

Rmc @ Meas. Temp.	@	@					
Source Rmf	Rmc						
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.	11048627	Serial No.		Serial No.	11014296	Serial No.	11055304
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	Am241 Be
Length	8"	LSA [Y/N]		Serial No.	5168 GW	Serial No.	DSN-424
Distance to Source	10'	FWDA [Y/N]		Strength	15 Ci	Strength	15 Ci

LOGGING DATA

GENERAL			GAMMA		ACOUSTIC			DENSITY			NEUTRON			
Run No.	Depth		Speed	Scale		Scale		Matrix	Scale		Matrix	Scale		Matrix
	From	To	ft/min	L	R	L	R		L	R		L	R	
ONE	4850	3300	REC	0	150				30	-10	2.71	30	-10	LIME

DIRECTIONAL INFORMATION

Maximum Deviation	@	KOP	@
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Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING

CHLORIDES REPORTED AT 7700 MG/L

LCM REPORTED AT 1 PPB

TIGHT ATTD TO 4800, CALIPER WAS CLOSED UNTILL 4742.0 †

TODAY'S CREW M. GRAHAM B. TERRELL

THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES LIBERAL, KANSAS 620-624-8123

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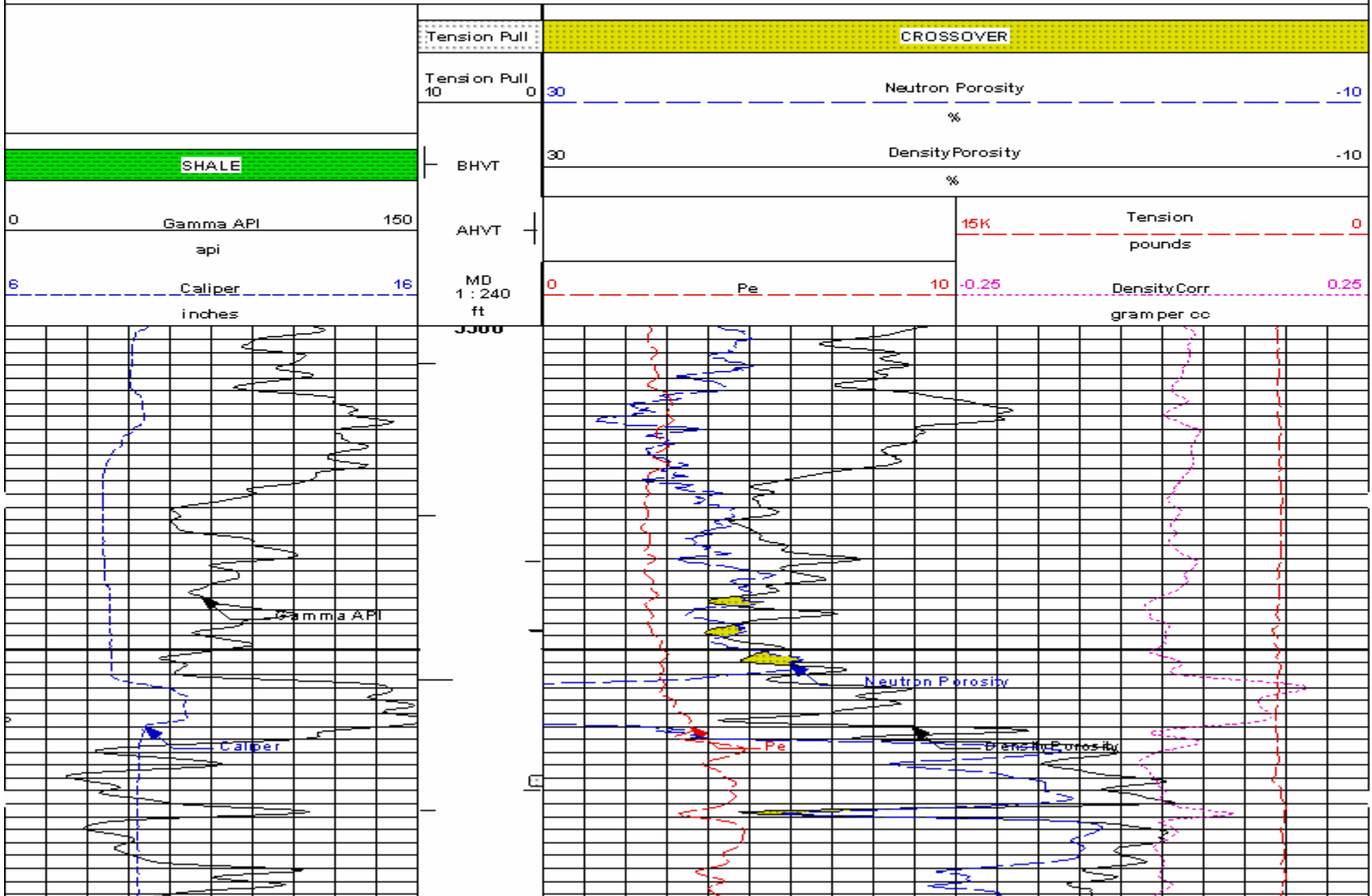
HALLIBURTON

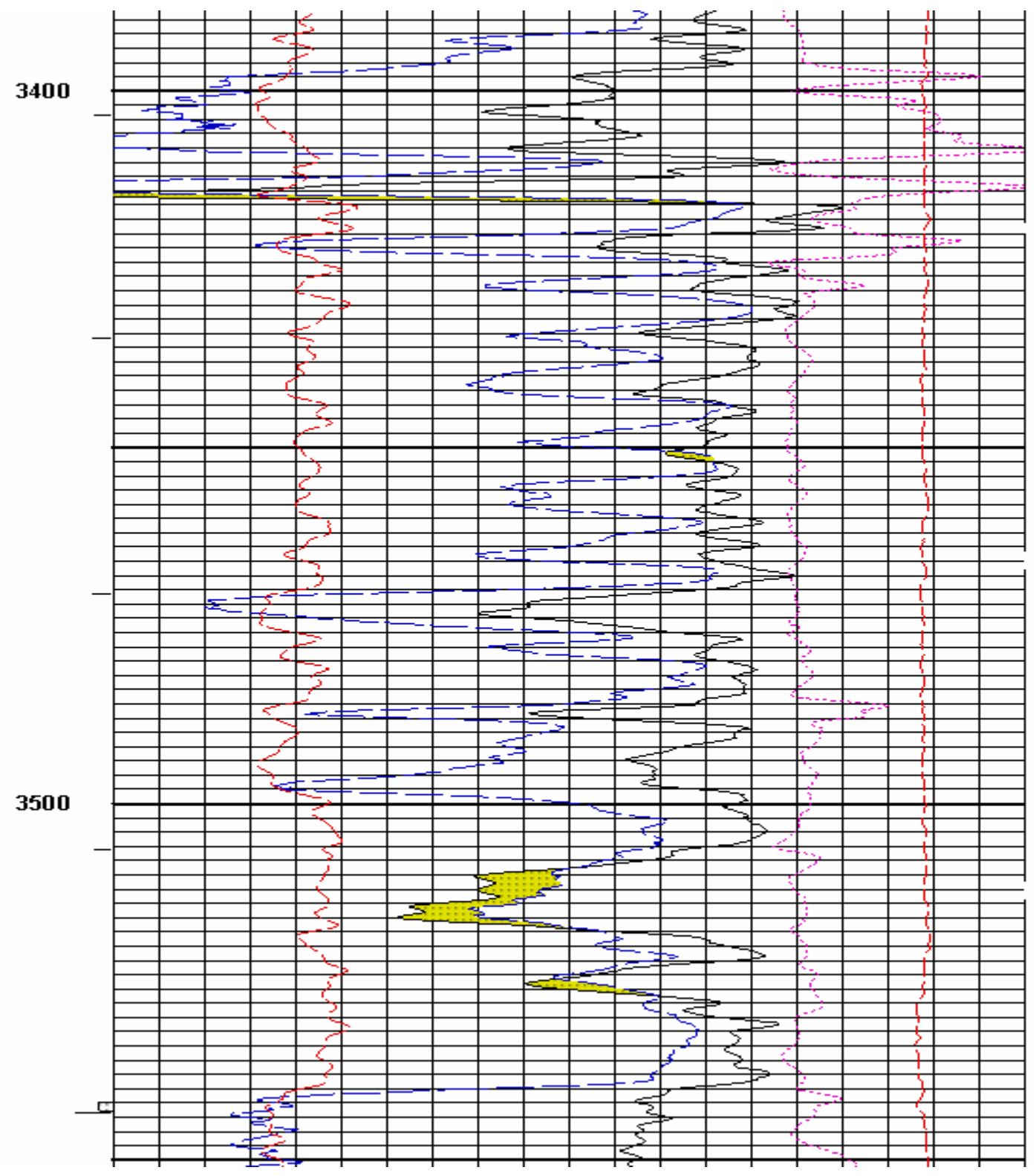
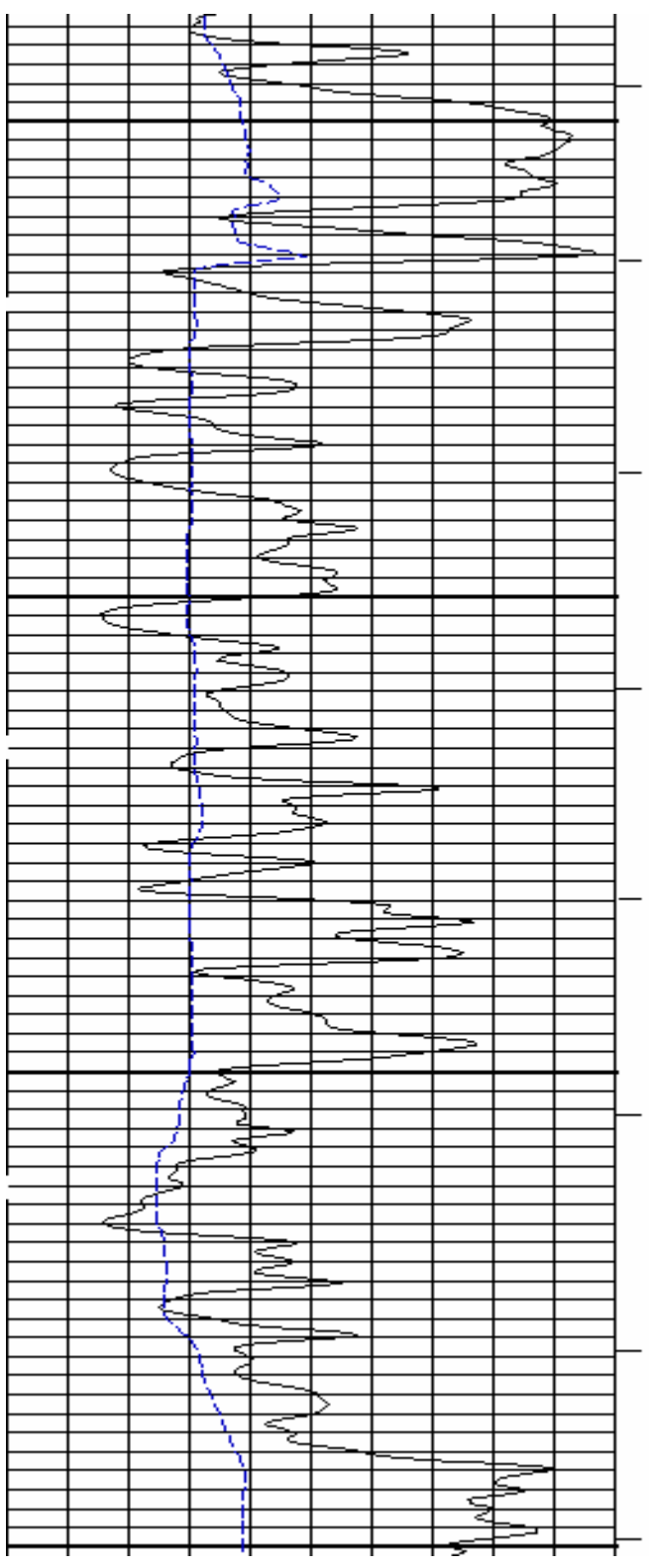
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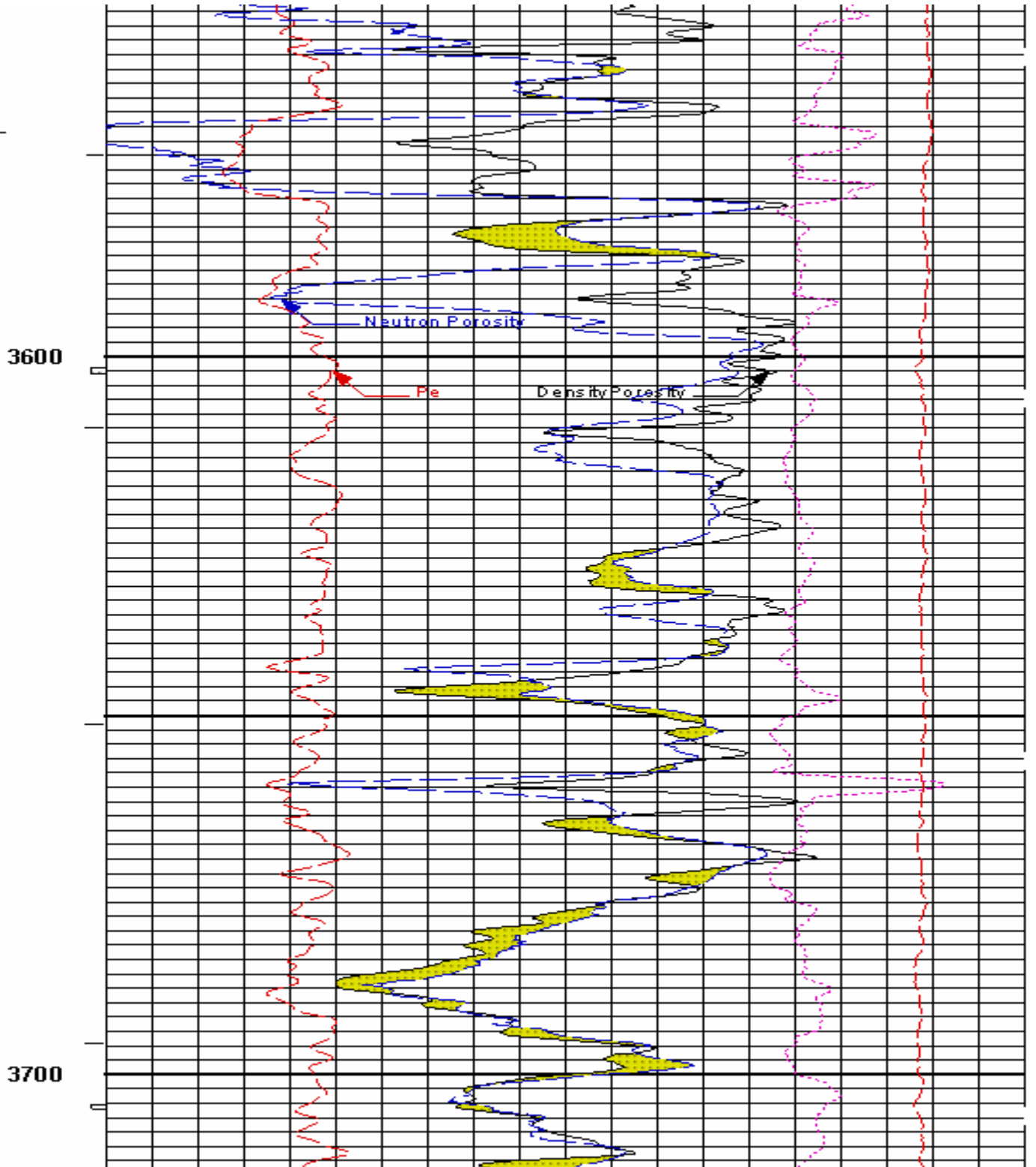
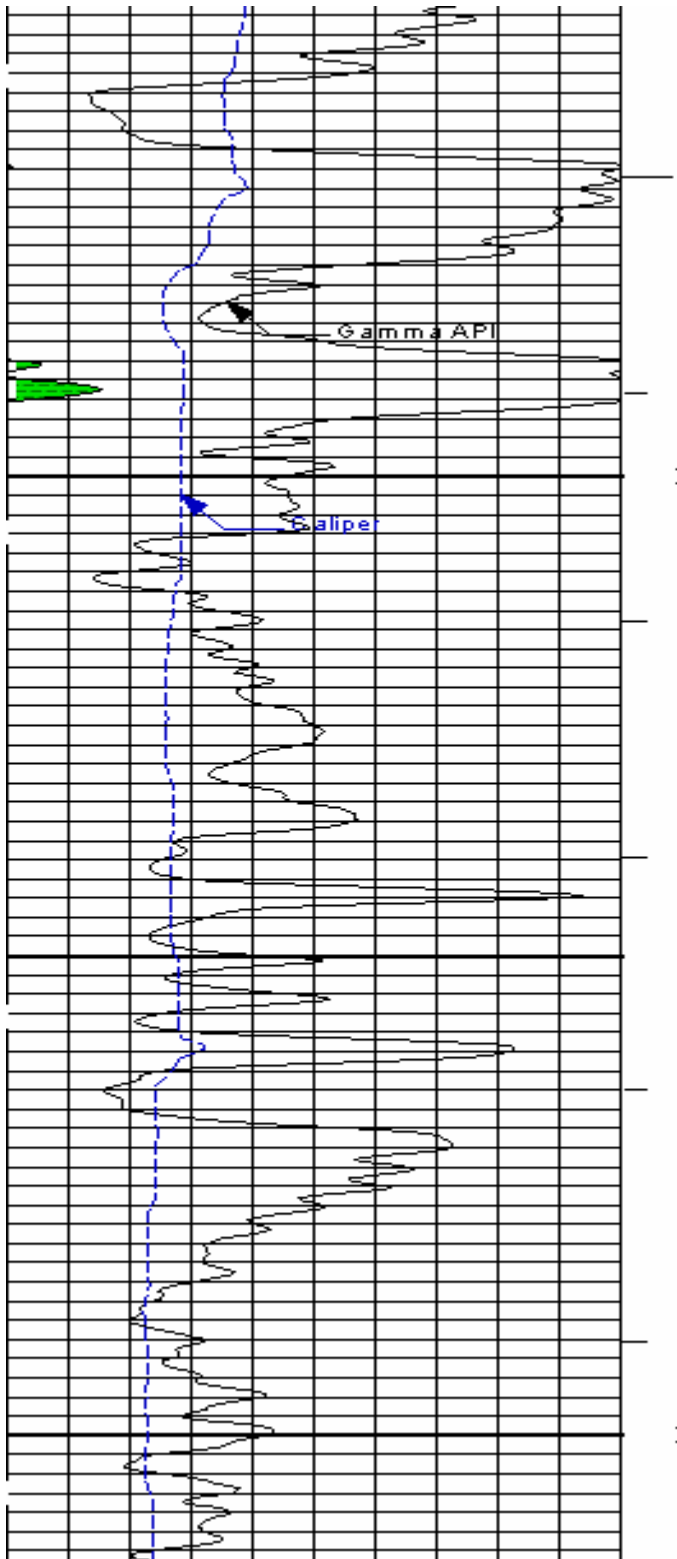
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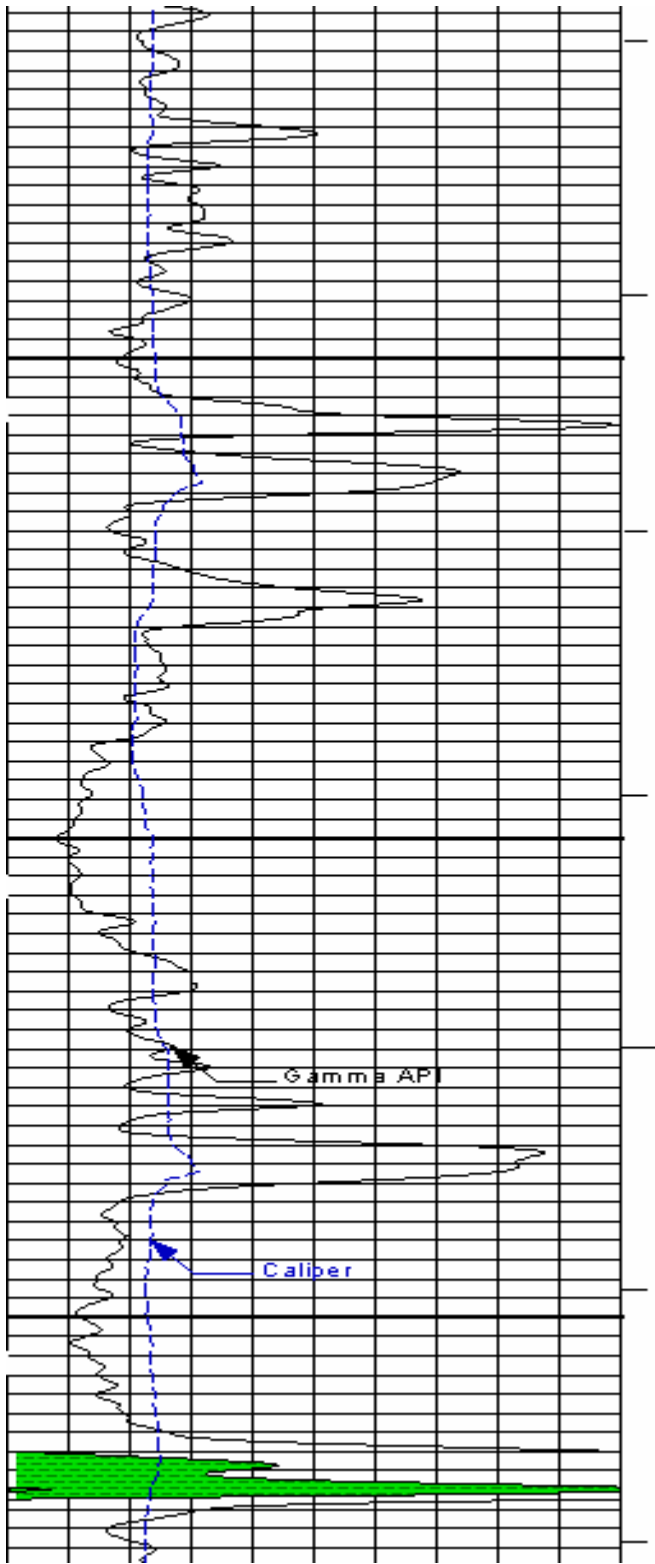
Plot Range: 3300 ft. to 4851.25 ft.

