



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1133018
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

- New Well Re-Entry Workover
- Oil WSW SWD SIOW
- Gas D&A ENHR SIGW
- OG GSW Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

- Deepening Re-perf. Conv. to ENHR Conv. to SWD
- Plug Back Conv. to GSW Conv. to Producer
- Commingled Permit #: _____
- Dual Completion Permit #: _____
- SWD Permit #: _____
- ENHR Permit #: _____
- GSW Permit #: _____

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE NW SE SW

GPS Location: Lat: _____, Long: _____
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite:

Operator Name: _____

Lease Name: _____ License #: _____

Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West

County: _____ Permit #: _____

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested
Date: _____
- Confidential Release Date: _____
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT I II III Approved by: _____ Date: _____



1133018

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD:	Size:	Set At:	Packer At:	Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No
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Date of First, Resumed Production, SWD or ENHR.	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____
---	--

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____ <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Landmark Resources, Inc.
Well Name	LPR 1-23
Doc ID	1133018

Tops

Name	Top	Datum
Anhydrite	2191	592
B/Anhydrite	2211	572
Topeka	3494	-711
Heebner	3723	-940
Toronto	3742	-959
Lansing	3768	-985
C	3800	-1017
D	3817	-1034
E	3855	-1072
F	3867	-1084
Munice Creek	3933	-1150
H	3944	-1161
I	3978	-1195
J	4000	-1217
Stark Shale	4022	-1239
K	4033	-1250
L	4081	-1298
BKC	4103	-1320
Marmaton	4140	-1357
Altamont	4161	-1378
Pawnee	4240	-1457
Myrick Station	4280	-1497
Fort Scott	4295	-1512
Cherokee	4322	-1539

Form	ACO1 - Well Completion
Operator	Landmark Resources, Inc.
Well Name	LPR 1-23
Doc ID	1133018

Tops

Name	Top	Datum
Johnson Zone	4366	-1583
Up Morrow Sand	4472	-1689
Missippian	4492	-1709

Conservation Division
Finney State Office Building
130 S. Market, Rm. 2078
Wichita, KS 67202-3802



Phone: 316-337-6200
Fax: 316-337-6211
<http://kcc.ks.gov/>

Mark Sievers, Chairman
Thomas E. Wright, Commissioner
Shari Feist Albrecht, Commissioner

Sam Brownback, Governor

April 12, 2013

Jeff Wood
Landmark Resources, Inc.
1616 S VOSS RD STE 600
HOUSTON, TX 77057-2641

Re: ACO1
API 15-109-21164-00-00
LPR 1-23
NW/4 Sec.23-15S-33W
Logan County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,
Jeff Wood

INVOICE

HALLIBURTON

Halliburton Energy Services, Inc.

Remit To: P.O. Box 203143, Houston, TX 77216-3143

Wire Transfer Information

Account Number: Account 00032969

ABA Routing Number: 021000089

Invoice Date: March 27, 2013

Invoice Number: 99360597

DIRECT CORRESPONDENCE TO:

P.O. Box 838
Pauls Valley, OK 73075-0838
US
Tel: (405) 238 6423
Fax: (405) 238 2397

Rig Name:

Well Name: LANDMARK LPR 1-23,LOGAN
Ship to: RUSSELL SPRINGS, KS 67764
LOGAN

Job Date: March 25, 2013
Cust. PO No.: NA
Payment Terms: Net 20 days from Invoice date
Quote No.:

Sales Order No.: 900313230

Manual Ticket No.:
Shipping Point: PAULS VALLEY Shipping Point
Ultimate Destination Country: US
Customer Account No.: 303411

TO:

LANDMARK RESOURCES INC
1616 SOUTH VOSS, SUITE 150
HOUSTON TX 77057

Contract No.:
Contract from:
Contract to:

Material	Description	QTY	UOM	Base Amount	Unit Amount	Gross Amount	Discount	Net Amount
12385	OH FORMATION EVAL 3 COMBO BOM OH Formation Eval 3 Combo BOM JP624	1.00	JOB					
537400	OH Land Setup Base Charge, LOG	1.000	EA		4,516.00	4,516.00	3,612.80-	903.20
537402	OH Land Setup Depth Charge, LO	4,556.000	FT		0.34	1,549.04	1,239.23-	309.81
4504	Service Units Mileage Charge 720-730 Number of Units	300.000	MI		9.79	2,937.00	2,349.60-	587.40
4510	Pickup or Car Mileage Charge 720-755 Number of Units	300.000	MI		5.76	1,728.00	1,382.40-	345.60
87033	LG- FUEL SURCHG CARS/PICKUPS < / LG- FUEL SURCHG CARS/PICKUPS < 1 1/2 TON Number of Units	300.000	MI		0.20	60.00		60.00
87034	LG- FUEL SURCHG HEAVY TRUCKS > / LG- FUEL SURCHG HEAVY TRUCKS > 1 1/2 TON Number of Units	300.000	MI		0.59	177.00		177.00
373337	L&P PSL - DOT Vehicle Charge L&P PSL - DOT Vehicle Charge	1.000	EA		241.00	241.00		241.00
4966	Environmental Protection Surch 750-507	1.000	EA		153.00	153.00		153.00
365935	Array comp. true resistivity-A / Array comp. true resistivity- ACRt-IQ Dep /	4,556.000	FT		1.39	6,332.84	5,066.27-	1,266.57

INVOICE

Continuation

HALLIBURTON

Halliburton Energy Services, Inc.

Remit To: P.O. Box 203143, Houston, TX 77216-3143

Invoice Date: March 27, 2013

Invoice Number: 99360597

Material	Description	QTY	UOM	Base Amount	Unit Amount	Gross Amount	Discount	Net Amount
365936	Array comp. true resistivity-A / Array comp. true resistivity- ACRt-IQ Sur / / /	4,556.000	FT		1.39	6,332.84	5,066.27-	1,266.57
409823	Gamma Ray in Combo-IQ Dpth Gamma Ray in Combo-IQ Dpth	4,556.000	FT		0.22	1,002.32	801.86-	200.46
409824	Gamma Ray in Combo-IQ Srvy Gamma Ray in Combo-IQ Srvy	4,556.000	FT		0.22	1,002.32	801.86-	200.46
409805	Dual Spaced Neutron-IQ Dpth Dual Spaced Neutron-IQ Dpth	4,556.000	FT		0.82	3,735.92	2,988.74-	747.18
409806	Dual Spaced Neutron-IQ Srvy Dual Spaced Neutron-IQ Srvy	1,256.000	FT		0.82	1,029.92	823.94-	205.98
409803	Spectral Density-IQ Dpth Spectral Density-IQ Dpth	4,556.000	FT		1.11	5,057.16	4,045.73-	1,011.43
409804	Spectral Density-IQ Srvy Spectral Density-IQ Srvy	1,256.000	FT		1.11	1,394.16	1,115.33-	278.83
365941	MicroLog-IQ in Combo Depth MicroLog-IQ in Combo Depth	4,556.000	FT		0.49	2,232.44	1,785.95-	446.49
365942	MicroLog-IQ in Combo Survey / MicroLog-IQ in Combo Survey	1,256.000	FT		0.49	615.44	492.35-	123.09
	Taxable							0.00
	Non-Taxable							8,524.07
	Total					40,096.40	31,572.33-	8,524.07
	Due on April 16, 2013					40,096.40	31,572.33-	8,524.07
	Invoice Total							8,524.07 US Dollars

Payment Terms:

If Customer does not have an approved open account with Halliburton, all sums are payable in cash at the time of performance of services or delivery of equipment, products, or materials. If Customer has an approved open account, invoices are payable based upon the payment terms stated on this invoice or as otherwise stated in the applicable Halliburton contract governing performance or delivery. Customer agrees to pay interest on any unpaid balance from the date payable until paid at the highest lawful contract rate applicable. In the event Halliburton employs an attorney for collection of any amount, Customer agrees to pay all reasonable and necessary attorney fees to recover the unpaid amount, plus all collection and court costs.

Melissa Pierce Phone: 580.251.3301

Field Ticket Number: 900313230		Field Ticket Date: Monday, March 25, 2013	
Bill To: LANDMARK RESOURCES INC 100 S MAIN SUITE 605 WICHITA, KS 67202		Job Name: 12385 - OH FORMATION EVAL 3 COMBO BOM Order Type: Streamline Order (ZOH) Well Name: LPR 1-23 Company Code: 1100 Customer PO No.: NA Shipping Point: Pauls Valley, OK, USA Sales Office: Mid-Continent BD Well Type: Oil Well Category: Development	
Ship To: LANDMARK LPR 1-23,LOGAN LPR 1-23 2988601 RUSSELL SPRINGS, KS 67764			

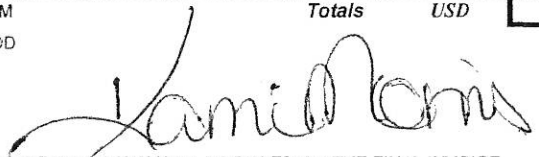
Material	Description	QTY	UOM	Base Amt	Unit Amt	Gross Amount	Discount	Net Amount
12385	OH FORMATION EVAL 3 COMBO BOM	1	JOB	0.00	0.00	0.00		0.00
537400	OH Land Setup Base Charge, LOGIQ	1	EA	0.00	4,516.00	4,516.00	80%	903.20
537402	OH Land Setup Depth Charge, LOGIQ	4556	FT	0.00	0.34	1,549.04	80%	309.81
4504	Service Units Mileage Charge	300	MI	0.00	9.79	2,937.00	80%	587.40
	<i>Number of Units</i>	1						
4510	Pickup or Car Mileage Charge	300	MI	0.00	5.76	1,728.00	80%	345.60
	<i>Number of Units</i>	1						
87033	LG- FUEL SURCHG CARS/PICKUPS <1 1/2 TON	300	MI	0.00	0.20	60.00		60.00
	<i>Number of Units</i>	1						
87034	LG- FUEL SURCHG HEAVY TRUCKS >1 1/2 TON	300	MI	0.00	0.59	177.00		177.00
	<i>Number of Units</i>	1						
373337	L&P PSL - DOT Vehicle Charge	1	EA	0.00	241.00	241.00		241.00
4966	Environmental Protection Surcharge	1	EA	0.00	153.00	153.00		153.00
365935	Array comp. true resistivity-ACRt-IQ Dep	4556	FT	0.00	1.39	6,332.84	80%	1,266.57
365936	Array comp. true resistivity-ACRt-IQ Sur	4556	FT	0.00	1.39	6,332.84	80%	1,266.57
409823	Gamma Ray in Combo-IQ Dpth	4556	FT	0.00	0.22	1,002.32	80%	200.46
409824	Gamma Ray in Combo-IQ Srvy	4556	FT	0.00	0.22	1,002.32	80%	200.46
409805	Dual Spaced Neutron-IQ Dpth	4556	FT	0.00	0.82	3,735.92	80%	747.18
409806	Dual Spaced Neutron-IQ Srvy	1256	FT	0.00	0.82	1,029.92	80%	205.98

Field Ticket

Field Ticket Number: 900313230	Field Ticket Date: Monday, March 25, 2013
Bill To: LANDMARK RESOURCES INC 100 S MAIN SUITE 605 WICHITA, KS 67202	Job Name: 12385 - OH FORMATION EVAL 3 COMBO BOM Order Type: Streamline Order (ZOH) Well Name: LPR 1-23 Company Code: 1100 Customer PO No.: NA Shipping Point: Pauls Valley, OK, USA Sales Office: Mid-Continent BD Well Type: Oil Well Category: Development
Ship To: LANDMARK LPR 1-23, LOGAN LPR 1-23 2988601 RUSSELL SPRINGS, KS 67764	

Material	Description	QTY	UOM	Base Amt.	Unit Amt	Gross Amount	Discount	Net Amount
409803	Spectral Density-IQ Dpth	4556	FT	0.00	1.11	5,057.16	80%	1,011.43
409804	Spectral Density-IQ Srvy	1256	FT	0.00	1.11	1,394.16	80%	278.83
365941	MicroLog-IQ in Combo Depth	4556	FT	0.00	0.49	2,232.44	80%	446.49
365942	MicroLog-IQ in Combo Survey	1256	FT	0.00	0.49	615.44	80%	123.09
Totals						USD		
						40,096.40	31,572.33	8,524.07

Halliburton Rep: JAMES BOLLOM
 Customer Agent: TERRY MCLEOD
 Halliburton Approval



THIS OUTPUT DOES NOT INCLUDE TAXES. APPLICABLE SALES TAX WILL BE BILLED ON THE FINAL INVOICE.
 CUSTOMER HEREBY ACKNOWLEDGES RECEIPT OF THE MATERIALS AND SERVICES DESCRIBED ABOVE AND ON THE ATTACHED DOCUMENTS.

X Jay F. McLeod
 Customer Signature

FIELD TICKET TOTAL: USD 8,524.07

Was our HSE performance satisfactory? Y or N Were you satisfied with our Equipment? Y or N Were you satisfied with our people? Y or N
 (Health, Safety, Environment)

Comments

HALLIBURTON

SALES ORDER

Halliburton Energy Services, Inc.

Sales Order Number: 900313230

Sales Order Date: March 24, 2013

SOLD TO:
 LANDMARK RESOURCES INC
 100 S MAIN SUITE 605
 WICHITA KS 67202
 USA

Rig Name:
 Well/Rig Name: LANDMARK LPR 1-23,LOGAN
 Company Code: 1100
 Customer P.O. No.: NA
 Shipping Point: Liberal, KS, USA Vir
 Sales Office: Mid-Continent BD
 Well Type: Oil
 Well Category: Development
 Service Location: 0043
 Payment Terms: Net 20 days from Invoice data
 Ticket Type: Services
 Order Type: ZOH

SHIP TO:
 LANDMARK LPR 1-23,LOGAN
 LPR 1-23
 LOGAN
 RUSSELL SPRINGS KS 67764
 USA

Material	Description	QTY	UOM	Base Amount	Unit Amount	Gross Amount	Discount	Net Amount
12385	OH FORMATION EVAL 3 COMBO BOM OH Formation Eval 3 Combo BOM JP624	1.00	JOB					
537400	OH Land Setup Base Charge,	1.000	EA		4,516.00	4,516.00	3,612.80-	903.20
537402	OH Land Setup Depth Charge,	4,556.000	FT		0.34	1,549.04	1,239.23-	309.81
4504	Service Units Mileage Charge 720-730 Number of Units	300.000	MI		9.79	2,937.00	2,349.60-	587.40
4510	Pickup or Car Mileage Charge 720-755 Number of Units	300.000	MI		5.76	1,728.00	1,382.40-	345.60
87033	LG- FUEL SURCHG CARS/PICKUPS <1 1/2 TON / LG- FUEL SURCHG CARS/PICKUPS <1 1/2 TON Number of Units	300.000	MI		0.20	60.00		60.00
87034	LG- FUEL SURCHG HEAVY TRUCKS >1 1/2 TON / LG- FUEL SURCHG HEAVY TRUCKS >1 1/2 TON	300.000	MI		0.59	177.00		177.00

HALLIBURTON

Halliburton Energy Services, Inc.

Sales Order Number: 900313230

Sales Order Date: March 24, 2013

Material	Description	QTY	UOM	Base Amount	Unit Amount	Gross Amount	Discount	Net Amount
	Number of Units	1						
373337	L&P PSL - DOT Vehicle Charge L&P PSL - DOT Vehicle Charge	1.000	EA		241.00	241.00		241.00
4966	Environmental Protection Surcharge 750-507	1.000	EA		153.00	153.00		153.00
365935	Array comp. true resistivity- / Array comp. true resistivity-ACRI-IQ Dep /	4,556.000	FT	2,780.00		6,332.84	5,066.27-	1,266.57
365936	Array comp. true resistivity- / Array comp. true resistivity-ACRI-IQ Sur / / /	4,556.000	FT	1,390.00		6,332.84	5,066.27-	1,266.57
409823	Gamma Ray in Combo-IQ Dpth Gamma Ray in Combo-IQ Dpth	4,556.000	FT	440.00		1,002.32	801.86-	200.46
409824	Gamma Ray in Combo-IQ Srvy Gamma Ray in Combo-IQ Srvy	4,556.000	FT	220.00		1,002.32	801.86-	200.46
409805	Dual Spaced Neutron-IQ Dpth Dual Spaced Neutron-IQ Dpth	4,556.000	FT		0.82	3,735.92	2,988.74-	747.18
409806	Dual Spaced Neutron-IQ Srvy Dual Spaced Neutron-IQ Srvy	1,256.000	FT		0.82	1,029.92	823.94-	205.98
409803	Spectral Density-IQ Dpth Spectral Density-IQ Dpth	4,556.000	FT		1.11	5,057.16	4,045.73-	1,011.43
409804	Spectral Density-IQ Srvy Spectral Density-IQ Srvy	1,256.000	FT		1.11	1,394.16	1,115.33-	278.83
365941	MicroLog-IQ in Combo Depth MicroLog-IQ in Combo Depth	4,556.000	FT	980.00		2,232.44	1,785.95-	446.49
365942	MicroLog-IQ in Combo Survey / MicroLog-IQ in Combo Survey	1,256.000	FT	490.00		615.44	492.35-	123.09

HALLIBURTON

Halliburton Energy Services, Inc.

Sales Order Number: 900313230

Sales Order Date: March 24, 2013

Material	Description	QTY	UOM	Base Amount	Unit Amount	Gross Amount	Discount	Net Amount
	SALES ORDER AMOUNT					40,096.40	31,572.33-	
	SALES ORDER TOTAL					40,096.40	31,572.33-	8,524.07
	Total Weight:							8,524.07 US Dollars
	0.00 LB							

INVOICE INSTRUCTIONS:

Operator Name:
Customer Agent:

Halliburton Approval: X _____
Customer Signature: X _____

PO Box 93999
Southlake, TX 76092

Invoice Number: 135462

Invoice Date: Mar 25, 2013

Page: 1

Voice: (817) 546-7282
Fax: (817) 246-3361

71730

APR 10 2013
APPROVED APR 08 2013

Now Includes:



Bill To:
Landmark Resources, Inc. 1616 S. Voss Suite 600 Houston, TX 77057-1264

APPROVED APR 08 2013

Customer ID	Field Ticket #	Payment Terms	
Land	60146	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-03	Oakley	Mar 25, 2013	4/24/13

Quantity	Item	Description	Unit Price	Amount
		LPR #1-23		
132.00	MAT	Class A Common	17.90	2,362.80
88.00	MAT	Pozmix	9.35	822.80
8.00	MAT	Gel	23.40	187.20
55.00	MAT	Flo Seal	2.97	163.35
236.28	SER	Cubic Feet	2.48	585.98
315.71	SER	Ton Mileage	2.60	820.85
1.00	SER	Rotary Plug	2,483.59	2,483.59
32.00	SER	Pump Truck Mileage	7.70	246.40
32.00	SER	Light Vehicle Mileage	4.40	140.80
1.00	EQP	8.5/8 Wooden Plug	107.64	107.64
1.00	CEMENTER	Alan Ryan		
1.00	OPER ASSIST	Paul Beaver		
1.00	OPER ASSIST	Kevin Ryan		
		000		
		8,539.28 +		
		1,901.13 -		
		6,638.15 *		

Handwritten notes: *APR 10 2013*, *#43057*, *13,031.51*, *TOTAL INV.*

ALL PRICES ARE NET, PAYABLE
30 DAYS FOLLOWING DATE OF
INVOICE. 1 1/2% CHARGED
THEREAFTER. IF ACCOUNT IS
CURRENT, TAKE DISCOUNT OF

\$ 1,901.13

ONLY IF PAID ON OR BEFORE
Apr 19, 2013

Subtotal	7,921.41
Sales Tax	617.87
Total Invoice Amount	8,539.28
Payment/Credit Applied	
TOTAL	8,539.28

ALLIED OIL & GAS SERVICES, LLC

060146

Federal Tax I.D. # 20-8651475

MIT TO P.O. BOX 93999
SOUTHLAKE, TEXAS 76092

SERVICE POINT: Dakley, KS

DATE <u>3/25/13</u>	SEC. <u>23</u>	TWP. <u>15</u>	RANGE <u>33</u>	CALLED OUT	ON LOCATION	JOB START <u>8:30</u>	JOB FINISH <u>2:30</u>
WELL # <u>1-23</u>	LOCATION <u>Dakley 235 4 W 25 1 W 34 S E 1/4</u>			COUNTY <u>Cogan</u>	STATE <u>KS</u>		

CONTRACTOR Mudlog 20

TYPE OF JOB PTA - Rotary

PIPE SIZE 7 7/8 T.D.

STRING SIZE 8 5/8 DEPTH 236'

PIPE SIZE DEPTH

WELL PIPE 4 1/2 DEPTH

WELL DEPTH

DES. MAX MINIMUM

EAS. LINE SHOE JOINT

MENT LEFT IN CSG.

RFS.

SPLACEMENT

OWNER Same

CEMENT AMOUNT ORDERED 220 60/40 40 royal
14160

COMMON	<u>132</u>	@	<u>17.20</u>	<u>2362.80</u>
POZMIX	<u>828</u>	@	<u>9.35</u>	<u>8022.80</u>
GEL	<u>8</u>	@	<u>23.40</u>	<u>187.20</u>
CHLORIDE		@		
ASC		@		
<u>Flo Seal</u>	<u>5516</u>	@	<u>2.92</u>	<u>163.35</u>
HANDLING	<u>236.20</u>	@	<u>2.48</u>	<u>585.98</u>
MILEAGE	<u>2.00</u>	@	<u>700/mile</u>	<u>1400.00</u>
				TOTAL <u>4942.98</u>

EQUIPMENT

PUMP TRUCK CEMENTER Alan Ryan

HELPER Paul Beaver

TRUCK DRIVER Kevin Ryan

DRIVER

REMARKS:

195' - 25 SKI
765' - 100 SKI
85' - 40 SKI
10' - 10 SKI

30 SKI Rot Hole
15 SKI M.Hole

SERVICE

DEPTH OF JOB	<u>2125'</u>		
PUMP TRUCK CHARGE			<u>2483.59</u>
EXTRA FOOTAGE		@	
MILEAGE	<u>32</u>	@	<u>7.70</u> <u>246.40</u>
MANIFOLD		@	
<u>Stitching</u>	<u>32</u>	@	<u>4.40</u> <u>140.80</u>

TOTAL 2870.79

PLUG & FLOAT EQUIPMENT

<u>8 5/8 Wood Plug</u>	@	<u>107.64</u>
	@	
	@	
	@	

TOTAL 107.64

ORDER TO Landmark Resources

REET

CITY STATE ZIP

I, Allied Oil & Gas Services, LLC, you are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME KELLY WILSON

SIGNATURE Kelly Wilson

SALES TAX (If Any)

TOTAL CHARGES 7921.41

DISCOUNT 1,901.13 IF PAID IN 30 DAYS

6,020.27 Net.

PO Box 93999
Southlake, TX 76092

Voice: (817) 546-7282
Fax: (817) 246-3361

INVOICE

Invoice Number: 135346
Invoice Date: Mar 17, 2013
Page: 1

APR 01 2013
#42983
49,276.00
71930

Bill To:
Landmark Resources, Inc. 1616 S. Voss Suite 600 Houston, TX 77057-1264

Now Includes:



Customer ID	Field Ticket #	Payment Terms	
Land	60071	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Oakley	Mar 17, 2013	4/16/13

Quantity	Item	Description	Unit Price	Amount
165.00	MAT	LPR #1-23 ✓ Class A Common	17.90	2,953.50
3.00	MAT	Gel	23.40	70.20
6.00	MAT	Chloride	64.00	384.00
178.42	SER	Cubic Feet	2.48	442.48
260.48	SER	Ton Mileage	2.60	677.25
1.00	SER	Surface	1,512.25	1,512.25
32.00	SER	Pump Truck Mileage	7.70	246.40
1.00	SER	Swedge Manifold Rental	275.00	275.00
32.00	SER	Light Vehicle Mileage	4.40	140.80
1.00	CEMENTER	LaRene Wentz		
1.00	OPER ASSIST	Paul Beaver		
1.00	OPER ASSIST	David Scariano		
			003	677.25+ 246.40+ 140.80+ 1,064.45*

APPROVED APR 01 2013

236' casing
Mileage

ALL PRICES ARE NET, PAYABLE 30 DAYS FOLLOWING DATE OF INVOICE. 1 1/2% CHARGED THEREAFTER. IF ACCOUNT IS CURRENT, TAKE DISCOUNT OF

\$ 1,474.41

ONLY IF PAID ON OR BEFORE
Apr 11, 2013

Subtotal	0.00
Sales Tax	
Total Invoice Amount	6,967.68
Payment/Credit Applied	
TOTAL	6,967.68

\$5,493.27

HALLIBURTON

SPECTRAL DENSITY DUAL SPACED NEUTRON LOG

LANDMARK RESOURCES INC.
LPR 1-23
WILDCAT
LOGAN
KANSAS

COMPANY LANDMARK RESOURCES INC.
WELL LPR 1-23
FIELD/BLOCK WILDCAT
COUNTY LOGAN
STATE KANSAS

API No. 15-109-21164
Location (SHL) 1194' FNL & 2040' FWL

Sect. 23 Twp. 15S Rge. 33W
Elev. 2772.0 ft

Other Services:
ACRT
MICROLOG
Elev.: K.B. 2783.0 ft
D.F. 2782.0 ft
G.L. 2772.0 ft

COMPANY WELL FIELD/BLOCK COUNTY STATE

Permanent Datum Log measured from Drilling measured from

Date Run No. Depth - Driller Depth - Logger Bottom - Logged Interval Top - Logged Interval Casing - Driller Casing - Logger Bit Size

Type Fluid in Hole Density PH Source of Sample Rm @ Meas. Temperature Rmf @ Meas. Temperature Source Rmf Rmc

Time Since Circulation Time on Bottom Max. Rec. Temperature Equipment Location Recorded By Witnessed By

Date	Run No.	Depth - Driller	Depth - Logger	Bottom - Logged Interval	Top - Logged Interval	Casing - Driller	Casing - Logger	Bit Size	Type Fluid in Hole	Density	PH	Source of Sample	Rm @ Meas. Temperature	Rmf @ Meas. Temperature	Source Rmf	Rmc	Time Since Circulation	Time on Bottom	Max. Rec. Temperature	Equipment Location	Recorded By	Witnessed By	
25-Mar-13	ONE	4550.00 ft	4556.0 ft	4533.0 ft	3300.0 ft	8.625 in	236.0 ft	7.875 in	WATER BASED MUD	9.4 ppg	10.50 pH	MUD PIT	0.430 ohmm	0.37 ohmm	0.540 ohmm	MEASURED	0.29 ohmm	4.0 hr	25-Mar-13 08:09	115.0 degF	10546696 LIBERAL	J. BOLLOW	T. MCLEOD

Fold here

Service Ticket No.: 900313230 API Serial No.: 15-109-21164 PGM Version: WL INSITE R3.8.0 (Build 2)

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.		@		@					
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.	10844781	Serial No.	11019643
Model No.	GTET	Model No.		Model No.	SDLT-I	Model No.	DSNT-I
Diameter	3.625"	No. of Cent.		Diameter	4.5"	Diameter	3.625"
Detector Model No.	GTET	Spacing		Log Type	GAM-GAM	Log Type	NEU-NEU
Type	SCINT			Source Type	CS137	Source Type	AM241BE
Length	8'	LSA [Y/N]		Serial No.	5168GW	Serial No.	DSN-424
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	4556	3300	REC	0	150									

DIRECTIONAL INFORMATION

Maximum Deviation @ KOP @

Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 5.5-INCH CASING

CHLORIDES REPORTED AT 4000 MG/L

LCM REPORTED AT 3 LB/BBL

GTET-DSNT-SDLT-ACRT RUN IN COMBINATION

TODAY'S CREW: F. VILLA & B. TERRELL

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

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



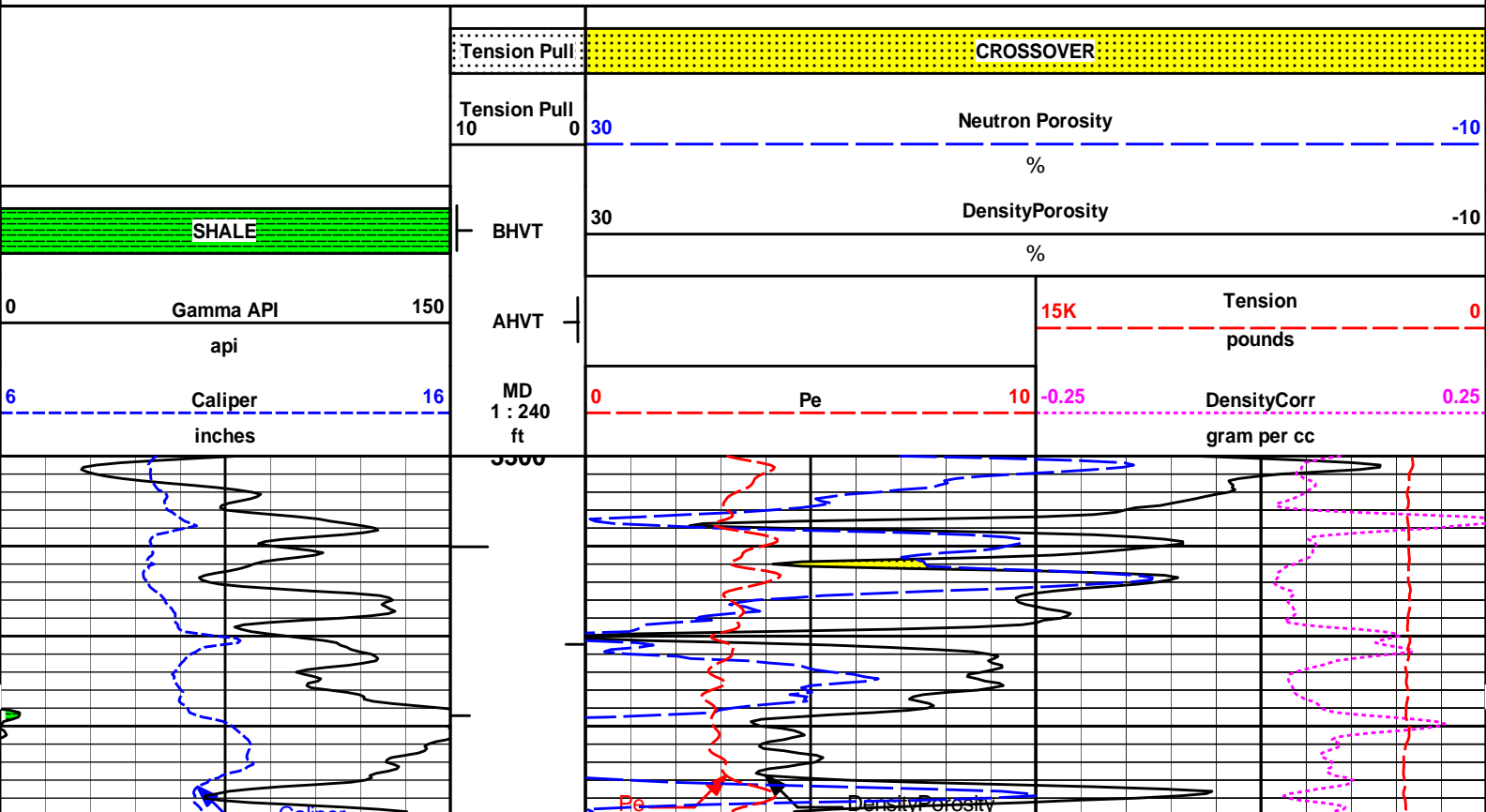
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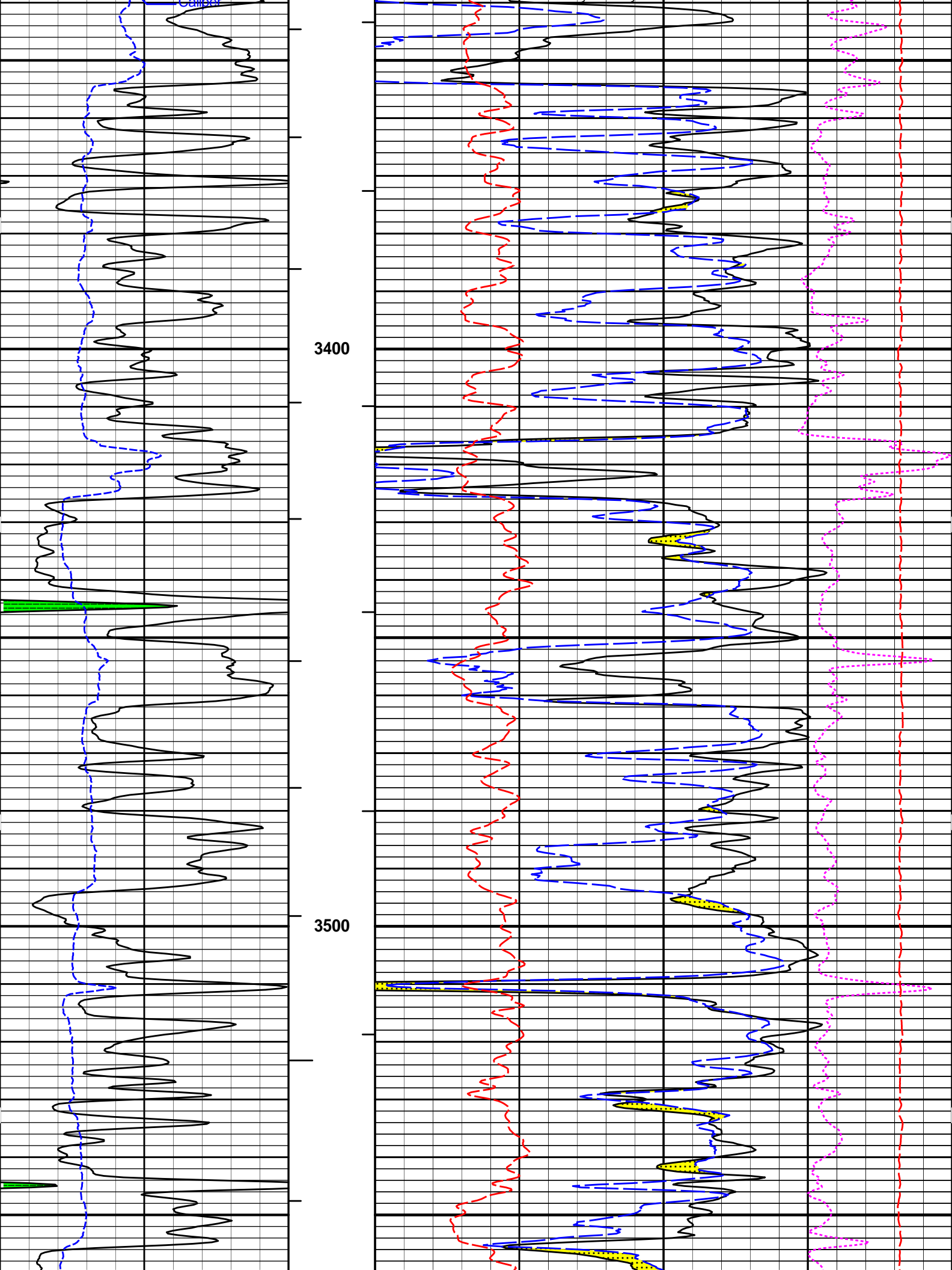
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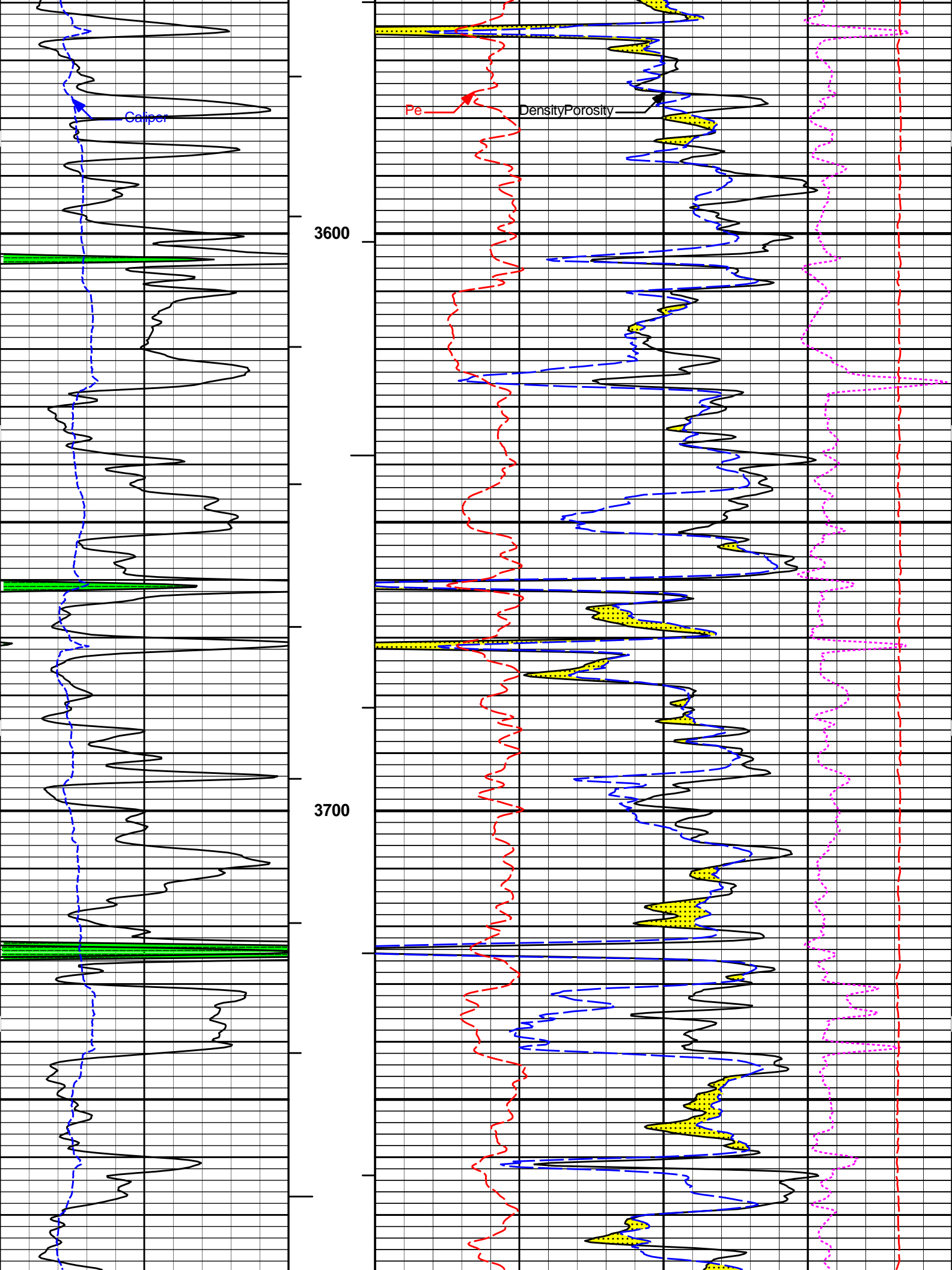
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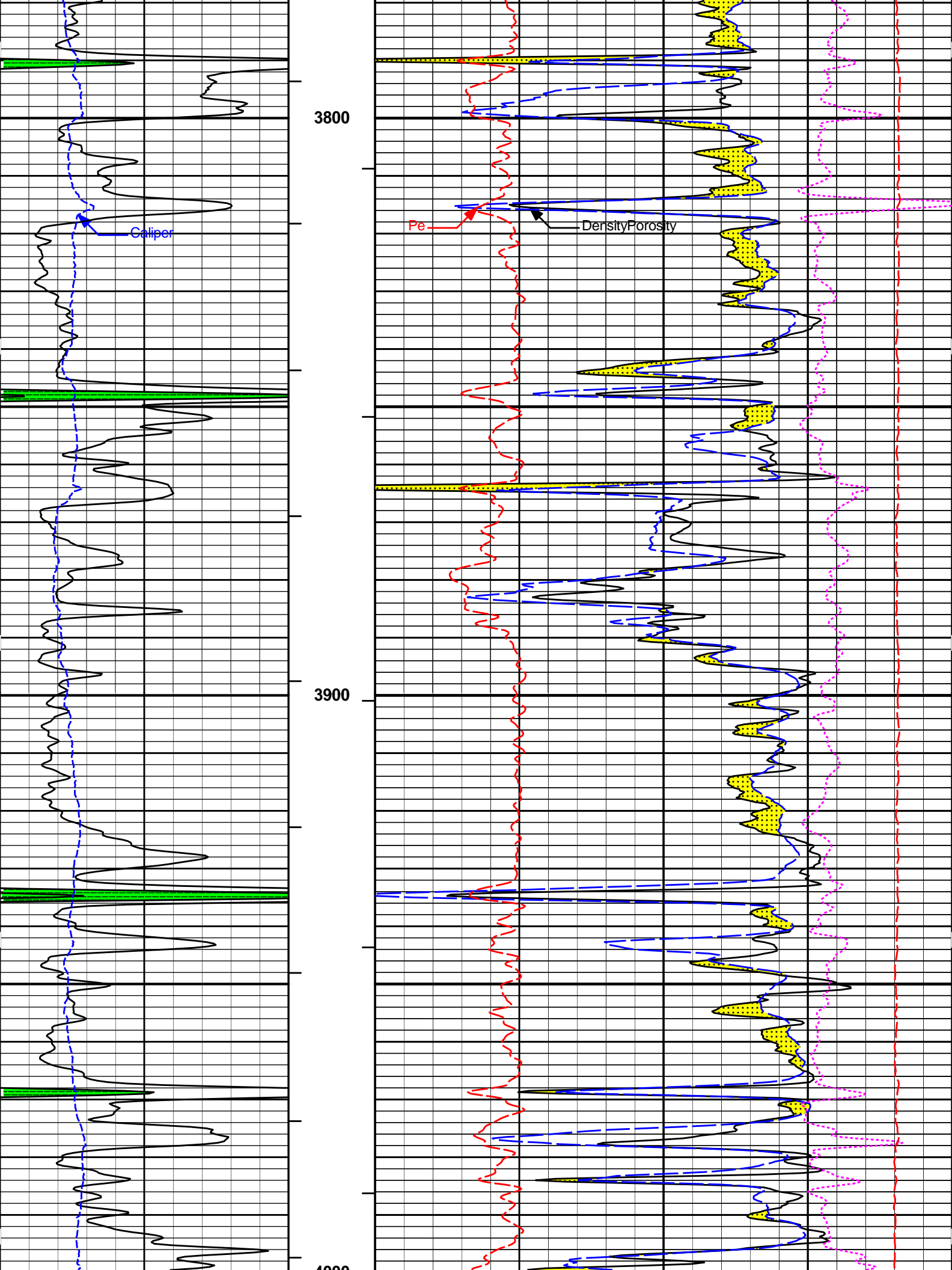
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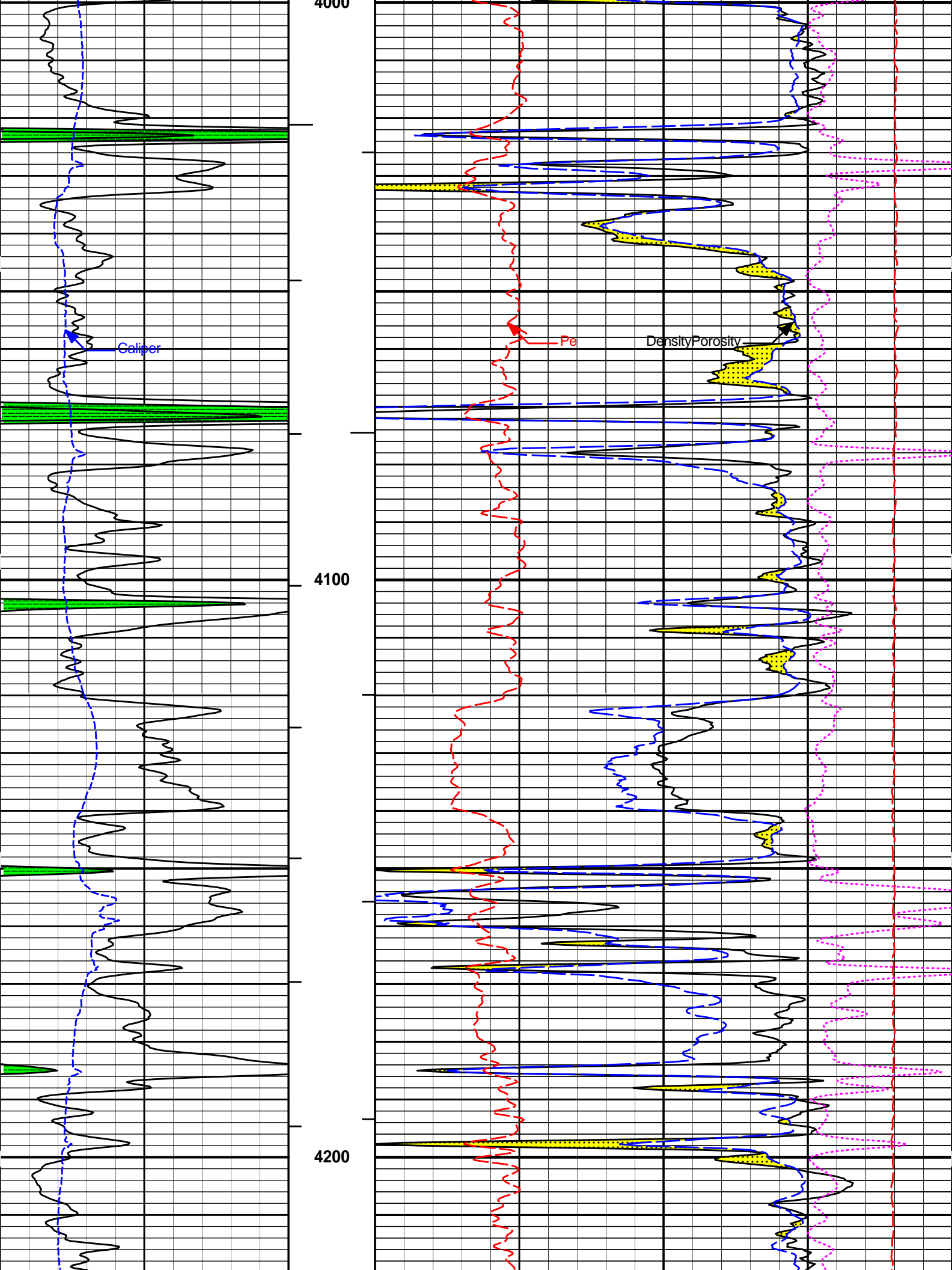
5 INCH MAIN LOG

