KOLAR Document ID: 1410490

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 # 6246
Name: Bennett & Schulte Oil Co., A General Partnership
Address 1: PO BOX 329
Address 2:
City: RUSSELL State: KS Zip: 67665 + 0329
Contact Person: Joe Roth
Phone: (785) 483-2721
CONTRACTOR: License # 33905
Name: Royal Drilling Inc
Wellsite Geologist: Robert Hopkins
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 #:

04/19/2018	04/26/2018	6/12/2018
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No.: 15-009-26213-00-00
Spot Description:
SW - NW - NE - SE Sec. 22 Twp. 18 S. R. 15 ☐ East ☑ West
2146 Feet from ☐ North / ☑ South Line of Section
1294 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: Barton
Lease Name: G. MAULER Well #: 22-1
Field Name:
Producing Formation: Reagan Sand
Elevation: Ground: 1924 Kelly Bushing: 1930
Total Vertical Depth: 3631 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 935 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: 5600 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: 06/19/2018
☐ **Confidential Release Date:** 06/18/2020
☑ **Wireline Log Received** ☑ **Drill Stem Tests Received**
☑ **Geologist Report / Mud Logs Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** Karen Ritter **Date:** 06/27/2018

Operator Name: Bennett & Schulte Oil Co., A General Partnership Lease Name: G. MAULER Well #: 22-1

Sec. 22 Twp. 18 S. R. 15 ☐ East ☑ West County: Barton

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:

Microresistivity
Cement Bond w/Gamma Ray

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

Name	Top	Datum
Anhydrite	918	+1012
Heebner	3142	-1212
LKC A	3224	-1294
LKC H	3322	-1392
Reagan	3544	-1614

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	23	935	80/20	380	3% cc 2%gel
Production	7.875	5.5	14	3629	com Q pro-c	180	10% salt 5% Gilsmite

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:
☑ Perforate
☐ Protect Casing
☐ Plug Back TD
☐ Plug Off Zone

Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
3543-3549	Comm	100	2% cc
-			

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: 06/14/2018

Producing Method: ☐ Flowing ☑ Pumping ☐ Gas Lift ☐ Other *(Explain)*

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
	10		235		

DISPOSITION OF GAS:
☐ Vented ☐ Sold ☐ Used on Lease
(If vented, Submit ACO-18.)

METHOD OF COMPLETION:
☐ Open Hole ☑ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*

PRODUCTION INTERVAL:

Top	Bottom
3552	3558
3560	3564

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)*
4	3543	3549			Squeeze 100 sx 2% comm
4	3552	3558			
4	3560	3564			

TUBING RECORD: Size: 2.875 Set At: 3600 Packer At:

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

Form	ACO1 - Well Completion
Operator	Bennett & Schulte Oil Co., A General Partnership
Well Name	G. MAULER 22-1
Doc ID	1410490

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	23	935	80/20	380	3% cc 2%gel
Production	7.875	5.5	14	3629	com Q pro-c	180	10% salt 5% Gilsmite

DRILL STEM TEST REPORT

Bennett & Schulte Oil

PO Box 329
Russell KS 67665

ATTN: Robert Hopkins

22-18-15 Barton,KS

G Mauler #22-1

Job Ticket: 63483 **DST#: 3**

Test Start: 2018.04.25 @ 16:13:00

GENERAL INFORMATION:

Formation: **Reagan Sand**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 17:25:17
Time Test Ended: 21:31:02

Test Type: Conventional Bottom Hole (Initial)
Tester: Ken Swinney
Unit No: 72 Great Bend/ 30

Interval: 3542.00 ft (KB) To 3564.00 ft (KB) (TVD)
Total Depth: 3564.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

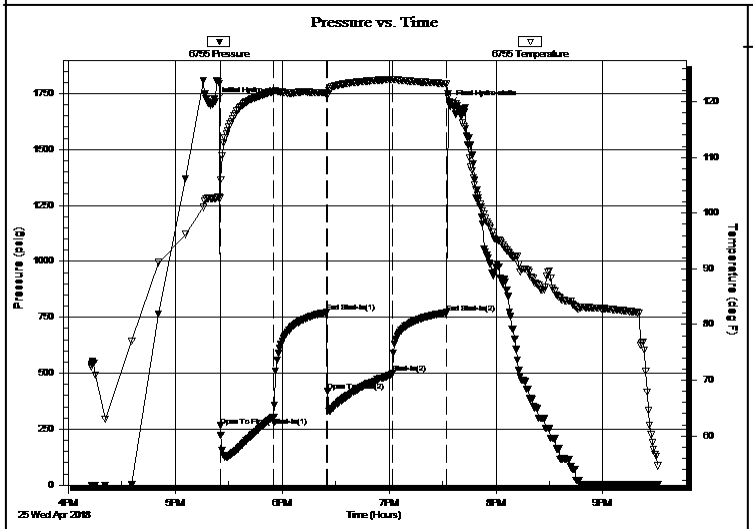
Reference Elevations: 1929.00 ft (KB)
1924.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 6755

Press@RunDepth: 498.34 psig @ ft (KB)
Start Date: 2018.04.25 End Date: 2018.04.25
Start Time: 16:13:01 End Time: 21:31:02

Capacity: psig
Last Calib.: 2018.04.25
Time On Btm: 2018.04.25 @ 17:22:32
Time Off Btm: 2018.04.25 @ 19:33:47

TEST COMMENT: I.F. 30 Minutes/ Blow built to BOB in 20 seconds/ Gas to surface in 9 min
I.S.I. 30 Minutes/ Strong blow back
F.F. 35 Minutes/ Blow built to BOB in 30 seconds
F.S.I. 30 Minutes/ Strong blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1712.47	102.65	Initial Hydro-static
3	265.35	102.77	Open To Flow (1)
33	303.29	121.88	Shut-In(1)
63	772.03	121.48	End Shut-In(1)
63	421.36	121.24	Open To Flow (2)
100	498.34	124.01	Shut-In(2)
130	770.81	123.19	End Shut-In(2)
132	1700.07	120.09	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
558.00	Muddy Water	7.83
0.00	Mud 5% Water 95%	0.00
248.00	Mud & Gas cut Oily Water	3.48
0.00	Mud 5% Gas 5% Oil 10% Water 80%	0.00
310.00	Mud cut Watery Gassy Oil	4.35
0.00	Mud 10% Water 25% Gas 25% Oil 40%	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.13	7.00	8.01
Last Gas Rate	0.13	8.00	8.38
Max. Gas Rate	0.13	10.00	9.13

DRILL STEM TEST REPORT

Bennett & Schulte Oil

PO Box 329
Russell KS 67665

ATTN: Robert Hopkins

22-18-15 Barton,KS

G Mauler #22-1

Job Ticket: 63483 **DST#: 3**

Test Start: 2018.04.25 @ 16:13:00

GENERAL INFORMATION:

Formation: **Reagan Sand**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 17:25:17
Time Test Ended: 21:31:02

Test Type: Conventional Bottom Hole (Initial)
Tester: Ken Swinney
Unit No: 72 Great Bend/ 30

Interval: 3542.00 ft (KB) To 3564.00 ft (KB) (TVD)
Total Depth: 3564.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

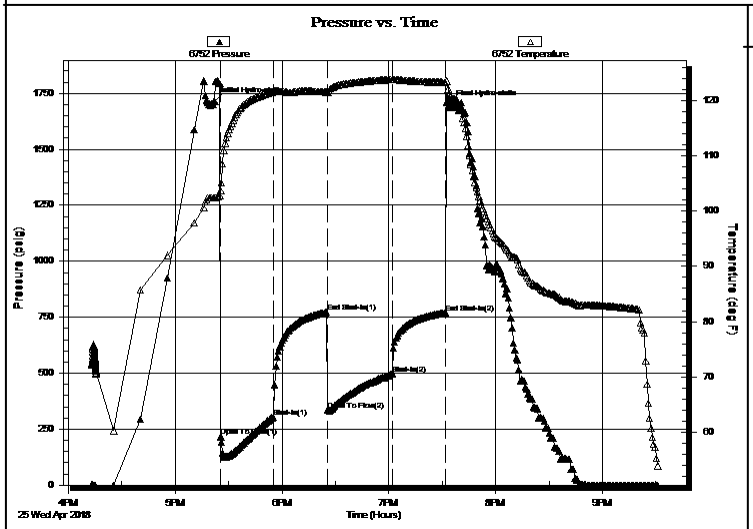
Reference Elevations: 1929.00 ft (KB)
1924.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 6752

Press@RunDepth: 771.06 psig @ ft (KB)
Start Date: 2018.04.25 End Date: 2018.04.25
Start Time: 16:13:01 End Time: 21:31:02

Capacity: psig
Last Calib.: 2018.04.25
Time On Btm: 2018.04.25 @ 17:22:17
Time Off Btm: 2018.04.25 @ 19:33:47

TEST COMMENT: I.F. 30 Minutes/ Blow built to BOB in 20 seconds/ Gas to surface in 9 min
I.S.I. 30 Minutes/ Strong blow back
F.F. 35 Minutes/ Blow built to BOB in 30 seconds
F.S.I. 30 Minutes/ Strong blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1712.60	102.43	Initial Hydro-static
4	216.68	103.63	Open To Flow (1)
33	303.29	121.66	Shut-In(1)
63	772.09	121.58	End Shut-In(1)
64	336.40	121.46	Open To Flow (2)
100	497.70	123.83	Shut-In(2)
130	771.06	123.25	End Shut-In(2)
132	1698.49	121.30	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
558.00	Muddy Water	7.83
0.00	Mud 5% Water 95%	0.00
248.00	Mud & Gas cut Oily Water	3.48
0.00	Mud 5% Gas 5% Oil 10% Water 80%	0.00
310.00	Mud cut Watery Gassy Oil	4.35
0.00	Mud 10% Water 25% Gas 25% Oil 40%	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.13	7.00	8.01
Last Gas Rate	0.13	8.00	8.38
Max. Gas Rate	0.13	10.00	9.13

DRILL STEM TEST REPORT

FLUID SUMMARY

Bennett & Schulte Oil

PO Box 329
Russell KS 67665

ATTN: Robert Hopkins

22-18-15 Barton,KS

G Mauler #22-1

Job Ticket: 63483 **DST#: 3**

Test Start: 2018.04.25 @ 16:13:00

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:	14000 ppm
Viscosity:	50.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	8.19 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	5000.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
558.00	Muddy Water	7.827
0.00	Mud 5% Water 95%	0.000
248.00	Mud & Gas cut Oily Water	3.479
0.00	Mud 5% Gas 5% Oil 10% Water 80%	0.000
310.00	Mud cut Watery Gassy Oil	4.348
0.00	Mud 10% Water 25% Gas 25% Oil 40%	0.000

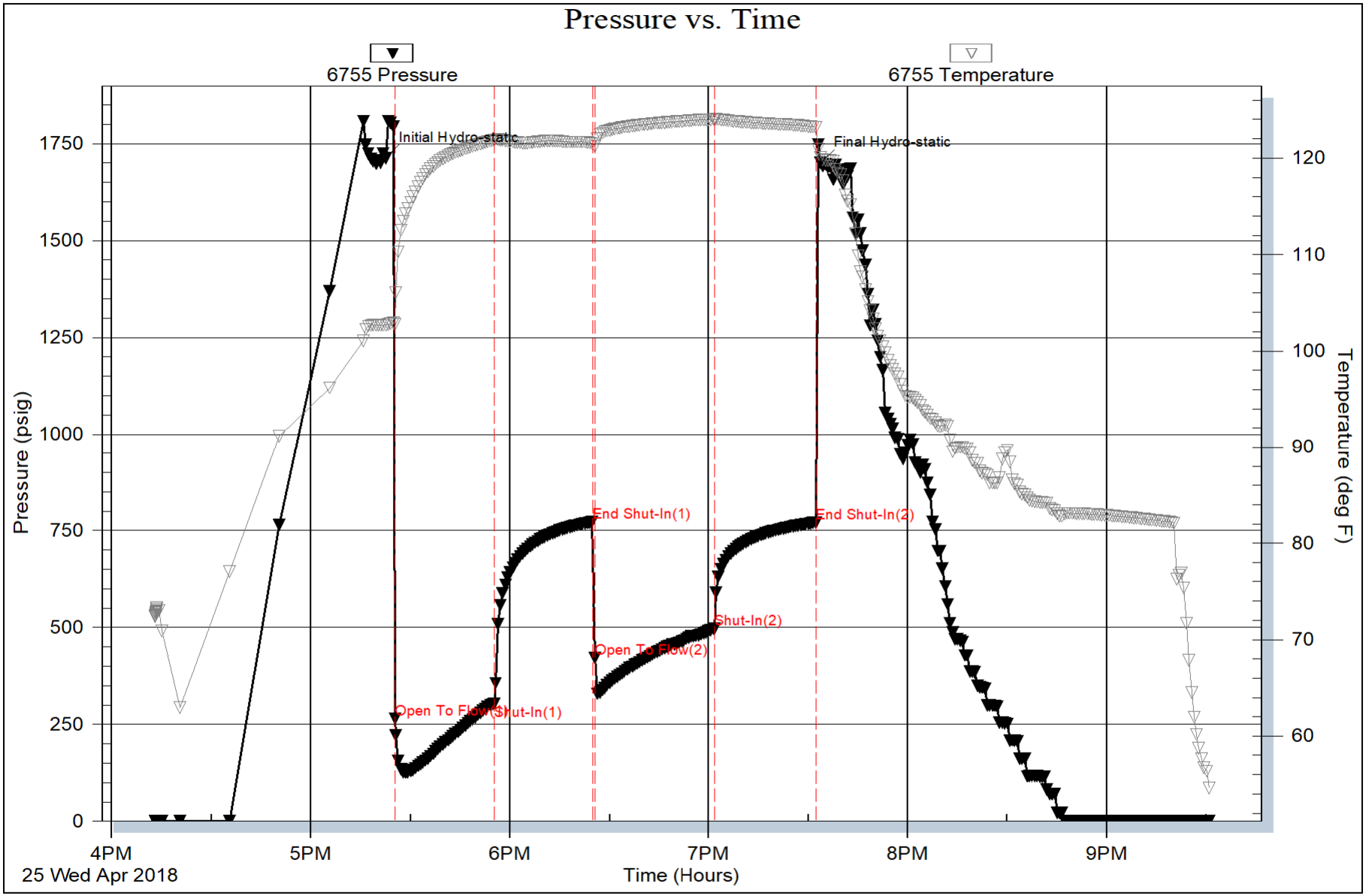
Total Length: 1116.00 ft Total Volume: 15.654 bbl

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

Laboratory Name: Laboratory Location:

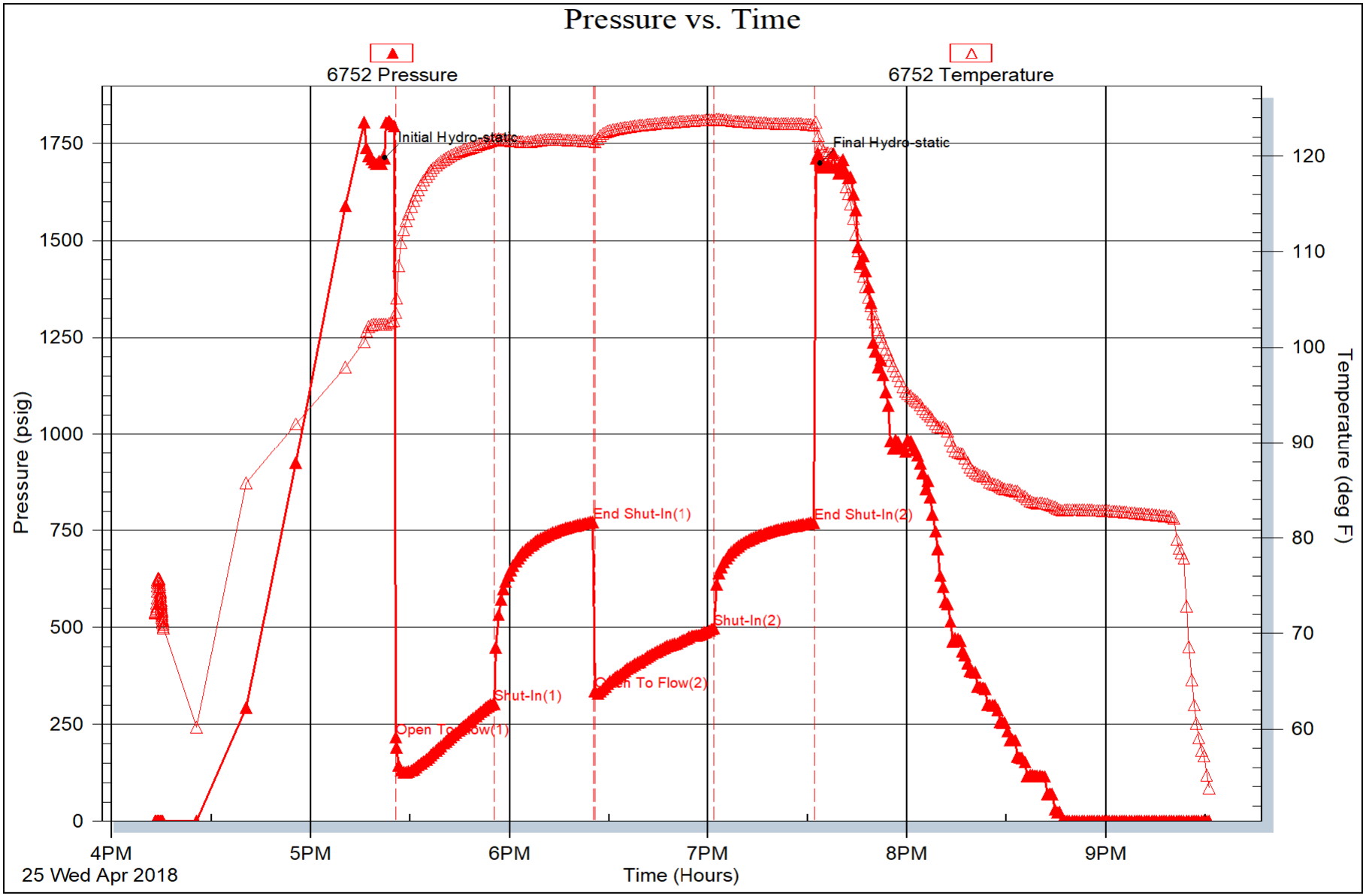
Recovery Comments: Recovery Resistivity .549 ohms @ 54 deg

Serial #: 6755 | Bennett & Schulte Oil | G Mauler #22-1 | DST Test Number: 3



Trilobite Testing, Inc | Ref. No: 63483 | Printed: 2018.04.25 @ 22:48:21

Serial #: 6752 | Bennett & Schulte Oil | G Mauler #22-1 | DST Test Number: 3



Trilobite Testing, Inc | Ref. No: 63483 | Printed: 2018.04.25 @ 22:48:21

PIONEER
Pioneer Energy Services

CEMENT BOND LOG
WITH GAMMA RAY

Company BENNETT & SCHULTE OIL CO.
Well G MAULER #22-1
Field N/A
County BARTON State KANSAS
Location: API # : 15-009-26213-00-00
2146' FSL & 1294' FEL
SEC 22 TWP 18S RGE 15W
Other Services
CBL
Elevation
K.B. 1934'
D.F. N/A
G.L. 1924'
Permanent Datum GROUND LEVEL Elevation 1924'
Log Measured From KELLY BUSHING Above GL
Drilling Measured From KELLY BUSHING

Comp. BENNETT & SCHULTE OIL CO.
Well G MAULER #22-1
Field N/A
Co. BARTON
State KANSAS

Date of Service	5/7/2018				
Run Number	ONE				
Depth Driller or PBTD	3631'				
Depth Logger	3608'				
Bottom Log Interval	3608'				
Top Log Interval	2200'				
Open Hole Size	7.875"				
Type Fluid	WATER				
Fluid Level	FULL				
Fluid Density	N/A				
Max. Recorded Temperature	112 DEG.F				
Max. Wellhead Pressure	00 PSI				
Wellhead Connection	N/A				
Estimated Cement Top	2390'				
Unit Number	T-106				
Wireline Size	.288"				
Location	HAYS				
Recorded By	K. PFANNENSTIEL				
Witnessed By	JOE ROTH				

	Size	Wt/Ft	Top	Bottom
Tubing Record				
Surface Casing	8.625"	24#	00'	935'
Production Casing	5.5"	15.5#	00'	TD
Liner Record				

<<< Fold Here >>>

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.
OLMITZ KS,
3 SOUTH OF HWY 4,
1 WEST, 1 1/2 SOUTH,
WEST INTO

THANK YOU FOR USING PIONEER ENERGY SERVICES!

Your Pioneer Energy Services Crew	Tool Data - Services	Serial Number
Engineer: K.PFANNENSTIEL		
Operator: M. HISS		
Operator:		
Operator:		

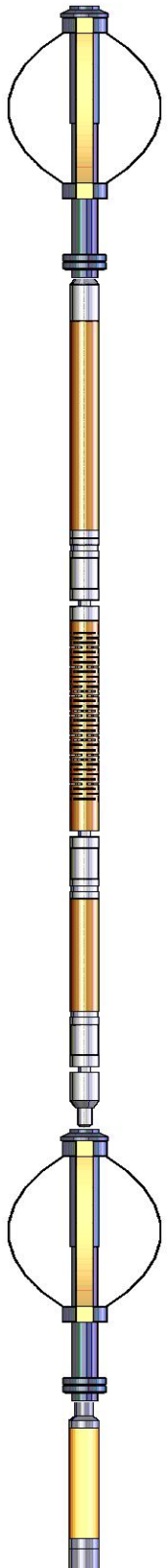
Log Variables

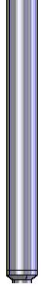
DatabaseC:\ProgramData\Warrior\Data\bennett&schulteoil_gmauler#22-1_cbl.db
Dataset field/G_MAULER_#22-1/run1/pass6/_vars_

Top - Bottom

PPT usec	CASEWGHT lb/ft	MAXAMPL mV	MINAMPL mV	MINATTN db/ft	SRFTEMP degF	CASETHCK in	CASEOD in
0	15.5	0	1	0.8	70	0	5.5

PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
0	3600	112	7.875

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb
			CENT-Probe Probe Centralizer	2.83	2.75	20.00
WVFS8	11.62		RBT-Probe (080554 RBL-D) Probe Radii Bond Tool with Digital Telemetry	8.75	2.75	107.00
WVFS7	11.62					
WVFS6	11.62					
WVFS5	11.62					
WVFS4	11.62					
WVFS3	11.62					
WVFS2	11.62					
WVFS1	11.62					
WVFCAL	11.62					
WVF3FT	11.62					
WVF5FT	10.62					
			CENT-Probe Probe Centralizer	2.83	2.75	20.00
CCL	3.63					

GR	2.30		GR_CCL-2 3/4" Probe (070205)	4.54	2.75	50.00

Dataset: bennett&schulteoil_gmauler#22-1_cbl.db: field/G_MAULER_#22-1/run1/pass6
Total length: 18.95 ft
Total weight: 197.00 lb
O.D.: 2.75 in

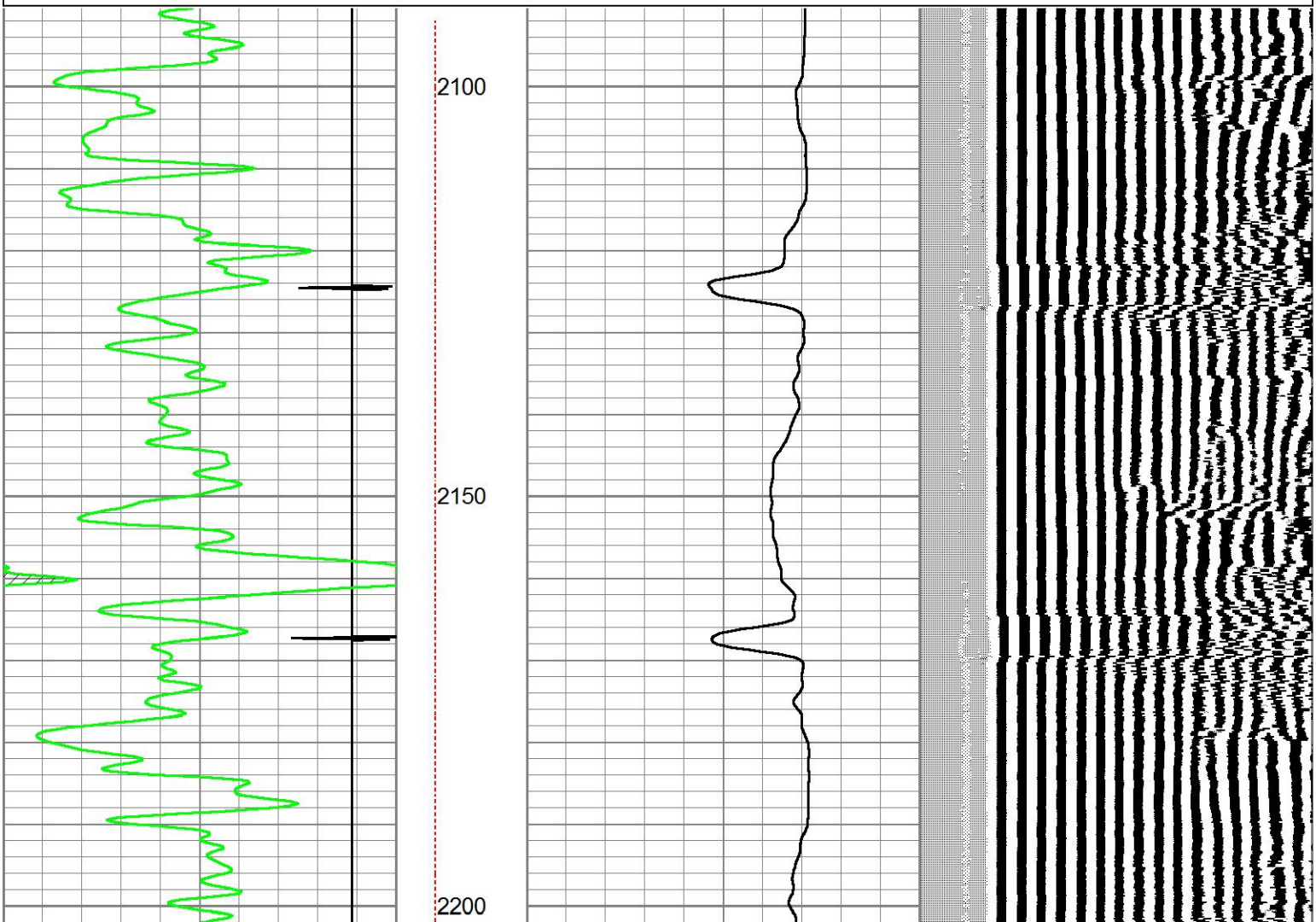
PIONEER
Pioneer Energy Services

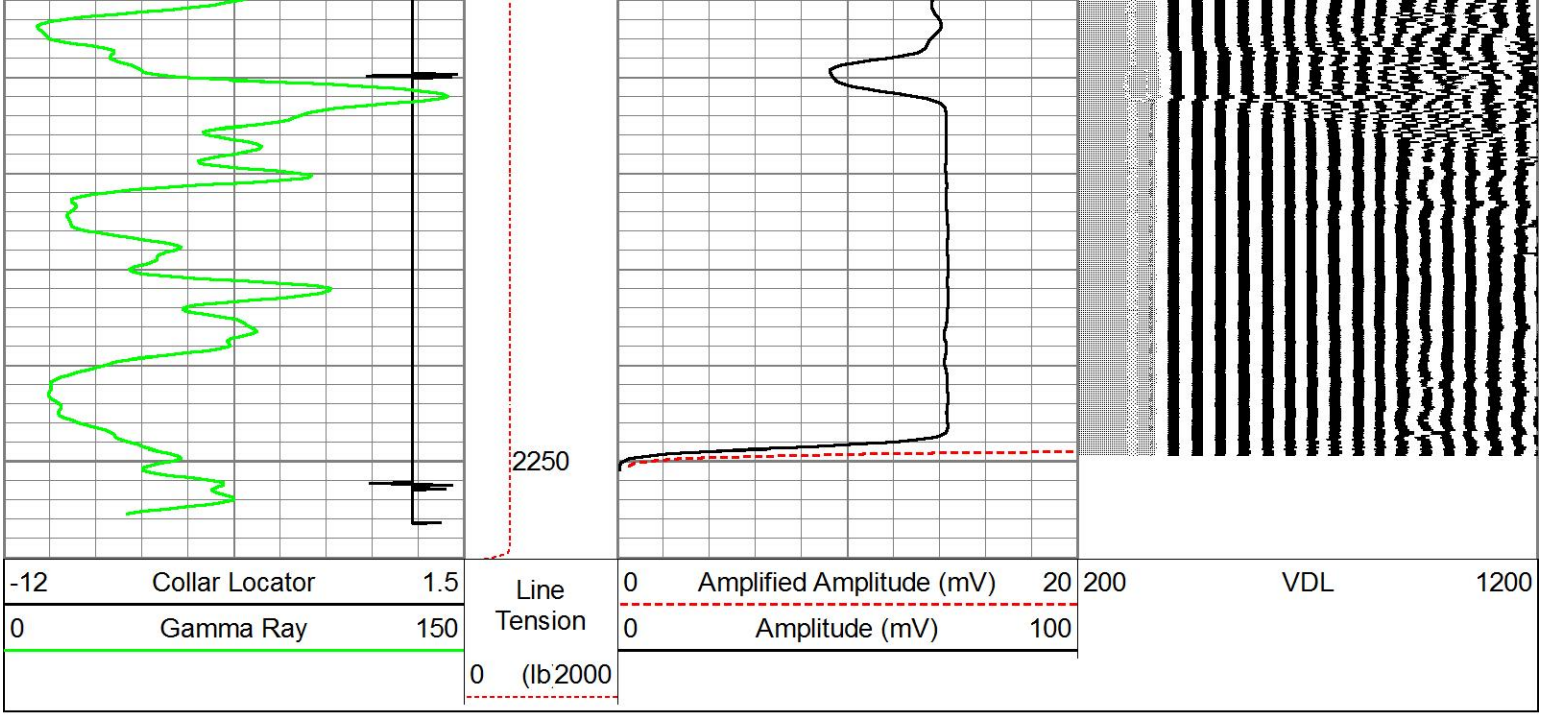
FREE PIPE SECTION

ZERO PSI APPLIED AT SURFACE

Database File	bennett&schulteoil_gmauler#22-1_cbl.db
Dataset Pathname	G_MAULER_#22-1/run1/pass2
Presentation Format	pinr_cbl-gr-ccl_1
Dataset Creation	Mon May 07 13:44:20 2018
Charted by	Depth in Feet scaled 1:240

