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Pioneer Energy Services

DUAL INDUCTION LOG

Company PROSPECT OIL & GAS CORP.
Well ORTH-ALTENBAUMER #1-12
Field CHASE SILICA
County RICE
State KANSAS

Location: API #: 15-159-22866-00-00
1650' FNL & 1150' FWL
SEC 12 TWP 19S RGE 10W

Other Services
CNL/CDL
MEL

Permanent Datum GROUND LEVEL Elevation 1723'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Elevation
K.B. 1731'
D.F. N/A
G.L. 1723'

Date	6/20/2019			
Run Number	ONE			
Depth Driller	3370'			
Depth Logger	3370'			
Bottom Logged Interval	3369'			
Top Log Interval	300'			
Casing Driller	8.625" @ 305'			
Casing Logger	304'			
Bit Size	7.875"			
Type Fluid in Hole	CHEMICAL			
Salinity,ppm CL	6,000			
Density / Viscosity	9.3 60			
pH / Fluid Loss	10.0 8.4			
Source of Sample	FLOWLINE			
Rm @ Meas. Temp	0.75 @ 75			
Rmf @ Meas. Temp	0.56 @ 75			
Rmc @ Meas. Temp	1.01 @ 75			
Source of Rmf / Rmc	CHARTS			
Rm @ BHT	0.51 @ 110			
Operating Rig Time	3 HOURS			
Max Rec. Temp. F	110			
Equipment Number	P-24			
Location	HAYS			
Recorded By	IAN MABB			
Witnessed By	BRAD HUTCHINSON			

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Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

CLAFLIN, KS.
EAST TO RD 4, SOUTH TO RD I ,
EAST 2 MILES, NORTH 1/2 MILE,
EAST INTO

Log Measured From: KELLY BUSHING 8 Ft. Above Permanent Datum

THANK YOU FOR USING PIONEER ENERGY SERVICES
www.pioneeres.com 785-625-3858

Your Pioneer Energy Services Crew	This Log Record Was Witnessed By
Engineer: IAN MABB	Primary Witness: BRAD HUTCHINSON
Operator:	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

Log Variables

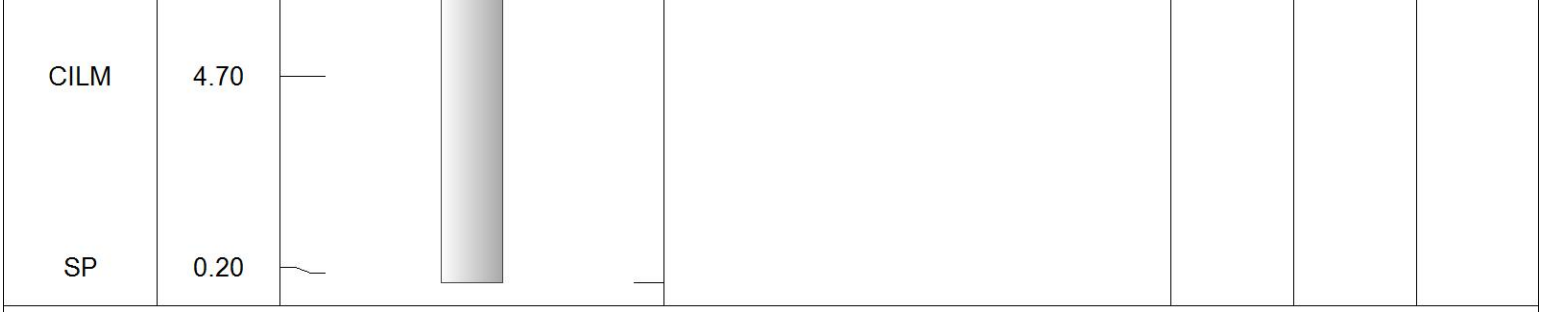
DatabaseC:\ProgramData\Warrior\Data\prospect_orth-altenbaumer_1_12.db
Dataset field/well/stackmel/pass3.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	110	5.5	0	1	2	2.71

NPORSEL	PERFS	SNDERR mmho/m	SNDERRM mmho/m	SPSHIFT mV	SRFTEMP degF	SZCOR	TDEPTH ft
Limestone	0	7	22	195	75	Off	0

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb
			GR-M&W (233-M&W)	3.00	3.50	50.00
GR	40.58					
CNLSC	37.48		CNT-M&W (207-MW)	5.50	3.50	100.00
CNSSC	36.73					
			CDL-M&W (96-916)	8.50	4.00	250.00
LSD	28.43					
DCAL	28.42					
SSD	27.93					
			ML-PSIML (PSI-01) GO Micro log tools converted to Simplec electronics	7.58	4.00	65.00
MCAL	19.83					
MI	19.83					
MN	19.83					
RLL3F	15.80					
RLL3	15.80					
			DIL-PSI HIGH TEMP (1039)	18.50	3.50	220.00
CILD	8.00					



Dataset: prospect_orth-altenbaumer_1_12.db: field/well/stackmel/pass3.1
Total length: 43.08 ft
Total weight: 685.00 lb
O.D.: 4.00 in

