KOLAR Document ID: 1329360

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 # 33605
Name: Joe Gerstner Oil, LLC
Address 1: PO BOX 509
Address 2:
City: NESS CITY State: KS Zip: 67560 + ____
Contact Person: Debra Stenzel
Phone: (785) 798-2346
CONTRACTOR: License # 33575
Name: WW Drilling, LLC
Wellsite Geologist: Andrew Stenzel
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 #:

12/11/2016 Spud Date or Recompletion Date
12/17/2016 Date Reached TD
12/17/2016 Completion Date or Recompletion Date

API No.: 15-165-22141-00-00
Spot Description:
NW - SE - SW - SE Sec. 3 Twp. 19 S. R. 17 ☐ East ☑ West
390 Feet from ☐ North / ☑ South Line of Section
1705 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: Rush
Lease Name: LLG Well #: 1-3
Field Name:
Producing Formation: None
Elevation: Ground: 2095 Kelly Bushing: 2099
Total Vertical Depth: 3941 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 1135 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: 18300 ppm Fluid volume: 750 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: 01/24/2017
☑ **Confidential Release Date:** 01/24/2019
☑ **Wireline Log Received** ☐ **Drill Stem Tests Received**
☐ **Geologist Report / Mud Logs Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** Karen Ritter **Date:** 01/24/2017

Operator Name: Joe Gerstner Oil, LLC Lease Name: LLG Well #: 1-3

Sec. 3 Twp. 19 S. R. 17 ☐ East ☑ West County: Rush

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:
Attached

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

Name	Top	Datum
Anhy	1202	+897
Base Anhy	1228	+871
Heebner	3431	-1332
Toronto	3451	-1352
Lansing	3483	-1384
BKC	3749	-1650
LTD	3941	-1842

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	1135	common	350	3% cc, 2% gel

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	Joe Gerstner Oil, LLC
Well Name	LLG 1-3
Doc ID	1329360

All Electric Logs Run

CDNL
DIL
GR
ML

Form	ACO1 - Well Completion
Operator	Joe Gerstner Oil, LLC
Well Name	LLG 1-3
Doc ID	1329360

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	1135	common	350	3% cc, 2% gel

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Joe Gerstner Oil LLC**

PO BOX 509
Ness City KS 67560

ATTN: Andrew Stenzel/ Debr

LLG #1-3

S3-19S-17W Rush,KS

Start Date: 2016.12.15 @ 20:04:00
End Date: 2016.12.16 @ 02:53:15
Job Ticket #: 61869 DST #: 1

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2016.12.19 @ 10:41:44

DRILL STEM TEST REPORT

Joe Gerstner Oil LLC

PO BOX 509
Ness City KS 67560

ATTN: Andrew Stenzel/ Debr

S3-19S-17W Rush,KS

LLG #1-3

Job Ticket: 61869 **DST#: 1**

Test Start: 2016.12.15 @ 20:04:00

GENERAL INFORMATION:

Formation: **LKC 'B'**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 22:23:15
Time Test Ended: 02:53:15

Test Type: Conventional Bottom Hole (Initial)
Tester: Spencer J. Staab
Unit No: 84

Interval: 3501.00 ft (KB) To 3550.00 ft (KB) (TVD)
Total Depth: 3550.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

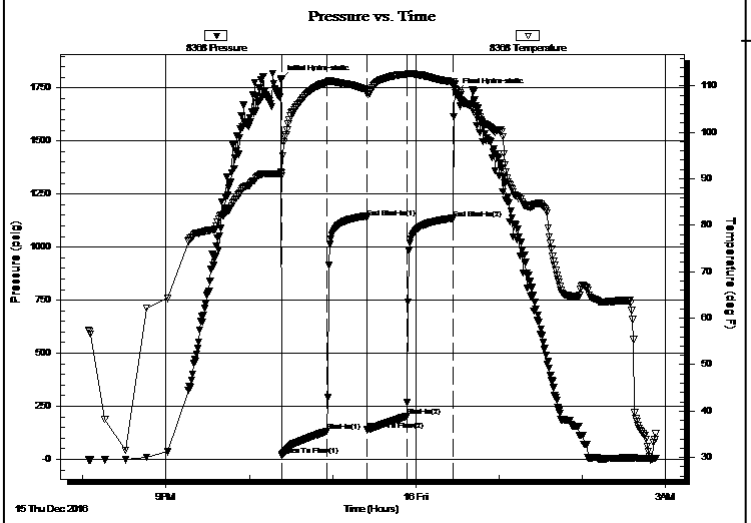
Reference Elevations: 2099.00 ft (KB)
2091.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8368 **Inside**

Press@RunDepth: 201.98 psig @ 3502.00 ft (KB)
Start Date: 2016.12.15 End Date: 2016.12.16
Start Time: 20:04:15 End Time: 02:53:15

Capacity: 8000.00 psig
Last Calib.: 2016.12.16
Time On Btm: 2016.12.15 @ 22:23:00
Time Off Btm: 2016.12.16 @ 00:28:45

TEST COMMENT: 30-IF-BOB in 11 minutes
30-ISI-Weak Blow Back; built to 1/2"
30-FF-BOB in 16 minutes
30-FSI-Weak Blow Back; built to 1/4"



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1790.79	91.52	Initial Hydro-static
1	19.90	90.62	Open To Flow (1)
33	132.55	110.80	Shut-In(1)
62	1139.15	109.21	End Shut-In(1)
62	138.52	108.68	Open To Flow (2)
91	201.98	112.50	Shut-In(2)
124	1134.98	110.82	End Shut-In(2)
126	1725.75	109.08	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
399.00	WM 50% W 50%M	4.49
11.00	Clean Oil 100% O	0.15

Gas Rates

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

DRILL STEM TEST REPORT

Joe Gerstner Oil LLC

PO BOX 509
Ness City KS 67560

ATTN: Andrew Stenzel/ Debr

S3-19S-17W Rush,KS

LLG #1-3

Job Ticket: 61869 **DST#: 1**

Test Start: 2016.12.15 @ 20:04:00

GENERAL INFORMATION:

Formation: **LKC 'B'**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 22:23:15
Time Test Ended: 02:53:15

Test Type: Conventional Bottom Hole (Initial)
Tester: Spencer J. Staab
Unit No: 84

Interval: 3501.00 ft (KB) To 3550.00 ft (KB) (TVD)
Total Depth: 3550.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

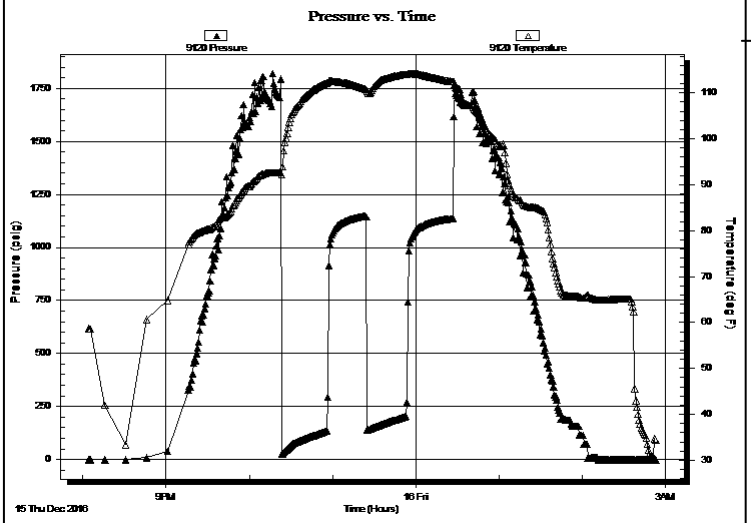
Reference Elevations: 2099.00 ft (KB)
2091.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 9120 **Outside**

Press@RunDepth: psig @ 3502.00 ft (KB)
Start Date: 2016.12.15 End Date: 2016.12.16
Start Time: 20:04:15 End Time: 02:53:15

Capacity: 8000.00 psig
Last Calib.: 2016.12.16
Time On Btm:
Time Off Btm:

TEST COMMENT: 30-IF-BOB in 11 minutes
30-ISI-Weak Blow Back; built to 1/2"
30-FF-BOB in 16 minutes
30-FSI-Weak Blow Back; built to 1/4"



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
399.00	WM 50% W 50%M	4.49
11.00	Clean Oil 100% O	0.15

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Joe Gerstner Oil LLC

PO BOX 509
Ness City KS 67560

ATTN: Andrew Stenzel/ Debr

S3-19S-17W Rush,KS

LLG #1-3

Job Ticket: 61869 **DST#: 1**

Test Start: 2016.12.15 @ 20:04:00

Tool Information

Drill Pipe:	Length:	3384.00 ft	Diameter:	3.80	inches	Volume:	47.47	bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length:	ft	Diameter:		inches	Volume:	-	bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length:	121.00 ft	Diameter:	2.25	inches	Volume:	0.60	bbl	Weight to Pull Loose:	62000.00 lb
						Total Volume:	-	bbl	Tool Chased	ft
Drill Pipe Above KB:		32.00 ft							String Weight: Initial	58000.00 lb
Depth to Top Packer:		3501.00 ft							Final	60000.00 lb
Depth to Bottom Packer:		ft								
Interval betw een Packers:		49.00 ft								
Tool Length:		77.00 ft								
Number of Packers:		1	Diameter:	6.75	inches					

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			3474.00		
Shut In Tool	5.00			3479.00		
Hydraulic tool	5.00			3484.00		
Jars	5.00			3489.00		
Safety Joint	3.00			3492.00		
Packer	5.00			3497.00	28.00	Bottom Of Top Packer
Packer	4.00			3501.00		
Stubb	1.00			3502.00		
Recorder	0.00	9120	Outside	3502.00		
Recorder	0.00	8368	Inside	3502.00		
Perforations	10.00			3512.00		
Change Over Sub	1.00			3513.00		
Drill Pipe	32.00			3545.00		
Change Over Sub	1.00			3546.00		
Bullnose	4.00			3550.00	49.00	Bottom Packers & Anchor
Total Tool Length:	**77.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Joe Gerstner Oil LLC

PO BOX 509
Ness City KS 67560

ATTN: Andrew Stenzel/ Debr

S3-19S-17W Rush,KS

LLG #1-3

Job Ticket: 61869 **DST#: 1**

Test Start: 2016.12.15 @ 20:04:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	36 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	72500 ppm
Viscosity:	54.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.98 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	7900.00 ppm				
Filter Cake:	inches				

Recovery Information

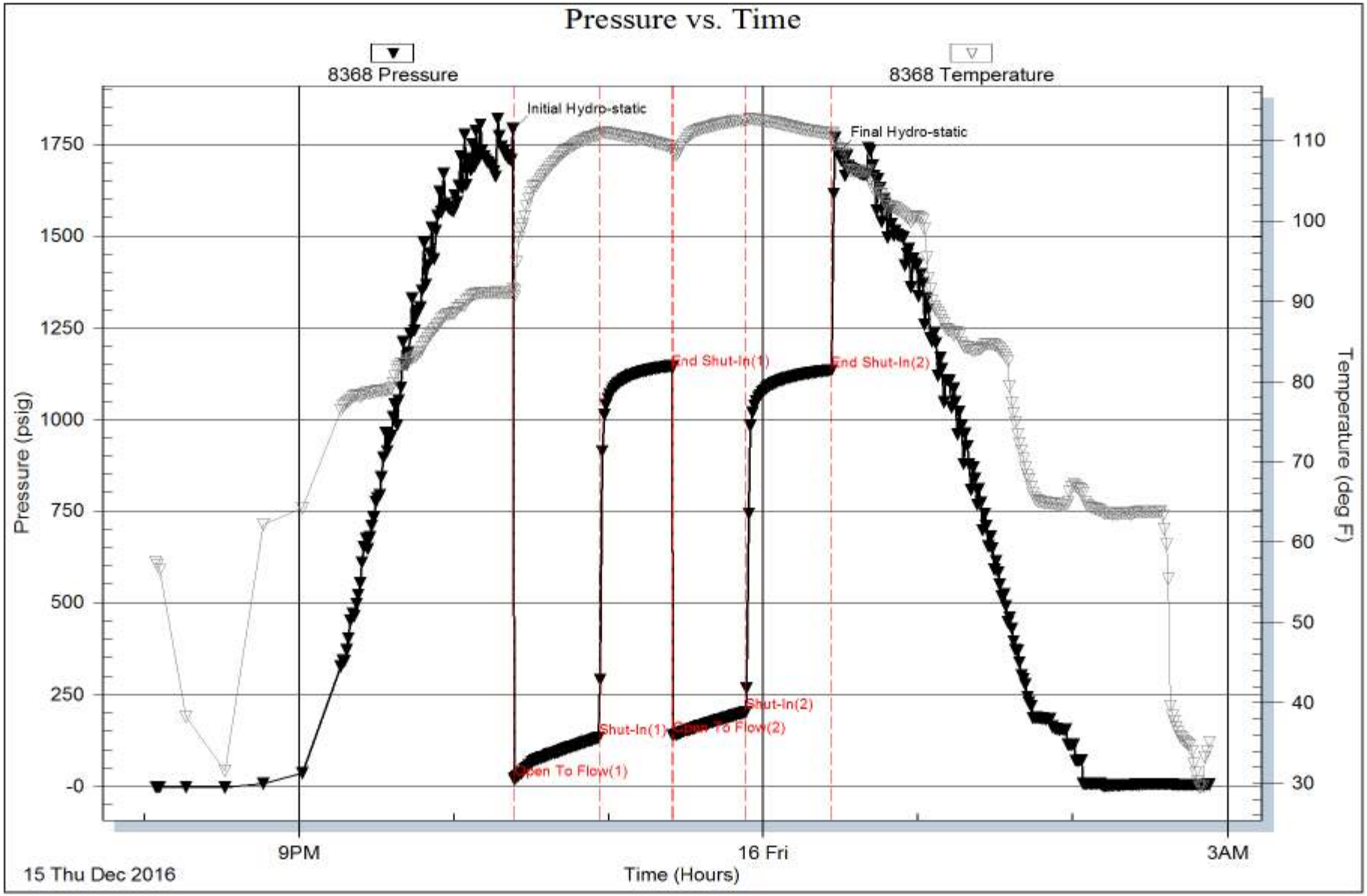
Recovery Table

Length ft	Description	Volume bbl
399.00	WM 50% W 50%M	4.495
11.00	Clean Oil 100% O	0.154

Total Length: 410.00 ft Total Volume: 4.649 bbl

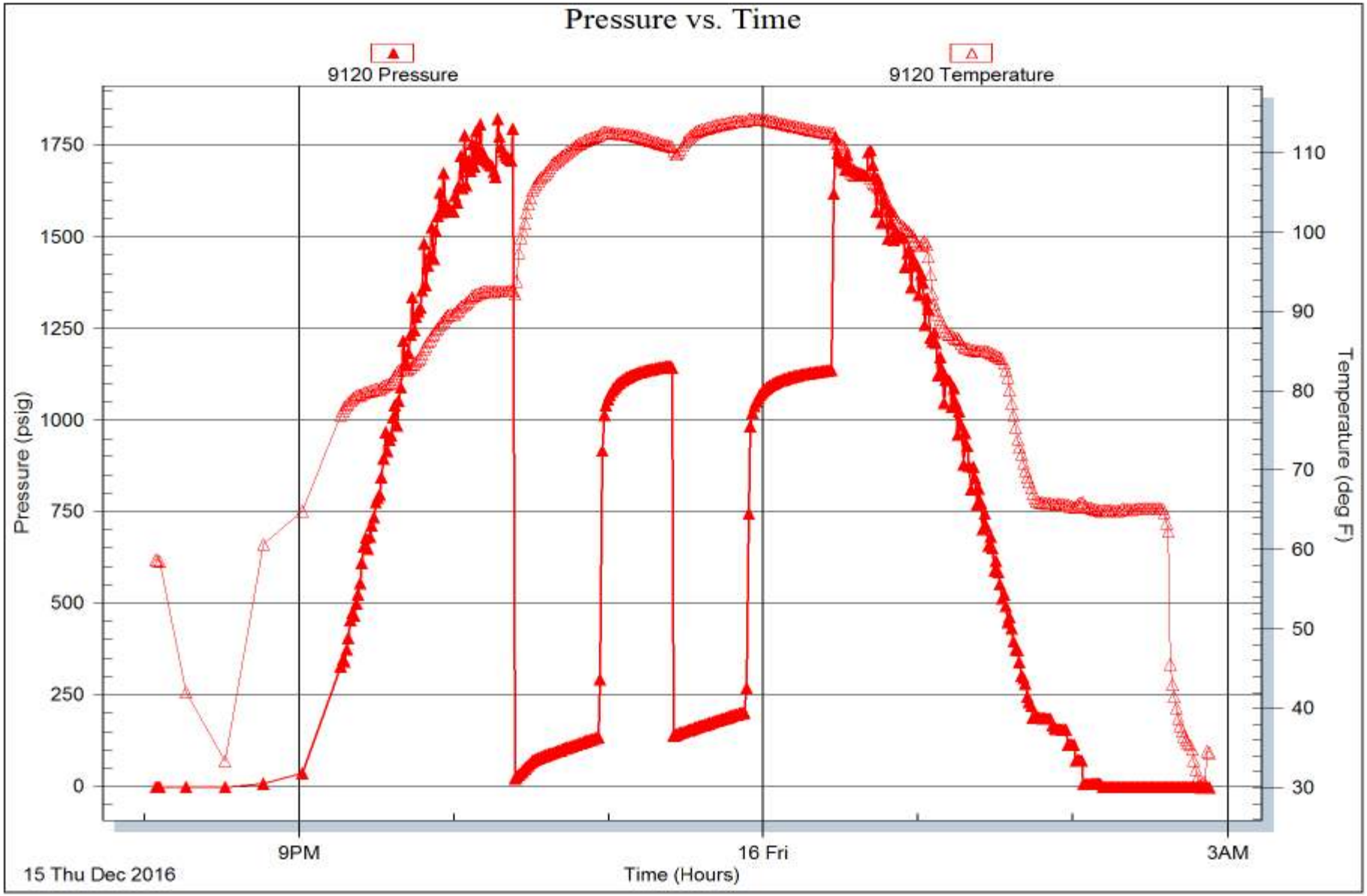
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8368 **Inside** Joe Gerstner Oil LLC LLG #1-3 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 61869 Printed: 2016.12.19 @ 10:41:45