-12	Collar Locator	1.5	Line Tension	0	Amplified Amplitude (mV)	20	200	VDL 1200
0	Gamma Ray	150		0	Amplitude (mV)	100		
			0 (lb 2000					



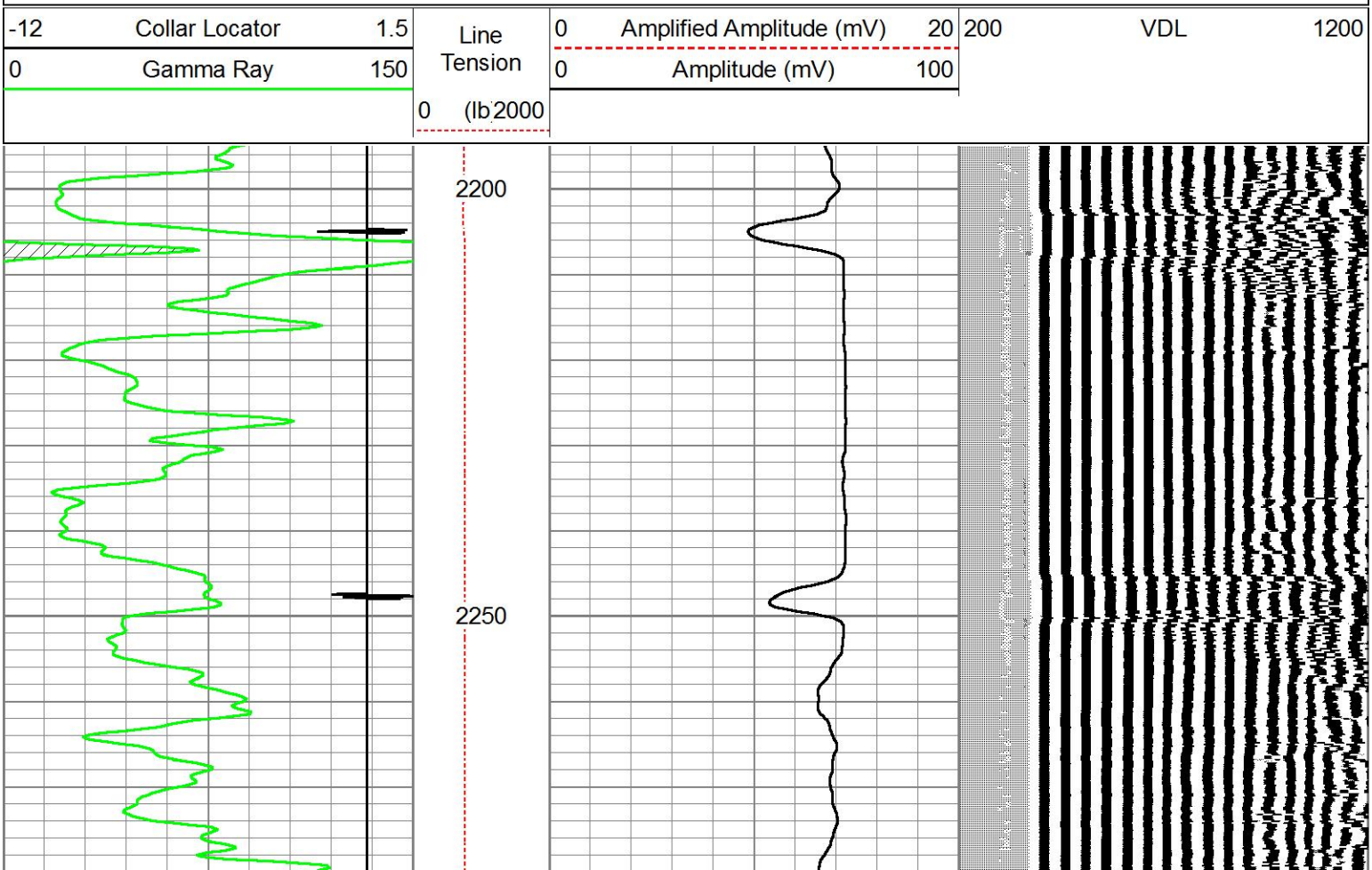


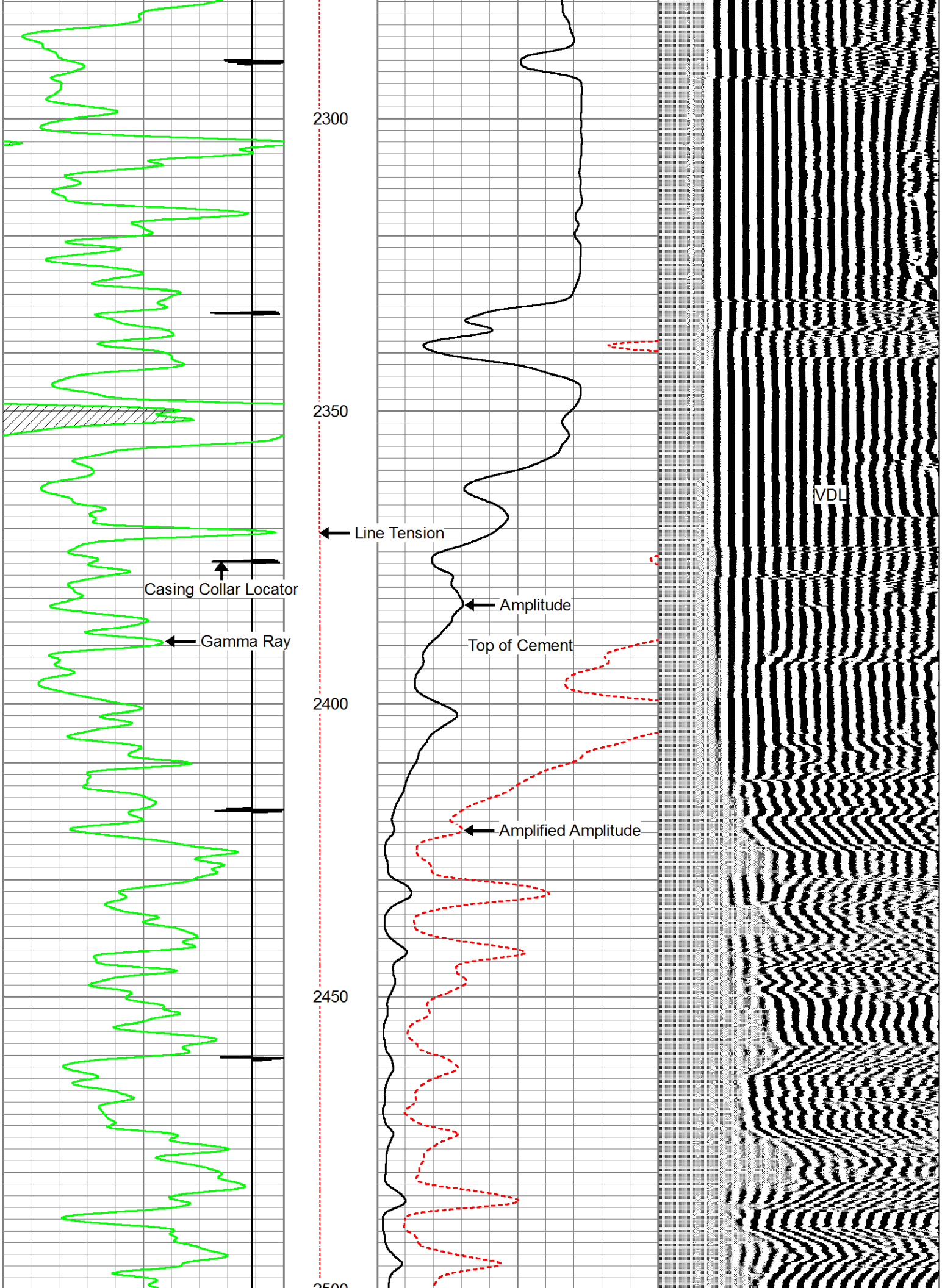
PIONEER
Pioneer Energy Services

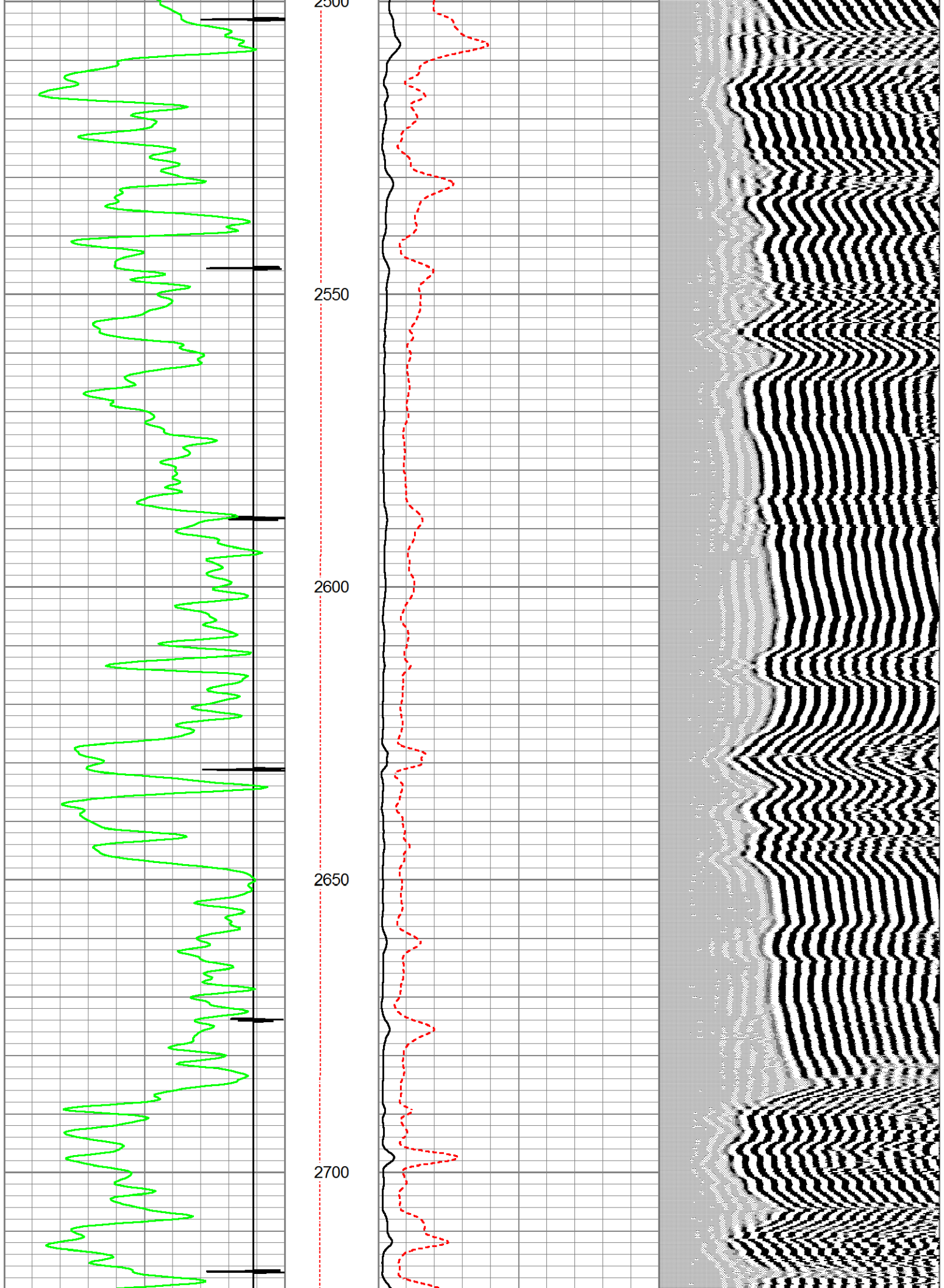
MAIN LOG

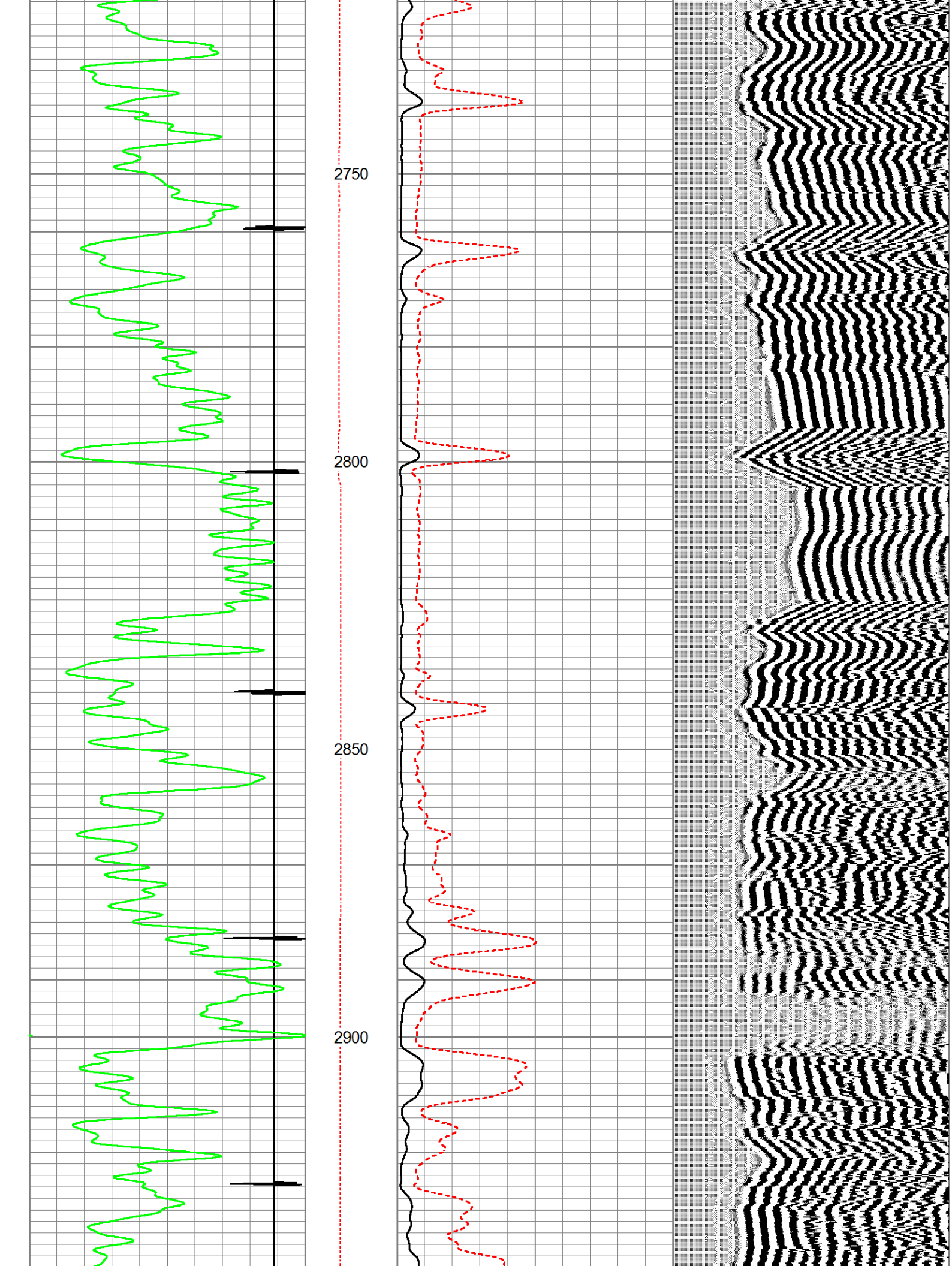
ZERO PSI APPLIED AT SURFACE

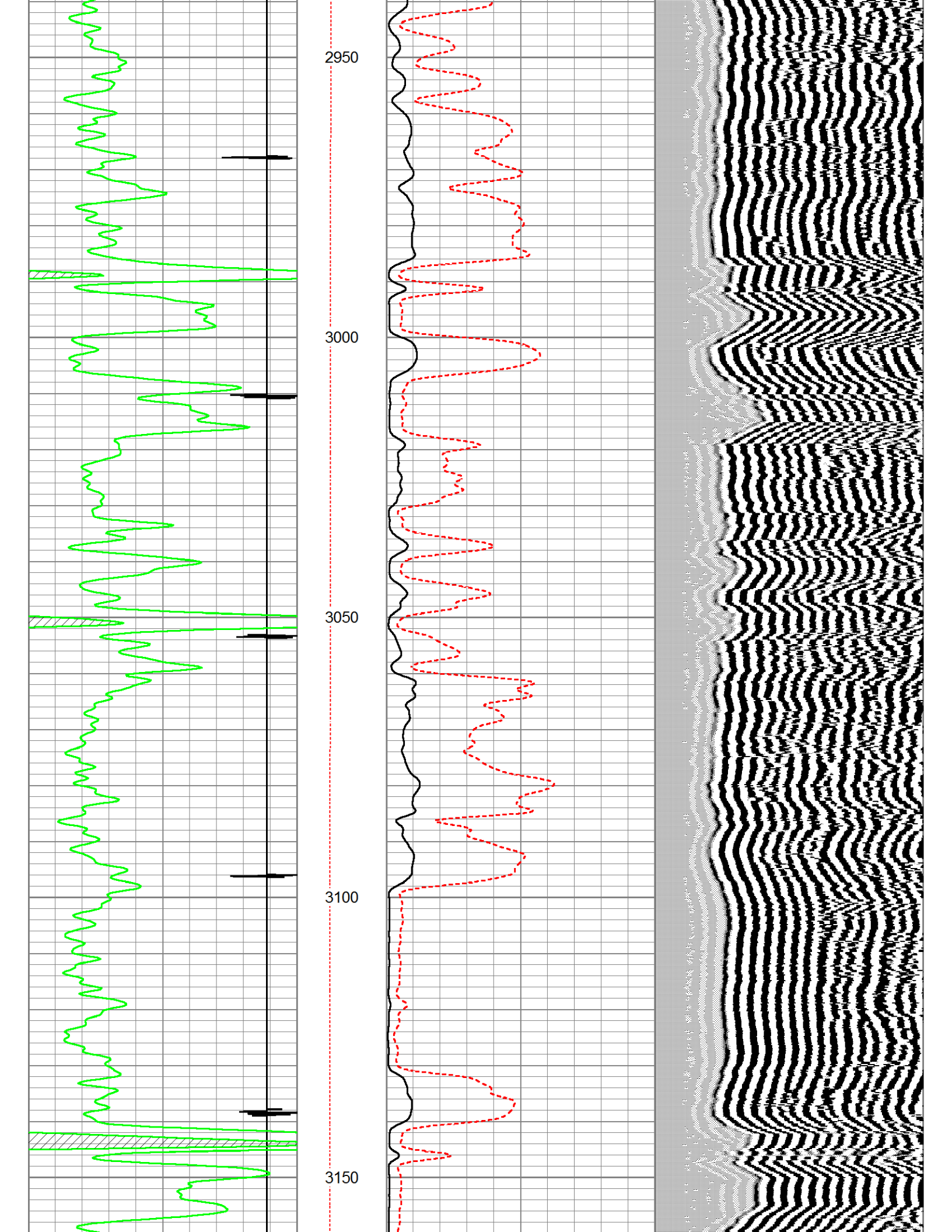
Database File	bennett&schulteoil_gmauler#22-1_cbl.db
Dataset Pathname	G_MAULER_#22-1/run1/pass6
Presentation Format	pinr_cbl-gr-ccl_1
Dataset Creation	Mon May 07 14:05:41 2018
Charted by	Depth in Feet scaled 1:240

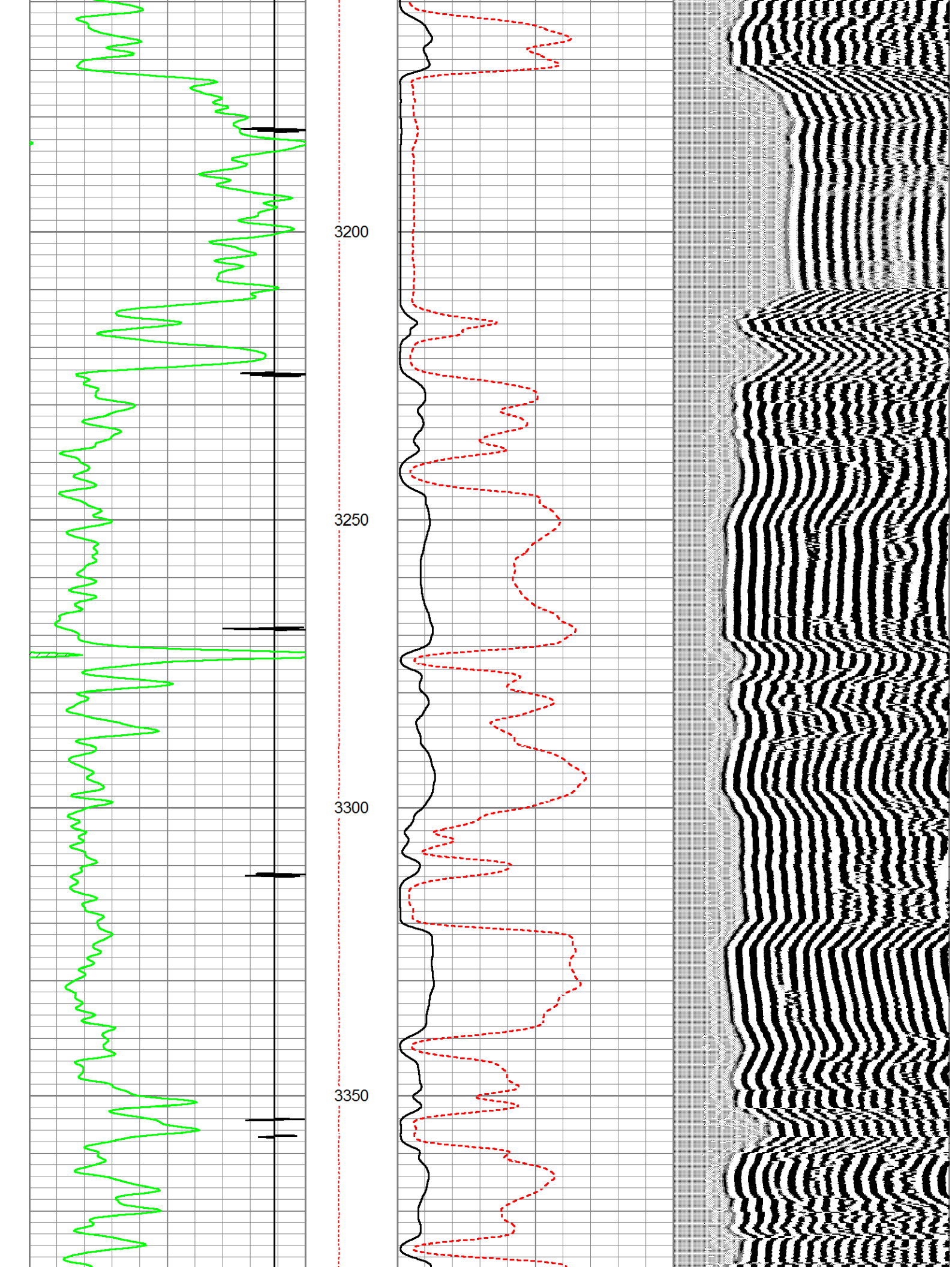


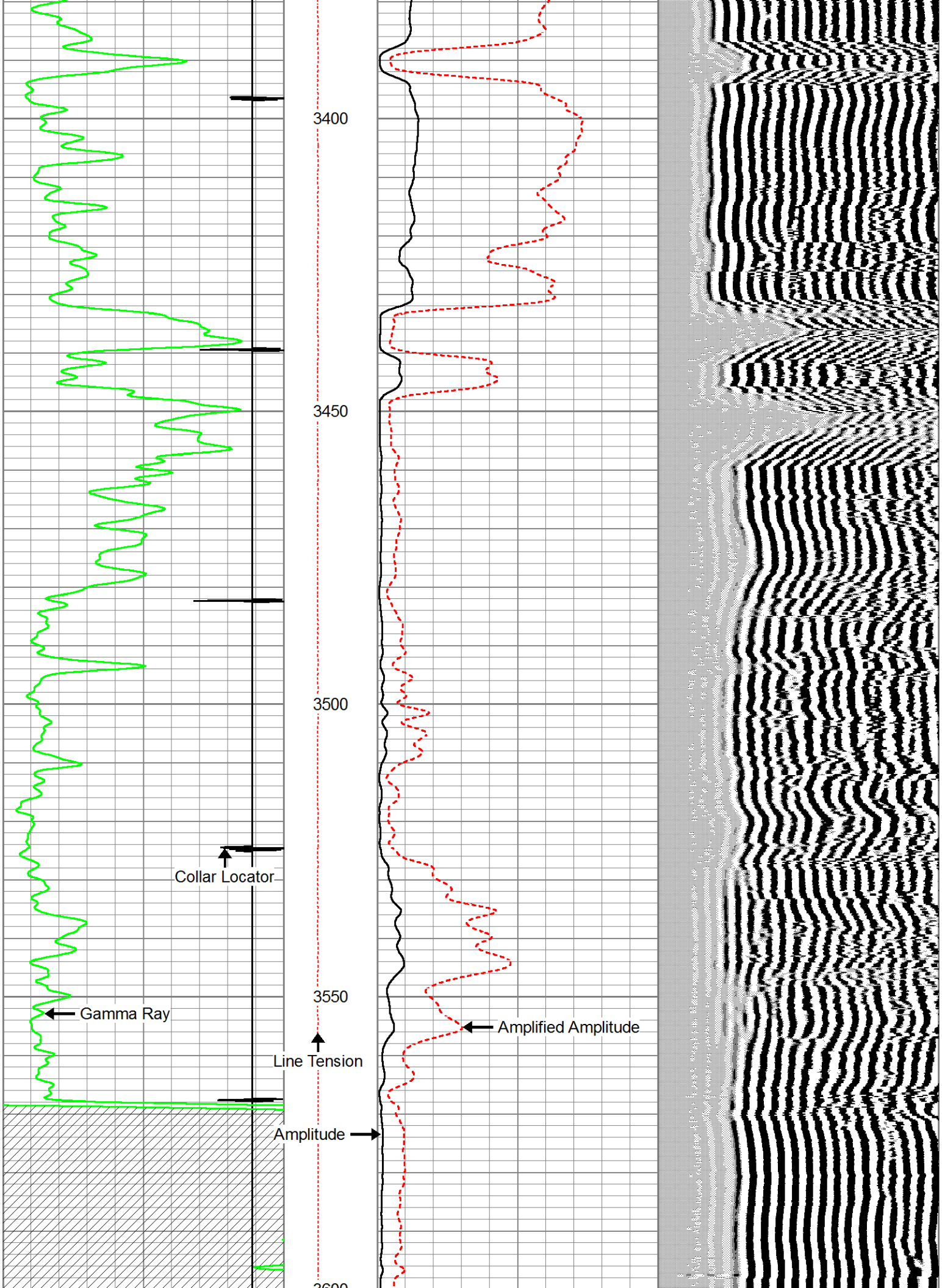

2300
2350
2400
2450
Line Tension
Casing Collar Locator
Gamma Ray
Amplitude
Top of Cement
Amplified Amplitude
VDL