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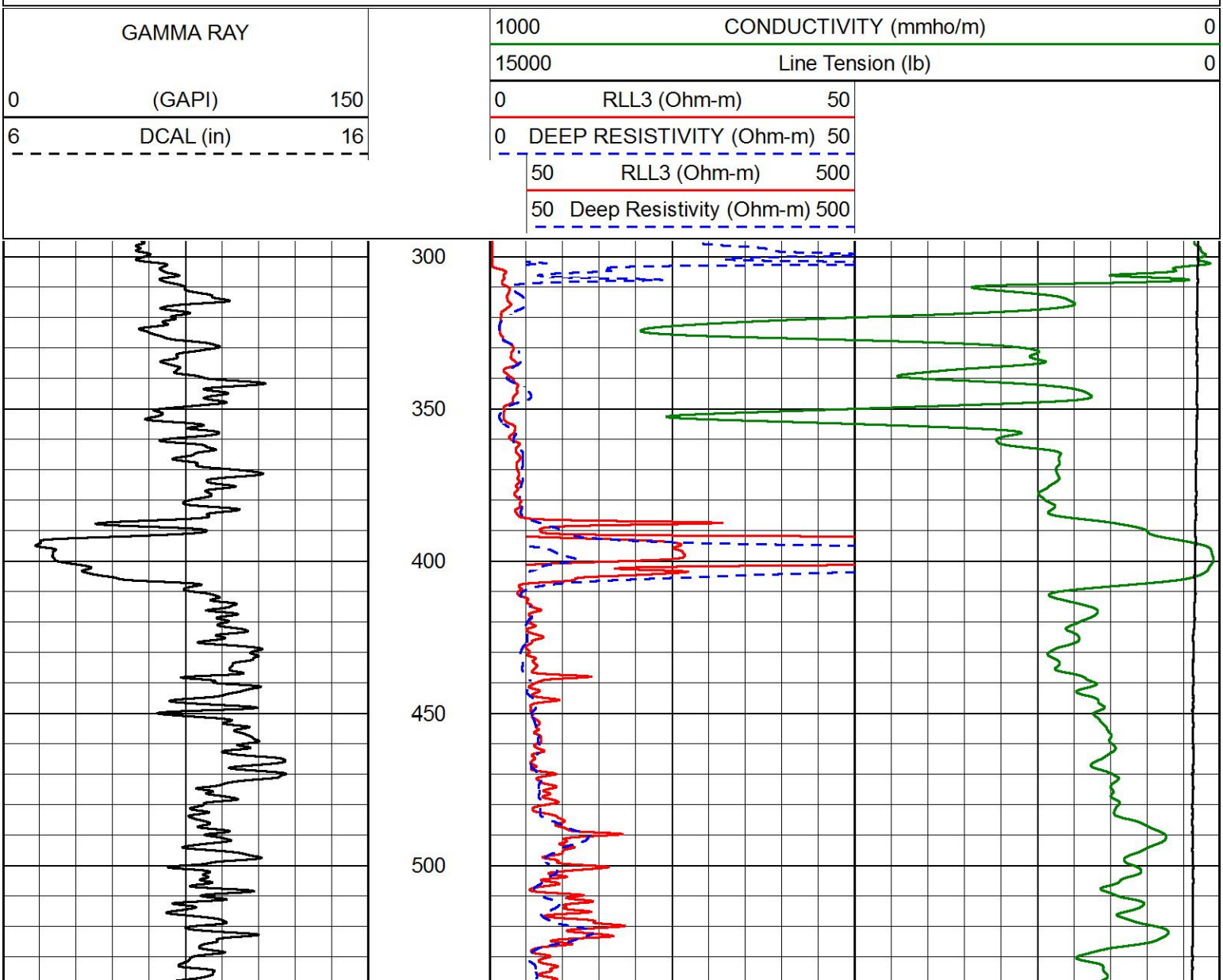
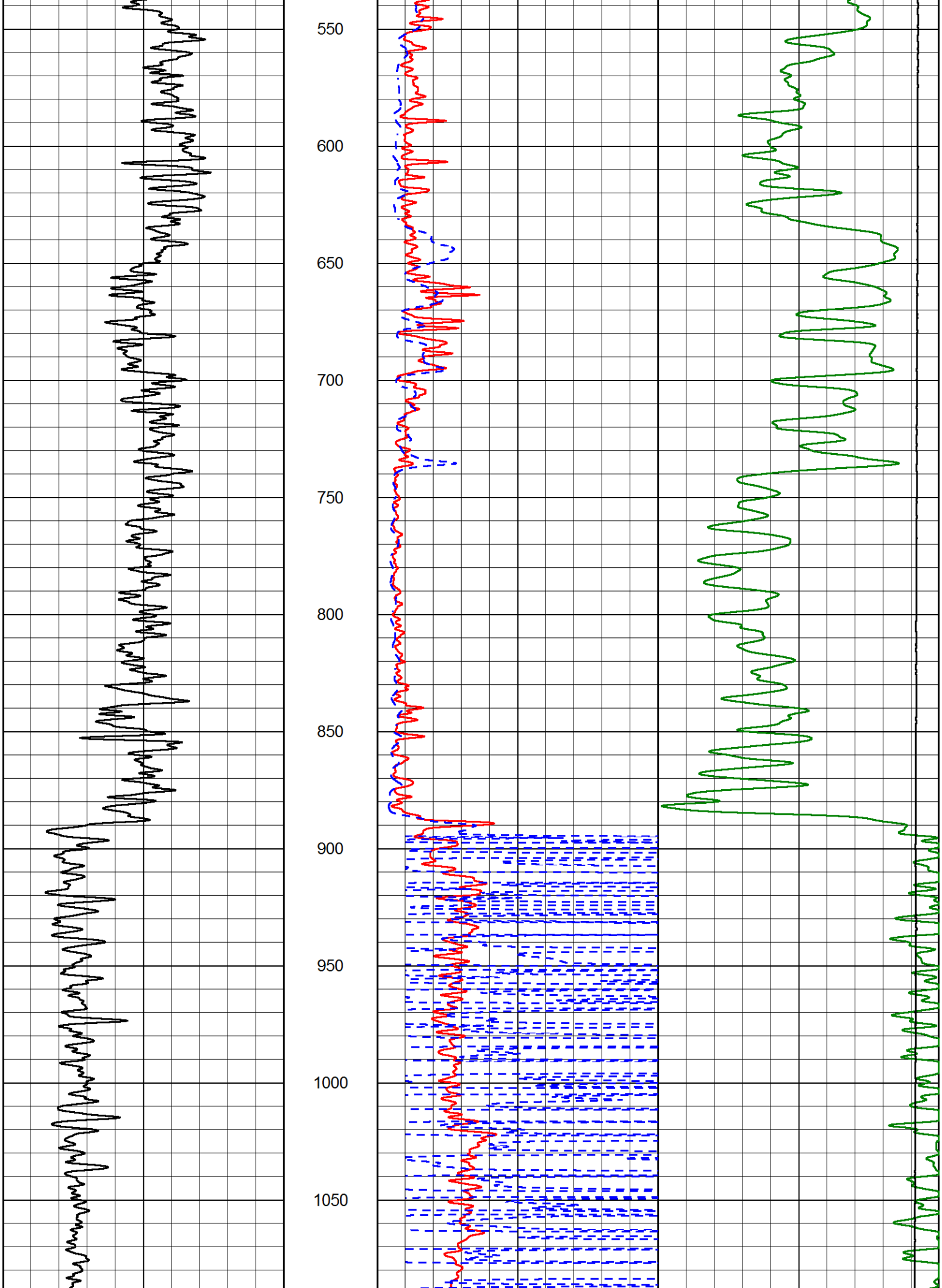
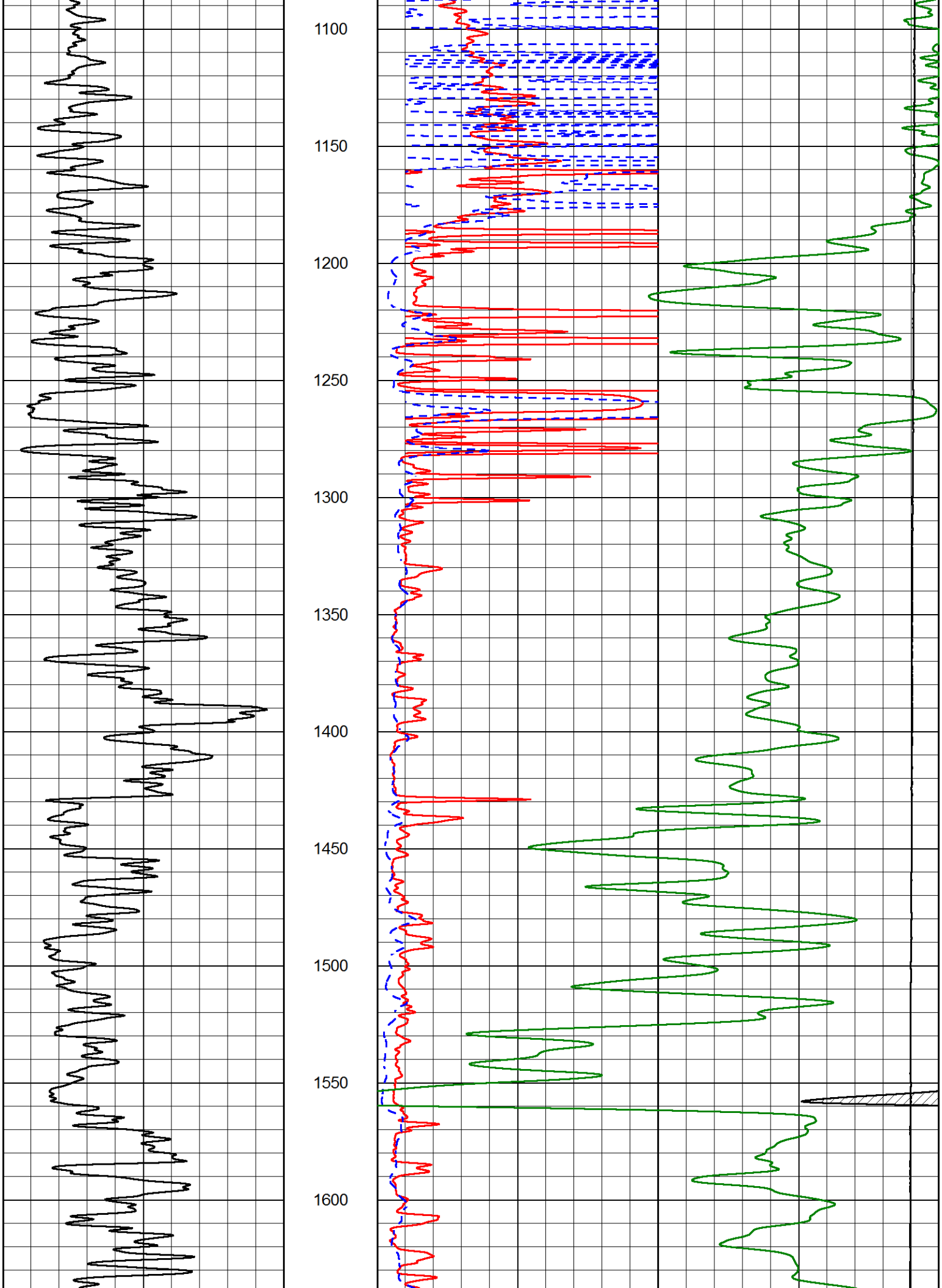
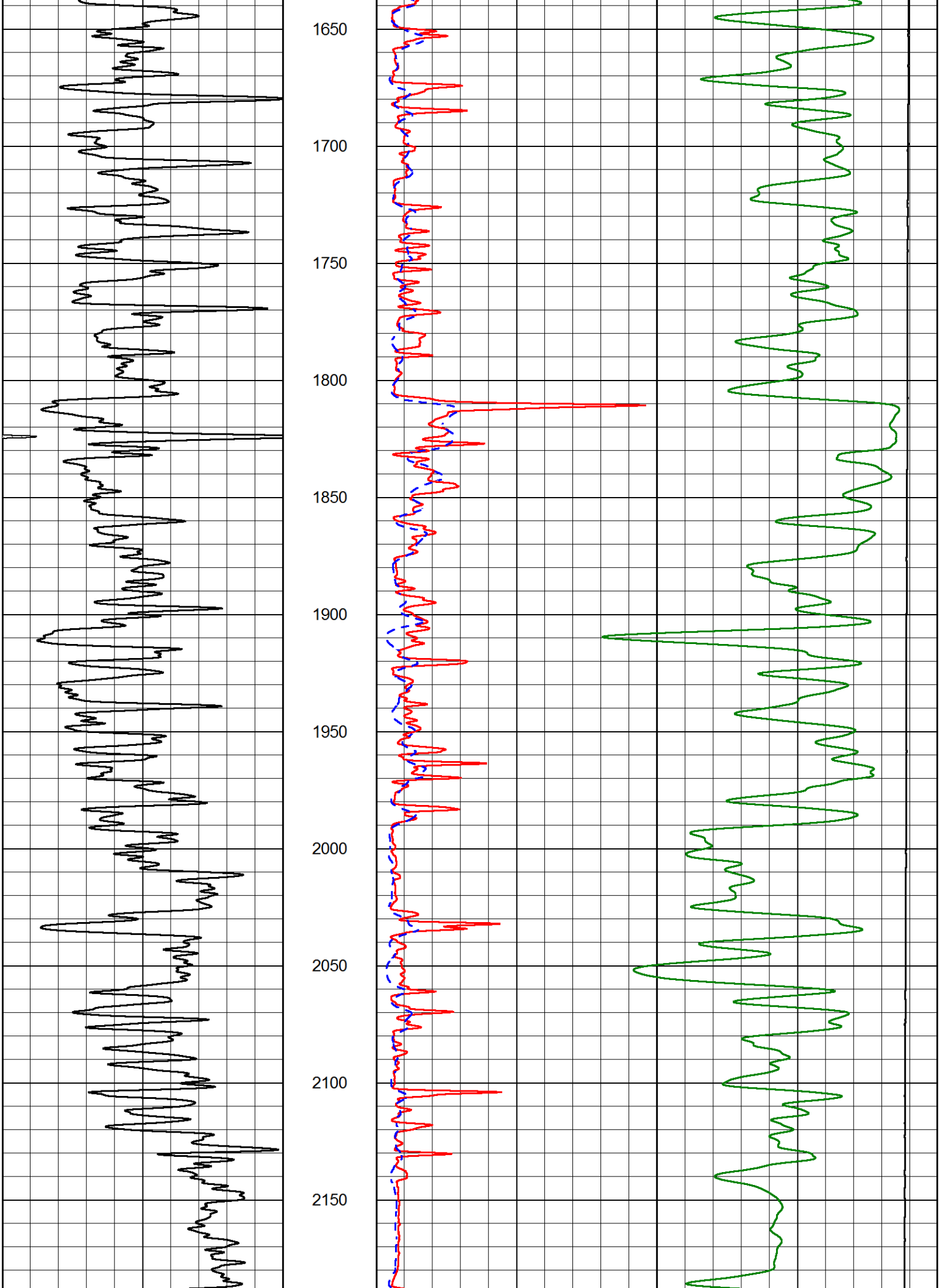
MAIN PASS

