KOLAR Document ID: 1363721

Confidentiality Requested:
☑ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

Form ACO-1
January 2018
Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 31093
Name: Becker Oil Corporation
Address 1: PO BOX 1150
Address 2:
City: PONCA CITY State: OK Zip: 74602 + 1150
Contact Person: Clyde M. Becker, Jr.
Phone: (580) 765-8788
CONTRACTOR: License # 32701
Name: C & G Drilling, Inc.
Wellsite Geologist: Clyde M. Becker, Jr.
Purchaser:

Designate Type of Completion:
☑ New Well ☐ Re-Entry ☐ Workover
☐ Oil ☐ WSW ☐ SWD
☐ Gas ☑ DH ☐ EOR
☐ OG ☐ GSW
☐ 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 EOR ☐ Conv. to SWD
☐ Plug Back ☐ Liner ☐ Conv. to GSW ☐ Conv. to Producer

☐ Commingled Permit #:
☐ Dual Completion Permit #:
☐ SWD Permit #:
☐ EOR Permit #:
☐ GSW Permit #:

04/27/2017	05/03/2017	05/04/2017
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No.: 15-035-24666-00-00
Spot Description:
SW - NE - NE - NE Sec. 19 Twp. 34 S. R. 6 ☑ East ☐ West
560 Feet from ☑ North / ☐ South Line of Section
560 Feet from ☑ East / ☐ West Line of Section
Footages Calculated from Nearest Outside Section Corner:
☑ NE ☐ NW ☐ SE ☐ SW
GPS Location: Lat: *(e.g. xx.xxxxx)* , Long: *(e.g. -xxx.xxxxx)*
Datum: ☐ NAD27 ☐ NAD83 ☐ WGS84
County: Cowley
Lease Name: BOWLING Well #: 1
Field Name:
Producing Formation: N/A
Elevation: Ground: 1230 Kelly Bushing: 1239
Total Vertical Depth: 3525 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 303 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: 1500 ppm Fluid volume: 600 bbls
Dewatering method used: Evaporated
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: 08/17/2017
☑ **Confidential Release Date:** 08/17/2019
☑ **Wireline Log Received** ☐ **Drill Stem Tests Received**
☐ **Geologist Report / Mud Logs Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** Karen Ritter **Date:** 08/22/2017

Operator Name: Becker Oil Corporation Lease Name: BOWLING Well #: 1

Sec. 19 Twp. 34 S. R. 6 ☑ East ☐ West County: Cowley

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 *(Attach Additional Sheets)*	☑ Yes	☐ No
Samples Sent to Geological Survey	☐ Yes	☑ No
Cores Taken	☐ Yes	☑ No
Electric Log Run	☑ Yes	☐ No
Geologist Report / Mud Logs	☐ Yes	☐ No

List All E. Logs Run:

DIL
CNL/FDL
Microlog

☐ Log Formation (Top), Depth and Datum ☐ Sample

Name	Top	Datum
Iatan	1746	(-507)
Stalnaker	1800	(-561)
Layton	2258	(-1019)
Oswego	2862	(-1623)
Miss. Chat	3071	(-1832)
Miss. Lime	3121	(-1882)
TD	3525	(-2286)

CASING RECORD ☑ New ☐ 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
Surface	12.25	8.625	24	314	Class A	150	2%cc,2%gel,1/4#polyflake

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
☐ Perforate ☐ Protect Casing ☐ Plug Back TD ☐ Plug Off Zone	-			
	-			

1. Did you perform a hydraulic fracturing treatment on this well? ☐ Yes ☑ No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? ☐ Yes ☐ No *(If No, skip question 3)*
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)*

Date of first Production/Injection or Resumed Production/ Injection:	Producing Method: ☐ Flowing ☐ Pumping ☐ Gas Lift ☐ Other *(Explain)*

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

DISPOSITION OF GAS:	METHOD OF COMPLETION:	PRODUCTION INTERVAL:
☐ Vented ☐ Sold ☐ Used on Lease *(If vented, Submit ACO-18.)*	☐ Open Hole ☐ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*	Top / Bottom

Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record *(Amount and Kind of Material Used)*

TUBING RECORD: Size: Set At: Packer At:

Mail to: KCC - Conservation Division, 266 N. Main, Suite 220, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	Becker Oil Corporation
Well Name	BOWLING 1
Doc ID	1363721

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Surface	12.25	8.625	24	314	Class A	150	2%cc,2%gel,1/4#polyflake

8072/7901 TICKET NUMBER 52109

CONSOLIDATED
Oil Well Services, LLC

LOCATION El Dorado

API # 15-035-24666-00-00 FOREMAN Fuzzy

PO Box 884, Chanute, KS 66720
620-431-9210 or 800-467-8676

FIELD TICKET & TREATMENT REPORT
CEMENT

INVOICE #810156 KS

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
4-27-17	3230*	Bowling #1	19	34S	6E	Cowley

CUSTOMER	
Becker Oil	
MAILING ADDRESS	
P.O. Box 1150	
CITY	STATE / ZIP CODE
Ponca City	OKLA 74602

TRUCK #	DRIVER	TRUCK #	DRIVER
603	Tracy		
611	Jud		
725	Fuzzy		

JOB TYPE Surface HOLE SIZE 12 1/4 HOLE DEPTH 315' CASING SIZE & WEIGHT 8 5/8

CASING DEPTH 314' DRILL PIPE TUBING OTHER

SLURRY WEIGHT 14.7 SLURRY VOL 36.3 BBLS WATER gal/sk 6.5 CEMENT LEFT in CASING 20'

DISPLACEMENT 18.7 DISPLACEMENT PSI 100* MIX PSI RATE 4 BBL/MIN

REMARKS: Safety meeting on C+G #2 rig up and circulate pump 10 BBL water, mix 150 sks class 'A' 3% cc, 2% gel w/ 1/2# polyflake D. splace 18 3/4 BBL and shut in.

Cement did circulate approx 6+ BBLS to pit

Thanks Fuzzy + Crew

ACCOUNT CODE	QUANITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
CE0450	1	PUMP CHARGE	1500.00	1500.00
CE0002	50	MILEAGE	7.15	357.50
CE0711	7.1 TON	Ton mileage Delivery (min)	660.00	660.00
CC5800A	150 sks	Class 'A'	20.00	3000.00
CC5325	400#	Calcium Chloride	1.25	500.00
CC5965	300#	Gel	.30	90.00
CC6075	75#	Polyflake	2.00	150.00
		subtotal		6257.50
		48% discount		3003.60
		As per bid	SALES TAX	252.45
			ESTIMATED TOTAL	3506.35

Ravin 3737

AUTHORIZTION D Coulter TITLE DATE 3385.17

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form

HALLIBURTON

ARRAY COMPENSATED TRUE RESISTIVITY LOG

BECKER OIL COPRORATION
BOWLING #1
WEST ESTUP
COWLEY
KANSAS

COMPANY
WELL
FIELD/BLOCK
COUNTY
STATE

COMPANY **BECKER OIL COPRORATION**

WELL **BOWLING #1**

FIELD/BLOCK **WEST ESTUP**

COUNTY **COWLEY** STATE **KANSAS**

API No. 15-035-24666-00-00

Location 560' FNL & 560' FEL
SW NE NE NE

Sect. 19 Twp. 34S Rge. 6E

Other Services:
GTET
DSNT
SDLT
ACRT

Permanent Datum	GL	Elev. 1230.0 ft	Elev.: K.B. 1239.0 ft
Log measured from	KB	, 1239.0 ft above perm. Datum	D.F. 1239.0 ft
Drilling measured from	KB		G.L. 1230.0 ft

Date		03-May-17					
Run No.		ONE					
Depth - Driller		3525.0 ft					
Depth - Logger		3518.0 ft					
Bottom - Logged Interval		3508.0 ft					
Top - Logged Interval		312.0 ft					
Casing - Driller		8.625 in	@ 303.0 ft	@		@	
Casing - Logger		312.0 ft					
Bit Size		7.875 in		@		@	
Type Fluid in Hole		Water Based Mud					
Density	Viscosity	9.2 ppg	42.00 s/qt				
PH	Fluid Loss	9.73 pH	9.1 cptm				
Source of Sample		FLOWLINE					
Rm @ Meas. Temperature		1.45 ohmm	@ 75.00 degF	@		@	
Rmf @ Meas. Temperature		1.23 ohmm	@ 75.00 degF	@		@	
Rmc @ Meas. Temperature		1.67 ohmm	@ 75.00 degF	@		@	
Source Rmf	Rmc	CALC	CALC				
Rm @ BHT		1.29 ohmm	@ 110.0 degF	@		@	
Time Since Circulation		15:51 hr					
Time on Bottom		03-May-17 20:51					
Max. Rec. Temperature		110.00 degF	@ 3518.0 ft	@		@	
Equipment	Location	11072142	EL RENO, OK				
Recorded By		MICHAEL RICHTER					
Witnessed By		CLYDE BECKER, JR					

Fold here

Service Ticket No.: 904014278

API No.: 15-035-24666-00-00

PGM Version: WL INSITE R5.0.5 (Build 8)

CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE

RESISTIVITY SCALE CHANGES

	Sample No.	Type Log	Depth	Scale Up Hole	Scale Down Hole
Date					
Depth-Driller					
Type Fluid in Hole					
Density	Viscosity				
Ph	Fluid Loss				

RESISTIVITY EQUIPMENT DATA

	Run No.	Tool Type & No.	Pad Type	Tool Pos.	Other
Source of Sample					
Rm @ Meas. Temp	@				
Rmf @ Meas. Temp.	@	ONE	ACRT	NONE	1.19 in S.O.	N/A
Rmc @ Meas. Temp.	@		I-11026095			
Source Rmf	Rmc	CALC	CALC		S-11005908			
Rm @ BHT	@ 105 degF	1.29 ohmm	@ 105 degF				
Rmf @ BHT	@ 105 degF	1.10 ohmm	@ 105 degF				
Rmc @ BHT	@ 105 degF	1.48 ohmm	@ 105 degF				

EQUIPMENT DATA

GAMMA		ACOUSTIC		GAMMA		ACOUSTIC		DENSITY			NEUTRON			
				Scale		Scale		Matrix	Scale			Scale		Matrix
Run No.	ONE	Run No.		L	R	L	R		L	R	ONE	L	R	
Serial No.	11048627	Serial No.												
Model No.	GTET	Model No.												
Diameter	3.625"	Diameter												
Detector Model No.	GTET	Log Type												
Type	SCINT	Source Type												
Length	8"	Serial No.												
Distance to Source	N/A	Strength												

DENSITY						NEUTRON						
			Scale		Matrix				Scale		Matrix	
Run No.	ONE	Run No.	L	R		ONE	Run No.	ONE	L	R		
Serial No.	11213308	Serial No.				11660709	Serial No.	11660709				
Model No.	SDLT	Model No.				DSNT	Model No.	DSNT				
Diameter	4.6"	Diameter				3.625"	Diameter	3.625"				
Log Type	GAM-GAM	Log Type				NEU-NEU	Log Type	NEU-NEU				
Source Type	Cs-137	Source Type				Am241Be	Source Type	Am241Be				
Serial No.	5168GW	Serial No.				DSN-424	Serial No.	DSN-424				
Strength	1.5 Ci	Strength				15 Ci	Strength	15 Ci				

LOGGING DATA

GENERAL				GAMMA		ACOUSTIC		DENSITY			NEUTRON			
	Run	Depth		Speed	Scale		Scale		Matrix	Scale			Scale		Matrix
	No.	From	To	ft/min	L	R	L	R		L	R		L	R	
	ONE	TD	CSG	REC	0	150				30	10				

ONE	TD	CSG	REC	0	150				30	-10	2.71 g/cc	30	-10	LIME

DIRECTIONAL INFORMATION

Maximum Deviation	@	KOP	@

CLIENT REPORTED VERTICAL WELL

Remarks: GTET-DSNT-SDLT-ACRT RUN IN COMBINATION

ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING

CHLORIDES REPORTED AT 920 PPM

NO POST-CALS COMPLETED AS PER CLIENT REQUEST

POROSITY & MICROLOG CURVES LOGGED TO 1518 FT PER CLIENT REQUEST

RIG: C&G DRILLING

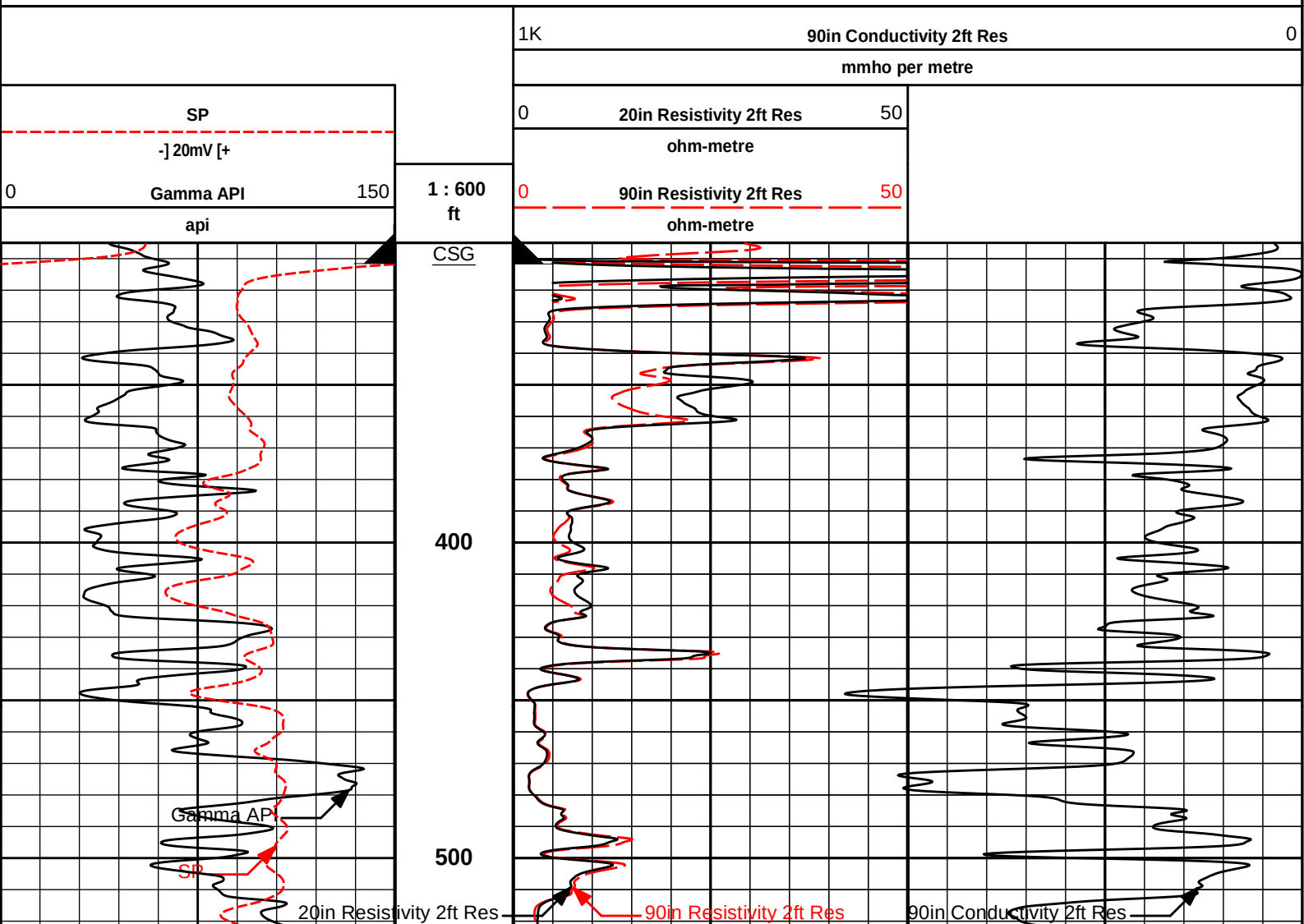
CREW: K. KING, A. FARRAR, K. FITZPATRICK

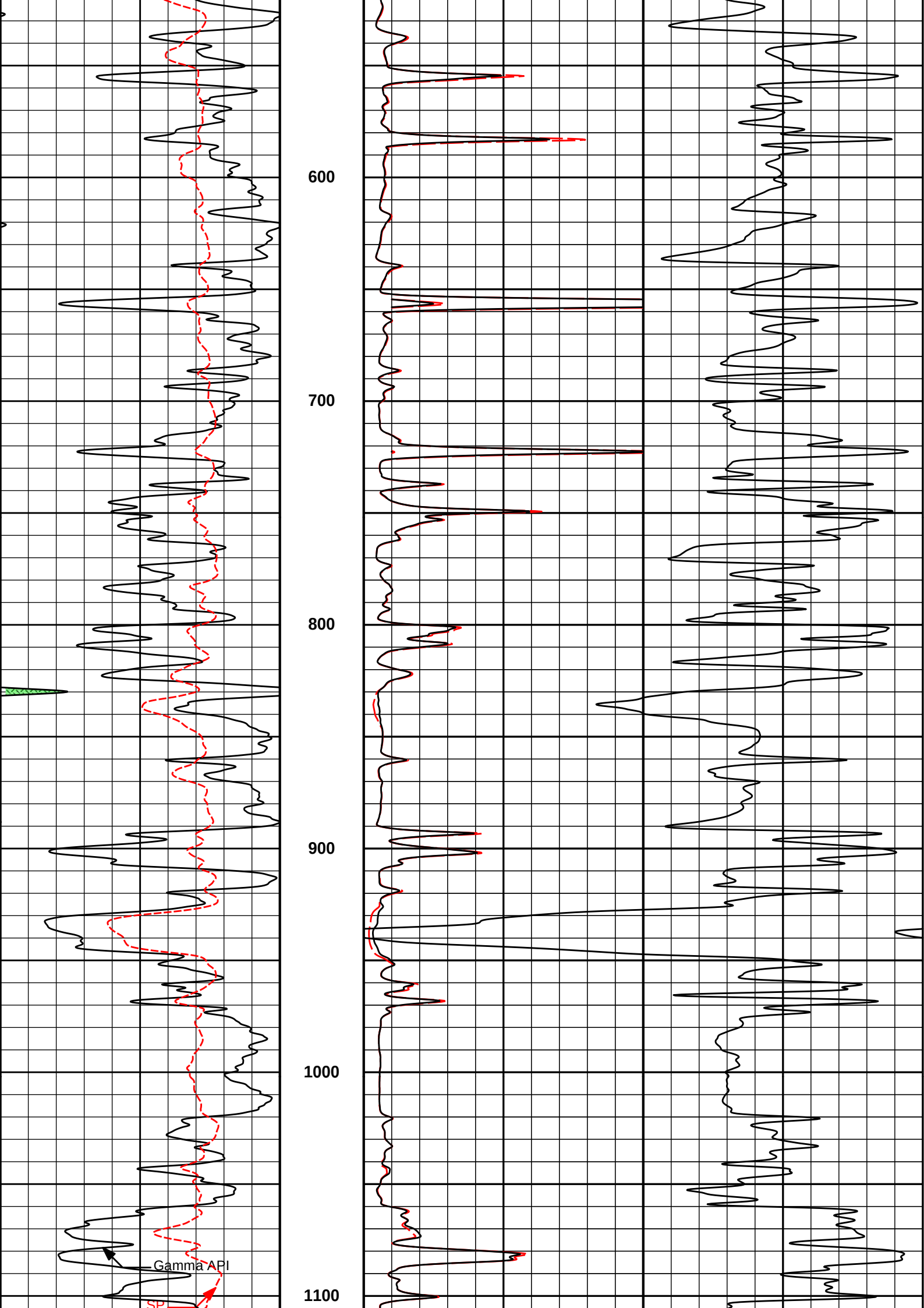
THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES -- EL RENO, OK -- 405.278.9685

HALLIBURTON

Plot Time: 03-May-17 23:52:16
Plot Range: 305 ft to 3509.5 ft
Data: BECKER OIL_BOWL\Well Based\MAIN
Plot File: \\-LOCAL-\BECKER OIL_BOWL\0001 GTET-DSN-SDL-ACRT\ACRT\1_ACRT_2inx

2 INCH MAIN LOG

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800
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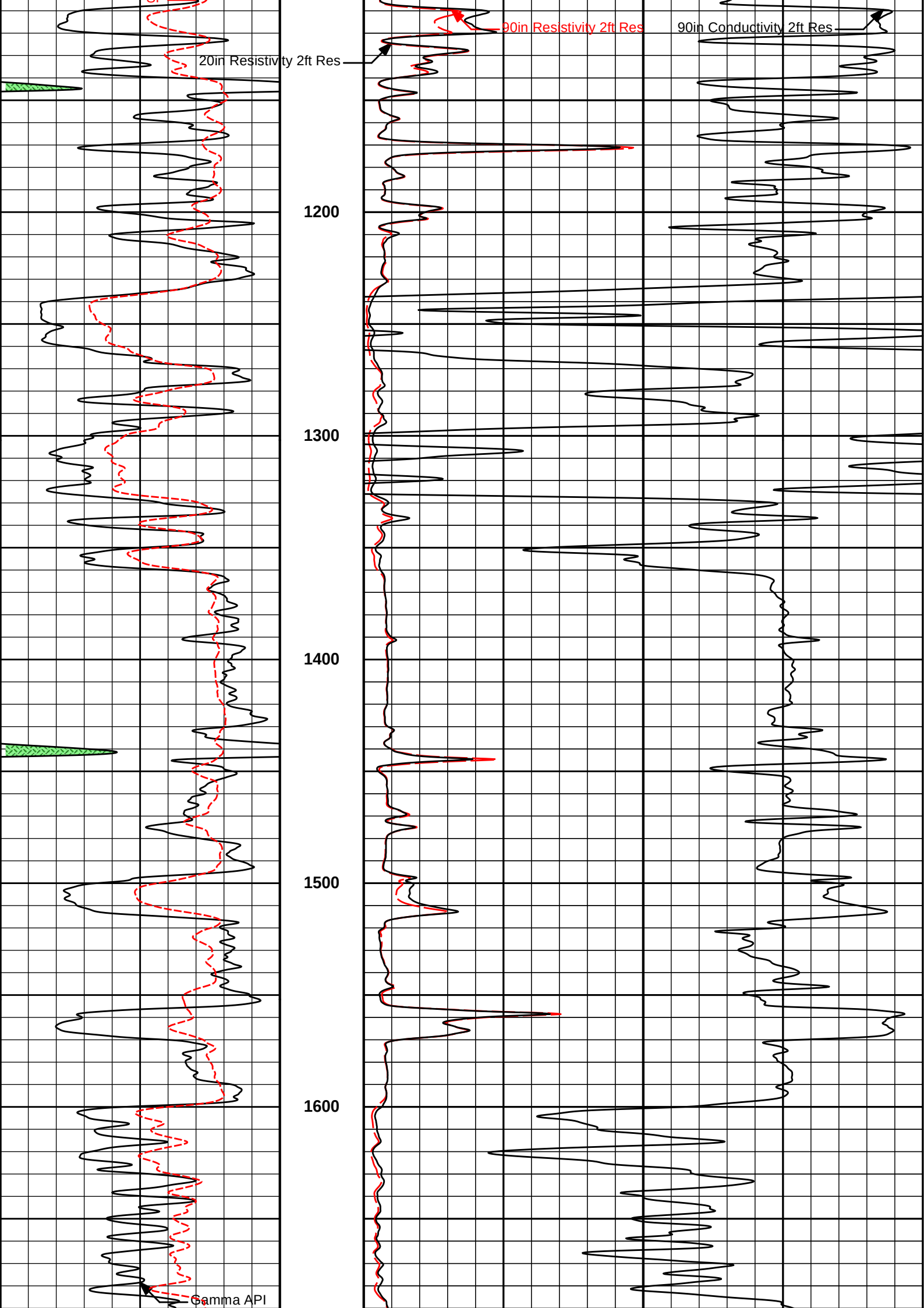
Gamma API
SP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90in Resistivity 2ft Res
90in Conductivity 2ft Res
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1300
1400
1500
1600
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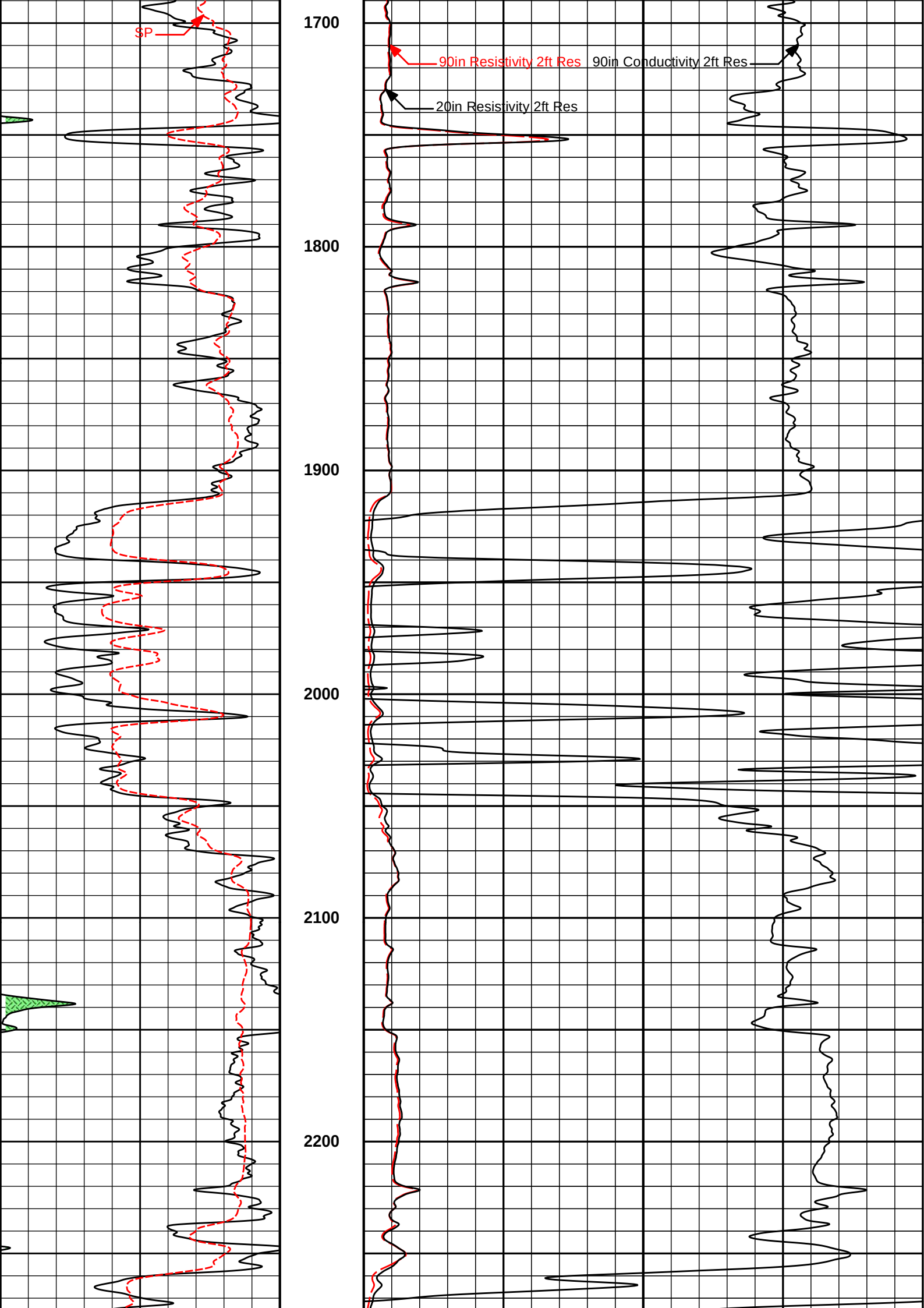
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1900
2000
2100
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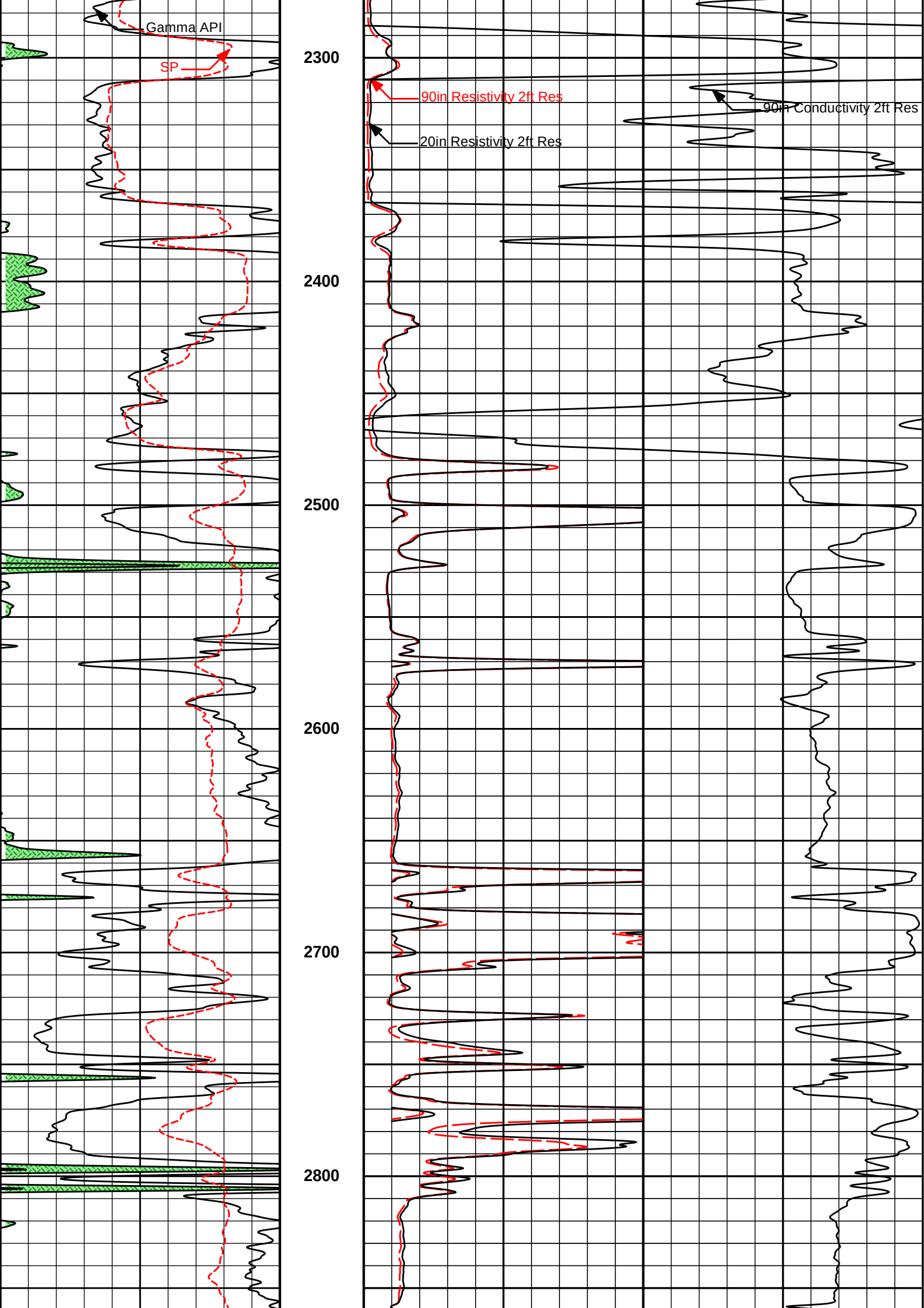
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2600
2700
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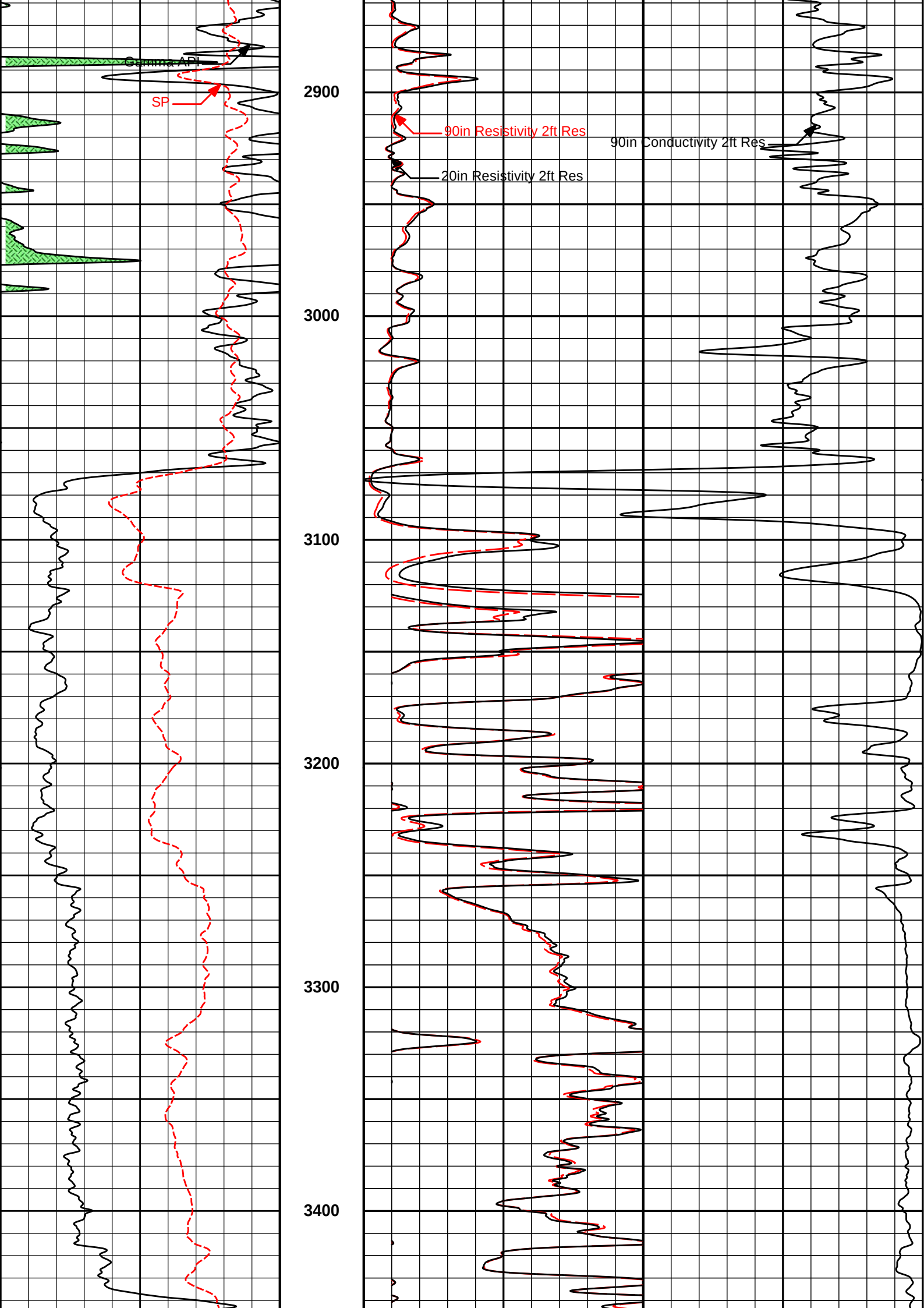
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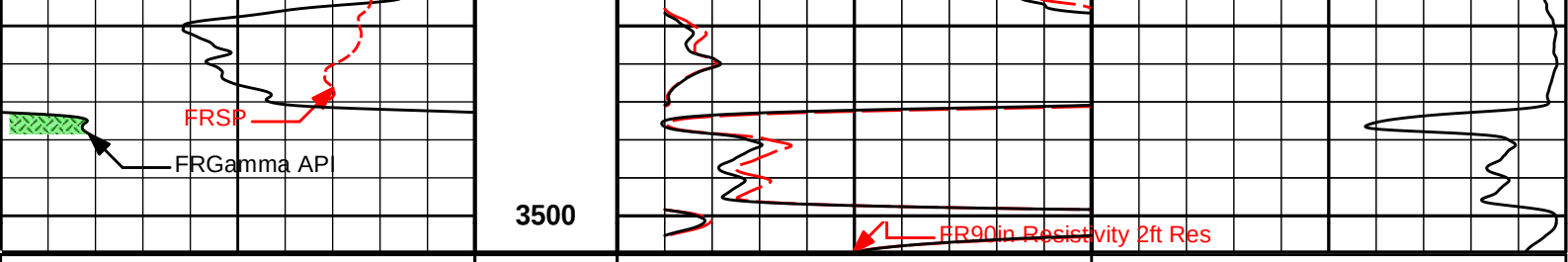

0 Gamma API 150	1 : 600 ft	0 90in Resistivity 2ft Res 50	
api		ohm-metre	
SP		0 20in Resistivity 2ft Res 50	
-] 20mV [+		ohm-metre	
		1K 90in Conductivity 2ft Res 0	
		mmho per metre	

HALLIBURTON

Plot Time: 03-May-17 23:52:18
Plot Range: 305 ft to 3509.5 ft
Data: BECKER OIL_BOWL\Well Based\MAIN\
Plot File: \\-LOCAL-\BECKER OIL_BOWL\0001 GTET-DSN-SDL-ACRT\ACRT\1_ACRT_2inx

2 INCH MAIN LOG

HALLIBURTON

Plot Time: 03-May-17 23:52:18
Plot Range: 305 ft to 3522.42 ft
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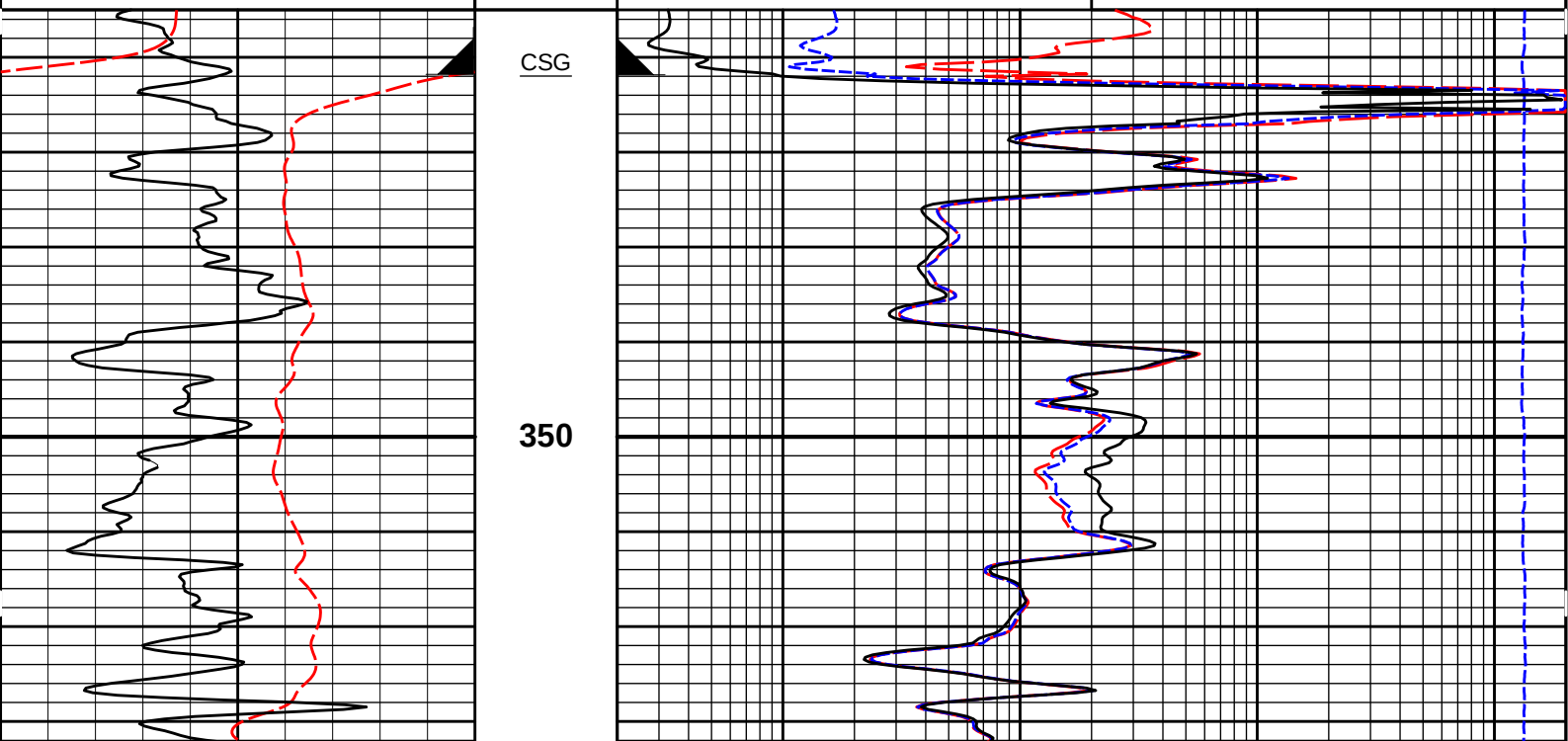
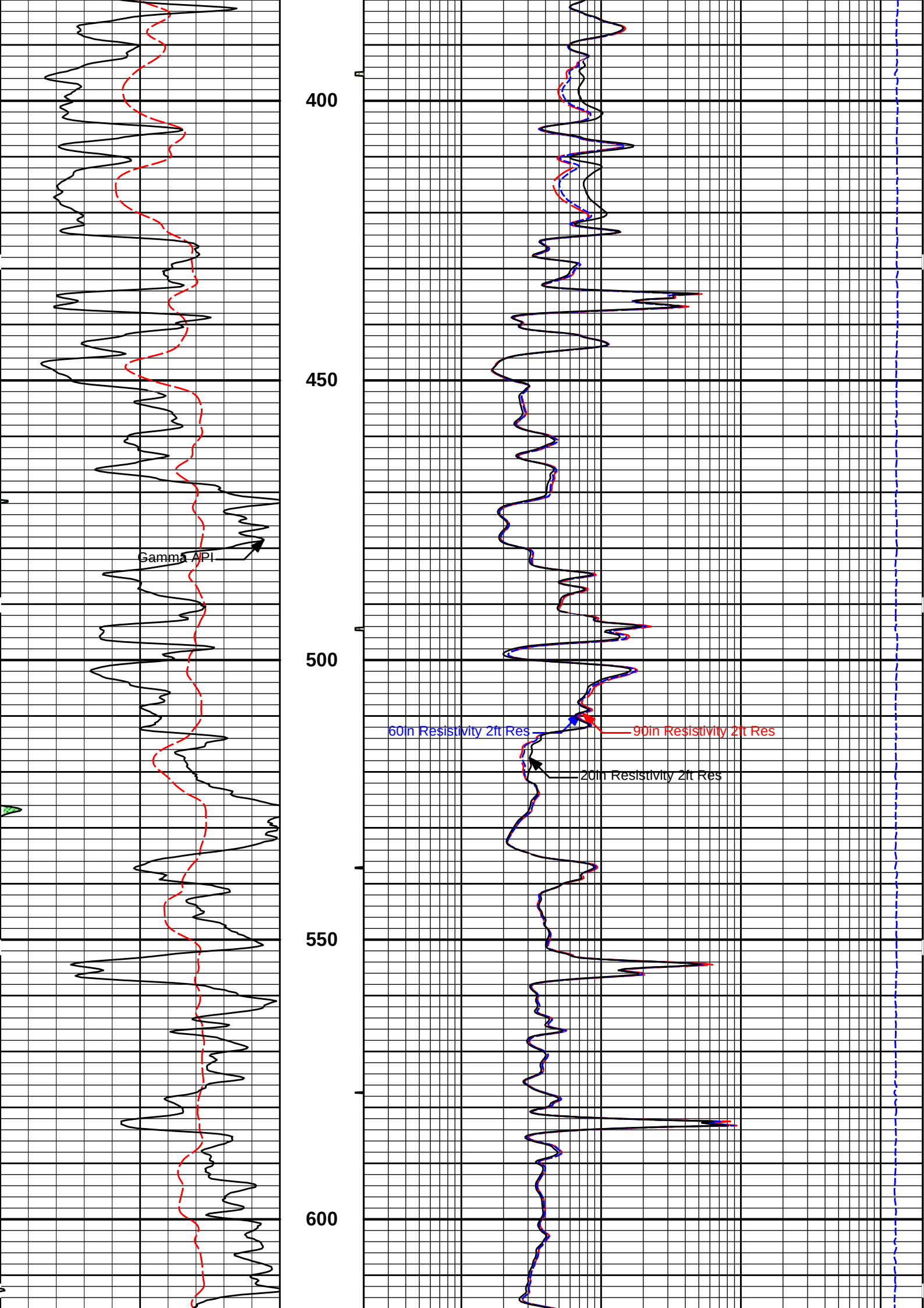
5 INCH MAIN LOG

