

HALLIBURTON

SPECTRAL DENSITY  
DUAL SPACED NEUTRON  
ARRAY COMPENSATED  
TRUE RESISTIVITY

URSA OPERATING COMPANY WATSON RANCH B 24AWI-17-07-95 PARACHUTE GARFIELD CO				COMPANY URSA OPERATING COMPANY WELL WATSON RANCH B 24AWI-17-07-95 FIELD/BLOCK PARACHUTE COUNTY GARFIELD STATE CO			
COMPANY WELL FIELD/BLOCK COUNTY STATE				API No. 05045228010000 Location SURFACE HOLE LOCATION: 1047 FSL & 1978 FWL Other Services:			
COMPANY	WELL	FIELD/BLOCK	COUNTY	STATE	Sect.	Twp.	Rge.
URSA OPERATING COMPANY	WATSON RANCH B 24AWI-17-07-95	PARACHUTE	GARFIELD	CO	17	7S	9SW
Permanent Datum	GL	Elev. 5585.00 ft		Elev. K.B.	5602.00 ft		
Log measured from	KB	17.00 ft above perm. Datum		D.F.	5601.00 ft		
Drilling measured from	KB			G.L.	5585.00 ft		
Date	30-May-15						
Run No.	ONE						
Depth - Driller	7405.00 ft						
Depth - Logger	7335.0 ft						
Bottom - Logged Interval	7335.0 ft						
Top - Logged Interval	3308.0 ft						
Casing - Driller	9.625 in	@	1740.0 ft	@			
Casing - Logger	N/A						
Bit Size	8.750 in	@		@			
Type Fluid in Hole	Water Based Mud						
Density	9.7 ppg	43.00	sl/qt				
PH	9.20 pH	N/A					
Source of Sample	MUD TANK						
Rm @ Meas. Temperature	1.224 ohmm	@	77.00 degF	@			
Rmf @ Meas. Temperature	0.43 ohmm	@	73.00 degF	@			
Rmc @ Meas. Temperature	1.638 ohmm	@	70.00 degF	@			
Source Rmf	Rmc	MEASURED	MEASURED				
Rm @ BHT	0.55 ohmm	@	178.0 degF	@			
Time Since Circulation	0.0000 hr						
Time on Bottom	30-May-15 02:30:29.000						
Max. Rec. Temperature	178.0 degF	@	7335.0 ft	@			
Equipment	Location	11871076	GJ/CO				
Recorded By	Z. TAYLOR		B. RIDDEL				
Witnessed By	N. GILL						

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Service Ticket No.: 902447151		API Serial No.: 05045228010000		PGM Version:			
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.
Rmf @ Meas. Temp.		@		ONE	SACRT	N/A	0.25" S.O.
Rmc @ Meas. Temp.		@			I-11577714		
					S-11577718		

Depth	Tool Name	Mnemonic	Description	Value	Units
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(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	9.700	ppg
	SHARED	WAGT	Weighting Agent	Barite	
	SHARED	BSAL	Borehole salinity	2400.00	ppm
	SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
	SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
	SHARED	RMUD	Mud Resistivity	1.224	ohmm
	SHARED	TRM	Temperature of Mud	77.0	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	7335.00	ft
	SHARED	BHT	Bottom Hole Temperature	178.0	degF
	SHARED	SVTM	Navigation and Survey Master Tool	NONE	
	SHARED	AZTM	High Res Z Accelerometer Master Tool	S4TG	
	SHARED	TEMM	Temperature Master Tool	NONE	
	S4TG	GROK	Process Gamma Ray?	Yes	
	S4TG	GRSO	Gamma Tool Standoff	0.000	in
	S4TG	GEOK	Process Gamma Ray EVR?	No	
	S4TG	TPOS	Tool Position for Gamma Ray Tools.	Eccentered	
	S4TG	BHSM	Borehole Size Source Tool	SSDL	
	SDSN	DNOK	Process DSN?	Yes	
	SDSN	DEOK	Process DSN EVR?	No	
	SDSN	NLIT	Neutron Lithology	Sandstone	
	SDSN	DNSO	DSNTool Standoff	0.000	in
	SDSN	DNTP	Temperature Correction Type	None	
	SDSN	DPRS	DSN Pressure Correction Type	None	
	SDSN	SHCO	View More Correction Options	No	
	SDSN	UTVD	Use TVD for Gradient Corrections?	No	
	SDSN	LHWT	Logging Horizontal Water Tank?	No	
	SDSN	USND	Use Var StandOff?	No	
	SDSN	BHSM	Borehole Size Source Tool	SSDL	
	SSDL	CLOK	Process Caliper Outputs?	Yes	
	SSDL Pad	DNOK	Process Density?	Yes	
	SSDL Pad	DNOK	Process Density EVR?	No	
	SSDL Pad	CB	Logging Calibration Blocks?	No	
	SSDL Pad	SPVT	SDLT Pad Temperature Valid?	Yes	
	SSDL Pad	DTWN	Disable temperature warning	No	

SSDL Pad	MLPE	Mute Large Pe's? (Recommended Yes-Liquid, No-Air)	Yes	
SSDL Pad	DMA	Formation Density Matrix	2.680	g/cc
SSDL Pad	DFL	Formation Density Fluid	1.000	g/cc
SSDL Pad	BHSM	Borehole Size Source Tool	SSDL	
SACRT Sonde	RTOK	Process ACrt?	Yes	
SACRT Sonde	MNSO	Minimum Tool Standoff	0.25	in
SACRT Sonde	TCS1	Temperature Correction Source	FP Lwr & FP Up	
SACRT Sonde	TPOS	Tool Position	Eccentered	
SACRT Sonde	RMOP	Rmud Source	Mud Cell	
SACRT Sonde	RMIN	Minimum Resistivity for MAP	0.20	ohmm
SACRT Sonde	RMIN	Maximum Resistivity for MAP	200.00	ohmm
SACRT Sonde	THQY	Threshold Quality	0.50	
SACRT Sonde	MRFX	Fixed mud resistivity	2000	ohmm
SACRT Sonde	BHSM	Borehole Size Source Tool	SSDL	
SACRT Sonde	MBFL	Apply Corkscrew Effect?	No	

BOTTOM

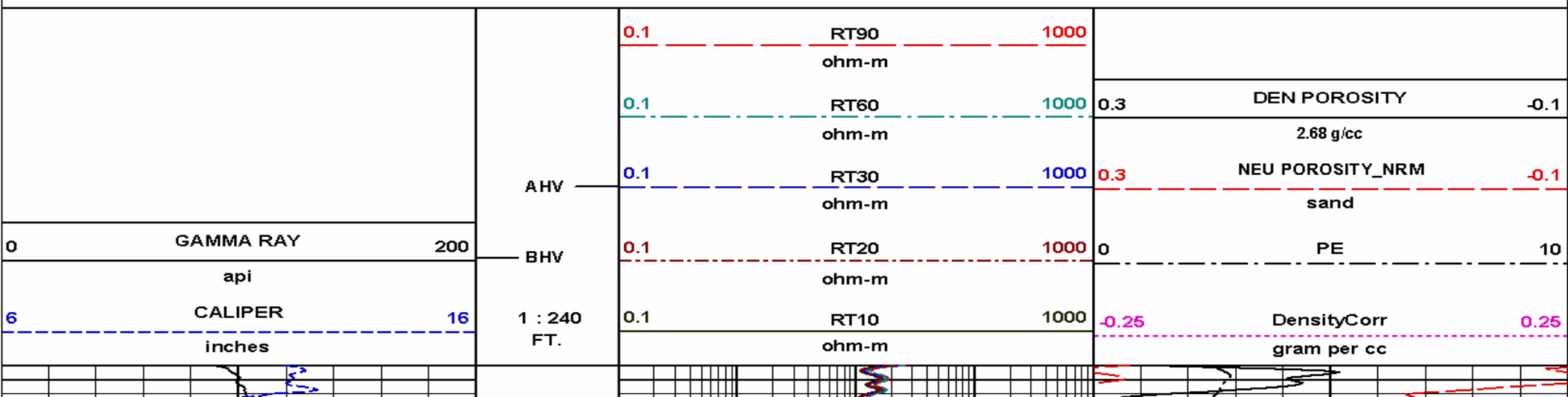
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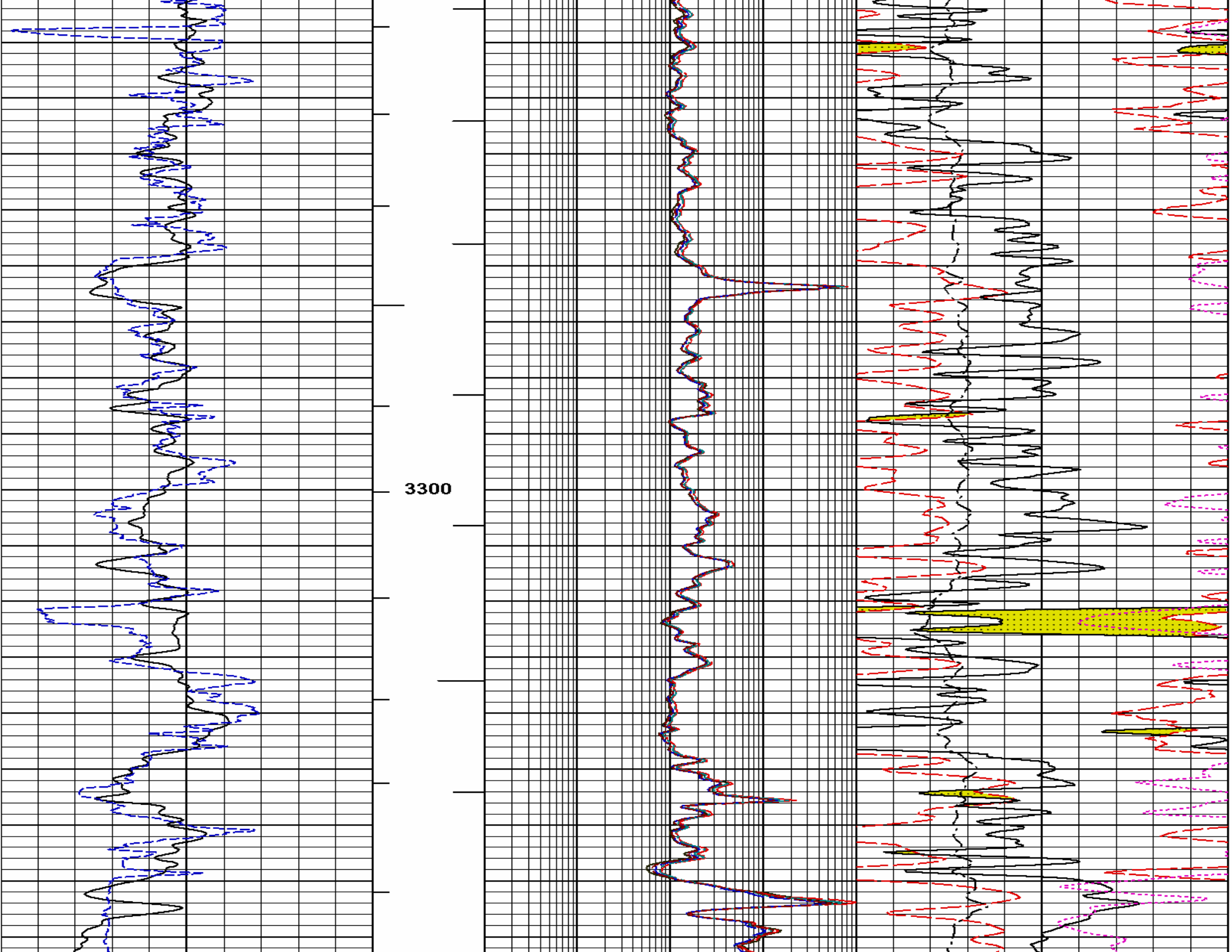
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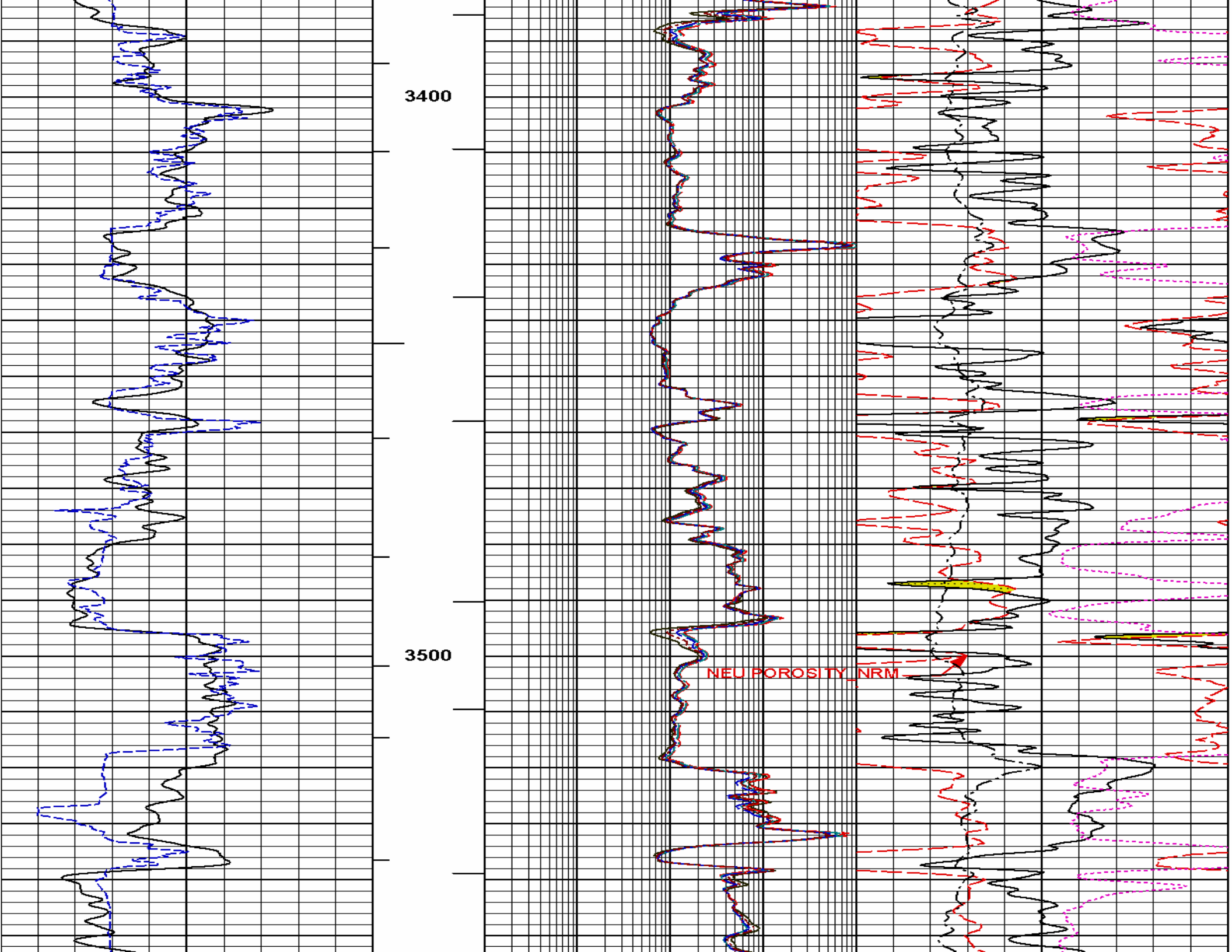
**HALLIBURTON**