5 INCH MAIN LOG

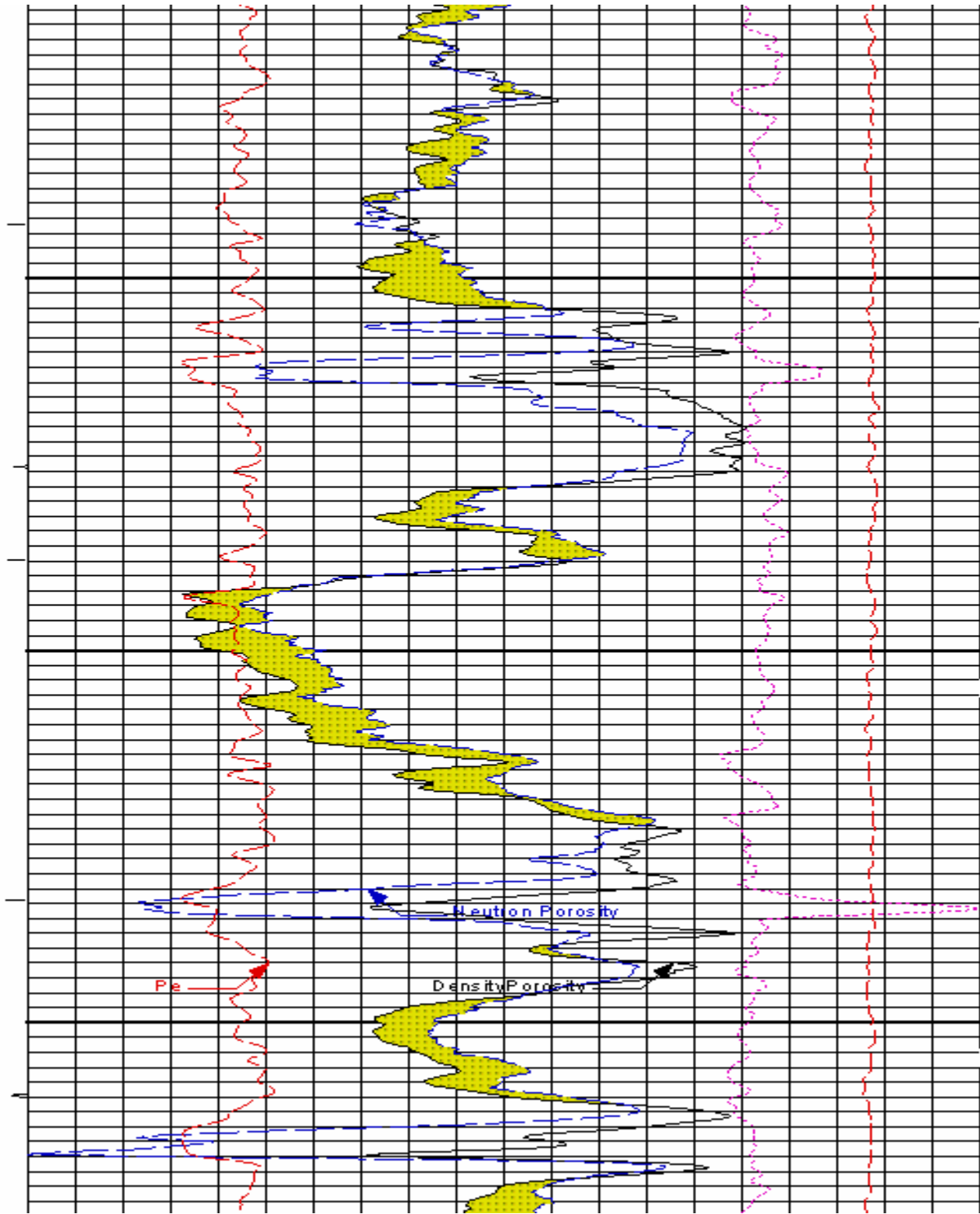


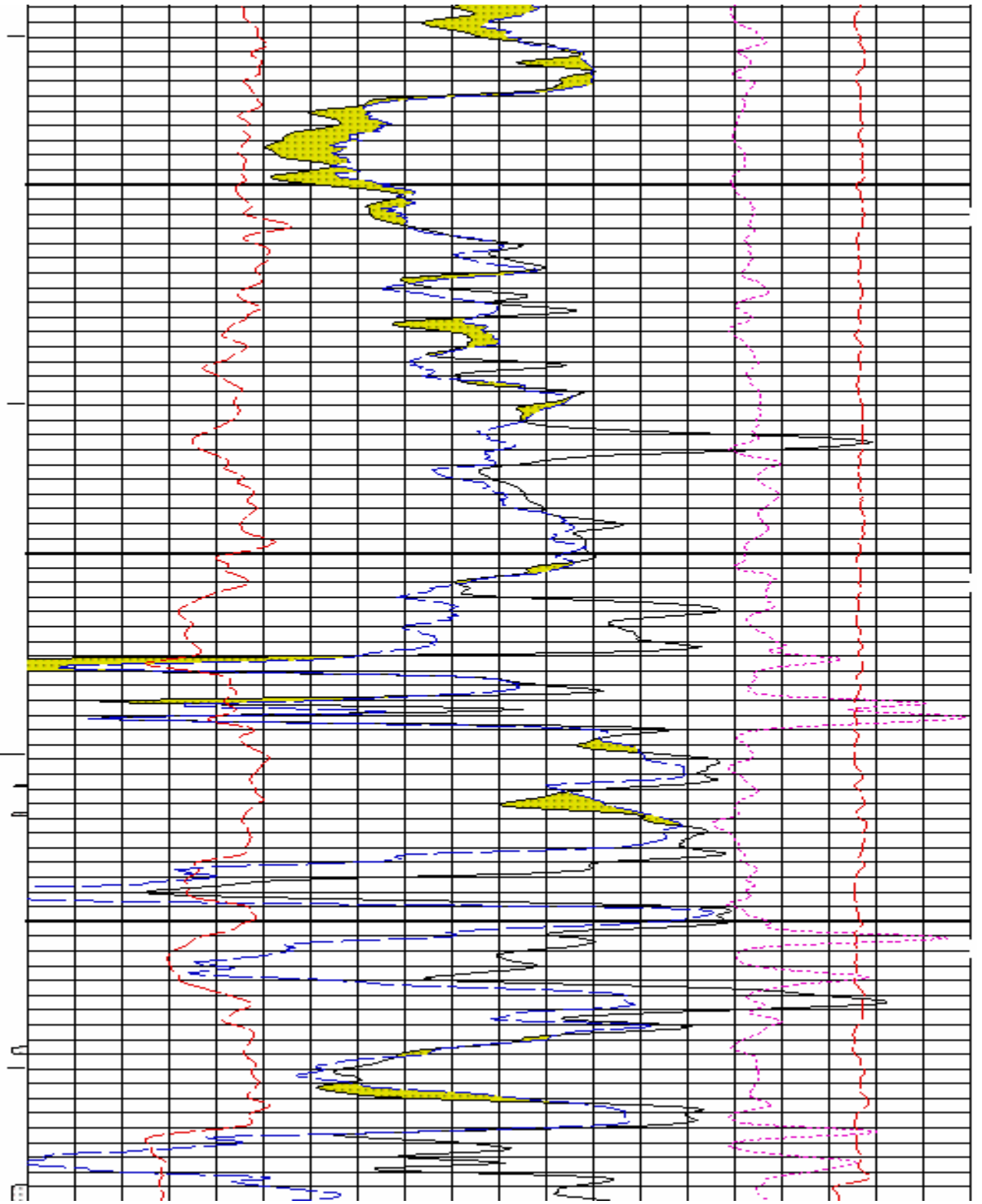
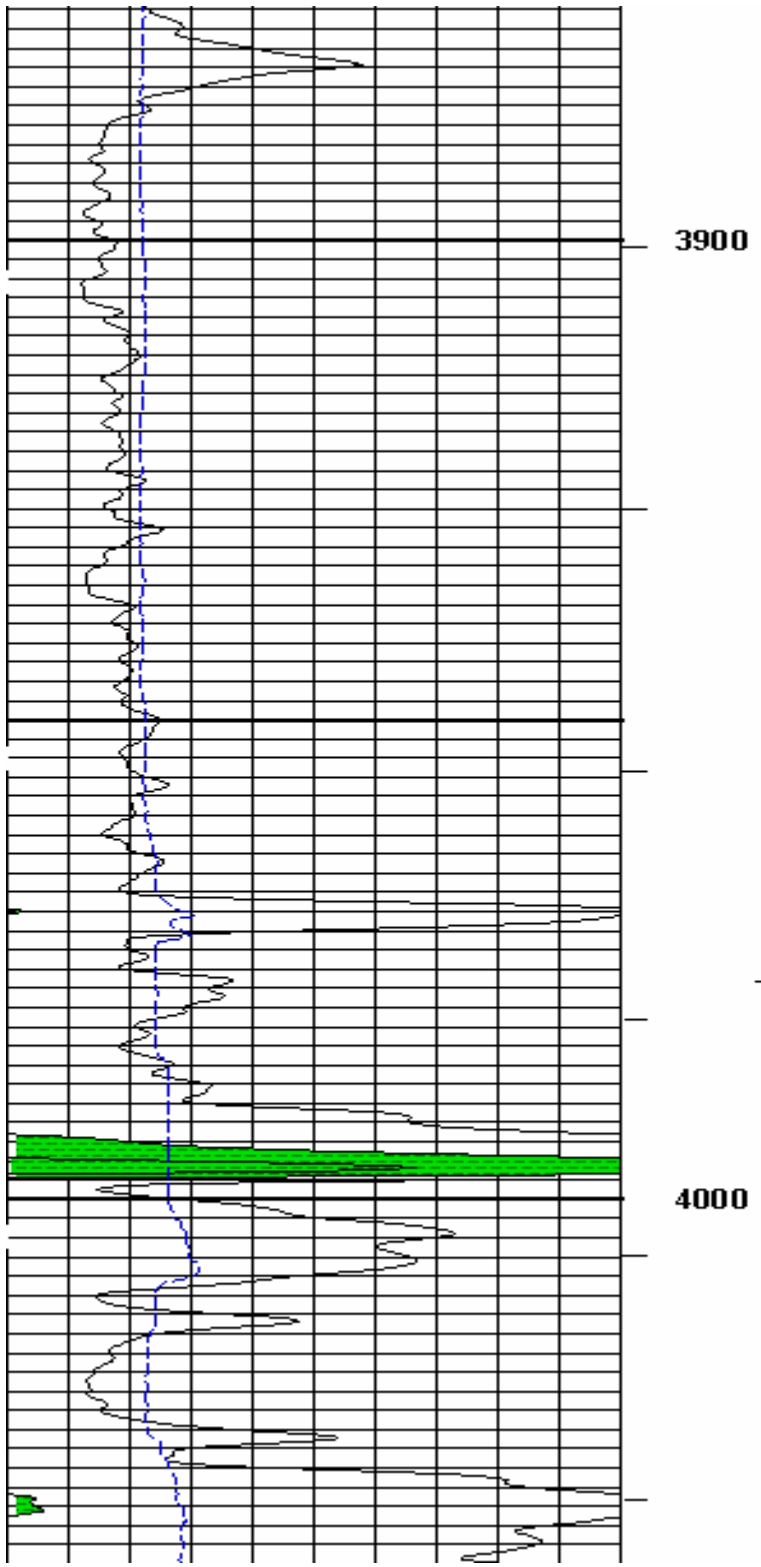


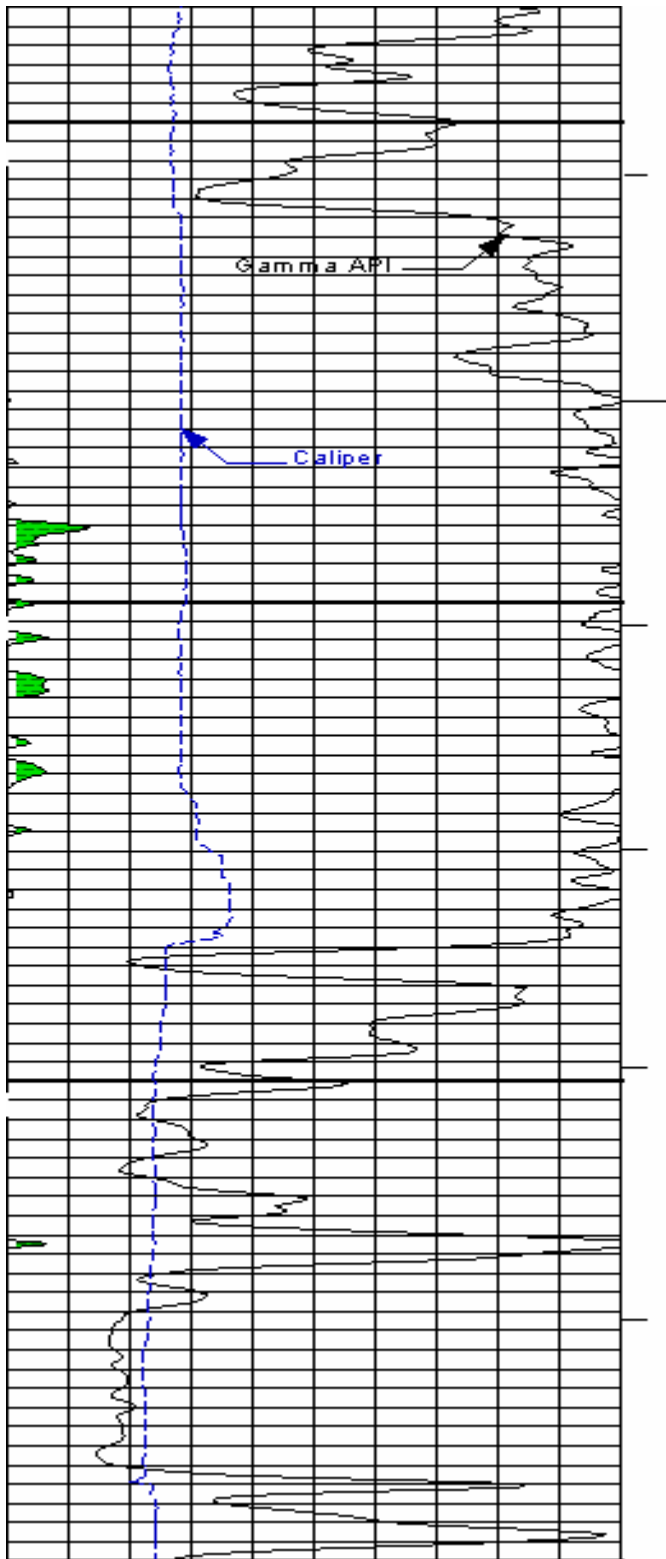




3800

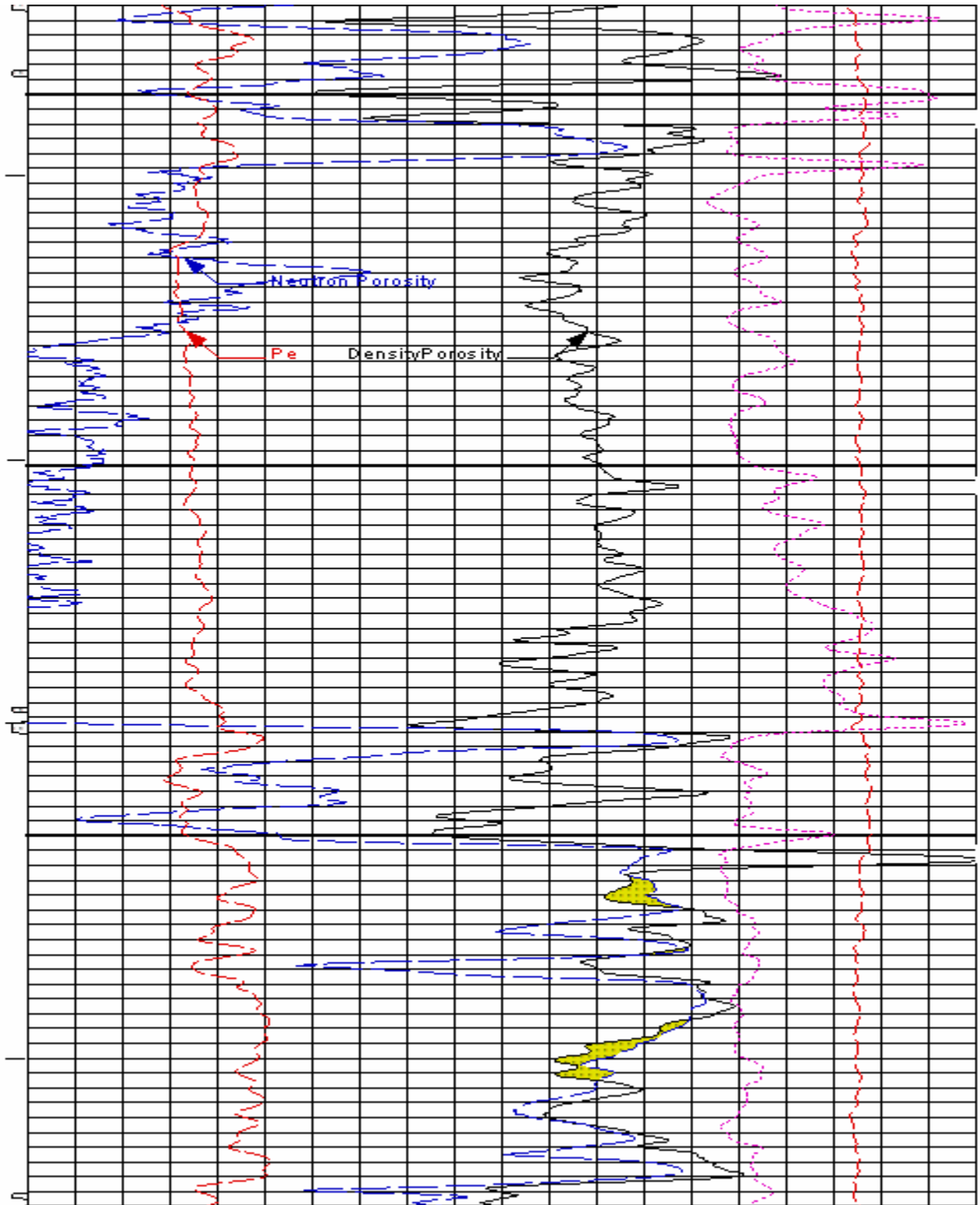


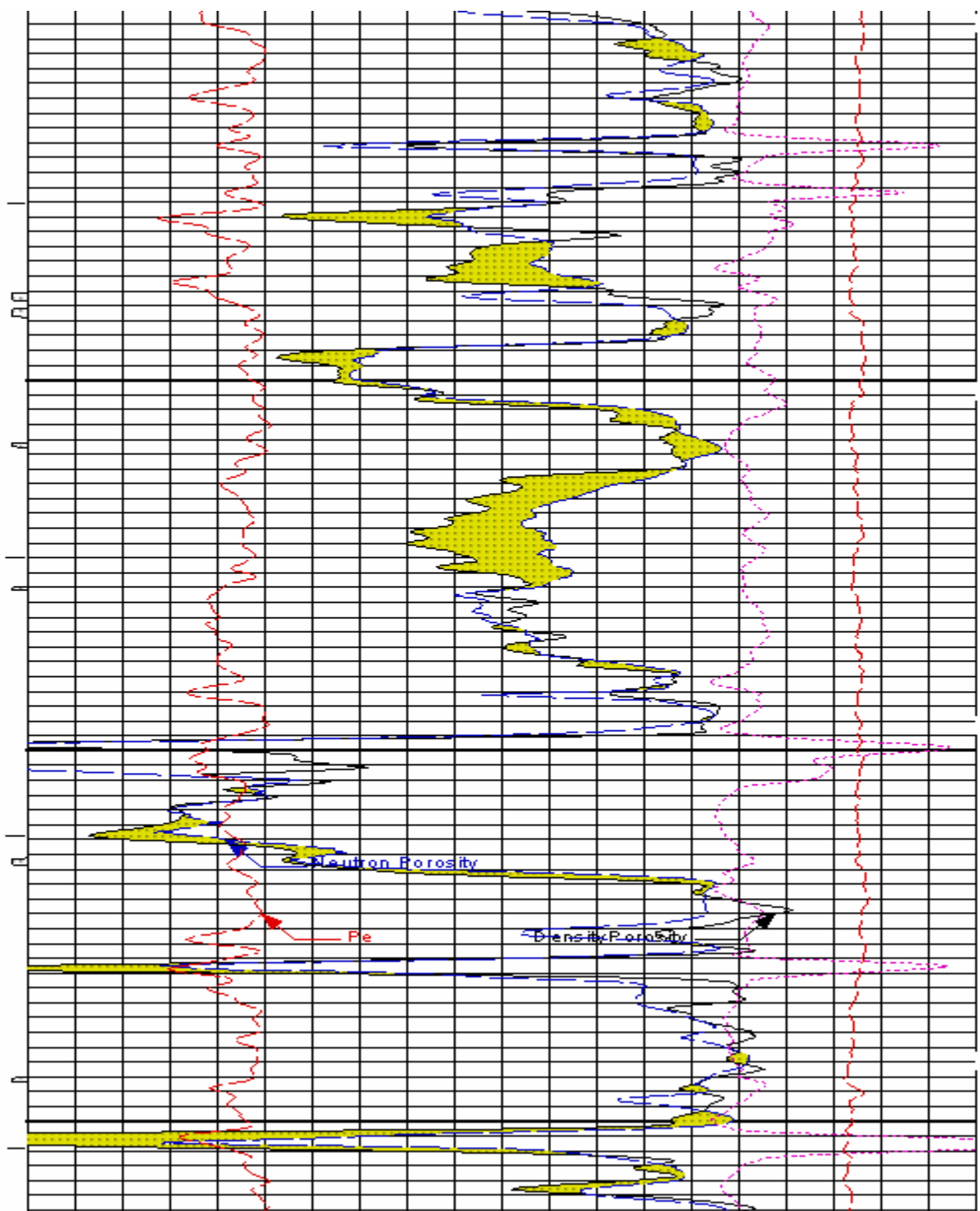
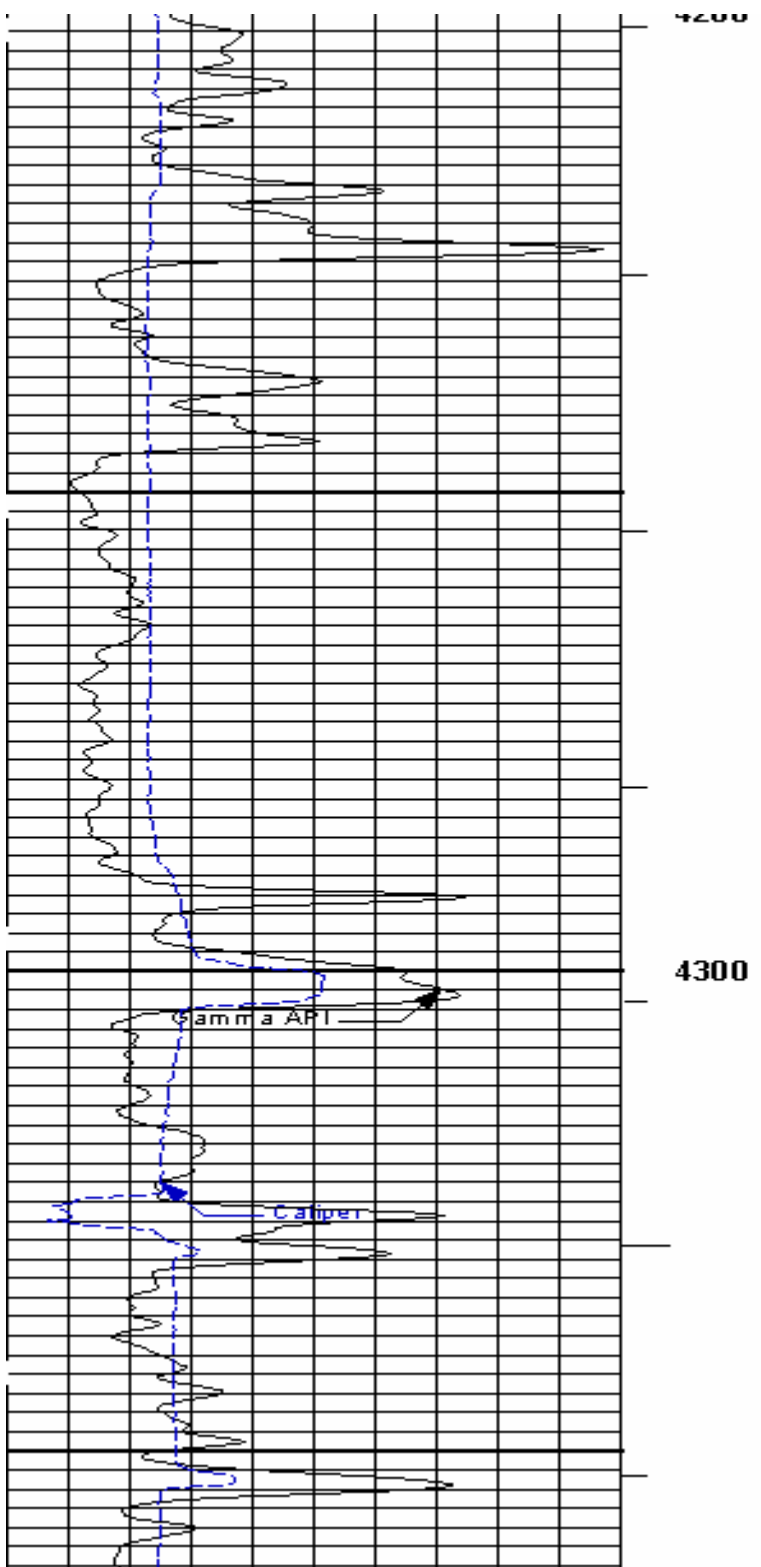


