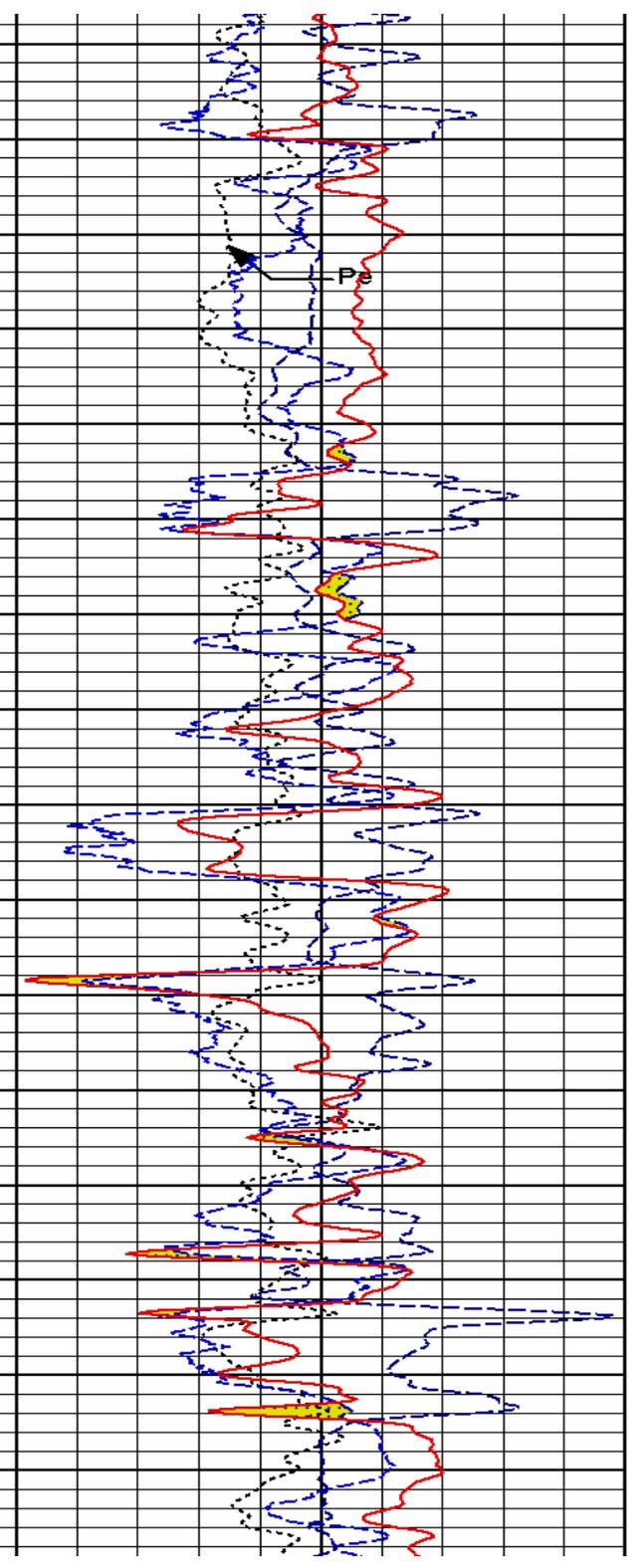
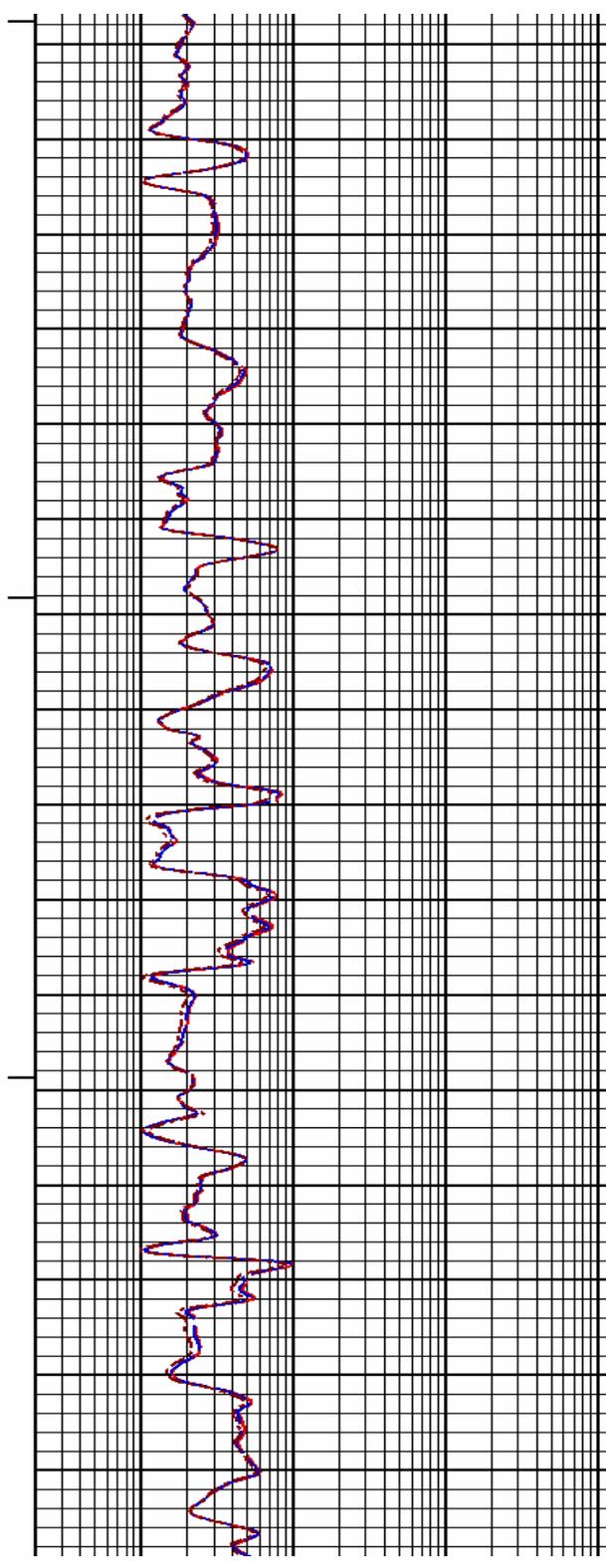


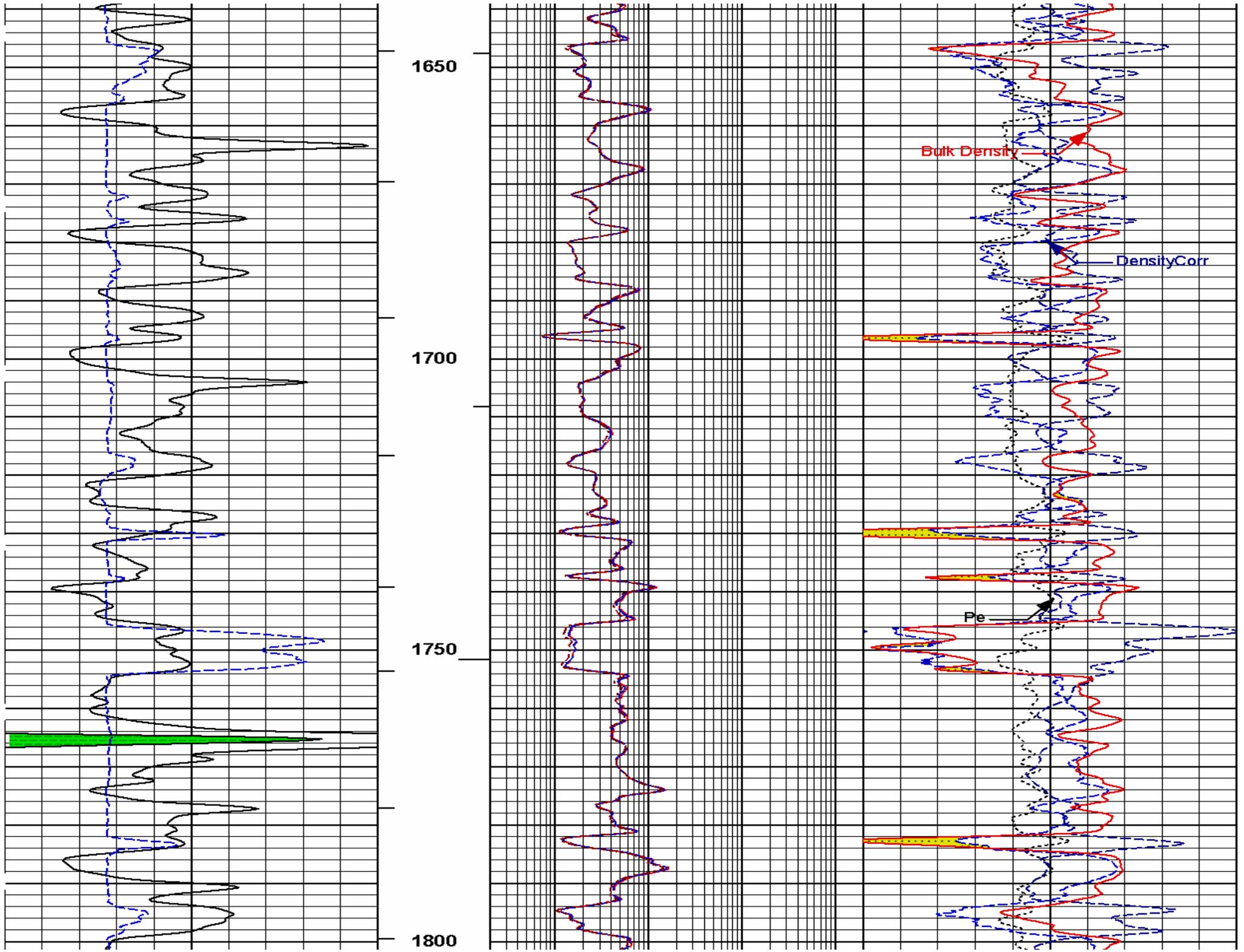


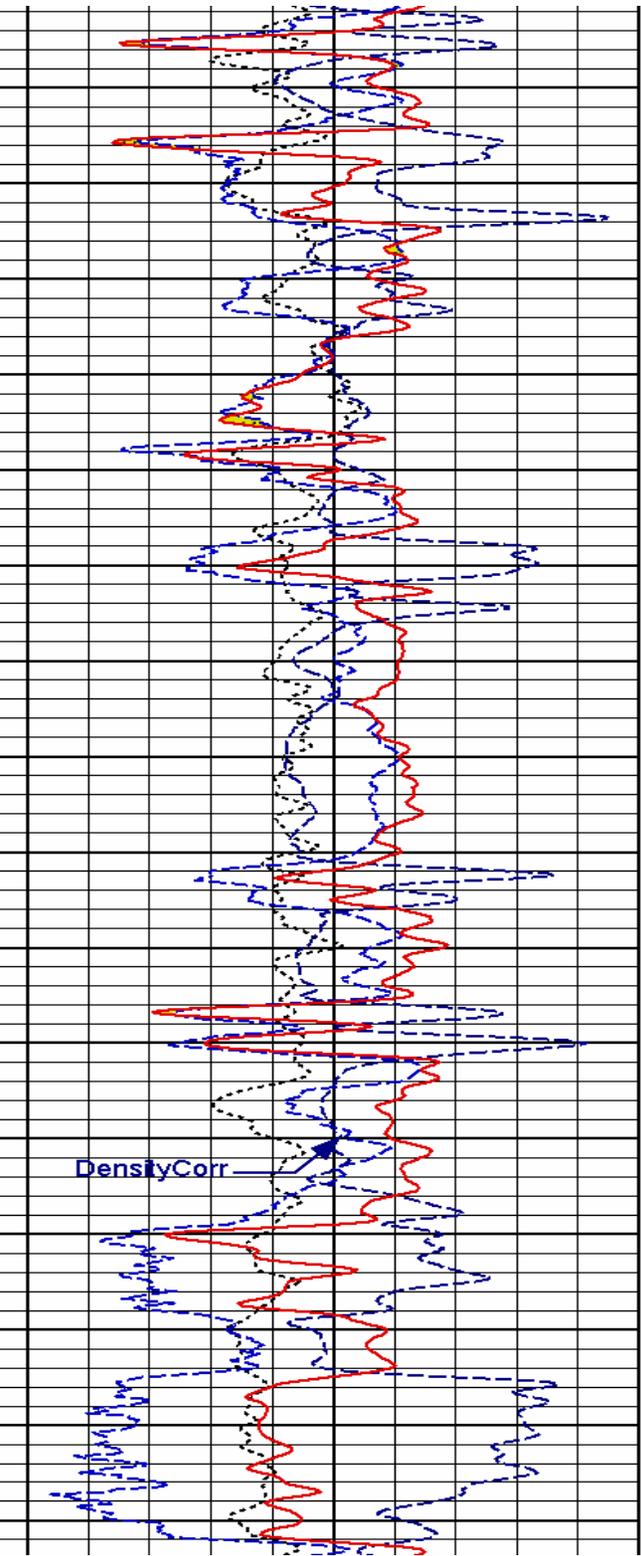
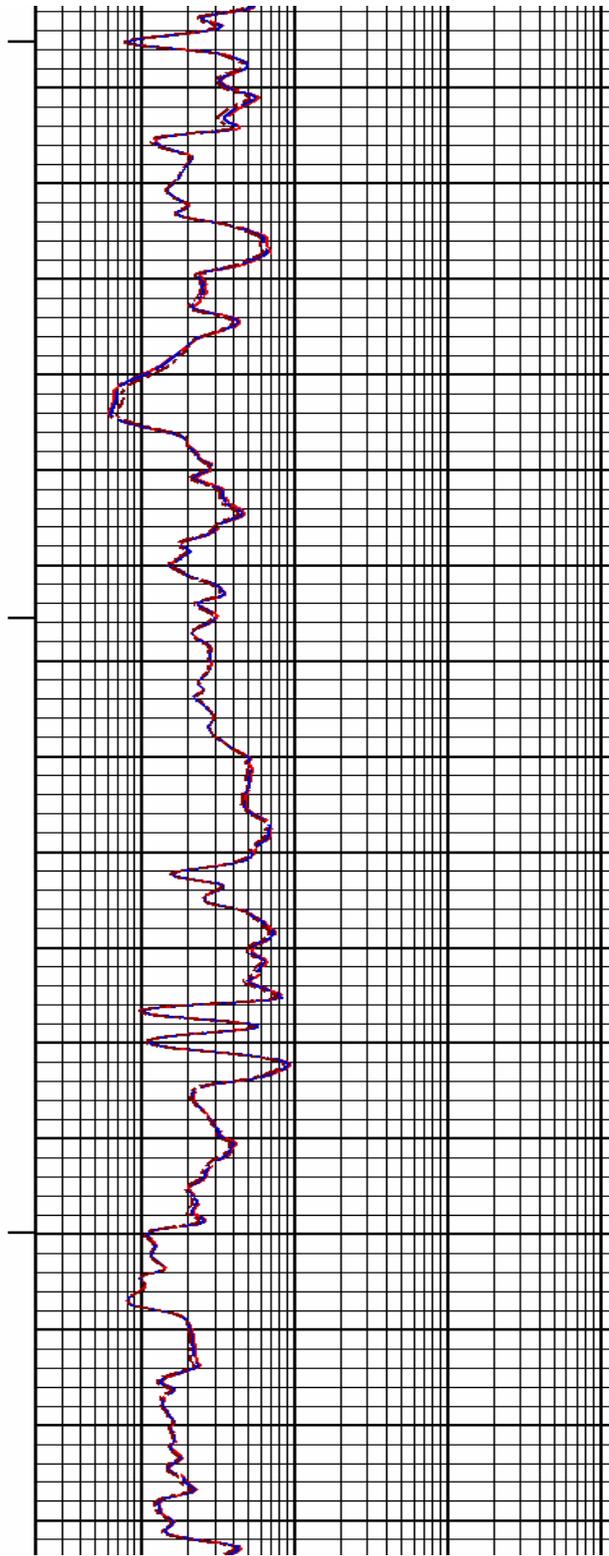
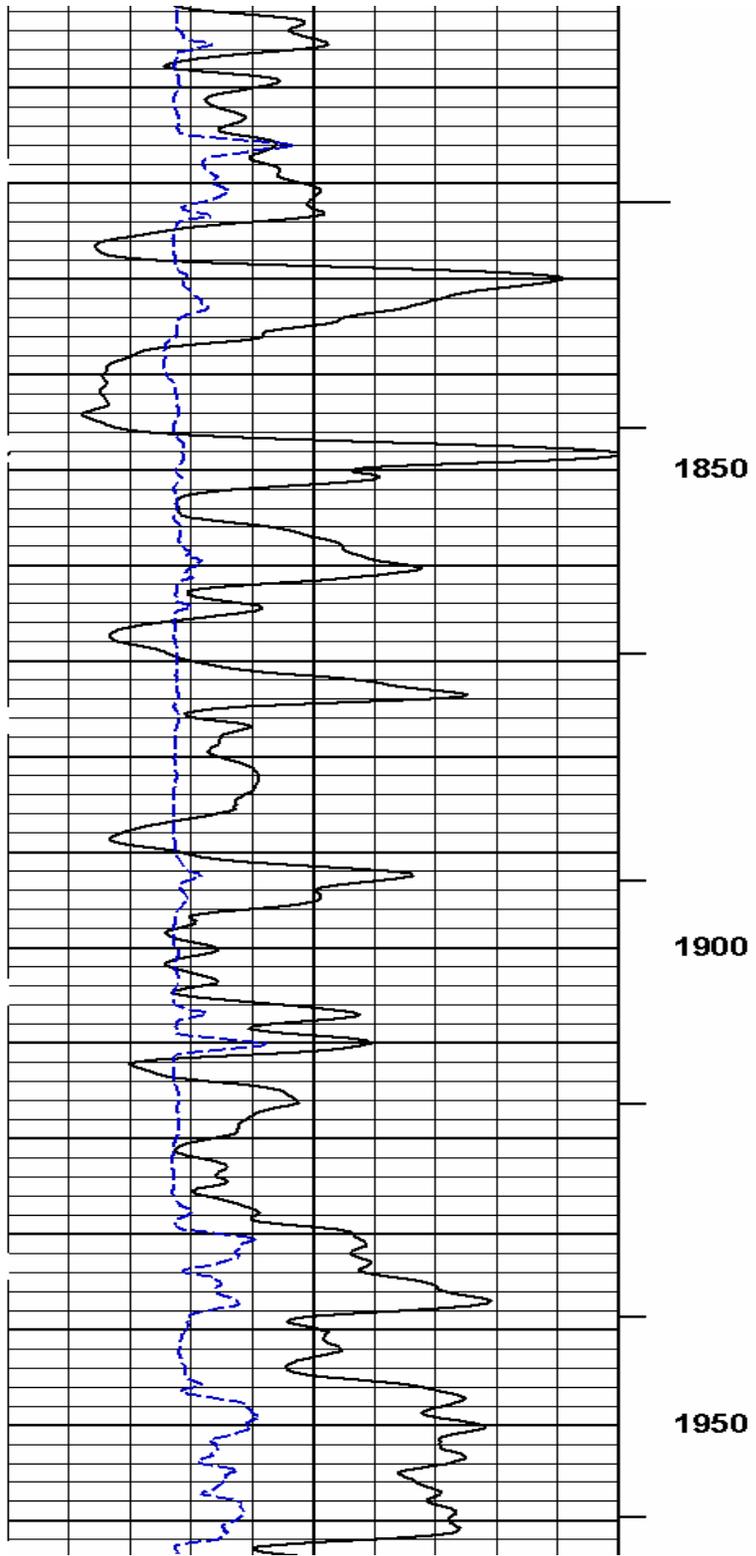
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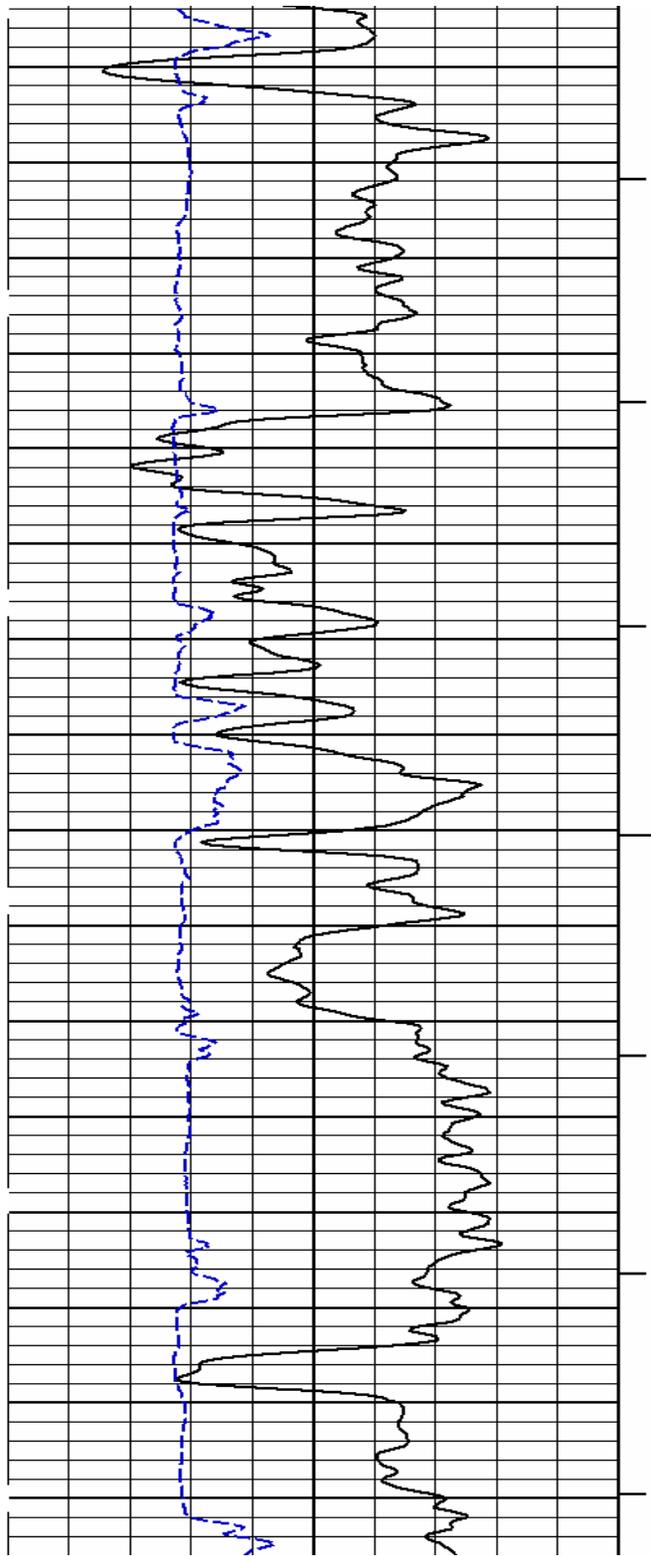
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1600





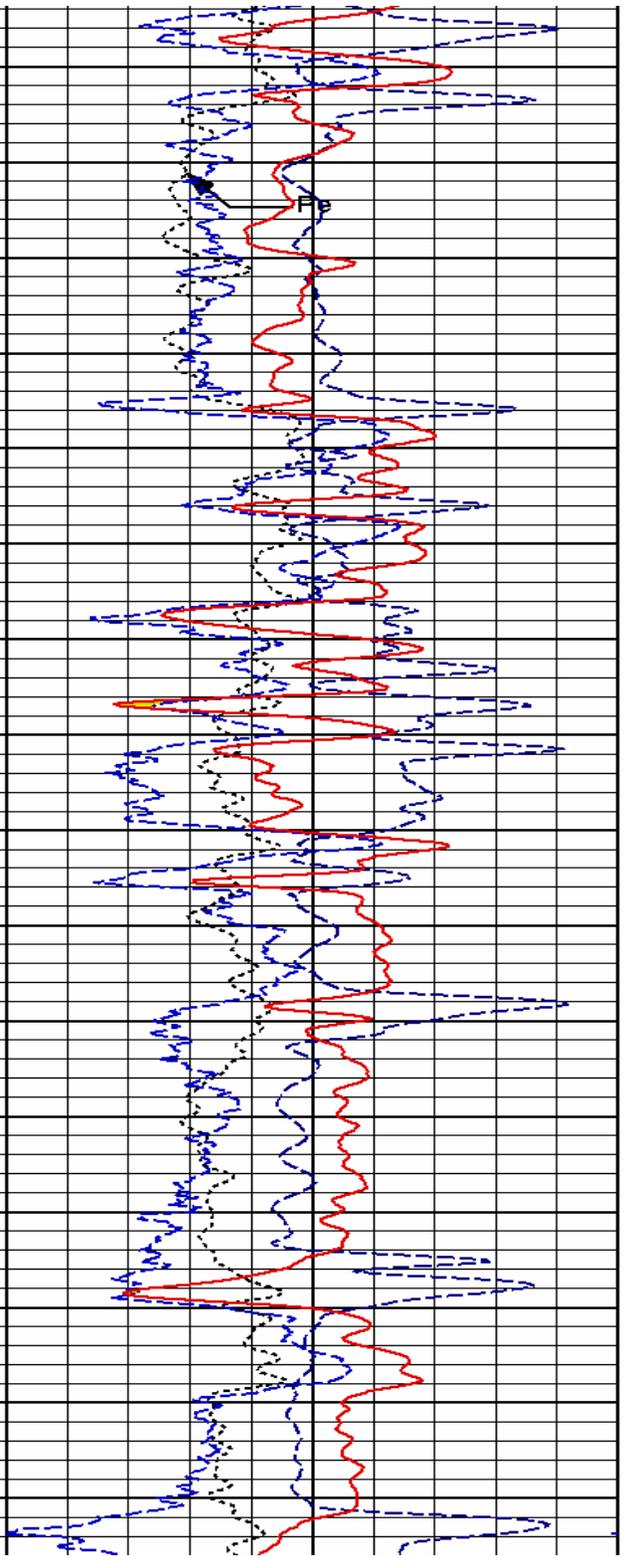
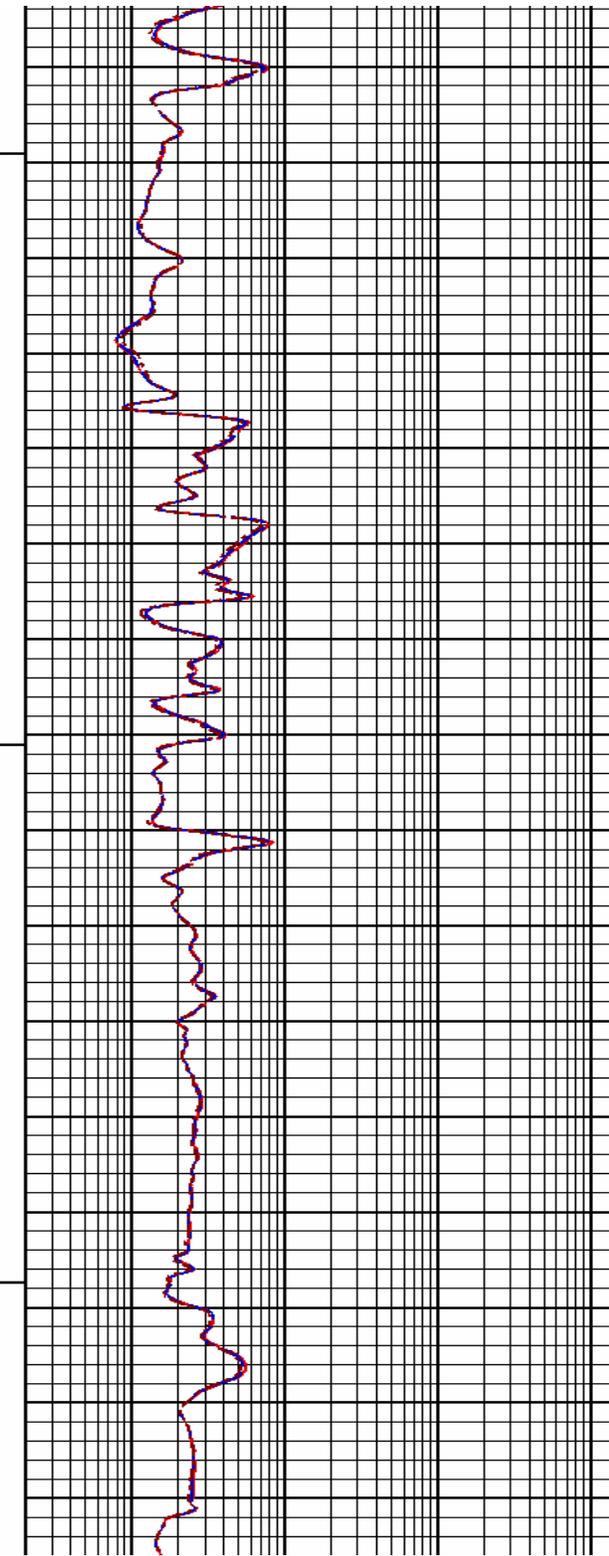