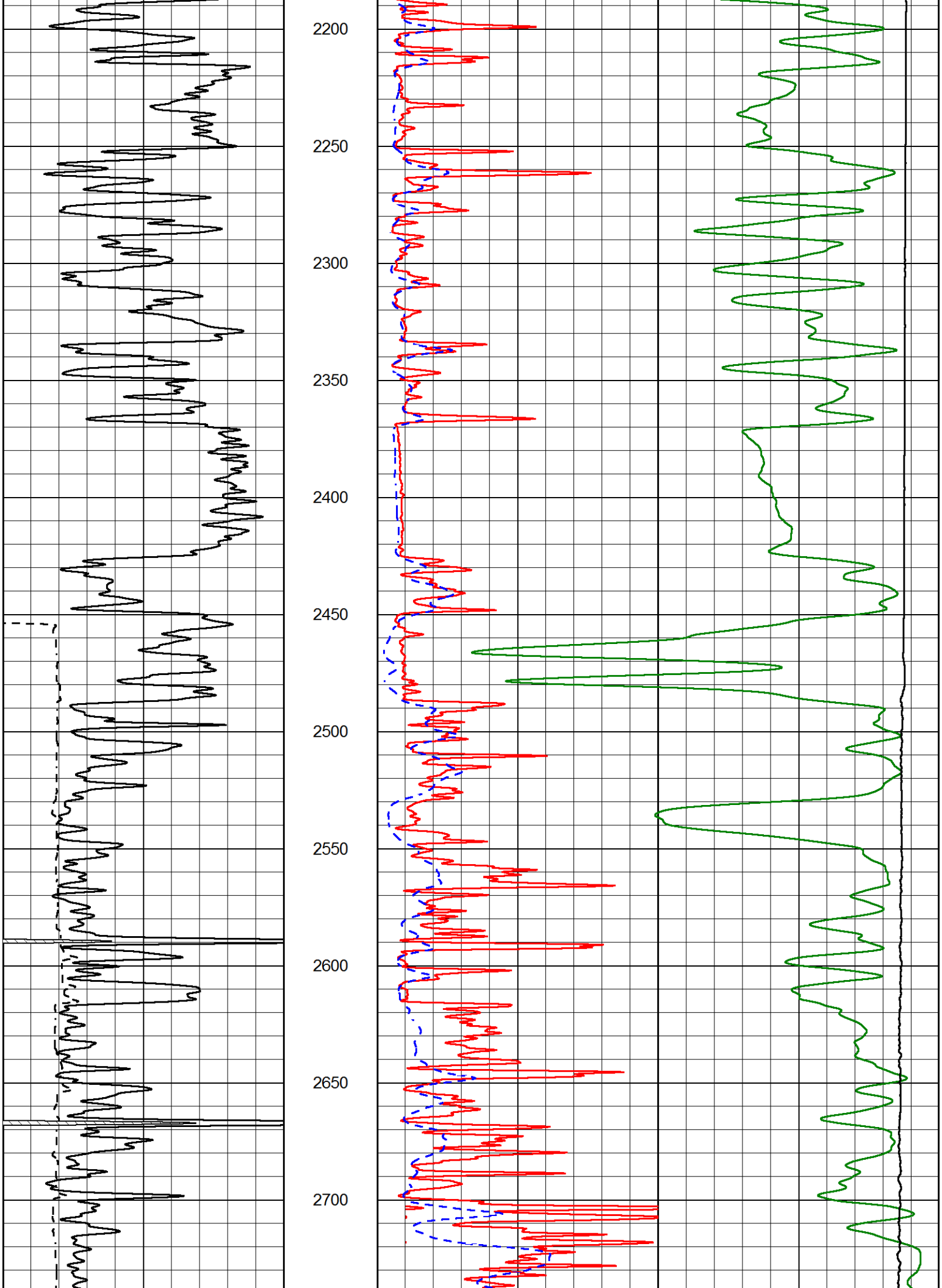
Database File prospect_orth-altenbaumer_1_12.db
Dataset Pathname stackmel/pass4.1
Presentation Format _dil2in
Dataset Creation Thu Jun 20 09:16:57 2019
Charted by Depth in Feet scaled 1:600