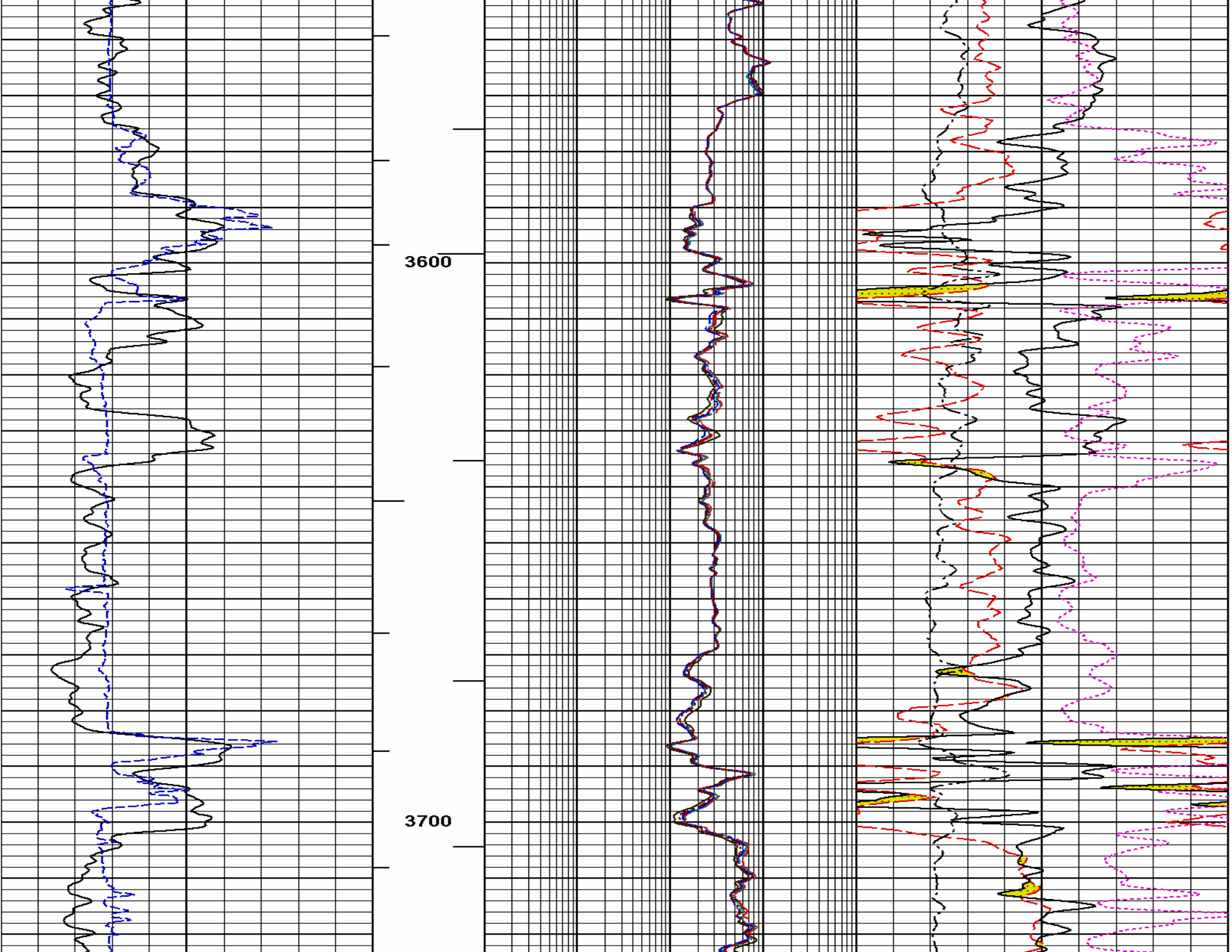
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Plot Range: 3208 ft to 7334.76 ft  
Data: WATSON\1\1  
Plot File: \\COMPIURSA\_COMP