Serial #: 9120 **Outside** Joe Gerstner Oil LLC LLG #1-3 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 61869 Printed: 2016.12.19 @ 10:41:45

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 61869

Well Name & No. LLG #1-3 Test No. 1 Date 12/15/2016

Company Joe Gerstner Oil LLC. Elevation 2099 KB 2091 GL

Address PO Box 509 Ness City Ks 67560

Co. Rep / Geo. Andrew Stenzel / Debra Stenzel Rig WW #12

Location: Sec. 3 Twp. 19s Rge. 17w Co. Rush State Ks

Interval Tested 3501' - 3550' Zone Tested LKC 'B'

Anchor Length 49' Drill Pipe Run 3384 Mud Wt. 9.0

Top Packer Depth 3496' Drill Collars Run 121 Vis 54

Bottom Packer Depth 3501' Wt. Pipe Run — WL 8.0

Total Depth 3550' Chlorides 7,900 ppm System LCM 2#

Blow Description 0-7 - BOB in 11 minutes
0-5-0 - Weak Blow Back; built to 1/2 in
7-7 - BOB in 16 minutes
7-5-0 - Weak Blow Back; built to 1/4 in

Rec 11	Feet of Clean Oil	%gas 100	%oil	%water	%mud
Rec 399	Feet of GWM	%gas	%oil 50	%water 50	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 410 BHT 109° Gravity 36° API RW .225 @ 34 °F Chlorides 72,500 ppm

(A) Initial Hydrostatic 1790

(B) First Initial Flow 19

(C) First Final Flow 132

(D) Initial Shut-In 1139

(E) Second Initial Flow 138

(F) Second Final Flow 201

(G) Final Shut-In 1134

(H) Final Hydrostatic 1725

Initial Open 30

Initial Shut-In 30

Final Flow 30

Final Shut-In 30

- [X] Test 1050
- [X] Jars 250
- [X] Safety Joint 75
- [ ] Circ Sub
- [ ] Hourly Standby
- [X] Mileage 83R7 56rt 112
- [ ] Sampler
- [ ] Straddle
- [ ] Shale Packer
- [ ] Extra Packer
- [ ] Extra Recorder
- [ ] Day Standby
- [ ] Accessibility

Sub Total 1487

T-On Location 17:30

T-Started 20:04

T-Open 22:23

T-Pulled 00:23 12/16/2016

T-Out 2:52

Comments loaded tools 12/17 14:00

- [ ] Ruined Shale Packer
- [ ] Ruined Packer
- [ ] Extra Copies

Sub Total 0

Total 1487

MP/DST Disc't

Approved By

Our Representative Spencer J. Staab

Thank-you!!

PIONEER
Pioneer Energy Services

MICRORESISTIVITY LOG

Company JOE GERSTNER OIL, LLC
Well LLG NO. 1-3
Field WILDCAT
County RUSH
State KANSAS

Location: API #: 15-165-22141-00-00
390' FSL & 1,705' FEL
SEC 3 TWP 19S RGE 17W

Other Services
CNL/CDL
DIL

Permanent Datum GROUND LEVEL Elevation 2092'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Elevation
K.B. 2097'
D.F. N/A
G.L. 2092'

Date	12/17/2016			
Run Number	ONE			
Depth Driller	3942'			
Depth Logger	3941'			
Bottom Logged Interval	3940'			
Top Log Interval	3200'			
Casing Driller	8.625" @ 1135'			
Casing Logger	1128'			
Bit Size	7.875"			
Type Fluid in Hole	CHEMICAL			
Salinity,ppm CL	13800			
Density / Viscosity	9.4	65		
pH / Fluid Loss	10.0	11.6		
Source of Sample	FLOWLINE			
Rm @ Meas. Temp	.50 @ 48			
Rmf @ Meas. Temp	.38 @ 48			
Rmc @ Meas. Temp	.68 @ 48			
Source of Rmf / Rmc	CHARTS			
Rm @ BHT	.21 @ 115			
Operating Rig Time	2 1/2 HOURS			
Max Rec. Temp. F	115 DEG F.			
Equipment Number	108			
Location	COLBY			
Recorded By	J. LONG			
Witnessed By	ANDREW STENZEL			

<<< Fold Here >>>

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

RUSH CENTER, 7 EAST TO 320 ROAD, 3 SOUTH, 1/2 WEST, NORTH AND EAST INTO

Log Measured From: KELLY BUSHING 5 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: J. LONG	Primary Witness: ANDREW STENZEL
Operator: C. PFEIFER	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

Log Variables

DatabaseC:\ProgramData\Warrior\Data\joegerstneroil_llg_1-3.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	115	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	-235	6	Off	3941

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb
			GR-M&W (89-M&W)	3.00	3.50	50.00
GR	40.58					
CNLSC	37.48		CNT-M&W (tk10-MW)	5.50	3.50	100.00
CNSSC	36.73					
			CDL-M&W (71-914)	8.50	4.00	250.00
LSD	28.43					
DCAL	28.42					
SSD	27.93					
			ML-PSI STKBL ML (PSI-01) Stackable Microlog Tools	7.58	4.00	65.00
MCAL	19.83					
MI	19.83					
MN	19.83					
RLL3	15.80					
RLL3F	15.79					
			DIL-M&W (1987)	18.50	3.50	220.00
CILD	8.00					

CILM	4.70	
SP	0.20	

Dataset: joegerstneroil_llg_1-3.db: field/well/stackmel/pass3
Total length: 43.08 ft
Total weight: 685.00 lb
O.D.: 4.00 in

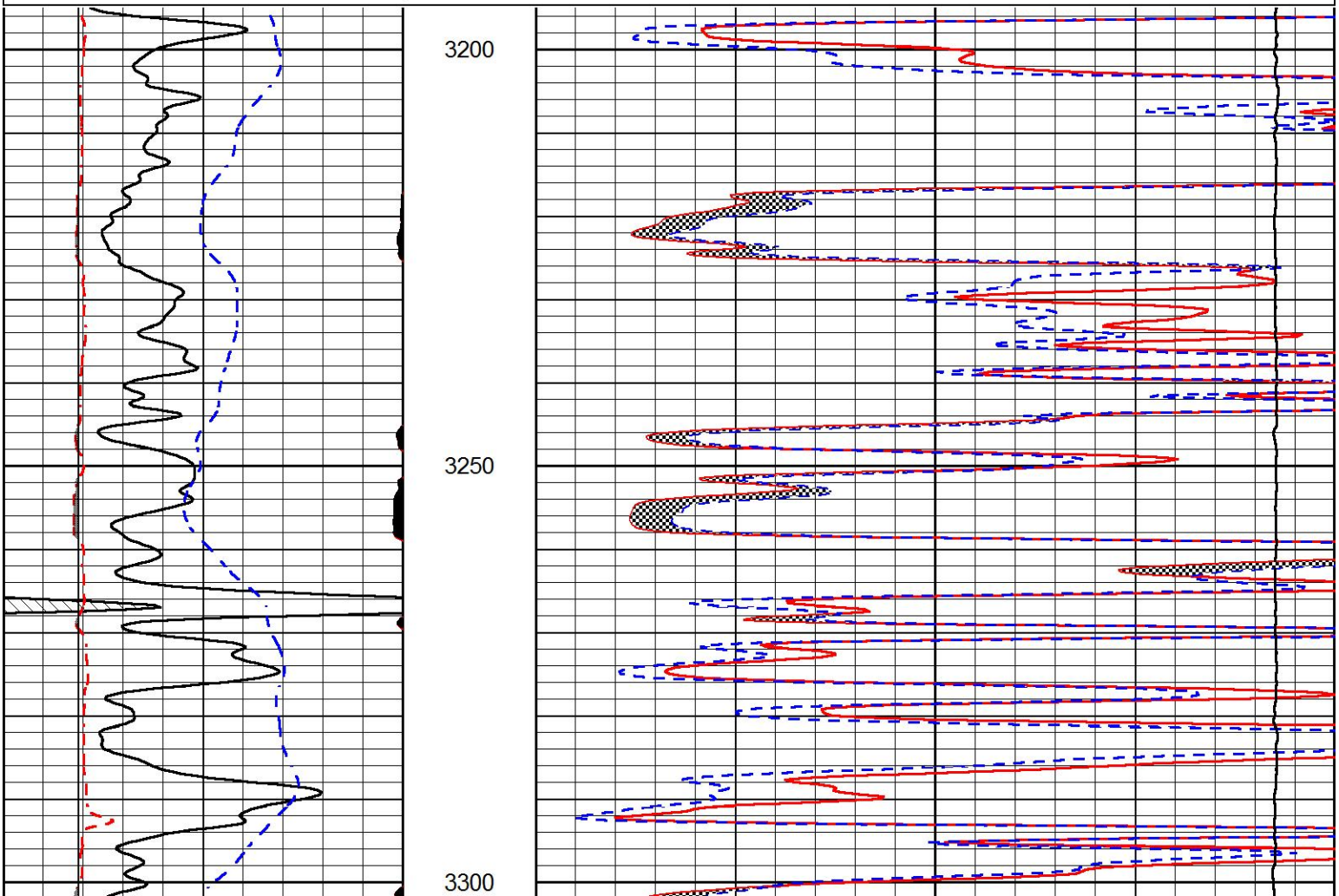
PIONEER
Pioneer Energy Services

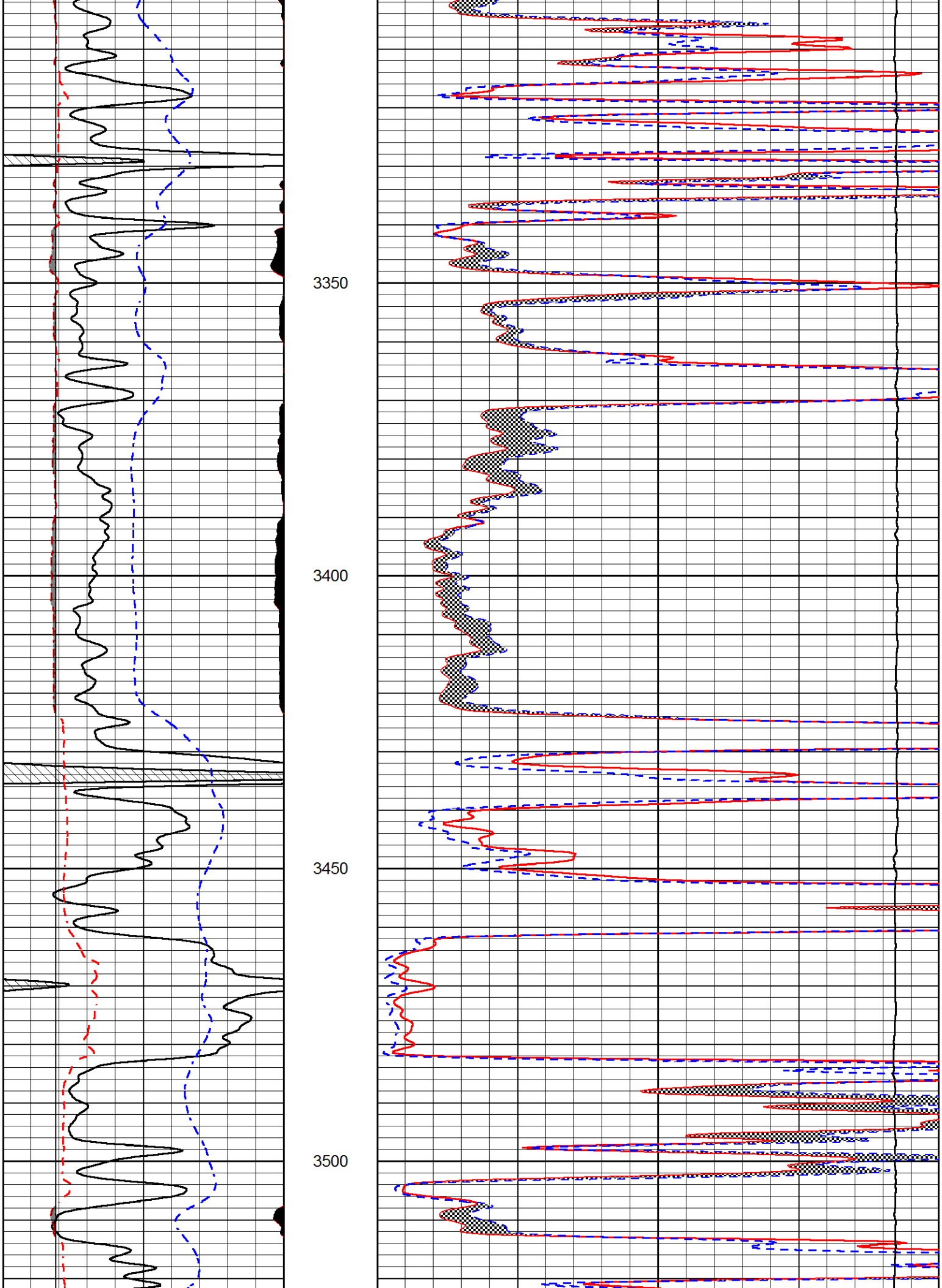
MAIN PASS

Database File	joegerstneroil_llg_1-3.db
Dataset Pathname	stackmel/pass3.1
Presentation Format	micro
Dataset Creation	Sat Dec 17 13:19:21 2016
Charted by	Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
6	MICRO CALIPER (in)	16
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
15000	LINE TENSION (lb)	0