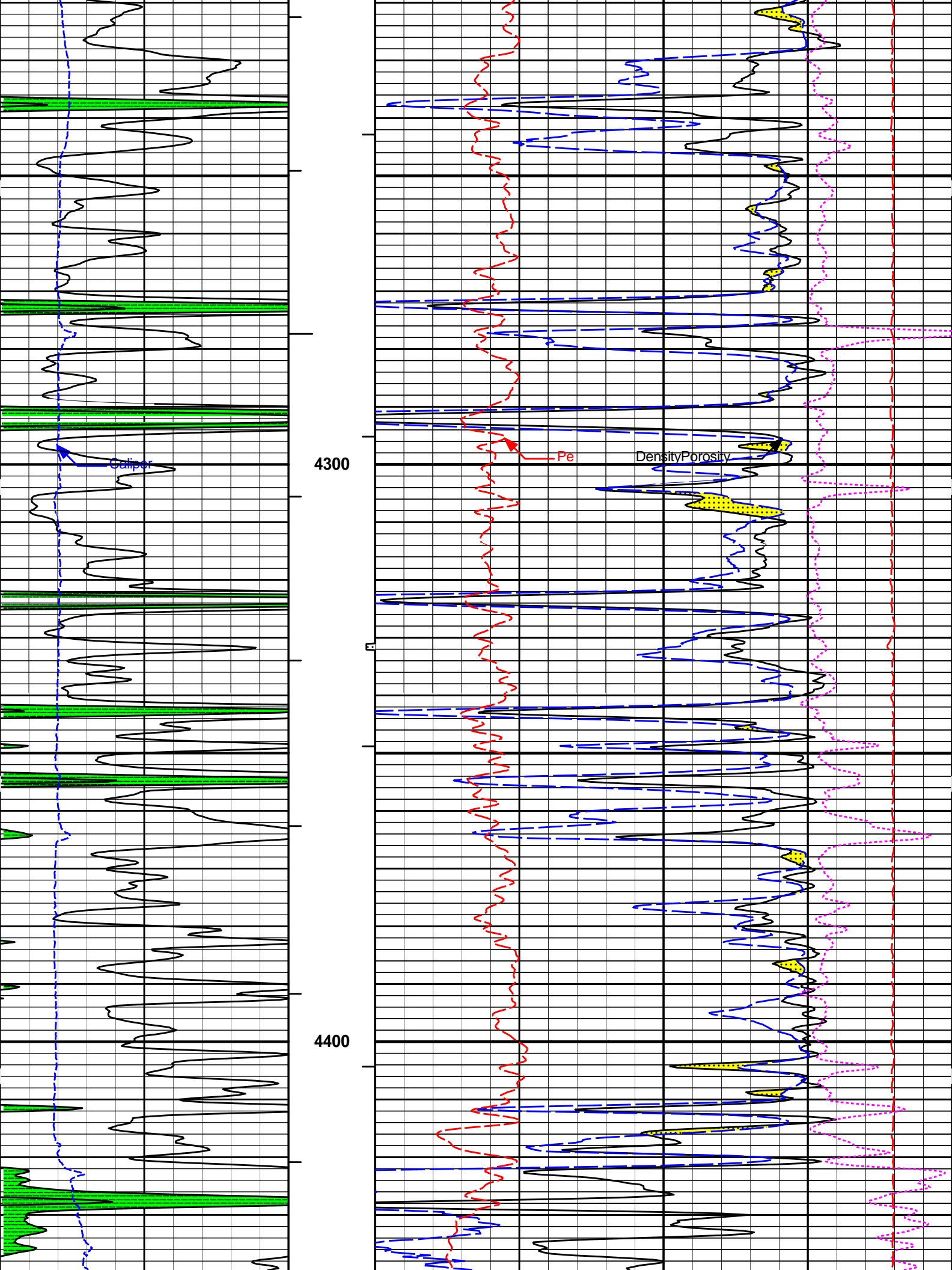


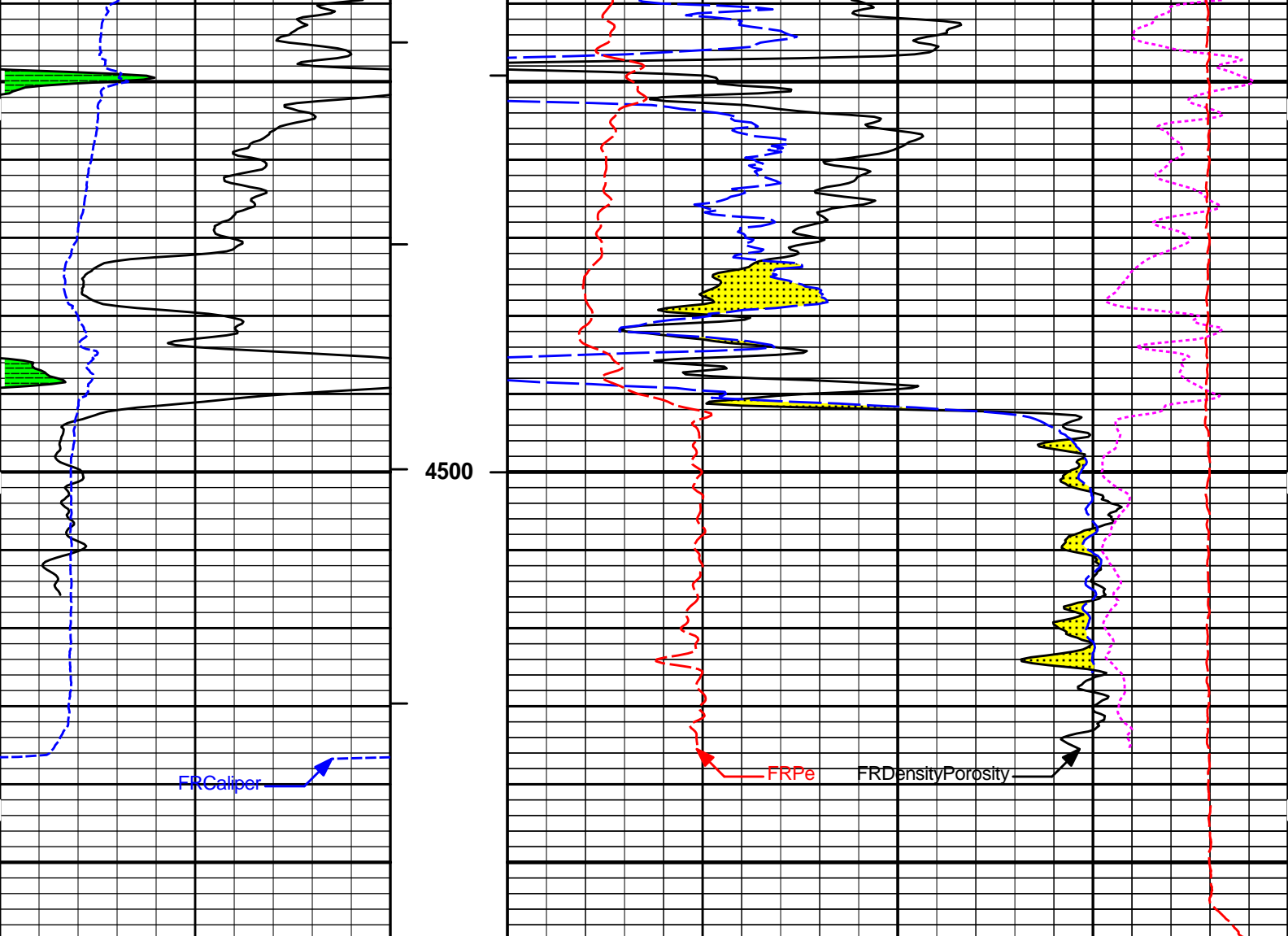












6	Caliper	16	MD	1 : 240	0	Pe	10	-0.25	DensityCorr	0.25
	inches		ft						gram per cc	
0	Gamma API	150	AHVT					15K	Tension	0
	api								pounds	
	SHALE		BHVT	30					DensityPorosity	-10
									%	
			Tension Pull	10	0	30			Neutron Porosity	-10
									%	
			Tension Pull						CROSSOVER	

HALLIBURTON

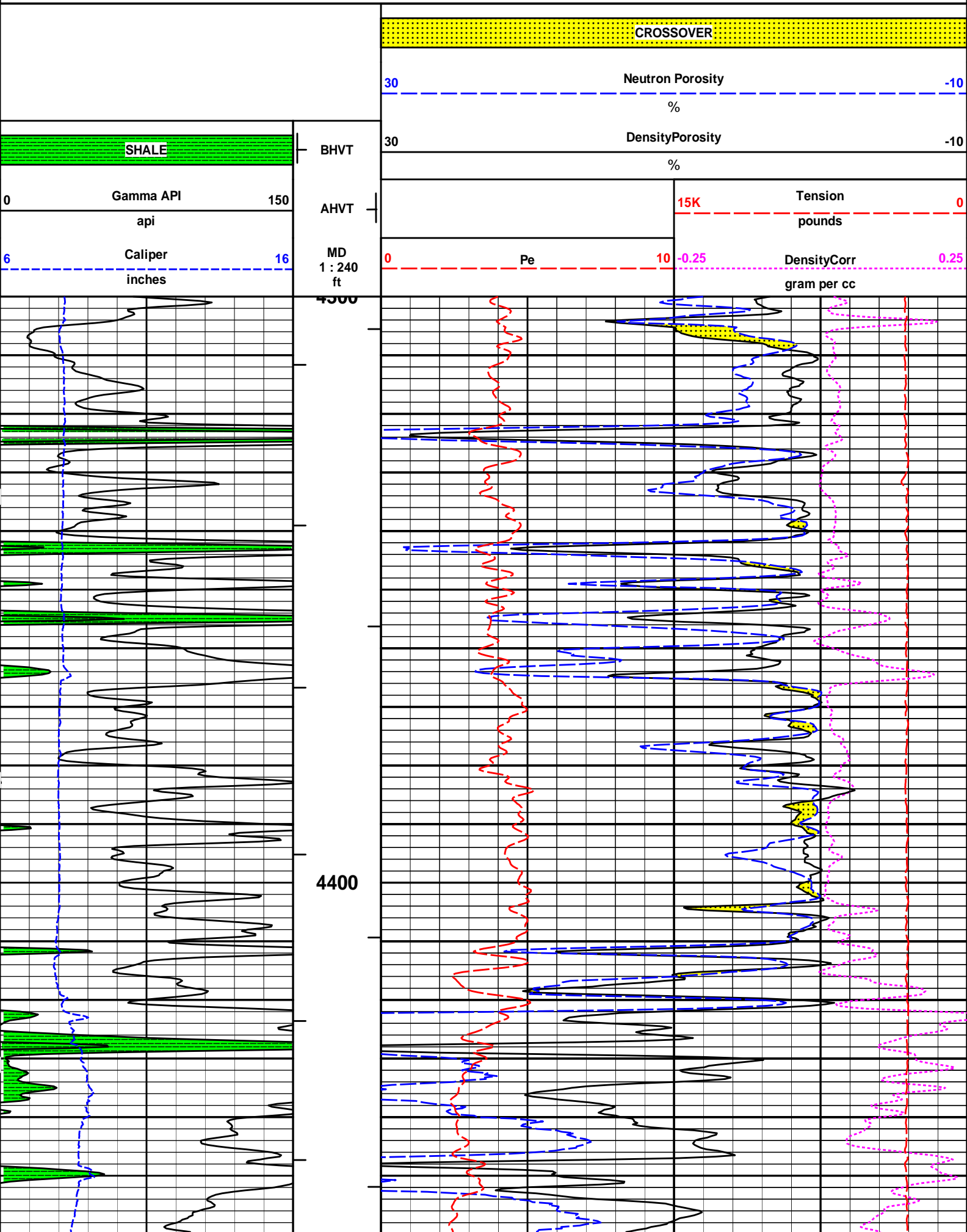
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 Plot File: \\PORO\Poro_IQ_5_MAIN_LIB

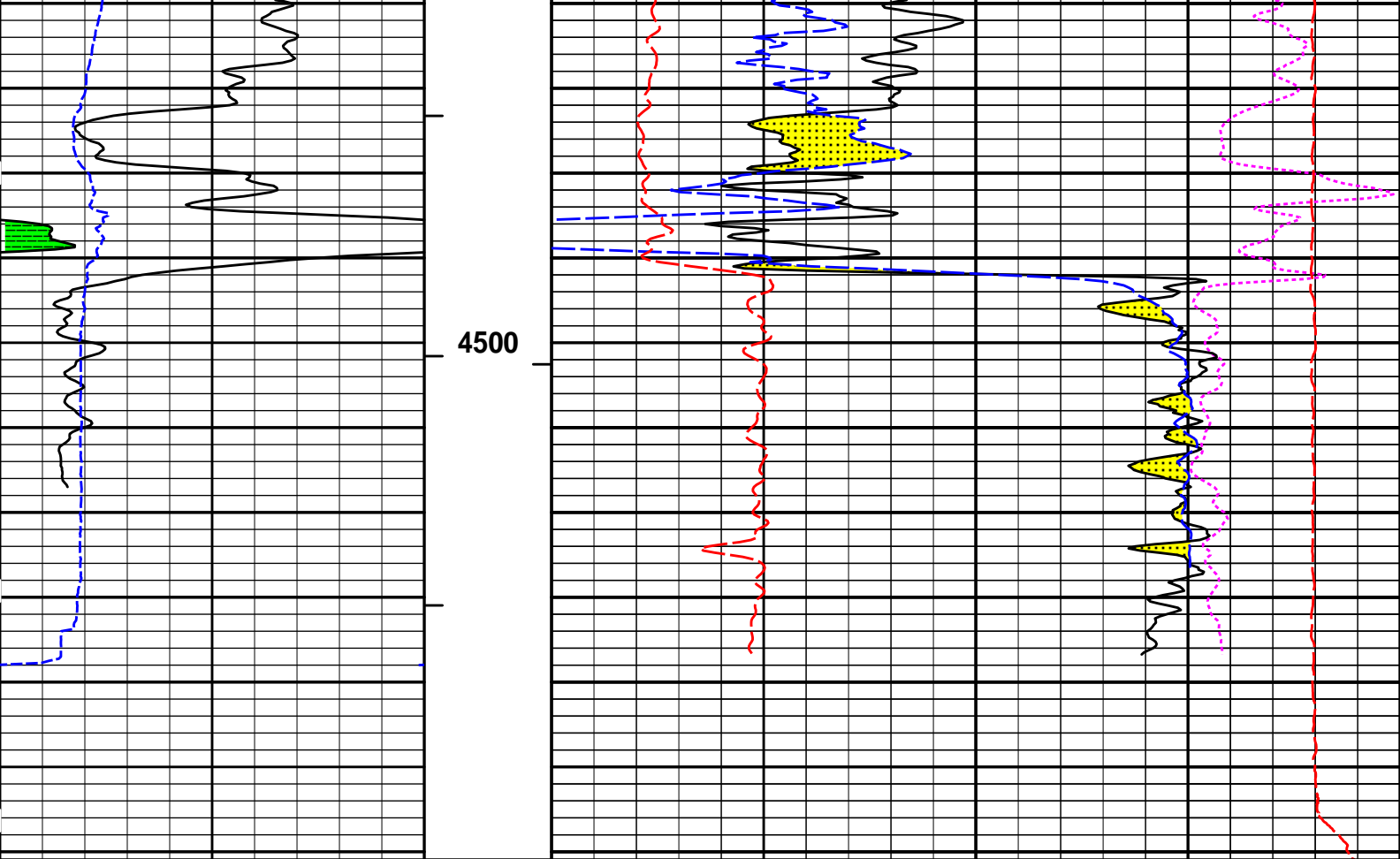
5 INCH MAIN LOG

HALLIBURTON

Plot Time: 25-Mar-13 10:26:36
 Plot Range: 4300 ft to 4560.92 ft
 Data: LPR_1_23\Well Based\REPEAT\
 Plot File: \\PORO\Poro_IQ_5_REP_LIB

REPEAT SECTION





6	Caliper	16	MD	0	Pe	10	-0.25	DensityCorr	0.25
	inches		1 : 240					gram per cc	
0	Gamma API	150	AHVT				15K	Tension	0
	api							pounds	
	SHALE		BHVT	30	DensityPorosity				-10
						%			
				30	Neutron Porosity				-10
						%			
					CROSSOVER				

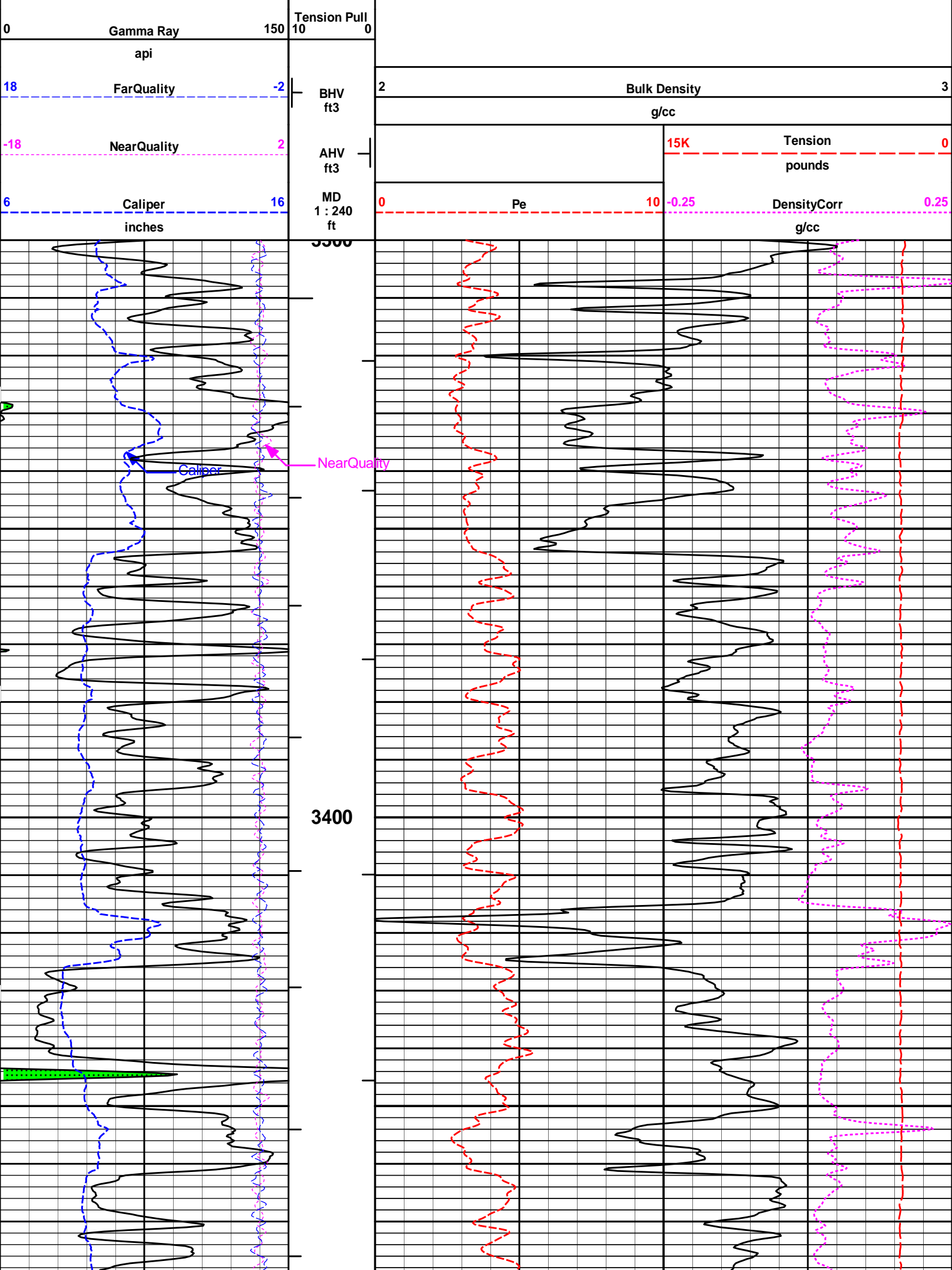
HALLIBURTON Plot Time: 25-Mar-13 10:26:38
 Plot Range: 4300 ft to 4560.92 ft
 Data: LPR_1_23\Well Based\REPEAT\
 Plot File: \\PORO\Poro_IQ_5_REP_LIB

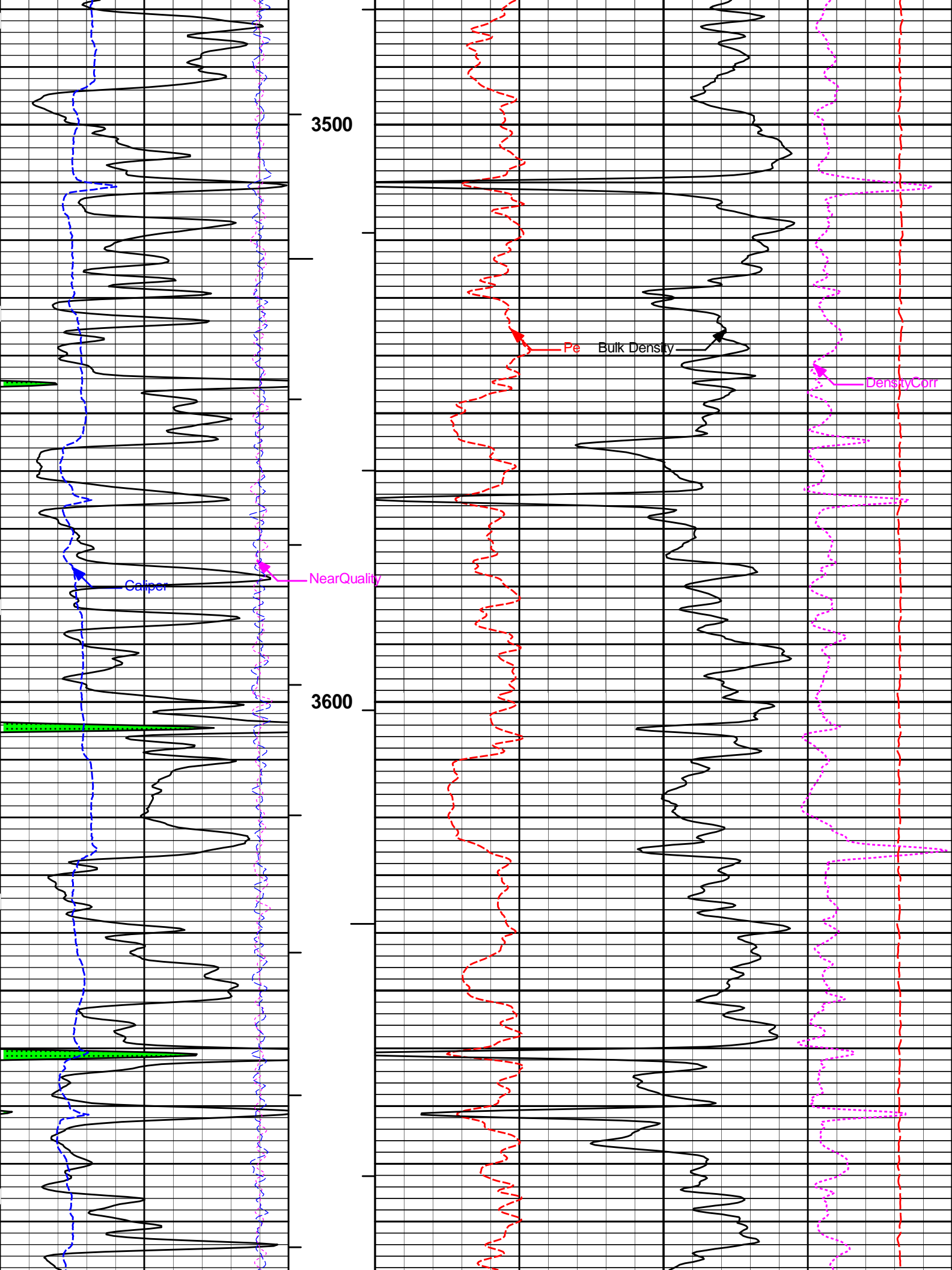
REPEAT SECTION

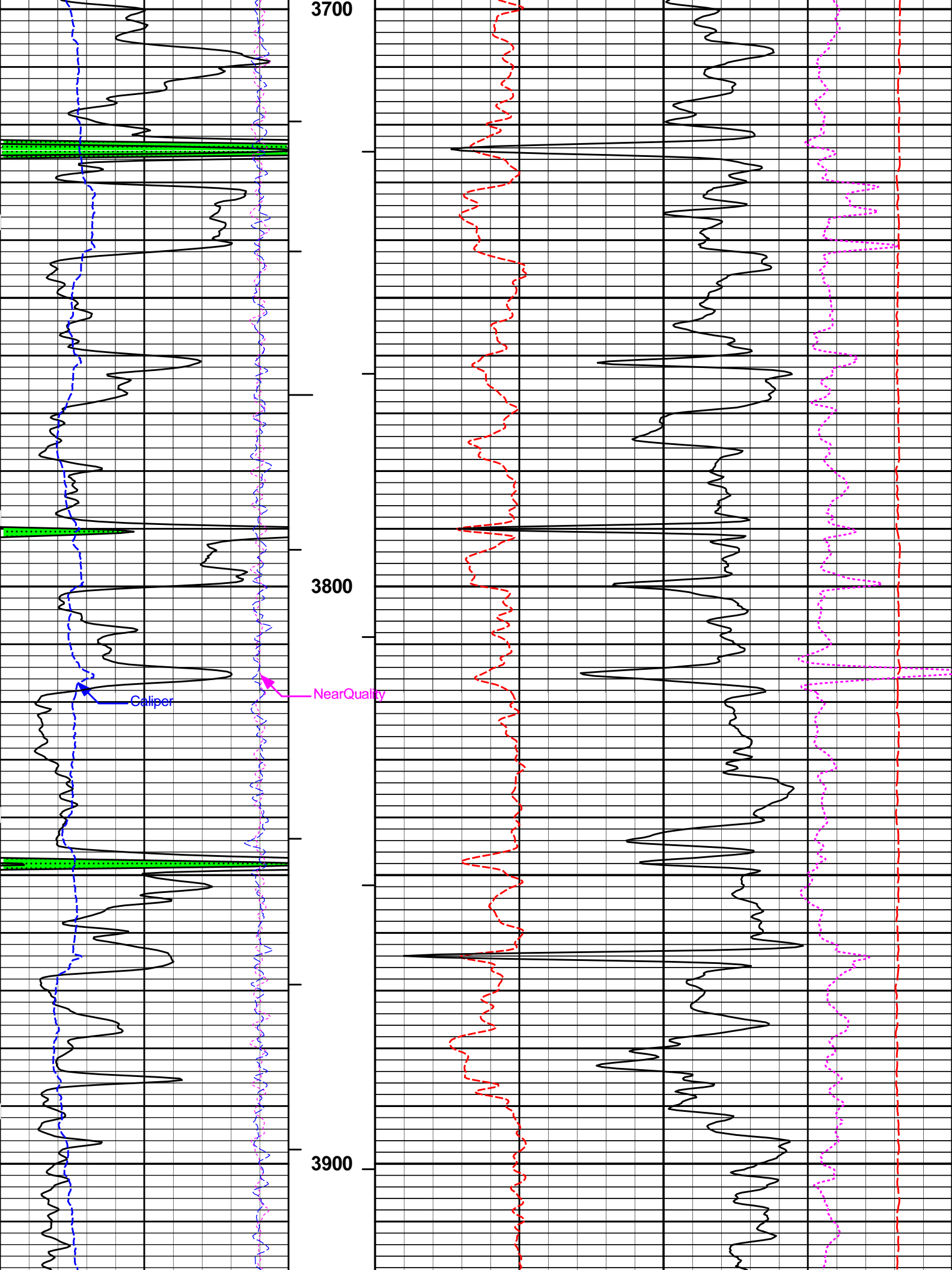
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 Plot Range: 3300 ft to 4559.67 ft
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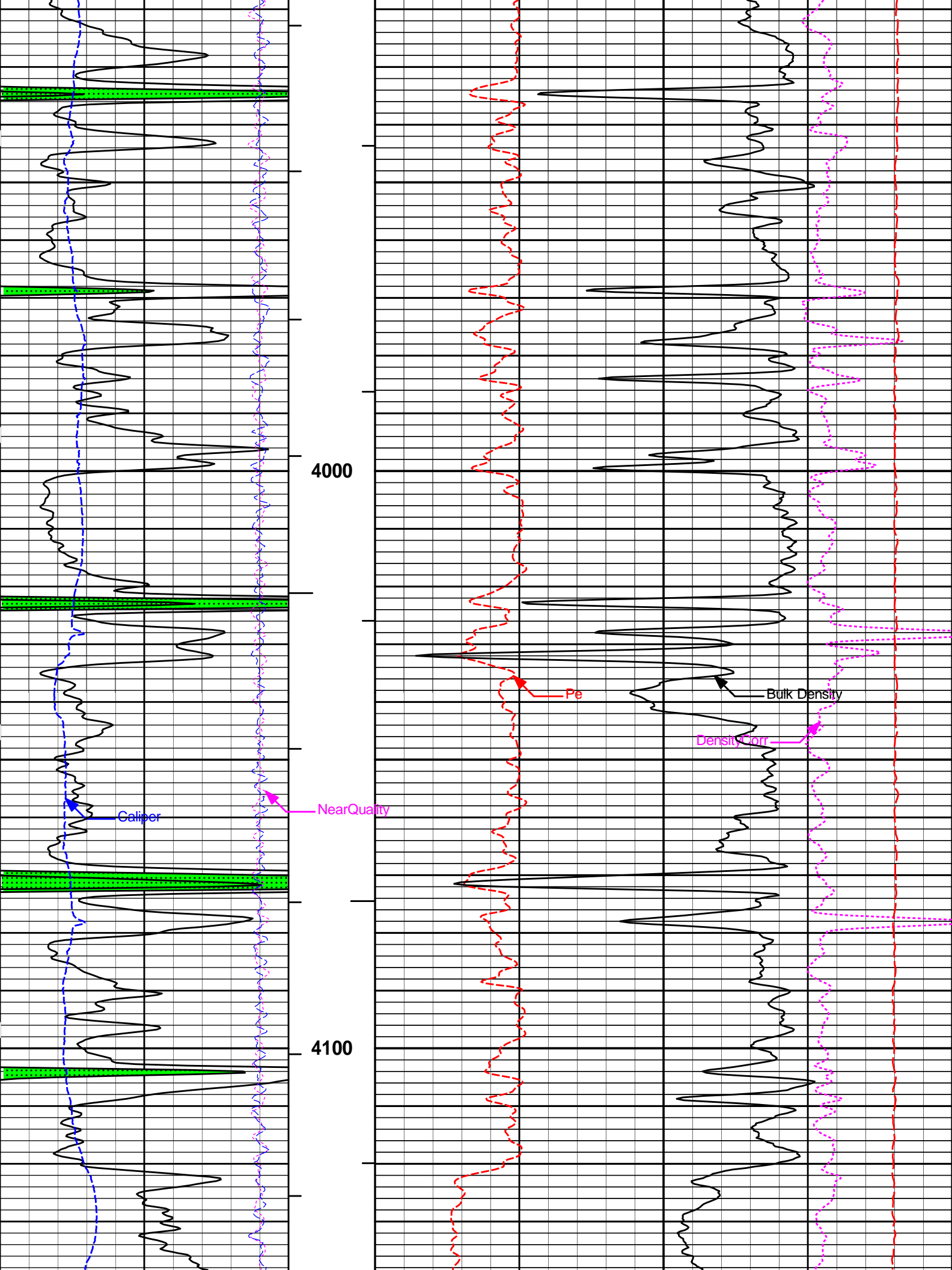
5 INCH MAIN LOG

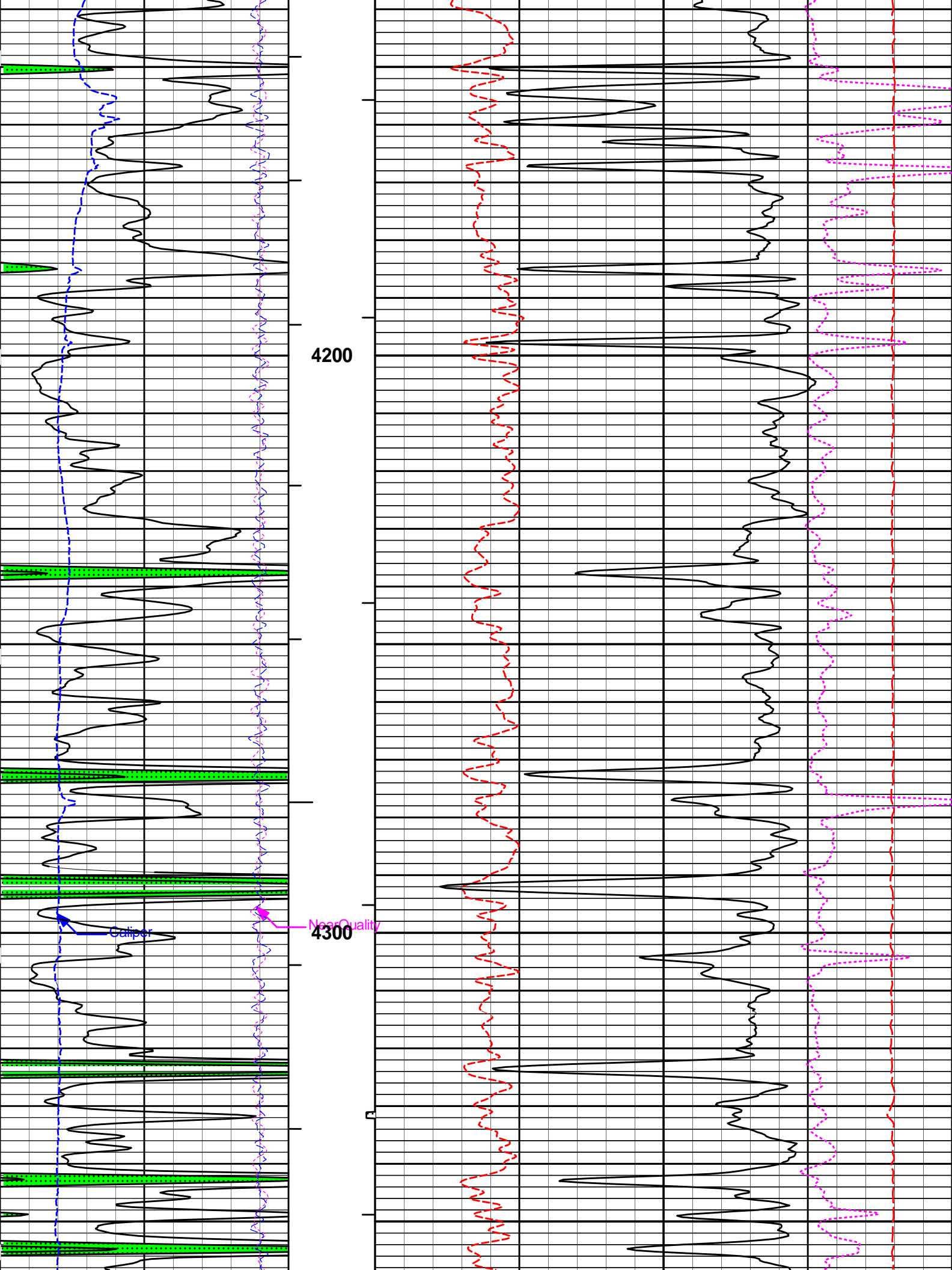
SHALE	Tension Pull
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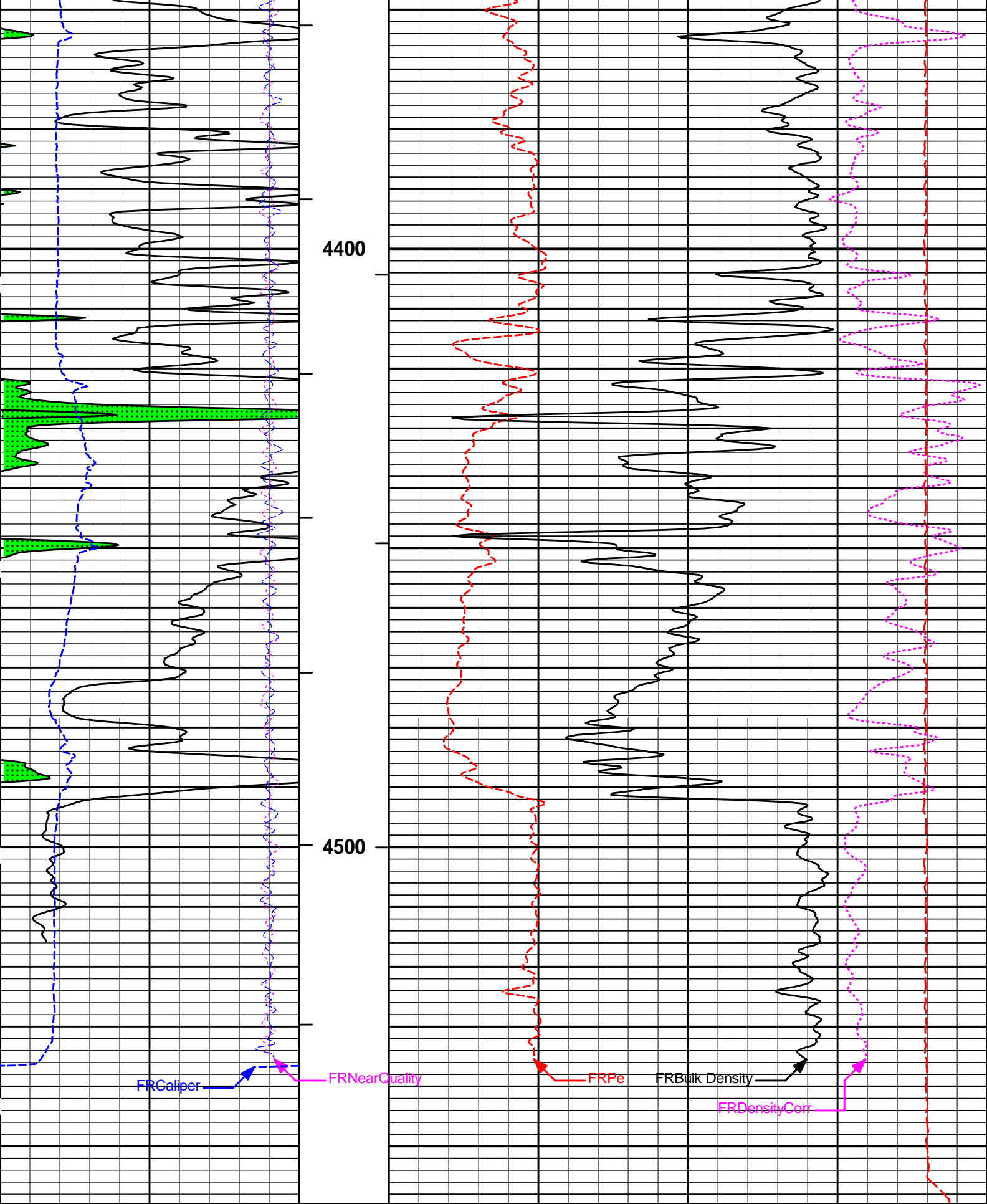












6	Caliper	16
	inches	
-18	NearQuality	2

MD	1 : 240	ft
AHV	ft3	

0	Pe	10	-0.25	DensityCorr	0.25
				g/cc	
15K				Tension	0
				pounds	

18	FarQuality	-2	BHV ft3	2	Bulk Density	3
0	Gamma Ray	150	Tension Pull 10		g/cc	
	api					
	SHALE		Tension Pull			

HALLIBURTON

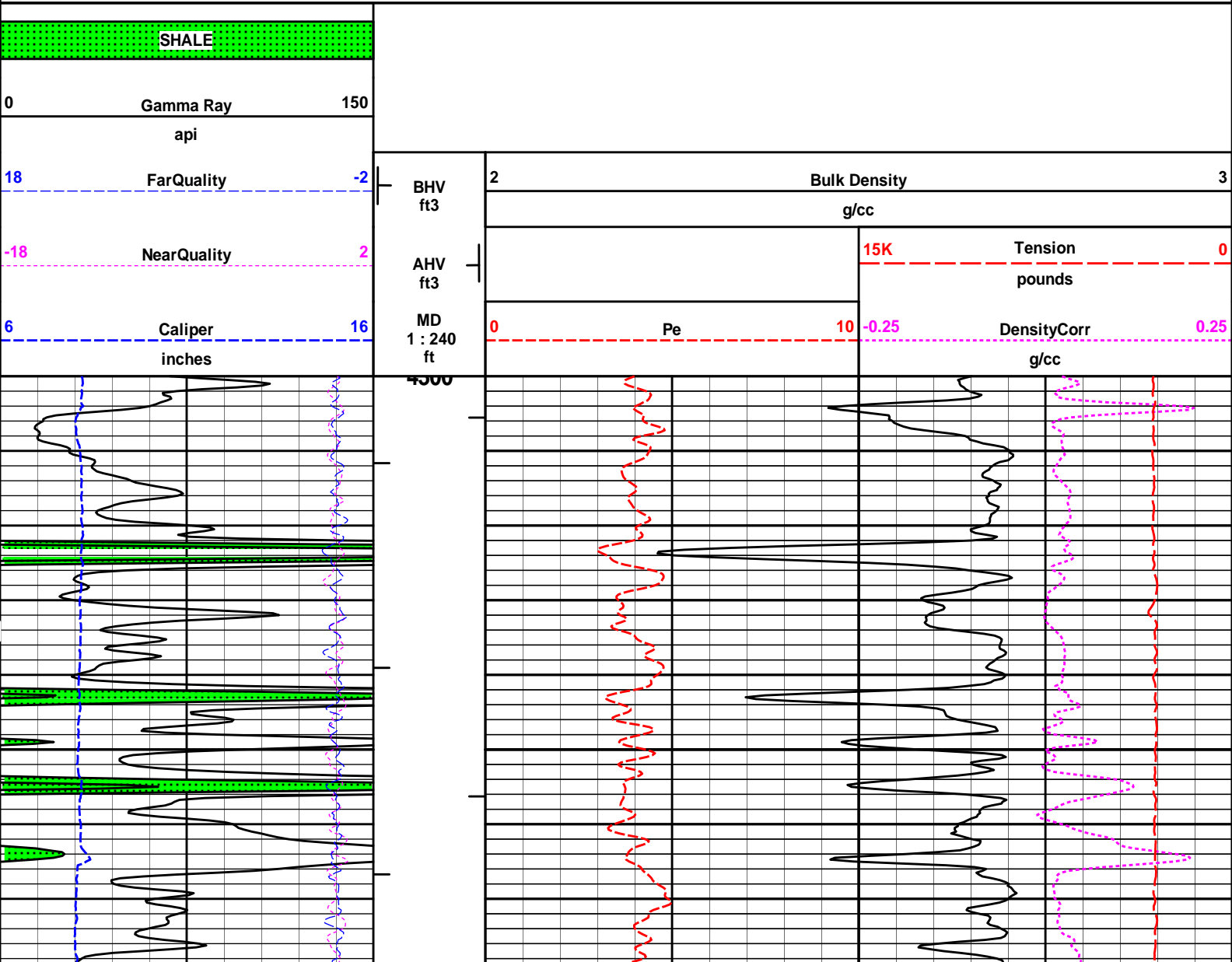
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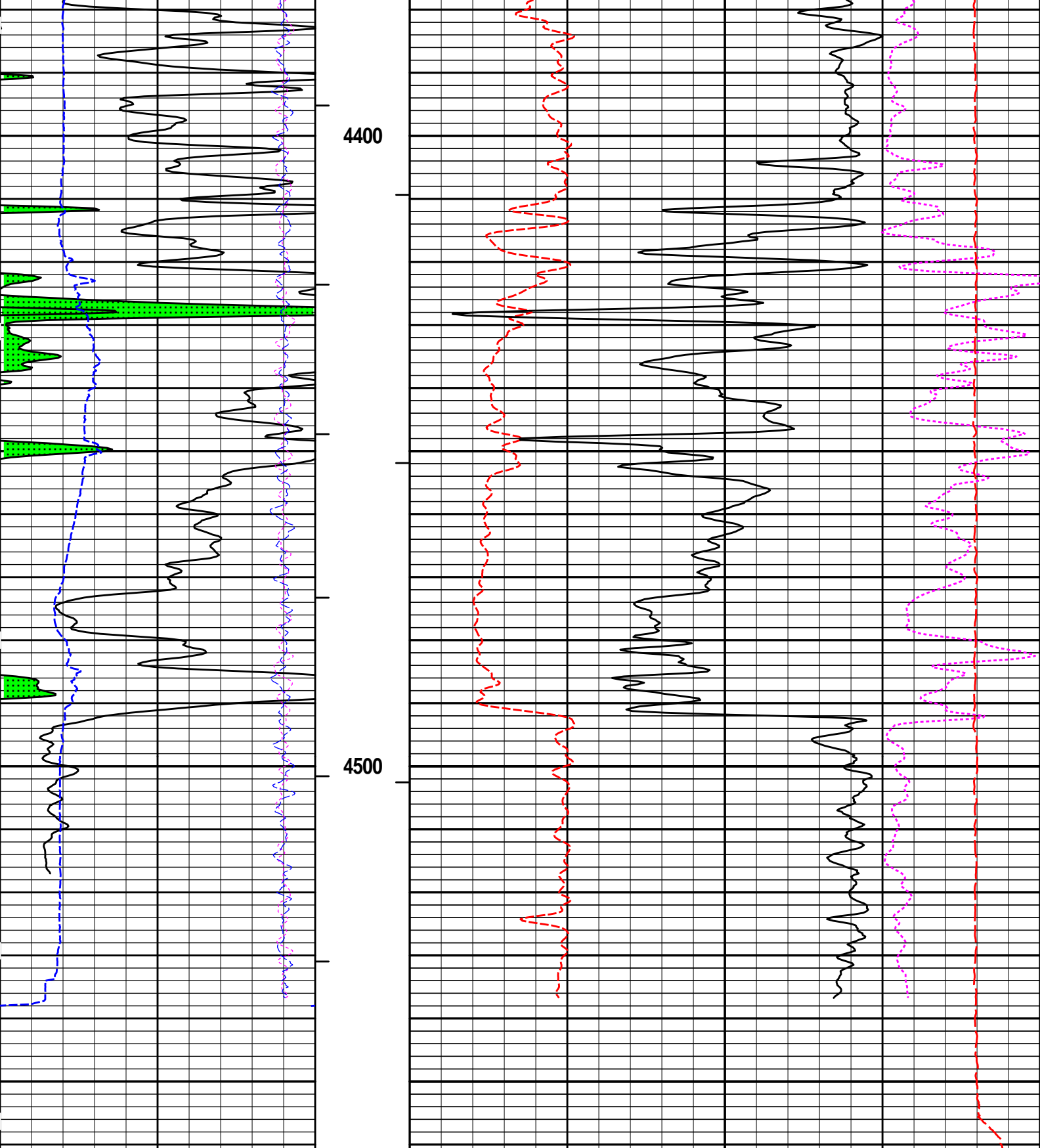
5 INCH MAIN LOG

HALLIBURTON

Plot Time: 25-Mar-13 10:26:41
 Plot Range: 4300 ft to 4560.92 ft
 Data: LPR_1_23\Well Based\REPEAT\
 Plot File: \\-LOCAL-\LPR_1_23\0001 SP-GTET-DSN-SDL-ACRT-CH\PORO\BULKD_5_REP_LIB

REPEAT SECTION





6	Caliper	16	MD	0	10	-0.25	DensityCorr	0.25
	inches		1 : 240				g/cc	
-18	NearQuality	2	AHV		15K		Tension	0
			ft3				pounds	
18	FarQuality	-2	BHV	2	Bulk Density			3
			ft3		g/cc			
0	Gamma Ray	150						

HALLIBURTON

Plot Time: 25-Mar-13 10:26:43

Plot Range: 4300 ft to 4560.92 ft

Data: LPR_1_23\Well Based\REPEAT\

Plot File: \\-LOCAL-LPR_1_23\0001 SP-GTET-DSN-SDL-ACRT-CH\PORO\BULKD_5_REP_LIB

REPEAT SECTION**HALLIBURTON****TOOL STRING DIAGRAM REPORT**

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
Cable Head- PROT01 30.00 lbs		Ø 3.625 in →			1.92 ft	54.51 ft
SP Sub-11441455 60.00 lbs		Ø 3.625 in →		← SP @ 50.81 ft	3.74 ft	52.59 ft
GTET-11048627 165.00 lbs		Ø 3.625 in →		← GammaRay @ 42.79 ft	8.52 ft	48.85 ft
DSNT-11019643 174.00 lbs	DSN Decentralizer- 11005605 6.60 lbs	Ø 5.000 in* → Ø 3.625 in →		← DSN Far @ 33.39 ft ← DSN Near @ 32.64 ft	9.69 ft	40.33 ft
SDLT-10950489 360.00 lbs	SDLT Pad-10844781 65.00 lbs Microlog Pad-10950489 8.00 lbs	Ø 4.500 in → Ø 4.750 in* → Ø 4.750 in* →		Microlog @ 22.83 ft SDL Caliper @ 22.65 ft SDL @ 22.64 ft	10.81 ft	30.64 ft
ACRt Instrument- I5059 S8385		Ø 3.625 in →			5.03 ft	19.83 ft

50.00 lbs

Regal Standoff 6_75-1
20.00 lbs

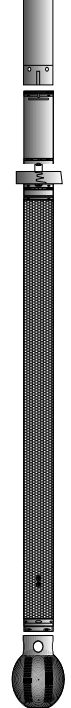
ACRt Sonde-
11038385
200.00 lbs

Cabbage Head-
TRK696
10.00 lbs

Ø 6.750 in*

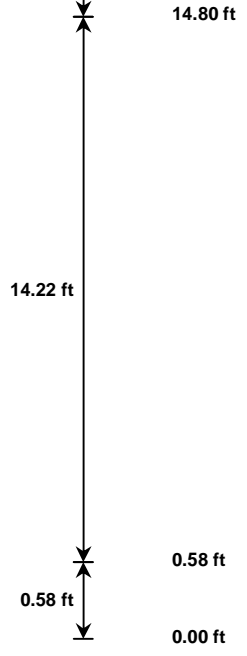
Ø 3.625 in

Ø 3.625 in
Ø 6.000 in



← Mud Resistivity @ 13.44 ft

← ACRt @ 9.46 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	52.59	300.00
SP	SP Sub	11441455	60.00	3.74	48.85	300.00
GTET	Gamma Telemetry Tool	11048627	165.00	8.52	40.33	60.00
DSNT	Dual Spaced Neutron	11019643	174.00	9.69	30.64	60.00
DCNT	DSN Decentralizer	11005605	6.60	5.13 *	33.97	300.00
SDLT	Spectral Density Tool	10950489	360.00	10.81	19.83	60.00
SDLP	Density Insite Pad	10844781	65.00	2.55 *	22.04	60.00
MICP	Microlog Pad	10950489	8.00	1.00 *	22.33	60.00
ACRt	Array Compensated True Resistivity Instrument Section	I5059_S8385	50.00	5.03	14.80	300.00
ACRt	Array Compensated True Resistivity Sonde Section	11038385	200.00	14.22	0.58	300.00
RSOF	Regal Standoff 6.75in	1	20.00	0.52 *	12.30	300.00
CBHD	Cabbage Head	TRK696	10.00	0.58	0.00	300.00
Total			1,148.60	54.51		

* Not included in Total Length and Length Accumulation.