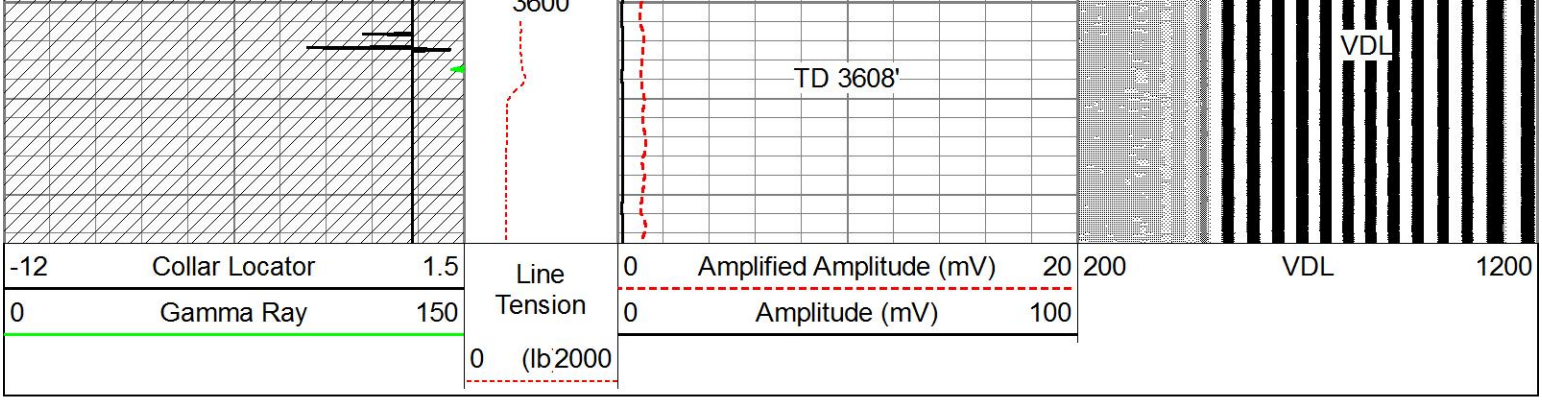

2500
2550
2600
2650
2700


2750
2800
2850
2900


2950
3000
3050
3100
3150


3200
3250
3300
3350


3400
3450
3500
Collar Locator
3550
Gamma Ray
Line Tension
Amplified Amplitude
Amplitude

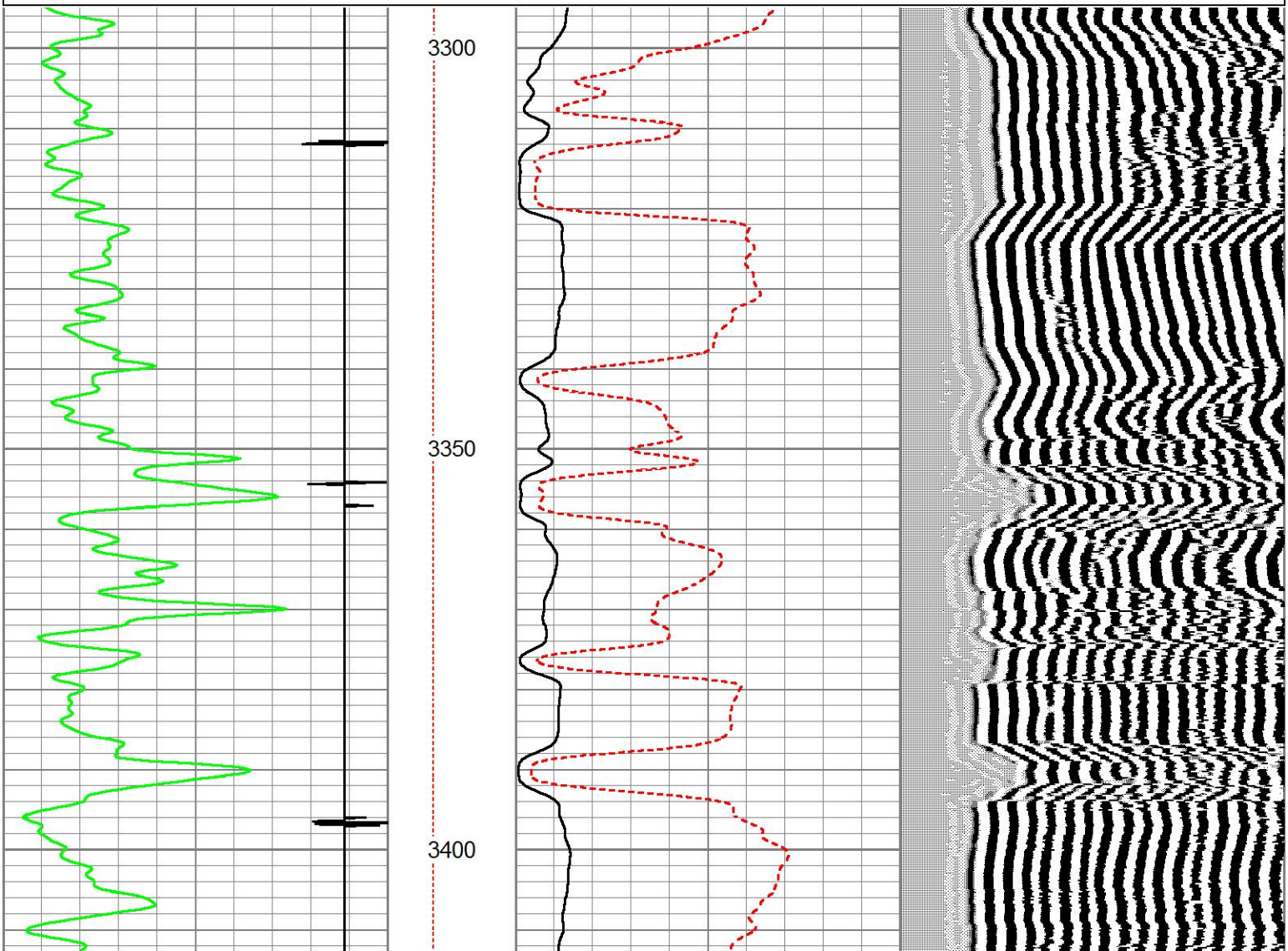


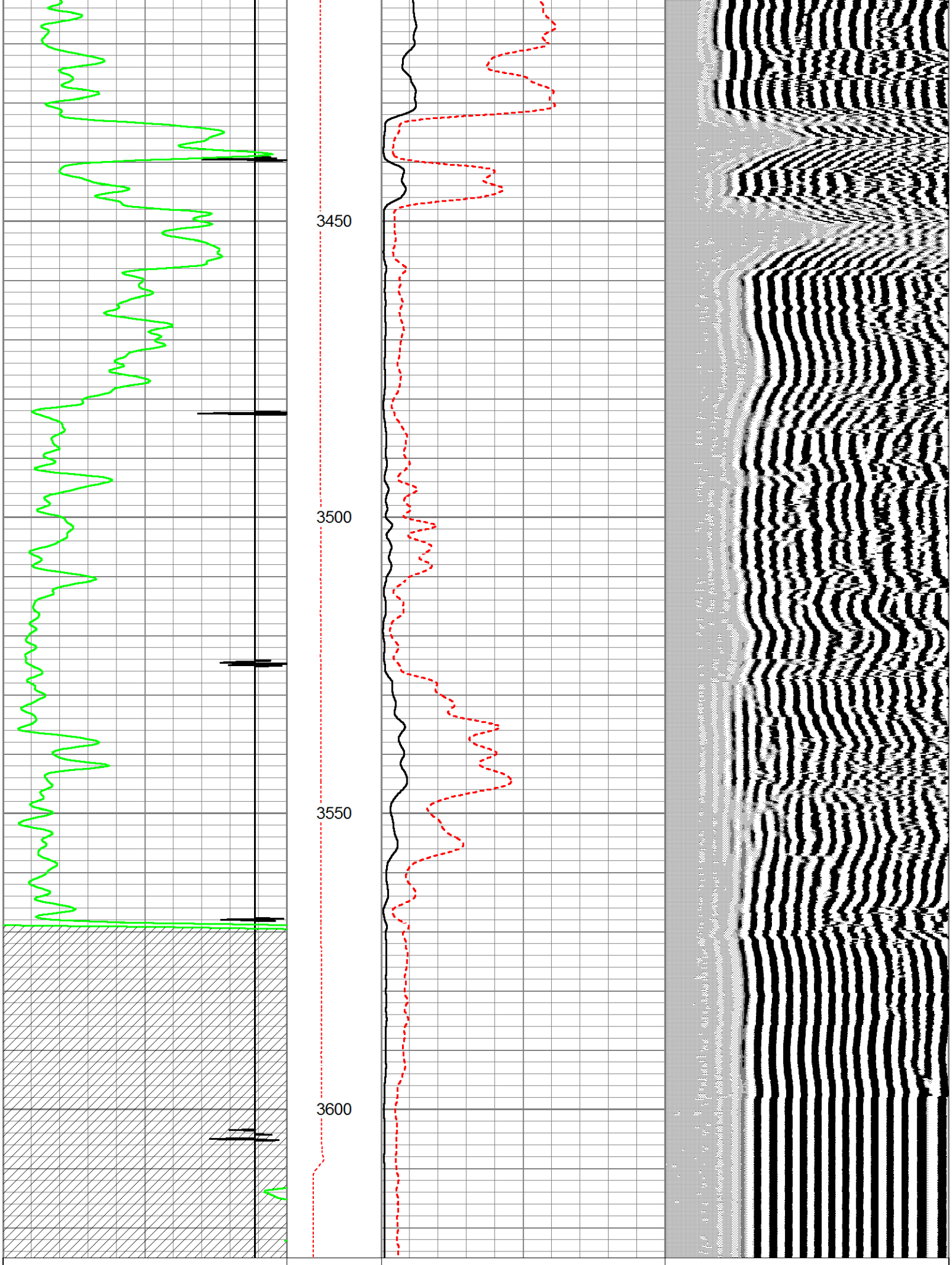
PIONEER
Pioneer Energy Services

REPEAT SECTION

ZERO PSI APPLIED AT SURFACE

Database File	bennett&schulteoil_gmauler#22-1_cbl.db
Dataset Pathname	G_MAULER_#22-1/run1/pass5
Presentation Format	pinr_cbl-gr-ccl_1
Dataset Creation	Mon May 07 13:55:35 2018
Charted by	Depth in Feet scaled 1:240





-12	Collar Locator	1.5	Line Tension	0	Amplified Amplitude (mV)	20	200 VDL 1200
0	Gamma Ray	150		0	Amplitude (mV)	100	

0 Gamma Ray 150 | 0 (lb) 2000 | 0 Amplitude (mv) 100

Calibration Report

Database File bennett&schulteoil_gmauler#22-1_cbl.db
Dataset Pathname G_MAULER_#22-1/run1/pass6
Dataset Creation Mon May 07 14:05:41 2018

Gamma Ray Calibration Report

Serial Number:	070205	
Tool Model:	2 3/4" Probe	
Performed:	Mon May 07 13:18:49 2018	
Calibrator Value:	1.0	
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	1.1200	/cps

Segmented Cement Bond Log Calibration Report

Serial Number:	080554 RBL-D	
Tool Model:	Probe	
Calibration Casing Diameter:	5.500	in
Calibration Depth:	2240.164	ft

Master Calibration, performed Mon May 07 13:43:34 2018:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	-0.001	2.259				
T1R1						
T1R2						
T2R1						
T2R2						
T1R3						
T2R3						
S1	-0.010	2.073	0.000	100.000	48.014	0.480
S2	0.008	2.104	0.000	100.000	47.709	-0.370
S3	0.011	2.179	0.000	100.000	46.134	-0.524
S4	0.014	2.258	0.000	100.000	44.557	-0.626
S5	0.008	2.323	0.000	100.000	43.208	-0.362
S6	0.009	2.358	0.000	100.000	42.567	-0.363
S7	0.014	2.300	0.000	100.000	43.739	-0.591
S8	0.011	2.135	0.000	100.000	47.086	-0.530

Internal Reference Calibration, performed Sat Jun 14 10:55:06 2008:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	-0.001	2.259	1.000	0.000

Air Zero Calibration, performed Mon May 07 13:20:30 2018:

	Raw (v)		Calibrated (v)		Results	
	Zero		Zero			Offset

T1R1			
T1R2			
T2R1			
T2R2			
T1R3			
T2R3			
S1	0.000	0.000	0.000
S2	0.000	0.000	0.000
S3	0.000	0.000	0.000
S4	0.000	0.000	0.000
S5	0.000	0.000	0.000
S6	0.000	0.000	0.000
S7	0.000	0.000	0.000
S8	0.000	0.000	0.000

PIONEER
Pioneer Energy Services

Company	BENNETT & SCHULTE OIL CO.
Well	G MAULER #22-1
Field	N/A
County	BARTON
State	KANSAS

PIONEER
Pioneer Energy Services

RADIATION GUARD LOG

Company BENNETT & SCHULTE OIL CO.
Well G MAULER #22-1
Field N/A
County BARTON
State KANSAS

Location: API # : 15-009-26213-00-00
2146' FSL & 1294' FEL
SEC 22 TWP 18S RGE 15W

Permanent Datum GROUND LEVEL Elevation 1924'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Other Services: MEL

Elevation
K.B. 1930'
D.F. N/A
G.L. 1924'

Date	4/26/2018			
Run Number	ONE			
Depth Driller	3631'			
Depth Logger	3629'			
Bottom Logged Interval	3628'			
Top Log Interval	900'			
Casing Driller	8.625" @ 935'			
Casing Logger	934'			
Bit Size	7.875"			
Type Fluid in Hole	CHEMICAL			
Salinity,ppm CL	5000			
Density / Viscosity	9.4 50			
pH / Fluid Loss	9.0 8.2			
Source of Sample	FLOWLINE			
Rm @ Meas. Temp	0.60 @ 50			
Rmf @ Meas. Temp	0.45 @ 50			
Rmc @ Meas. Temp	0.81 @ 50			
Source of Rmf / Rmc	CHARTS			
Rm @ BHT	0.27 @ 112			
Operating Rig Time	4 HOURS			
Max Rec. Temp. F	112			
Equipment Number	91			
Location	HAYS			
Recorded By	D. SCHMIDT			
Witnessed By	BOB HOPKINS			

<<< Fold Here >>>

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

OLMITZ,
3 SOUTH OF HWY 4,
1 WEST, 1 1/2 SOUTH,
WEST INTO

Log Measured From: KELLY BUSHING 6 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: D. SCHMIDT	Primary Witness: BOB HOPKINS
Operator:	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

Log Variables

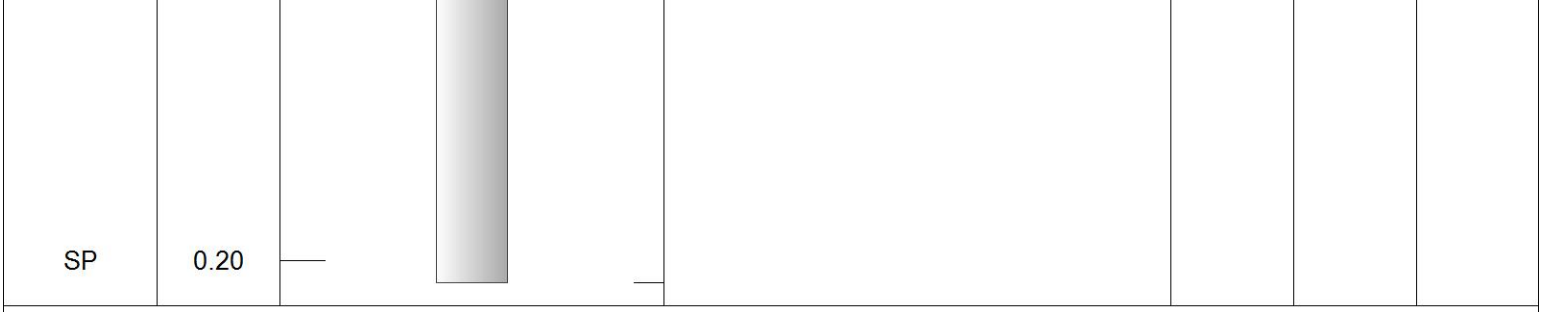
Database C:\ProgramData\Warrior\Data\bennett schulte_g mauler 22-1.db
Dataset field/well/RAG/pass3.2/_vars_

Top - Bottom

SPSHIFT mV	AIR_HOLE?	NPORSEL	MudWgt lb/gal	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS
-10	No	Limestone	9.5	50	0	5.5	0

TDEPTH ft	BOTTEMP degF	BOREID in
3629	112	7.875

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb
			GR-M&W (89)	3.00	3.50	50.00
GR	15.00					
			LGRD-M&W (177) Simlec Long Guard	4.00	3.50	40.00
LGRD	11.00					
			SWN-M&W-SP (SP162-87)	10.50	4.00	190.00
SCAL	5.10					
SWN	4.45					

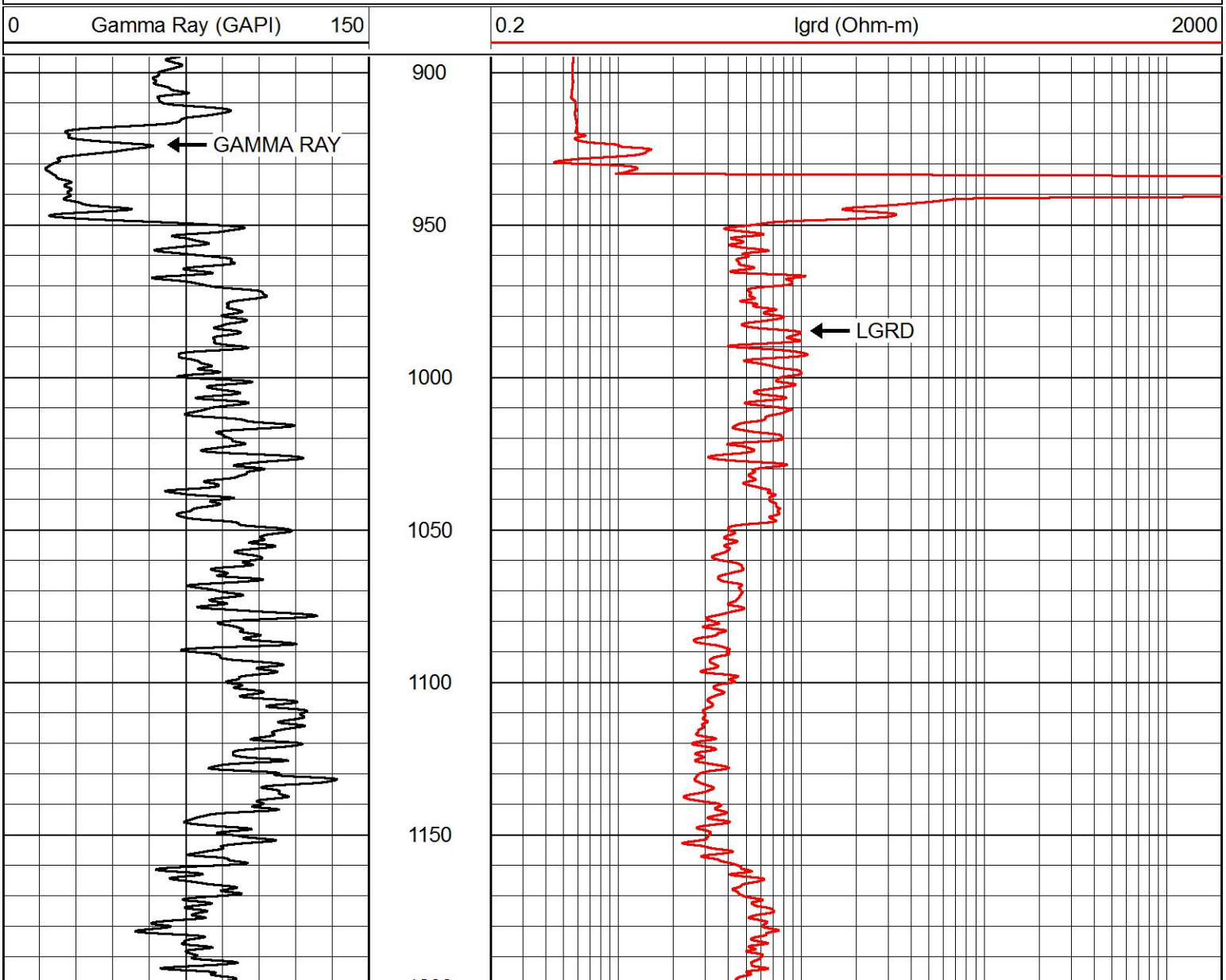


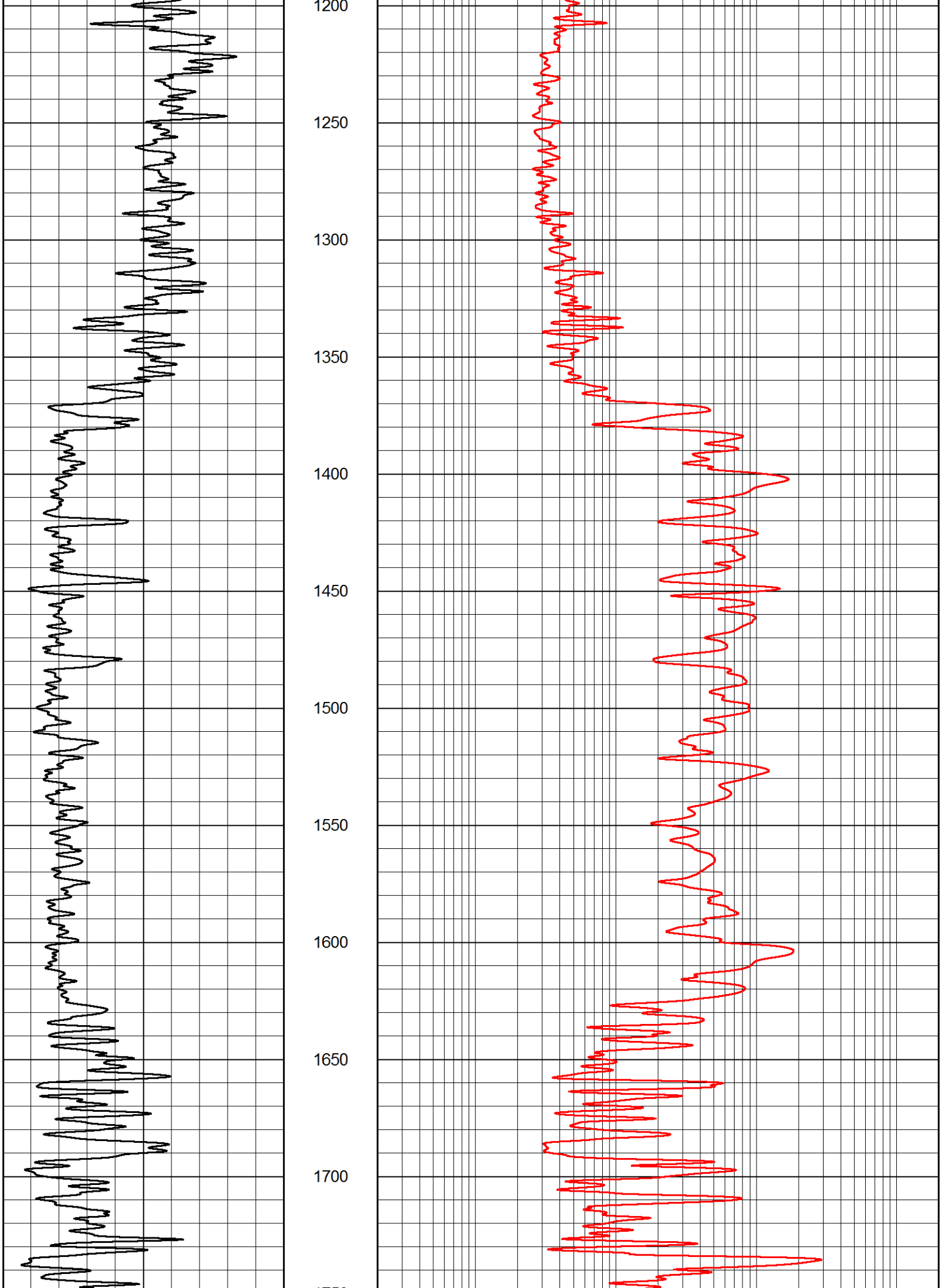
Dataset:	bennett schulte_g mauler 22-1.db: field/well/RAG/pass3.2
Total length:	17.50 ft
Total weight:	280.00 lb
O.D.:	4.00 in

