



MIDWEST WIRELINE

DUAL COMP POROSITY LOG

Company Ritchie Exploration, Inc.
 Well #3 Wyrill 19A
 Field Todd Northeast
 County Rooks
 State Kansas

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Location: API #: 15-163-24446-00-00
 63 S & 112 W of S2 NW/NE
 1053 FNL & 2092 FEL
 SEC 19 TWP 6S RGE 20W
 Permanent Datum Ground Level Elevation 2281
 Log Measured From Kelly Bushing
 Drilling Measured From Kelly Bushing
 Other Services
 DIL
 MEL/BHCS
 K.B. 2288
 D.F.
 G.L. 2281

Date	11/28/2021						
Run Number	One						
Type Log	CNL/CDL						
Depth Driller	3840						
Depth Logger	3838						
Bottom Logged Interval	3817						
Top Logged Interval	3100						
Type Fluid In Hole	Chemical						
Salinity, PPM CL	2000						
Density	9.3						
Level	Full						
Max. Rec. Temp. F	114						
Operating Rig Time	4 Hours						
Equipment -- Location	P-24 Hays						
Recorded By	T. Martin						
Witnessed By	Kent Matson						
Borehole Record							
Run No.	Bit	From	To	Size	Wgt.	From	To
One	12.25	00	215	8.625	23	00	215
Two	7.875	215	TD				
Casing Record							

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All interpretations are opinions based on inferences from electrical or other measurements and Midwest Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Midwest Wireline Services, LLC will not be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees.

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

Stockton, KS, 5 N to Rd E,
 15 W to Rd 3, 1 N, 1 W, S & W into

Log Measured From: Kelly Bushing 7 Ft. Above Permanent Datum

THANK YOU FOR USING MIDWEST WIRELINE LLC
 785-625-3858

Your Midwest Wireline Crew		This Log Record Was Witnessed By	
Engineer: T. Martin	Operator:	Primary Witness: Kent Matson	Secondary Witness:
Operator:	Operator:	Secondary Witness:	Secondary Witness:
Operator:		Secondary Witness:	

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	32.75		GR-M&W (233-M&W)	3.00	3.50	50.00
CNLSC CNSSC	29.65 28.90		CNT-M&W (207-MW)	5.00	3.50	100.00
			CDL-M&W (934-226)	8.50	4.00	250.00
LSD DCAL SSD	20.60 20.58 20.10					
RLL3F RLL3	15.50 15.50					
			DIL-PSI HIGH TEMP (952-828)	18.25	3.50	220.00
CILD	8.33					
CILM	4.50					
SP	0.20					

Dataset: ritchie_#3 wyrill 19a.db: field/well/Stack/pass3.1
 Total length: 34.75 ft
 Total weight: 620.00 lb
 O.D.: 4.00 in

Log Variables

DatabaseC:\ProgramData\Warrior\Data\ritchie_#3 wyrill 19a.db
 Dataset field/well/Stack/pass3.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	114	5.5	0	1	2	2.71
NPORSEL	PERFS	SNDERR mmho/m	SNDERRM mmho/m	SPSHIFT mV	SRFTEMP degF	SZCOR	TDEPTH ft
Limestone	0	0	0	145	50	Off	3838

Variable Description

A : Cement Factor (a)
 BOREID : Borehole I.D.
 BOTTEMP : Bottom Hole Temperature
 CASEOD : Casing O.D.
 CASETHCK : Casing Thickness
 FLUIDDEN : Fluid Density
 M : Cement Exp (m)
 MATRXDEN : Matrix Density

NPORSEL : Neutron Porosity Curve Select
 PERFS : Perforation Flag
 SNDERR : Deep Sonde Error Correction
 SNDERRM : Medium Sonde Error Correction
 SPSHIFT : S.P. Baseline Offset
 SRFTEMP : Surface Temperature
 SZCOR : CN Size Cor. ?
 TDEPTH : Total Depth