**MAIN PASS 5" = 100'**

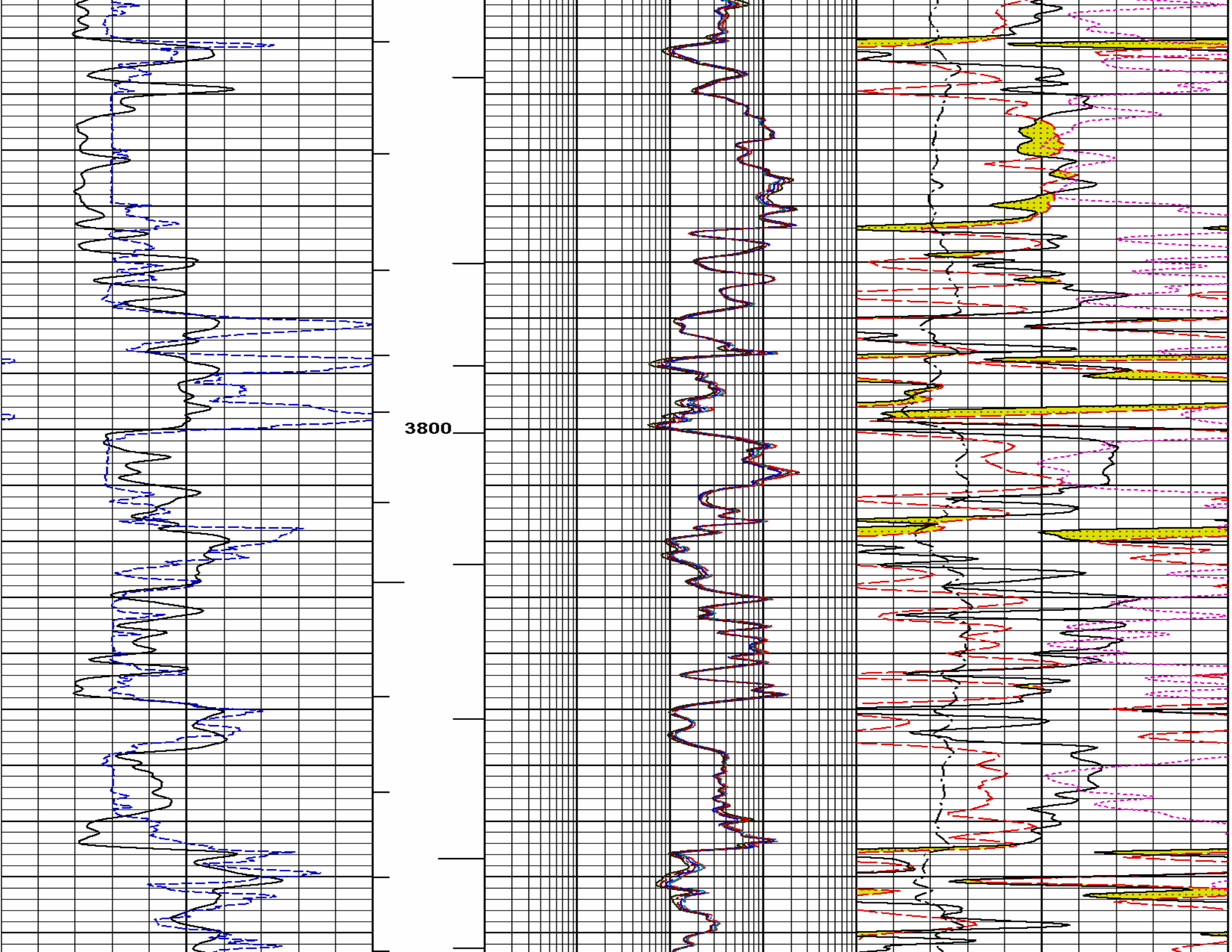




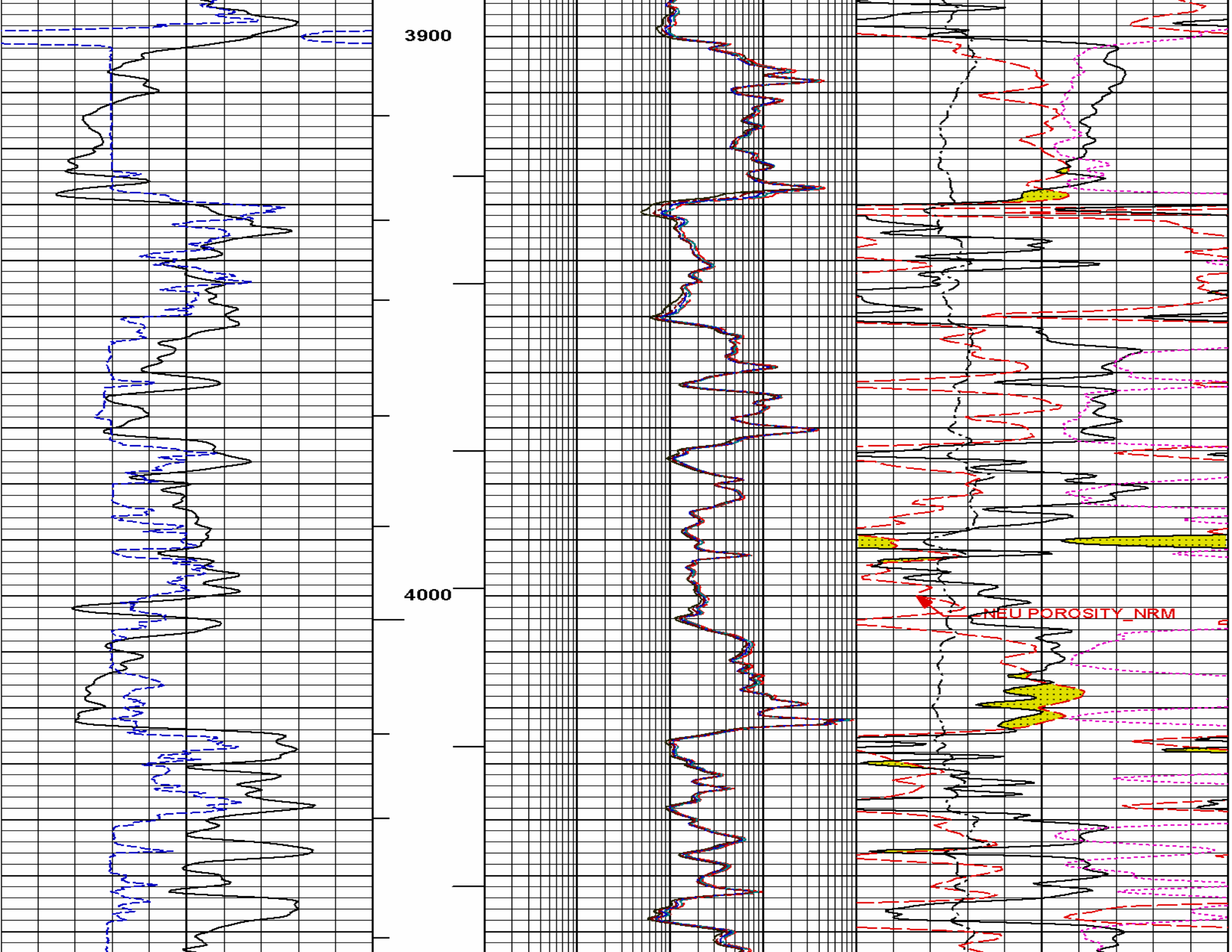


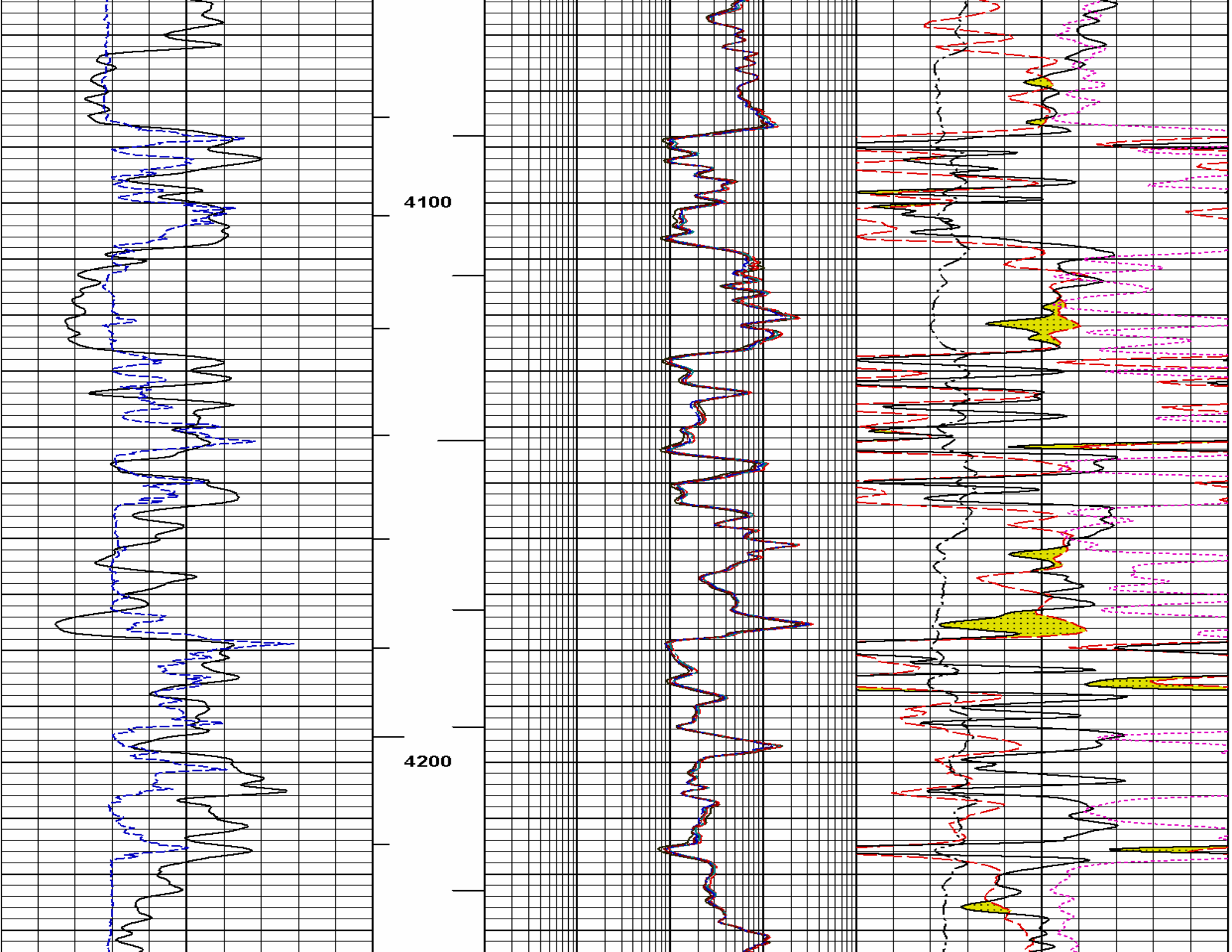


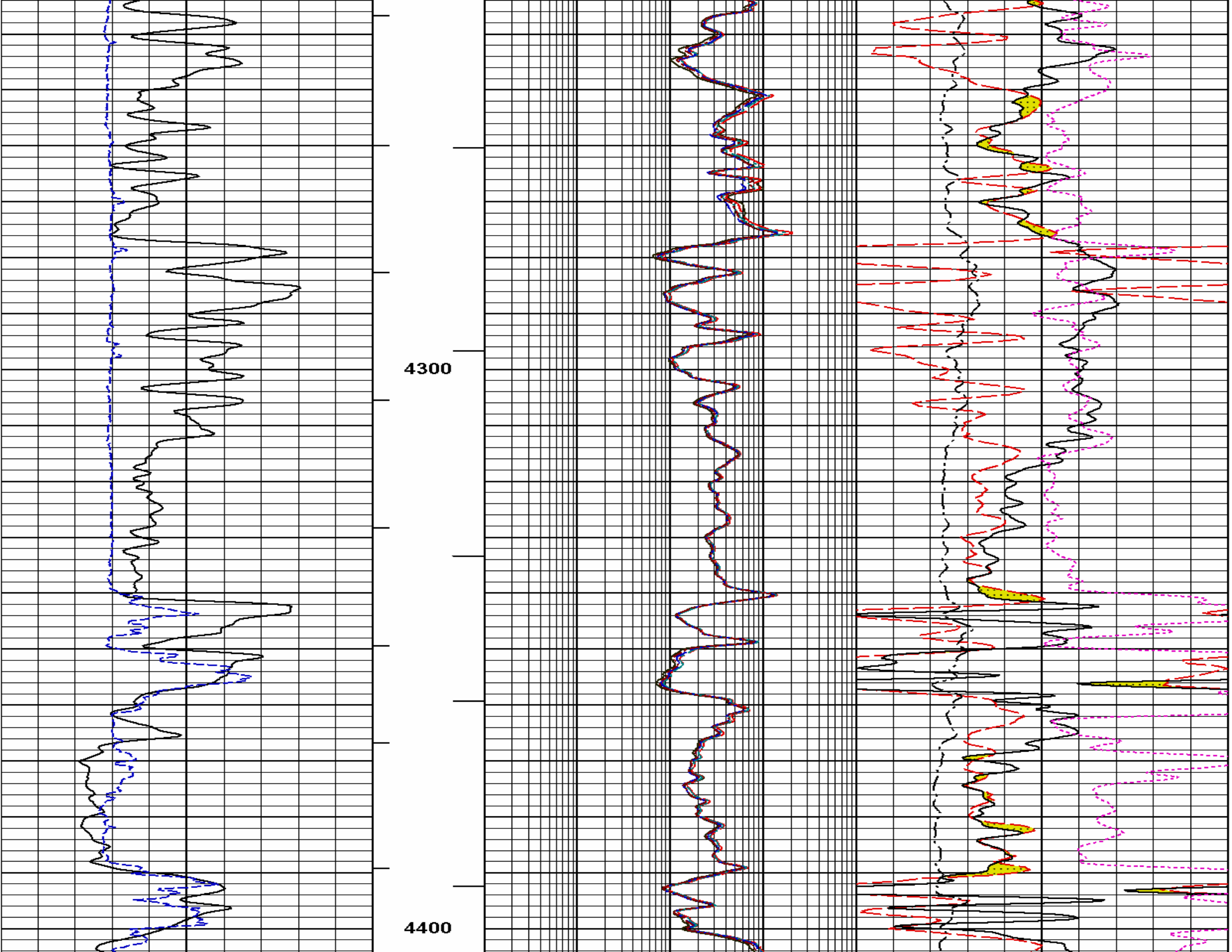


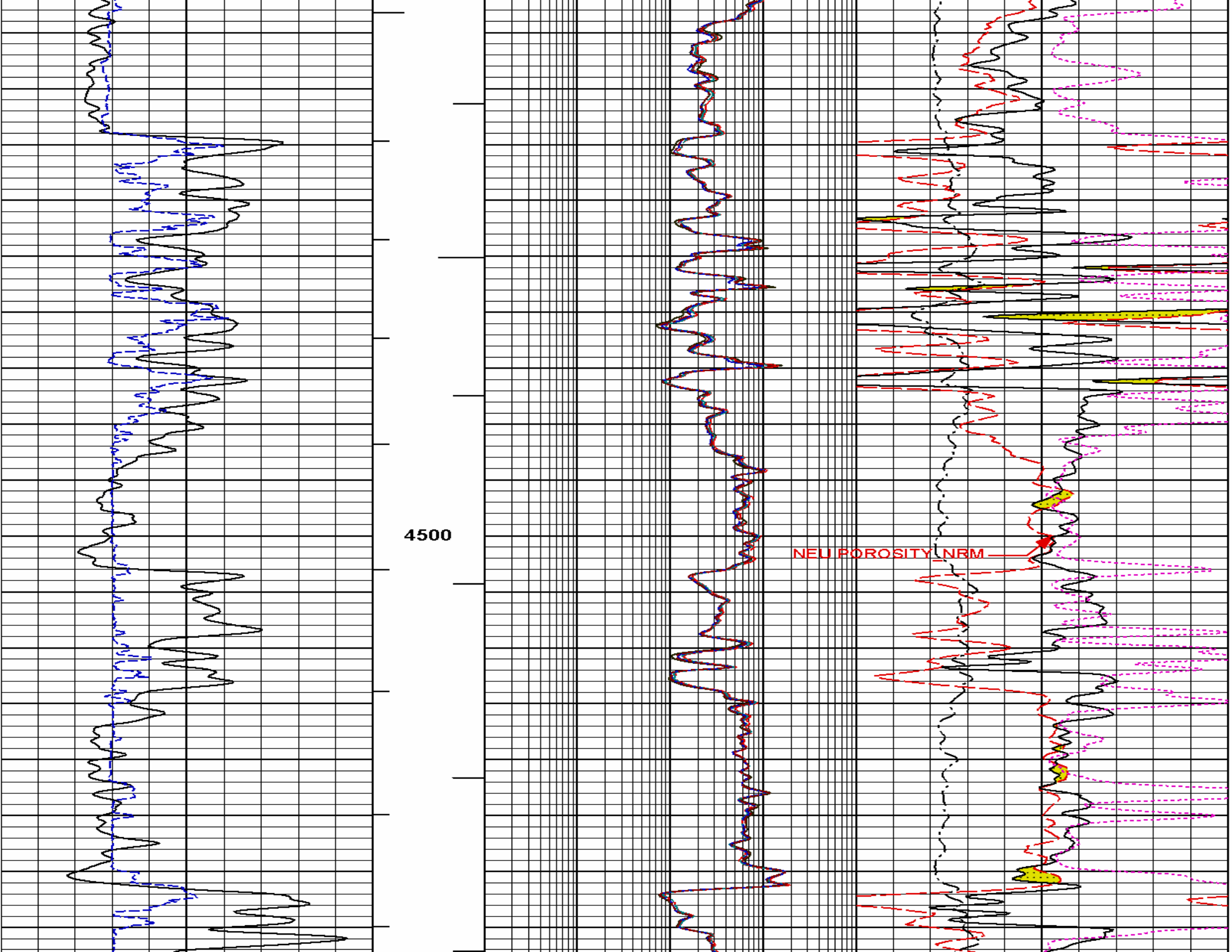


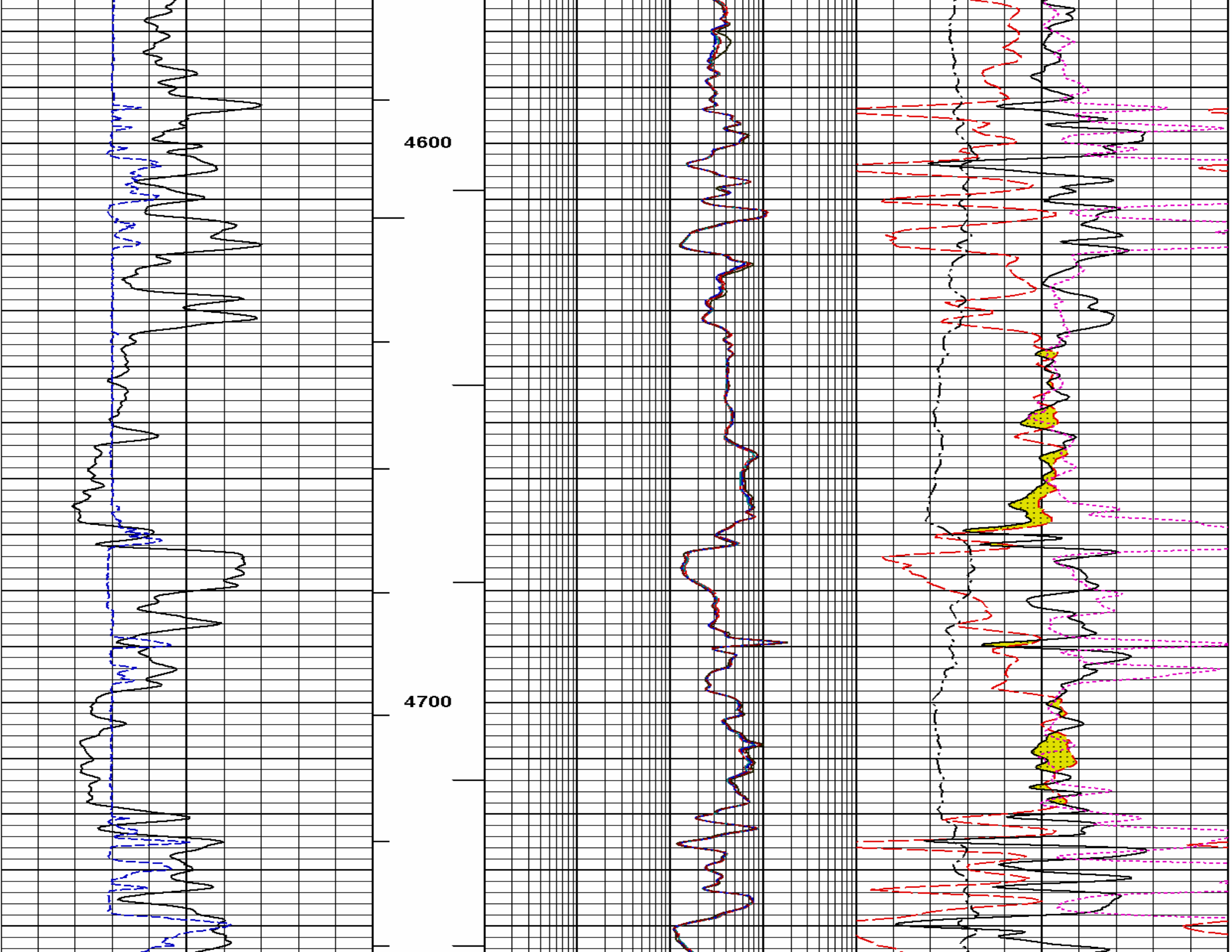