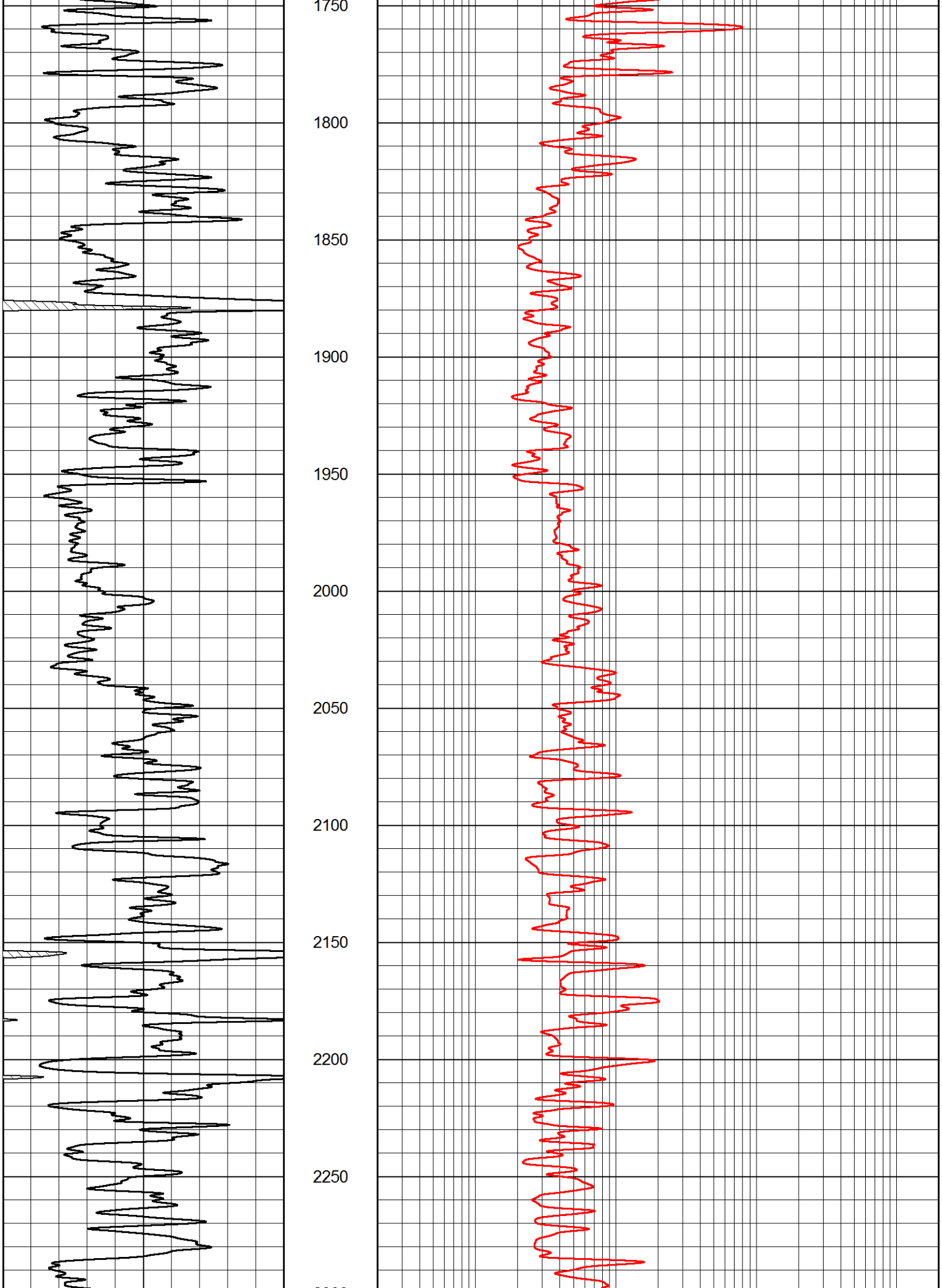
PIONEER
Pioneer Energy Services

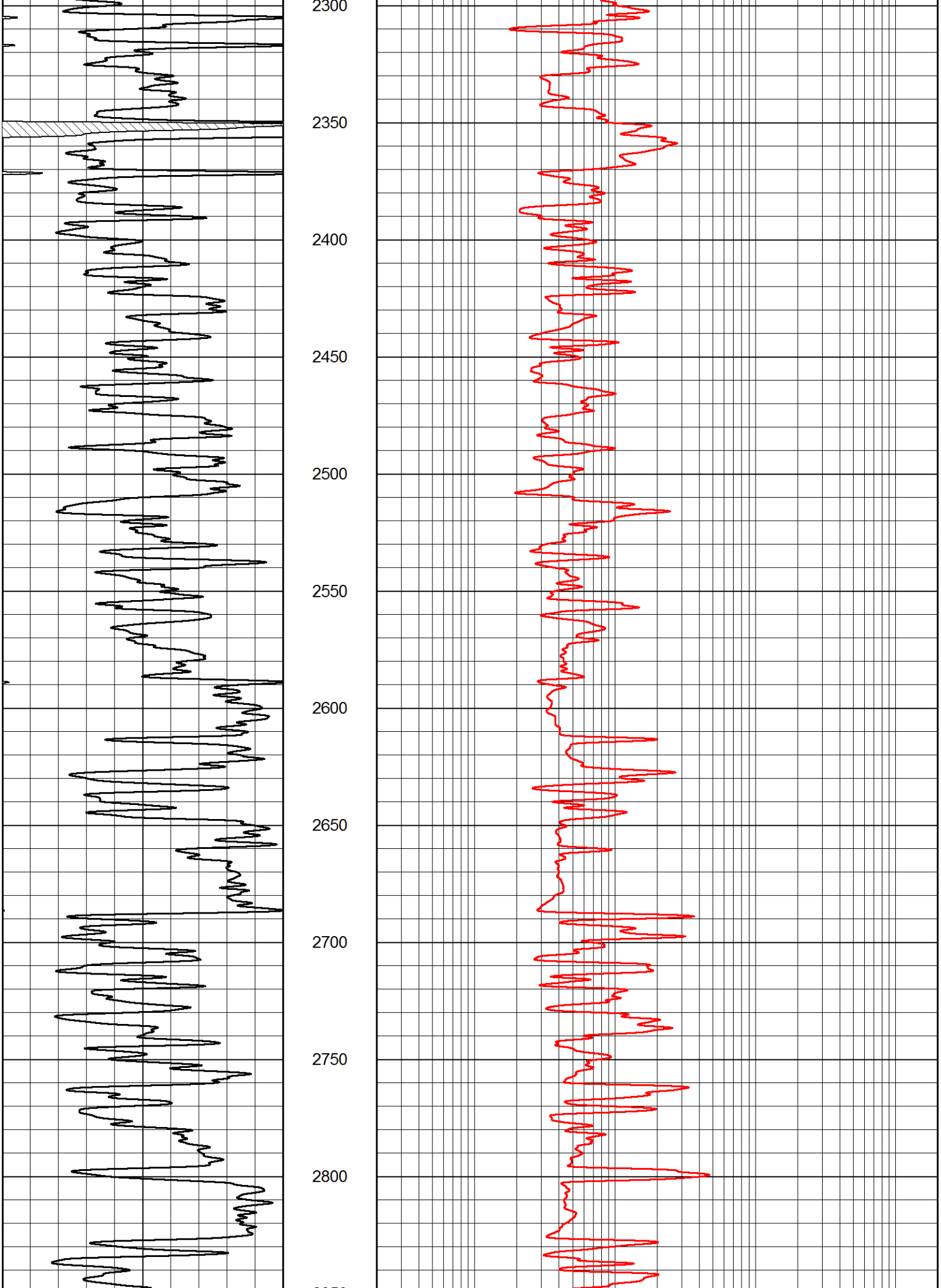
MAIN PASS

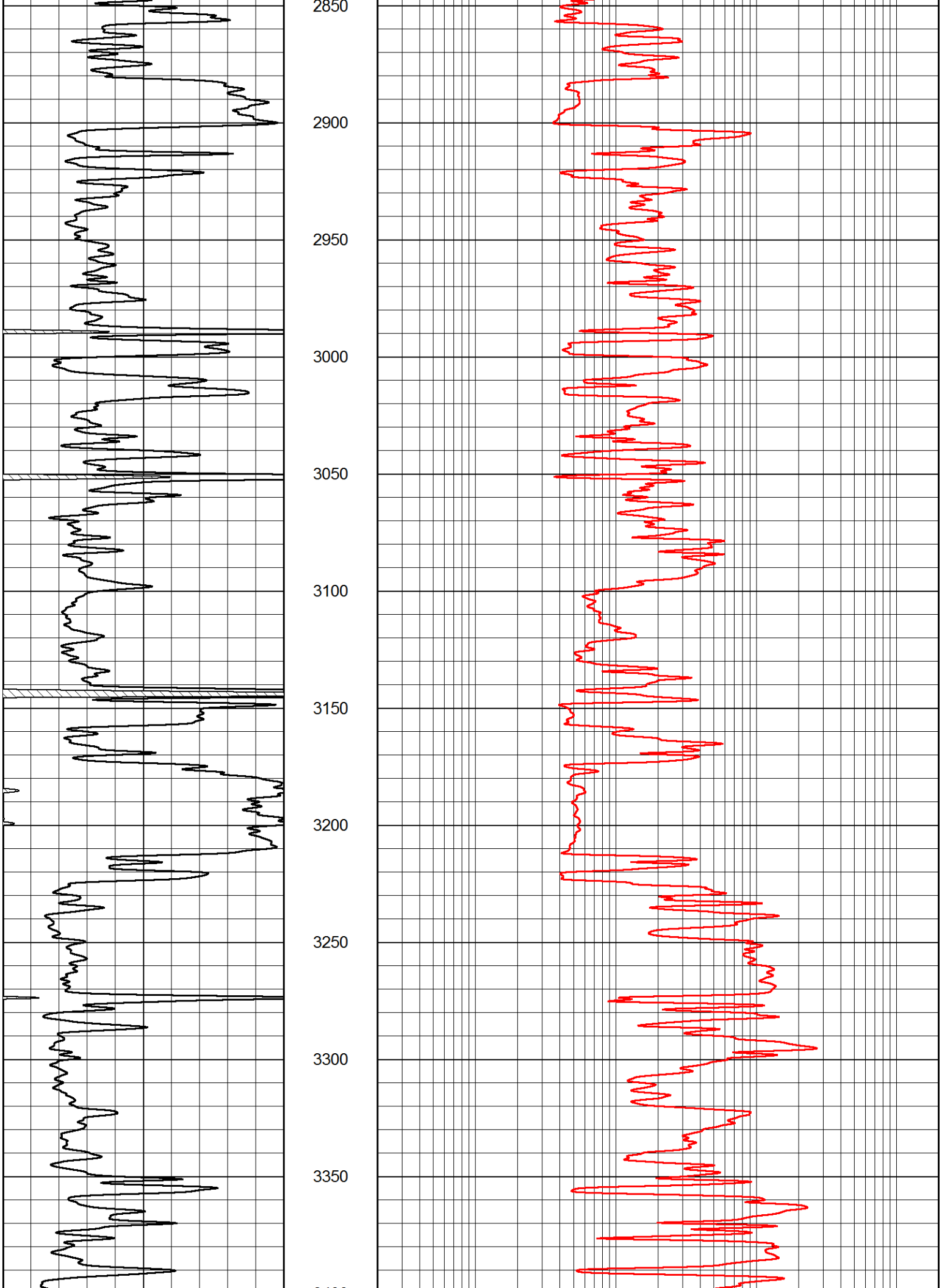
Database File	bennett schulte_g mauler 22-1.db
Dataset Pathname	RAG/pass3.1
Presentation Format	rag2in
Dataset Creation	Thu Apr 26 07:36:41 2018
Charted by	Depth in Feet scaled 1:600

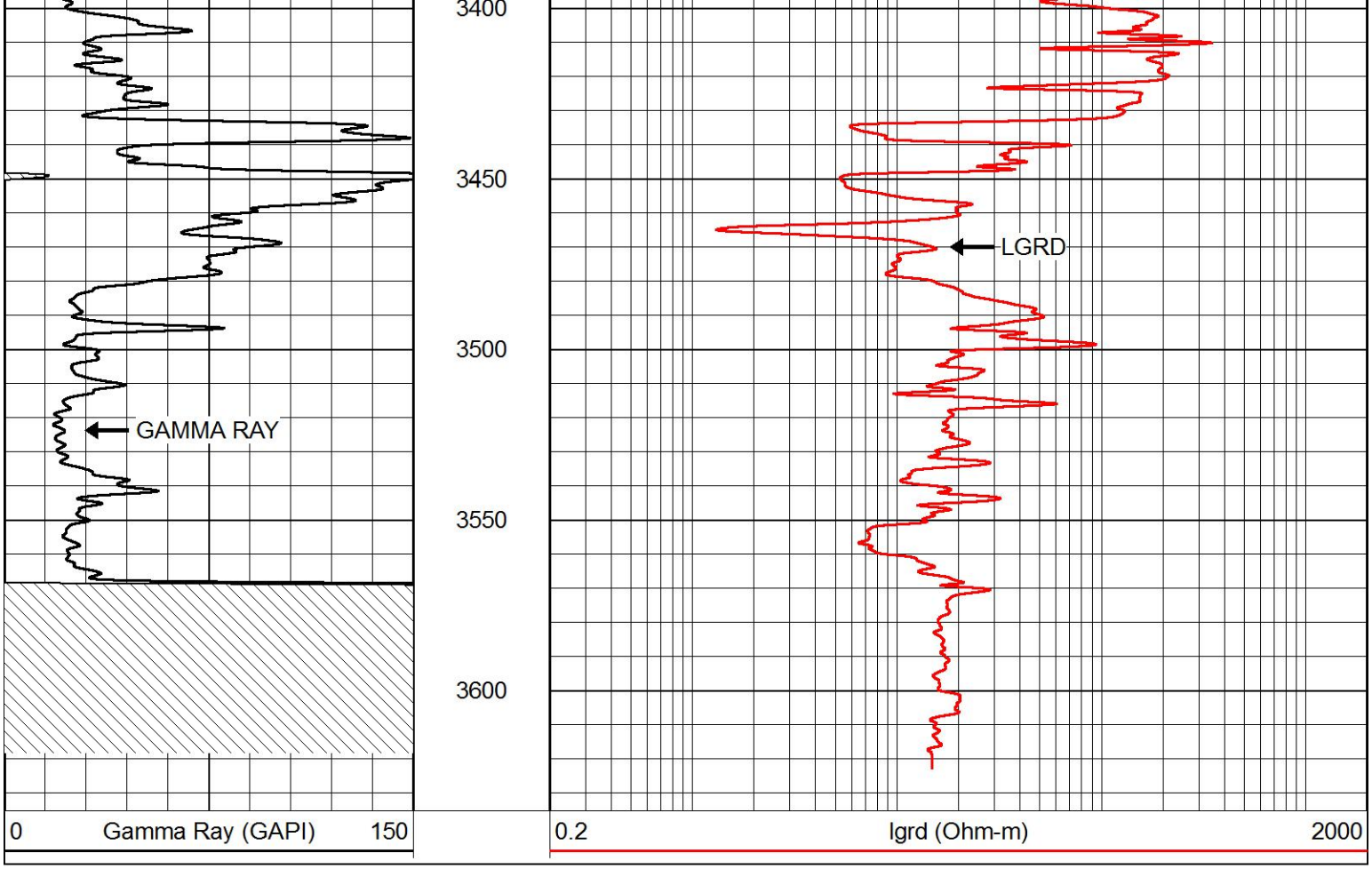



1200
1250
1300
1350
1400
1450
1500
1550
1600
1650
1700


1750
1800
1850
1900
1950
2000
2050
2100
2150
2200
2250


2300
2350
2400
2450
2500
2550
2600
2650
2700
2750
2800

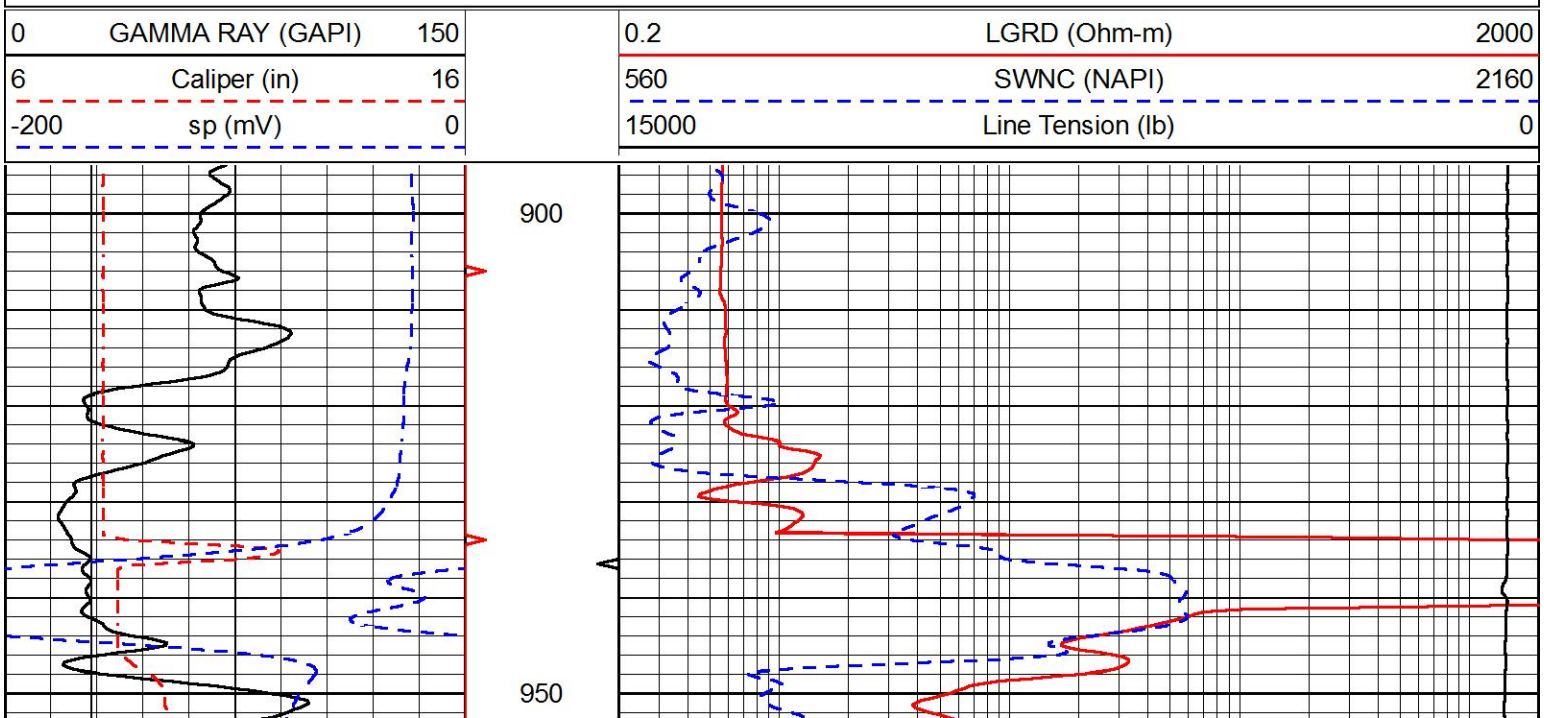

2850
2900
2950
3000
3050
3100
3150
3200
3250
3300
3350

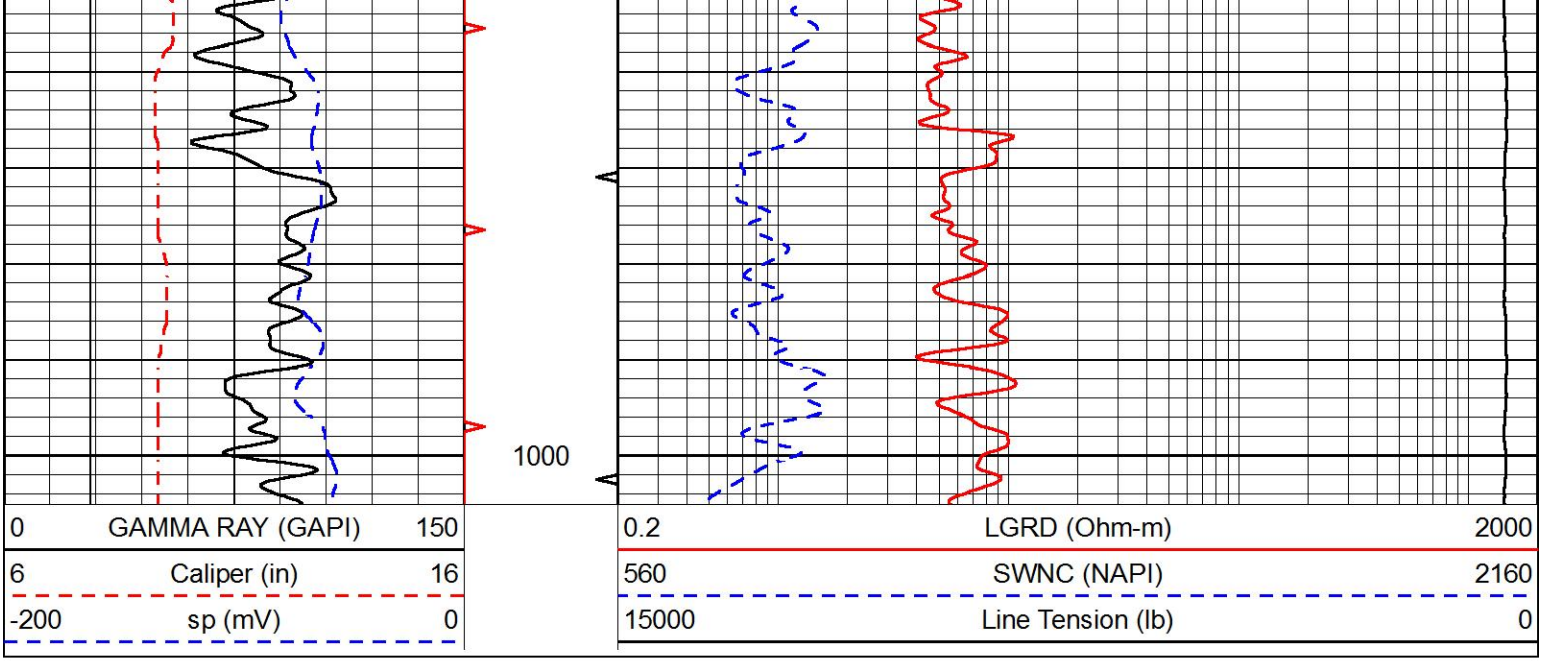


PIONEER
Pioneer Energy Services

MAIN PASS

Database File	bennett schulte_g mauler 22-1.db
Dataset Pathname	RAG/pass3.1
Presentation Format	rag
Dataset Creation	Thu Apr 26 07:36:41 2018
Charted by	Depth in Feet scaled 1:240