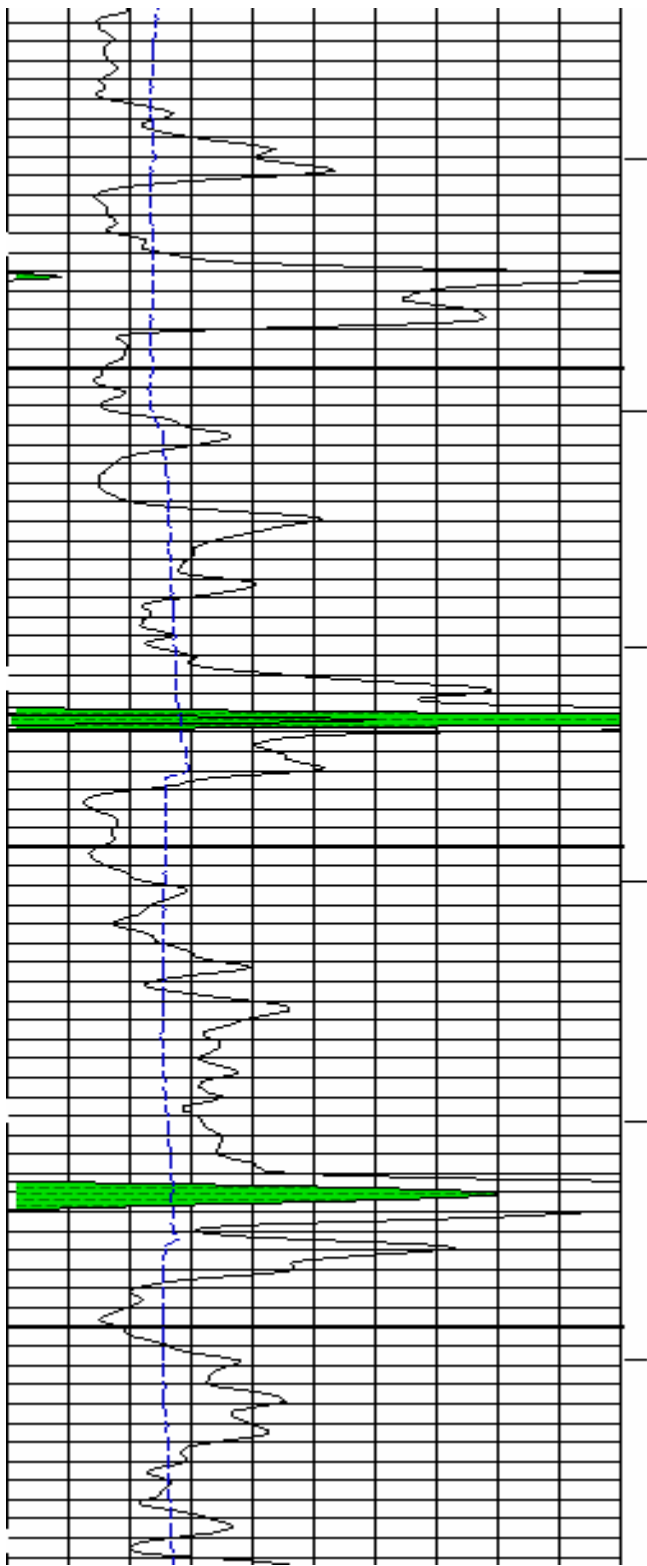


4100

4200

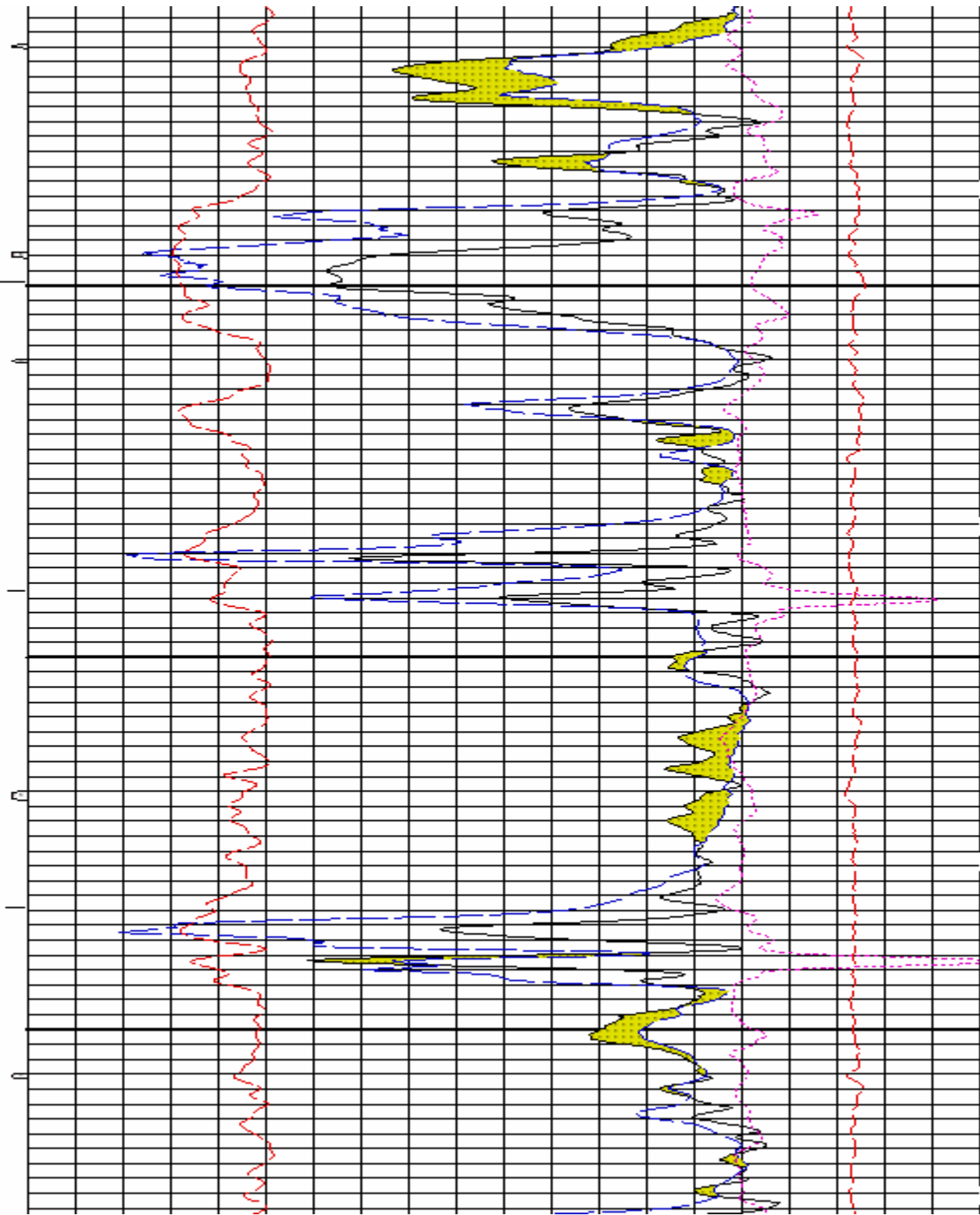


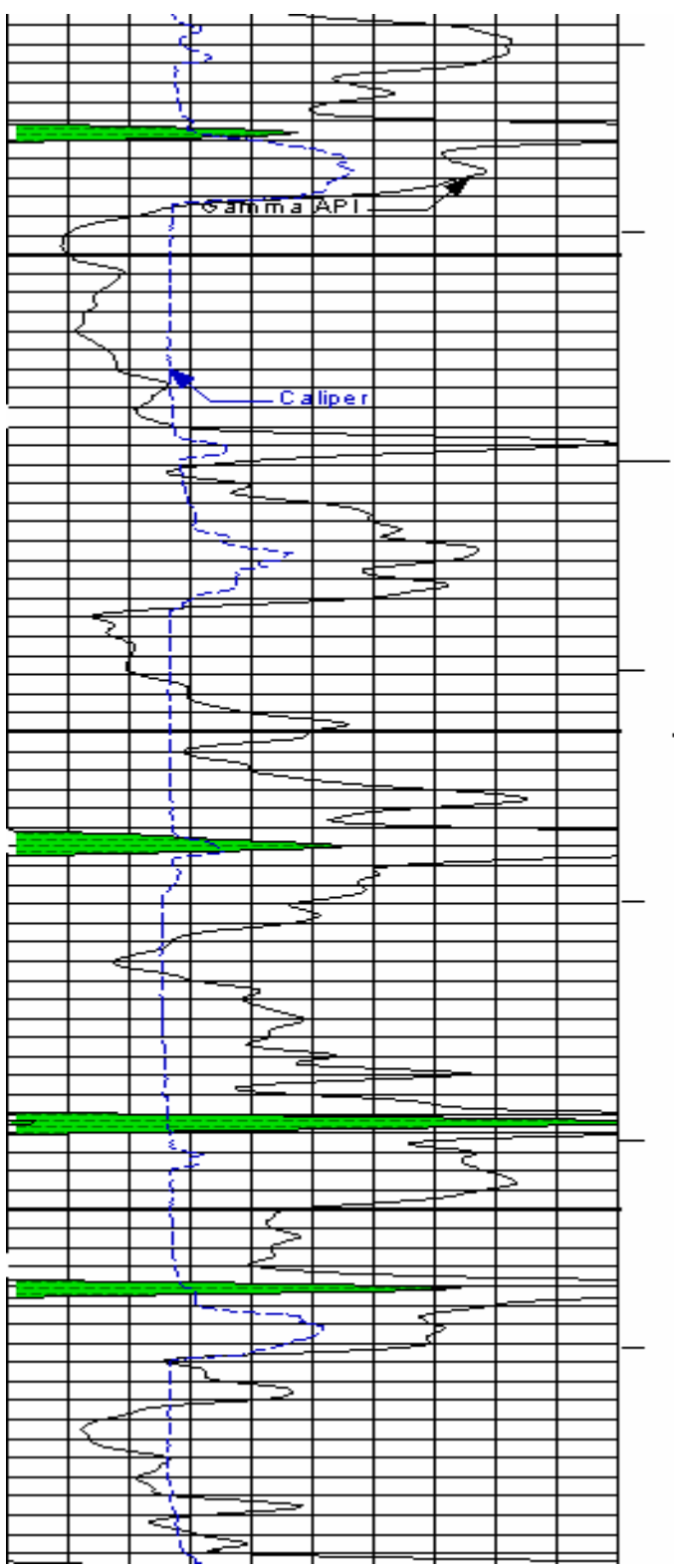




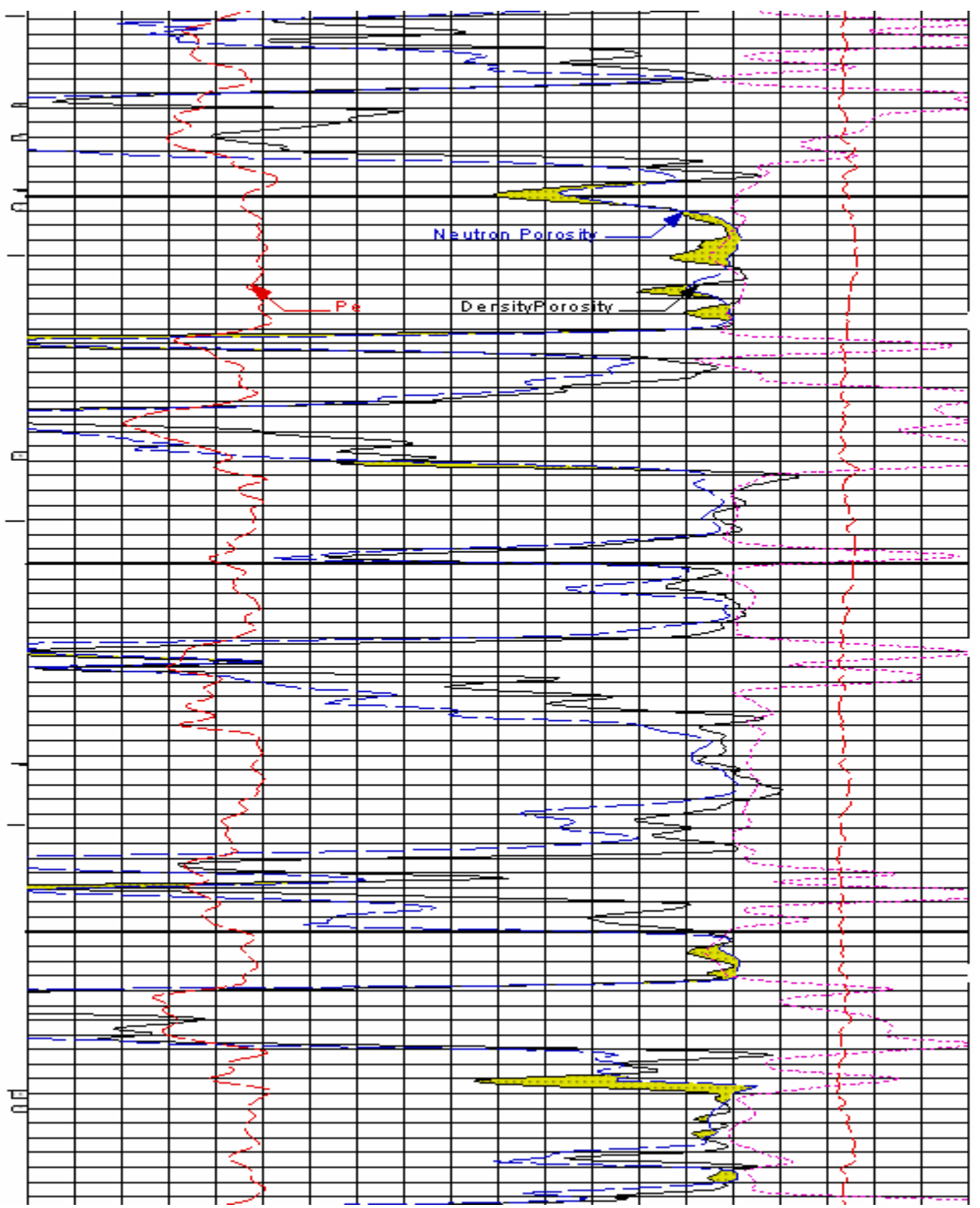
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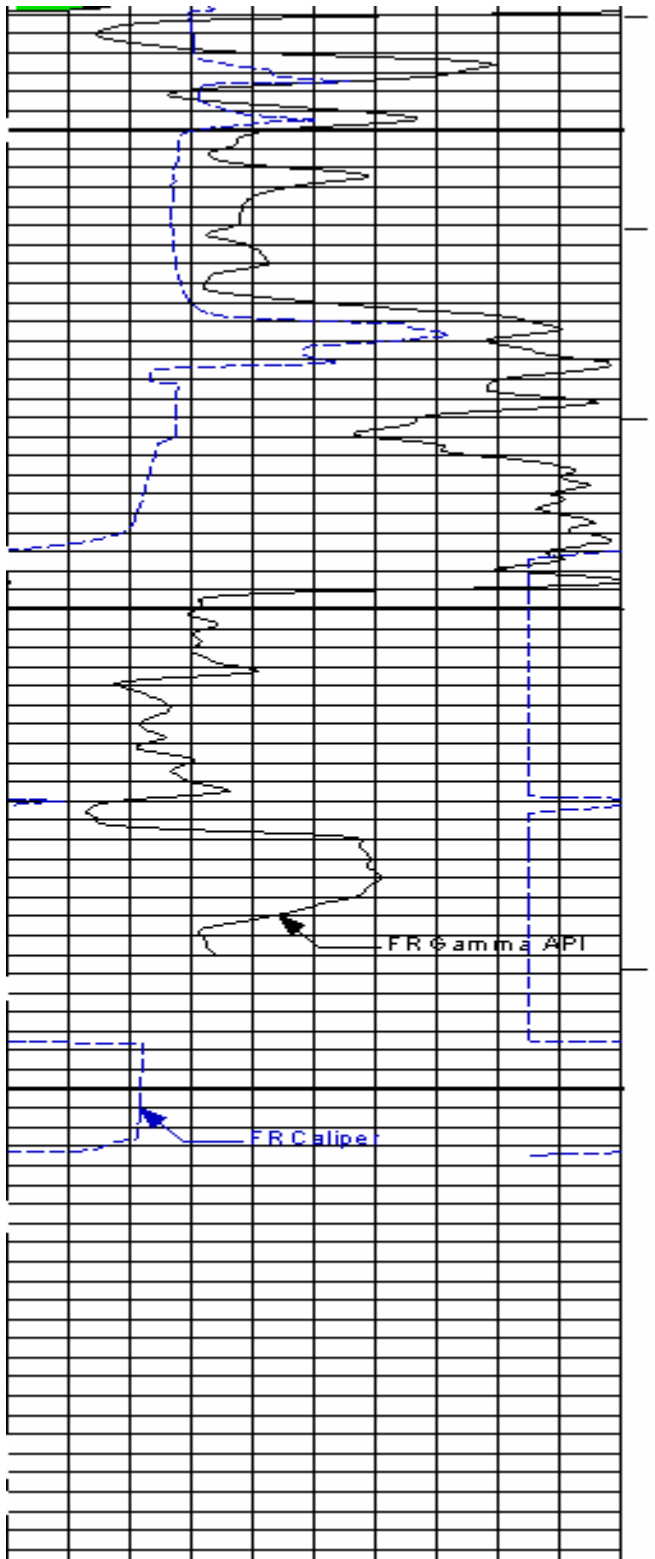
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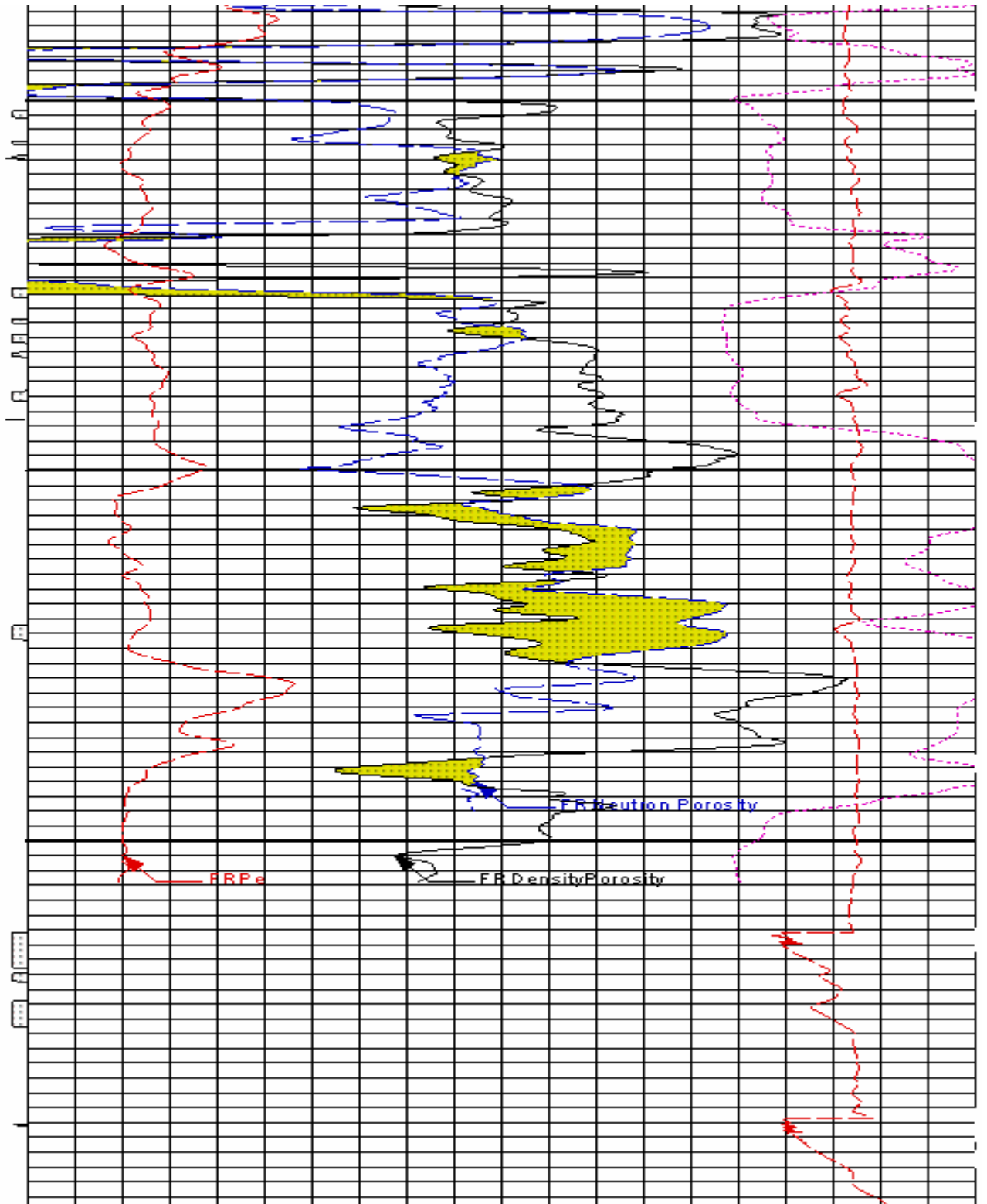
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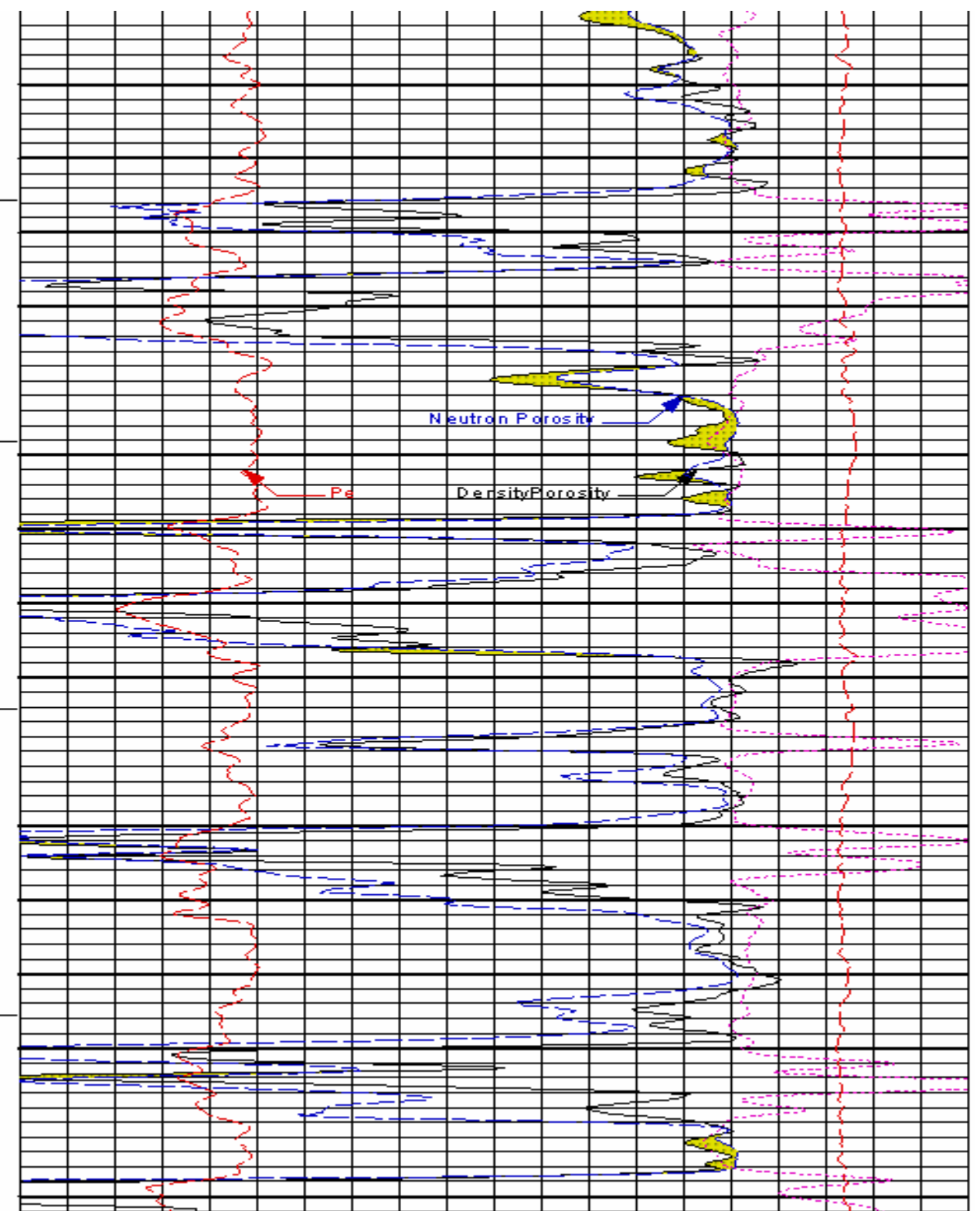
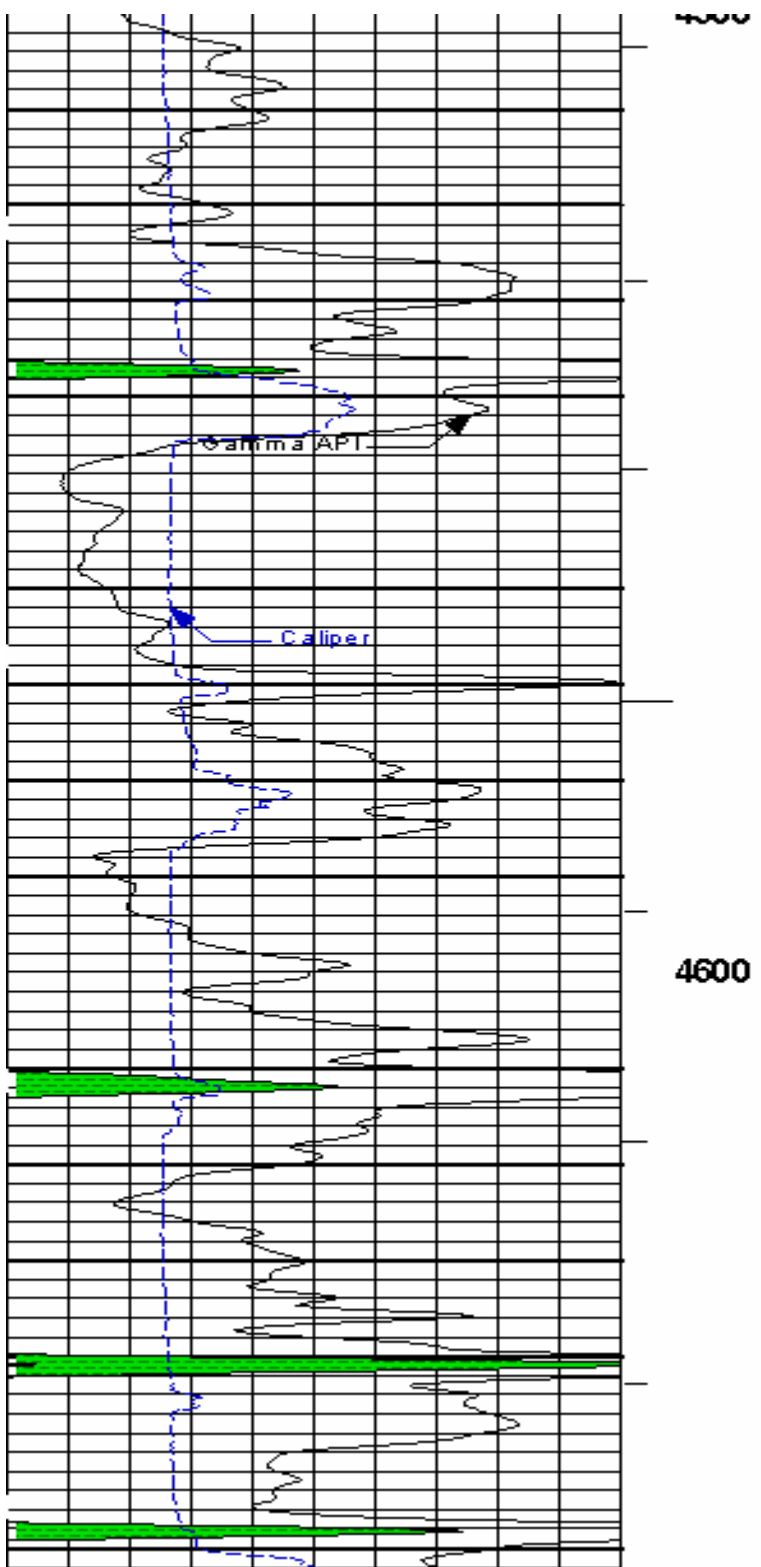


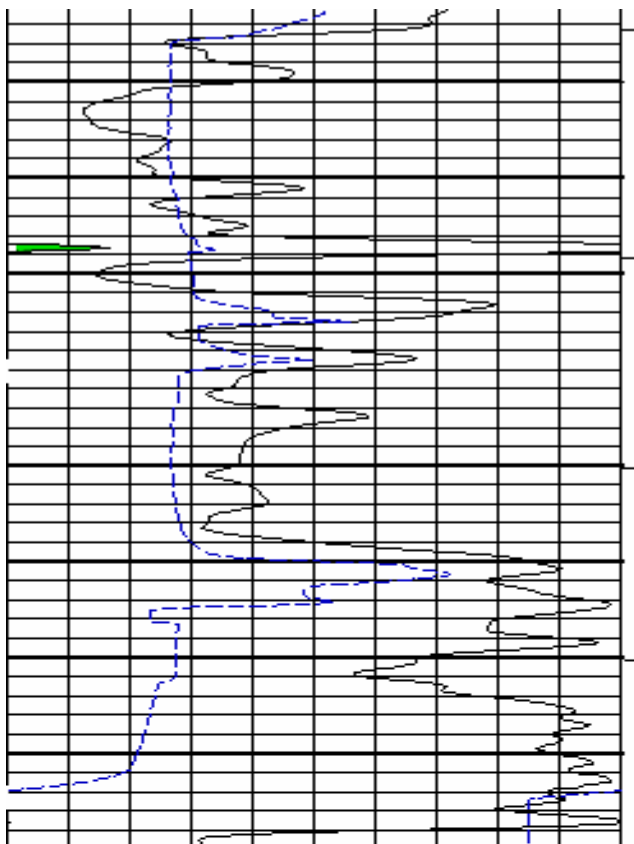


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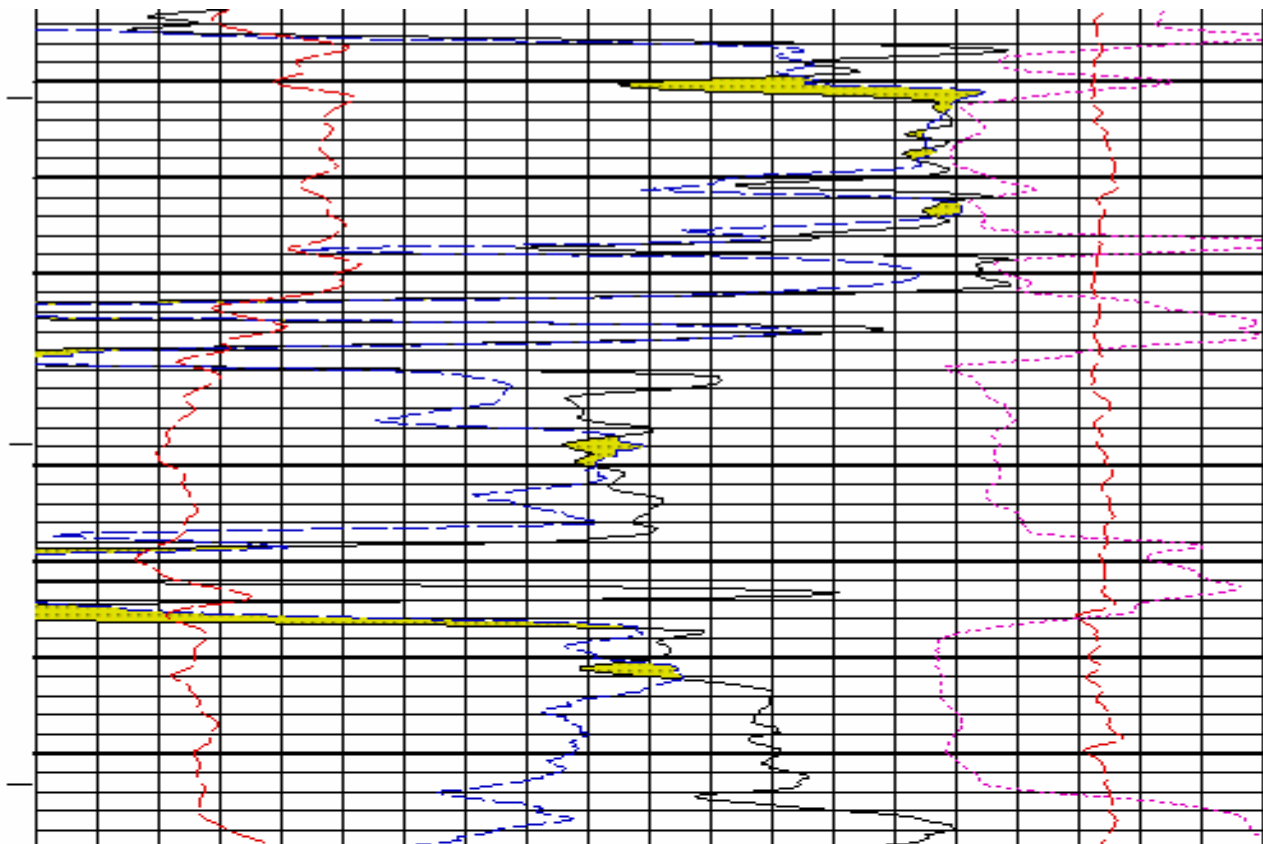
4800