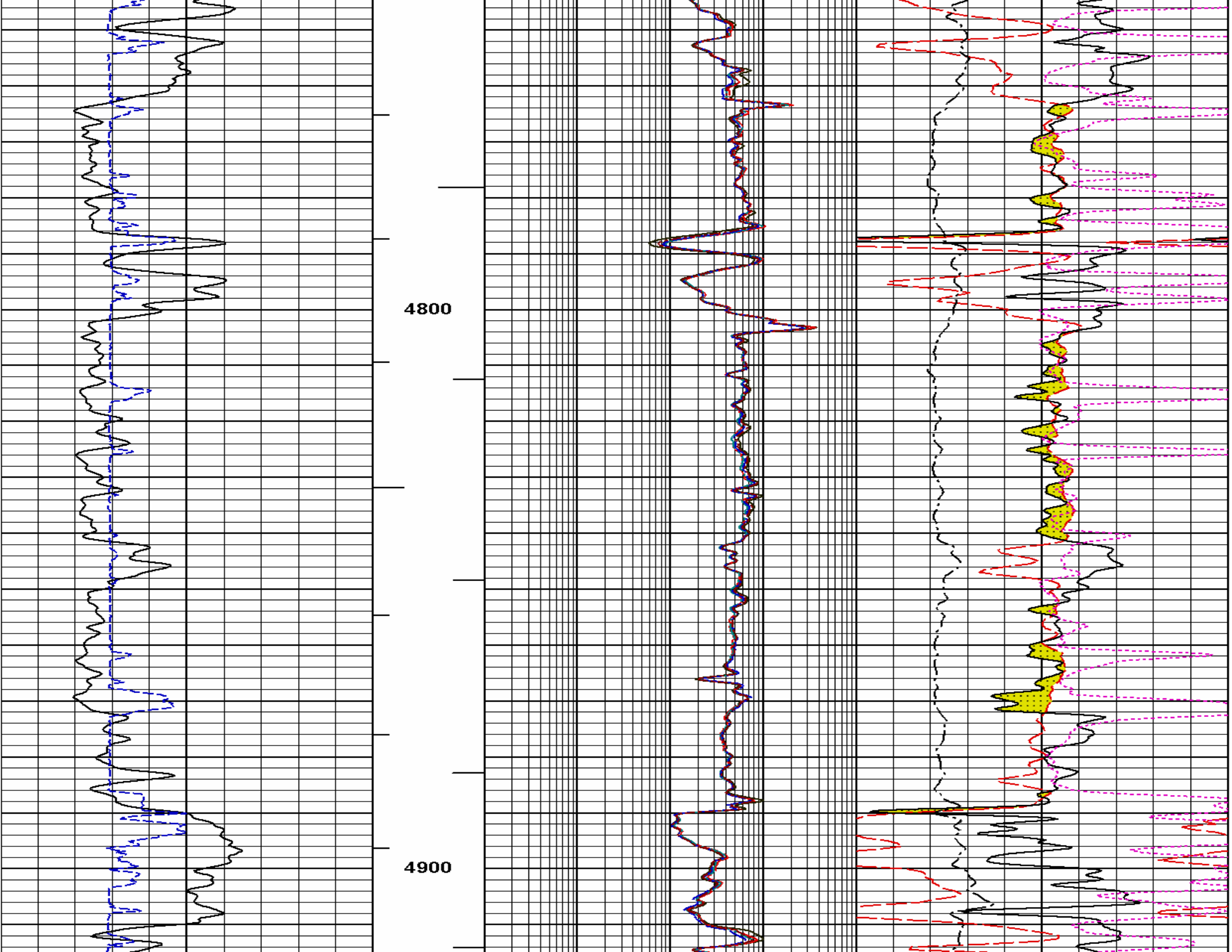




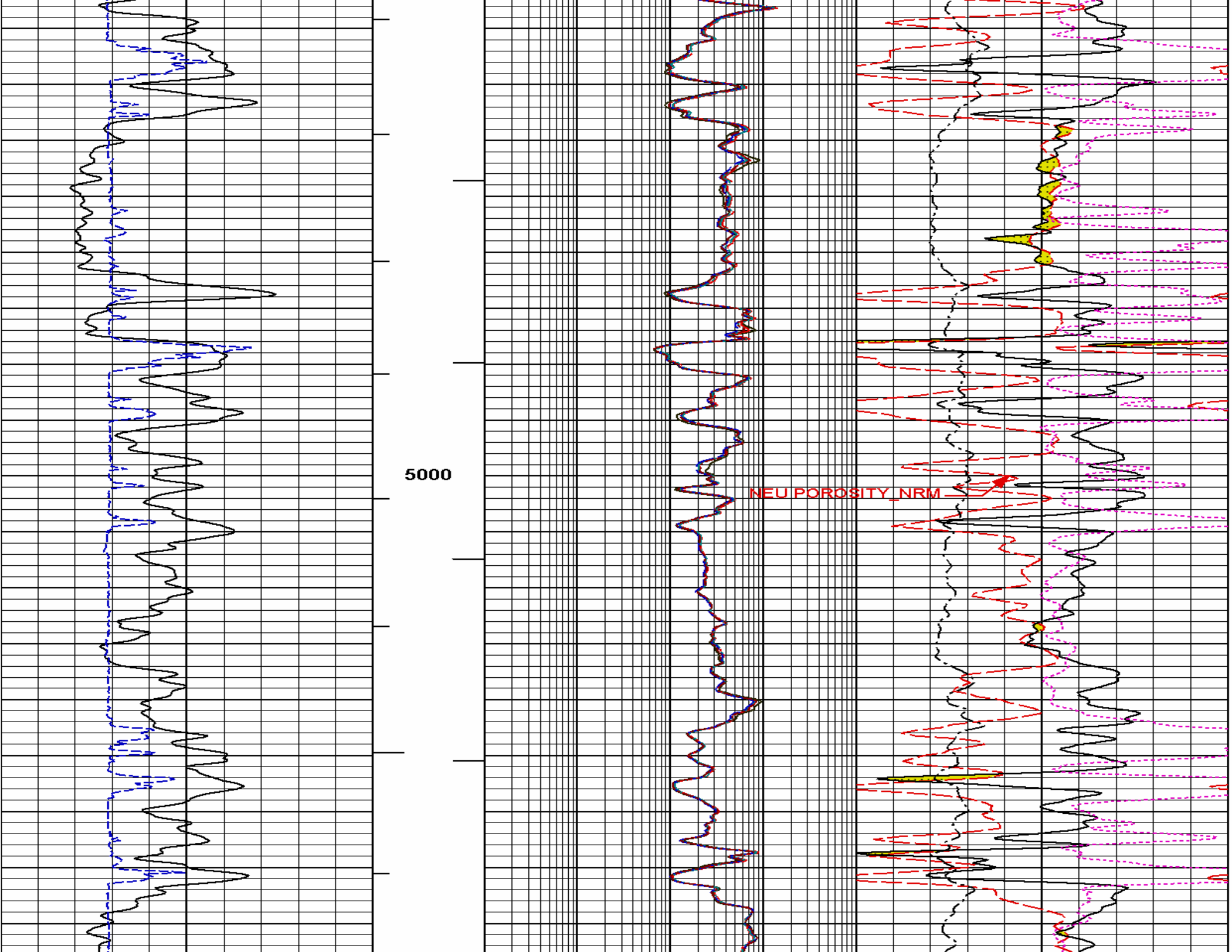




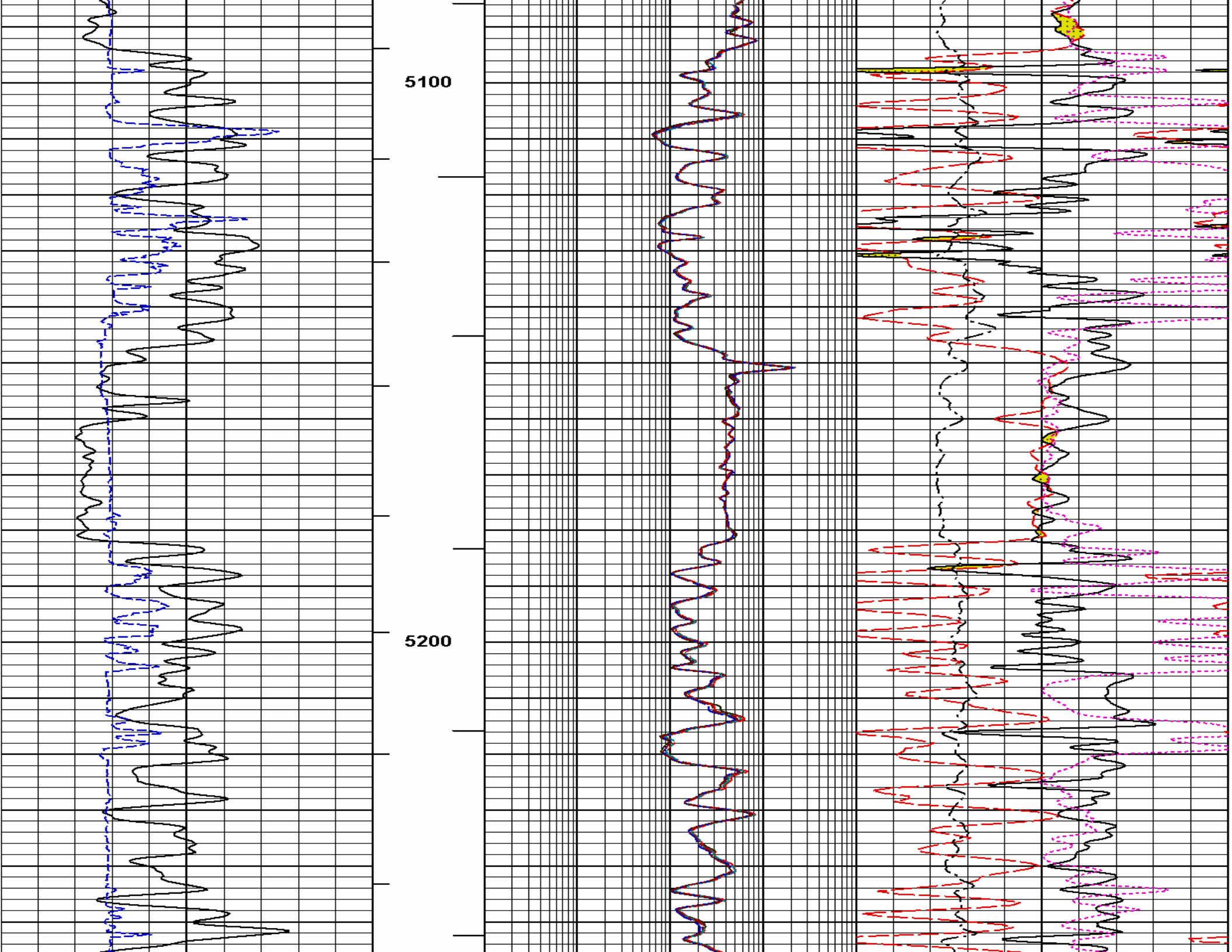


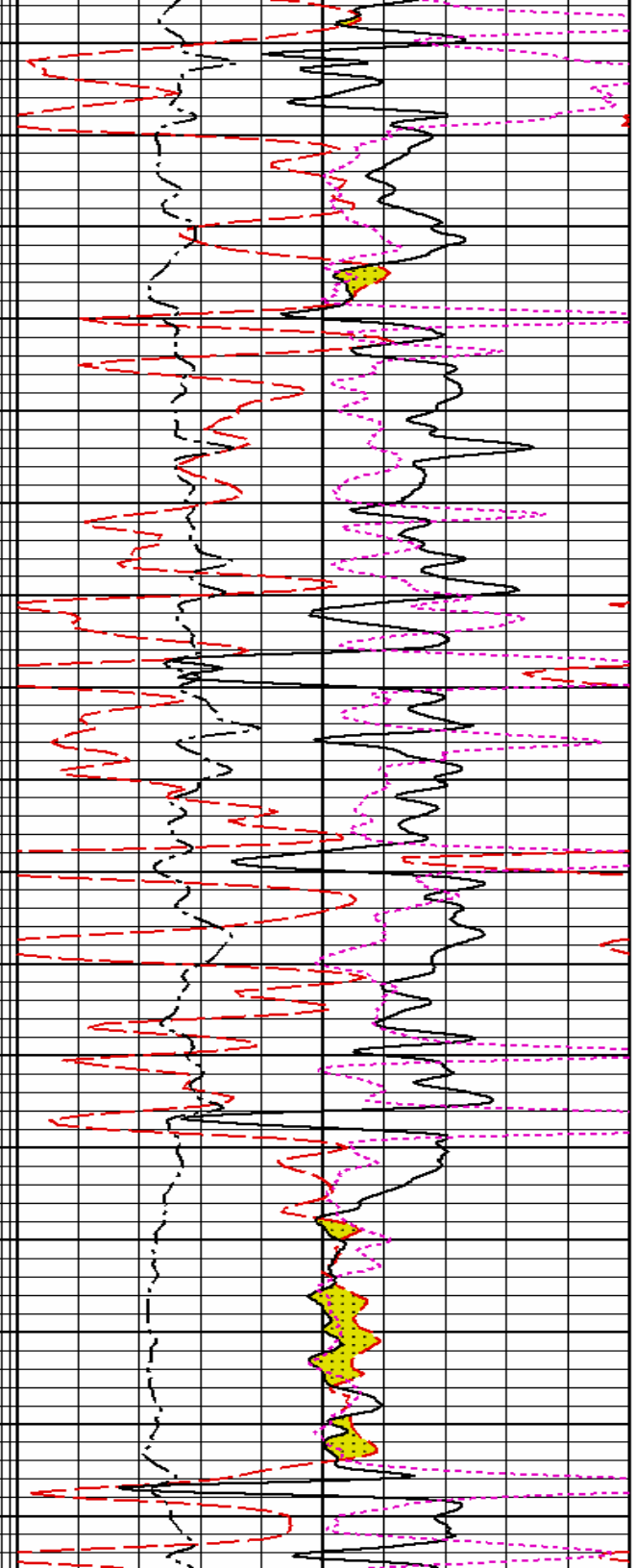
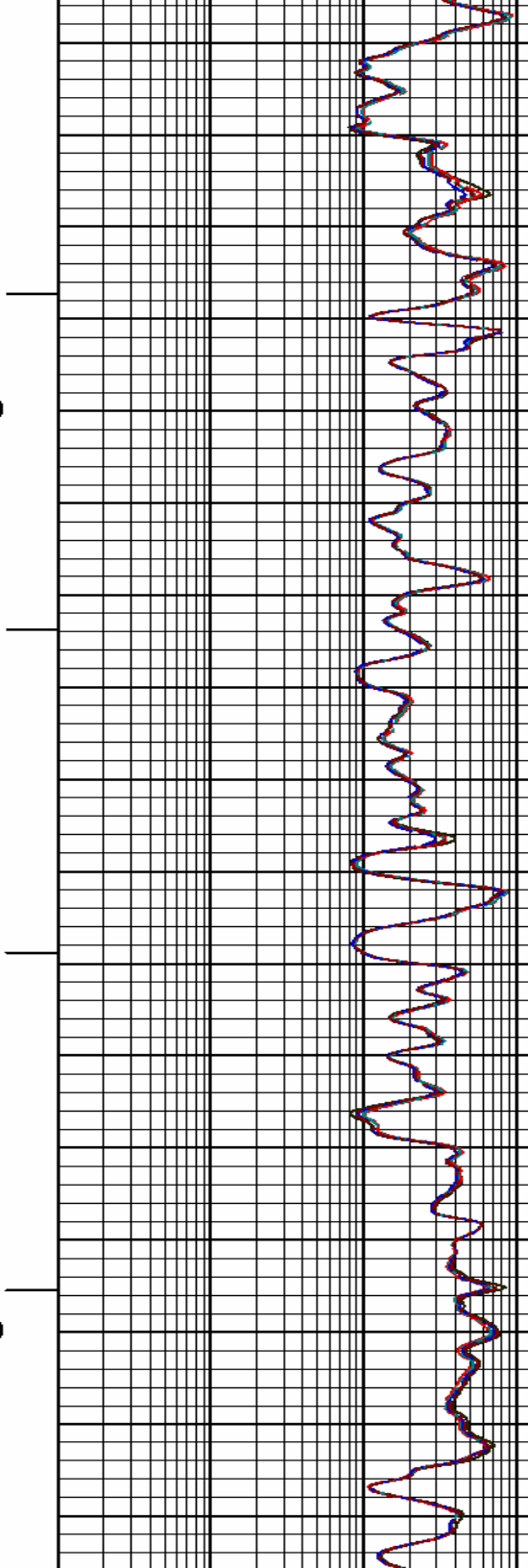
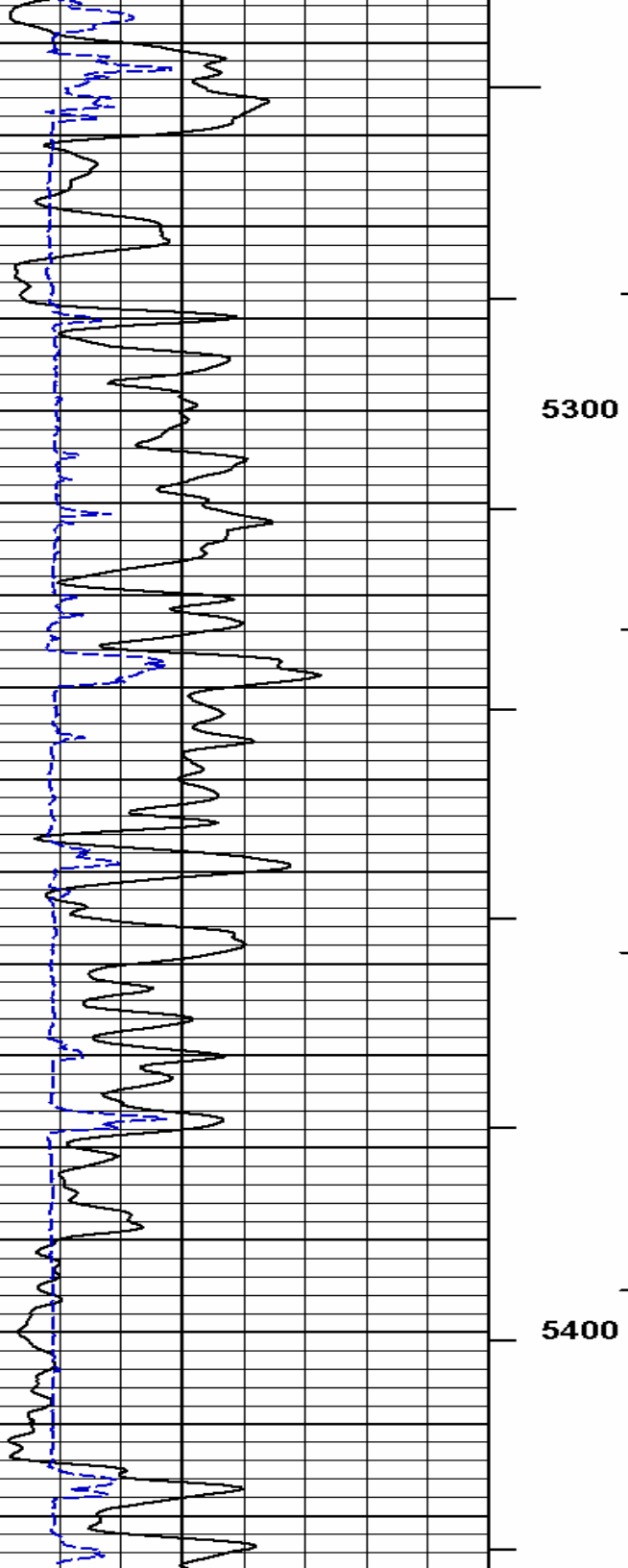