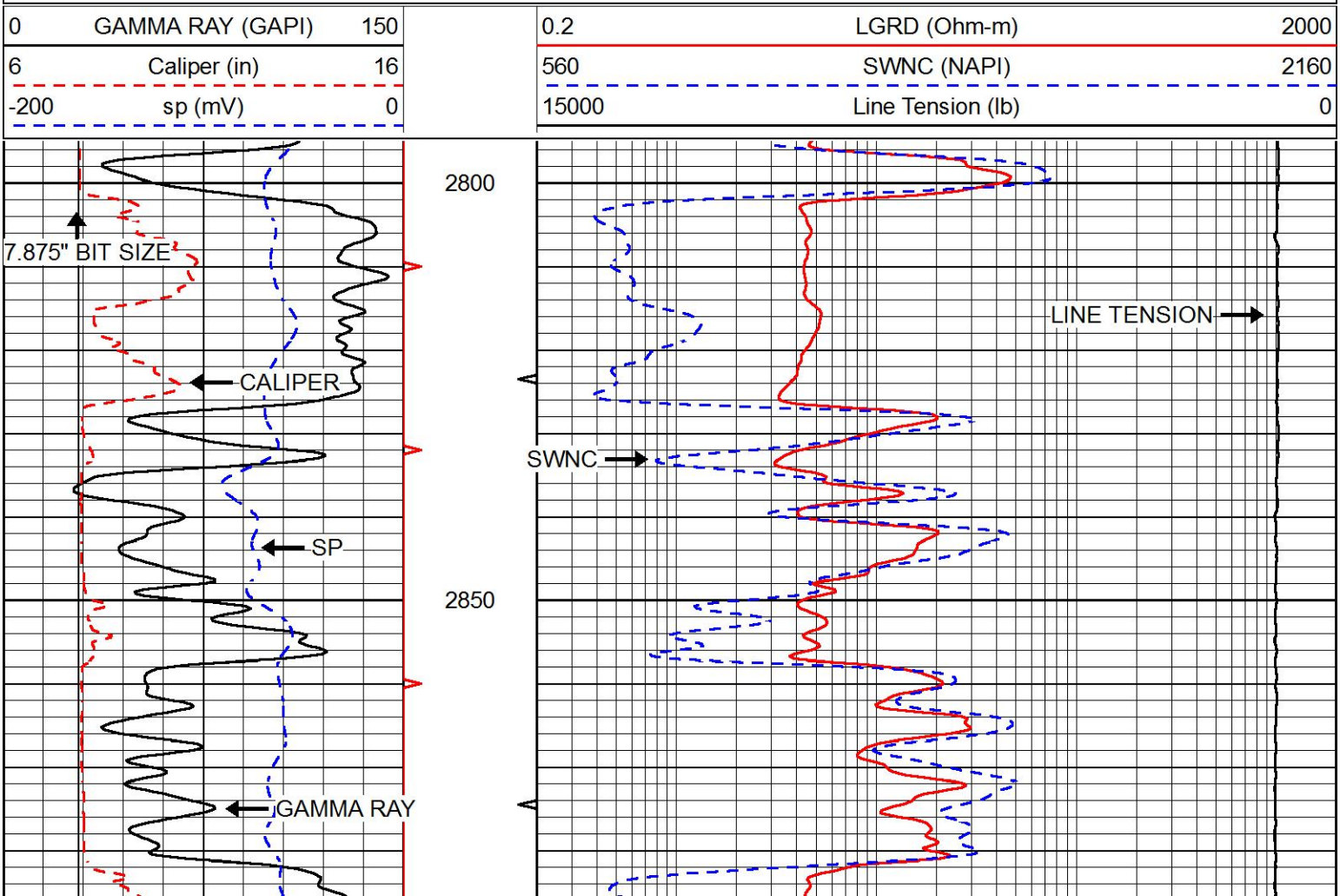


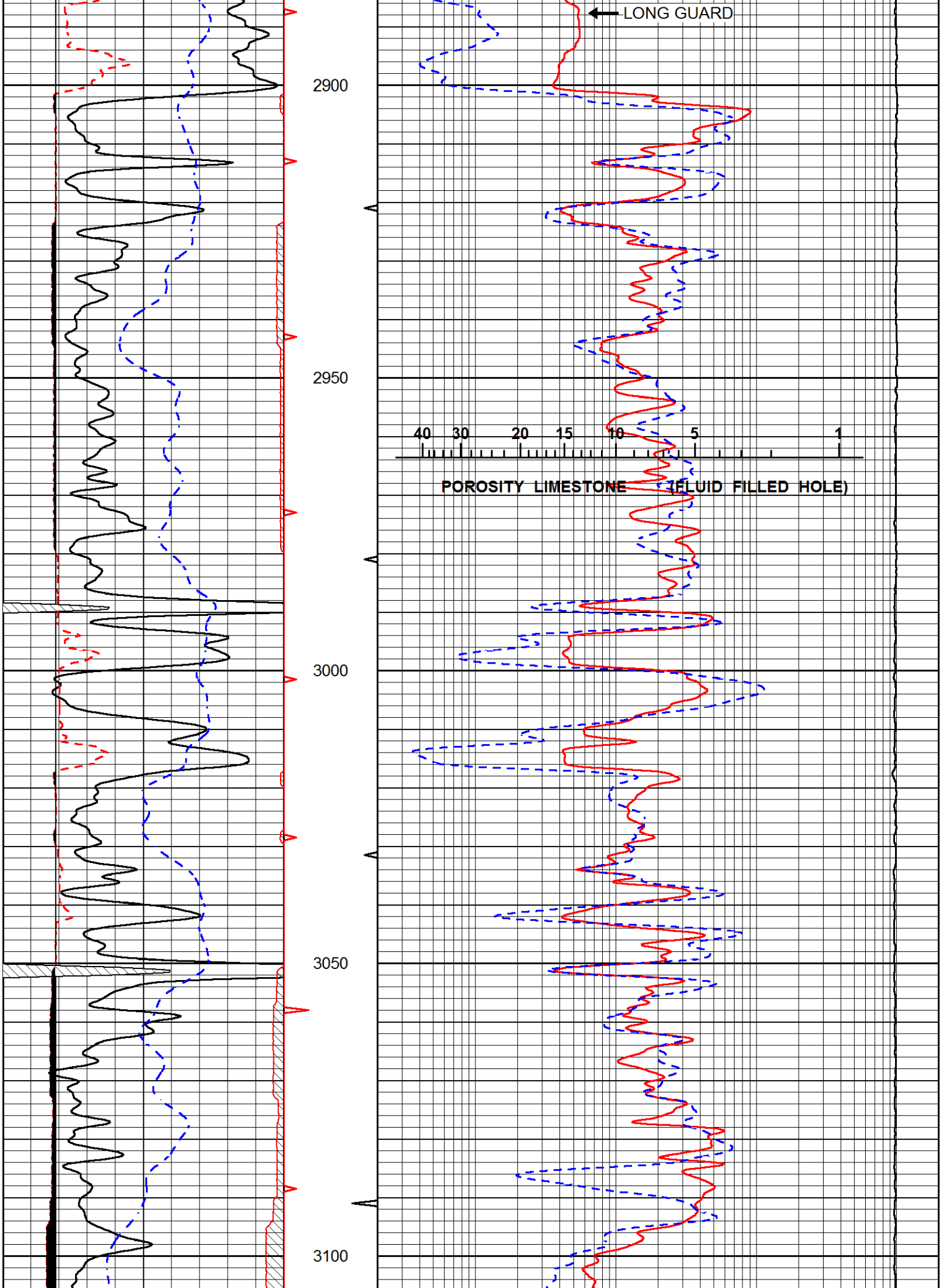


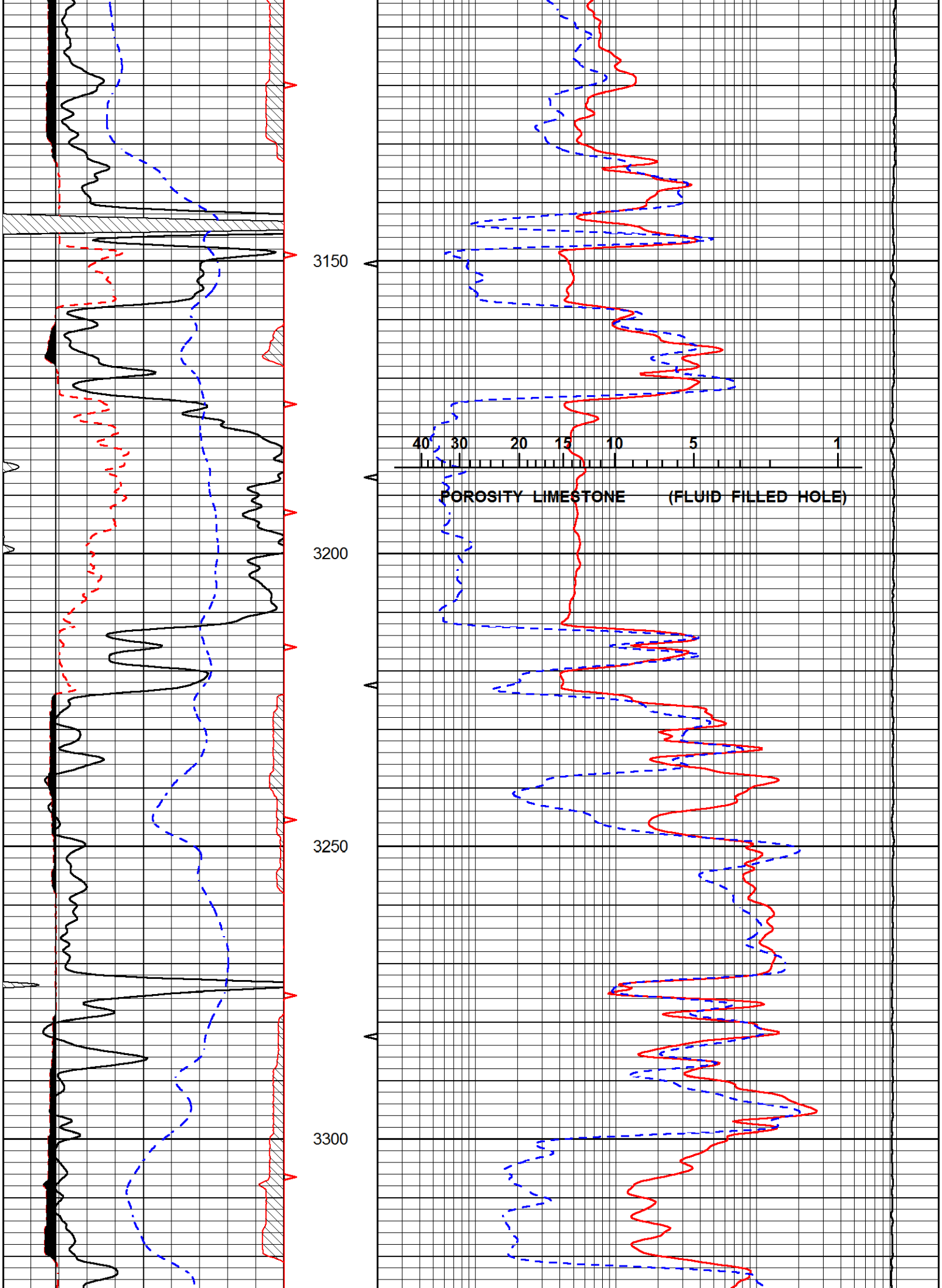
PIONEER
Pioneer Energy Services

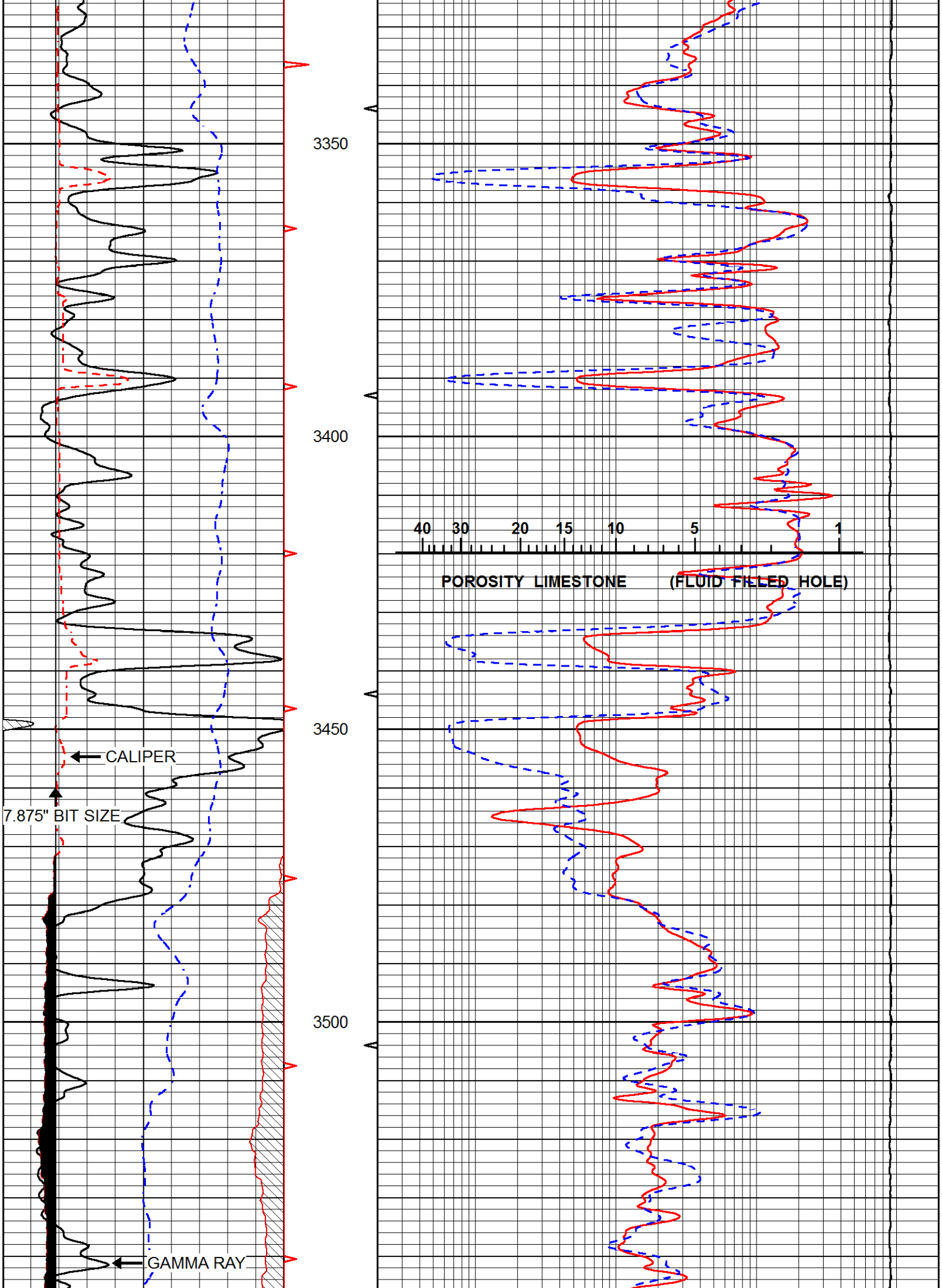
MAIN PASS

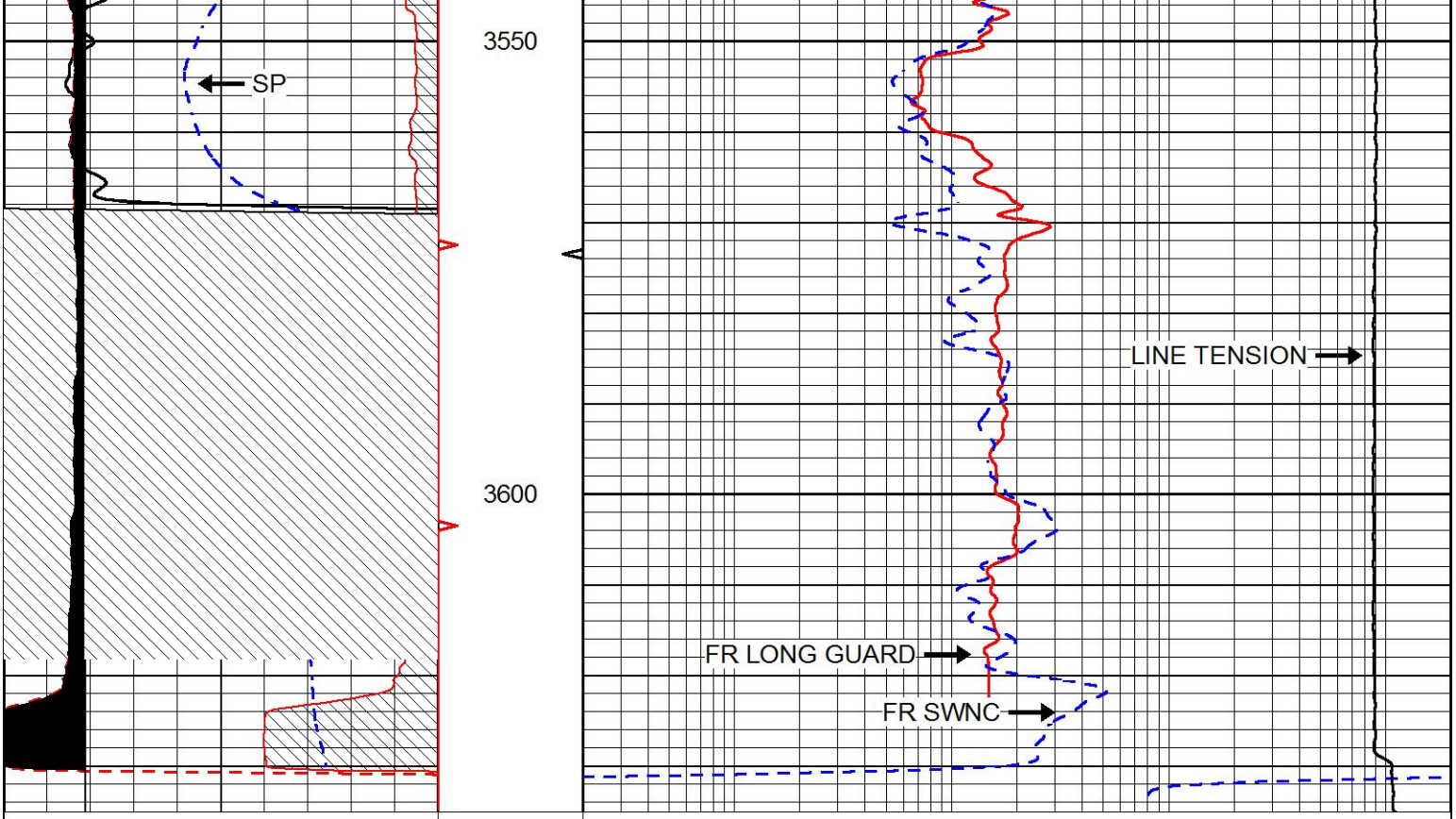
Database File	bennett schulte_g mauler 22-1.db
Dataset Pathname	RAG/pass3.1
Presentation Format	rag
Dataset Creation	Thu Apr 26 07:36:41 2018
Charted by	Depth in Feet scaled 1:240




LONG GUARD
2900
2950
3000
3050
3100
40 30 20 15 10 5 1
POROSITY LIMESTONE (FLUID FILLED HOLE)


3150
3200
3250
3300
40
30
20
15
10
5
1
POROSITY LIMESTONE
(FLUID FILLED HOLE)


3350
3400
3450
3500
40
30
20
15
10
5
1
POROSITY LIMESTONE
(FLUID FILLED HOLE)
CALIPER
7.875" BIT SIZE
GAMMA RAY



0	GAMMA RAY (GAPI)	150
6	Caliper (in)	16
-200	sp (mV)	0

0.2	LGRD (Ohm-m)	2000
560	SWNC (NAPI)	2160
15000	Line Tension (lb)	0

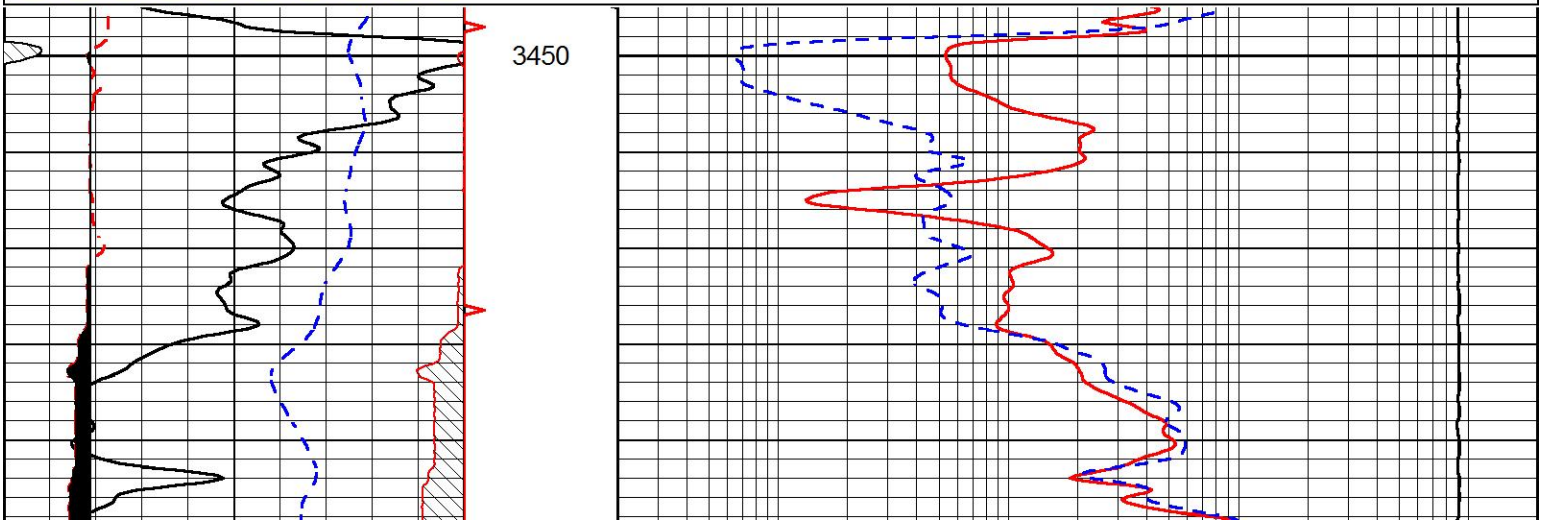
PIONEER
Pioneer Energy Services

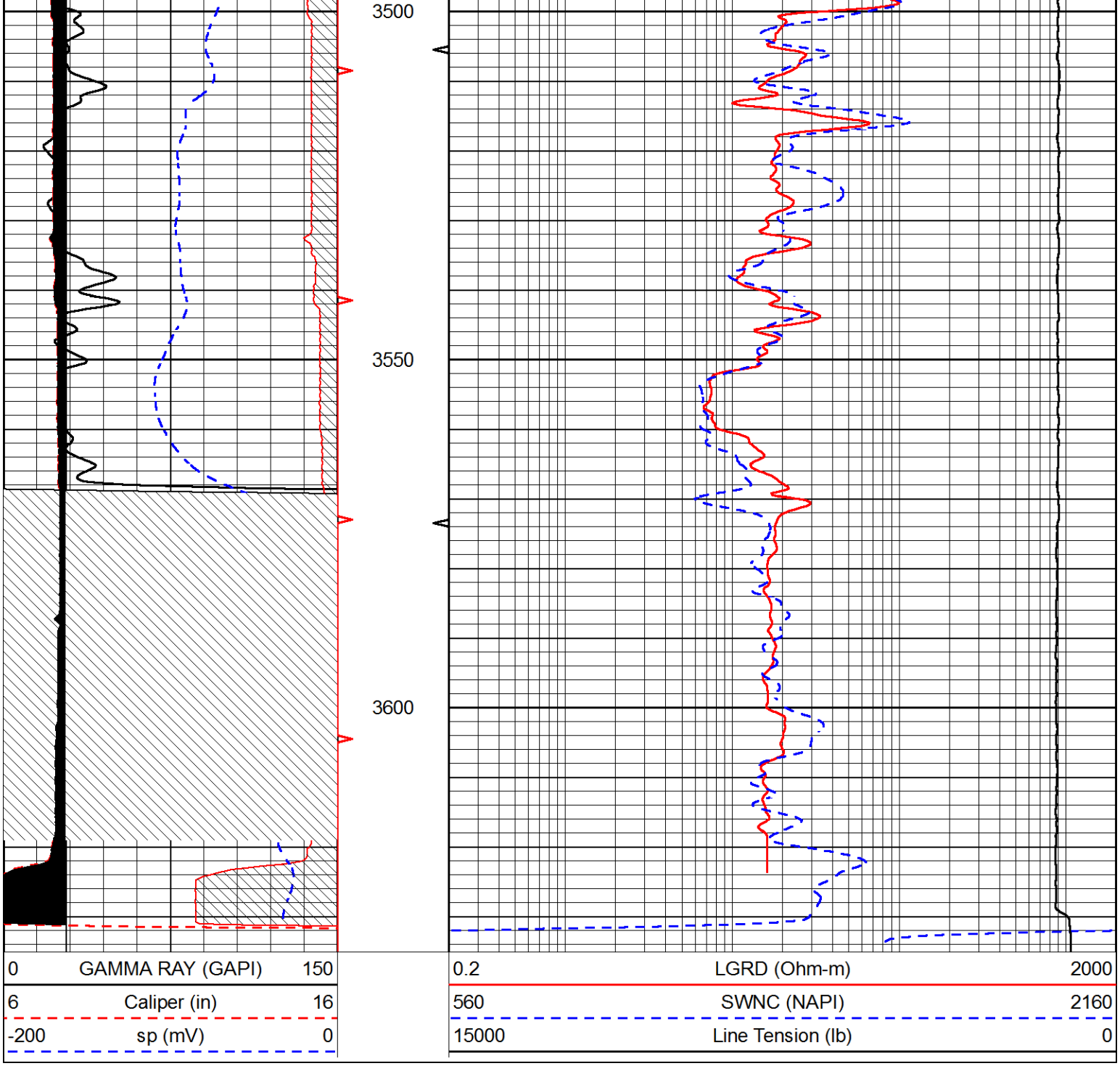
REPEAT SECTION

Database File	bennett schulte_g mauler 22-1.db
Dataset Pathname	RAG/pass2.1
Presentation Format	rag
Dataset Creation	Thu Apr 26 07:02:12 2018
Charted by	Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
6	Caliper (in)	16
-200	sp (mV)	0

0.2	LGRD (Ohm-m)	2000
560	SWNC (NAPI)	2160
15000	Line Tension (lb)	0





Calibration Report

Database File	bennett schulte_g mauler 22-1.db
Dataset Pathname	RAG/pass3.2
Dataset Creation	Thu Apr 26 07:00:56 2018

Sidewall Neutron Calibration Report

Serial Number:	SP162-87
Tool Model:	M&W-SP

SWN Calibration	Mon Aug 08 12:41:49 2016		
Readings	Target	Normalization	
2566.42 cps	1085.00 cps	0.5300	

Caliper Calibration	Mon Aug 08 12:41:49 2016		
Readings	Reference	Gain	Offset
0.86	4.00	-24.00	21.70

0.26	14.00

Gamma Ray Calibration Report

Serial Number:	89	
Tool Model:	M&W	
Calibration Performed:	Mon Jan 15 11:20:44 2018	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.6000	GAPI/cps

PIONEER
Pioneer Energy Services

Company	BENNETT & SCHULTE OIL CO.
Well	G MAULER #22-1
Field	N/A
County	BARTON
State	KANSAS

PIONEER
Pioneer Energy Services

MICRORESISTIVITY LOG

Company BENNETT & SCHULTE OIL CO.
Well G MAULER #22-1
Field N/A
County BARTON State KANSAS
Location: API #: 15-009-26213-00-00
2146' FSL & 1294' FEL
SEC 22 TWP 18S RGE 15W

Other Services: RAG

Permanent Datum: GROUND LEVEL Elevation 1924'
Log Measured From: KELLY BUSHING
Drilling Measured From: KELLY BUSHING

Elevation
K.B. 1930'
D.F. N/A
G.L. 1924'

Company	BENNETT & SCHULTE OIL CO.		
Well	G MAULER #22-1		
Field	N/A		
County	BARTON		
State	KANSAS		
Date	4/26/2018		
Run Number	TWO		
Depth Driller	3631'		
Depth Logger	3629'		
Bottom Logged Interval	3628'		
Top Log Interval	2800'		
Casing Driller	8.625" @ 935'		
Casing Logger	934'		
Bit Size	7.875"		
Type Fluid in Hole	CHEMICAL		
Salinity,ppm CL	5000		
Density / Viscosity	9.4 50		
pH / Fluid Loss	9.0 8.2		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.60 @ 50		
Rmf @ Meas. Temp	0.45 @ 50		
Rmc @ Meas. Temp	0.81 @ 50		
Source of Rmf / Rmc	CHARTS		
Rm @ BHT	0.27 @ 112		
Operating Rig Time	4 HOURS		
Max Rec. Temp. F	112		
Equipment Number	91		
Location	HAYS		
Recorded By	D. SCHMIDT		
Witnessed By	BOB HOPKINS		

<<< Fold Here >>>

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

OLMITZ,
3 SOUTH OF HWY 4,
1 WEST, 1 1/2 SOUTH,
WEST INTO

Log Measured From: KELLY BUSHING 6 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: D. SCHMIDT	Primary Witness: BOB HOPKINS
Operator:	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

Log Variables

DatabaseC:\ProgramData\Warrior\Data\bennett schulte_g mauler 22-1.db
Dataset field/well/RAG/pass3.1/_vars_

Top - Bottom

SPSHIFT mV	AIR_HOLE?	NPORSEL	MudWgt lb/gal	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS
-10	No	Limestone	9.5	50	0	5.5	0

TDEPTH ft	BOTTEMP degF	BOREID in
3629	112	7.875

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb
			ML-Armadillo (ARM001) Pengo Mandrel & Armadillo ML Electronics (2014)	5.50	3.50	100.00
MCAL	1.00					
MI	1.00					
MN	1.00					

Dataset: bennett schulte_g mauler 22-1.db: field/well/MEL/pass2
Total length: 5.50 ft
Total weight: 100.00 lb
O.D.: 3.50 in

PIONEER
Pioneer Energy Services

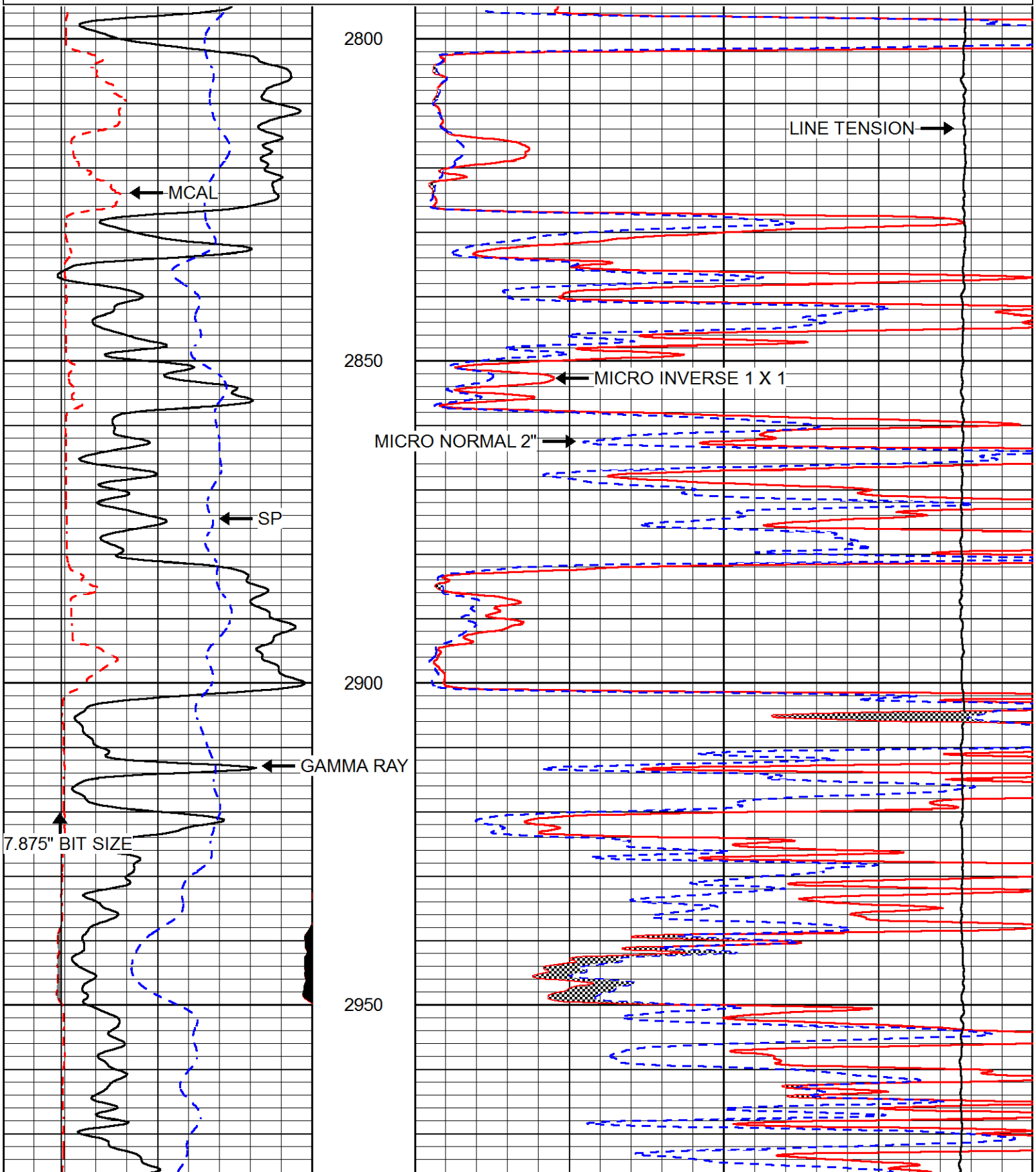
MAIN PASS

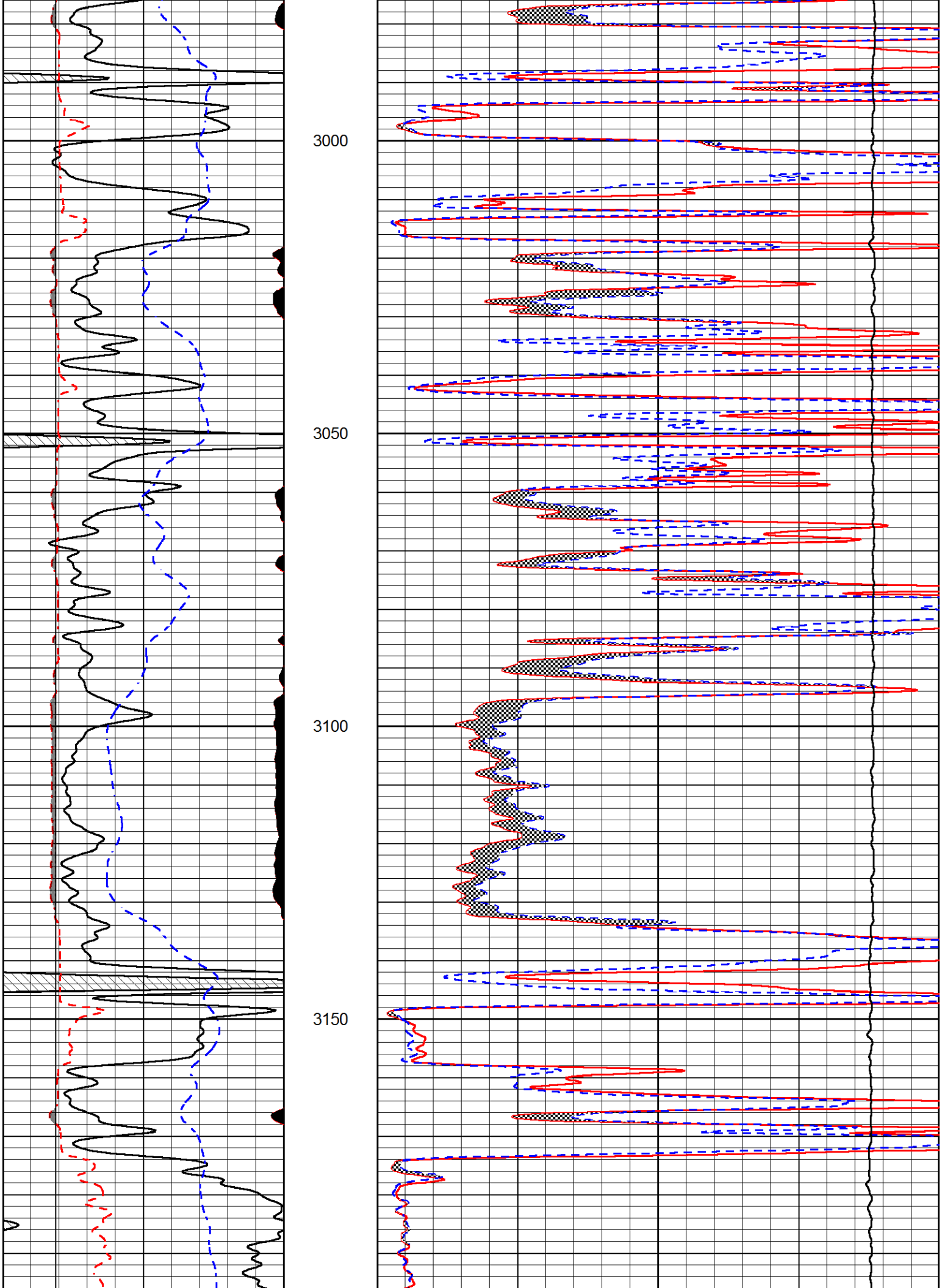
Database File bennett schulte_g mauler 22-1.db
Dataset Pathname RAG/pass3.1

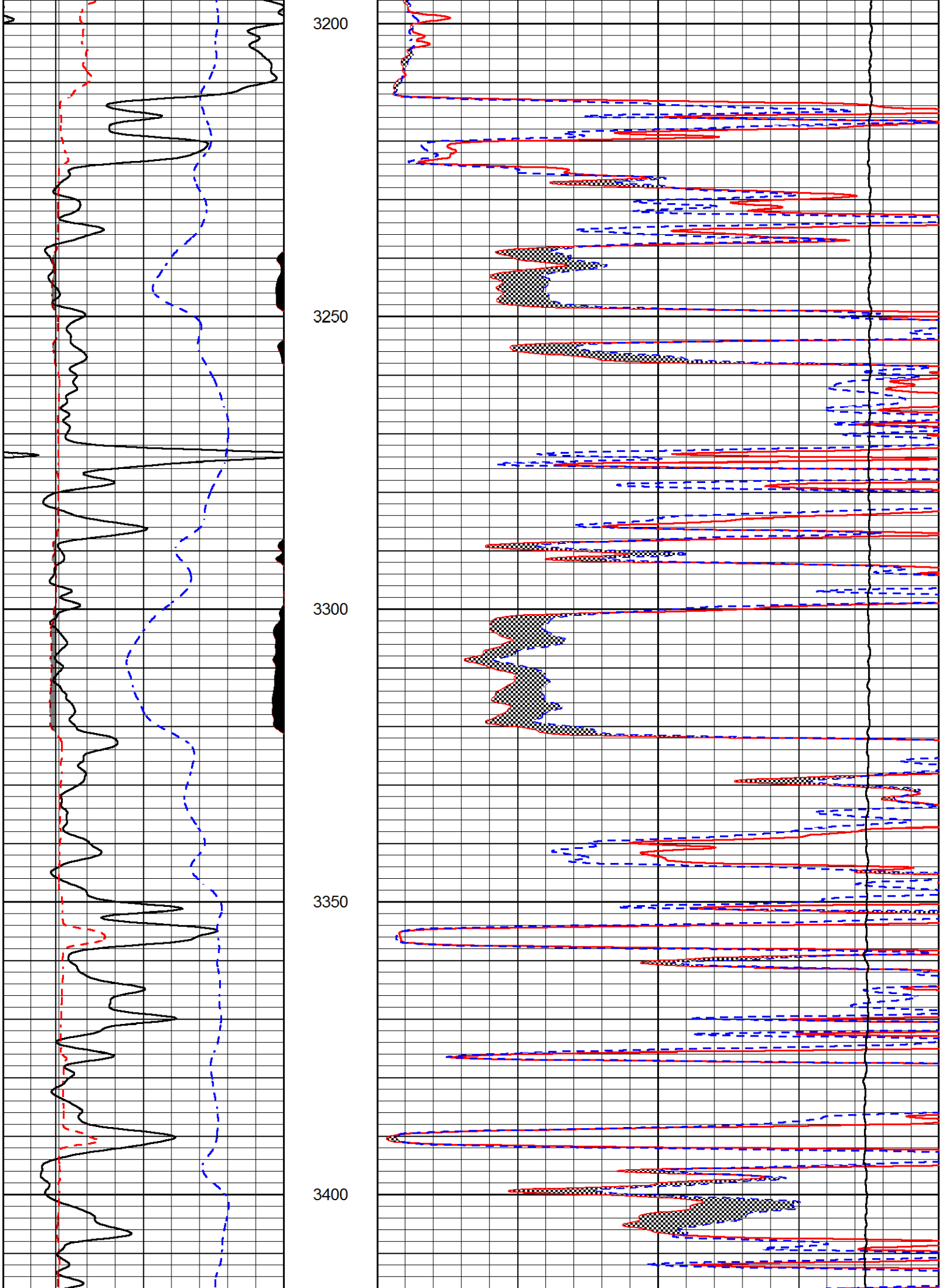
Dataset Pathname	RAG/pass3.1
Presentation Format	micro
Dataset Creation	Thu Apr 26 07:36:41 2018
Charted by	Depth in Feet scaled 1:240