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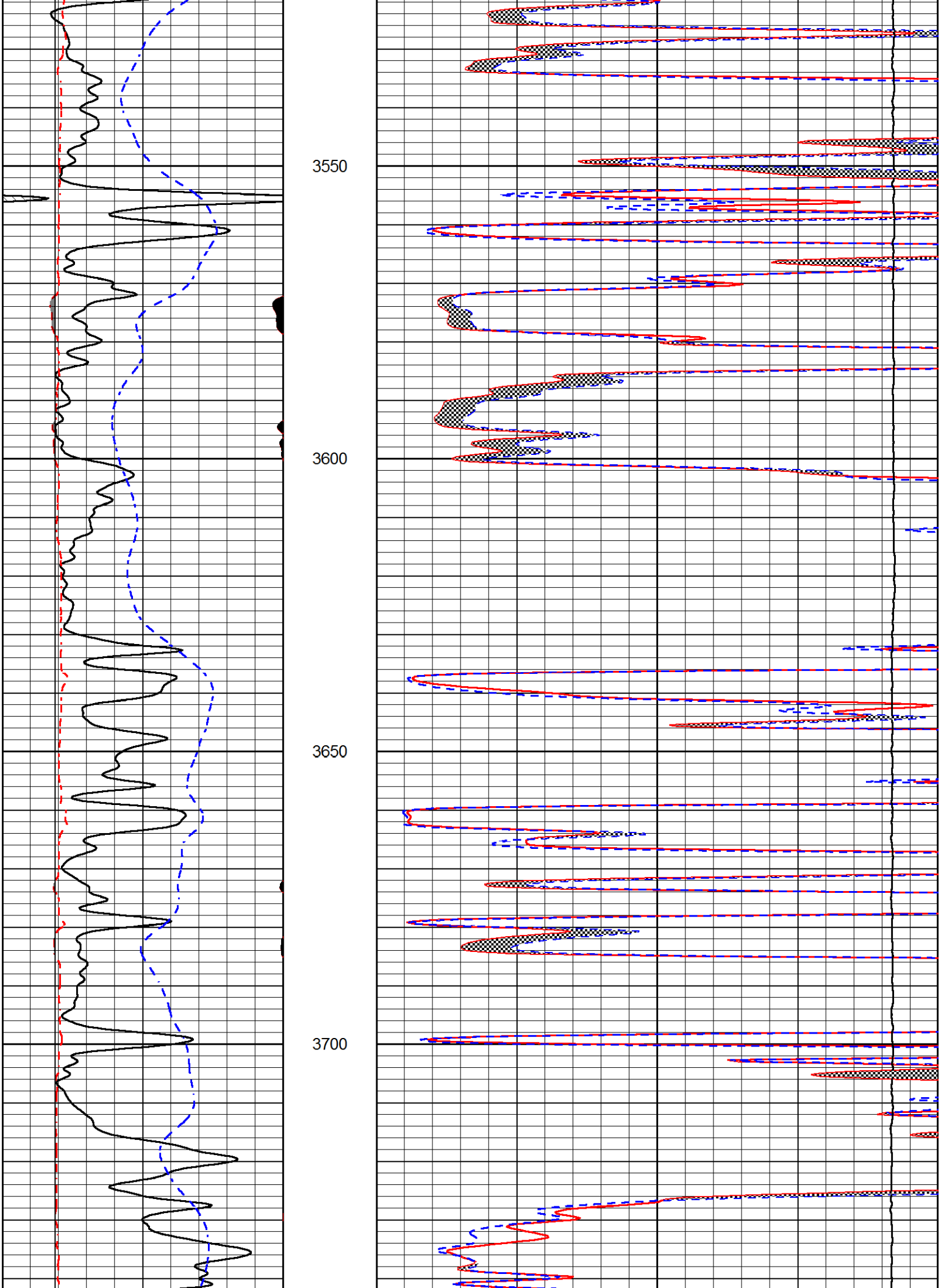
3450
3500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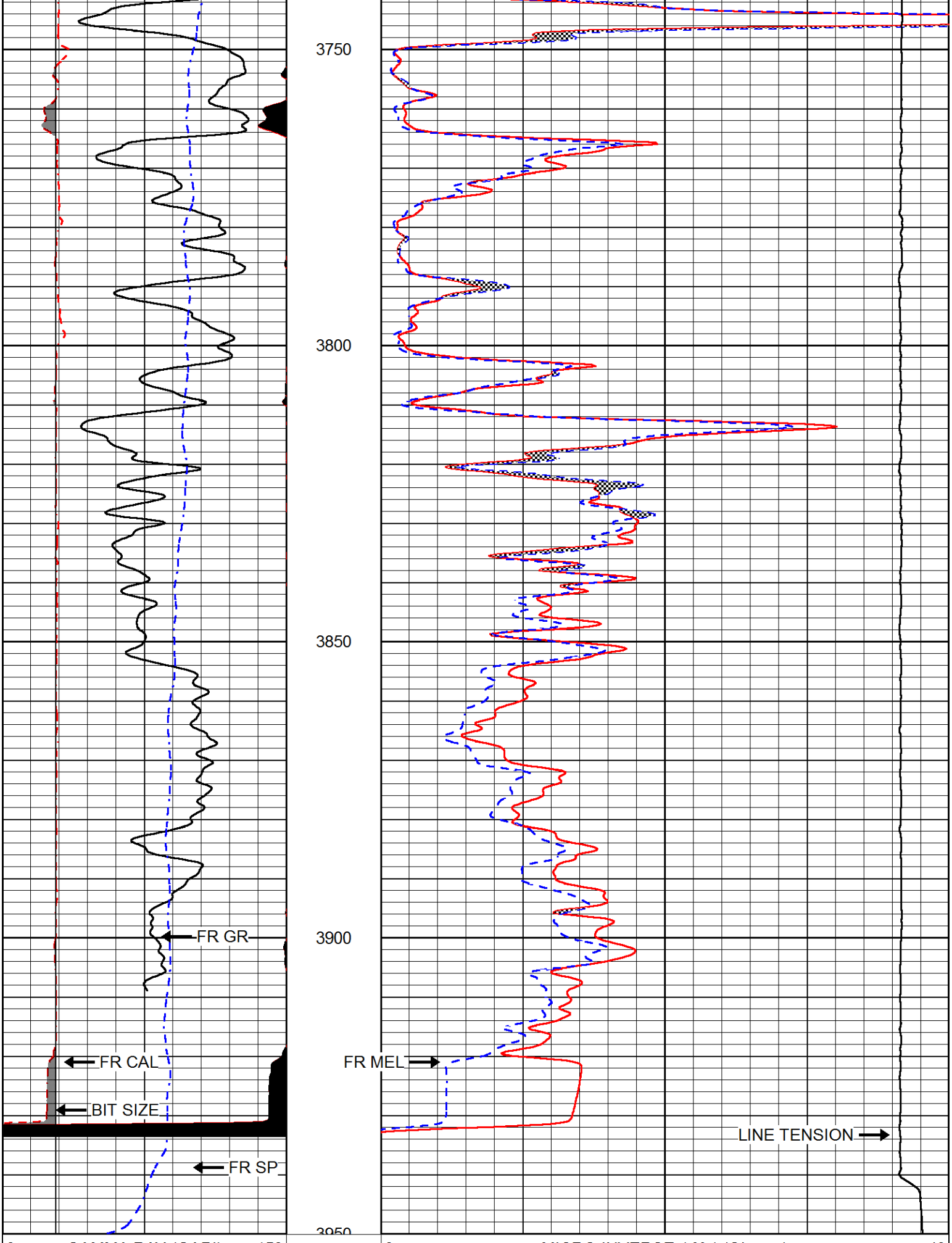

3750
3800
3850
3900
FR GR
FR CAL
BIT SIZE
FR SP
FR MEL
LINE TENSION
0
GAMMA RAY (GAPI)
150
6
MICRO CALIPER (in)
16
0
MICRO INVERSE 1 X 1 (Ohm-m)
40
0
MICRO NORMAL 2" (Ohm-m)
40

6	BIT SIZE (in)	16
-200	SP (mV)	0

15000	LINE TENSION (lb)	0

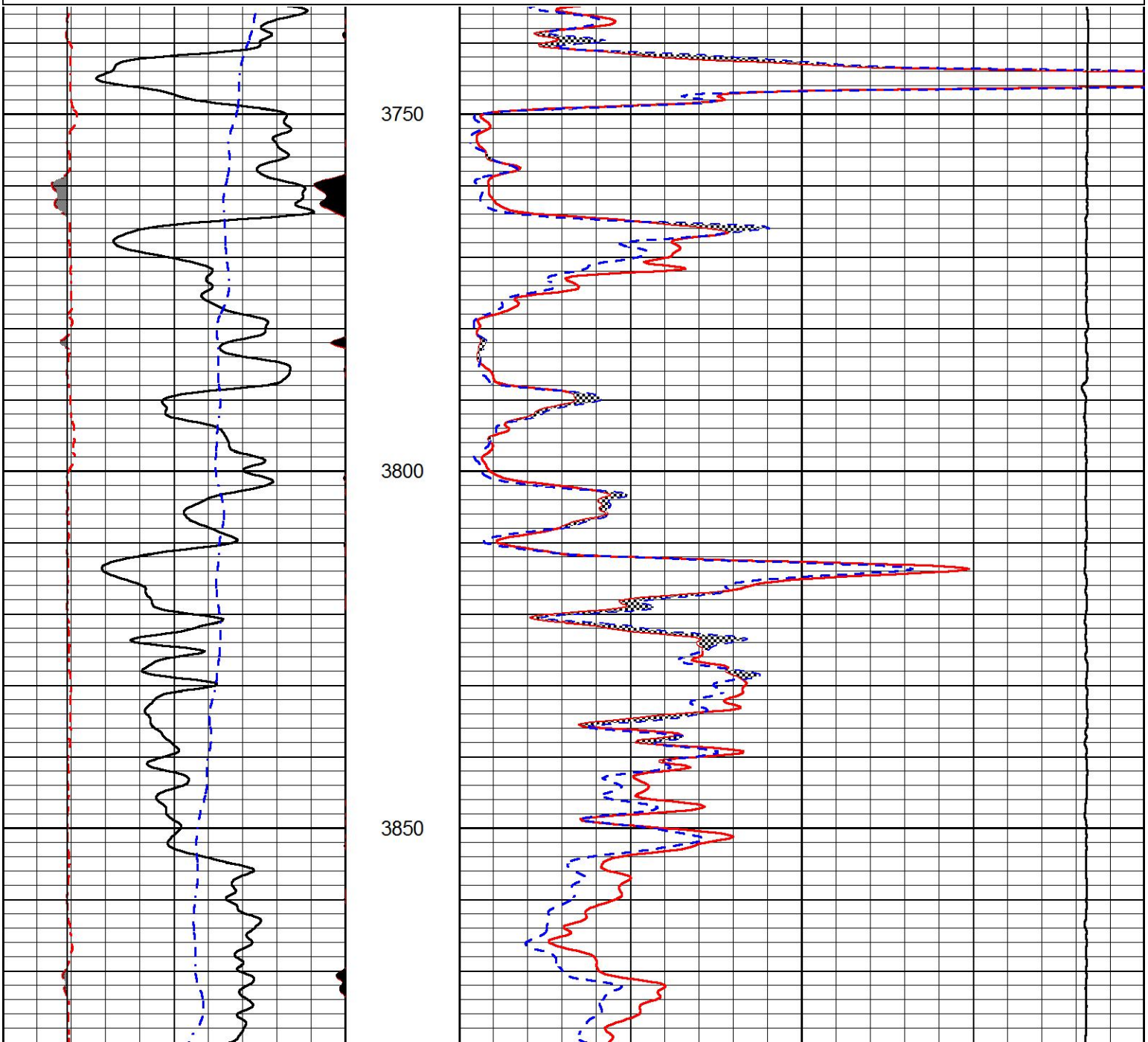
PIONEER
Pioneer Energy Services

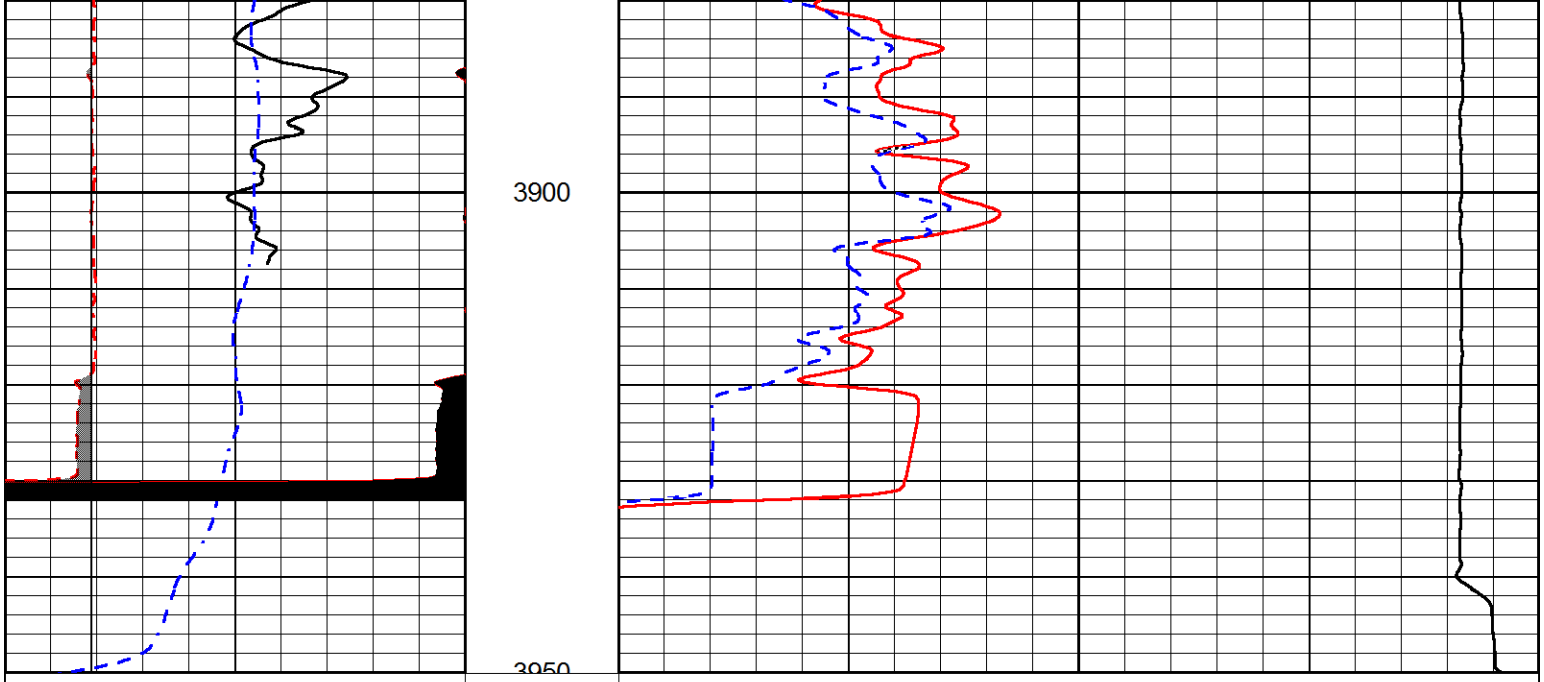
REPEAT SECTION

Database File	joegerstneroil_llg_1-3.db
Dataset Pathname	stackmel/pass2.1
Presentation Format	micro
Dataset Creation	Sat Dec 17 13:10:38 2016
Charted by	Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
6	MICRO CALIPER (in)	16
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
15000	LINE TENSION (lb)	0





Calibration Report

Database File	joegerstneroil_llg_1-3.db
Dataset Pathname	stackmel/pass2
Dataset Creation	Sat Dec 17 12:16:50 2016

Dual Induction Calibration Report

Serial-Model:	1987-M&W
Calibration Performed:	Thu Nov 17 20:52:56 2016

	Readings		References			Results	
Loop:	Air	Loop	Air	Loop		Gain	Offset
Deep	178.615	710.235	0.000	255.800	mmho/m	0.530	-36.500
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.440	-110.500

Compensated Density Calibration Report

Serial-Model:	71-914-M&W
Source / Verifier:	/
Master Calibration Performed:	Thu Nov 17 21:42:33 2016

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4314.49	5307.52	cps
Aluminum	2.675	g/cc	822.19	3456.36	cps

Spine Angle = 75.49 Density/Spine Ratio = 0.537

Size	Reading

Small Ring	4.00	in	1.16
Large Ring	14.00	in	1.57

Compensated Neutron Calibration Report

Serial Number:	tk10-MW
Tool Model:	M&W
Calibration Performed:	Wed Nov 16 11:21:36 2016

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:	89-M&W	
Tool Model:	M&W	
Calibration Performed:	Thu Nov 17 21:13:32 2016	
Calibrator Value:	1000.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	6.2	cps
Sensitivity:	0.5200	GAPI/cps

PIONEER
Pioneer Energy Services

Company	JOE GERSTNER OIL, LLC
Well	LLG NO. 1-3
Field	WILDCAT
County	RUSH
State	KANSAS

PIONEER
Pioneer Energy Services

DUAL COMP POROSITY LOG

Company JOE GERSTNER OIL, LLC
Well LLG NO. 1-3
Field WILDCAT
County RUSH State KANSAS