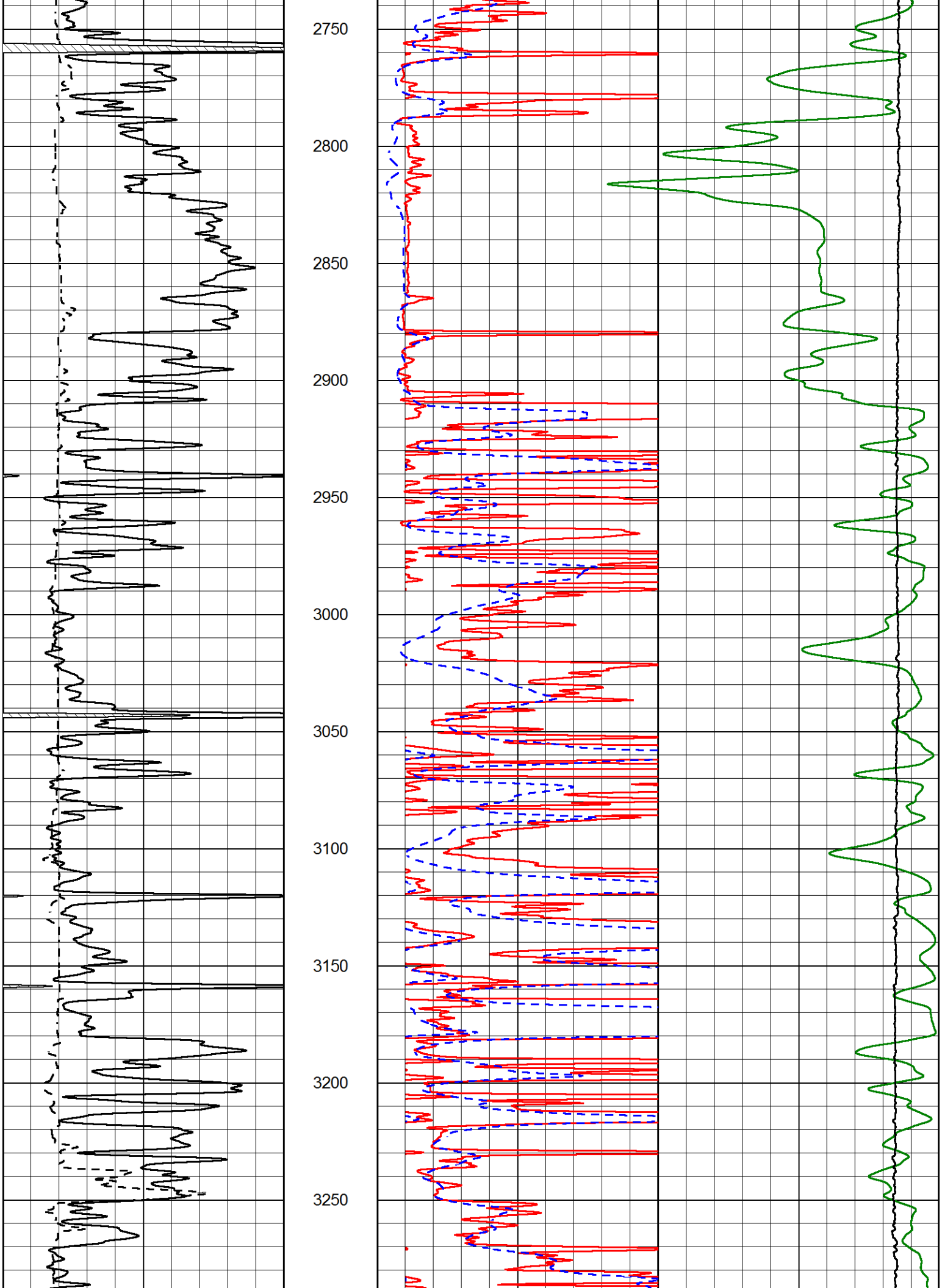


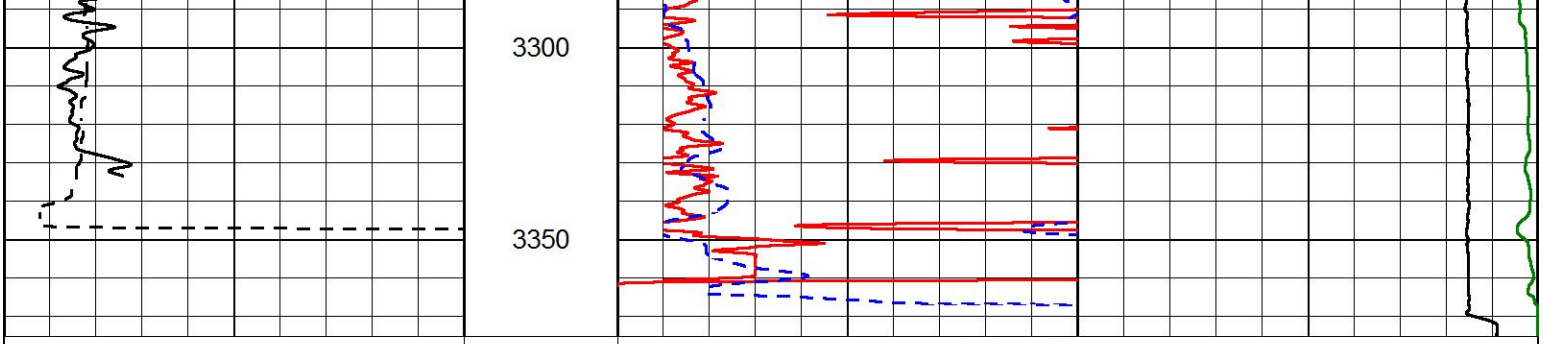

550
600
650
700
750
800
850
900
950
1000
1050


1100
1150
1200
1250
1300
1350
1400
1450
1500
1550
1600


1650
1700
1750
1800
1850
1900
1950
2000
2050
2100
2150


2200
2250
2300
2350
2400
2450
2500
2550
2600
2650
2700


2750
2800
2850
2900
2950
3000
3050
3100
3150
3200
3250



GAMMA RAY		
0	(GAPI)	150
6	DCAL (in)	16
1000	CONDUCTIVITY (mmho/m)	0
15000	Line Tension (lb)	0
0	RLL3 (Ohm-m)	50
0	DEEP RESISTIVITY (Ohm-m)	50
50	RLL3 (Ohm-m)	500
50	Deep Resistivity (Ohm-m)	500