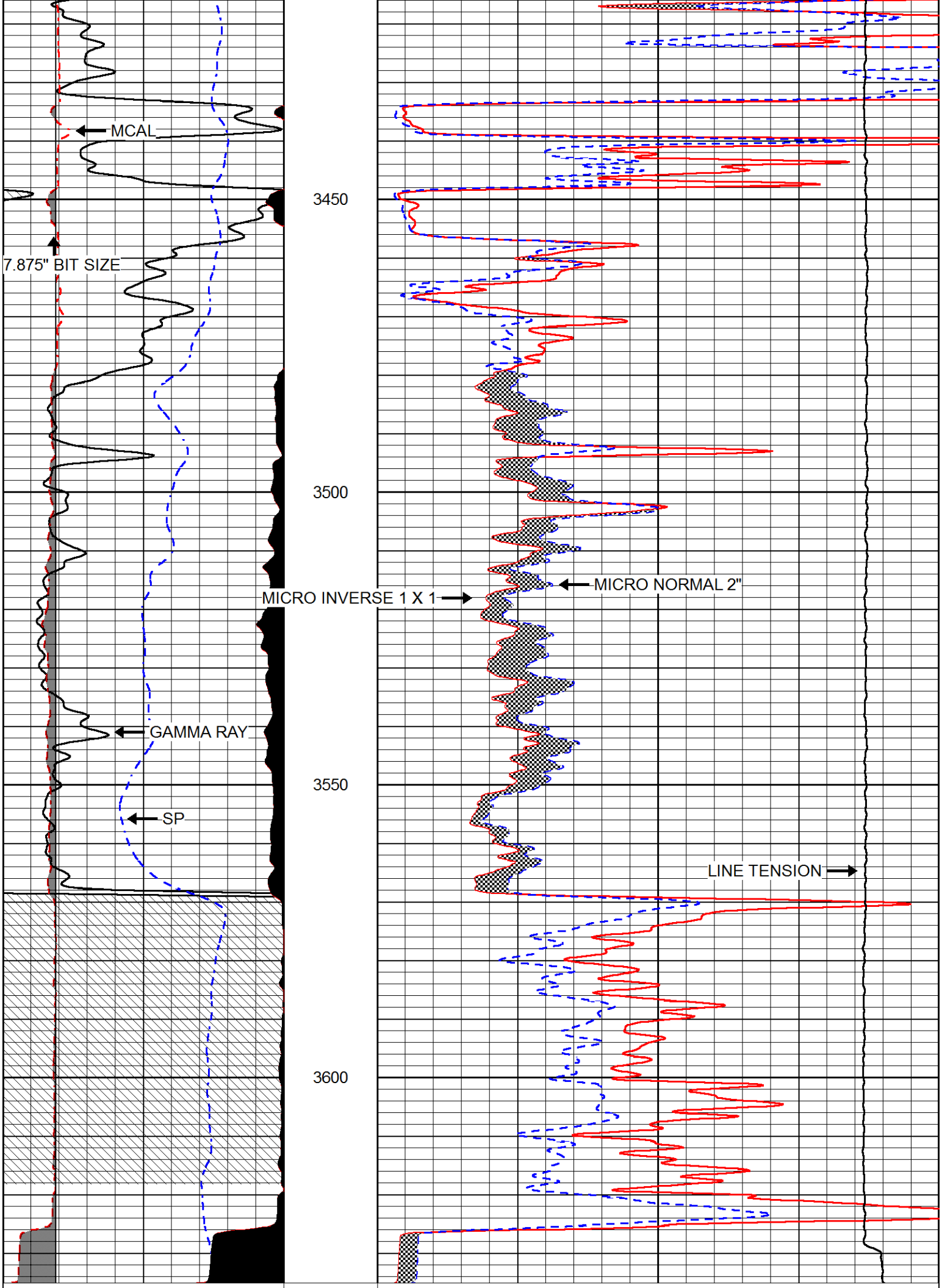
0	GAMMA RAY (GAPI)	150
6	MCAL (in)	16
2.875	mcal (in)	7.875
6	Bit Size (in)	16
-200	SP (mV)	0

0	MICRO INVERSE 1 X 1 (Ohm-m)	40
0	MICRO NORMAL 2" (Ohm-m)	40
10000	Line Weight (lb)	0




3000
3050
3100
3150


3200
3250
3300
3350
3400


MCAL
7.875" BIT SIZE
3450
3500
MICRO INVERSE 1 X 1
MICRO NORMAL 2"
GAMMA RAY
3550
SP
LINE TENSION
3600

0	GAMMA RAY (GAPI)	150
6	MCAL (in)	16
2.875	mcal (in)	7.875
6	Bit Size (in)	16
-200	SP (mV)	0

0	MICRO INVERSE 1 X 1 (Ohm-m)	40
0	MICRO NORMAL 2" (Ohm-m)	40
10000	Line Weight (lb)	0

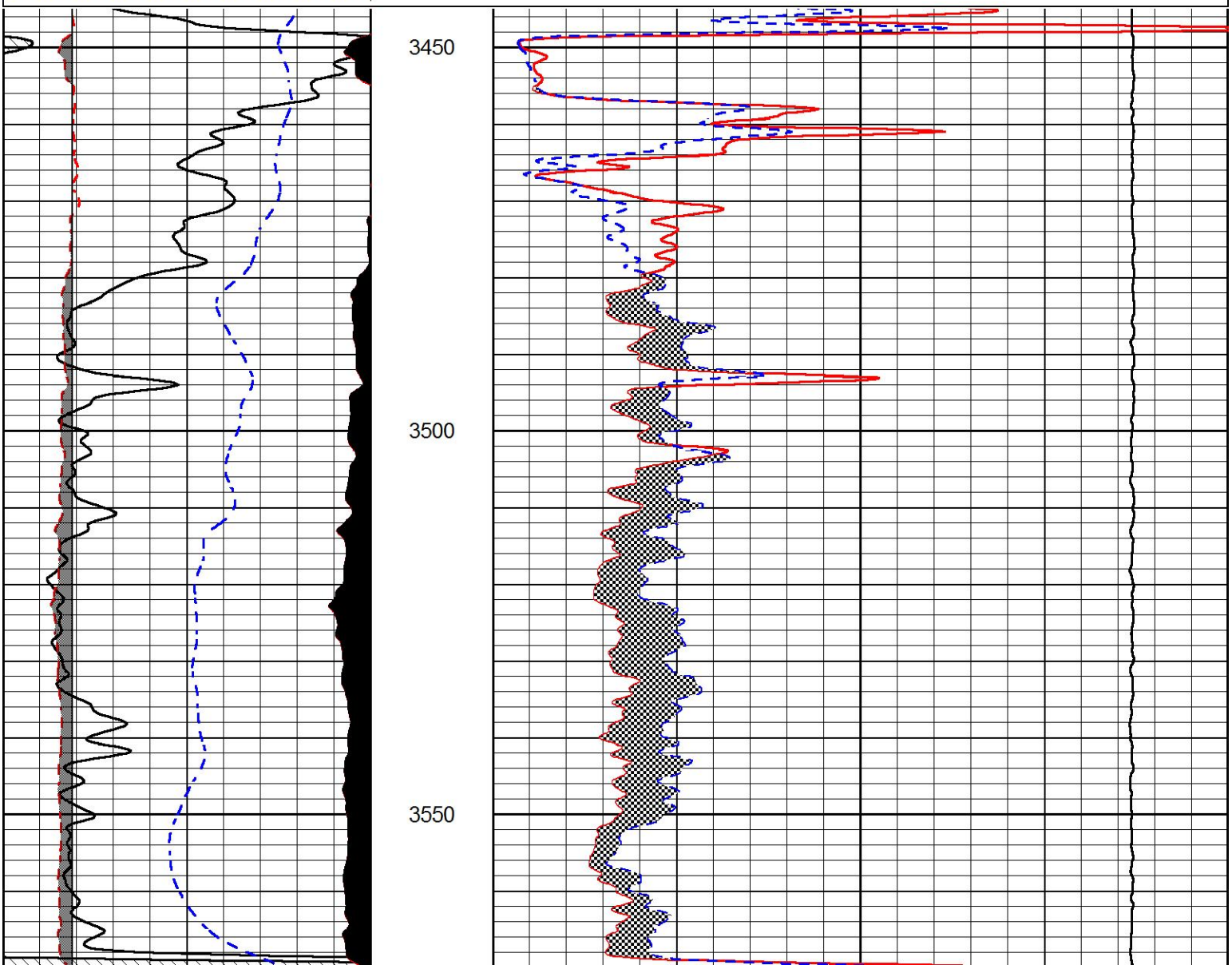
PIONEER
Pioneer Energy Services

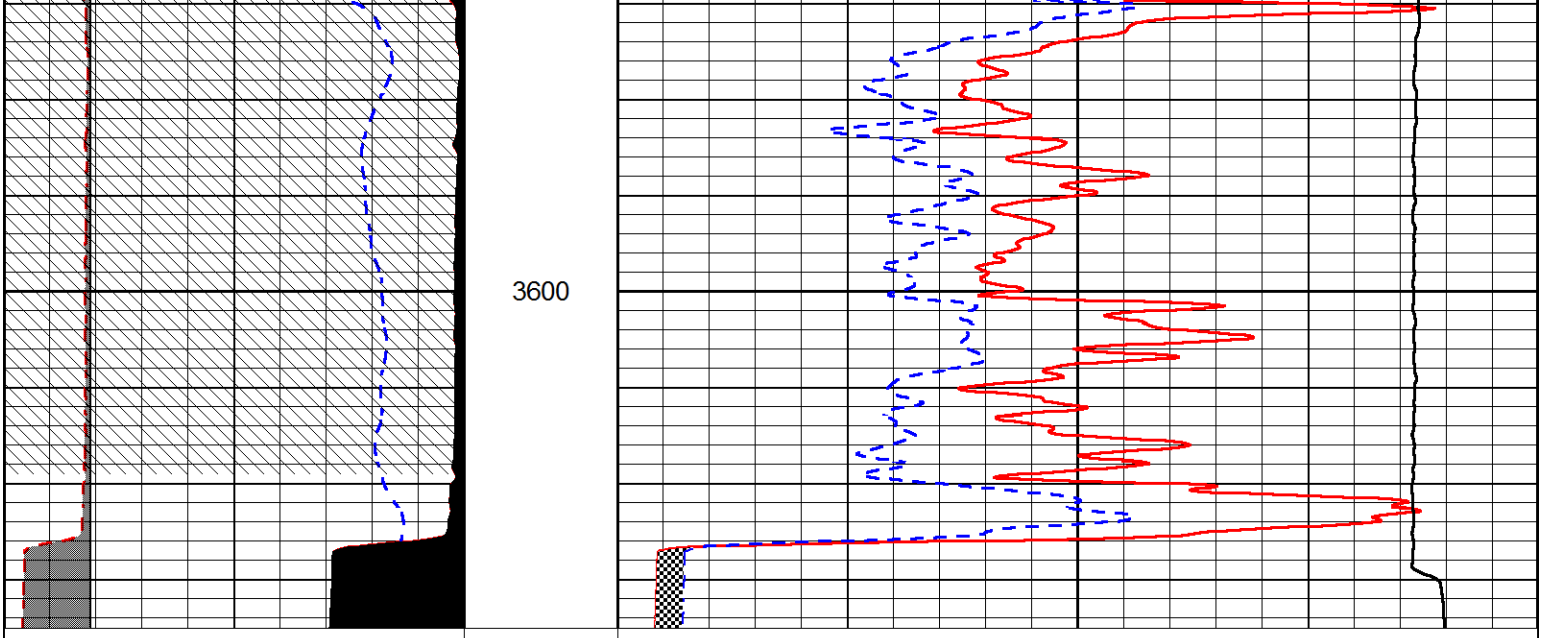
REPEAT SECTION

Database File	bennett schulte_g mauler 22-1.db
Dataset Pathname	RAG/pass2.1
Presentation Format	micro
Dataset Creation	Thu Apr 26 07:02:12 2018
Charted by	Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
6	MCAL (in)	16
2.875	mcal (in)	7.875
6	Bit Size (in)	16
-200	SP (mV)	0

0	MICRO INVERSE 1 X 1 (Ohm-m)	40
0	MICRO NORMAL 2" (Ohm-m)	40
10000	Line Weight (lb)	0





0	GAMMA RAY (GAPI)	150
6	MCAL (in)	16
2.875	mcal (in)	7.875
6	Bit Size (in)	16
-200	SP (mV)	0

0	MICRO INVERSE 1 X 1 (Ohm-m)	40
0	MICRO NORMAL 2" (Ohm-m)	40
10000	Line Weight (lb)	0

Calibration Report

Database File	bennett schulte_g mauler 22-1.db
Dataset Pathname	RAG/pass3.1
Dataset Creation	Thu Apr 26 07:36:41 2018

Sidewall Neutron Calibration Report

Serial Number:	SP162-87
Tool Model:	M&W-SP

SWN Calibration — Mon Aug 08 12:41:49 2016

Readings	Target	Normalization
2566.42 cps	1085.00 cps	0.5200

Caliper Calibration — Mon Aug 08 12:41:49 2016

Readings	Reference	Gain	Offset
0.86	4.00	-24.00	21.70
0.26	14.00		

Gamma Ray Calibration Report

Serial Number:	89	
Tool Model:	M&W	
Calibration Performed:	Mon Jan 15 11:20:44 2018	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.6000	GAPI/cps

Calibration Report

Database File	bennett schulte_g mauler 22-1.db
Dataset Pathname	MEL/pass2
Dataset Creation	Thu Apr 26 08:25:49 2018

Microlog Calibration Report

Serial-Model:	ARM001-Armadillo
Performed:	Fri Jul 14 14:07:44 2017

	Readings			References			Results	
	Zero	Cal		Zero	Cal		m	b
Normal	0.0127	0.6730	V	0.0000	10.0000	Ohm-m	25.5000	-2.4000
Inverse	0.0029	0.8729	V	0.0000	10.0000	Ohm-m	22.0000	-1.5000
Caliper	1.1319	8.2966	V	6.0000	19.0000	in	3.0000	1.2750

PIONEER
Pioneer Energy Services

Company	BENNETT & SCHULTE OIL CO.
Well	G MAULER #22-1
Field	N/A
County	BARTON
State	KANSAS

PIONEER
Pioneer Energy Services

Computer Processed Interpretation

Company BENNETT & SCHULTE OIL CO.
Well G MAULER #22-1
Field N/A
County BARTON
State KANSAS

Company BENNETT & SCHULTE OIL CO.
Well G MAULER #22-1
Field N/A
County BARTON State KANSAS

Location: API #: 15-009-26213-00-00
2146' FSL & 1294' FEL
SEC 22 TWP 18S RGE 15W

Other Services
RAG/MEL

Permanent Datum GROUND LEVEL Elevation 1924'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Elevation
K.B. 1930'
D.F. N/A
G.L. 1924'

Date Recorded	4/26/2018
Depth Logger	3629'
	Curve Definitions
SW	Water Saturation
SXO	Water Saturation In The Flushed Zone
VCL	Volume Of Clay
PHIE	Density - Neutron Crossplot Shale Corrected
BVW	Bulk Volume Water
BVWSXO	Bulk Volume Water In Flushed Zone
DCAL	Caliper
SPC	SP Corrected For Baseline
DGA	Apparent Grain Density
Payflag	If: PHIE> 2, VCL< 40, SPC> -10, SW< 40 & DCAL< 11
Recorded By	D. SCHMIDT
Witnessed By	BOB HOPKINS
Analysis By	DAN SCHMIDT

<<< Fold Here >>>

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

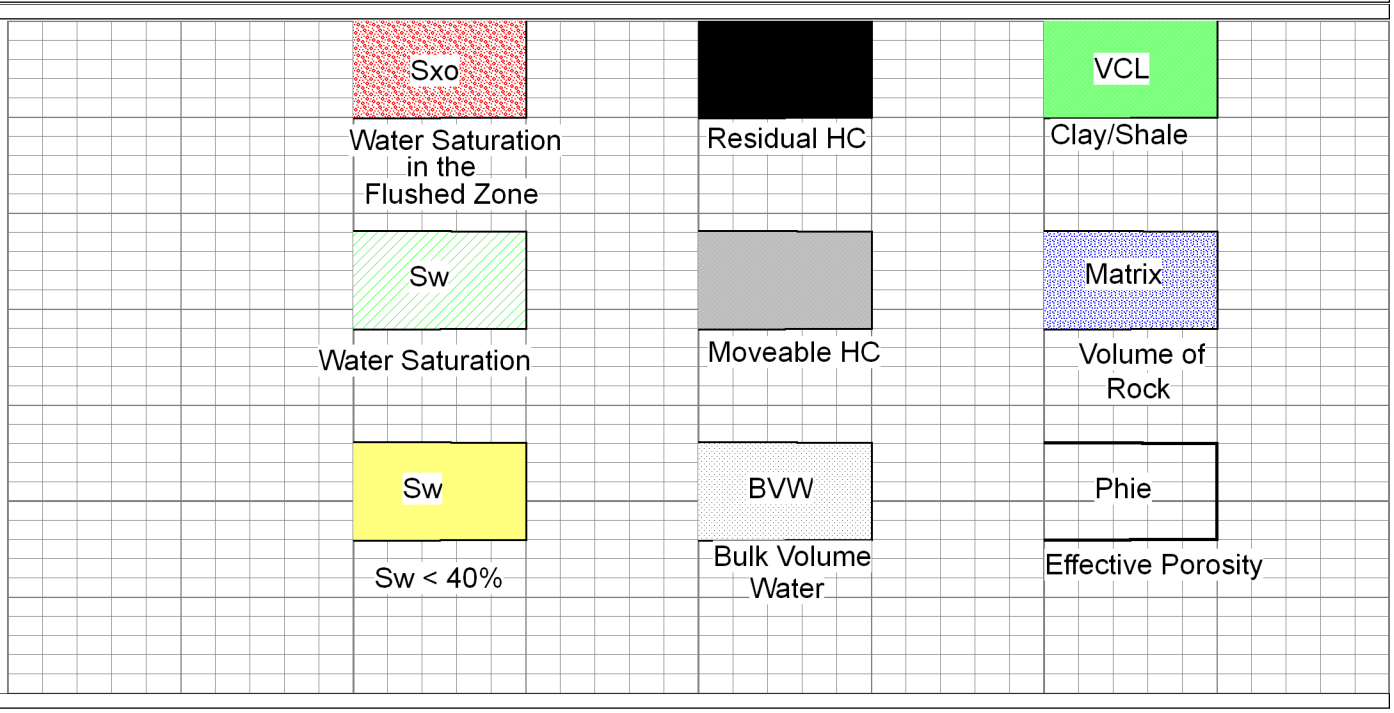
OLMITZ,
3 SOUTH OF HWY 4,
1 WEST, 1 1/2 SOUTH,
WEST INTO

Log Measured From: KELLY BUSHING 6 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: D. SCHMIDT	Primary Witness: BOB HOPKINS
Operator:	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

Database File	cross plots\1wxplt.db
Dataset Pathname	litho
Presentation Format	1wxplt
Dataset Creation	Thu Apr 24 14:32:02 1997
Charted by	Depth in Feet scaled 1:240