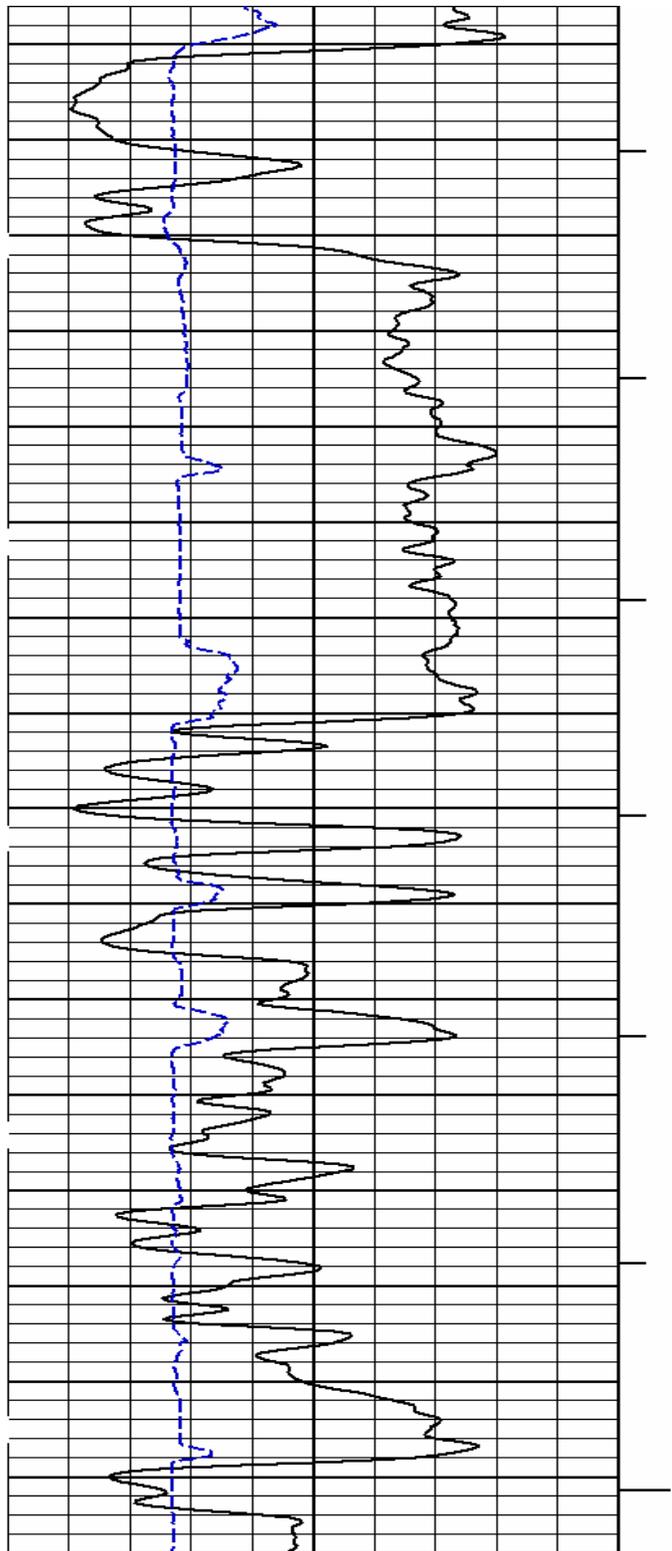


2000

2050

2100

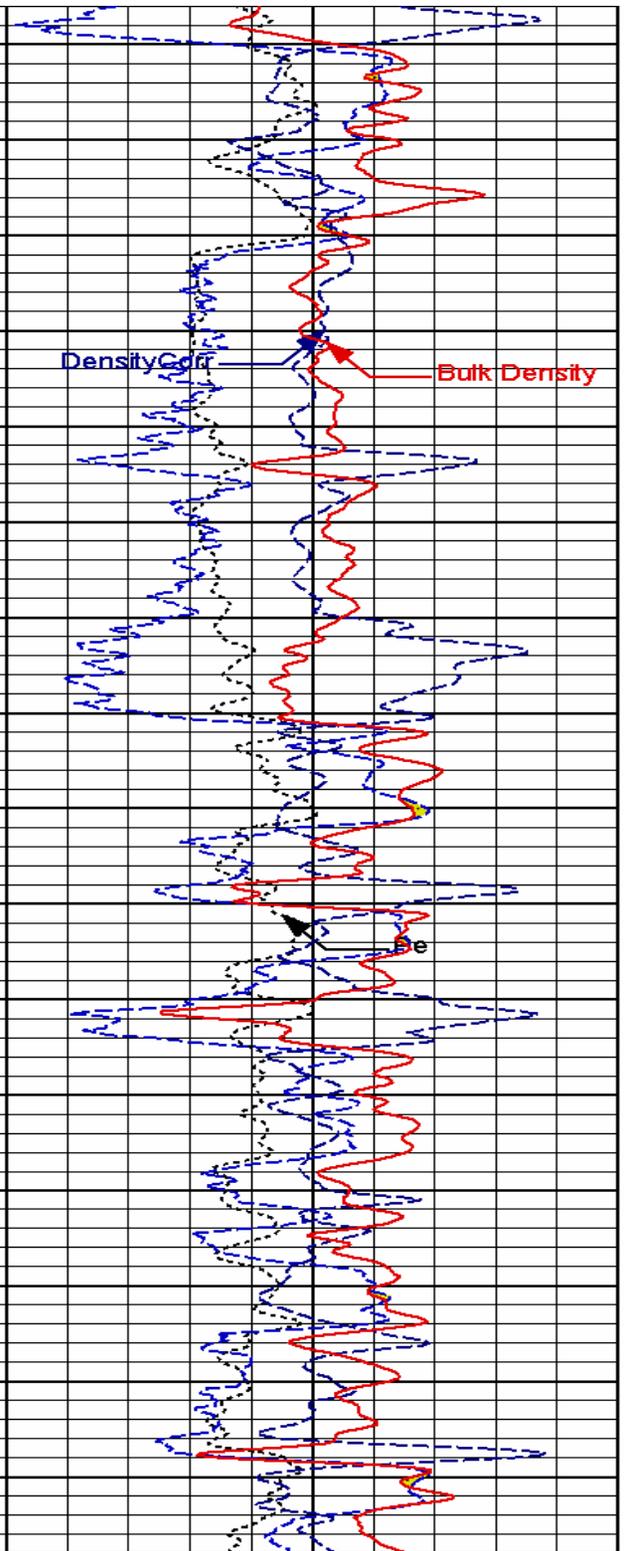
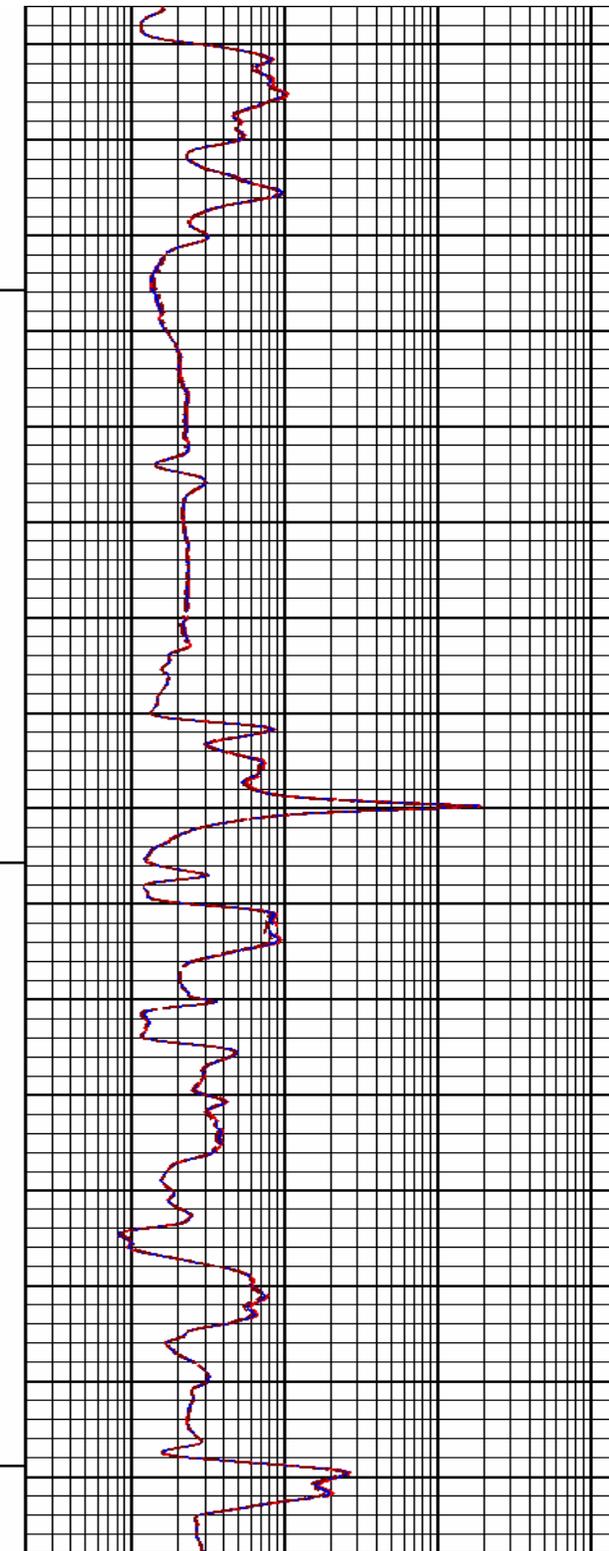




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2200

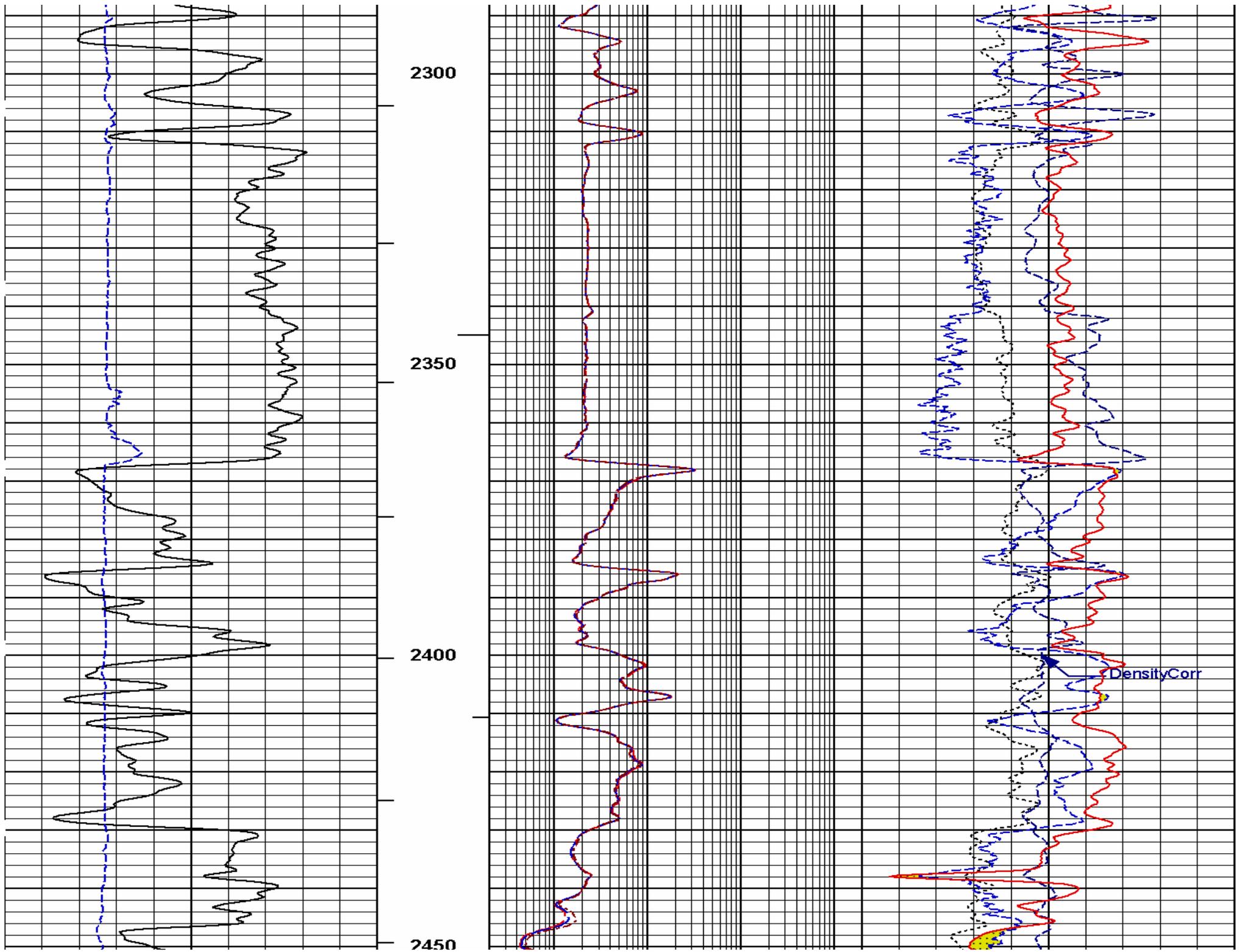
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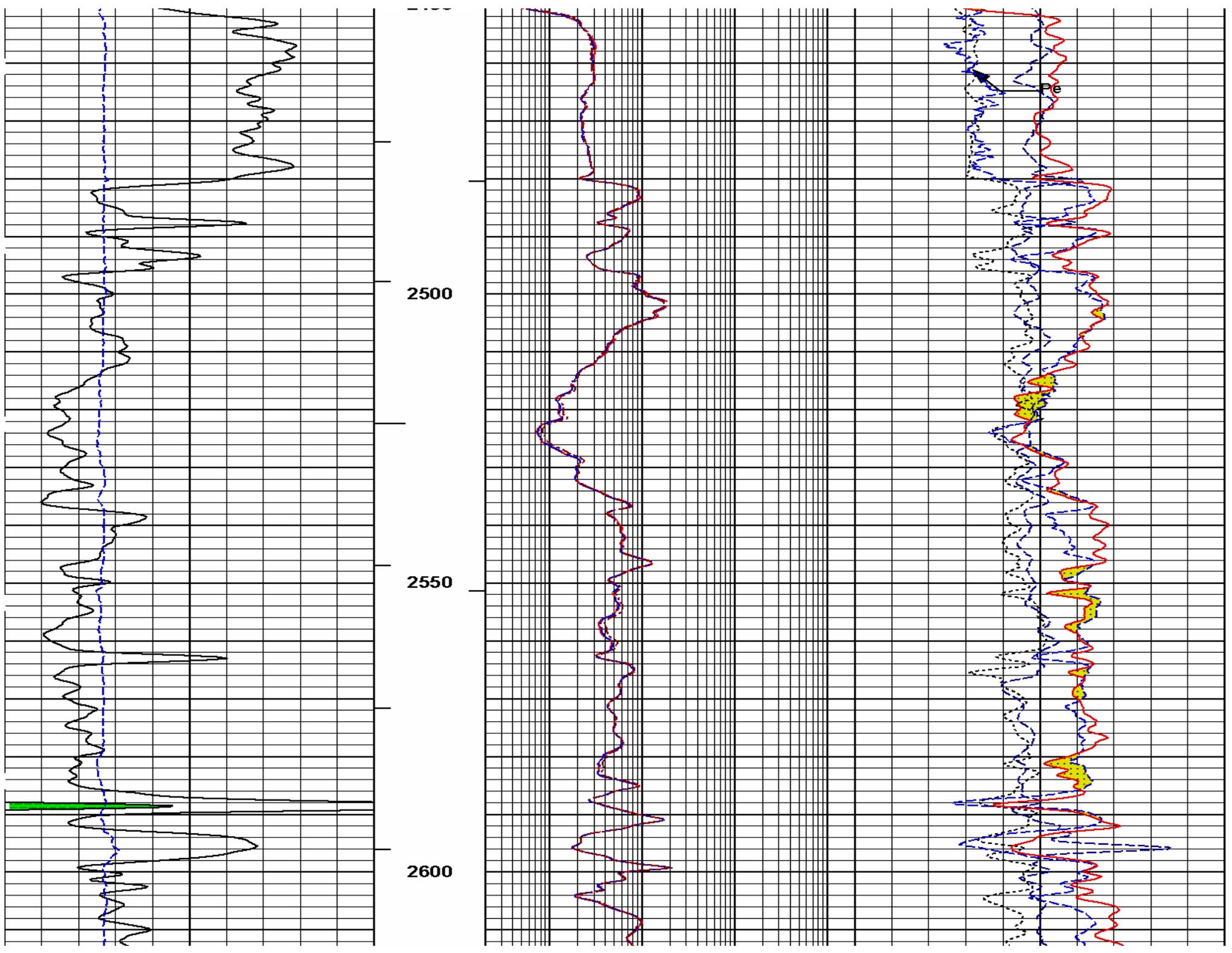


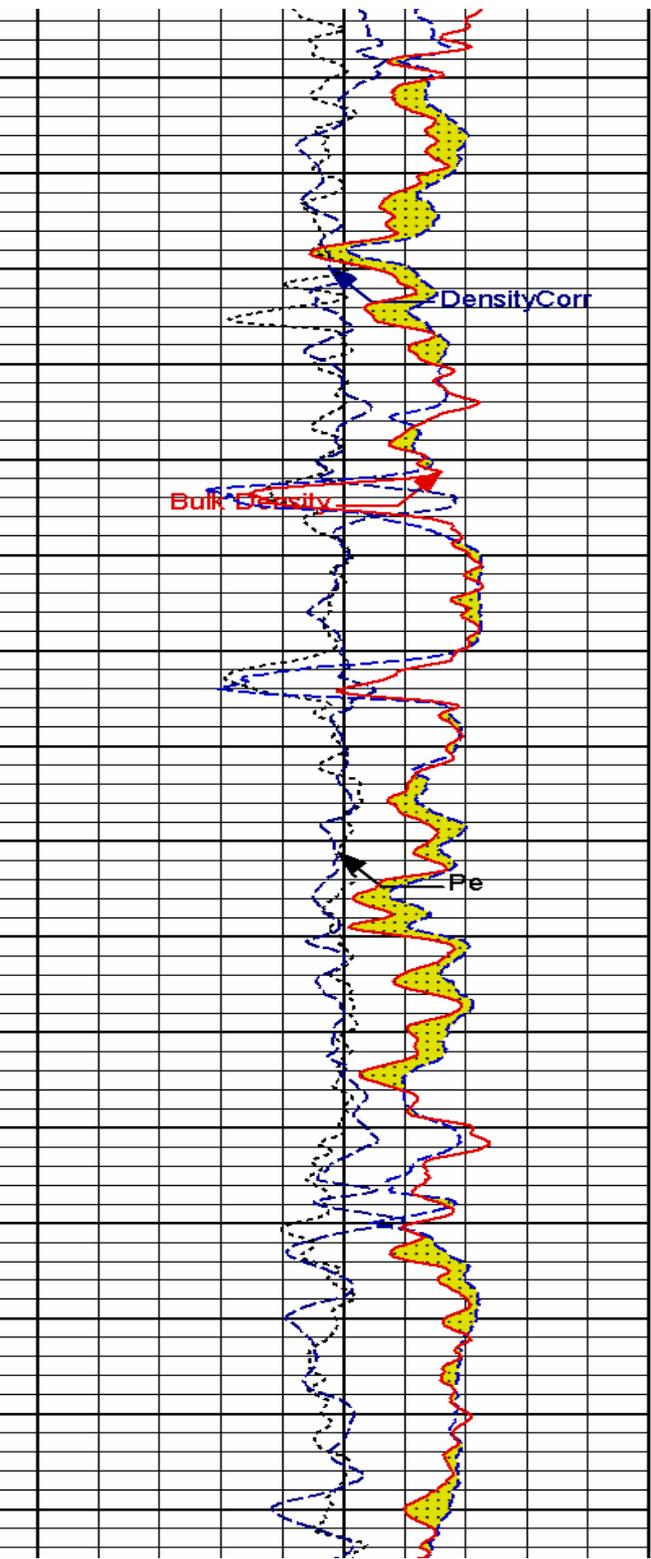
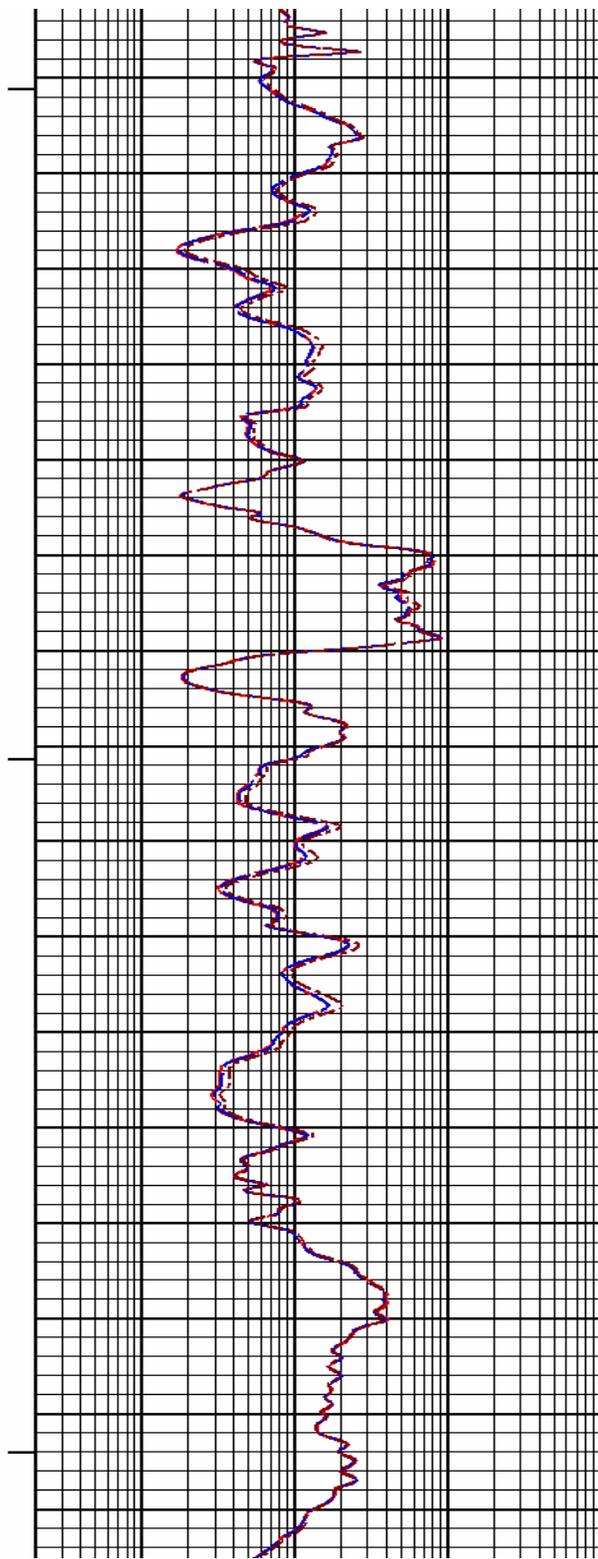
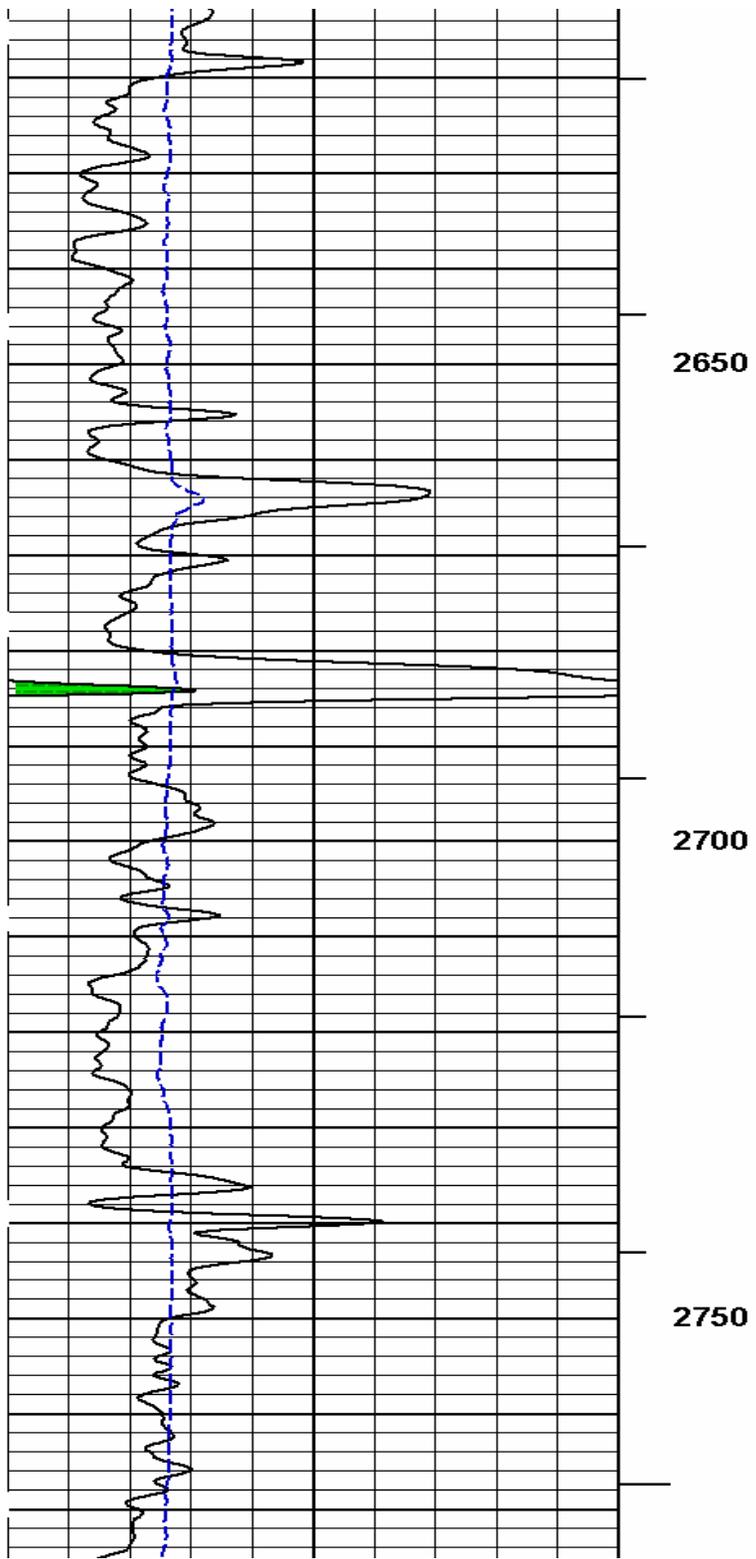
DensityCorr