		0.2 90in Resistivity 2ft Res 2000	
		ohmm	
		0.2 60in Resistivity 2ft Res 2000	
		ohmm	
SP	Tension Pull 10 0	0.2 20in Resistivity 2ft Res 2000	
-] 20 mV [+		ohm-metre	
0 Gamma API 150	1 : 240 ft		15K Tension 0
api			pounds

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Gamma API
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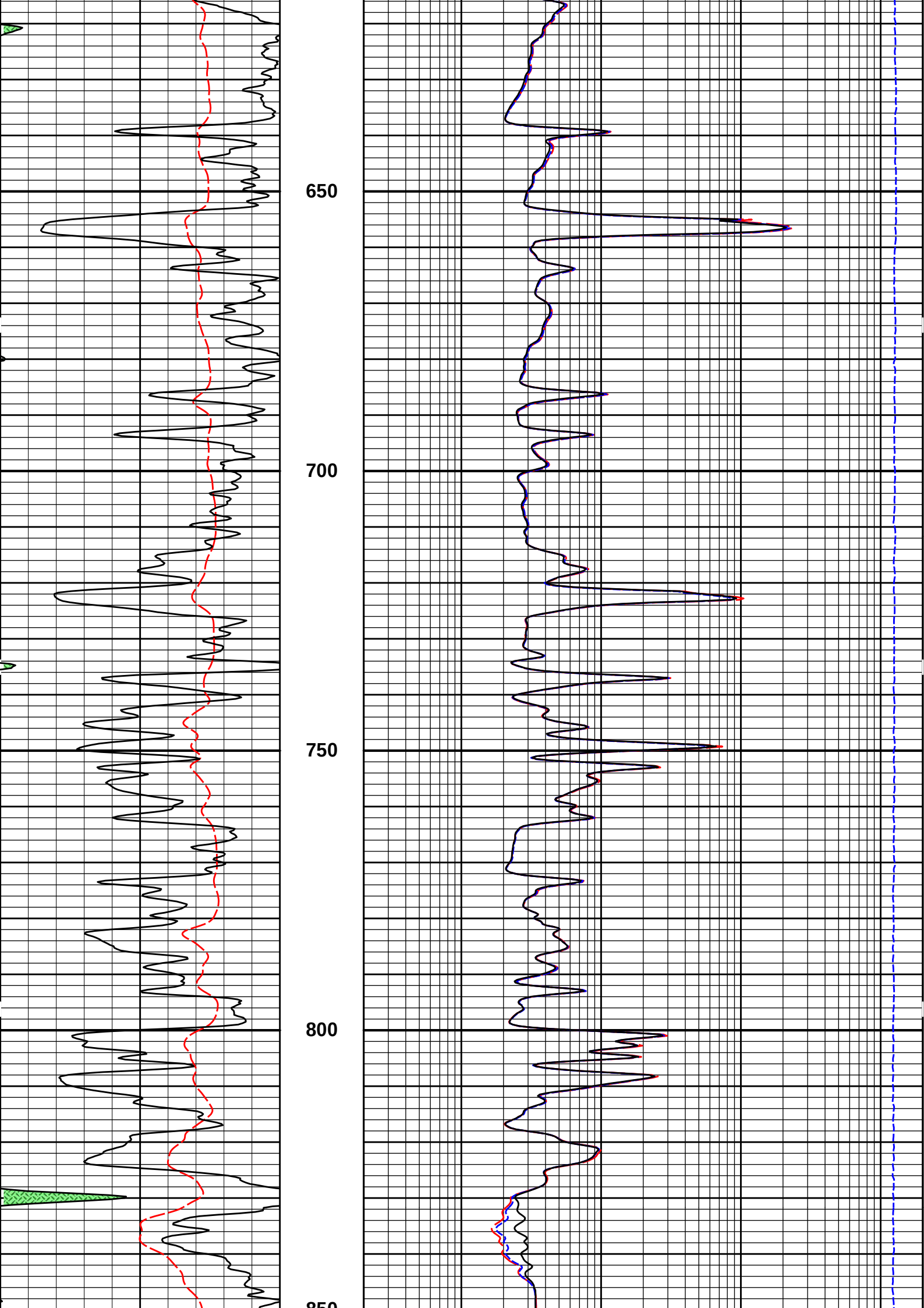
90in Resistivity 2ft Res
20in Resistivity 2ft Res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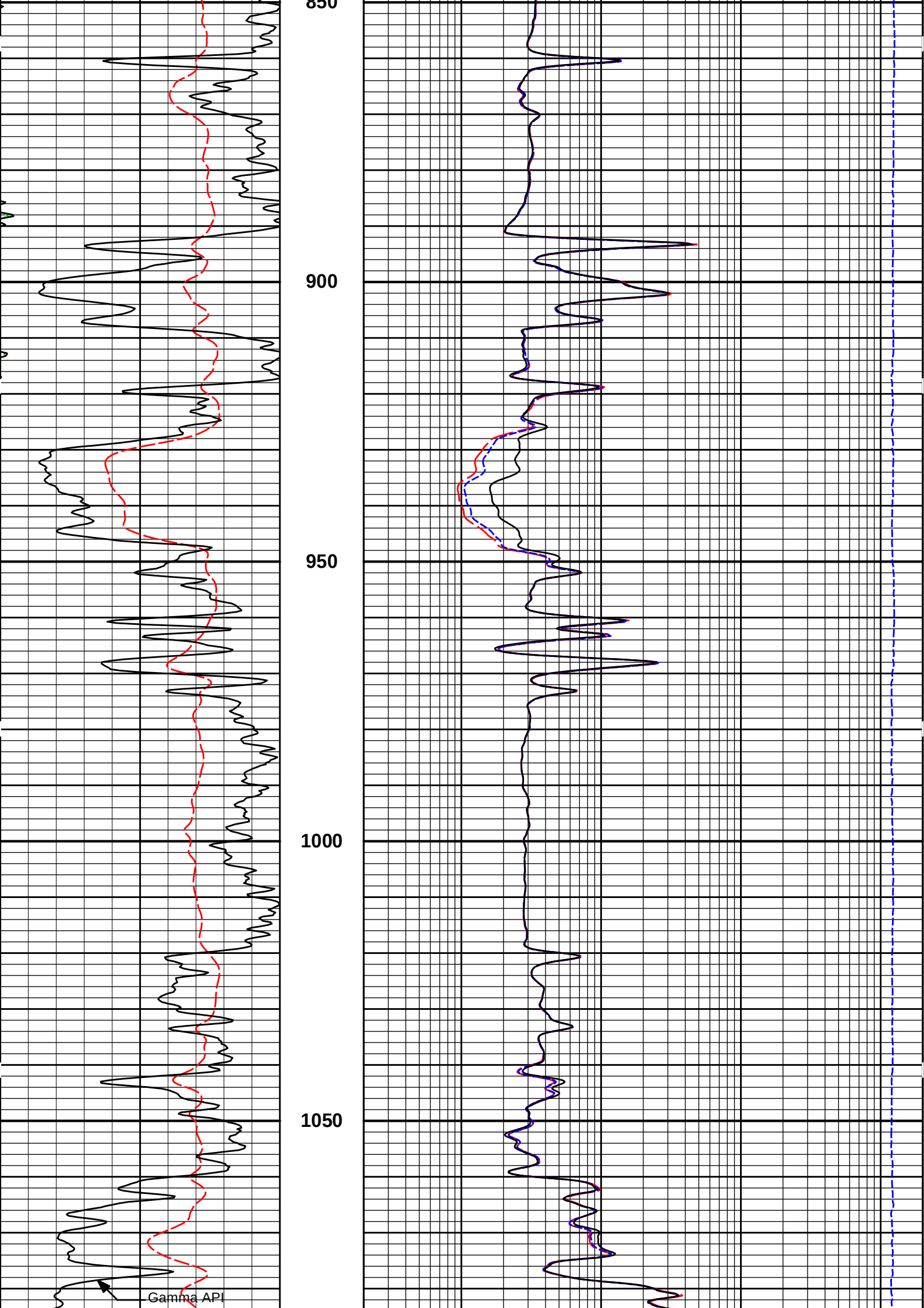
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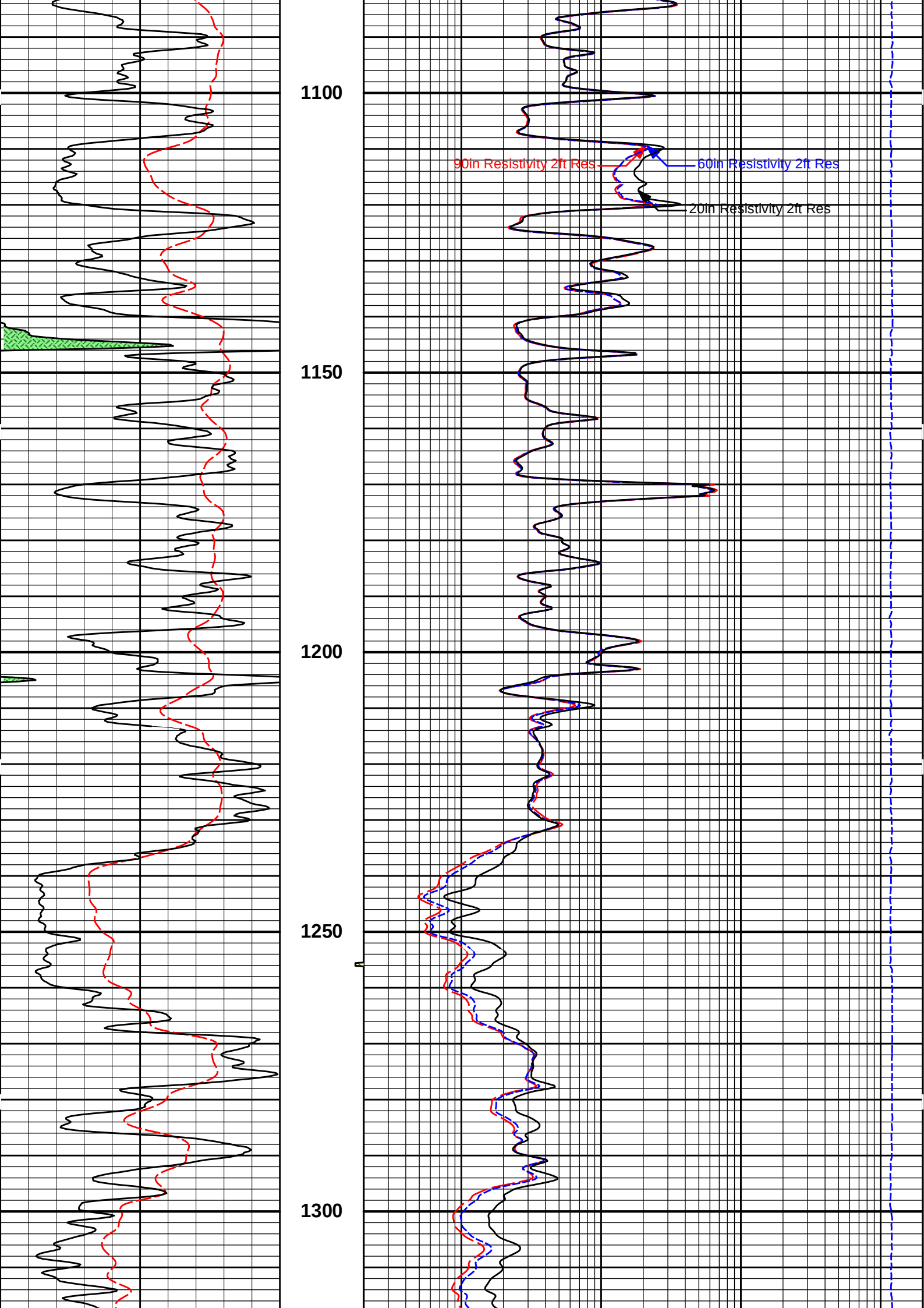
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60in Resistivity 2ft Res
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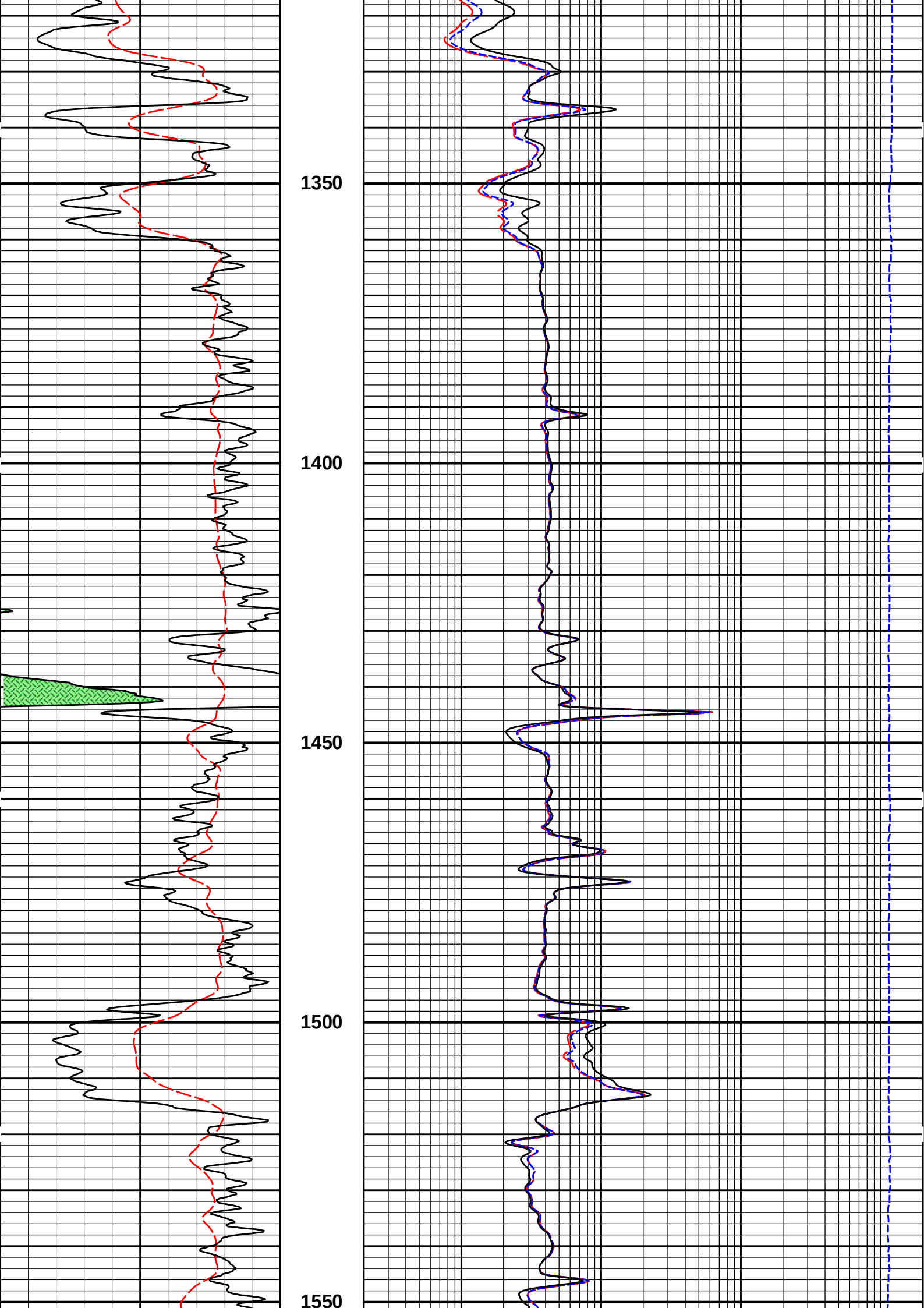
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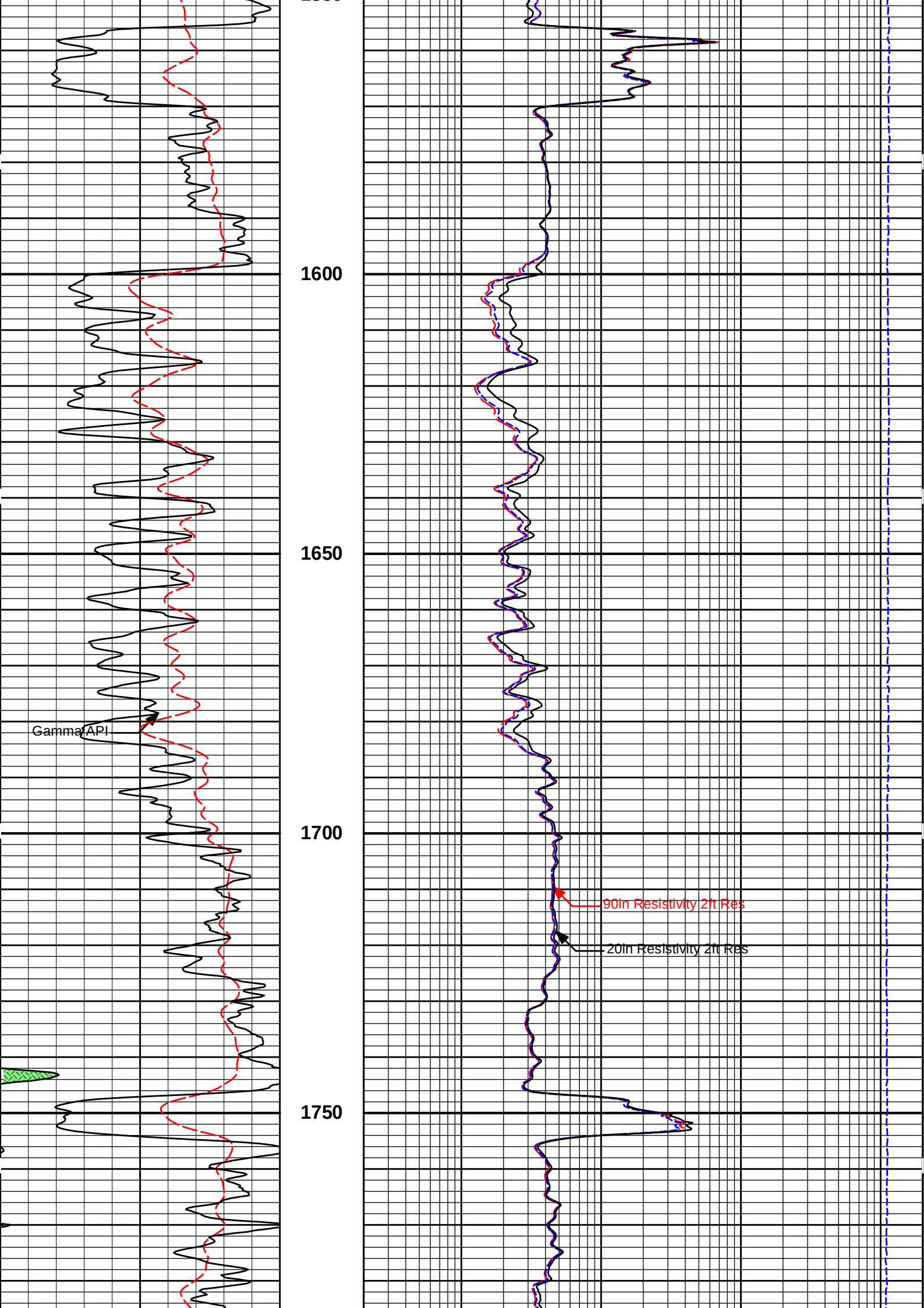
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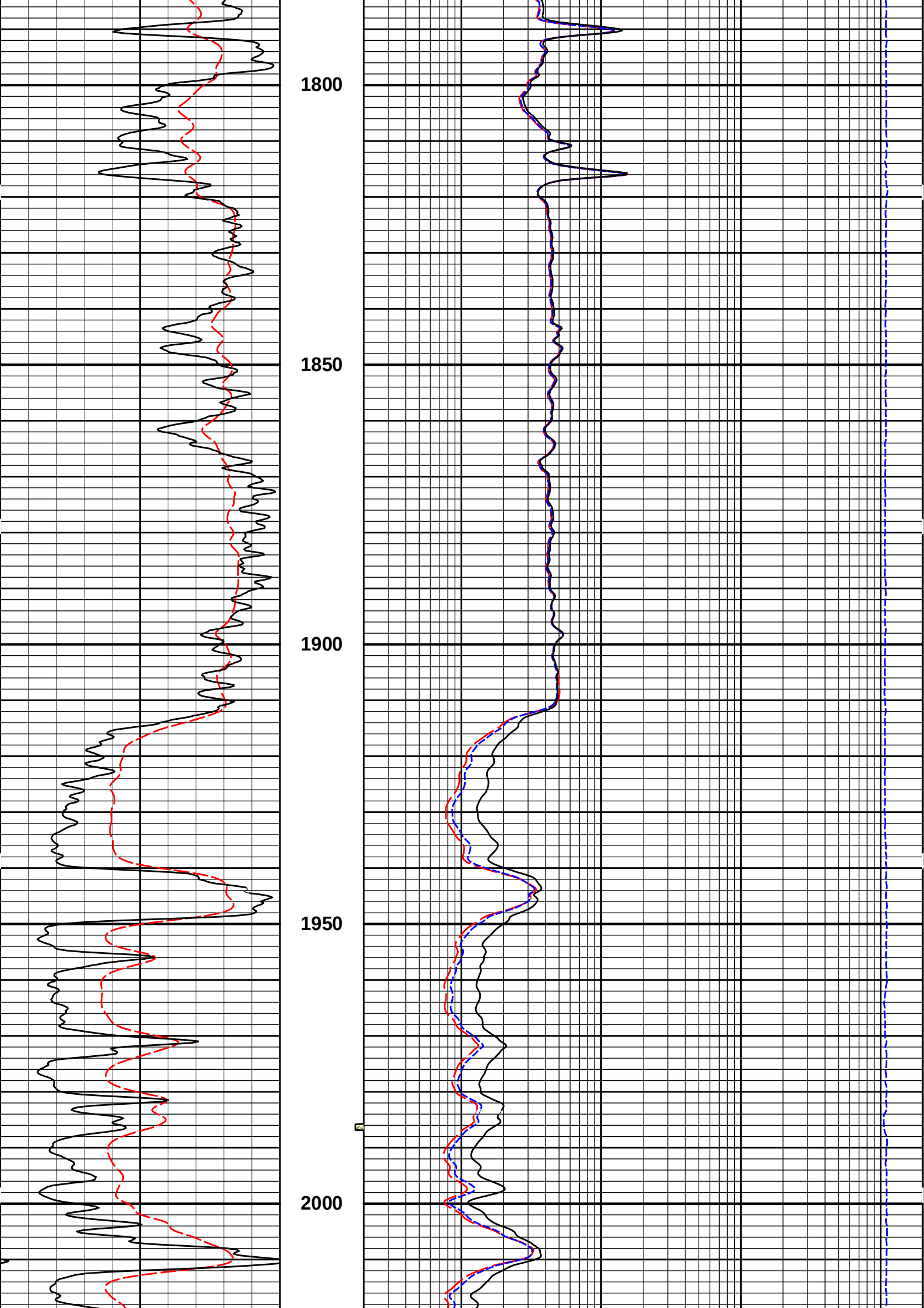
Gamma(API)
90in Resistivity 2ft Res
20in Resistivity 2ft Res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1900
1950
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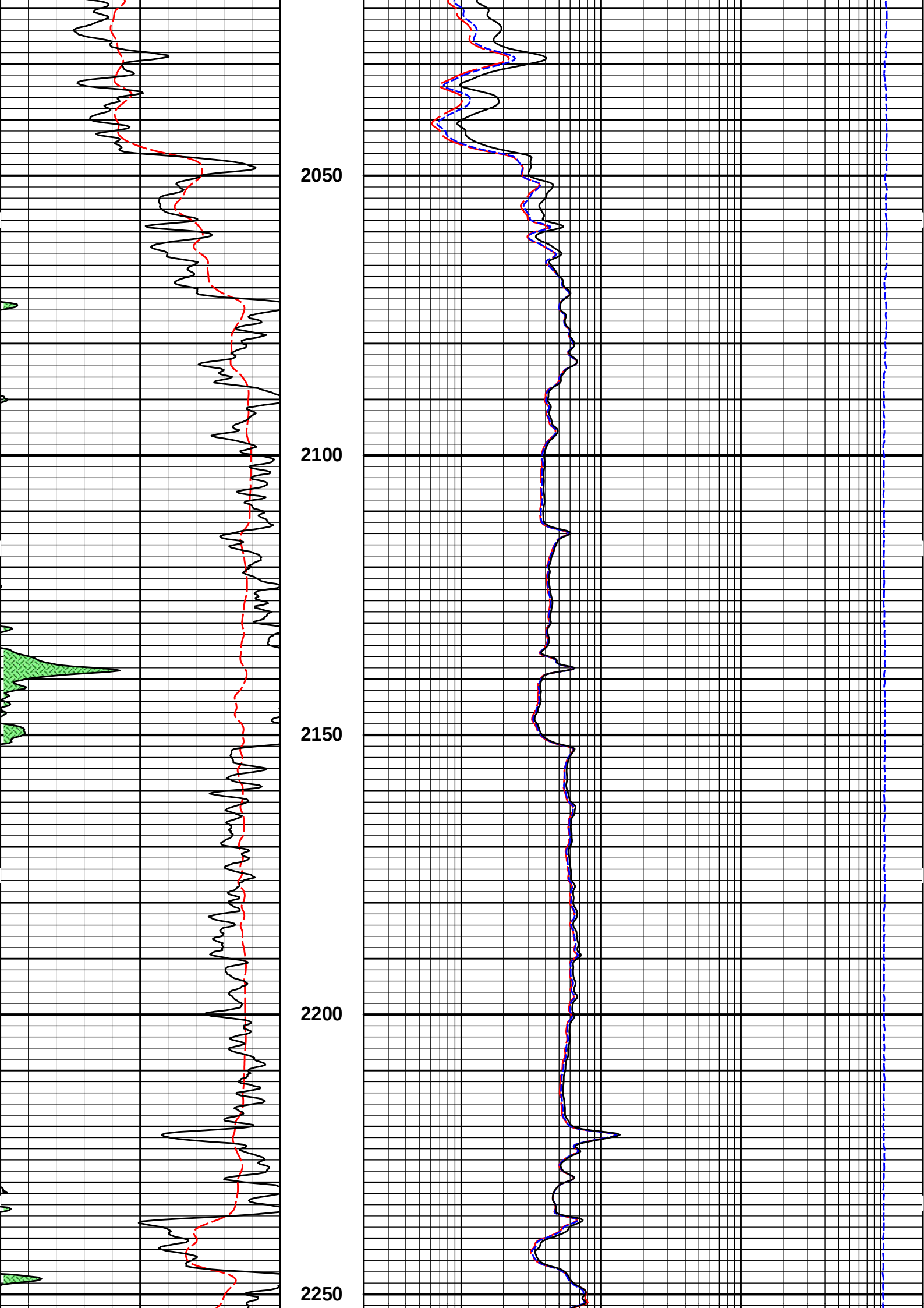
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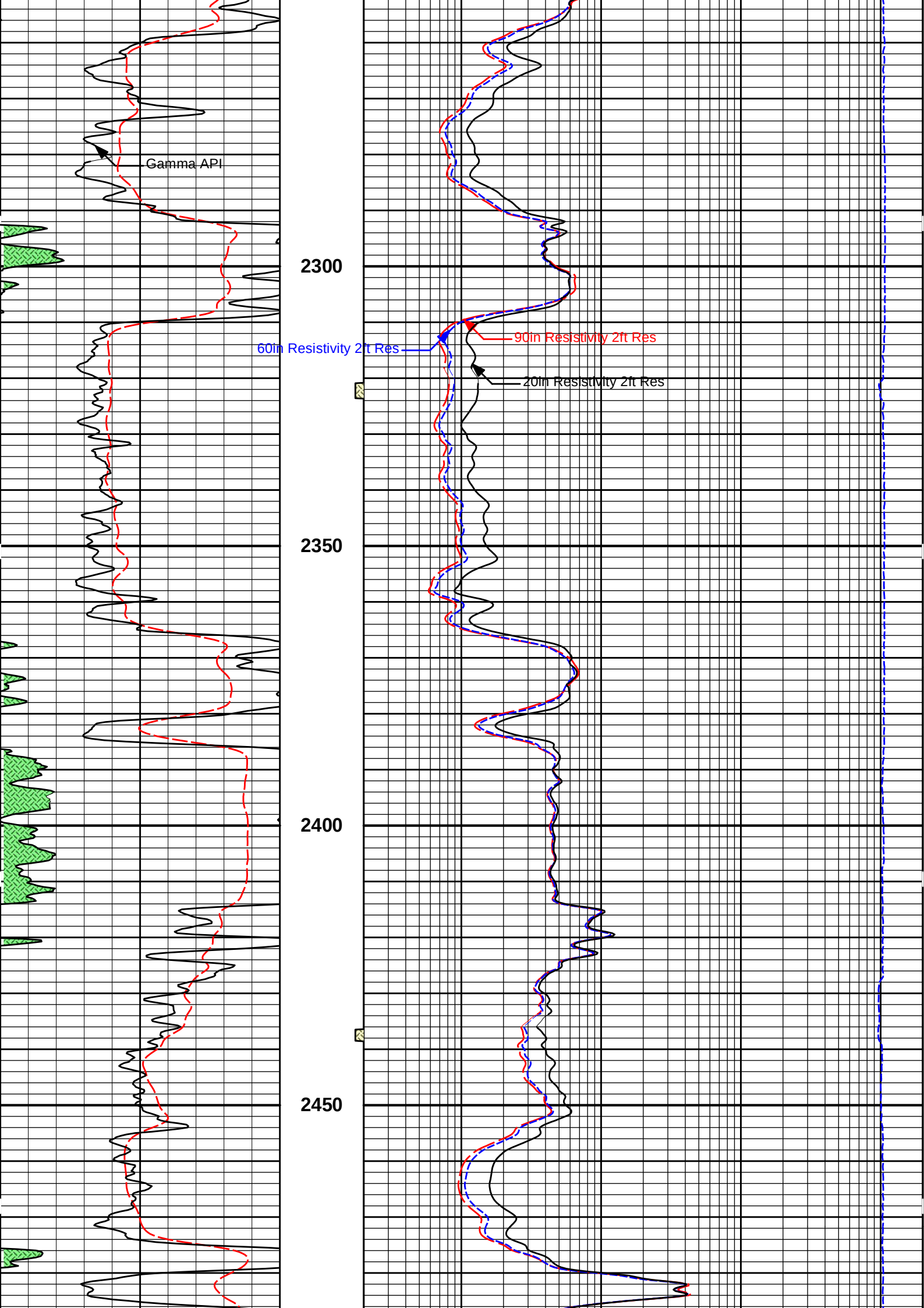
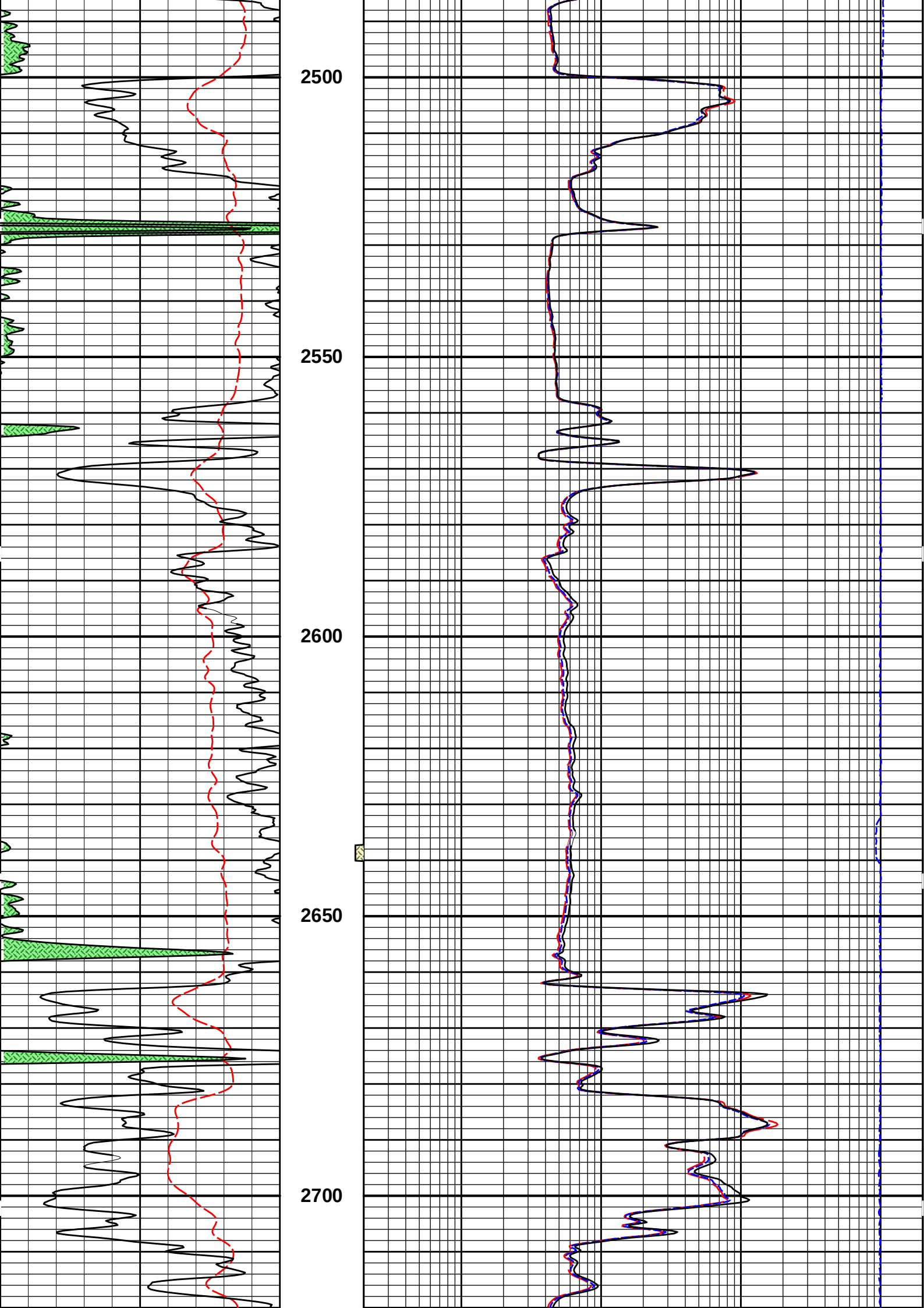
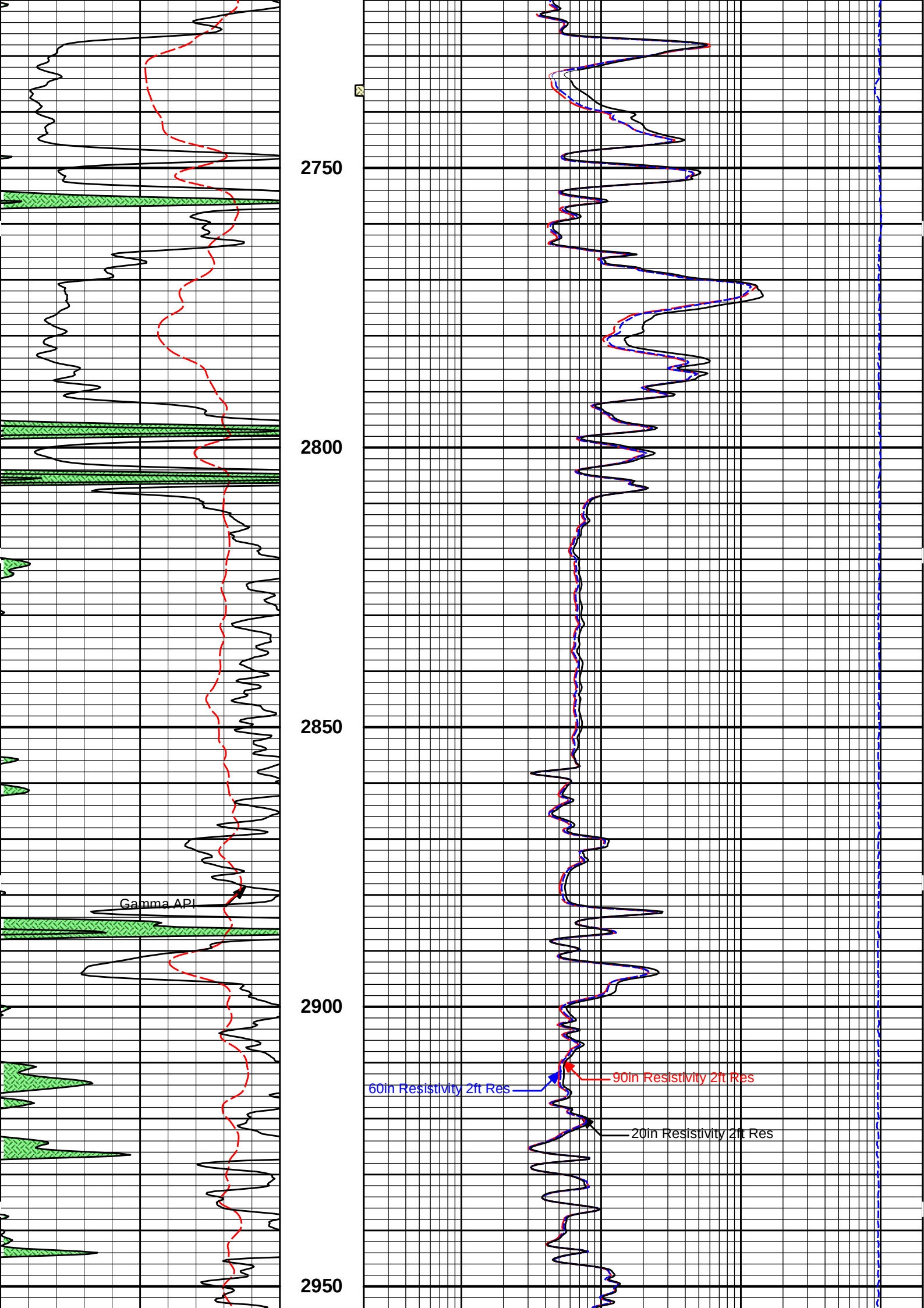
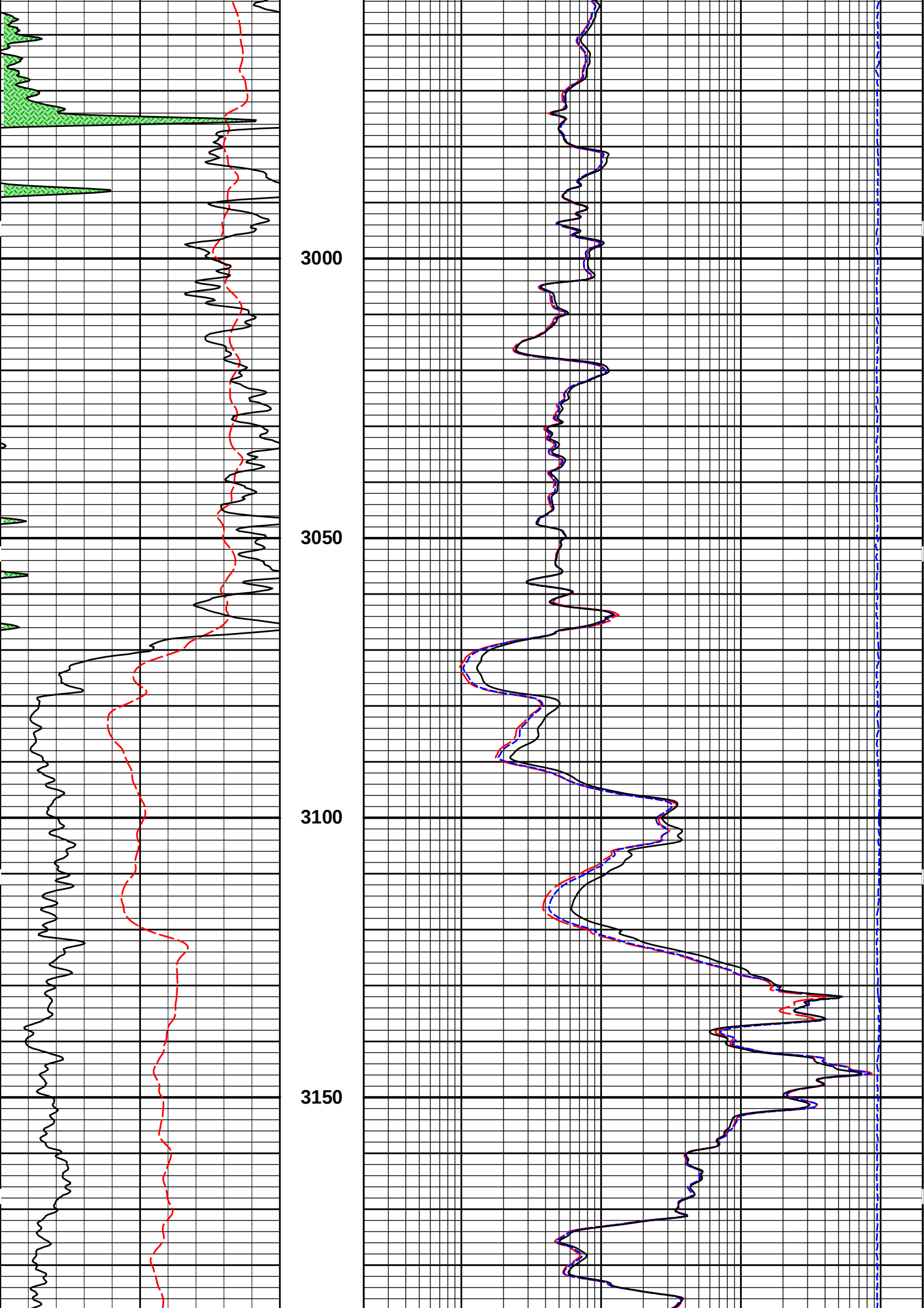
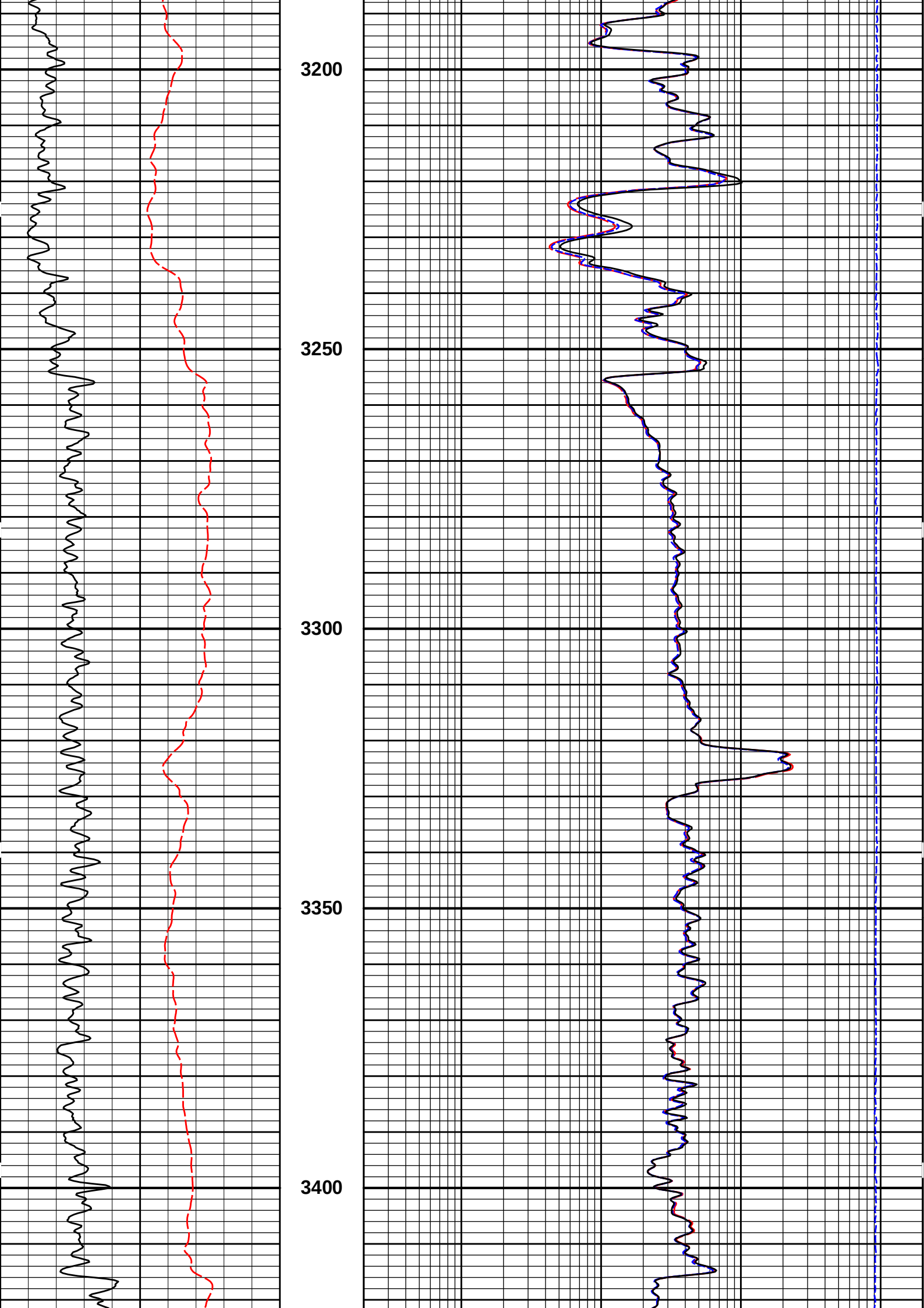
2250