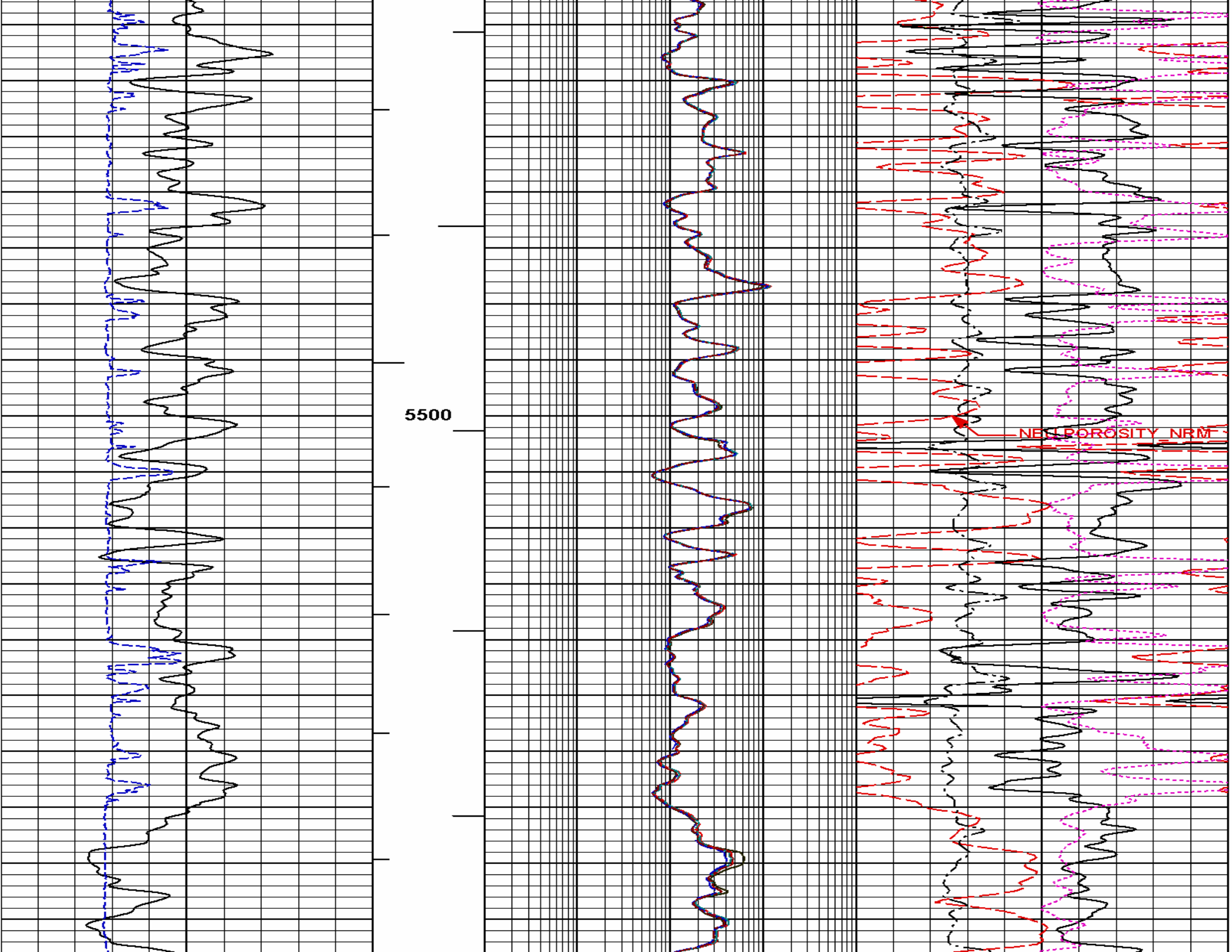


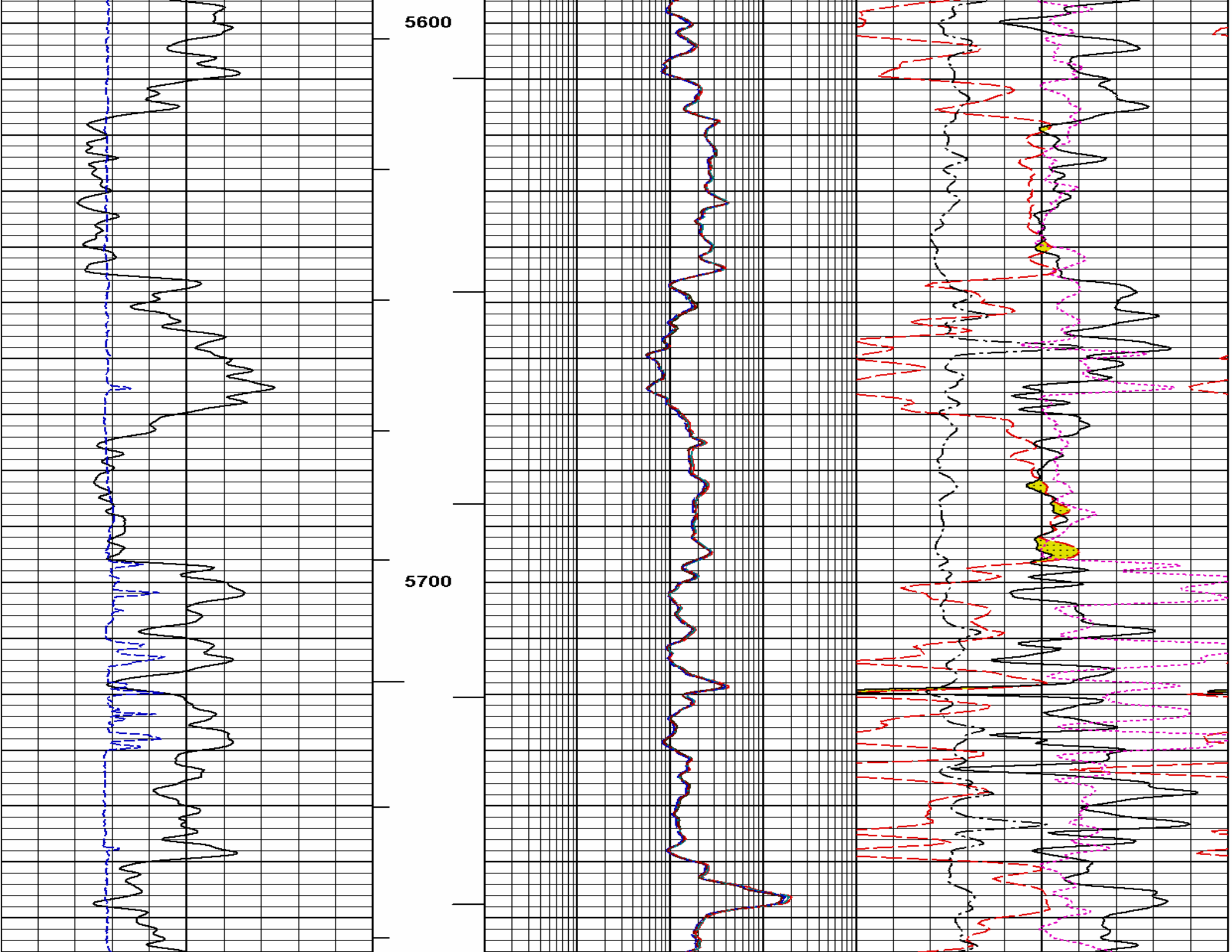


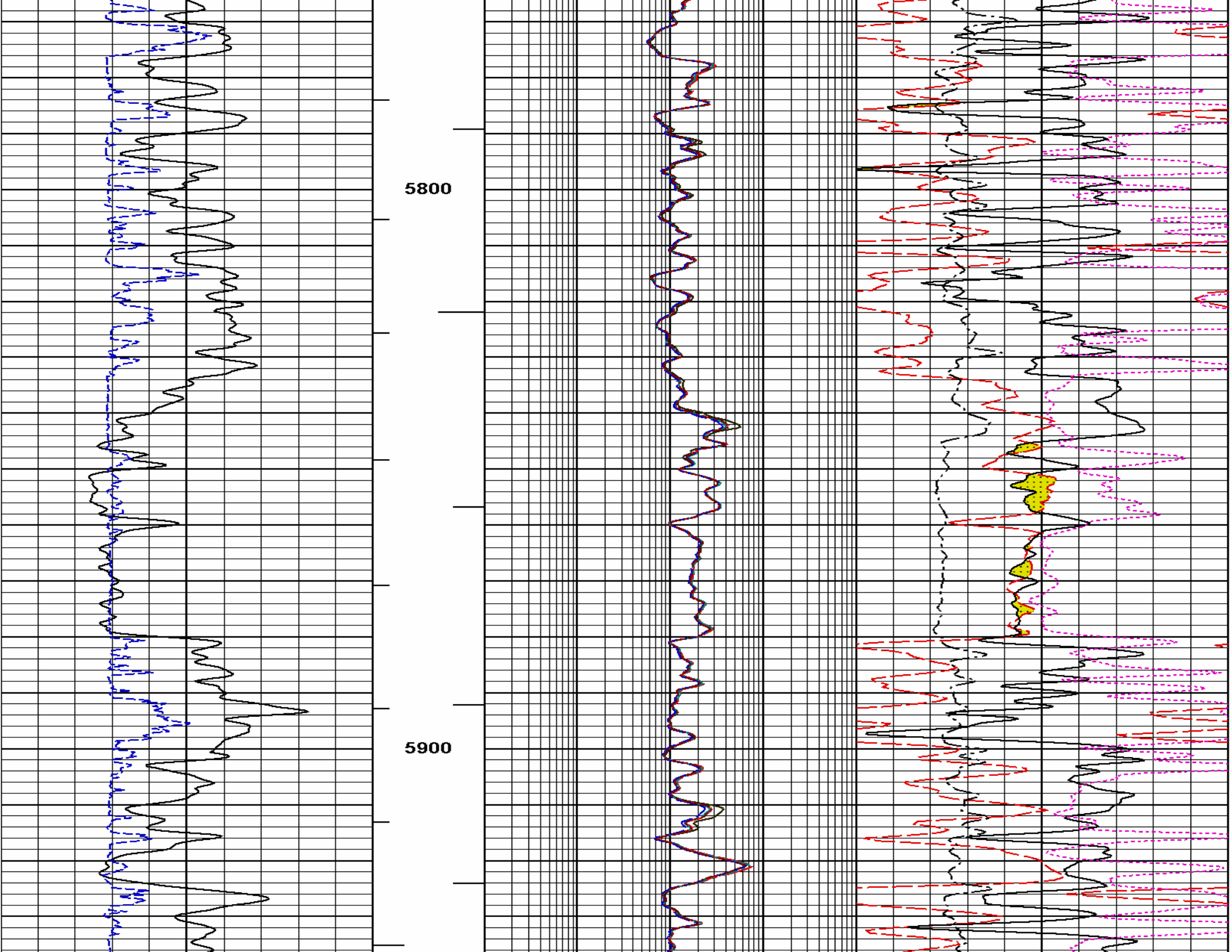


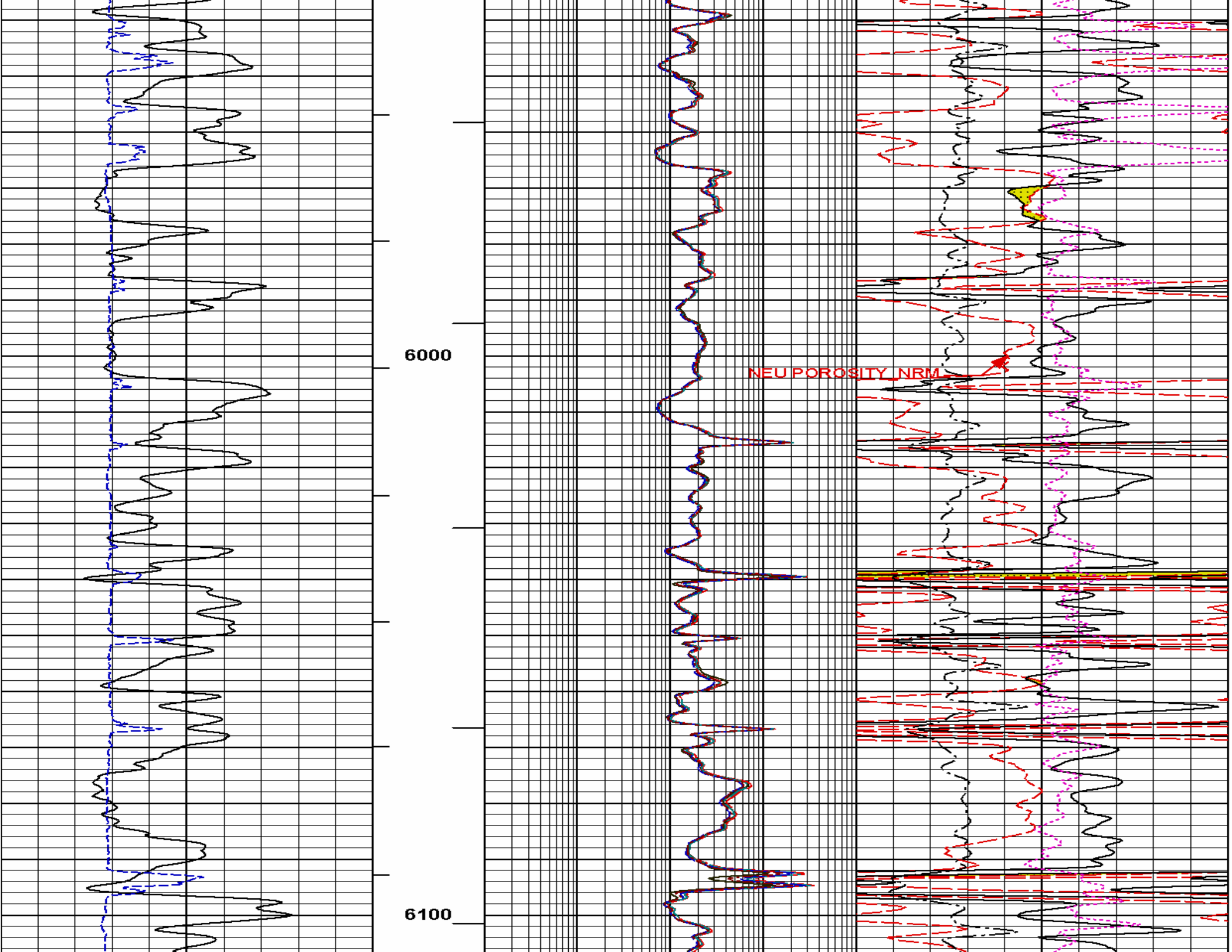




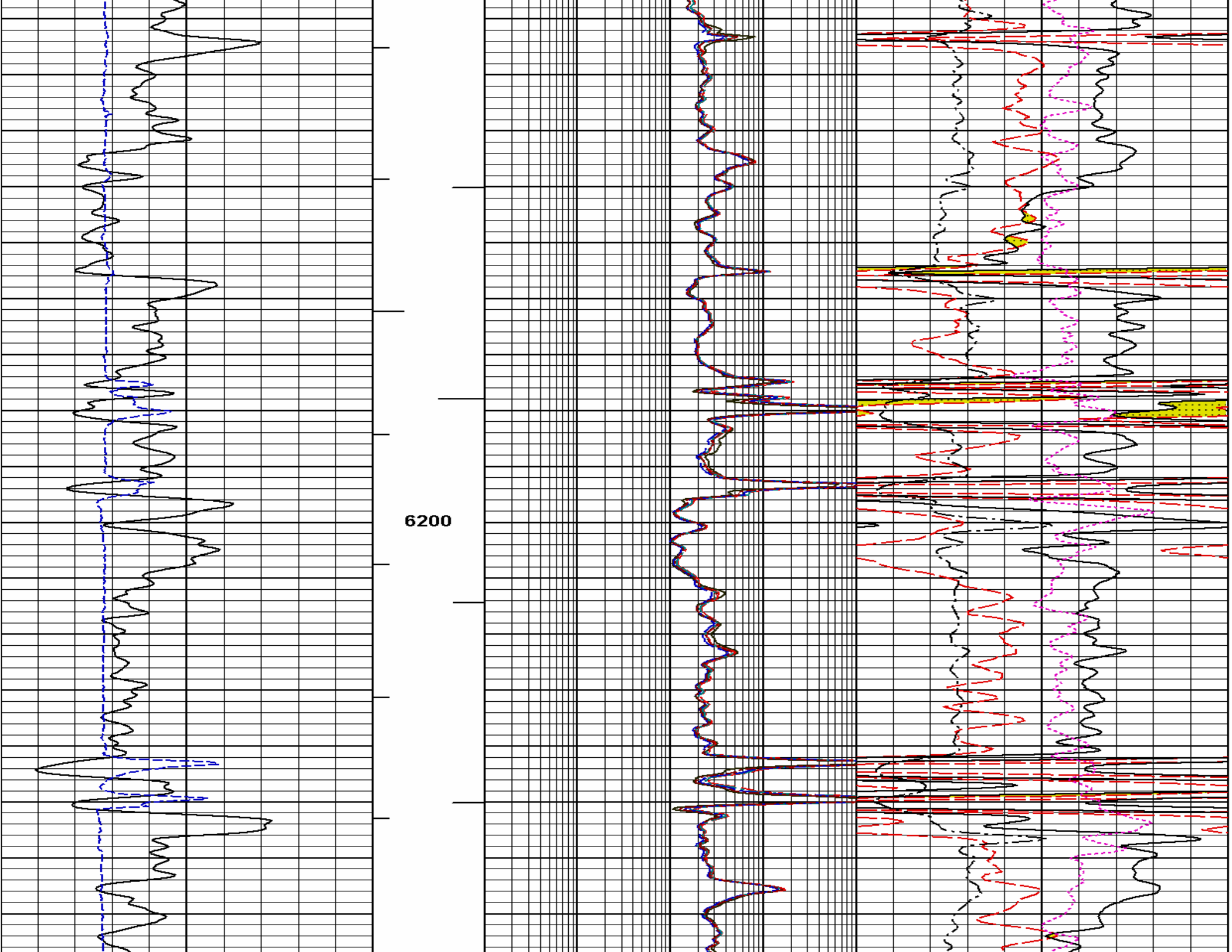