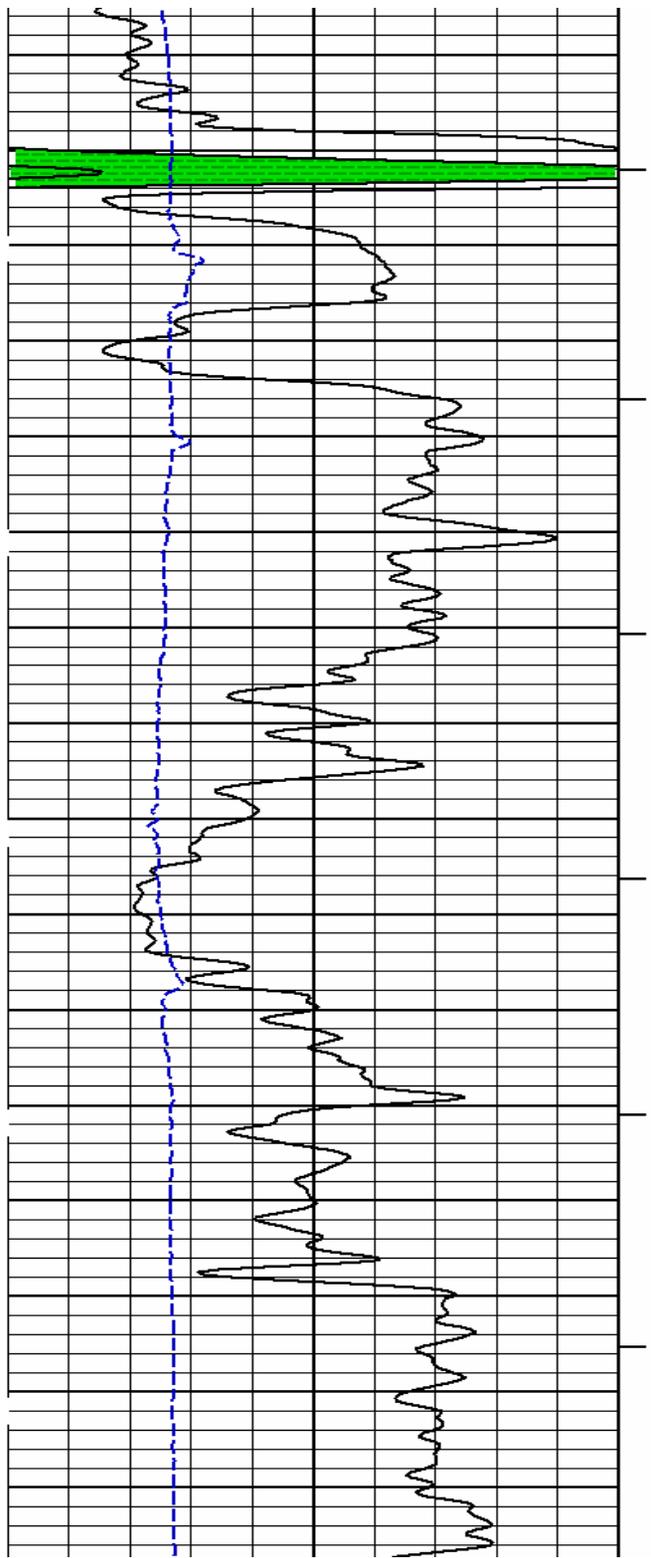
Bulk Density

e





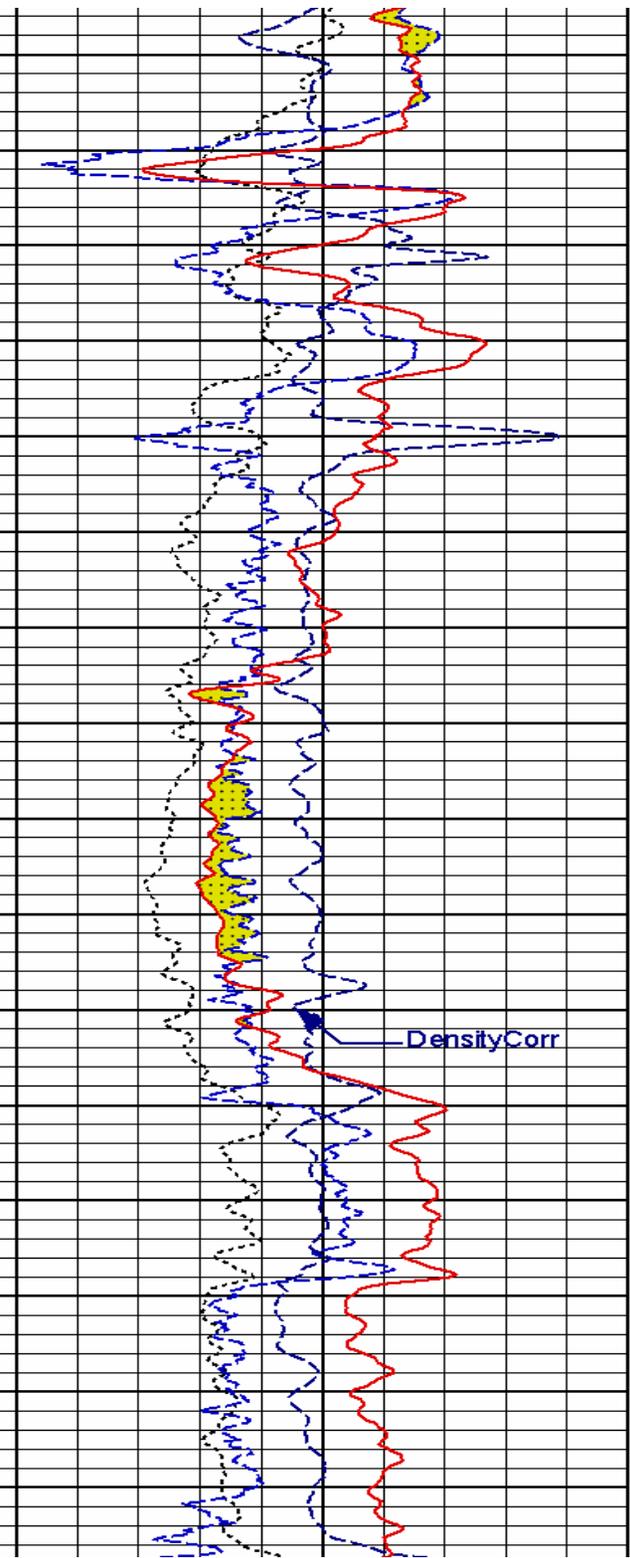
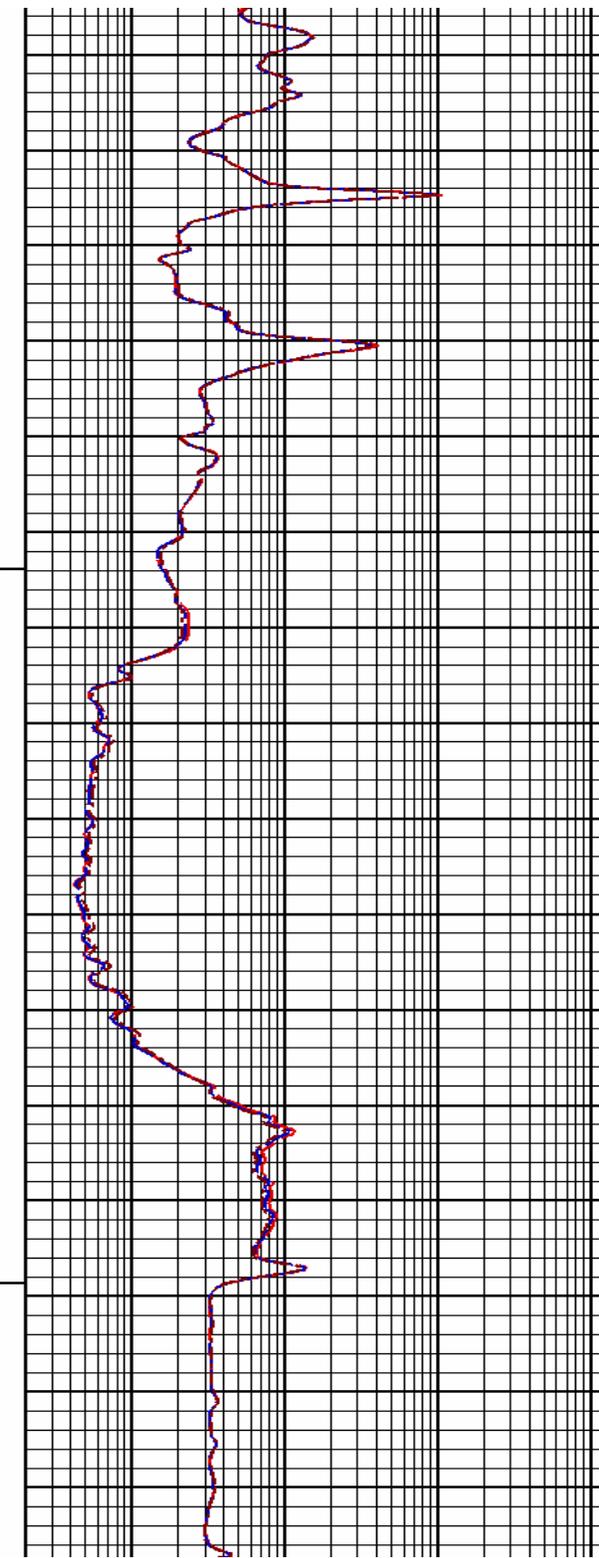




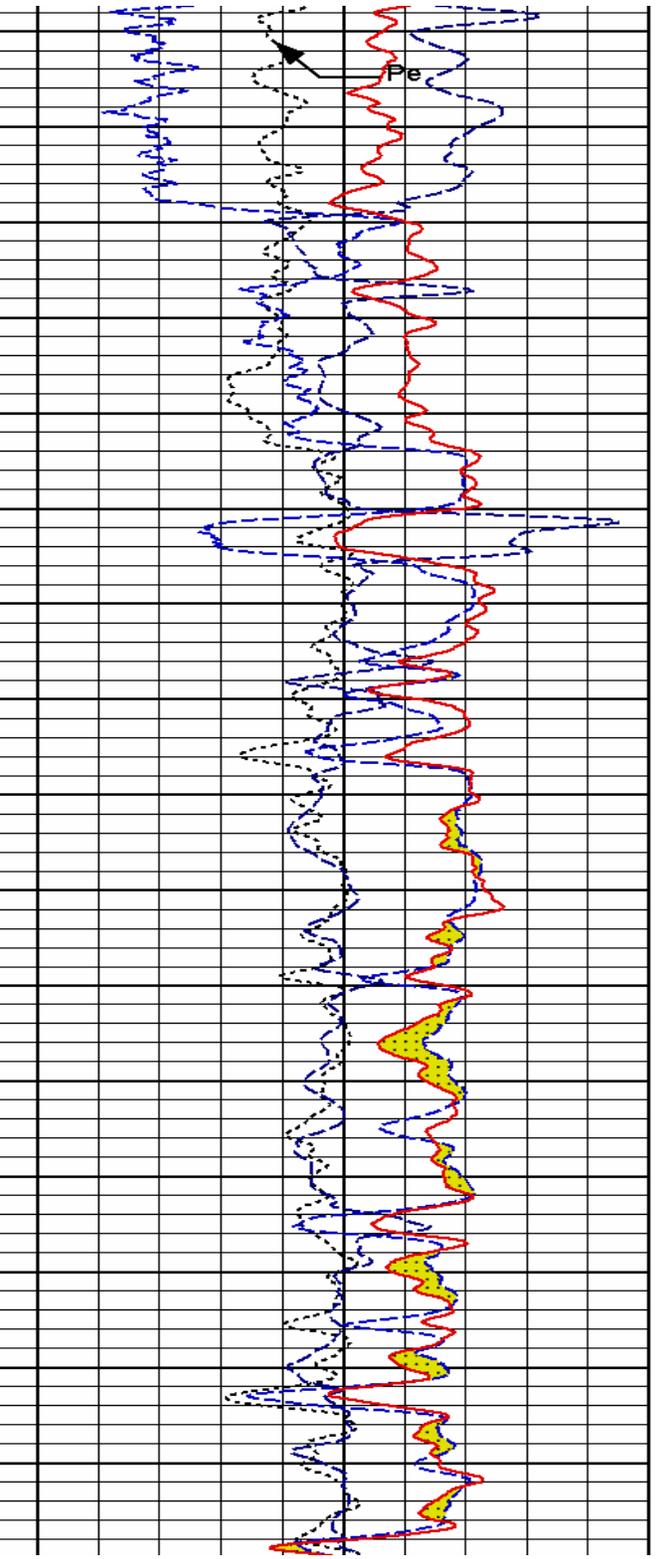
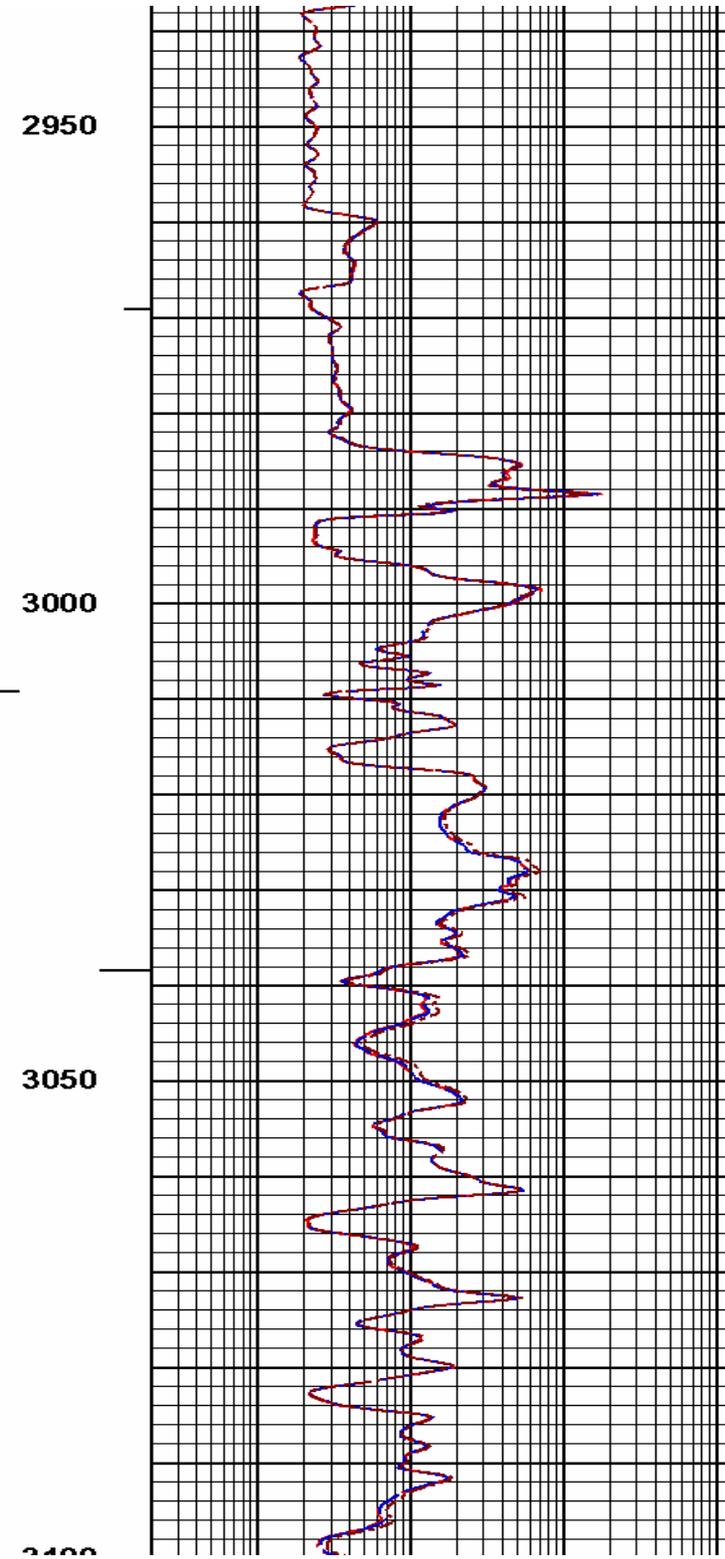
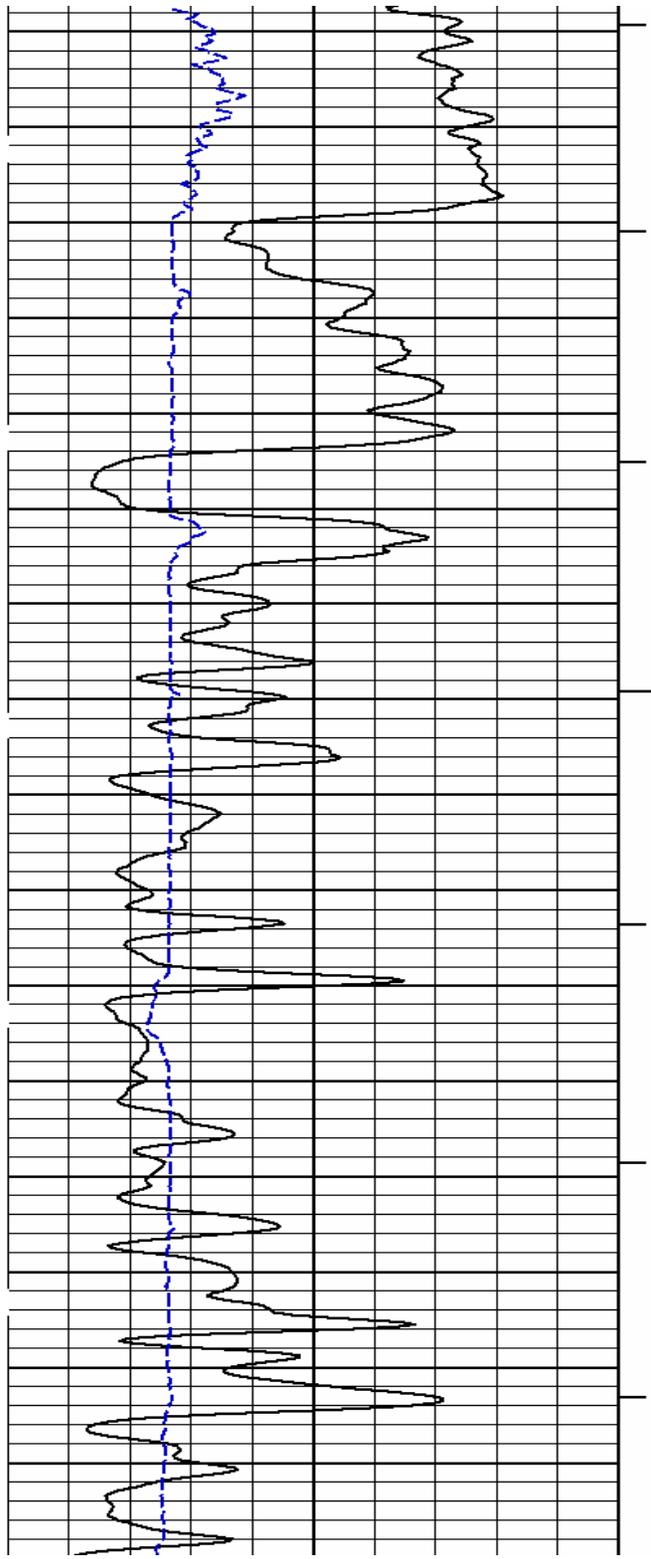
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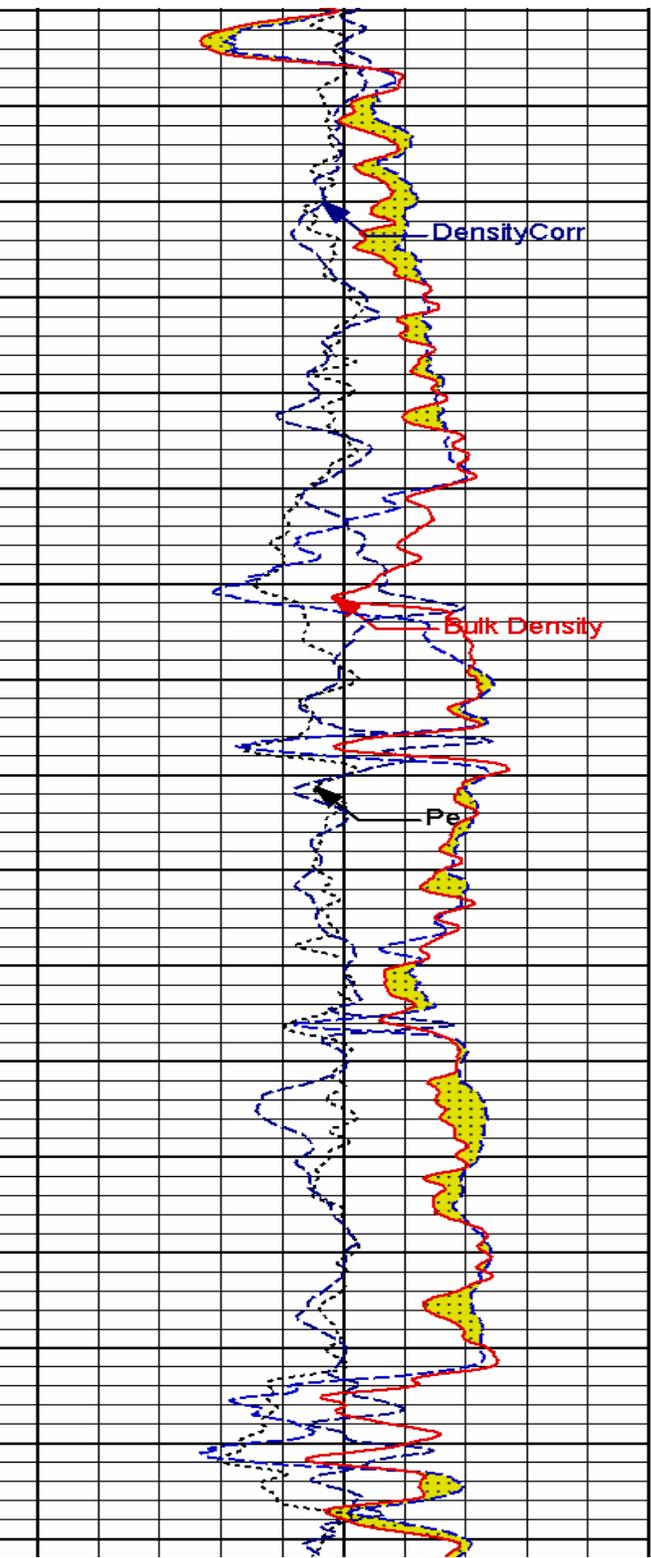
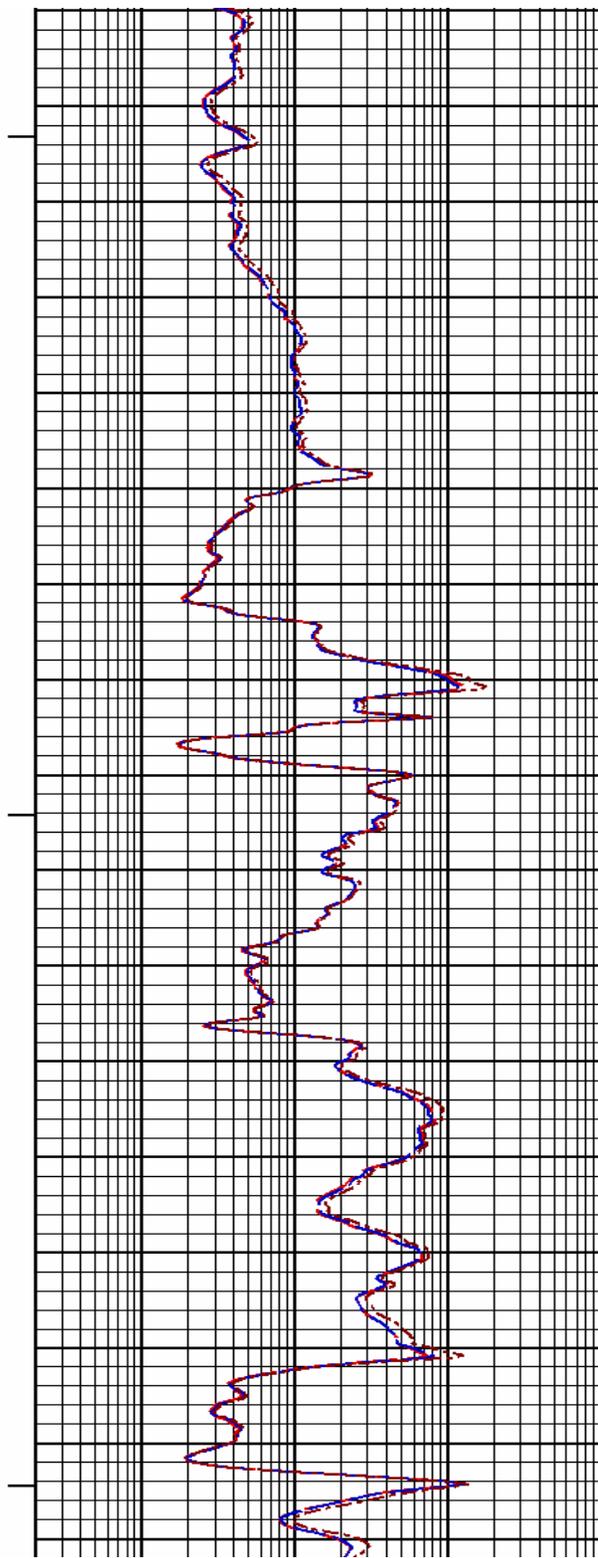
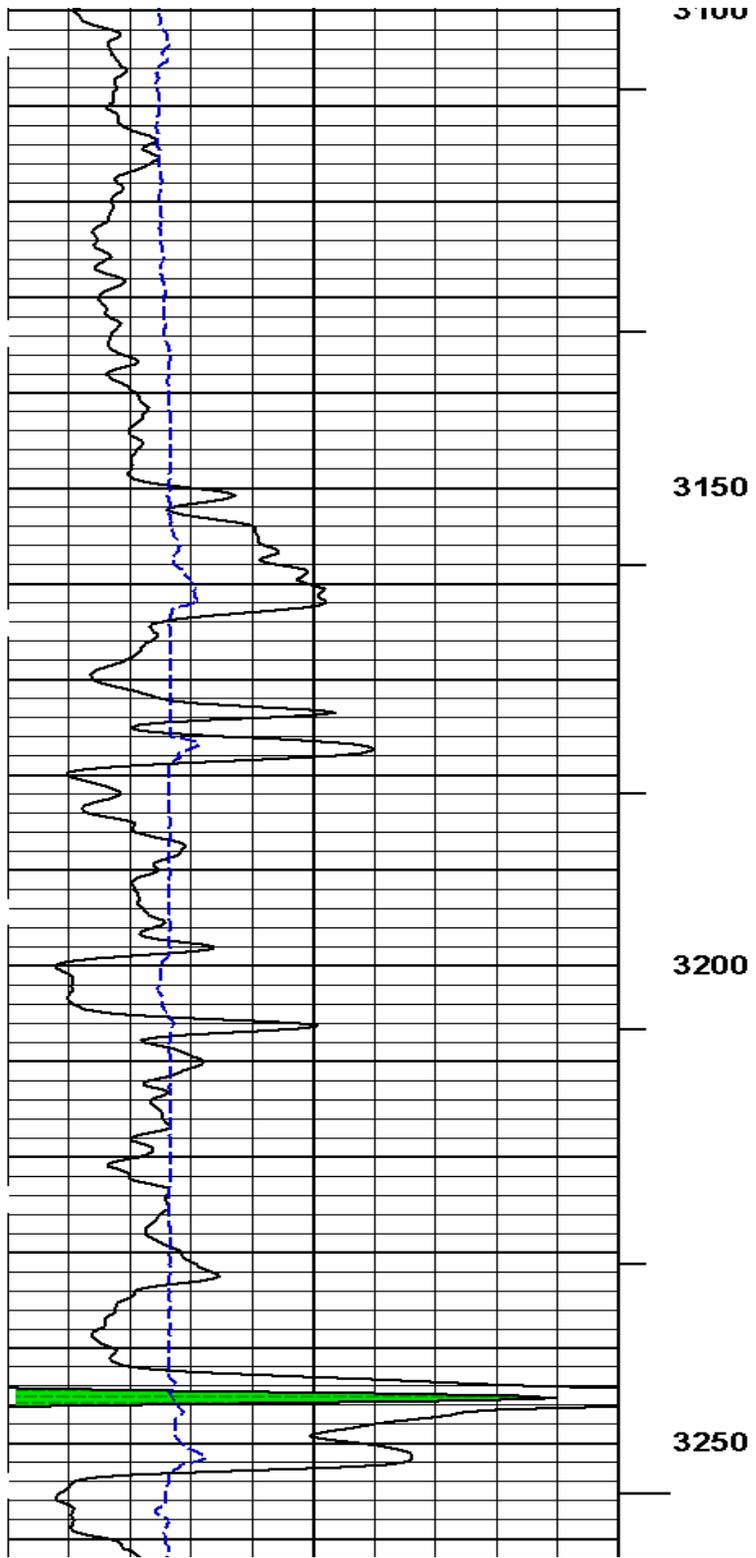
2850