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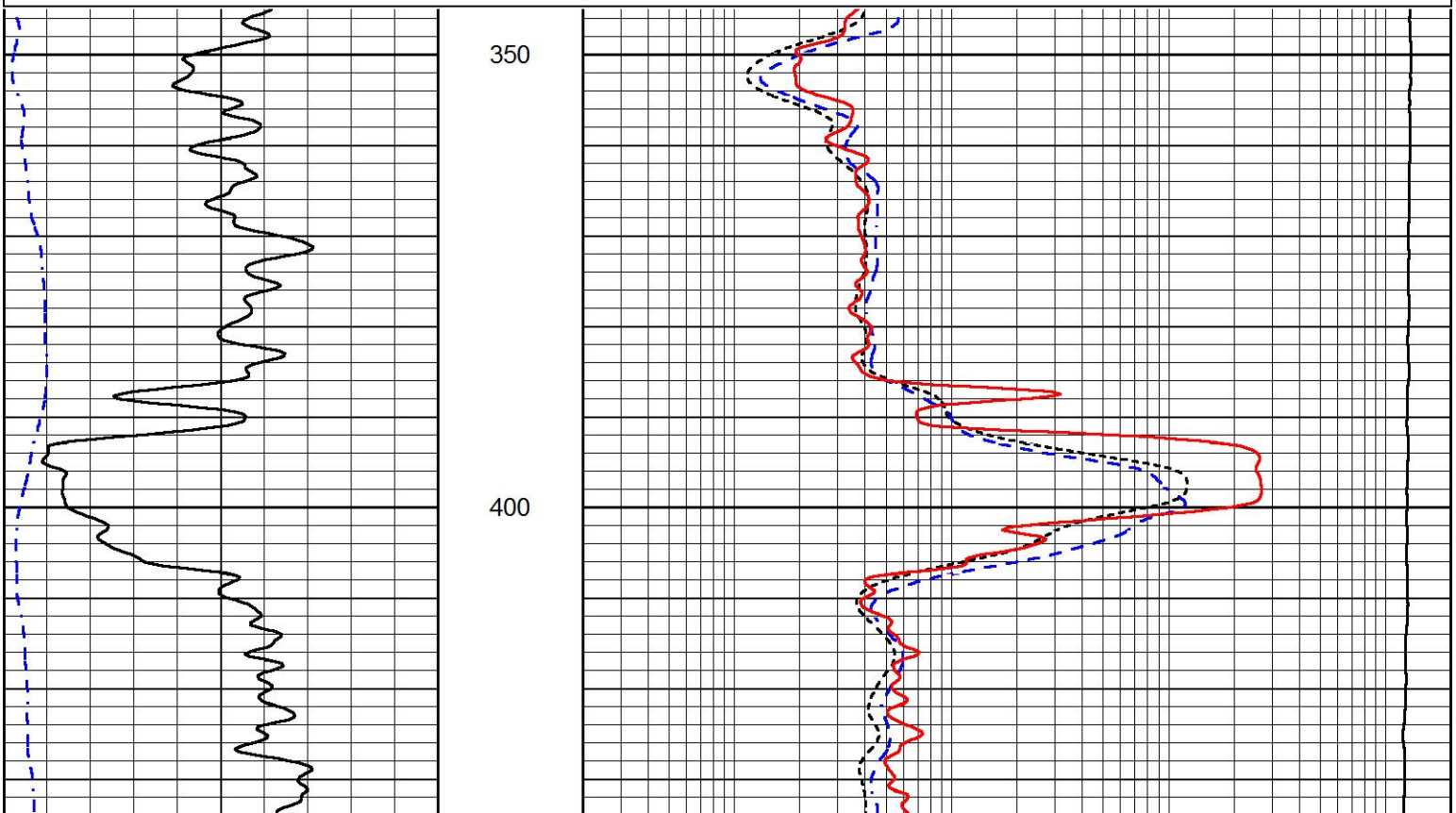
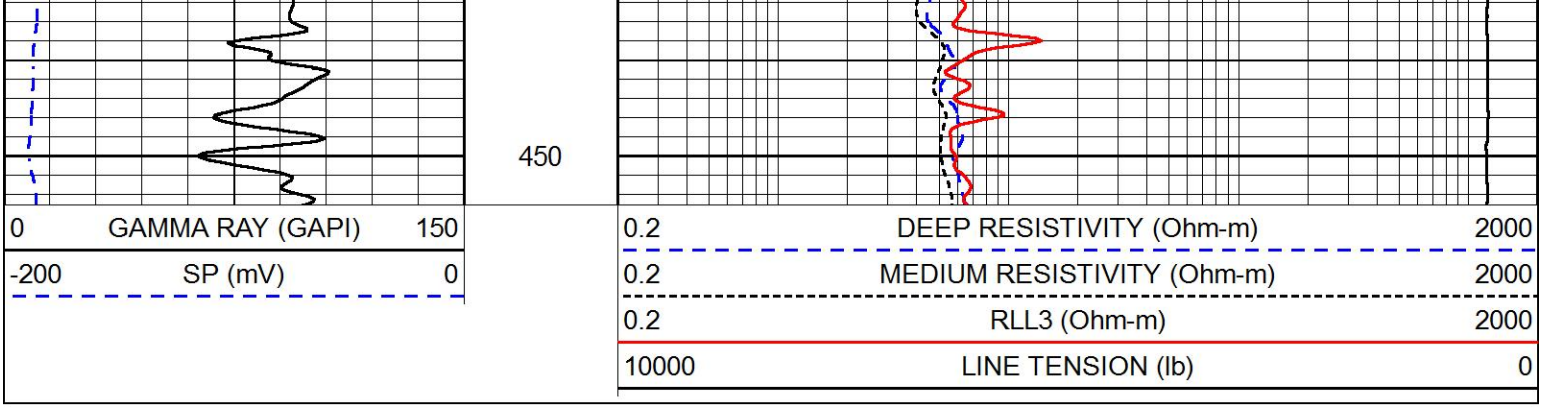
MAIN PASS

Database File	prospect_orth-altenbaumer_1_12.db
Dataset Pathname	stackmel/pass4.1
Presentation Format	_dil
Dataset Creation	Thu Jun 20 09:16:57 2019
Charted by	Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
-200	SP (mV)	0
0.2	DEEP RESISTIVITY (Ohm-m)	2000
0.2	MEDIUM RESISTIVITY (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
10000	LINE TENSION (lb)	0