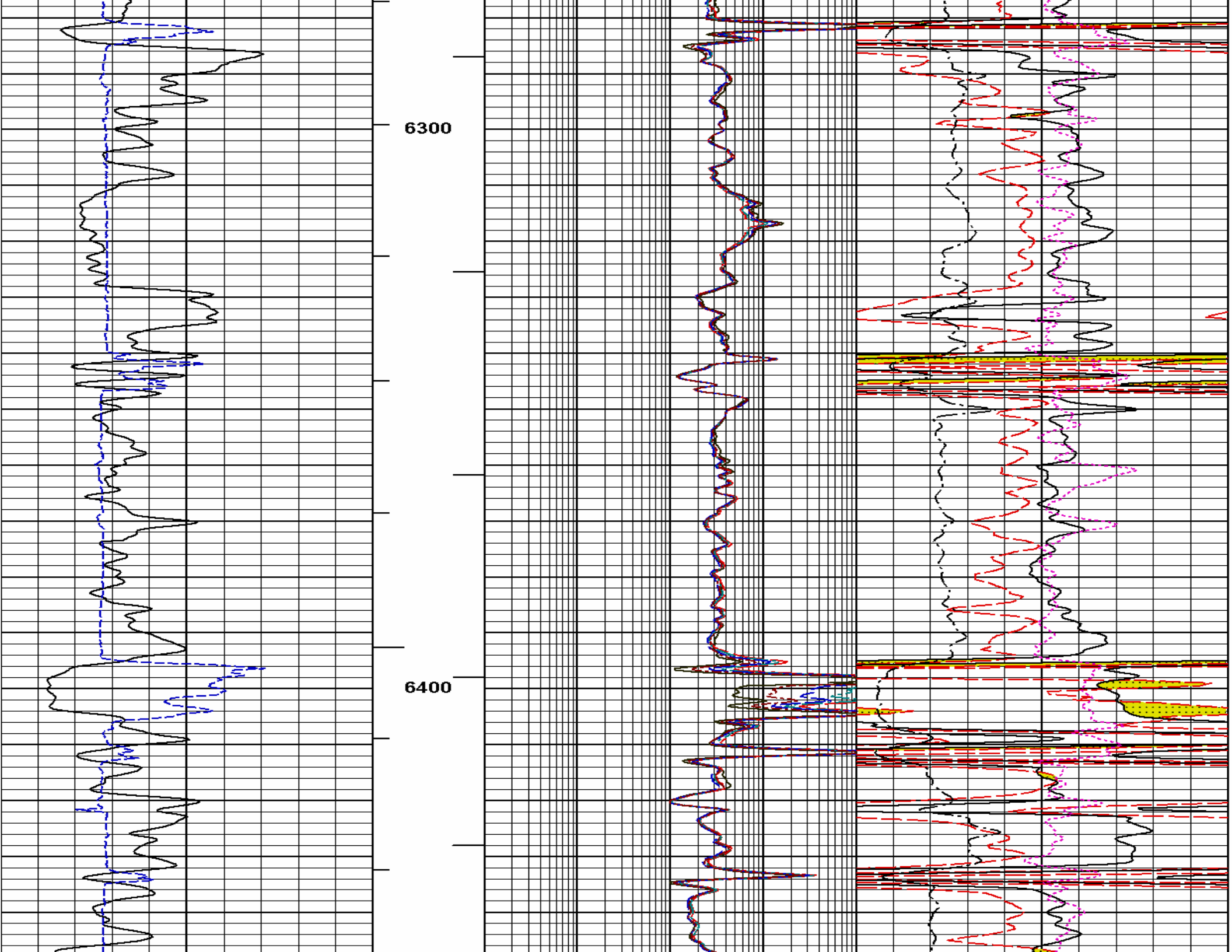


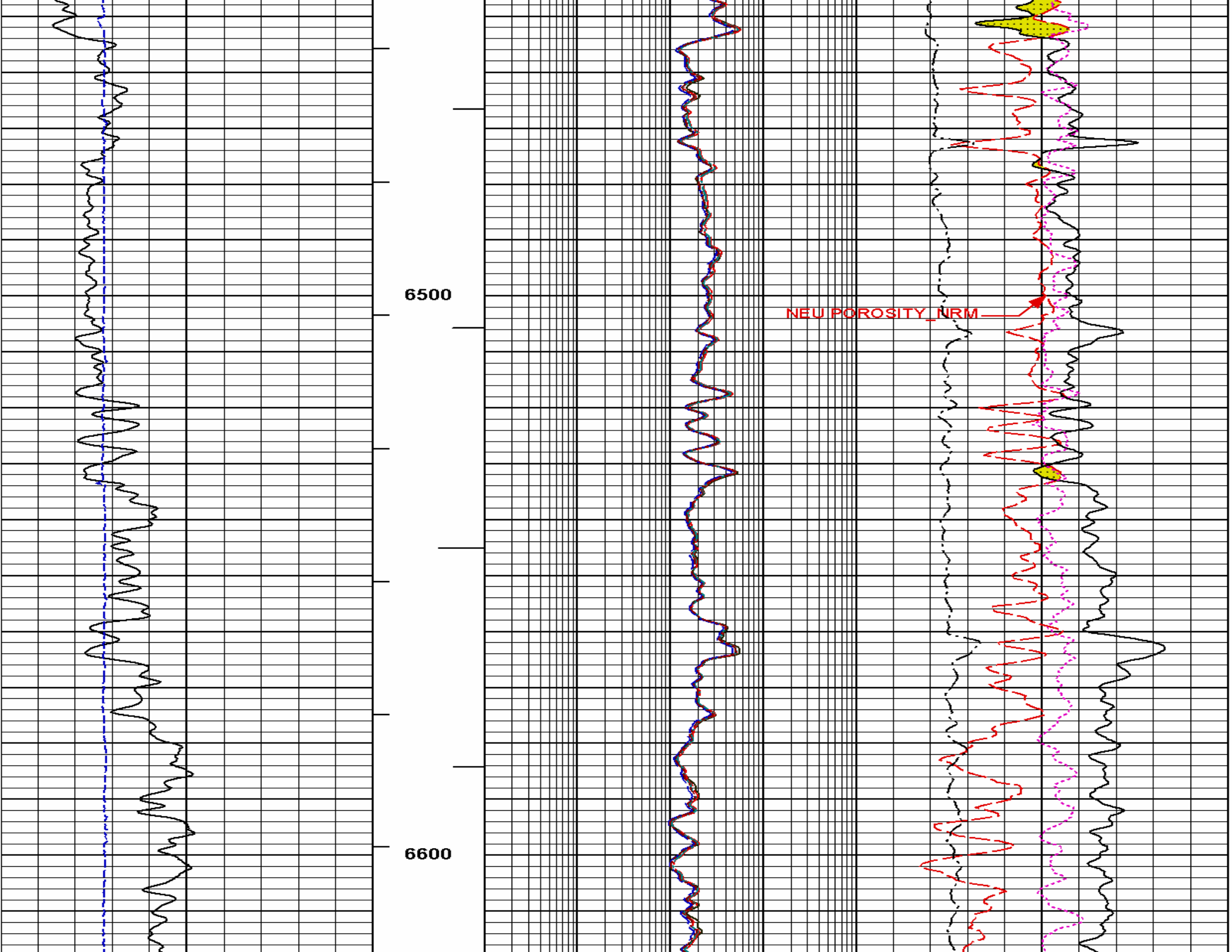


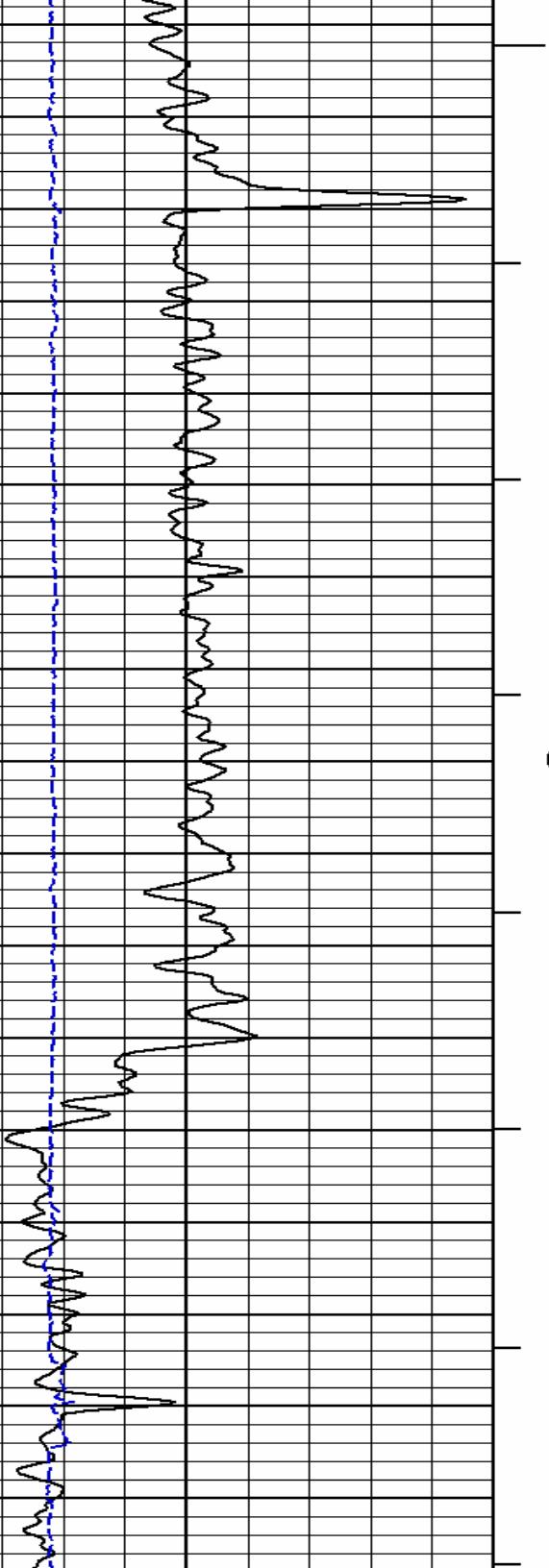
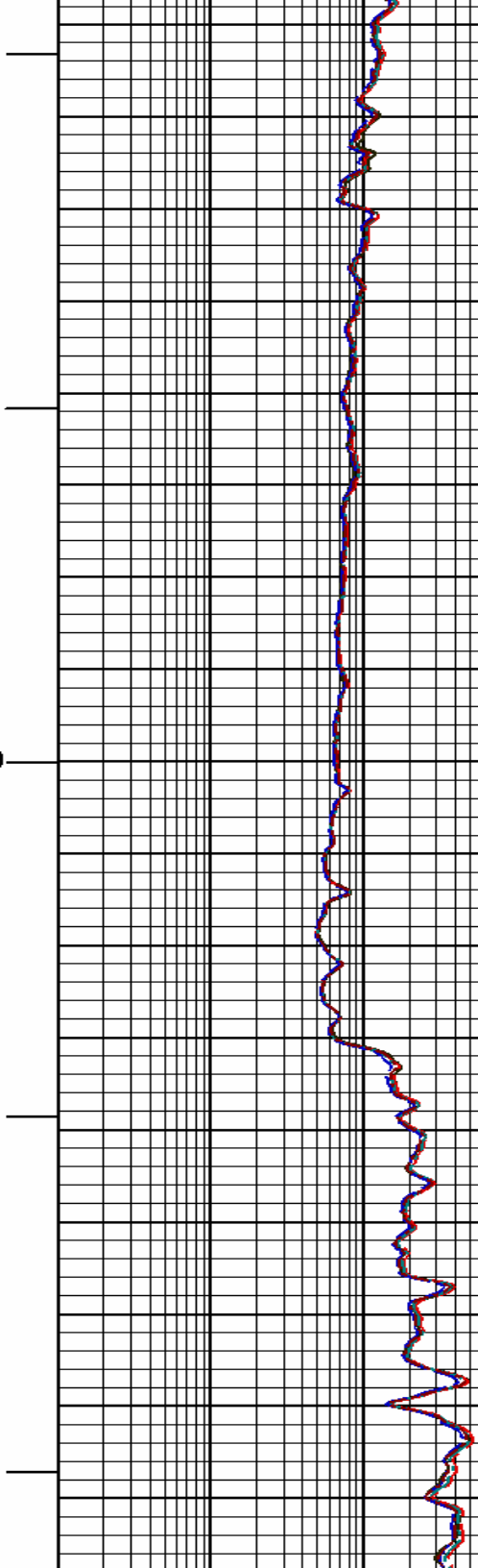
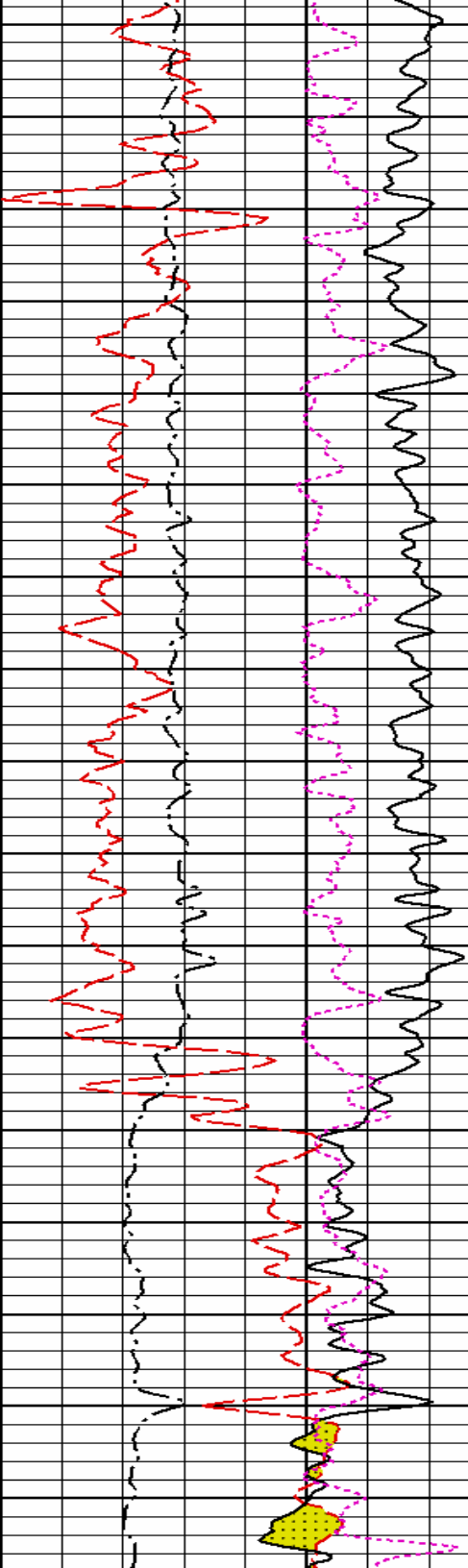