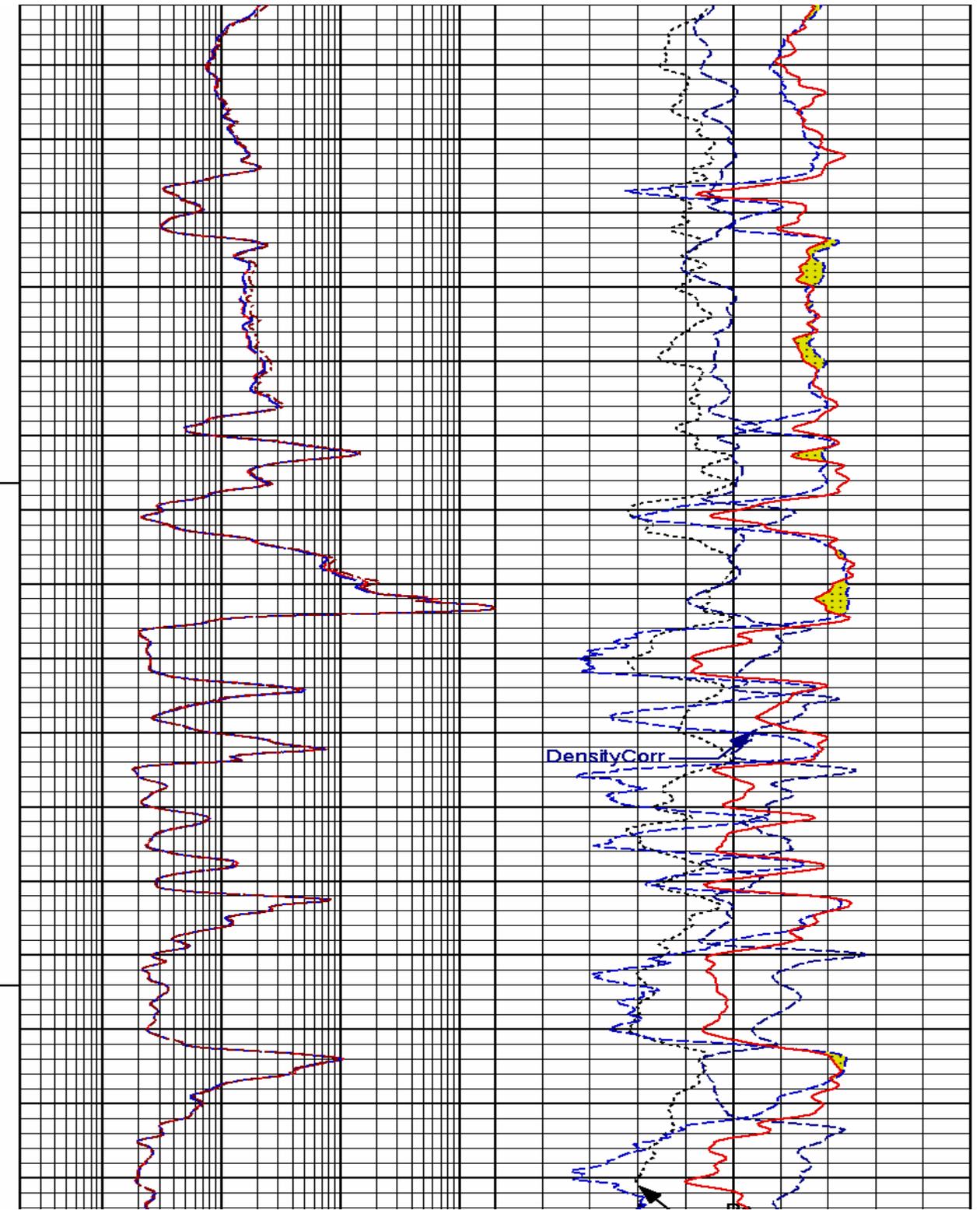
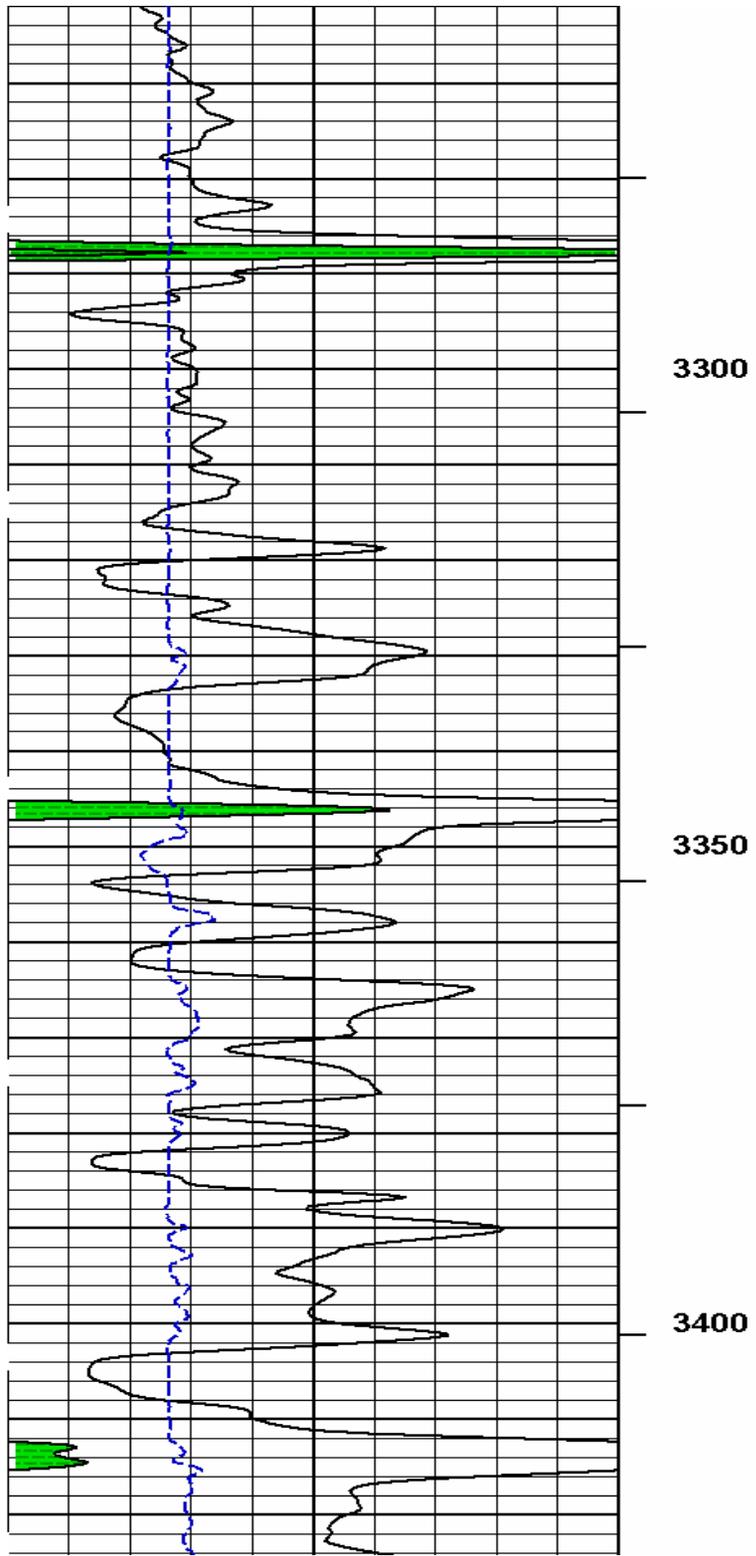
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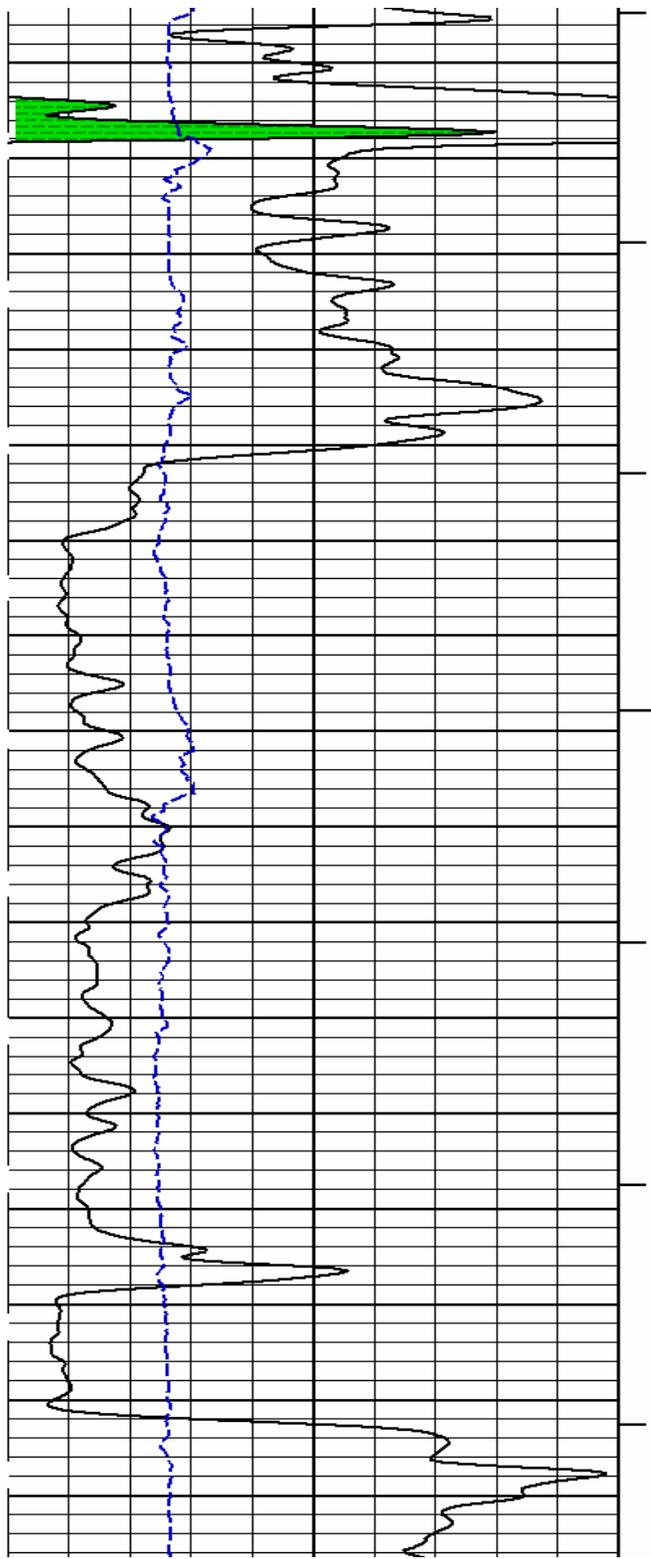


DensityCorr





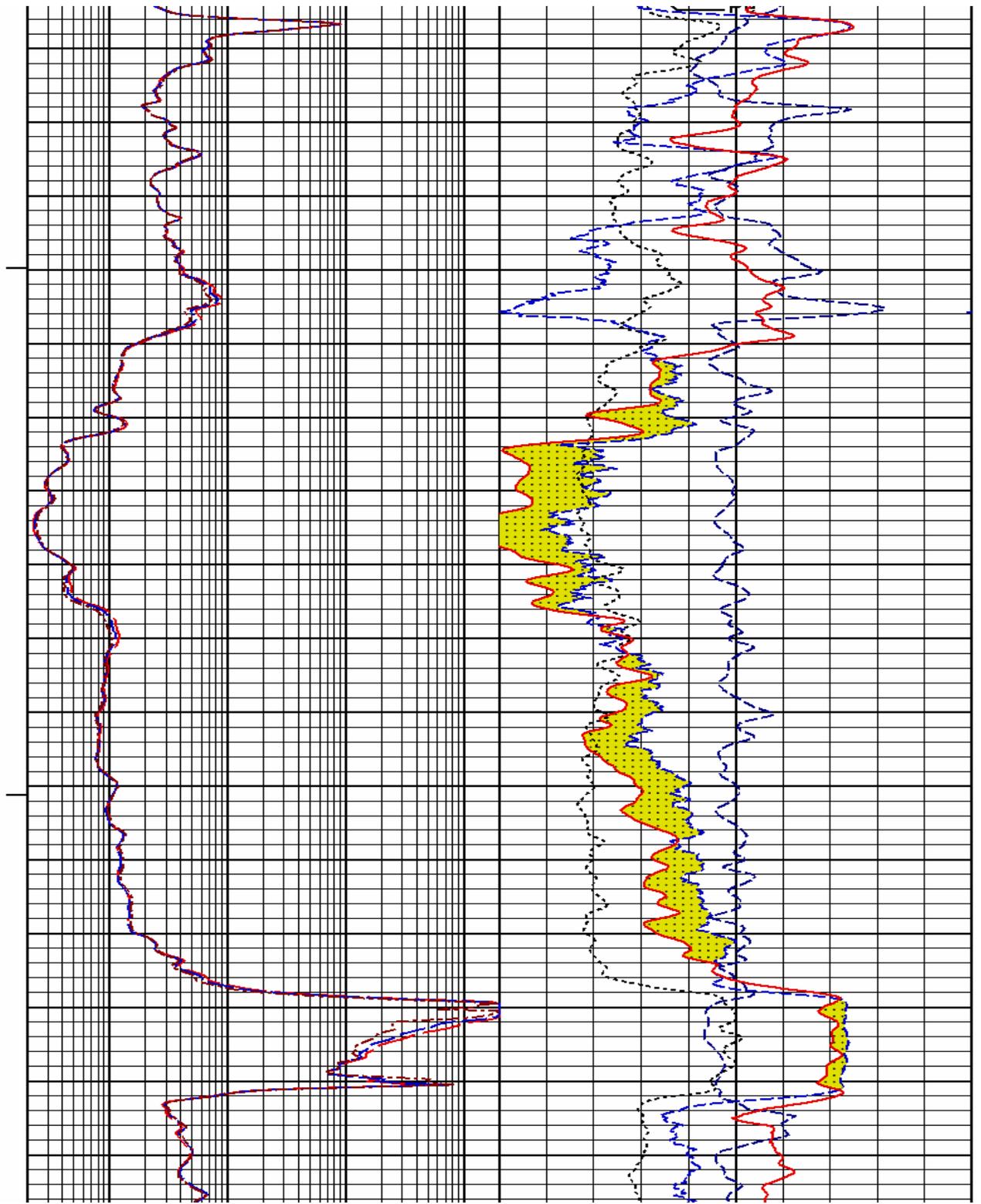


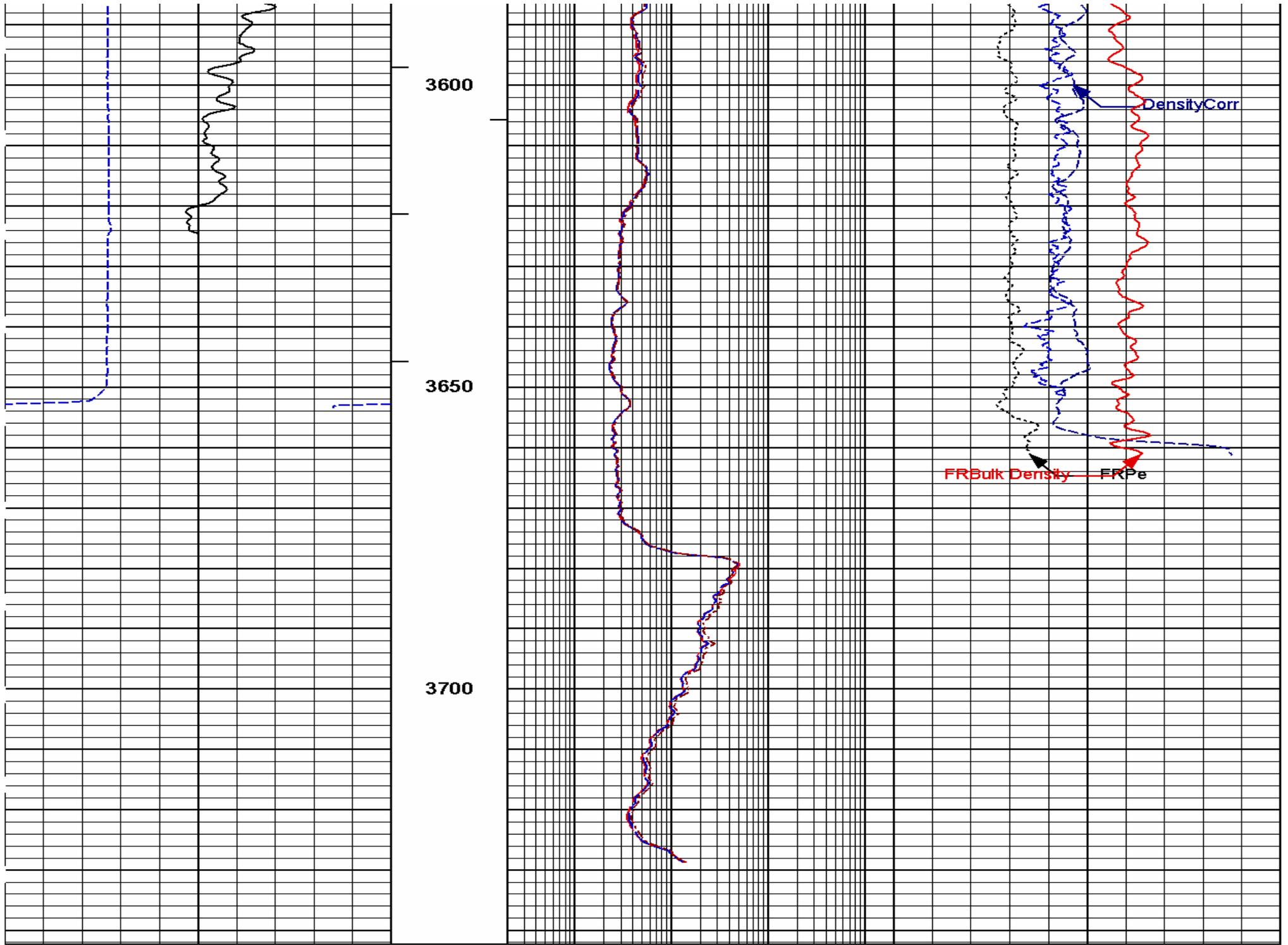


3450

3500

3550





6 Caliper 16

Depth
1 : 240

0.2 20in Resistivity 1ft Res 2000 -0.25 DensityCorr 0.25

0	inches	ft	ohm-metre	g/cc
150	Gamma API	AHVT	60in Resistivity 1ft Res 2000	Bulk Density 2.95
	api	BHVT	90in Resistivity 1ft Res 2000	Pe 10
			ohm-metre	barns Electron
				Neutron Porosity -15
				%

HALLIBURTON

Plot Time: 12-Feb-13 15:24:23
 Plot Range: 500 ft to 3742.33 ft
 Data: RANDOLPH_210731\Well Based™\1
 Plot File: \\TC\TC_5_NO_ML_MAIN_SHELL