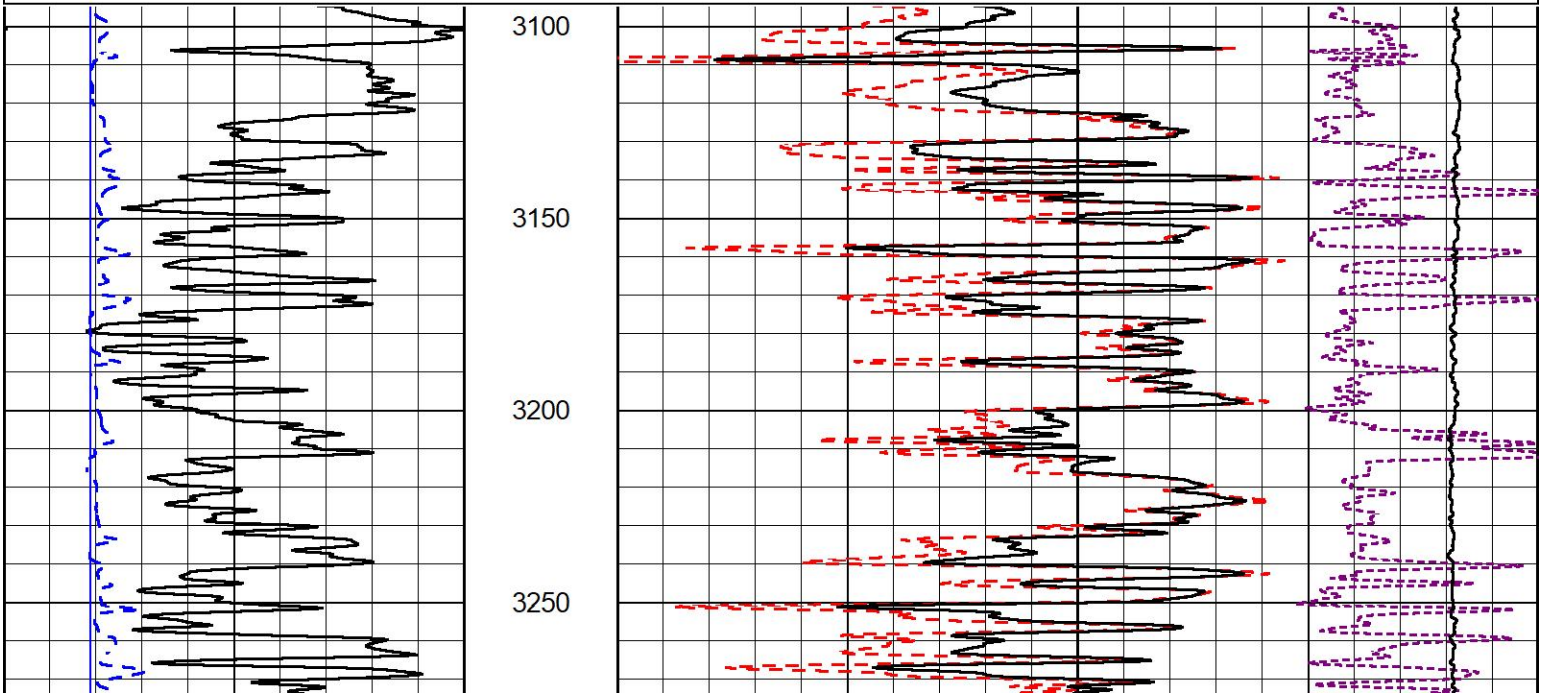
2" SCALE BULK DENSITY

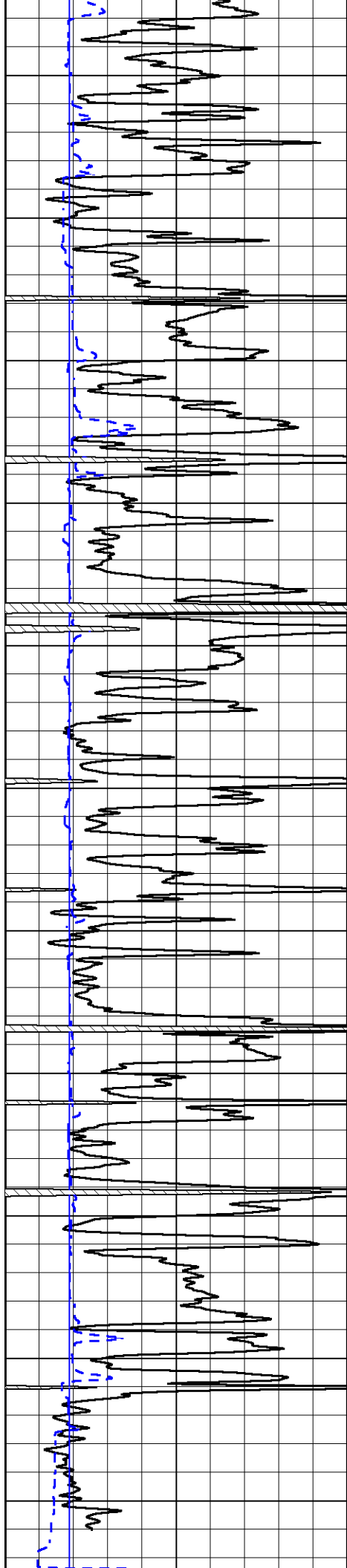
MAIN PASS

Database File ritchie_#3 wyrill 19a.db
 Dataset Pathname Stack/pass3.3
 Presentation Format _cdl
 Dataset Creation Sun Nov 28 11:55:26 2021
 Charted by Depth in Feet scaled 1:600