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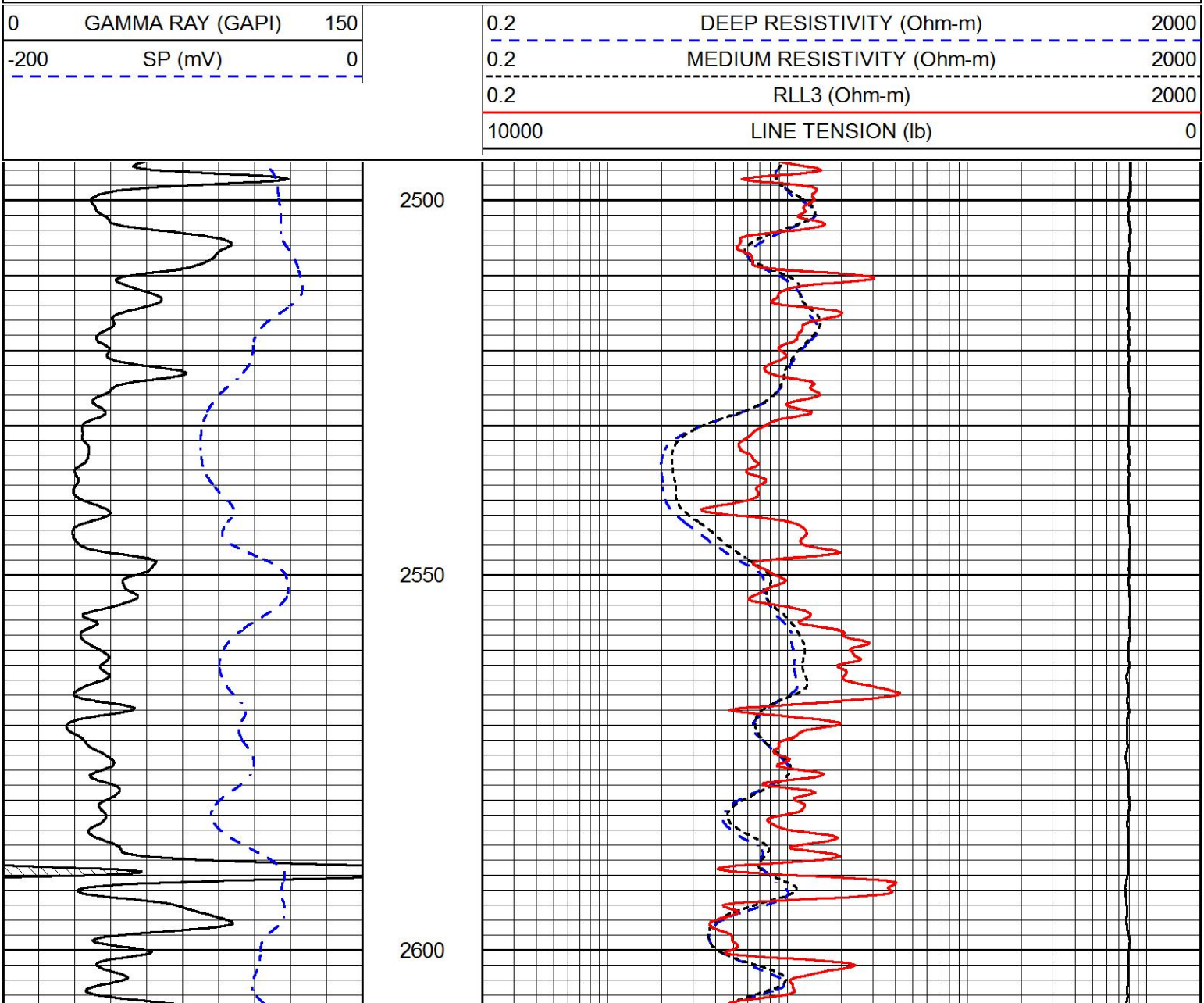
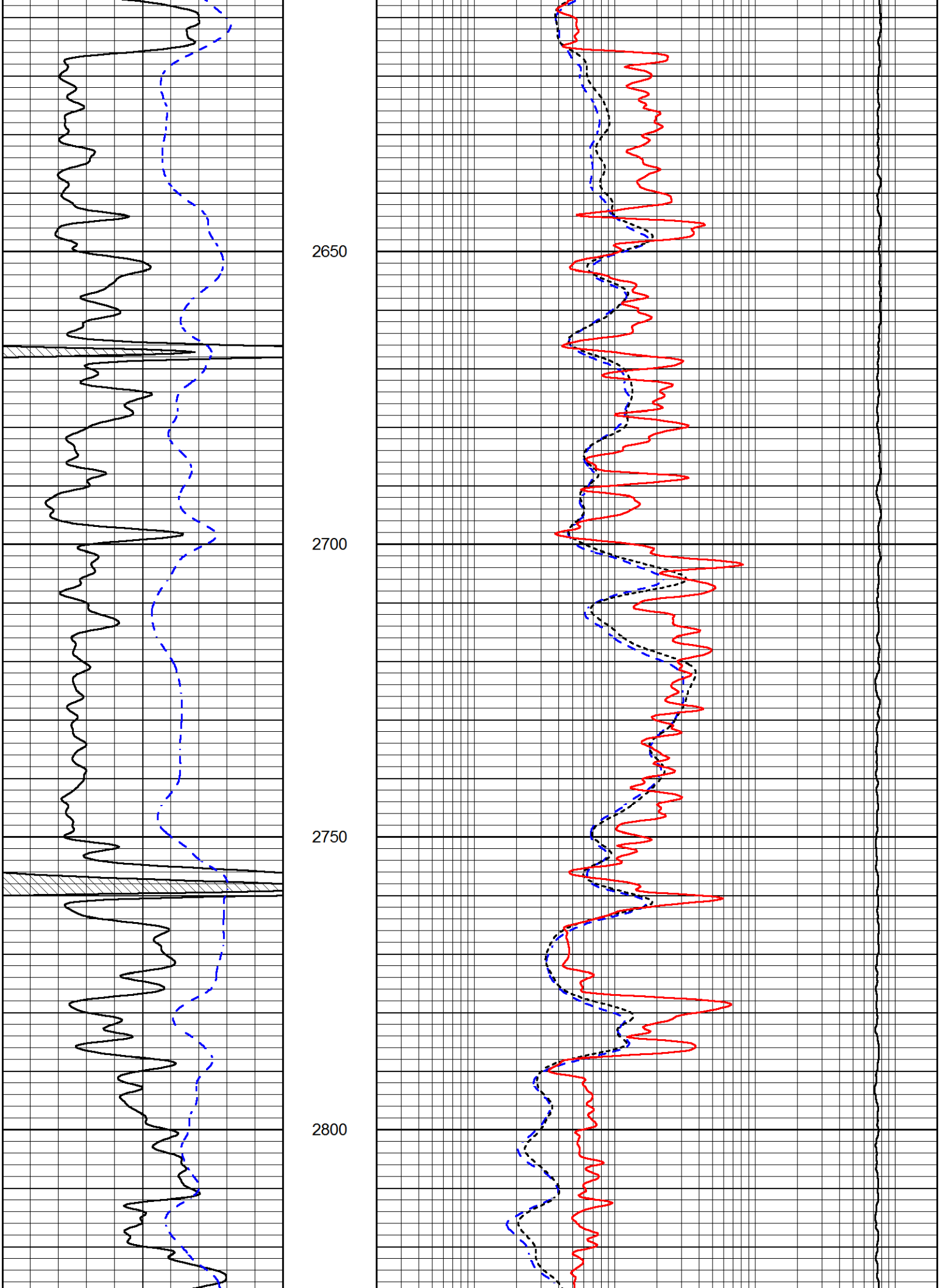
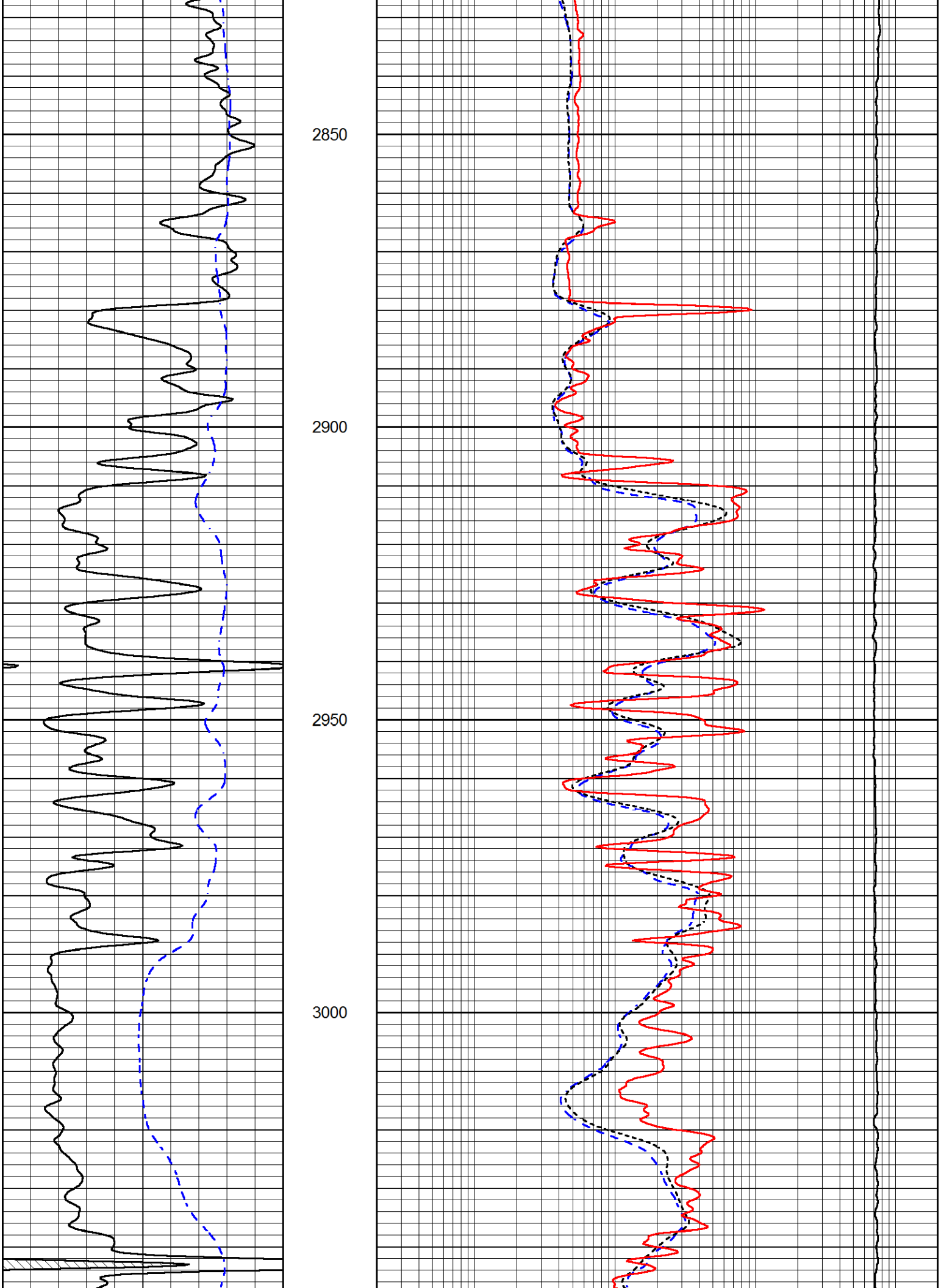
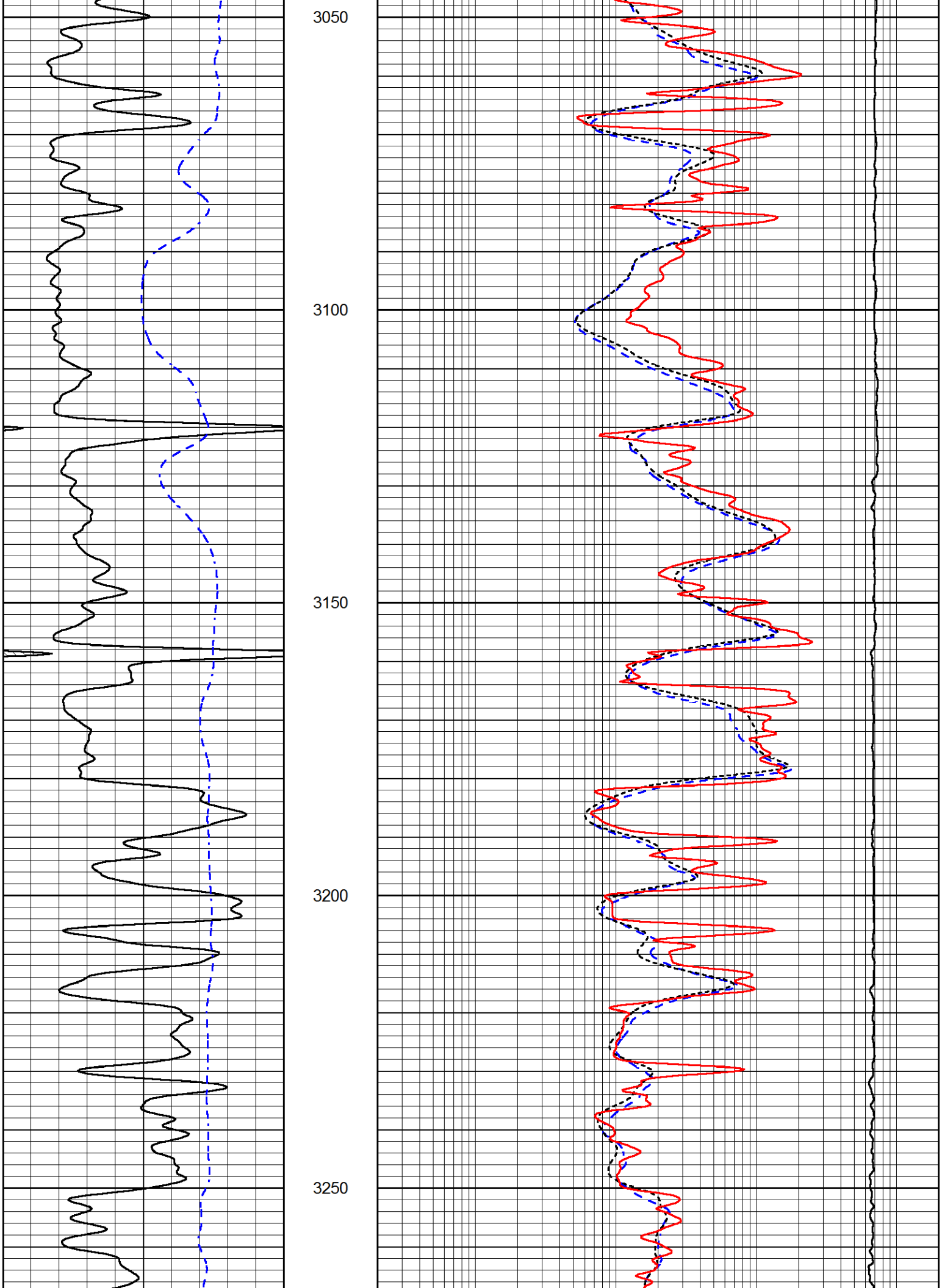
MAIN PASS