5 INCH MAIN LOG

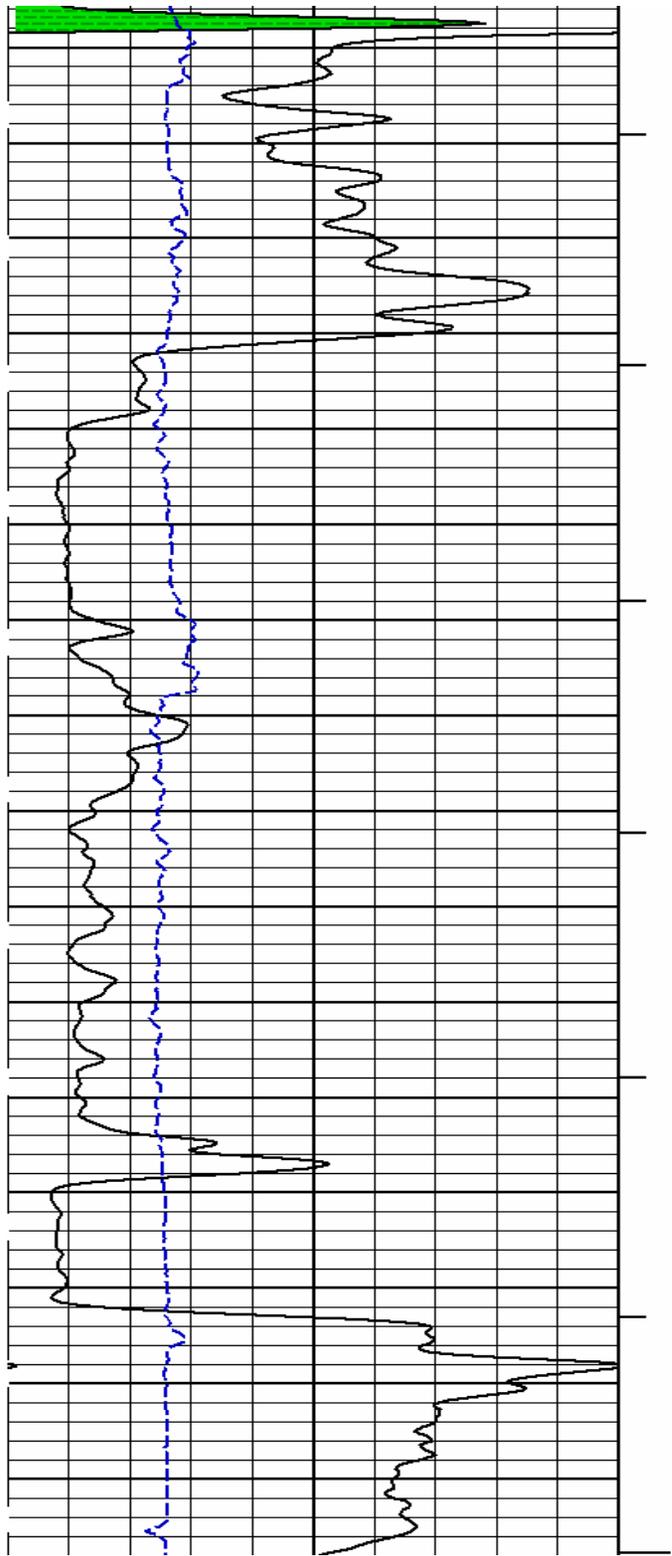
HALLIBURTON

Plot Time: 12-Feb-13 15:24:24
 Plot Range: 3435 ft to 3845.33 ft
 Data: RANDOLPH_210731\Well Based™\1
 Plot File: \\TC\TC_5_NO_ML_RPT_SHELL

5 INCH REPEAT LOG

5 INCH REPEAT MD

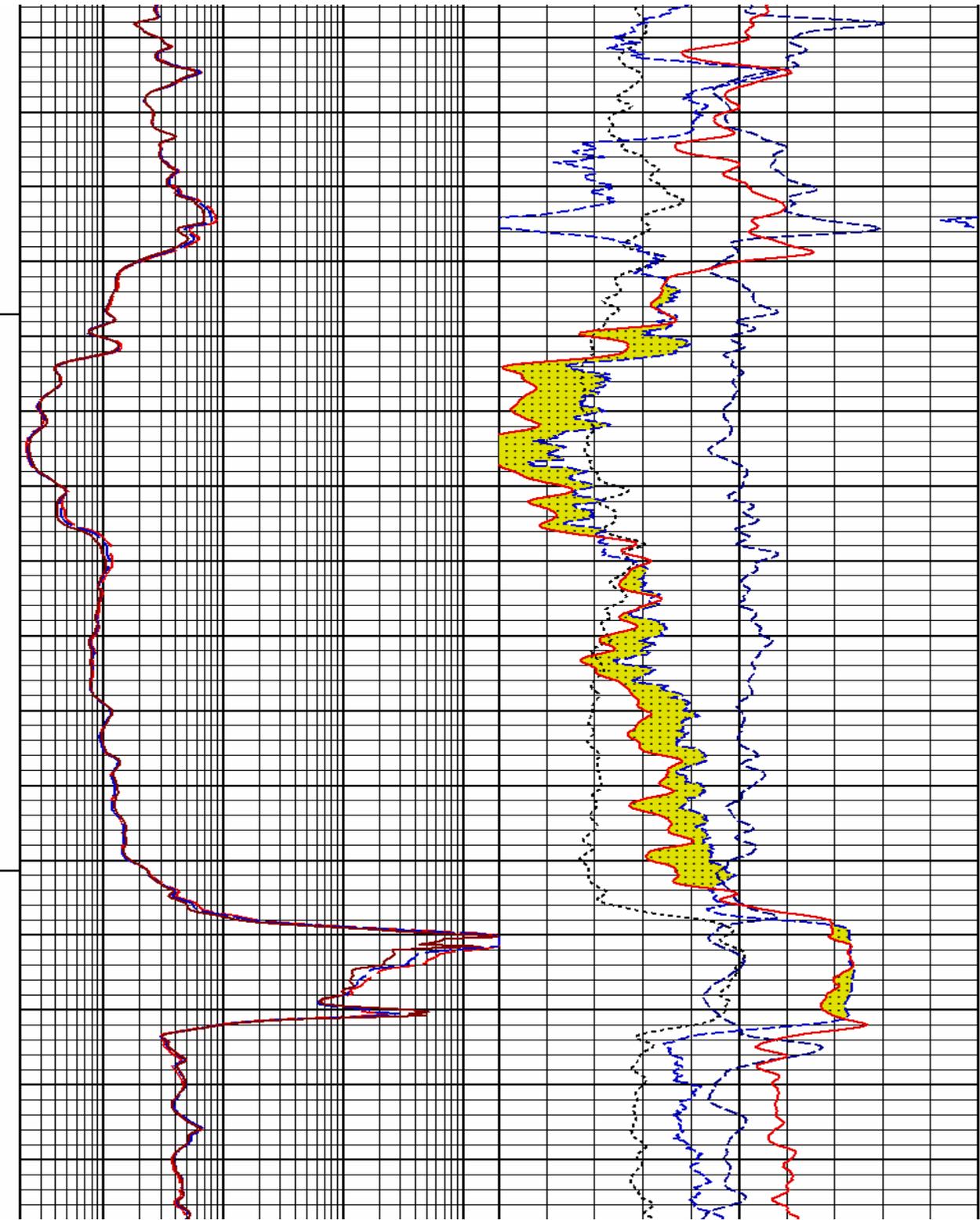
				45	Neutron Porosity	-15
					%	
		BHVT	90in Resistivity 1ft Res 2000	0	Pe	10
			ohm-metre		barns Electron	
0	Gamma API	AHVT	60in Resistivity 1ft Res 2000	1.95	Bulk Density	2.95
	api		ohm-metre		g/cc	
6	Caliper	MD	20in Resistivity 1ft Res 2000	-0.25	DensityCorr	0.25
	inches	1 : 240 ft	ohm-metre		g/cc	

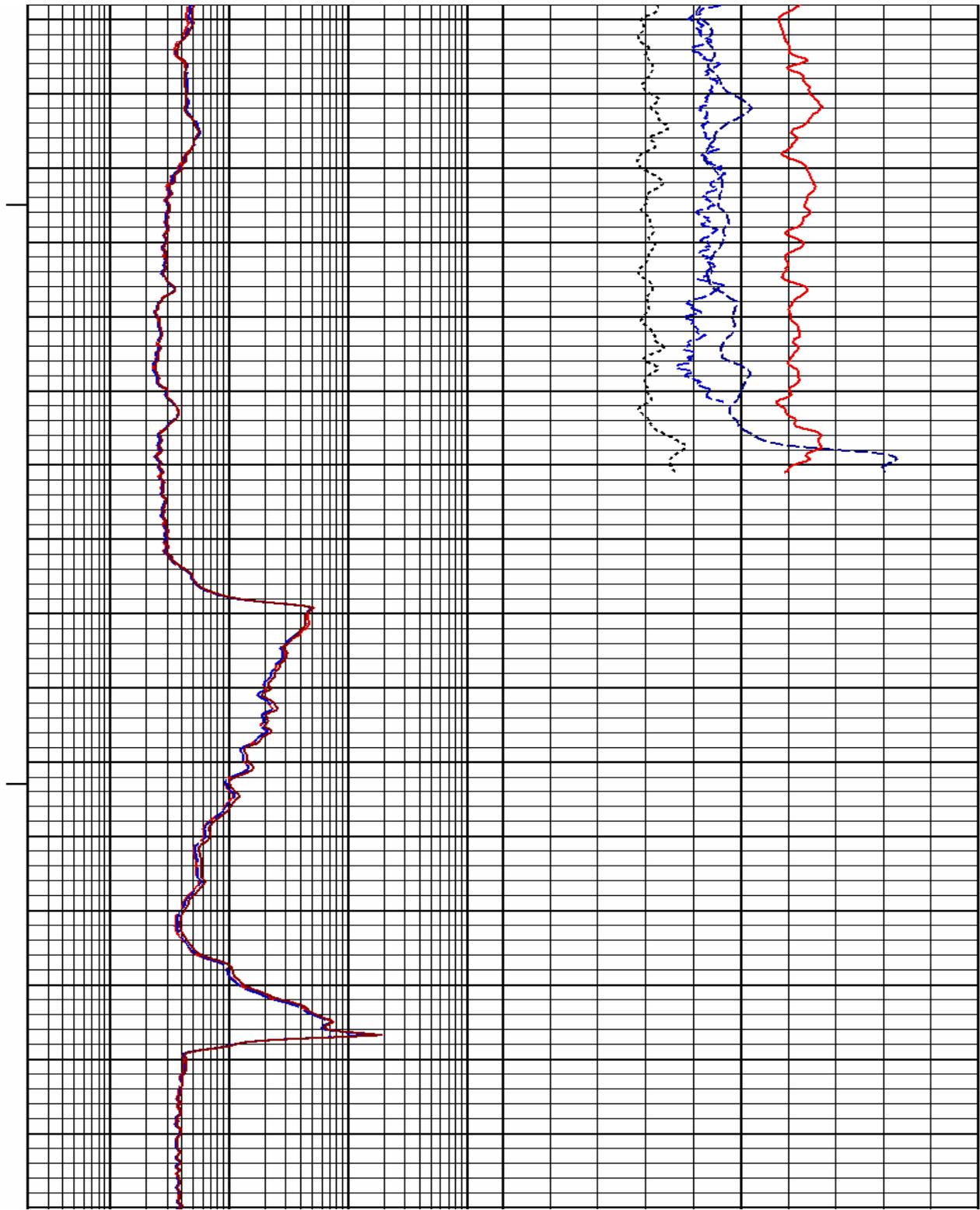
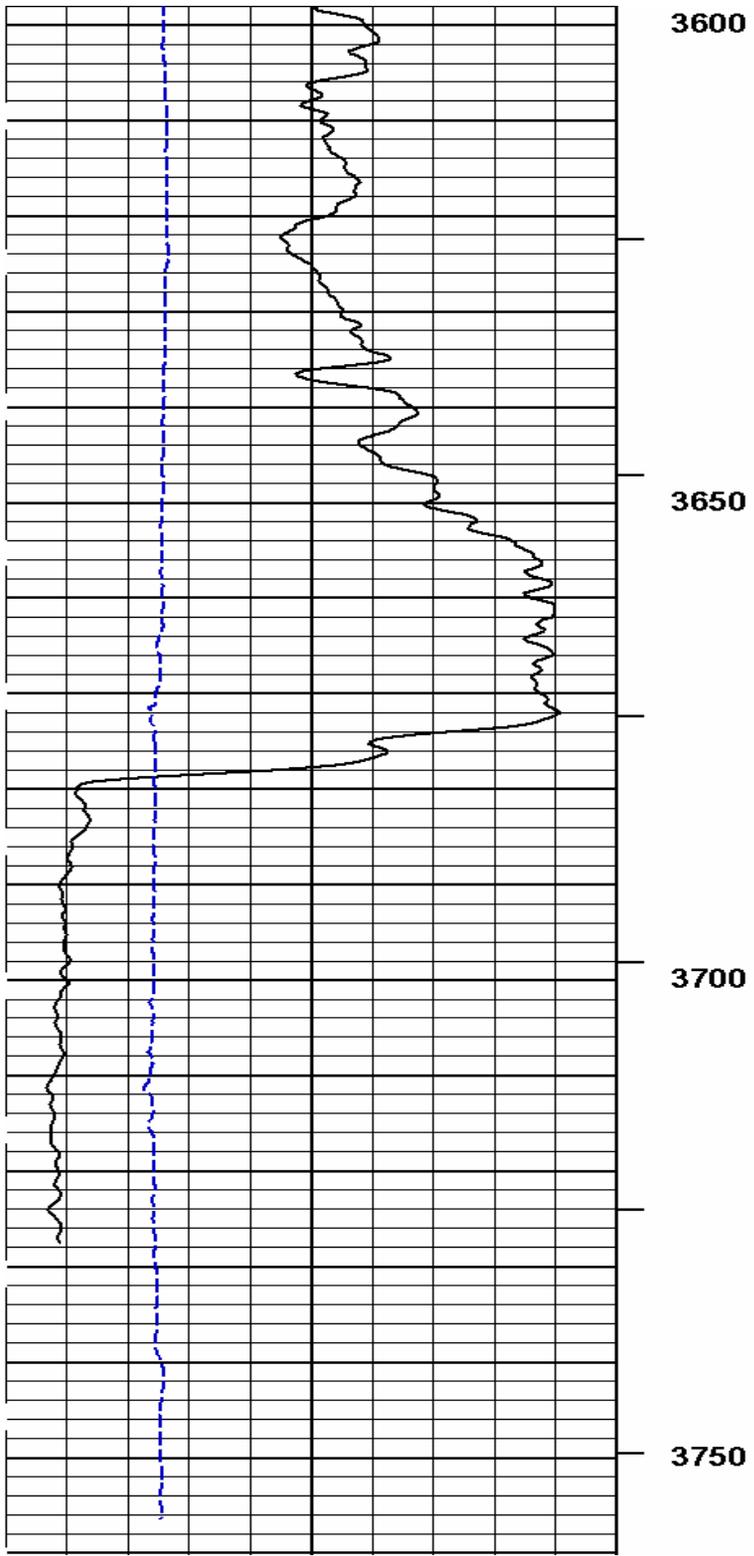


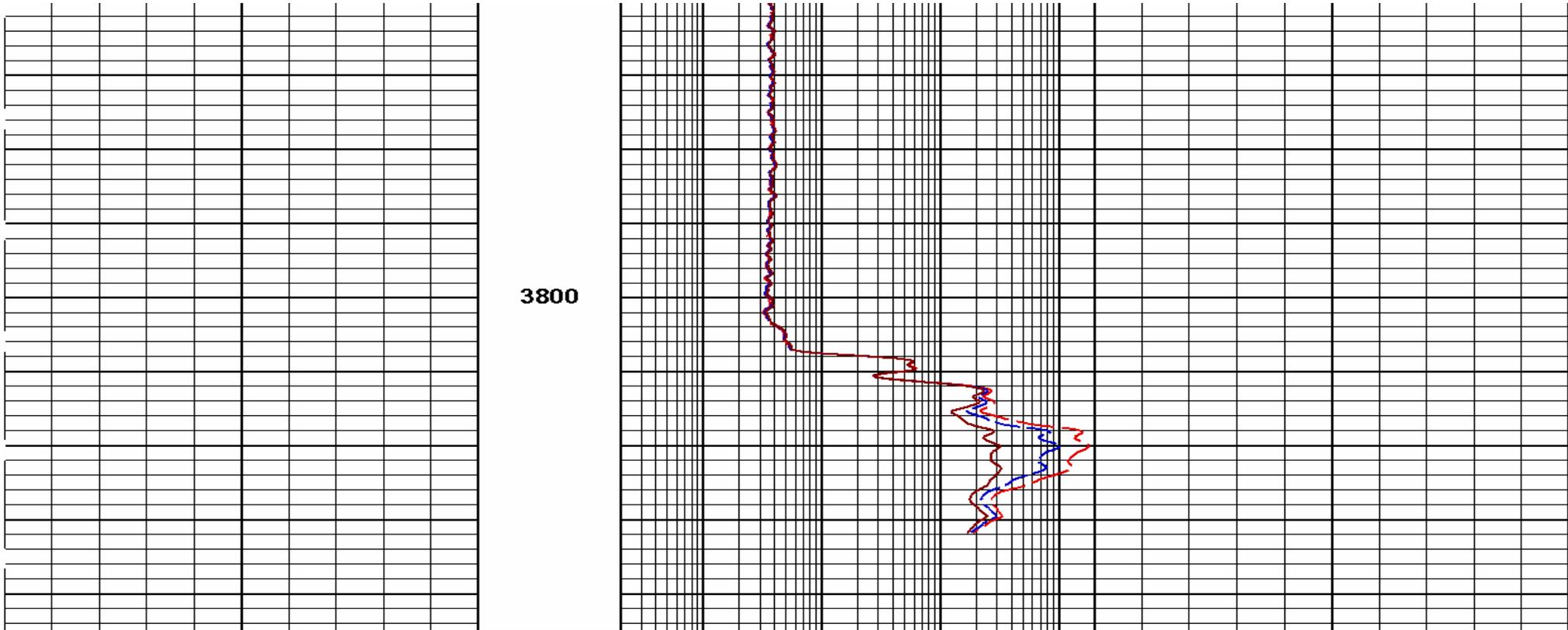
3450

3500

3550







6	Caliper	16	MD	0.2	20in Resistivity 1ft Res	2000	-0.25	DensityCorr	0.25
	inches		1 : 240		ohm-metre			g/cc	
0	Gamma API	150	AHVT	0.2	60in Resistivity 1ft Res	2000	1.95	Bulk Density	2.95
	api				ohm-metre			g/cc	
			BHVT	0.2	90in Resistivity 1ft Res	2000	0	Pe	10
					ohm-metre			barns/electron	
							45	Neutron Porosity	-15
								%	

HALLIBURTON

Plot Time: 12-Feb-13 15:24:26
 Plot Range: 3435 ft to 3845.33 ft
 Data: RANDOLPH_210731\Well Based™\
 Plot File: \\TC\TC_5_NO_ML_RPT_SHELL

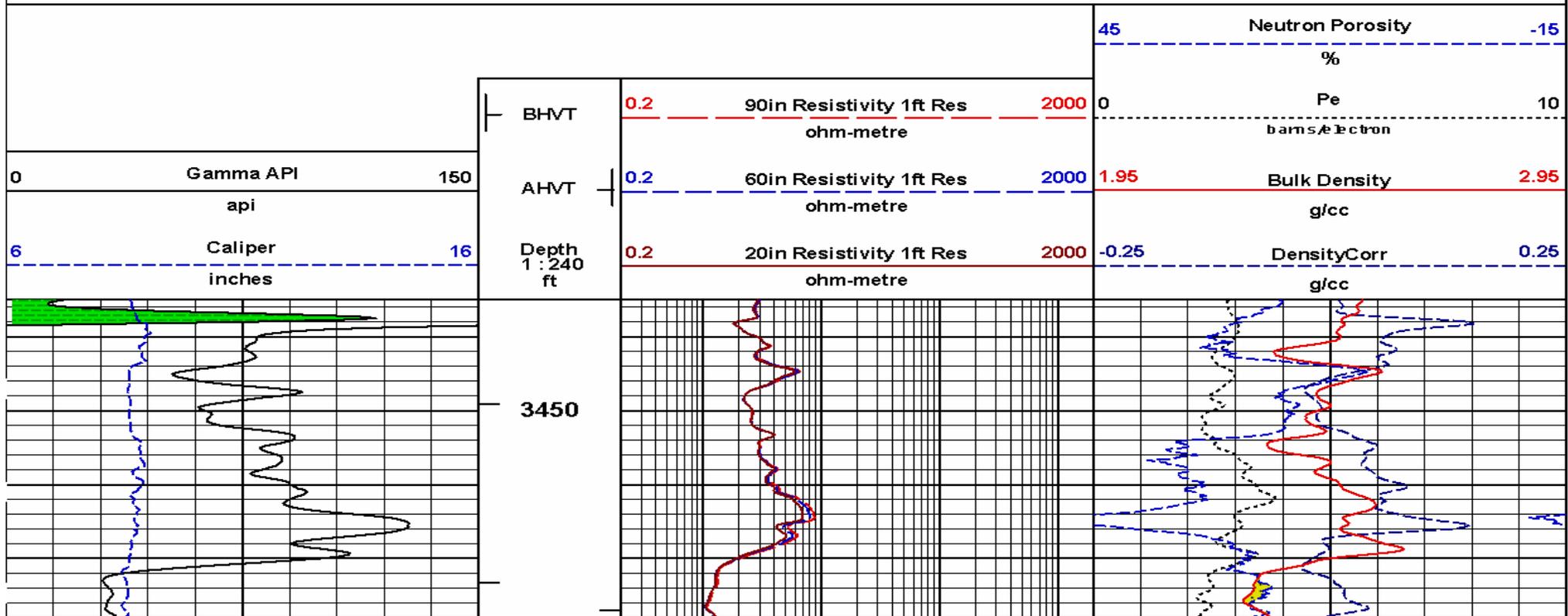
5 INCH REPEAT LOG

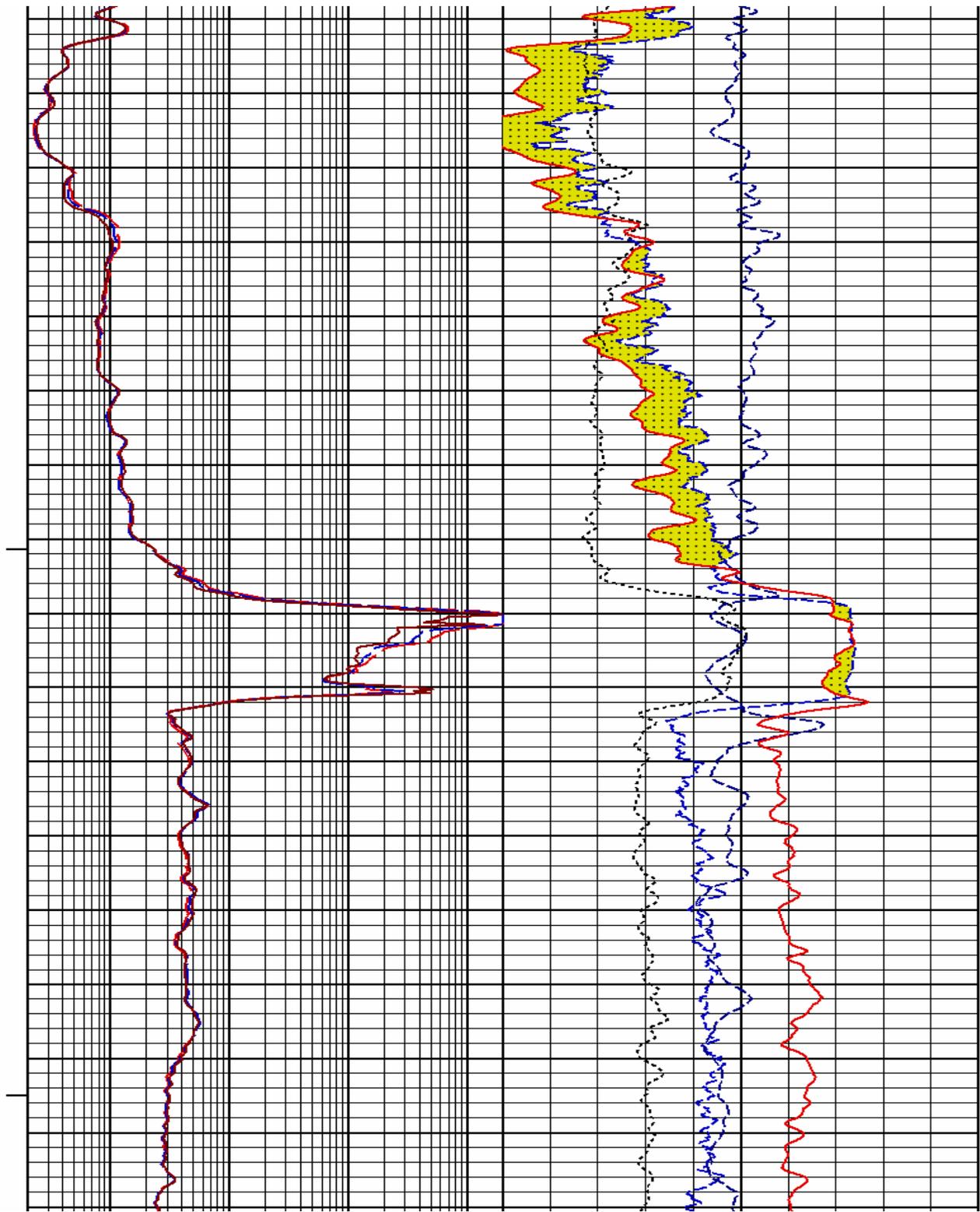
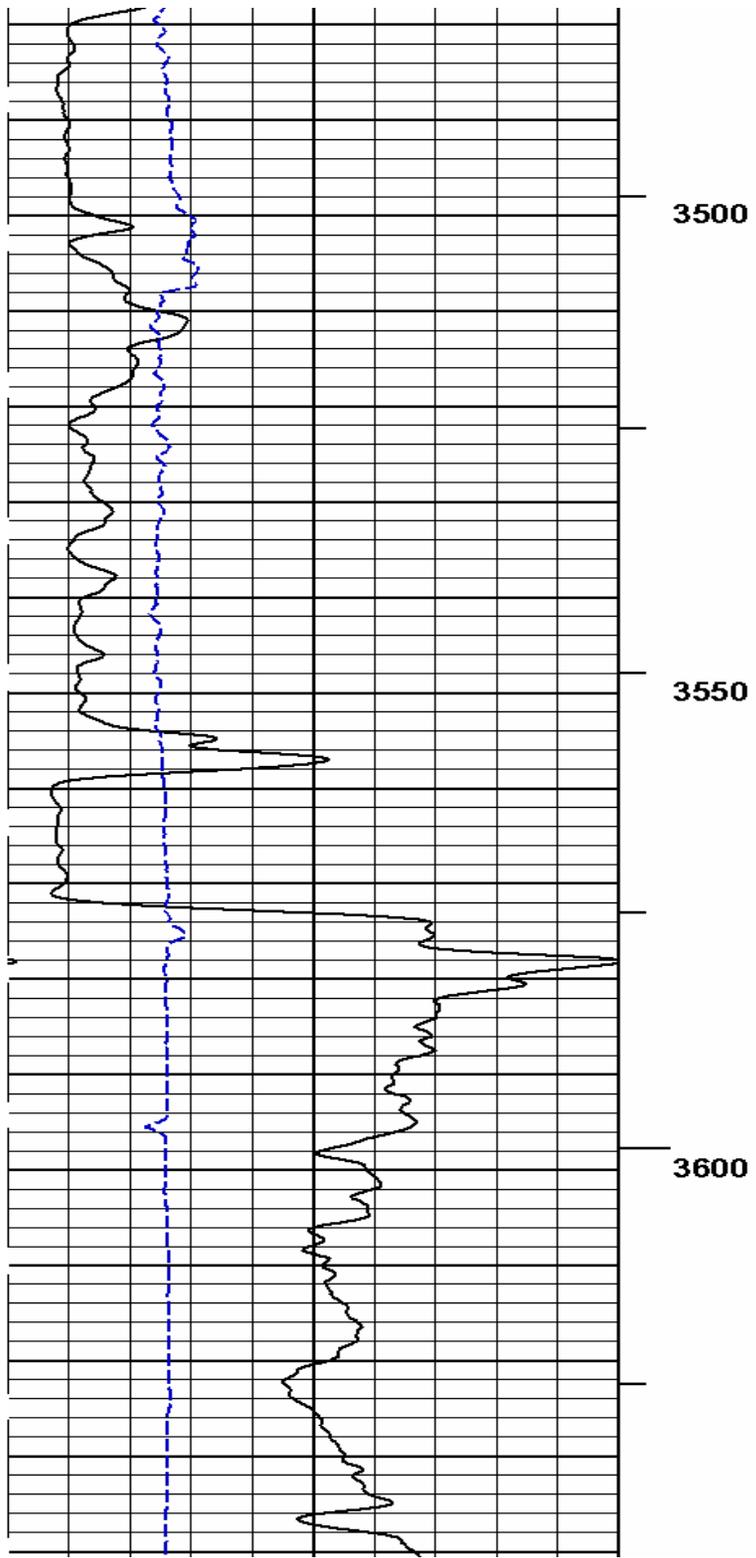
HALLIBURTON