Location: API #: 15-165-22141-00-00
390' FSL & 1,705' FEL
SEC 3 TWP 19S RGE 17W

Other Services: DIL, MEL

Elevation: K.B. 2097', D.F. N/A, G.L. 2092'

Company	JOE GERSTNER OIL, LLC
Well	LLG NO. 1-3
Field	WILDCAT
County	RUSH
State	KANSAS
Location:	API #: 15-165-22141-00-00
	390' FSL & 1,705' FEL
	SEC 3 TWP 19S RGE 17W
Other Services	DIL, MEL
Elevation	K.B. 2097', D.F. N/A, G.L. 2092'
Permanent Datum	GROUND LEVEL
Elevation	2092'
Log Measured From	KELLY BUSHING
Drilling Measured From	KELLY BUSHING

Date	12/17/2016
Run Number	ONE
Type Log	CNL/CDL
Depth Driller	3942'
Depth Logger	3941'
Bottom Logged Interval	3913'
Top Logged Interval	3200'
Type Fluid In Hole	CHEMICAL
Salinity, PPM CL	13800
Density	9.4
Level	FULL
Max. Rec. Temp. F	115 DEG F.
Operating Rig Time	2 1/2 HOURS
Equipment -- Location	108 COLBY
Recorded By	J. LONG
Witnessed By	ANDREW STENZEL

Borehole Record

Run No.	Bit	From	To
ONE	12.25"	00'	1135'
TWO	7.875"	1135'	TD

Casing Record

Size	Wgt.	From	To
8.625"	23#	00'	1135'

<<< Fold Here >>>

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

RUSH CENTER, 7 EAST TO 320 ROAD, 3 SOUTH, 1/2 WEST, NORTH AND EAST INTO

Log Measured From: KELLY BUSHING 5 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: J. LONG	Primary Witness: ANDREW STENZEL
Operator: C. PFEIFER	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

Log Variables

DatabaseC:\ProgramData\Warrior\Data\joegerstneroil_llg_1-3.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	115	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	-235	6	Off	3941

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb
			GR-M&W (89-M&W)	3.00	3.50	50.00
GR	40.58					
CNLSC	37.48		CNT-M&W (tk10-MW)	5.50	3.50	100.00
CNSSC	36.73					
			CDL-M&W (71-914)	8.50	4.00	250.00
LSD	28.43					
DCAL	28.42					
SSD	27.93					
			ML-PSI STKBL ML (PSI-01) Stackable Microlog Tools	7.58	4.00	65.00
MCAL	19.83					
MI	19.83					
MN	19.83					
RLL3	15.80					
RLL3F	15.79					
			DIL-M&W (1987)	18.50	3.50	220.00
CILD	8.00					

CILM	4.70	
SP	0.20	

Dataset: joegerstneroil_llg_1-3.db: field/well/stackmel/pass3
Total length: 43.08 ft
Total weight: 685.00 lb
O.D.: 4.00 in

PIONEER
Pioneer Energy Services

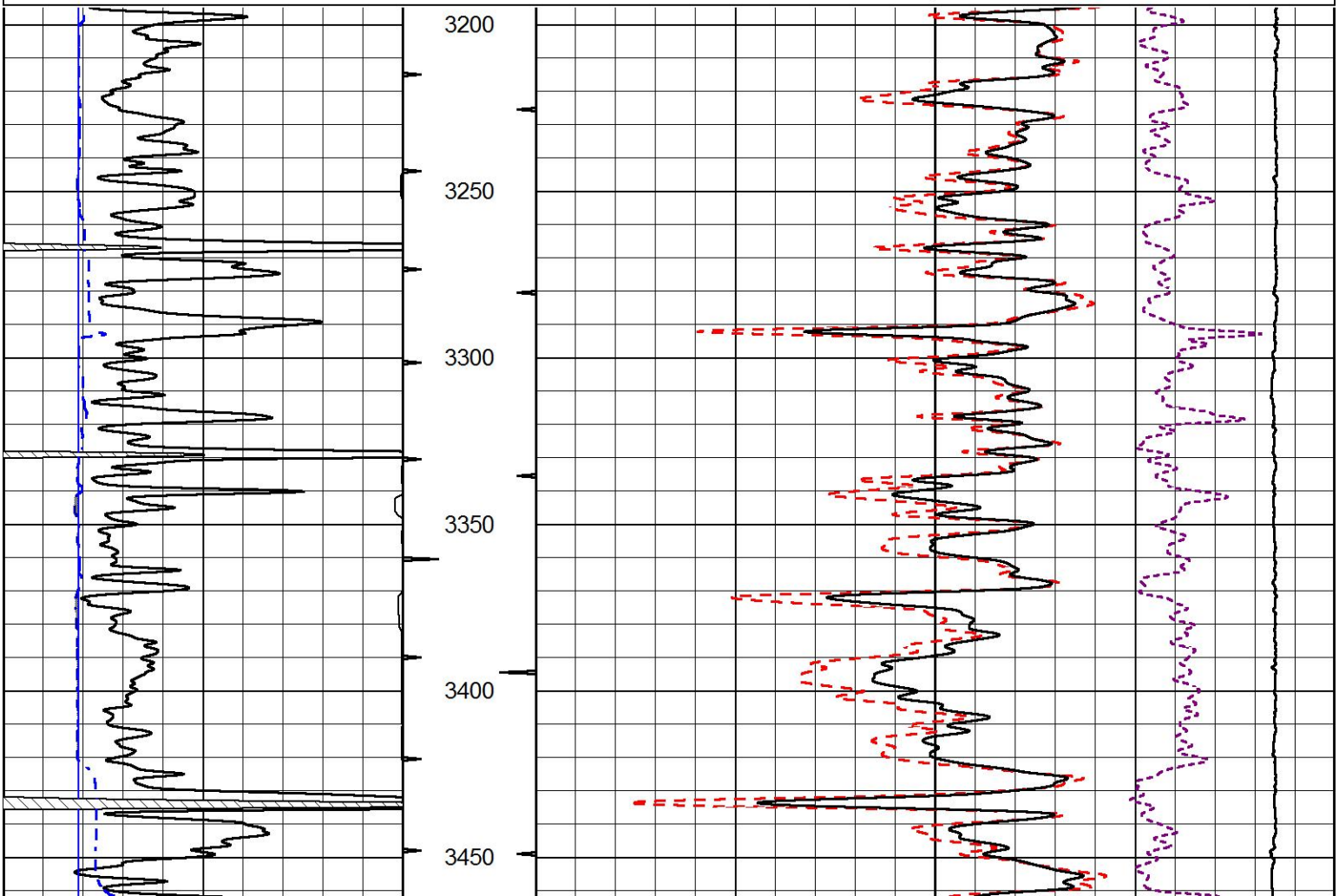
2" SCALE BULK DENSITY

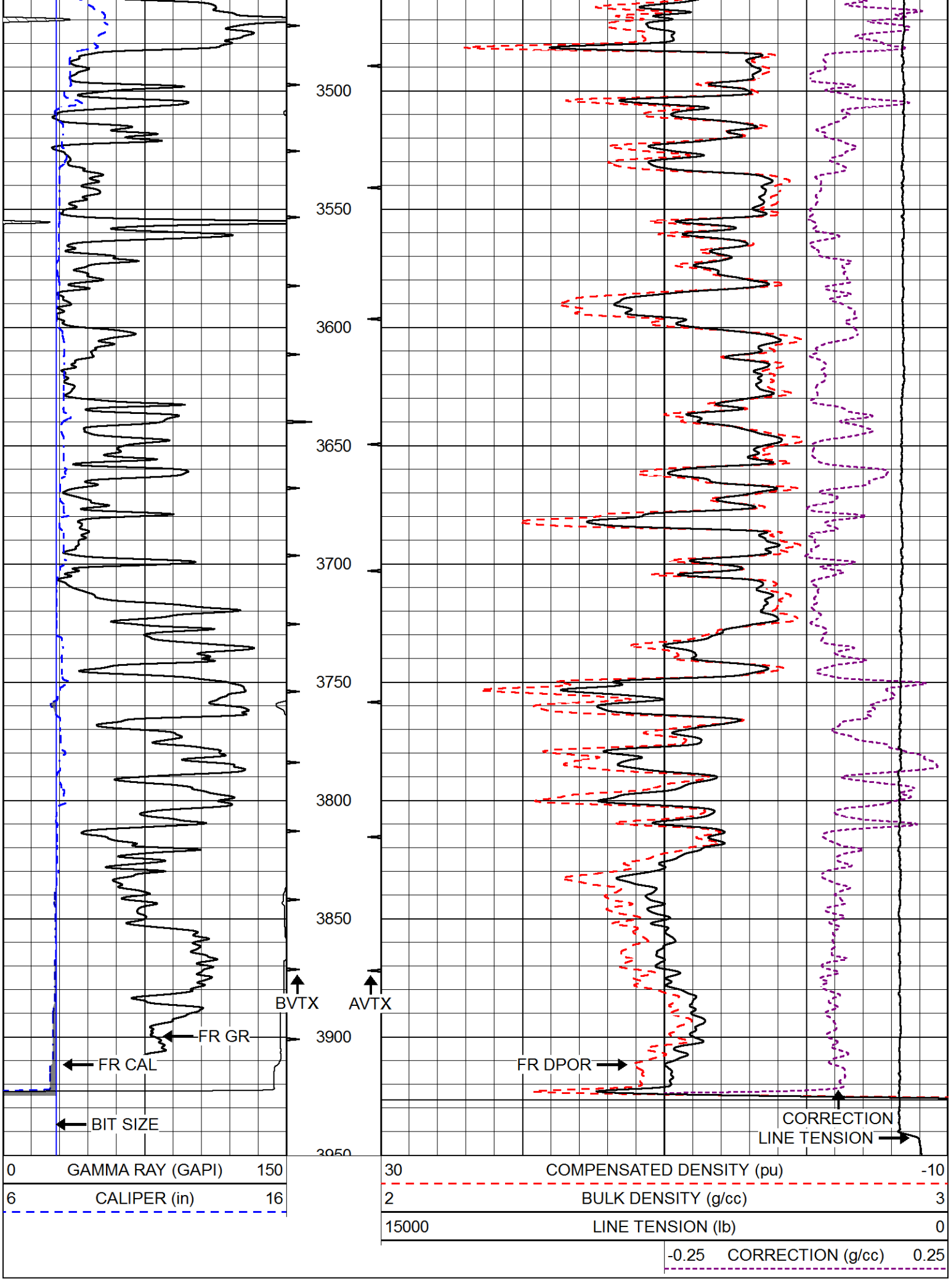
MAIN PASS

Database File	joegerstneroil_llg_1-3.db
Dataset Pathname	stackmel/pass3.3
Presentation Format	cdl
Dataset Creation	Sat Dec 17 13:19:41 2016
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

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3550
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3900
3950
BVTX
AVTX
FR GR
FR CAL
BIT SIZE
FR DPOR
CORRECTION
LINE TENSION
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

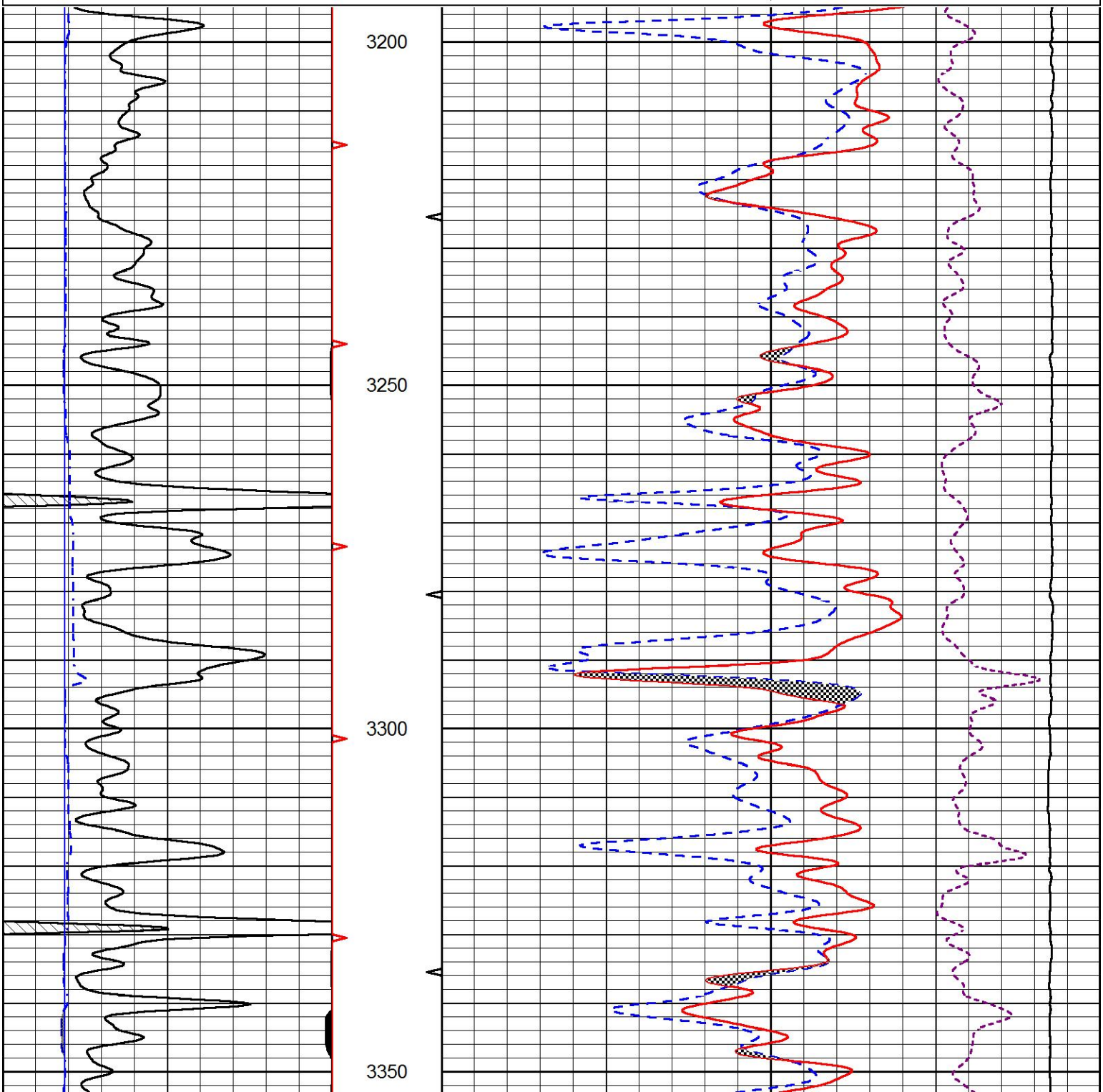
PIONEER
Pioneer Energy Services

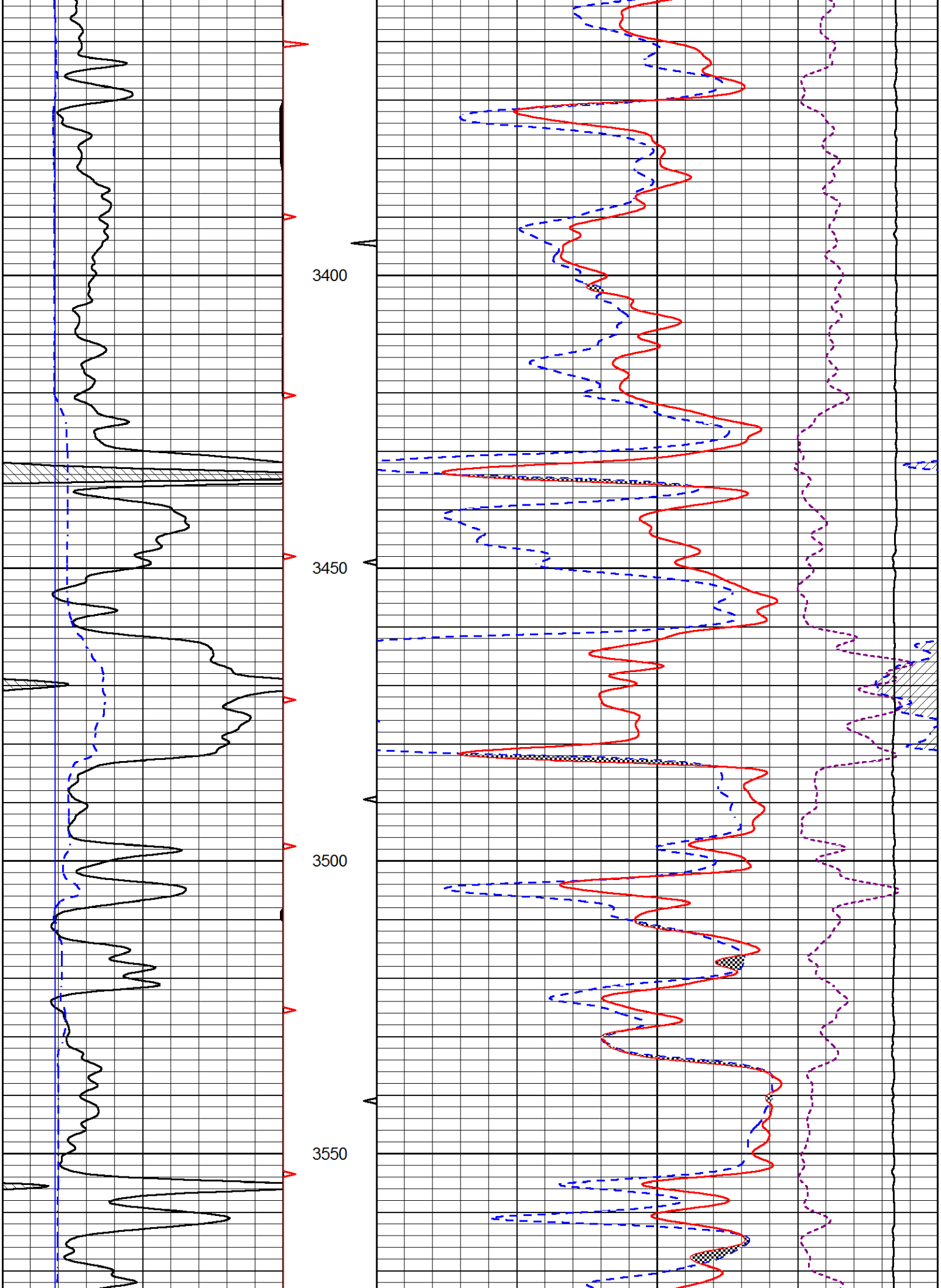
MAIN PASS

Database File	joegerstneroil_llg_1-3.db
Dataset Pathname	stackmel/pass3.1
Presentation Format	cndlspec
Dataset Creation	Sat Dec 17 13:19:21 2016
Charted by	Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
6	dcal (in)	16
6	BIT SIZE (in)	16