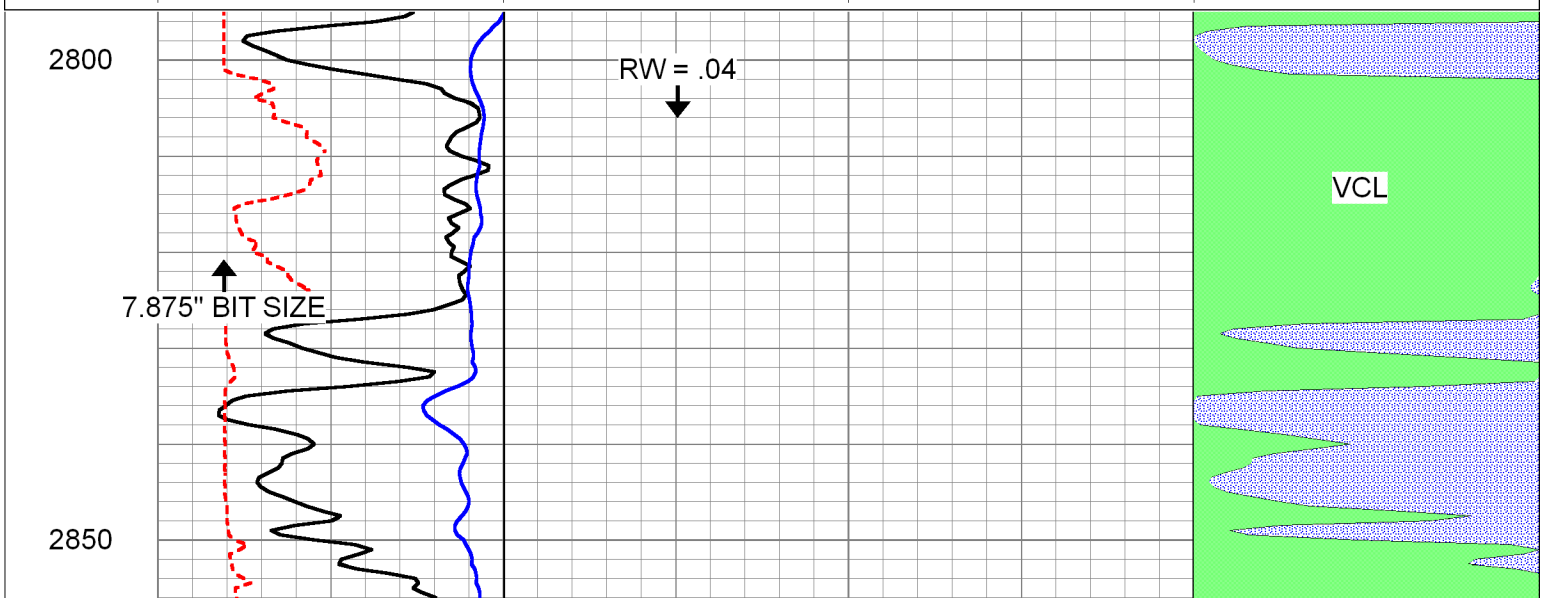


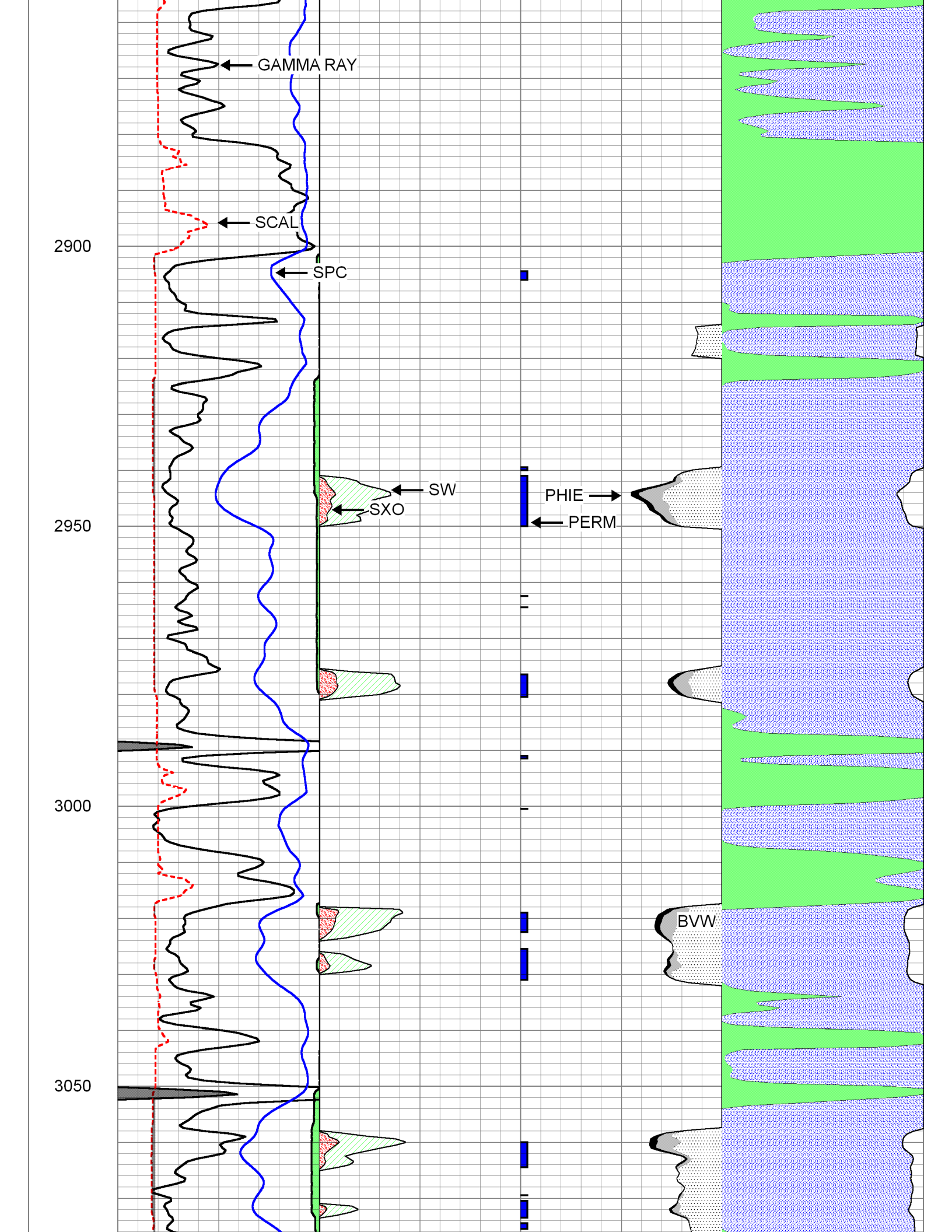
PIONEER
Pioneer Energy Services

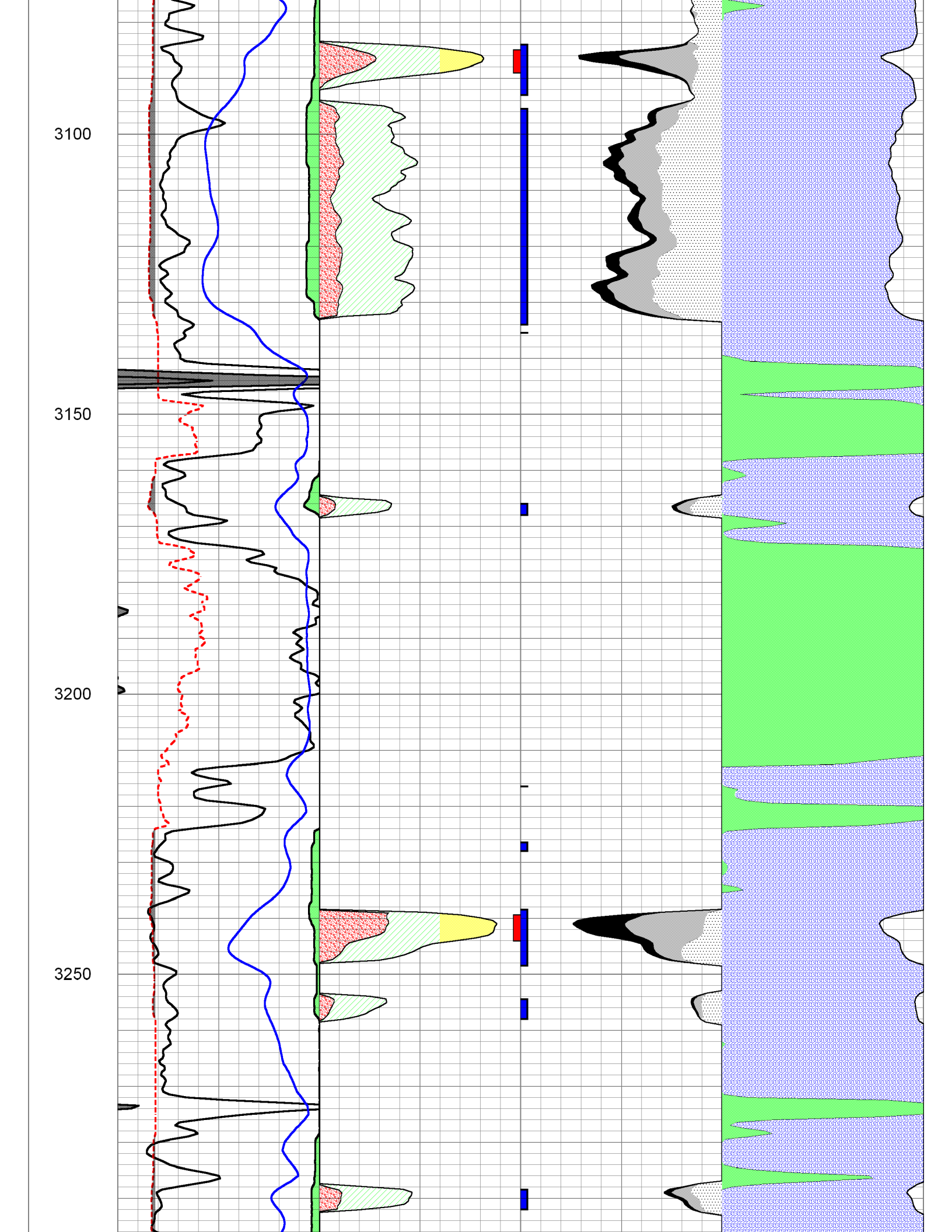
CPI

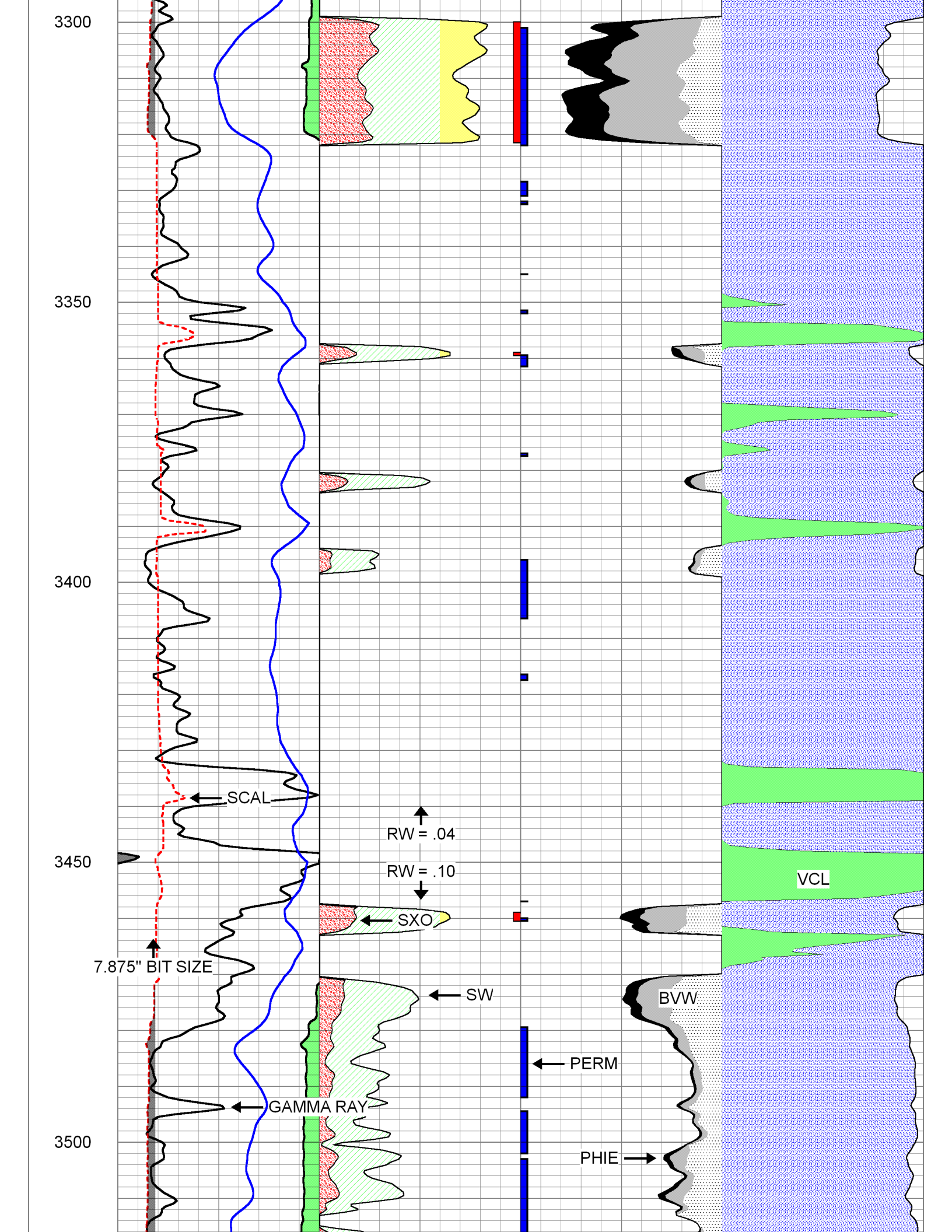
Database File	bennett schulte_g mauler 22-1hd.db
Dataset Pathname	CPI/bscpi
Presentation Format	ragcalc
Dataset Creation	Thu May 03 18:03:36 2018
Charted by	Depth in Feet scaled 1:240

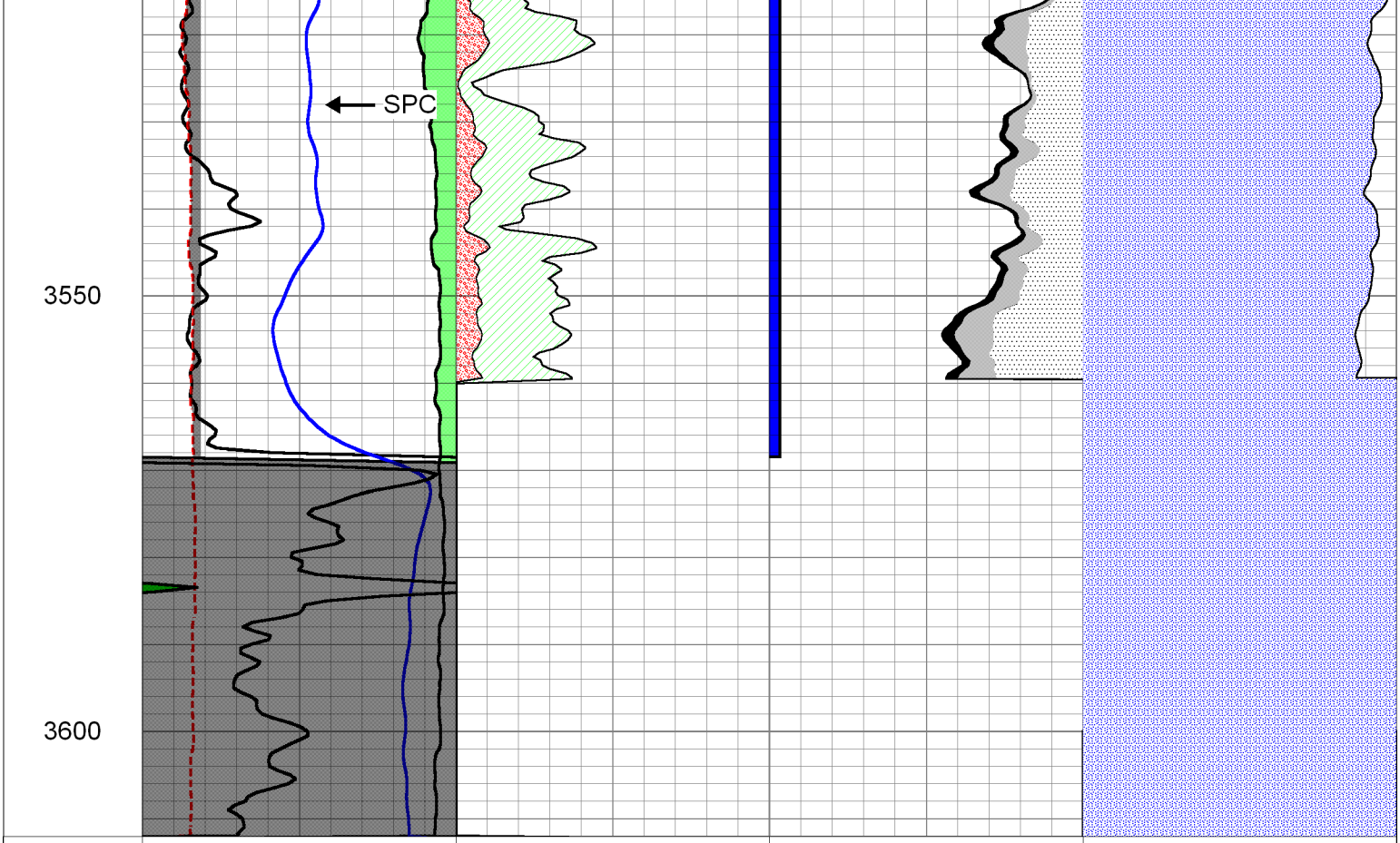
	Gamma Ray		1	SW	0	0.3	PHIE	0	0	VCL	1
0	(GAPI)	150	30	PAYFLAG	0	0.3	BVW	0	1	PHIE	0
6	SCAL (in)	16	1	SXO	0	0	PERM	30			
-150	SPC	0				0.3	BVWSXO	0			




GAMMA RAY
SCAL
SPC
SW
SXO
PHIE
PERM
BVW
2900
2950
3000
3050


3100
3150
3200
3250


3300
3350
3400
3450
3500
SCAL
RW = .04
RW = .10
SXO
7.875" BIT SIZE
SW
GAMMA RAY
PERM
PHIE
VCL
BVW



	Gamma Ray		1	SW	0	0.3	PHIE	0	0	VCL	1
0	(GAPI)	150	30	PAYFLAG	0	0.3	BVW	0	1	PHIE	0
6	SCAL (in)	16	1	SXO	0	0	PERM	30			
-150	SPC	0				0.3	BVWSXO	0			

PIONEER
Pioneer Energy Services

Company	BENNETT & SCHULTE OIL CO.
Well	G MAULER #22-1
Field	N/A
County	BARTON
State	KANSAS

DRILL STEM TEST REPORT

Bennett & Schulte Oil

PO Box 329
Russell KS 67665

ATTN: Robert Hopkins

22-18-15 Barton,KS

G Mauler #22-1

Job Ticket: 63586 **DST#: 2**

Test Start: 2018.04.25 @ 05:07:15

GENERAL INFORMATION:

Formation: **Reagan**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 06:35:45
Time Test Ended: 10:42:45

Test Type: Conventional Bottom Hole (Reset)
Tester: Mike Roberts
Unit No: 81

Interval: 3432.00 ft (KB) To 3442.00 ft (KB) (TVD)
Total Depth: 3442.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

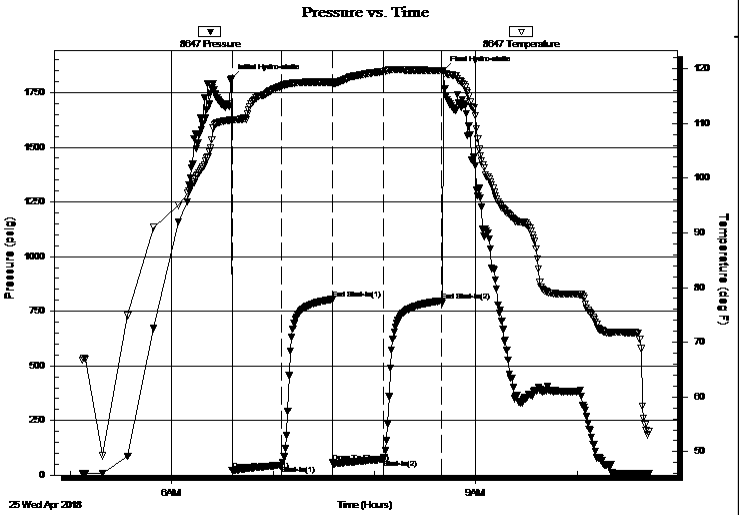
Reference Elevations: 1929.00 ft (KB)
1924.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8647 **Inside**

Press@RunDepth: 73.17 psig @ 3433.00 ft (KB)
Start Date: 2018.04.25 End Date: 2018.04.25
Start Time: 05:07:15 End Time: 10:42:45

Capacity: 8000.00 psig
Last Calib.: 2018.04.25
Time On Btm: 2018.04.25 @ 06:35:15
Time Off Btm: 2018.04.25 @ 08:41:00

TEST COMMENT: IF:BOB in 10 min.
IS:Weak surface blow
FF:BOB in 15 min
FS:Weak surface blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1813.88	110.63	Initial Hydro-static
1	22.13	110.52	Open To Flow (1)
30	46.39	116.86	Shut-In(1)
60	803.76	117.53	End Shut-In(1)
60	57.09	117.21	Open To Flow (2)
91	73.17	119.51	Shut-In(2)
125	797.81	119.68	End Shut-In(2)
126	1852.19	119.67	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	GIP 372 ft.	0.00
62.00	ocm 2%o 98%m	0.87
62.00	mcw 40%m 60%m	0.87

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

Bennett & Schulte Oil

PO Box 329
Russell KS 67665

ATTN: Robert Hopkins

22-18-15 Barton,KS

G Mauler #22-1

Job Ticket: 63586 **DST#: 2**

Test Start: 2018.04.25 @ 05:07:15

GENERAL INFORMATION:

Formation: **Reagan**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 06:35:45
Time Test Ended: 10:42:45

Test Type: Conventional Bottom Hole (Reset)
Tester: Mike Roberts
Unit No: 81

Interval: 3432.00 ft (KB) To 3442.00 ft (KB) (TVD)
Total Depth: 3442.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

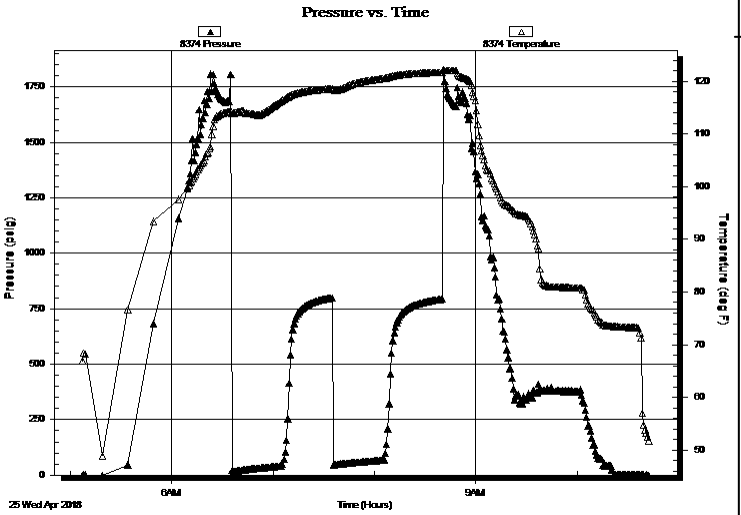
Reference Elevations: 1929.00 ft (KB)
1924.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8374 **Outside**

Press@RunDepth: psig @ 3433.00 ft (KB)
Start Date: 2018.04.25 End Date: 2018.04.25
Start Time: 05:07:15 End Time: 10:42:45

Capacity: 8000.00 psig
Last Calib.: 2018.04.25
Time On Btm:
Time Off Btm:

TEST COMMENT: IF:BOB in 10 min.
IS:Weak surface blow
FF:BOB in 15 min
FS:Weak surface blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
0.00	GIP 372 ft.	0.00
62.00	ocm 2%o 98%m	0.87
62.00	mcw 40%m 60%m	0.87

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Bennett & Schulte Oil

PO Box 329
Russell KS 67665

ATTN: Robert Hopkins

22-18-15 Barton,KS

G Mauler #22-1

Job Ticket: 63586 **DST#: 2**

Test Start: 2018.04.25 @ 05:07:15

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	0 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	24000 ppm
Viscosity:	50.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.94 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	4000.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	GIP 372 ft.	0.000
62.00	ocm 2%o 98%m	0.870
62.00	mcw 40%m 60%m	0.870

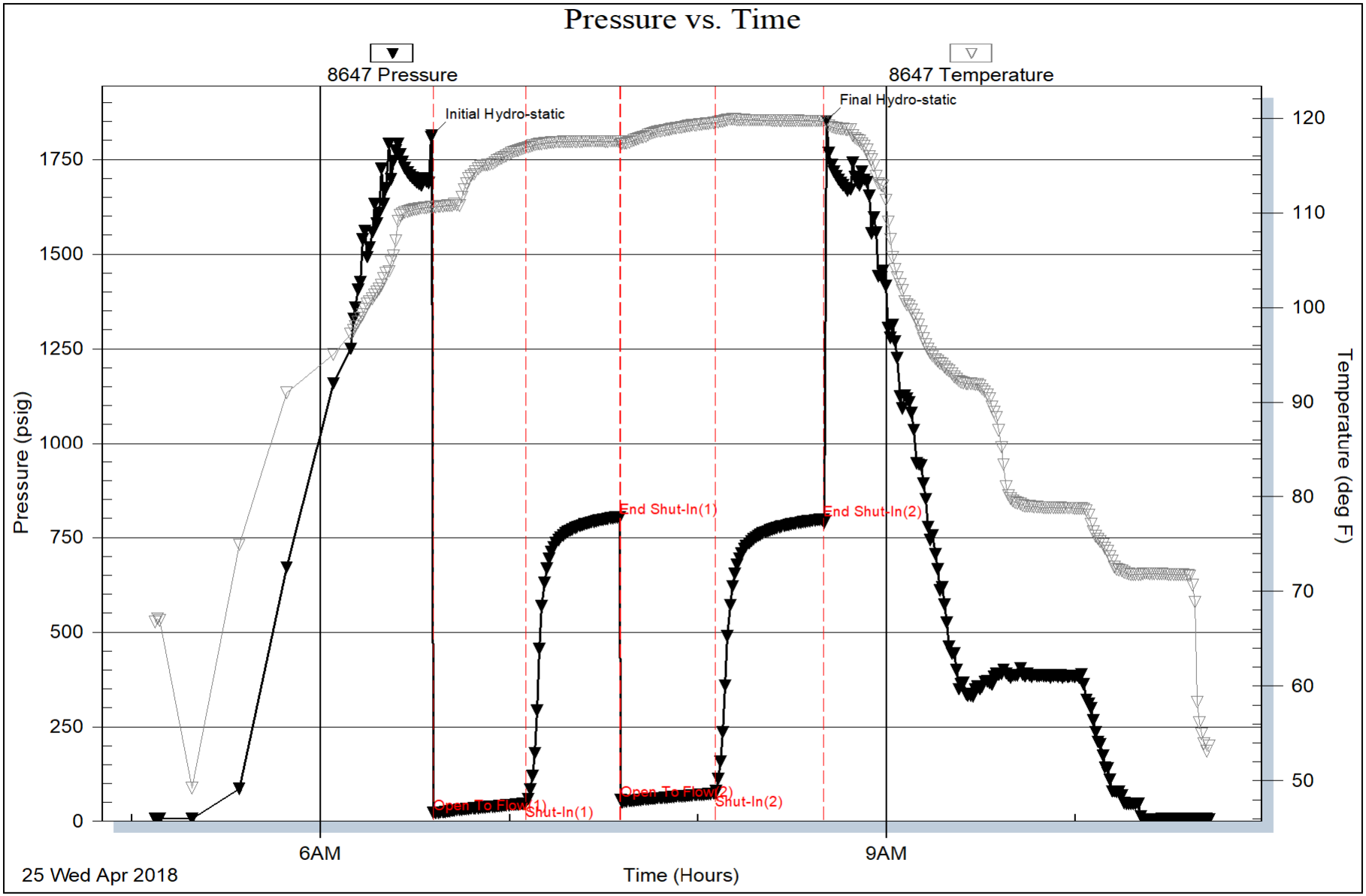
Total Length: 124.00 ft Total Volume: 1.740 bbl

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

Laboratory Name: Laboratory Location:

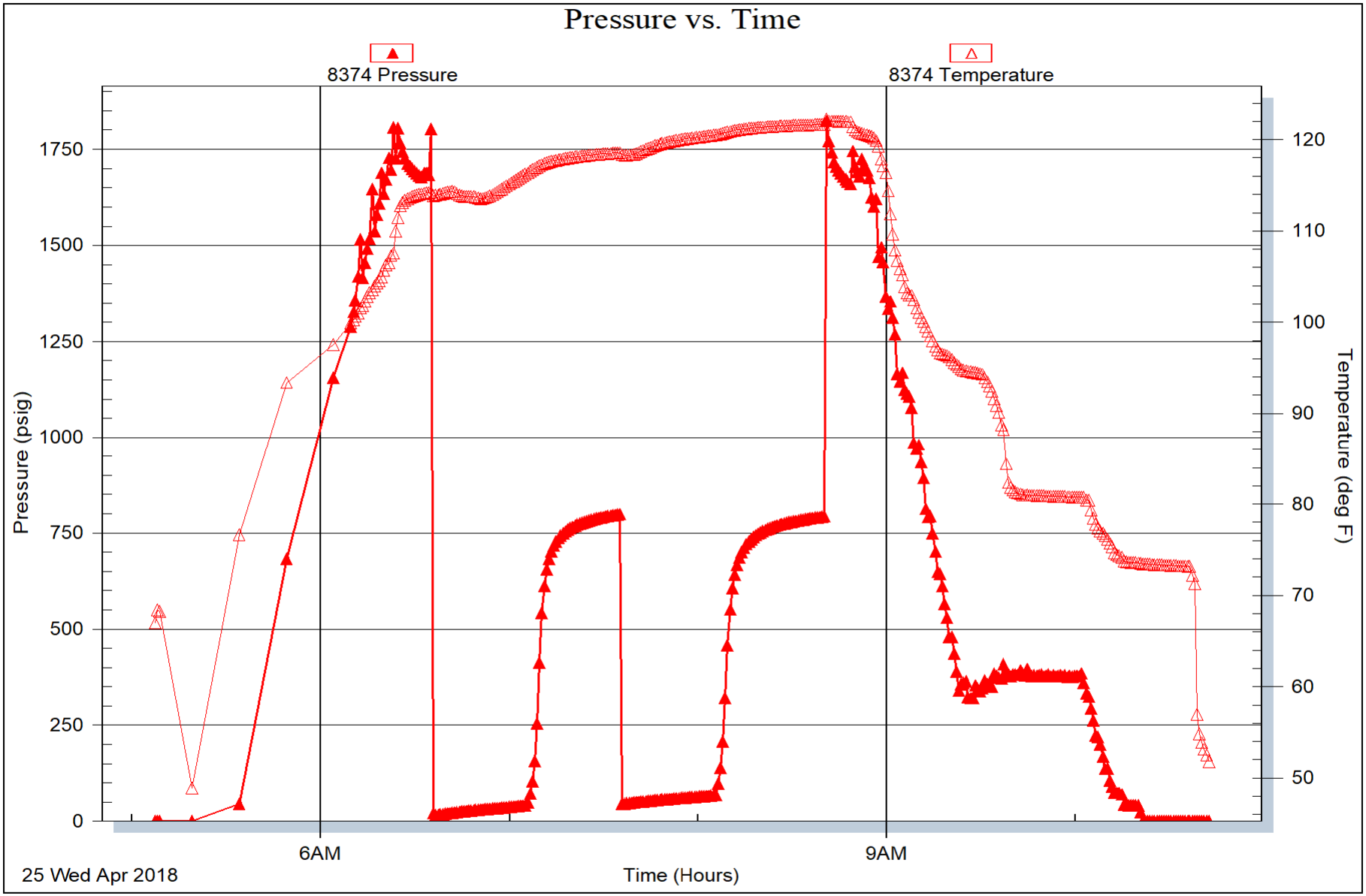
Recovery Comments: RW= .535 @ 42.6= 24,000 ppm

Serial #: 8647 **Inside** Bennett & Schulte Oil G Mauler #22-1 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 63586 Printed: 2018.04.25 @ 11:49:38

Serial #: 8374 **Outside** Bennett & Schulte Oil G Mauler #22-1 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 63586 Printed: 2018.04.25 @ 11:49:38

DRILL STEM TEST REPORT

Bennette and Schulte Oil

P.O. Box 329
Russell KS
67665
ATTN: Robert Hopkins

22-18-15 Barton Co KS

G Mauler 22-1

Job Ticket: 63585 **DST#: 1**

Test Start: 2018.04.24 @ 09:26:23

GENERAL INFORMATION:

Formation: **Lanssing**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 11:17:38
Time Test Ended: 15:04:53

Test Type: Conventional Bottom Hole (Initial)
Tester: Mike Roberts
Unit No: 81

Interval: 3373.00 ft (KB) To 3401.00 ft (KB) (TVD)
Total Depth: 3401.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

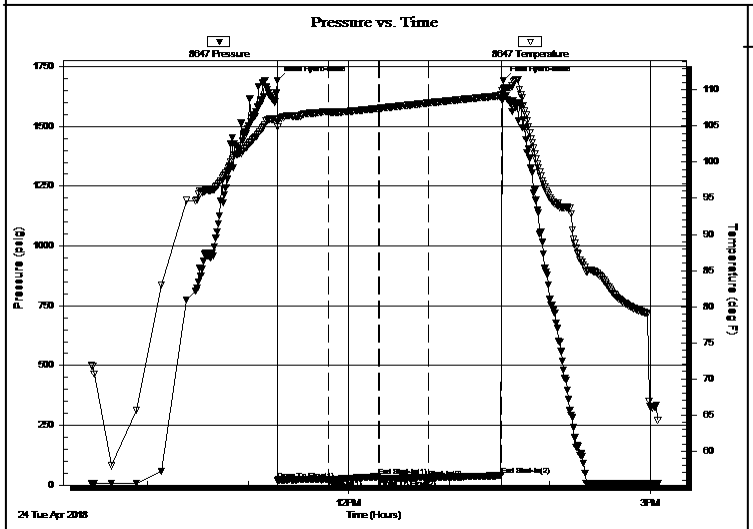
Reference Elevations: 1929.00 ft (KB)
1924.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8647 **Inside**

Press@RunDepth: 29.85 psig @ 3374.00 ft (KB)
Start Date: 2018.04.24 End Date: 2018.04.24
Start Time: 09:26:23 End Time: 15:04:53

Capacity: 8000.00 psig
Last Calib.: 2018.04.24
Time On Btm: 2018.04.24 @ 11:17:23
Time Off Btm: 2018.04.24 @ 13:32:23

TEST COMMENT: IF:Built to 1/8" blow
IS:No return blow
FF:No blow
FS:No return blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1690.77	105.97	Initial Hydro-static
1	21.14	104.93	Open To Flow (1)
31	22.86	106.95	Shut-In(1)
61	35.54	107.43	End Shut-In(1)
61	25.07	107.45	Open To Flow (2)
90	29.85	108.20	Shut-In(2)
134	41.21	109.31	End Shut-In(2)
135	1690.54	110.23	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud 100%m	0.07

Gas Rates

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

DRILL STEM TEST REPORT

Bennette and Schulte Oil

P.O. Box 329
Russell KS
67665
ATTN: Robert Hopkins

22-18-15 Barton Co KS

G Mauler 22-1

Job Ticket: 63585 **DST#: 1**

Test Start: 2018.04.24 @ 09:26:23

GENERAL INFORMATION:

Formation: **Lanssing**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 11:17:38
Time Test Ended: 15:04:53

Test Type: Conventional Bottom Hole (Initial)
Tester: Mike Roberts
Unit No: 81

Interval: 3373.00 ft (KB) To 3401.00 ft (KB) (TVD)
Total Depth: 3401.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