0	Gamma Ray (GAPI)	150
6	Caliper (in)	16

30	Compensated Density (pu)	-10
2	Bulk Density (g/cc)	3
15000	Line Tension (lb)	0
-0.25	Correction (g/cc)	0.25





3300

3350

3400

3450

3500

3550

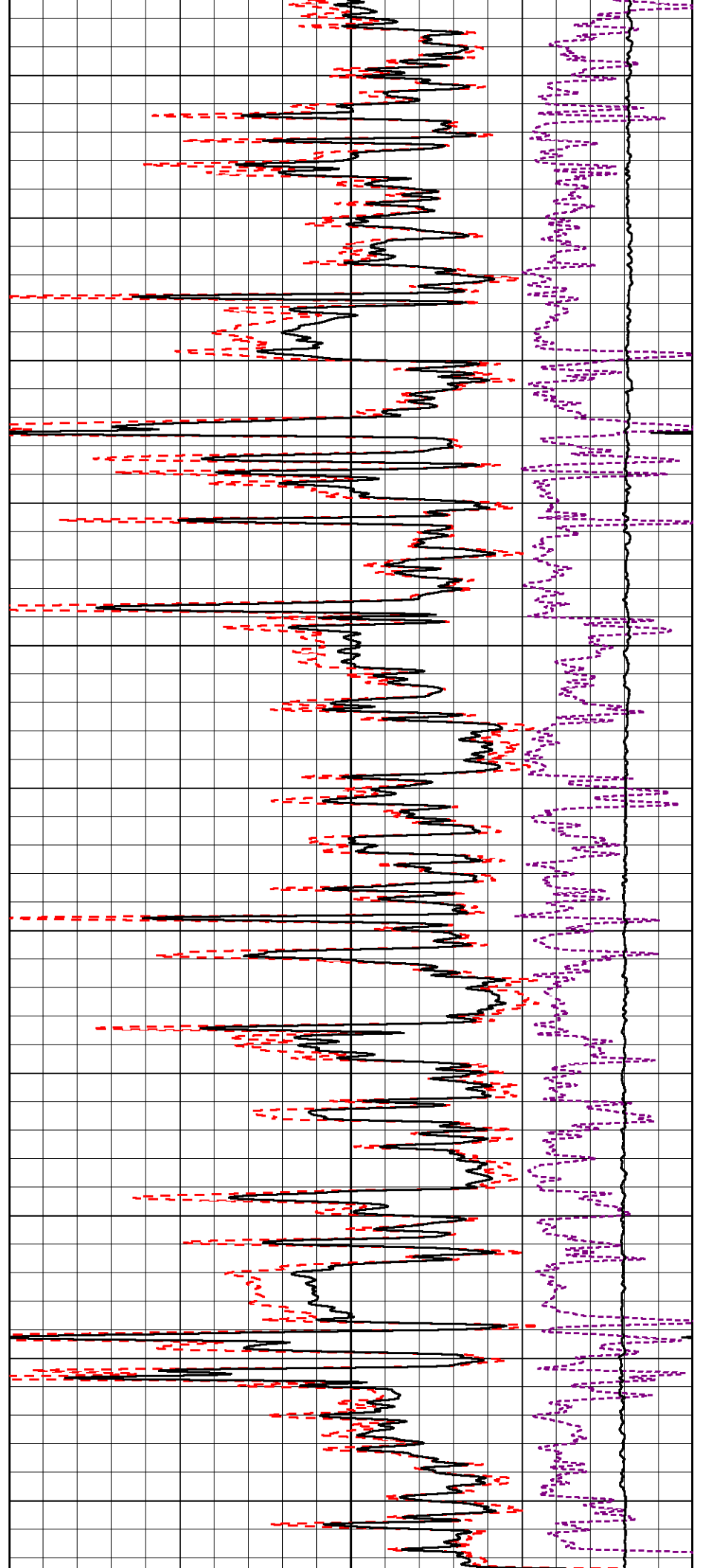
3600

3650

3700

3750