Data: LPR_1_23\0001 SP-GTET-DSN-SDL-ACRT-CH\IDLE Date: 25-Mar-13 08:02:35

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name: **GTET - 11048627** Reference Calibration Date: **13-Feb-13 14:00:35**
 Engineer: **J. BOLLLOM** Calibration Date: **05-Mar-13 09:33:28**
 Software Version: **WL INSITE R3.8.0 (Build 2)** 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	50.6	51.6	api
Background + Calibrator	315.2	321.3	api
Calibrator	264.6	269.6	api

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name: DSNT - 11019643

Reference Calibration Date: 05-Mar-13 09:55:34

Engineer: J. BOLLLOM

Calibration Date: 05-Mar-13 10:09:49

Software Version: WL INSITE R3.8.0 (Build 2)

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: 65 degF

Min. Tool Housing Outside Diameter: 3.625 in

CALIBRATION CONSTANTS

Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	0.945	0.949	0.900 - 1.100

WATER TANK SUMMARY (Horizontal Water Tank)

Measurement	Current Reading (Previous Coef.)	Calibrated (New Coef.)	Change	Control Limit On Change
Porosity (decp):	0.2098	0.2110	0.0012	+/- 0.0020
Calibrated Ratio:	9.69	9.73	0.039	+/- 0.050

VERIFIER

Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0573	0.02000 - 0.09000

PASS/FAIL SUMMARY

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

DENSITY CALIPER SHOP CALIBRATION

Tool Name: SDLT - 10950489

Reference Calibration Date: 07-Mar-13 09:55:09

Engineer: J. BOLLLOM

Calibration Date: 07-Mar-13 10:03:24

Software Version: WL INSITE R3.8.0 (Build 2)

Calibration Version: 1

Host Tool Name: DSNT - 11019643

CALIBRATION COEFFICIENTS

Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-1782.49	-1752.48	-7000.00 - -1000.00
Pad Gain	0.0003933	0.0003885	0.000200 - 0.000600
Arm Offset	-1168.26	-1689.88	-5000.00 - 3000.00
Arm Gain	0.0004633	0.0005298	0.000300 - 0.000700
Arm Power	-0.000001258	-0.000005780	-0.000010000 - 0.000010000

The ring diameter is computed from: DIAMETER = PAD EXTENSION + ARM EXTENSION + 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)	3.78	3.75	-0.03	+/- 0.20
RING DIAMETER:				

Small Ring (in)	6.54	6.50	-0.04	+/- 0.20
Medium Ring (in)	8.14	8.25	0.11	+/- 0.20
Large Ring (in)	14.97	15.00	0.03	+/- 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 - 10844781	Reference Calibration Date:	17-Jan-13 14:21:35
Engineer:	J. BOLLUM	Calibration Date:	05-Mar-13 11:01:55
Software Version:	WL INSITE R3.8.0 (Build 2)	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	1.0434	1.0190	0.90 - 1.10
Near Dens Gain	1.0101	1.0001	0.90 - 1.10
Near Peak Gain	1.0002	0.9771	0.90 - 1.10
Near Lith Gain	0.9736	0.9818	0.90 - 1.10
Far Bar Gain	1.0096	1.0161	0.90 - 1.10
Far Dens Gain	0.9991	1.0035	0.90 - 1.10
Far Peak Gain	0.9920	0.9974	0.90 - 1.10
Far Lith Gain	0.9714	0.9744	0.90 - 1.10
<hr/>			
Near Bar Offset	-0.1830	0.0500	NONE
Near Dens Offset	0.1114	0.2016	NONE
Near Peak Offset	0.2008	0.3863	NONE
Near Lith Offset	0.4173	0.3415	NONE
Far Bar Offset	0.0534	0.0099	NONE
Far Dens Offset	0.1337	0.1093	NONE
Far Peak Offset	0.1632	0.1328	NONE
Far Lith Offset	0.2973	0.2908	NONE
<hr/>			
Near Bar Background	809.28	804.29	700 - 1450
Near Dens Background	265.36	265.46	230 - 480
Near Peak Background	115.37	115.14	100 - 210
Near Lith Background	142.88	142.71	125 - 260
Far Bar Background	526.94	523.45	450 - 900
Far Dens Background	207.77	206.08	175 - 345
Far Peak Background	82.16	82.40	70 - 140
Far Lith Background	86.57	85.02	75 - 145

CALIBRATION BLOCK SUMMARY

Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.695	1.684	-0.011	+/- 0.015
Pe	2.462	2.552	0.090	+/- 0.150

ALUMINUM

Density (g/cc)	2.597	2.598	0.001	+/- 0.01500
Pe	2.977	3.120	0.143	+/- 0.150

TOOL SUMMARY

Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	-0.0009	+/- 0.0110	-0.0026	+/- 0.0140
Magnesium Block	-0.0007	+/- 0.0110	-0.0020	+/- 0.0140
Aluminum Block	-0.0013	+/- 0.0110	-0.0013	+/- 0.0140
Resolution	9.48	6.00 - 11.50	8.88	6.00 - 11.50
Internal Verifier(B+D+P+L)	1328	1200 - 2700	897	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

CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11048627						
Gamma Ray Calibrator	269.6	-----	-----	0.0	+/- 9.00	api
DSNT-11019643						
Snow-Block Porosity	0.0573	-----	-----	0.0000	+/- -.-	decp
SDLT-10950489						
Pad Extension	3.75	-----	-----	0.00	+/-0.20	in
Ring Diameter	8.25	-----	-----	0.00	+/-0.20	in
SDLT Pad-10844781						
Near(B+D+P+L)	1327.598	-----	-----	0.000	+/-12.900	cps
Far(B+D+P+L)	896.943	-----	-----	0.000	+/-14.781	cps

Data: LPR 1 23\0001 SP-GTET-DSN-SDL-ACRT-CHNDLE Date: 25-Mar-13 08:04:55



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	9.400	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	75.0	degF
SHARED	CSD	Logging Interval is Cased?	No	
SHARED	ICOD	AHV Casing OD	5.500	in
SHARED	ST	Surface Temperature	75.0	degF
SHARED	TD	Total Well Depth	4550.00	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	
Microlog Pad	MLOK	Process MicroLog 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
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

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	50.81	NO	
SP	Spontaneous Potential	50.81	BLK	1.250
SPR	Raw Spontaneous Potential	50.81	NO	
SPO	Spontaneous Potential Offset	50.81	NO	
GTET				
TPUL	Tension Pull	42.79	NO	
GR	Natural Gamma Ray API	42.79	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API	42.79	NO	
EGR	Natural Gamma Ray API with Enhanced Vertical Resolution	42.79	W	1.416 , 0.750
ACCZ	Accelerometer Z	0.00	BLK	0.083
DEVI	Inclination	0.00	NO	
DSNT				
TPUL	Tension Pull	32.54	NO	
RNDS	Near Detector Telemetry Counts	32.64	BLK	1.417
RFDS	Far Detector Telemetry Counts	33.39	TRI	0.583
DNTT	DSN Tool Temperature	32.64	NO	
DSNS	DSN Tool Status	32.54	NO	
ERND	Near Detector Telemetry Counts EVR	32.64	BLK	0.000
ERFD	Far Detector Telemetry Counts EVR	33.39	BLK	0.000
ENTM	DSN Tool Temperature EVR	32.64	NO	
SDLT				
TPUL	Tension Pull	22.65	NO	
PCAL	Pad Caliper	22.65	TRI	0.250
ACAL	Arm Caliper	22.65	TRI	0.250
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 Current Raw 12K X Receiver	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	
Microlog Pad				
TPUL	Tension Pull	22.83	NO	
MINV	Microlog Lateral	22.83	BLK	0.750
MNOR	Microlog Normal	22.83	BLK	0.750
SDLT Pad				
TPUL	Tension Pull	22.64	NO	
NAB	Near Above	22.46	BLK	0.920
NHI	Near Cesium High	22.46	BLK	0.920
NLO	Near Cesium Low	22.46	BLK	0.920
NVA	Near Valley	22.46	BLK	0.920
NBA	Near Barite	22.46	BLK	0.920
NDE	Near Density	22.46	BLK	0.920
NPK	Near Peak	22.46	BLK	0.920
NLI	Near Lithology	22.46	BLK	0.920
NBAU	Near Barite Unfiltered	22.46	BLK	0.250

DLI	Near Dante Unfiltered	22.46	BLK	0.250
NLIU	Near Lithology Unfiltered	22.46	BLK	0.250
FAB	Far Above	22.81	BLK	0.250
FHI	Far Cesium High	22.81	BLK	0.250
FLO	Far Cesium Low	22.81	BLK	0.250
FVA	Far Valley	22.81	BLK	0.250
FBA	Far Barite	22.81	BLK	0.250
FDE	Far Density	22.81	BLK	0.250
FPK	Far Peak	22.81	BLK	0.250
FLI	Far Lithology	22.81	BLK	0.250
PTMP	Pad Temperature	22.65	BLK	0.920
NHV	Near Detector High Voltage	22.04	NO	
FHV	Far Detector High Voltage	22.04	NO	
ITMP	Instrument Temperature	22.04	NO	
DDHV	Detector High Voltage	22.04	NO	

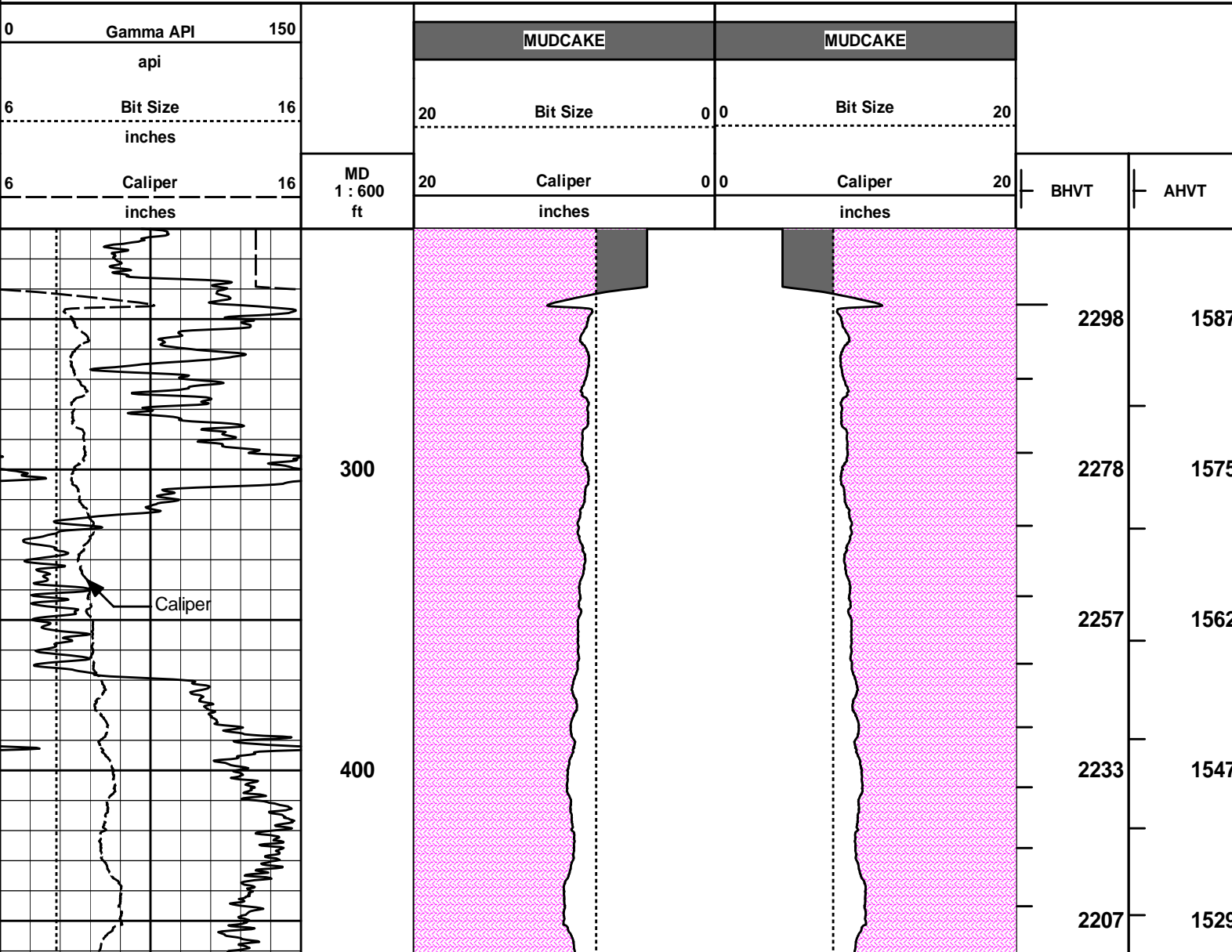
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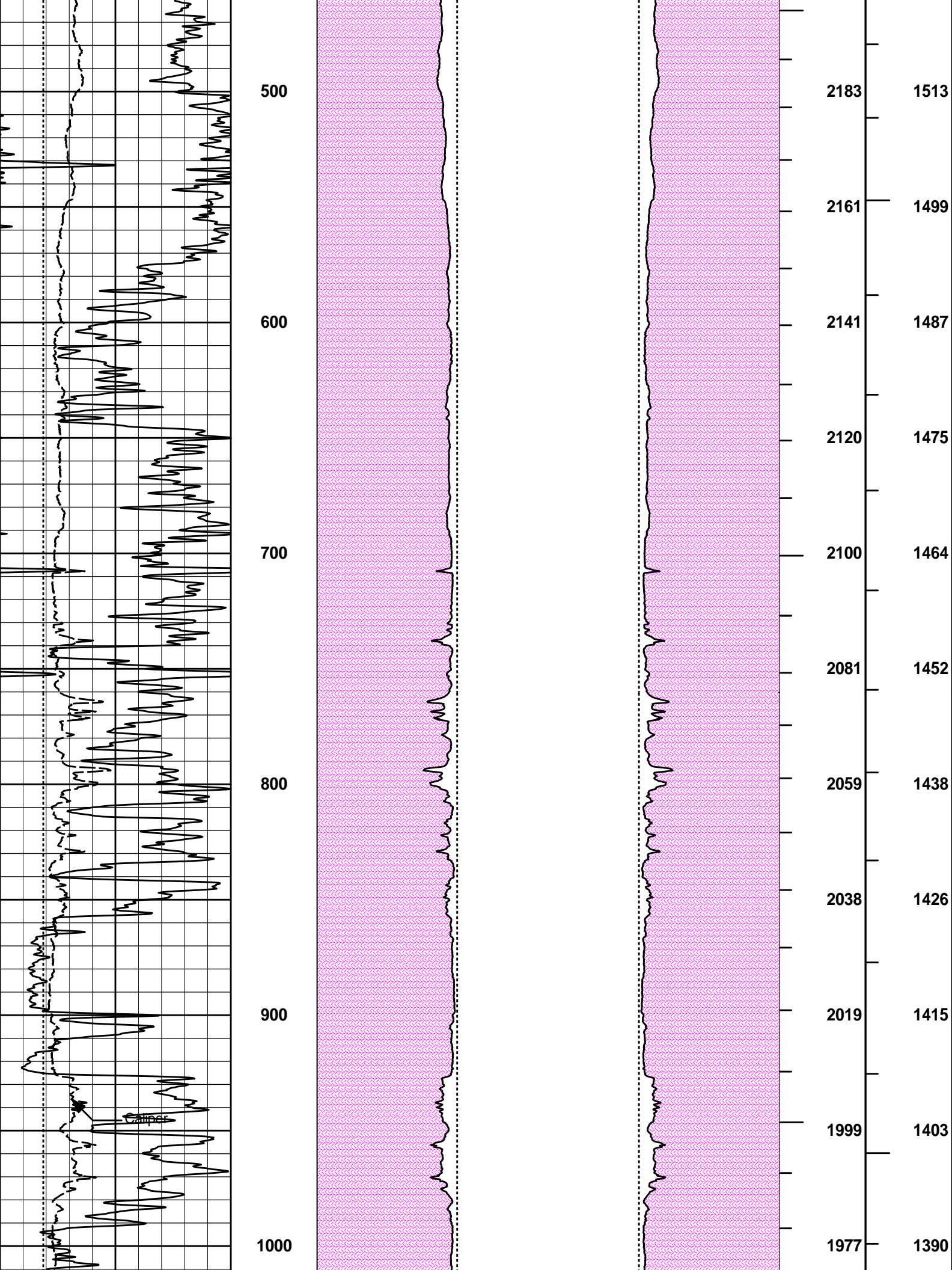
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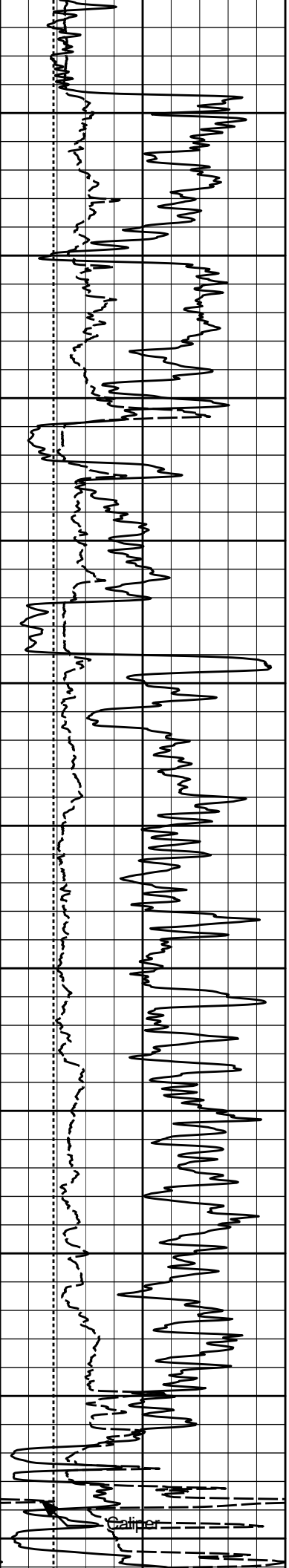
HALLIBURTON

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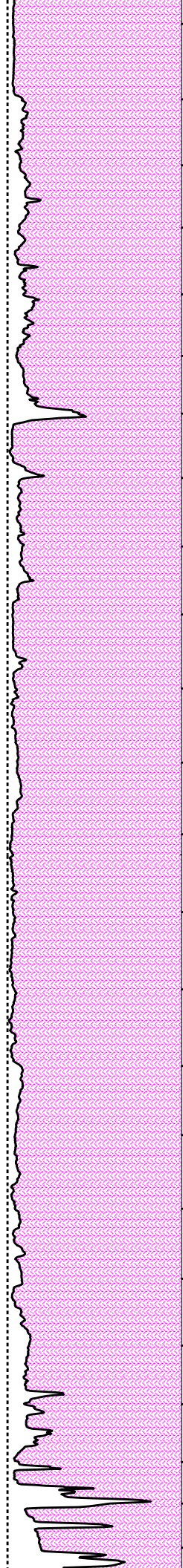
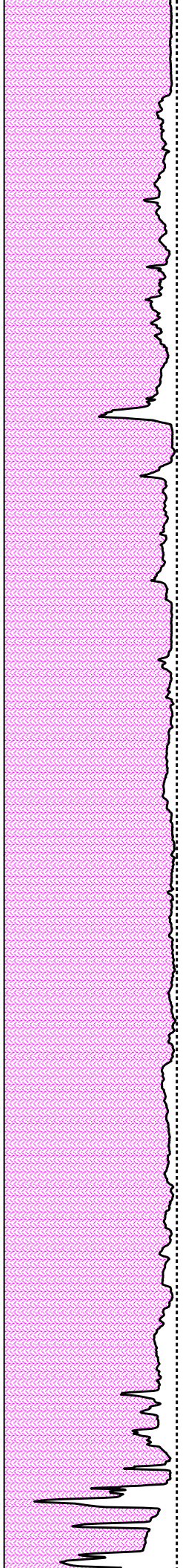
ANNULAR HOLE VOLUME PLOT



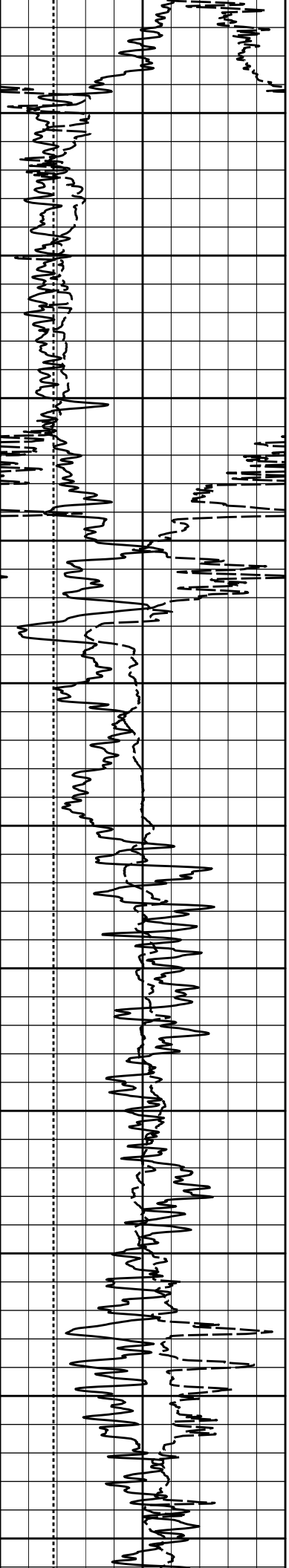




1100
1200
1300
1400
1500



1958 1379
1936 1365
1913 1351
1891 1337
1871 1325
1851 1313
1833 1303
1813 1292
1794 1281
1771 1267
1742 1245



1600

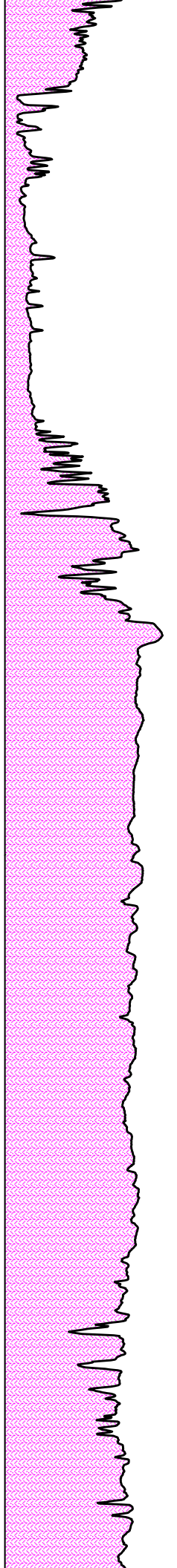
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969

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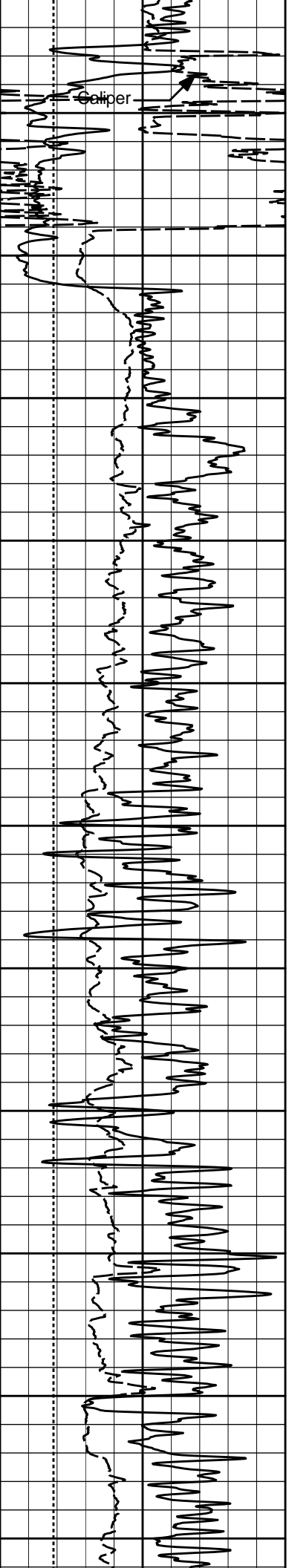
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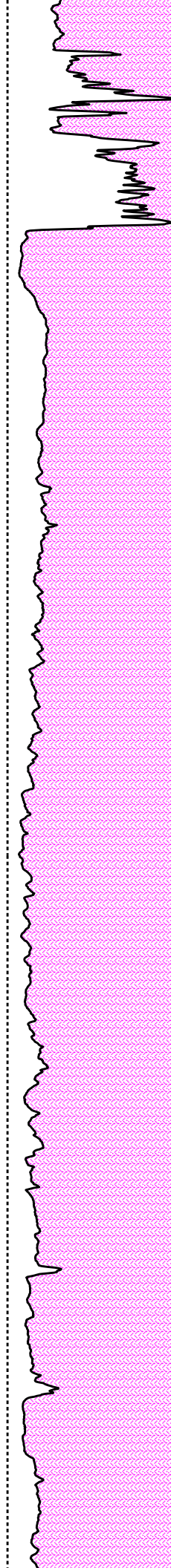
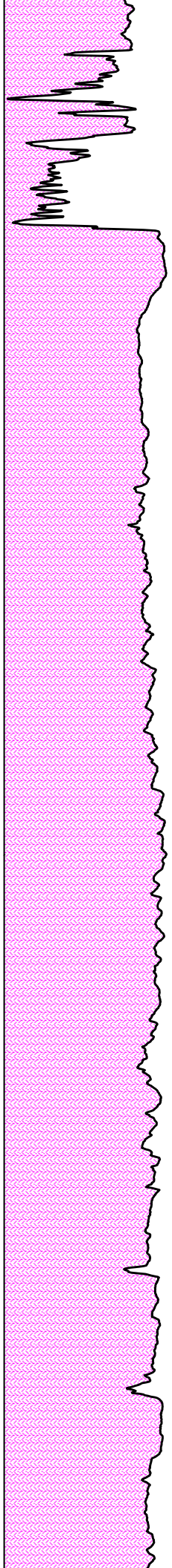
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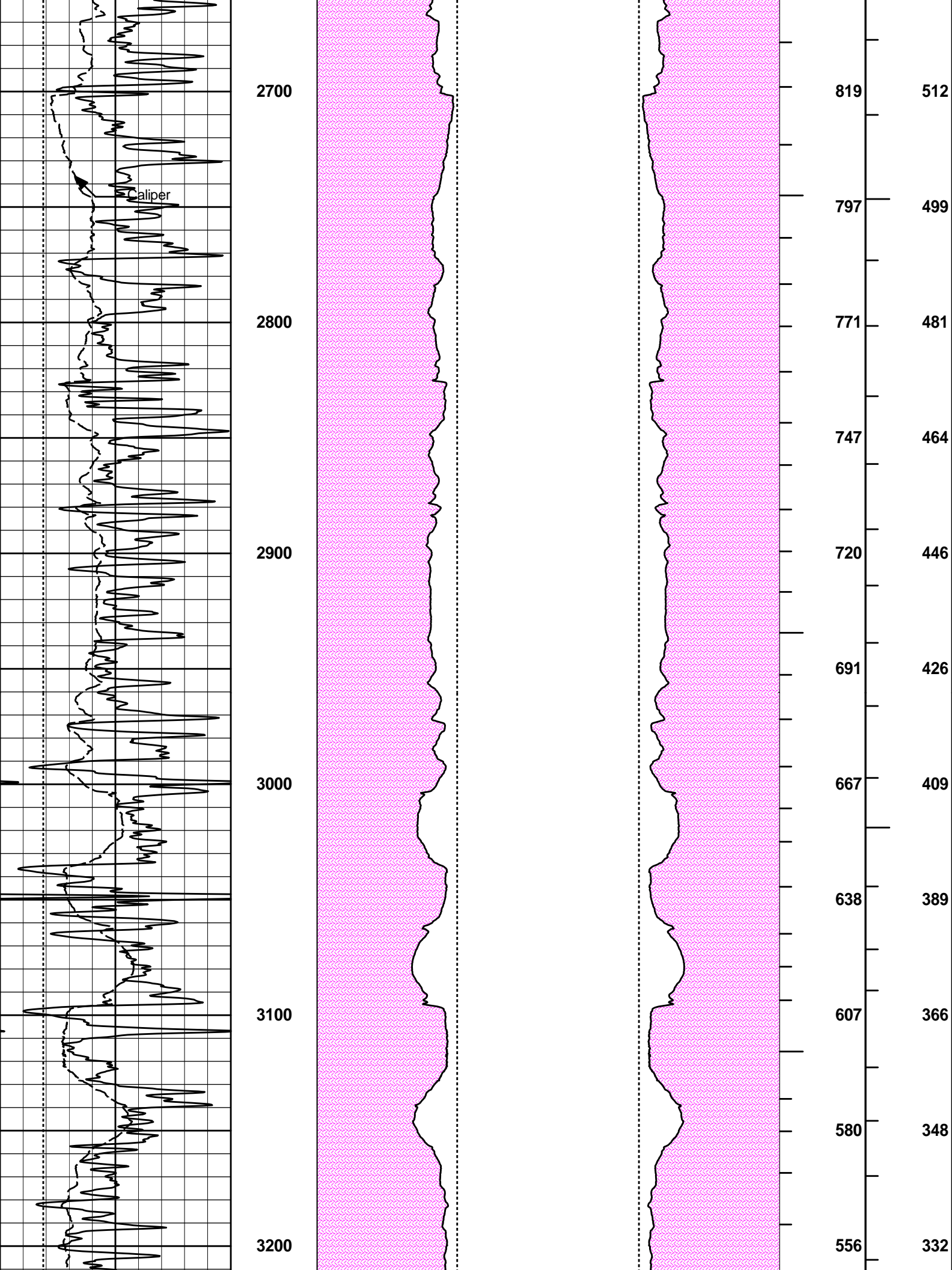


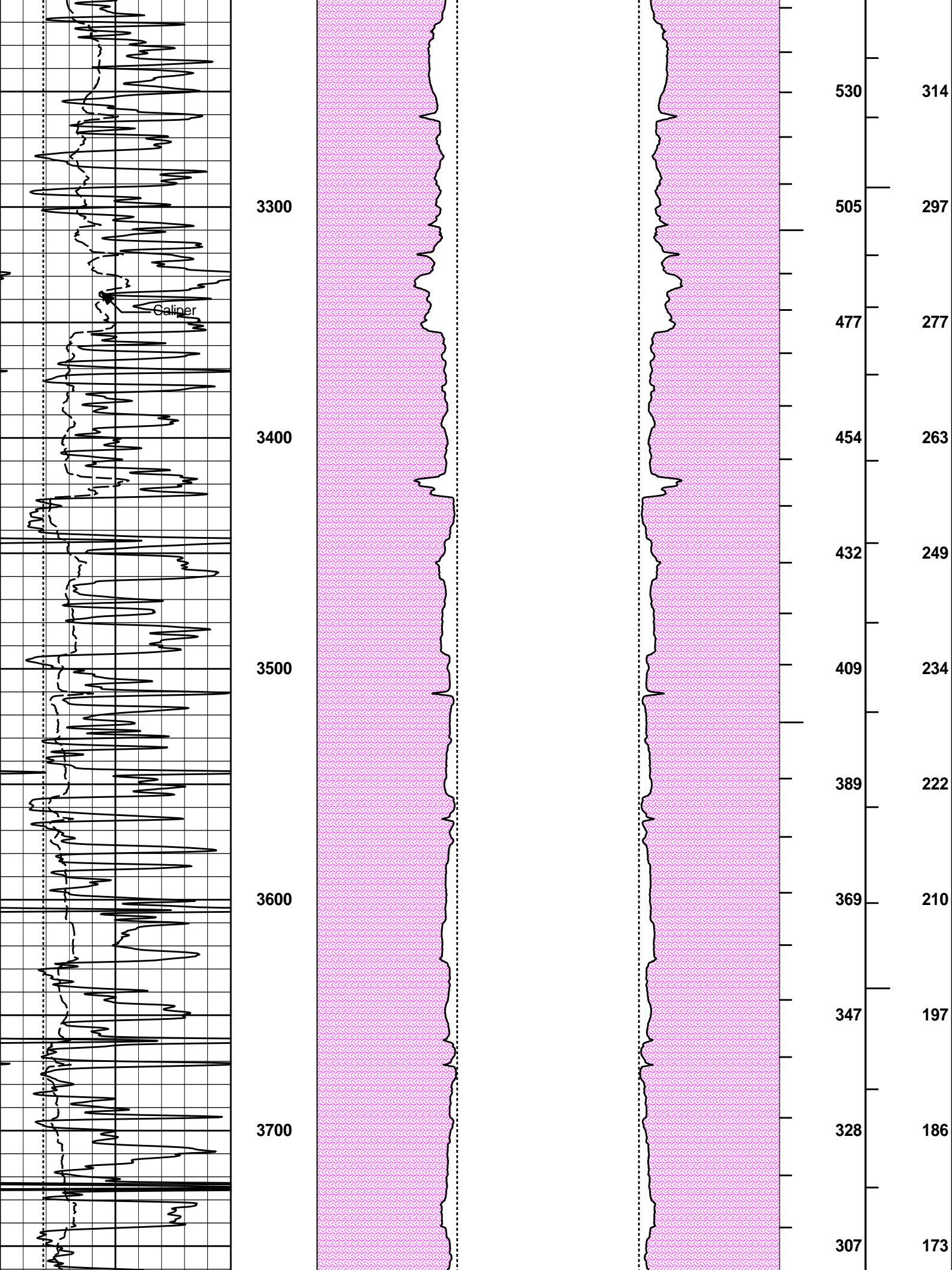
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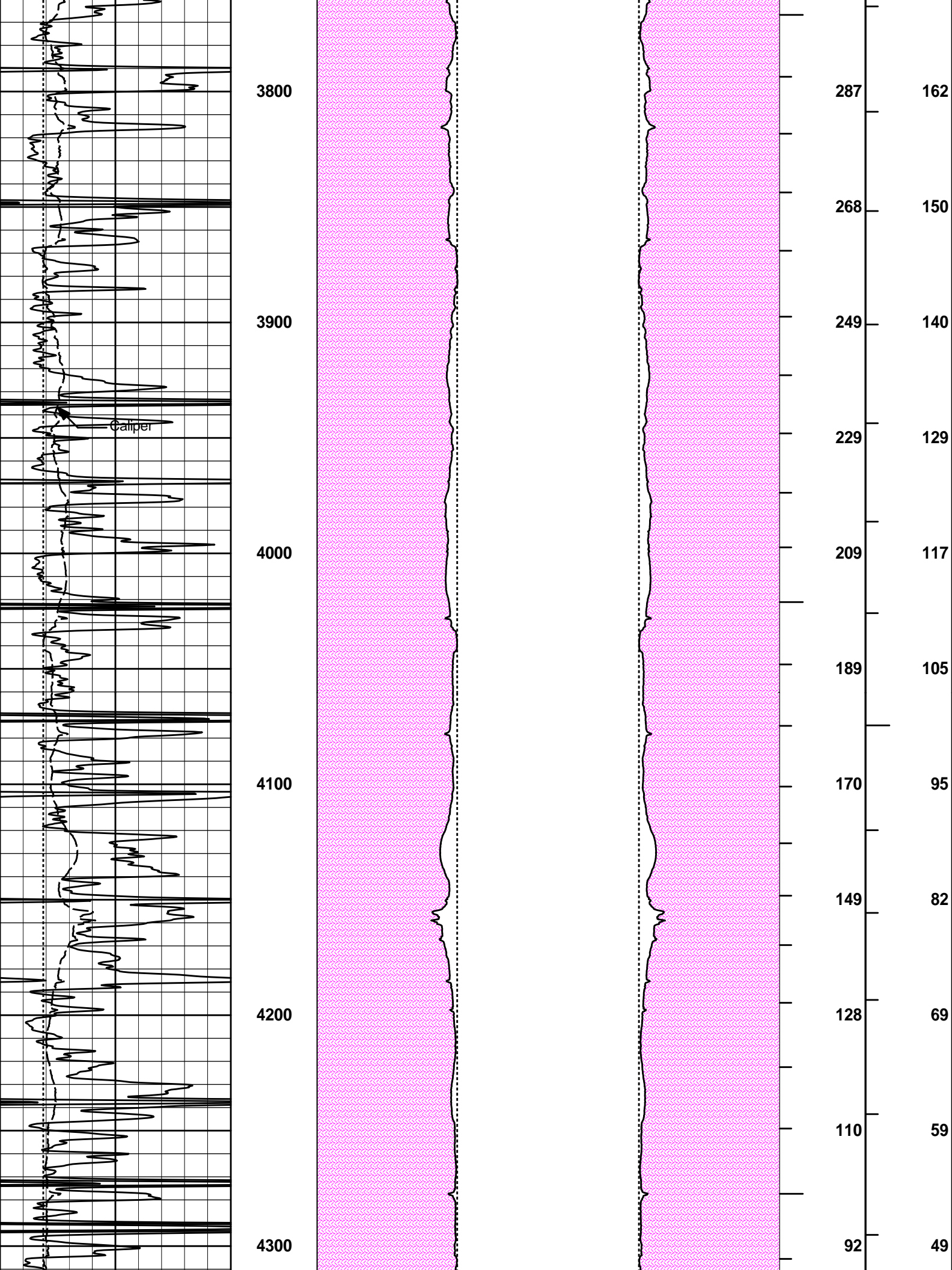


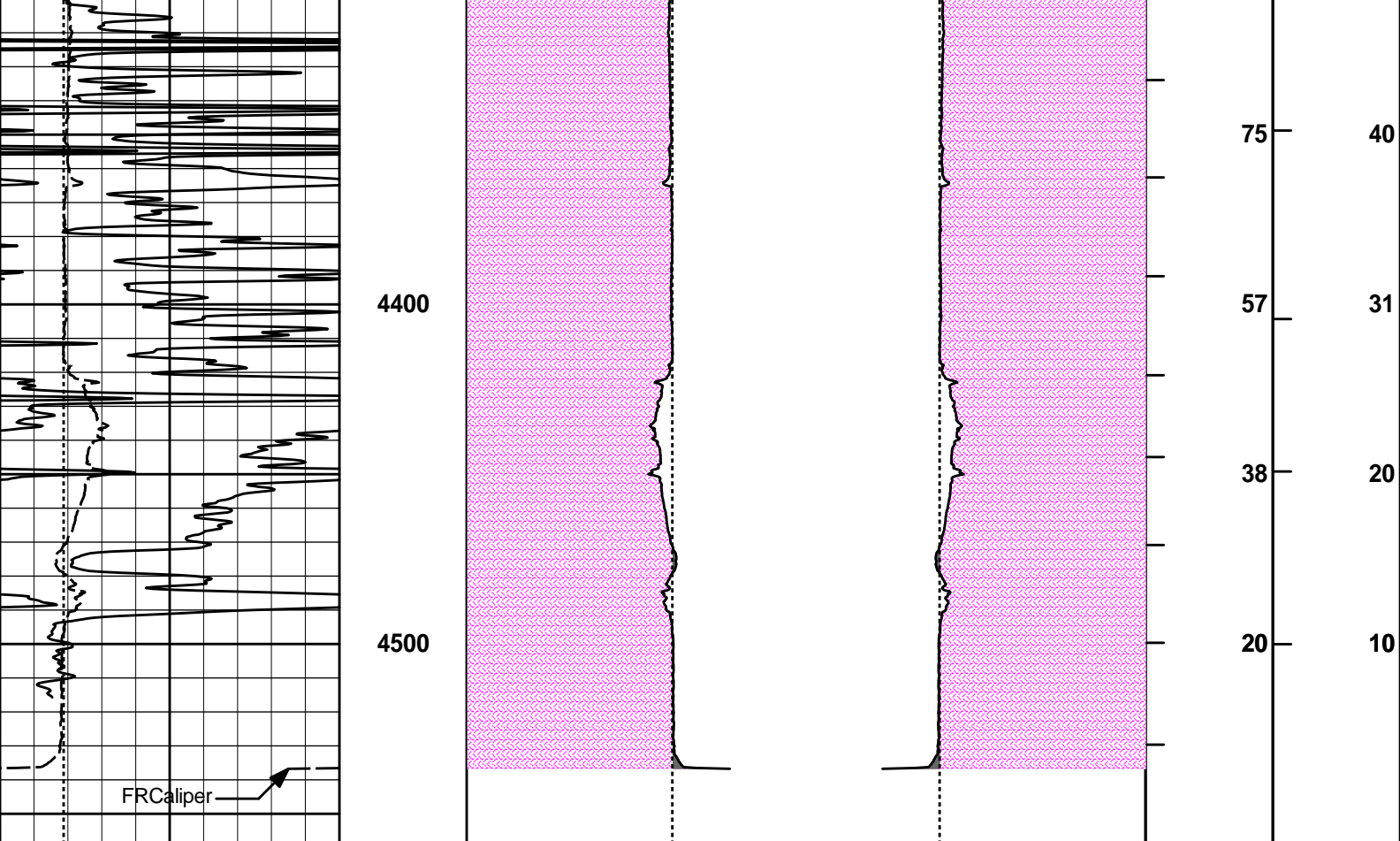
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896
870
845

741
690
671
650
630
614
599
582
564
547
530









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

HALLIBURTON

Plot Time: 25-Mar-13 10:26:49
 Plot Range: 220 ft to 4559.67 ft
 Data: LPR_1_23\Well Based\CASING\
 Plot File: \\LOCAL-LPR_1_23\0001 SP-GTET-DSN-SDL-ACRT-CH\PORO\AHV_2_IQ_LIB

ANNULAR HOLE VOLUME PLOT

COMPANY	LANDMARK RESOURCES INC.		
WELL	LPR 1-23		
FIELD	WILDCAT		
COUNTY	LOGAN	STATE	KANSAS

HALLIBURTON

SPECTRAL DENSITY
 DUAL SPACED NEUTRON
 LOG

HALLIBURTON

MICROLOG

LANDMARK RESOURCES INC.
LPR 1-23
WILDCAT
LOGAN
KANSAS

COMPANY LANDMARK RESOURCES INC.
WELL LPR 1-23
FIELD/BLOCK WILDCAT
COUNTY LOGAN
STATE KANSAS

API No. 15-109-21164
 Location (SHL) 1194' FNL & 2040' FWL

Other Services:
 DSNT, SDLT
 ACRT

COMPANY
 WELL
 FIELD/BLOCK
 COUNTY
 STATE

Sect. 23 Twp. 15S Rge. 33W
 Elev. 2772.0 ft
 11.0 ft above perm. Datum

Permanent Datum
 Log measured from
 Drilling measured from

Elev.: K.B. 2783.0 ft
 D.F. 2782.0 ft
 G.L. 2772.0 ft

Date	25-Mar-13	Run No.	ONE
Depth - Driller	4550.00 ft	Depth - Logger	4556.0 ft
Bottom - Logged Interval	4533.0 ft	Top - Logged Interval	3300.0 ft
Casing - Driller	8.625 in @ 236.0 ft	Casing - Logger	236.0 ft
Bit Size	7.875 in @	Type Fluid in Hole	WATER BASED MUD
Density	9.4 ppg	Viscosity	61.00 s/qt
PH	10.50 pH	Fluid Loss	6.4 cphm
Source of Sample	MUD PIT	Rm @ Meas. Temperature	0.430 ohmm @ 75.00 degF
Rmf @ Meas. Temperature	0.37 ohmm @ 75.00 degF	Rmc @ Meas. Temperature	0.540 ohmm @ 75.00 degF
Source Rmf	MEASURED	Rmc	MEASURED
Rm @ BHT	0.29 ohmm @ 115.0 degF	Time Since Circulation	4.0 hr
Time on Bottom	25-Mar-13 08:09	Max. Rec. Temperature	115.0 degF @ 4556.0 ft
Equipment	10546696	Location	LIBERAL
Recorded By	J. BOLLOW	Witnessed By	T. MCLEOD

Fold here

Service Ticket No.: 900313230 API Serial No.: 15-109-21164 PGM Version: WL INSITE R3.8.0 (Build 2)

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	MICROLOG	RUBBER	ADJ	N/A
Rmc @ Meas. Temp.	@		@		10950489			
Source Rmf	Rmc							
Rm @ BHT	@		@					
Rmf @ BHT	@		@					
Rmc @ BHT	@		@					

EQUIPMENT DATA							
GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	ONE	Run No.		Run No.		Run No.	
Serial No.	11048627	Serial No.		Serial No.		Serial No.	
Model No.	GTET	Model No.		Model No.		Model No.	
Diameter	3.625"	No. of Cent.		Diameter		Diameter	
Detector Model No.	GTET	Spacing		Log Type		Log Type	
Type	SCINT			Source Type		Source Type	
Length	8'	LSA [Y/N]		Serial No.		Serial No.	
Distance to Source	10'	FWDA [Y/N]		Strength		Strength	