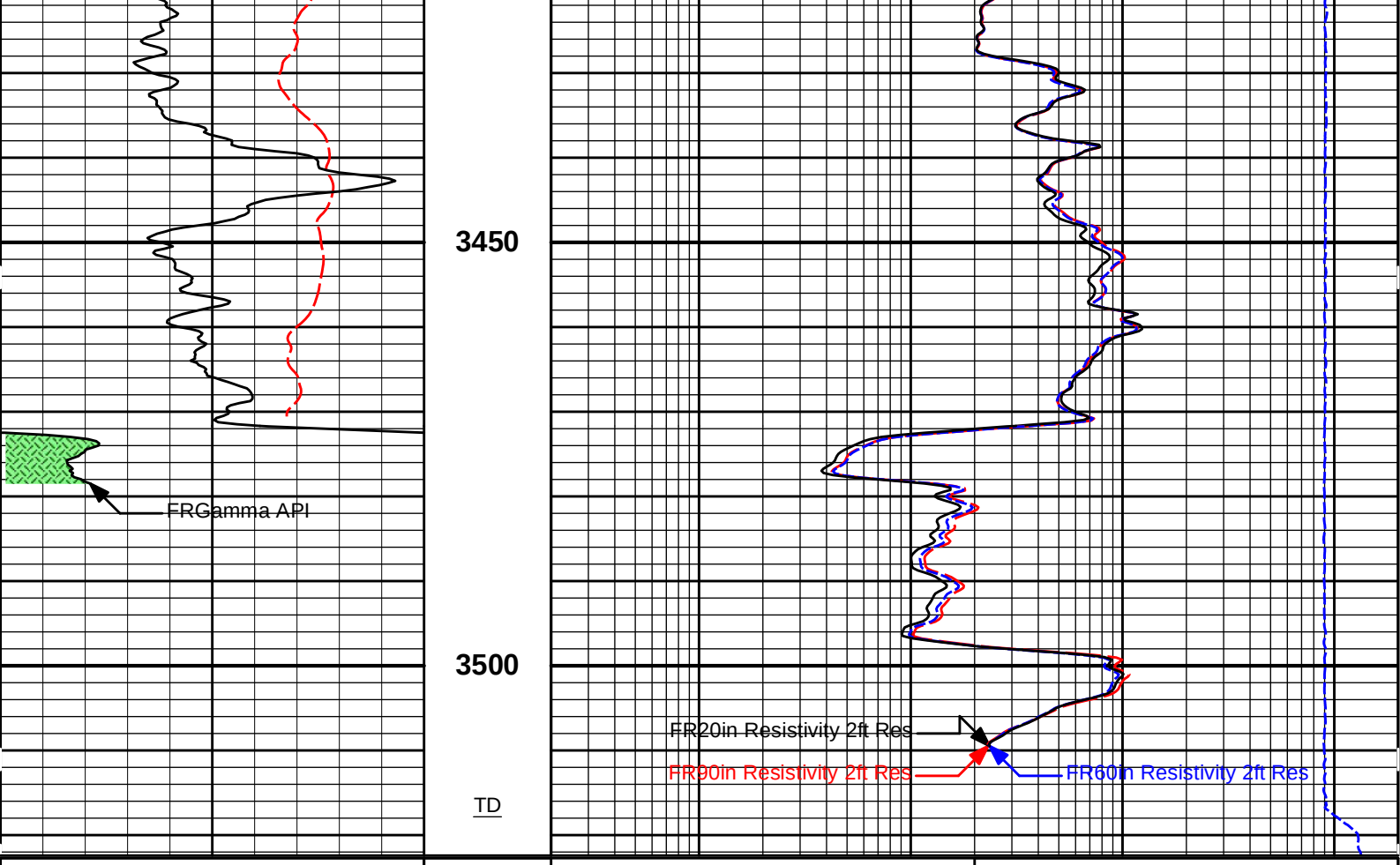

Gamma API
2300
60in Resistivity 2ft Res
90in Resistivity 2ft Res
20in Resistivity 2ft Res
2350
2400
2450


2500
2550
2600
2650
2700


2750
2800
2850
2900
2950
Gamma API
60in Resistivity 2ft Res
90in Resistivity 2ft Res
20in Resistivity 2ft Res


3000
3050
3100
3150


3200
3250
3300
3350
3400



0 Gamma API 150 api	1 : 240 ft	15K Tension 0 pounds
SP -] 20 mV [+	Tension Pull 10 0	0.2 20in 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: 03-May-17 23:52:21
Plot Range: 305 ft to 3522.42 ft
Data: BECKER OIL_BOWL\Well Based\MAIN\
Plot File: \\-LOCAL-\BECKER OIL_BOWL\0001 GTET-DSN-SDL-ACRT\ACRT\1_ACRT_5_mainx

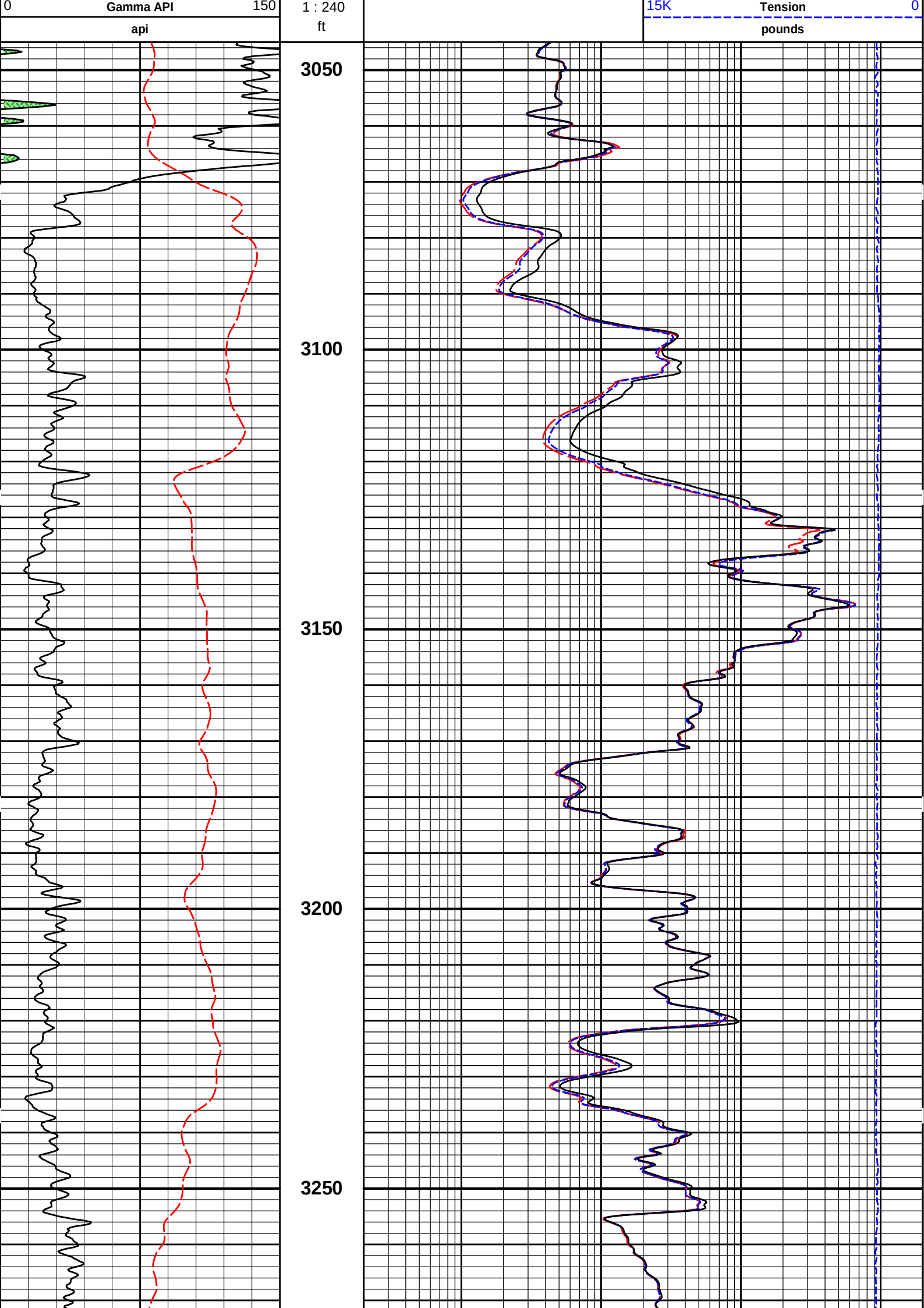
5 INCH MAIN LOG

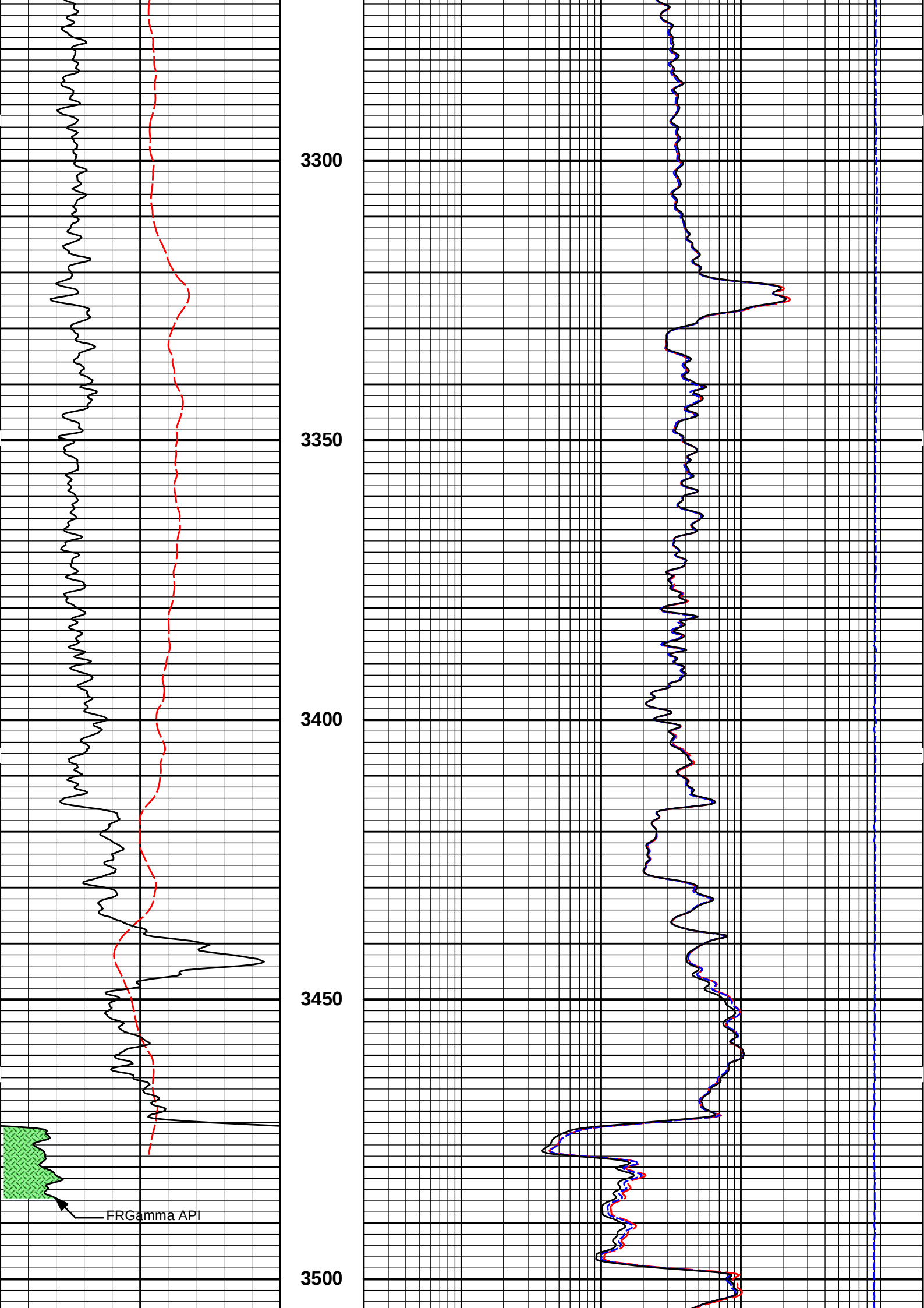
HALLIBURTON

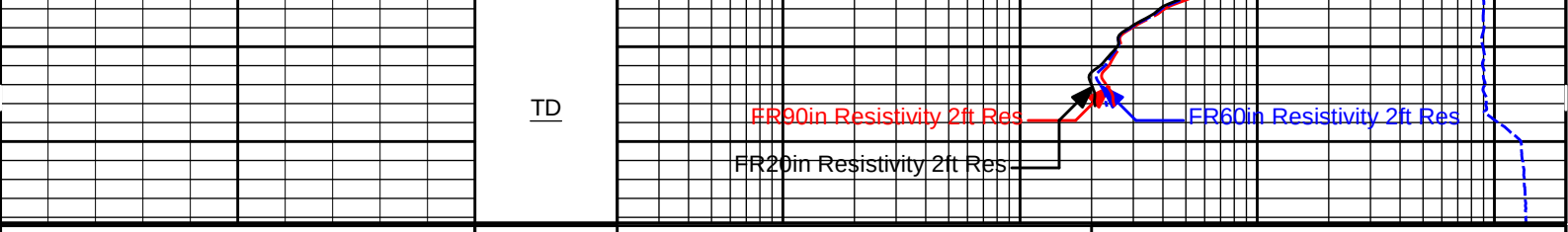
Plot Time: 03-May-17 23:52:21
Plot Range: 3045 ft to 3528.58 ft
Data: BECKER OIL_BOWL\Well Based\REPEAT\
Plot File: \\-LOCAL-\BECKER OIL_BOWL\0001 GTET-DSN-SDL-ACRT\ACRT\1_ACRT_5_rptx

REPEAT SECTION

		0.2 90in Resistivity 2ft Res 2000 ohmm
		0.2 60in Resistivity 2ft Res 2000 ohmm
SP -] 20mV [+	Tension Pull 10 0	0.2 20in Resistivity 2ft Res 2000 ohm-metre


0
Gamma API
150
api
1 : 240
ft
15K
Tension
0
pounds
3050
3100
3150
3200
3250


3300
3350
3400
3450
3500
FRGamma API



0 Gamma API 150 api	1 : 240 ft	15K Tension 0 pounds
SP -] 20mV [+	Tension Pull 10 0	0.2 20in 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: 03-May-17 23:52:22
Plot Range: 3045 ft to 3528.58 ft
Data: BECKER OIL_BOWL\Well Based\REPEAT
Plot File: \\-LOCAL-\BECKER OIL_BOWL\0001 GTET-DSN-SDL-ACRT\ACRT\1_ACRT_5_rptx

REPEAT SECTION

HALLIBURTON

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	9.500	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	1.200	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	CSTR	Compressive Strength	1000.00	psia
	SHARED	ST	Surface Temperature	75.0	degF
	SHARED	TD	Total Well Depth	3525.00	ft
	SHARED	BHT	Bottom Hole Temperature	120.0	degF
	SHARED	SVTM	Navigation and Survey Master Tool	NONE	
	SHARED	AZTM	High Res Z Accelerometer Master Tool	GTET	
	SHARED	TEMM	CBM Temperature Master Tool	GTET	
	Rwa / CrossPlot	XPOK	Process Crossplot?	Yes	
	Rwa / CrossPlot	FCHO	Select Source of F	Density	
	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	
Rwa / CrossPlot	BHSM	Borehole Size Source Tool	SDLT	
Rwa / CrossPlot	ROIN	Input for RO Calculation	Rwa	
GTET	GROK	Process Gamma Ray?	Yes	
GTET	GEOK	Process Gamma Ray EVR?	No	
GTET	TPOS	Tool Position for Gamma Ray Tools.	Eccentered	
GTET	BHSM	Borehole Size Source Tool	SDLT	
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	DNTT	Temperature Correction Type	Gradient	
DSNT	DNTT	Top Zone Temperature Value	75.0	degF
DSNT	DNBT	DSN Bottom Zone Temperature Value	120.0	degF
DSNT	DTDT	Top Depth for Temperature Gradient Calculation (Measured Depth)	0	ft
DSNT	DBDT	Bottom Zone Temperature Depth (Measured Depth)	3525	ft
DSNT	DPRS	DSN Pressure Correction Type	Gradient	
DSNT	DNTP	DSN Top Zone Pressure Value	14.70	psia
DSNT	DNBP	DSN Bottom Zone Pressure Value	1775.00	psia
DSNT	DTDP	Top Depth for Pressure Gradient Calculation (Measured Depth)	0	ft
DSNT	DNDP	Bottom Zone Pressure Depth (Measured Depth)	3525	ft
DSNT	SHCO	View More Correction Options	No	
DSNT	UTVD	Use TVD for Gradient Corrections?	No	
DSNT	LHWT	Logging Horizontal Water Tank?	No	
DSNT	BHSM	Borehole Size Source Tool	SDLT	
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
SDLT Pad	BHSM	Borehole Size Source Tool	SDLT	
ACRt Sonde	RTOK	Process ACRt?	Yes	
ACRt Sonde	MNSO	Minimum Tool Standoff	1.19	in
ACRt Sonde	TCS1	Temperature Correction Source	FP Lwr & FP Upr	
ACRt Sonde	TPOS	Tool Position	Eccentered	
ACRt Sonde	RMOP	Rmud Source	Mud Cell	
ACRt Sonde	RMIN	Minimum Resistivity for MAP	0.20	ohmm
ACRt Sonde	RMAX	Maximum Resistivity for MAP	200.00	ohmm
ACRt Sonde	THQY	Threshold Quality	0.50	
ACRt Sonde	MRFX	Fixed mud resistivity	2000	ohmm
ACRt Sonde	BHSM	Borehole Size Source Tool	SDLT	
ACRt Sonde	MBFL	Apply Corkscrew Effect?	No	

BOTTOM

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name:	**GTET - 11048627**	**Reference Calibration Date:**	**15-Feb-17 10:19:56**
Engineer:	**JORGE ORLANDO PEREZ**	**Calibration Date:**	**13-Mar-17 14:58:10**
Software Version:	**WL INSITE R5.0.5 (Build 8)**	**Calibration Version:**	**1**

Calibrator Source S/N: TB-146
Calibrator API Reference:265.00 api
Equivalent Calibrator API Reference:269.6 api

Measurement	Measured	Calibrated	Units
Background	27.5	27.5	api
Background + Calibrator	296.5	297.2	api
Calibrator	269.0	269.6	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name:	**GTET - 11048627**	**Reference Calibration Date:**	**13-Mar-17 14:58:10**
Engineer:	**THOMAS HYDE**	**Calibration Date:**	**02-May-17 09:31:29**
Software Version:	**WL INSITE R5.0.5 (Build 8)**	**Calibration Version:**	**1**

Calibrator Source S/N: TB-146
Calibrator API Reference:265.00 api
Equivalent Calibrator API Reference:269.6 api

Field Verification	Shop	Field	Units
Background	27.5	27.4	api
Background + Calibrator	297.2	296.4	api
Calibrator	269.6	268.9	api

Shop	Field	Difference	Tolerance
269.6	268.9	0.7	+/- 9.00

ACCELEROMETER SHOP CALIBRATION

Tool Name:	**GTET - 11048627**	**Reference Calibration Date:**	**15-May-09 12:42:57**
Engineer:	**W.MILLER**	**Calibration Date:**	**13-Jan-10 16:35:19**
Software Version:	**WL INSITE R2.6.1 (Build 9)**	**Calibration Version:**	**1**

Horizontal-1 Telemetry	Horizontal-2 Telemetry	Vertical Telemetry	Units
-78.18	-48.18	-16407.09	cnts

Coefficient	Coefficient Value	Tolerance
Gain	-0.000061	-----
Offset	-0.004	-----
Noise	0.0003	0.0000 - 0.0030

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

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name:	**DSNT - 11660709**	**Reference Calibration Date:**	**19-Mar-17 11:40:03**
Engineer:	**THOMAS HYDE**	**Calibration Date:**	**19-Mar-17 11:51:45**
Software Version:	**WL INSITE R5.0.5 (Build 8)**	**Calibration Version:**	**1**

Logging Source S/N: DSN-424
Tank Serial Number: 12345678
Reference value assigned to Tank: 56.100
Snow Block S/N: 12345678
Calibration Tank Water Temperature: 72 degF
Min. Tool Housing Outside Diameter: 3.625 in

CALIBRATION CONSTANTS			
Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	1.01788	1.02269	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):	0.2343	0.2358	0.0015	+/- 0.0020
Calibrated Ratio:	10.5100	10.5596	0.050	+/- 0.050

VERIFIER		
Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0800	0.02000 - 0.09000

PASS/FAIL SUMMARY	
Background Check:	Passed
Gain-Range Check:	Passed
Snow-Block Check:	Passed

DUAL SPACED NEUTRON FIELD CALIBRATION

Tool Name: DSNT - 11660709 **Reference Calibration Date:** 19-Mar-17 11:51:45

Engineer: THOMAS HYDE **Calibration Date:** 02-May-17 09:54:46

Software Version: WL INSITE R5.0.5 (Build 8) **Calibration Version:** 1

Logging Source S/N: DSN-424

Snow Block S/N: 12345678

NEUTRON FIELD-CHECK SUMMARY				
	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0800	0.0652	-0.0148	+/- 0.0150

PASS/FAIL SUMMARY	
Block Change Check:	Passed
Snow Block Stat Check:	Passed
Temperature Check:	Passed

DENSITY CALIPER SHOP CALIBRATION

Tool Name: SDLT - 10951315 **Reference Calibration Date:** 26-Apr-17 11:11:09

Engineer: JORGE ORLANDO PEREZ **Calibration Date:** 26-Apr-17 11:17:04

Software Version: WL INSITE R5.0.5 (Build 8) **Calibration Version:** 1

Host Tool Name: DSNT - 11660709

CALIBRATION COEFFICIENTS			
Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-3678.98	-3297.77	-7000.00 - -1000.00
Pad Gain	0.0003715	0.0003561	0.0002000 - 0.0006000
Arm Offset	-3107.52	-3291.64	-5000.00 - 3000.00
Arm Gain	0.0005372	0.0005226	0.000300 - 0.000700
Arm Power	-0.000006554	-0.000005717	-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)	1.94	2.00	0.06	+/- 0.20
Medium Ring (in)	3.77	3.75	-0.02	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.51	6.50	-0.01	+/- 0.20
Medium Ring (in)	8.29	8.25	-0.04	+/- 0.20
Large Ring (in)	15.00	15.00	0.00	+/- 0.20

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

PASS/FAIL SUMMARY	
Calibration-Coefficients Range Check:	Passed

SDLT CALIPER FIELD CALIBRATION

Tool Name: SDLT - 10951315 **Reference Calibration Date:** 26-Apr-17 11:17:04

Engineer: JORGE ORLANDO PEREZ **Calibration Date:** 26-Apr-17 11:19:21

Software Version: WL INSITE R5.0.5 (Build 8) **Calibration Version:** 1

MEASURED CALIPER VALUES

Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.75	-0.00	+/- 0.10
Ring Diameter	8.25	8.16	-0.09	+/- 0.15

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

MICRO LOG SHOP CALIBRATION

Tool Name: Microlog Pad - 10951315 **Reference Calibration Date:** 26-Apr-17 10:55:34

Engineer: THOMAS HYDE **Calibration Date:** 02-May-17 10:56:13

Software Version: WL INSITE R5.0.5 (Build 8) **Calibration Version:** 1

Host Tool Name: DSNT - 11660709

CALIBRATION COEFFICIENT SUMMARY

Measurement	Micro Log Normal		Micro Log Lateral		
	Measured	Calibrated	Measured	Calibrated	Units
Tool Zero	-0.17	-0.12	0.01	0.04	ohmm
Calibration Point #1	-0.05	0.00	-0.03	0.00	ohmm
Calibration Point #2	20.03	20.00	20.04	20.00	ohmm
Internal Reference	19.90	19.87	20.03	19.99	ohmm

Measurement	Micro Log Normal Tool Value	Micro Log Lateral Tool Value	Units
Tool Zero	-3.42	7.01	V
Calibration Point #1	26.85	-6.95	V
Calibration Point #2	5272.73	6869.83	V
Internal Reference	5238.43	6867.44	V

MICRO LOG FIELD CHECK

Tool Name: Microlog Pad - 10951315 **Reference Calibration Date:** 02-May-17 10:56:13

Engineer: THOMAS HYDE **Calibration Date:** 02-May-17 10:57:27

Software Version: WL INSITE R5.0.5 (Build 8) **Calibration Version:** 1

Measurement	Micro Log Normal		Micro Log Lateral		
	Shop	Field	Shop	Field	Units
Tool Zero	-0.12	-0.12	0.04	0.01	ohmm
Internal Reference	19.87	19.87	19.99	20.00	ohmm

Summary				
Signal	**Shop**	**Field**	**Difference**	**Tolerence**
Microlog Normal	19.87	19.87	0.00	+/- 0.80
Microlog Lateral	19.99	20.00	-0.01	+/- 0.80

SPECTRAL DENSITY SHOP CALIBRATION

Tool Name: SDLT Pad - 11213308 **Reference Calibration Date:** 19-Mar-17 10:53:55

Engineer: THOMAS HYDE **Calibration Date:** 19-Mar-17 11:11:52

Software Version: WL INSITE R5.0.5 (Build 8) **Calibration Version:** 1

Logging Source S/N: 5168GW

Aluminum Block S/N: EL RENO STD ALUMINUM Density: 2.581g/cc Pe: 3.170

Magnesium Block S/N: EL RENO Density: 1.687g/cc Pe: 2.594

DENSITY CALIBRATION SUMMARY			
Measurement	**Previous Value**	**New Value**	**Control Limit**
Near Bar Gain	1.0553	1.0358	0.90 - 1.10
Near Dens Gain	1.0222	1.0104	0.90 - 1.10
Near Peak Gain	1.0493	1.0113	0.90 - 1.10
Near Lith Gain	1.0561	1.0130	0.90 - 1.10
Far Bar Gain	1.0146	1.0131	0.90 - 1.10
Far Dens Gain	1.0009	0.9992	0.90 - 1.10
Far Peak Gain	0.9955	0.9976	0.90 - 1.10
Far Lith Gain	0.9774	0.9768	0.90 - 1.10
Near Bar Offset	-0.2052	-0.0297	NONE
Near Dens Offset	0.1041	0.2063	NONE
Near Peak Offset	-0.1282	0.1784	NONE
Near Lith Offset	-0.2163	0.1355	NONE
Far Bar Offset	0.0828	0.0969	NONE
Far Dens Offset	0.2203	0.2360	NONE
Far Peak Offset	0.2585	0.2425	NONE
Far Lith Offset	0.3751	0.3762	NONE
Near Bar Background	978.91	975.34	700 - 1450
Near Dens Background	324.93	325.92	230 - 480
Near Peak Background	143.49	143.26	100 - 210
Near Lith Background	173.48	174.86	125 - 260
Far Bar Background	497.40	499.11	450 - 900
Far Dens Background	198.33	199.29	175 - 345
Far Peak Background	81.54	80.63	70 - 140
Far Lith Background	82.69	82.43	75 - 145

CALIBRATION BLOCK SUMMARY				
Measurement	**Current Reading (Previous Coef)**	**Calibrated (New Coef)**	**Change**	**Control Limit On Change**
MAGNESIUM				
Density (g/cc)	1.692	1.687	-0.005	+/- 0.015
Pe	2.503	2.556	0.053	+/- 0.150
ALUMINUM				
Density (g/cc)	2.581	2.581	-0.000	+/- 0.01500
Pe	3.125	3.129	0.004	+/- 0.150

TOOL SUMMARY				
Measurement	**Near Detector**		**Far Detector**	
	Value	**Control Limits**	**Value**	**Control Limits**
QUALITY				

Background	0.0006	+/- 0.0110	0.0002	+/- 0.0140
Magnesium Block	-0.0007	+/- 0.0110	-0.0021	+/- 0.0140
Aluminum Block	-0.0003	+/- 0.0110	0.0001	+/- 0.0140
Resolution	9.13	6.00 - 11.50	9.46	6.00 - 11.50
Internal Verifier(B+D+P+L)	1619	1200 - 2700	861	800 - 1700

PASS/FAIL SUMMARY	
Background Quality Check:	Passed
Background Range Check:	Passed
Background Resolution Check:	Passed
Background Verification Check:	Passed
Magnesium Quality Check:	Passed
Aluminum Quality Check:	Passed
Gains Check:	Passed
Changes in Calibration Blocks:	Passed

SPECTRAL DENSITY FIELD CHECK

Tool Name: SDLT Pad - 11213308 **Reference Calibration Date:** 19-Mar-17 11:11:52

Engineer: THOMAS HYDE **Calibration Date:** 02-May-17 09:31:10

Software Version: WL INSITE R5.0.5 (Build 8) **Calibration Version:** 1

Pad Temperature: 64.7 degF

DENSITY FIELD CALIBRATION SUMMARY

Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1619.386	1622.724	3.338	16.176
Far (B+D+P+L) cps	861.464	858.950	-2.514	16.069
Near Resolution	9.13	9.26	0.130	0.50
Far Resolution	9.46	9.28	-0.180	1.00

PASS/FAIL SUMMARY	
Bkg Quality Check:	Passed
Bkg Resolution Check:	Passed
Bkg Verification Check:	Passed

ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION

Tool Name: ACRt Sonde - 11005908 **Reference Calibration Date:** 17-Jan-17 17:45:25

Engineer: JORGE ORLANDO PEREZ **Calibration Date:** 10-Mar-17 14:51:20

Software Version: WL INSITE R5.0.5 (Build 8) **Calibration Version:** 1

Host Tool Name: ACRt Instrument - 11026095

TYPICAL GAIN RANGE

Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	1.0474	1.05	0.95	1.0220	1.05	0.95	1.0129	1.05
A2 (50")	0.95	1.0451	1.05	0.95	1.0219	1.05	0.95	1.0143	1.05
A3 (29")	0.95	1.0425	1.05	0.95	1.0182	1.05	0.95	1.0082	1.05
A4 (17")	0.95	1.0425	1.05	0.95	1.0162	1.05	0.95	1.0086	1.05
A5 (10")	N/A	N/A	N/A	0.95	1.0073	1.05	0.95	0.9992	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.9995	1.05	0.95	0.9916	1.05

SONDE OFFSET

Subarray	R12KHz	R36KHz	R72KHz
	(mmho/m)	(mmho/m)	(mmho/m)
A1 (80")	2.374	-3.926	-6.312
A2 (50")	-0.107	-3.995	-5.520
A3 (29")	-14.070	-4.584	-4.123

A3 (29")	-14.070	-4.584	-4.123
A4 (17")	-96.348	-29.562	-24.891
A5 (10")	N/A	-111.844	-48.791
A6 (6")	N/A	351.437	181.261

TRANSMITTER CURRENT GAIN

Signal	Lower	R	Upper
12K	0.6	0.91	1.3
36K	1.0	1.95	2.0
72K	1.0	1.24	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 CHK	PASS

TOOL OK TO LOG

CALIBRATION SUMMARY

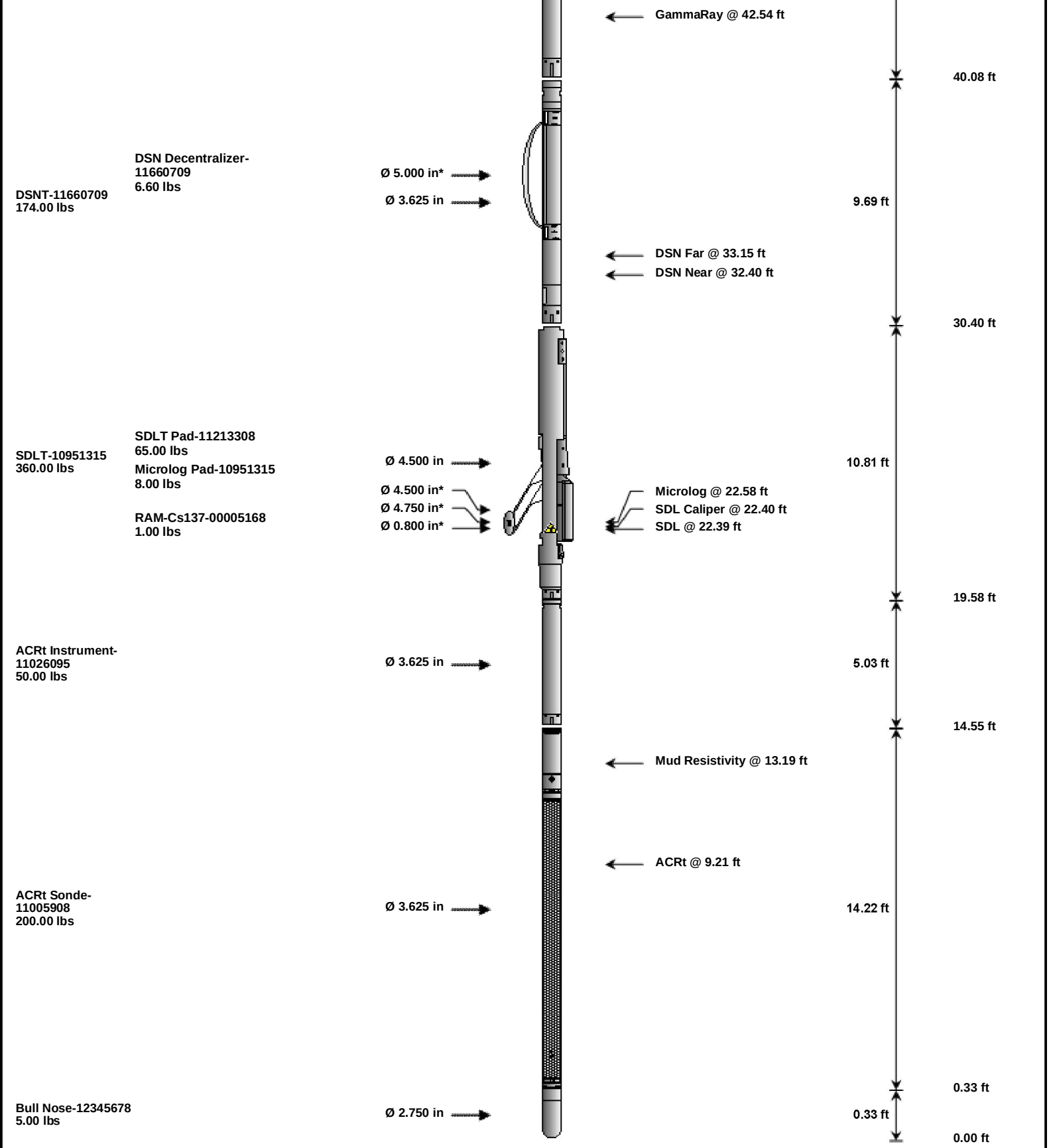
Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11048627						
Gamma Ray Calibrator	269.6	268.9	----------	0.7	+/- 9.00	api
DSNT-11660709						
Snow-Block Porosity	0.0800	0.0652	----------	0.0148	+/- 0.0150	decp
SDLT-10951315						
Pad Extension	3.75	3.75	----------	0.00	+/-0.10	in
Ring Diameter	8.25	8.16	----------	0.09	+/-0.15	in
Microlog Pad-10951315						
MicroLog Normal	19.87	19.87	----------	0.00	+/-0.80	ohmm
MicroLog Lateral	19.99	20.00	----------	-0.01	+/-0.80	ohmm
SDLT Pad-11213308						
Near(B+D+P+L)	1619.386	1622.724	----------	-3.338	+/-16.176	cps
Far(B+D+P+L)	861.464	858.950	----------	2.514	+/-16.069	cps
ACRt Sonde-11005908						
Mud Cell	1.00	----------	----------	0	----------	ohm-m

Data: BECKER OIL_BOWL\0001 GTET-DSN-SDL-ACRT\IDLE **Date: 03-May-17 20:38:02**

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
CH_HOS-11459024 37.50 lbs		Ø 2.750 in		Temperature @ 55.29 ft	2.50 ft	55.79 ft
XOHD-11572809 20.00 lbs		Ø 2.750 in Ø 3.625 in			0.95 ft	53.29 ft
SP Sub-11441455 60.00 lbs		Ø 3.625 in		SP @ 50.56 ft	3.74 ft	52.34 ft
				Z-Accelerometer @ 48.15 ft		48.60 ft
GTET-11048627 165.00 lbs		Ø 3.625 in			8.52 ft	



Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)		Accumulated Length (ft)	Max.Log. Speed (fpm)
CH_HOS	Hostile Cable Head with Load Cell	11459024	37.50	2.50		53.29	300.00
XOHD	Hostile to Dits Cross Over	11572809	20.00	0.95		52.34	300.00
SP	SP Sub	11441455	60.00	3.74		48.60	300.00
GTET	Gamma Telemetry Tool	11048627	165.00	8.52		40.08	60.00
DSNT	Dual Spaced Neutron	11660709	174.00	9.69		30.40	60.00
DCNT	DSN Decentralizer	11660709	6.60	5.13	*	33.73	300.00
SDLT	Spectral Density Tool	10951315	360.00	10.81		19.58	60.00
SDLP	Density Insite Pad	11213308	65.00	2.55	*	21.79	60.00
Cs137	Logging Source, SDLT-I, 1.78 Ci - Cs137	00005168	1.00	0.80	*	22.02	300.00
MICP	Microlog Pad	10951315	8.00	1.00	*	22.08	60.00
ACRt	Array Compensated True Resistivity Instrument Section	11026095	50.00	5.03		14.55	120.00
ACRt	Array Compensated True Resistivity Sonde Section	11005908	200.00	14.22		0.33	120.00
BLNS	Bull Nose	12345678	5.00	0.33		0.00	300.00

Total	**1,152.10**	**55.79**

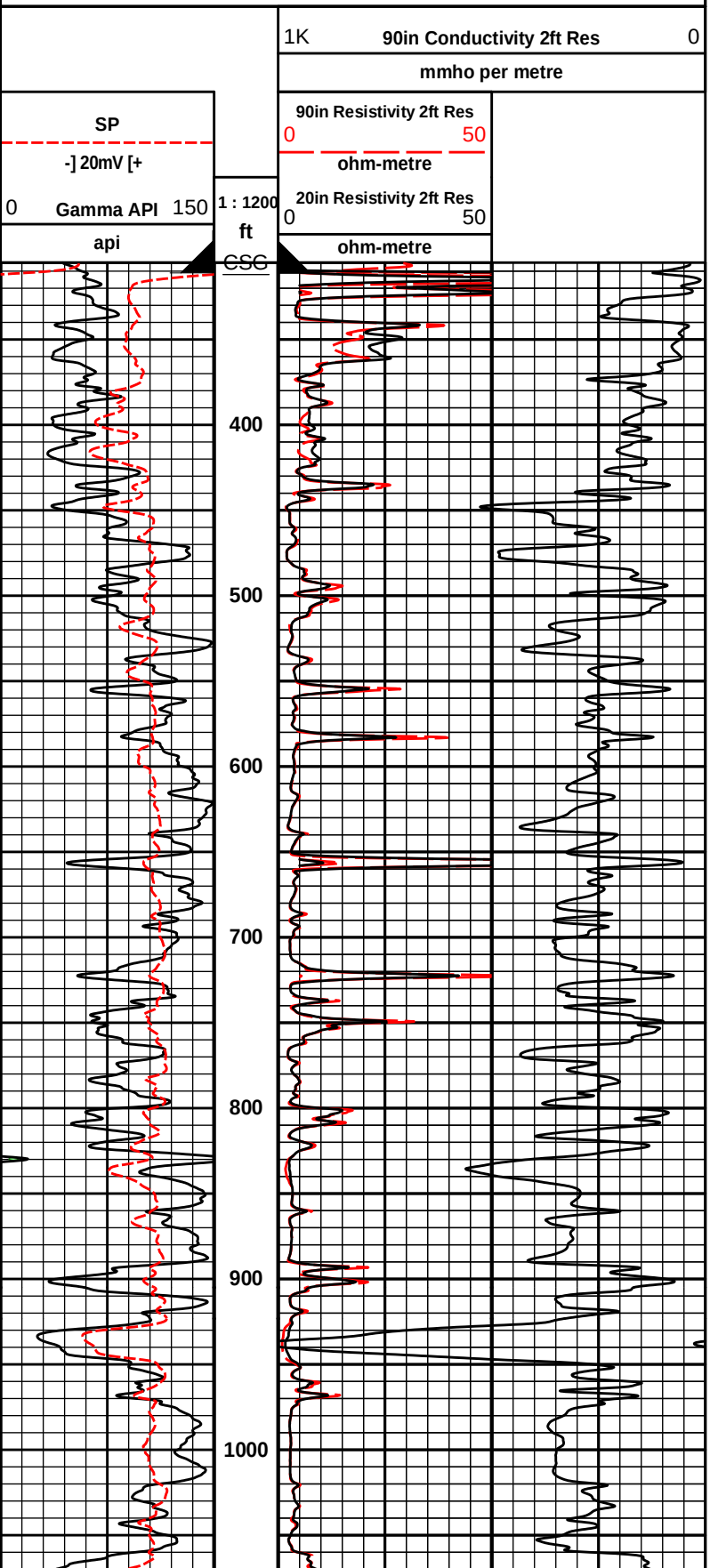
* Not included in Total Length and Length Accumulation.