30	COMPENSATED NEUTRON (pu)	-10
30	COMPENSATED DENSITY (2.71 ma) (pu)	-10
15000	LINE TENSION (lb)	0
-0.25	CORRECTION (g/cc)	0.25

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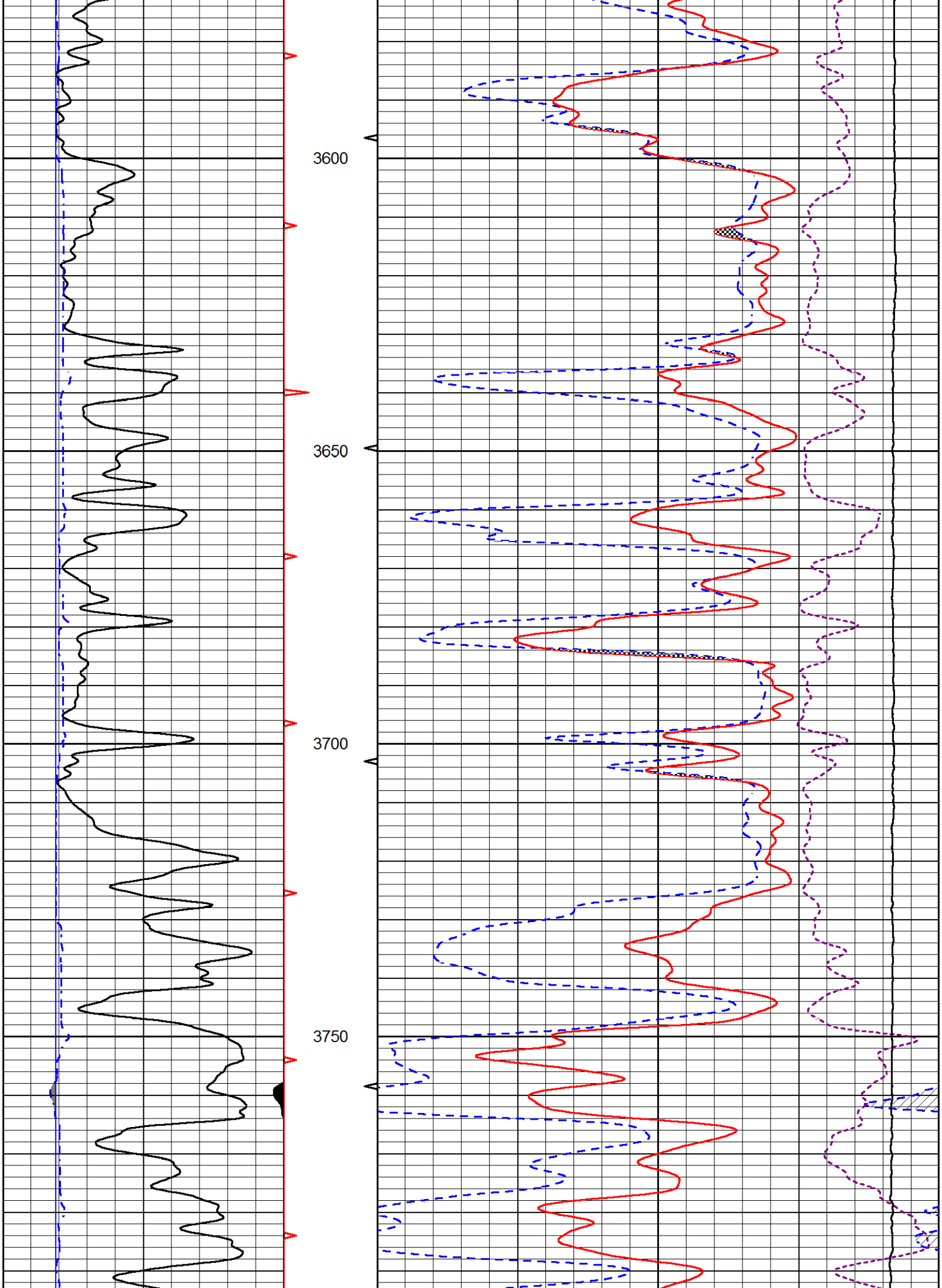
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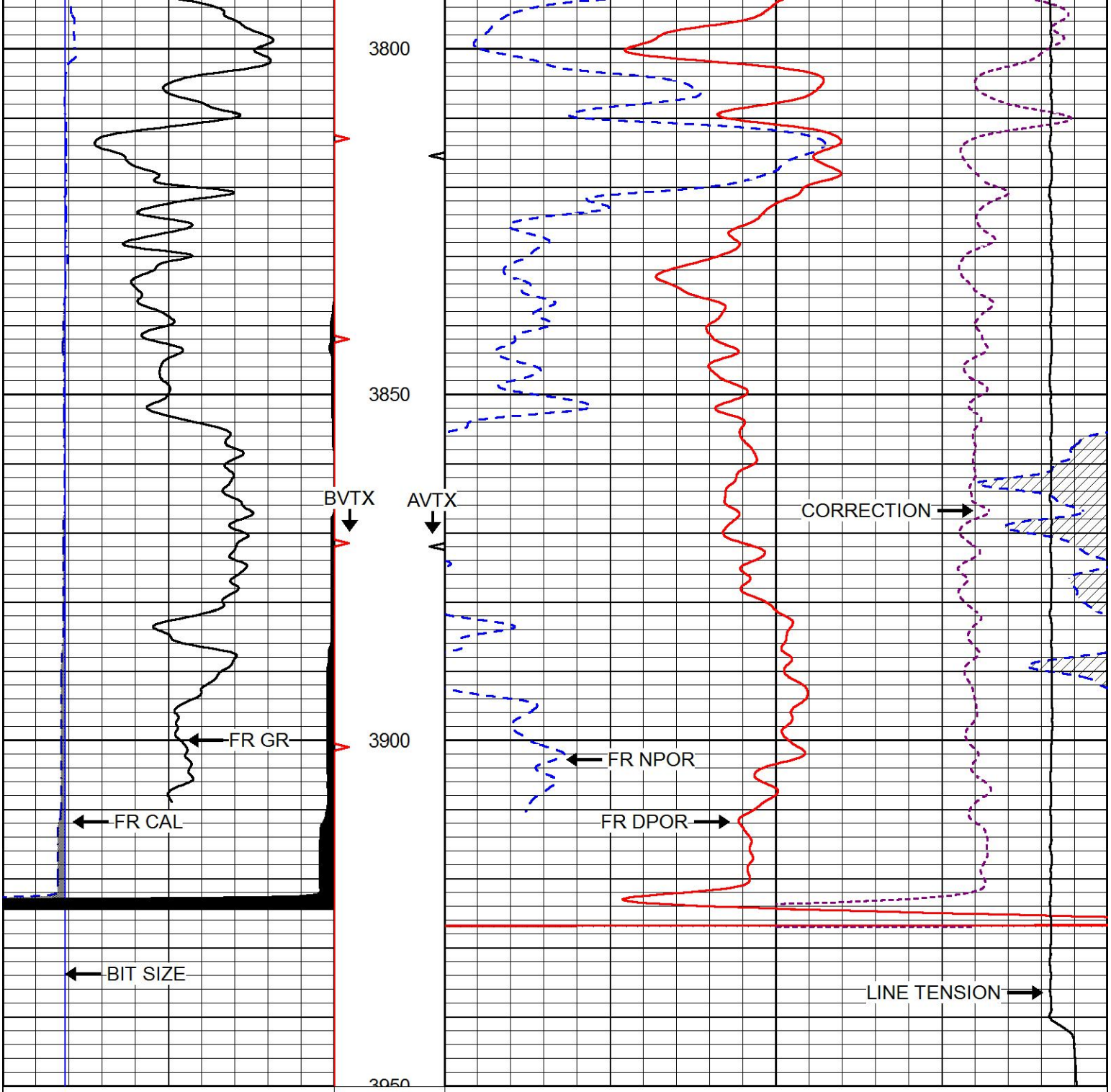
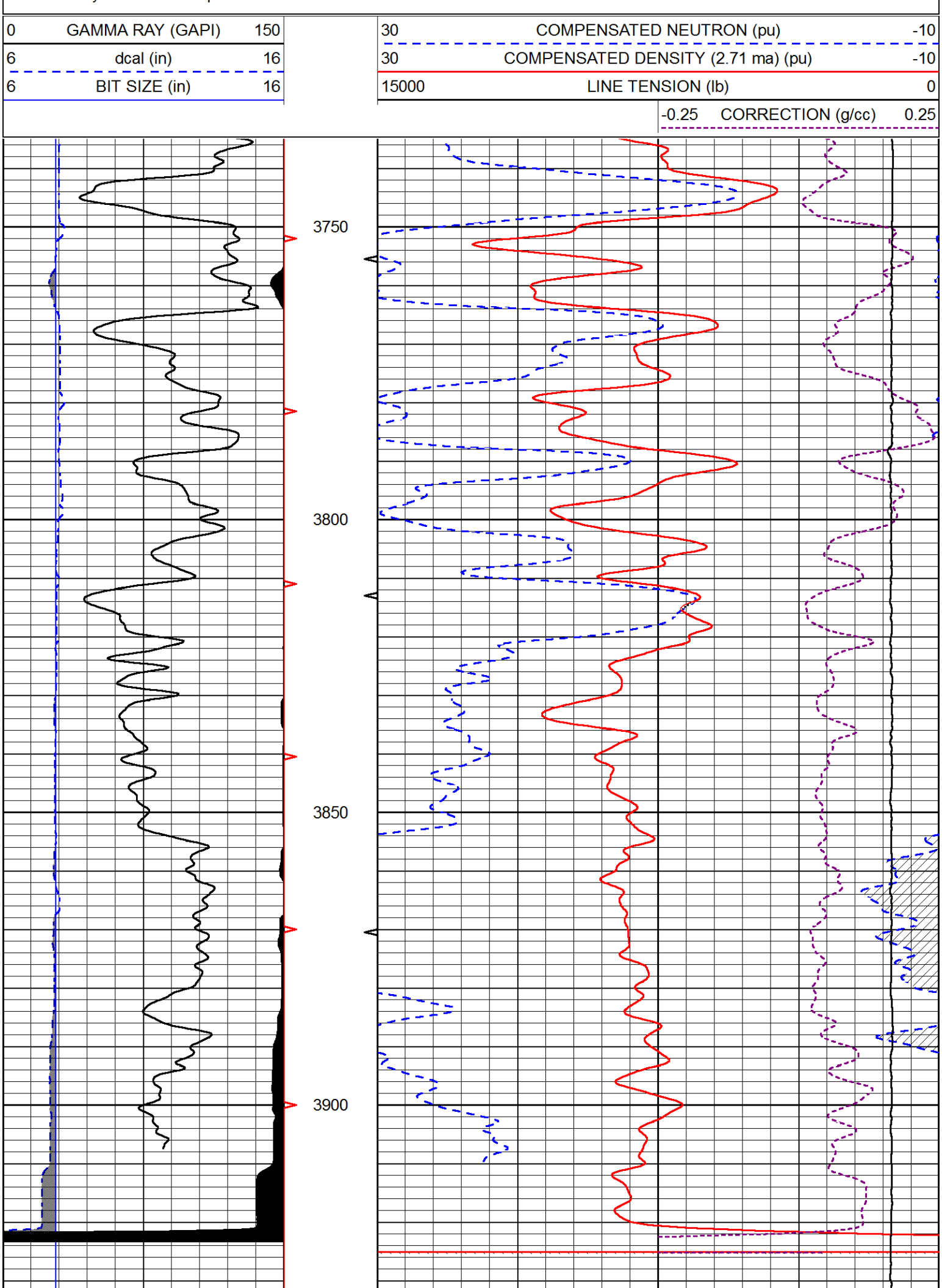
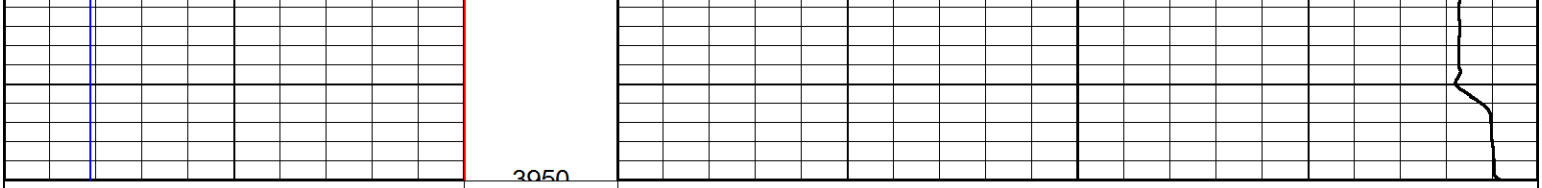


PIONEER
Pioneer Energy Services

REPEAT SECTION

Database File	joegerstneroil_llg_1-3.db
Dataset Pathname	stackmel/pass2.1
Presentation Format	cndlspec
Dataset Creation	Sat Dec 17 13:10:38 2016
Charted by	Depth in Feet scaled 1:240


0 GAMMA RAY (GAPI) 150
6 dcal (in) 16
6 BIT SIZE (in) 16
30 COMPENSATED NEUTRON (pu) -10
30 COMPENSATED DENSITY (2.71 ma) (pu) -10
15000 LINE TENSION (lb) 0
-0.25 CORRECTION (g/cc) 0.25
3750
3800
3850
3900



Calibration Report

Database File joegerstneroil_llg_1-3.db
Dataset Pathname stackmel/pass2
Dataset Creation Sat Dec 17 12:16:50 2016

Dual Induction Calibration Report

Serial-Model: 1987-M&W
Calibration Performed: Thu Nov 17 20:52:56 2016

	Readings		References			Results	
Loop:	Air	Loop	Air	Loop		Gain	Offset
Deep	178.615	710.235	0.000	255.800	mmho/m	0.530	-36.500
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.440	-110.500

Compensated Density Calibration Report

Serial-Model: 71-914-M&W
Source / Verifier: /
Master Calibration Performed: Thu Nov 17 21:42:33 2016

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4314.49	5307.52	cps
Aluminum	2.675	g/cc	822.19	3456.36	cps