4700



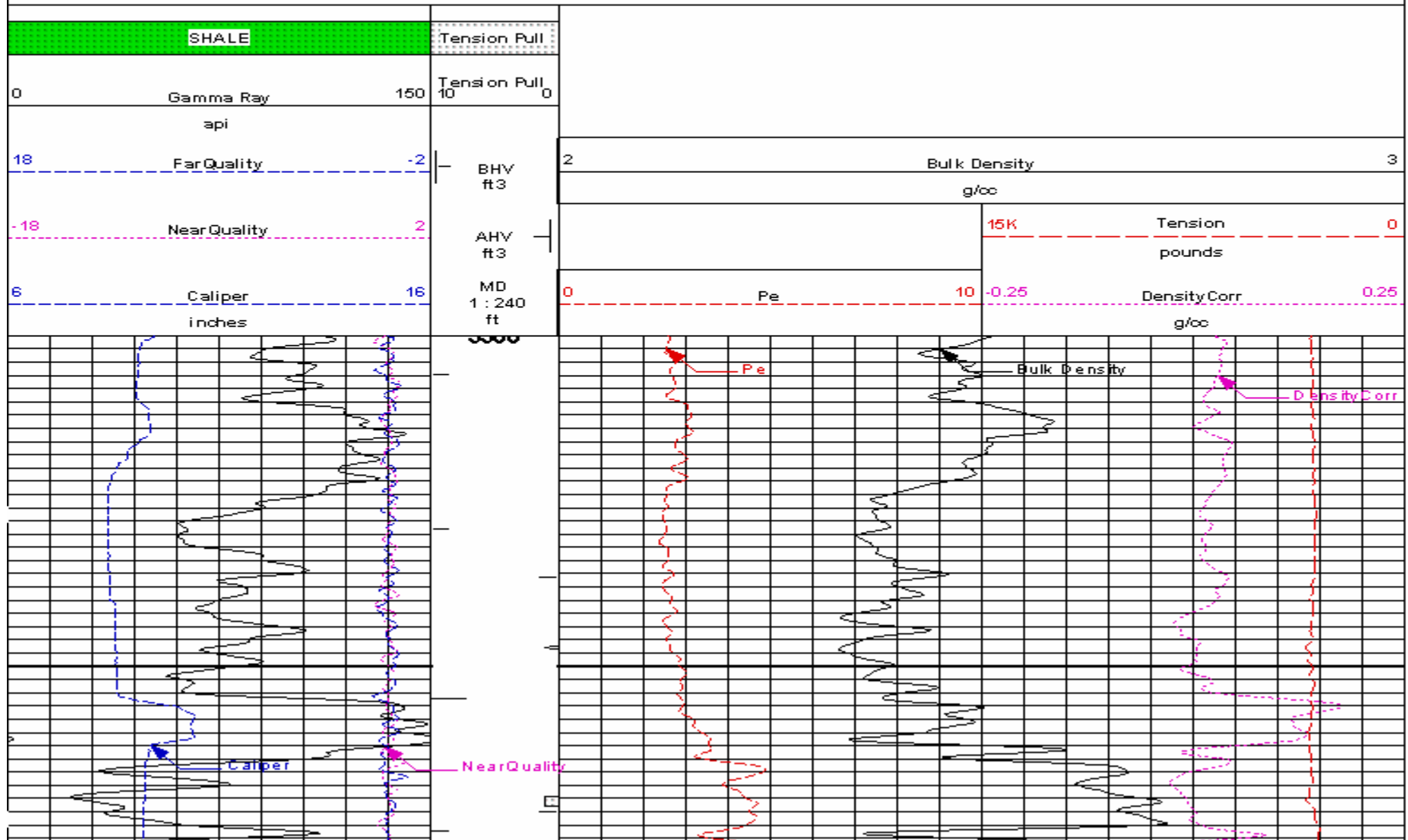
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	inches		1 : 240					gram per cc	
0	Gamma API	150	AHVT			15K		Tension	0
	api		BHVT	30				pounds	
	SHALE							Density Porosity	-10
								%	
				30				Neutron Porosity	-10
								%	
				CROSSOVER					

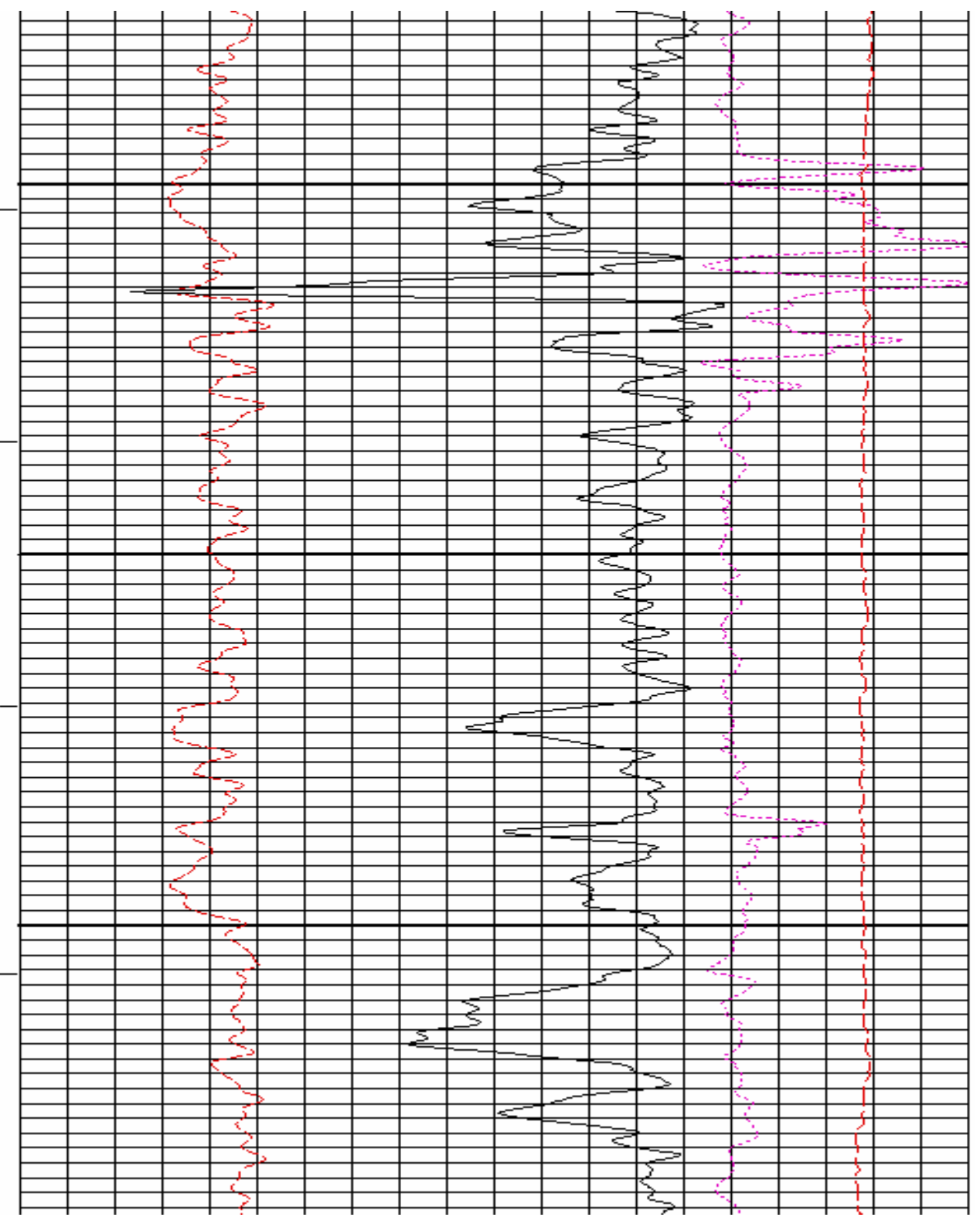
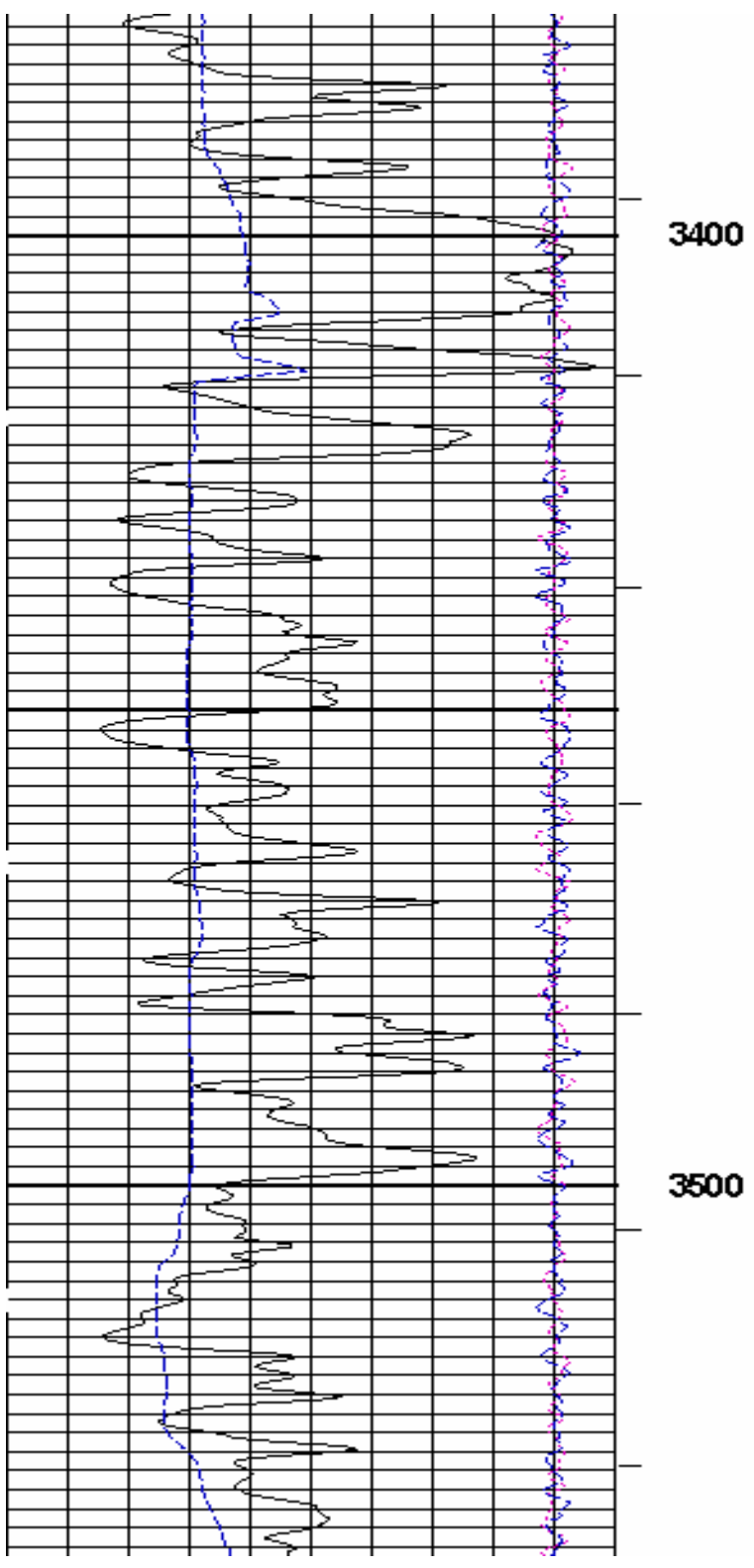
HALLIBURTON

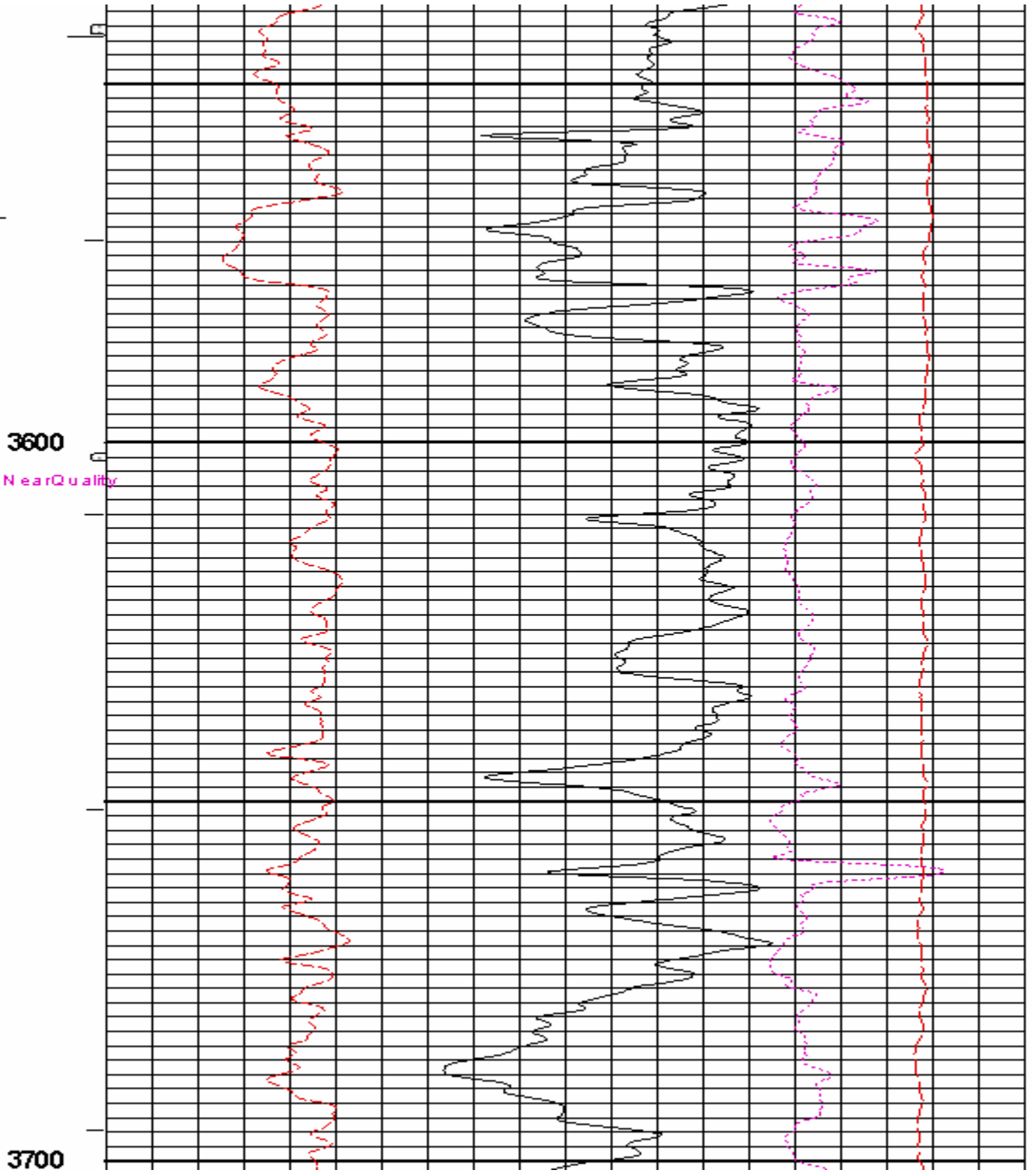
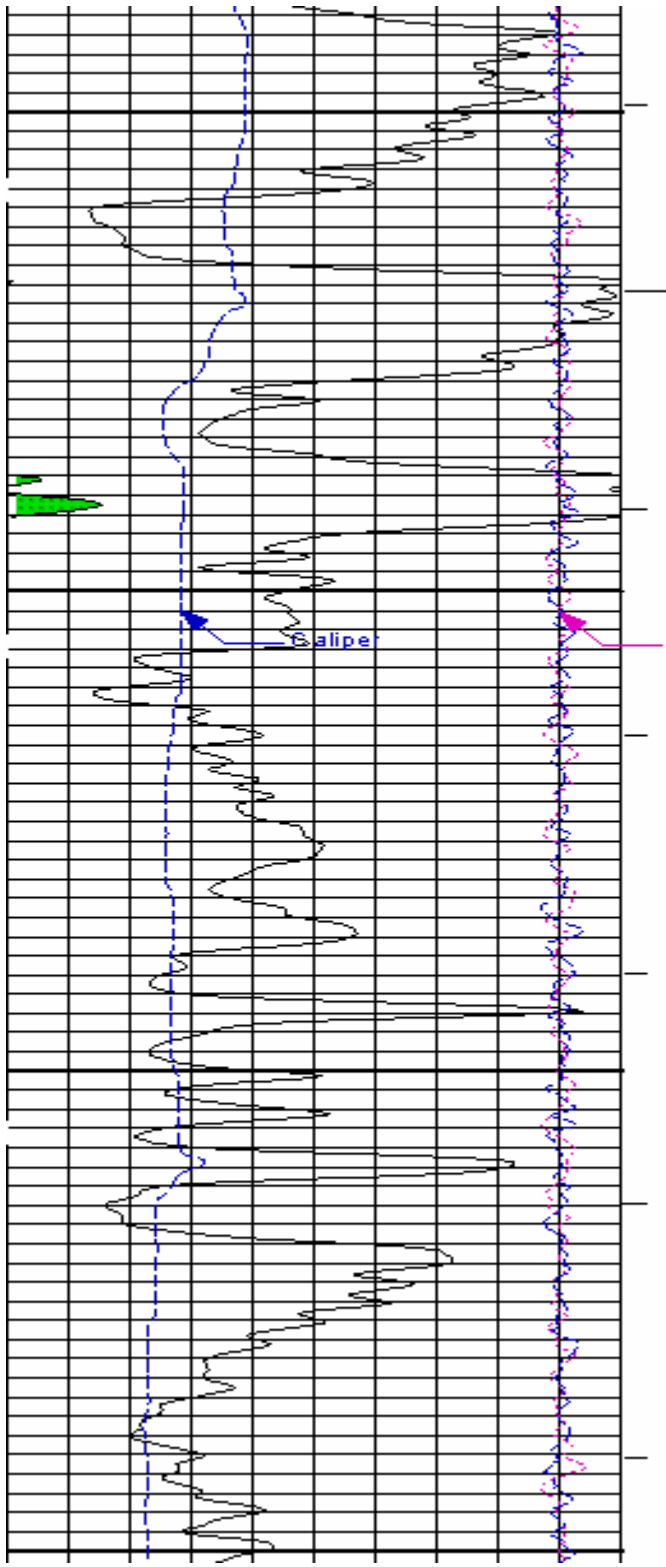
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 Plot Range: 4500 ft to 4750 ft
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 Plot File: WPORO\Porosity_5_REP_LIB

REPEAT SECTION

5 INCH MAIN LOG





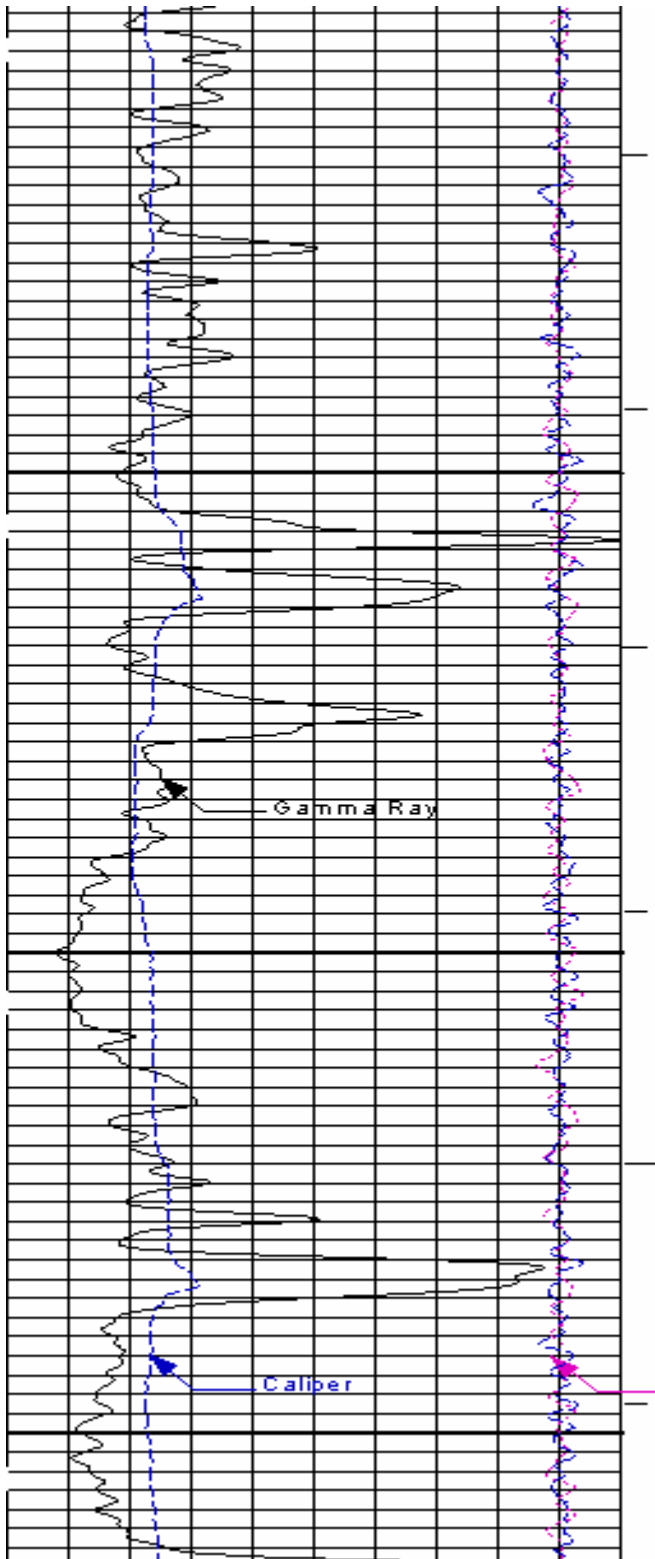


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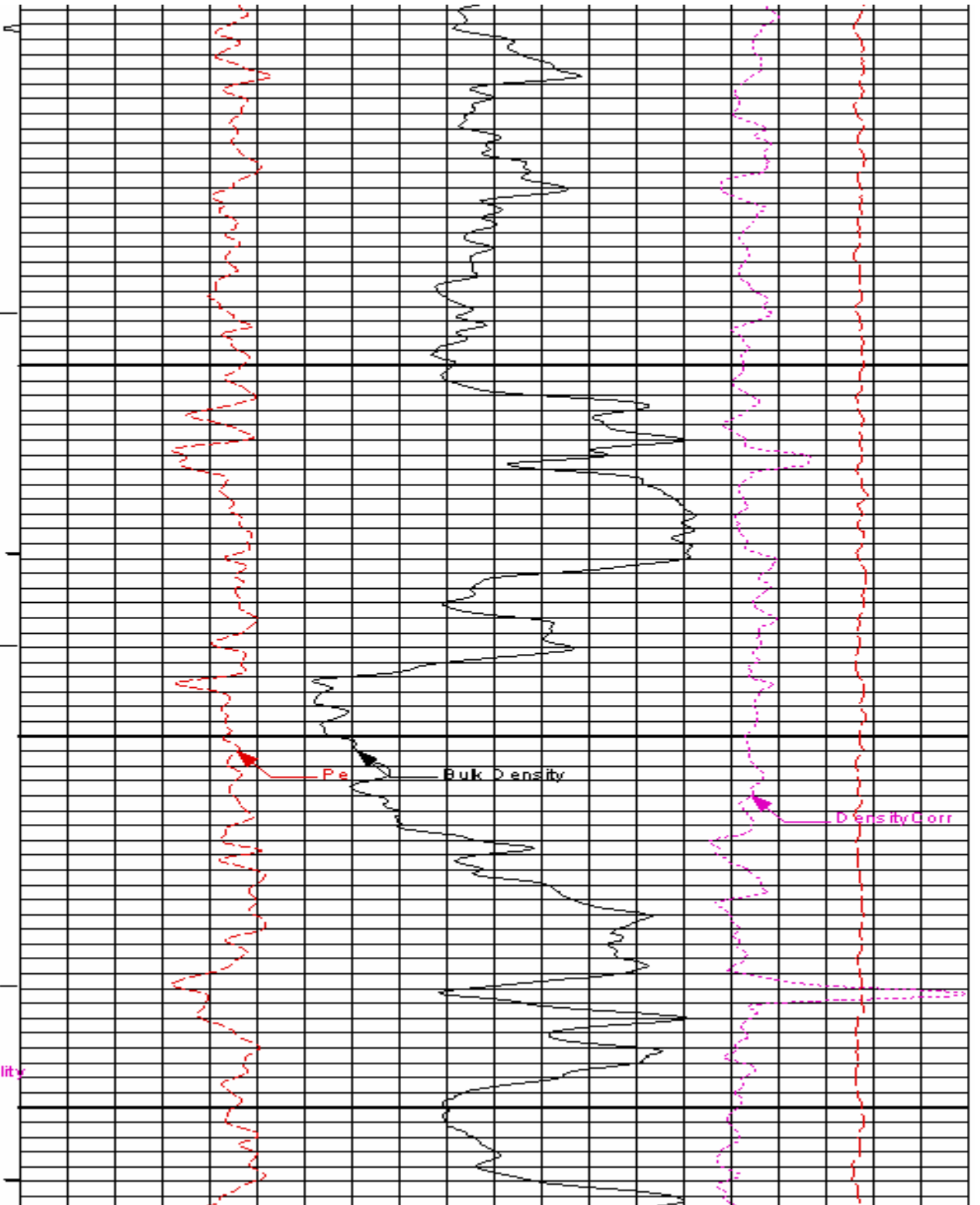
3700