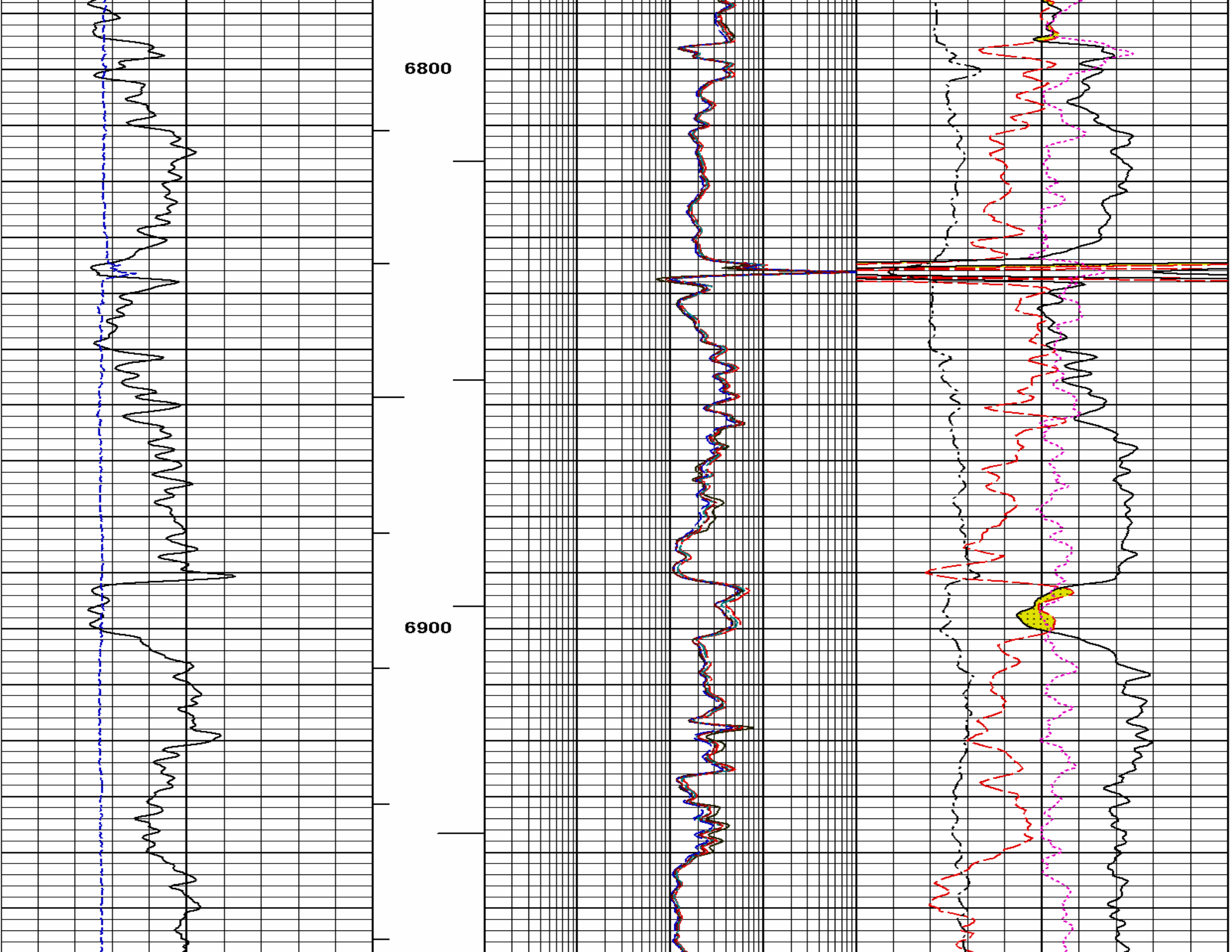


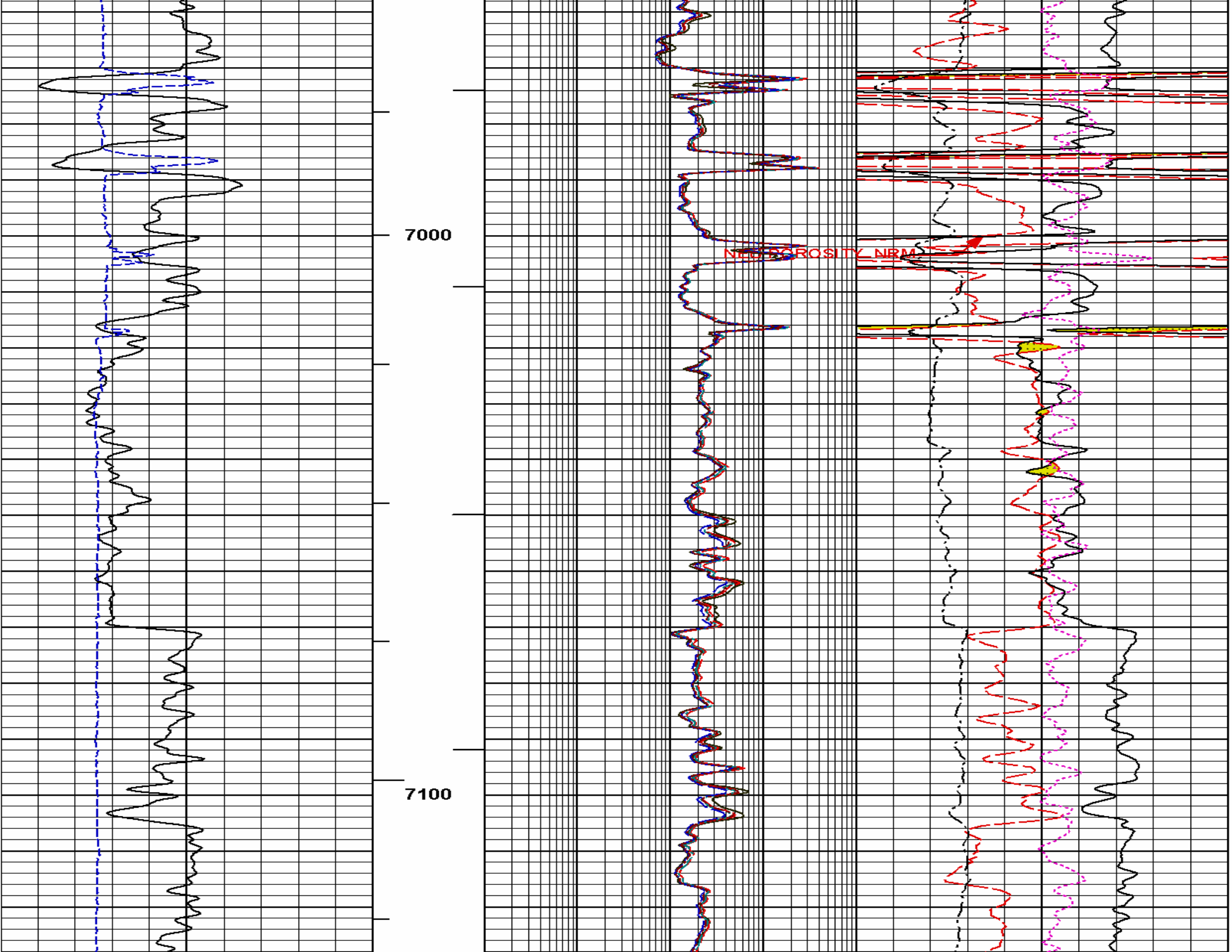


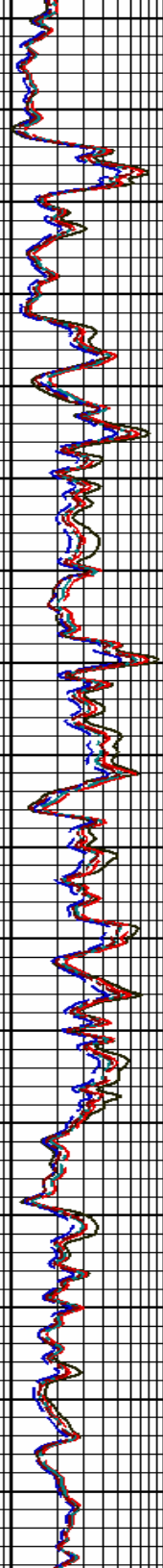
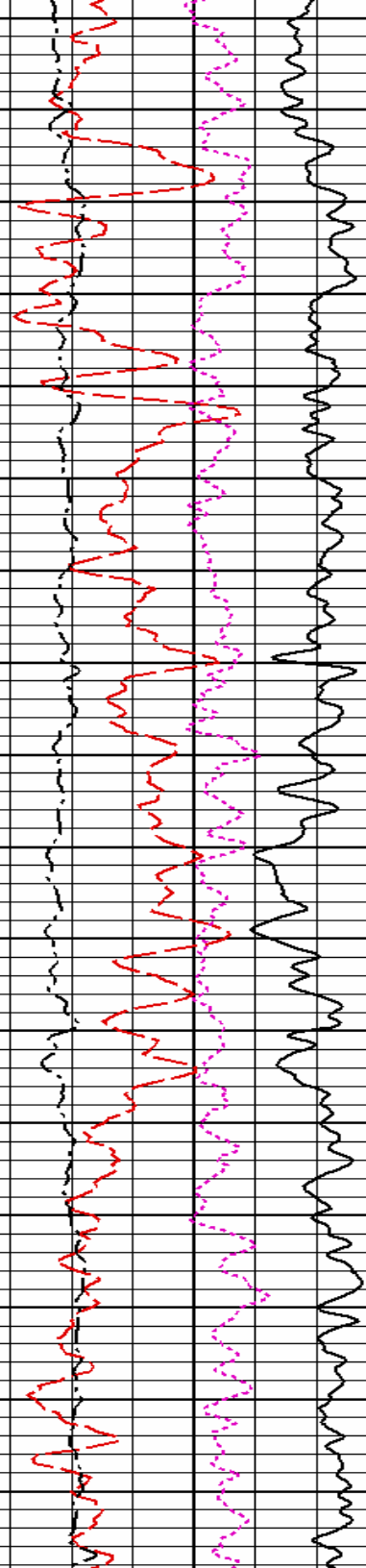




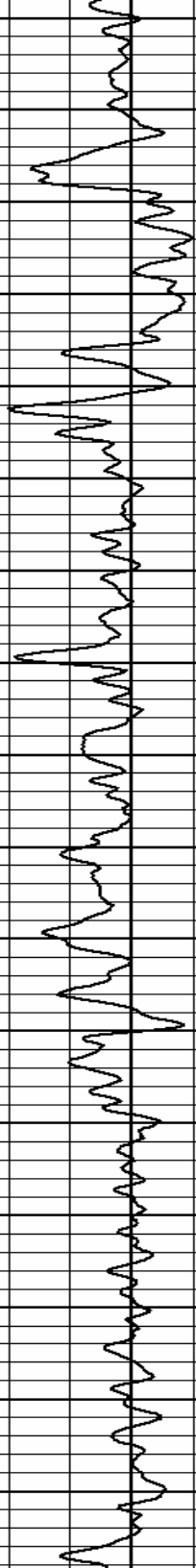


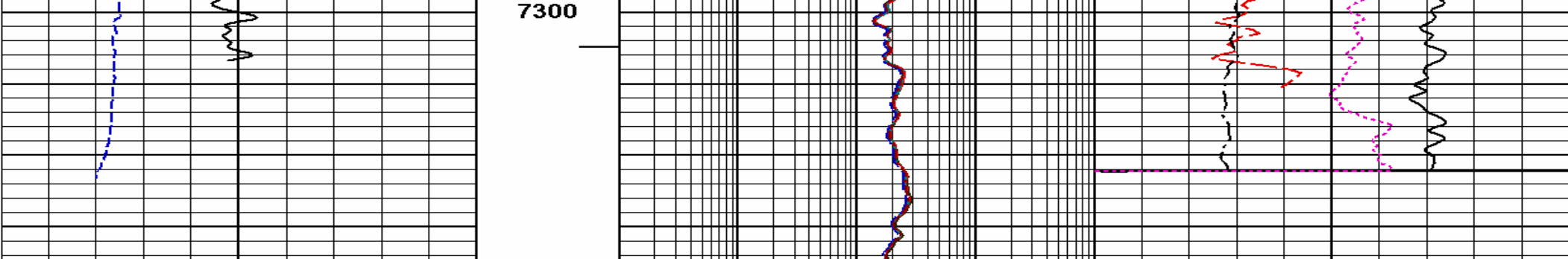






7200





6	CALIPER	16	1 : 240 FT.	0.1	RT10	1000	-0.25	DensityCorr	0.25
	inches				ohm-m			gram per cc	
0	GAMMA RAY	200	BHV	0.1	RT20	1000	0	PE	10
	api				ohm-m				
			AHV	0.1	RT30	1000	0.3	NEU POROSITY_NRM	-0.1
					ohm-m			sand	
				0.1	RT60	1000	0.3	DEN POROSITY	-0.1
					ohm-m			2.68 g/cc	
				0.1	RT90	1000			
					ohm-m				

**HALLIBURTON**

Plot Time: 09-Jun-15 17:11:27  
 Plot Range: 3208 ft to 7334.76 ft  
 Data: WATSON^V1  
 Plot File: \\COMPIURSA\_COMP

**MAIN PASS 5" = 100'**

**HALLIBURTON**

## CALIBRATION REPORT

### ACCELEROMETER SHOP CALIBRATION

Tool Name: S4TG - 11790910  
 Engineer: T. WENZEL  
 Software Version: WL INSITE R4.6.4 (Build 3)

Reference Calibration Date: 16-Mar-15 14:05:22  
 Calibration Date: 15-May-15 15:06:19  
 Calibration Version: 1

Horizontal-1

Horizontal-2

Vertical

Units



Telemetry	Telemetry	Telemetry	Units
0.06	0.04	1.06	cnts

Coefficient	Coefficient Value	Tolerance
Gain	0.987763	-----
Offset	-0.048	-----
Noise	0.0008	0.0000 - 0.0030

Orientation	Measured	Tolerance	Calibrated	Tolerance
Horizontal	0.00	-0.10 - 0.10	0.00	-0.10 - 0.10
Vertical	1.00	0.90 - 1.10	1.00	0.90 - 1.10

### ULTRA-SLIM QUAD TELEMETRY GAMMA CARTRIDGE SHOP CALIBRATION

Tool Name:	S4TG - 11790910	Reference Calibration Date:	07-May-15 20:05:49
Engineer:	T. WENZEL	Calibration Date:	15-May-15 15:04:02
Software Version:	WL INSITE R4.6.4 (Build 3)	Calibration Version:	1

Calibrator Source S/N: USC-003-CB  
 Calibrator API Reference: 155.00  
 Calibrator API Value: 151.4

Measurement	Measured	Calibrated	Units
Background	28.0	28.1	api
Background + Calibrator	179.1	179.5	api
Calibrator	151.1	151.4	api

### ULTRA-SLIM QUAD TELEMETRY GAMMA CARTRIDGE FIELD CALIBRATION

Tool Name:	S4TG - 11790910	Reference Calibration Date:	15-May-15 15:04:02
Engineer:	Z. TAYLOR	Calibration Date:	29-May-15 23:32:52
Software Version:	WL INSITE R4.6.4 (Build 3)	Calibration Version:	1

Calibrator Source S/N: USC-003-CB

Field Verification	Shop	Field	Units
Background	28.1	98.9	api
Background + Calibrator	179.5	250.6	api
Calibrator	151.4	151.7	api

Shop	Field	Difference	Tolerance
151.4	151.7	-0.3	+/- 9.00

### DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name:	SDSN - 11790665	Reference Calibration Date:	16-Apr-15 14:44:53
Engineer:	T. WENZEL	Calibration Date:	15-May-15 15:51:19

Logging Source S/N: 73516B

Reference value assigned to Bath: 22.284

Snow Block S/N: 11230664

Calibration Bath Water Temperature: 64 degF

Min. Tool Housing Outside Diameter: 2.350 in

## CALIBRATION CONSTANTS

Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	0.998	0.993	0.900 - 1.100

## WATER BATH SUMMARY (Vertical Water Bath)

Measurement	Current Reading (Previous Coef.)	Calibrated (New Coef.)	Change	Control Limit On Change
Porosity (decg):	1.0185	1.0000	0.0185	+/- 0.0280
Calibrated Ratio:	22.42	22.28	0.131	+/- 0.180