Spine Angle = 75.49 Density/Spine Ratio = 0.537

	Size		Reading
Small Ring	4.00	in	1.16
Large Ring	14.00	in	1.57

Compensated Neutron Calibration Report

Serial Number: tk10-MW
Tool Model: M&W
Calibration Performed: Wed Nov 16 11:21:36 2016

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:	89-M&W	
Tool Model:	M&W	
Calibration Performed:	Thu Nov 17 21:13:32 2016	
Calibrator Value:	1000.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	6.2	cps
Sensitivity:	0.5200	GAPI/cps

PIONEER
Pioneer Energy Services

Company	JOE GERSTNER OIL, LLC
Well	LLG NO. 1-3
Field	WILDCAT
County	RUSH
State	KANSAS

PIONEER
Pioneer Energy Services

DUAL INDUCTION LOG

Company JOE GERSTNER OIL, LLC
Well LLG NO. 1-3
Field WILDCAT
County RUSH State KANSAS

Location: API #: 15-165-22141-00-00
390' FSL & 1,705' FEL
SEC 3 TWP 19S RGE 17W

Other Services: CNL/CDL, MEL

Permanent Datum: GROUND LEVEL Elevation 2092'
Log Measured From: KELLY BUSHING
Drilling Measured From: KELLY BUSHING

Elevation: K.B. 2097', D.F. N/A, G.L. 2092'

Company JOE GERSTNER OIL, LLC
Well LLG NO. 1-3
Field WILDCAT
County RUSH
State KANSAS

Date	12/17/2016			
Run Number	ONE			
Depth Driller	3942'			
Depth Logger	3941'			
Bottom Logged Interval	3940'			
Top Log Interval	1100'			
Casing Driller	8.625" @ 1135'			
Casing Logger	1128'			
Bit Size	7.875"			
Type Fluid in Hole	CHEMICAL			
Salinity,ppm CL	13800			
Density / Viscosity	9.4	65		
pH / Fluid Loss	10.0	11.6		
Source of Sample	FLOWLINE			
Rm @ Meas. Temp	.50 @ 48			
Rmf @ Meas. Temp	.38 @ 48			
Rmc @ Meas. Temp	.68 @ 48			
Source of Rmf / Rmc	CHARTS			
Rm @ BHT	.21 @ 115			
Operating Rig Time	2 1/2 HOURS			
Max Rec. Temp. F	115 DEG F.			
Equipment Number	108			
Location	COLBY			
Recorded By	J. LONG			
Witnessed By	ANDREW STENZEL			

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Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

RUSH CENTER, 7 EAST TO 320 ROAD, 3 SOUTH, 1/2 WEST, NORTH AND EAST INTO

Log Measured From: KELLY BUSHING 5 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: J. LONG	Primary Witness: ANDREW STENZEL
Operator: C. PFEIFER	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

Log Variables

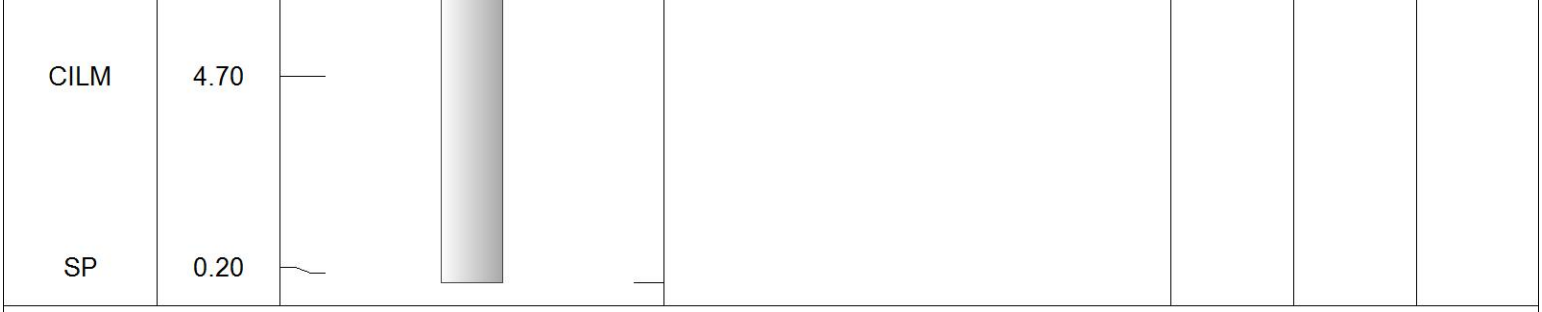
DatabaseC:\ProgramData\Warrior\Data\joegerstneroil_llg_1-3.db
Dataset field/well/stackmel/pass3.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	115	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	-235	6	Off	3941

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb
			GR-M&W (89-M&W)	3.00	3.50	50.00
GR	40.58					
CNLSC	37.48		CNT-M&W (tk10-MW)	5.50	3.50	100.00
CNSSC	36.73					
			CDL-M&W (71-914)	8.50	4.00	250.00
LSD	28.43					
DCAL	28.42					
SSD	27.93					
			ML-PSI STKBL ML (PSI-01) Stackable Microlog Tools	7.58	4.00	65.00
MCAL	19.83					
MI	19.83					
MN	19.83					
RLL3	15.80					
RLL3F	15.79					
			DIL-M&W (1987)	18.50	3.50	220.00
CILD	8.00					



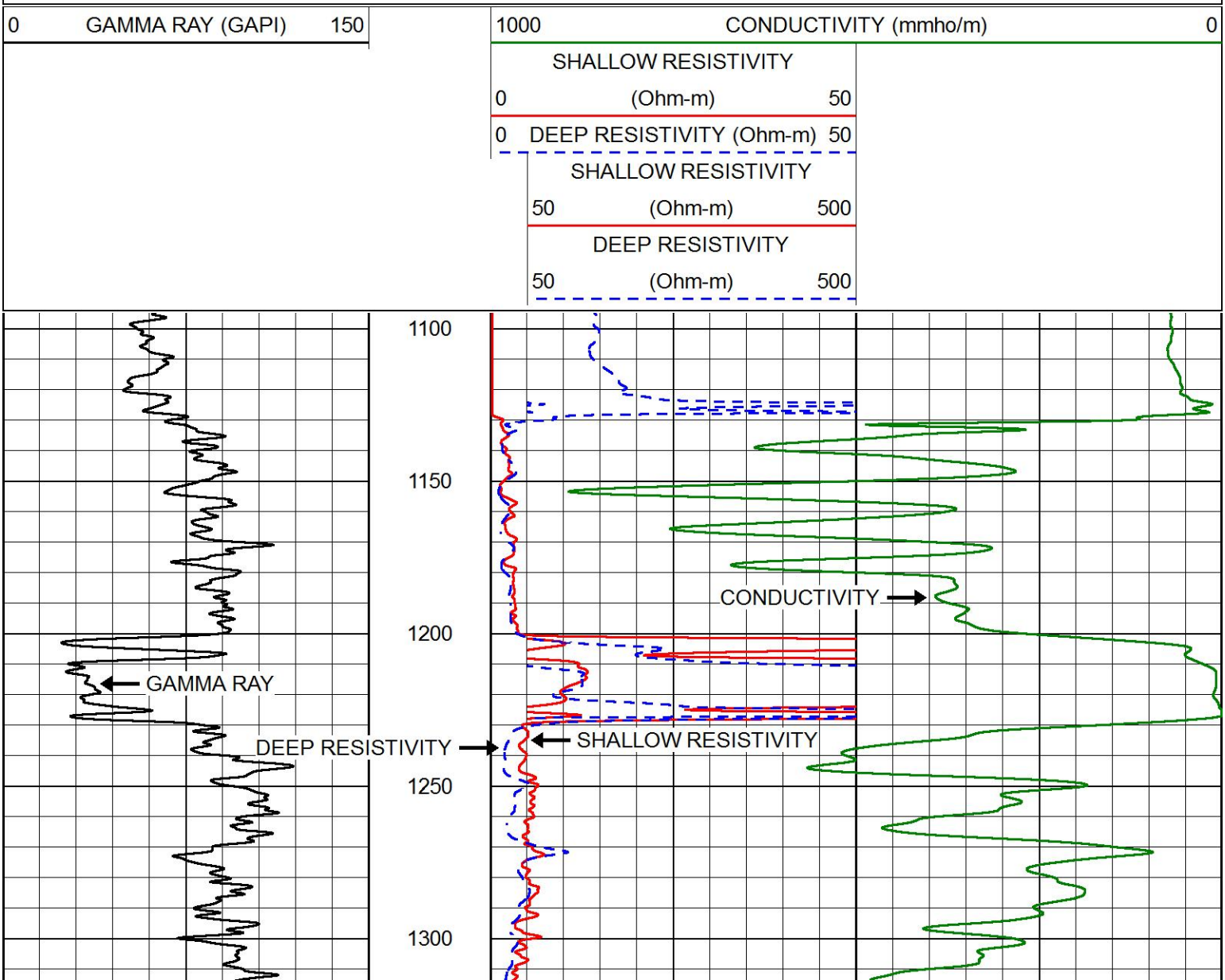
Dataset:	joegerstneroil_llg_1-3.db: field/well/stackmel/pass3
Total length:	43.08 ft
Total weight:	685.00 lb
O.D.:	4.00 in

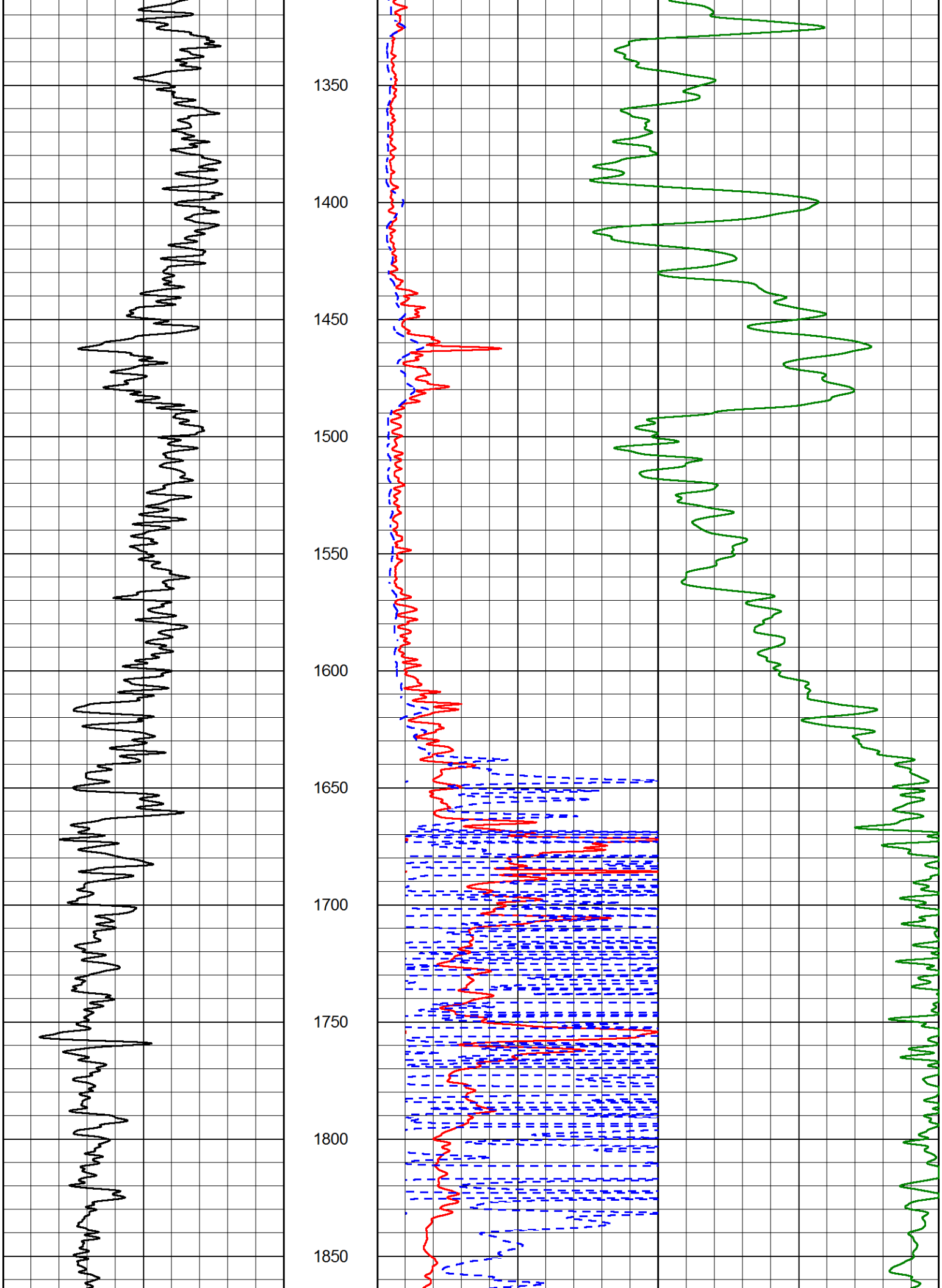
PIONEER
Pioneer Energy Services

2" SCALE RESISTIVITY

MAIN PASS

Database File	joegerstneroil_llg_1-3.db
Dataset Pathname	stackmel/pass3.2
Presentation Format	dil2in
Dataset Creation	Sat Dec 17 13:40:25 2016
Charted by	Depth in Feet scaled 1:600