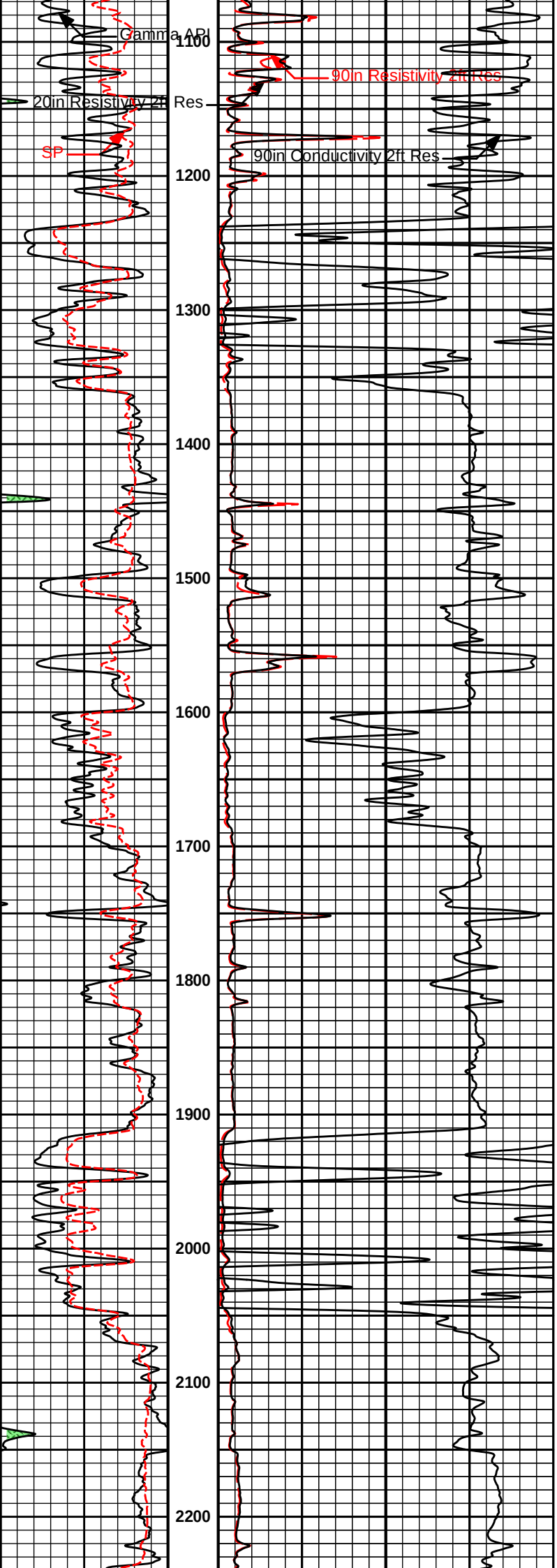
Data: BECKER OIL_BOWL\0001 GTET-DSN-SDL-ACRT\IDLE **Date: 03-May-17 20:37:21**

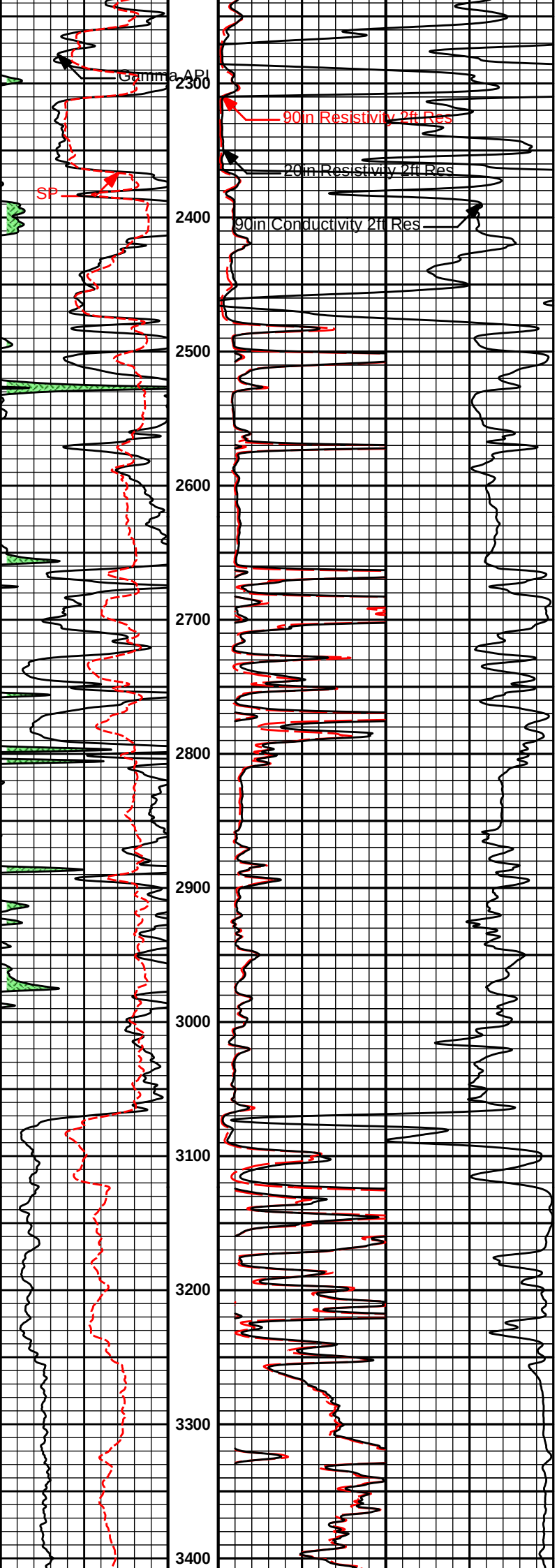
HALLIBURTON

Plot Time: 03-May-17 23:52:30
Plot Range: 305 ft to 3509.5 ft
BECKER OIL_BOWL\...\...
Plot File: \\...\...\1_ACRT_1inx

1 INCH MAIN LOG




Gamma API
20in Resistivity 2ft Res
SP
90in Resistivity 2ft Res
90in Conductivity 2ft Res
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
2200


Gamma API
90in Resistivity 2ft Res
20in Resistivity 2ft Res
SP
90in Conductivity 2ft Res
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2800
2900
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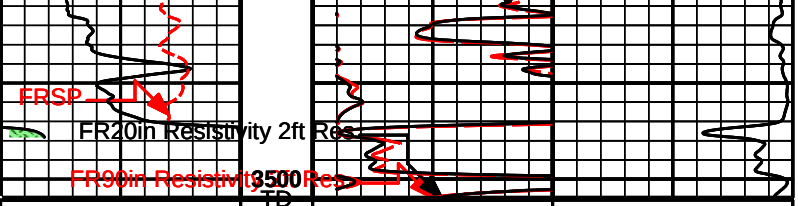
3200
3300
3400



3500 FD

1 : 1200 ft

0 Gamma API 150

api

SP

-] 20mV [+

20in Resistivity 2ft Res

0 50

ohm-metre

90in Resistivity 2ft Res

0 50

ohm-metre

1K 90in Conductivity 2ft Res 0

mmho per metre

HALLIBURTON

Plot Time: 03-May-17 23:52:32
Plot Range: 305 ft to 3509.5 ft
BECKER OIL_BOWL\...\...
Plot File: \\...\...\1_ACRT_1inx

1 INCH MAIN LOG

COMPANY	**BECKER OIL COPRORATION**		
WELL	**BOWLING #1**		
FIELD	**WEST ESTUP**		
COUNTY	**COWLEY**	STATE	**KANSAS**

HALLIBURTON

ARRAY COMPENSATED TRUE RESISTIVITY LOG

HALLIBURTON

SPECTRAL DENSITY DUAL SPACED NEUTRON LOG

BECKER OIL COPRORATION | BOWLING #1 | WEST ESTUP | COWLEY | KANSAS

COMPANY | WELL | FIELD/BLOCK | COUNTY | STATE

COMPANY **BECKER OIL COPRORATION**

WELL **BOWLING #1**

FIELD/BLOCK **WEST ESTUP**

COUNTY **COWLEY** STATE **KANSAS**

API No. 15-035-24666-00-00

Location 560' FNL & 560' FEL
SW NE NE NE

Sect. 19 Twp. 34S Rge. 6E

Other Services:
GTET
DSNT
SDLT
ACRT

Permanent Datum	GL	Elev. 1230.0 ft	Elev.: K.B. 1239.0 ft
Log measured from	KB	, 1239.0 ft above perm. Datum	D.F. 1239.0 ft
Drilling measured from	KB		G.L. 1230.0 ft

Date		03-May-17					
Run No.		ONE					
Depth - Driller		3525.0 ft					
Depth - Logger		3518.0 ft					
Bottom - Logged Interval		3508.0 ft					
Top - Logged Interval		1518.0 ft					
Casing - Driller		8.625 in	@ 303.0 ft	@		@	
Casing - Logger		312.0 ft					
Bit Size		7.875 in		@		@	
Type Fluid in Hole		Water Based Mud					
Density	Viscosity	9.2 ppg	42.00 s/qt				
PH	Fluid Loss	9.73 pH	9.1 cptm				
Source of Sample		FLOWLINE					
Rm @ Meas. Temperature		1.45 ohmm	@ 75.00 degF	@		@	
Rmf @ Meas. Temperature		1.23 ohmm	@ 75.00 degF	@		@	
Rmc @ Meas. Temperature		1.67 ohmm	@ 75.00 degF	@		@	
Source Rmf	Rmc	CALC	CALC				
Rm @ BHT		1.29 ohmm	@ 110.0 degF	@		@	
Time Since Circulation		15:51 hr					
Time on Bottom		03-May-17 20:51					
Max. Rec. Temperature		110.00 degF	@ 3518.0 ft	@		@	
Equipment	Location	11072142	EL RENO, OK				
Recorded By		MICHAEL RICHTER					
Witnessed By		CLYDE BECKER, JR					

Fold here

PGM Version: WL INSITE R5.0.5 (Build 8)

Service Ticket No.: 904014278

API No.: 15-035-24666-00-00

CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE

Date	Sample No.						
Depth-Driller							
Type Fluid in Hole							
Density	Viscosity						
Ph	Fluid Loss						
Source of Sample							
Rm @ Meas. Temp		@	@	@	@	@	@
Rmf @ Meas. Temp.		@	@	@	@	@	@
Rmc @ Meas. Temp.		@	@	@	@	@	@
Source Rmf	Rmc	CALC	CALC				
Rm @ BHT		1.29 ohmm @ 105 degF	1.29 ohmm @ 105 degF	@	@	@	@
Rmf @ BHT		1.10 ohmm @ 105 degF	1.10 ohmm @ 105 degF	@	@	@	@
Rmc @ BHT		1.48 ohmm @ 105 degF	1.48 ohmm @ 105 degF	@	@	@	@

RESISTIVITY SCALE CHANGES

	Type Log	Depth	Scale Up Hole	Scale Down Hole

RESISTIVITY EQUIPMENT DATA

	Run No.	Tool Type & No.	Pad Type	Tool Pos.	Other
	@				
	ONE	ACRT	NONE	1.19 in S.O.	N/A
		I-11026095			
		S-11005908			
	@				
	@				
	@				

EQUIPMENT DATA

	GAMMA	ACOUSTIC	DENSITY	NEUTRON
Run No.	ONE		ONE	ONE
Serial No.	11048627		11213308	11660709
Model No.	GTET		SDLT	DSNT
Diameter	3.625"		4.6"	3.625"
Detector Model No.	GTET		GAM-GAM	NEU-NEU
Type	SCINT		Cs-137	Am241Be
Length	8"		5168GW	DSN-424
Distance to Source	N/A		1.5 Ci	15 Ci

LOGGING DATA

	GENERAL				GAMMA		ACOUSTIC		DENSITY		NEUTRON	
	Run No.	Depth From	Depth To	Speed ft/min	Scale L	Scale R	Scale L	Scale R	Matrix	Scale L	Scale R	Matrix
	ONE	TD	CSG	PEC	0	150			2.71 g/cc	30	-10	LIME

ONE	TD	CSG	REC	0	150				30	-10	2.71 g/cc	30	-10	LIME

DIRECTIONAL INFORMATION

Maximum Deviation @	KOP @

CLIENT REPORTED VERTICAL WELL

Remarks: GTET-DSNT-SDLT-ACRT RUN IN COMBINATION

ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING

CHLORIDES REPORTED AT 920 PPM

NO POST-CALS COMPLETED AS PER CLIENT REQUEST

POROSITY & MICROLOG CURVES LOGGED TO 1518 FT PER CLIENT REQUEST

RIG: C&G DRILLING

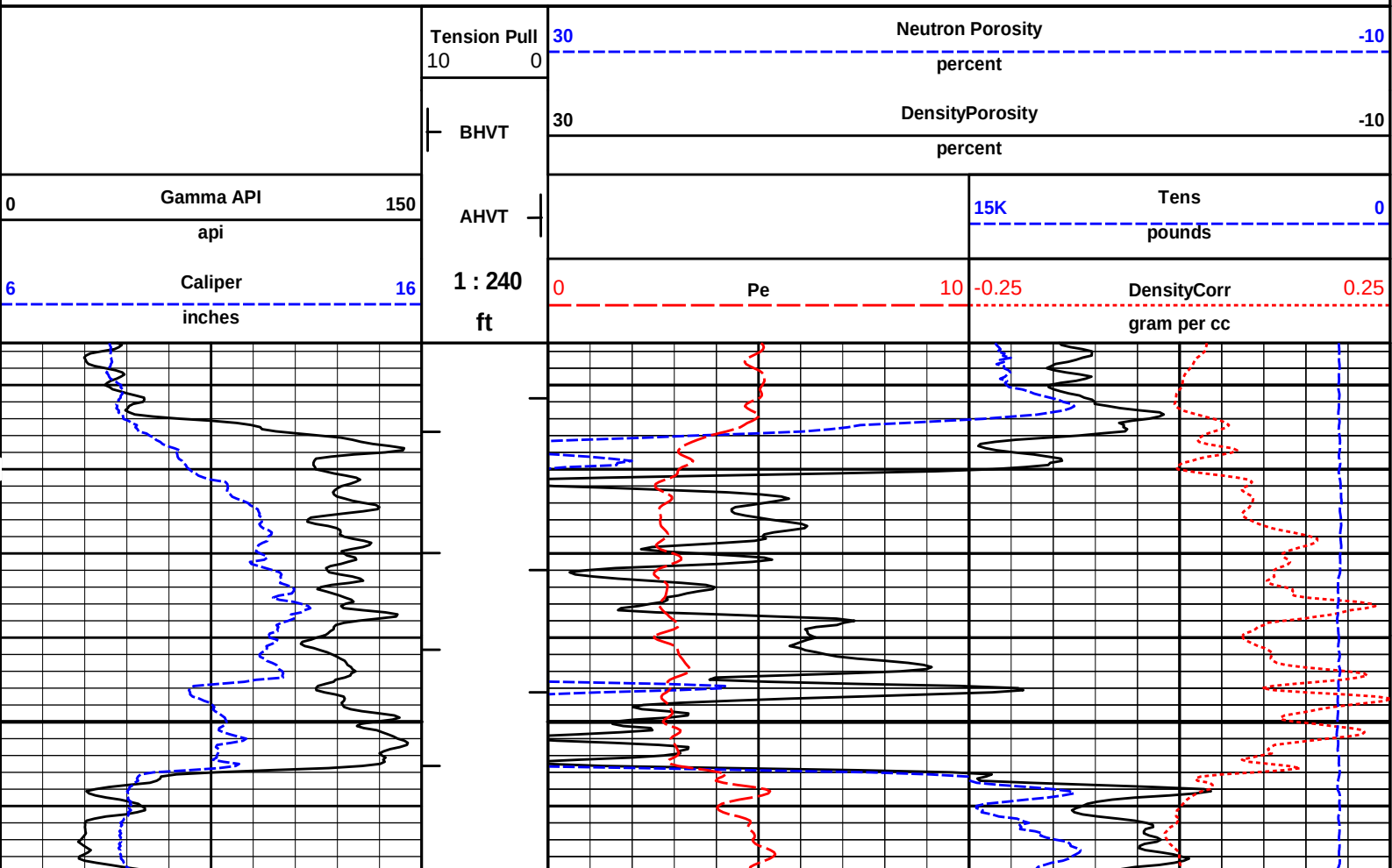
CREW: K. KING, A. FARRAR, K. FITZPATRICK

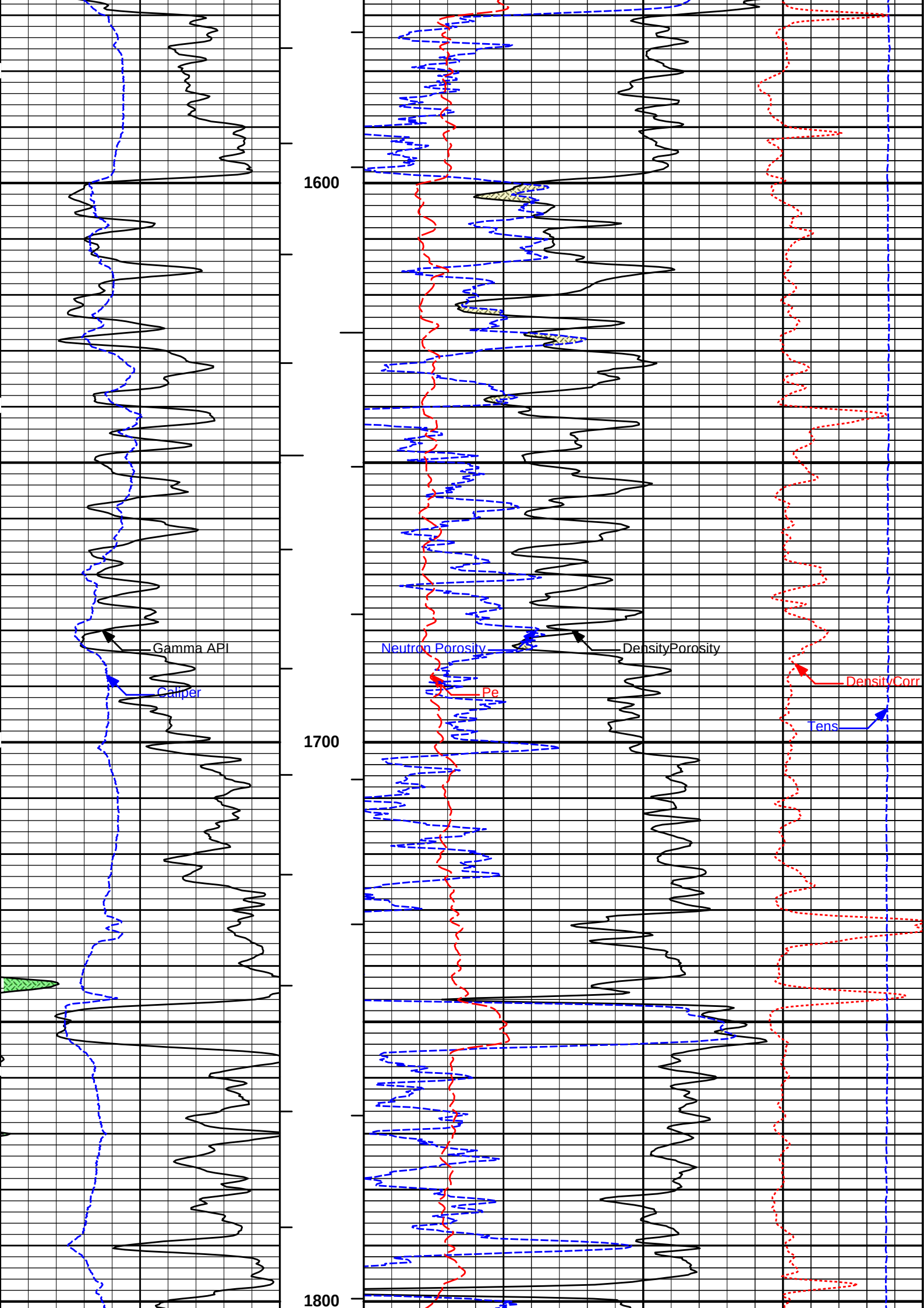
THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES -- EL RENO, OK -- 405.278.9685

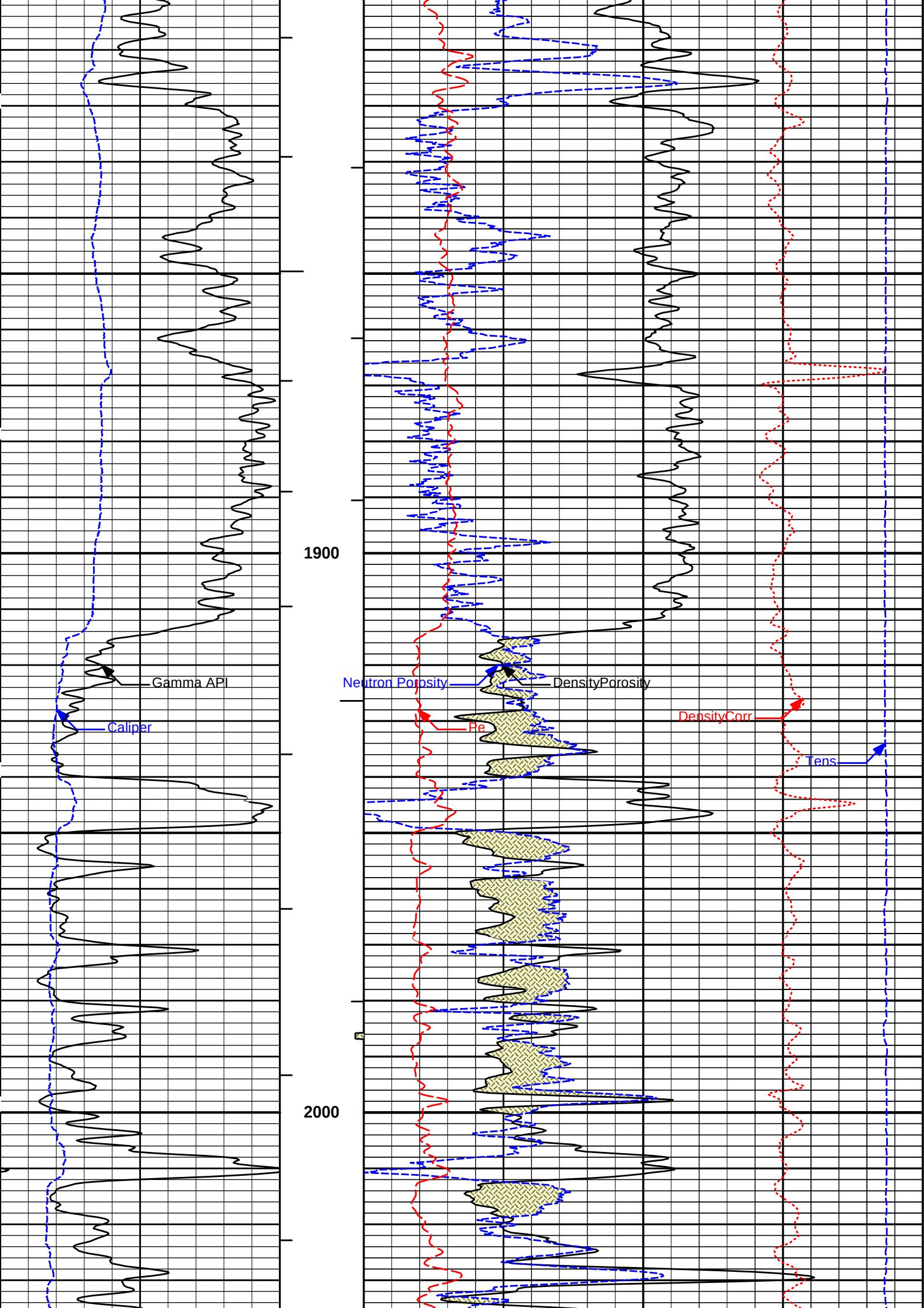
HALLIBURTON

Plot Time: 03-May-17 22:45:31
Plot Range: 1505 ft to 3522 ft
Data: BECKER OIL_BOWL\Well Based\DAQ-0001-006
Plot File: \\PORO\1_Poro_5_mainx

5 INCH MAIN LOG




1600
1700
1800
Gamma API
Caliper
Neutron Porosity
DensityPorosity
Pe
DensityCorr
Tens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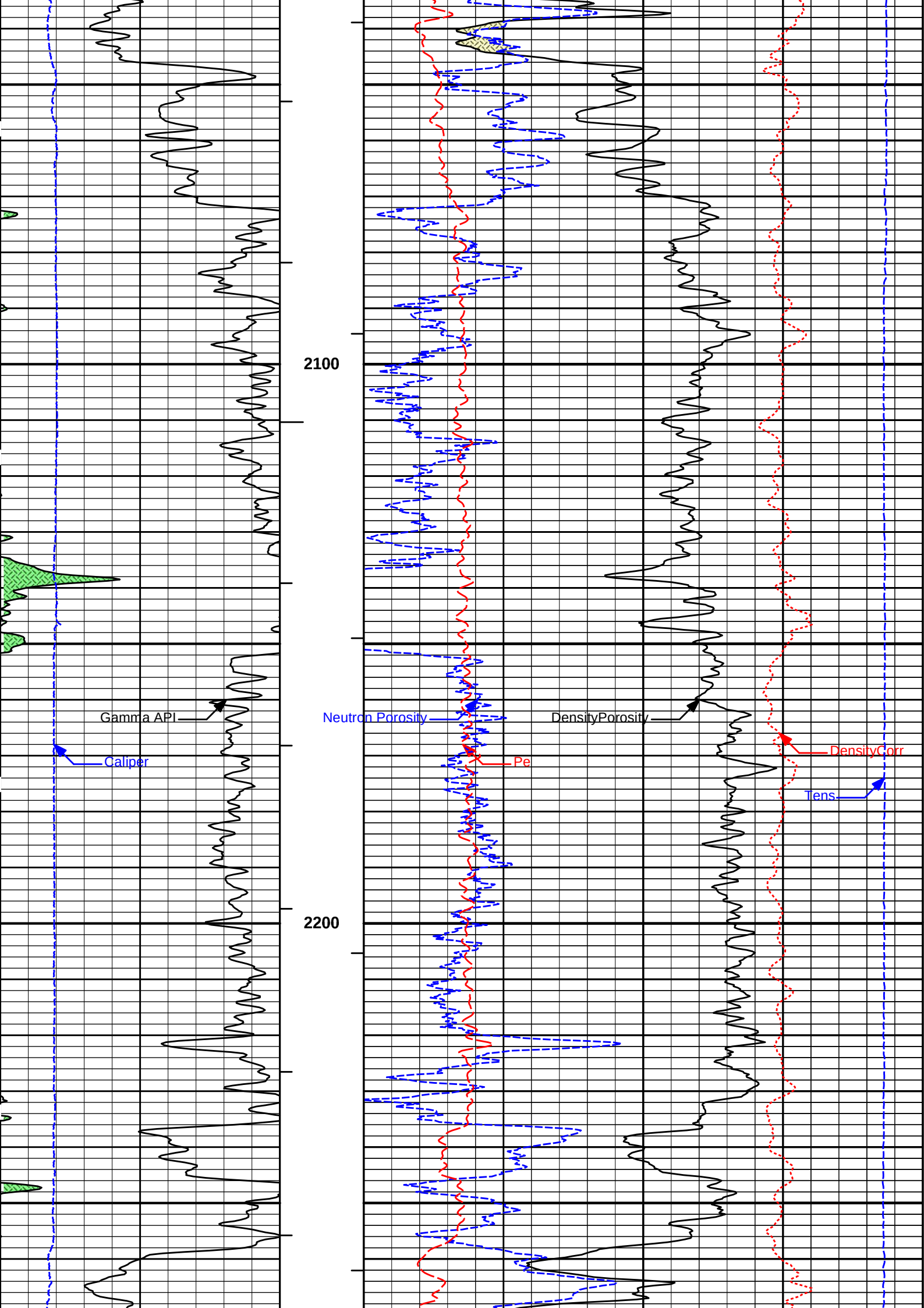
Neutron Porosity
DensityPorosity
Pe
DensityCorr
Tens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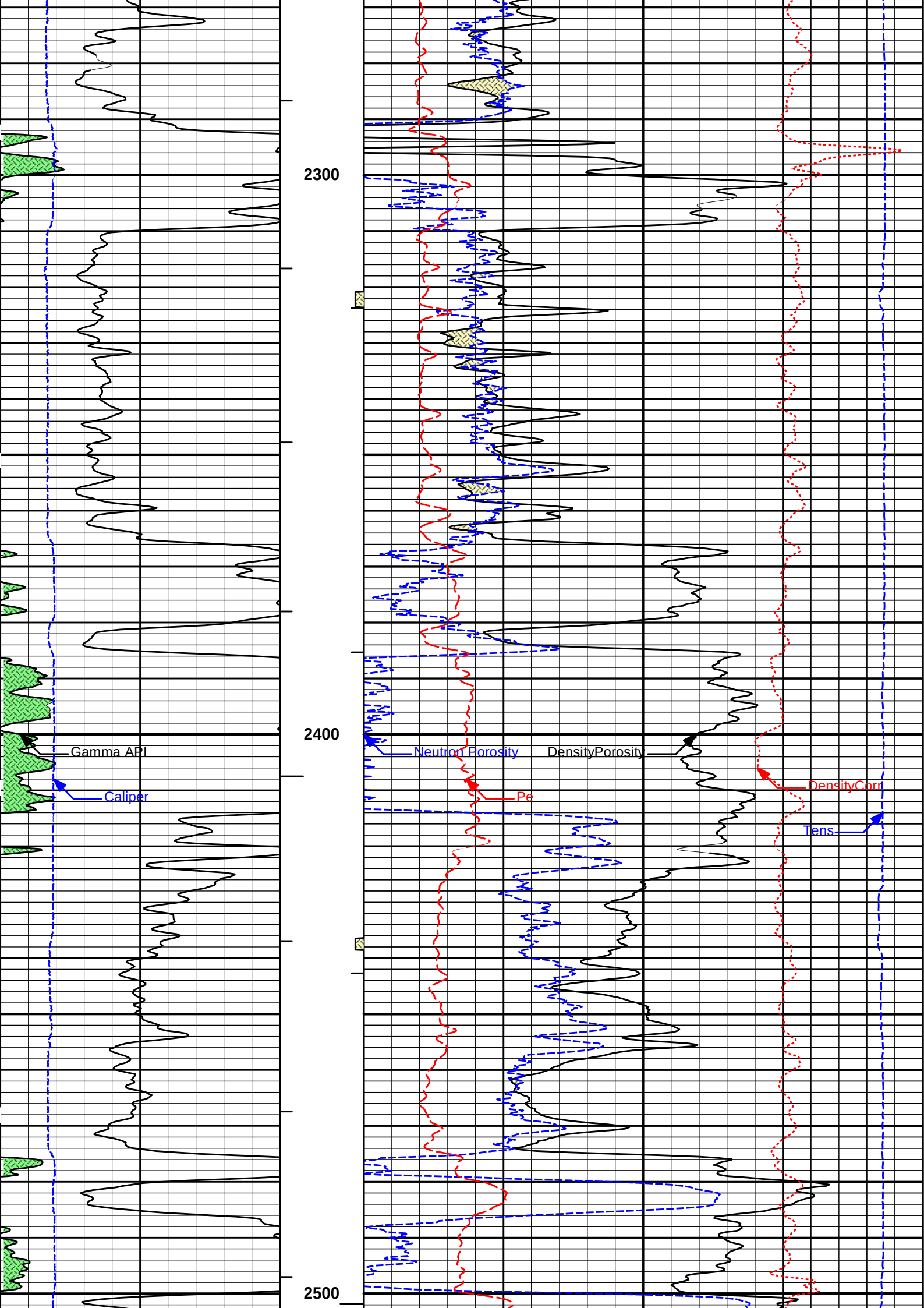
DensityCorr
Tens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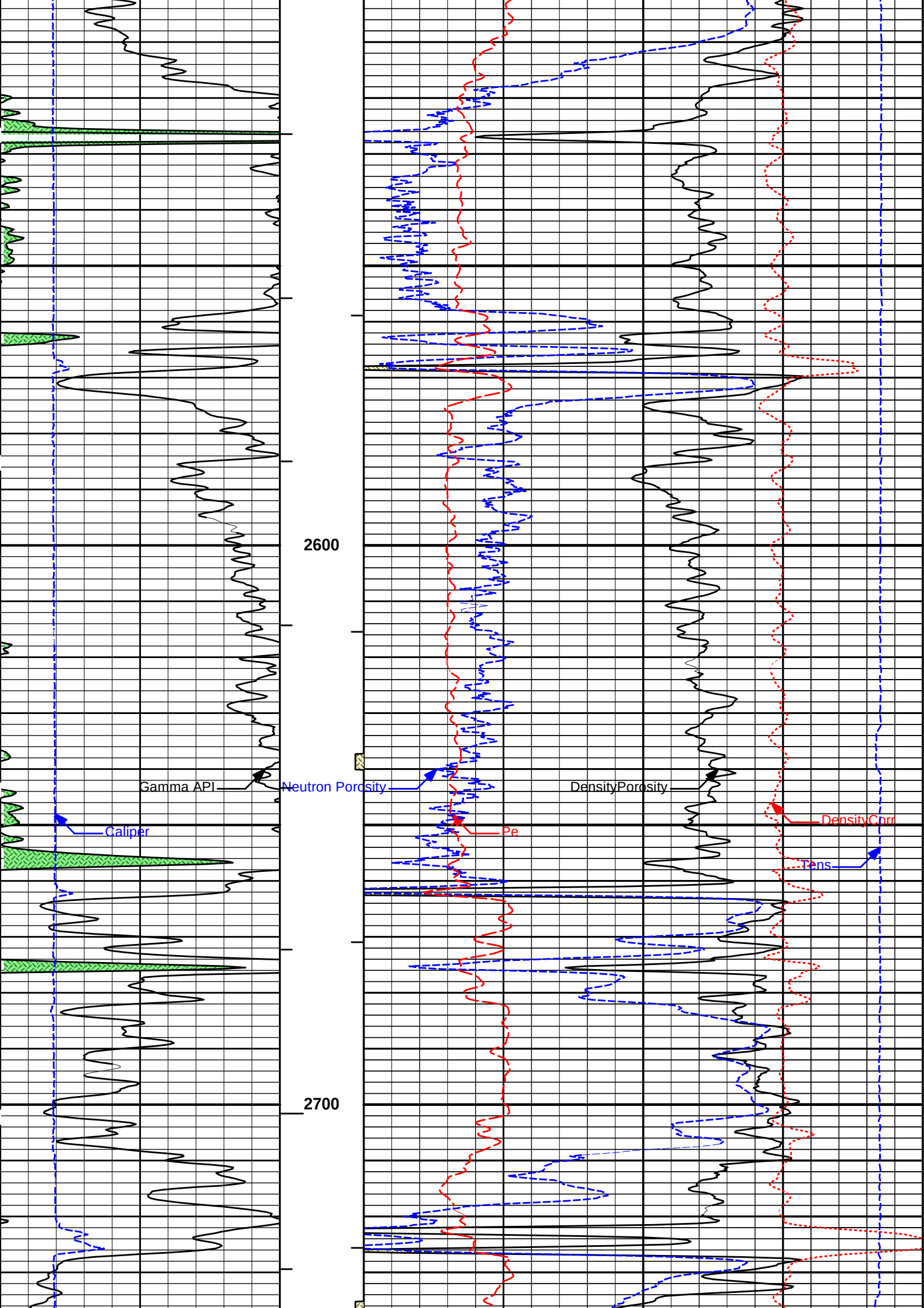
Caliper
Neutron Porosity
DensityPorosity
Pe
DensityCorr
Tens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Neutron Porosity
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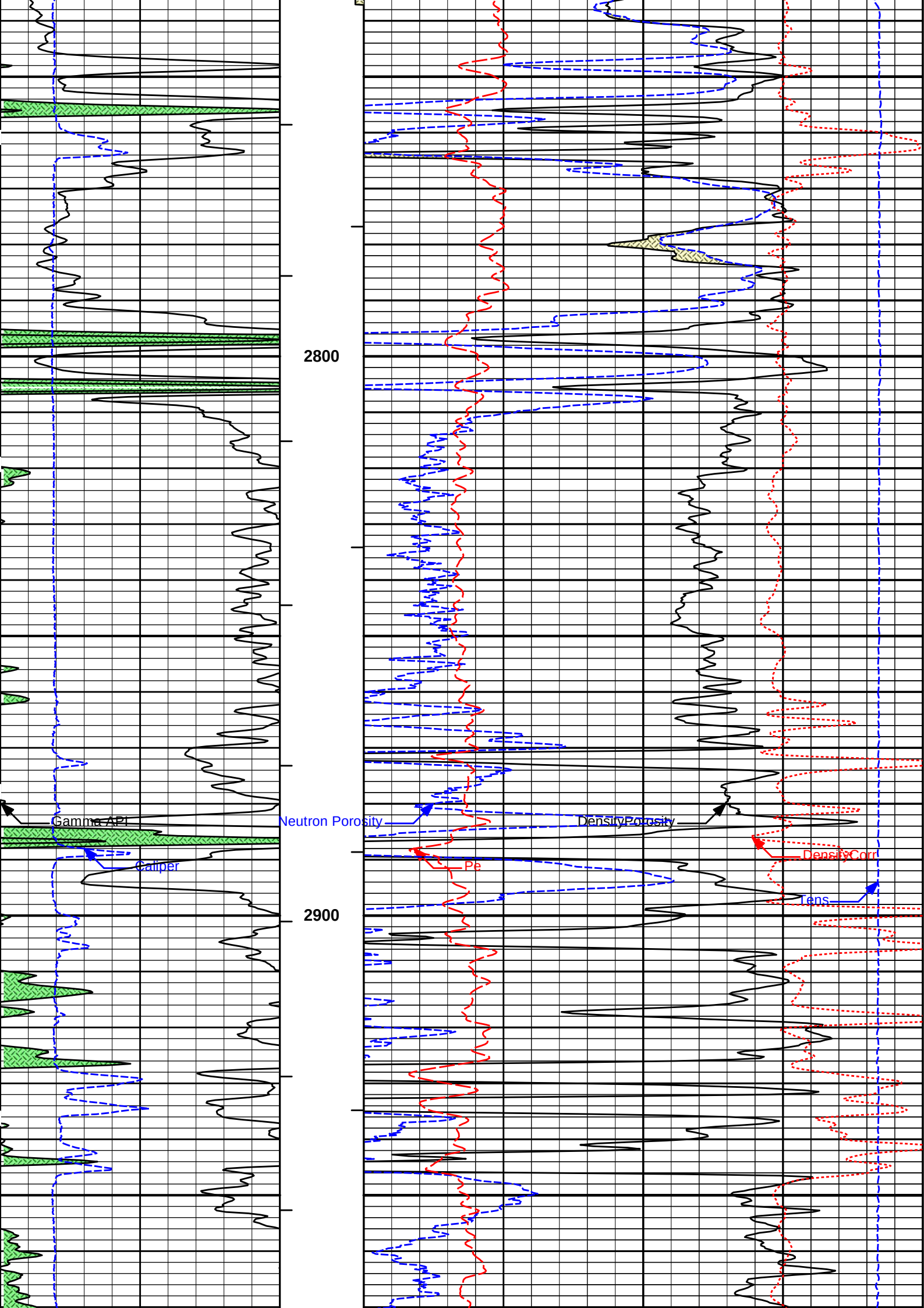
DensityPorosity
DensityCorr
Tens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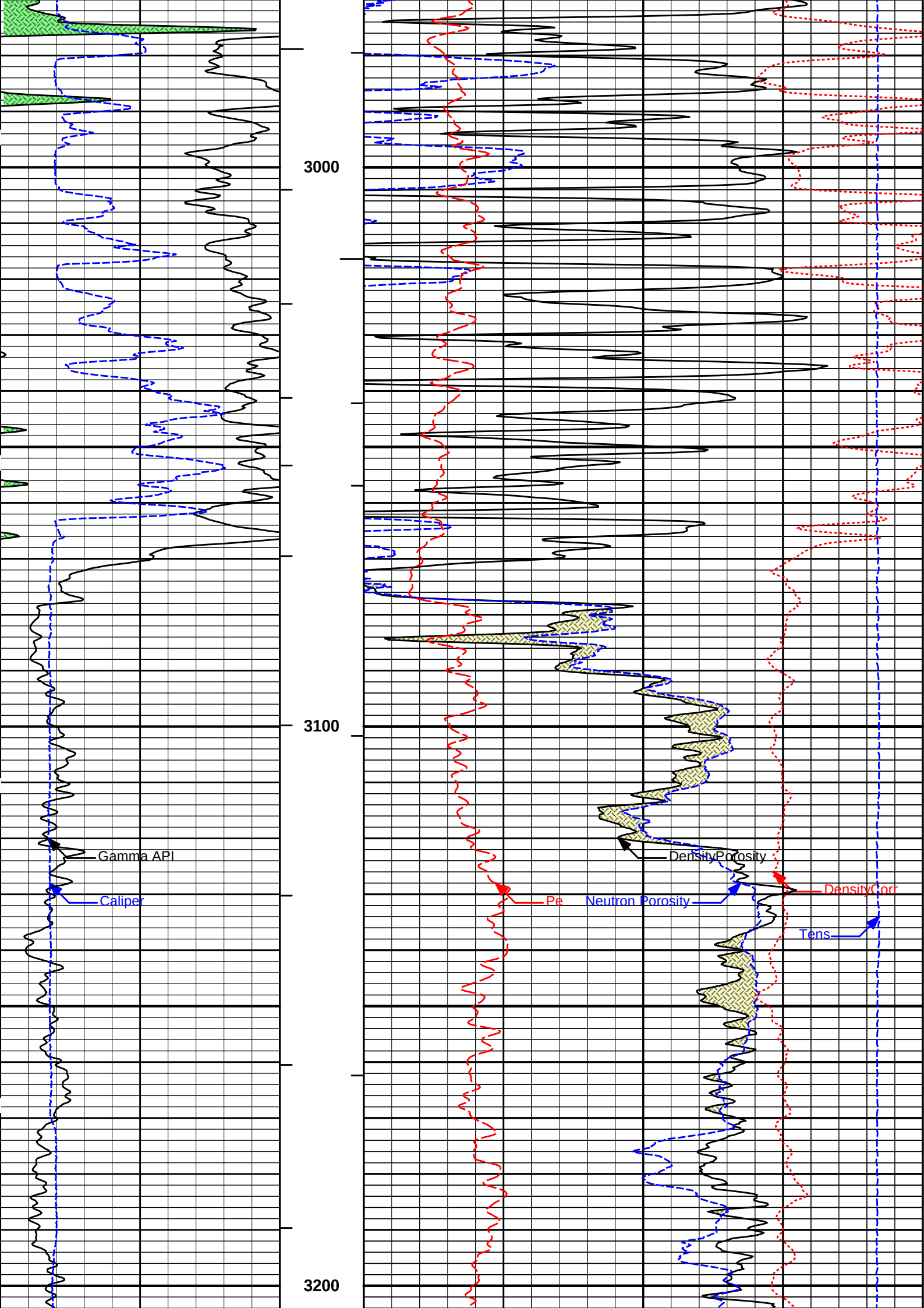
Pe
DensityPorosity
DensityCorr
Tens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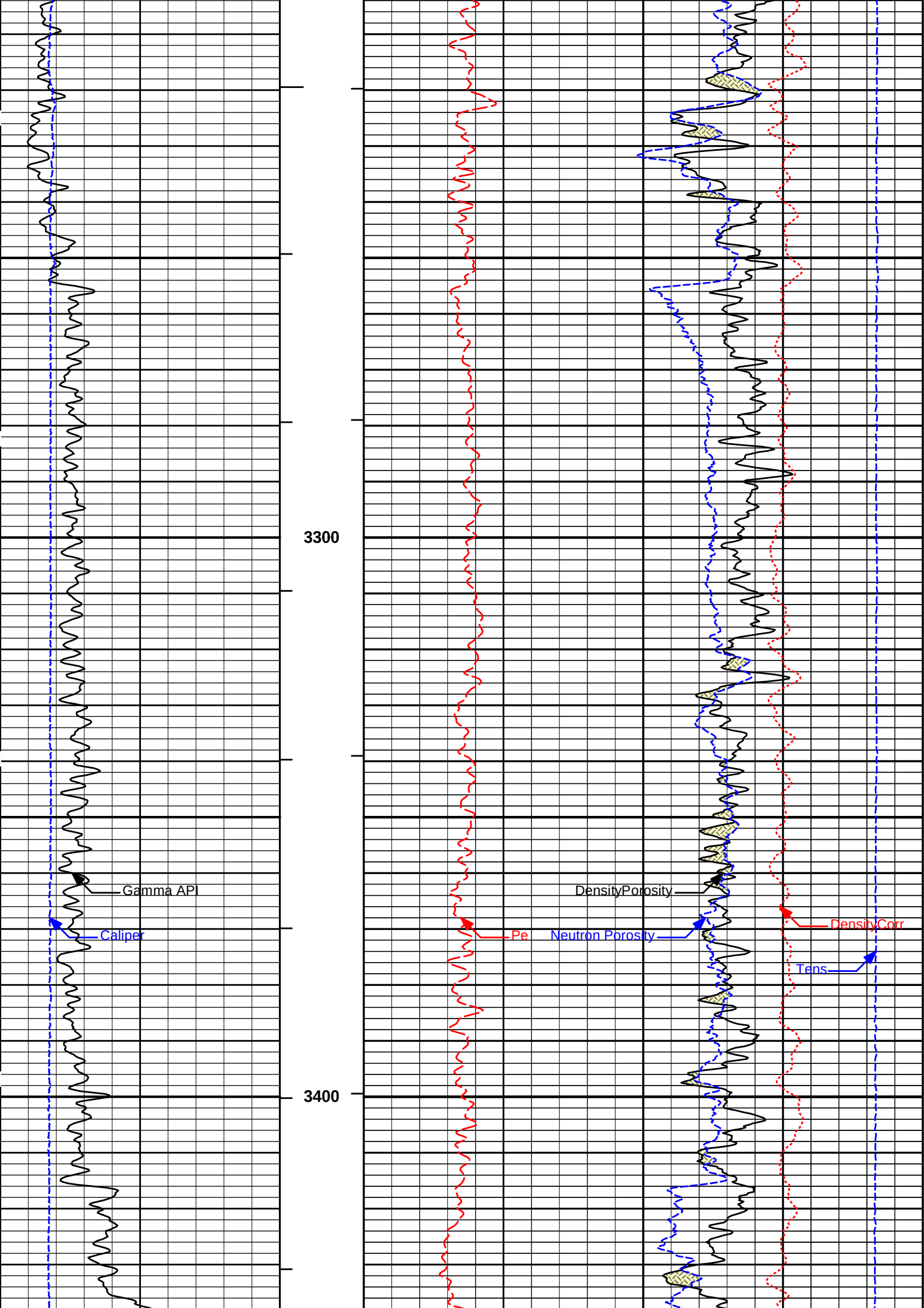
3200
Gamma API
Caliper
Pe
DensityPorosity
Neutron Porosity
DensityCorr
Tens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3400
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Pe
DensityPorosity
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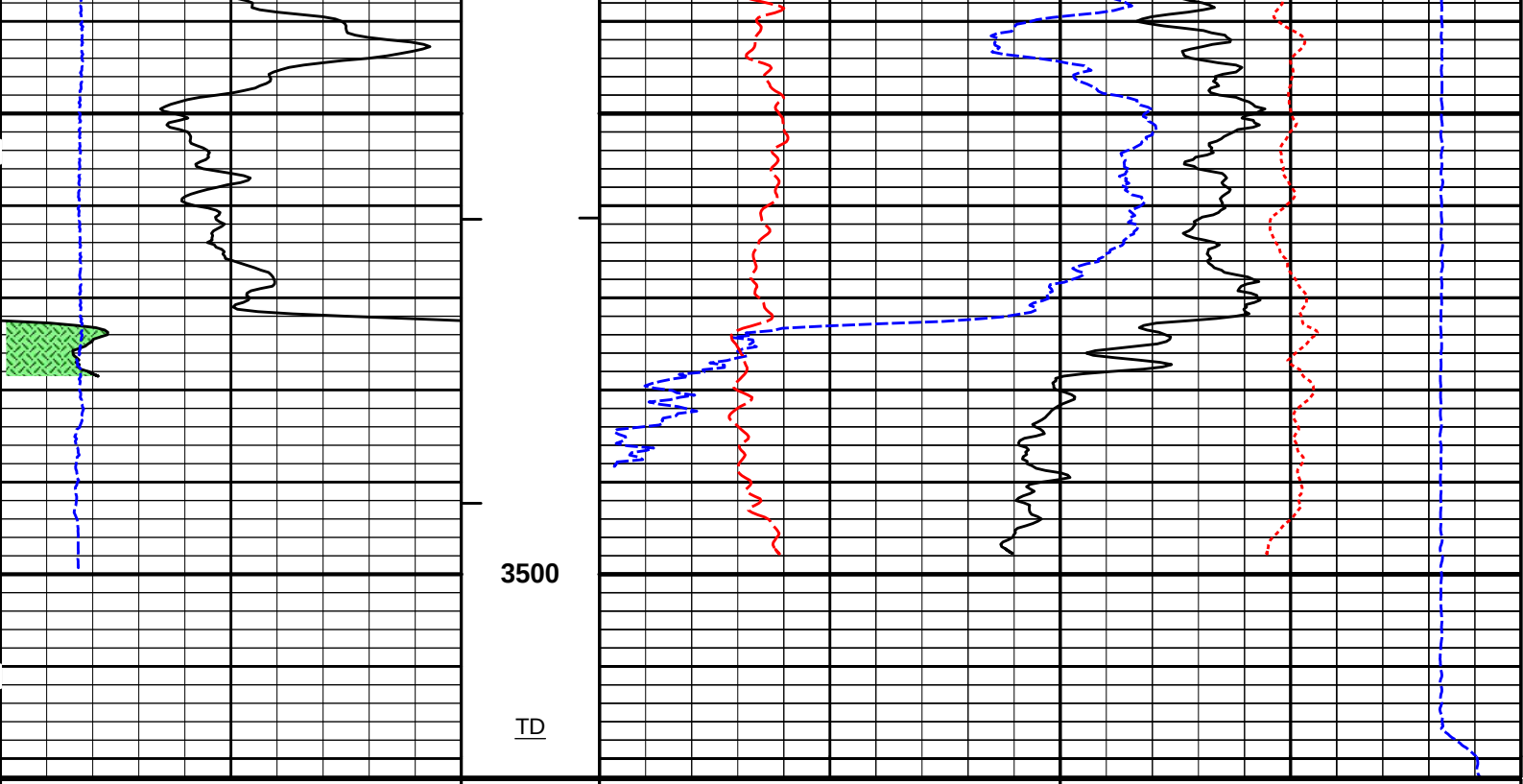
DensityCorr
Tens