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	4556	3300	REC	0	150									

DIRECTIONAL INFORMATION

Maximum Deviation @ KOP @

Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 5.5-INCH CASING

CHLORIDES REPORTED AT 4000 MG/L

LCM REPORTED AT 3 LB/BBL

GTET-DSNT-SDLT-ACRT RUN IN COMBINATION

TODAY'S CREW: F. VILLA & B. TERRELL

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

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



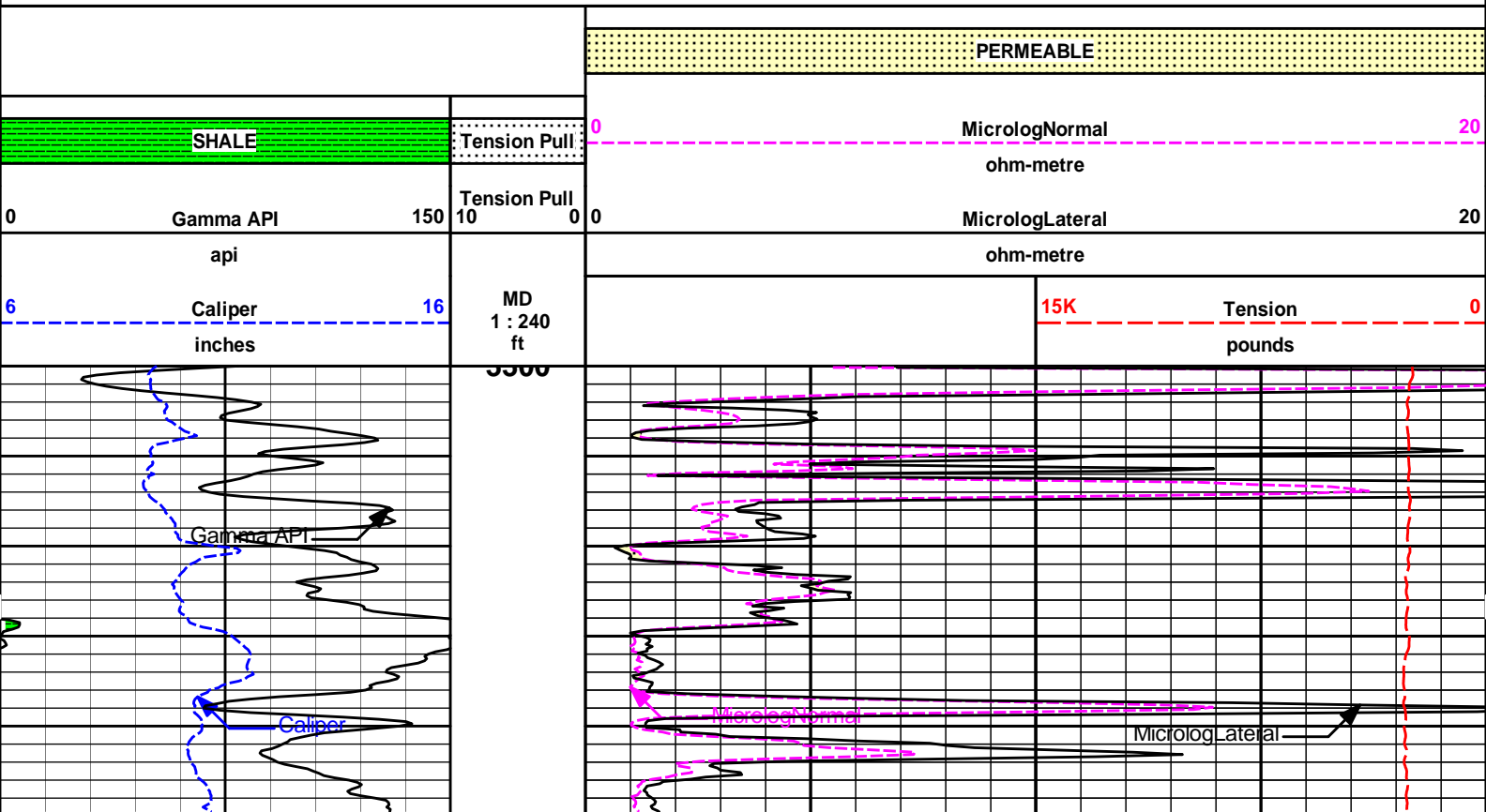
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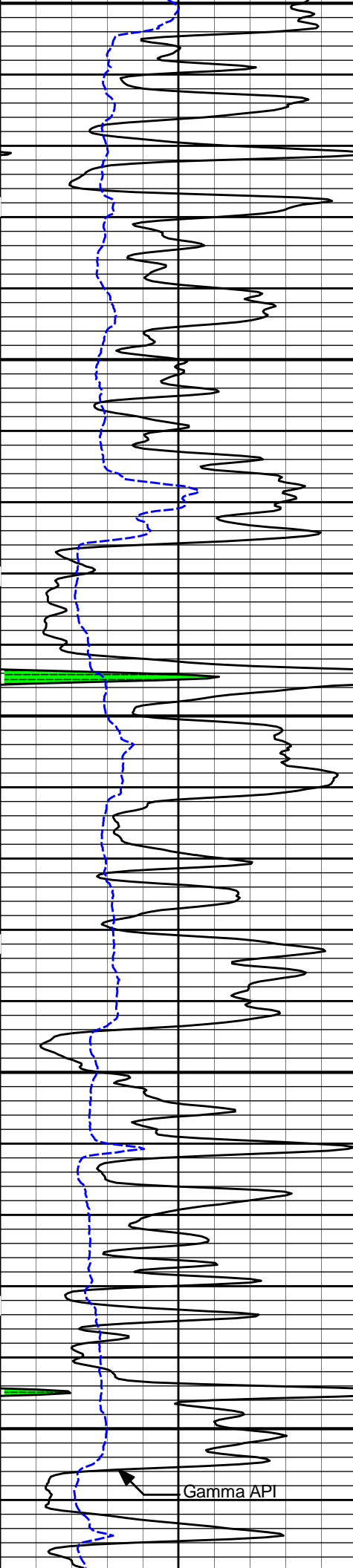
Plot Range: 3300 ft to 4559.67 ft

Data: LPR_1_23\Well Based\DETAIL\

Plot File: \\LOCAL-LPR_1_23\0001 SP-GTET-DSN-SDL-ACRT-CHMICROMicrolog_IQ_5_main_lib

5 INCH MAIN LOG

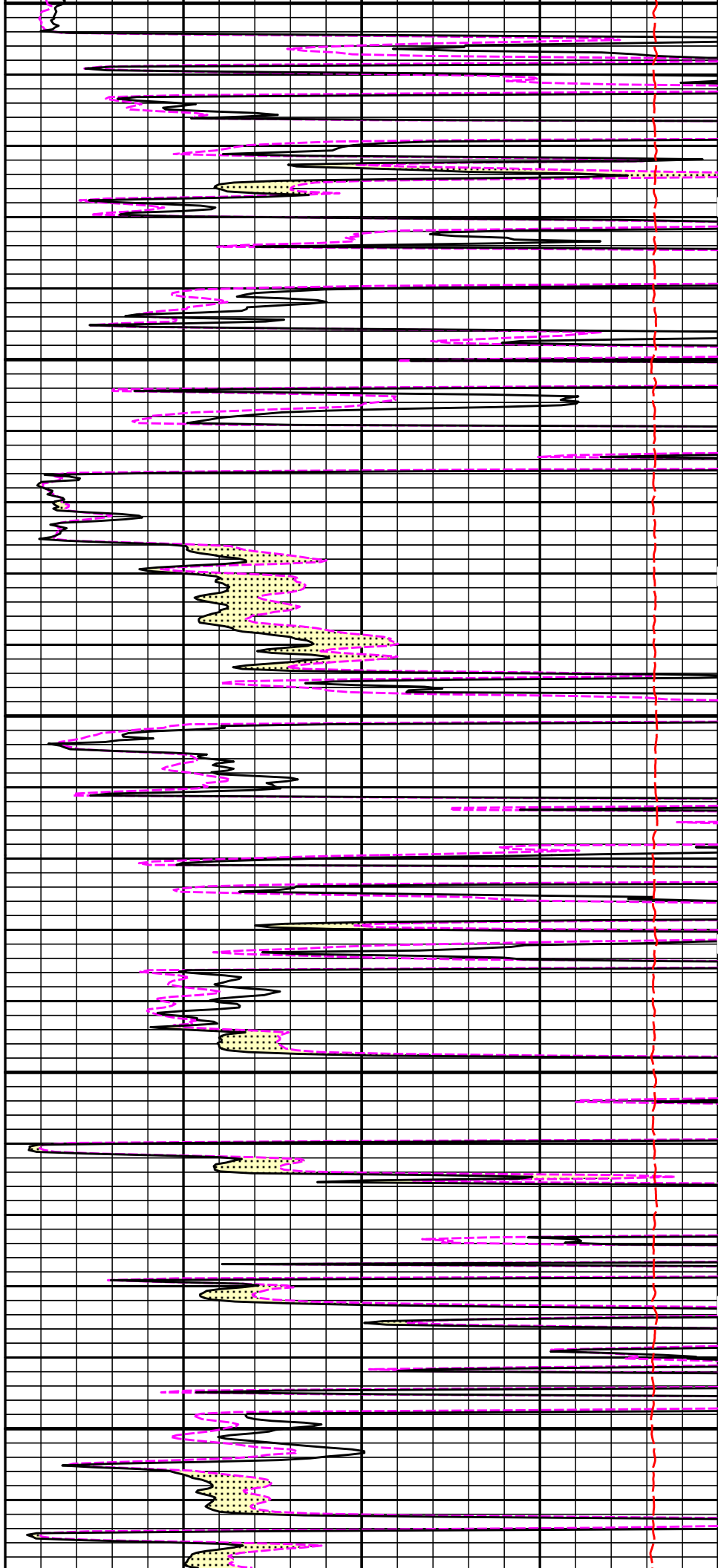


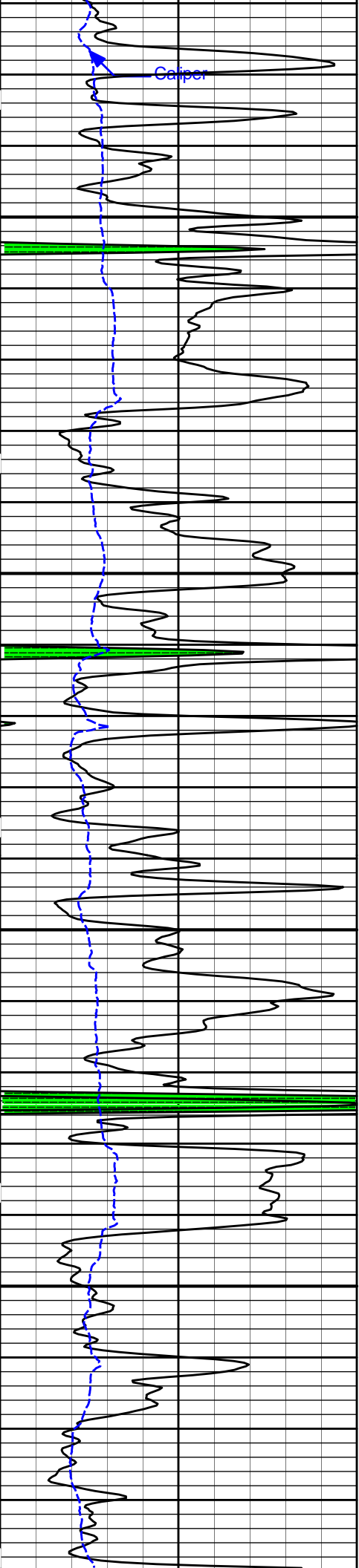


3400

3500

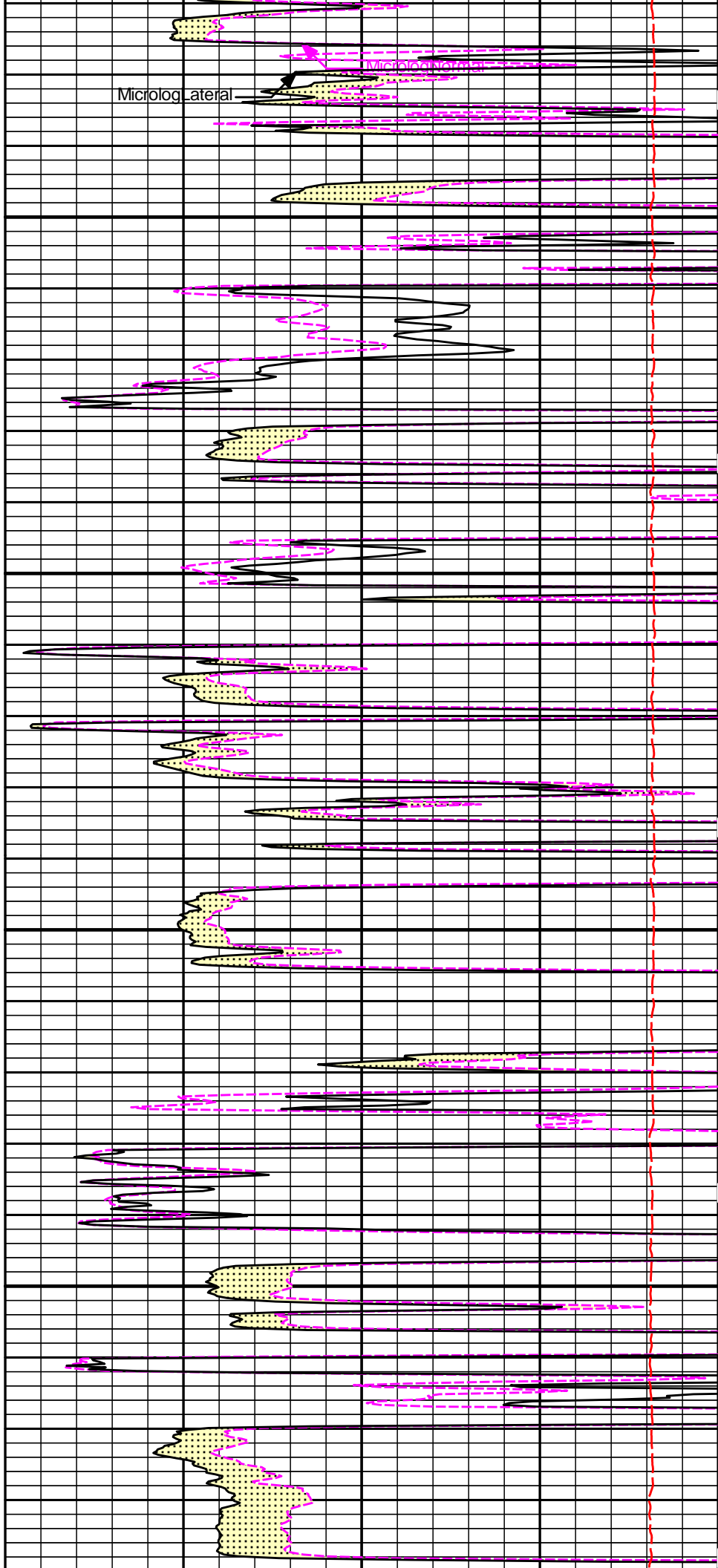
Gamma API

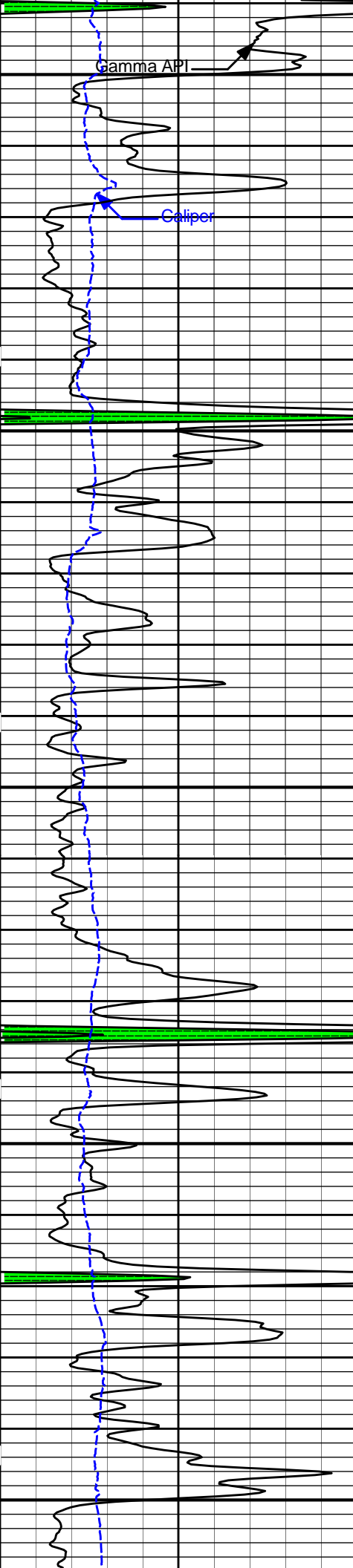




3600

3700

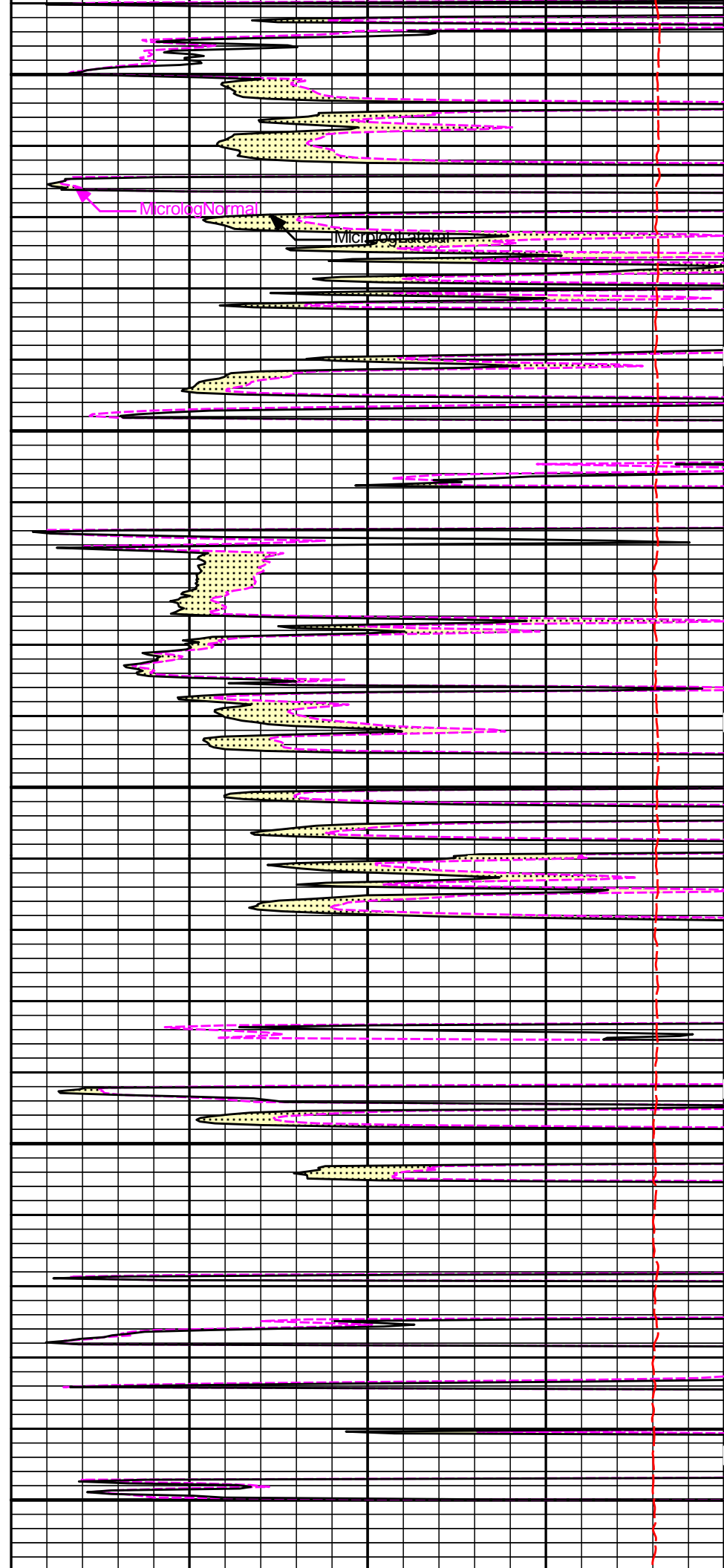


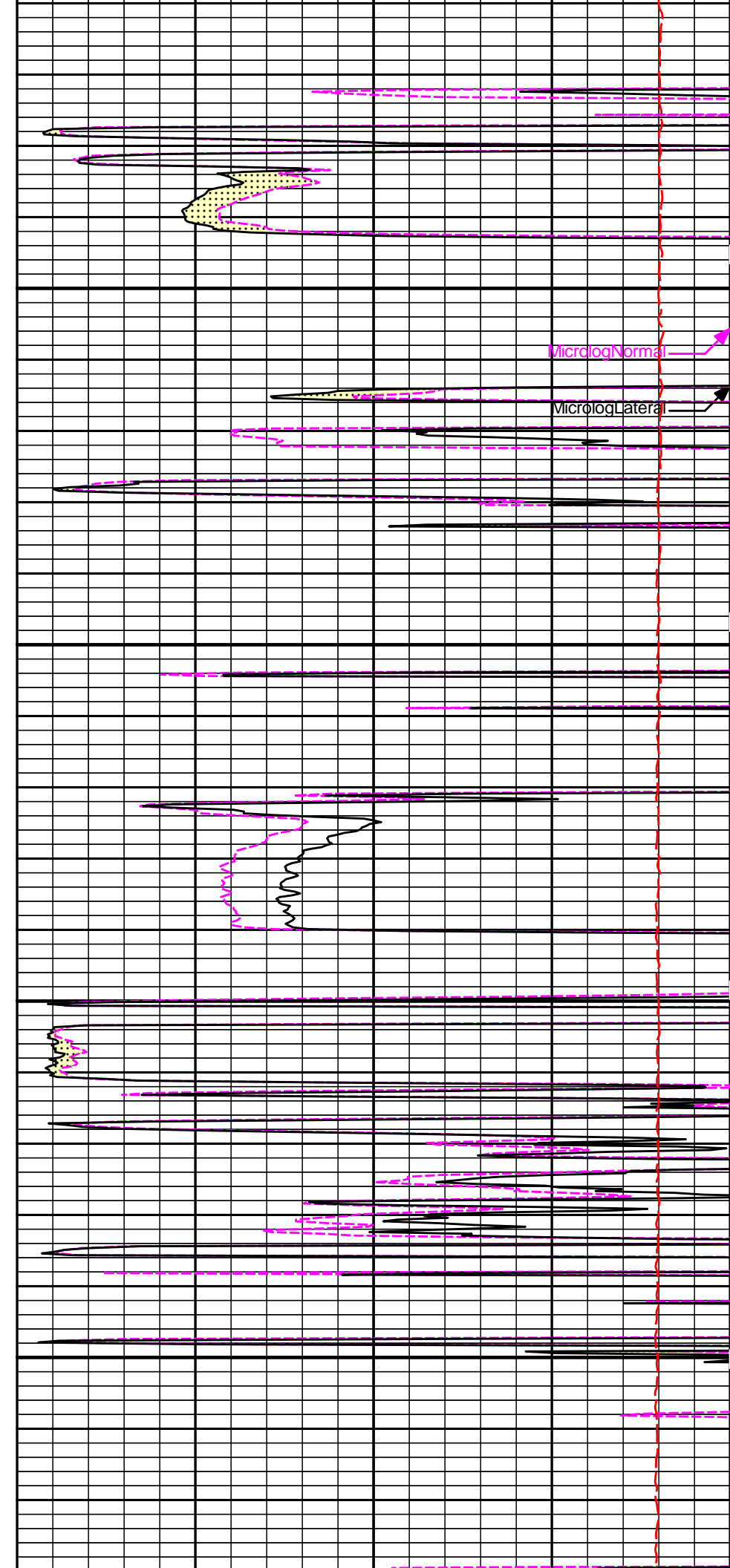
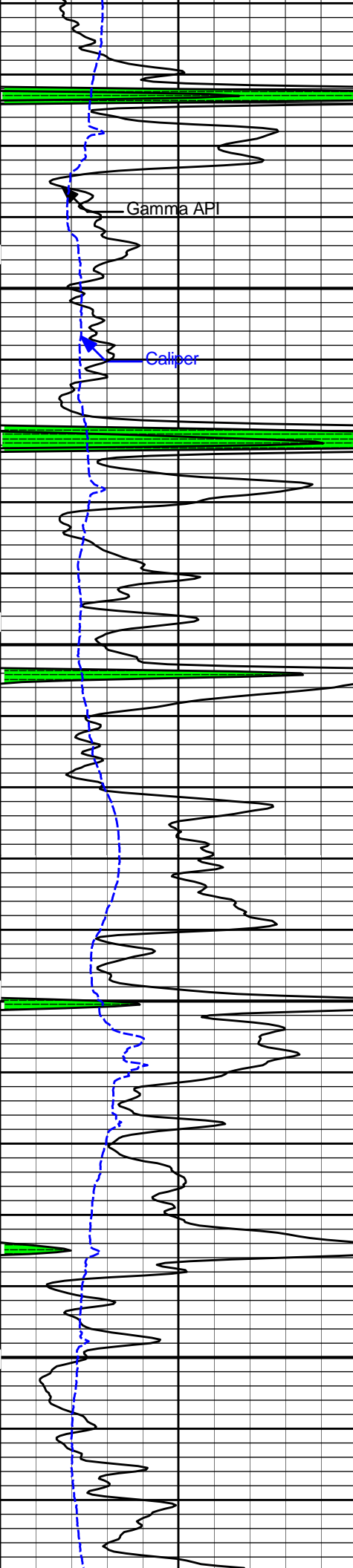


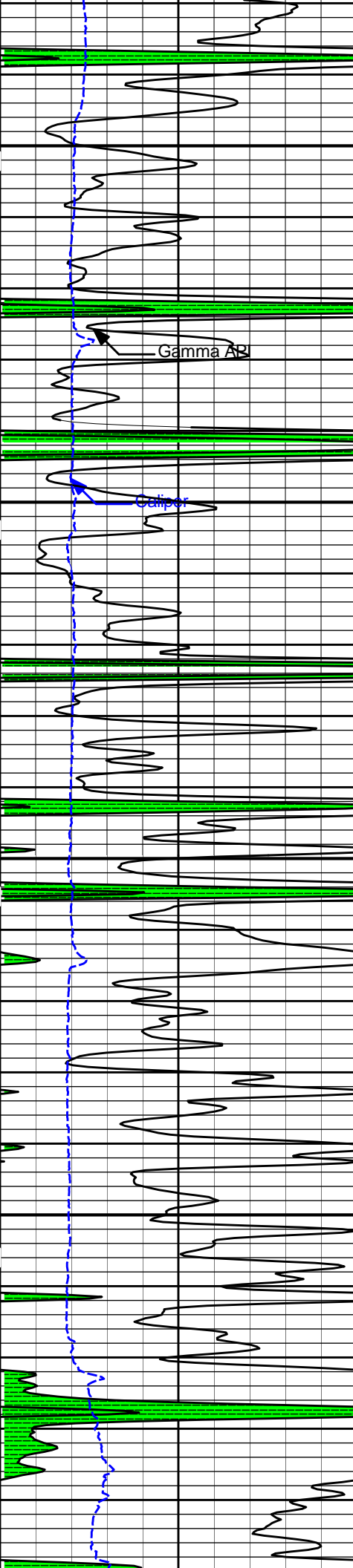
3800

3900

4000

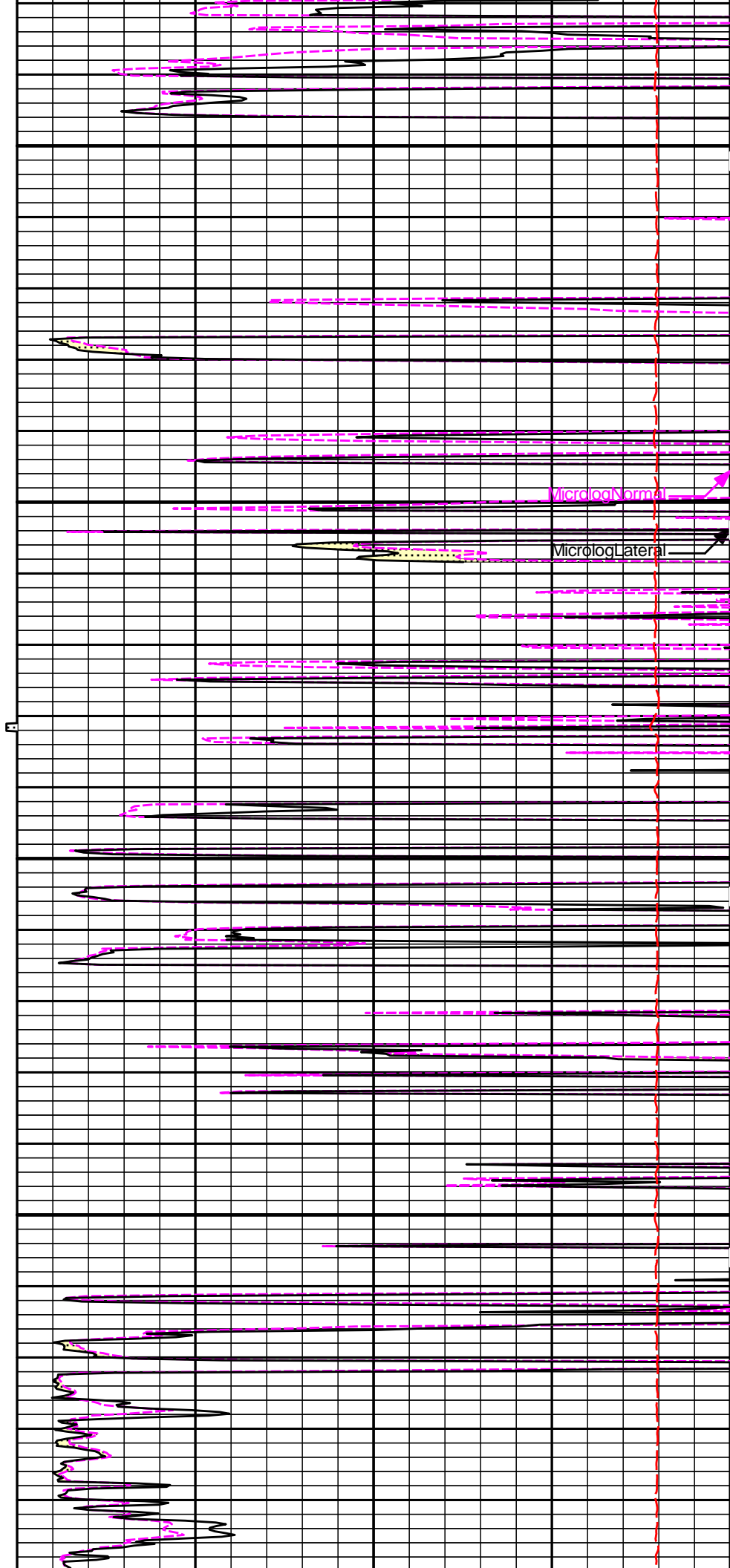


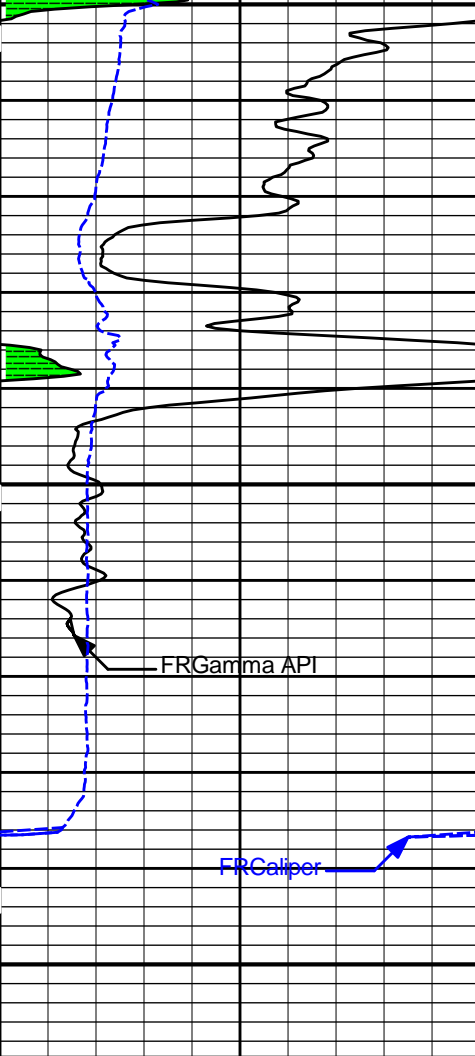




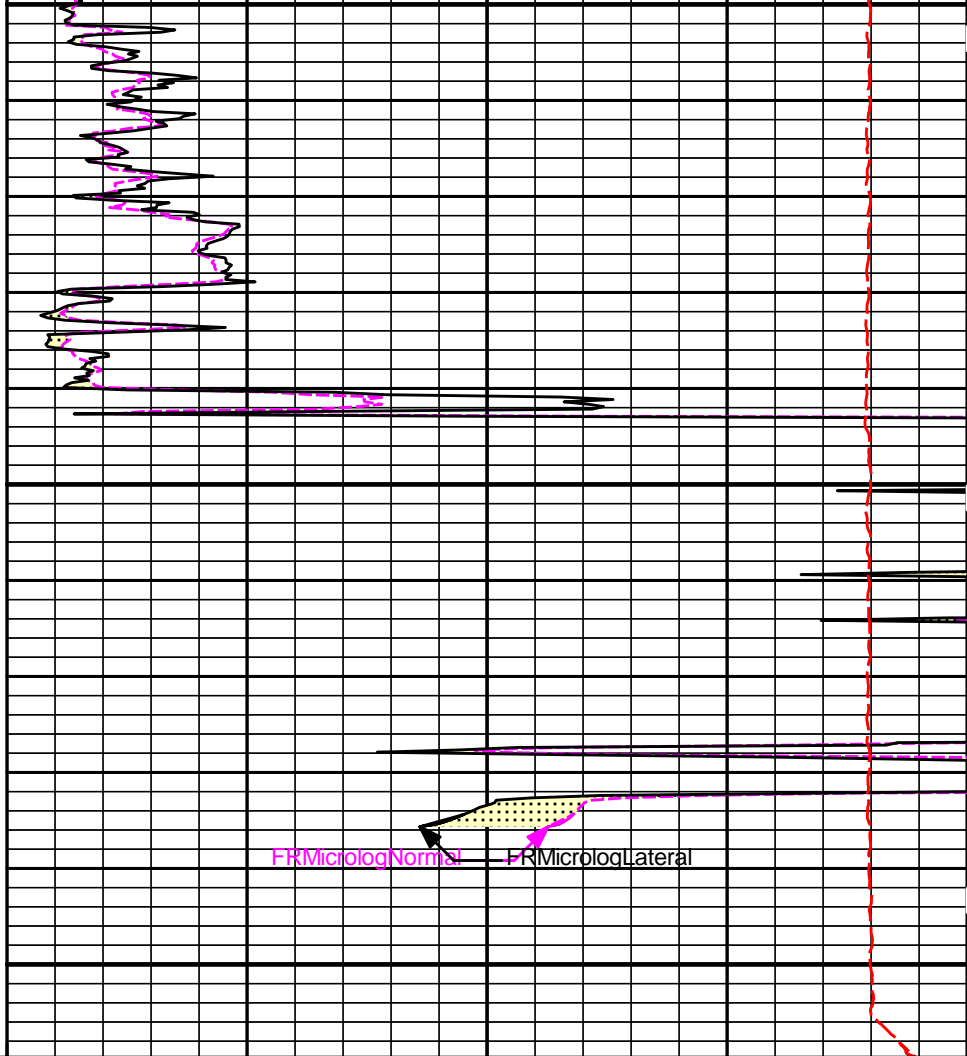
4300

4400





4500



6	Caliper	16	MD	1 : 240	15K	Tension	0
	inches		ft			pounds	
0	Gamma API	150	Tension Pull	10	0	MicrologLateral	20
	api					ohm-metre	
	SHALE		Tension Pull	0		MicrologNormal	20
						ohm-metre	
						PERMEABLE	

HALLIBURTON

Plot Time: 25-Mar-13 09:45:11
 Plot Range: 3300 ft to 4559.67 ft
 Data: LPR_1_23\Well Based\DETAIL\
 Plot File: \\-LOCAL-LPR_1_23\0001 SP-GTET-DSN-SDL-ACRT-CHMICROMicrolog_IQ_5_main_lib

5 INCH MAIN LOG

HALLIBURTON

Plot Time: 25-Mar-13 09:45:12
 Plot Range: 4300 ft to 4560.92 ft
 Data: LPR_1_23\Well Based\REPEAT\
 Plot File: \\-LOCAL-LPR_1_23\0001 SP-GTET-DSN-SDL-ACRT-CHMICROMicrolog_IQ_5_rep_lib

REPEAT SECTION

	PERMEABLE
--	-----------

SHALE

Gamma API 150

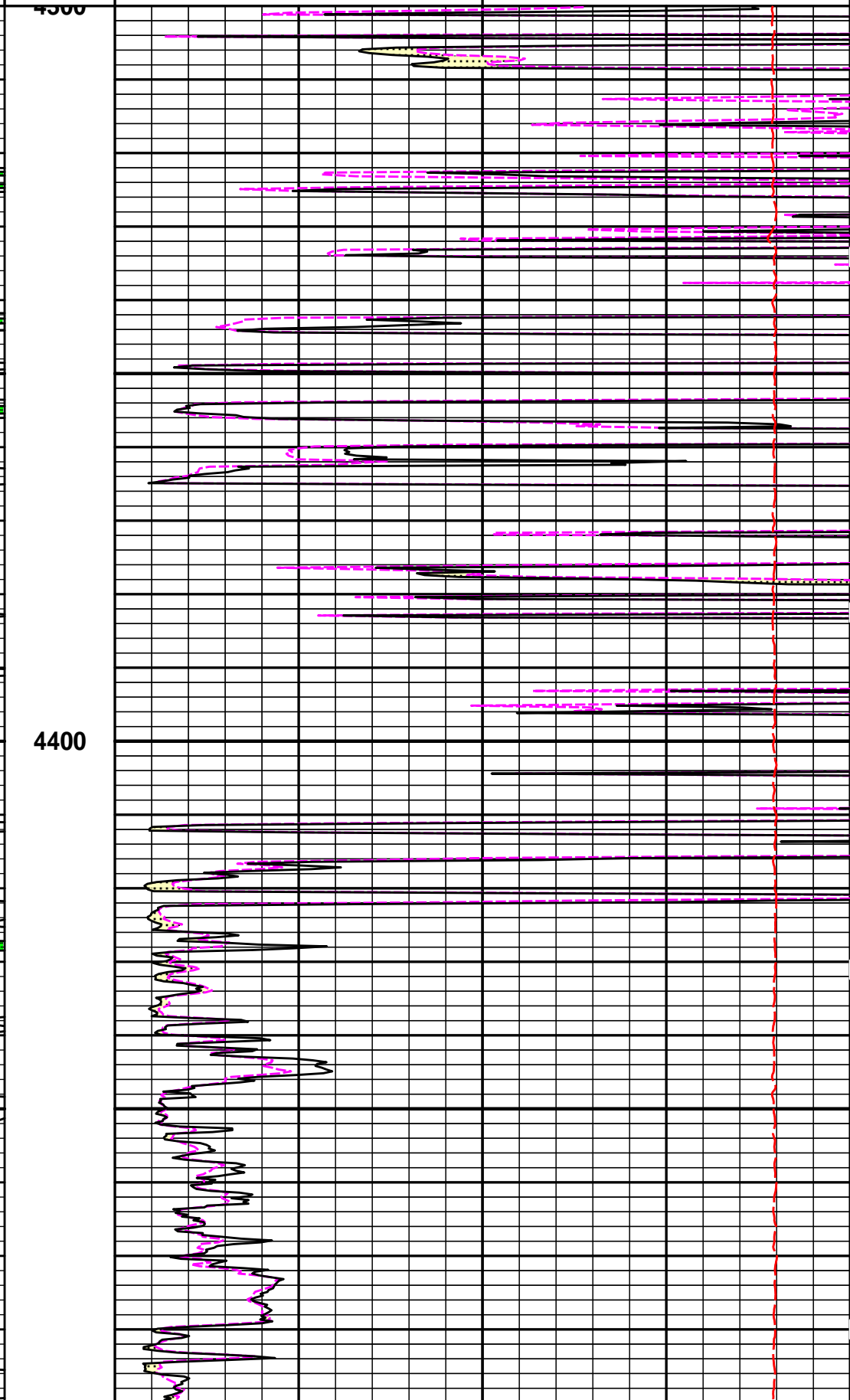
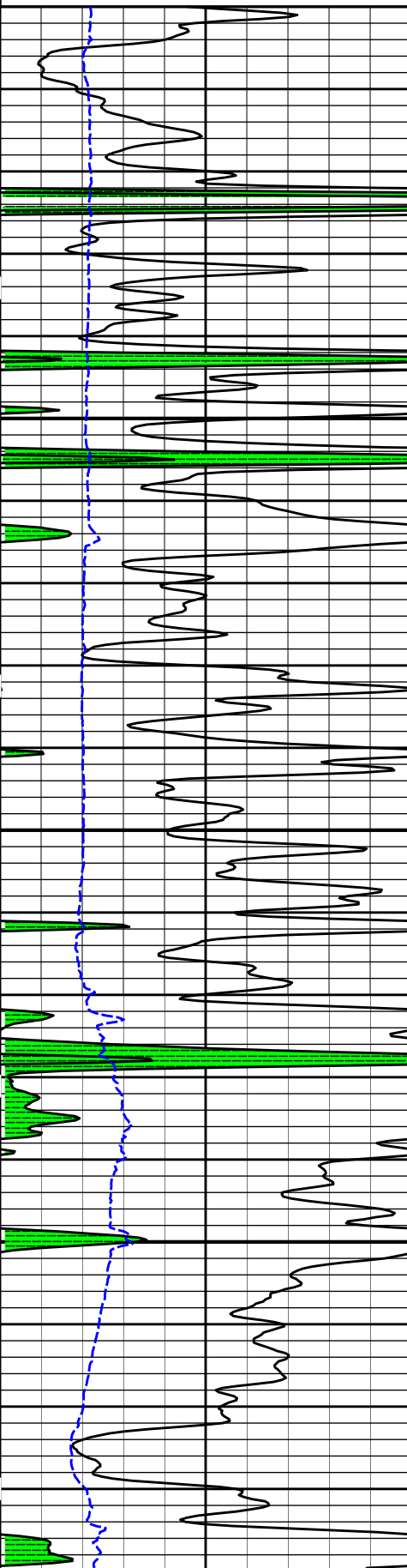
api

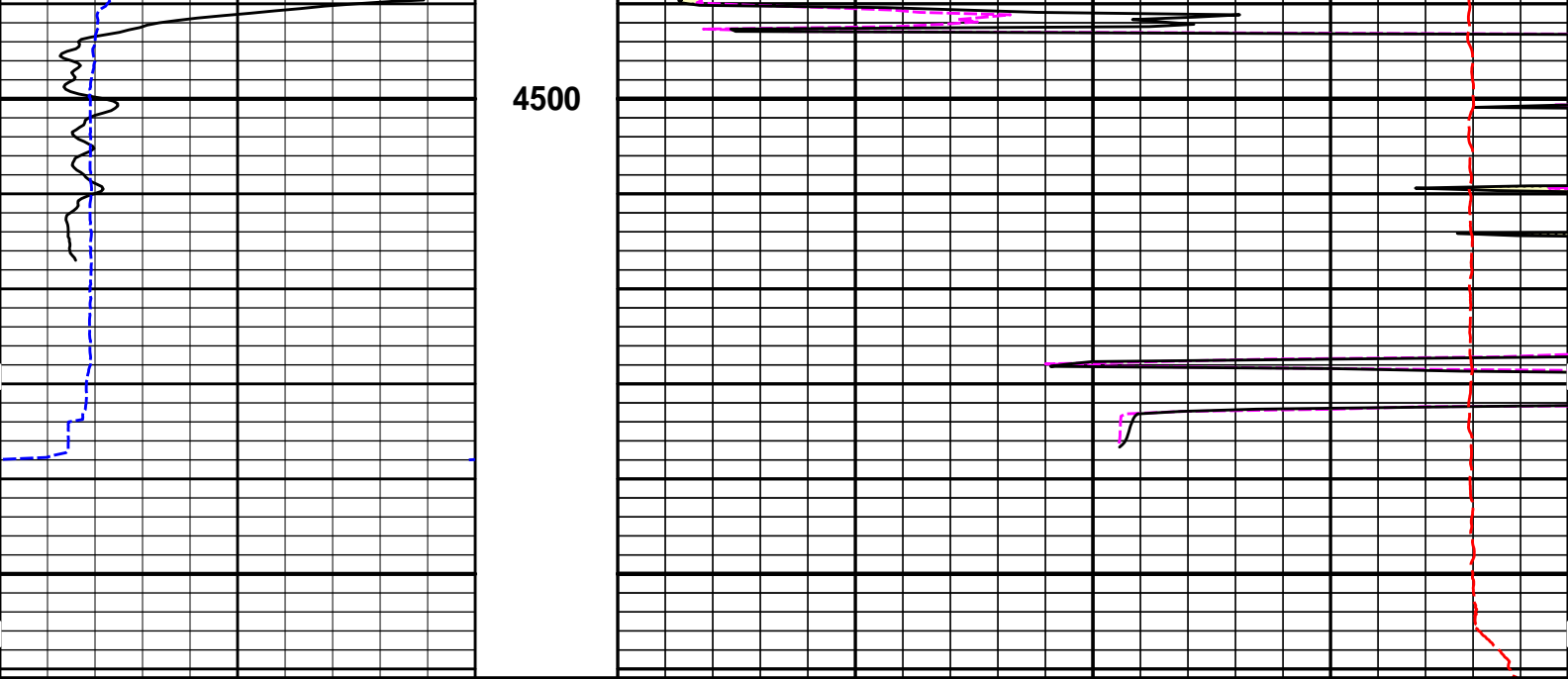
Caliper inches 16

0 MicrologNormal ohm-metre 20

0 MicrologLateral ohm-metre 20

15K Tension pounds 0





6	Caliper	16	MD 1 : 240 ft	15K	Tension	0
	inches					pounds
0	Gamma API	150		0	MicrologLateral	20
	api				ohm-metre	
	SHALE			0	MicrologNormal	20
					ohm-metre	
					PERMEABLE	

HALLIBURTON

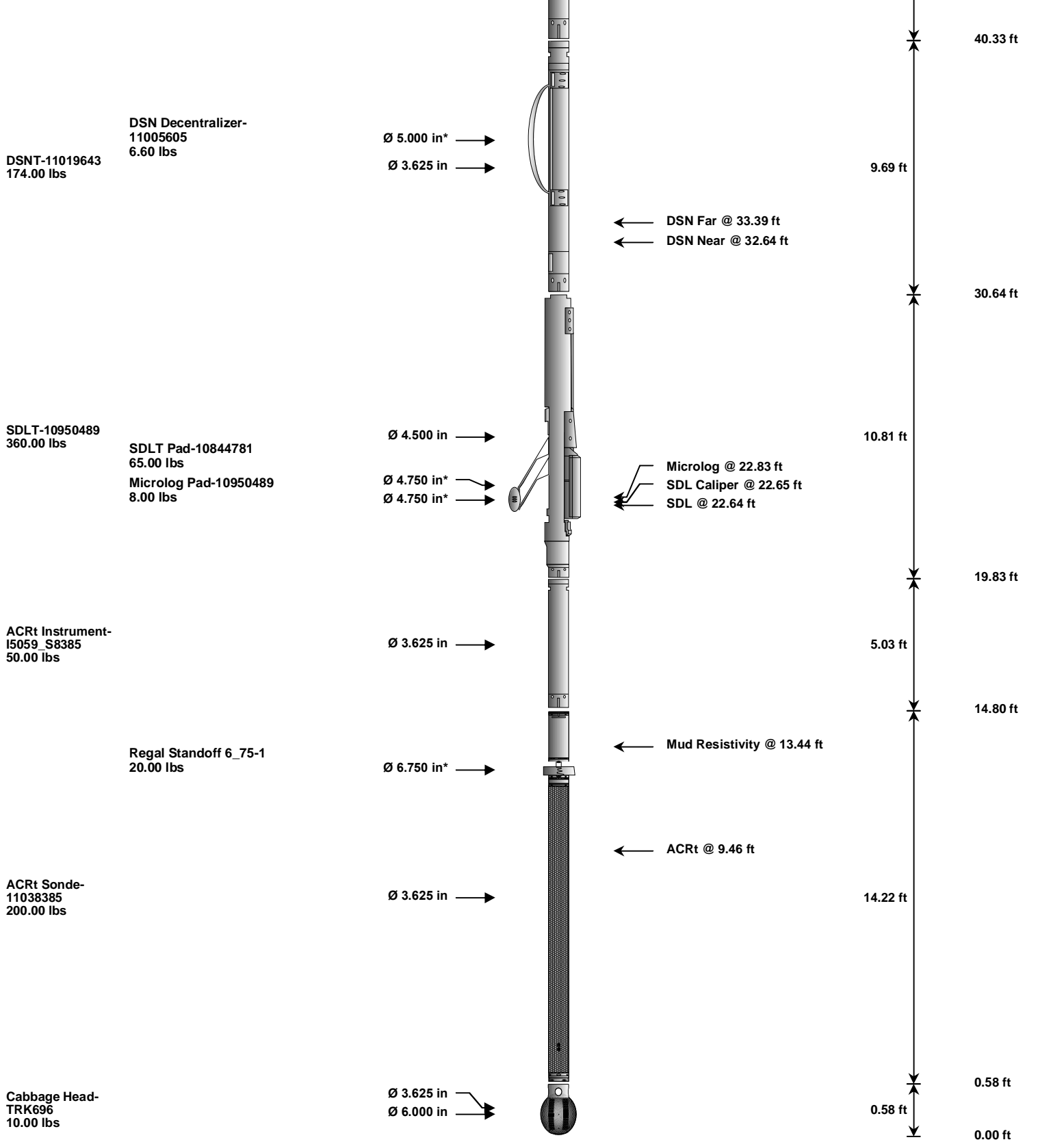
Plot Time: 25-Mar-13 09:45:13
 Plot Range: 4300 ft to 4560.92 ft
 Data: LPR_1_23\Well Based\REPEAT\
 Plot File: \\-LOCAL-LPR_1_23\0001 SP-GTET-DSN-SDL-ACRT-CH\MICROMicrolog_IQ_5_rep.lib

REPEAT SECTION

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
Cable Head- PROT01 30.00 lbs		Ø 3.625 in →			1.92 ft	54.51 ft
SP Sub-11441455 60.00 lbs		Ø 3.625 in →		← SP @ 50.81 ft	3.74 ft	52.59 ft
GTET-11048627 165.00 lbs		Ø 3.625 in →		← GammaRay @ 42.79 ft	8.52 ft	48.85 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	52.59	300.00
SP	SP Sub	11441455	60.00	3.74	48.85	300.00
GTET	Gamma Telemetry Tool	11048627	165.00	8.52	40.33	60.00
DSNT	Dual Spaced Neutron	11019643	174.00	9.69	30.64	60.00
DCNT	DSN Decentralizer	11005605	6.60	5.13 *	33.97	300.00
SDLT	Spectral Density Tool	10950489	360.00	10.81	19.83	60.00
SDLP	Density Insite Pad	10844781	65.00	2.55 *	22.04	60.00
MICP	Microlog Pad	10950489	8.00	1.00 *	22.33	60.00
ACRt	Array Compensated True Resistivity Instrument Section	15059_S8385	50.00	5.03	14.80	300.00
ACRt	Array Compensated True Resistivity Sonde Section	11038385	200.00	14.22	0.58	300.00
RSOF	Regal Standoff 6.75in	1	20.00	0.52 *	12.30	300.00

Total	1,148.60	54.51
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* Not included in Total Length and Length Accumulation.