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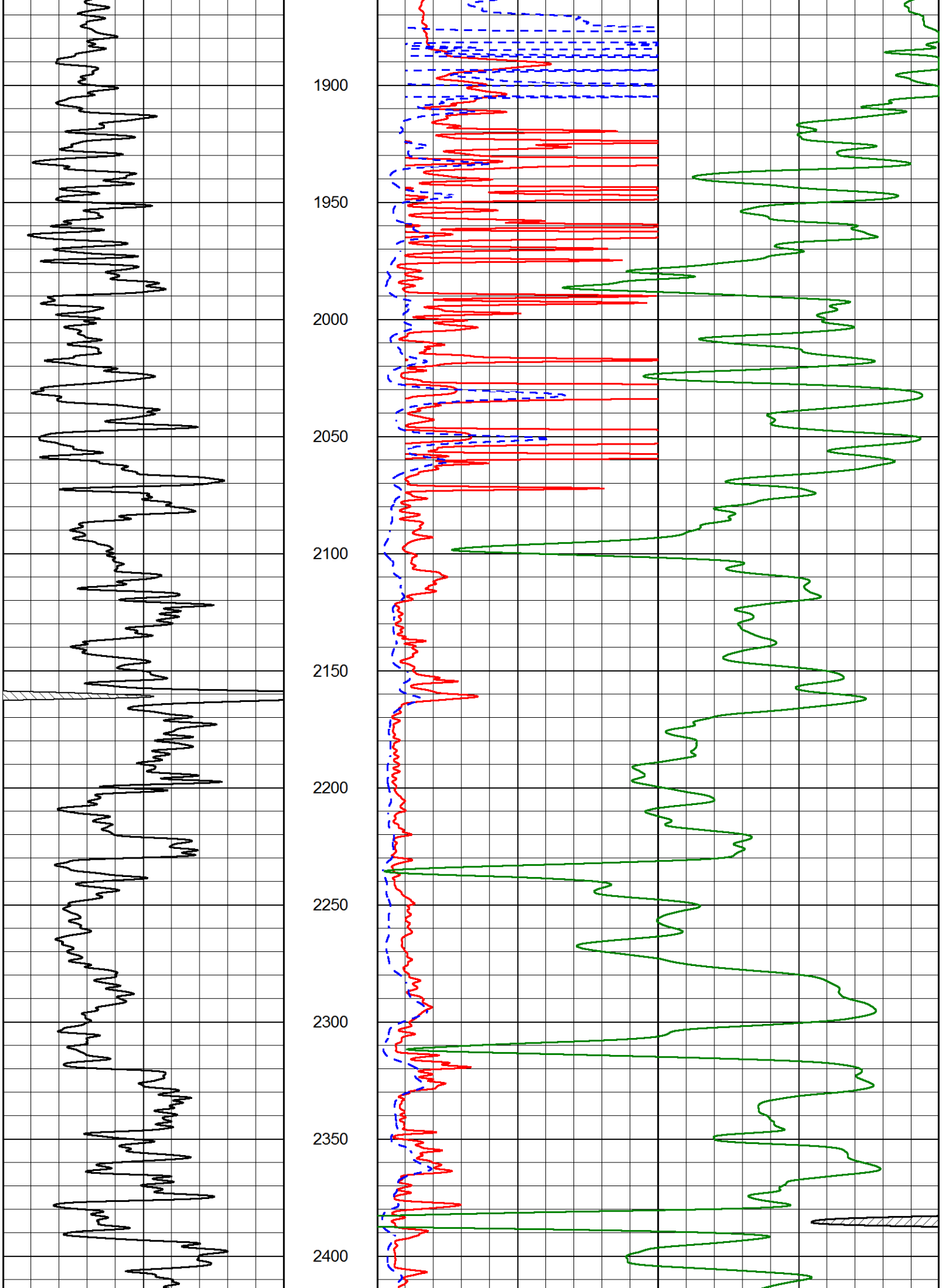
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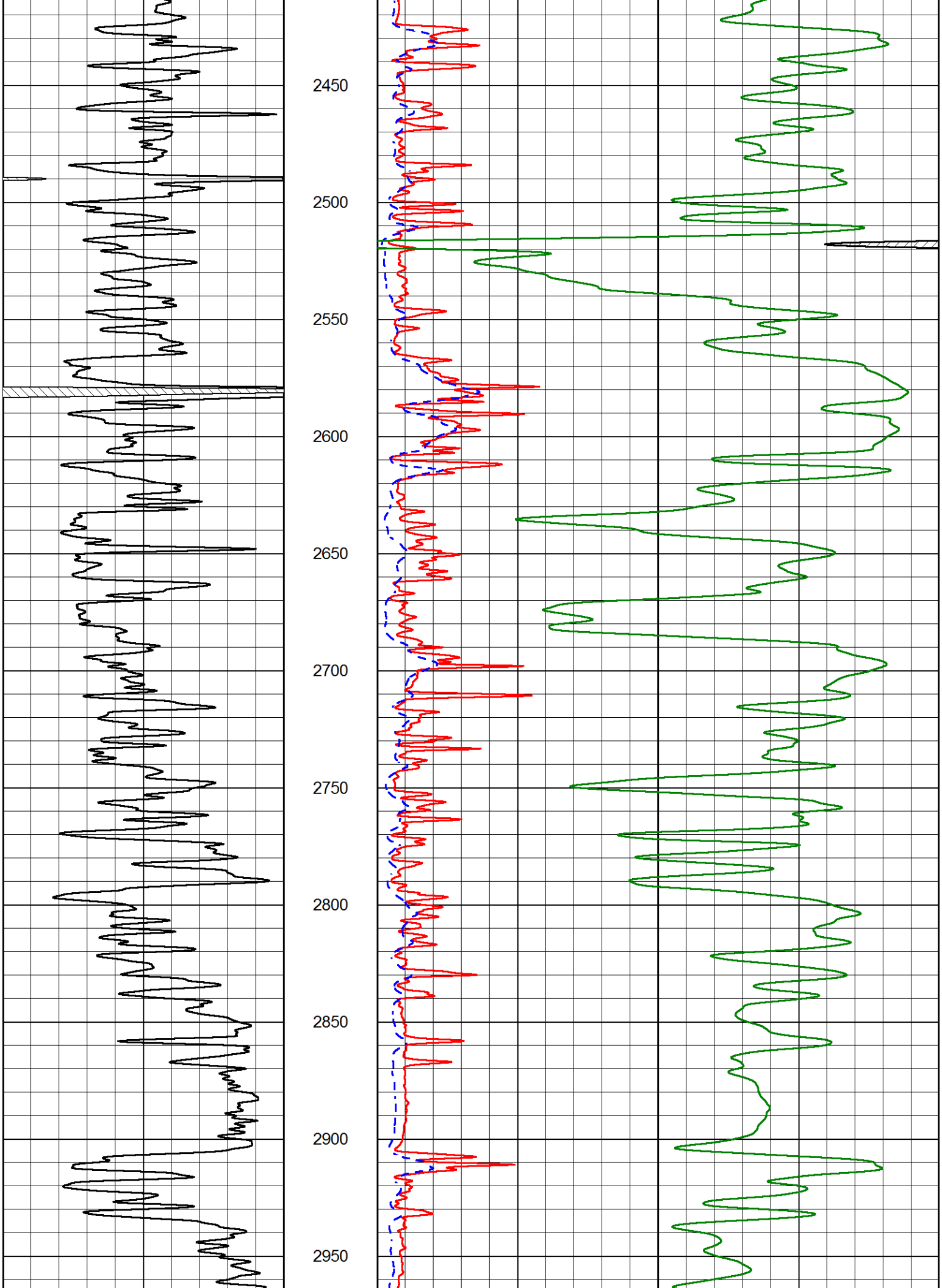
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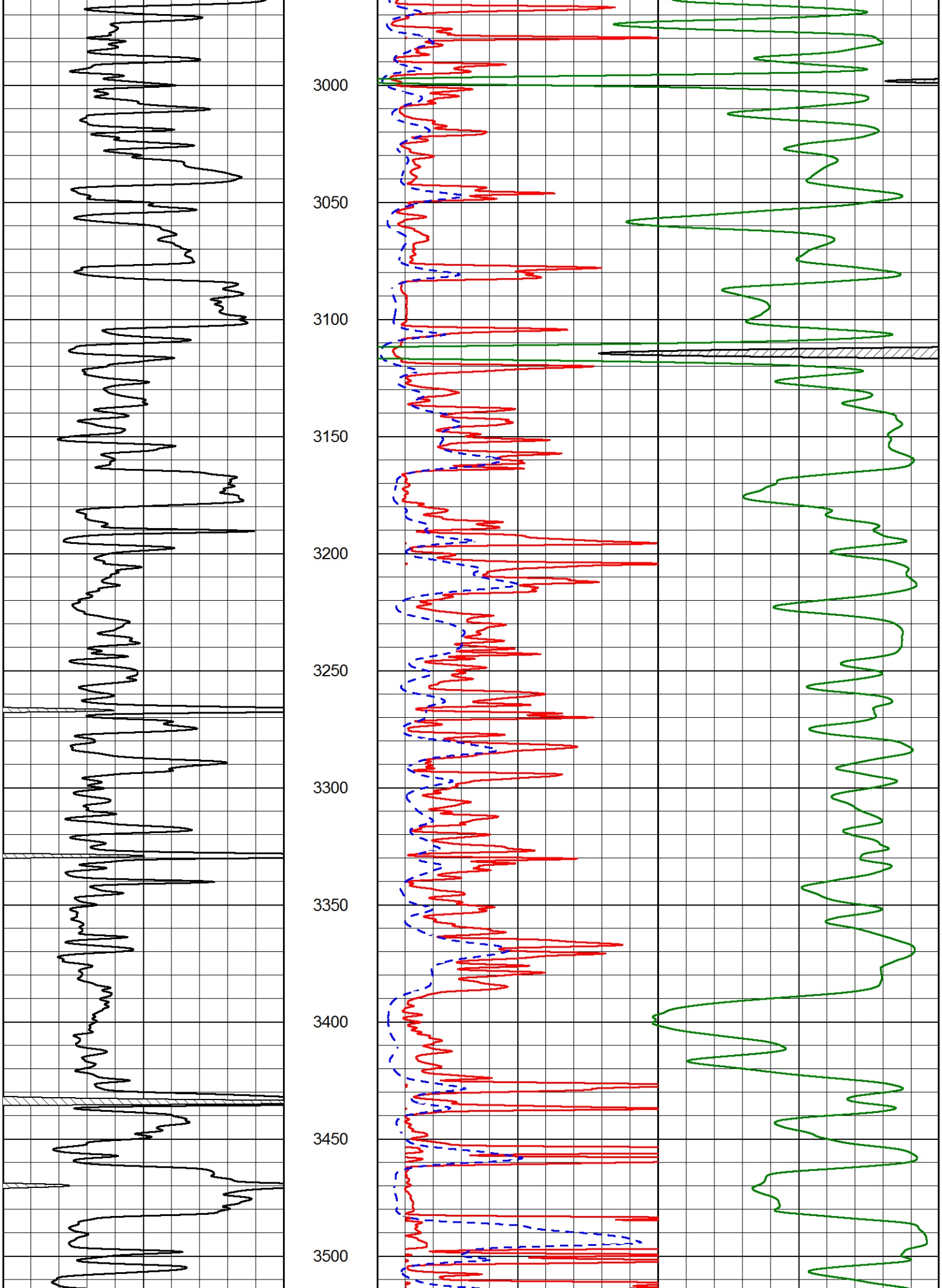
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3250
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3350
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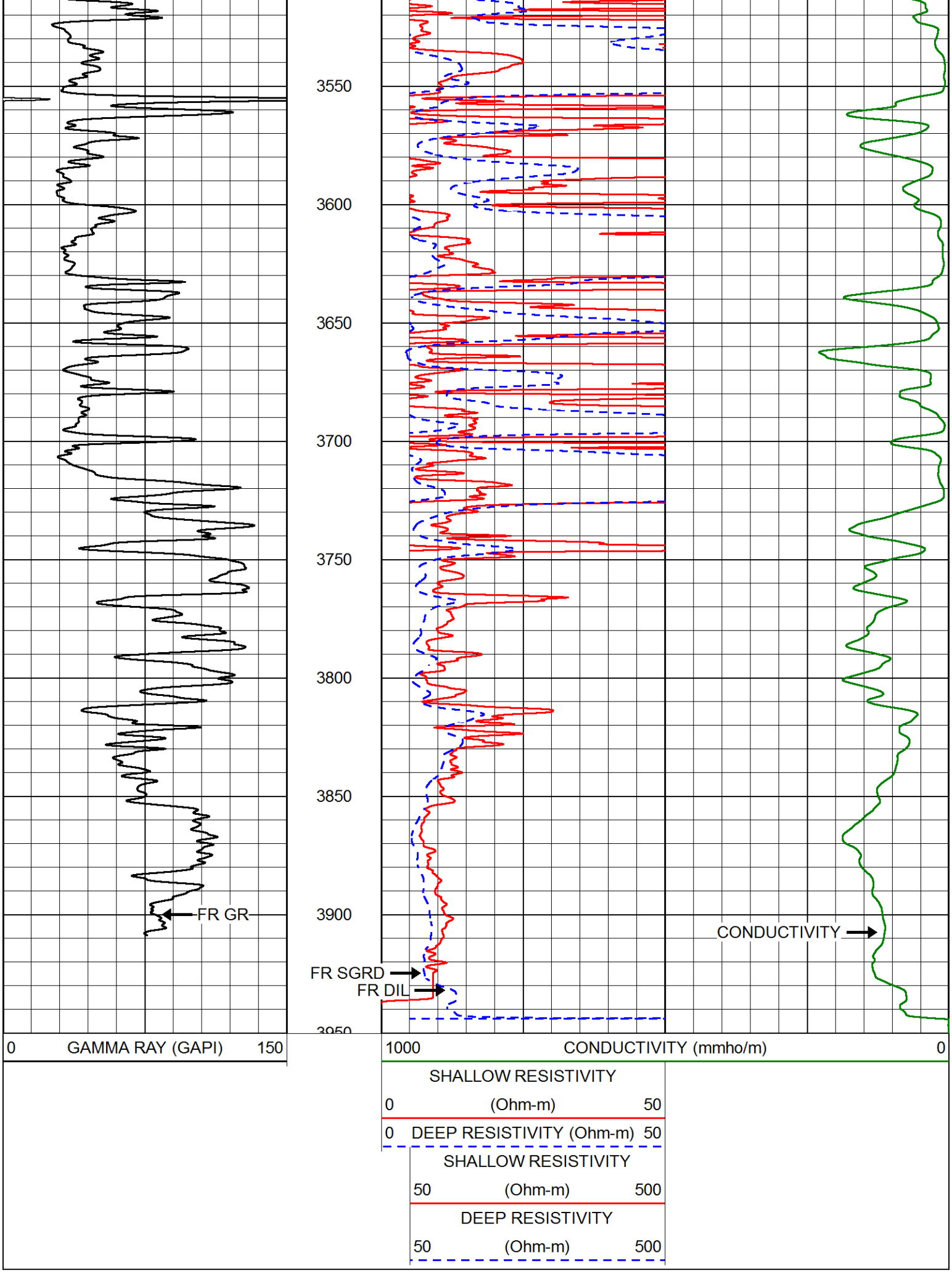
3500

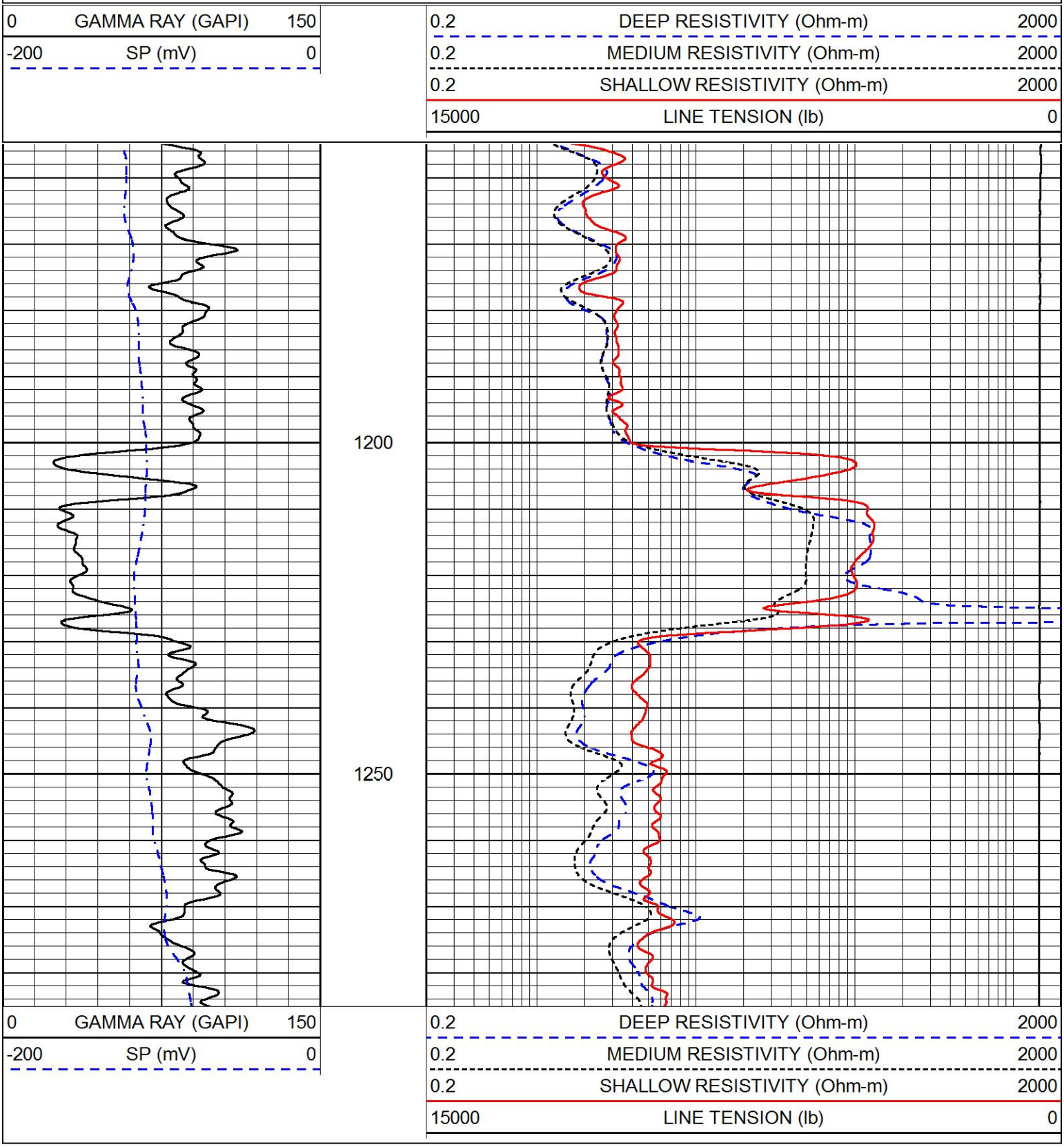

3550
3600
3650
3700
3750
3800
3850
3900
FR GR
FR SGRD
FR DIL
CONDUCTIVITY
0
GAMMA RAY (GAPI)
150
1000
CONDUCTIVITY (mmho/m)
0
SHALLOW RESISTIVITY
0
(Ohm-m)
50
0
DEEP RESISTIVITY (Ohm-m)
50
SHALLOW RESISTIVITY
50
(Ohm-m)
500
DEEP RESISTIVITY
50
(Ohm-m)
500