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

HALLIBURTON

Plot Time: 03-May-17 22:45:33
Plot Range: 1505 ft to 3522 ft
Data: BECKER OIL_BOWL\Well Based\DAQ-0001-006\
Plot File: \\PORO\1_Poro_5_mainx

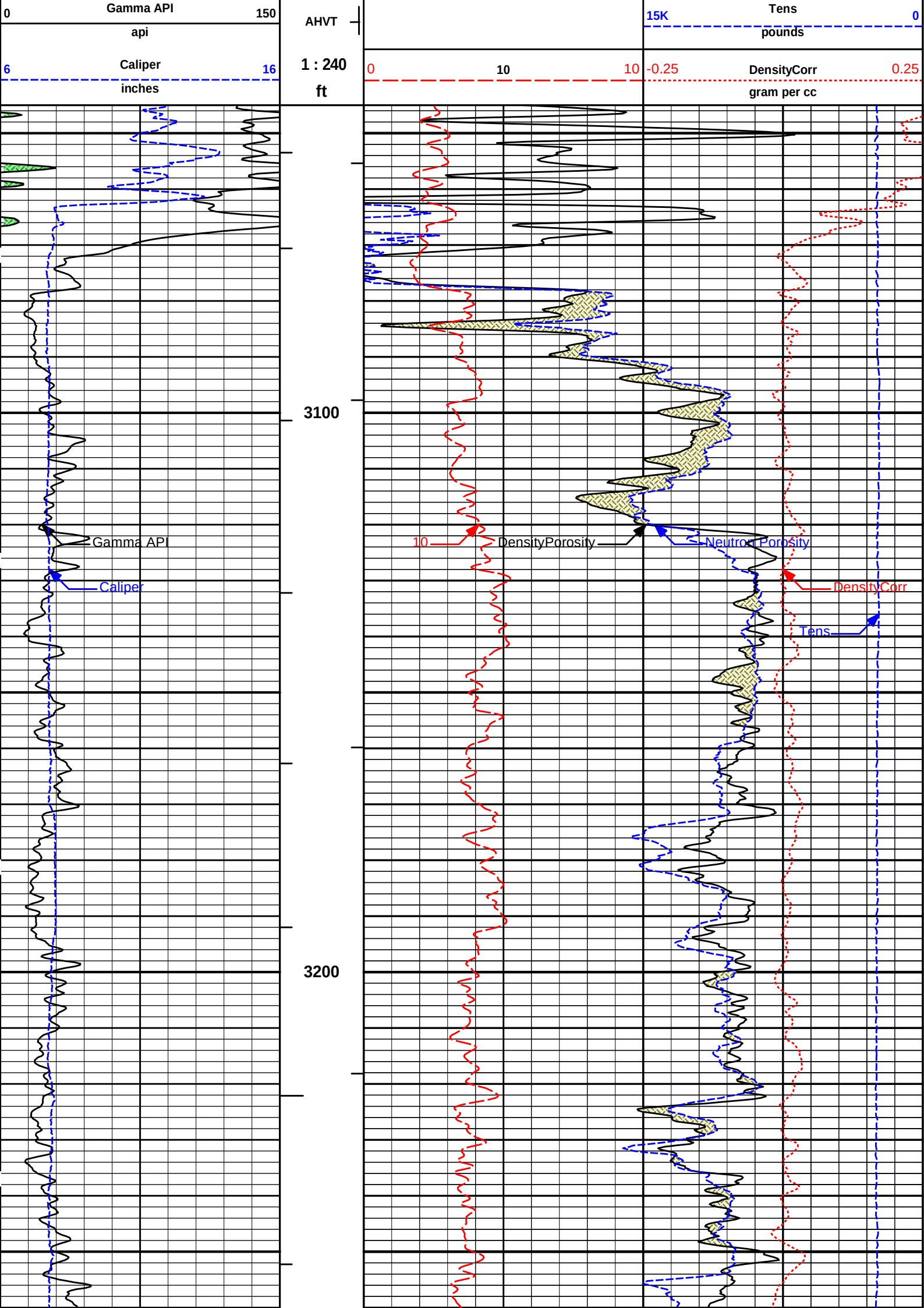
5 INCH MAIN LOG

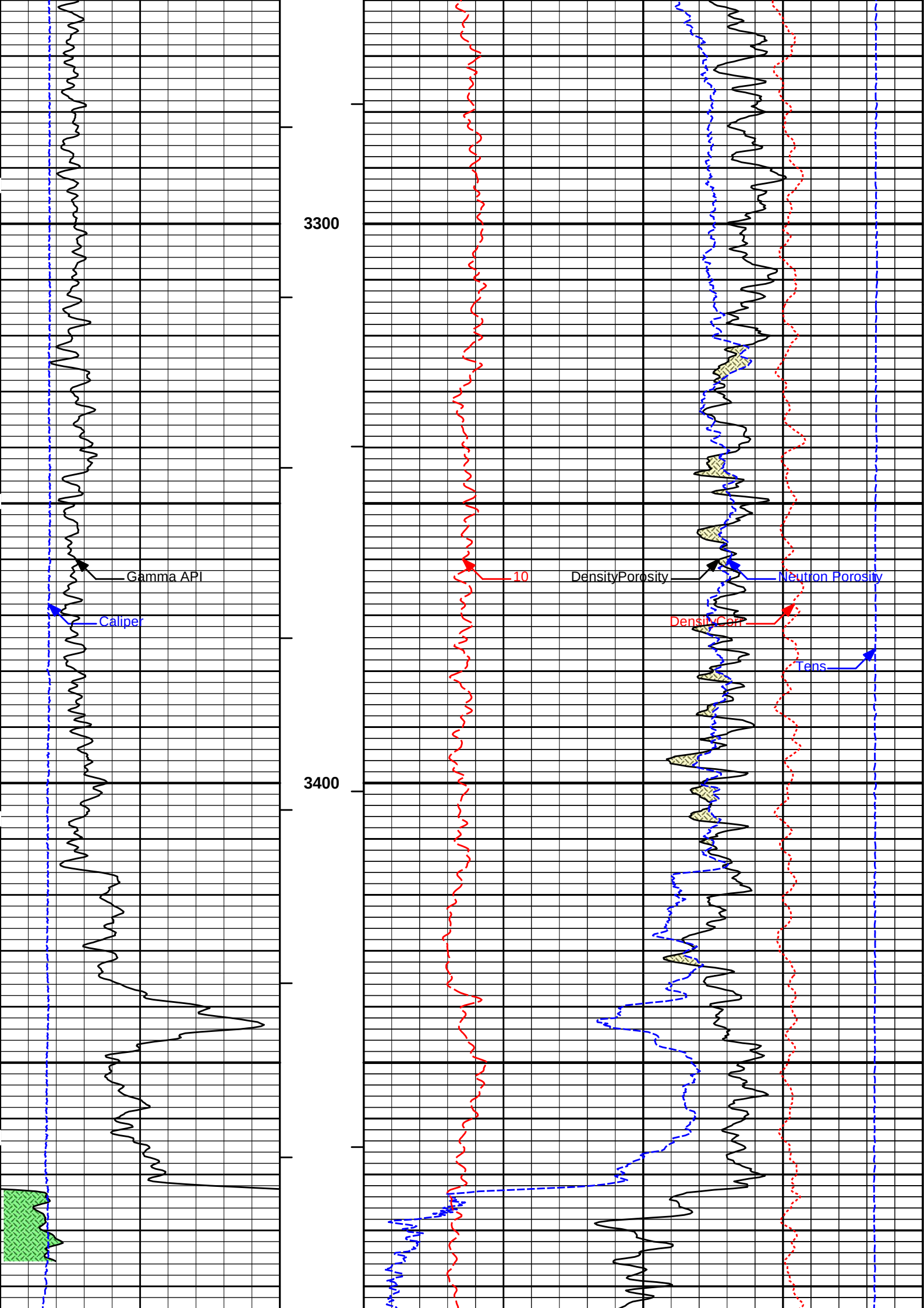
HALLIBURTON

Plot Time: 03-May-17 22:45:34
Plot Range: 3045 ft to 3528.58 ft
Data: BECKER OIL_BOWL\Well Based\REPEAT\
Plot File: \\PORO\1_Poro_5_rptx

REPEAT SECTION

	Tension Pull 10 0	30 Neutron Porosity -10 percent
	BHVT	30 DensityPorosity -10 percent


0
Gamma API
150
api
6
Caliper
16
inches
AHVT
1 : 240
ft
0
10
10
15K
Tens
0
pounds
-0.25
DensityCorr
0.25
gram per cc
3100
3200
Gamma API
Caliper
10
DensityPorosity
Neutron Porosity
DensityCorr
Tens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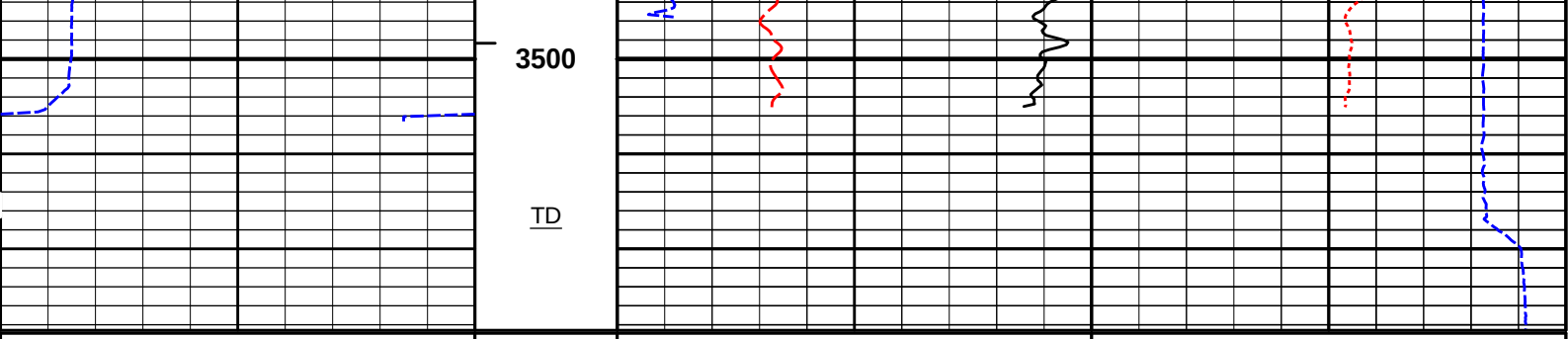
3400
Gamma API
Caliper
10
DensityPorosity
Neutron Porosity
DensityCorr
Tens



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

HALLIBURTON

Plot Time: 03-May-17 22:45:35
Plot Range: 3045 ft to 3528.58 ft
Data: BECKER OIL_BOWL\Well Based\REPEAT\
Plot File: \\PORO\1_Poro_5_rptx

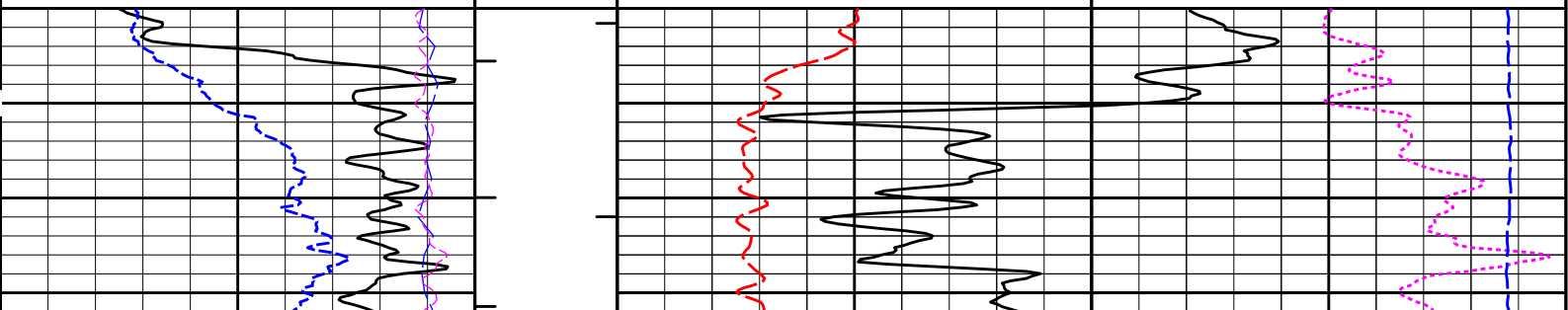
REPEAT SECTION

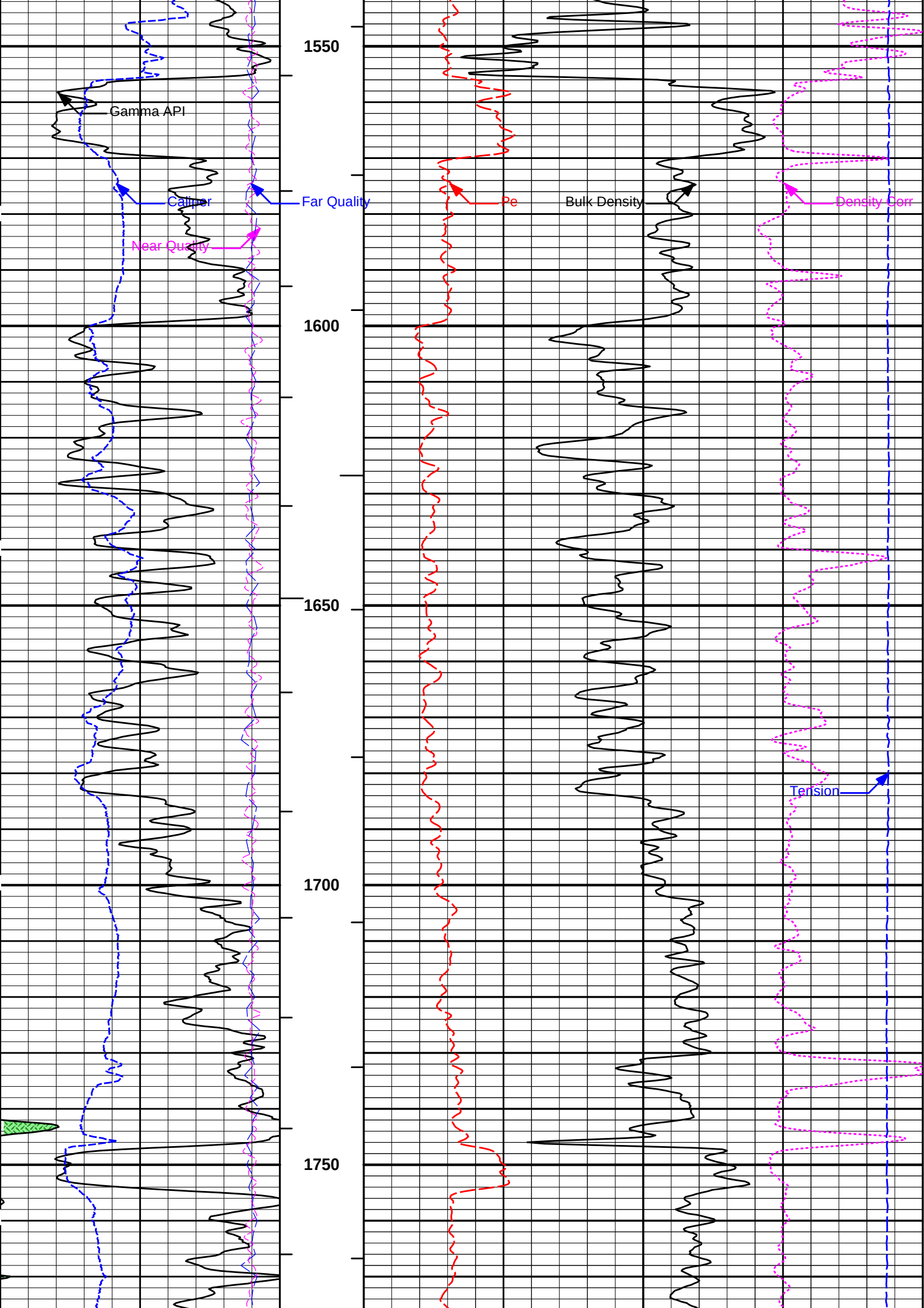
HALLIBURTON

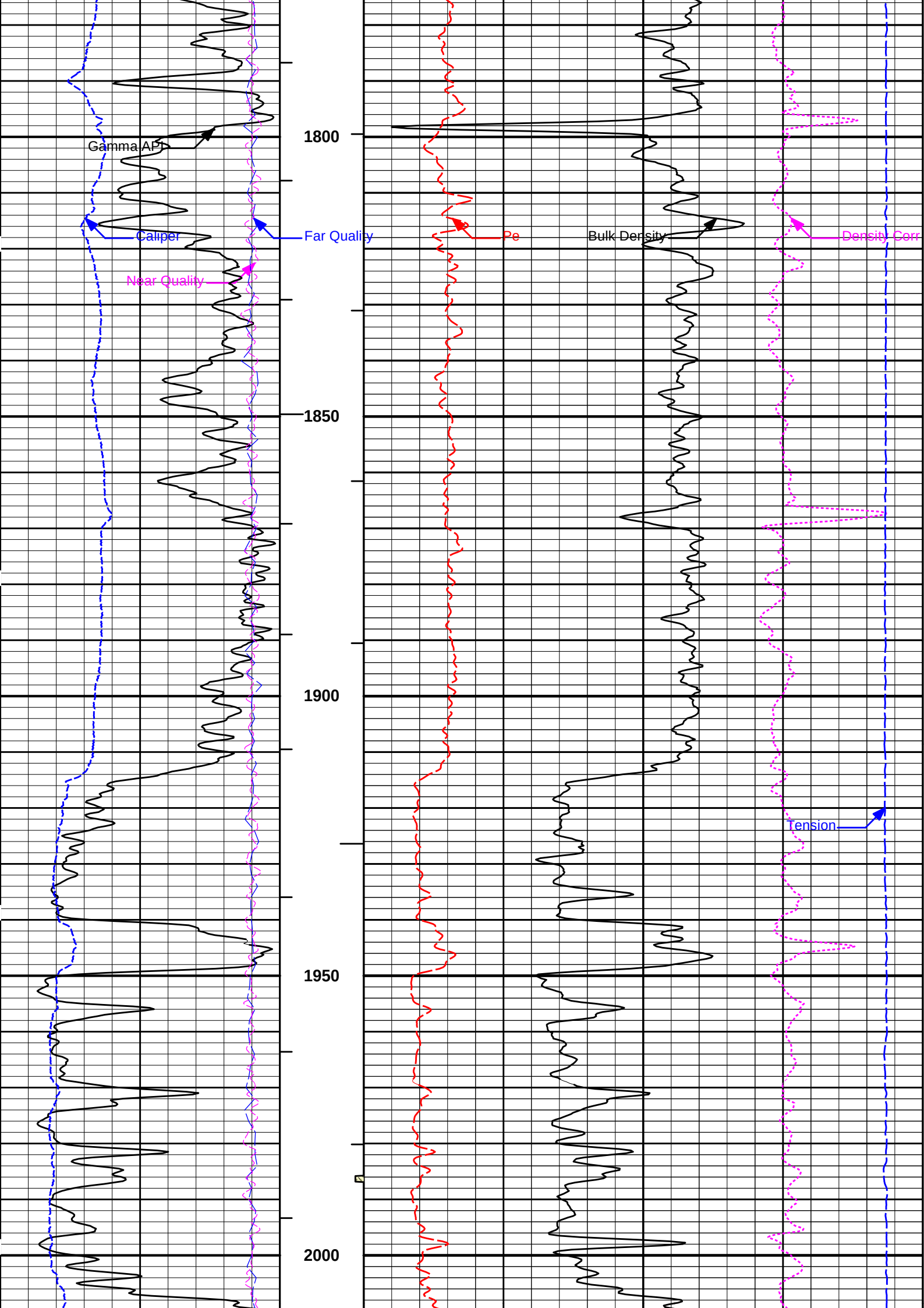
Plot Time: 03-May-17 22:45:35
Plot Range: 1510 ft to 3522.42 ft
Data: BECKER OIL_BOWL\Well Based\PORO\
Plot File: \\PORO\1_Bulk_5_mainx

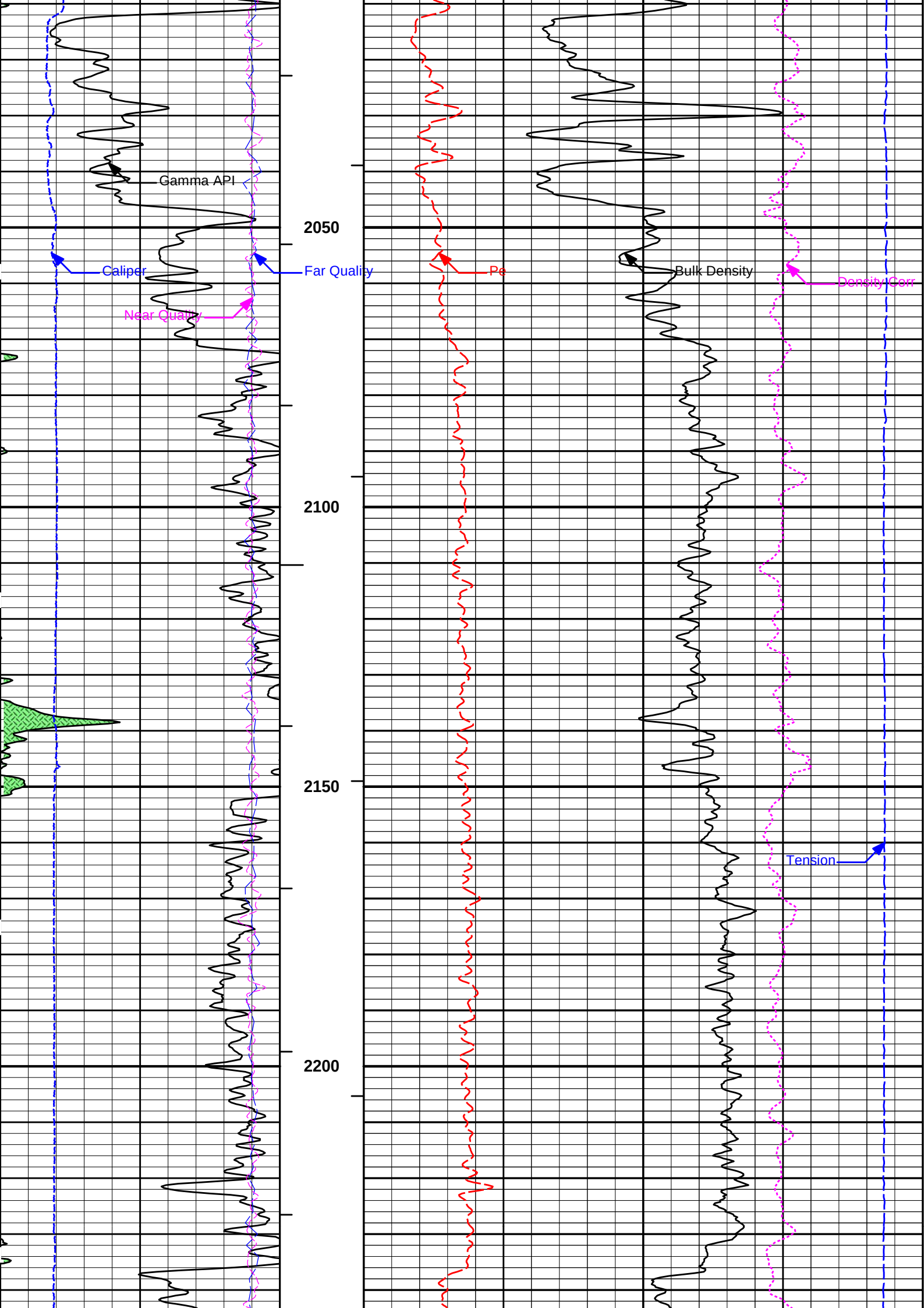
5 INCH MAIN LOG

0 Gamma API 150 api	Tension Pull 10 0	
6 Caliper 16 inches	BHVT	2 Bulk Density 3 gram per cc
18 Far Quality -2	AHVT	-0.25 Density Corr 0.25 gram per cc
-18 Near Quality 2	1 : 240 ft	0 Pe 10 15K Tension 0 pounds




1550
1600
1650
1700
1750
Gamma API
Caliper
Far Quality
Near Quality
Pe
Bulk Density
Density Corr
Tension


Gamma API
Caliper
Far Quality
Near Quality
Pe
Bulk Density
Density Corr
Tension
1800
1850
1900
1950
2000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Caliper
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Near Quality
Pe
Bulk Density
DensityCorr
Tension
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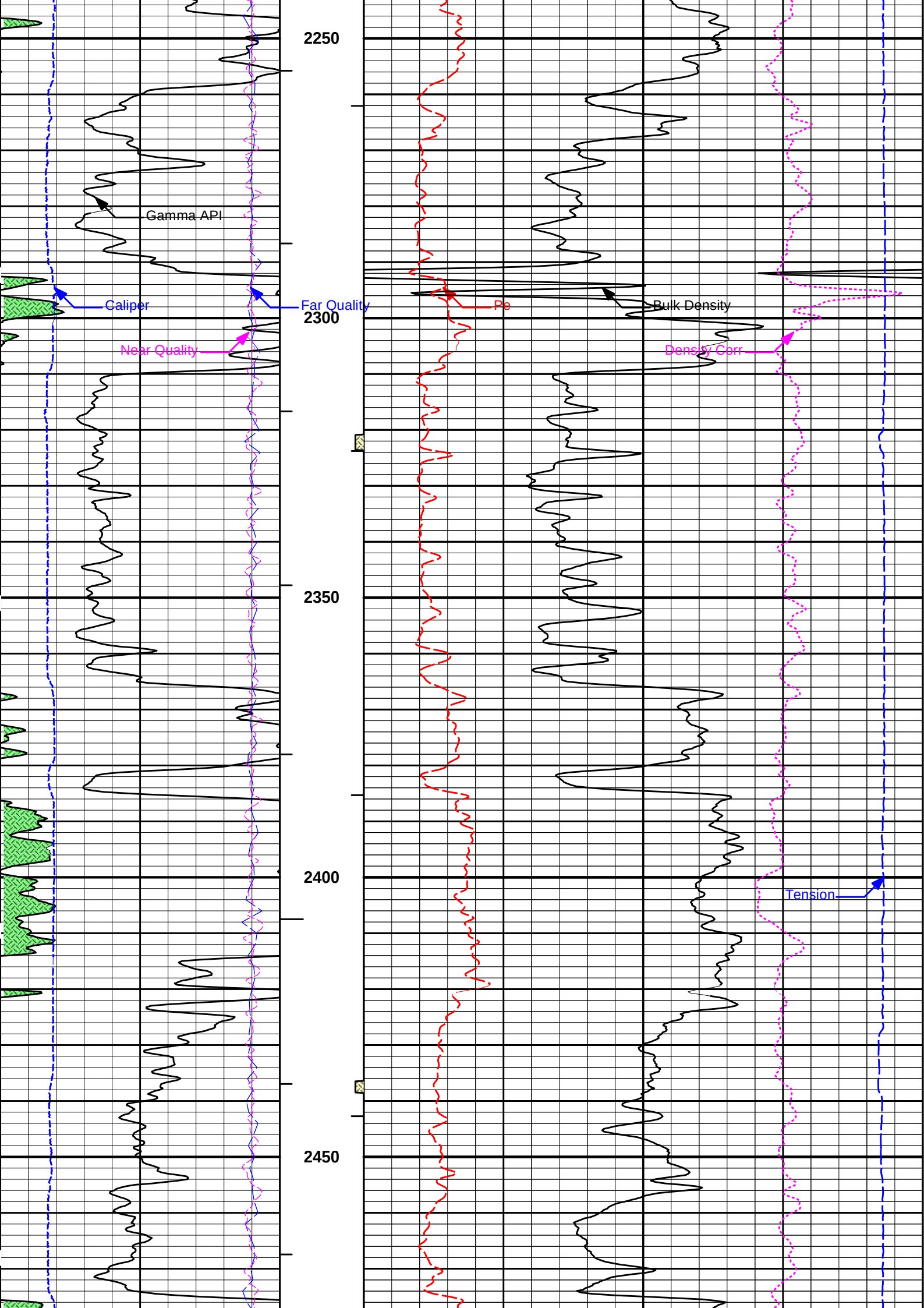
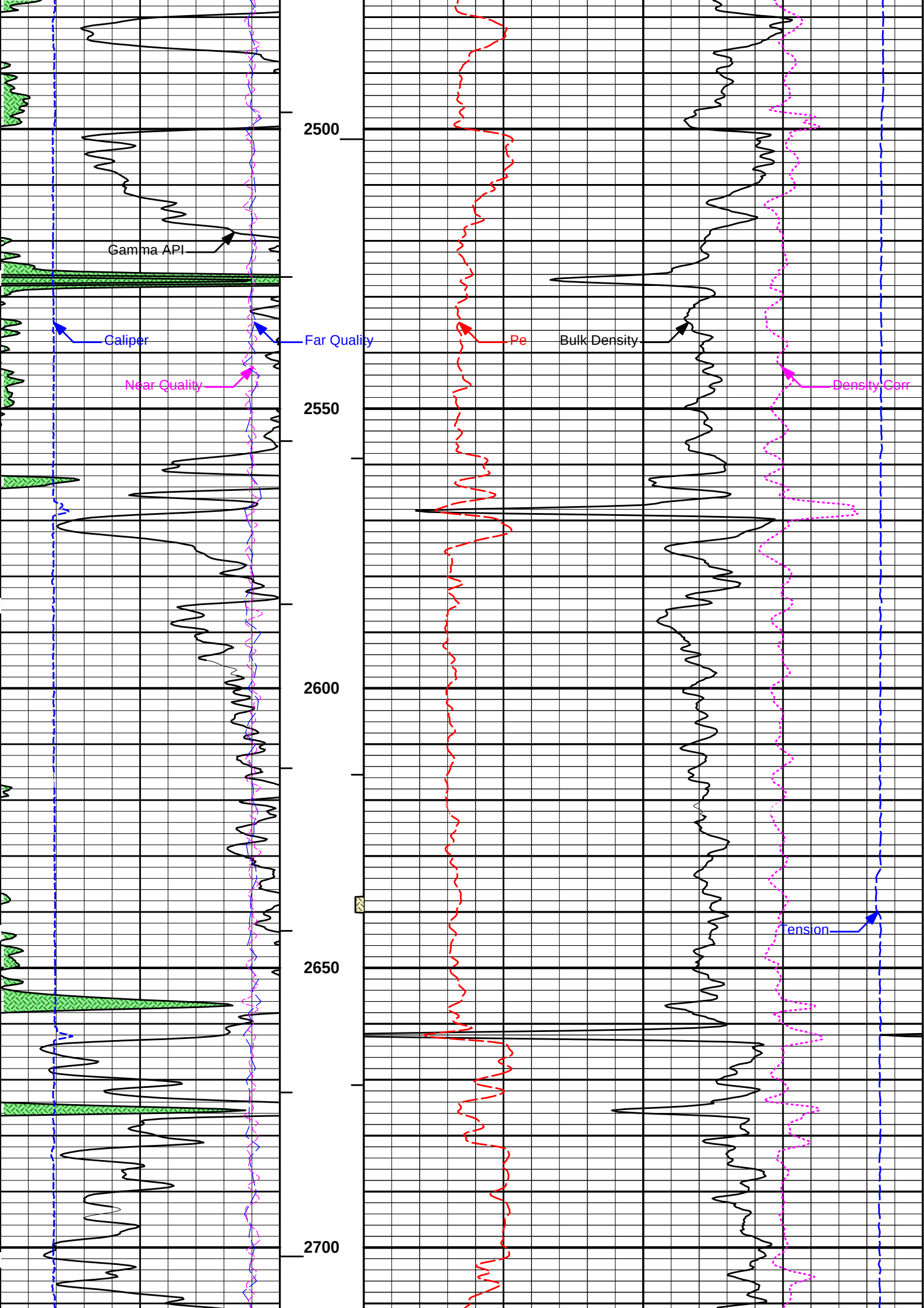
2150
2200