Data: LPR_1_23\0001 SP-GTET-DSN-SDL-ACRT-CHNDLE Date: 25-Mar-13 08:02:35

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION			
Tool Name:	GTET - 11048627	Reference Calibration Date:	13-Feb-13 14:00:35
Engineer:	J. BOLLLOM	Calibration Date:	05-Mar-13 09:33:28
Software Version:	WL INSITE R3.8.0 (Build 2)	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	50.6	51.6	api
Background + Calibrator	315.2	321.3	api
Calibrator	264.6	269.6	api

MICRO LOG SHOP CALIBRATION			
Tool Name:	Microlog Pad - 10950489	Reference Calibration Date:	17-Jan-13 13:52:20
Engineer:	J. BOLLLOM	Calibration Date:	07-Mar-13 09:35:23
Software Version:	WL INSITE R3.8.0 (Build 2)	Calibration Version:	1
Host Tool Name:	DSNT - 11019643		

CALIBRATION COEFFICIENT SUMMARY					
Measurement	Micro Log Normal		Micro Log Lateral		Units
	Measured	Calibrated	Measured	Calibrated	
Tool Zero	-0.05	-0.10	-0.01	-0.00	ohmm
Calibration Point #1	0.05	0.00	-0.01	0.00	ohmm
Calibration Point #2	19.96	20.00	19.94	20.00	ohmm
Internal Reference	19.89	19.94	19.94	20.00	ohmm

Measurement	Micro Log Normal Tool Value	Micro Log Lateral Tool Value	Units
Tool Zero	0.36	-0.01	V
Calibration Point #1	26.71	0.86	V
Calibration Point #2	5346.91	6994.38	V
Internal Reference	5330.65	6995.97	V

CALIBRATION SUMMARY						
Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11048627						
Gamma Ray Calibrator	269.6	-----	-----	0.0	+/- 9.00	api
Microlog Pad-10950489						
MicroLog Normal	19.94	-----	-----	0.00	-----	ohmm
MicroLog Lateral	20.00	-----	-----	0.00	-----	ohmm

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	9.400	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	75.0	degF
	SHARED	CSD	Logging Interval is Cased?	No	
	SHARED	ICOD	AHV Casing OD	5.500	in
	SHARED	ST	Surface Temperature	75.0	degF
	SHARED	TD	Total Well Depth	4550.00	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	
	Microlog Pad	MLOK	Process MicroLog 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
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: LPR_1_23\0001 SP-GTET-DSN-SDL-ACRT-CHNDLE

Date: 25-Mar-13 08:03:53

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	50.81	NO	
SP	Spontaneous Potential	50.81	BLK	1.250
SPR	Raw Spontaneous Potential	50.81	NO	
SPO	Spontaneous Potential Offset	50.81	NO	
GTET				
TPUL	Tension Pull	42.79	NO	
GR	Natural Gamma Ray API	42.79	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API	42.79	NO	
EGR	Natural Gamma Ray API with Enhanced Vertical Resolution	42.79	W	1.416 , 0.750
ACCZ	Accelerometer Z	0.00	BLK	0.083
DEVI	Inclination	0.00	NO	
DSNT				
TPUL	Tension Pull	32.54	NO	
RNDS	Near Detector Telemetry Counts	32.64	BLK	1.417
RFDS	Far Detector Telemetry Counts	33.39	TRI	0.583
DNTT	DSN Tool Temperature	32.64	NO	
DSNS	DSN Tool Status	32.54	NO	
ERND	Near Detector Telemetry Counts EVR	32.64	BLK	0.000
ERFD	Far Detector Telemetry Counts EVR	33.39	BLK	0.000
ENTM	DSN Tool Temperature EVR	32.64	NO	
SDLT				
TPUL	Tension Pull	22.65	NO	
PCAL	Pad Caliper	22.65	TRI	0.250
ACAL	Arm Caliper	22.65	TRI	0.250

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 Current Raw 12K X Receiver	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	

Microlog Pad

TPUL	Tension Pull	22.83	NO	
MINV	Microlog Lateral	22.83	BLK	0.750
MNOR	Microlog Normal	22.83	BLK	0.750

SDLT Pad

TPUL	Tension Pull	22.64	NO	
NAB	Near Above	22.46	BLK	0.920
NHI	Near Cesium High	22.46	BLK	0.920
NLO	Near Cesium Low	22.46	BLK	0.920
NVA	Near Valley	22.46	BLK	0.920
NBA	Near Barite	22.46	BLK	0.920
NDE	Near Density	22.46	BLK	0.920
NPK	Near Peak	22.46	BLK	0.920
NLI	Near Lithology	22.46	BLK	0.920
NBAU	Near Barite Unfiltered	22.46	BLK	0.250
NLIU	Near Lithology Unfiltered	22.46	BLK	0.250
FAB	Far Above	22.81	BLK	0.250
FHI	Far Cesium High	22.81	BLK	0.250
FLO	Far Cesium Low	22.81	BLK	0.250
FVA	Far Valley	22.81	BLK	0.250
FBA	Far Barite	22.81	BLK	0.250
FDE	Far Density	22.81	BLK	0.250
FPK	Far Peak	22.81	BLK	0.250
FLI	Far Lithology	22.81	BLK	0.250
PTMP	Pad Temperature	22.65	BLK	0.920
NHV	Near Detector High Voltage	22.04	NO	
FHV	Far Detector High Voltage	22.04	NO	
ITMP	Instrument Temperature	22.04	NO	
DDHV	Detector High Voltage	22.04	NO	

Data: LPR_1_23\0001 SP-GTET-DSN-SDL-ACRT-CH\IDLE

Date: 25-Mar-13 08:03:28

COMPANY **LANDMARK RESOURCES INC.**WELL **LPR 1-23**FIELD **WILDCAT**COUNTY **LOGAN**

STATE

KANSAS**HALLIBURTON****MICROLOG**

HALLIBURTON

ARRAY COMPENSATED TRUE RESISTIVITY LOG

LANDMARK RESOURCES INC.
LPR 1-23
WILDCAT
LOGAN
KANSAS

COMPANY **LANDMARK RESOURCES INC.**
WELL **LPR 1-23**
FIELD/BLOCK **WILDCAT**
COUNTY **LOGAN** STATE **KANSAS**

API No. 15-109-21164
Location (SHL) 1194' FNL & 2040' FWL
Sect. 23 Twp. 15S Rge. 33W
Elev. 2772.0 ft
Other Services: DSNT, SDLT, MICROLOG

COMPANY
WELL
FIELD/BLOCK
COUNTY
STATE
Permanent Datum
Log measured from
Drilling measured from
Date
Run No.
Depth - Driller
Depth - Logger
Bottom - Logged Interval
Top - Logged Interval
Casing - Driller
Casing - Logger
Bit Size
Type Fluid in Hole
Density
PH
Source of Sample
Rm @ Meas. Temperature
Rmf @ Meas. Temperature
Rmc @ Meas. Temperature
Source Rmf
Rm @ BHT
Time Since Circulation
Time on Bottom
Max. Rec. Temperature
Equipment Location
Recorded By
Witnessed By

Permanent Datum	GL	Elev.: K.B.	2783.0 ft
Log measured from	KB	D.F.	2782.0 ft
Drilling measured from	KB	G.L.	2772.0 ft
Date	25-Mar-13		
Run No.	ONE		
Depth - Driller	4550.00 ft		
Depth - Logger	4556.0 ft		
Bottom - Logged Interval	4546.0 ft		
Top - Logged Interval	236.0 ft		
Casing - Driller	8.625 in @ 236.0 ft		
Casing - Logger	236.0 ft		
Bit Size	7.875 in @		
Type Fluid in Hole	WATER BASED MUD		
Density	9.4 ppg	61.00 s/qt	
PH	10.50 pH	6.4 cpH	
Source of Sample	MUD PIT		
Rm @ Meas. Temperature	0.430 ohmm @ 75.00 degF		
Rmf @ Meas. Temperature	0.37 ohmm @ 75.00 degF		
Rmc @ Meas. Temperature	0.540 ohmm @ 75.00 degF		
Source Rmf	MEASURED	MEASURED	
Rm @ BHT	0.29 ohmm @ 115.0 degF		
Time Since Circulation	4.0 hr		
Time on Bottom	25-Mar-13 08:09		
Max. Rec. Temperature	115.0 degF @ 4556.0 ft		
Equipment Location	10546696 LIBERAL		
Recorded By	J. BOLLOW		
Witnessed By	T. MCLEOD		

Fold here

Service Ticket No.: 900313230 API Serial No.: 15-109-21164 PGM Version: WL INSITE R3.8.0 (Build 2)

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.		@		@		I5059_S8385			
Source Rmf	Rmc								
Rm @ BHT		@		@					
Rmf @ BHT		@		@					
Rmc @ BHT		@		@					

EQUIPMENT DATA

GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	ONE	Run No.		Run No.		Run No.	
Serial No.	11048627	Serial No.		Serial No.		Serial No.	
Model No.	GTET	Model No.		Model No.		Model No.	
Diameter	3.625"	No. of Cent.		Diameter		Diameter	
Detector Model No.	GTET	Spacing		Log Type		Log Type	
Type	SCINT			Source Type		Source Type	
Length	8'	LSA [Y/N]		Serial No.		Serial No.	
Distance to Source	10'	FWDA [Y/N]		Strength		Strength	

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	4556	236	REC	0	150									

DIRECTIONAL INFORMATION

Maximum Deviation @ KOP @

Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 5.5-INCH CASING
 CHLORIDES REPORTED AT 4000 MG/L
 LCM REPORTED AT 3 LB/BBL
 GTET-DSNT-SDLT-ACRT RUN IN COMBINATION

TODAY'S CREW: F. VILLA & B. TERRELL
 THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES LIBERAL, KS. 620-624-8123

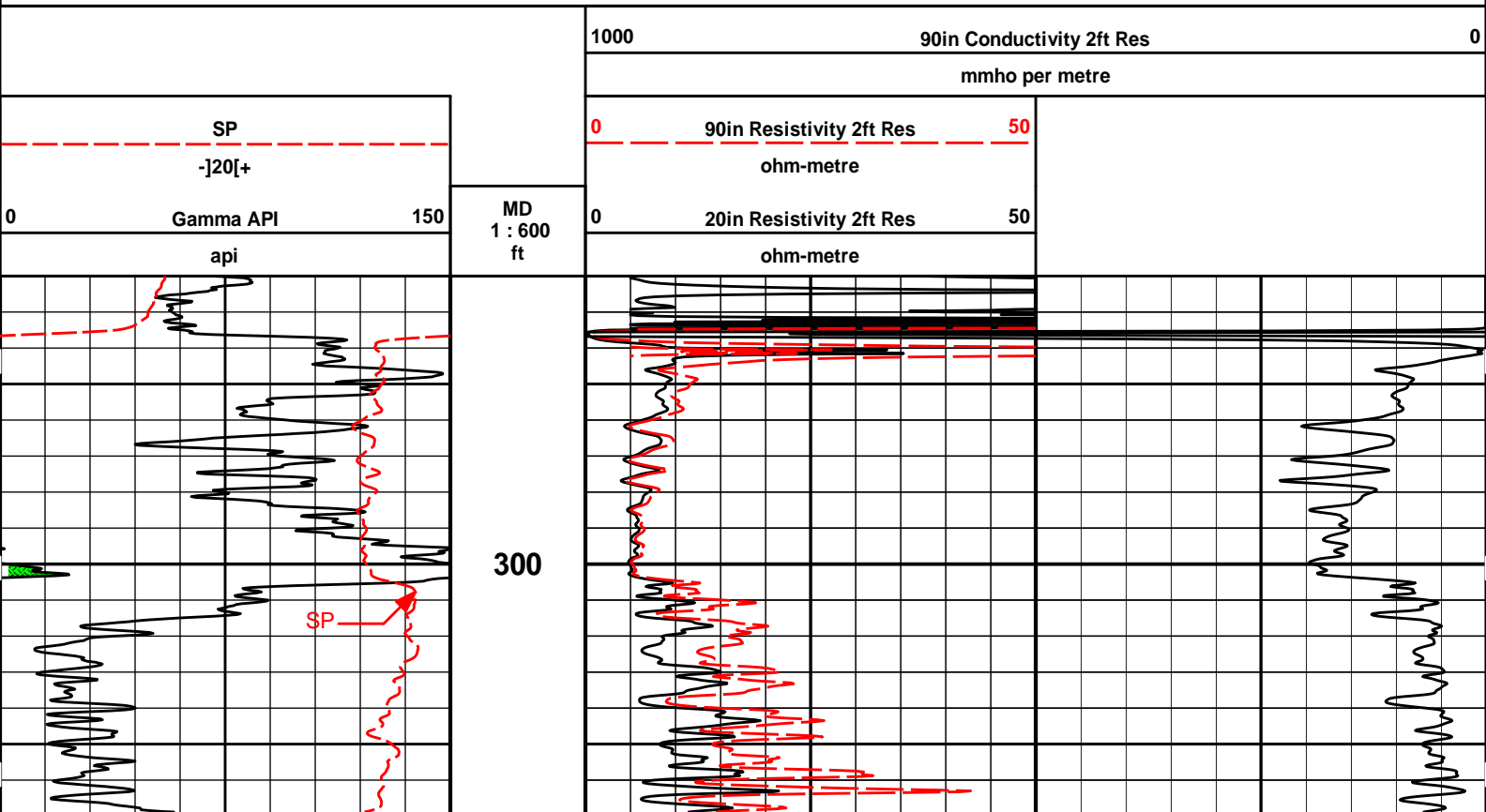
HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR 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.

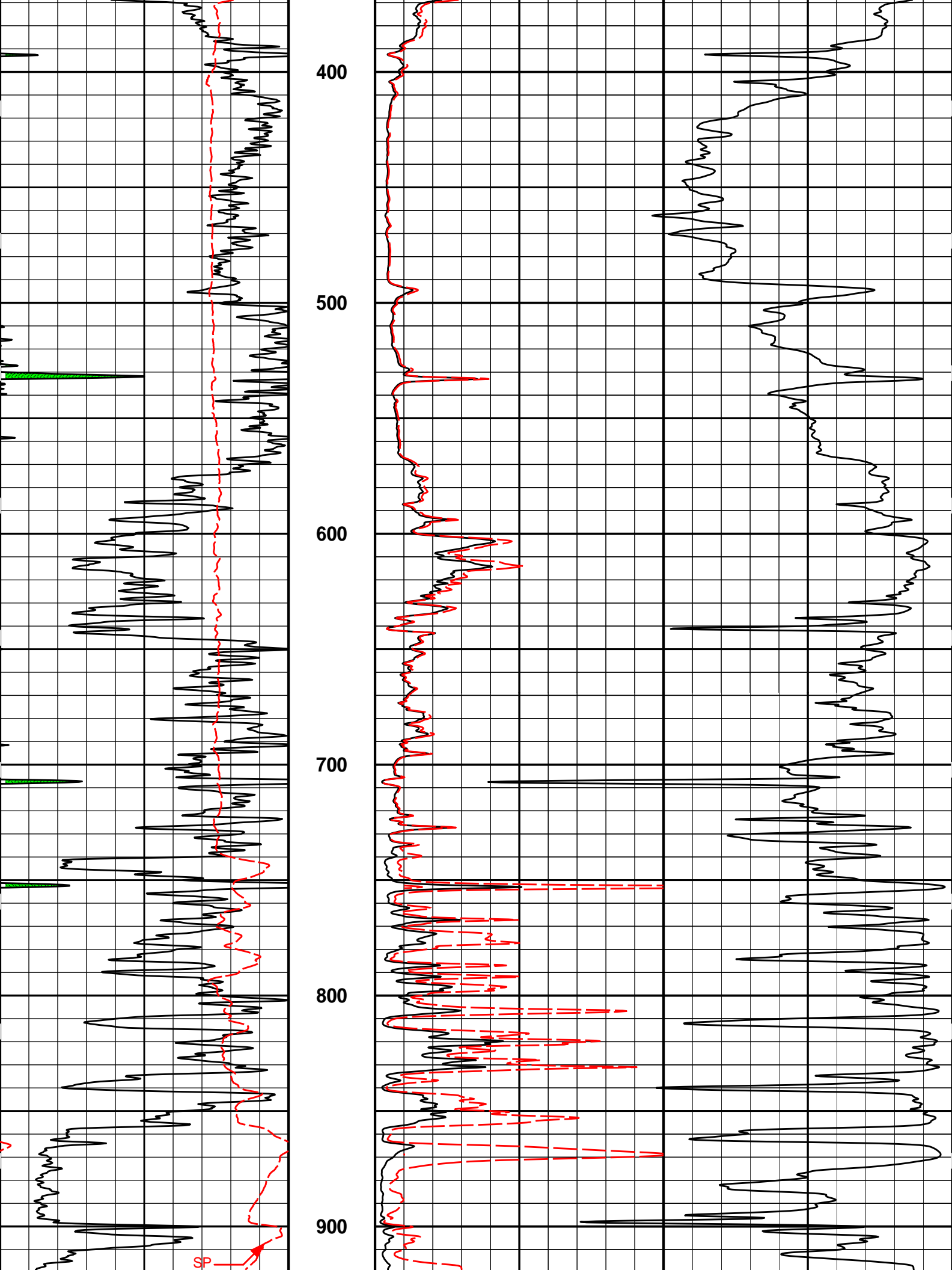
HALLIBURTON

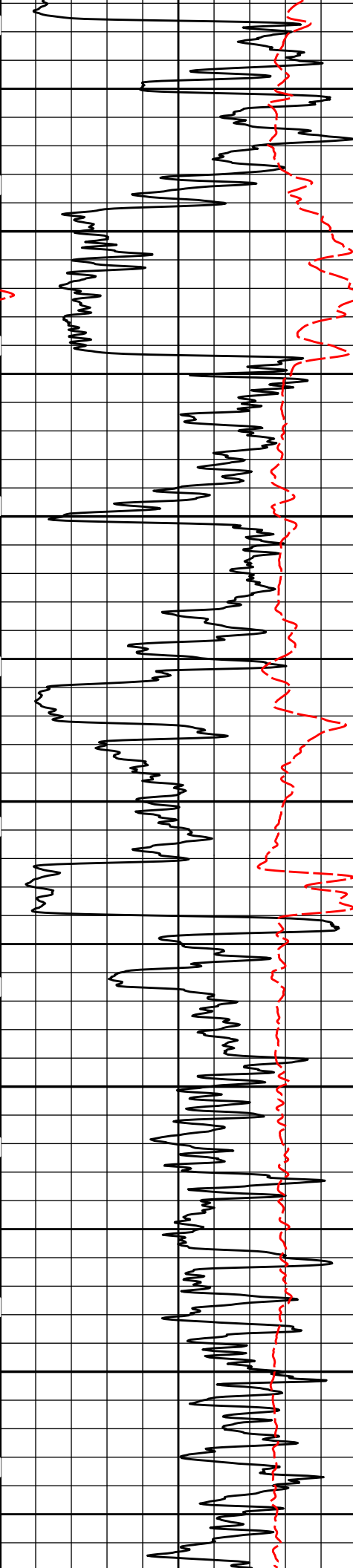


Plot Time: 25-Mar-13 10:24:59
 Plot Range: 220 ft to 4559.67 ft
 Data: LPR_1_23\Well Based\CASING\
 Plot File: \\-LOCAL-LPR_1_23\0001 SP-GTET-DSN-SDL-ACRT-CHACRT\ACRT_2_lib

2 INCH MAIN LOG







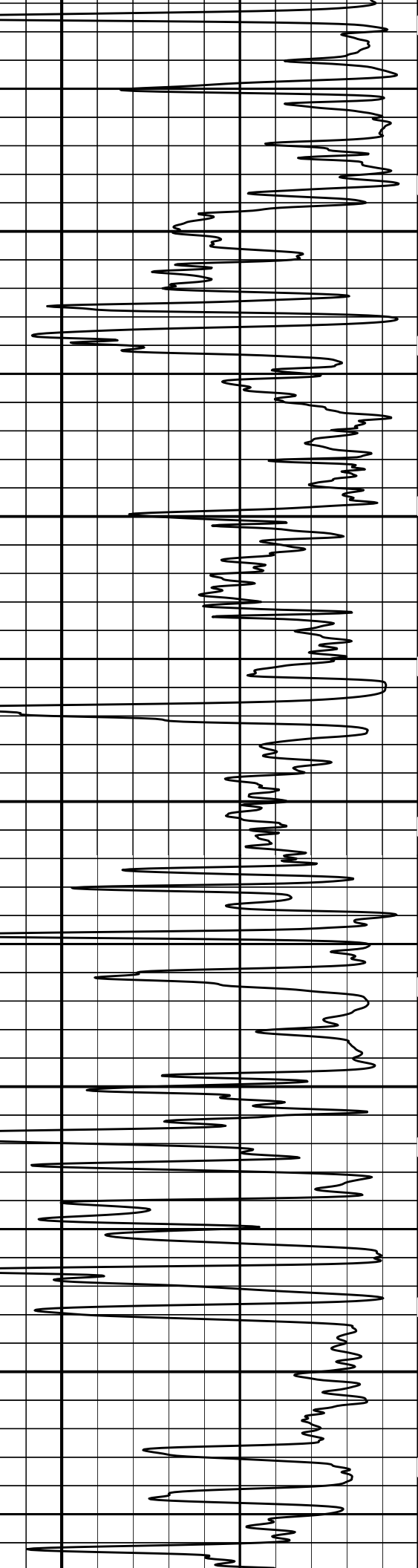
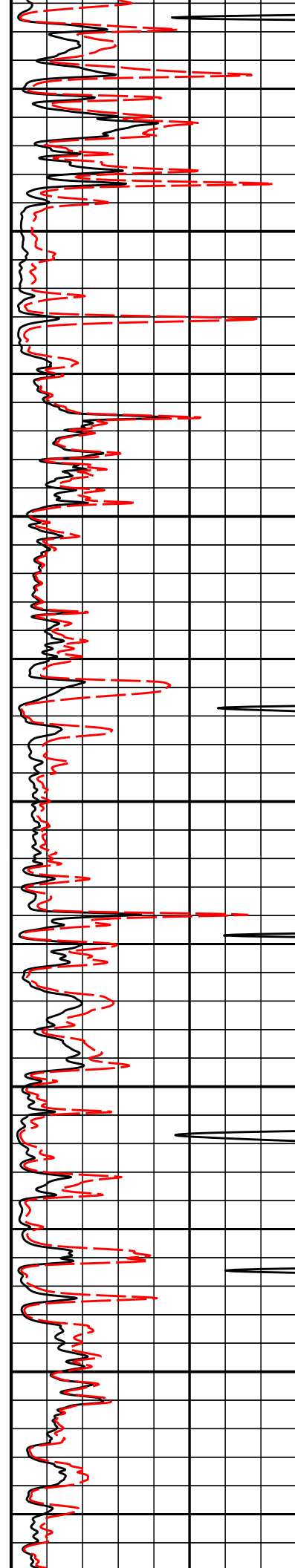
1000

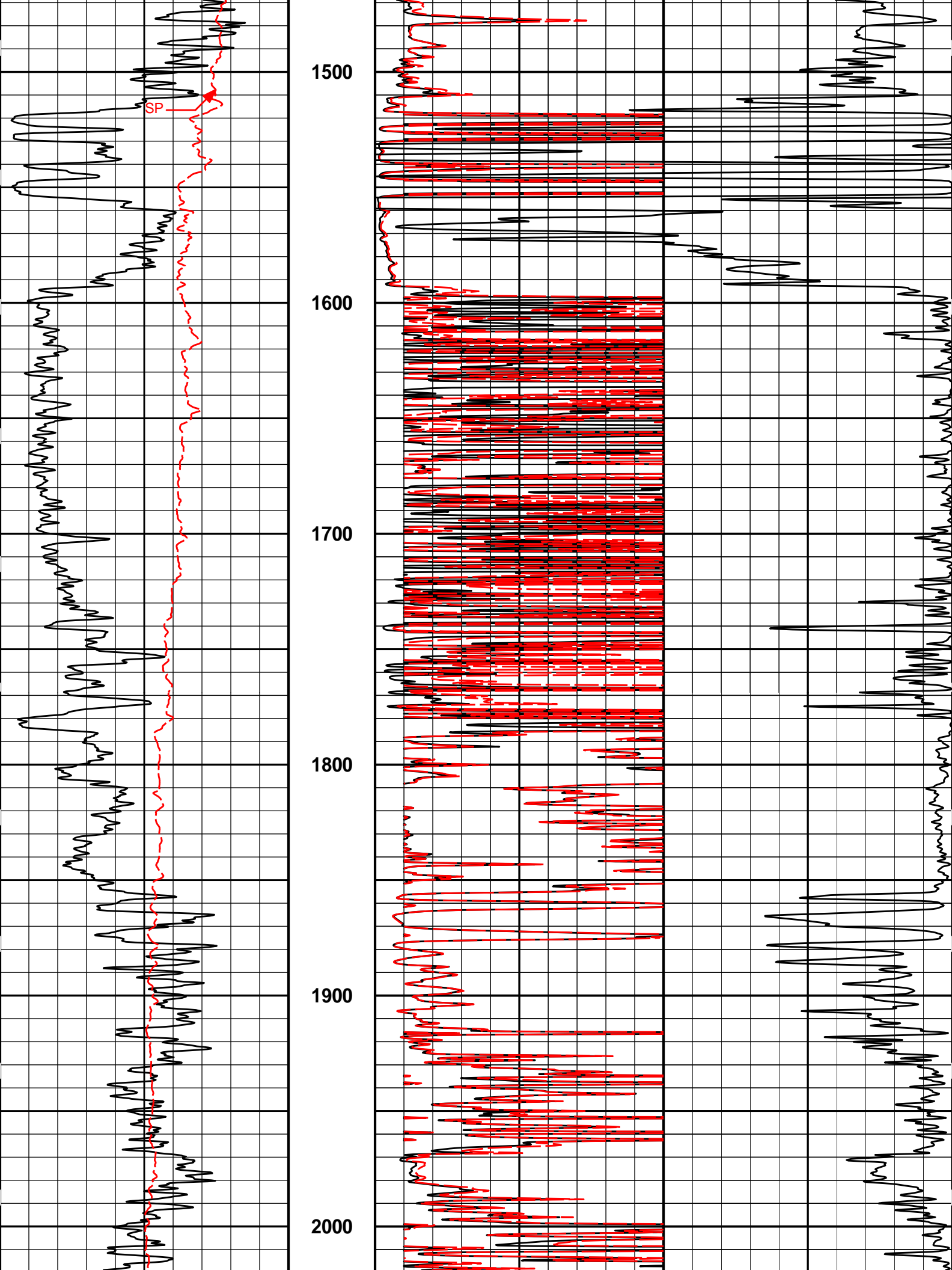
1100

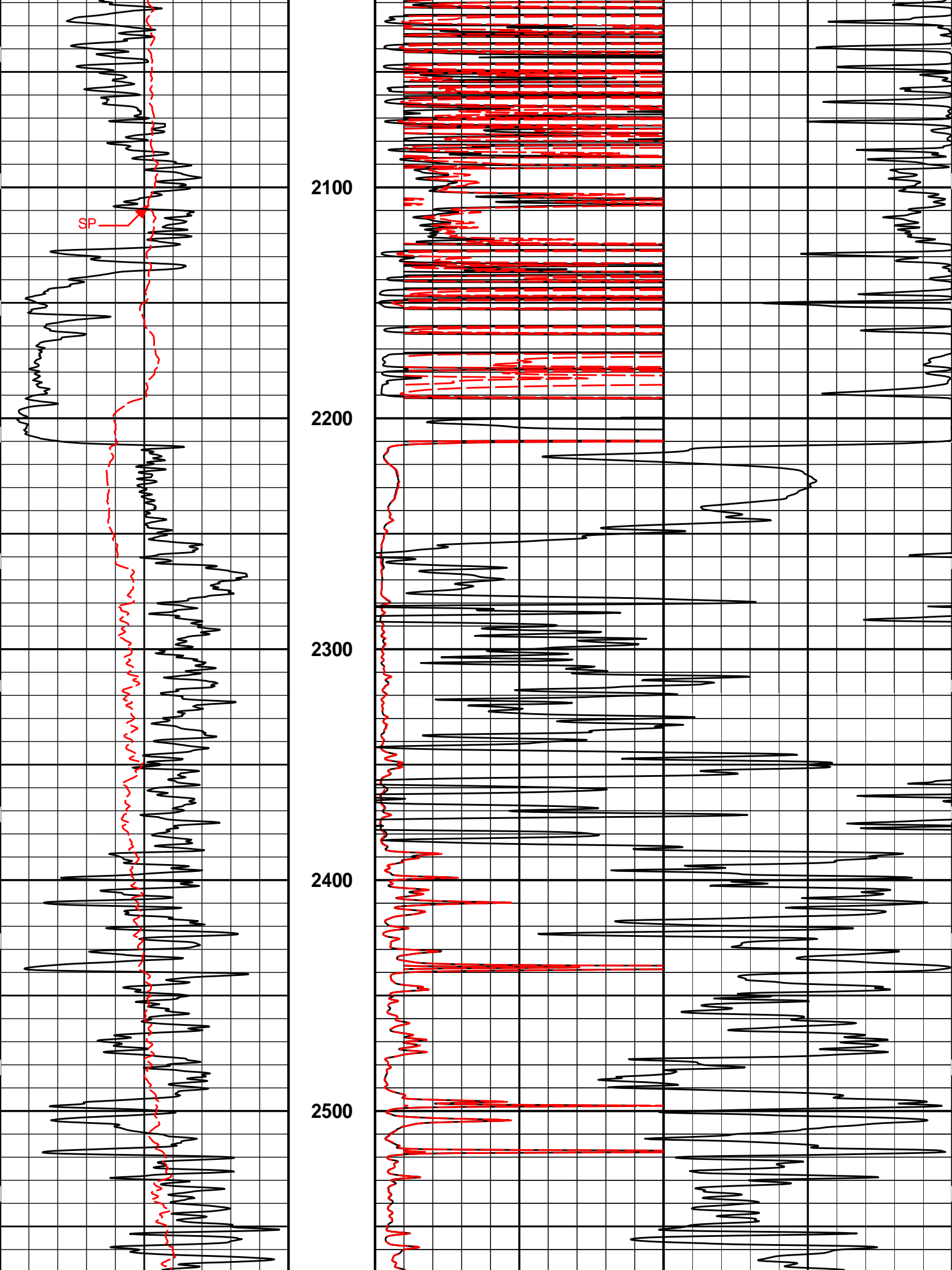
1200

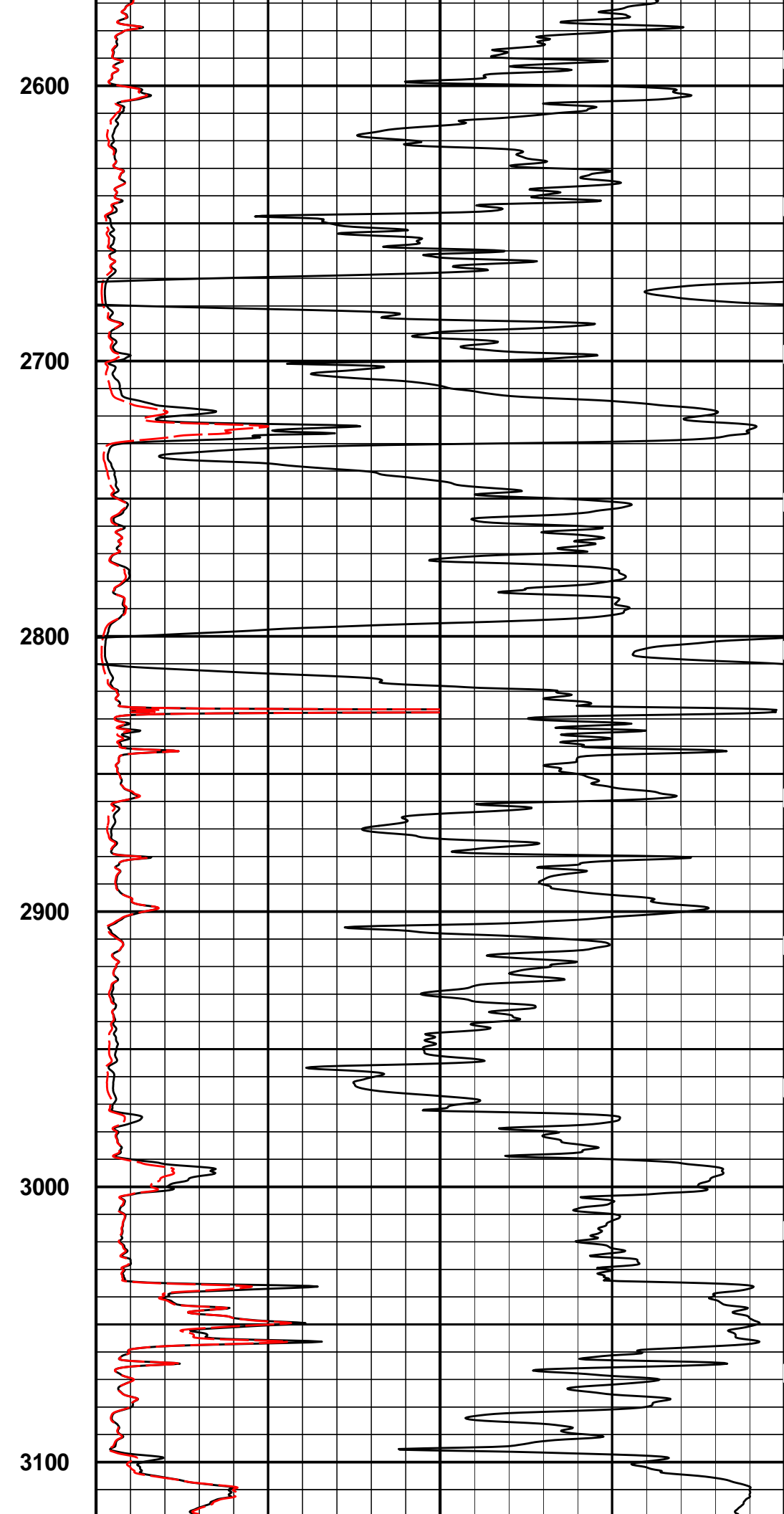
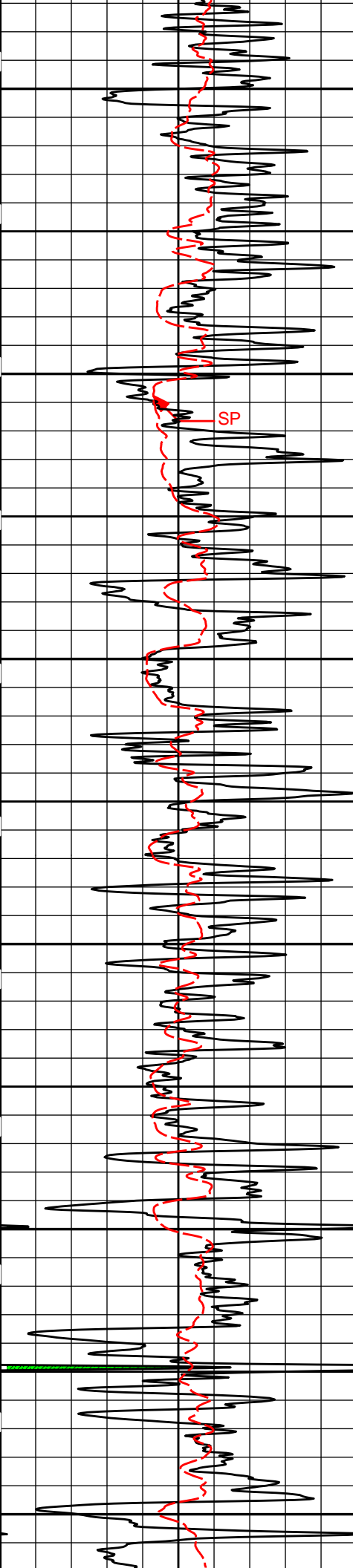
1300

1400









2600

2700

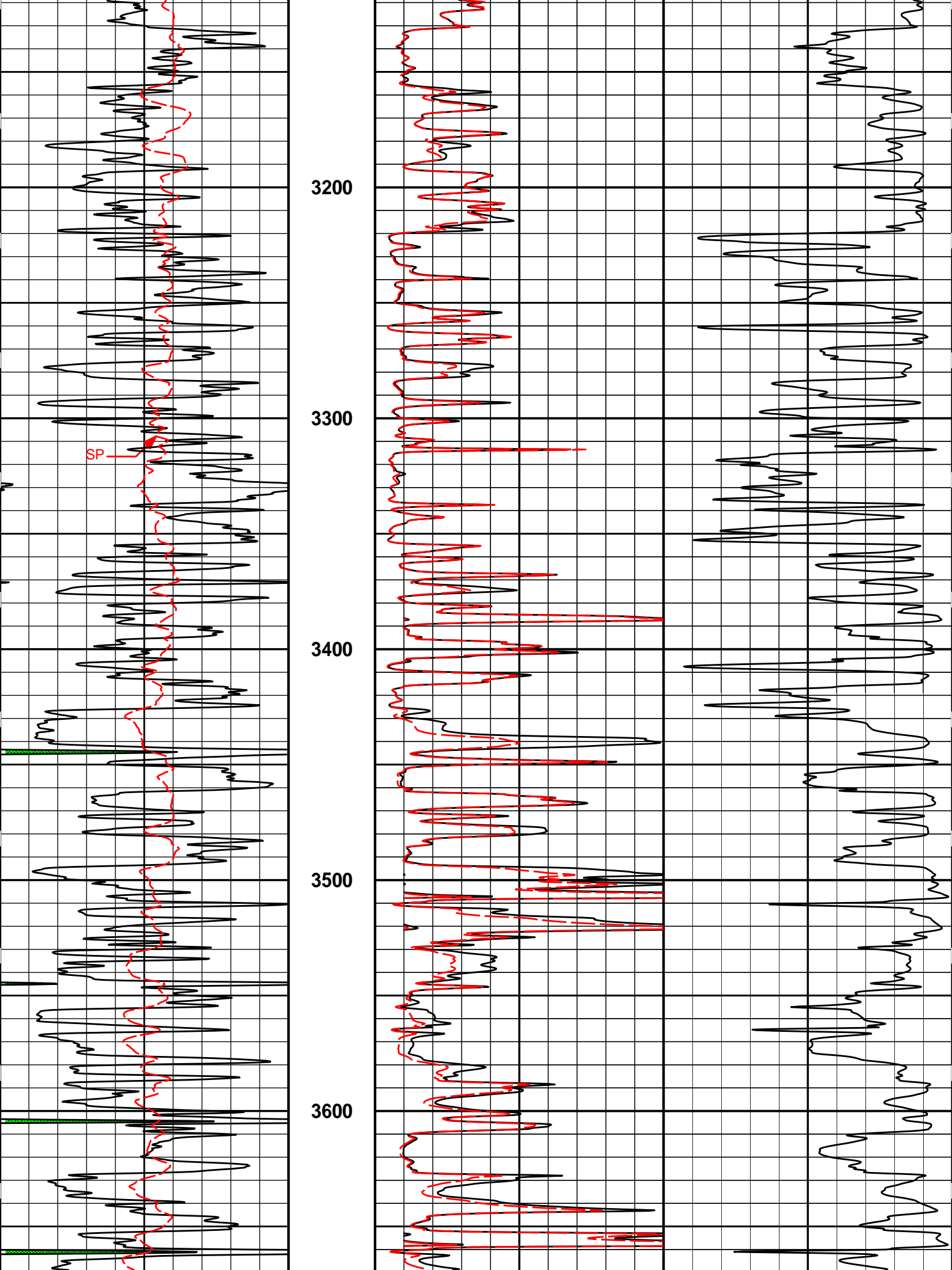
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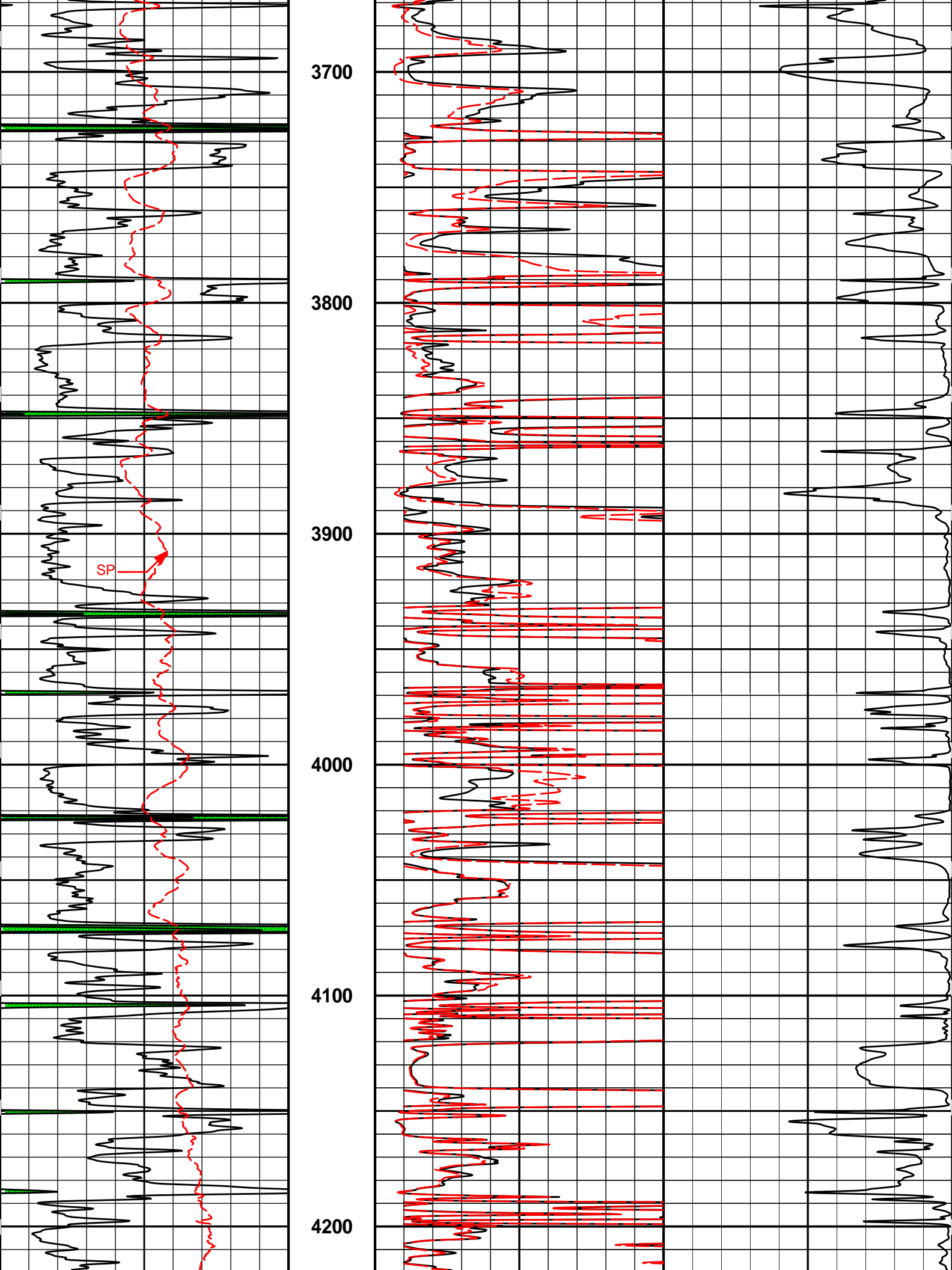
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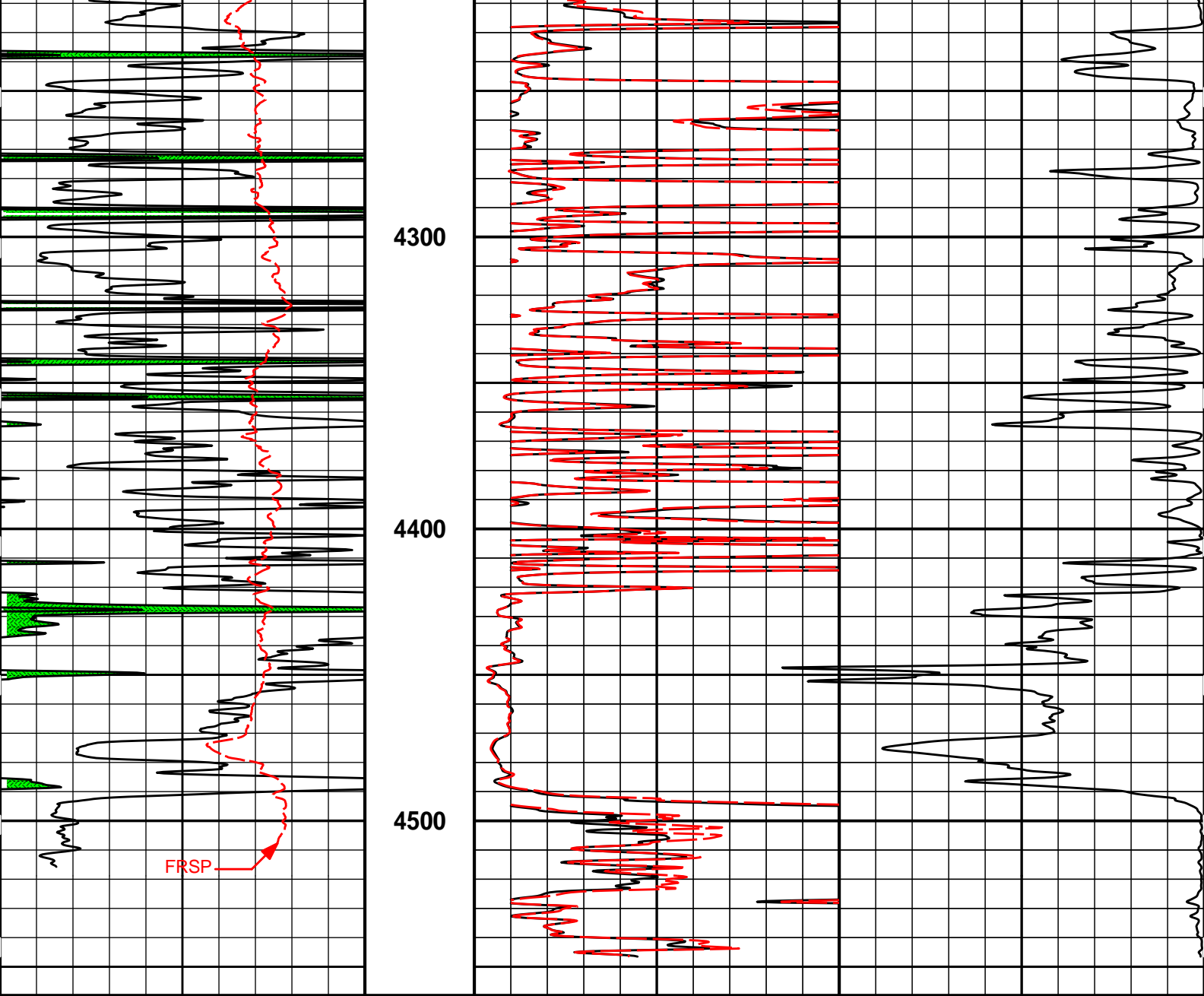
3000