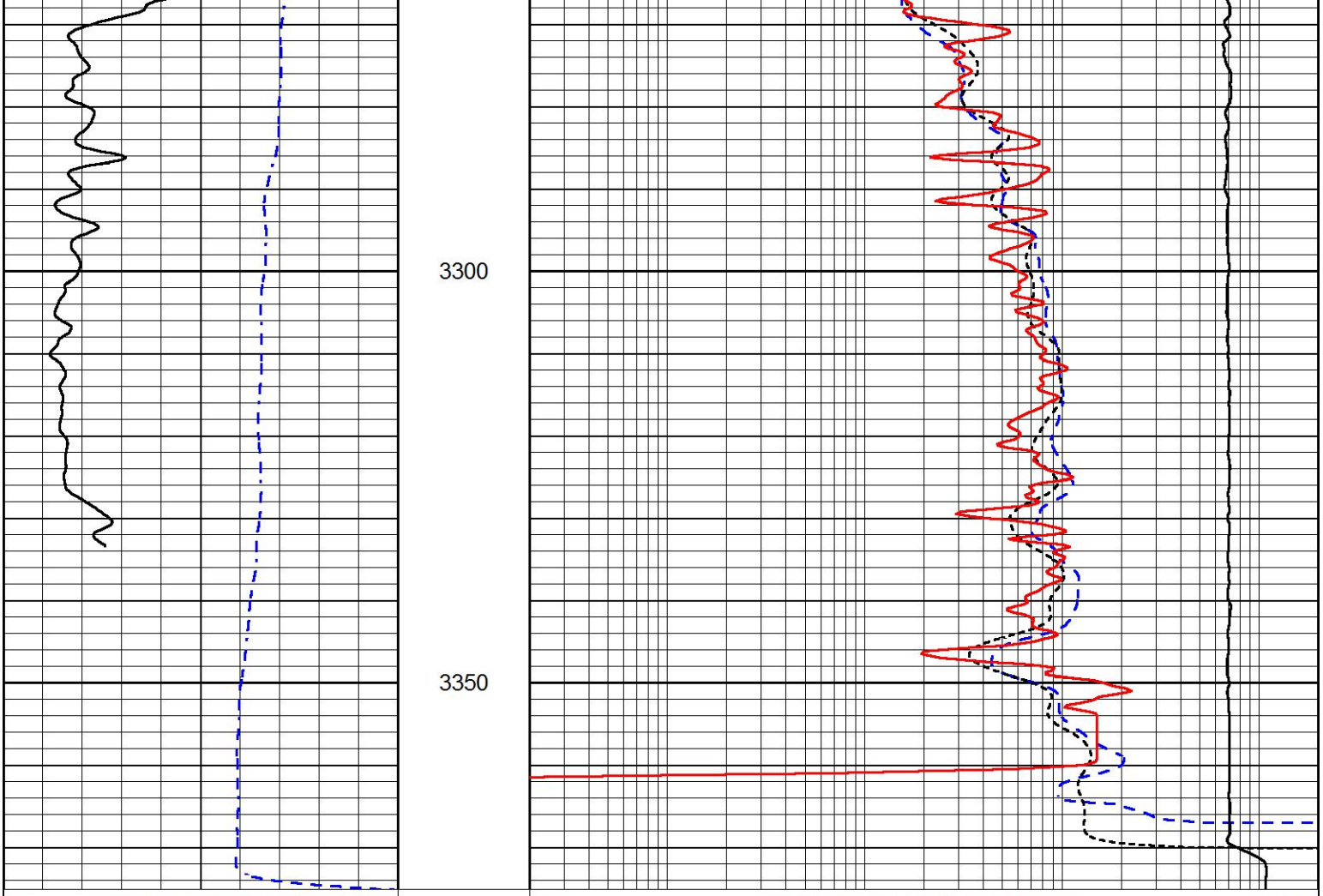
Database File	prospect_orth-altenbaumer_1_12.db
Dataset Pathname	stackmel/pass3.1
Presentation Format	_dil
Dataset Creation	Thu Jun 20 08:48:08 2019
Charted by	Depth in Feet scaled 1:240