3800



0	Gamma Ray (GAPI)	150
6	Caliper (in)	16

30	Compensated Density (pu)	-10
2	Bulk Density (g/cc)	3
15000	Line Tension (lb)	0
-0.25	Correction (g/cc)	0.25



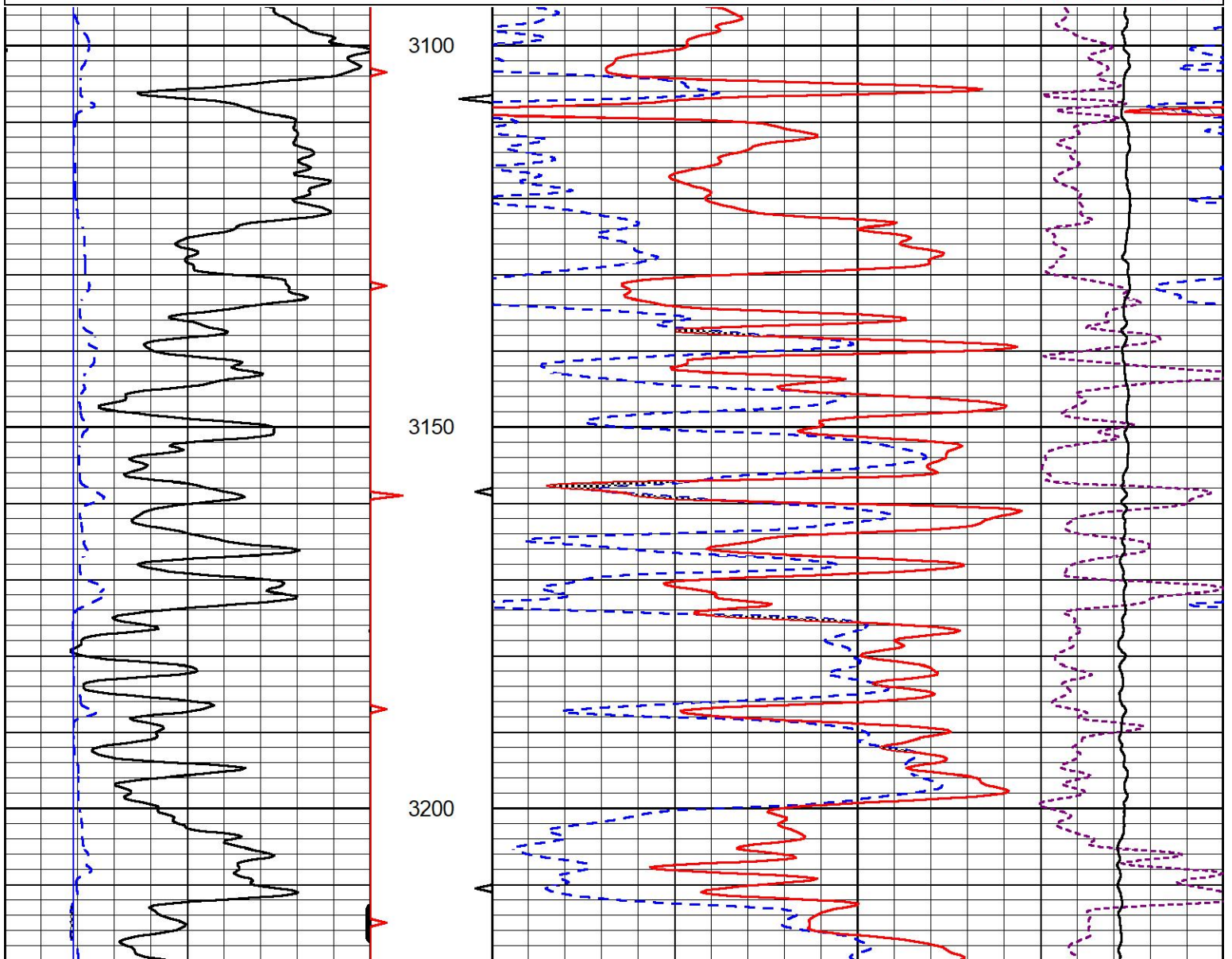
DETAIL SECTION

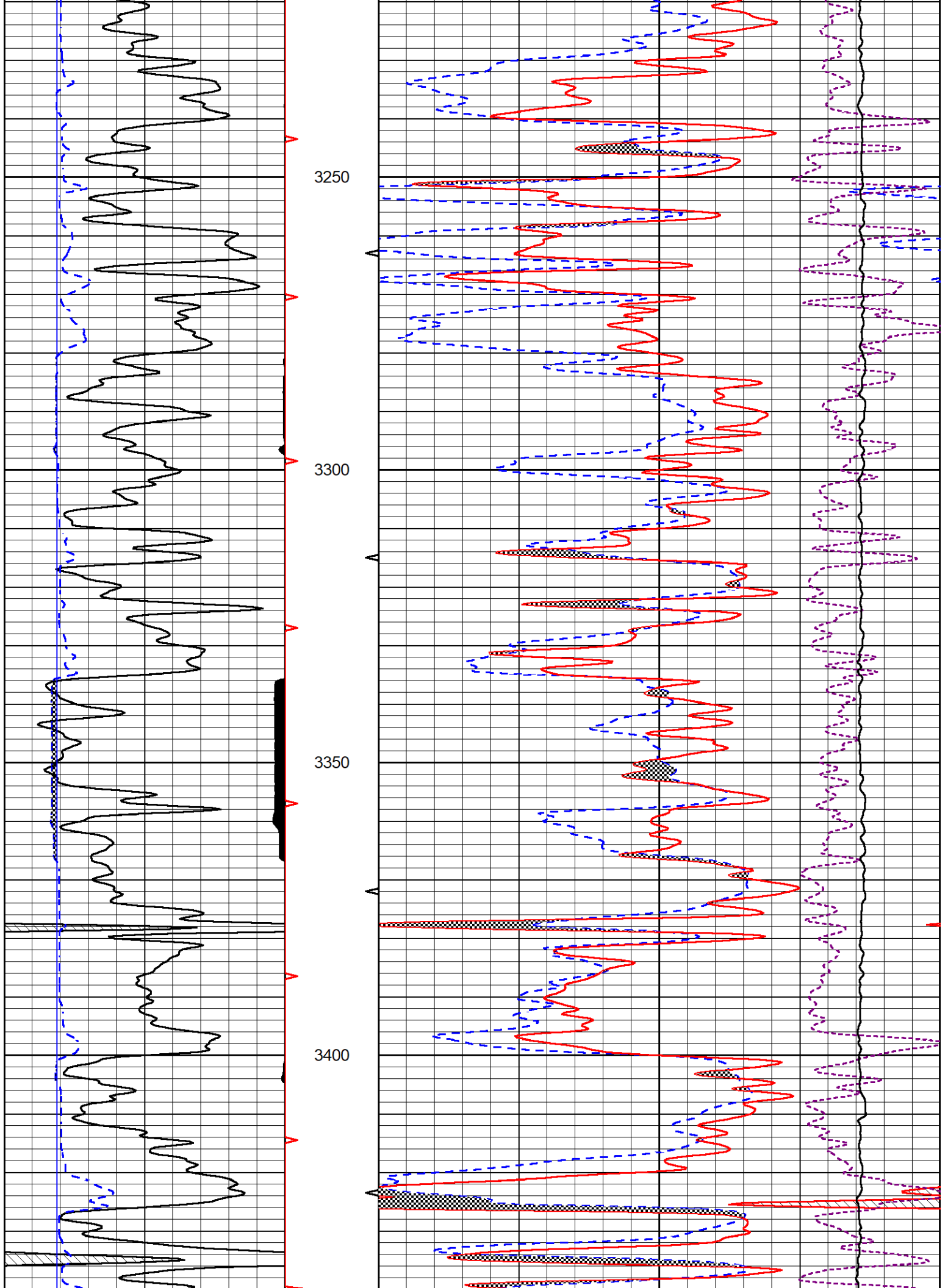