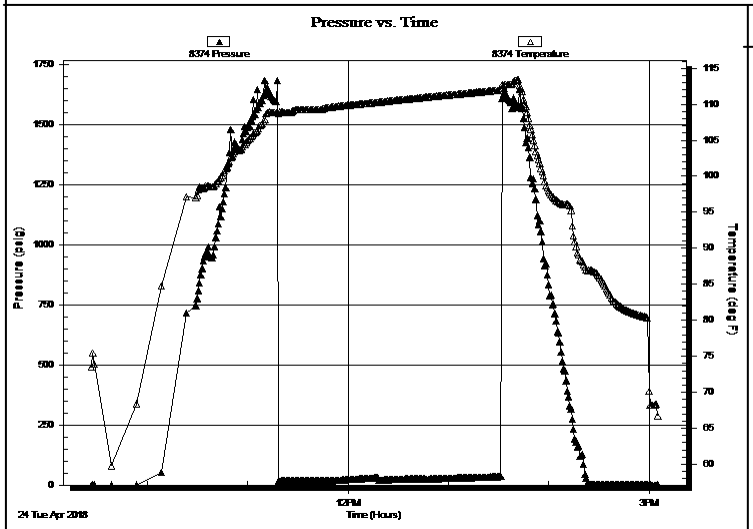
Reference Elevations: 1929.00 ft (KB)
1924.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8374 **Outside**

Press@RunDepth: psig @ 3374.00 ft (KB)
Start Date: 2018.04.24 End Date: 2018.04.24
Start Time: 09:26:49 End Time: 15:05:34

Capacity: 8000.00 psig
Last Calib.: 2018.04.24
Time On Btm:
Time Off Btm:

TEST COMMENT: IF:Built to 1/8" blow
IS:No return blow
FF:No blow
FS:No return blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud 100%m	0.07

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Bennette and Schulte Oil

P.O. Box 329
Russell KS
67665

ATTN: Robert Hopkins

22-18-15 Barton Co KS

G Mauler 22-1

Job Ticket: 63585 **DST#: 1**

Test Start: 2018.04.24 @ 09:26:23

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	0 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	0 ppm
Viscosity:	50.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.97 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	4000.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

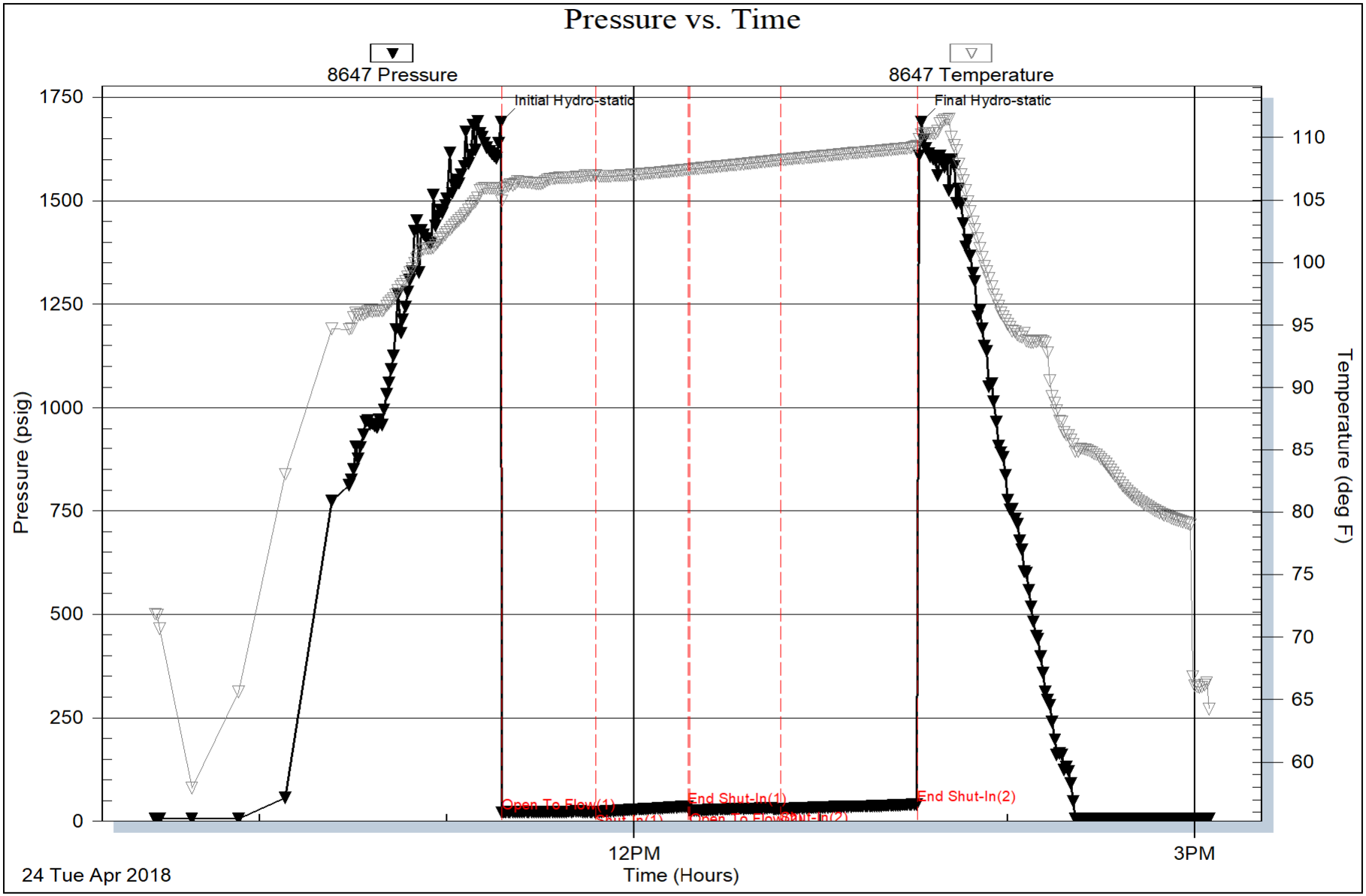
Recovery Table

Length ft	Description	Volume bbl
5.00	mud 100%m	0.070

Total Length: 5.00 ft Total Volume: 0.070 bbl

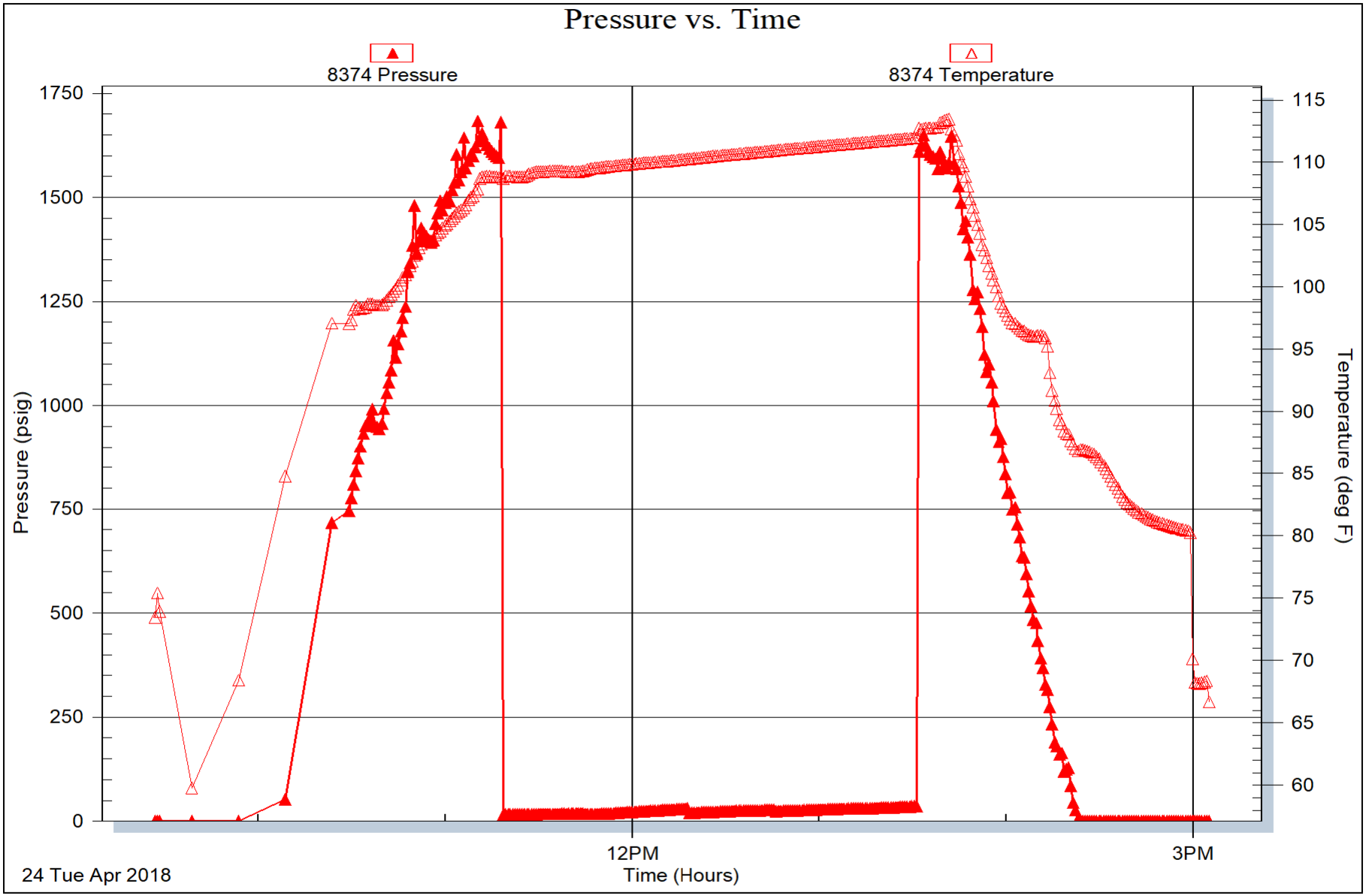
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8647 **Inside** Bennette and Schulte Oil G Mauler 22-1 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 63585 Printed: 2018.04.24 @ 15:20:27

Serial #: 8374 **Outside** Bennette and Schulte Oil G Mauler 22-1 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 63585 Printed: 2018.04.24 @ 15:20:27

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025 Home Office P.O. Box 32 Russell, KS 67665 No. 697

Cell 785-324-1041

Date	Sec.	Twp.	Range	County	State	On Location	Finish
4-20-18	22	18	15	Barton	KS		10:00AM

Location Olmitz + K-4, 4S, 1W, 1/2S, W/S

Lease G. Maules Well No. 22-1

Contractor Royal 1

Type Job Surface

Hole Size 12 1/4" T.D. 935'

Csg. 8 5/8" Depth 935'

Tbg. Size Depth

Tool Depth

Cement Left in Csg. 20' Shoe Joint 20'

Meas Line Displace 58 1/4 BLS

EQUIPMENT

Pumptrk 5 No. Cementer Brett

Bulktrk 19 No. Driver David

~~Bulktrk~~ P.U. No. Driver Rick

JOB SERVICES & REMARKS

Remarks: Cement did Circulate

Rat Hole

Mouse Hole

Centralizers

Baskets

D/V or Port Collar

X Signature Doug Bues

Owner

To Quality Oilwell Cementing, Inc.
You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.

Charge To Bennett + Shulte

Street

City State

The above was done to satisfaction and supervision of owner agent or contractor.

Cement Amount Ordered 380 80/20 3% CC 2% Gel

Common 305

Poz. Mix 75

Gel. 7

Calcium 13

Hulls

Salt

Flowseal

Kol-Seal

Mud CLR 48

CFL-117 or CD110 CAF 38

Sand

Handling 400

Mileage

FLOAT EQUIPMENT

Guide Shoe ~~Baffle plate~~

Centralizer Rubber plug

Baskets

AFU Inserts

Float Shoe

Latch Down

Pumptrk Charge Long Surface

Mileage 16

Tax

Discount

Total Charge

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025 Home Office P.O. Box 32 Russell, KS 67665 No. 753

Cell 785-324-1041

Date	Sec.	Twp.	Range	County	State	On Location	Finish
4-26-18	22	18	15	Barton	Ks		8:45 PM

Location Olmitz + Hwy 4 - 35 to Blacktop, 1W,

Lease G. Mauler Well No. 22-1 Owner 1½ S, W Into

Contractor Royal #1

Type Job Longstring

Hole Size 7 7/8" T.D. 3631'

Csg. 5½" New 15.50# Depth 3643.76'

Tbg. Size Depth

Tool Depth

Cement Left in Csg. 19.19' Shoe Joint 19.19'

Meas Line Displace 86 1/4 Bbls

To Quality Oilwell Cementing, Inc.
You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.

Charge To Bennett + Shulte

Street

City State

The above was done to satisfaction and supervision of owner agent or contractor.

Cement Amount Ordered 180 Q Pro-C 10% Salt 5% Gilsonite 500 gal mud Clear 48

Common 180 @ pro-C

Poz. Mix

Gel.

Calcium

Hulls

Salt 15

Flowseal 800

Kol-Seal

Mud CLR 48 500 gal

CFL-117 or CD110 CAF 38

Sand

Handling 203

Mileage

EQUIPMENT

Pumptrk 17 No. Cementer Helper Travis

Bulktrk 14 No. Driver Driver Glenn

~~Bulktrk~~ P.U. No. Driver Driver Rick

JOB SERVICES & REMARKS

Remarks:

Rat Hole

Mouse Hole

Centralizers 1 5' above F. Shoe, 1, 2, 3, 6, 9, 12

Baskets 1, 7.

D/V or Port Collar Pipe on bottom break Circulation pump 500 gal mud Clear 48, plug Rathole w/ 30 sx plug mousehole w/ 15 sx Hook to 5½" Casing + mix 135 sx Cement wash pump + lines Released plug + Displaced w/ 86 1/4 Bbls H2O, Released + held. Lift pressure 700 # Land plug to 1500 #

FLOAT EQUIPMENT

Guide Shoe Limit Clamp

Centralizer 7

Baskets 2

AFU Inserts

Float Shoe 1

Latch Down 1

Pumptrk Charge prod String

Mileage 15

Tax

Discount

Total Charge

X Signature Doug Bundy

ROBERT T. HOPKINS, L.G., C.P.G.
709 Harold Ave.
Salina, Kansas 67401
cell (785) 819-2460

April 27, 2018

Bennett & Schulte Oil Co.
Attention: Frank Schulte
P.O. Box 329
Russell, Kansas 67665-2746

Bennett & Schulte Oil Co. – Mauler 22-1, 2146' FSL, 1294' FEL, Section 22, T18S, R15W, Barton County, Ks.

Frank:

Attached to this summary letter is my lithologic log for the above-captioned well. The oil and gas recovery from DST #3 in the Reagan Sandstone, prompted me to recommend cementing in 5½" production casing for completion. We discussed perforation strategy for this well in your office.

Sample shows and overall quality were as follows (log corrected depths):

formation	depth interval	visible quality of show
Oread Ls.	3100-3103'	very poor
LKC A	3224-3226'	very poor
LKC C	3238-3242'	poor (gas ?)
LKC G	3300-3304'	poor (gas ?)
LKC J	3358-3360'	very poor
LKC K	3380-3384'	good (DST #1 – mud)
Conglomerate Ss.	3472-3478'	very poor
Gorham (?) Ss.	3532-3540'	very good (DST #2 – gas, vsocm, mcw)
upper Reagan Ss.	3544-3552'	excellent (DST #3 – gts, gwco, ow, mw)

formation (continued)	depth interval	visible quality of show
lower Reagan Ss.	3552-3570'	decreasing to poor

Following is a log top comparison of this well (Mauler 22-1) log to the Bennett & Schulte Kuhlman 23-1 dry hole in NW¼ Section 23 (log) and the Imperial Oil Kuhlman #1 dry hole in SW¼ Section 23 (log tops from scout ticket):

LOG TOP COMPARISON:

Formation	Mauler 22-1 log tops	compared to B&S Kuhlman 23-1 log	compared to Imperial Kuhlman 1 scout ticket
Anhydrite	918 (+1012)	+ 12 (+1000)	+15 (+997)
Topeka Ls.	2902(-972)	+20 (-992)	not called
Heebner Sh.	3142(-1212)	+20 (-1232)	+20 (-1232)
LKC A	3224(-1294)	+20 (-1314)	+18 (-1312)
LKC H	3322(-1392)	+22 (-1414)	not called
BKC	3447(-1517)	+22 (-1539)	+28 (-1545)
Conglomerate Ss.	3472(-1542)	+16 (-1558)	not called
Arbuckle	absent	--- (-1608)	absent ?
Reagan Ss.	3544(-1614)	NDE	NDE
Granite	3620(-1690)	NDE	NDE

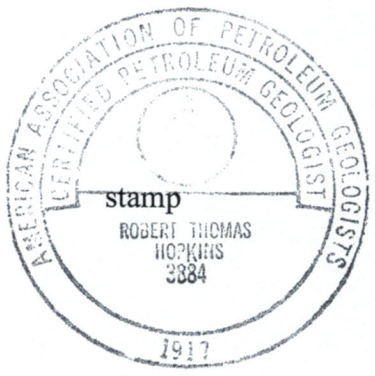
If you have any questions, please call me at 785-819-2460. Thank you for this opportunity to serve you!

Sincerely,

Robert T. Hopkins

Robert T. Hopkins, L.G., C. P. G.

attachments



LITHOLOGIC LOG

ROBERT HOPKIN[illegible] consulting geologist

Operator Bennett & Schulte
Lease / Well Mauler 22-1
GL 1924' KB 1930' * (measure from *)

Location 2146 FSL, 1294 FEL, 22-18-15W
County Barton State KS
depth this sheet - from [illegible] to 2880 O.A.

scale 1" = 20'
page 1 of 6

DRILLING TIME (min/ft) 1 2 3 4 5 6 7 8

DEPTH | tops / shows | lith graph | DESCRIPTION (lithology, DSTs, mud properties)

900

Anh

Anhydrite 918-51'

set 936' - 8 5/8" surface

1/4° deviation @ 935'

50

MUD VIS 76; wt. 8.5

wh-tan fnxln lst, lite, N.S.

2800

gry sh - siltstone

bf-gry fnxln lst., lite, N.S.
sl. fossiliferous

50

o/a, sl. fossiliferous to oolitic

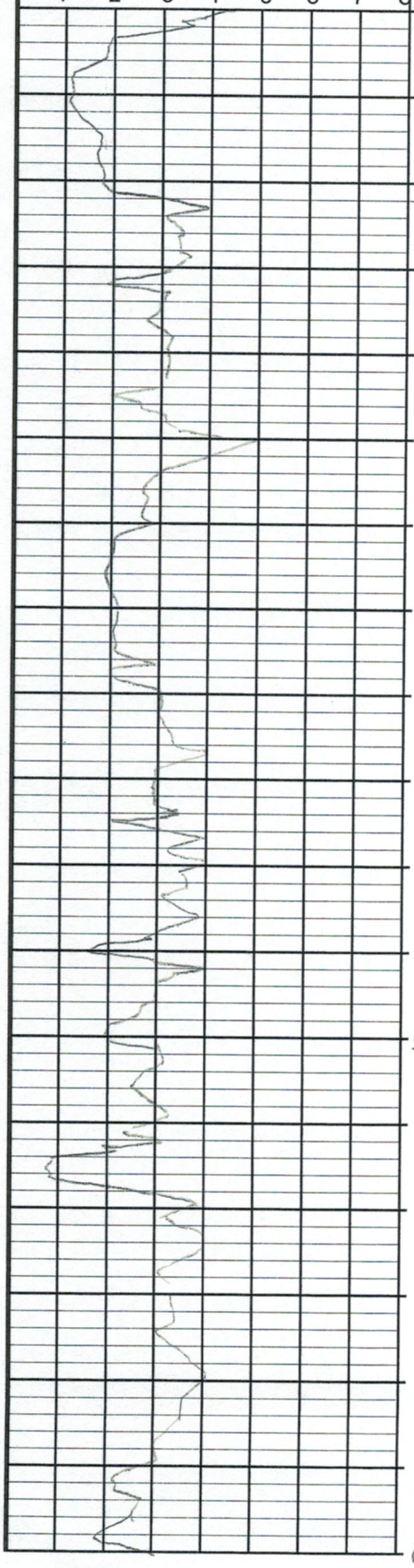
80

LITHOLOGIC LOG

ROBERT HOPKIN onsulting geologist

Operator Bennett & Schulte
Lease / Well Mauler 22-1
GL _____ KB 1930 (measure from *)

Location 2146 FSL, 1294 FEL, 22-18-15W
County Barton State KS
depth this sheet - from 2880 to 3060
scale 1" = 20'
page 2 of 6



tops	lith graph	DESCRIPTION (lithology, DSTs, mud properties)
		MUD VIS 69, WT. 8.5
		dk gry sh.
Top		Topeka 2902(-972) Ls.
		bf-gry fnxln lst, sl. foss, tite, N.S.
		bf fnxln lst, tite, N.S.
		gry fn-medxln foss. lst., tite, N.S.
		gry sh.
		wh-bf fnxln tite lst., N.S.
		blk sh
		wh fnxln lst., tite, N.S., chalky
		Deer Creek Ls.
		gry sh, siltstone
		wh-gry fnxln lst, tite, N.S; sl. pyritic
		Lecompton Ls.
		dk gry sh.
		sh.

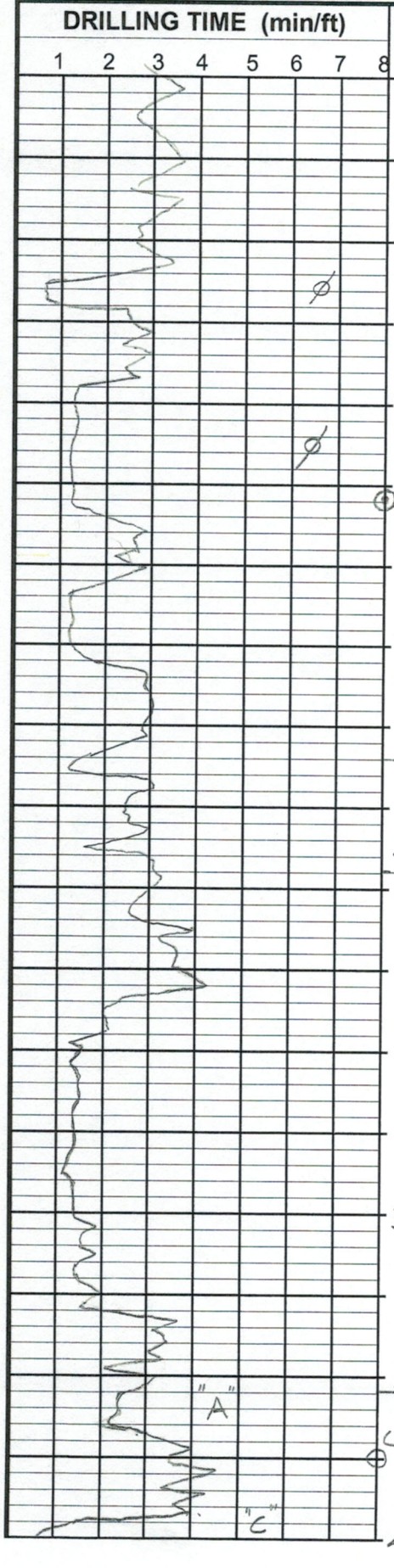
LITHOLOGIC LOG

ROBERT HOPKIN[illegible] consulting geologist

Operator Bennett & Schutte
Lease / Well Mauler 22-1
GL _____ KB 1930' (measure from *)

Location 2146 FSL, 1294 FEL, 22-18-15W
County Barton State KS
depth this sheet - from 3060 to 3240

scale 1" = 20'
page 3 of 6



tops / shows | lith graph

DESCRIPTION (lithology, DSTs, mud properties)

wh-gry fnxln lst., sl. foss., tite, n.s.

MUD VIS 62, wt 8.6

Oread Ls

wh. oolitic lst., fair ϕ, n.s.

wh-bf fnxln lst., oomoldic, fair ϕ, trc oil stn, no free oil, no odor

wh fnxln lst., sl. chalky, sl. ϕ, n.s.

sl. pyritic

Heebner 3144' (-1214)

blk carb. sh., sl. pyritic

dk gry sh.

Toronto Ls. 3158'

wh fn-modxln tite lst., trc dead oil stn, no free oil, no odor
sl. oolitic

lt-dk gry sh.

Brown Ls. 3212'

Top LKC 3222 (-1292)

dk brn foss lst., tite, n.s.

wh fnxln lst., poor ϕ, trc stn, no free oil, some odor

bf granular lst., tite, n.s.

sh.

vsso (see p. 4)

LITHOLOGIC LOG

ROBERT HOPKIN onsulting geologist

Operator Bennett & Schulte
Lease / Well Mauler 22-1
GL ____ KB 1930' (measure from *)

Location 2146 FSL, 1294 FEL, 22-18-15W
County Barton State KS
depth this sheet - from 3240 to 3420

scale 1" = 20'
page 4 of 6

DRILLING TIME (min/ft) 1 2 3 4 5 6 7 8

DEPTH	tops / shows	lith graph	DESCRIPTION (lithology, DSTs, mud properties)
40			
CFS	VSSO		tan oolitic lst., sl. ϕ, strong odor, trc stn, no free oil — MUD 57 vis, wt 8.6, possible gas (?)
50			wh-gry fn x ln tite lst., n.s.
			dk gry sh.
			wh-bf fn x ln lst., tite, n.s.
3300			tan med x ln oomoldic lst., fair ϕ, fair odor, no free oil, no stn.
CFS			bf fn-med x ln tite lst., sl. foss., n.s. " "
			bf fn-med x ln lst., sl. cherty, tite, n.s. — Top H 3322 (-1392)
			a/a, w/ frc dead oil stn, no odor or free oil
			dk gry sh.
50			brn-gry, fn-med x ln lst., tite, sl. odor, frc dead oil stn.
			blk gry sh.
DST #1			MUD VIS 47, wt 8.9 — bf fn x ln oolitic lst.; sl. ϕ, free oil, fair stn, foss, gas bubbles; good odor, solvent cut
			DST #1: 3373-3401 (K) 30", 30", 30", 30" "B" blow 1st, no blow 2nd SIP 35-41#, FP 21-25# REC: 5' mud
			blk sh.
3400			bf fn x ln tite lst., n.s.
			blk sh.
			wh fn x ln lst., tite, n.s.
20			dev @ 3401' - 1°

"C" "D" E, F "G" ϕ "H" "I" "J" "K" "L"

LITHOLOGIC LOG

ROBERT HOPKIN[illegible] onsulting geologist

Operator Bennett & Schulte
Lease / Well Mauler 22-1
GL _____ KB 1930' (measure from *)

Location 2146' FSL, 1294 FEL, 22-18-15W
County Barton State KS
depth this sheet - from 3420 to 3600
scale 1" = 20'
page 5 of 6

DRILLING TIME (min/ft) 1 2 3 4 5 6 7 8

DEPTH | tops shows | lith graph | DESCRIPTION (lithology, DSTs, mud properties)

20

"L"

"M"

wh lst, tite, n.s. — MUD VIS 48, wt 8.9

gry sh.

wh fwx/n lst, tite, n.s.

BKC 3447 (-1517)

BKC

50

dk gy-red sh, sl. pyritic

wh fwx/n lst, tite, n.s.

red-gry sh, w/ red chert lst. — Conglomerate 3470 (-1540)

Cong

clear sst, trc dead stn, no free oil, sl. gas odor w/ red-clear chert, lst fragments

wh tite lst, n.s., w/ streaks of gry sh, cherty

CFS

wh sst, w/ wh-orange chert, sl. ϕ, n.s. — MUD VIS 50, wt 9.4

3500

gry sh strks

sst, a/a, w/ sh streaks, red-wh chert

(?) SD. 3534 (-1604)

wh tite lst, n.s. (?)

tan med gr sst, fair ϕ, good v. light free oil, good oil odor (condensate in deeper wells)

CFS

wh frosted sst, poor sorting, fair ϕ, free oil, gd stn. flecting odor, interbedded w/ gry-blk sh.

DST #2: 3532-3542' SD
30", 30", 30", 30"
BOB - 10/15", weak bb
SIP: 800-797#, FP 22-13#
Rec: 372' gip, 62' SOCM, 62' MCW
MUD VIS 51, wt. 9.2

50

DST #3

CFS

dk gry-blk sh.

wh coar sst, micaceous (granite), very porous

Reagan SD. 3544-64

Granite Wash 3570

CFS

red-wh granite, micaceous weathered, gd ϕ, n.s.

DST #3: 3542-64' Reagan
30", 30", 30", 30"
Strong blow, GTS 9", BB
SIP: 772-770#, FP 265-14#
Rec: 310' WGO, 1', 248' OW, 558' MW.

3600

LITHOLOGIC LOG

ROBERT HOPKIN consulting geologist

Operator Bennett & Schulte
Lease / Well Mauler 22-1
GL _____ KB 1930 (measure from *)

Location 2146' FSL, 1294' FEL, 22-18-15W
County Barton State KS
depth this sheet - from 3600 to 3631'
scale 1" = 20'
page 6 of 6

DRILLING TIME (min/ft) 1 2 3 4 5 6 7 8

DEPTH	tops / shows	lith graph	DESCRIPTION (lithology, DSTs, mud properties)
3600			granite wash, decomposed, a/a
			Top Hard Granite 3620'
G			crystalline red granite, hard
			RTD
			RTD 3631'
			Run OH Logs (Pioneer); Run 5½ casing
			Reagan DST - 14,000 ppm Cl⁻ (0.549 Rw @ 55°F