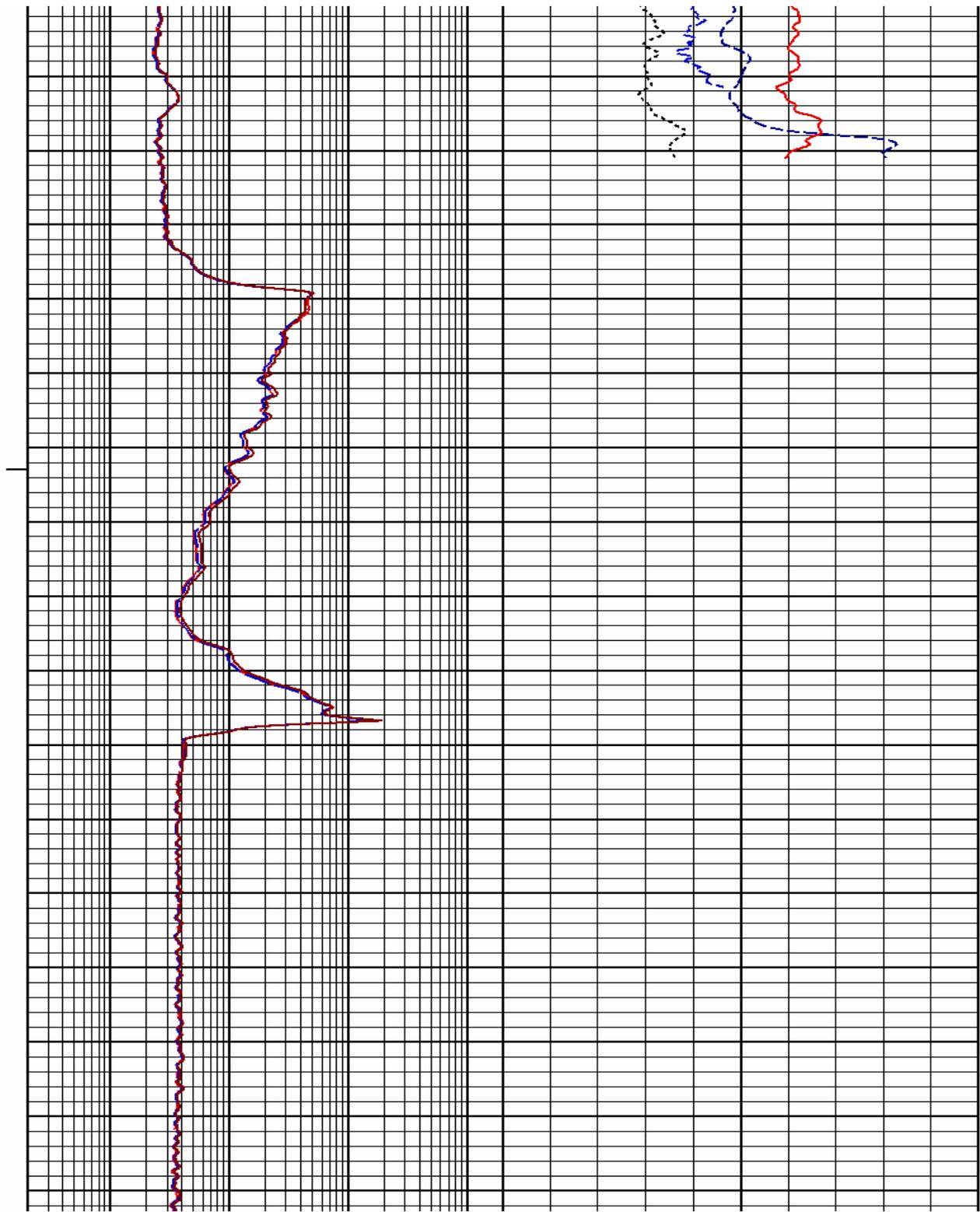
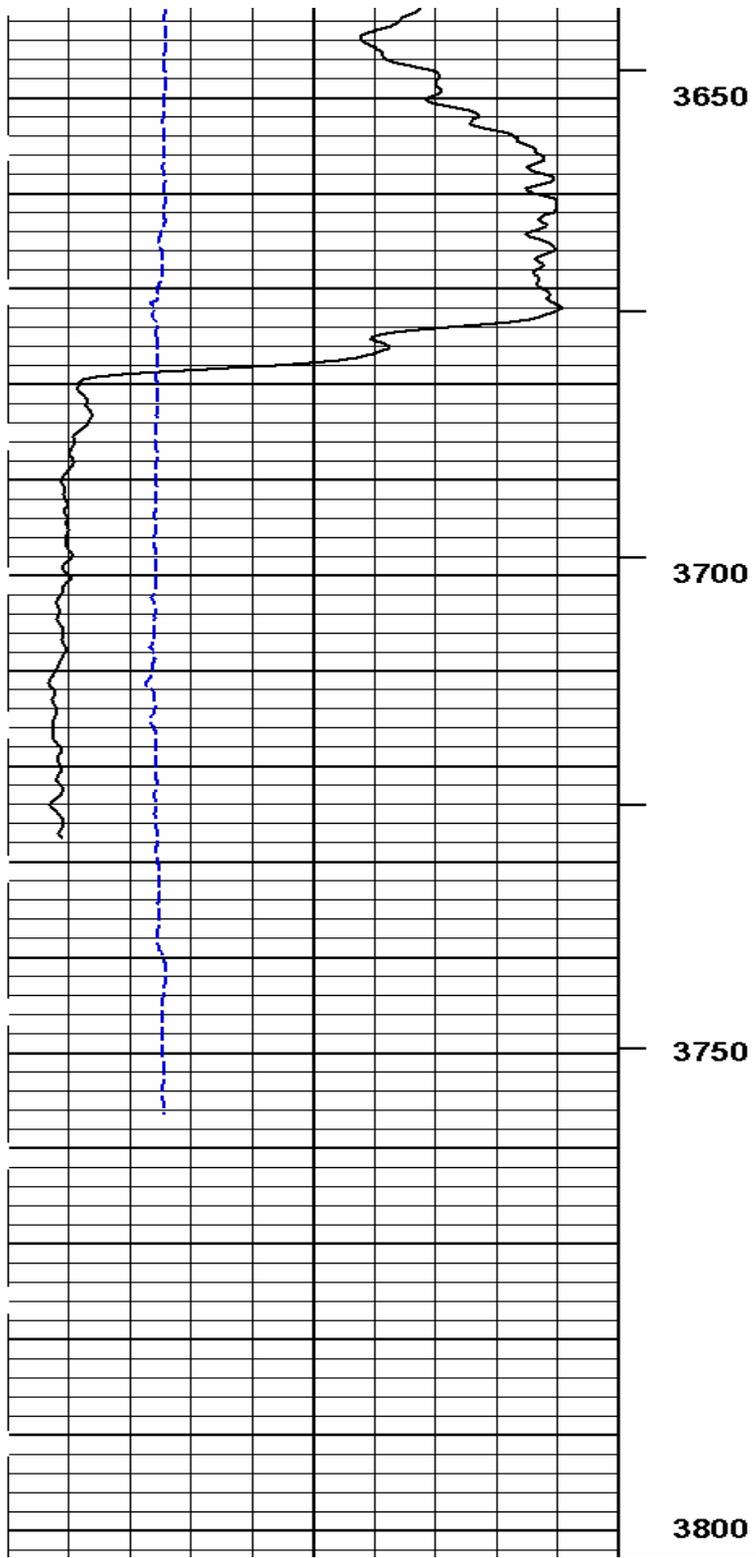
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Plot Range: 3435 ft to 3845.33 ft
Data: RANDOLPH_210731\Well Based\1
Plot File: \\TC\TC_5_NO_ML_RPT_SHELL

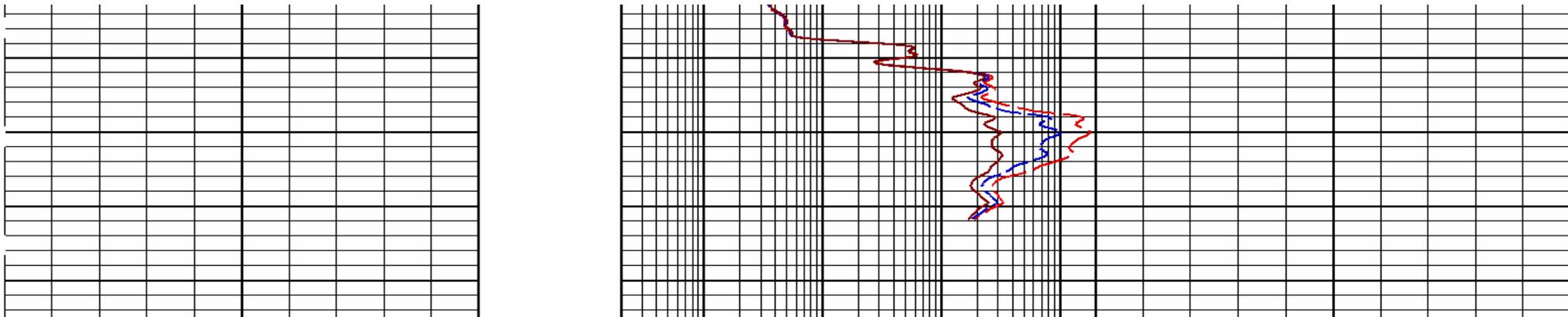
5 INCH REPEAT LOG

5 INCH REPEAT TVD









6	Caliper	16	Depth	0.2	20in Resistivity 1ft Res	2000	-0.25	DensityCorr	0.25
	inches		1 : 240		ohm-metre			g/cc	
0	Gamma API	150	AHVT	0.2	60in Resistivity 1ft Res	2000	1.95	Bulk Density	2.95
	api				ohm-metre			g/cc	
			BHVT	0.2	90in Resistivity 1ft Res	2000	0	Pe	10
					ohm-metre			barns/Electron	
							45	Neutron Porosity	-15
								%	

HALLIBURTON

Plot Time: 12-Feb-13 15:24:27
 Plot Range: 3435 ft to 3845.33 ft
 Data: RANDOLPH_210731\Well Based™\1
 Plot File: \\TC\TC_5_NO_ML_RPT_SHELL

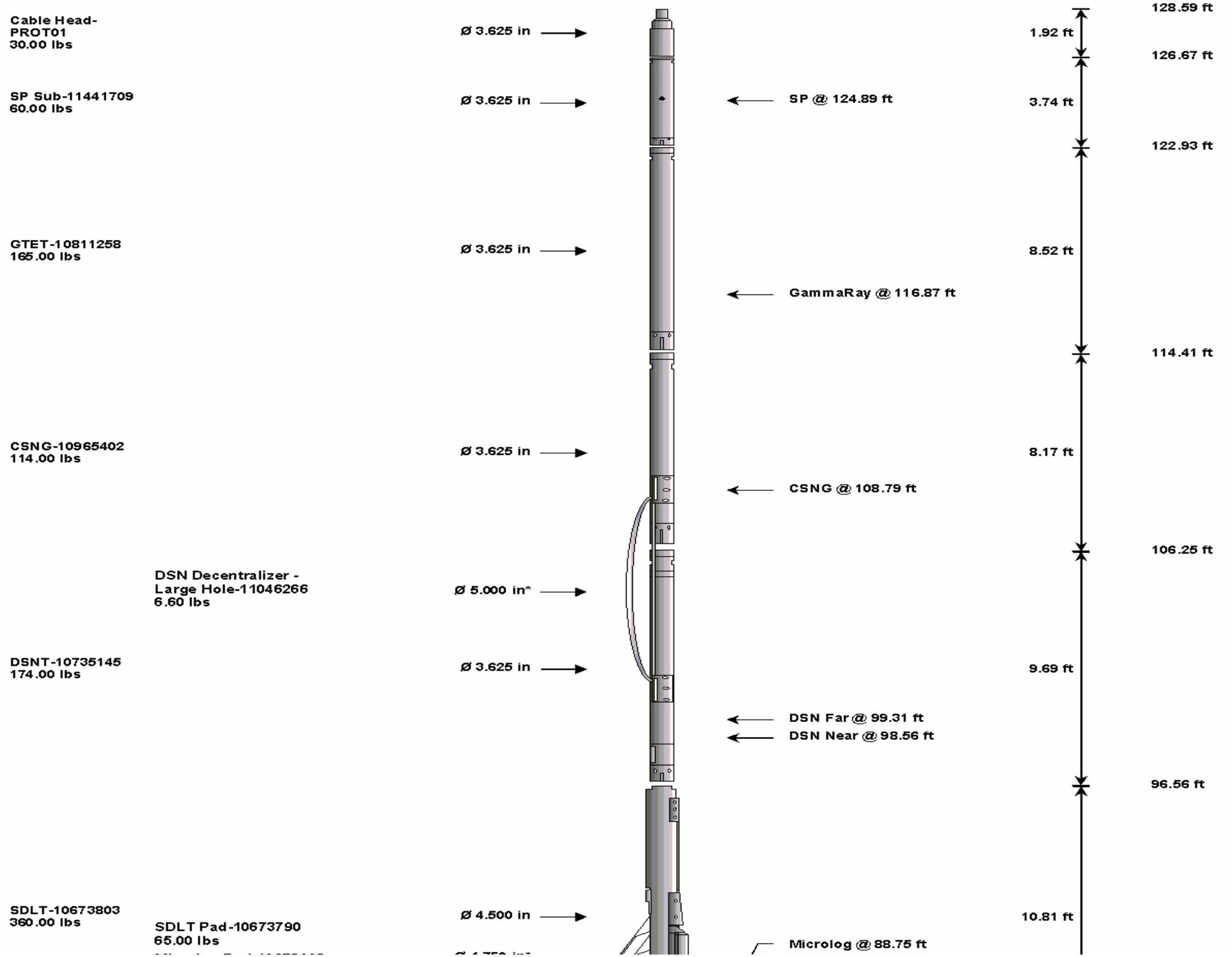
5 INCH REPEAT LOG

5 INCH REPEAT TVD

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
-------------	----------------------	------	---------	------------------	--------	--------------------



Microlog Pad-10673803
8.00 lbs

Ø 4.750 in*
Ø 4.750 in*



SDL Caliper @ 88.56 ft
SDL @ 88.55 ft

Flex Joint-10989947
140.00 lbs

Ø 3.625 in →

5.67 ft

85.75 ft

Centralizer 25-002
8.00 lbs

Ø 4.000 in* →



80.08 ft

Wavesonic-I-
10753396
520.00 lbs

Ø 3.625 in →

34.07 ft



Wavesonic Delay @ 57.51 ft

Centralizer 25-001
8.00 lbs

Ø 4.000 in* →



XRMI Isolator-001
32.50 lbs

Ø 4.500 in →

1.30 ft

46.01 ft

XRMI-I Instrument-11682412
290.00 lbs

Ø 4.500 in →

13.00 ft

44.70 ft

XRMI-I Mandrel-11682413
206.00 lbs

Ø 5.000 in →

Ø 4.500 in →

11.16 ft

31.70 ft

Pads 2, 4, 6 @ 23.31 ft
Pads 1, 3, 5 @ 23.08 ft

Regal Standoff 6_75-01
20.00 lbs

Ø 6.750 in* →

Ø 4.000 in* →

Ø 3.625 in →

5.03 ft

20.54 ft

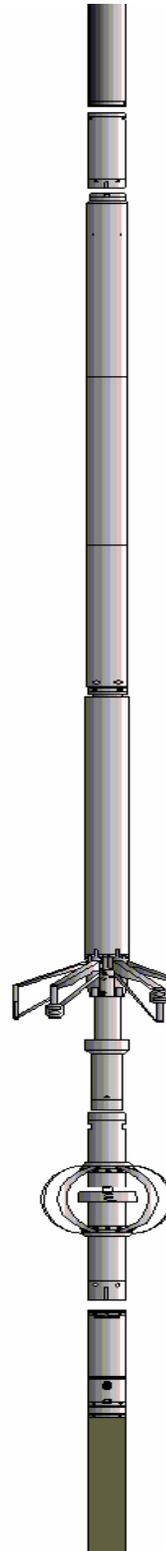
ACRt Instrument-1776
50.00 lbs

Centralizer 25-003
8.00 lbs

← Mud Resistivity @ 14.15 ft

15.51 ft

← ACRt @ 10.17 ft



ACRt Sonde-
10929775
200.00 lbs

∅ 3.625 in →



14.22 ft

Temperature Sub-
696
15.00 lbs

∅ 3.625 in →

0.96 ft

1.29 ft

Bull Nose-001
5.00 lbs

∅ 2.750 in →

0.33 ft

0.33 ft

0.00 ft

Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max.Log. Speed (fpm)
CH	Standard OH Cable Head	PROT01	30.00	1.92	126.67	300.00
SP	SP Sub	11441709	60.00	3.74	122.93	300.00
GTET	Gamma Telemetry Tool	10811258	165.00	8.52	114.41	60.00
CSNG	Compensated Spectral Natural Gamma	10965402	114.00	8.17	106.25	15.00
DSNT	Dual Spaced Neutron	10735145	174.00	9.69	96.56	60.00
DCNT	DSN Decentralizer Large Hole	11046266	6.60	9.42	* 99.89	300.00
SDLT	Spectral Density Tool	10673803	360.00	10.81	85.75	60.00
MICP	Microlog Pad	10673803	8.00	1.00	* 88.25	60.00
SDLP	Density Insite Pad	10673790	65.00	2.55	* 87.96	60.00
FLEX	Flex Joint	10989947	140.00	5.67	80.08	300.00
WSTT	WaveSonic Insite	10753396	520.00	34.07	46.01	30.00
OBCEN	Centralizer - 25 in. Overbody	001	8.00	2.08	* 49.27	300.00
OBCEN	Centralizer - 25 in. Overbody	002	8.00	2.08	* 75.42	300.00
	Isolator for the XRMI tool	001	32.50	1.30	44.70	300.00
XRMI	XRMI Navigation - Insite	11682412	290.00	13.00	31.70	30.00
XRMI-I	XRMI Imager - Insite	11682413	206.00	11.16	20.54	30.00
ACRt	Array Compensated True Resistivity Instrument Section	1776	50.00	5.03	15.51	300.00
RSOF	Regal Standoff 6.75in	01	20.00	0.52	* 18.06	300.00
OBCEN	Centralizer - 25 in. Overbody	003	8.00	2.08	* 17.23	300.00
ACRt	Array Compensated True Resistivity Sonde Section	10929775	200.00	14.22	1.29	300.00
TMAX	Temperature Sub - 3_625 OD	696	15.00	0.96	0.33	300.00
BLNS	Bull Nose	001	5.00	0.33	0.00	300.00

Total

2,485.10 128.59

* Not included in Total Length and Length Accumulation.

Data: RANDOLPH_210731\0002 SP-GTET-DSNT-SDLT-FLEX-IDT-ICT-WSTT-ACRT-CHIDLE

Date: 11-Feb-13 10:14:37

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name: GTET - 10811258

Reference Calibration Date: 31-Dec-12 23:10:29

Engineer: T. HYDE

Calibration Date: 03-Feb-13 11:19:35

Software Version: WL INSITE R3.8.4 (Build 5)

Calibration Version: 1

Calibrator Source S/N: TB-185

Calibrator API Reference:228.00 api

Equivalent Calibrator API Reference:232.0 api

Measurement	Measured	Calibrated	Units
Background	49.5	50.6	api
Background + Calibrator	276.4	282.6	api
Calibrator	226.9	232.0	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name: GTET - 10811258

Reference Calibration Date: 03-Feb-13 11:19:35

Engineer: THOMAS HYDE

Calibration Date: 10-Feb-13 15:06:39

Software Version: WL INSITE R3.8.4 (Build 5)

Calibration Version: 1

Calibrator Source S/N: TB-185

Calibrator API Reference:228.00 api

Equivalent Calibrator API Reference:232.0 api

Field Verification	Shop	Field	Units
Background	50.6	43.5	api
Background + Calibrator	282.6	273.4	api
Calibrator	232.0	229.9	api

Shop	Field	Difference	Tolerance
232.0	229.9	2.1	+/- 9.00

NATURAL GAMMA RAY TOOL POST CALIBRATION

Tool Name: GTET - 10811258

Reference Calibration Date: 10-Feb-13 15:06:39

Engineer: THOMAS HYDE

Calibration Date: 11-Feb-13 15:35:35

Software Version: WL INSITE R3.8.4 (Build 5)

Calibration Version: 1

Calibrator Source S/N: TB-185

Calibrator API Reference:228.00 api

Calibrator API Reference:232.0 api

Post Verification	Field	Post	Units
-------------------	-------	------	-------

Background	43.5	50.9	api
Background + Calibrator	273.4	280.6	api
Calibrator	229.9	229.7	api

Shop	Field	Post	Difference	Tolerance
232.0	229.9	229.7	0.2	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name: DSNT - 10735145

Reference Calibration Date: 16-Jan-13 11:01:55

Engineer: T. HYDE

Calibration Date: 16-Jan-13 11:22:17

Software Version: WL INSITE R3.6.0 (Build 3)

Calibration Version: 1

Logging Source S/N: DSN-436

Tank Serial Number: 105060

Reference value assigned to Tank: 51.680

Snow Block S/N: TRK_954

Calibration Tank Water Temperature: 60 degF

Min. Tool Housing Outside Diameter: 3.620 in

CALIBRATION CONSTANTS

Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	0.942	0.938	0.900 - 1.100

WATER TANK SUMMARY (Horizontal Water Tank)

Measurement	Current Reading (Previous Coef.)	Calibrated (New Coef.)	Change	Control Limit On Change
Porosity (decg):	0.2119	0.2106	0.0012	+/- 0.0020
Calibrated Ratio:	9.76	9.72	0.042	+/- 0.050

VERIFIER

Measurement	Value	Control Limit
Snow-Block Porosity (decg):	0.0647	0.02000 - 0.09000

PASS/FAIL SUMMARY

Background Check:	Passed
Gain-Range Check:	Passed
Snow-Block Check:	Passed

DUAL SPACED NEUTRON FIELD CALIBRATION

Tool Name: DSNT - 10735145

Reference Calibration Date: 16-Jan-13 11:22:17

Engineer: THOMAS HYDE

Calibration Date: 11-Feb-13 14:52:22

Software Version: WL INSITE R3.8.4 (Build 5)

Calibration Version: 1

Logging Source S/N: DSN-436

Snow Block S/N: TRK_954

NEUTRON FIELD-CHECK SUMMARY

	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0647	0.0584	-0.0063	+/- 0.0150

PASS/FAIL SUMMARY

Block Change Check:	Passed
Snow Block Stat Check:	Passed
Temperature Check:	Passed

DUAL SPACED NEUTRON POST CALIBRATION

Tool Name: DSNT - 10735145

Reference Calibration Date: 11-Feb-13 14:52:22

Engineer: THOMAS HYDE

Calibration Date: 11-Feb-13 15:20:36

Software Version: WL INSITE R3.8.4 (Build 5)

Calibration Version: 1

Logging Source S/N: DSN-436

Snow Block S/N: TRK_954

NEUTRON POST-CHECK SUMMARY

	Field Value	Post Value	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0584	0.0584	0.0000	+/- 0.0150