MAIN PASS

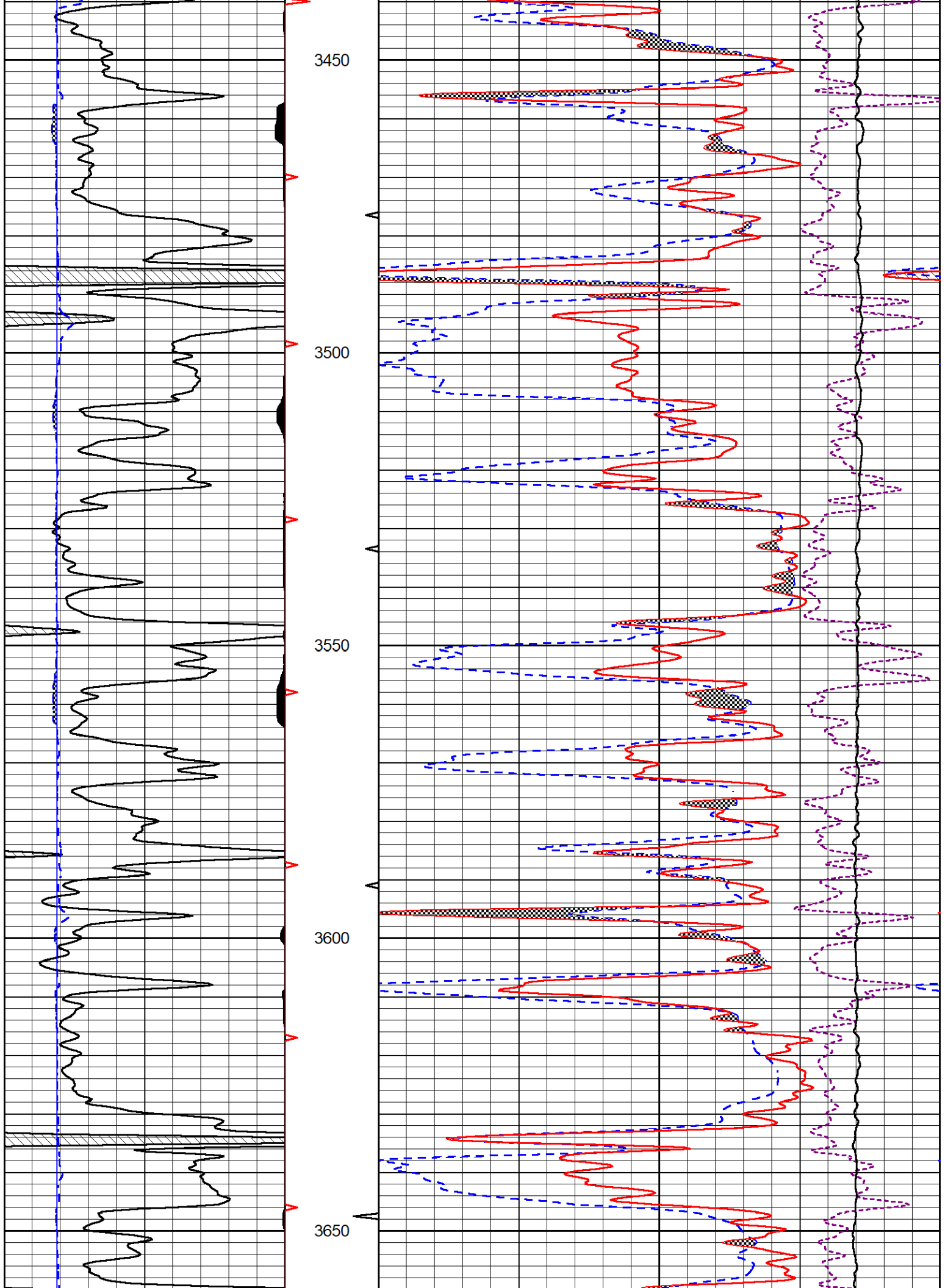
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 Dataset Pathname Stack/pass3.1
 Presentation Format _CNDLS~1
 Dataset Creation Sun Nov 28 12:34:00 2021
 Charted by Depth in Feet scaled 1:240