3100

SP







0	Gamma API	150	MD	0	20in Resistivity 2ft Res	50
	api		1 : 600		ohm-metre	
	SP		ft			
	-]20[+			0	90in Resistivity 2ft Res	50
					ohm-metre	
				1000	90in Conductivity 2ft Res	0
					mmho per metre	

HALLIBURTON

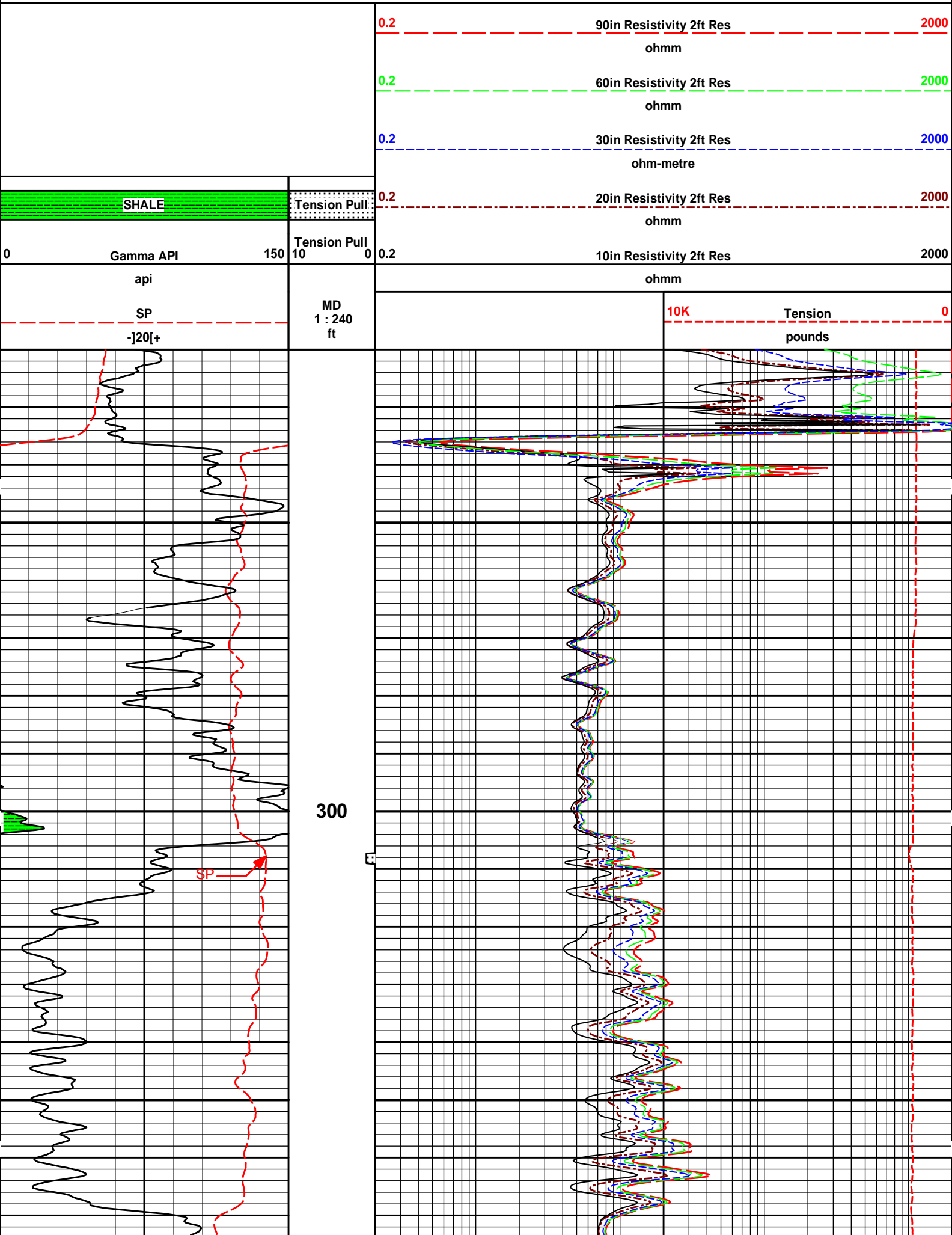
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 Plot Range: 220 ft to 4559.67 ft
 Data: LPR_1_23\Well Based\CASING\
 Plot File: \\-LOCAL-\LPR_1_23\0001 SP-GTET-DSN-SDL-ACRT-CH\ACRT\ACRT_2.lib

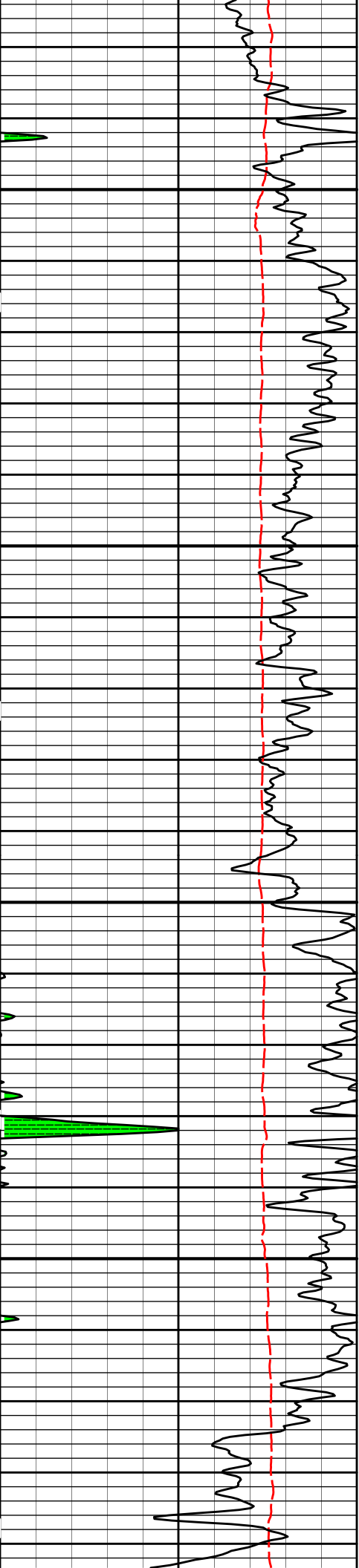
2 INCH MAIN LOG

HALLIBURTON

Plot Time: 25-Mar-13 10:25:17
 Plot Range: 220 ft to 4559.67 ft
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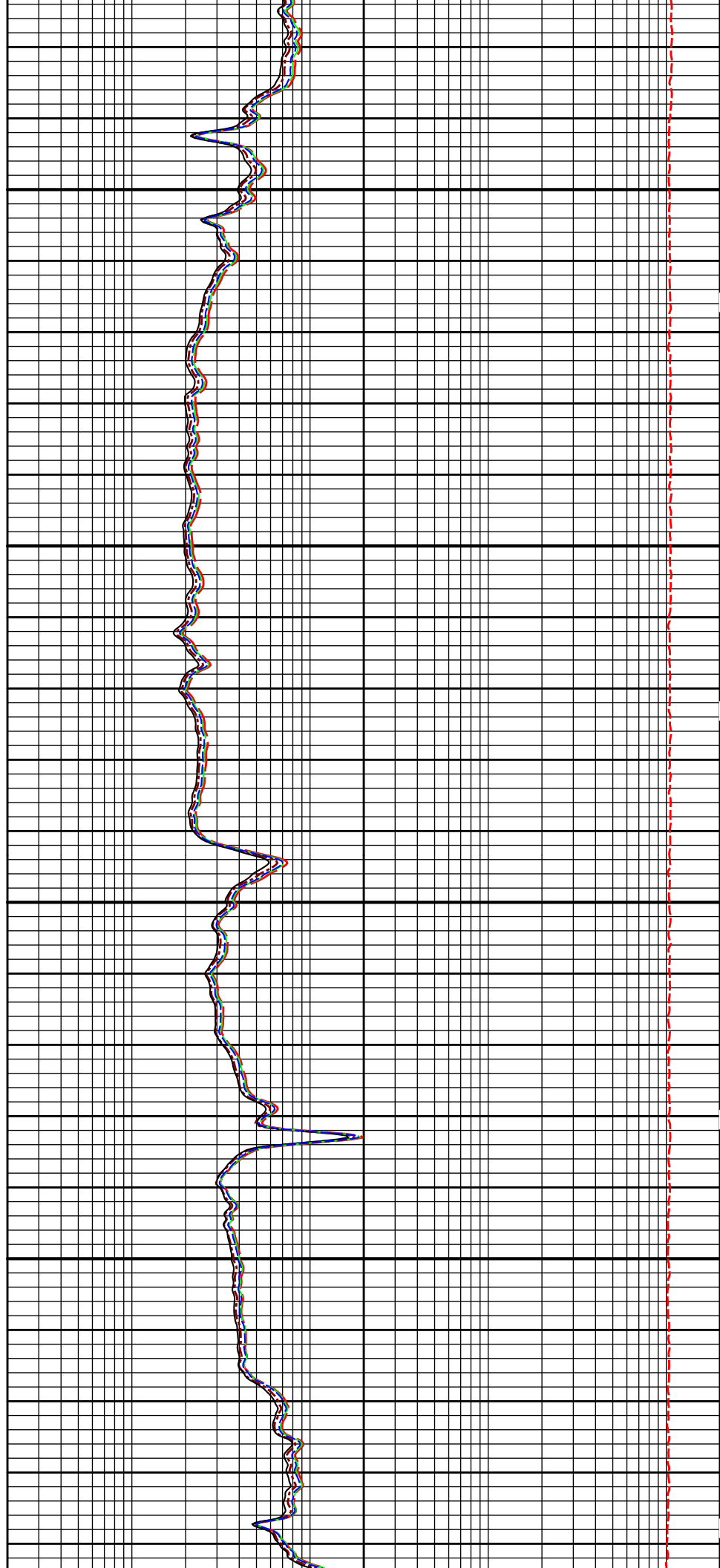
5 INCH MAIN LOG

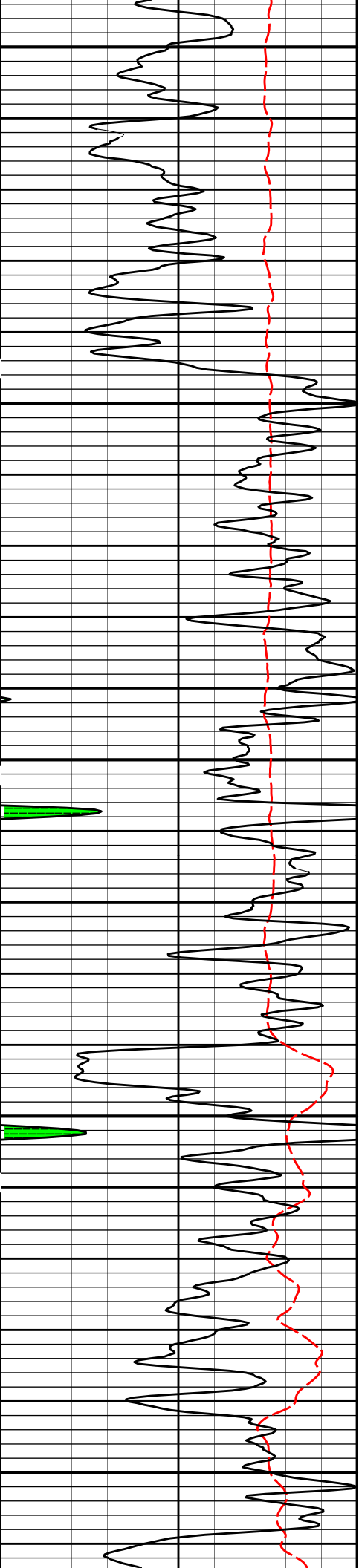




400

500

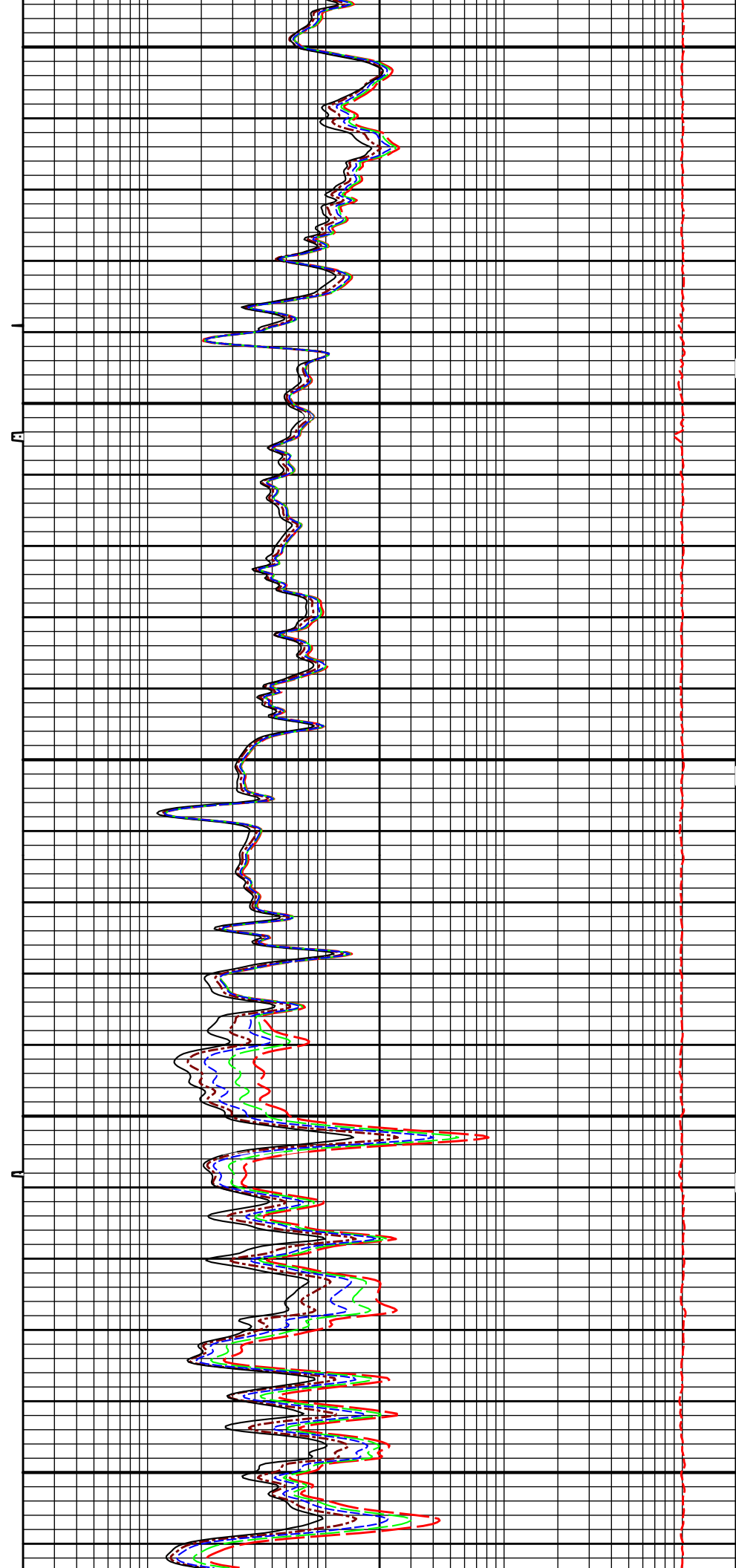


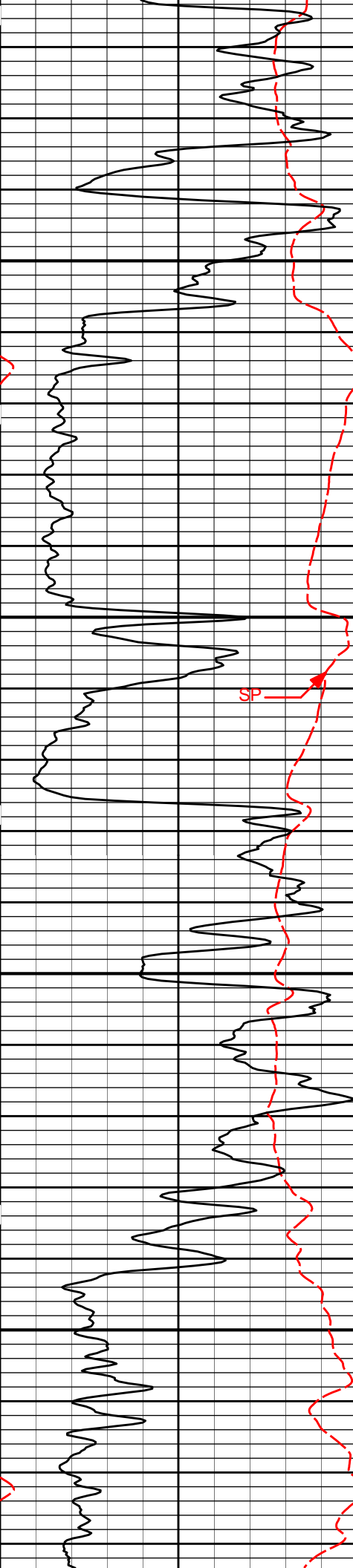


600

700

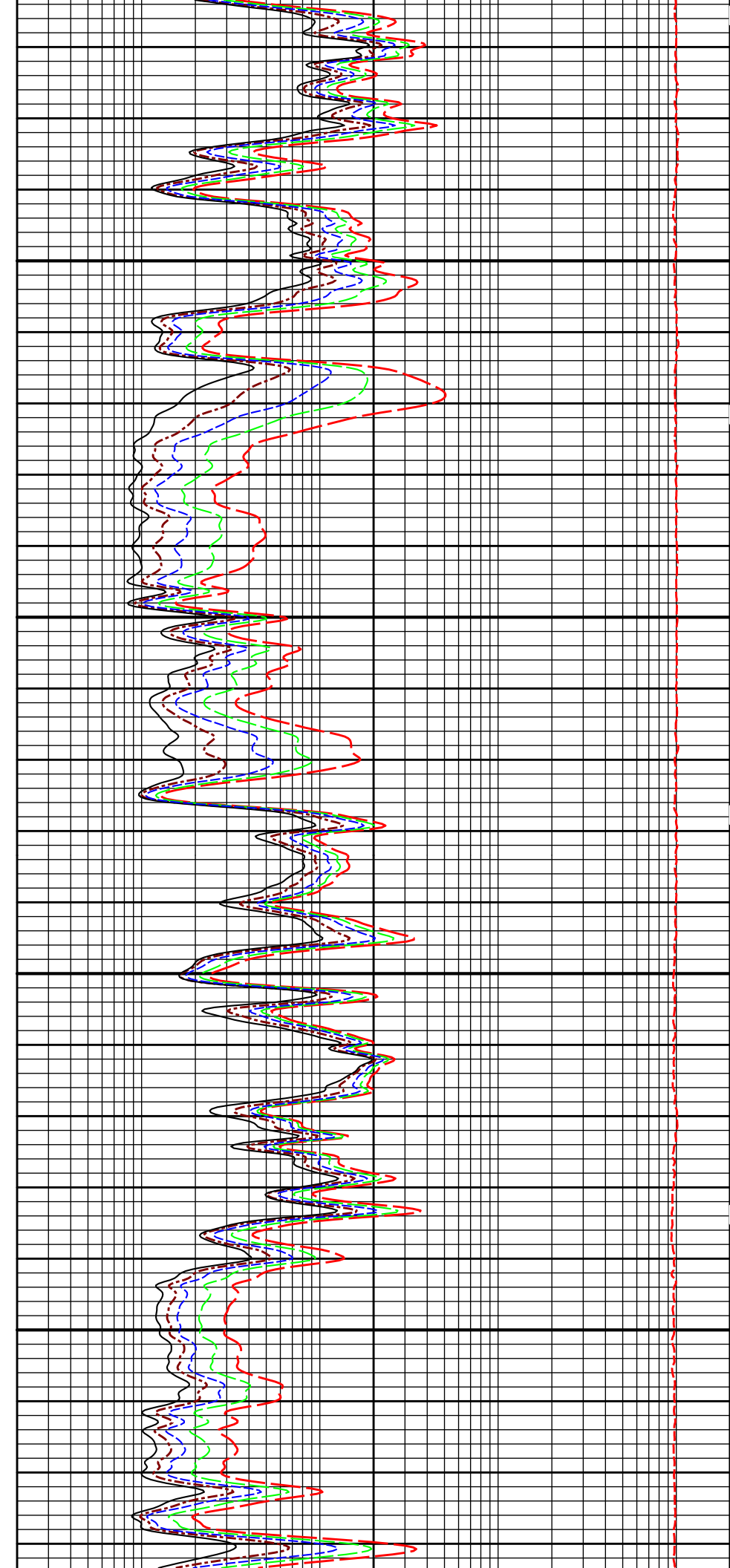
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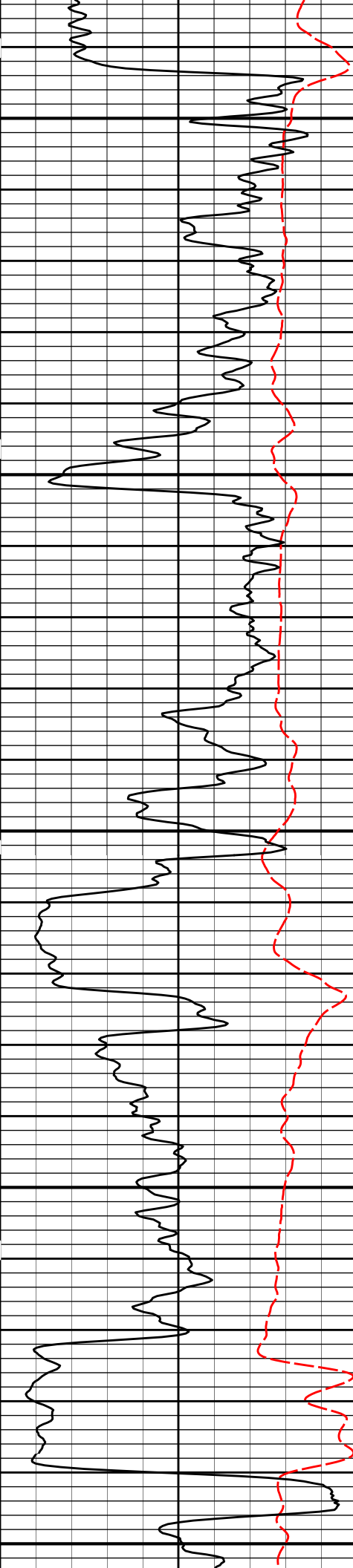




900

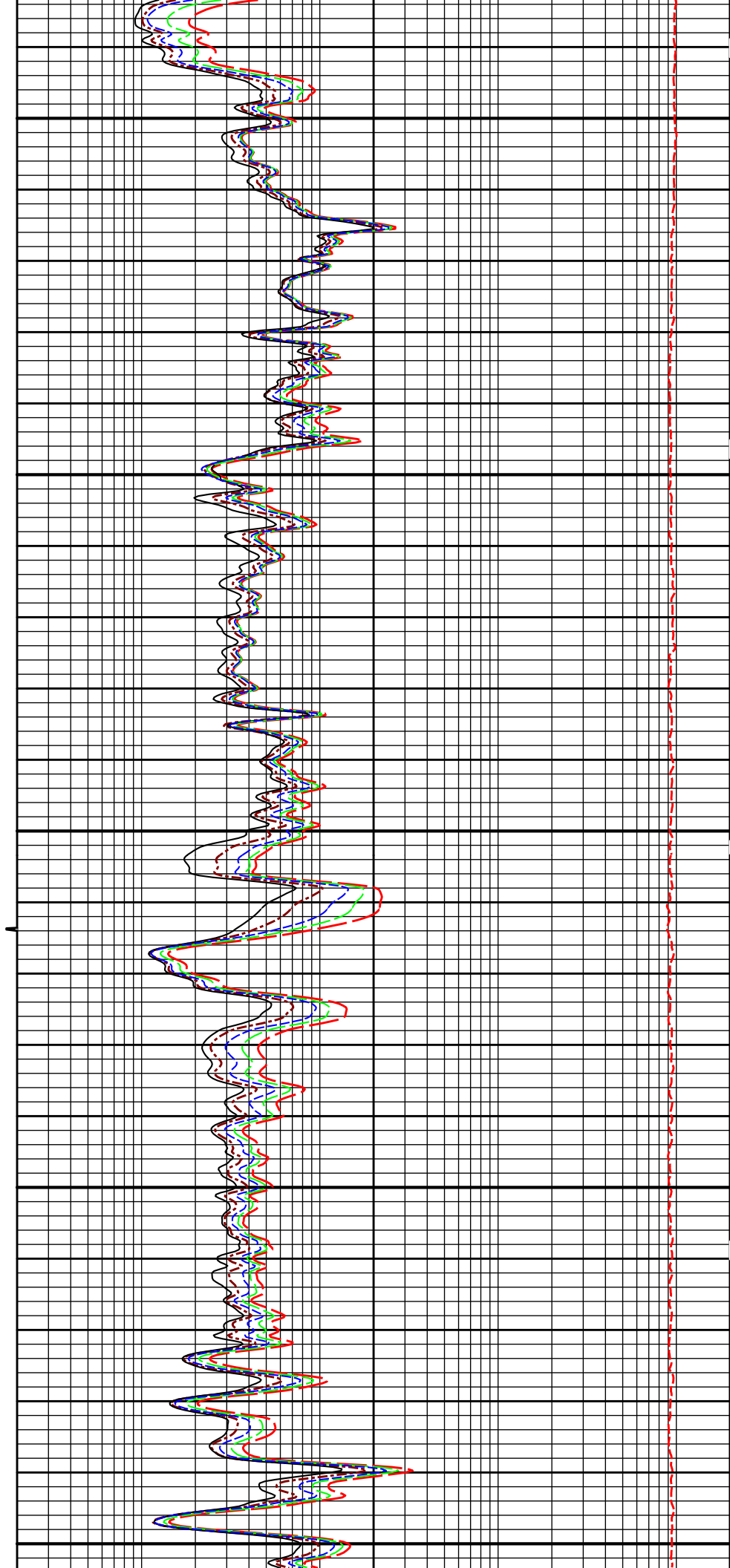
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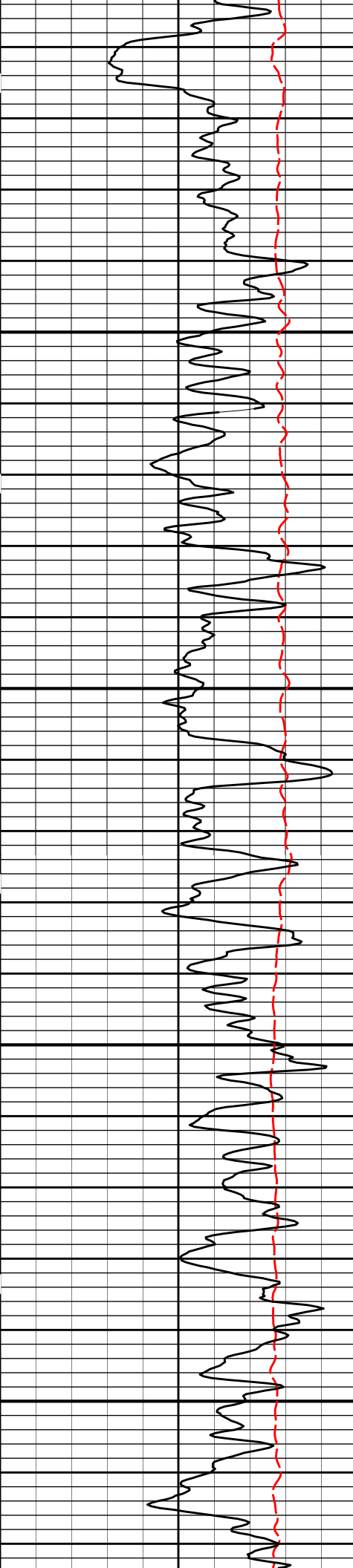




1100

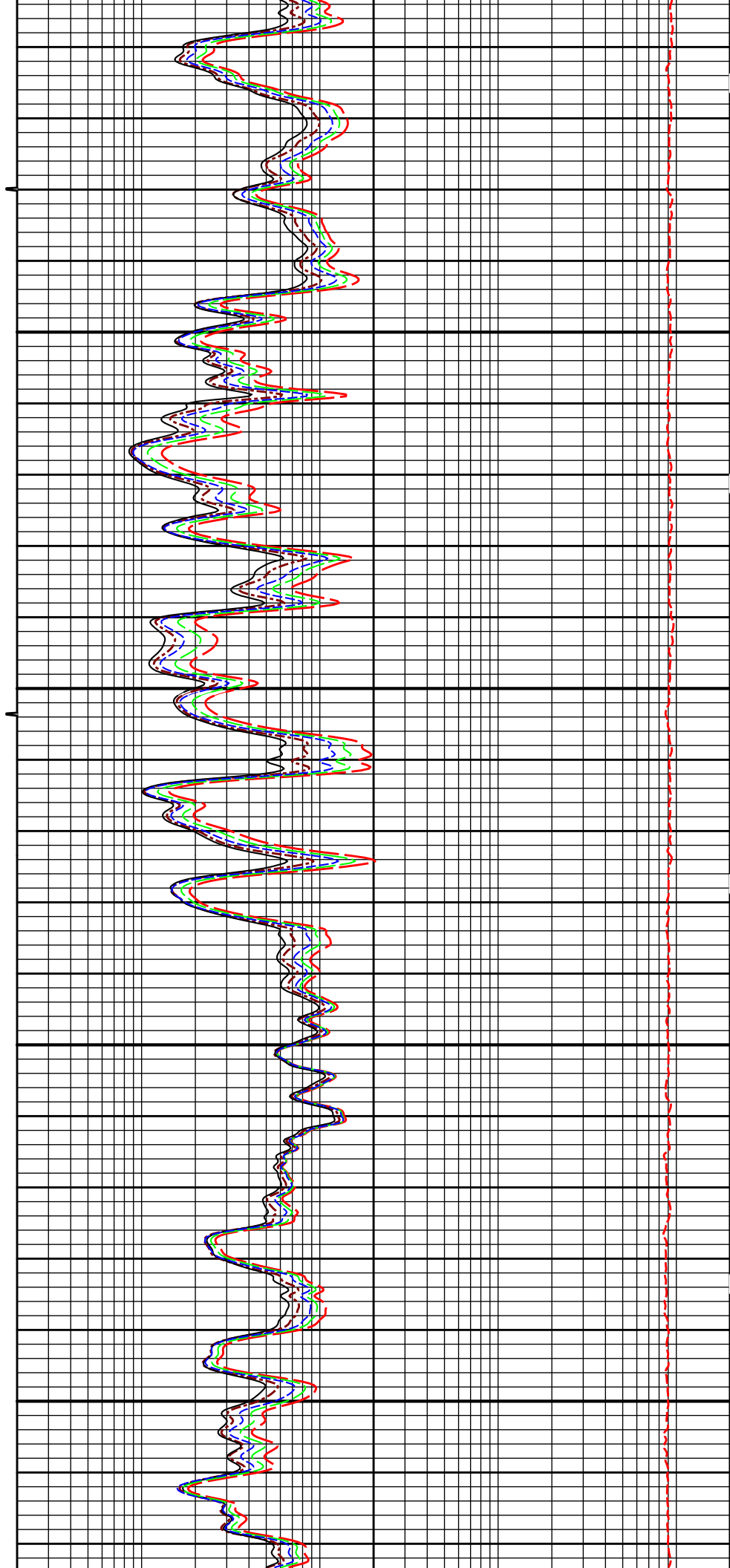
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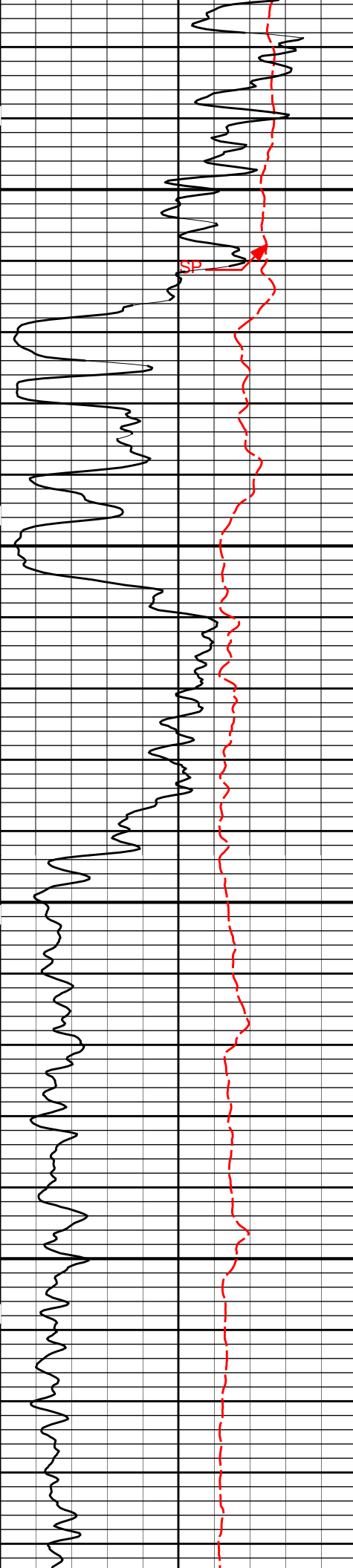




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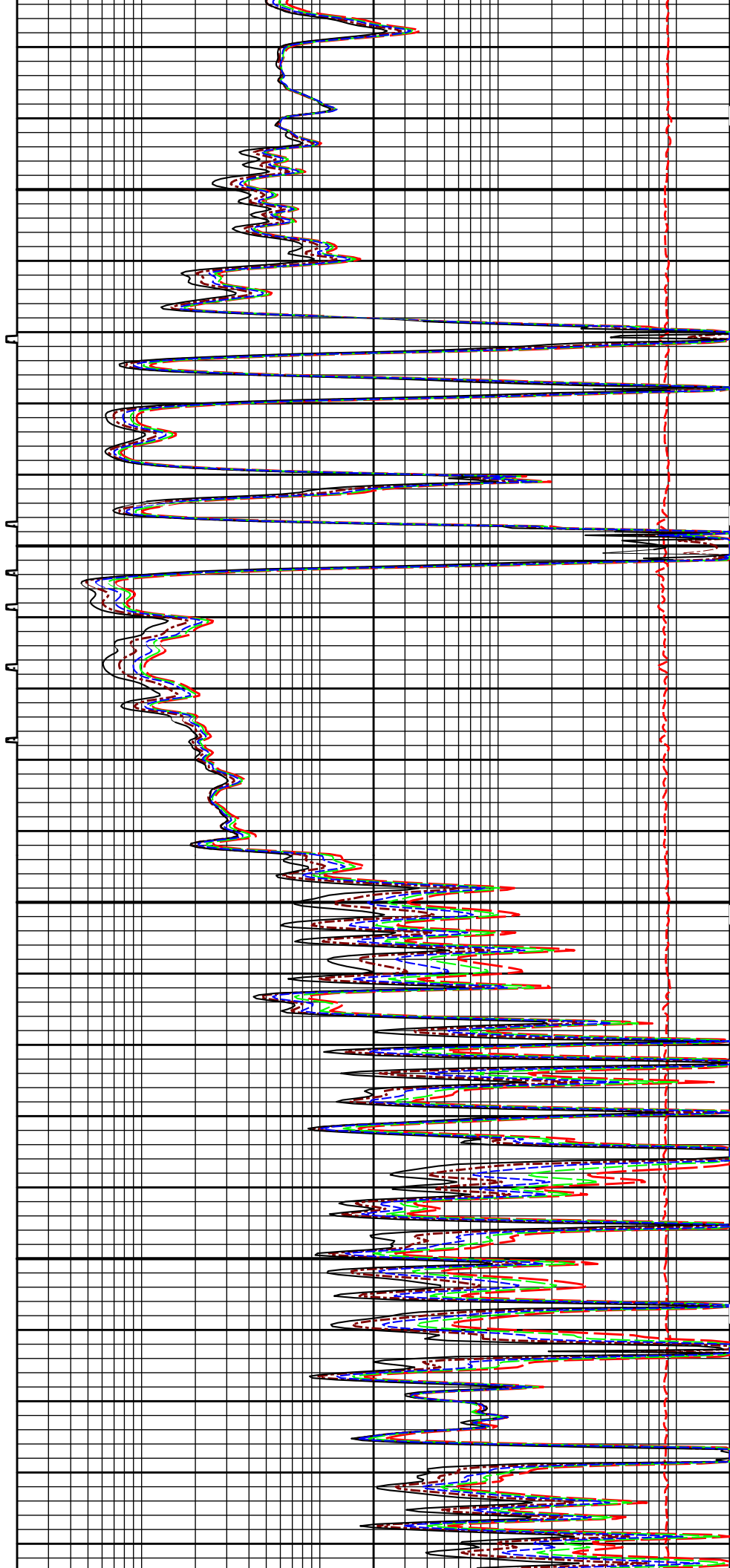
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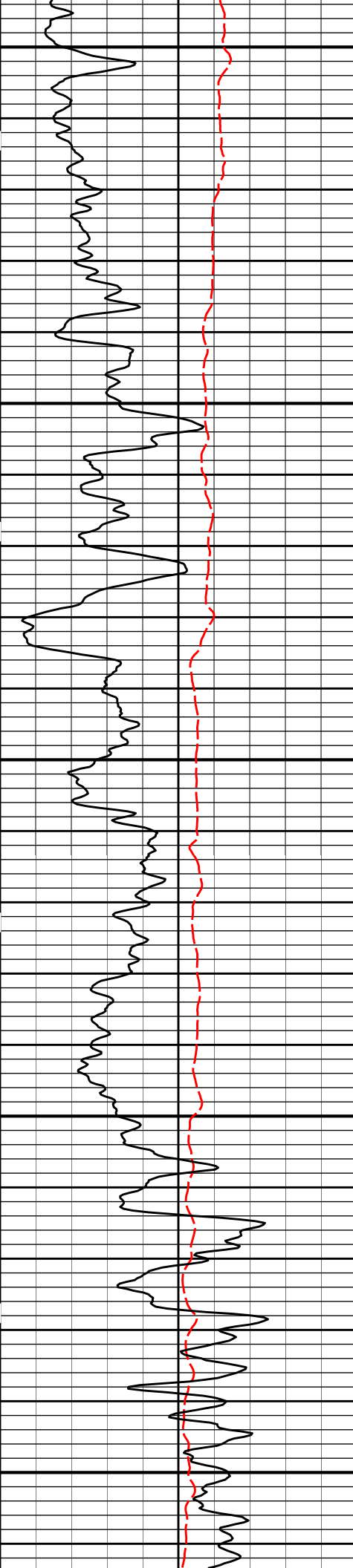




1500

1600

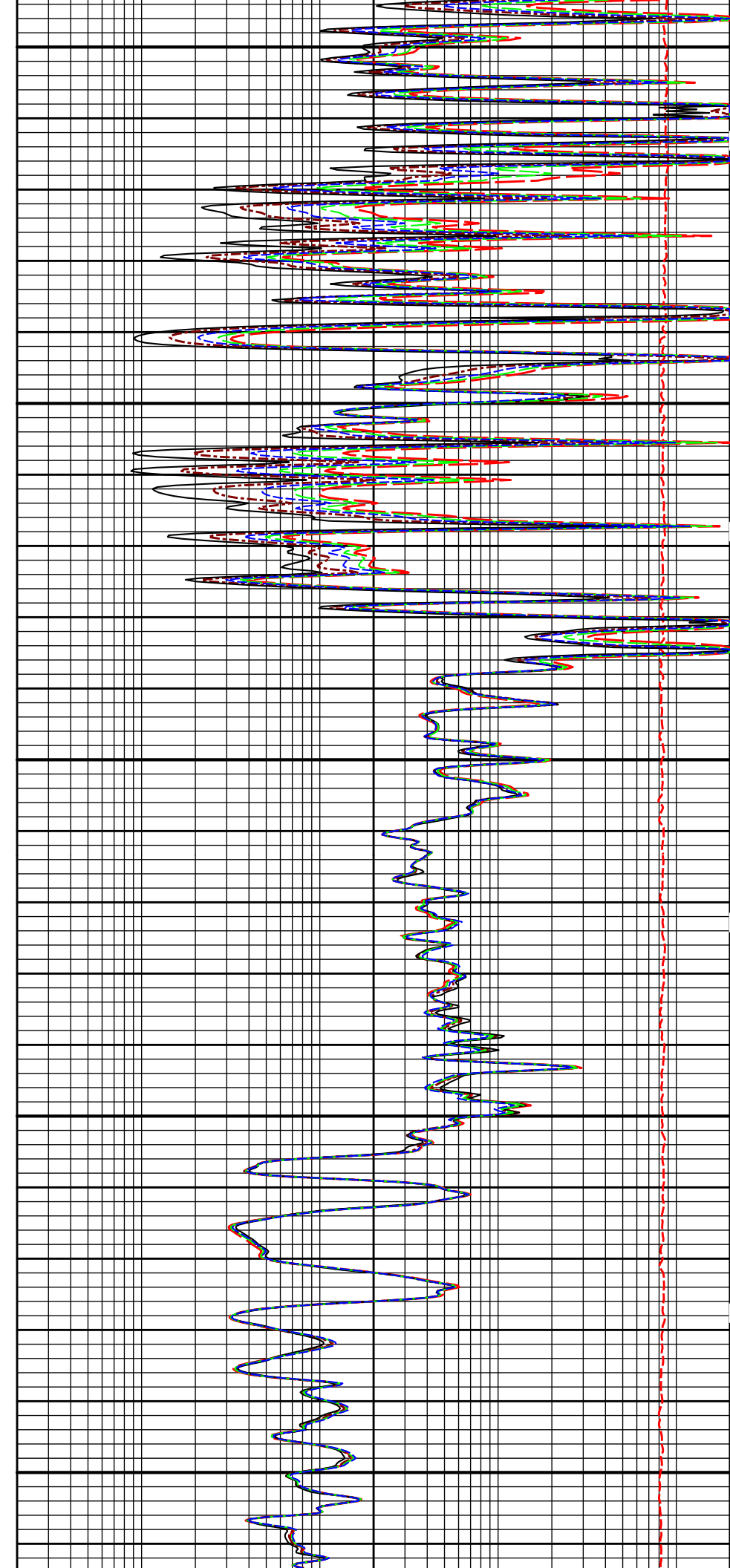


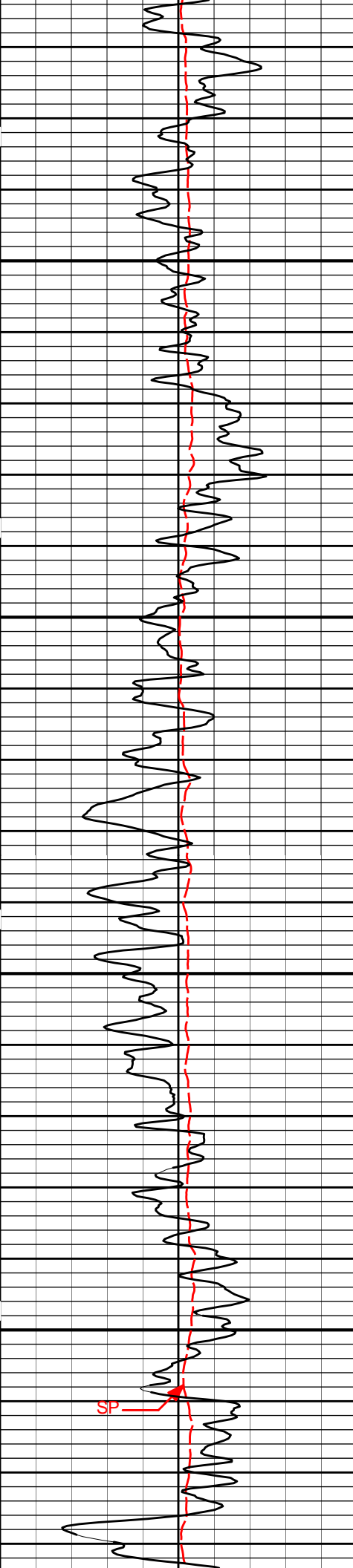


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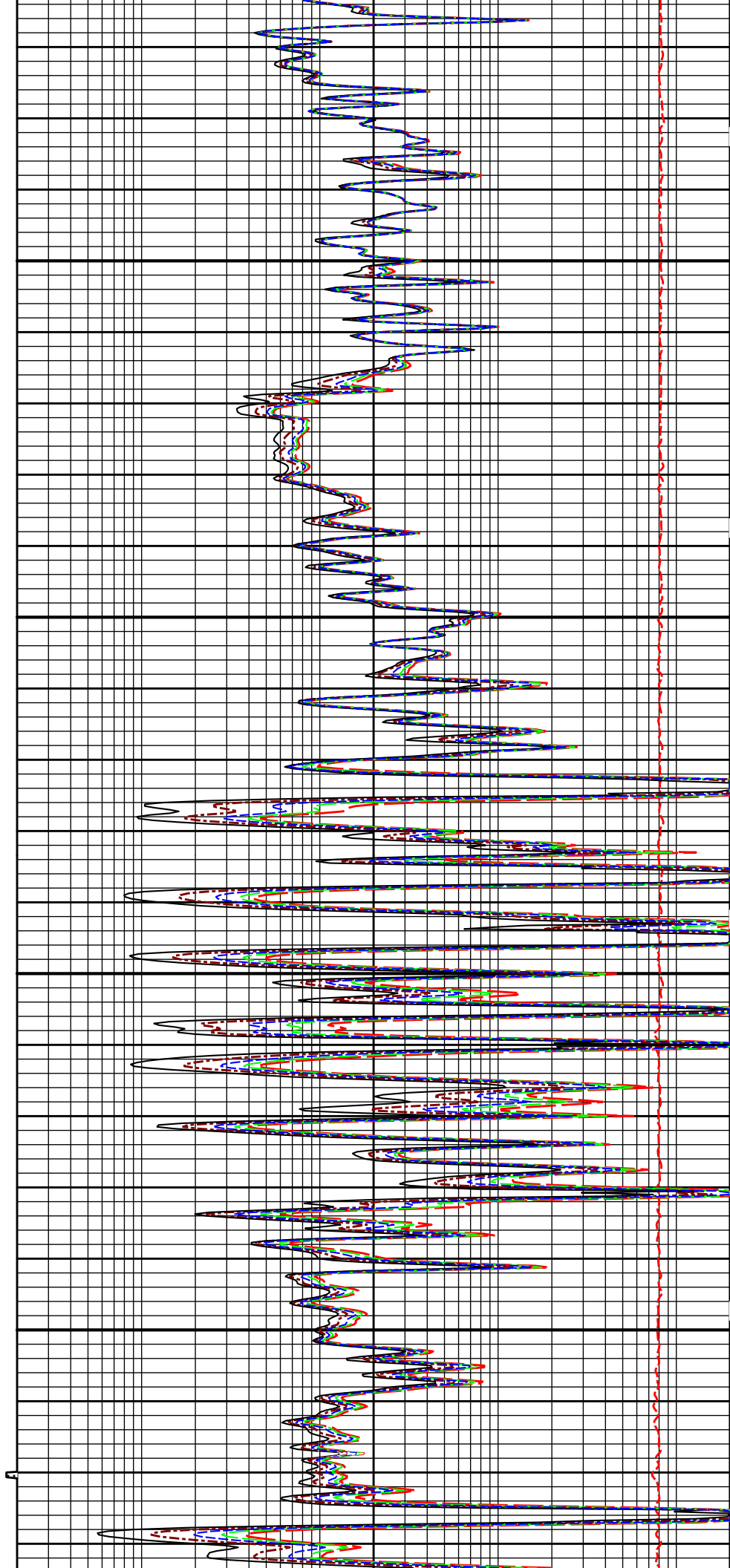
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2000