caliper

NearQuality



3800



Gamma Ray

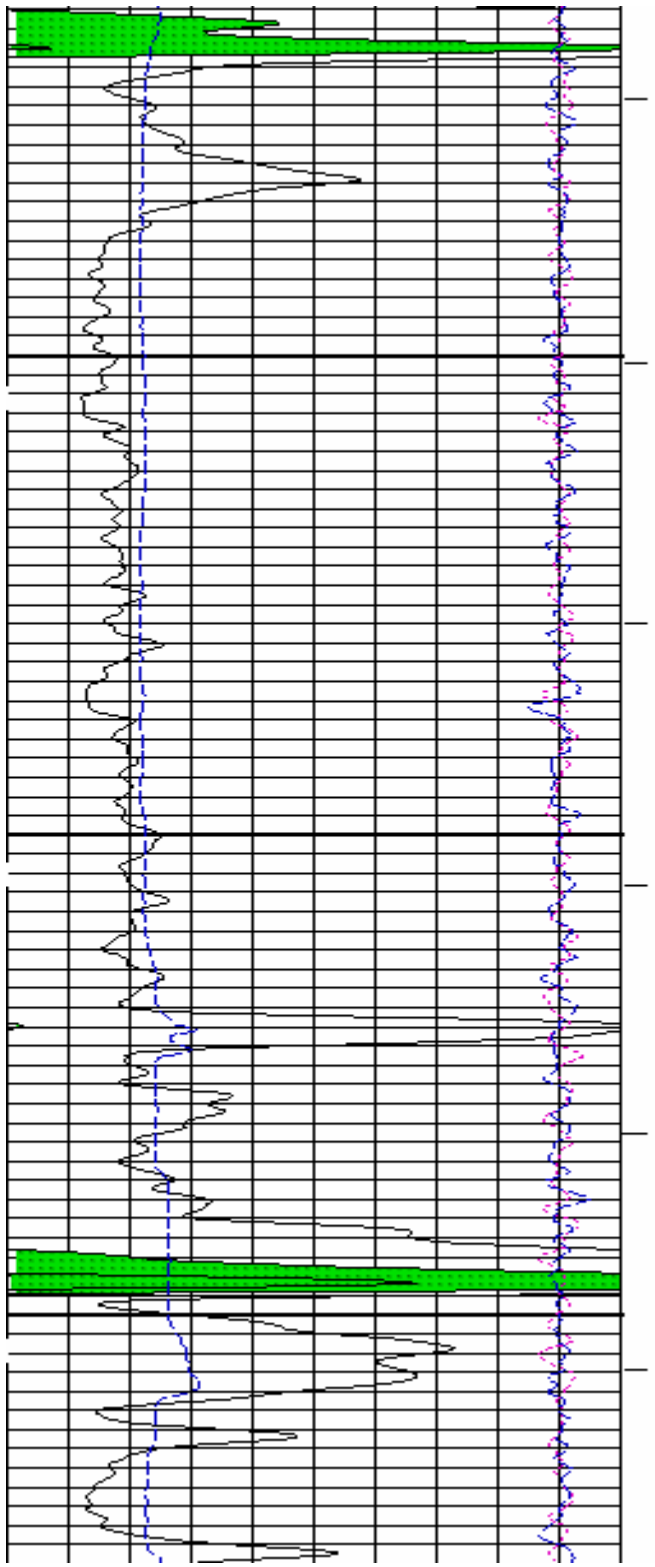
Caliber

Near Quality

Pe

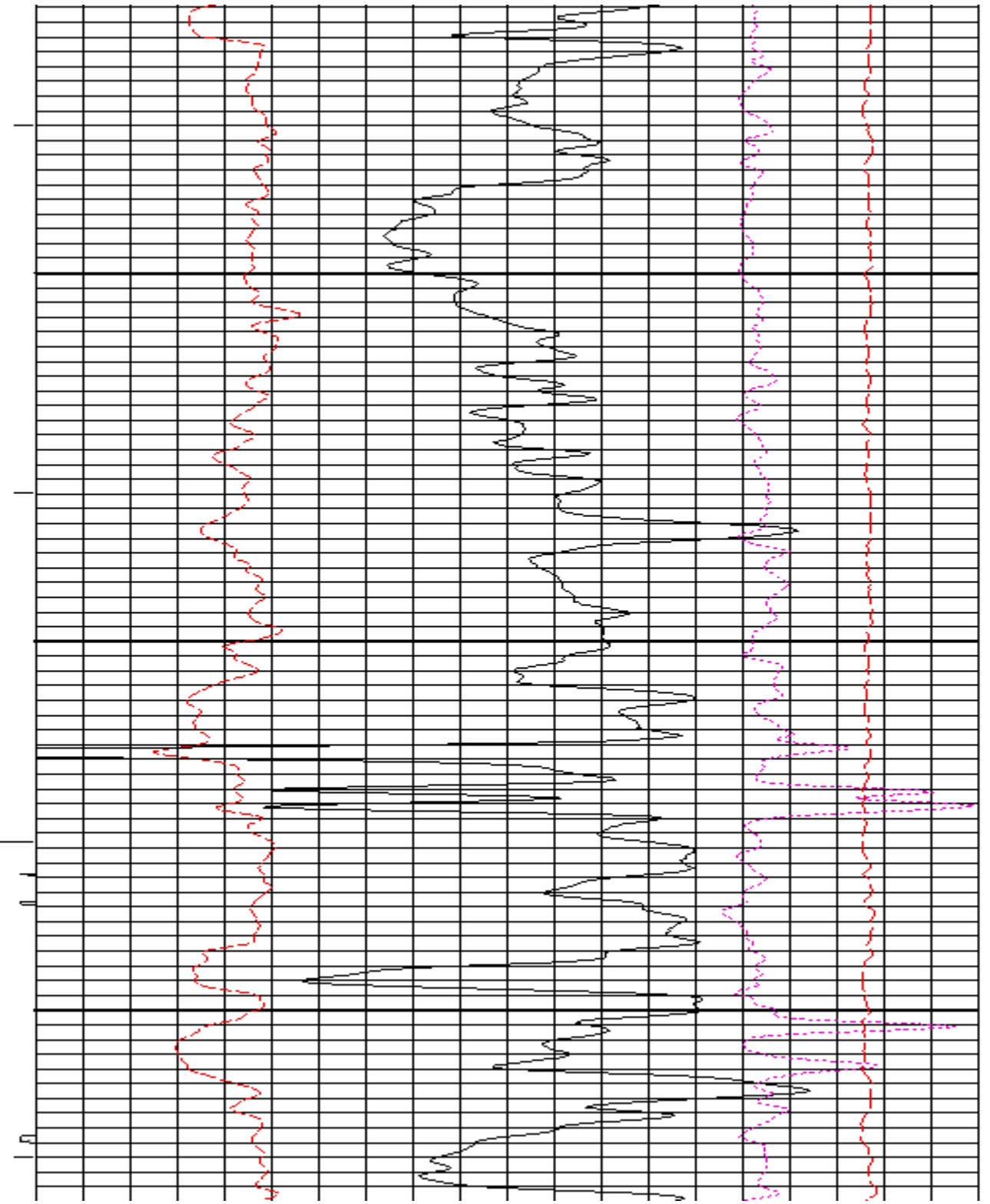
Bulk Density

Density Corr



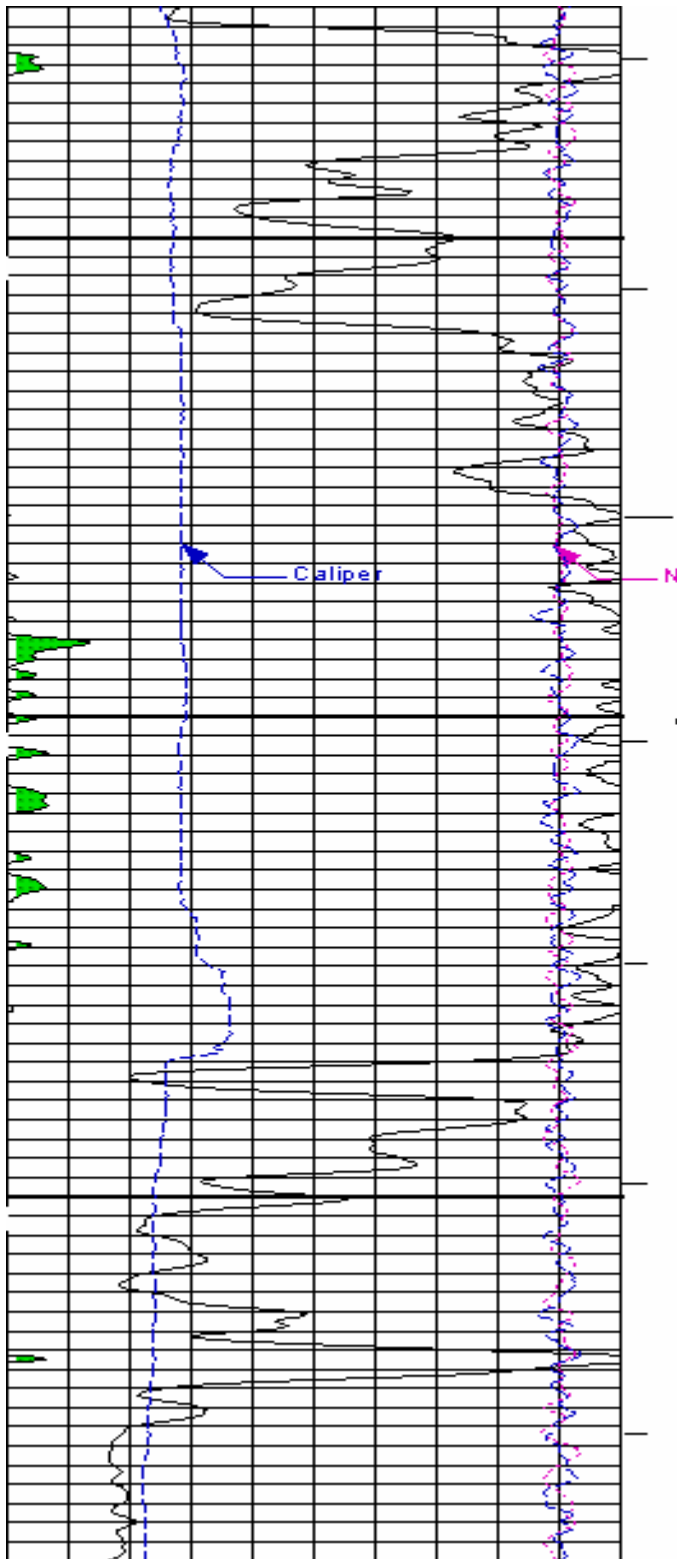
3900

4000

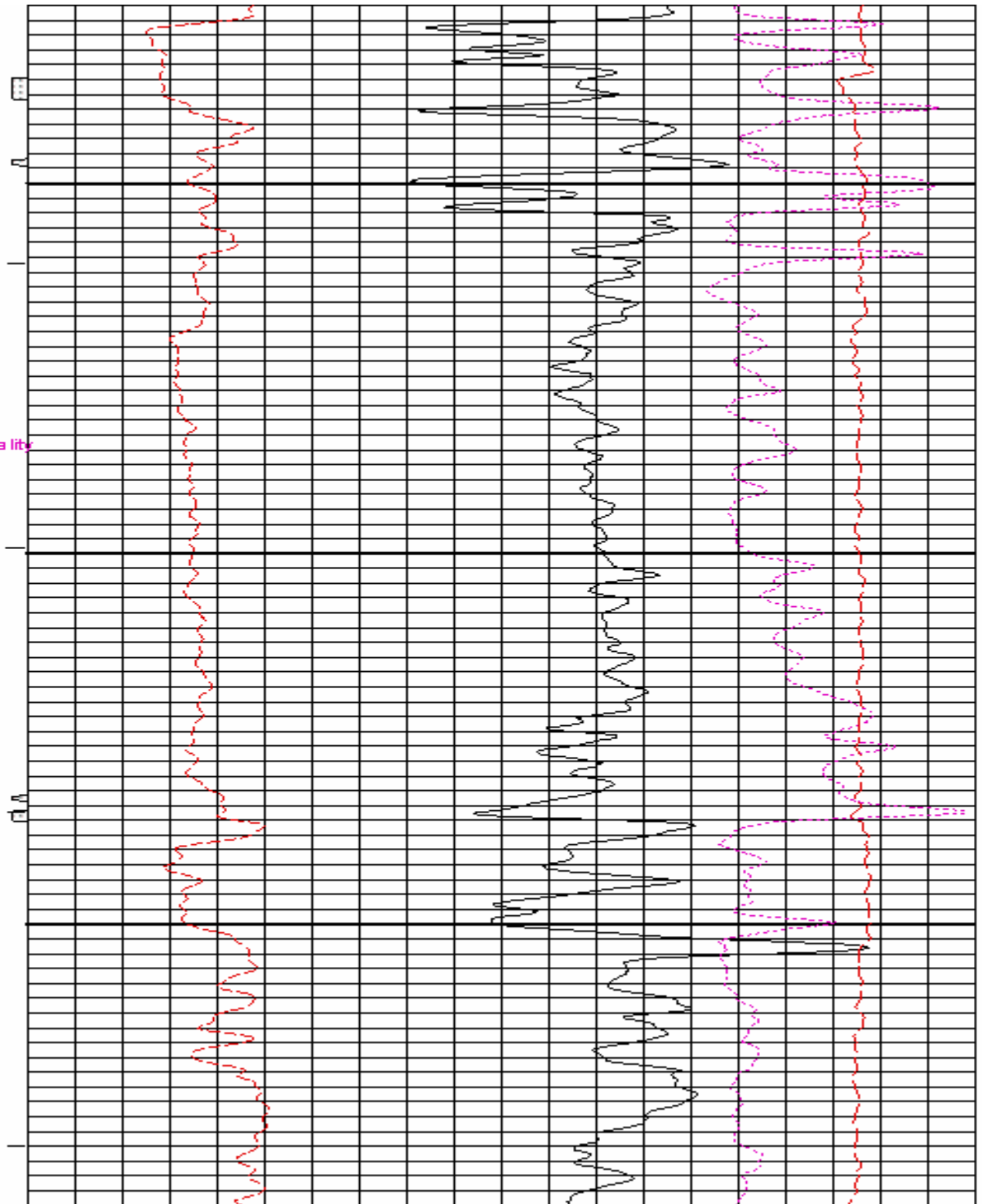


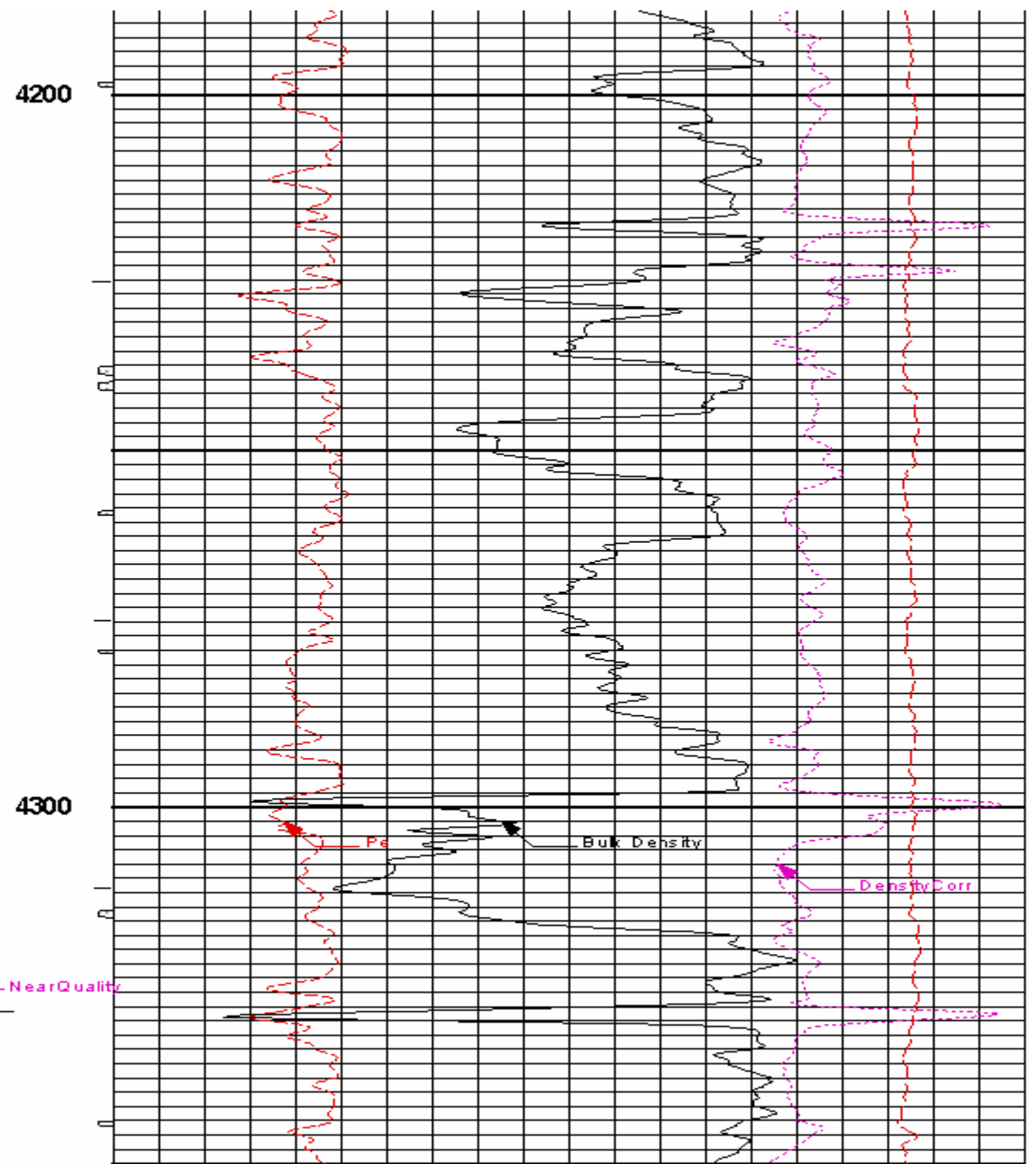
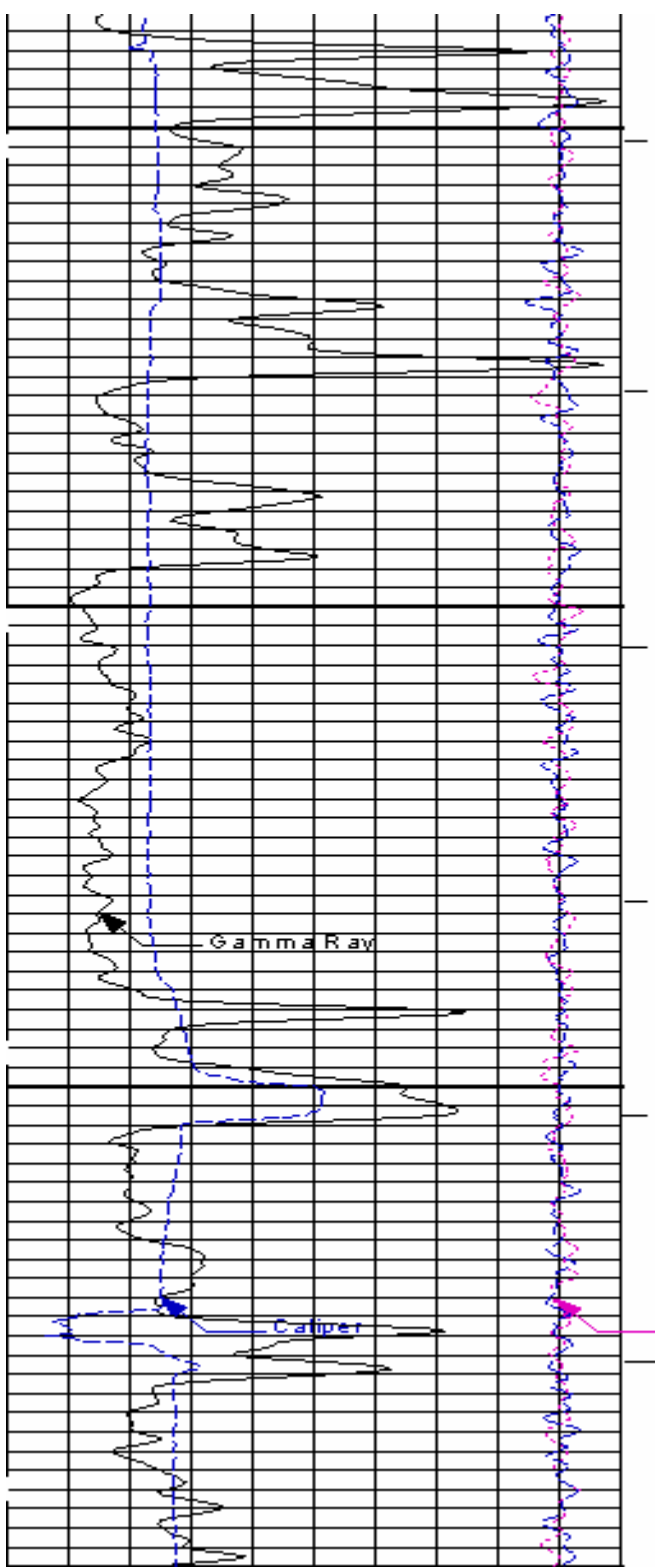
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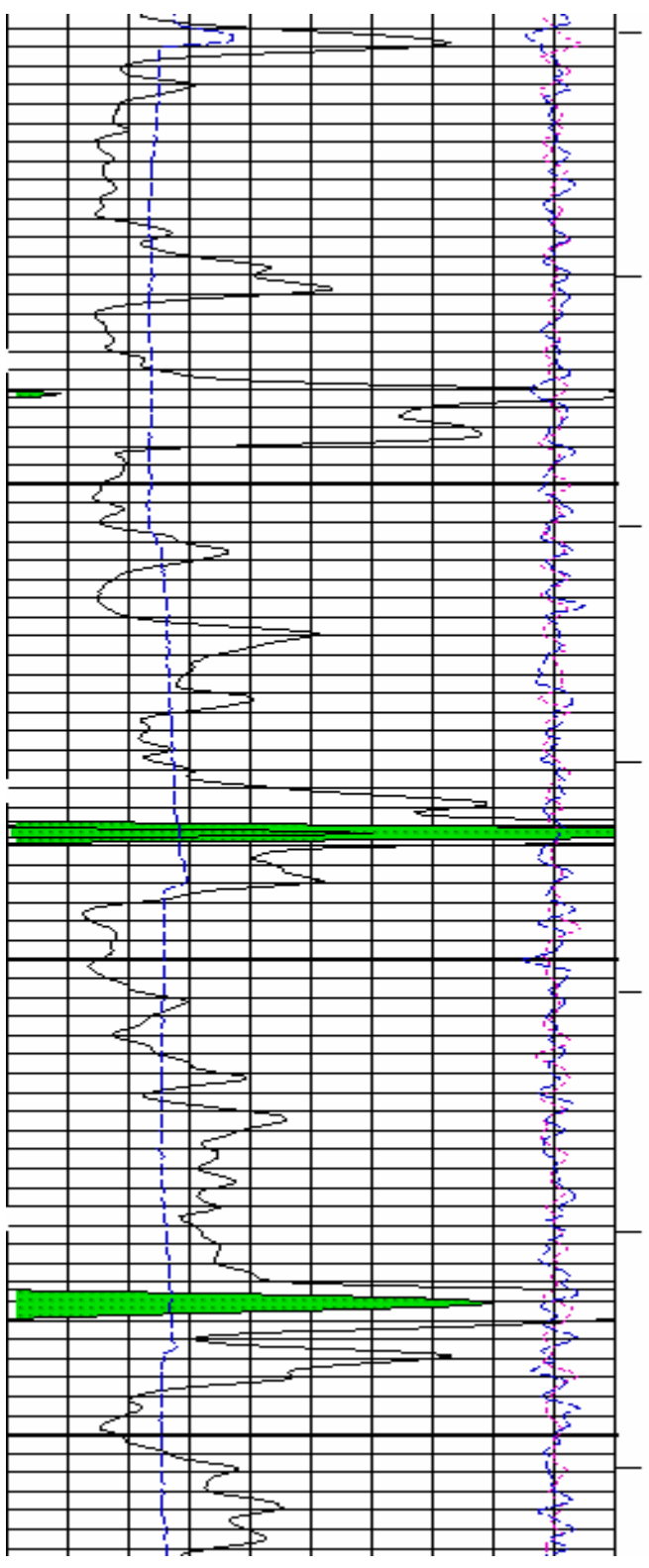
4000