2250
2300
2350
2400
2450
Gamma API
Caliper
Far Quality
Near Quality
Pe
Bulk Density
Density Corr
Tension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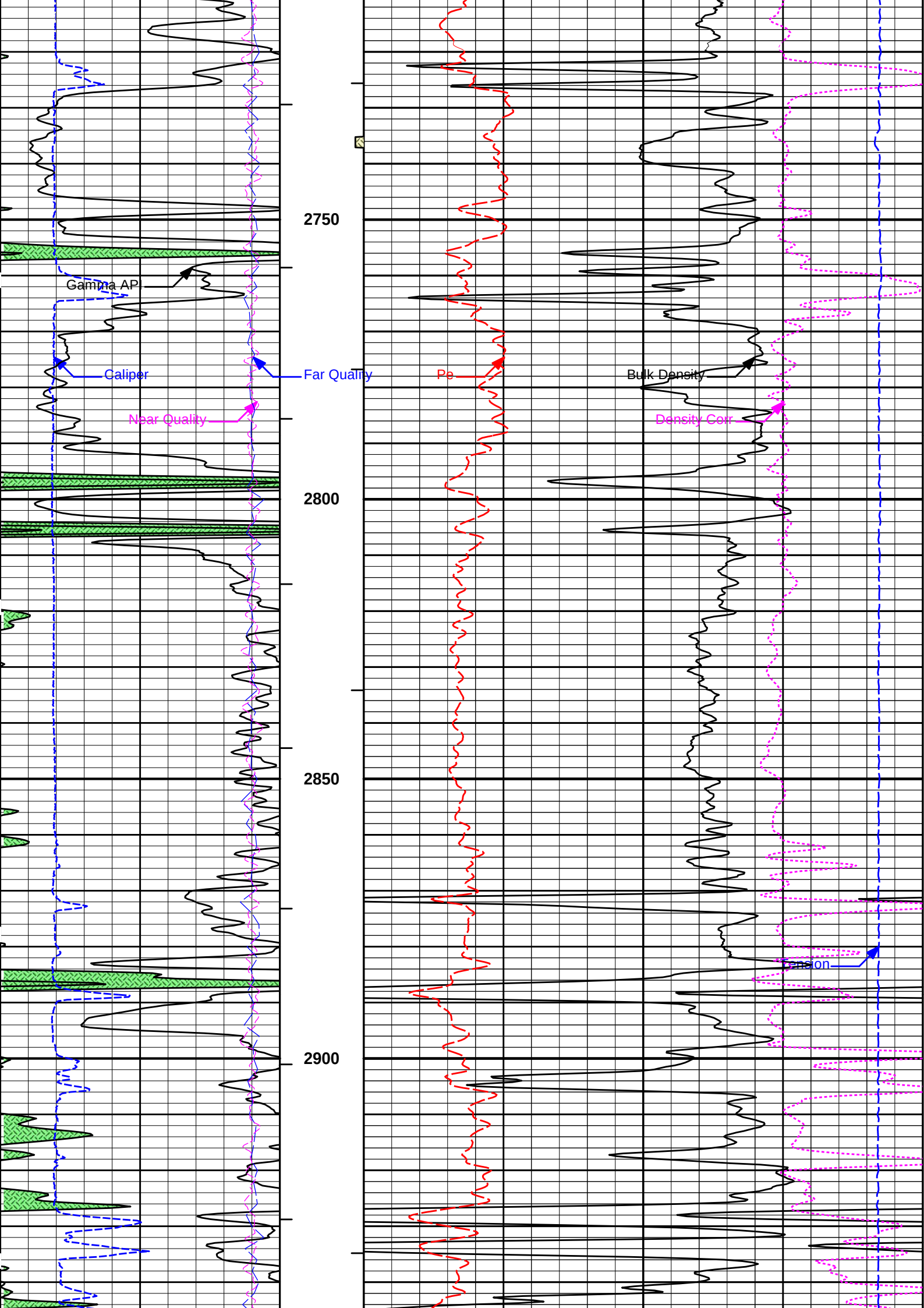
2600
2650
2700
Gamma API
Caliper
Far Quality
Near Quality
Pe
Bulk Density
Density Corr
Tension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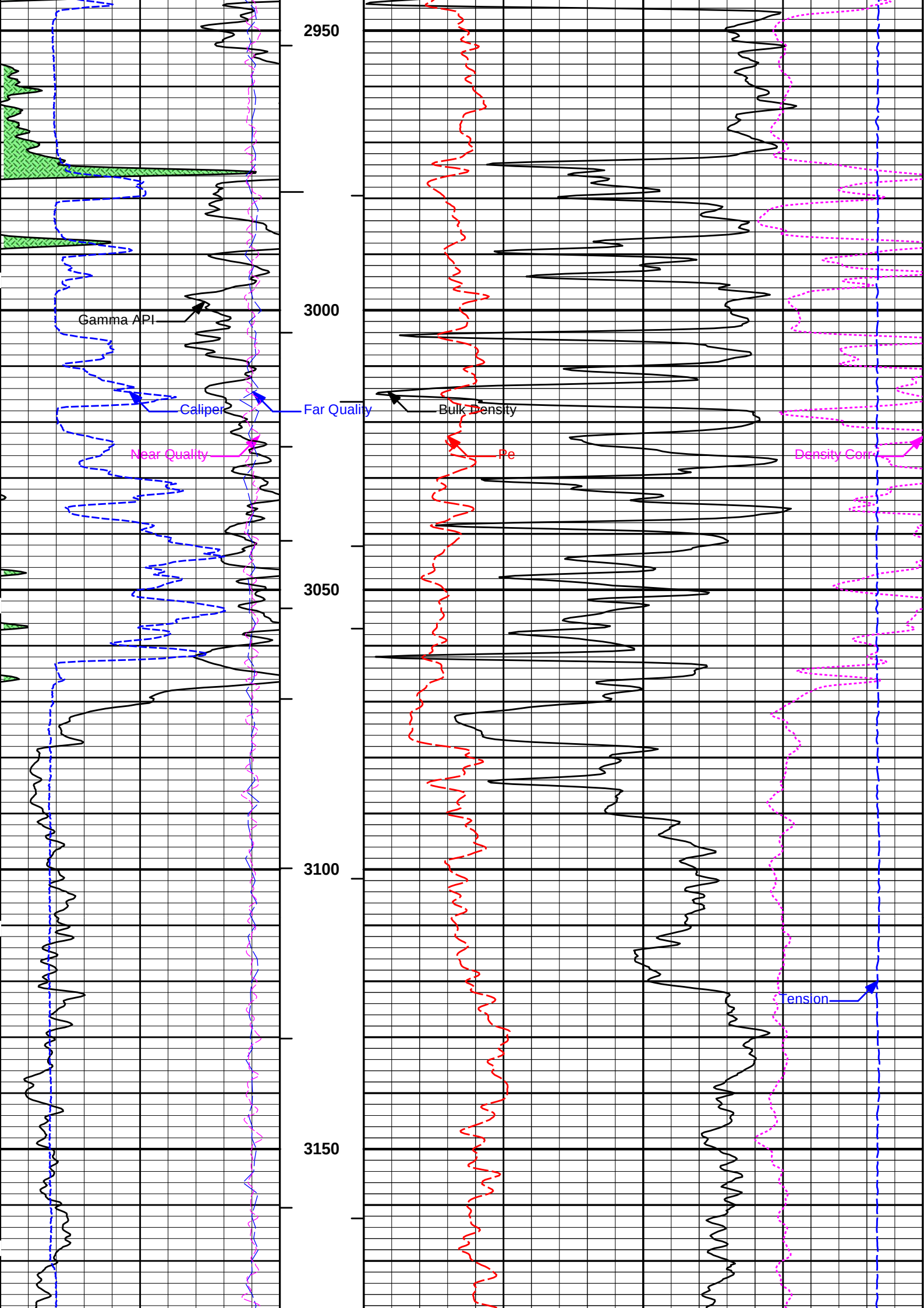
2850
2900
Gamma API
Caliper
Far Quality
Near Quality
Pe
Bulk Density
Density Corr
Tension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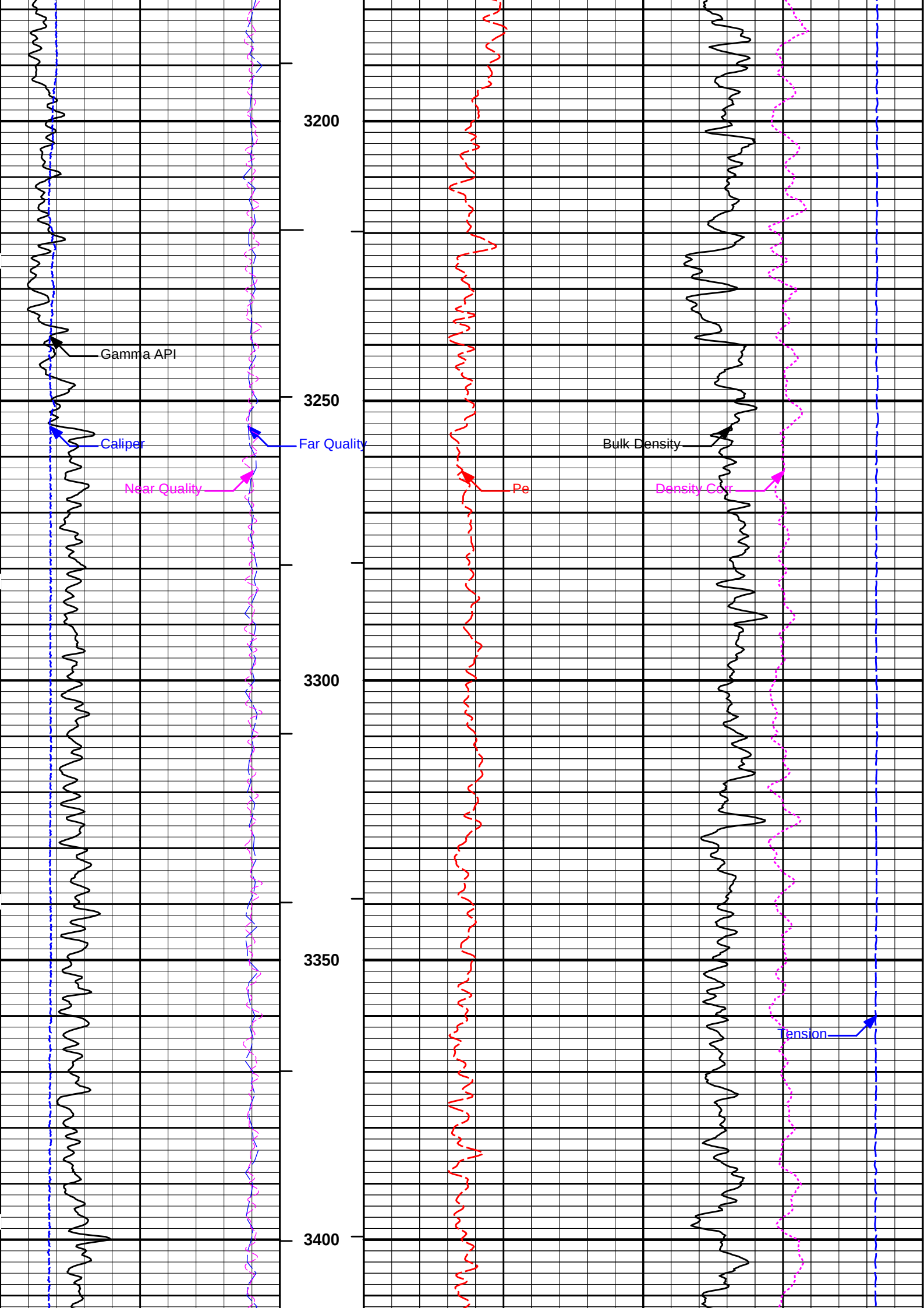
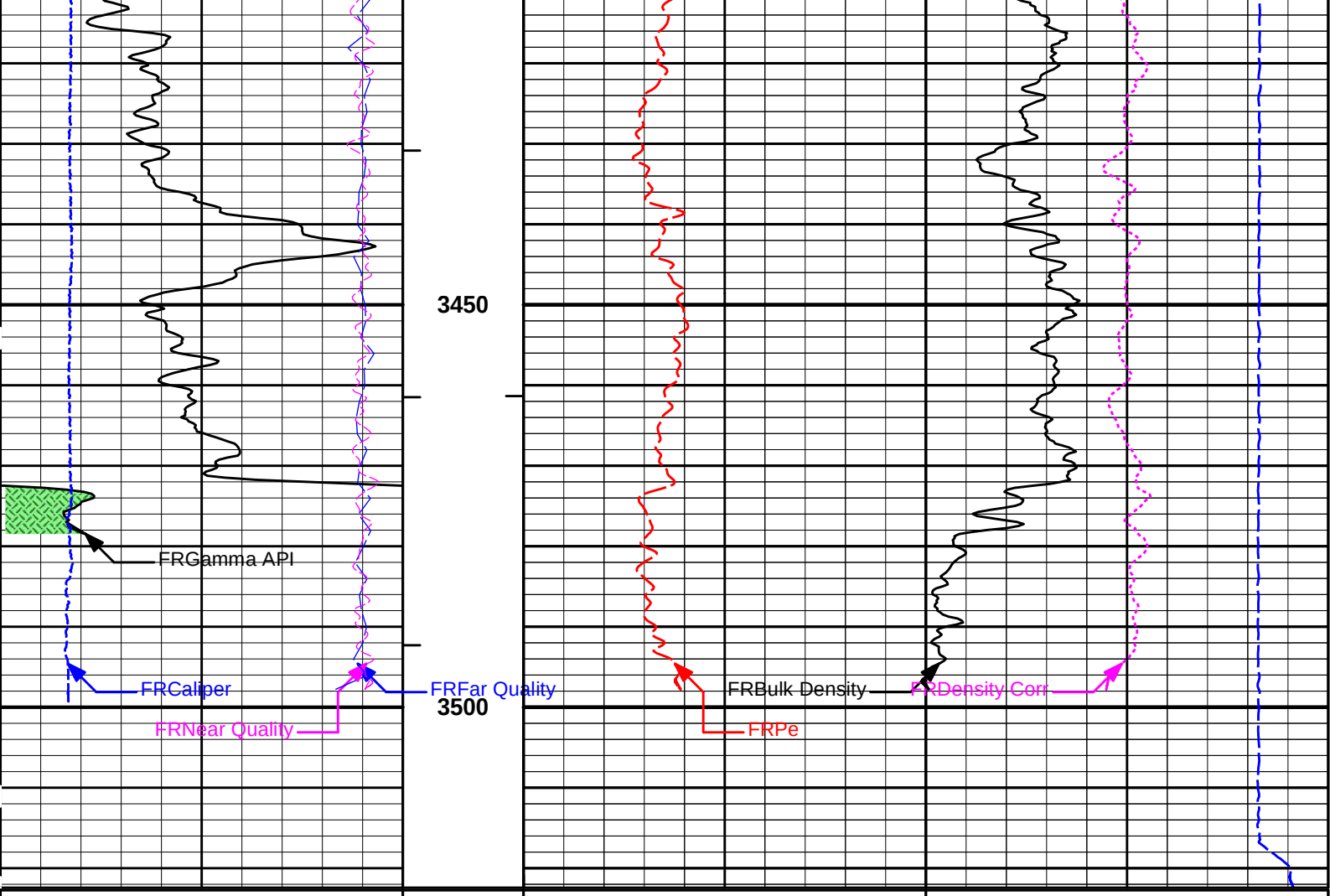
3000
3050
3100
3150
Gamma API
Caliper
Far Quality
Near Quality
Bulk Density
Pe
Density Corr
Tension


3200
3250
3300
3350
3400
Gamma API
Caliper
Far Quality
Near Quality
Pe
Bulk Density
Density Corr
Tension



-18 Near Quality 2	1 : 240 ft	0 Pe 10	15K Tension 0	
			pounds	
18 Far Quality -2	AHVT		-0.25 Density Corr 0.25	
			gram per cc	
6 Caliper 16	BHVT	2 Bulk Density 3		
inches		gram per cc		
0 Gamma API 150	Tension Pull			
api	10 0			

HALLIBURTON

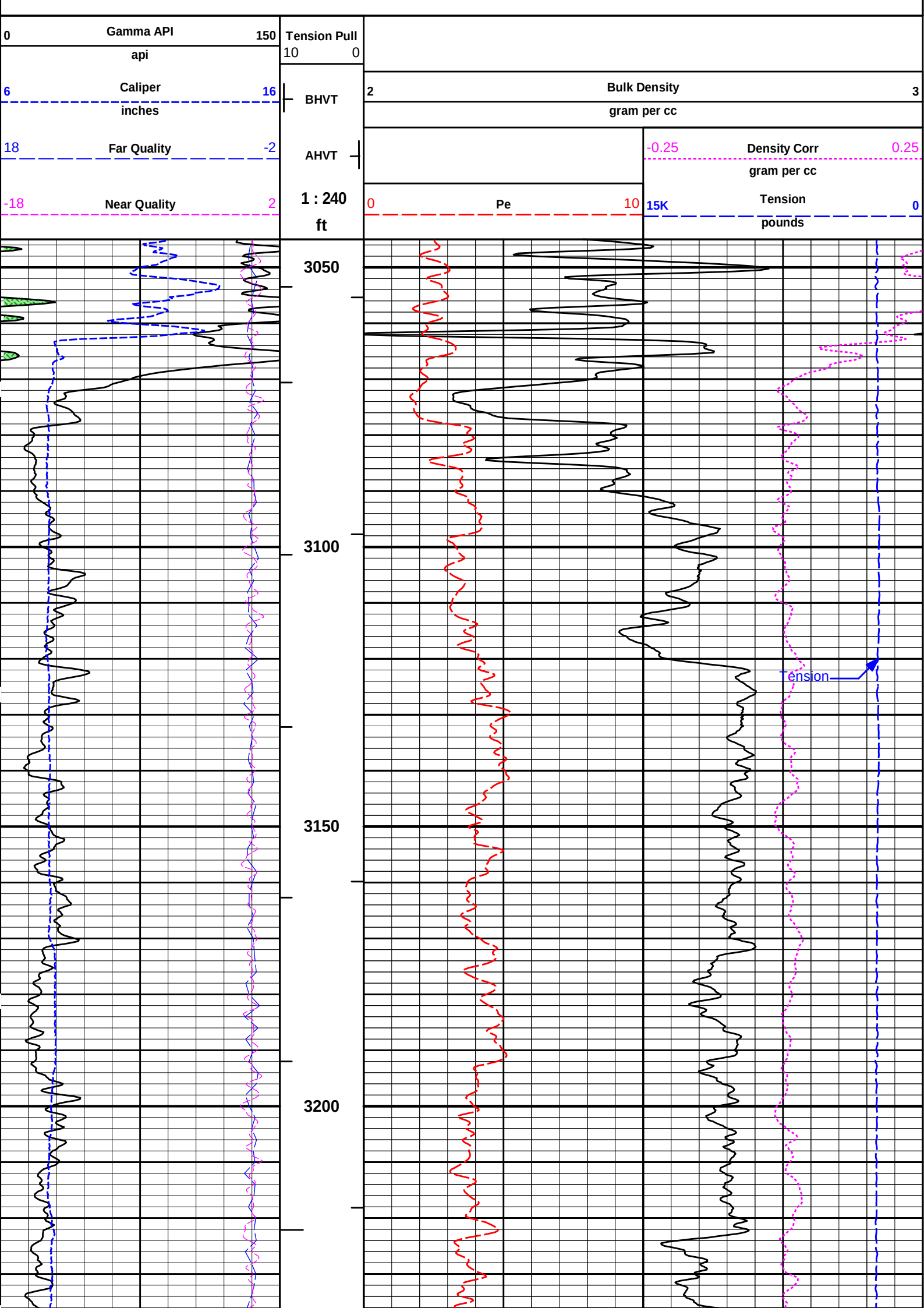
Plot Time: 03-May-17 22:45:38
Plot Range: 1510 ft to 3522.42 ft
Data: BECKER OIL_BOWL\Well Based\PORO\
Plot File: \\PORO\1_Bulk_5_mainx

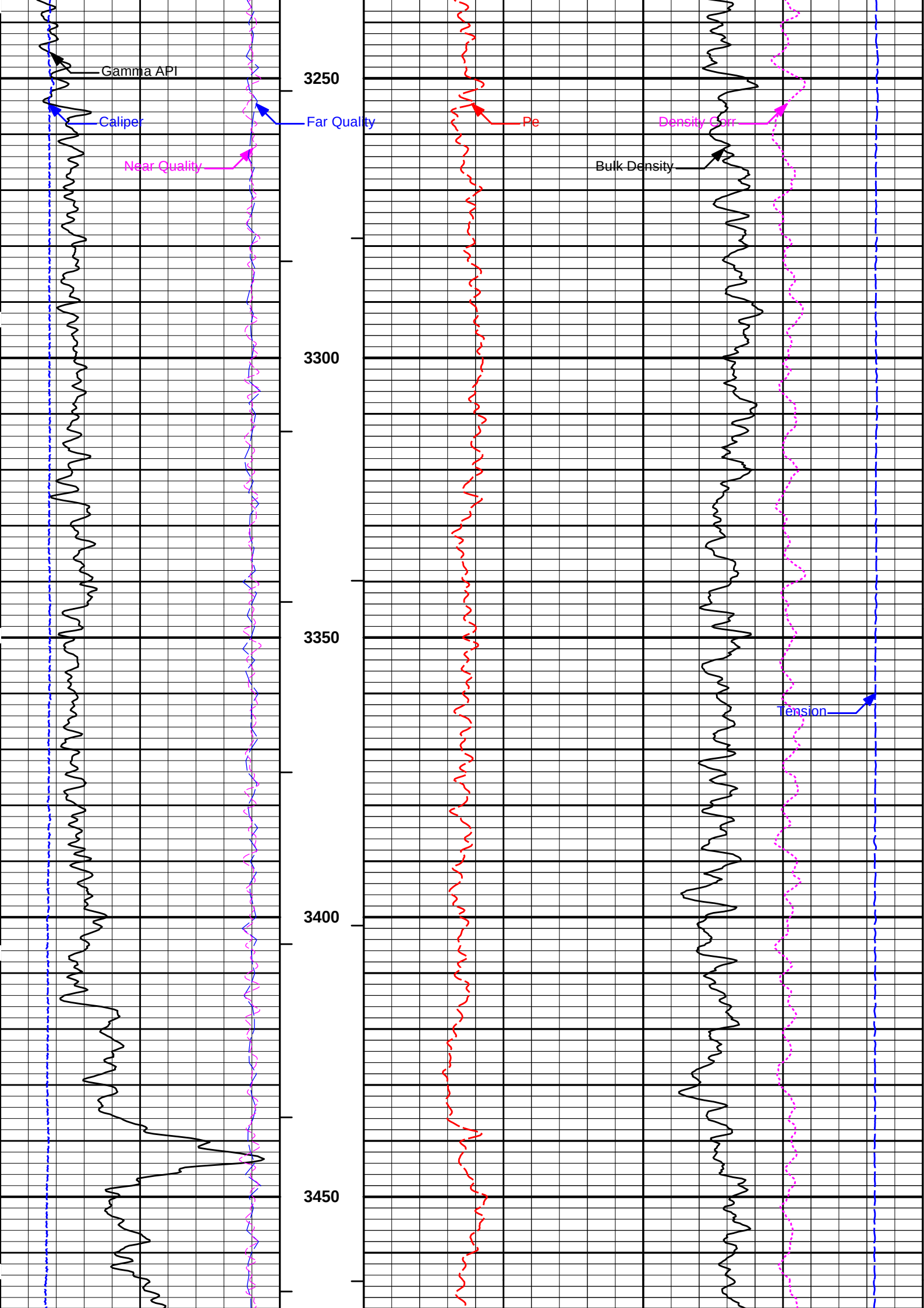
5 INCH MAIN LOG

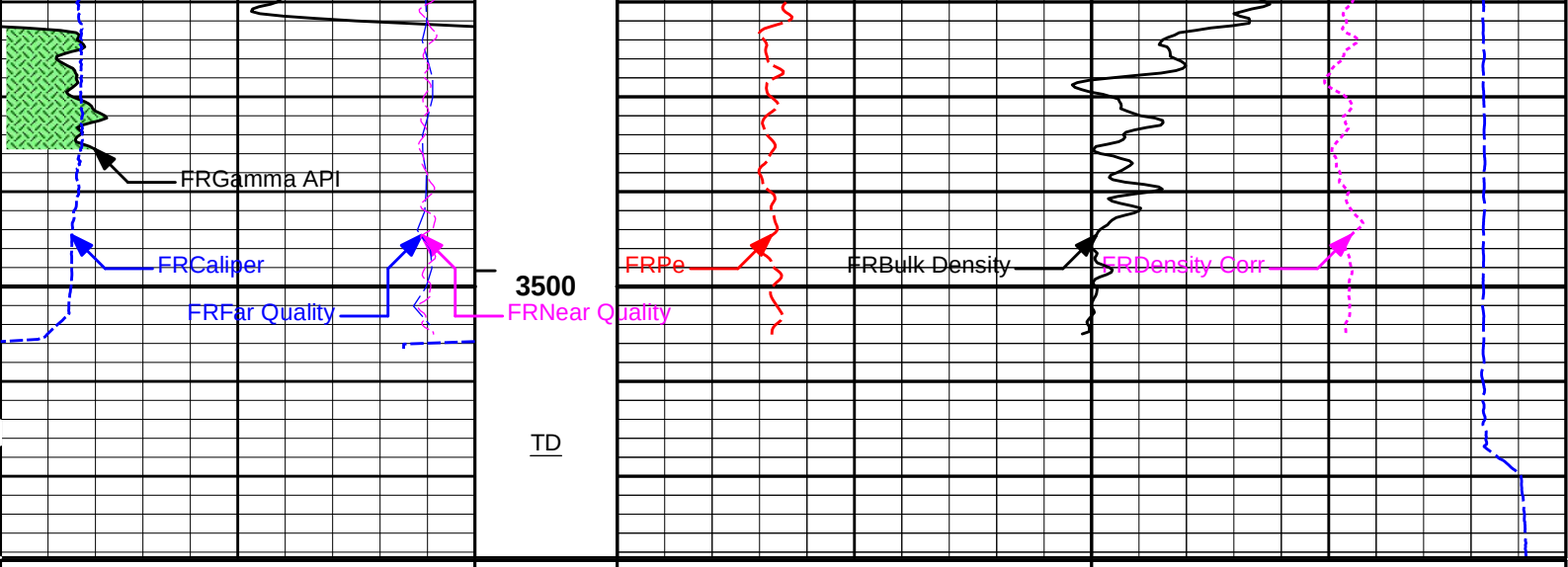
HALLIBURTON

Plot Time: 03-May-17 22:45:38
Plot Range: 3045 ft to 3528.58 ft
Data: BECKER OIL_BOWL\Well Based\REPEAT\
Plot File: \\PORO\1_Bulk_5_rptx_dual

REPEAT SECTION


0
Gamma API
150
api
6
Caliper
16
inches
18
Far Quality
-2
-18
Near Quality
2
Tension Pull
10
0
BHVT
AHVT
1 : 240
ft
2
Bulk Density
3
gram per cc
-0.25
Density Corr
0.25
gram per cc
0
Pe
10
15K
Tension
0
pounds
3050
3100
3150
3200
Tension


Gamma API
Caliper
Near Quality
Far Quality
Pe
Density Corr
Bulk Density
Tension
3250
3300
3350
3400
3450



HALLIBURTON

Plot Time: 03-May-17 22:45:40
Plot Range: 3045 ft to 3528.58 ft
Data: BECKER OIL_BOWL\Well Based\REPEAT\
Plot File: \\PORO\1_Bulk_5_rptx_dual

REPEAT SECTION

HALLIBURTON

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	9.500	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	1.200	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	CSTR	Compressive Strength	1000.00	psia
	SHARED	ST	Surface Temperature	75.0	degF
	SHARED	TD	Total Well Depth	3525.00	ft
	SHARED	BHT	Bottom Hole Temperature	120.0	degF

SHARED	SVTM	Navigation and Survey Master Tool	NONE	
SHARED	AZTM	High Res Z Accelerometer Master Tool	GTET	
SHARED	TEMM	CBM Temperature Master Tool	GTET	
Rwa / CrossPlot	XPOK	Process Crossplot?	Yes	
Rwa / CrossPlot	FCHO	Select Source of F	Density	
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	
Rwa / CrossPlot	BHSM	Borehole Size Source Tool	SDLT	
Rwa / CrossPlot	ROIN	Input for RO Calculation	Rwa	
GTET	GROK	Process Gamma Ray?	Yes	
GTET	GEOK	Process Gamma Ray EVR?	No	
GTET	TPOS	Tool Position for Gamma Ray Tools.	Eccentered	
GTET	BHSM	Borehole Size Source Tool	SDLT	
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	DNTT	Temperature Correction Type	Gradient	
DSNT	DNTT	Top Zone Temperature Value	75.0	degF
DSNT	DNBT	DSN Bottom Zone Temperature Value	120.0	degF
DSNT	DTDT	Top Depth for Temperature Gradient Calculation (Measured Depth)	0	ft
DSNT	DBDT	Bottom Zone Temperature Depth (Measured Depth)	3525	ft
DSNT	DPRS	DSN Pressure Correction Type	Gradient	
DSNT	DNTP	DSN Top Zone Pressure Value	14.70	psia
DSNT	DNBP	DSN Bottom Zone Pressure Value	1775.00	psia
DSNT	DTDP	Top Depth for Pressure Gradient Calculation (Measured Depth)	0	ft
DSNT	DNDP	Bottom Zone Pressure Depth (Measured Depth)	3525	ft
DSNT	SHCO	View More Correction Options	No	
DSNT	UTVD	Use TVD for Gradient Corrections?	No	
DSNT	LHWT	Logging Horizontal Water Tank?	No	
DSNT	BHSM	Borehole Size Source Tool	SDLT	
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
SDLT Pad	BHSM	Borehole Size Source Tool	SDLT	
ACRt Sonde	RTOK	Process ACRt?	Yes	
ACRt Sonde	MNSO	Minimum Tool Standoff	1.19	in
ACRt Sonde	TCS1	Temperature Correction Source	FP Lwr & FP Upr	
ACRt Sonde	TPOS	Tool Position	Eccentered	
ACRt Sonde	RMOP	Rmud Source	Mud Cell	
ACRt Sonde	RMIN	Minimum Resistivity for MAP	0.20	ohmm
ACRt Sonde	RMAX	Maximum Resistivity for MAP	200.00	ohmm

ACRt Sonde	THQY	Threshold Quality	0.50	
ACRt Sonde	MRFX	Fixed mud resistivity	2000	ohmm
ACRt Sonde	BHSM	Borehole Size Source Tool	SDLT	
ACRt Sonde	MBFL	Apply Corkscrew Effect?	No	

BOTTOM

Data: BECKER OIL_BOWL\0001 GTET-DSN-SDL-ACRT\IDLE **Date: 03-May-17 20:37:47**

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name: GTET - 11048627 **Reference Calibration Date:** 15-Feb-17 10:19:56

Engineer: JORGE ORLANDO PEREZ **Calibration Date:** 13-Mar-17 14:58:10

Software Version: WL INSITE R5.0.5 (Build 8) **Calibration Version:** 1

Calibrator Source S/N: TB-146

Calibrator API Reference:265.00 api

Equivalent Calibrator API Reference:269.6 api

Measurement	Measured	Calibrated	Units
Background	27.5	27.5	api
Background + Calibrator	296.5	297.2	api
Calibrator	269.0	269.6	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name: GTET - 11048627 **Reference Calibration Date:** 13-Mar-17 14:58:10

Engineer: THOMAS HYDE **Calibration Date:** 02-May-17 09:31:29

Software Version: WL INSITE R5.0.5 (Build 8) **Calibration Version:** 1

Calibrator Source S/N: TB-146

Calibrator API Reference:265.00 api

Equivalent Calibrator API Reference:269.6 api

Field Verification	Shop	Field	Units
Background	27.5	27.4	api
Background + Calibrator	297.2	296.4	api
Calibrator	269.6	268.9	api

Shop	Field	Difference	Tolerance
269.6	268.9	0.7	+/- 9.00

ACCELEROMETER SHOP CALIBRATION

Tool Name: GTET - 11048627 **Reference Calibration Date:** 15-May-09 12:42:57

Engineer: W.MILLER **Calibration Date:** 13-Jan-10 16:35:19

Software Version: WL INSITE R2.6.1 (Build 9) **Calibration Version:** 1

Horizontal-1 Telemetry	Horizontal-2 Telemetry	Vertical Telemetry	Units
-78.18	-48.18	-16407.09	cnts

Coefficient	Coefficient Value	Tolerance
Gain	-0.000061	-----
Offset	-0.004	-----
Noise	0.0003	0.0000 - 0.0030

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

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name:	**DSNT - 11660709**	**Reference Calibration Date:**	**19-Mar-17 11:40:03**
Engineer:	**THOMAS HYDE**	**Calibration Date:**	**19-Mar-17 11:51:45**
Software Version:	**WL INSITE R5.0.5 (Build 8)**	**Calibration Version:**	**1**

Logging Source S/N: DSN-424
Tank Serial Number: 12345678
Reference value assigned to Tank: 56.100
Snow Block S/N: 12345678
Calibration Tank Water Temperature: 72 degF
Min. Tool Housing Outside Diameter: 3.625 in

CALIBRATION CONSTANTS

Measurement	Prev. Value	New Value	Control Limit On New Value
Gain:	1.01788	1.02269	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):	0.2343	0.2358	0.0015	+/- 0.0020
Calibrated Ratio:	10.5100	10.5596	0.050	+/- 0.050

VERIFIER

Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0800	0.02000 - 0.09000

PASS/FAIL SUMMARY

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

DUAL SPACED NEUTRON FIELD CALIBRATION

Tool Name:	**DSNT - 11660709**	**Reference Calibration Date:**	**19-Mar-17 11:51:45**
Engineer:	**THOMAS HYDE**	**Calibration Date:**	**02-May-17 09:54:46**
Software Version:	**WL INSITE R5.0.5 (Build 8)**	**Calibration Version:**	**1**

Logging Source S/N: DSN-424
Snow Block S/N: 12345678

NEUTRON FIELD-CHECK SUMMARY

	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0800	0.0652	-0.0148	+/- 0.0150

PASS/FAIL SUMMARY

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

DENSITY CALIPER SHOP CALIBRATION

Tool Name:	**SDLT - 10951315**	**Reference Calibration Date:**	**26-Apr-17 11:11:09**
Engineer:	**JORGE ORLANDO PEREZ**	**Calibration Date:**	**26-Apr-17 11:17:04**
Software Version:	**WL INSITE R5.0.5 (Build 8)**	**Calibration Version:**	**1**
Host Tool Name:	**DSNT - 11660709**		

CALIBRATION COEFFICIENTS

Measurement	Previous Value	New Value	Control Limit On New Value

			New Value
Pad Offset	-3678.98	-3297.77	-7000.00 - -1000.00
Pad Gain	0.0003715	0.0003561	0.0002000 - 0.0006000
Arm Offset	-3107.52	-3291.64	-5000.00 - 3000.00
Arm Gain	0.0005372	0.0005226	0.000300 - 0.000700
Arm Power	-0.000006554	-0.000005717	-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)	1.94	2.00	0.06	+/- 0.20
Medium Ring (in)	3.77	3.75	-0.02	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.51	6.50	-0.01	+/- 0.20
Medium Ring (in)	8.29	8.25	-0.04	+/- 0.20
Large Ring (in)	15.00	15.00	0.00	+/- 0.20

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

PASS/FAIL SUMMARY	
Calibration-Coefficients Range Check:	Passed

SDLT CALIPER FIELD CALIBRATION

Tool Name: SDLT - 10951315 **Reference Calibration Date:** 26-Apr-17 11:17:04

Engineer: JORGE ORLANDO PEREZ **Calibration Date:** 26-Apr-17 11:19:21

Software Version: WL INSITE R5.0.5 (Build 8) **Calibration Version:** 1

MEASURED CALIPER VALUES				
Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.75	-0.00	+/- 0.10
Ring Diameter	8.25	8.16	-0.09	+/- 0.15

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

MICRO LOG SHOP CALIBRATION

Tool Name: Microlog Pad - 10951315 **Reference Calibration Date:** 26-Apr-17 10:55:34

Engineer: THOMAS HYDE **Calibration Date:** 02-May-17 10:56:13

Software Version: WL INSITE R5.0.5 (Build 8) **Calibration Version:** 1

Host Tool Name: DSNT - 11660709

CALIBRATION COEFFICIENT SUMMARY					
Measurement	Micro Log Normal		Micro Log Lateral		
	Measured	Calibrated	Measured	Calibrated	Units
Tool Zero	-0.17	-0.12	0.01	0.04	ohmm
Calibration Point #1	-0.05	0.00	-0.03	0.00	ohmm
Calibration Point #2	20.03	20.00	20.04	20.00	ohmm
Internal Reference	19.90	19.87	20.03	19.99	ohmm

Measurement	Micro Log Normal Tool Value	Micro Log Lateral Tool Value	Units
Tool Zero	-3.42	7.01	V
Calibration Point #1	26.85	-6.95	V

Calibration Point #2	5272.73	6869.83	V
Internal Reference	5238.43	6867.44	V

MICRO LOG FIELD CHECK

Tool Name: Microlog Pad - 10951315 **Reference Calibration Date:** 02-May-17 10:56:13

Engineer: THOMAS HYDE **Calibration Date:** 02-May-17 10:57:27

Software Version: WL INSITE R5.0.5 (Build 8) **Calibration Version:** 1

Measurement	Micro Log Normal		Micro Log Lateral		
	Shop	Field	Shop	Field	Units
Tool Zero	-0.12	-0.12	0.04	0.01	ohmm
Internal Reference	19.87	19.87	19.99	20.00	ohmm

Summary

Signal	Shop	Field	Difference	Tolerence
Microlog Normal	19.87	19.87	0.00	+/- 0.80
Microlog Lateral	19.99	20.00	-0.01	+/- 0.80

SPECTRAL DENSITY SHOP CALIBRATION

Tool Name: SDLT Pad - 11213308 **Reference Calibration Date:** 19-Mar-17 10:53:55

Engineer: THOMAS HYDE **Calibration Date:** 19-Mar-17 11:11:52

Software Version: WL INSITE R5.0.5 (Build 8) **Calibration Version:** 1

Logging Source S/N: 5168GW

Aluminum Block S/N: EL RENO STD ALUMINUM Density: 2.581g/cc Pe: 3.170

Magnesium Block S/N: EL RENO Density: 1.687g/cc Pe: 2.594

DENSITY CALIBRATION SUMMARY

Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0553	1.0358	0.90 - 1.10
Near Dens Gain	1.0222	1.0104	0.90 - 1.10
Near Peak Gain	1.0493	1.0113	0.90 - 1.10
Near Lith Gain	1.0561	1.0130	0.90 - 1.10
Far Bar Gain	1.0146	1.0131	0.90 - 1.10
Far Dens Gain	1.0009	0.9992	0.90 - 1.10
Far Peak Gain	0.9955	0.9976	0.90 - 1.10
Far Lith Gain	0.9774	0.9768	0.90 - 1.10
Near Bar Offset	-0.2052	-0.0297	NONE
Near Dens Offset	0.1041	0.2063	NONE
Near Peak Offset	-0.1282	0.1784	NONE
Near Lith Offset	-0.2163	0.1355	NONE
Far Bar Offset	0.0828	0.0969	NONE
Far Dens Offset	0.2203	0.2360	NONE
Far Peak Offset	0.2585	0.2425	NONE
Far Lith Offset	0.3751	0.3762	NONE
Near Bar Background	978.91	975.34	700 - 1450
Near Dens Background	324.93	325.92	230 - 480
Near Peak Background	143.49	143.26	100 - 210
Near Lith Background	173.48	174.86	125 - 260
Far Bar Background	497.40	499.11	450 - 900
Far Dens Background	198.33	199.29	175 - 345
Far Peak Background	81.54	80.63	70 - 140
Far Lith Background	82.69	82.43	75 - 145

CALIBRATION BLOCK SUMMARY

Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change

MAGNESIUM				
Density (g/cc)	1.692	1.687	-0.005	+/- 0.015
Pe	2.503	2.556	0.053	+/- 0.150
ALUMINUM				
Density (g/cc)	2.581	2.581	-0.000	+/- 0.01500
Pe	3.125	3.129	0.004	+/- 0.150

TOOL SUMMARY

Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	0.0006	+/- 0.0110	0.0002	+/- 0.0140
Magnesium Block	-0.0007	+/- 0.0110	-0.0021	+/- 0.0140
Aluminum Block	-0.0003	+/- 0.0110	0.0001	+/- 0.0140
Resolution	9.13	6.00 - 11.50	9.46	6.00 - 11.50
Internal Verifier(B+D+P+L)	1619	1200 - 2700	861	800 - 1700

PASS/FAIL SUMMARY

Background Quality Check:	Passed
Background Range Check:	Passed
Background Resolution Check:	Passed
Background Verification Check:	Passed
Magnesium Quality Check:	Passed
Aluminum Quality Check:	Passed
Gains Check:	Passed
Changes in Calibration Blocks:	Passed

SPECTRAL DENSITY FIELD CHECK

Tool Name: SDLT Pad - 11213308
Reference Calibration Date: 19-Mar-17 11:11:52
Engineer: THOMAS HYDE
Calibration Date: 02-May-17 09:31:10
Software Version: WL INSITE R5.0.5 (Build 8)
Calibration Version: 1

Pad Temperature: 64.7 degF

DENSITY FIELD CALIBRATION SUMMARY

Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1619.386	1622.724	3.338	16.176
Far (B+D+P+L) cps	861.464	858.950	-2.514	16.069
Near Resolution	9.13	9.26	0.130	0.50
Far Resolution	9.46	9.28	-0.180	1.00

PASS/FAIL SUMMARY

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

ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION

Tool Name: ACRt Sonde - 11005908
Reference Calibration Date: 17-Jan-17 17:45:25
Engineer: JORGE ORLANDO PEREZ
Calibration Date: 10-Mar-17 14:51:20
Software Version: WL INSITE R5.0.5 (Build 8)
Calibration Version: 1
Host Tool Name: ACRt Instrument - 11026095

TYPICAL GAIN RANGE

Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	1.0474	1.05	0.95	1.0220	1.05	0.95	1.0129	1.05
A2 (50")	0.95	1.0451	1.05	0.95	1.0210	1.05	0.95	1.0142	1.05

A2 (50")	0.95	1.0451	1.05	0.95	1.0219	1.05	0.95	1.0143	1.05
A3 (29")	0.95	1.0425	1.05	0.95	1.0182	1.05	0.95	1.0082	1.05
A4 (17")	0.95	1.0425	1.05	0.95	1.0162	1.05	0.95	1.0086	1.05
A5 (10")	N/A	N/A	N/A	0.95	1.0073	1.05	0.95	0.9992	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.9995	1.05	0.95	0.9916	1.05

SONDE OFFSET

Subarray	R12KHz (mmho/m)	R36KHz (mmho/m)	R72KHz (mmho/m)
A1 (80")	2.374	-3.926	-6.312
A2 (50")	-0.107	-3.995	-5.520
A3 (29")	-14.070	-4.584	-4.123
A4 (17")	-96.348	-29.562	-24.891
A5 (10")	N/A	-111.844	-48.791
A6 (6")	N/A	351.437	181.261

TRANSMITTER CURRENT GAIN

Signal	Lower	R	Upper
12K	0.6	0.91	1.3
36K	1.0	1.95	2.0
72K	1.0	1.24	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 CHK	PASS

TOOL OK TO LOG

CALIBRATION SUMMARY

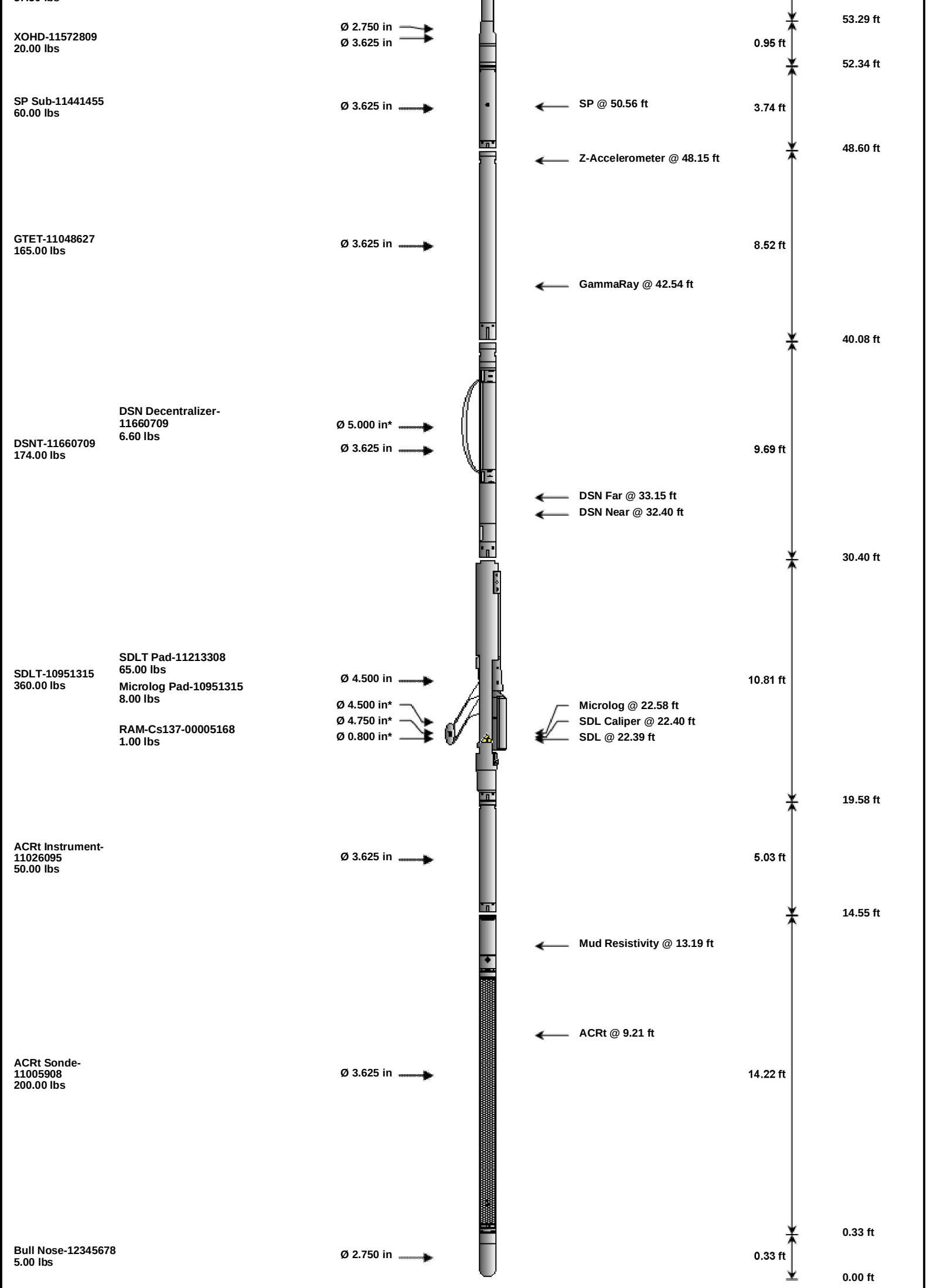
Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11048627						
Gamma Ray Calibrator	269.6	268.9	----------	0.7	+/- 9.00	api
DSNT-11660709						
Snow-Block Porosity	0.0800	0.0652	----------	0.0148	+/- 0.0150	decp
SDLT-10951315						
Pad Extension	3.75	3.75	----------	0.00	+/-0.10	in
Ring Diameter	8.25	8.16	----------	0.09	+/-0.15	in
Microlog Pad-10951315						
MicroLog Normal	19.87	19.87	----------	0.00	+/-0.80	ohmm
MicroLog Lateral	19.99	20.00	----------	-0.01	+/-0.80	ohmm
SDLT Pad-11213308						
Near(B+D+P+L)	1619.386	1622.724	----------	-3.338	+/-16.176	cps
Far(B+D+P+L)	861.464	858.950	----------	2.514	+/-16.069	cps
ACRt Sonde-11005908						
Mud Cell	1.00	----------	----------	0	----------	ohm-m

Data: BECKER OIL_BOWL\0001 GTET-DSN-SDL-ACRT\IDLE **Date: 03-May-17 20:38:02**

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
CH_HOS-11459024 37.50 lbs		Ø 2.750 in		Temperature @ 55.29 ft	2.50 ft	55.79 ft



Tool No.	Serial	Weight	Length	Accumulated	Max.Log.

Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)		Length (ft)	Speed (fpm)
CH_HOS	Hostile Cable Head with Load Cell	11459024	37.50	2.50		53.29	300.00
XOHD	Hostile to Dits Cross Over	11572809	20.00	0.95		52.34	300.00
SP	SP Sub	11441455	60.00	3.74		48.60	300.00
GTET	Gamma Telemetry Tool	11048627	165.00	8.52		40.08	60.00
DSNT	Dual Spaced Neutron	11660709	174.00	9.69		30.40	60.00
DCNT	DSN Decentralizer	11660709	6.60	5.13	*	33.73	300.00
SDLT	Spectral Density Tool	10951315	360.00	10.81		19.58	60.00
SDLP	Density Insite Pad	11213308	65.00	2.55	*	21.79	60.00
Cs137	Logging Source, SDLT-I, 1.78 Ci - Cs137	00005168	1.00	0.80	*	22.02	300.00
MICP	Microlog Pad	10951315	8.00	1.00	*	22.08	60.00
ACRt	Array Compensated True Resistivity Instrument Section	11026095	50.00	5.03		14.55	120.00
ACRt	Array Compensated True Resistivity Sonde Section	11005908	200.00	14.22		0.33	120.00
BLNS	Bull Nose	12345678	5.00	0.33		0.00	300.00
Total			**1,152.10**	**55.79**			

* Not included in Total Length and Length Accumulation.

Data: BECKER OIL_BOWL\0001 GTET-DSN-SDL-ACRT\IDLE **Date: 03-May-17 20:37:21**

COMPANY	**BECKER OIL COPRORATION**		
WELL	**BOWLING #1**		
FIELD	**WEST ESTUP**		
COUNTY	**COWLEY**	STATE	**KANSAS**

HALLIBURTON

SPECTRAL DENSITY
DUAL SPACED NEUTRON
LOG

HALLIBURTON

MICROLOG

BECKER OIL COPRORATION
BOWLING #1
WEST ESTUP
COWLEY
KANSAS

COMPANY
WELL
FIELD/BLOCK
COUNTY
STATE

COMPANY **BECKER OIL COPRORATION**

WELL **BOWLING #1**

FIELD/BLOCK **WEST ESTUP**

COUNTY **COWLEY** STATE **KANSAS**

API No. 15-035-24666-00-00

Location 560' FNL & 560' FEL
SW NE NE NE

Sect. 19 Twp. 34S Rge. 6E

Other Services:
GTET
DSNT
SDLT
ACRT

Permanent Datum	GL	Elev. 1230.0 ft	Elev.: K.B. 1239.0 ft
Log measured from	KB	, 1239.0 ft above perm. Datum	D.F. 1239.0 ft
Drilling measured from	KB		G.L. 1230.0 ft

Date		03-May-17					
Run No.		ONE					
Depth - Driller		3525.0 ft					
Depth - Logger		3518.0 ft					
Bottom - Logged Interval		3508.0 ft					
Top - Logged Interval		1518.0 ft					
Casing - Driller		8.625 in	@ 303.0 ft	@		@	
Casing - Logger		312.0 ft					
Bit Size		7.875 in		@		@	
Type Fluid in Hole		Water Based Mud					
Density	Viscosity	9.2 ppg	42.00 s/qt				
PH	Fluid Loss	9.73 pH	9.1 cptm				
Source of Sample		FLOWLINE					
Rm @ Meas. Temperature		1.45 ohmm	@ 75.00 degF	@		@	
Rmf @ Meas. Temperature		1.23 ohmm	@ 75.00 degF	@		@	
Rmc @ Meas. Temperature		1.67 ohmm	@ 75.00 degF	@		@	
Source Rmf	Rmc	CALC	CALC				
Rm @ BHT		1.29 ohmm	@ 110.0 degF	@		@	
Time Since Circulation		15:51 hr					
Time on Bottom		03-May-17 20:51					
Max. Rec. Temperature		110.00 degF	@ 3518.0 ft	@		@	
Equipment	Location	11072142	EL RENO, OK				
Recorded By		MICHAEL RICHTER					
Witnessed By		CLYDE BECKER, JR					

Fold here

PGM Version: WL INSITE R5.0.5 (Build 8)

Service Ticket No.: 904014278

API No.: 15-035-24666-00-00

CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE

RESISTIVITY SCALE CHANGES

	Type Log	Depth	Scale Up Hole	Scale Down Hole

RESISTIVITY EQUIPMENT DATA

	Run No.	Tool Type & No.	Pad Type	Tool Pos.	Other
Rm @ Meas. Temp	@				
Rmf @ Meas. Temp.	@	ONE	ACRT	NONE	1.19 in S.O.	N/A
Rmc @ Meas. Temp.	@		I-11026095			
Source Rmf	Rmc	CALC		S-11005908			
Rm @ BHT	@ 105 degF	1.29 ohmm	@ 105 degF				
Rmf @ BHT	@ 105 degF	1.10 ohmm	@ 105 degF				
Rmc @ BHT	@ 105 degF	1.48 ohmm	@ 105 degF				

EQUIPMENT DATA

	GAMMA		ACOUSTIC			DENSITY			NEUTRON		
Run No.	ONE	Run No.				ONE	Run No.		ONE	Run No.	
Serial No.	11048627	Serial No.				11213308	Serial No.		11660709	Serial No.	
Model No.	GTET	Model No.				SDLT	Model No.		DSNT	Model No.	
Diameter	3.625"	Diameter				4.6"	Diameter		3.625"	Diameter	
Detector Model No.	GTET	Log Type				GAM-GAM	Log Type		NEU-NEU	Log Type	
Type	SCINT	Source Type				Cs-137	Source Type		Am241Be	Source Type	
Length	8"	Serial No.				5168GW	Serial No.		DSN-424	Serial No.	
Distance to Source	N/A	Strength				1.5 Ci	Strength		15 Ci	Strength	

LOGGING DATA

	GENERAL				GAMMA		ACOUSTIC		DENSITY		NEUTRON	
	Run No.	Depth From	Depth To	Speed ft/min	Scale L	Scale R	Scale L	Scale R	Matrix	Scale L	Scale R	Matrix
	ONE	TD	CSG	REC	0	150			2.71 g/cc	30	10	LIME

ONE	TD	CSG	REC	0	150				30	-10	2.71 g/cc	30	-10	LIME

DIRECTIONAL INFORMATION

Maximum Deviation @	KOP @

CLIENT REPORTED VERTICAL WELL

Remarks: GTET-DSNT-SDLT-ACRT RUN IN COMBINATION

ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING

CHLORIDES REPORTED AT 920 PPM

NO POST-CALS COMPLETED AS PER CLIENT REQUEST

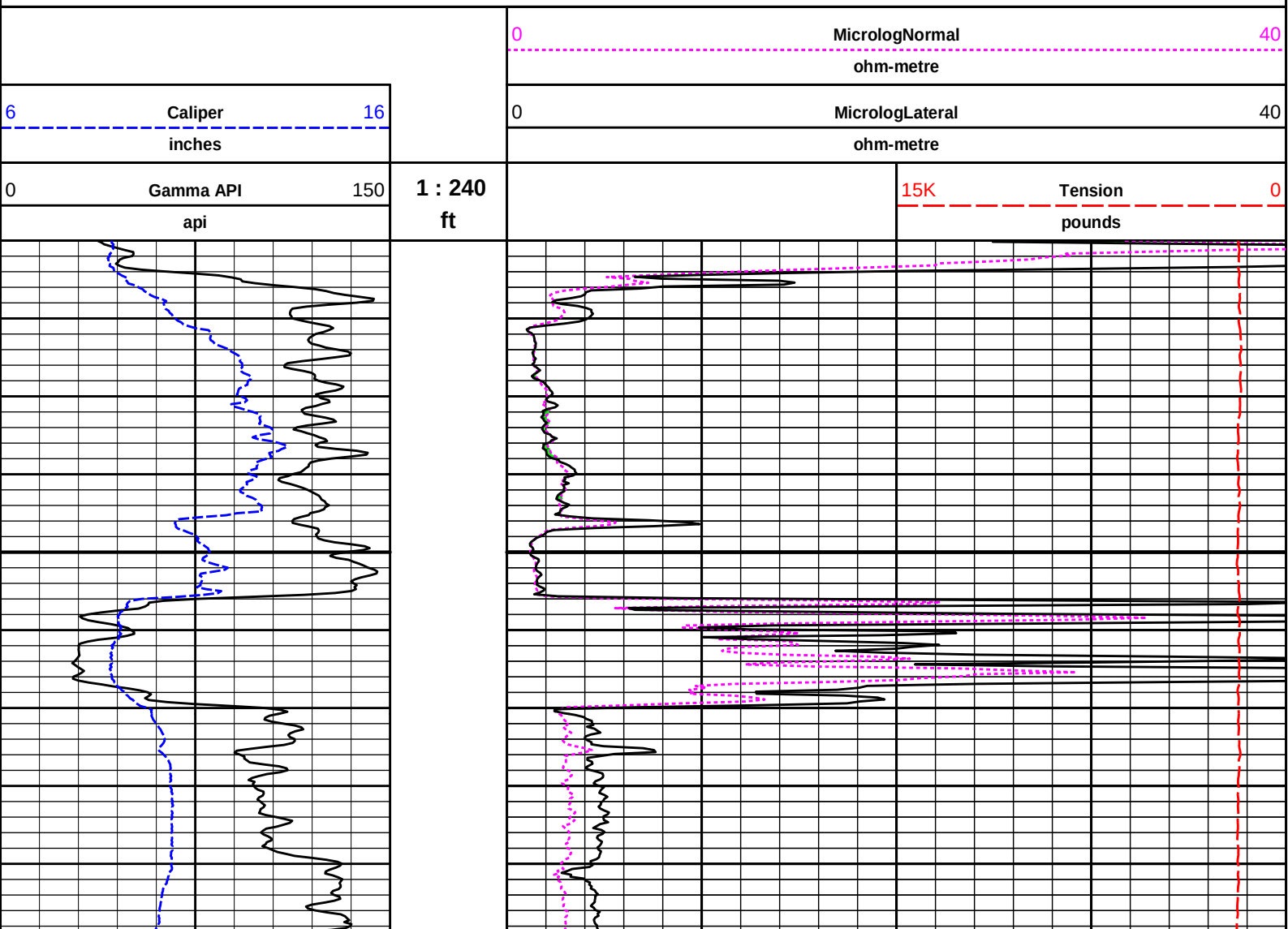
POROSITY & MICROLOG CURVES LOGGED TO 1518 FT PER CLIENT REQUEST

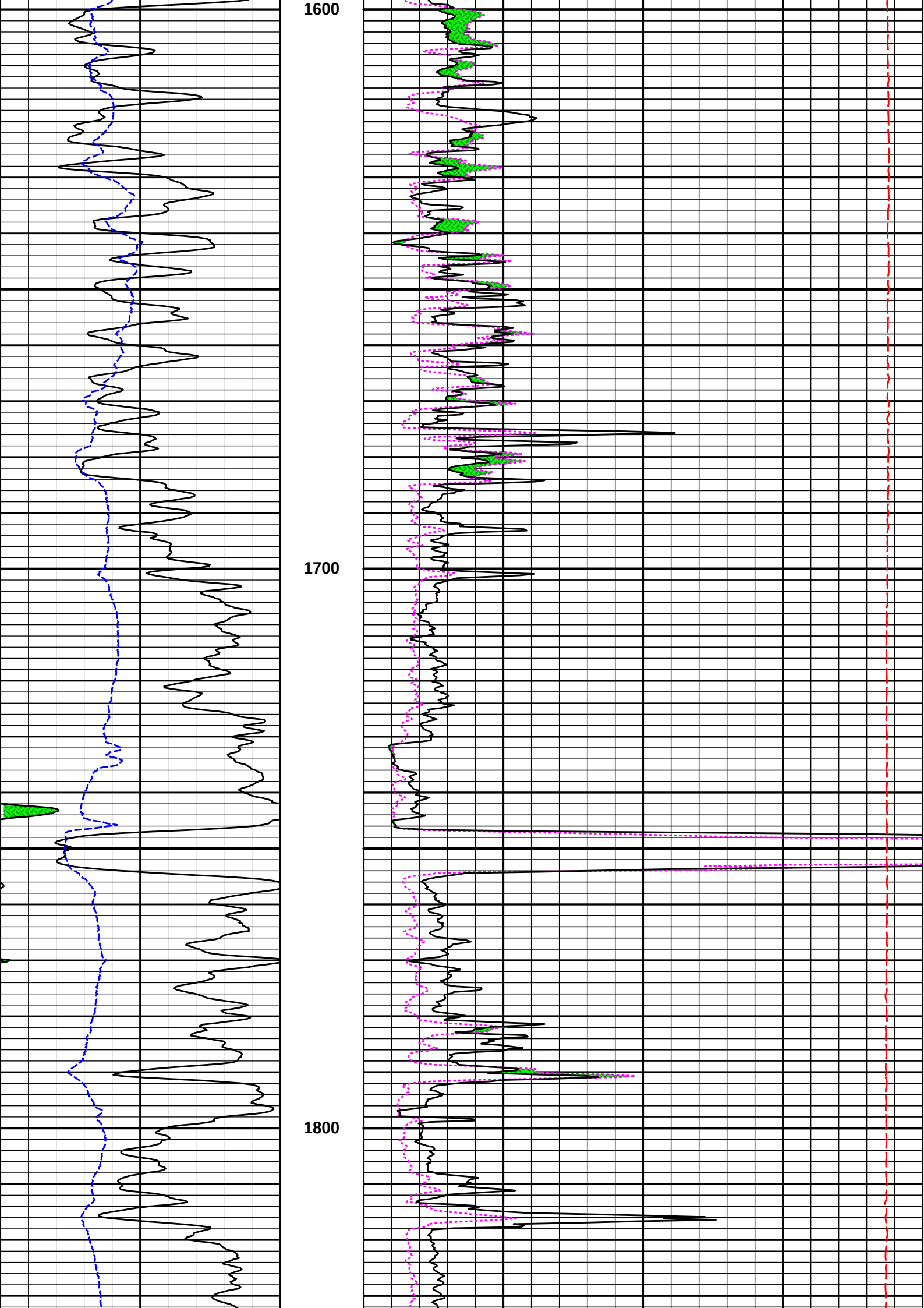
RIG: C&G DRILLING

CREW: K. KING, A. FARRAR, K. FITZPATRICK

THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES -- EL RENO, OK -- 405.278.9685

5 INCH MAIN LOG

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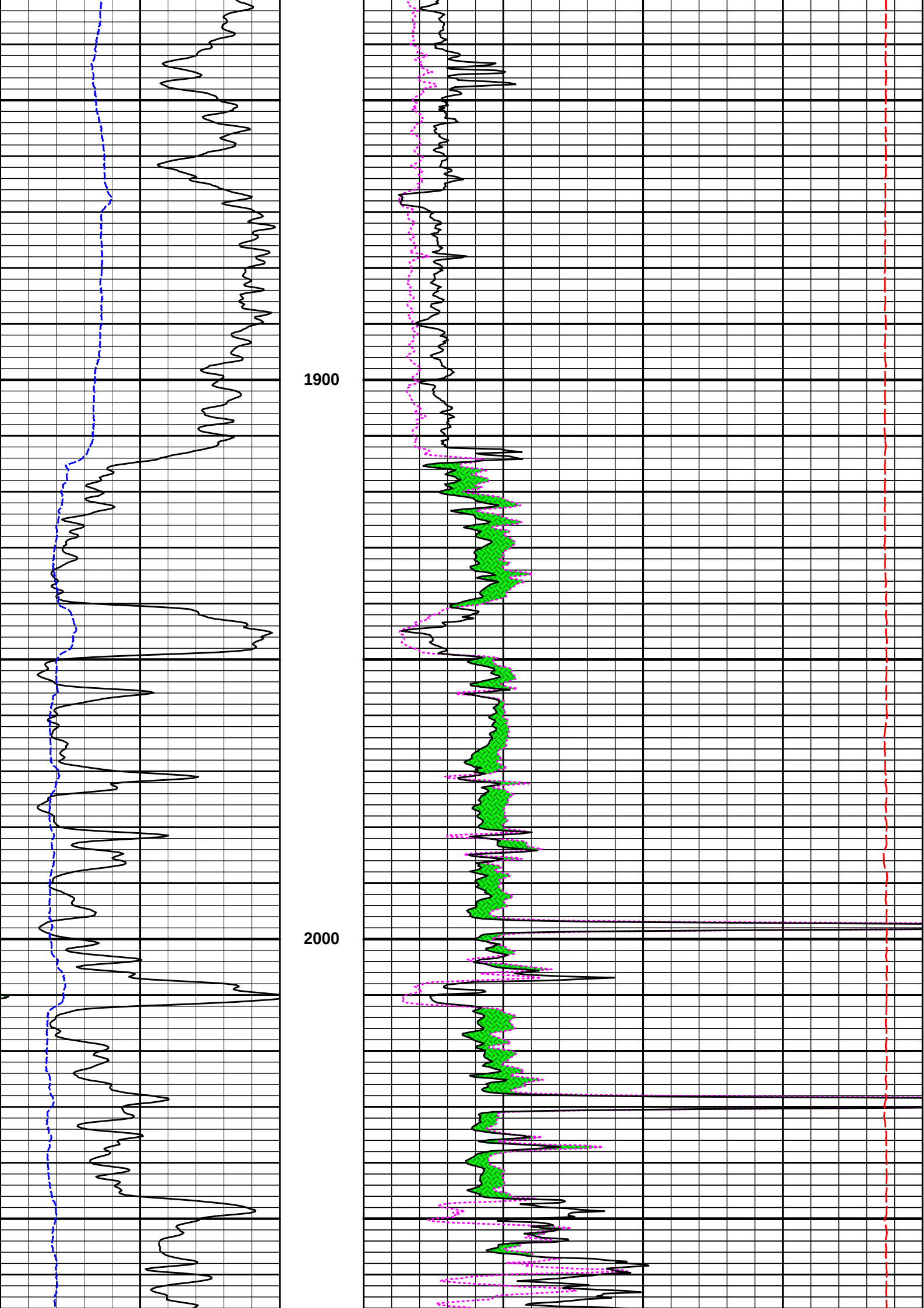
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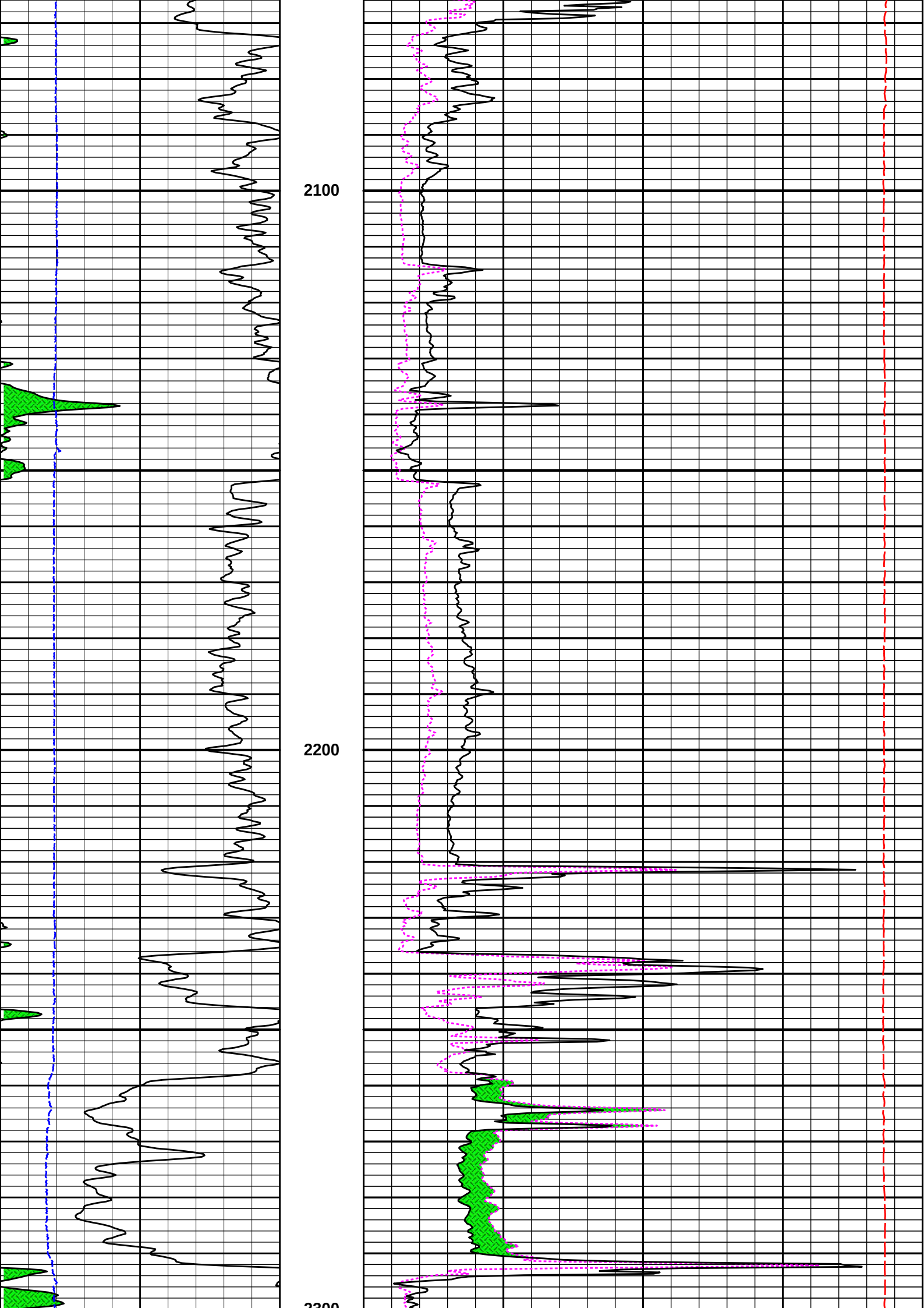
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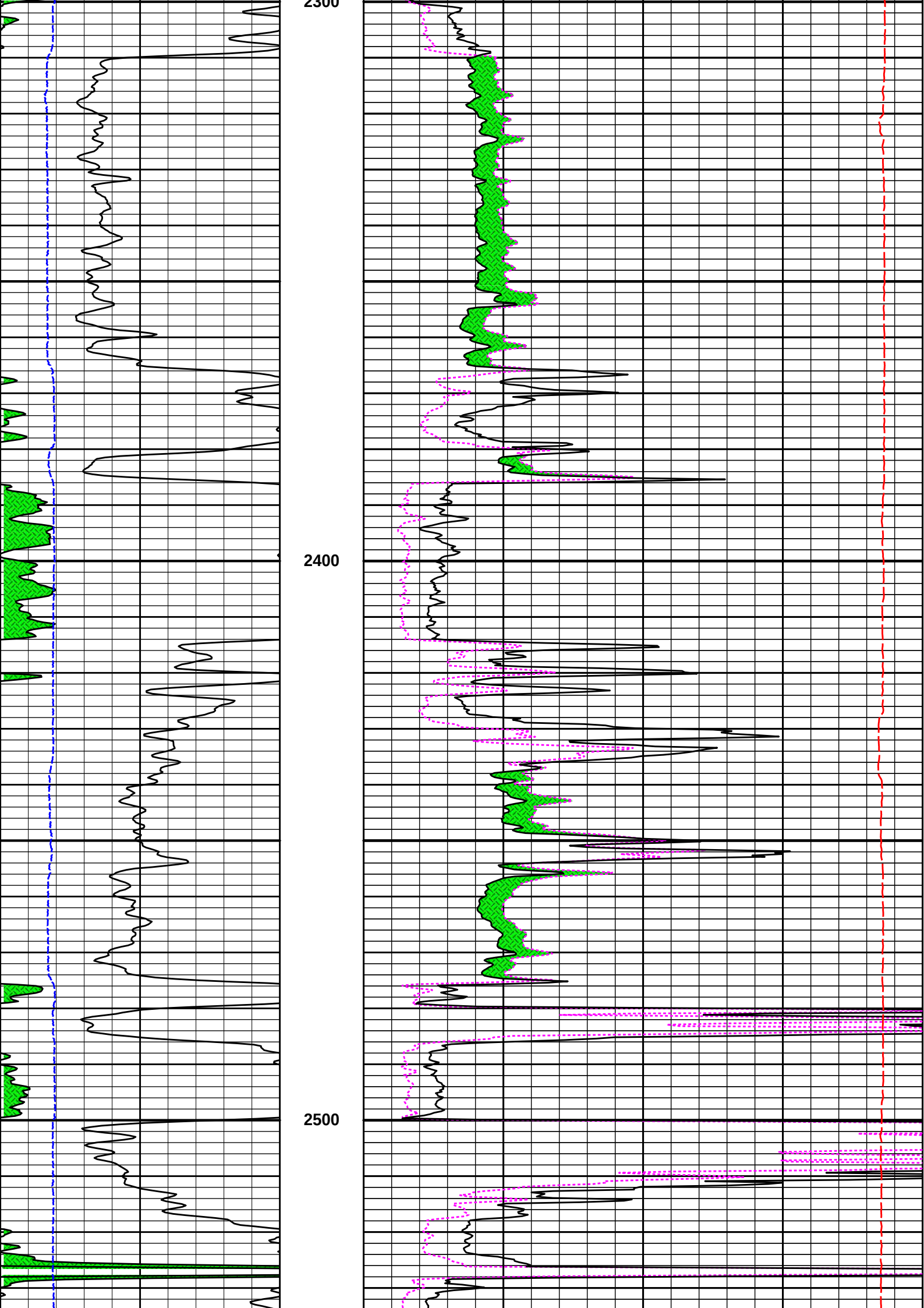
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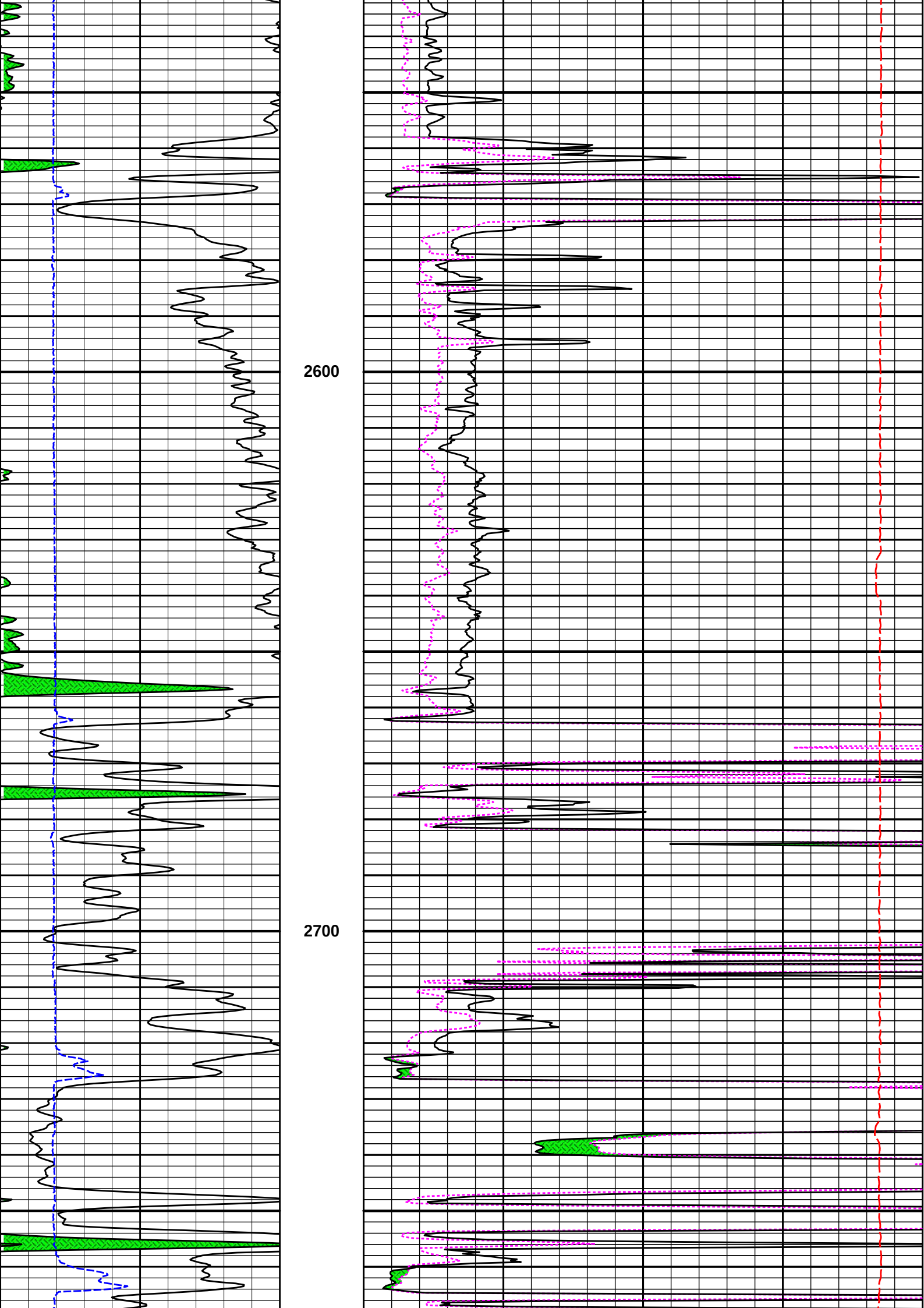
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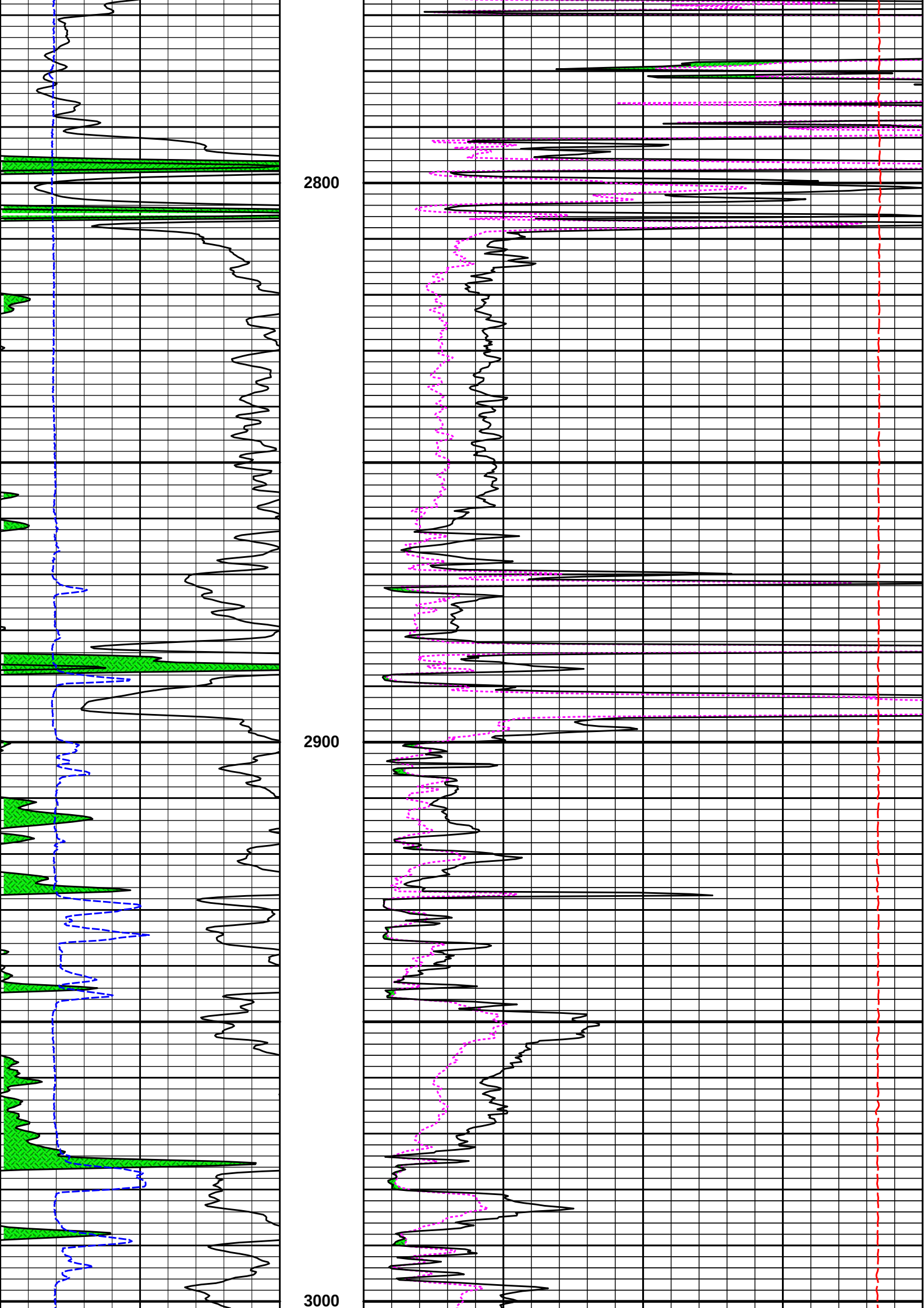
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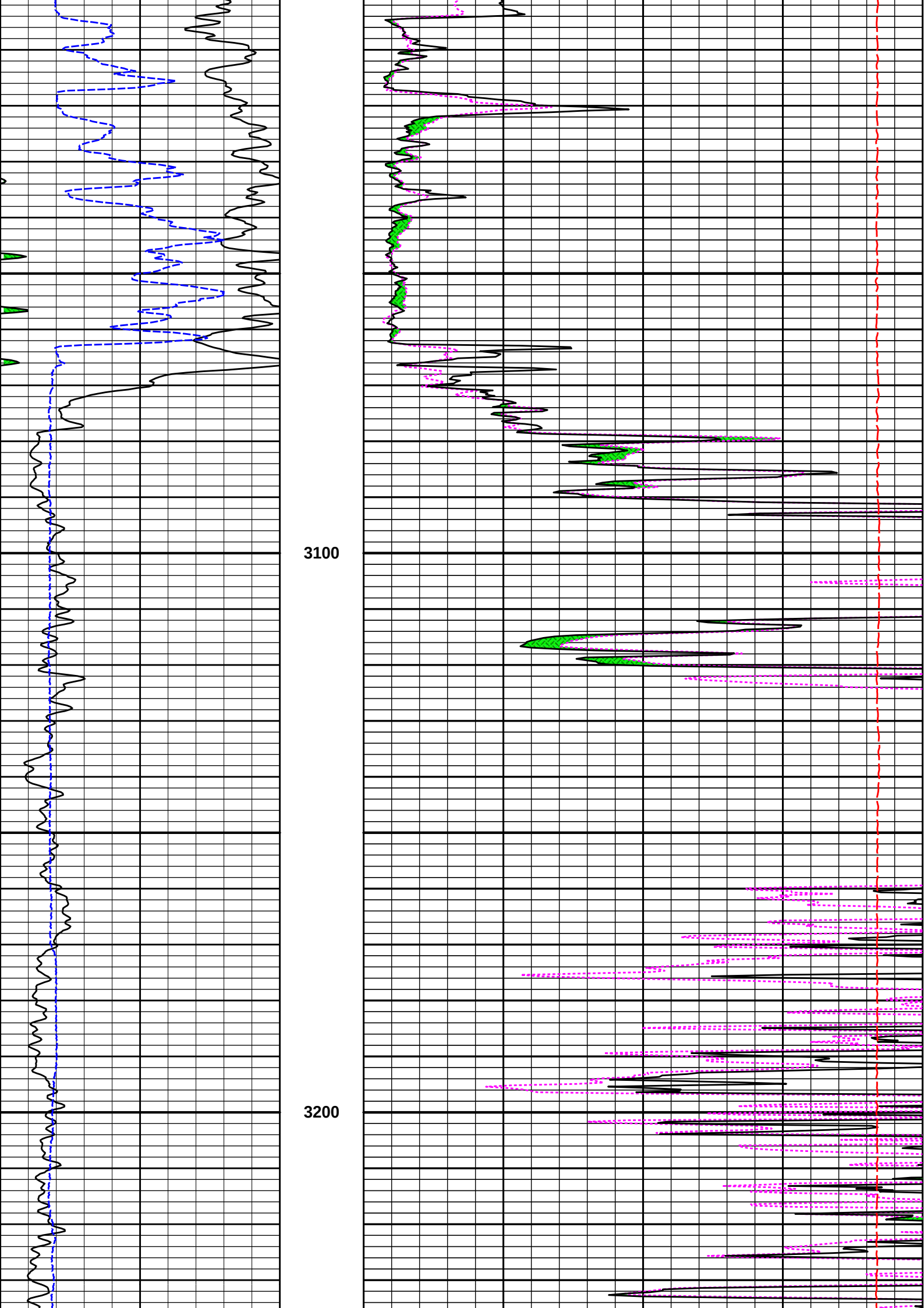
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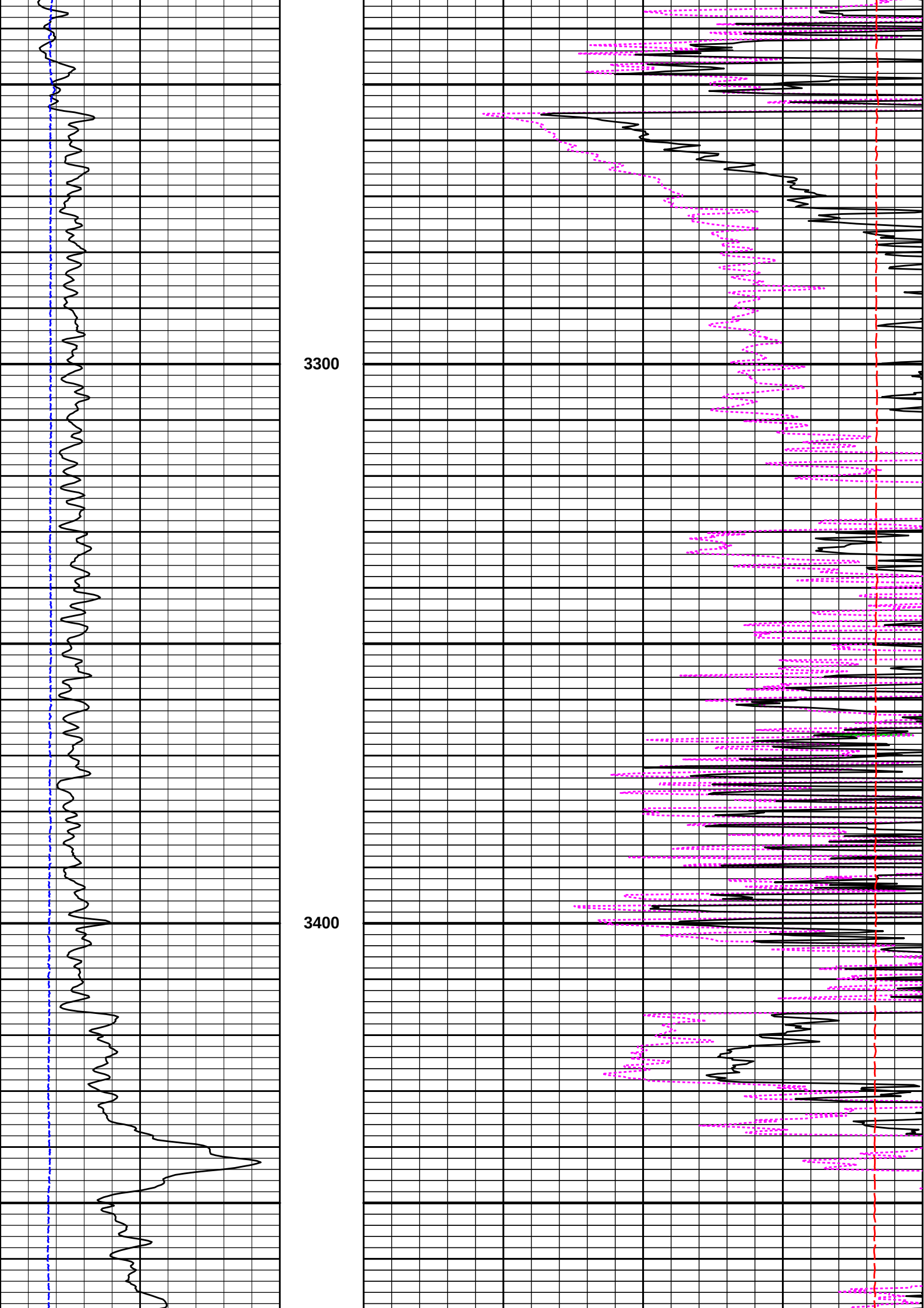
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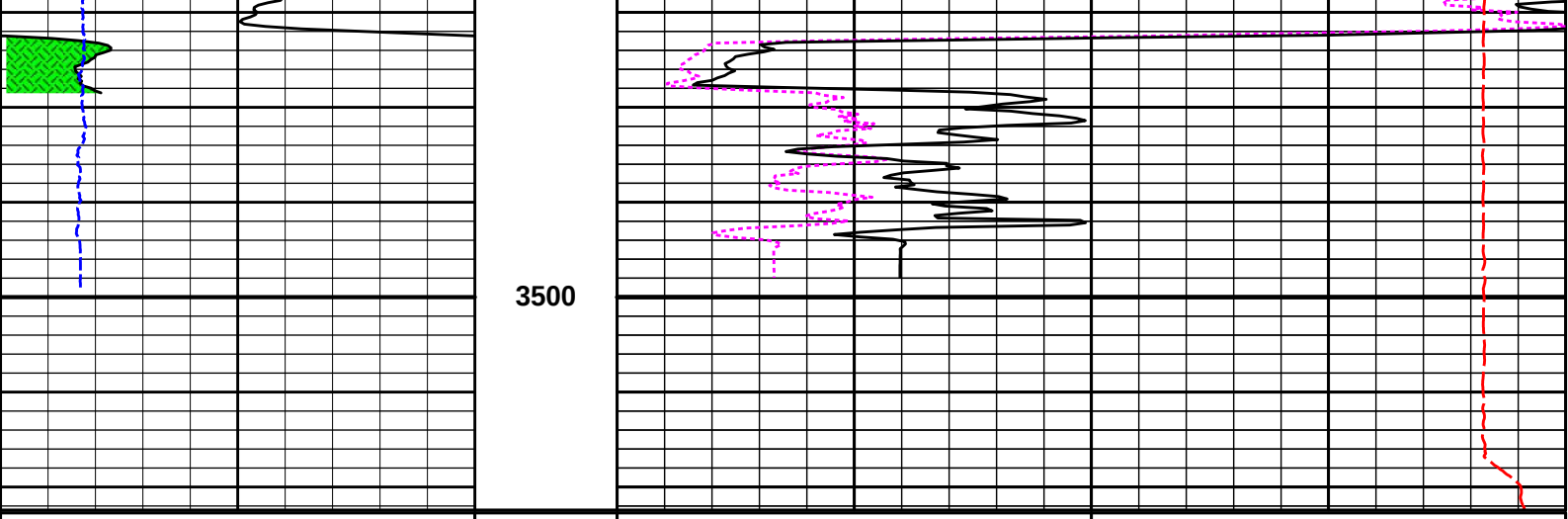
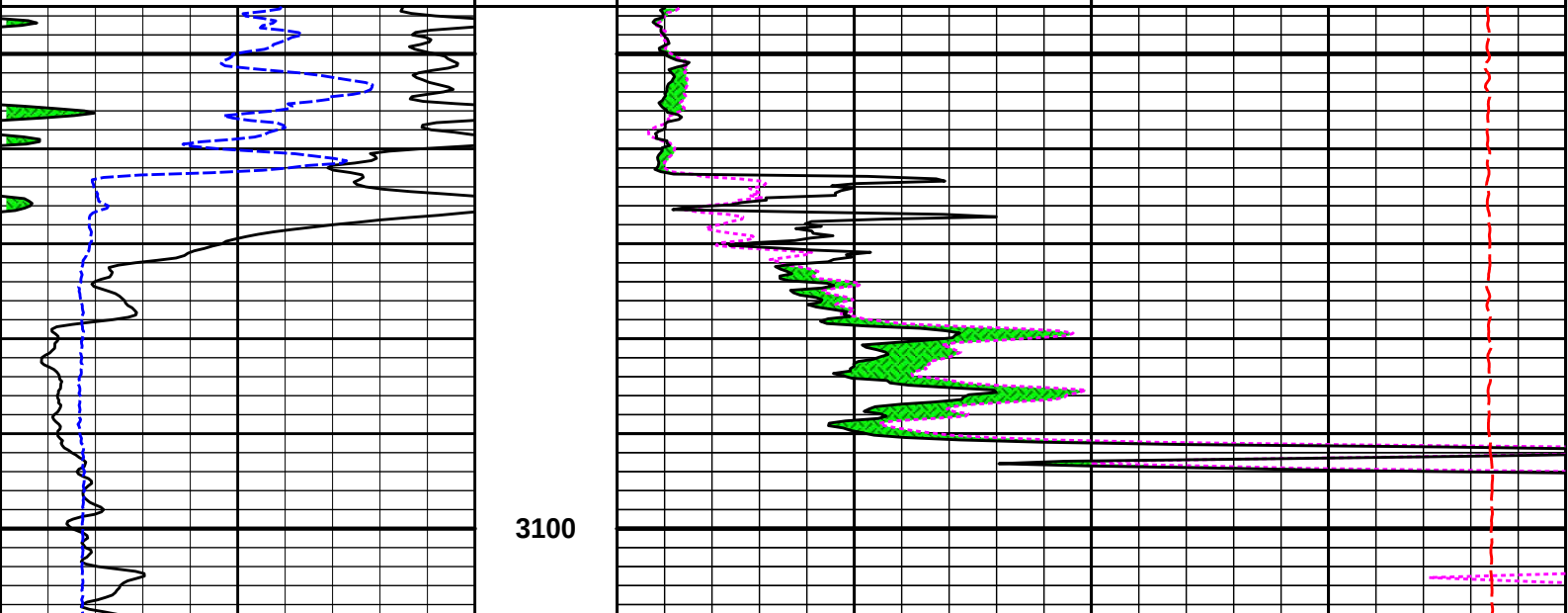