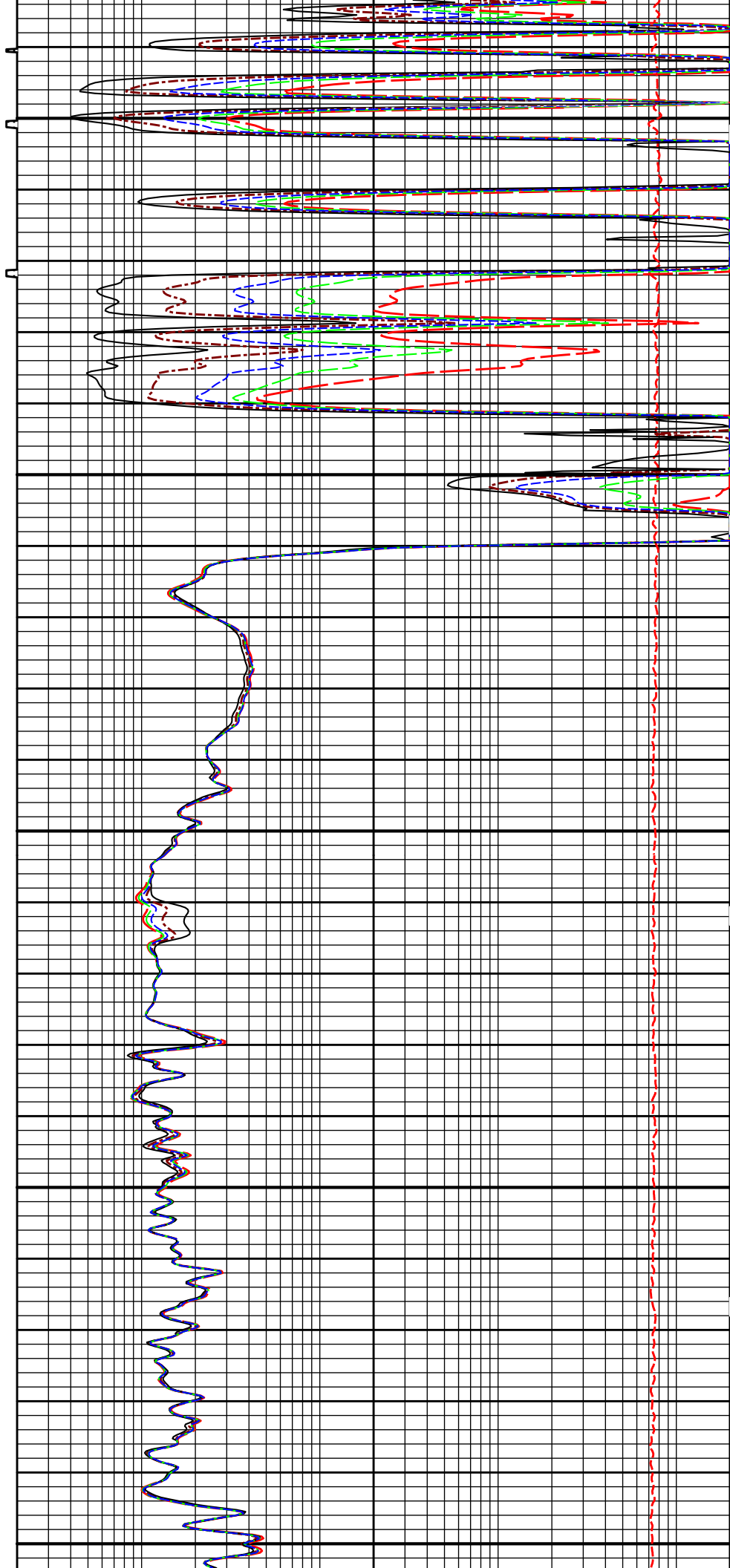
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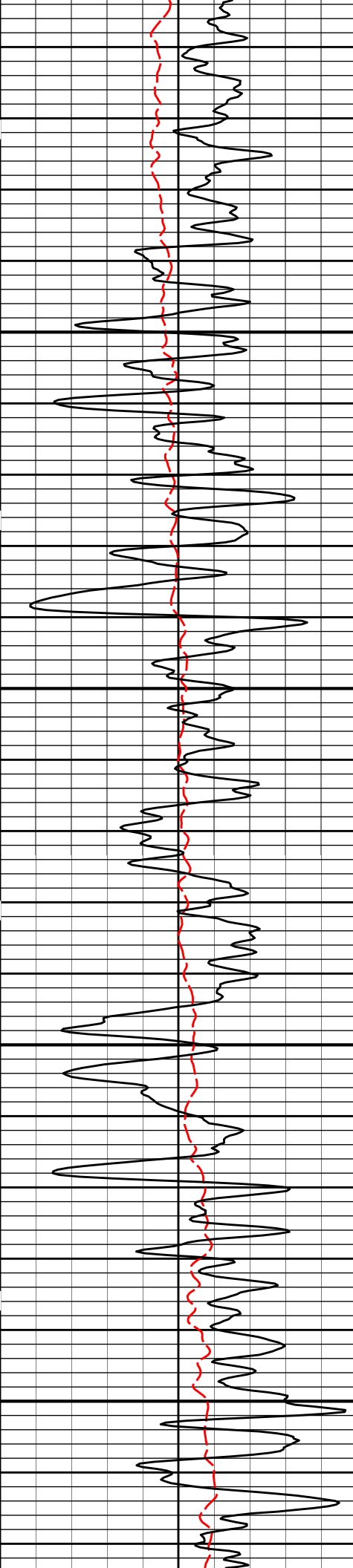




2200

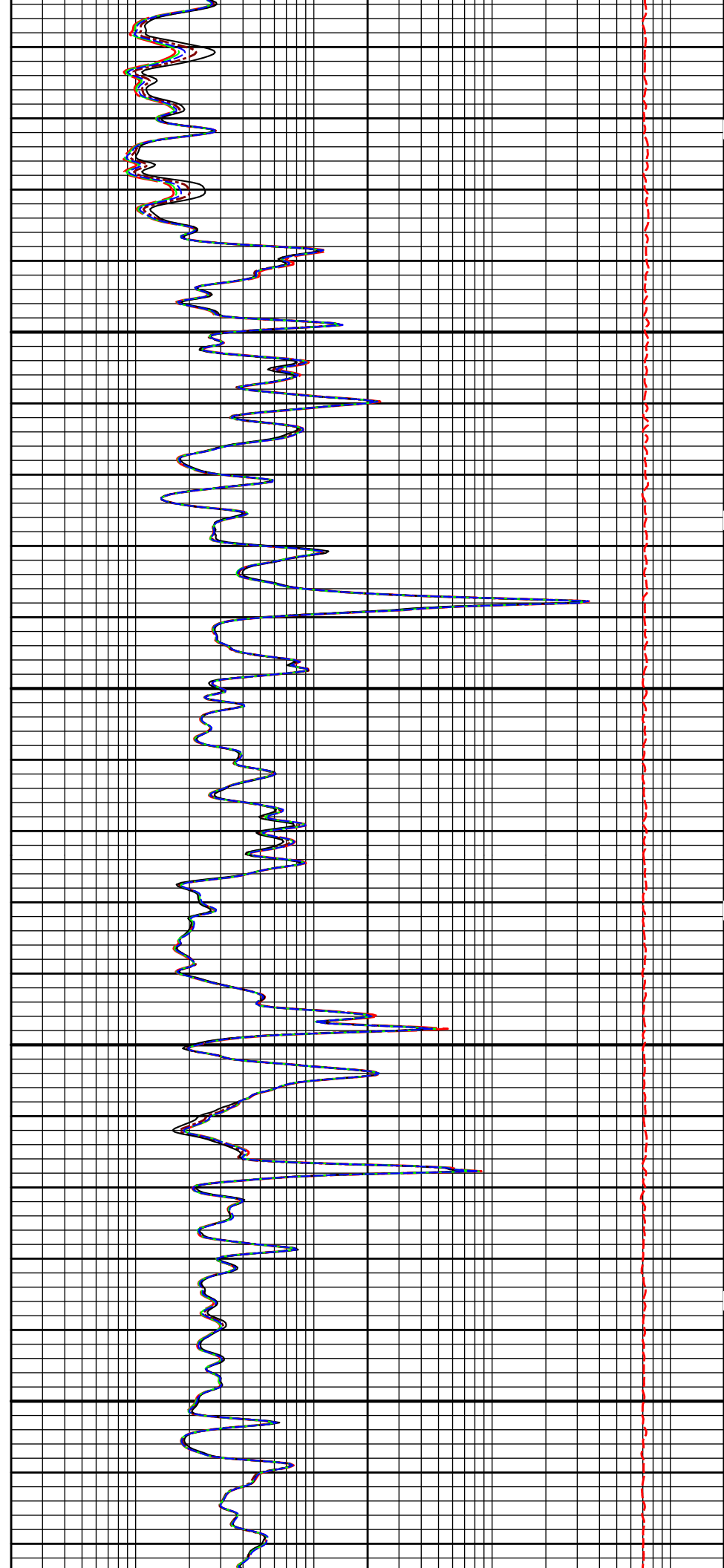
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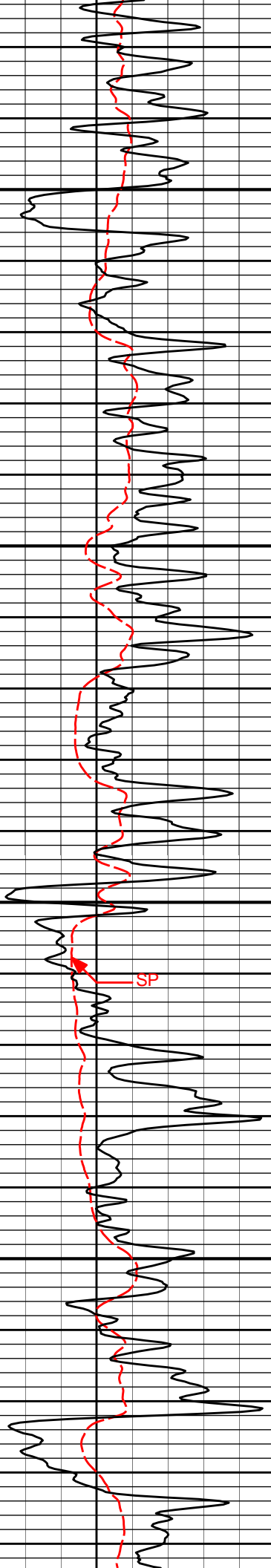




2400

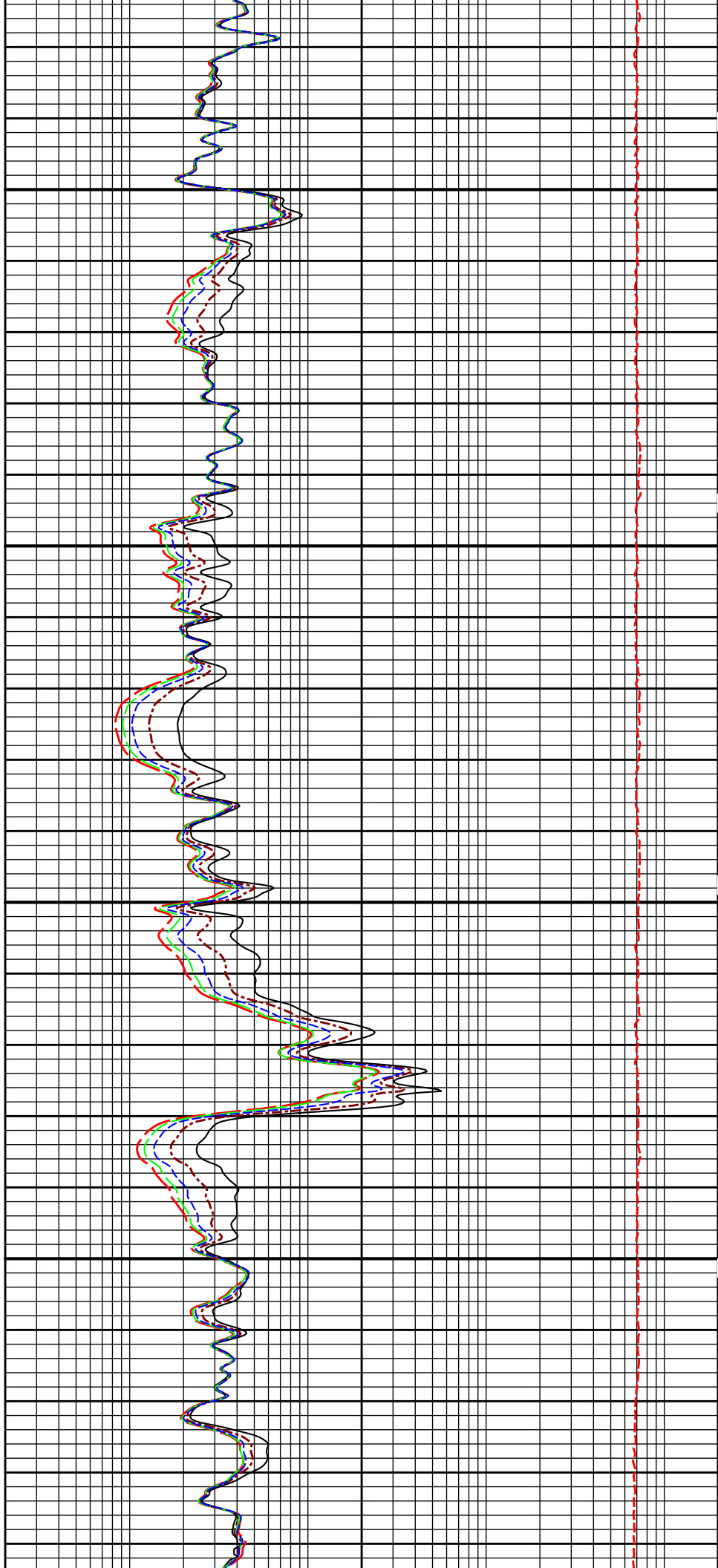
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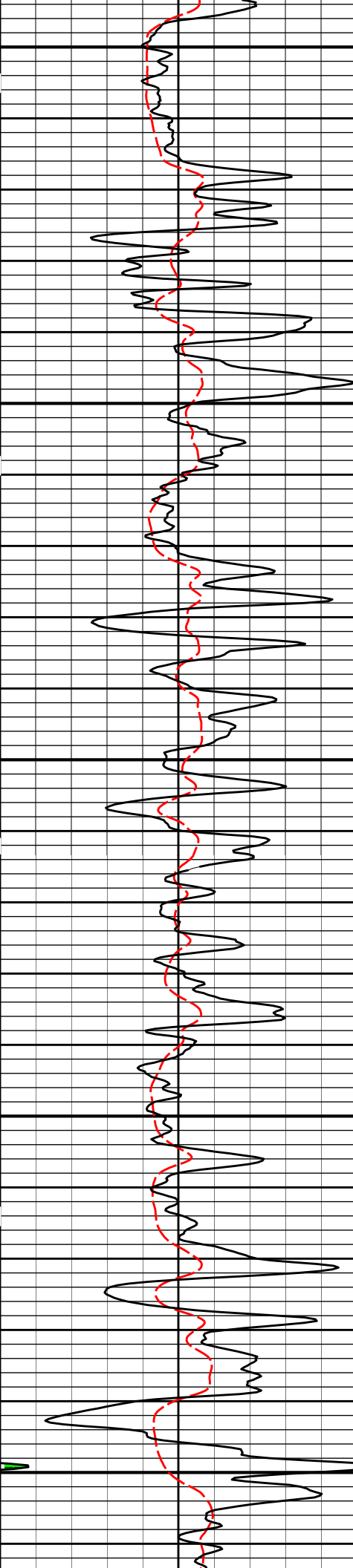




2600

2700

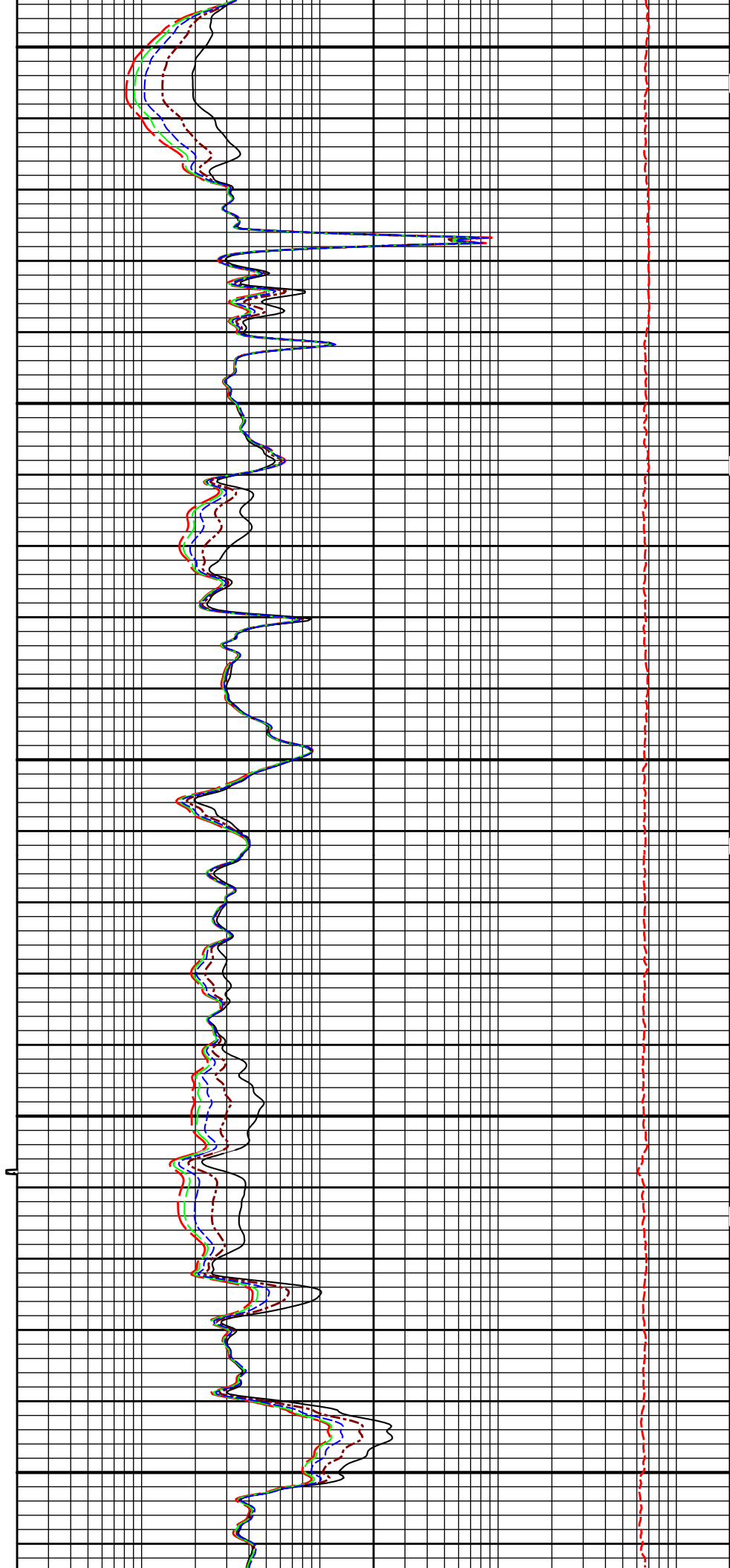




2800

2900

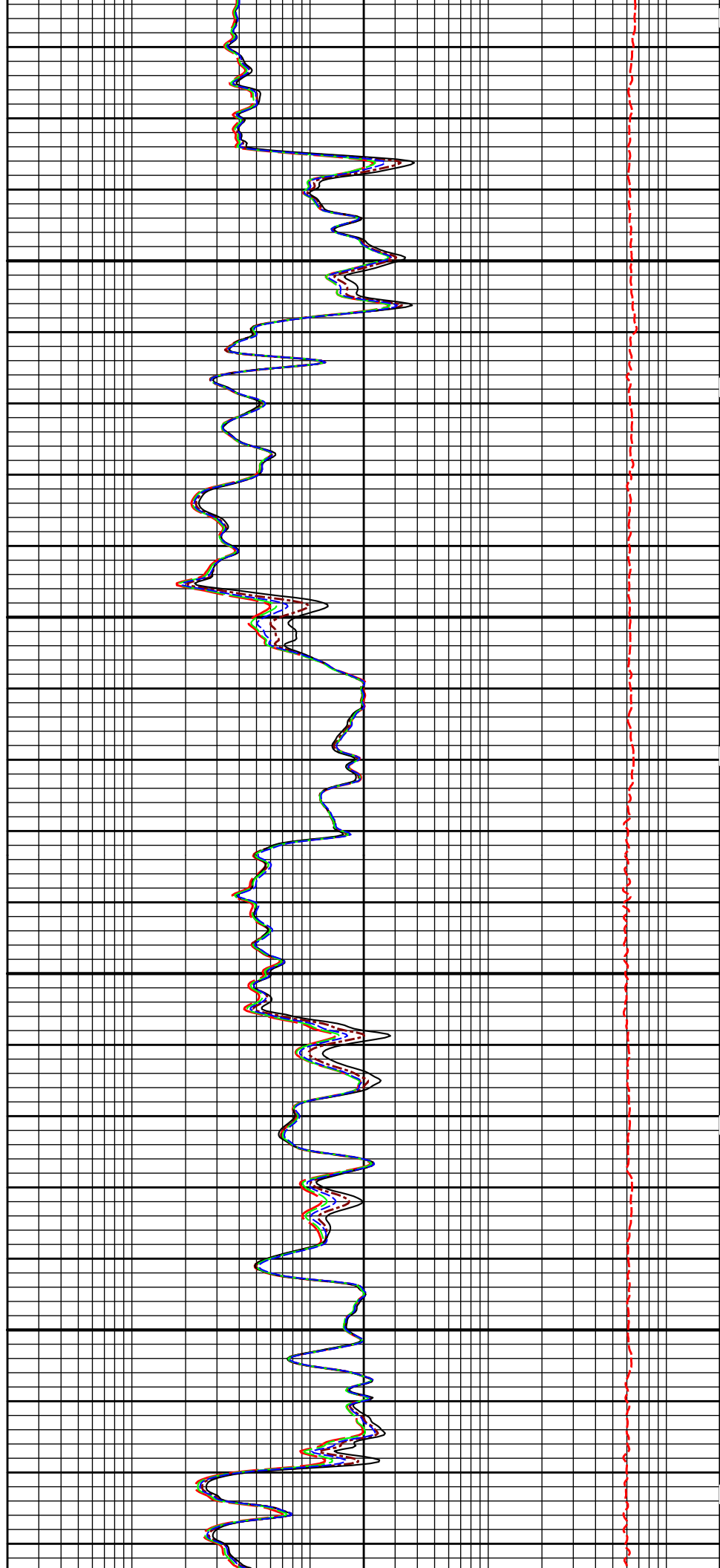
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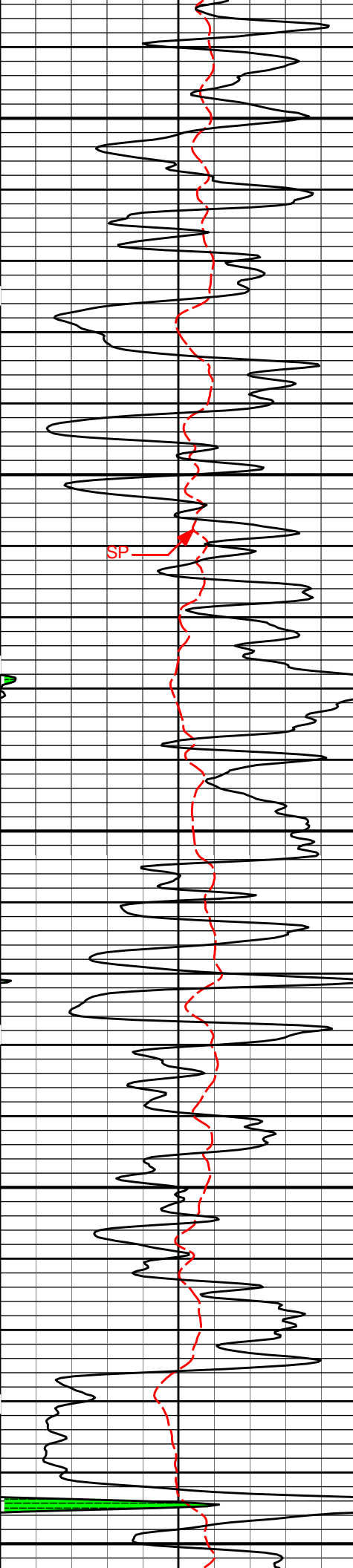




3100

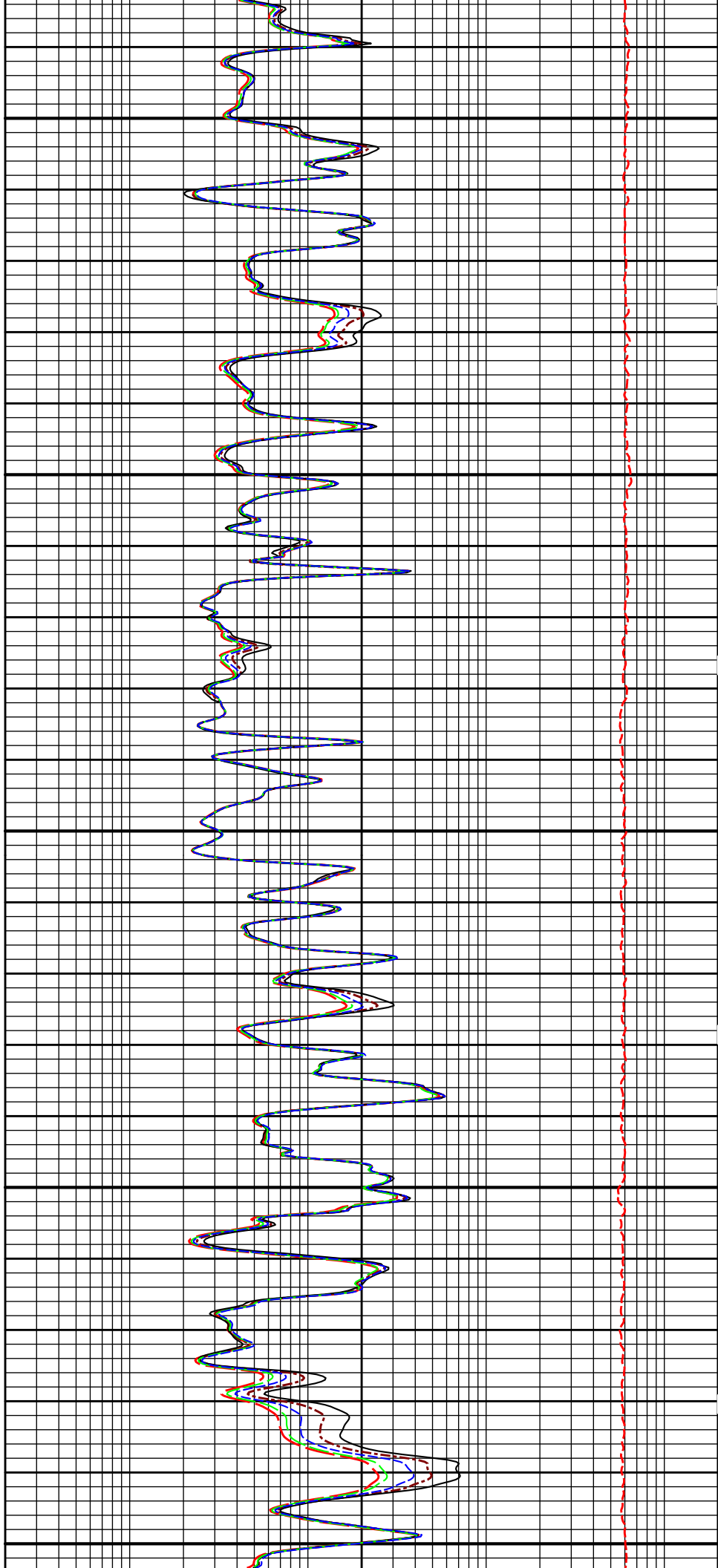
3200

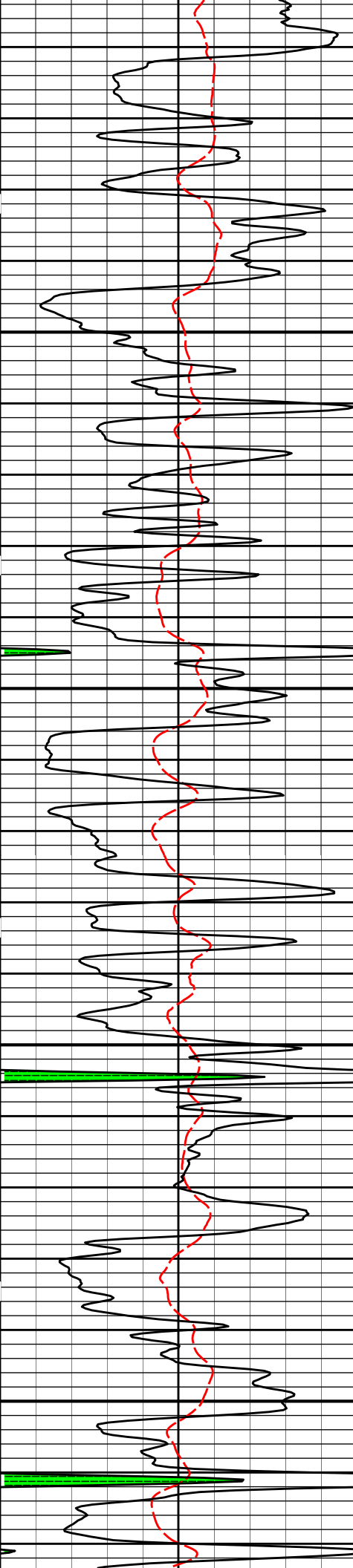




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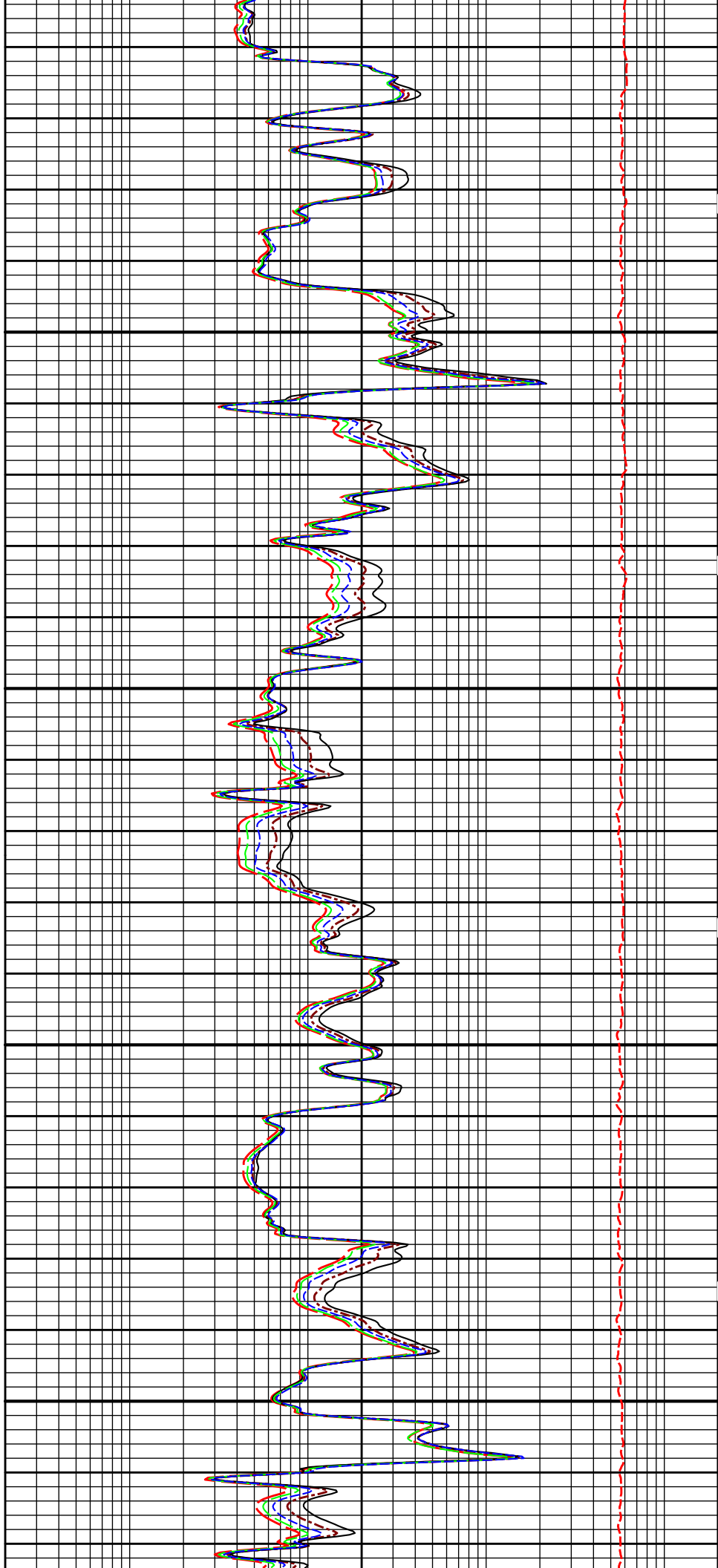
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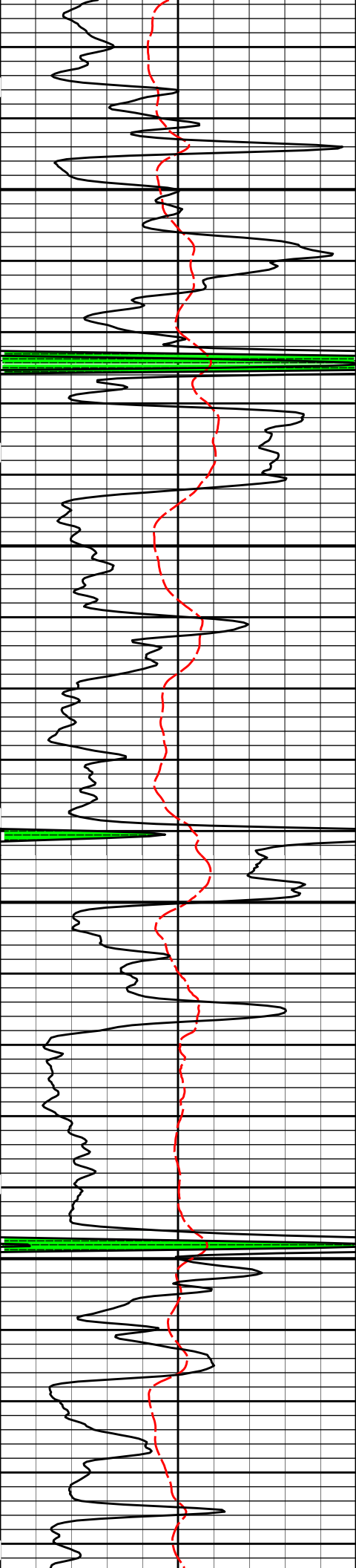




3500

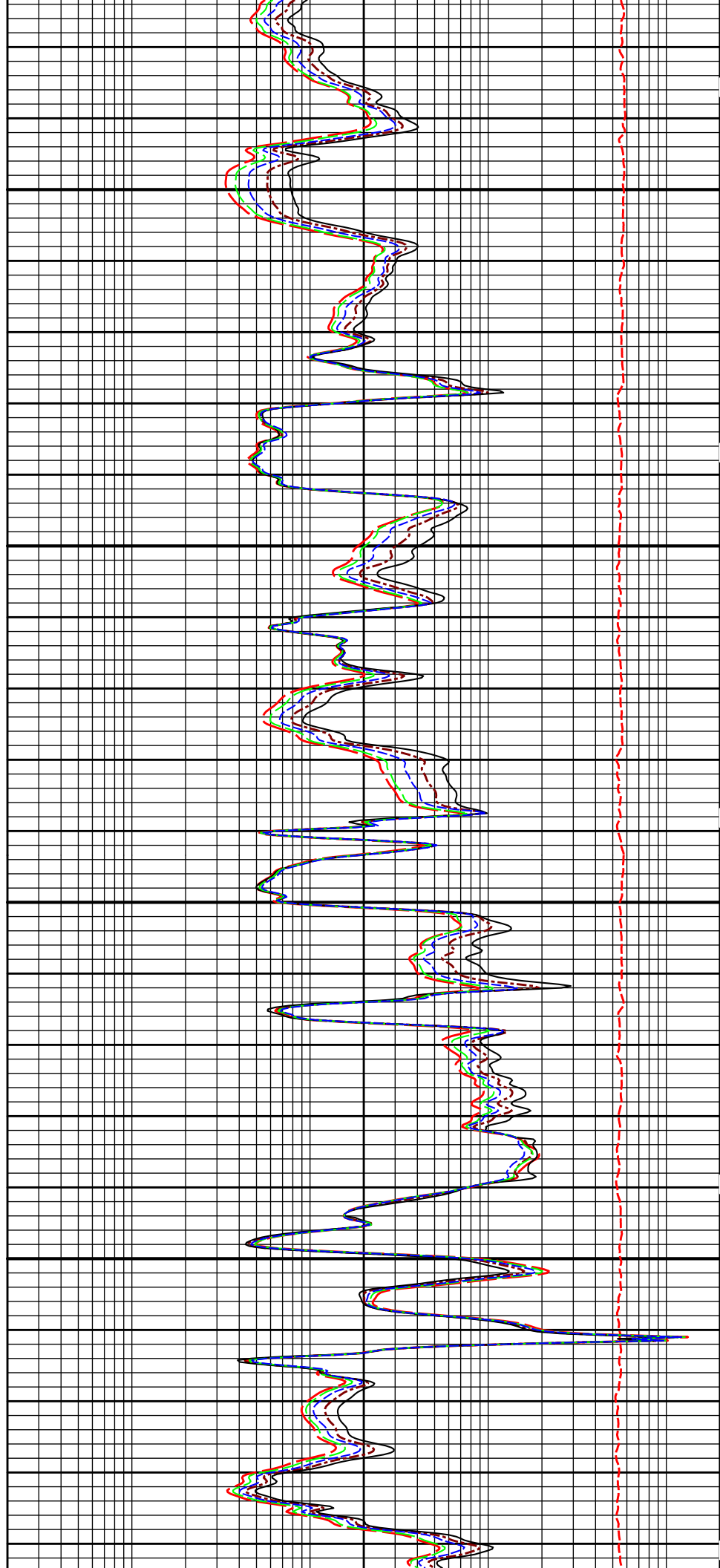
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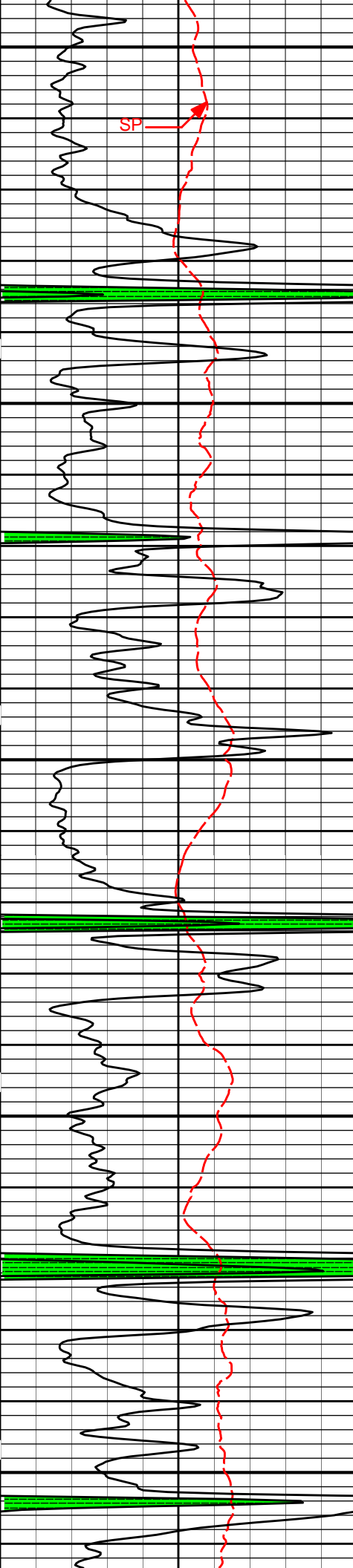