4100

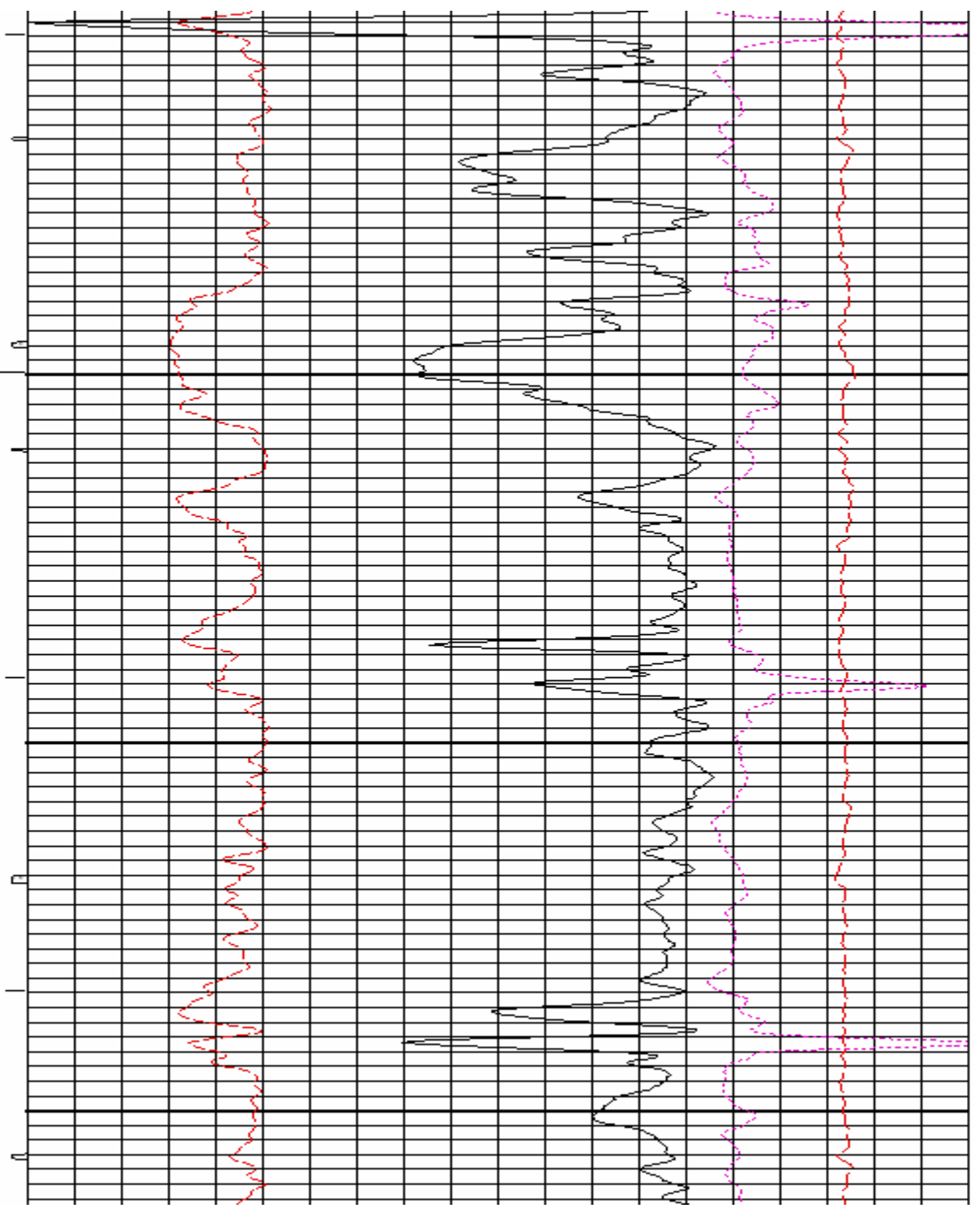


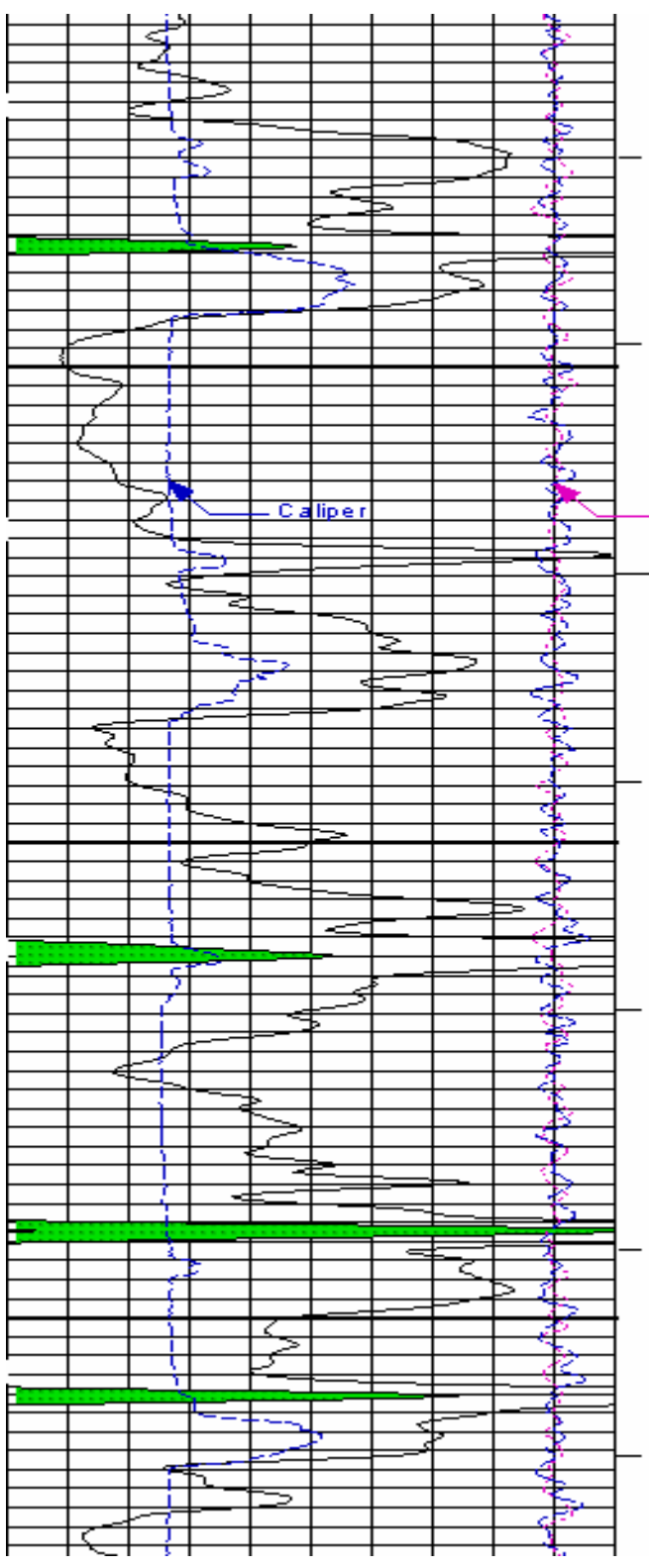




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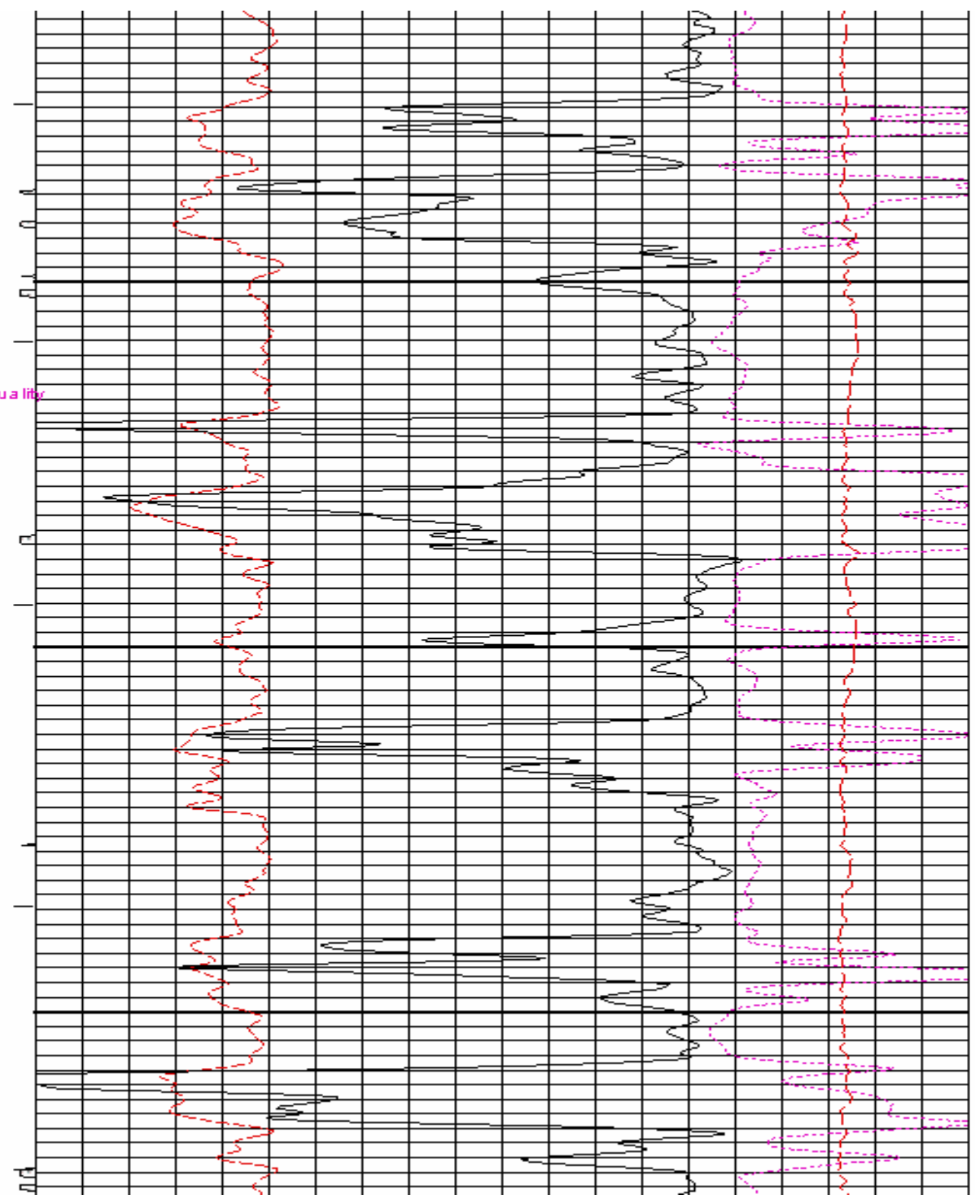
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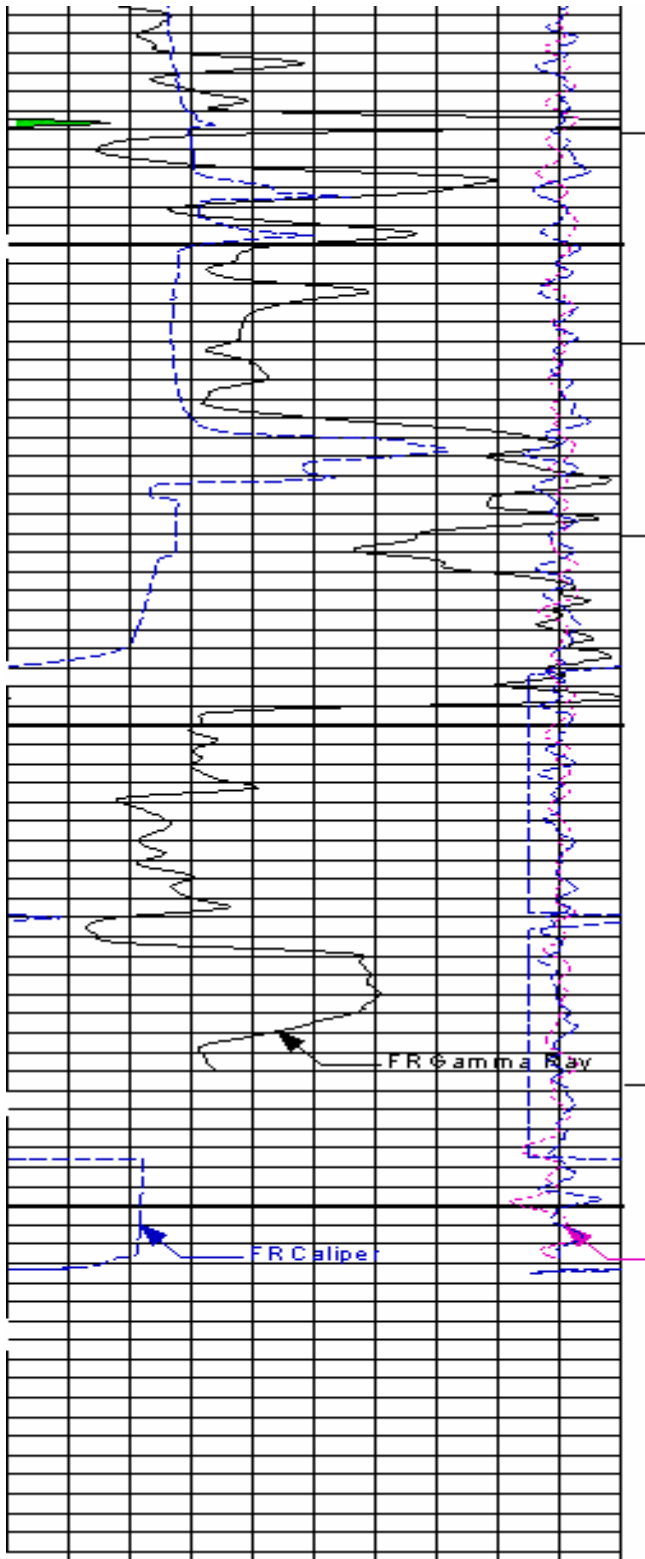




NearQuality

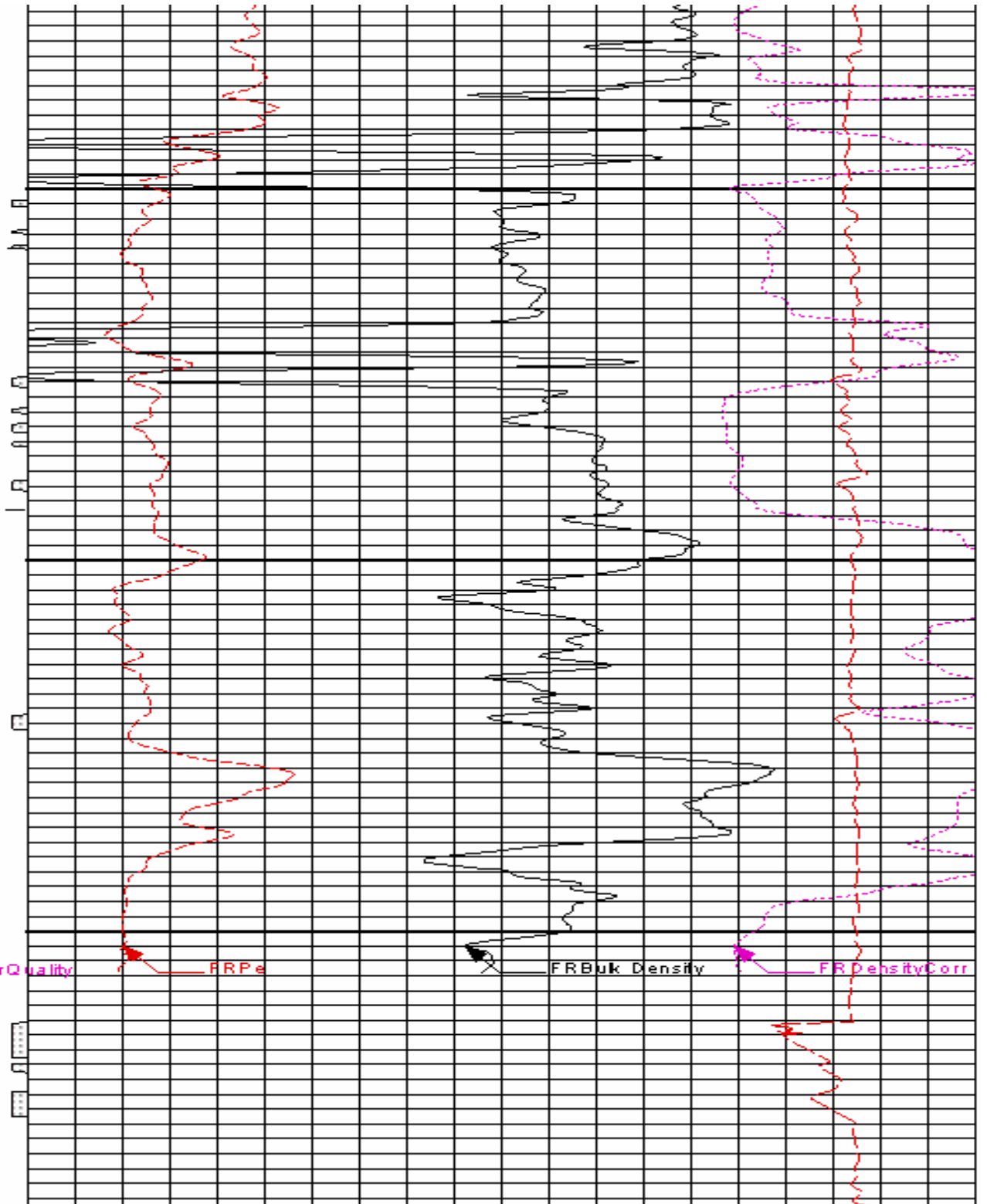
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4700

4800

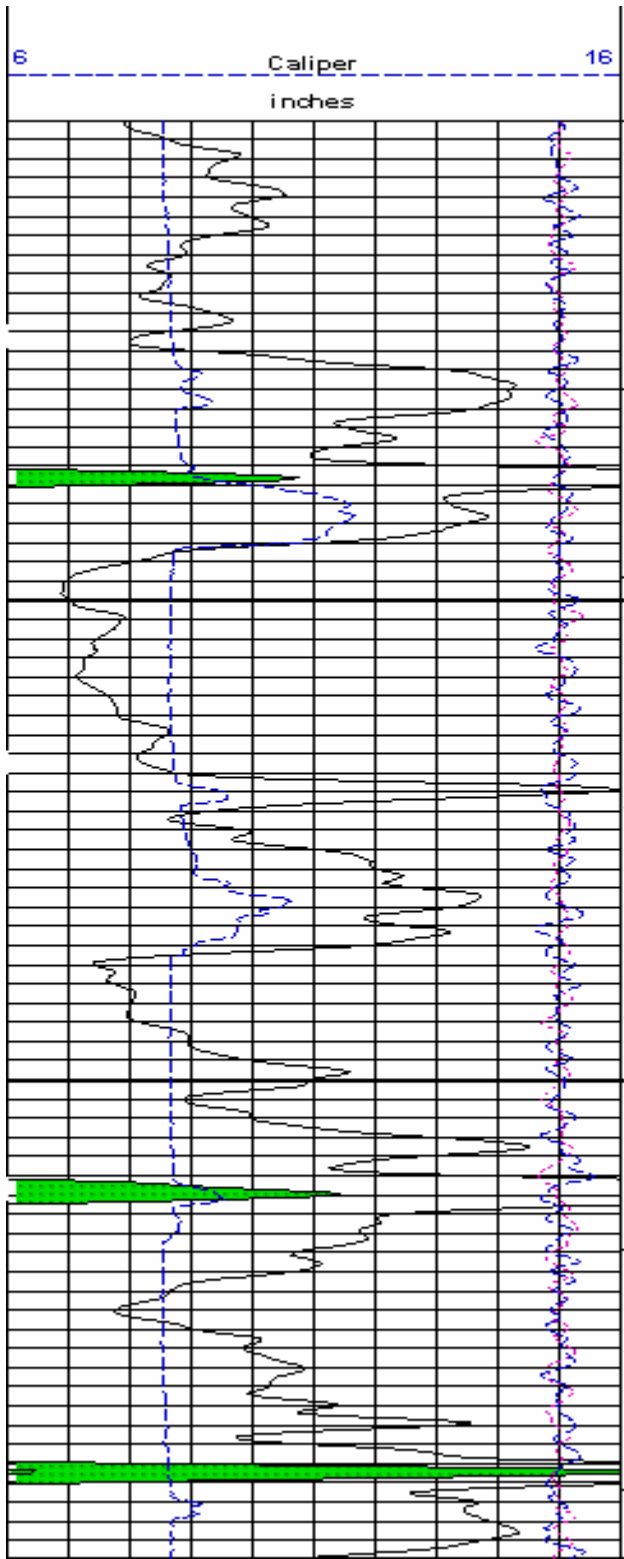


FR Near Quality

FR Pe

FR Bulk Density

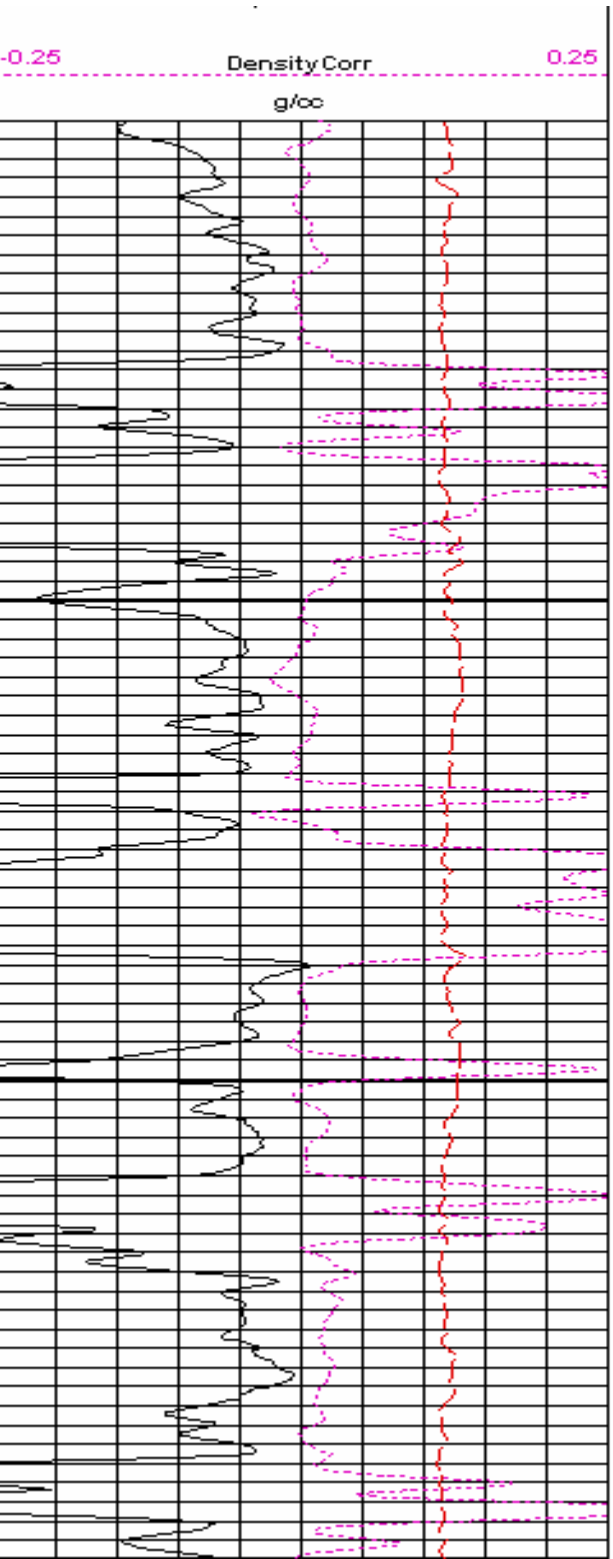
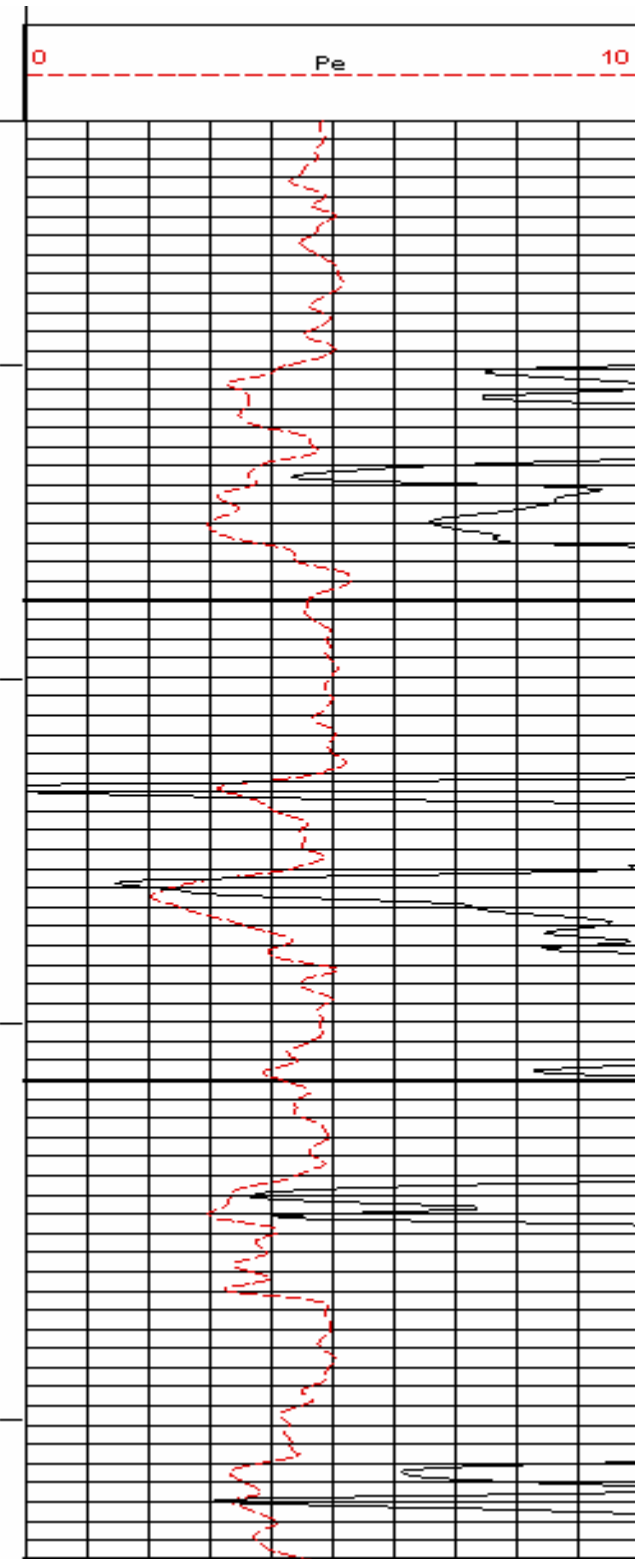
FR Density Corr