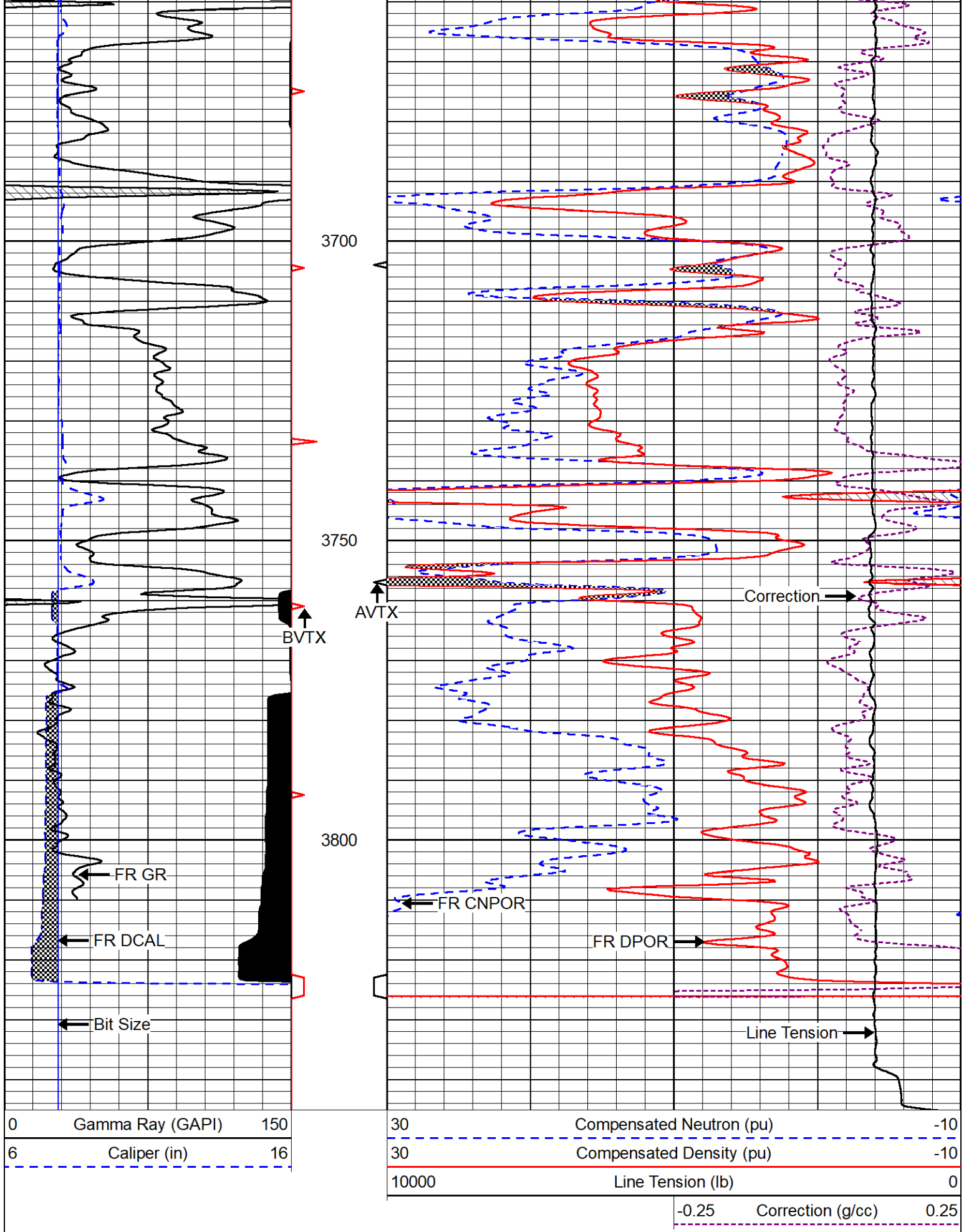
0	Gamma Ray (GAPI)	150
6	Caliper (in)	16