PASS/FAIL SUMMARY

Block Change Check:	Passed
Snow Block Stat Check:	Passed
Temperature Check:	Passed

DENSITY CALIPER SHOP CALIBRATION

Tool Name: SDLT - 10673803

Reference Calibration Date: 09-Feb-13 15:25:44

Engineer: THOMAS HYDE

Calibration Date: 09-Feb-13 15:29:50

Software Version: WL INSITE R3.8.4 (Build 5)

Calibration Version: 1

Host Tool Name: DSNT - 10735145

CALIBRATION COEFFICIENTS

Measurement	Previous Value	New Value	Control Limit On
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	Current Value	New Value	New Value
Pad Offset	-3410.88	-3449.43	-7000.00 - -1000.00
Pad Gain	0.0003729	0.0003746	0.000200 - 0.000600
Arm Offset	-4331.74	-4330.36	-5000.00 - 3000.00
Arm Gain	0.0005272	0.0005237	0.000300 - 0.000700
Arm Power	-0.000005949	-0.000005644	-0.000010000 - 0.000010000

The ring diameter is computed from: $\text{DIAMETER} = \text{PAD EXTENSION} + \text{ARM EXTENSION} + \text{TOOL DIAMETER}$

Tool Diameter: 4.50 in

CALIBRATION RINGS				
Measurement	Current Reading (Previous Coeff.)	Calibrated (New Coeff.)	Change	Control Limit On New Value
PAD EXTENSION:				
Small Ring (in)	2.01	2.00	-0.01	+/- 0.20
Medium Ring (in)	3.75	3.75	0.00	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.52	6.50	-0.02	+/- 0.20
Medium Ring (in)	8.28	8.25	-0.03	+/- 0.20
Large Ring (in)	15.00	15.00	0.00	+/- 0.20

PASS/FAIL SUMMARY	
Calibration-Coefficients Range Check:	Passed
Ring-Measurement Check:	Passed
PASS/FAIL SUMMARY	
Calibration-Coefficients Range Check:	Passed

SDLT CALIPER FIELD CALIBRATION			
Tool Name:	SDLT - 10673803	Reference Calibration Date:	09-Feb-13 15:29:50
Engineer:	THOMAS HYDE	Calibration Date:	11-Feb-13 14:54:14
Software Version:	WL INSITE R3.8.4 (Build 5)	Calibration Version:	1

MEASURED CALIPER VALUES				
Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.75	0.00	+/- 0.10
Ring Diameter	8.25	8.33	0.08	+/- 0.15

PASS/FAIL SUMMARY	
Pad Extension Check:	Passed
Diameter Check:	Passed

SDLT CALIPER POST CALIBRATION

Tool Name: SDLT - 10673803

Reference Calibration Date: 11-Feb-13 14:54:14

Engineer: THOMAS HYDE

Calibration Date: 11-Feb-13 15:24:23

Software Version: WL INSITE R3.8.4 (Build 5)

Calibration Version: 1

MEASURED CALIPER VALUES

Measurement	Field	Post	Change	Control Limit On New Value
Pad Extension	3.75	3.75	-0.00	+/- 0.10
Ring Diameter	8.33	8.39	0.06	+/- 0.15

PASS/FAIL SUMMARY

Pad Extension Check: Passed
Diameter Check: Passed

SPECTRAL DENSITY SHOP CALIBRATION

Tool Name: SDLT Pad - 10673790

Reference Calibration Date: 27-Dec-12 13:23:10

Engineer: S. INGERSOLL

Calibration Date: 31-Jan-13 16:47:13

Software Version: WL INSITE R3.8.4 (Build 5)

Calibration Version: 1

Logging Source S/N: 5073GW

Aluminum Block S/N: 63061

Density: 2.591g/cc

Pe: 3.170

Magnesium Block S/N: 63393

Density: 1.690g/cc

Pe: 2.594

DENSITY CALIBRATION SUMMARY

Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0212	1.0329	0.90 - 1.10
Near Dens Gain	1.0061	1.0182	0.90 - 1.10
Near Peak Gain	1.0109	1.0028	0.90 - 1.10
Near Lith Gain	0.9983	0.9986	0.90 - 1.10
Far Bar Gain	0.9979	0.9971	0.90 - 1.10
Far Dens Gain	0.9850	0.9863	0.90 - 1.10
Far Peak Gain	0.9810	0.9804	0.90 - 1.10
Far Lith Gain	0.9550	0.9549	0.90 - 1.10
<hr/>			
Near Bar Offset	0.0688	-0.0356	NONE
Near Dens Offset	0.1864	0.0806	NONE
Near Peak Offset	0.1519	0.2173	NONE
Near Lith Offset	0.2411	0.2370	NONE
Far Bar Offset	0.1740	0.1892	NONE
Far Dens Offset	0.2673	0.2596	NONE

Far Peak Offset	0.2604	0.2691	NONE
Far Lith Offset	0.3959	0.4008	NONE
Near Bar Background	884.43	880.47	700 - 1450
Near Dens Background	288.90	289.50	230 - 480
Near Peak Background	125.81	126.37	100 - 210
Near Lith Background	156.65	156.27	125 - 260
Far Bar Background	580.05	581.91	450 - 900
Far Dens Background	228.29	227.16	175 - 345
Far Peak Background	90.03	90.36	70 - 140
Far Lith Background	95.46	93.98	75 - 145

CALIBRATION BLOCK SUMMARY

Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.693	1.690	-0.003	+/- 0.015
Pe	2.518	2.547	0.029	+/- 0.150
ALUMINUM				
Density (g/cc)	2.595	2.591	-0.004	+/- 0.01500
Pe	3.101	3.120	0.019	+/- 0.150

TOOL SUMMARY

Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	-0.0010	+/- 0.0110	-0.0025	+/- 0.0140
Magnesium Block	-0.0010	+/- 0.0110	0.0001	+/- 0.0140
Aluminum Block	-0.0002	+/- 0.0110	-0.0009	+/- 0.0140
Resolution	9.26	6.00 - 11.50	8.89	6.00 - 11.50
Internal Verifier(B+D+P+L)	1453	1200 - 2700	993	800 - 1700

PASS/FAIL SUMMARY

Background Quality Check:	Passed
Background Range Check:	Passed
Background Resolution Check:	Passed
Background Verification Check:	Passed
Magnesium Quality Check:	Passed
Aluminum Quality Check:	Passed

Gains Check: Passed
Changes in Calibration Blocks: Passed

SPECTRAL DENSITY FIELD CHECK

Tool Name: SDLT Pad - 10673790

Reference Calibration Date: 31-Jan-13 16:47:13

Engineer: THOMAS HYDE

Calibration Date: 11-Feb-13 15:04:35

Software Version: WL INSITE R3.8.4 (Build 5)

Calibration Version: 1

Pad Temperature: 71.7 degF

DENSITY FIELD CALIBRATION SUMMARY

Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1452.611	1448.411	-4.200	15.373
Far (B+D+P+L) cps	993.405	992.479	-0.926	16.886
Near Resolution	9.26	9.24	-0.020	0.50
Far Resolution	8.89	9.13	0.240	1.00

PASS/FAIL SUMMARY

Bkg Quality Check: Passed
Bkg Resolution Check: Passed
Bkg Verification Check: Passed

SPECTRAL DENSITY POST CHECK

Tool Name: SDLT Pad - 10673790

Reference Calibration Date: 11-Feb-13 15:04:35

Engineer: THOMAS HYDE

Calibration Date: 11-Feb-13 15:27:48

Software Version: WL INSITE R3.8.4 (Build 5)

Calibration Version: 1

Pad Temperature: 71.7 degF

DENSITY POST CALIBRATION SUMMARY

Measurement	Field	Post	Change	Control Limit +/-
Near (B+D+P+L) cps	1448.411	1448.063	-0.348	15.373
Far (B+D+P+L) cps	992.479	991.978	-0.501	16.886
Near Resolution	9.24	9.24	0.000	0.50
Far Resolution	9.13	9.13	0.000	1.00

PASS/FAIL SUMMARY

Bkg Quality Check: Passed
Bkg Resolution Check: Passed
Bkg Verification Check: Passed

CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-10811258						
Gamma Ray Calibrator	232.0	229.9	229.7	0.2	+/- 9.00	api
DSNT-10735145						
Snow-Block Porosity	0.0647	0.0584	0.0584	0.0000	+/- 0.0150	decg
SDLT-10673803						
Pad Extension	3.75	3.75	3.75	0.00	+/-0.10	in
Ring Diameter	8.25	8.33	8.39	-0.06	+/-0.15	in
SDLT Pad-10673790						
Near(B+D+P+L)	1452.611	1448.411	1448.063	0.348	+/-15.373	cps
Far(B+D+P+L)	993.405	992.479	991.978	0.501	+/-16.886	cps

Data: RANDOLPH 210731\0002 SP-GTET-DSNT-SDLT-FLEX-IDT-ICT-WSTT-ACRT-CHUDLE

Date: 11-Feb-13 15:54:28

HALLIBURTON

PARAMETERS REPORT

Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	SHARED	BS	Bit Size	8.750	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDBS	Mud Base	Water	
	SHARED	MDWT	Borehole Fluid Weight	8.800	ppg
	SHARED	WAGT	Weighting Agent	Natural	
	SHARED	BSAL	Borehole salinity	0.00	ppm
	SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
	SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
	SHARED	RMUD	Mud Resistivity	2.000	ohmm
	SHARED	TRM	Temperature of Mud	70.0	degF
	SHARED	CSD	Logging Interval is Cased?	No	
	SHARED	ICOD	AHV Casing OD	7.000	in
	SHARED	ST	Surface Temperature	70.0	degF
	SHARED	TD	Total Well Depth	3895.00	ft
	SHARED	BHT	Bottom Hole Temperature	200.0	degF
	SHARED	SVTM	Navigation and Survey Master Tool	XRMI-I Instrument	
	SHARED	AZTM	High Res Z Accelerometer Master Tool	XRMI-I Instrument	
	SHARED	TEMM	Temperature Master Tool	NONE	
	SHARED	DUOM	Durometer Master Tool	NONE	

SHARED	BNSM	Borehole Size Master 1001	NONE	
Rwa / CrossPlot	XPOK	Process Crossplot?	Yes	
Rwa / CrossPlot	FCHO	Select Source of F	Automatic	
Rwa / CrossPlot	AFAC	Archie A factor	0.6200	
Rwa / CrossPlot	MFAC	Archie M factor	2.1500	
Rwa / CrossPlot	RMFR	Rmf Reference	0.10	ohmm
Rwa / CrossPlot	TMFR	Rmf Ref Temp	75.00	degF
Rwa / CrossPlot	RWA	Resistivity of Formation Water	0.05	ohmm
Rwa / CrossPlot	ADP	Use Air Porosity to calculate CrossplotPhi	No	
GTET	GROK	Process Gamma Ray?	Yes	
GTET	GRSO	Gamma Tool Standoff	0.000	in
GTET	GEOK	Process Gamma Ray EVR?	No	
GTET	TPOS	Tool Position for Gamma Ray Tools.	Eccentered	
CSNG	CGOK	Process CSNG Data?	Yes	
CSNG	CENT	Is Tool Centralized?	No	
CSNG	GBOK	Gamma Enviromental Corrections?	Yes	
CSNG	BARF	Barite Correction Factor	1.00	
CSNG	ORDG	Use Fixed Gain	No	
CSNG	ORDO	Use Fixed Offset	No	
CSNG	ORDR	Use Fixed Resolution Degradation Factor	No	
DSNT	DNOK	Process DSN?	Yes	
DSNT	DEOK	Process DSN EVR?	No	
DSNT	NLIT	Neutron Lithology	Limestone	
DSNT	DNSO	DSN Standoff - 0.25 in (6.35 mm) Recommended	0.250	in
DSNT	DNTP	Temperature Correction Type	None	
DSNT	DPRS	DSN Pressure Correction Type	None	
DSNT	SHCO	View More Correction Options	No	
DSNT	UTVD	Use TVD for Gradient Corrections?	No	
DSNT	LHWT	Logging Horizontal Water Tank?	No	
SDLT	CLOK	Process Caliper Outputs?	Yes	
SDLT Pad	DNOK	Process Density?	Yes	
SDLT Pad	DNOK	Process Density EVR?	No	
SDLT Pad	CB	Logging Calibration Blocks?	No	
SDLT Pad	SPVT	SDLT Pad Temperature Valid?	Yes	
SDLT Pad	DTWN	Disable temperature warning	No	
SDLT Pad	DMA	Formation Density Matrix	2.710	g/cc
SDLT Pad	DFL	Formation Density Fluid	1.000	g/cc

Microlog Pad	MLOK	Process MicroLog Outputs?	Yes	
Wavesonic-I	WSOK	Process WSTT?	Yes	
Wavesonic-I	AFIL	Adaptive Filtering?	No	
Wavesonic-I	PINT	Process 1 Sample and Skip	0	
Wavesonic-I	PROM	Process Mode: M=1,MX=2,MY=3,MXY=4	4	
Wavesonic-I	DTSH	Delta -T Shale	100.00	uspf
Wavesonic-I	DTMT	Delta -T Matrix Type	User define	
Wavesonic-I	DTMA	Delta -T Matrix	47.60	uspf
Wavesonic-I	DTFL	Delta -T Fluid	189.00	uspf
Wavesonic-I	RHOM	Matrix Density	2.7100	g/cc
Wavesonic-I	RHOF	Fluid Density	1.0000	g/cc
Wavesonic-I	SMTH	Semblance Threshold	0.25	
Wavesonic-I	VPVS	VPVS Ratio for Porosity	1.40	
Wavesonic-I	APEQ	Acoustic Porosity Equation	Wylie	
Wavesonic-I	NAVS	Navigation Source Tool	XRMI-I Instrument	
XRMI-I Instrument	WRTI	Survey Writing Interval	30	ft
XRMI-I Instrument	SOPT	Smoothing Option	None	
XRMI-I Mandrel	DIMG	Process XRMI?	Yes	
XRMI-I Mandrel	ROTI	Rotate Image (N-E-S-W-N)?	Yes	
XRMI-I Mandrel	AGN	Use Button Auto Gain?	Yes	
XRMI-I Mandrel	BCLR	Button Auto Gain Color	127	
XRMI-I Mandrel	BFIL	Button Auto Gain Filter	0.020	
XRMI-I Mandrel	BGAN	Button Gain Value	0.001	
XRMI-I Mandrel	BOFF	Button Offset	0	
XRMI-I Mandrel	DIPE	Process Dipmeter Calculations?	Yes	
XRMI-I Mandrel	BHCS	Process Borehole Corrections?	Yes	
XRMI-I Mandrel	CLOK	Process Caliper Outputs?	Yes	
XRMI-I Mandrel	CMAX	Caliper Maximum Limit	100.0	in
XRMI-I Mandrel	CMIN	Caliper Mimimum Limit	3.5	in
XRMI-I Mandrel	NAVS	Navigation Source Tool	XRMI-I Instrument	
XRMI-I Mandrel	BHVC	Radius type for borehole volume calcuations	Elliptical	
ACRt Sonde	RTOK	Process ACRt?	Yes	
ACRt Sonde	MNSO	Minimum Tool Standoff	1.50	in
ACRt Sonde	TCS1	Temperature Correction Source	FP Lwr & FP Up	
ACRt Sonde	TPOS	Tool Position	Free Hanging	
ACRt Sonde	RMOP	Rmud Source	Mud Cell	
ACRt Sonde	RMIN	Minimum Resistivity for MAP	0.20	ohmm
ACRt Sonde	RMIN	Maximum Resistivity for MAP	200.00	ohmm
ACRt Sonde	THQY	Threshold Quality	0.50	
ACRt Sonde	MREF	Fixed mud resistivity	2000	ohmm

BOTTOM

Data: RANDOLPH_210731\0002 SP-GTET-DSNT-SDLT-FLEX-IDT-ICT-WSTT-ACRT-CHIDLE

Date: 11-Feb-13 10:43:36

HALLIBURTON**INPUTS, DELAYS AND FILTERS TABLE**

Mnemonic	Input Description	Delay (ft)	Filter Type	Filter Length (ft)
Depth Panel				
TENS	Tension	0.00	NO	
SP Sub				
PLTC	Plot Control Mask	124.89	NO	
SP	Spontaneous Potential	124.89	BLK	1.250
SPR	Raw Spontaneous Potential	124.89	NO	
SPO	Spontaneous Potential Offset	124.89	NO	
GTET				
TPUL	Tension Pull	116.87	NO	
GR	Natural Gamma Ray API	116.87	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API	116.87	NO	
EGR	Natural Gamma Ray API with Enhanced Vertical Resolution	116.87	W	1.416 , 0.750
ACCZ	Accelerometer Z	0.00	BLK	0.083
DEVI	Inclination	0.00	NO	
CSNG				
TPUL	Tension Pull	108.79	NO	
STAT	Status	108.79	NO	
FRMC	Tool Frame Count	108.79	BLK	0.250
TFRM	Total Frames	108.79	NO	
LSPD	Line Speed	108.79	BLK	0.250
CTIM	Accumulation time for sample	108.79	BLK	0.250
NOIS	Spectral Noise	108.79	BLK	0.250
STAB	Stabilizer Voltage in mv	108.79	BLK	0.250
STBP	Stabilizer 60 KEV Peak	108.79	BLK	0.250
AMER	Americium	108.79	BLK	0.250
FTMP	Flask PCB Temperature	108.79	BLK	0.250
SPEL	Low Energy Spectrum	108.79	BLK	0.250
SPEH	High Energy Spectrum	108.79	BLK	0.250

SSP	Stabilization Energy Spectrum	108.79	BLK	0.250
CSPC	CSNG Lo Hi Spectrum Data	108.79	NO	
DSNT				
TPUL	Tension Pull	98.46	NO	
RNDS	Near Detector Telemetry Counts	98.56	BLK	1.417
RFDS	Far Detector Telemetry Counts	99.31	TRI	0.583
DNTT	DSN Tool Temperature	98.56	NO	
DSNS	DSN Tool Status	98.46	NO	
ERND	Near Detector Telemetry Counts EVR	98.56	BLK	0.000
ERFD	Far Detector Telemetry Counts EVR	99.31	BLK	0.000
ENTM	DSN Tool Temperature EVR	98.56	NO	
SDLT				
TPUL	Tension Pull	88.56	NO	
PCAL	Pad Caliper	88.56	TRI	0.250
ACAL	Am Caliper	88.56	TRI	0.250
Wavesonic-I				
TPUL	Tension Pull	57.51	NO	
DPSX	Dipole Source X Structure1	46.01	NO	
DPSY	Dipole Source Y Structure1	46.01	NO	
DPSM	Monopole Source Structure	46.01	NO	
WVST	Wavesonic Compressed Data	57.51	NO	
TPUL	Tension Pull	57.51	NO	
XMS1	Wave Sonic Status Word 1	46.01	NO	
XMS2	Wave Sonic Status Word 2	46.01	NO	
XMS1	Wave Sonic XMITStatus Word 1	46.01	NO	
XMS1	Wave Sonic XMITStatus Word 2	46.01	NO	
F1HA	Dipole 1 HV After	46.01	NO	
F1HB	Dipole 1 HV Before	46.01	NO	
F2HA	Dipole 2 HV After	46.01	NO	
F2HB	Dipole 2 HV Before	46.01	NO	
F3HA	Monopole HV After	46.01	NO	
F3HB	Monopole HV Before	46.01	NO	
INVT	Input Voltage	46.01	NO	
5VOL	5 Volts	46.01	NO	
MI5A	Minus 5 Volts Analog	46.01	NO	
ITMP	Instrument Temperature	46.01	NO	
PL5A	Plus 5 Volts Analog	46.01	NO	
5VD	Plus 5 Volts Digital	46.01	NO	

TCUR	Tool Current	46.01	NO
SUPV	Supply Voltage	46.01	NO
PRVT	Preregulated voltage	46.01	NO
PRVT	Pre-regulated voltage Xmter	46.01	NO
TEMP	Temperature	46.01	NO
ACQN	Acquisition Number	46.01	NO
XDP	Delay Reference	57.51	NO
MITM	MIT Mode	57.51	NO
VERS	Version	46.01	NO
D1CT	Dipole 1 Compressed Word Count	57.51	NO
D2CT	Dipole 2 Compressed Word Count	57.51	NO
MCNT	Monopole Compressed Word Count	57.51	NO
SEQN	Sequence Number	46.01	NO
FREV	Firmware Revision	46.01	NO
MSMP	Monopole Sample Rate	46.01	NO
MSMP	Dipole Sample Rate	46.01	NO
MFWF	Monopole Firing Waveform	46.01	NO
MFRQ	Monopole Frequency	46.01	NO
MDLY	Monopole Delay	46.01	NO
DXWF	Dipole X Firing Waveform	46.01	NO
XFRQ	Dipole X Frequency	46.01	NO
XDLY	Dipole X Delay	46.01	NO
DYWF	Dipole Y Firing Waveform	46.01	NO
YFRQ	Dipole Y Frequency	46.01	NO
YDLY	Dipole Y Delay	46.01	NO
DPSX	Dipole Source X Structurel	46.01	NO
DPSY	Dipole Source Y Structurel	46.01	NO
DPSM	Monopole Source Structure	46.01	NO
WVST	Wavesonic Compressed Data	57.51	NO
AUTM	Auto Mode	46.01	NO
SONM	tool mode for sonic - 0 for normal or 3 for calibration	46.01	NO
MSL	Monopole Lower Travel Time	57.51	NO
MSH	Monopole Upper Travel Time	57.51	NO
MLFC	Monopole-1 Lower Filter Bandpass Frequency Cut-off	46.01	NO
MUFC	Monopole-1 Upper Filter Bandpass Frequency Cut-off	46.01	NO
DLTT	Dipole Lower Travel Time	46.01	NO
DUTT	Dipole Upper Travel Time	46.01	NO
DLFC	Dipole Lower Filter Bandpass Frequency Cut-off	46.01	NO
DUFC	Dipole Upper Filter Bandpass Frequency Cut-off	46.01	NO
MUTE	WaveSonic Mute/Enable Channels and Sides map	46.01	NO
MUTE	Mute/Enable Sides	46.01	NO

MOTS	Mutable Sides	46.01	NO
WSRB	Relative Bearing	57.51	NO
WSAZ	WSX Azimuth Pad 1	57.51	NO
TPUL	Tension Pull	57.51	NO
WMP	Summed array of Monopole for SIDES - A,B,C,D	57.51	NO
WXX	Dipole X for SIDES - A-C	57.51	NO
WYY	Dipole Y for SIDES - B-D	57.51	NO
WXY	Dipole X for SIDES - B-D	57.51	NO
WYX	Dipole Y for SIDES - A-C	57.51	NO
TPUL	Tension Pull	57.51	NO
WMA	Monopole Waveform Side A - Channel 1 to Channel 8 Receivers	57.51	NO
WMB	Monopole Waveform Side B - Channel 1 to Channel 8 Receivers	57.51	NO
WMC	Monopole Waveform Side C - Channel 1 to Channel 8 Receivers	57.51	NO
WMD	Monopole Waveform Side D - Channel 1 to Channel 8 Receivers	57.51	NO
WXA	Dipole X Waveform Side A - Channel 1 to Channel 8 Receivers	57.51	NO
WXB	Dipole X Waveform Side B - Channel 1 to Channel 8 Receivers	57.51	NO
WXC	Dipole X Waveform Side C - Channel 1 to Channel 8 Receivers	57.51	NO
WXD	Dipole X Waveform Side D - Channel 1 to Channel 8 Receivers	57.51	NO
WYA	Dipole Y Waveform Side A - Channel 1 to Channel 8 Receivers	57.51	NO
WYB	Dipole Y Waveform Side B - Channel 1 to Channel 8 Receivers	57.51	NO
WYC	Dipole Y Waveform Side C - Channel 1 to Channel 8 Receivers	57.51	NO
WYD	Dipole Y Waveform Side D - Channel 1 to Channel 8 Receivers	57.51	NO
GAR1	Gain Side A Receiver 1	46.01	NO
GAR2	Gain Side A Receiver 2	46.01	NO
GAR3	Gain Side A Receiver 3	46.01	NO
GAR4	Gain Side A Receiver 4	46.01	NO
GAR5	Gain Side A Receiver 5	46.01	NO
GAR6	Gain Side A Receiver 6	46.01	NO
GAR7	Gain Side A Receiver 7	46.01	NO
GAR8	Gain Side A Receiver 8	46.01	NO
GBR1	Gain Side B Receiver 1	46.01	NO
GBR2	Gain Side B Receiver 2	46.01	NO
GBR3	Gain Side B Receiver 3	46.01	NO
GBR4	Gain Side B Receiver 4	46.01	NO
GBR5	Gain Side B Receiver 5	46.01	NO

GBR6	Gain Side B Receiver 6	46.01	NO
GBR7	Gain Side B Receiver 7	46.01	NO
GBR8	Gain Side B Receiver 8	46.01	NO
GCR1	Gain Side C Receiver 1	46.01	NO
GCR2	Gain Side C Receiver 2	46.01	NO
GCR3	Gain Side C Receiver 3	46.01	NO
GCR4	Gain Side C Receiver 4	46.01	NO
GCR5	Gain Side C Receiver 5	46.01	NO
GCR6	Gain Side C Receiver 6	46.01	NO
GCR7	Gain Side C Receiver 7	46.01	NO
GCR8	Gain Side C Receiver 8	46.01	NO
GDR1	Gain Side D Receiver 1	46.01	NO
GDR2	Gain Side D Receiver 2	46.01	NO
GDR3	Gain Side D Receiver 3	46.01	NO
GDR4	Gain Side D Receiver 4	46.01	NO
GDR5	Gain Side D Receiver 5	46.01	NO
GDR6	Gain Side D Receiver 6	46.01	NO
GDR7	Gain Side D Receiver 7	46.01	NO
GDR8	Gain Side D Receiver 8	46.01	NO