3700

3800

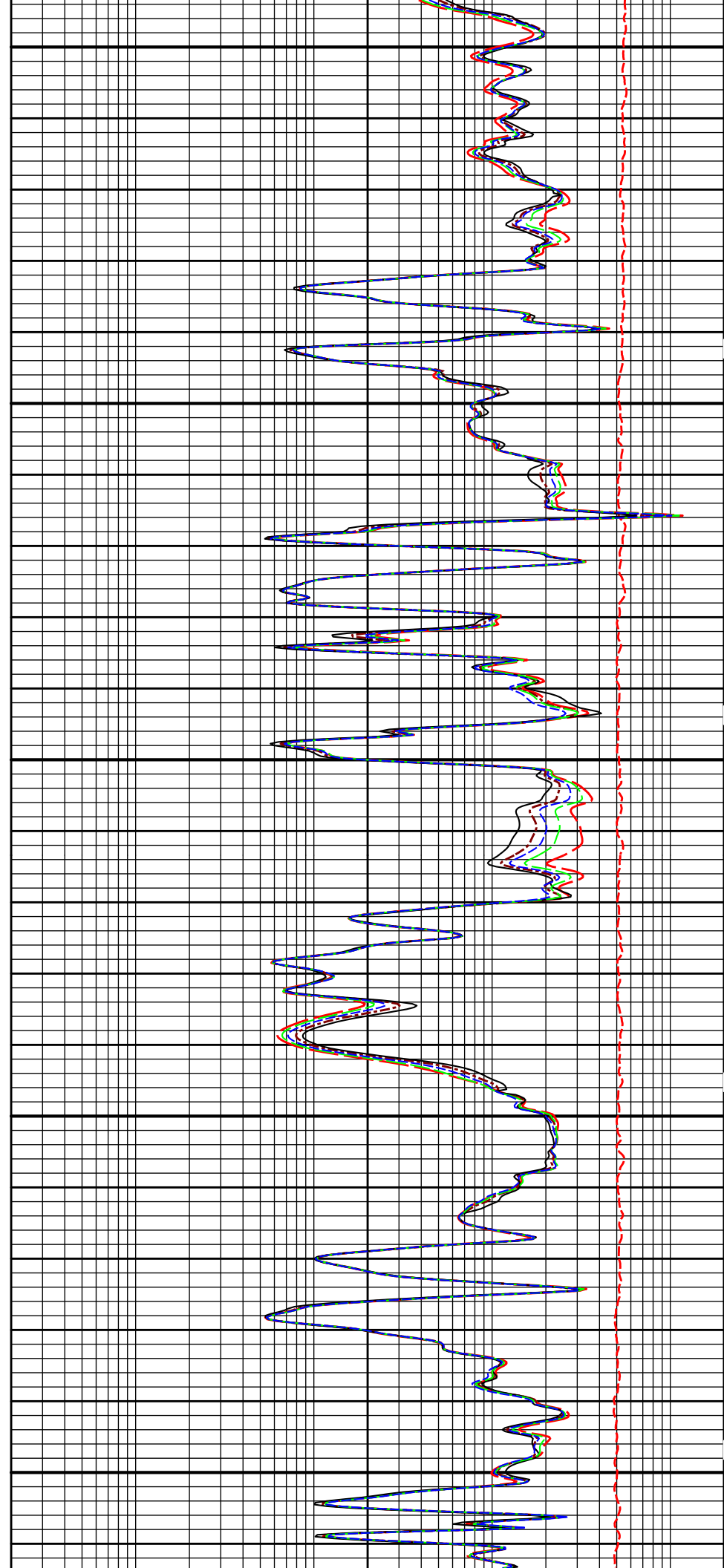


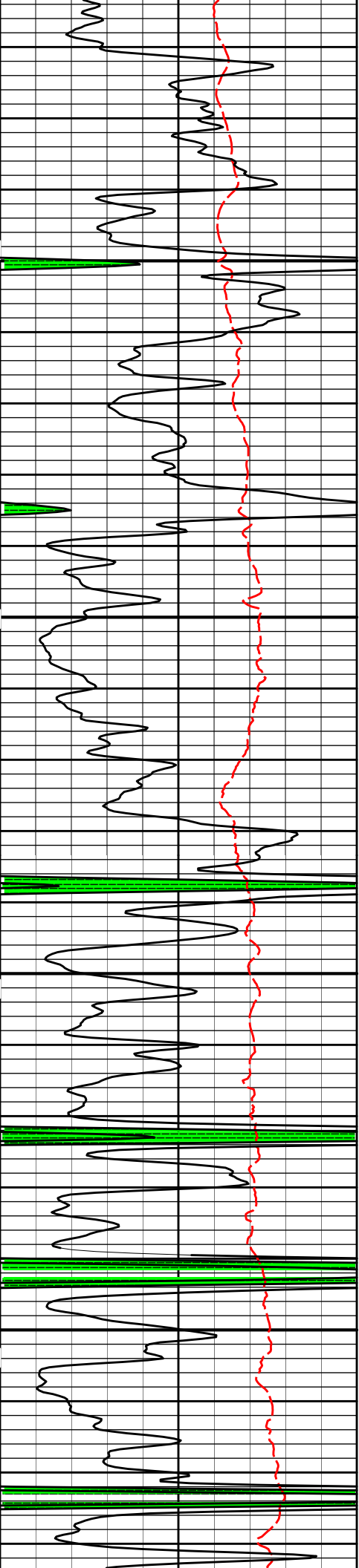


3900

4000

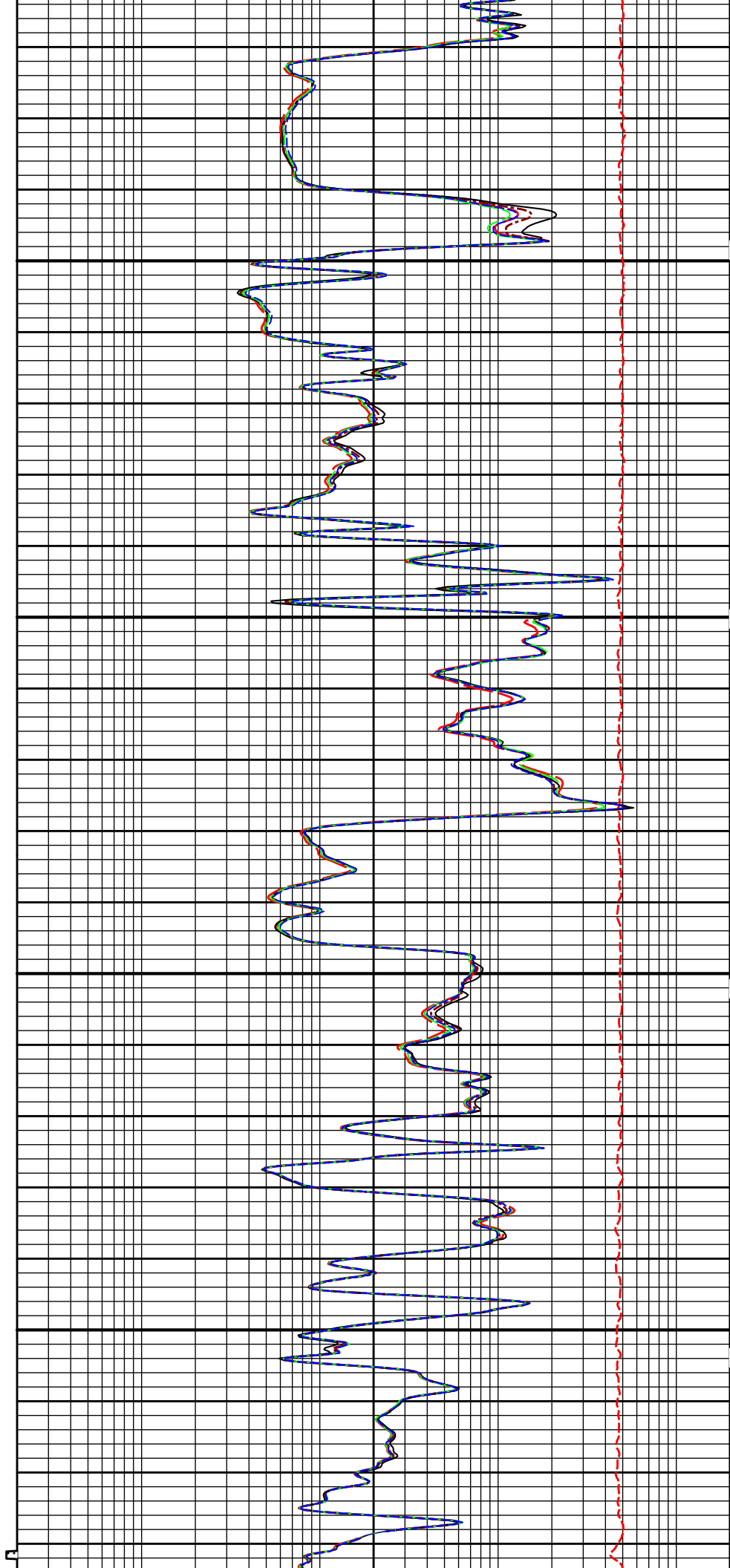
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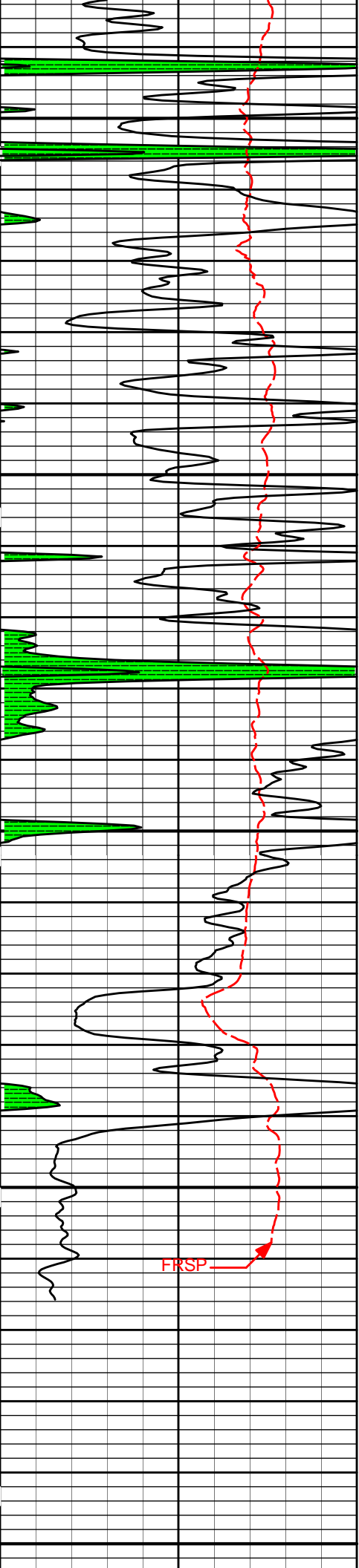




4200

4300

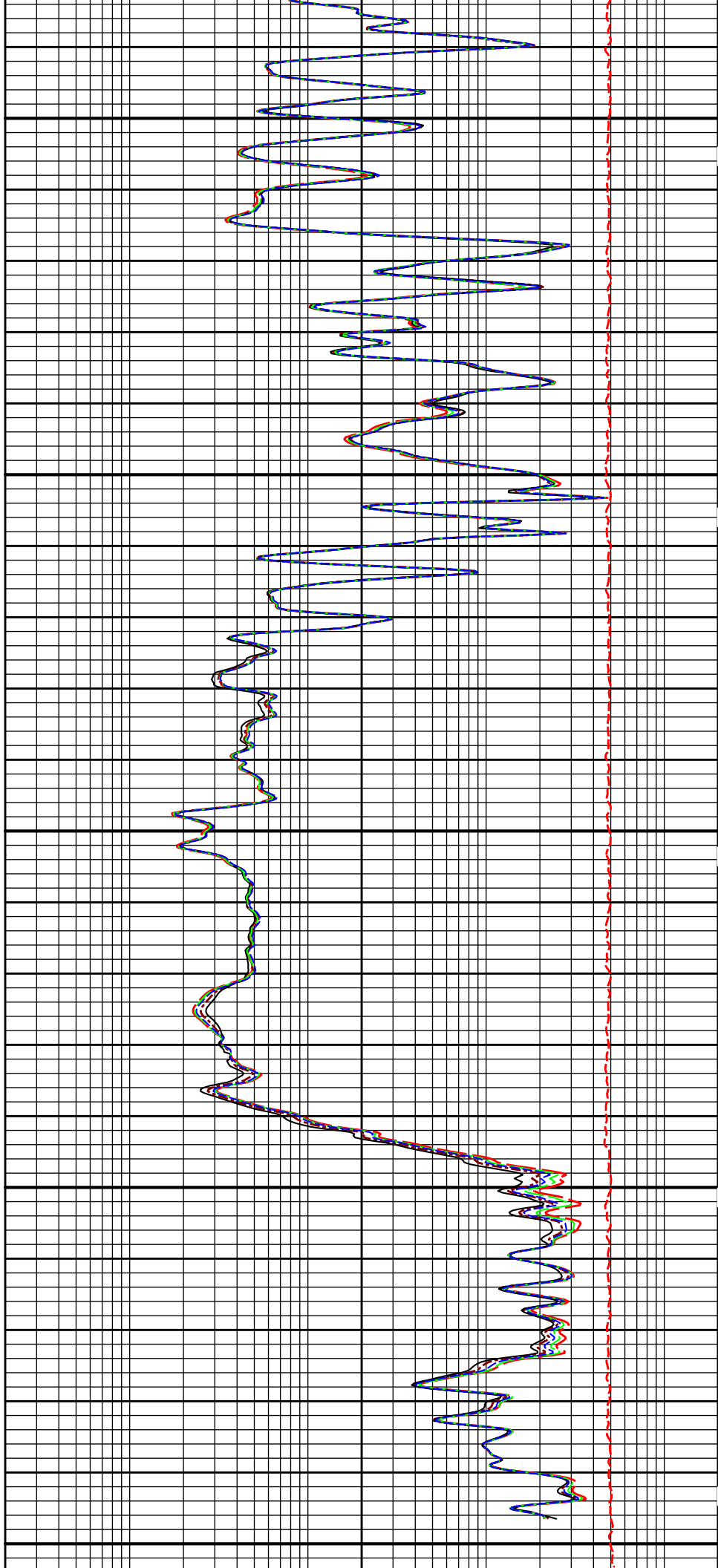


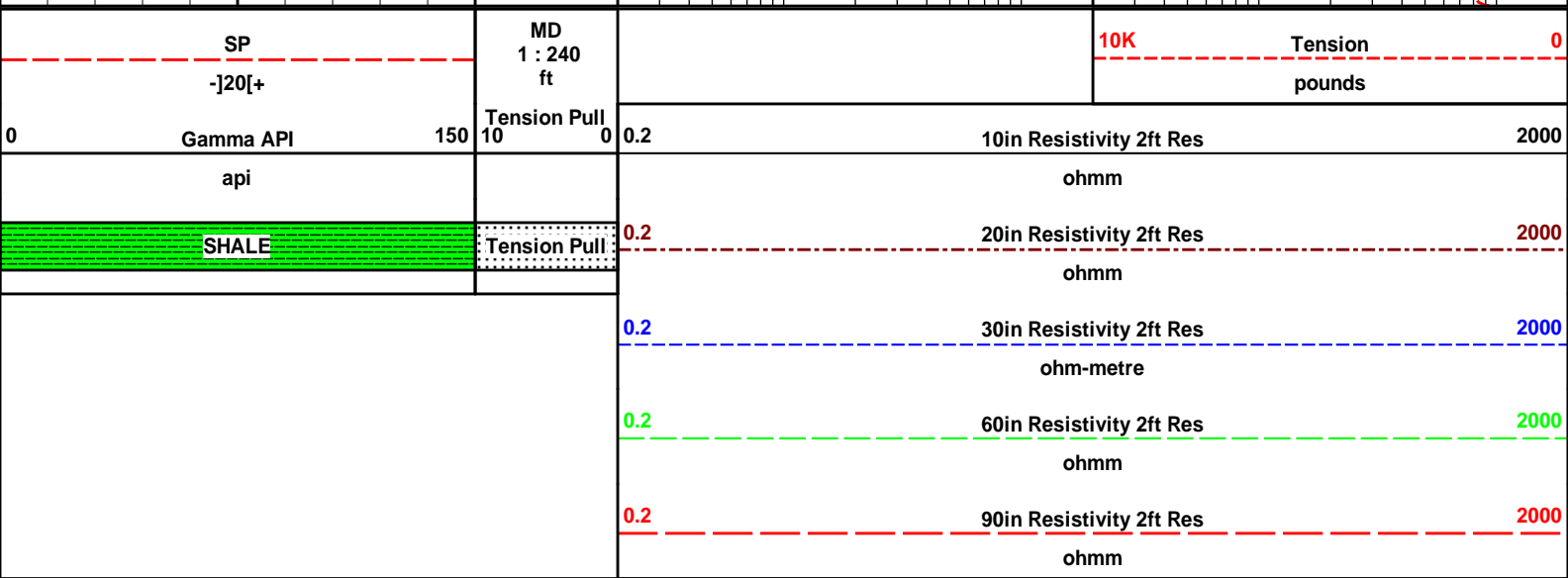


4400

4500

FRSP





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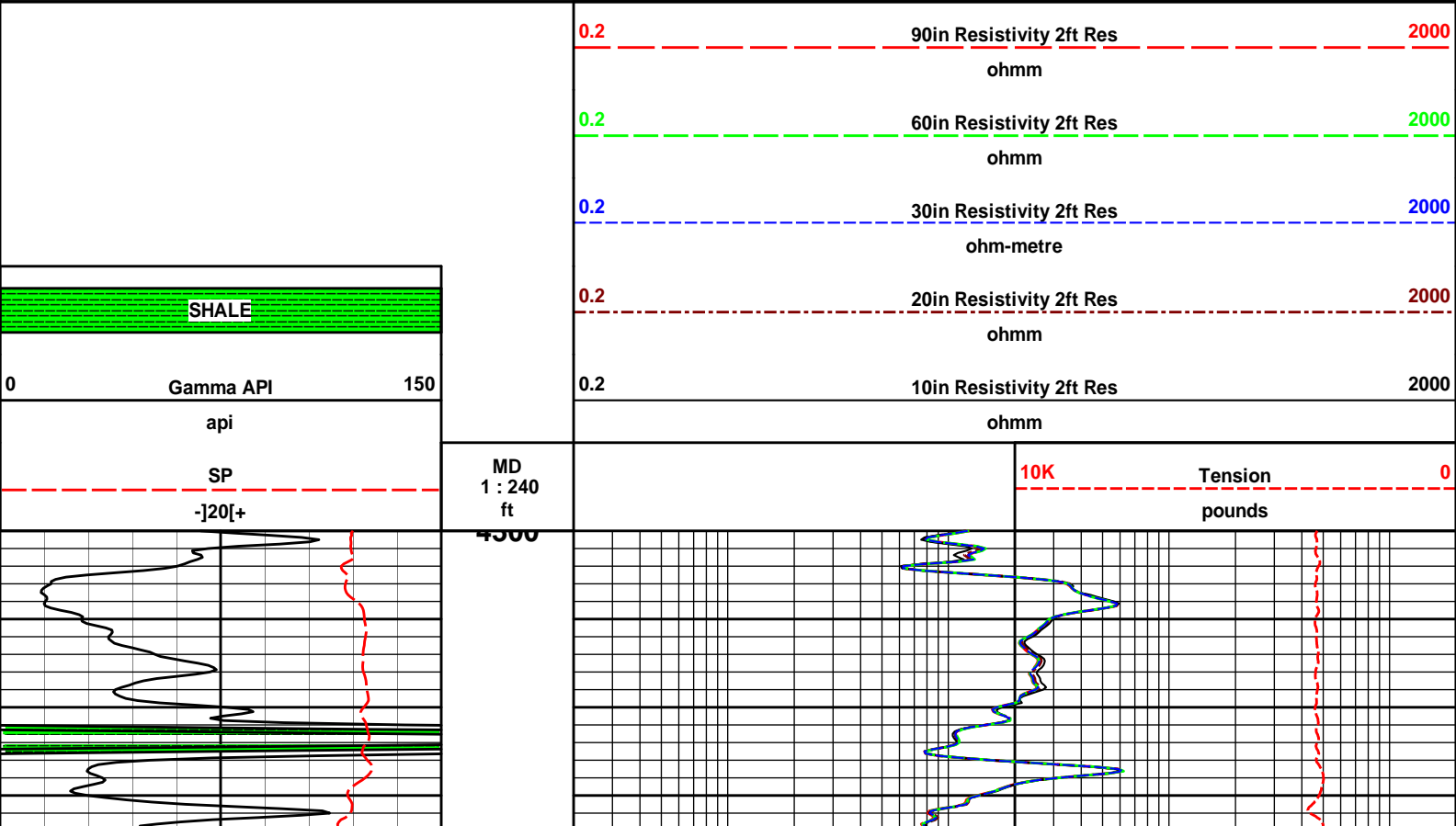
Plot Time: 25-Mar-13 10:25:23
 Plot Range: 220 ft to 4559.67 ft
 Data: LPR_1_23\Well Based\CASING\
 Plot File: \\-LOCAL-\LPR_1_23\0001 SP-GTET-DSN-SDL-ACRT-CH\ACRT\ACRT_5_main_lib

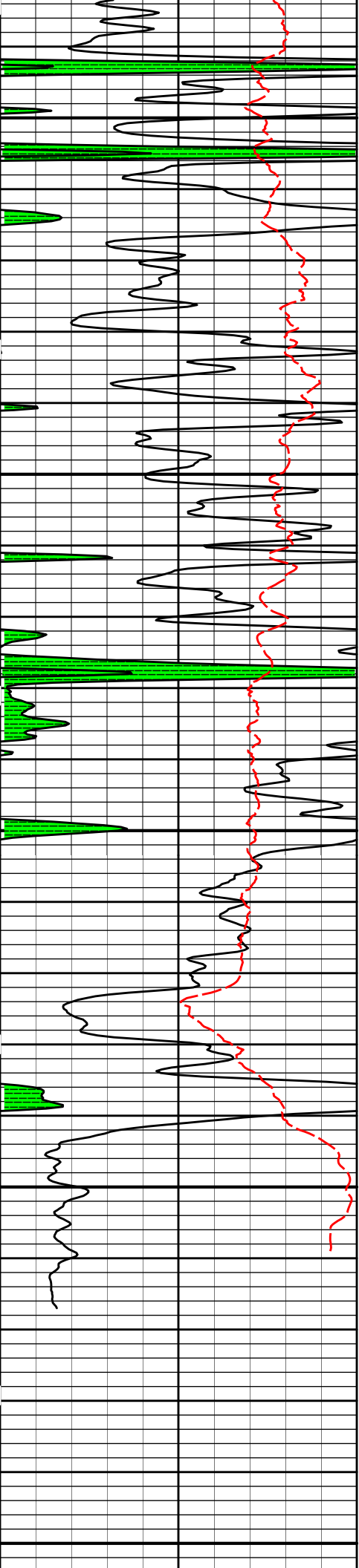
5 INCH MAIN LOG

HALLIBURTON

Plot Time: 25-Mar-13 10:25:24
 Plot Range: 4300 ft to 4560.92 ft
 Data: LPR_1_23\Well Based\REPEAT\
 Plot File: \\-LOCAL-\LPR_1_23\0001 SP-GTET-DSN-SDL-ACRT-CH\ACRT\ACRT_5_repeat_lib

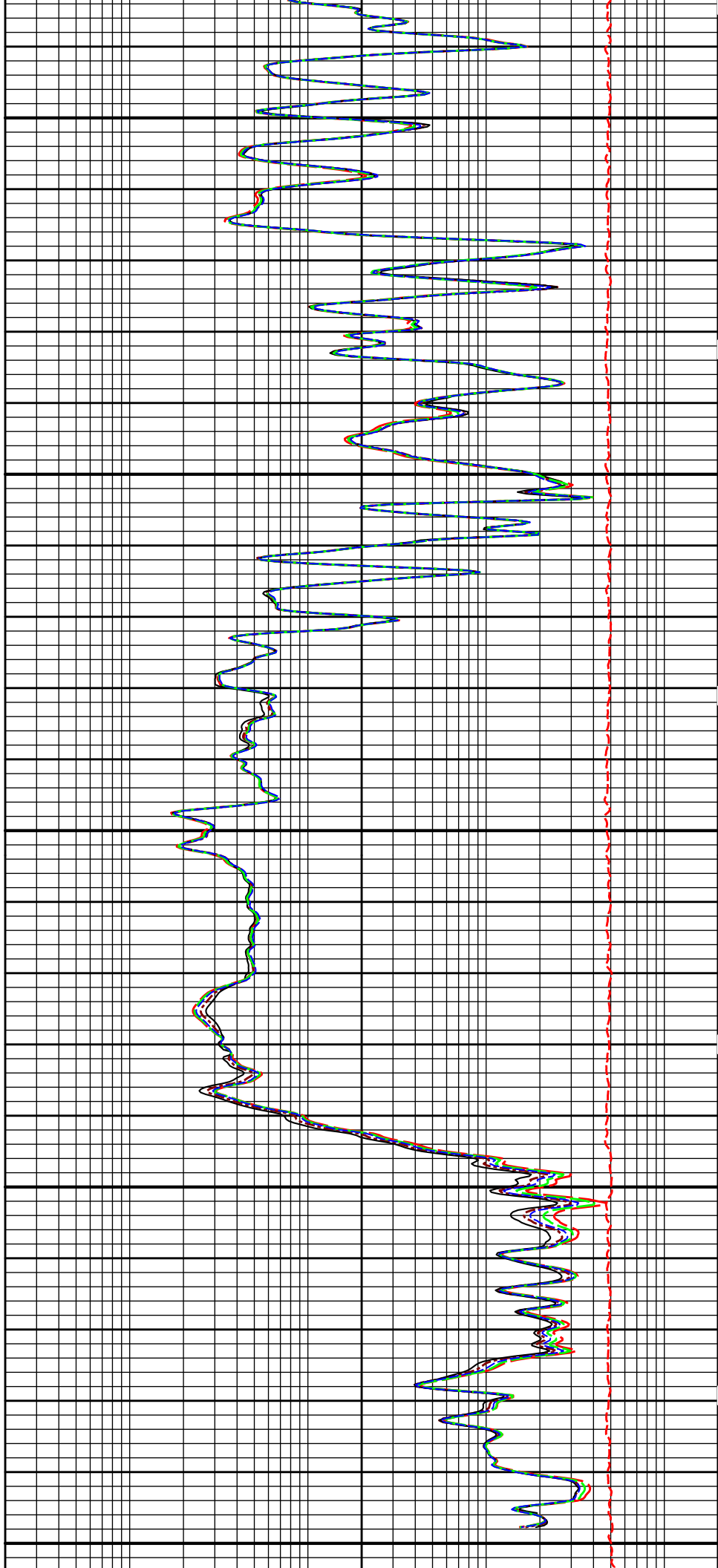
REPEAT SECTION





4400

4500



SP -]20[+	MD 1 : 240 ft		10K	Tension	0
0	Gamma API	150	0.2	10in Resistivity 2ft Res	2000
	api			ohmm	
	SHALE		0.2	20in Resistivity 2ft Res	2000
				ohmm	
			0.2	30in Resistivity 2ft Res	2000
				ohm-metre	
			0.2	60in Resistivity 2ft Res	2000
				ohmm	
			0.2	90in Resistivity 2ft Res	2000
				ohmm	

HALLIBURTON

Plot Time: 25-Mar-13 10:25:26
 Plot Range: 4300 ft to 4560.92 ft
 Data: LPR_1_23\Well Based\REPEAT\
 Plot File: \\-LOCAL-\LPR_1_23\0001 SP-GTET-DSN-SDL-ACRT-CHACRT\ACRT_5_repeat_lib

REPEAT SECTION

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
Cable Head- PROT01 30.00 lbs		Ø 3.625 in →			1.92 ft	54.51 ft
SP Sub-11441455 60.00 lbs		Ø 3.625 in →		← SP @ 50.81 ft	3.74 ft	52.59 ft
GTET-11048627 165.00 lbs		Ø 3.625 in →		← GammaRay @ 42.79 ft	8.52 ft	48.85 ft
DSN Decentralizer- 11005605 6.60 lbs		Ø 5.000 in* →				40.33 ft
DSNT-11019643 174.00 lbs		Ø 3.625 in →		← DSN Far @ 33.39 ft ← DSN Near @ 32.64 ft	9.69 ft	

SDLT-10950489
360.00 lbs

SDLT Pad-10844781
65.00 lbs
Microlog Pad-10950489
8.00 lbs

Ø 4.500 in →

Ø 4.750 in* →
Ø 4.750 in* →

Microlog @ 22.83 ft
SDL Caliper @ 22.65 ft
SDL @ 22.64 ft

10.81 ft

19.83 ft

ACRt Instrument-
I5059_S8385
50.00 lbs

Ø 3.625 in →

5.03 ft

14.80 ft

Regal Standoff 6_75-1
20.00 lbs

Ø 6.750 in* →

← Mud Resistivity @ 13.44 ft

← ACRt @ 9.46 ft

ACRt Sonde-
11038385
200.00 lbs

Ø 3.625 in →

14.22 ft

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	Standard OH Cable Head	PROT01	30.00	1.92	52.59	300.00
SP	SP Sub	11441455	60.00	3.74	48.85	300.00
GTET	Gamma Telemetry Tool	11048627	165.00	8.52	40.33	60.00
DSNT	Dual Spaced Neutron	11019643	174.00	9.69	30.64	60.00
DCNT	DSN Decentralizer	11005605	6.60	5.13 *	33.97	300.00
SDLT	Spectral Density Tool	10950489	360.00	10.81	19.83	60.00
SDLP	Density Insite Pad	10844781	65.00	2.55 *	22.04	60.00
MICP	Microlog Pad	10950489	8.00	1.00 *	22.33	60.00
ACRt	Array Compensated True Resistivity Instrument Section	I5059_S8385	50.00	5.03	14.80	300.00
ACRt	Array Compensated True Resistivity Sonde Section	11038385	200.00	14.22	0.58	300.00
RSOF	Regal Standoff 6.75in	1	20.00	0.52 *	12.30	300.00
CBHD	Cabbage Head	TRK696	10.00	0.58	0.00	300.00

Total **1,148.60** **54.51**

* Not included in Total Length and Length Accumulation.

Data: LPR_1_23\0001 SP-GTET-DSN-SDL-ACRT-CH\IDLE

Date: 25-Mar-13 08:02:35

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name: GTET - 11048627

Reference Calibration Date: 13-Feb-13 14:00:35

Engineer: J. BOLLUM

Calibration Date: 05-Mar-13 09:33:28

Software Version: WL INSITE R3.8.0 (Build 2)

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	50.6	51.6	api
Background + Calibrator	315.2	321.3	api
Calibrator	264.6	269.6	api

ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION

Tool Name: ACRt Sonde - 11038385

Reference Calibration Date: 31-Jan-13 15:16:35

Engineer: J. BOLLUM

Calibration Date: 02-Mar-13 10:50:16

Software Version: WL INSITE R3.8.0 (Build 2)

Calibration Version: 1

Host Tool Name: ACRt Instrument - I5059_S8385

TYPICAL GAIN RANGE

Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	1.01	1.05	0.95	1.02	1.05	0.95	1.02	1.05
A2 (50")	0.95	1.01	1.05	0.95	1.02	1.05	0.95	1.02	1.05
A3 (29")	0.95	1.00	1.05	0.95	1.01	1.05	0.95	1.01	1.05
A4 (17")	0.95	1.01	1.05	0.95	1.01	1.05	0.95	1.01	1.05
A5 (10")	N/A	N/A	N/A	0.95	1.00	1.05	0.95	1.00	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.99	1.05	0.95	0.99	1.05

TYPICAL SONDE OFFSET RANGE

Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	-5	-1.30	2	-6	-5.28	-2	-8	-4.58	-2
A2 (50")	-7	-2.63	0	-7	-3.66	0	-7	-4.53	0
A3 (29")	-27	-12.94	-9	-9	-3.67	-3	-7	-2.51	-1
A4 (17")	-180	-104.06	-60	-45	-33.05	-15	-39	-25.52	-13
A5 (10")	N/A	N/A	N/A	-150	-82.06	-50	-80	-40.79	-10
A6 (6")	N/A	N/A	N/A	175	339.74	525	90	168.45	270

TRANSMITTER CURRENT GAIN

Signal	Lower	R	Upper
12K	0.6	0.85	1.3
36K	1.0	1.34	2.0
72K	1.0	1.60	2.0

R-MUD VERIFICATION

Signal	Lower (ohm-m)	Measured (ohm-m)	Upper (ohm-m)
Mud Cell	0.95	1.00	1.05

PASS/FAIL SUMMARY

GAIN RANGE CHK	PASS
SONDE OFFSET RANGE CHK	PASS
Tx CURRENT GAIN	PASS
Rmud VERIFICATION	PASS

TOOL OK TO LOG

CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11048627						
Gamma Ray Calibrator	269.6	-----	-----	0.0	+/- 9.00	api
ACRt Sonde-11038385						
Mud Cell	1.00	-----	-----	0.00	-----	ohm-m

Data: LPR_1_23\0001 SP-GTET-DSN-SDL-ACRT-CHVDLE

Date: 25-Mar-13 08:04:20

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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	9.400	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	75.0	degF
	SHARED	CSD	Logging Interval is Cased?	No	
	SHARED	ICOD	AHV Casing OD	5.500	in
	SHARED	ST	Surface Temperature	75.0	degF
	SHARED	TD	Total Well Depth	4550.00	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	
Microlog Pad	MLOK	Process MicroLog 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
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

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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	
SP Sub				
PLTC	Plot Control Mask	50.81	NO	
SP	Spontaneous Potential	50.81	BLK	1.250
SPR	Raw Spontaneous Potential	50.81	NO	
SPO	Spontaneous Potential Offset	50.81	NO	
GTET				
TPUL	Tension Pull	42.79	NO	
GR	Natural Gamma Ray API	42.79	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API	42.79	NO	
EGR	Natural Gamma Ray API with Enhanced Vertical Resolution	42.79	W	1.416 , 0.750
ACCZ	Accelerometer Z	0.00	BLK	0.083
DEVI	Inclination	0.00	NO	
DSNT				
TPUL	Tension Pull	32.54	NO	
RNDS	Near Detector Telemetry Counts	32.64	BLK	1.417
RFDS	Far Detector Telemetry Counts	33.39	TRI	0.583
DNTP	DSN Tool Temperature	33.39	NO	

DNT1	DSN Tool Temperature	32.64	NO	
DSNS	DSN Tool Status	32.54	NO	
ERND	Near Detector Telemetry Counts EVR	32.64	BLK	0.000
ERFD	Far Detector Telemetry Counts EVR	33.39	BLK	0.000
ENTM	DSN Tool Temperature EVR	32.64	NO	
SDLT				
TPUL	Tension Pull	22.65	NO	
PCAL	Pad Caliper	22.65	TRI	0.250
ACAL	Arm Caliper	22.65	TRI	0.250
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 Current Raw 12K X Receiver	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	

Microlog Pad

TPUL	Tension Pull	22.83	NO	
MINV	Microlog Lateral	22.83	BLK	0.750
MNOR	Microlog Normal	22.83	BLK	0.750

SDLT Pad

TPUL	Tension Pull	22.64	NO	
NAB	Near Above	22.46	BLK	0.920
NHI	Near Cesium High	22.46	BLK	0.920
NLO	Near Cesium Low	22.46	BLK	0.920
NVA	Near Valley	22.46	BLK	0.920
NBA	Near Barite	22.46	BLK	0.920
NDE	Near Density	22.46	BLK	0.920
NPK	Near Peak	22.46	BLK	0.920
NLI	Near Lithology	22.46	BLK	0.920
NBAU	Near Barite Unfiltered	22.46	BLK	0.250
NLIU	Near Lithology Unfiltered	22.46	BLK	0.250
FAB	Far Above	22.81	BLK	0.250
FHI	Far Cesium High	22.81	BLK	0.250
FLO	Far Cesium Low	22.81	BLK	0.250
FVA	Far Valley	22.81	BLK	0.250
FBA	Far Barite	22.81	BLK	0.250
FDE	Far Density	22.81	BLK	0.250
FPK	Far Peak	22.81	BLK	0.250
FLI	Far Lithology	22.81	BLK	0.250
PTMP	Pad Temperature	22.65	BLK	0.920
NHV	Near Detector High Voltage	22.04	NO	
FHV	Far Detector High Voltage	22.04	NO	
ITMP	Instrument Temperature	22.04	NO	
DDHV	Detector High Voltage	22.04	NO	

Data: LPR_1_23\0001 SP-GTET-DSN-SDL-ACRT-CHIDL

Date: 25-Mar-13 08:03:28

COMPANY	LANDMARK RESOURCES INC.		
WELL	LPR 1-23		
FIELD	WILDCAT		
COUNTY	LOGAN	STATE	KANSAS

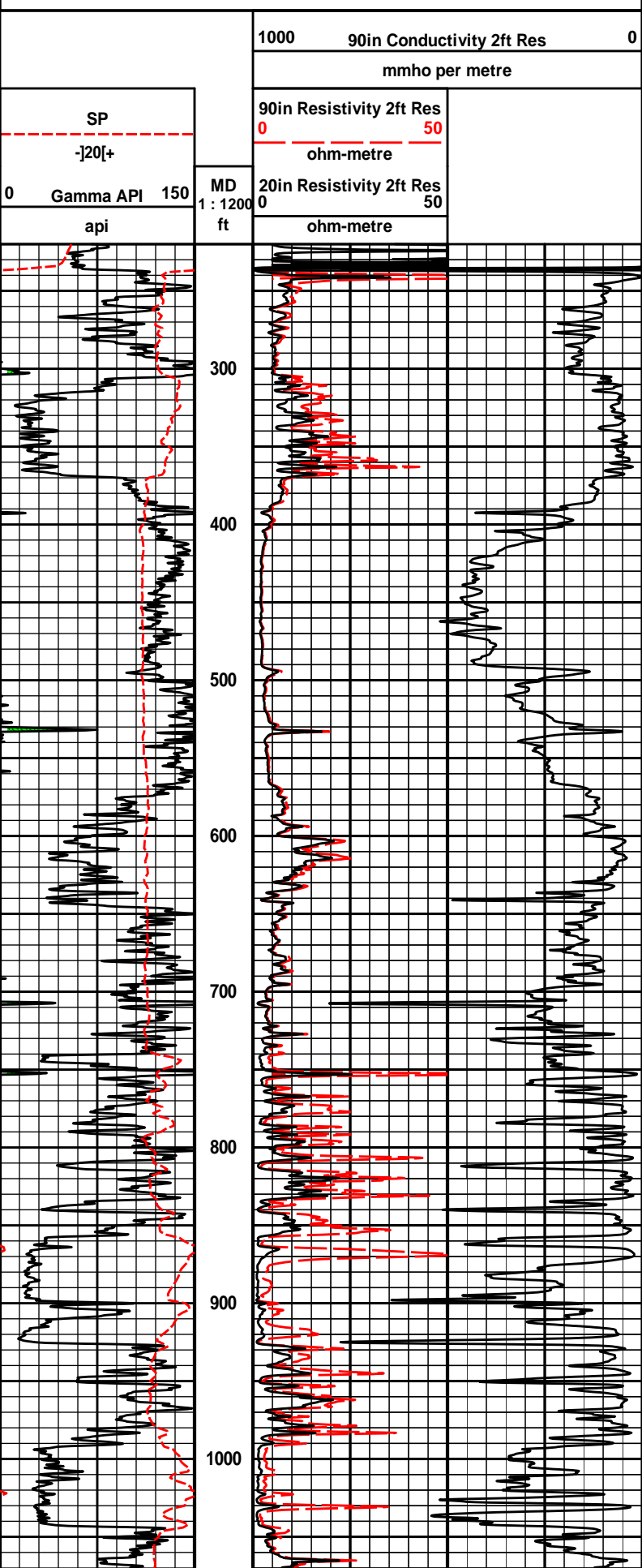
HALLIBURTON

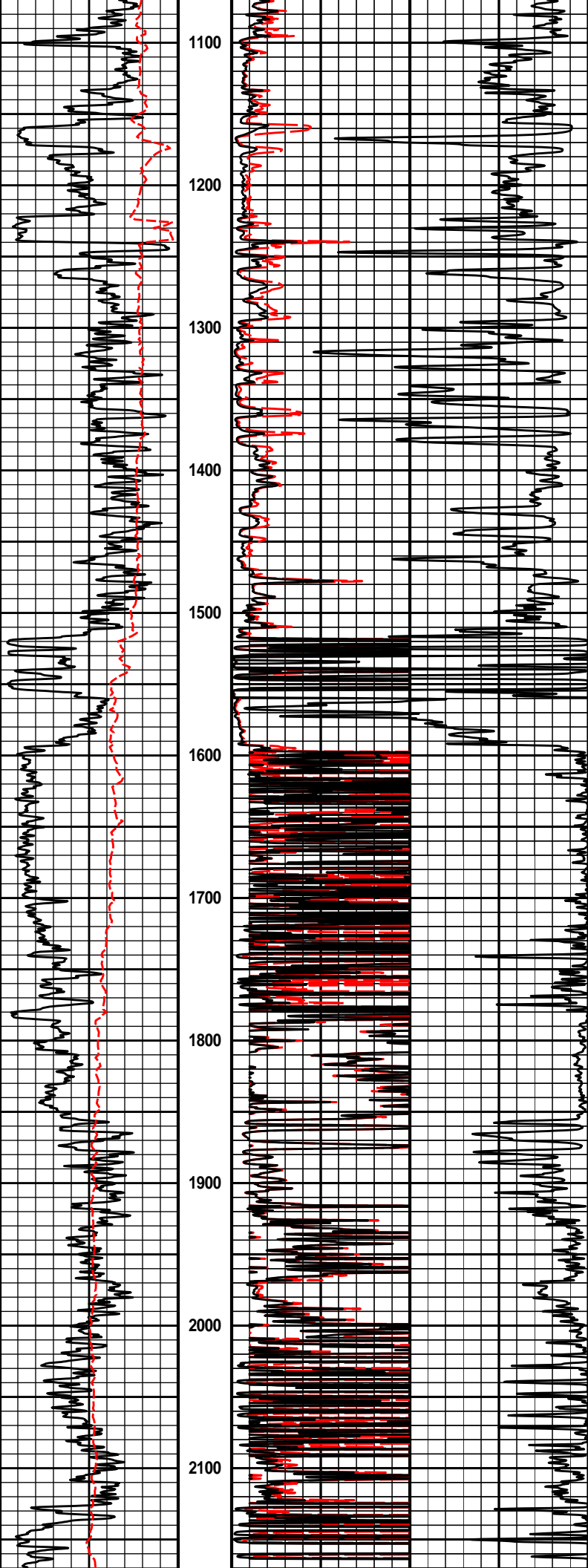
ARRAY COMPENSATED
TRUE RESISTIVITY
LOG

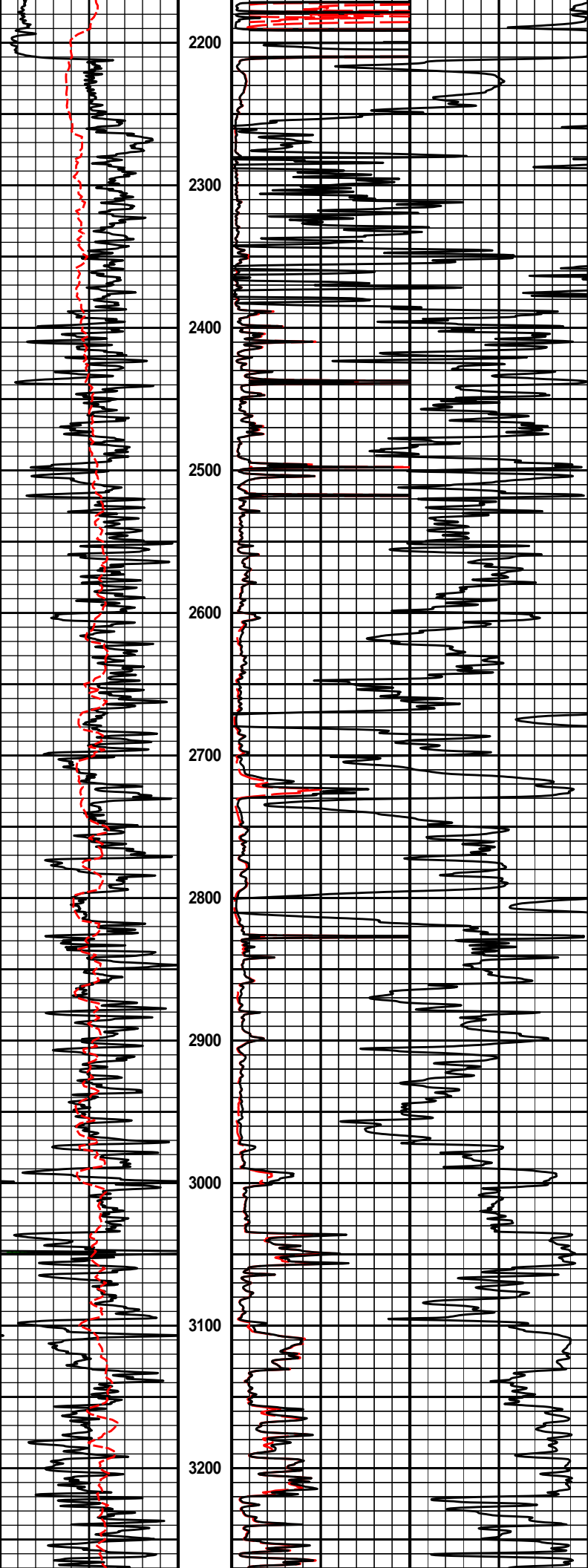
HALLIBURTON

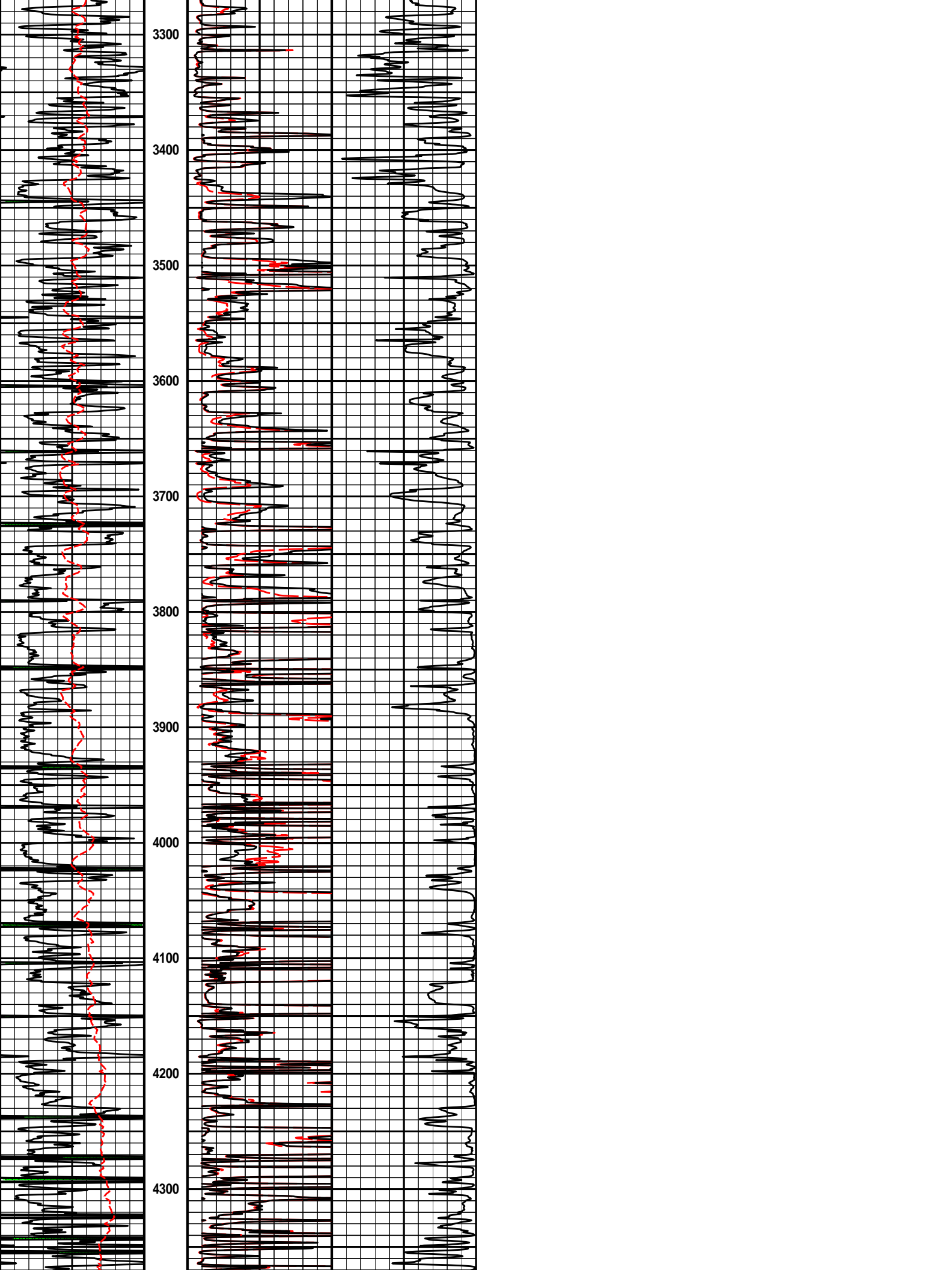
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Plot Range: 220 ft to 4546.5 ft

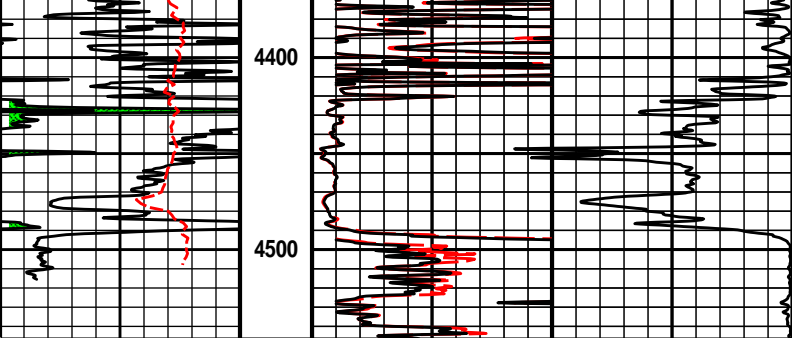
1 INCH MAIN LOG











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

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Plot Time: 25-Mar-13 10:25:29
 Plot Range: 220 ft to 4546.5 ft
 Data: LPR_1_23\Well Based\CASING\
 Plot File: \\-LOCAL-LPR_1_23...ACRT_1_lib

1 INCH MAIN LOG