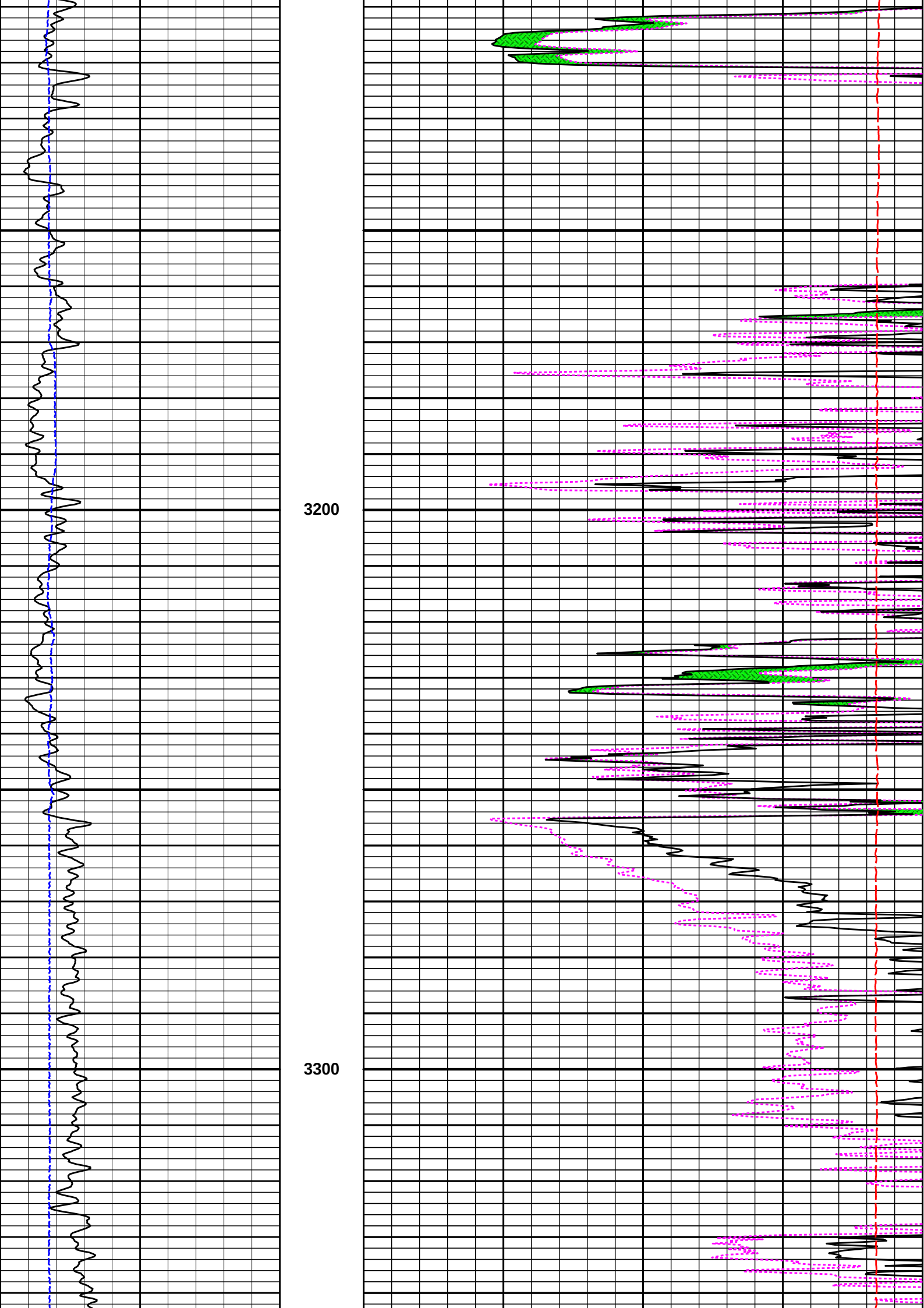
0 Gamma API 150	1 : 240	15K Tension 0
api	ft	pounds
6 Caliper 16		0 MicrologLateral 40
inches		ohm-metre
		0 MicrologNormal 40
		ohm-metre

5 INCH MAIN LOG

REPEAT SECTION

		0 MicrologNormal 40
		ohm-metre
6 Caliper 16		0 MicrologLateral 40
inches		ohm-metre
0 Gamma API 150	1 : 240	15K Tension 0
api	ft	pounds

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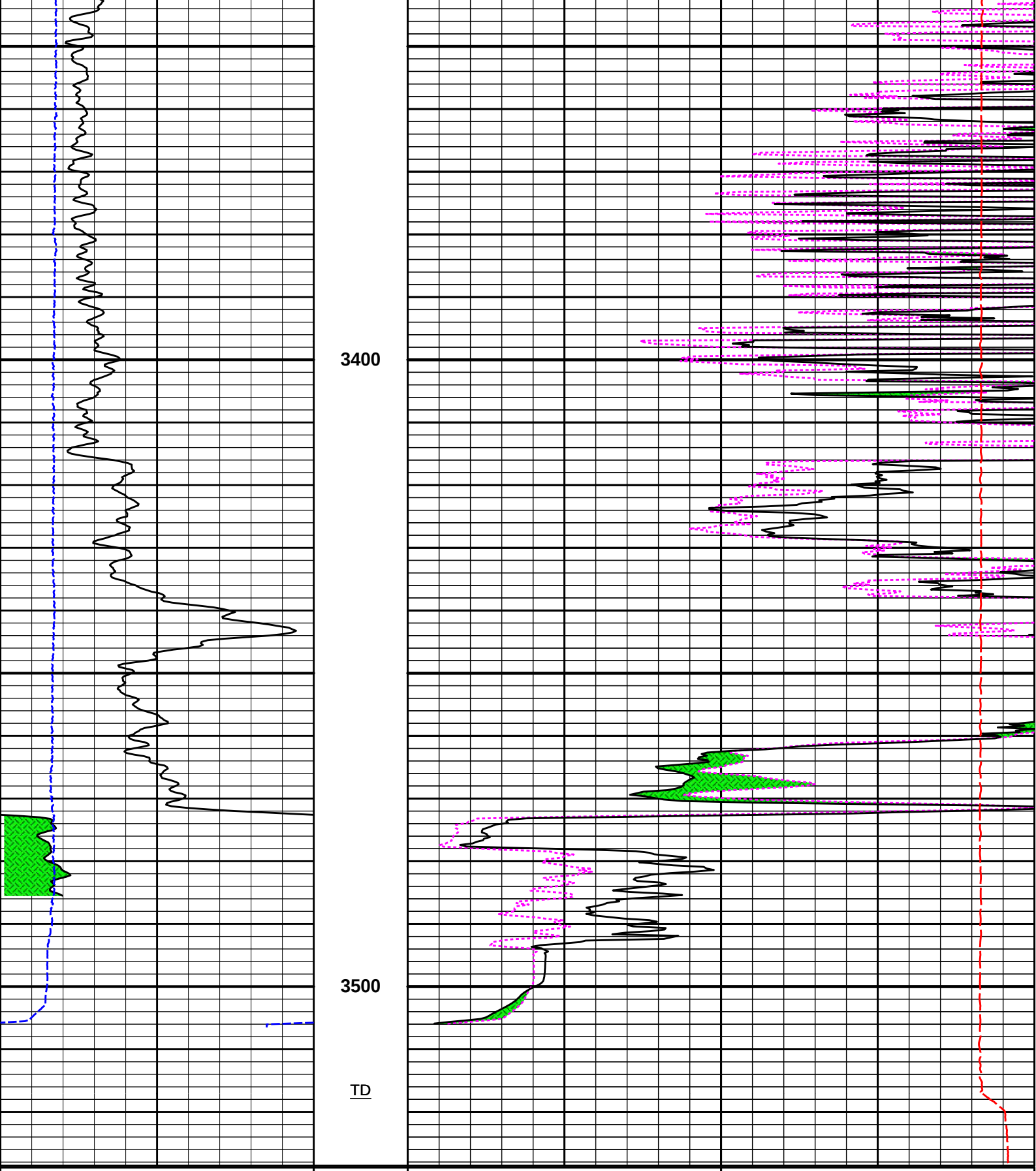


0 Gamma API 150	1 : 240 ft	15K Tension 0
api		pounds
6 Caliper 16		0 MicrologLateral 40
inches		ohm-metre
		0 MicrologNormal 40
		ohm-metre

REPEAT SECTION

COMPANY	**BECKER OIL COPRORATION**		
WELL	**BOWLING #1**		
FIELD	**WEST ESTUP**		
COUNTY	**COWLEY**	STATE	**KANSAS**

HALLIBURTON

MICROLOG

DRILL STEM TEST REPORT

Becker Oil Corporation

P.O. Box 1150
Ponca City, OK
74602
ATTN: Clyde Becker

19/34S/6E Cowley KS

Bowling #1

Job Ticket: 63100 **DST#: 1**

Test Start: 2017.04.29 @ 20:13:00

GENERAL INFORMATION:

Formation: **Oswego**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 22:15:40
Time Test Ended: 02:50:09

Test Type: Conventional Bottom Hole (Initial)
Tester: Jimmy Ricketts
Unit No: 80

Interval: 2736.00 ft (KB) To 2796.00 ft (KB) (TVD)
Total Depth: 2796.00 ft (KB) (TVD)
Hole Diameter: 6.88 inches Hole Condition: Fair

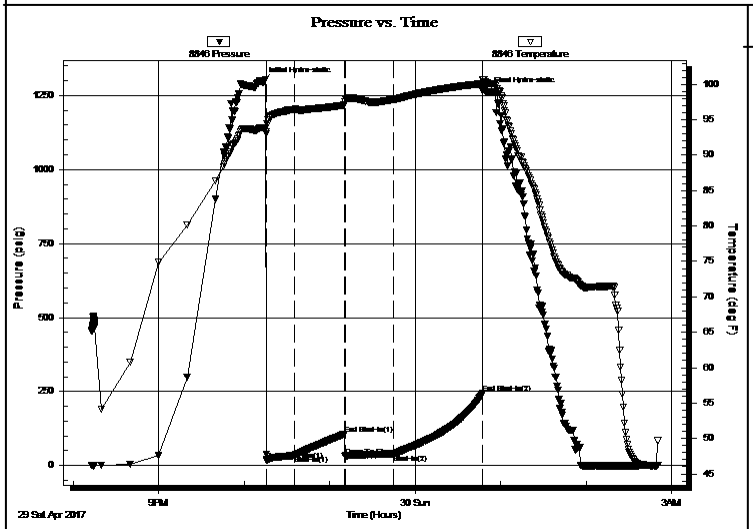
Reference Elevations: 1249.00 ft (KB)
1240.00 ft (CF)
KB to GR/CF: 9.00 ft

Serial #: 8846

Press@RunDepth: 39.04 psig @ ft (KB)
Start Date: 2017.04.29 End Date: 2017.04.30
Start Time: 20:13:01 End Time: 02:50:10

Capacity: 8000.00 psig
Last Calib.: 1899.12.30
Time On Btm: 2017.04.29 @ 22:13:10
Time Off Btm: 2017.04.30 @ 00:50:30

TEST COMMENT: IF - Weak blow building to strong blow 18 minutes into initial flow period.
FF - Weak blow building to strong blow 6 minutes into final flow period.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1295.25	93.86	Initial Hydro-static
3	17.53	93.33	Open To Flow (1)
22	34.40	96.48	Shut-In(1)
58	106.64	97.11	End Shut-In(1)
58	31.05	97.53	Open To Flow (2)
92	39.04	97.86	Shut-In(2)
155	243.24	100.08	End Shut-In(2)
158	1262.49	100.17	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
65.00	Oil cut mud 9% O & 91% M	0.32
180.00	Gas in pipe 100% G	0.89

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

DRILL STEM TEST REPORT

Becker Oil Corporation

P.O. Box 1150
Ponca City, OK
74602
ATTN: Clyde Becker

19/34S/6E Cowley KS

Bowling #1

Job Ticket: 63100 **DST#: 1**

Test Start: 2017.04.29 @ 20:13:00

GENERAL INFORMATION:

Formation: **Oswego**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 22:15:40
Time Test Ended: 02:50:09

Test Type: Conventional Bottom Hole (Initial)
Tester: Jimmy Ricketts
Unit No: 80

Interval: 2736.00 ft (KB) To 2796.00 ft (KB) (TVD)
Total Depth: 2796.00 ft (KB) (TVD)
Hole Diameter: 6.88 inches Hole Condition: Fair

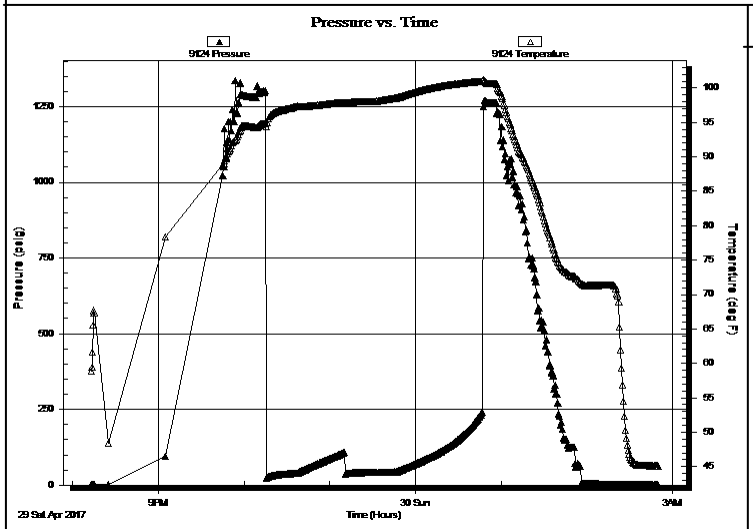
Reference Elevations: 1249.00 ft (KB)
1240.00 ft (CF)
KB to GR/CF: 9.00 ft

Serial #: 9124

Press@RunDepth: psig @ ft (KB)
Start Date: 2017.04.29 End Date: 2017.04.30
Start Time: 20:13:05 End Time: 02:50:09

Capacity: 8000.00 psig
Last Calib.: 1899.12.30
Time On Btm:
Time Off Btm:

TEST COMMENT: IF - Weak blow building to strong blow 18 minutes into initial flow period.
FF - Weak blow building to strong blow 6 minutes into final flow period.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
65.00	Oil cut mud 9% O & 91% M	0.32
180.00	Gas in pipe 100% G	0.89

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

DRILL STEM TEST REPORT

FLUID SUMMARY

Becker Oil Corporation

P.O. Box 1150
Ponca City, OK
74602

ATTN: Clyde Becker

19/34S/6E Cowley KS

Bowling #1

Job Ticket: 63100 **DST#: 1**

Test Start: 2017.04.29 @ 20:13:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	47.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	10.39 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	950.00 ppm				
Filter Cake:	inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
65.00	Oil cut mud 9% O & 91% M	0.320
180.00	Gas in pipe 100% G	0.885

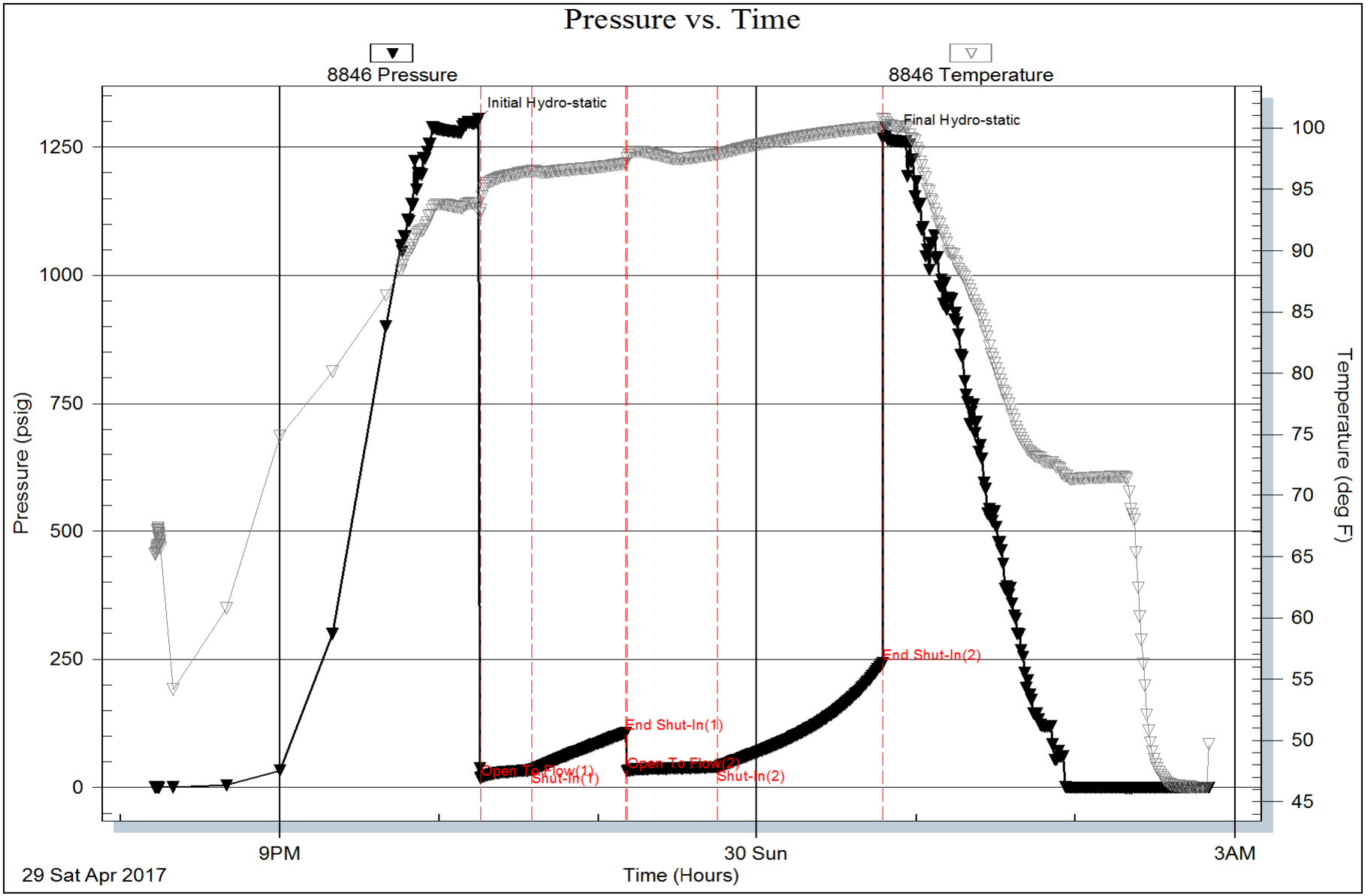
Total Length: 245.00 ft Total Volume: 1.205 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

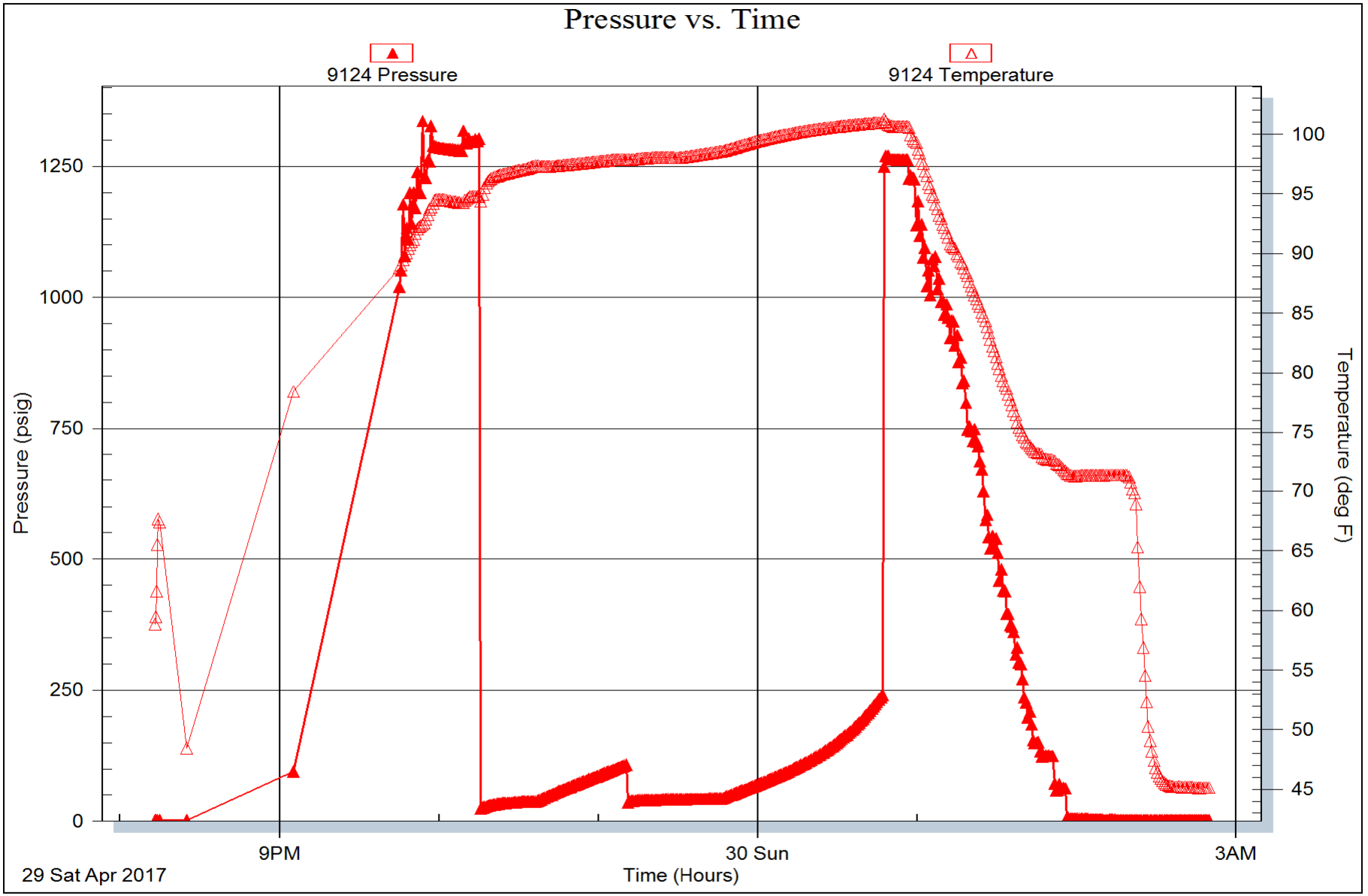
Recovery Comments:

Serial #: 8846 | Becker Oil Corporation | Bow ling #1 | DST Test Number: 1



Trilobite Testing, Inc | Ref. No: 63100 | Printed: 2017.04.30 @ 07:15:49

Serial #: 9124 | Becker Oil Corporation | Bow ling #1 | DST Test Number: 1



Trilobite Testing, Inc | Ref. No: 63100 | Printed: 2017.04.30 @ 07:15:49

DRILL STEM TEST REPORT

Becker Oil Corporation

P.O. Box 1150
Ponca City, OK
74602
ATTN: Clyde Becker

19/34S/6E Cowley KS

Bowling #1

Job Ticket: 63576 **DST#: 2**

Test Start: 2017.04.30 @ 15:06:00

GENERAL INFORMATION:

Formation: **Mississippian**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 17:19:20
Time Test Ended: 22:50:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Jimmy Ricketts
Unit No: 80

Interval: 3080.00 ft (KB) To 3110.00 ft (KB) (TVD)
Total Depth: 3110.00 ft (KB) (TVD)
Hole Diameter: 6.88 inches Hole Condition: Fair

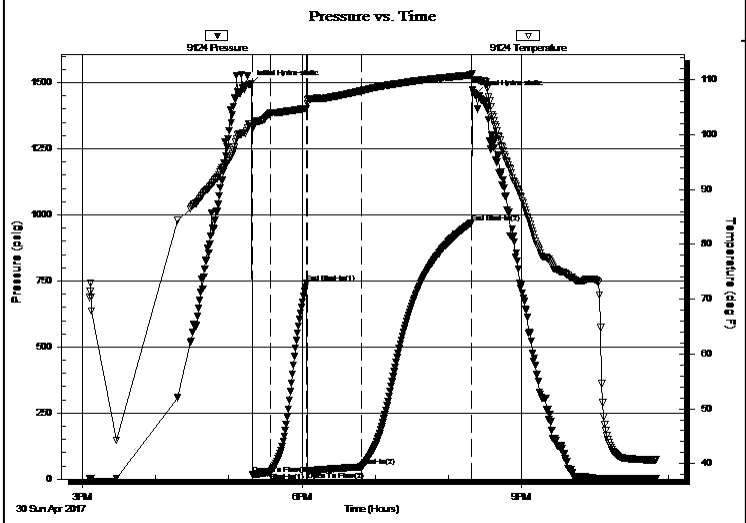
Reference Elevations: 1249.00 ft (KB)
1240.00 ft (CF)
KB to GR/CF: 9.00 ft

Serial #: 9124 **Inside**

Press@RunDepth: 47.17 psig @ 3081.00 ft (KB)
Start Date: 2017.04.30 End Date: 2017.04.30
Start Time: 15:06:05 End Time: 22:49:59

Capacity: 8000.00 psig
Last Calib.: 1899.12.30
Time On Btm: 2017.04.30 @ 17:17:50
Time Off Btm: 2017.04.30 @ 20:22:00

TEST COMMENT: IF - Weak blow building to 5 inches initial flow period.
FF - Weak blow building to 10 inches final flow period.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1491.21	102.03	Initial Hydro-static
2	16.77	101.32	Open To Flow (1)
17	24.73	103.90	Shut-In(1)
46	743.34	104.77	End Shut-In(1)
47	28.59	105.66	Open To Flow (2)
92	47.17	108.00	Shut-In(2)
182	971.22	110.85	End Shut-In(2)
185	1453.05	109.99	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
80.00	Oil cut mud 6% O & 94% M	0.39

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

DRILL STEM TEST REPORT

Becker Oil Corporation

P.O. Box 1150
Ponca City, OK
74602
ATTN: Clyde Becker

19/34S/6E Cowley KS

Bowling #1

Job Ticket: 63576 **DST#: 2**

Test Start: 2017.04.30 @ 15:06:00

GENERAL INFORMATION:

Formation: **Mississippian**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 17:19:20
Time Test Ended: 22:50:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Jimmy Ricketts
Unit No: 80

Interval: 3080.00 ft (KB) To 3110.00 ft (KB) (TVD)
Total Depth: 3110.00 ft (KB) (TVD)
Hole Diameter: 6.88 inches Hole Condition: Fair

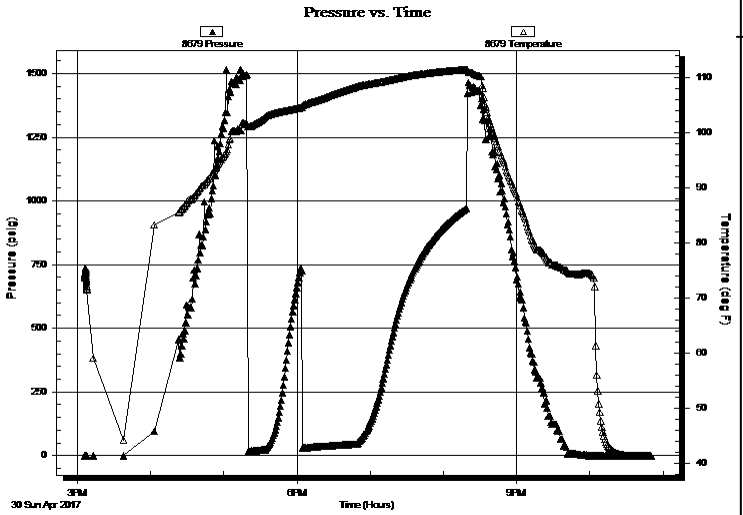
Reference Elevations: 1249.00 ft (KB)
1240.00 ft (CF)
KB to GR/CF: 9.00 ft

Serial #: 8679 **Outside**

Press@RunDepth: psig @ 3081.00 ft (KB)
Start Date: 2017.04.30 End Date: 2017.04.30
Start Time: 15:06:01 End Time: 22:50:00

Capacity: 8000.00 psig
Last Calib.: 1899.12.30
Time On Btm:
Time Off Btm:

TEST COMMENT: IF - Weak blow building to 5 inches initial flow period.
FF - Weak blow building to 10 inches final flow period.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
80.00	Oil cut mud 6% O & 94% M	0.39

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

DRILL STEM TEST REPORT

FLUID SUMMARY

Becker Oil Corporation

P.O. Box 1150
Ponca City, OK
74602
ATTN: Clyde Becker

19/34S/6E Cowley KS

Bowling #1

Job Ticket: 63576 **DST#: 2**

Test Start: 2017.04.30 @ 15:06:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	51.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	8.89 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	1150.00 ppm				
Filter Cake:	inches				

Recovery Information

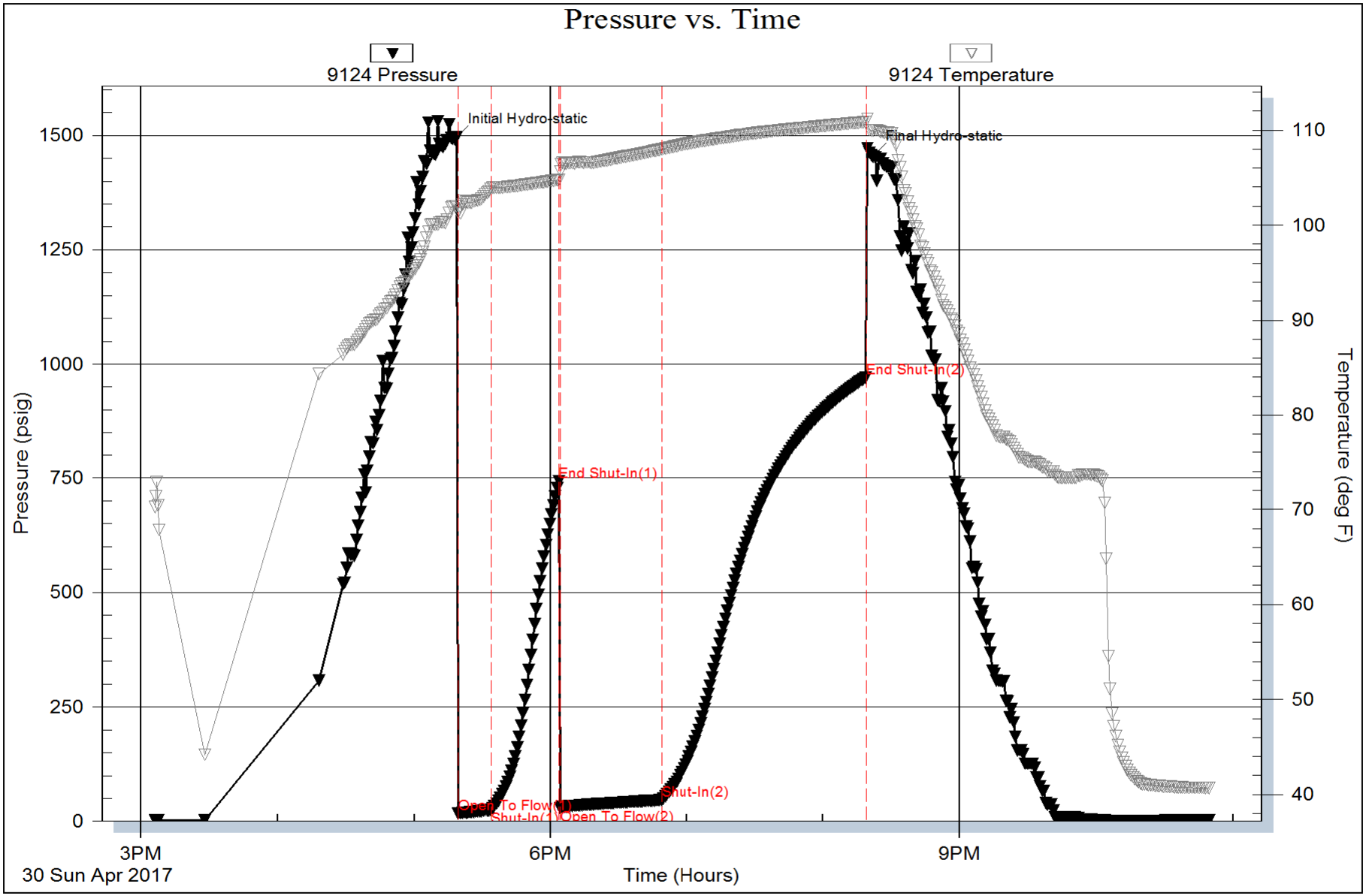
Recovery Table

Length ft	Description	Volume bbl
80.00	Oil cut mud 6% O & 94% M	0.393

Total Length: 80.00 ft Total Volume: 0.393 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 9124 **Inside** Becker Oil Corporation Bow ling #1 DST Test Number: 2



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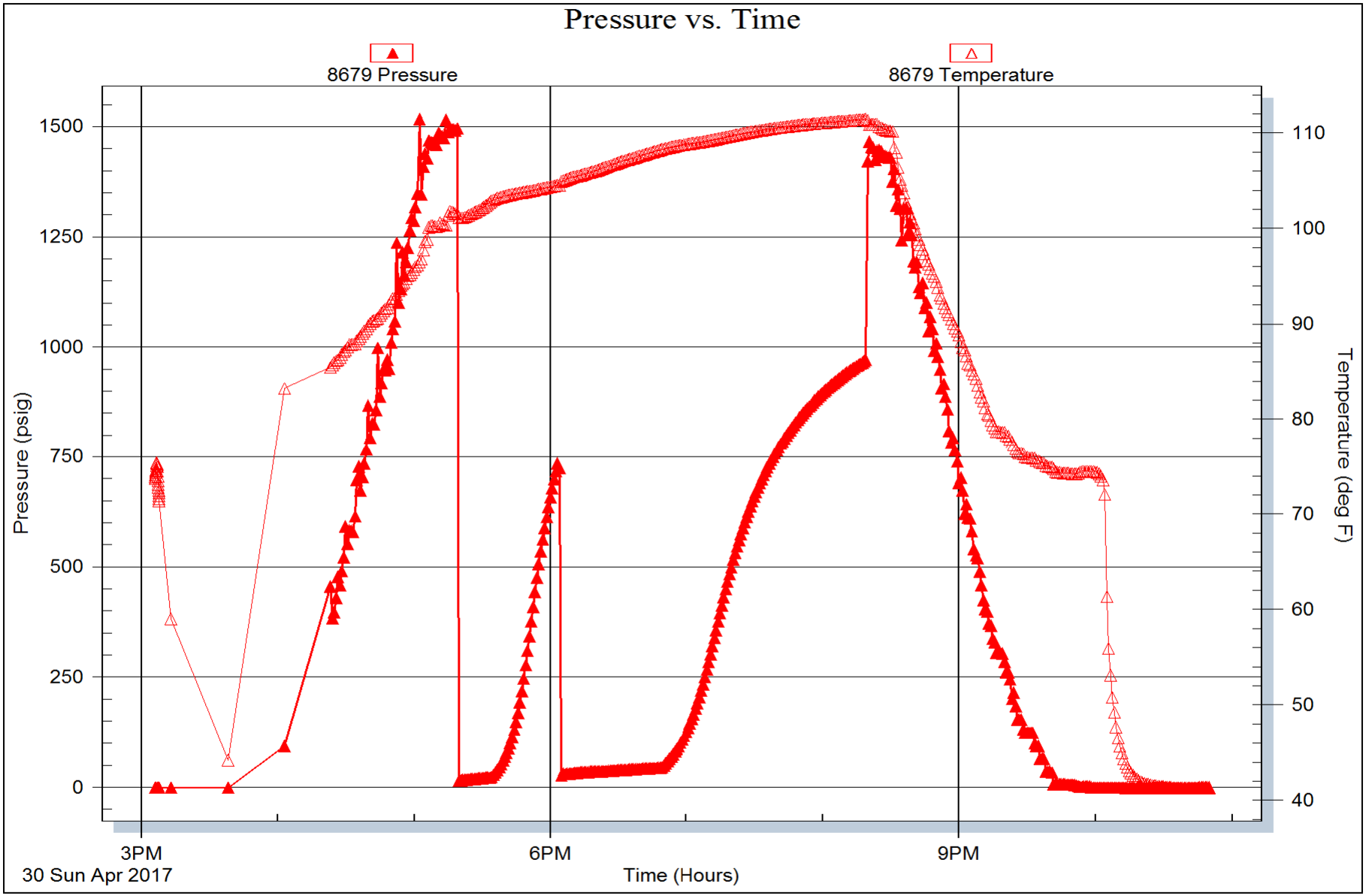
Serial #: 8679 **Outside** Becker Oil Corporation Bow ling #1 DST Test Number: 2



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