XRMI-I Mandrel

TPUL	Tension Pull	23.31	NO
PAD1	XRMI Pad 1 values	23.08	NO
PAD2	XRMI Pad 2 values	23.08	NO
PAD3	XRMI Pad 3 values	23.08	NO
PAD4	XRMI Pad 4 values	23.08	NO
PAD5	XRMI Pad 5 values	23.08	NO
PAD6	XRMI Pad 6 values	23.08	NO
OD1	EMI Odd Button Values Pad 1	23.08	NO
OD2	EMI Odd Button Values Pad 2	23.31	NO
OD3	EMI Odd Button Values Pad 3	23.08	NO
OD4	EMI Odd Button Values Pad 4	23.31	NO
OD5	EMI Odd Button Values Pad 5	23.08	NO
OD6	EMI Odd Button Values Pad 6	23.31	NO
EV1	EMI Even Button Values Pad 1	23.10	NO
EV2	EMI Even Button Values Pad 2	23.28	NO
EV3	EMI Even Button Values Pad 3	23.10	NO
EV4	EMI Even Button Values Pad 4	23.28	NO
EV5	EMI Even Button Values Pad 5	23.10	NO
EV6	EMI Even Button Values Pad 6	23.28	NO
ITMP	Instrument Temperature	20.54	NO

EMIM	Tool Mode	20.54	NO	
HAZI	Hole Azimuth	22.83	NO	
HAZI	Hole Azimuth - Down Delay	23.33	NO	
ZACC	Accelerometer Z	23.08	NO	
TPUL	Tension Pull	23.31	NO	
FIR1	Current Button R - Pad 1	23.08	NO	
FIR2	Current Button R - Pad 2	23.31	NO	
FIR3	Current Button R - Pad 3	23.08	NO	
FIR4	Current Button R - Pad 4	23.31	NO	
FIR5	Current Button R - Pad 5	23.08	NO	
FIR6	Current Button R - Pad 6	23.31	NO	
FIX1	Current Button X - Pad 1	23.08	NO	
FIX2	Current Button X - Pad 2	23.31	NO	
FIX3	Current Button X - Pad 3	23.08	NO	
FIX4	Current Button X - Pad 4	23.31	NO	
FIX5	Current Button X - Pad 5	23.08	NO	
FIX6	Current Button X - Pad 6	23.31	NO	
SIR1	Current Slow Button R - Pad 1	23.08	BLK	3.000
SIR2	Current Slow Button R - Pad 2	23.31	BLK	3.000
SIR3	Current Slow Button R - Pad 3	23.08	BLK	3.000
SIR4	Current Slow Button R - Pad 4	23.31	BLK	3.000
SIR5	Current Slow Button R - Pad 5	23.08	BLK	3.000
SIR6	Current Slow Button R - Pad 6	23.31	BLK	3.000
SIX1	Current Slow Button X - Pad 1	23.08	BLK	3.000
SIX2	Current Slow Button X - Pad 2	23.31	BLK	3.000
SIX3	Current Slow Button X - Pad 3	23.08	BLK	3.000
SIX4	Current Slow Button X - Pad 4	23.31	BLK	3.000
SIX5	Current Slow Button X - Pad 5	23.08	BLK	3.000
SIX6	Current Slow Button X - Pad 6	23.31	BLK	3.000
EMMR	Phasor Voltage - Real Part	23.08	NO	
EMMX	Phasor Voltage - Imaginary Part	23.08	NO	
PADV	Pad Voltage	20.54	BLK	0.250
ITMP	Instrument Temperature	20.54	BLK	0.000
CON1	Conductivity Pad 1	23.08	BLK	3.000
CON2	Conductivity Pad 2	23.31	BLK	3.000
CON3	Conductivity Pad 3	23.08	BLK	3.000
CON4	Conductivity Pad 4	23.31	BLK	3.000
CON5	Conductivity Pad 5	23.08	BLK	3.000
CON6	Conductivity Pad 6	23.31	BLK	3.000
UIR2	Current Button R No Delay - Pad 2	23.08	NO	
UIR4	Current Button R No Delay - Pad 4	23.08	NO	

UIR4	Current Button R No Delay - Pad 4	23.08	NO	
UIR6	Current Button R No Delay - Pad 6	23.08	NO	
UIX2	Current Button X No Delay - Pad 2	23.08	NO	
UIX4	Current Button X No Delay - Pad 4	23.08	NO	
UIX6	Current Button X No Delay - Pad 6	23.08	NO	
TPUL	Tension Pull	23.31	NO	
ARM1	Caliper 1 measurement	23.08	BLK	0.000
ARM2	Caliper 2 measurement	23.08	BLK	0.000
ARM3	Caliper 3 measurement	23.08	BLK	0.000
ARM4	Caliper 4 measurement	23.08	BLK	0.000
ARM5	Caliper 5 measurement	23.08	BLK	0.000
ARM6	Caliper 6 measurement	23.08	BLK	0.000
MOTV	Motor Voltage Monitor 1	23.08	BLK	0.000
PRES	Caliper percentage of total compression of the spring	20.54	BLK	0.000
HAZ1	Hole Azimuth	23.08	NO	
RB	Relative Bearing	23.08	NO	
AZI1	PAD1 Azimuth	23.08	NO	
DEVI	Inclination	23.08	NO	

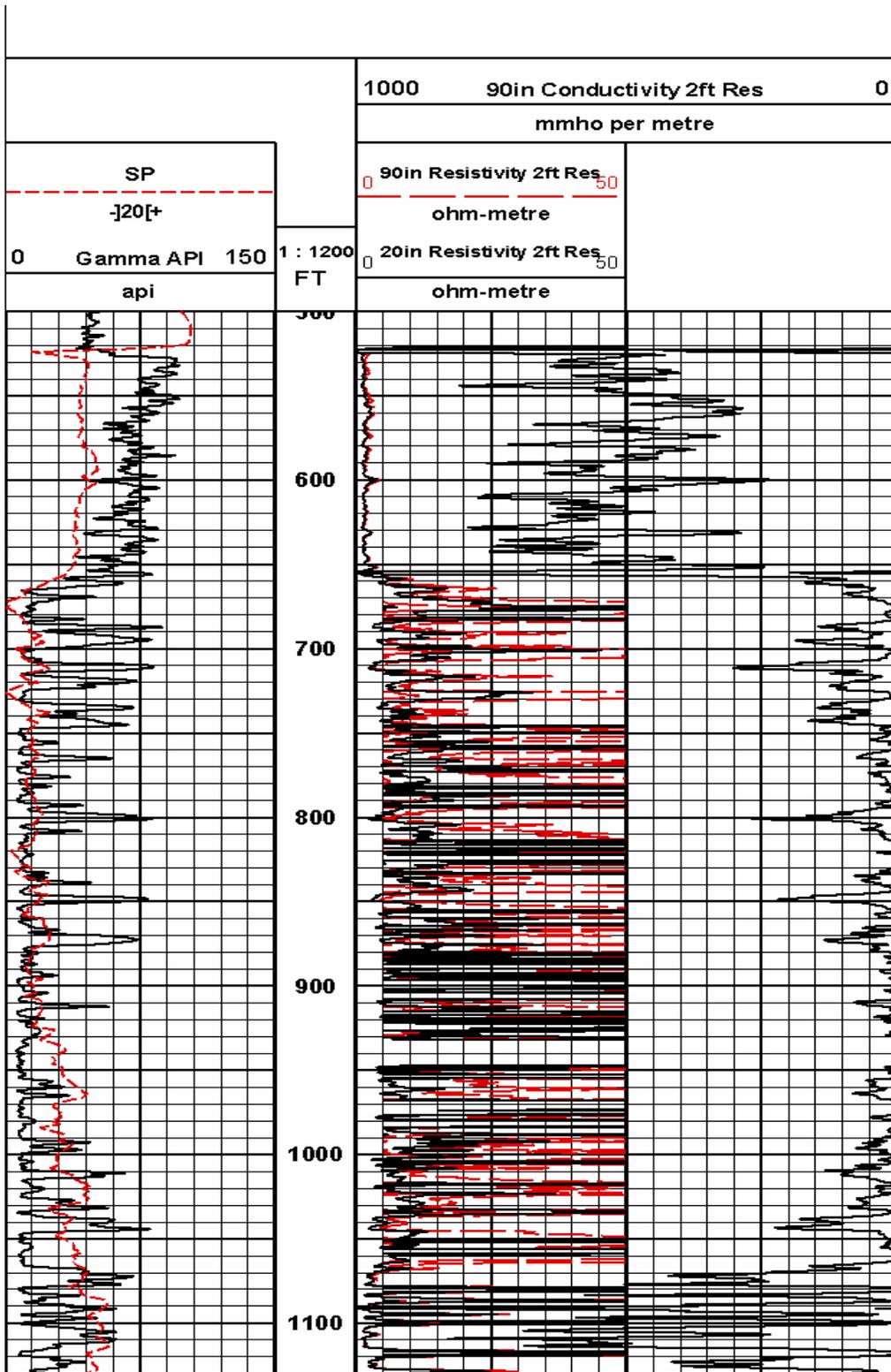
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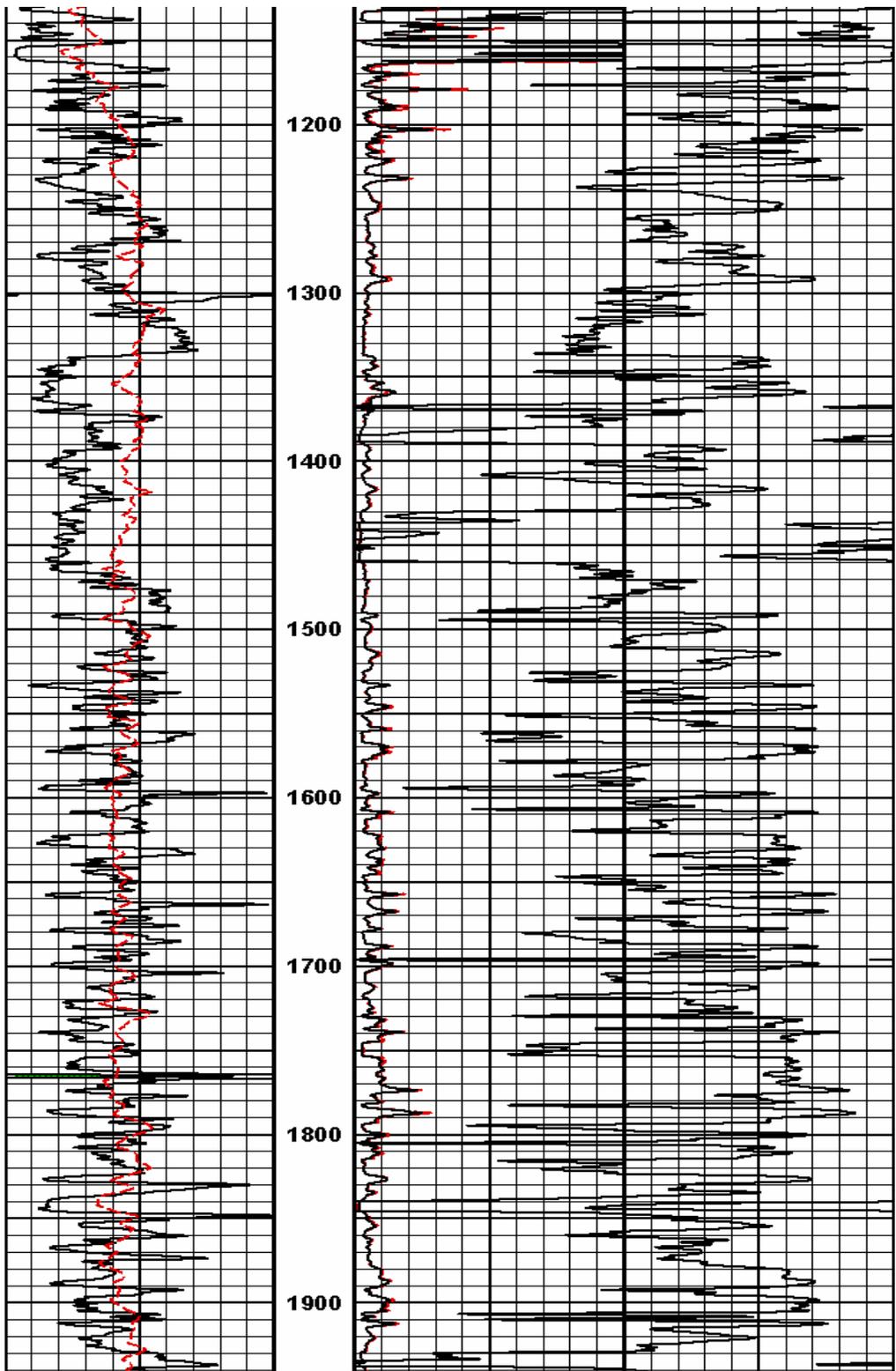
TPUL	Tension Pull	3.69	NO	
F1R1	ACRT 12KHz - 80in R value	9.94	BLK	0.000
F1X1	ACRT 12KHz - 80in X value	9.94	BLK	0.000
F1R2	ACRT 12KHz - 50in R value	7.44	BLK	0.000
F1X2	ACRT 12KHz - 50in X value	7.44	BLK	0.000
F1R3	ACRT 12KHz - 29in R value	5.94	BLK	0.000
F1X3	ACRT 12KHz - 29in X value	5.94	BLK	0.000
F1R4	ACRT 12KHz - 17in R value	4.94	BLK	0.000
F1X4	ACRT 12KHz - 17in X value	4.94	BLK	0.000
F1R5	ACRT 12KHz - 10in R value	4.44	BLK	0.000
F1X5	ACRT 12KHz - 10in X value	4.44	BLK	0.000
F1R6	ACRT 12KHz - 6in R value	4.19	BLK	0.000
F1X6	ACRT 12KHz - 6in X value	4.19	BLK	0.000
F2R1	ACRT 36KHz - 80in R value	9.94	BLK	0.000
F2X1	ACRT 36KHz - 80in X value	9.94	BLK	0.000
F2R2	ACRT 36KHz - 50in R value	7.44	BLK	0.000
F2X2	ACRT 36KHz - 50in X value	7.44	BLK	0.000
F2R3	ACRT 36KHz - 29in R value	5.94	BLK	0.000
F2X3	ACRT 36KHz - 29in X value	5.94	BLK	0.000
F2R4	ACRT 36KHz - 17in R value	4.94	BLK	0.000
F2X4	ACRT 36KHz - 17in X value	4.94	BLK	0.000

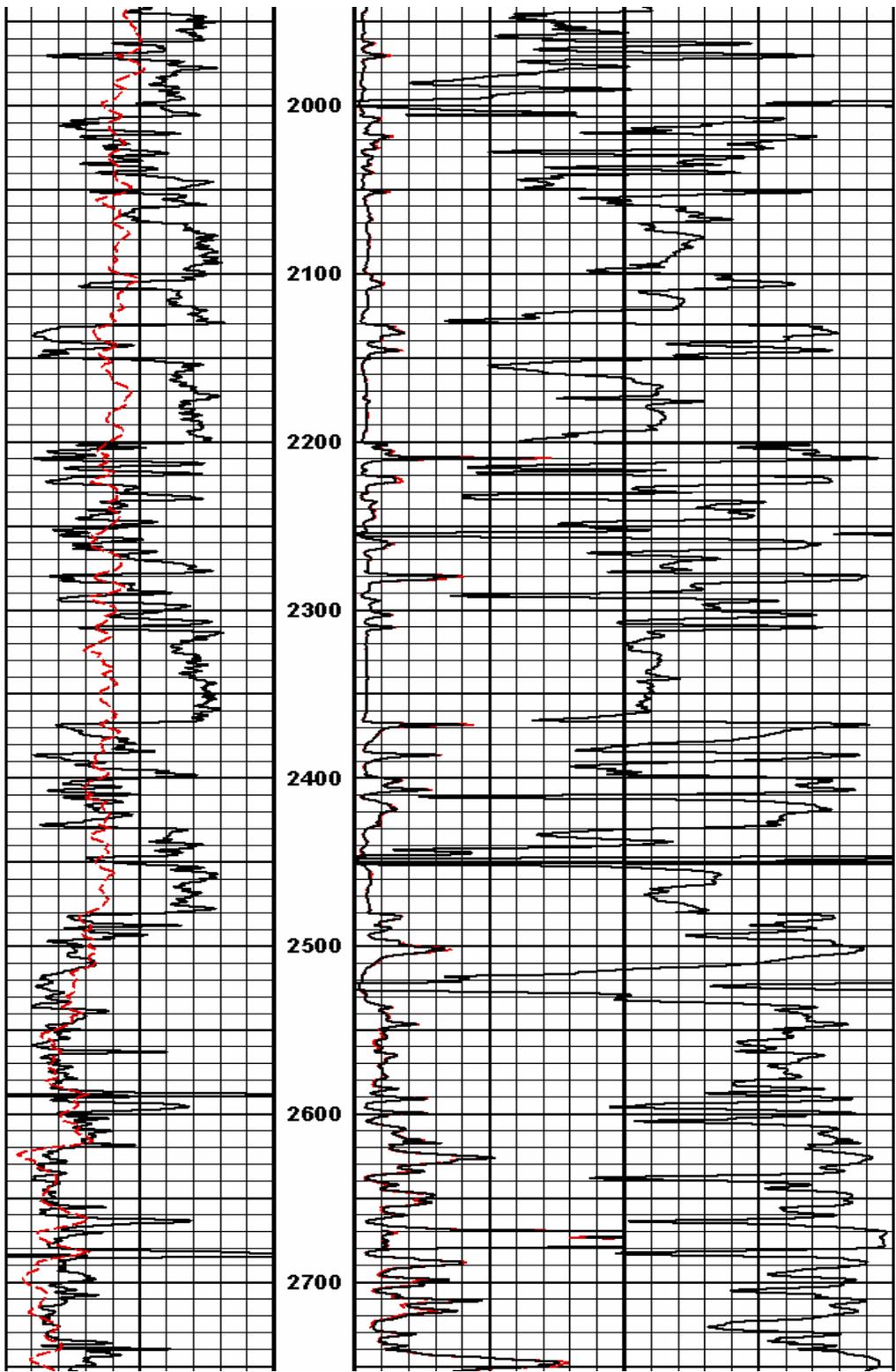
F2R5	ACRT 36KHz - 10in R value	4.44	BLK	0.000
F2X5	ACRT 36KHz - 10in X value	4.44	BLK	0.000
F2R6	ACRT 36KHz - 6in R value	4.19	BLK	0.000
F2X6	ACRT 36KHz - 6in X value	4.19	BLK	0.000
F3R1	ACRT 72KHz - 80in R value	9.94	BLK	0.000
F3X1	ACRT 72KHz - 80in X value	9.94	BLK	0.000
F3R2	ACRT 72KHz - 50in R value	7.44	BLK	0.000
F3X2	ACRT 72KHz - 50in X value	7.44	BLK	0.000
F3R3	ACRT 72KHz - 29in R value	5.94	BLK	0.000
F3X3	ACRT 72KHz - 29in X value	5.94	BLK	0.000
F3R4	ACRT 72KHz - 17in R value	4.94	BLK	0.000
F3X4	ACRT 72KHz - 17in X value	4.94	BLK	0.000
F3R5	ACRT 72KHz - 10in R value	4.44	BLK	0.000
F3X5	ACRT 72KHz - 10in X value	4.44	BLK	0.000
F3R6	ACRT 72KHz - 6in R value	4.19	BLK	0.000
F3X6	ACRT 72KHz - 6in X value	4.19	BLK	0.000
RMUD	Mud Resistivity	13.48	BLK	0.000
F1RT	Transmitter Current Raw 12K X Receiver	3.69	BLK	0.000
F1XT	Transmitter Reference 12 KHz Imaginary Signal	3.69	BLK	0.000
F2RT	Transmitter Reference 36 KHz Real Signal	3.69	BLK	0.000
F2XT	Transmitter Reference 36 KHz Imaginary Signal	3.69	BLK	0.000
F3RT	Transmitter Reference 72 KHz Real Signal	3.69	BLK	0.000
F3XT	Transmitter Reference 72 KHz Imaginary Signal	3.69	BLK	0.000
TFPU	Upper Feedpipe Temperature Calculated	3.69	BLK	0.000
TFPL	Lower Feedpipe Temperature Calculated	3.69	BLK	0.000
ITMP	Instrument Temperature	3.69	BLK	0.000
TCVA	Temperature Correction Values Loop Off	3.69	NO	
TIDV	Instrument Temperature Derivative	3.69	NO	
TUDV	Upper Temperature Derivative	3.69	NO	
TLDV	Lower Temperature Derivative	3.69	NO	
TRBD	Receiver Board Temperature	3.69	NO	

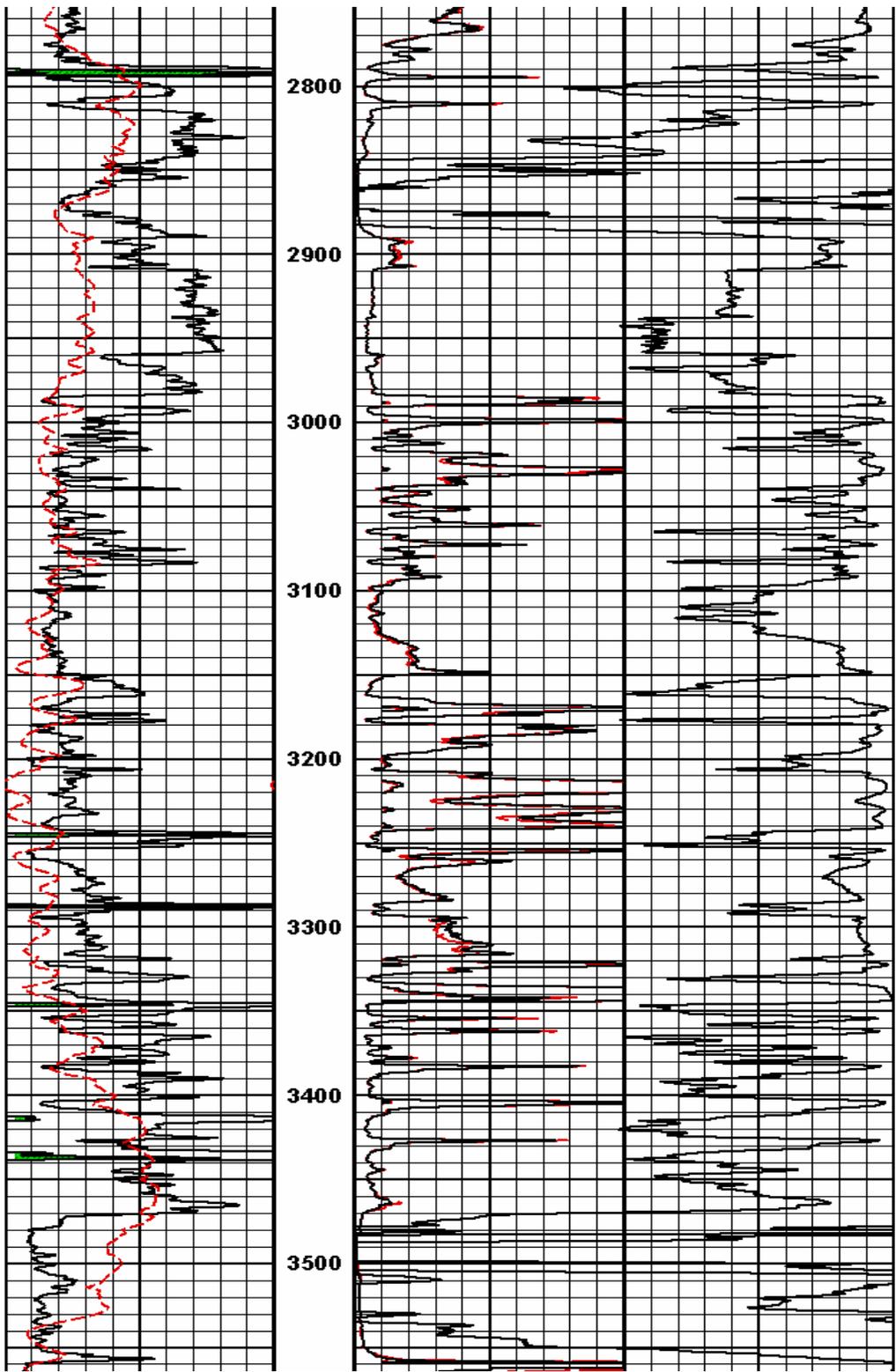
SDLT Pad

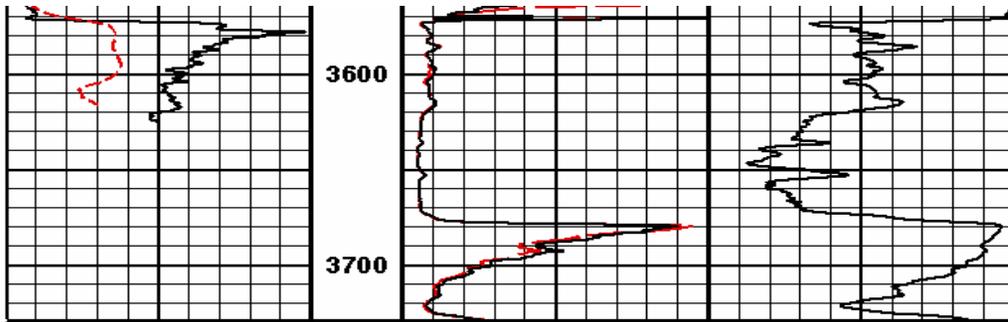
TPUL	Tension Pull	88.55	NO	
NAB	Near Above	88.38	BLK	0.920
NHI	Near Cesium High	88.38	BLK	0.920
NLO	Near Cesium Low	88.38	BLK	0.920
NVA	Near Valley	88.38	BLK	0.920
NBA	Near Barite	88.38	BLK	0.920
NDE	Near Density	88.38	BLK	0.920
NPK	Near Peak	88.38	BLK	0.920











0	Gamma API	150	1 : 1200	20in Resistivity 2ft Res	50
	api		FT	ohm-metre	
	SP			90in Resistivity 2ft Res	50
	-]20[+			ohm-metre	
				1000	90in Conductivity 2ft Res
					0
					mmho per metre

HALLIBURTON

Plot Time: 12-Feb-13 15:24:30
 Plot Range: 500 ft to 3728.75 ft
 Data: RANDOLPH_210731\Well Based\DAQ-0002-004\
 Plot File: \\-LOCAL-RANDOLPH_210731\ACRT_1_lib

1 INCH MAIN LOG