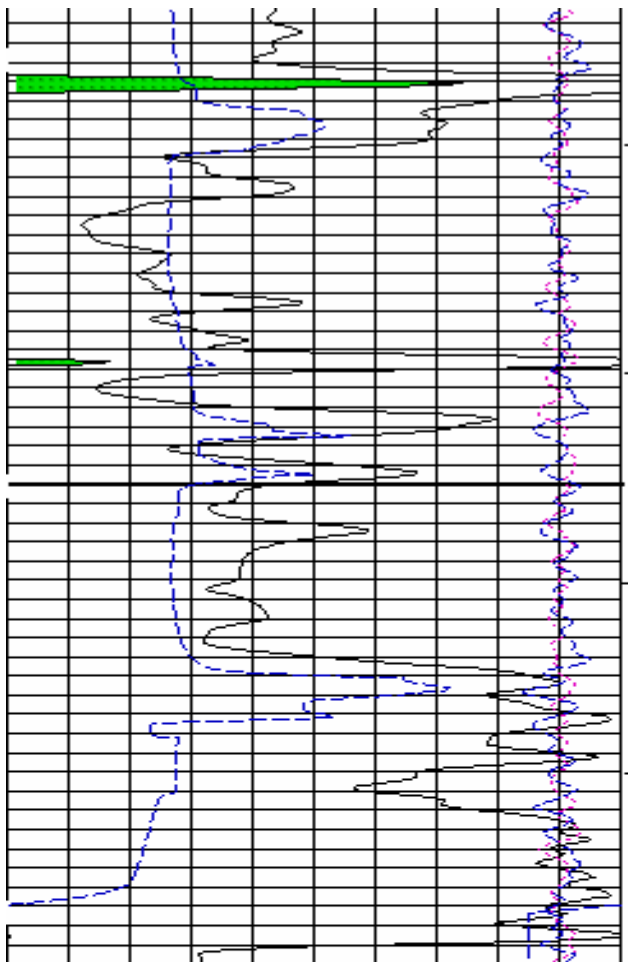


MD
1 : 240
ft

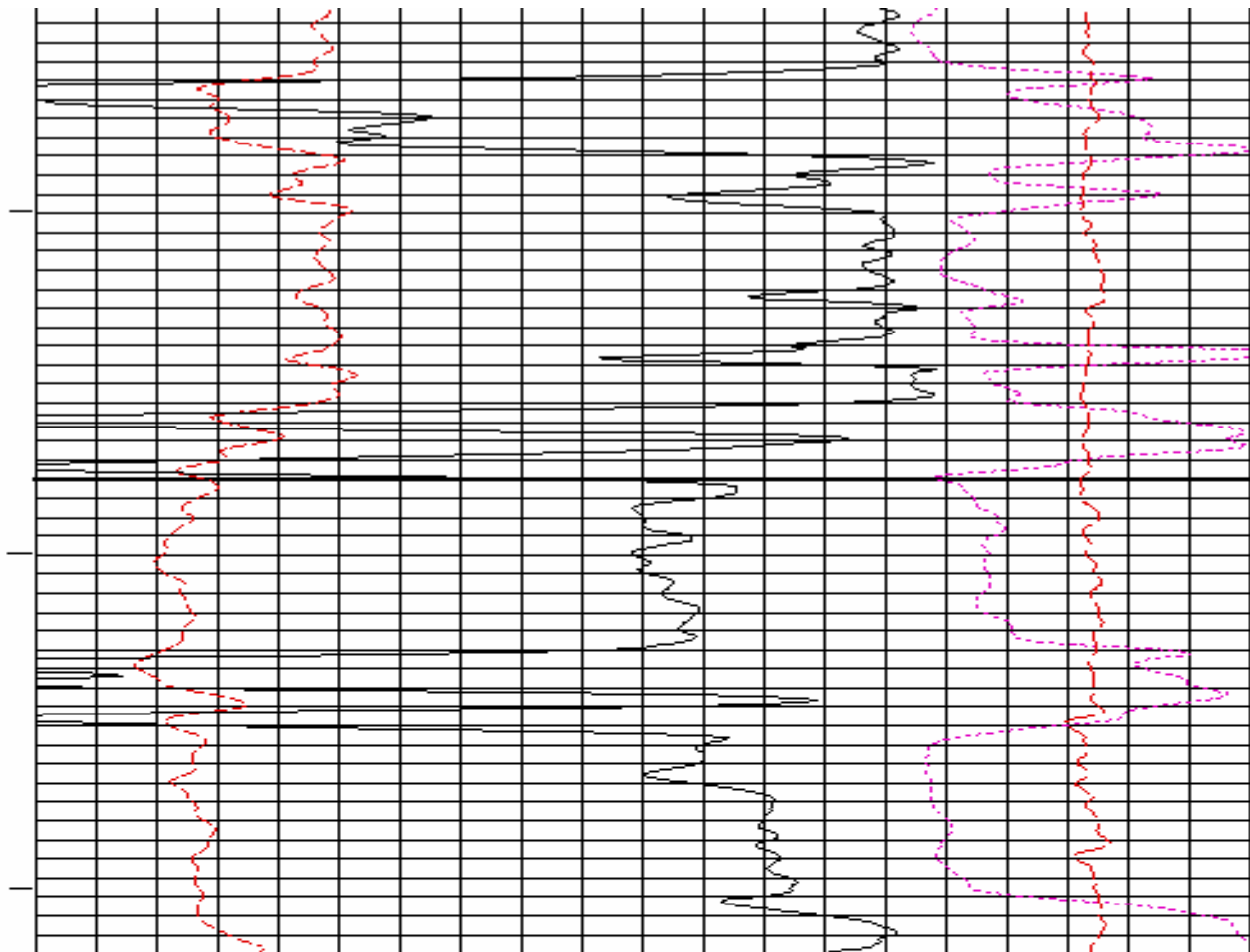
4500

4600





4700



6	Caliper	16
	inches	
-18	Near Quality	2
18	Far Quality	-2
0	Gamma Ray	150
	api	
SHALE		

MD 1 : 240 ft	0	Pe	10	-0.25	Density Corr	0.25
AHV ft3				15K	Tension	0
					pounds	
BHV ft3	2	Bulk Density				3
					g/cc	

HALLIBURTON

Plot Time: 04-Jan-13 22:46:37
 Plot Range: 4500ft to 4750ft
 Data: HAMBLIN_TRU_110Well Based\DAQ-0001-002
 Plot File: W:\LOCAL\HAMBLIN_TRU_110\0001.SP.GT.FLD\NSLSO.LF.FX.RSAT.ACRT.COMPORC\RIUKD_5.REP.LIB

REPEAT SECTION

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
CH_HOS-CH_696 37.50 lbs		Ø 2.750 in →		← Temperature @ 76.03 ft	3.03 ft	77.06 ft
SP_Sub-11441455 60.00 lbs		Ø 3.625 in →		← SP @ 72.26 ft	3.74 ft	74.03 ft
GTET-11048627 165.00 lbs		Ø 3.625 in →		← Gamma Ray @ 64.23 ft	8.52 ft	70.30 ft
DSNT-11055304 174.00 lbs	DSN Decentralizer- 11019643 6.60 lbs	Ø 5.000 in* → Ø 3.625 in →		← DSN Far @ 54.84ft ← DSN Near @ 54.09 ft	9.69 ft	61.78 ft
						52.09 ft

SDLT-11014296
360.00 lbs

SDLT Pad-10865884
65.00 lbs
Microlog Pad-11014296
8.00 lbs

Ø 4.500 in →

Ø 4.750 in
Ø 4.750 in

Microlog @ 44.28 ft
SDL Caliper @ 44.09 ft
SDL @ 44.08 ft

10.81 ft

41.28 ft

Flex Joint-001
140.00 lbs

Ø 3.625 in →

5.67 ft

35.61 ft

Centralizer 29-1
12.00 lbs

Ø 4.000 in →

BSAT-10747683
300.00 lbs

Ø 3.625 in →

← Sonic Receivers @ 27.09 ft

15.77 ft

19.83 ft

ACRt Instrument-
15059_S8385
50.00 lbs

Centralizer 29-2
12.00 lbs

Ø 4.000 in
Ø 3.625 in

5.03 ft

14.80 ft

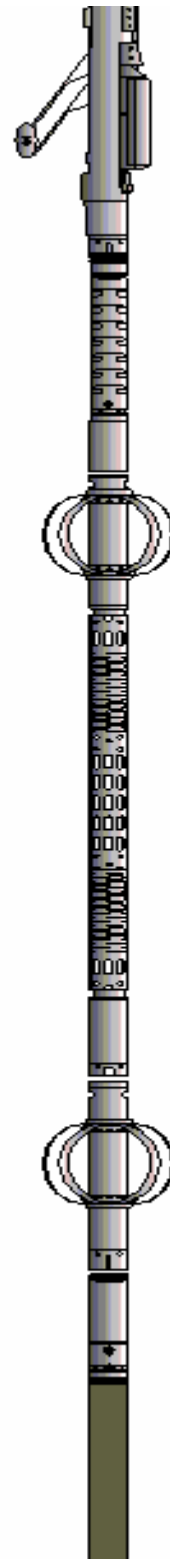
← Mud Resistivity @ 13.44 ft

← ACRt @ 9.46 ft

ACRt Sonde-
11038385

Ø 3.625 in →

14.22 ft



Z00001DS

Cabbage Head-
TRK696
10.00 lbs

Ø 3.625 in
Ø 6.000 in



0.58 ft
0.58 ft
0.00 ft

Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max. Log. Speed (fpm)
CH HOS	Hostile Cable Head with Load Cell	CH 696	37.50	3.03	74.03	300.00
SP	SP Sub	11441455	60.00	3.74	70.30	300.00
GTET	Gamma Telemetry Tool	11048627	165.00	8.52	61.78	60.00
DSNT	Dual Spaced Neutron	11055304	174.00	9.69	52.09	60.00
DCNT	DSN Decentralizer	11019643	6.60	5.13 *	55.42	300.00
SDLT	Spectral Density Tool	11014296	360.00	10.81	41.28	60.00
MICP	Microlog Pad	11014296	8.00	1.00 *	43.78	60.00
SDLP	Density Insite Pad	10865884	65.00	2.55 *	43.49	60.00
FLEX	Flex Joint	001	140.00	5.67	35.61	300.00
BSAT	Borehole Sonic Array Tool	10747683	300.00	15.77	19.83	60.00
OBCEN	Centralizer - 29 in.Overbody	1	12.00	2.42 *	32.77	300.00
ACRT	Array Compensated True Resistivity Instrument Section	I5059_S8385	50.00	5.03	14.80	300.00
OBCEN	Centralizer - 29 in.Overbody	2	12.00	2.42 *	16.39	300.00
ACRT	Array Compensated True Resistivity Sonde Section	11038385	200.00	14.22	0.58	300.00
CBHD	Cabbage Head	TRK696	10.00	0.58	0.00	300.00
Total			1,600.10	77.06		

* Not included in Total Length and Length Accumulation.

Data: HAMBLIN_TRU_110\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CH\IDLE Date: 04-Jan-13 19:03:15

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name: GTET - 11048627

Reference Calibration Date: 15-Oct-12 10:58:20

Engineer: S. INGERSOLL

Calibration Date: 20-Dec-12 17:00:35

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

Calibration Version: 1

Calibrator Source S/N: TB146

Calibrator API Reference: 265.00 api

Equivalent Calibrator API Reference:269.6 api

Measurement	Measured	Calibrated	Units
Background	51.6	51.2	api
Background + Calibrator	323.1	320.9	api
Calibrator	271.5	269.6	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name: GTET - 11048627

Reference Calibration Date: 20-Dec-12 17:00:35

Engineer: T. HYDE

Calibration Date: 04-Jan-13 13:27:41

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

Calibration Version: 1

Calibrator Source S/N: TB146

Calibrator API Reference:265.00 api

Equivalent Calibrator API Reference:269.6 api

Field Verification	Shop	Field	Units
Background	51.2	56.1	api
Background + Calibrator	320.9	325.2	api
Calibrator	269.6	269.1	api

Shop	Field	Difference	Tolerance
269.6	269.1	0.5	+/- 9.00

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name: DSNT - 11055304

Reference Calibration Date: 02-Nov-12 10:41:48

Engineer: S. INGERSOLL

Calibration Date: 19-Dec-12 16:48:47

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

Calibration Version: 1

Logging Source S/N: 696

Tank Serial Number: LIBERAL_NEUTRON

Reference value assigned to Tank: 51.680

Snow Block S/N: 696

Calibration Tank Water Temperature: 68 degF

Min. Tool Housing Outside Diameter: 3.620 in

CALIBRATION CONSTANTS

Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	0.989	0.986	0.900 - 1.100

WATER TANK SUMMARY (Horizontal Water Tank)

Current Reading Calibrated Control Limit

Measurement	Current Reading (Previous Coef.)	Calibrated (New Coef.)	Change	Control Limit On Change
Porosity (decp):	0.2116	0.2107	0.0010	+/- 0.0020
Calibrated Ratio:	9.75	9.72	0.033	+/- 0.050

VERIFIER

Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0742	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 - 11055304	Reference Calibration Date: 19-Dec-12 16:48:47
Engineer: T. HYDE	Calibration Date: 04-Jan-13 13:28:55
Software Version: WL INSITE R3.6.0 (Build 3)	Calibration Version: 1

Logging Source S/N: 696
Snow Block S/N: 696

NEUTRON FIELD-CHECK SUMMARY

	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0742	0.0697	-0.0045	+/- 0.0150

PASS/FAIL SUMMARY

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

DENSITY CALIPER SHOP CALIBRATION

Tool Name: SDLT - 11014296	Reference Calibration Date: 04-Jan-13 11:03:24
Engineer: T. HYDE	Calibration Date: 04-Jan-13 11:11:28
Software Version: WL INSITE R3.6.0 (Build 3)	Calibration Version: 1
Host Tool Name: DSNT - 11055304	

CALIBRATION COEFFICIENTS

Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-3834.31	-4128.48	-7000.00 - -1000.00

Pad Gain	0.0003661	0.0003869	0.000200 - 0.000600
Arm Offset	-1610.38	-2062.96	-5000.00 - 3000.00
Arm Gain	0.0003825	0.0004679	0.000300 - 0.000700
Arm Power	0.000005415	-0.000002075	-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)	2.00	2.00	0.00	+/- 0.20
Medium Ring (in)	3.66	3.75	0.09	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.47	6.50	0.03	+/- 0.20
Medium Ring (in)	8.05	8.25	0.20	+/- 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

SPECTRAL DENSITY SHOP CALIBRATION

Tool Name: SDLT Pad - 10865884

Reference Calibration Date: 04-Jan-13 10:09:46

Engineer: T. HYDE

Calibration Date: 04-Jan-13 10:30:13

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

Calibration Version: 1

Logging Source S/N: 5168GW

Aluminum Block S/N: LIBERAL

Density: 2.598g/cc

Pe: 3.170

Magnesium Block S/N: LIBERAL

Density: 1.684g/cc

Pe: 2.598

DENSITY CALIBRATION SUMMARY

Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0641	1.0591	0.90 - 1.10
Near Dens Gain	1.0212	1.0204	0.90 - 1.10
Near Peak Gain	1.0332	1.0236	0.90 - 1.10
Near Lith Gain	0.9975	0.9918	0.90 - 1.10
Far Bar Gain	1.0151	1.0142	0.90 - 1.10
Far Dens Gain	1.0024	1.0021	0.90 - 1.10

Far Peak Gain	0.9962	0.9953	0.90 - 1.10
Far Lith Gain	0.9756	0.9734	0.90 - 1.10
Near Bar Offset	-0.3890	-0.3434	NONE
Near Dens Offset	-0.0254	-0.0183	NONE
Near Peak Offset	-0.1443	-0.0641	NONE
Near Lith Offset	0.1155	0.1634	NONE
Far Bar Offset	0.0001	0.0078	NONE
Far Dens Offset	0.0890	0.0906	NONE
Far Peak Offset	0.1156	0.1244	NONE
Far Lith Offset	0.2380	0.2556	NONE
Near Bar Background	833.52	831.89	700 - 1450
Near Dens Background	277.09	276.96	230 - 480
Near Peak Background	120.94	118.93	100 - 210
Near Lith Background	147.46	146.93	125 - 260
Far Bar Background	515.98	515.51	450 - 900
Far Dens Background	199.55	202.64	175 - 345
Far Peak Background	78.68	78.62	70 - 140
Far Lith Background	82.91	81.88	75 - 145

CALIBRATION BLOCK SUMMARY

Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.684	1.684	-0.000	+/- 0.015
Pe	2.554	2.555	0.001	+/- 0.150
ALUMINUM				
Density (g/cc)	2.598	2.598	0.000	+/- 0.01500
Pe	3.127	3.124	-0.003	+/- 0.150

TOOL SUMMARY

Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	0.0009	+/- 0.0110	-0.0003	+/- 0.0140
Magnesium Block	0.0010	+/- 0.0110	-0.0010	+/- 0.0140
Aluminum Block	-0.0004	+/- 0.0110	0.0001	+/- 0.0140
Resolution	9.28	6.00 - 11.50	8.98	6.00 - 11.50

Internal Verifier(B+D+P+L)

1375

1200 - 2700

879

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 - 10865884**Reference Calibration Date:** 04-Jan-13 10:30:13**Engineer:** T. HYDE**Calibration Date:** 04-Jan-13 10:33:29**Software Version:** WL INSITE R3.6.0 (Build 3)**Calibration Version:** 1

Pad Temperature: 68.2 degF

DENSITY FIELD CALIBRATION SUMMARY

Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1374.714	1381.337	6.623	14.983
Far (B+D+P+L) cps	878.664	873.326	-5.338	16.179
Near Resolution	9.28	9.25	-0.030	0.50
Far Resolution	8.98	8.97	-0.010	1.00

PASS/FAIL SUMMARY

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

SDLT CALIPER FIELD CALIBRATION**Tool Name:** SDLT - 11014296**Reference Calibration Date:** 04-Jan-13 11:11:28**Engineer:** T. HYDE**Calibration Date:** 04-Jan-13 11:13:42**Software Version:** WL INSITE R3.6.0 (Build 3)**Calibration Version:** 1**MEASURED CALIPER VALUES**

Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.77	0.02	+/- 0.10
Ring Diameter	8.25	8.24	-0.01	+/- 0.15

PASS/FAIL SUMMARY

Pad Extension Check: Passed
 Diameter Check: Passed

CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11048627						
Gamma Ray Calibrator	269.6	269.1	-----	0.5	+/- 9.00	api
DSNT-11055304						
Snow-Block Porosity	0.0742	0.0697	-----	0.0045	+/- 0.0150	decp
SDLT-11014296						
Pad Extension	3.75	3.77	-----	-0.02	+/-0.10	in
Ring Diameter	8.25	8.24	-----	0.01	+/-0.15	in
SDLT Pad-10865884						
Near(B+D+P+L)	1374.714	1381.337	-----	-6.623	+/-14.983	cps
Far(B+D+P+L)	878.664	873.326	-----	5.338	+/-16.179	cps

Data: HAMBLIN_TRU_110\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CH\01E

Date: 04-Jan-13 19:26:07

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PARAMETERS REPORT

Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	SHARED	BS	Bit Size	7.875	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDBS	Mud Base	Water	
	SHARED	MDWT	Borehole Fluid Weight	9.300	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	5.500	in
	SHARED	ST	Surface Temperature	70.0	degF

SHARED	TD	Total Well Depth	4850.00	ft
SHARED	BHT	Bottom Hole Temperature	200.0	degF
SHARED	SVTM	Navigation and Survey Master Tool	NONE	
SHARED	AZTM	High Res Z Accelerometer Master Tool	GTET	
SHARED	TEMM	Temperature Master Tool	NONE	
SHARED	BHSM	Borehole Size Master Tool	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	
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	
BEAT	MBOK	Compute BEAT Results?	Yes	

BSAT	Mnemonic	Compute BSAT Results?	Yes	
BSAT	FLLO	Frequency Filter Low Pass Value?	5000	Hz
BSAT	FLHI	Frequency Filter High Pass Value?	27000	Hz
BSAT	DTFL	Delta -T Fluid	189.00	uspf
BSAT	DTMT	Delta -T Matrix Type	User define	
BSAT	DTMA	Delta -T Matrix	47.60	uspf
BSAT	DTSH	Delta -T Shale	100.00	uspf
BSAT	SPEQ	Acoustic Porosity Equation	Wyllie	
ACRt Sonde	RTOK	Process ACRt?	Yes	
ACRt Sonde	MNSO	Minimum Tool Standoff	1.50	in
ACRt Sonde	TCS1	Temperature Correction Source	FP Lwr & FP Upr	
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	MRFX	Fixed mud resistivity	2000	ohmm

BOTTOM

Data: HAMBLIN_TRU_110\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CH\0LE

Date: 04-Jan-13 19:26:28

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INPUTS, DELAYS AND FILTERS TABLE

Mnemonic	Input Description	Delay (ft)	Filter Type	Filter Length (ft)
Depth Panel				
TENS	Tension	0.00	NO	
CH_HOS				
DHTN	DownholeTension	0.00	BLK	0.000
SP Sub				
PLTC	Plot Control Mask	72.25	NO	
SP	Spontaneous Potential	72.25	BLK	1.250
SPR	Raw Spontaneous Potential	72.25	NO	
SPO	Spontaneous Potential Offset	72.25	NO	
GTET				
TPUL	Tension Pull	64.23	NO	

GK	Natural Gamma Ray API	64.23	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API	64.23	NO	
EGR	Natural Gamma Ray API with Enhanced Vertical Resolution	64.23	W	1.416 , 0.750
ACCZ	Accelerometer Z	0.00	BLK	0.083
DEVI	Inclination	0.00	NO	
DSNT				
TPUL	Tension Pull	53.99	NO	
RNDS	Near Detector Telemetry Counts	54.09	BLK	1.417
RFDS	Far Detector Telemetry Counts	54.84	TRI	0.583
DNTT	DSN Tool Temperature	54.09	NO	
DSNS	DSN Tool Status	53.99	NO	
ERND	Near Detector Telemetry Counts EVR	54.09	BLK	0.000
ERFD	Far Detector Telemetry Counts EVR	54.84	BLK	0.000
ENTM	DSN Tool Temperature EVR	54.09	NO	
SDLT				
TPUL	Tension Pull	44.09	NO	
PCAL	Pad Caliper	44.09	TRI	0.250
ACAL	Arm Caliper	44.09	TRI	0.250
BSAT				
TPUL	Tension Pull	27.09	NO	
STAT	Status	27.09	NO	
DLYT	Delay Time	27.09	NO	
SI	Sample Interval	27.09	NO	
TXRX	Raw Telemetry 10 Receivers	27.09	NO	
FRMC	Tool Frame Count	27.09	NO	
GMOD	Gain processing mode	19.83	NO	
ACRt Sonde				
TPUL	Tension Pull	2.97	NO	
F1R1	ACRT 12KHz - 80in R value	9.22	BLK	0.000
F1X1	ACRT 12KHz - 80in X value	9.22	BLK	0.000
F1R2	ACRT 12KHz - 50in R value	6.72	BLK	0.000
F1X2	ACRT 12KHz - 50in X value	6.72	BLK	0.000
F1R3	ACRT 12KHz - 29in R value	5.22	BLK	0.000
F1X3	ACRT 12KHz - 29in X value	5.22	BLK	0.000
F1R4	ACRT 12KHz - 17in R value	4.22	BLK	0.000
F1X4	ACRT 12KHz - 17in X value	4.22	BLK	0.000
F1R5	ACRT 12KHz - 10in R value	3.72	BLK	0.000
F1X5	ACRT 12KHz - 10in X value	3.72	BLK	0.000

F1R6	ACRT 12KHz - 6in R value	3.47	BLK	0.000
F1X6	ACRT 12KHz - 6in X value	3.47	BLK	0.000
F2R1	ACRT 36KHz - 80in R value	9.22	BLK	0.000
F2X1	ACRT 36KHz - 80in X value	9.22	BLK	0.000
F2R2	ACRT 36KHz - 50in R value	6.72	BLK	0.000
F2X2	ACRT 36KHz - 50in X value	6.72	BLK	0.000
F2R3	ACRT 36KHz - 29in R value	5.22	BLK	0.000
F2X3	ACRT 36KHz - 29in X value	5.22	BLK	0.000
F2R4	ACRT 36KHz - 17in R value	4.22	BLK	0.000
F2X4	ACRT 36KHz - 17in X value	4.22	BLK	0.000
F2R5	ACRT 36KHz - 10in R value	3.72	BLK	0.000
F2X5	ACRT 36KHz - 10in X value	3.72	BLK	0.000
F2R6	ACRT 36KHz - 6in R value	3.47	BLK	0.000
F2X6	ACRT 36KHz - 6in X value	3.47	BLK	0.000
F3R1	ACRT 72KHz - 80in R value	9.22	BLK	0.000
F3X1	ACRT 72KHz - 80in X value	9.22	BLK	0.000
F3R2	ACRT 72KHz - 50in R value	6.72	BLK	0.000
F3X2	ACRT 72KHz - 50in X value	6.72	BLK	0.000
F3R3	ACRT 72KHz - 29in R value	5.22	BLK	0.000
F3X3	ACRT 72KHz - 29in X value	5.22	BLK	0.000
F3R4	ACRT 72KHz - 17in R value	4.22	BLK	0.000
F3X4	ACRT 72KHz - 17in X value	4.22	BLK	0.000
F3R5	ACRT 72KHz - 10in R value	3.72	BLK	0.000
F3X5	ACRT 72KHz - 10in X value	3.72	BLK	0.000
F3R6	ACRT 72KHz - 6in R value	3.47	BLK	0.000
F3X6	ACRT 72KHz - 6in X value	3.47	BLK	0.000
RMUD	Mud Resistivity	12.76	BLK	0.000
F1RT	Transmitter Reference 12 KHz Real Signal	2.97	BLK	0.000
F1XT	Transmitter Reference 12 KHz Imaginary Signal	2.97	BLK	0.000
F2RT	Transmitter Reference 36 KHz Real Signal	2.97	BLK	0.000
F2XT	Transmitter Reference 36 KHz Imaginary Signal	2.97	BLK	0.000
F3RT	Transmitter Reference 72 KHz Real Signal	2.97	BLK	0.000
F3XT	Transmitter Reference 72 KHz Imaginary Signal	2.97	BLK	0.000
TFPU	Upper Feedpipe Temperature Calculated	2.97	BLK	0.000
TFPL	Lower Feedpipe Temperature Calculated	2.97	BLK	0.000
ITMP	Instrument Temperature	2.97	BLK	0.000
TCVA	Temperature Correction Values Loop Off	2.97	NO	
TIDV	Instrument Temperature Derivative	2.97	NO	
TUDV	Upper Temperature Derivative	2.97	NO	
TLDV	Lower Temperature Derivative	2.97	NO	
TRBD	Receiver Board Temperature	2.97	NO	

SDLT Pad

TPUL	Tension Pull	44.08	NO	
NAB	Near Above	43.90	BLK	0.920
NHI	Near Cesium High	43.90	BLK	0.920
NLO	Near Cesium Low	43.90	BLK	0.920
NVA	Near Valley	43.90	BLK	0.920
NBA	Near Barite	43.90	BLK	0.920
NDE	Near Density	43.90	BLK	0.920
NPK	Near Peak	43.90	BLK	0.920
NLI	Near Lithology	43.90	BLK	0.920
NBAU	Near Barite Unfiltered	43.90	BLK	0.250
NLIU	Near Lithology Unfiltered	43.90	BLK	0.250
FAB	Far Above	44.26	BLK	0.250
FHI	Far Cesium High	44.26	BLK	0.250
FLO	Far Cesium Low	44.26	BLK	0.250
FVA	Far Valley	44.26	BLK	0.250
FBA	Far Barite	44.26	BLK	0.250
FDE	Far Density	44.26	BLK	0.250
FPK	Far Peak	44.26	BLK	0.250
FLI	Far Lithology	44.26	BLK	0.250
PTMP	Pad Temperature	44.09	BLK	0.920
NHV	Near Detector High Voltage	43.49	NO	
FHV	Far Detector High Voltage	43.49	NO	
ITMP	Instrument Temperature	43.49	NO	
DDHV	Detector High Voltage	43.49	NO	