30	Compensated Neutron (pu)	-10
30	Compensated Density (pu)	-10
10000	Line Tension (lb)	0
-0.25	Correction (g/cc)	0.25









REPEAT SECTION



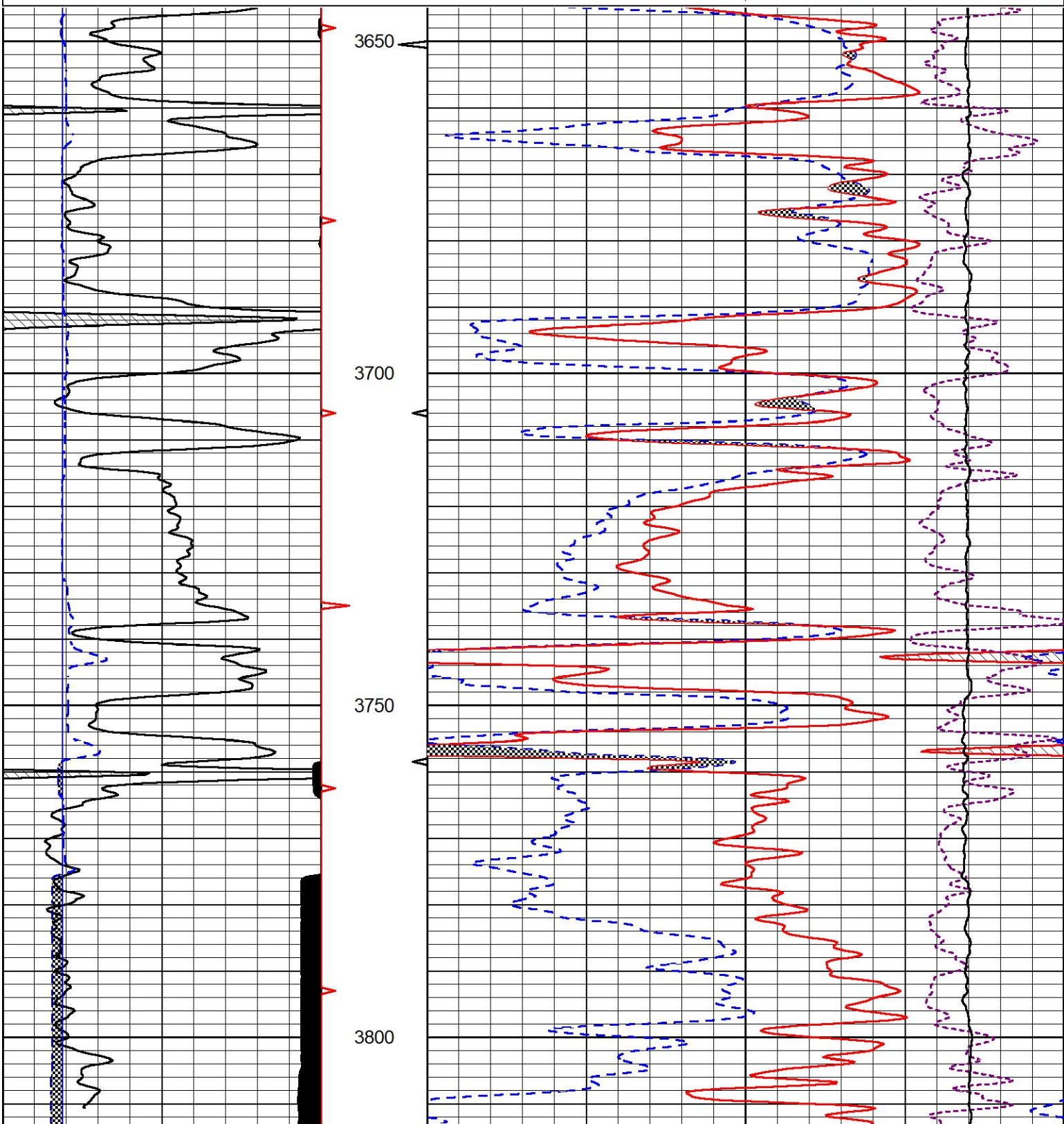


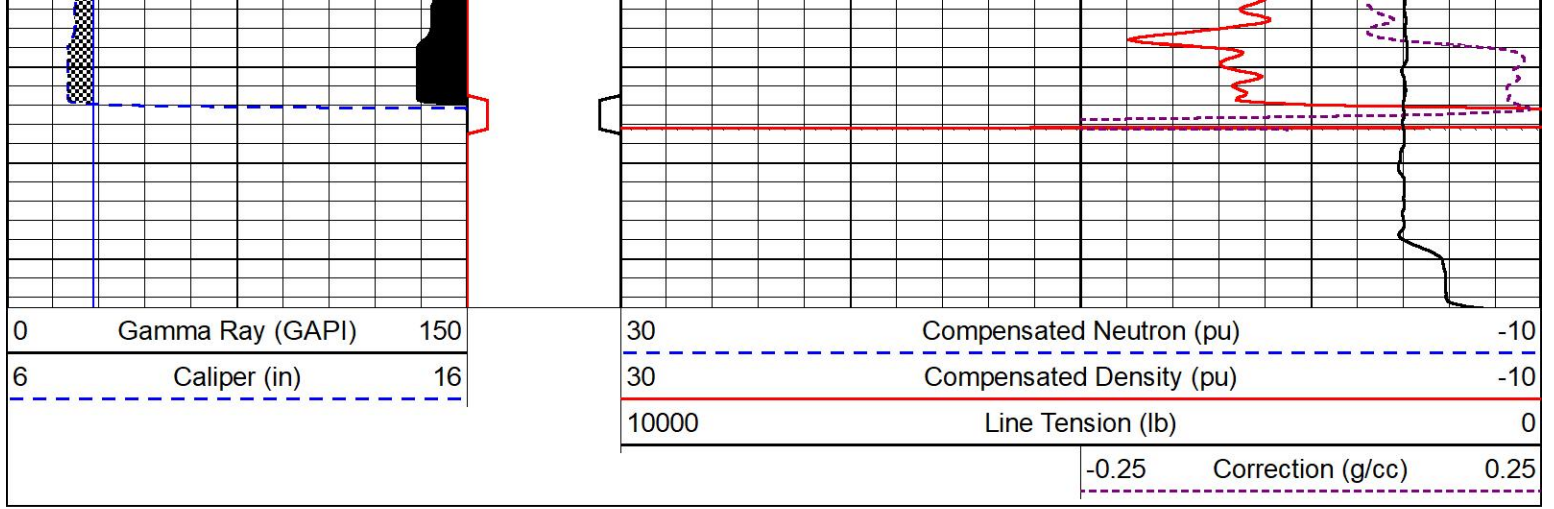
REPEAT PASS

Database File ritchie_#3 wyrill 19a.db
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 Presentation Format _CNDLS~1
 Dataset Creation Sun Nov 28 11:53:28 2021
 Charted by Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150
6	Caliper (in)	16

30	Compensated Neutron (pu)	-10
30	Compensated Density (pu)	-10
10000	Line Tension (lb)	0
-0.25	Correction (g/cc)	0.25





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