2650
2700
2750
2800


2850
2900
2950
3000


3050
3100
3150
3200
3250



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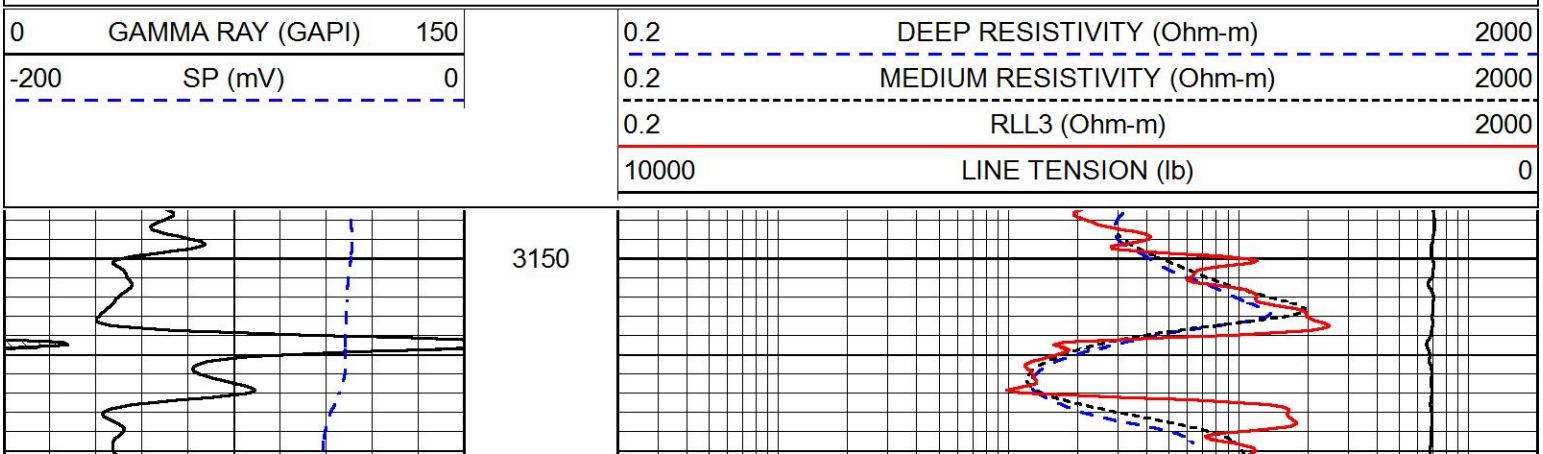
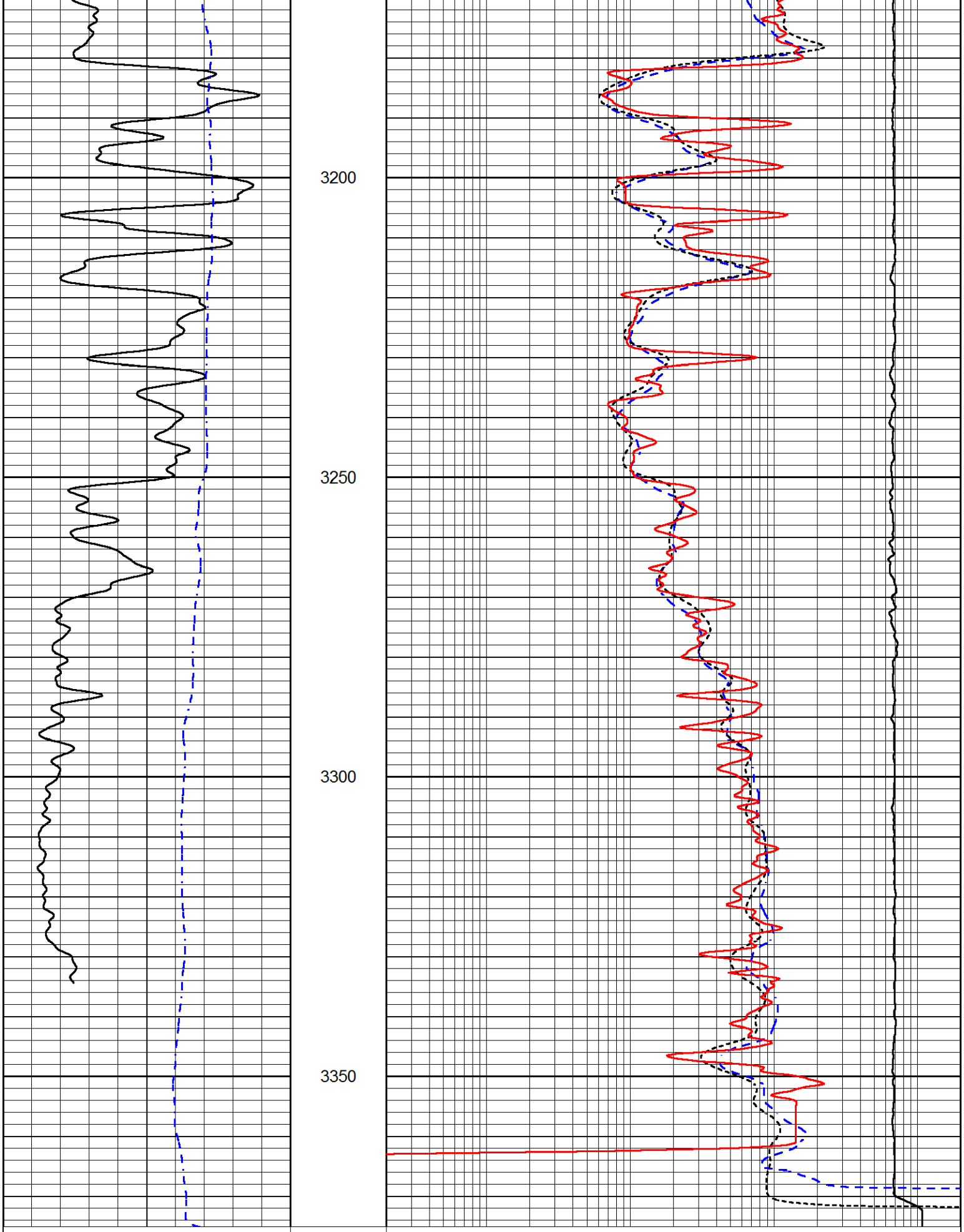
REPEAT SECTION

Database File	prospect_orth-altenbaumer_1_12.db
Dataset Pathname	stackmel/pass2.1
Presentation Format	_dil
Dataset Creation	Thu Jun 20 08:55:55 2019
Charted by	Depth in Feet scaled 1:240




3200
3250
3300
3350
0
GAMMA RAY (GAPI)
150
-200
SP (mV)
0
0.2
DEEP RESISTIVITY (Ohm-m)
2000
0.2
MEDIUM RESISTIVITY (Ohm-m)
2000
0.2
RLL3 (Ohm-m)
2000

10000	LINE TENSION (lb)	0

Calibration Report

Database File prospect_orth-altenbaumer_1_12.db
Dataset Pathname stackmel/pass3.1
Dataset Creation Thu Jun 20 08:48:08 2019

Dual Induction Calibration Report

Serial-Model: 1039-PSI HIGH TEMP
Calibration Performed: Fri Jun 14 09:48:37 2019

	Readings		References			Results	
Loop:	Air	Loop	Air	Loop		Gain	Offset
Deep	167.000	835.000	0.000	255.800	mmho/m	0.430	-48.000
Medium	0.000	1348.000	142.000	255.800	mmho/m	0.365	-56.000

Microlog Calibration Report

Serial-Model: PSI-01-PSIML
Performed: Sun Feb 24 09:53:40 2019

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	38000.0000	-1.7000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	75000.0000	-2.6000
Caliper	1.0001	1.1397	6.5000	18.5000	in	70.0000	-65.7000

Compensated Density Calibration Report

Serial-Model: 96-916-M&W
Source / Verifier: 16955B / 2ci
Master Calibration Performed: Wed Mar 27 11:00:53 2019

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	8943.64	10054.60	cps
Aluminum	2.655	g/cc	1595.61	6242.82	cps

Spine Angle = 74.54 Density/Spine Ratio = 0.503

	Size		Reading
Small Ring	6.00	in	1.75
Large Ring	16.00	in	1.46

Compensated Neutron Calibration Report

Serial Number: 207-MW
Tool Model: M&W
Calibration Performed: WED FEB 13 10:30:30 2019

Detector	Readings	Target	Normalization

Short Space	6240.00	cps	1000.00	cps	1.6025
Long Space	460.00	cps	1000.00	cps	1.9500

Gamma Ray Calibration Report

Serial Number:	233-M&W	
Tool Model:	M&W	
Calibration Performed:	Fri Feb 07 01:42:40 2014	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.5500	GAPI/cps

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Company	PROSPECT OIL & GAS CORP.
Well	ORTH-ALTENBAUMER #1-12
Field	CHASE SILICA
County	RICE
State	KANSAS