## VERIFIER

Measurement	Value	Control Limit
Snow-Block Porosity (decg):	0.0503	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: SDSN - 11790665

Reference Calibration Date: 15-May-15 15:51:19

Engineer: Z. TAYLOR

Calibration Date: 29-May-15 23:50:47

Software Version: WL INSITE R4.6.4 (Build 3)

Calibration Version: 1

Logging Source S/N: 73516B

Snow Block S/N: 11230664

## NEUTRON FIELD-CHECK SUMMARY

	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decg):	0.0503	0.0447	-0.0057	+/- 0.0150

## PASS/FAIL SUMMARY

Block Change Check:	Passed
Snow-Block Stat Check:	Passed

Show Block Stat Check:  
Temperature Check:

Passed  
Passed

### PAD LOCATOR SHOP CALIBRATION

<b>Tool Name:</b>	<b>SDSN - 11790665</b>	<b>Reference Calibration Date:</b>	<b>15-May-15 14:01:29</b>
<b>Engineer:</b>	<b>T. WENZEL</b>	<b>Calibration Date:</b>	<b>15-May-15 14:05:42</b>
<b>Software Version:</b>	<b>WL INSITE R4.6.4 (Build 3)</b>	<b>Calibration Version:</b>	<b>1</b>

PAD LOCATOR			
Measurement	Calibrated(deg)	Target(deg)	Calibration Type
Min	0.00	0.00	Gain Only
Max	360.00	360.00	Gain Only
Mid	180.00	180.00	Gain and Offset

### DENSITY CALIPER SHOP CALIBRATION

<b>Tool Name:</b>	<b>SSDL - 11790674</b>	<b>Reference Calibration Date:</b>	<b>15-May-15 13:41:11</b>
<b>Engineer:</b>	<b>T. WENZEL</b>	<b>Calibration Date:</b>	<b>15-May-15 13:52:30</b>
<b>Software Version:</b>	<b>WL INSITE R4.6.4 (Build 3)</b>	<b>Calibration Version:</b>	<b>1</b>

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

Calibrator Small Ring Diameter: 4.000 in

Calibrator Medium Ring Diameter: 8.00 in

Calibrator Large Ring Diameter: 12.000 in

Tool Diameter: 2.35 in

CALIBRATION COEFFICIENTS			
Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-18086.58	-18978.27	-32000.00 - -15000.00
Pad Gain	0.0000597	0.0000610	0.000052 - 0.000098
Arm Offset	-20771.31	-20961.49	-18000.00 - -13000.00
Arm Gain	0.0002984	0.0003002	0.000270 - 0.000330
Arm Power	-0.000002408	-0.000002528	-0.000004200 - -0.000001400

CALIBRATION RINGS				
Measurement	Current Reading (Previous Coeff.)	Calibrated (New Coeff.)	Change	Control Limit On New Value
PAD EXTENSION:				
Closed (in)	0.05	0.00	-0.05	+/- 0.20
Small Ring (in)	1.69	1.68	-0.02	+/- 0.20
Maximum (in)	2.2	2.2	-0.01	+/- 0.20
RING DIAMETER:				
Small Ring (in)	4.10	4.00	-0.10	+/- 0.20
Medium Ring (in)	8.08	8.00	-0.08	+/- 0.20
Large Ring (in)	12.08	12.00	-0.08	+/- 0.20

Large Ring (in)	12.00	12.00	0.00	17	0.20
Maximum (in)	16.43	16.38	-0.05		+/- 0.20

### PASS/FAIL SUMMARY

Ring-Measurement Check:	Passed
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### DENSITY CALIPER FIELD CALIBRATION

<b>Tool Name:</b>	<b>SSDL - 11790674</b>	<b>Reference Calibration Date:</b>	<b>15-May-15 13:52:30</b>
<b>Engineer:</b>	<b>Z. TAYLOR</b>	<b>Calibration Date:</b>	<b>29-May-15 23:45:01</b>
<b>Software Version:</b>	<b>WL INSITE R4.6.4 (Build 3)</b>	<b>Calibration Version:</b>	<b>1</b>

The Caliper is computed from: CALIPER = PAD EXTENSION + ARM EXTENSION + TOOL DIAMETER  
Tool Diameter: 2.35 in

### MEASURED CALIPER VALUES

Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	11.83	11.87	0.05	+/- 0.20
Caliper	16.38	16.41	0.03	+/- 0.20

### PASS/FAIL SUMMARY

Pad Extension Check:	Passed
Diameter Check:	Passed

### SPECTRAL DENSITY SHOP CALIBRATION

<b>Tool Name:</b>	<b>SSDL Pad - 11581727</b>	<b>Reference Calibration Date:</b>	<b>15-May-15 14:32:13</b>
<b>Engineer:</b>	<b>T. WENZEL</b>	<b>Calibration Date:</b>	<b>15-May-15 14:55:38</b>
<b>Software Version:</b>	<b>WL INSITE R4.6.4 (Build 3)</b>	<b>Calibration Version:</b>	<b>1</b>

Logging Source S/N: 5265GW		
Aluminum Block S/N: 63069	Density: 2.588g/cc	Pe: 3.160
Magnesium Block S/N: 63376	Density: 1.685g/cc	Pe: 2.594

### DENSITY CALIBRATION SUMMARY

Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	0.9560	0.9720	0.90 - 1.10
Near Dens Gain	1.0123	1.0111	0.90 - 1.10
Near Peak Gain	1.0069	1.0082	0.90 - 1.10
Near Lith Gain	1.0138	1.0124	0.90 - 1.10
Far Bar Gain	0.9907	0.9919	0.90 - 1.10
Far Dens Gain	0.9980	0.9977	0.90 - 1.10
Far Peak Gain	0.9969	0.9978	0.90 - 1.10
Far Lith Gain	0.9990	0.9957	0.90 - 1.10
Near Bar Offset	0.5208	0.3696	NONE

Near Dens Offset	-0.0128	-0.0005	NONE
Near Peak Offset	0.0222	0.0098	NONE
Near Lith Offset	-0.0075	0.0045	NONE
Far Bar Offset	0.1536	0.1449	NONE
Far Dens Offset	0.0833	0.0867	NONE
Far Peak Offset	0.0989	0.0905	NONE
Far Lith Offset	0.1088	0.1357	NONE

Near Bar Background	197.52	198.52	155 - 360
Near Dens Background	114.59	113.37	90 - 210
Near Peak Background	67.09	67.12	55 - 125
Near Lith Background	57.25	57.73	45 - 100
Far Bar Background	135.92	136.85	90 - 210
Far Dens Background	67.48	68.15	45 - 105
Far Peak Background	54.53	54.14	35 - 85
Far Lith Background	34.47	34.59	25 - 55

CALIBRATION BLOCK SUMMARY				
Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.685	1.686	0.001	+/- 0.015
Pe	2.370	2.382	0.012	+/- 0.150
ALUMINUM				
Density (g/cc)	2.583	2.581	-0.002	+/- 0.01500
Pe	2.976	2.972	-0.004	+/- 0.150

TOOL SUMMARY				
Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	-0.0009	+/- 0.0110	0.0042	+/- 0.0140
Magnesium Block	-0.0035	+/- 0.0110	-0.0030	+/- 0.0140
Aluminum Block	-0.0023	+/- 0.0110	0.0043	+/- 0.0140
Resolution	9.42	6.00 - 11.50	9.39	6.00 - 11.50
Noise Edge	0	< 11	0	< 20
Internal Verifier(B+D+P+L)	437	345 - 795	294	195 - 455

### PASS/FAIL SUMMARY

Background Quality Check:

Passed

Background Range Check:	Passed
Background Resolution Check:	Passed
Background Verification Check:	Passed
Near Noise Edge:	Passed
Far Noise Edge:	Passed
Magnesium Quality Check:	Passed
Aluminum Quality Check:	Passed
Gains Check:	Passed
Changes in Calibration Blocks:	Passed

### SPECTRAL DENSITY FIELD CHECK

Tool Name:	SSDL Pad - 11581727	Reference Calibration Date:	15-May-15 14:55:38
Engineer:	Z. TAYLOR	Calibration Date:	29-May-15 23:32:45
Software Version:	WL INSITE R4.6.4 (Build 3)	Calibration Version:	1

Pad Temperature: 68.3 degF

#### DENSITY FIELD CALIBRATION SUMMARY

Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	436.741	436.961	0.220	8.881
Far (B+D+P+L) cps	293.731	294.425	0.694	11.463
Near Resolution	9.42	9.75	0.330	0.50
Far Resolution	9.39	9.88	0.490	1.00

#### PASS/FAIL SUMMARY

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

### ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION

Tool Name:	SACRT Sonde - 11577718	Reference Calibration Date:	18-May-15 15:19:32
Engineer:	Z. TAYLOR	Calibration Date:	18-May-15 15:30:54
Software Version:	WL INSITE R4.6.4 (Build 3)	Calibration Version:	1
Host Tool Name:	SACRT Instrument - 11577714		

#### TYPICAL GAIN RANGE

Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	0.9924	1.05	0.95	0.9983	1.05	0.95	0.9937	1.05
A2 (50")	0.95	0.9995	1.05	0.95	1.0065	1.05	0.95	1.0041	1.05
A3 (29")	0.95	0.9981	1.05	0.95	1.0025	1.05	0.95	1.0002	1.05
A4 (17")	0.95	1.0001	1.05	0.95	1.0040	1.05	0.95	1.0008	1.05

A5 (10")	N/A	N/A	N/A	0.95	1.0066	1.05	0.95	0.9973	1.05
A6 (6")	N/A	N/A	N/A	0.95	1.0016	1.05	0.95	0.9990	1.05
TYPICAL SONDE OFFSET RANGE									
Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	-40	5.569	40	-25	0.321	25	-15	-1.248	15
A2 (50")	-40	10.604	40	-25	1.808	25	-15	0.048	15
A3 (29")	-40	-4.946	40	-25	2.958	25	-15	1.866	15
A4 (17")	-80	-46.317	80	-40	5.254	40	-25	9.105	25
A5 (10")	N/A	N/A	N/A	-150	-32.867	100	-75	6.780	75
A6 (6")	N/A	N/A	N/A	-100	163.754	250	-250	221.070	250
TRANSMITTER CURRENT GAIN					R-MUD VERIFICATION				
Signal	Lower	R	Upper	Signal	Lower (ohm-m)	Measured (ohm-m)	Upper (ohm-m)		
12K	0.59	0.66	0.69	Mud Cell	0.95	1.00	1.05		
36K	0.79	0.87	0.91						
72K	0.6	0.68	0.74						
PASS/FAIL SUMMARY									
GAIN RANGE CHK					PASS				
TOOL OK TO LOG									

CALIBRATION SUMMARY						
Sensor	Shop	Field	Post	Difference	Tolerance	Units
S4TG-11790910						
AccZ Horizontal	0.00	-----	-----	0.00	-----	g
AccZ Vertical	1.00	-----	-----	0	-----	g
Gamma Ray Calibrator	151.4	151.7	-----	-0.3	+/- 9.00	api
SDSN-11790665						
Snow-Block Porosity	0.0503	0.0447	-----	0.0056	+/- 0.0150	decp
SSDL-11790674						
Arm Extension	11.83	11.87	-----	-0.04	0.20	in
Max Caliper	16.38	16.41	-----	-0.03	0.20	in
SSDL Pad-11581727						
Near(B+D+P+L)	436.741	436.961	-----	-0.220	+/-8.881	cps
Far(B+D+P+L)	293.731	294.425	-----	-0.694	+/-11.463	cps
SACRT Sonde-11577718						



<b>HALLIBURTON</b>	
<b>TOOL STRING DIAGRAM REPORT</b>	

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
SCHD-11572833 40.00 lbs		Ø 2.350 in ➤		Temperature @ 75.28 ft	4.00 ft	77.28 ft
SBLT-C-11974783 31.00 lbs		Ø 2.350 in ➤			3.32 ft	73.28 ft
SBLT-S-11974784 42.00 lbs		Ø 2.350 in ➡			2.88 ft	69.96 ft
SMC SA -12168442 57.00 lbs		Ø 2.350 in ➤			4.65 ft	67.08 ft
						62.43 ft
SBLT-B-12006174 85.00 lbs		Ø 2.350 in ➤			8.01 ft	54.42 ft
SBLT-I-11974782 55.00 lbs		Ø 2.350 in ➤			6.12 ft	48.30 ft

S41G-11790910  
70.00 lbs

Ø 2.350 in →

9.77 ft

← GammaRay @ 39.58 ft

38.53 ft

SDSN-11790665  
74.00 lbs

Ø 2.350 in →

7.96 ft

← DSN Far @ 32.67 ft

← DSN Near @ 31.83 ft

30.57 ft

SSDL-11790674  
140.00 lbs

SSDL Pad-11581727  
65.00 lbs

Ø 2.350 in →

Ø 4.750 in\* →

SDL Arm Caliper @ 23.47 ft

SDL Pad Caliper @ 23.39 ft

SDL @ 22.98 ft

12.27 ft

18.30 ft

SACRT Instrument-  
11577714  
50.00 lbs

Ø 2.350 in →

5.03 ft

← Mud Resistivity @ 13.16 ft

13.27 ft

SACRT Sonde-  
11577718  
58.00 lbs

Ø 2.350 in →

12.97 ft

← ACRT @ 9.18 ft

SP Ring-11287482  
0.00 lbs

Ø 2.350 in\* →

← SP @ 1.58 ft

SBLNSL-00000001  
3.13 lbs

Ø 2.313 in →



0.30 ft



0.30 ft

0.00 ft

Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max.Log. Speed (fpm)
SCHD	Ultra-Slim Cable Head	11572833	40.00	4.00	73.28	300.00
SBLT-C	Ultra-Slim Hole Motorized Releasable Sub	11974783	31.00	3.32	69.96	300.00
SBLT-S	Ultra-Slim Hole Shock Sub	11974784	42.00	2.88	67.08	300.00
SMCSA	Ultra-Slim Hole Multi Conductor Swivel	12168442	57.00	4.65	62.43	300.00
SBLT-B	Ultra-Slim Hole Battery Sub	12006174	85.00	8.01	54.42	300.00
SBLT-I	Ultra-Slim Hole Sensor / Inverter Sub	11974782	55.00	6.12	48.30	300.00
S4TG	Ultra-Slim Quad Telemetry Gamma Cartridge	11790910	70.00	9.77	38.53	60.00
SDSN	Ultra-Slim Hole Dual Spaced Neutron	11790665	74.00	7.96	30.57	60.00
SSDL	Ultra-Slim Hole Spectral Density	11790674	140.00	12.27	18.30	60.00
SDLP	Slim Density Pad	11581727	65.00	2.55	* 21.69	60.00
SACRT	Array Compensated True Resistivity Instrument Section	11577714	50.00	5.03	13.27	120.00
SACRT	Array Compensated True Resistivity Sonde Section	11577718	58.00	12.97	0.30	120.00
SP	SP Ring	11287482	0.00	0.25	* 1.58	300.00
SBLNSL	Ultra-Slim Bull Nose L-Slot	00000001	3.13	0.30	0.00	300.00
Total			770.13	77.28		
* Not included in Total Length and Length Accumulation.						
Data: WATSON\0001 USC_TRIPLE\004.02 31-May-15 06:19 Up						

COMPANY	URSA OPERATING COMPANY		
WELL	WATSON RANCH B 24AWI-17-07-95		
FIELD	PARACHUTE		
COUNTY	GARFIELD	STATE	CO
HALLIBURTON		SPECTRAL DENSITY DUAL SPACED NEUTRON ARRAY COMPENSATED TRUE RESISTIVITY	