Microlog Pad

TPUL	Tension Pull	44.28	NO	
MINV	Microlog Lateral	44.28	BLK	0.750
MNOR	Microlog Normal	44.28	BLK	0.750

Data: HAMBLIN_TRU_110\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CH\VDLE

Date: 04-Jan-13 19:26:37

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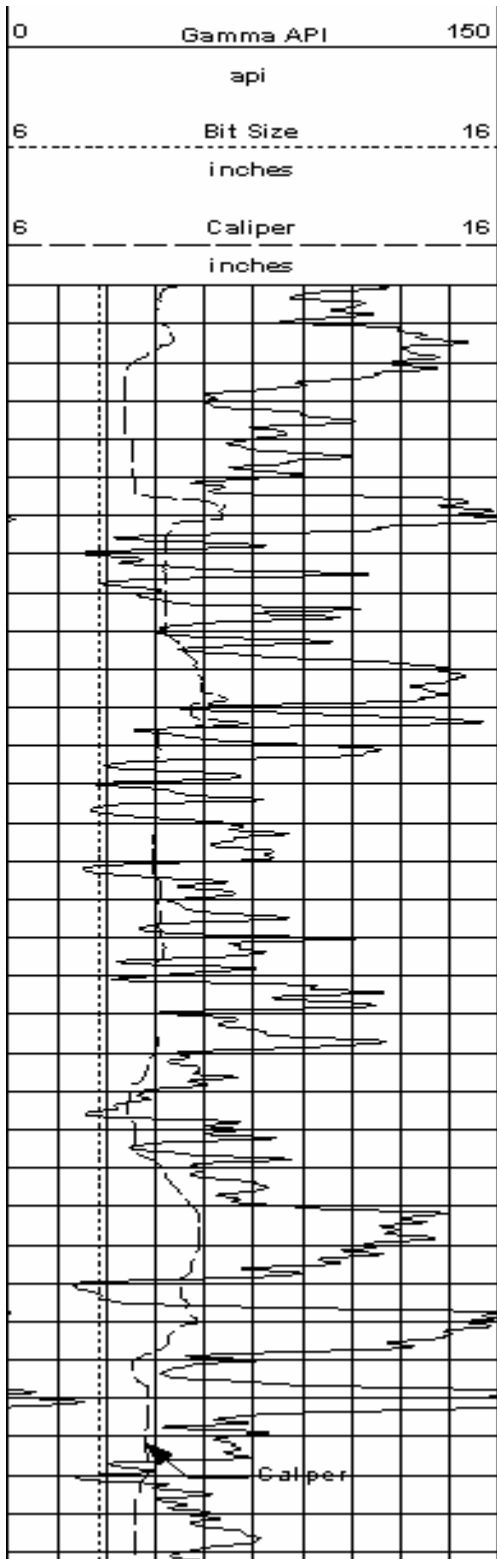
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Plot Range: 3300ft to 4851.25 ft

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Plot File: \\LOCAL\HAMBLIN_TRU_110\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-CH\PORO\AHV_2_IQ_LIB

ANNULAR HOLE VOLUME PLOT



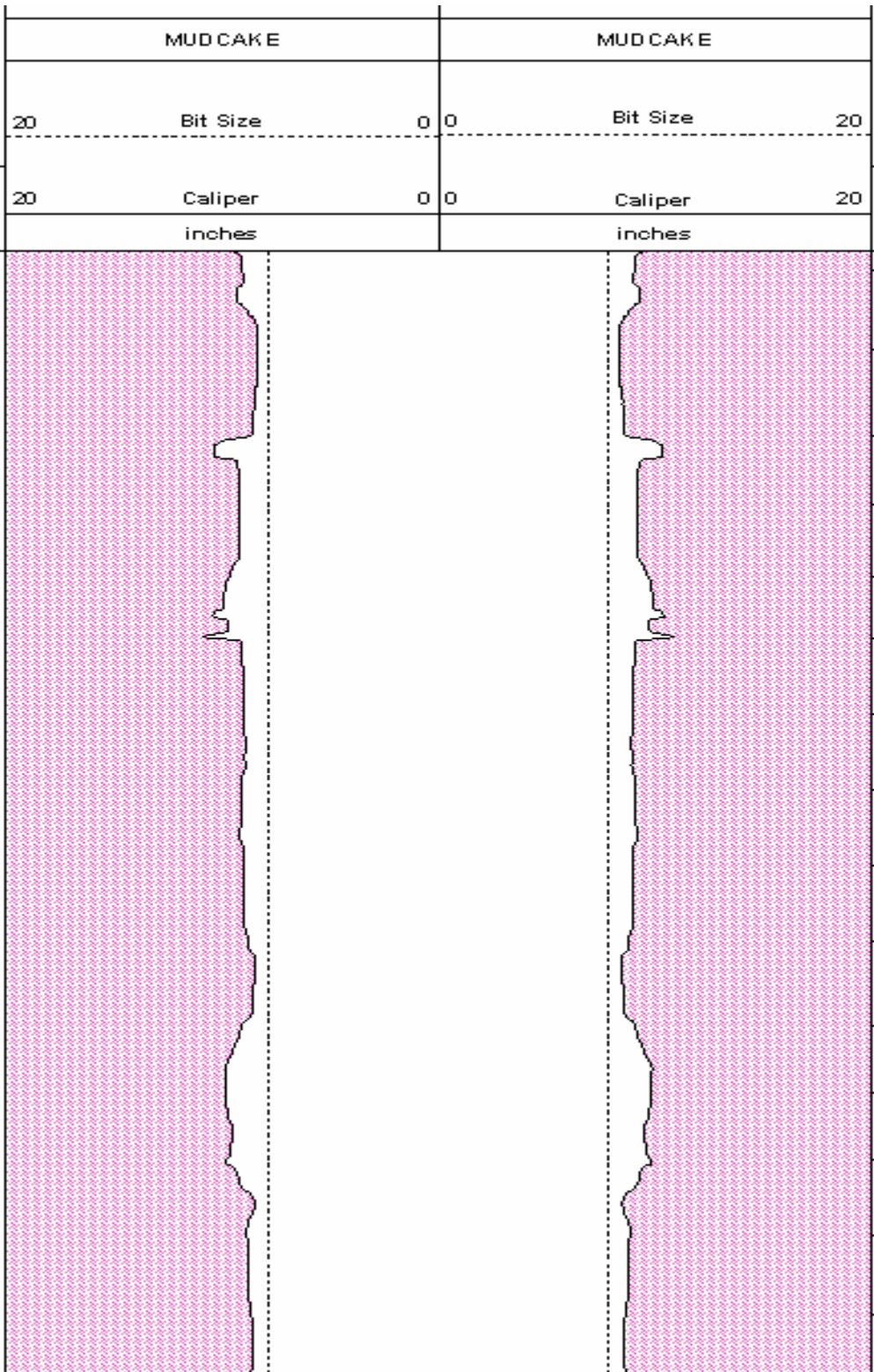
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ft

3300

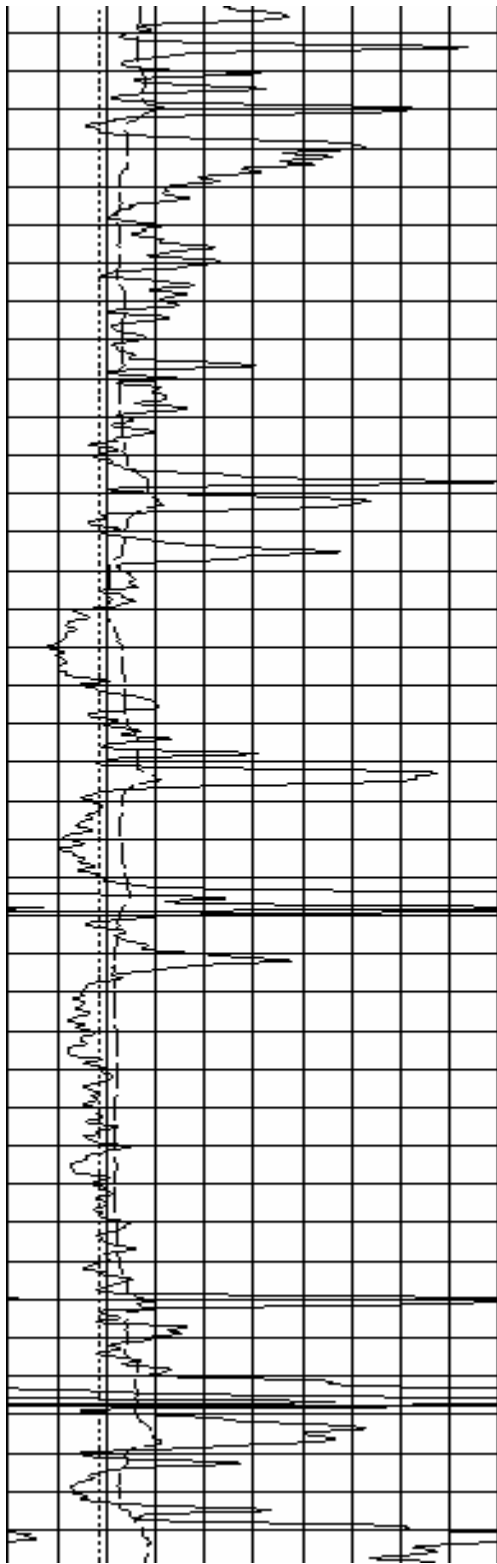
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3500

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BHVT	AHVT
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602	357
578	341
554	326
532	312
510	298
486	283

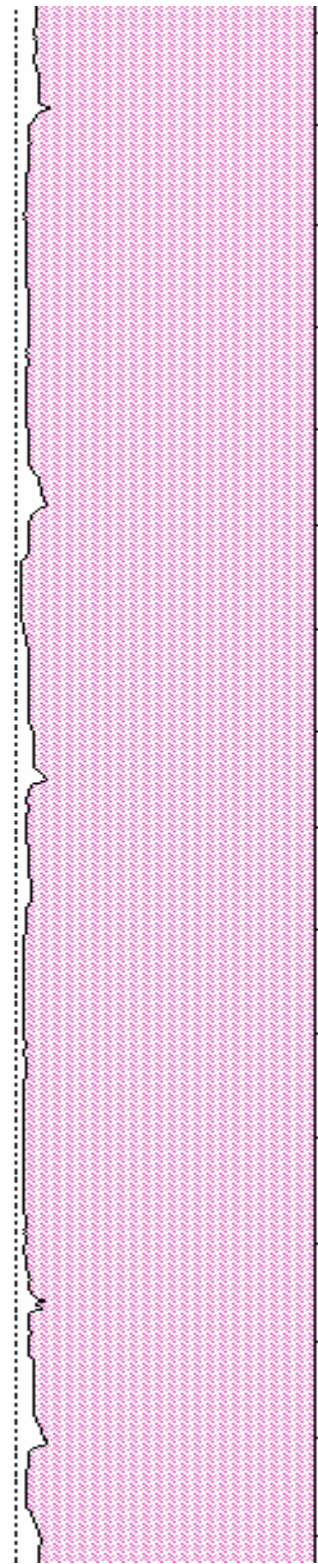
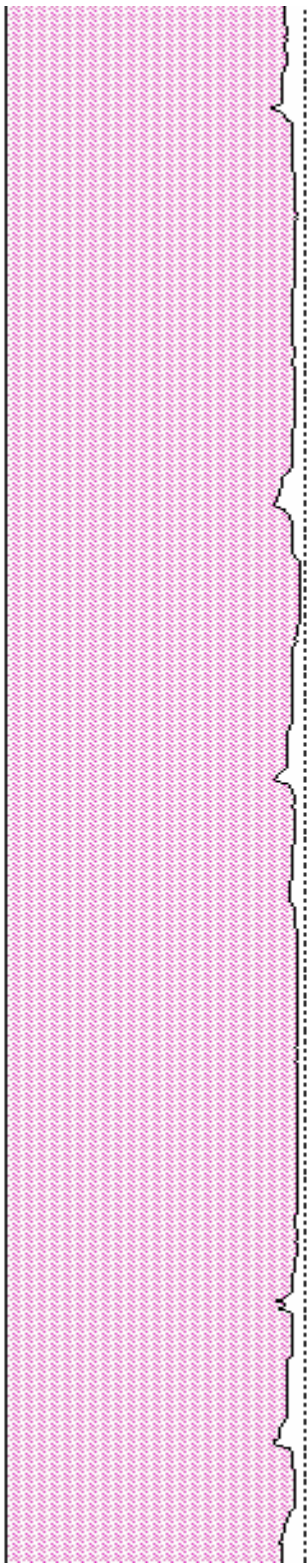


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3800

3900

4000



466

270

446

259

427

248

408

238

389

226

370

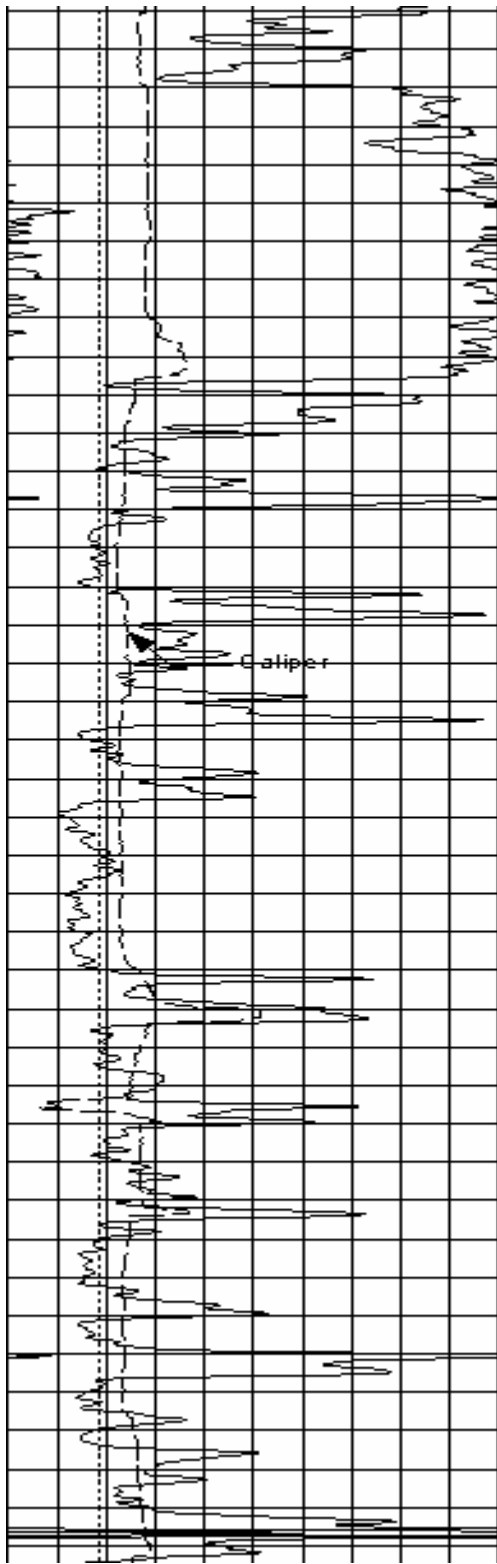
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332

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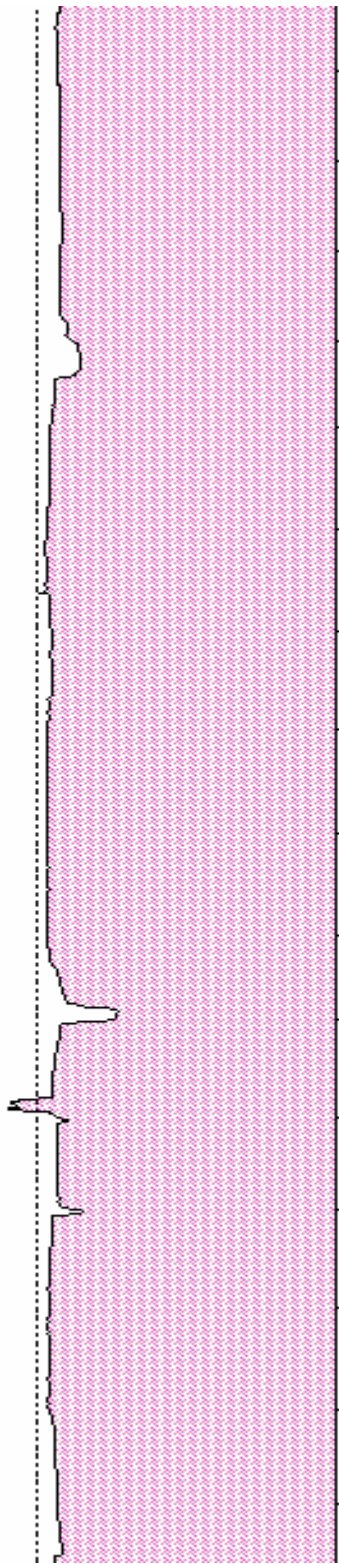
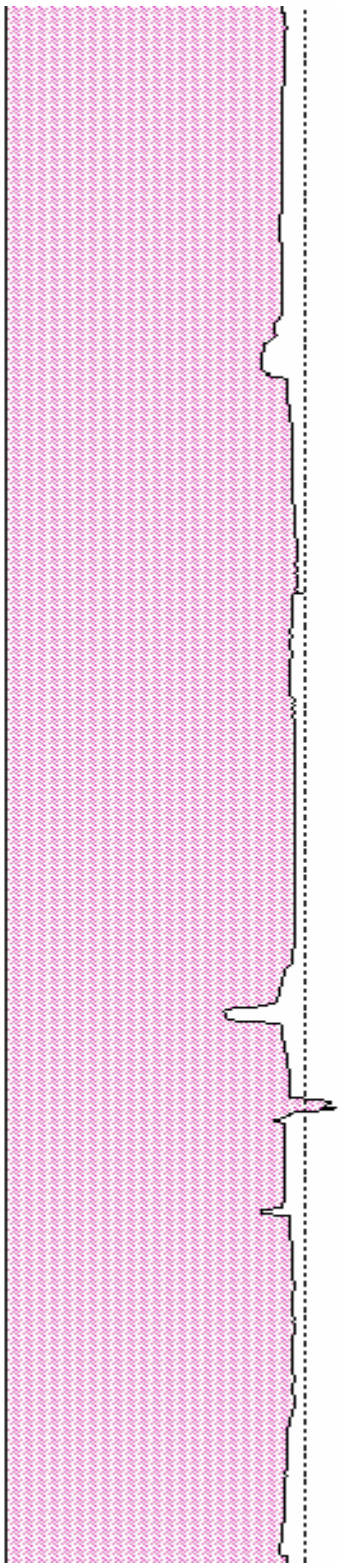


4100

4200

4300

4400



312

291

269

251

232

212

191

172

183

170

156

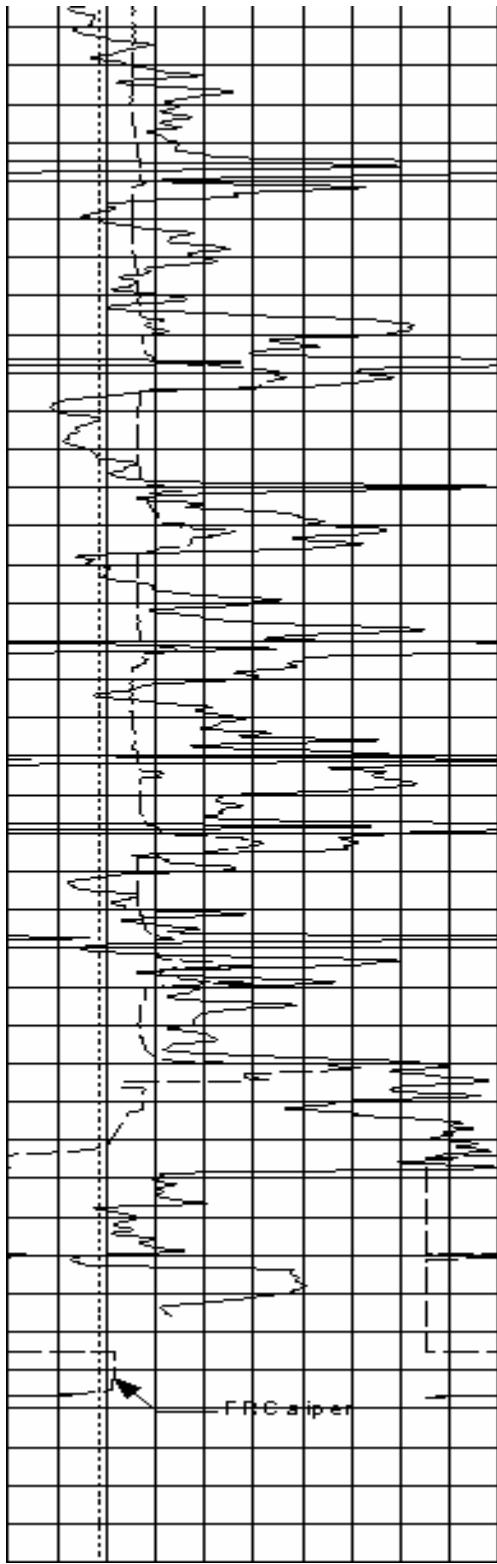
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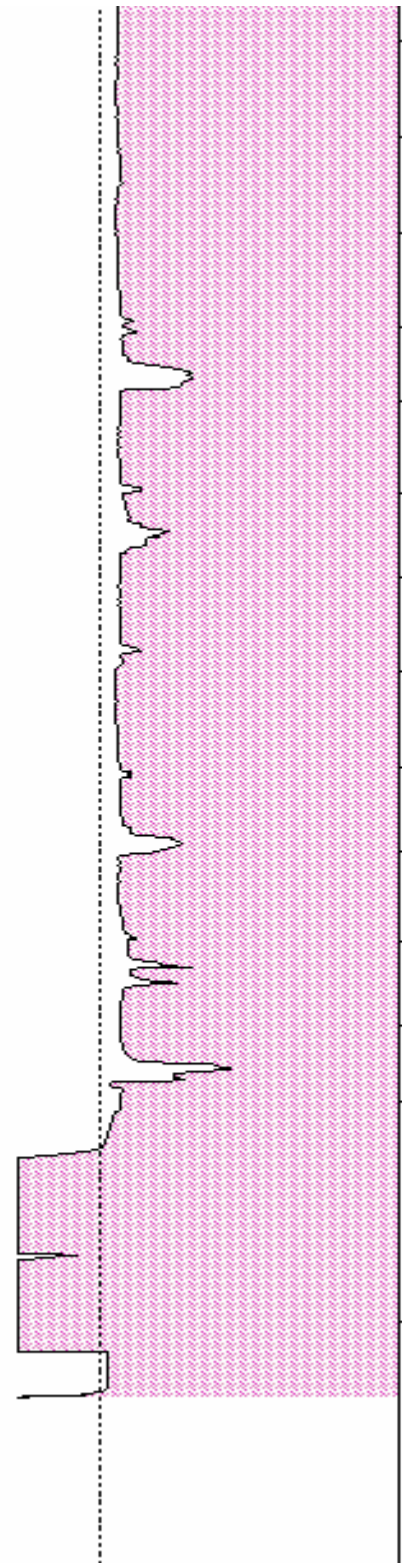
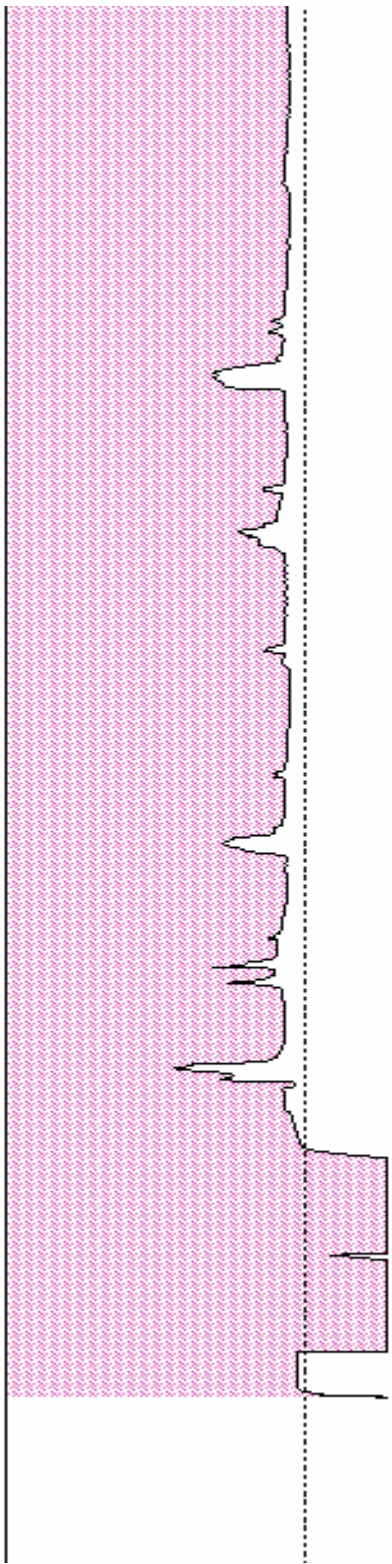
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100



4500
4600
4700
4800



151
131
109
87
67
44
24
17

88
76
62
49
36
22
10
9

6	Caliper	16	MD 1 : 600 ft	20	Caliper	0 0	20	BHVT	AHVT
	inches			20	inches		20		
6	Bit Size	16		20	Bit Size	0 0	20		
	inches								
0	Gamma API	150			MUD CAKE		MUD CAKE		
	api								

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Plot Time: 04-Jan-13 22:46:40

Plot Range: 3300ft to 4851.25 ft

Data: HAMBLIN_TRU_110\Well Based\DAQ-0001-002\

Plot File: W:\LOCAL\HAMBLIN_TRU_110\0001 SP-GT ET-D SN-SDL-FLEX-BSAT-ACRT-CHIPOROVAHV_2_IQ_LIB

ANNULAR HOLE VOLUME PLOT

COMPANY **STRATA EXPLORATION**

WELL **HAMBLIN TRUST # 1-10**

FIELD **GREENSBURG NORTHWEST**

COUNTY **KIOWA**

STATE **KANSAS**

HALLIBURTON

**DUAL SPACED NEUTRON
SPECTRAL DENSITY
LOG**