PIONEER
Pioneer Energy Services

ANHYDRITE SECTION

MAIN PASS

Database File	joegerstneroil_llg_1-3.db
Dataset Pathname	stackmel/pass3.4
Presentation Format	dil
Dataset Creation	Sat Dec 17 13:33:04 2016
Charted by	Depth in Feet scaled 1:240



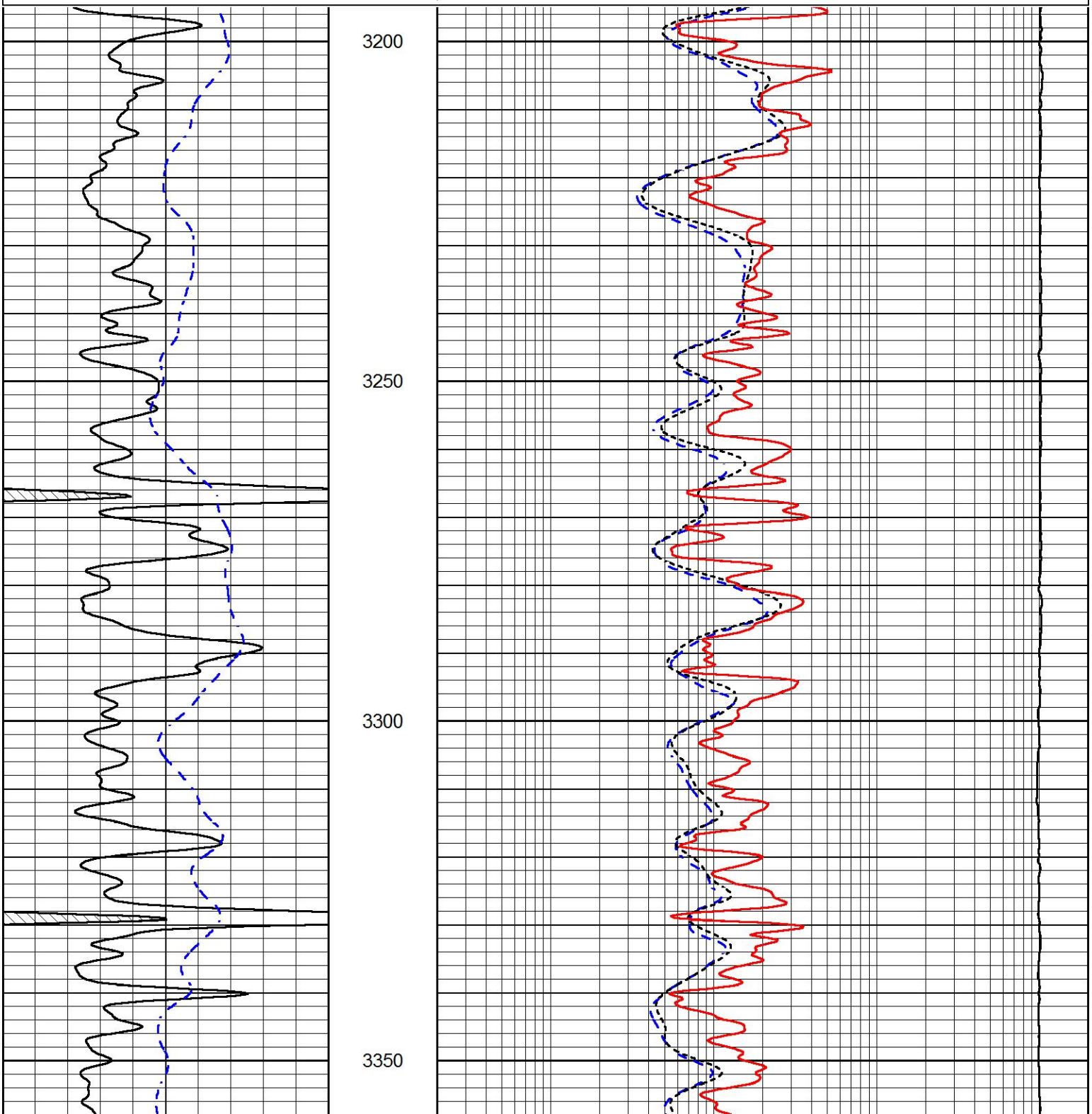
PIONEER
Pioneer Energy Services

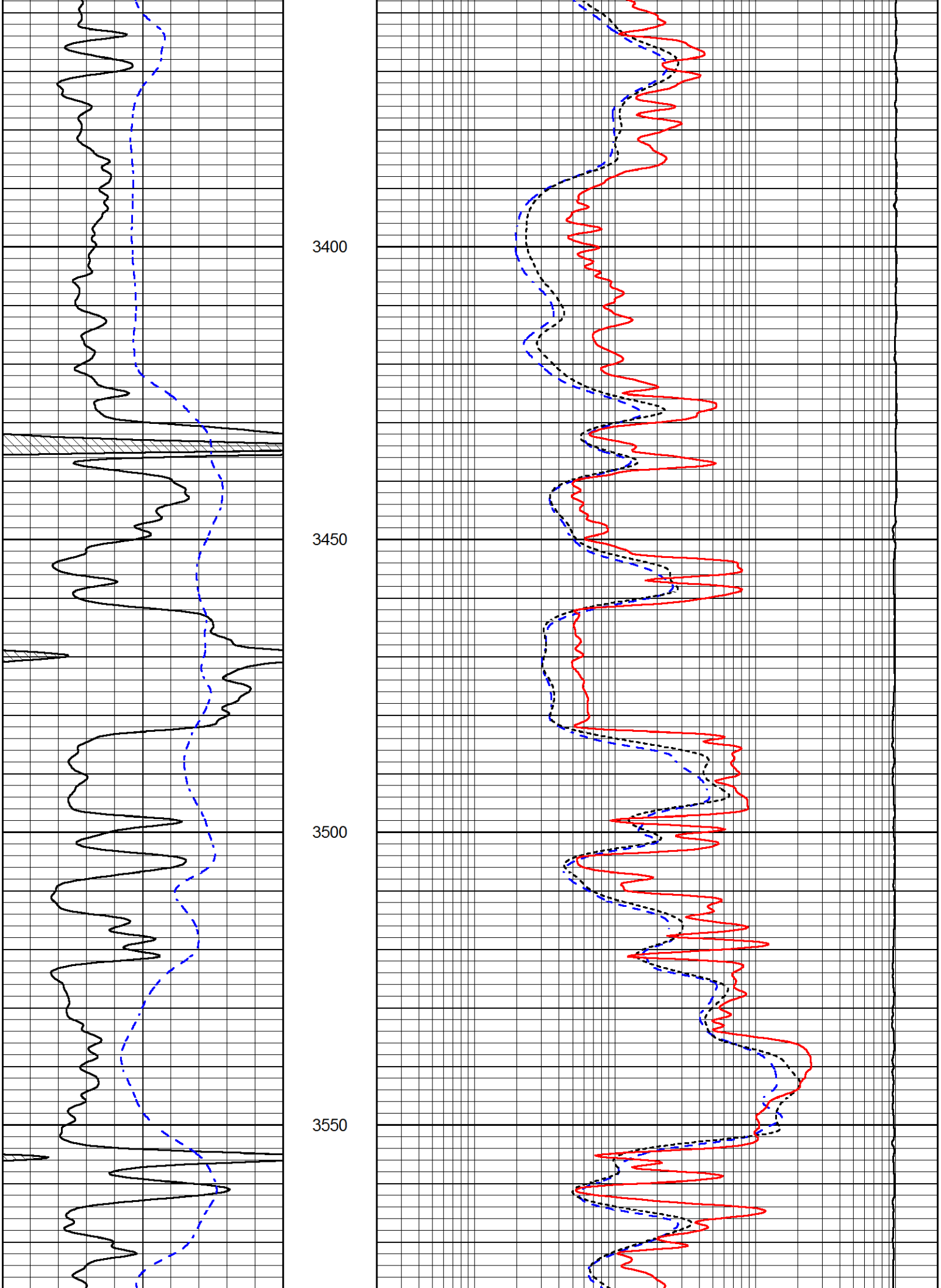
MAIN PASS

Database File	joegerstneroil_llg_1-3.db
Dataset Pathname	stackmel/pass3.1
Presentation Format	dil
Dataset Creation	Sat Dec 17 13:19:21 2016
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	SHALLOW RESISTIVITY (Ohm-m)	2000
15000	LINE TENSION (lb)	0

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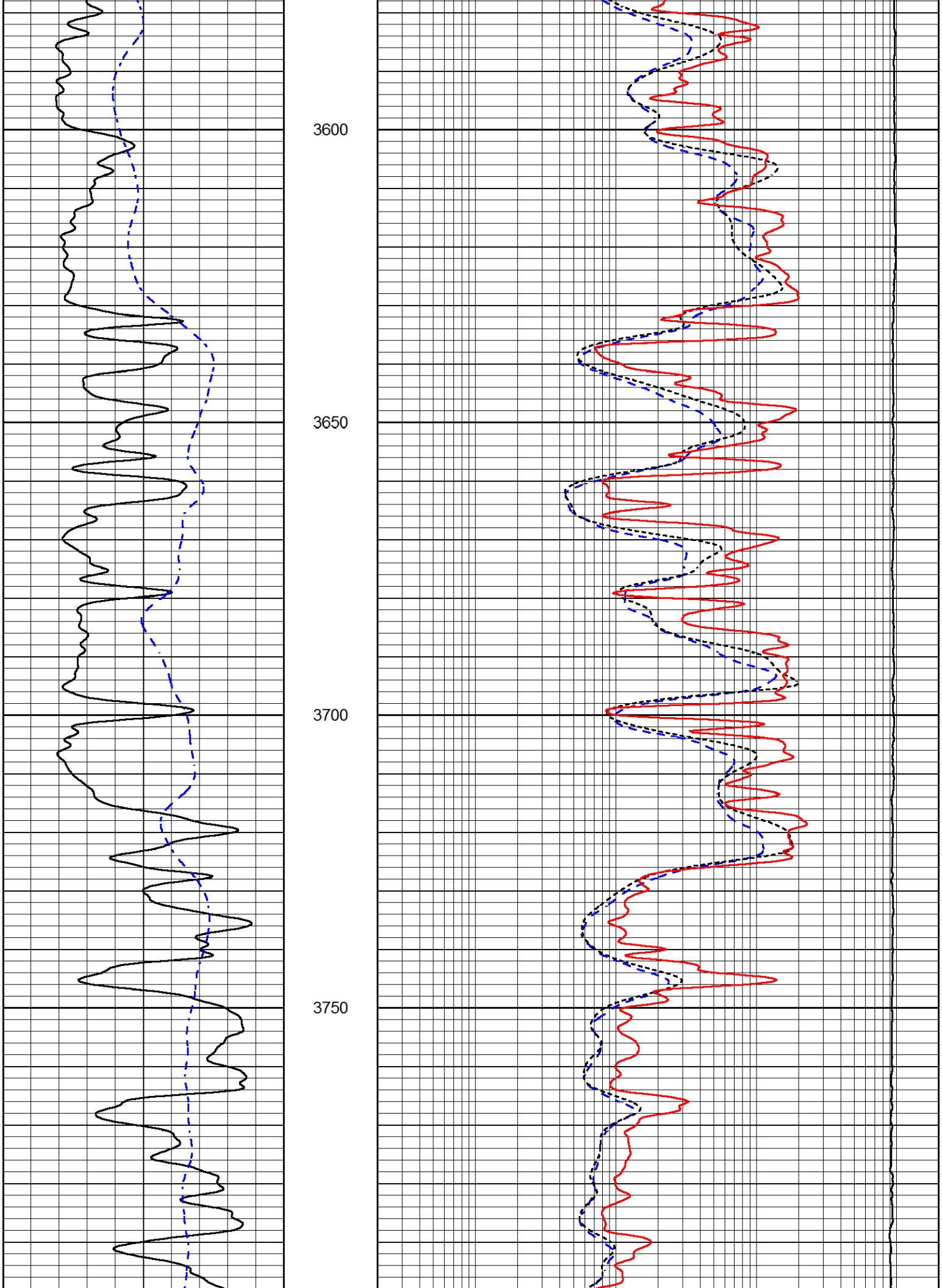
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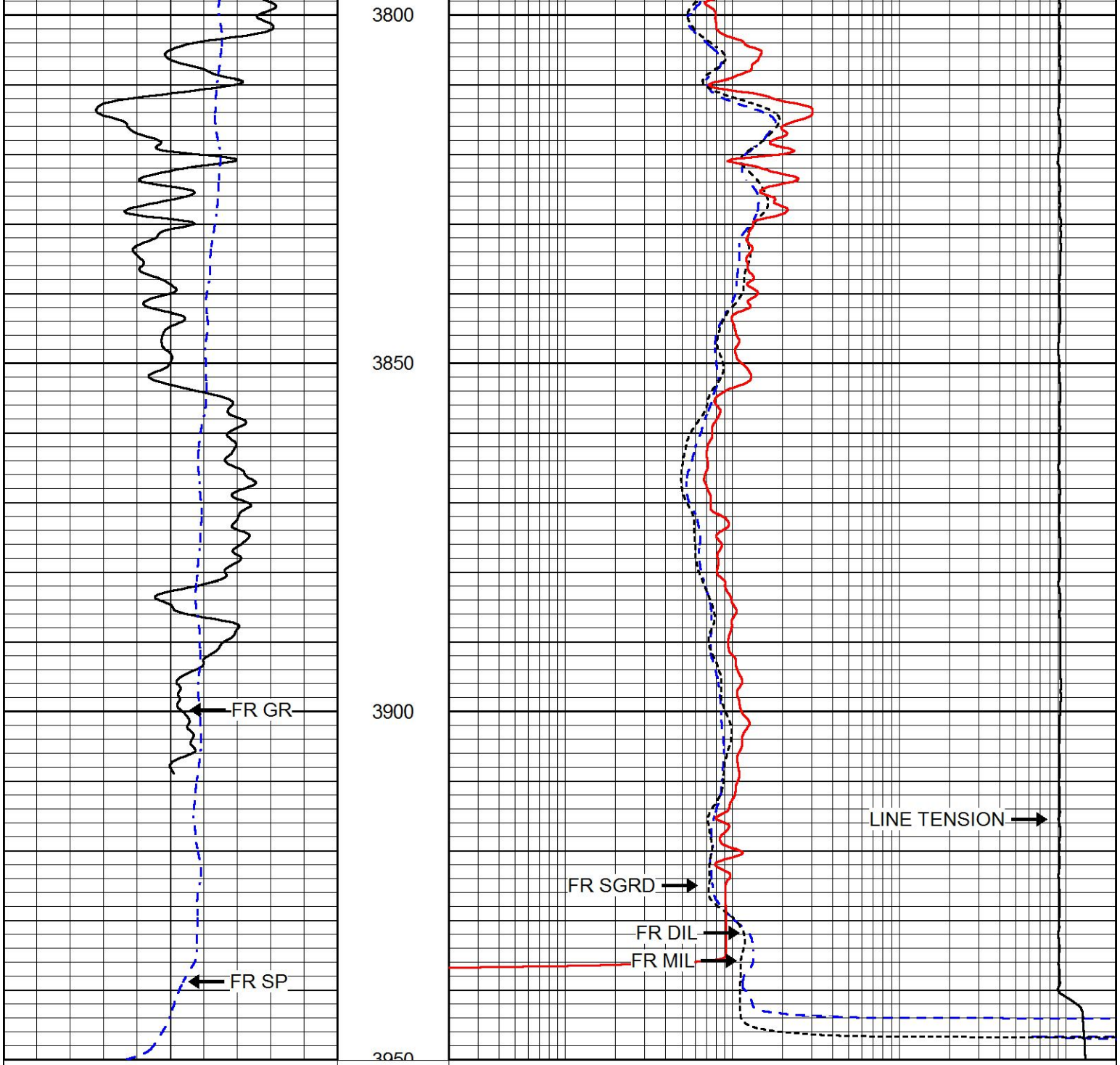
3700
3750



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	SHALLOW RESISTIVITY (Ohm-m)	2000
15000	LINE TENSION (lb)	0

PIONEER
Pioneer Energy Services

REPEAT SECTION

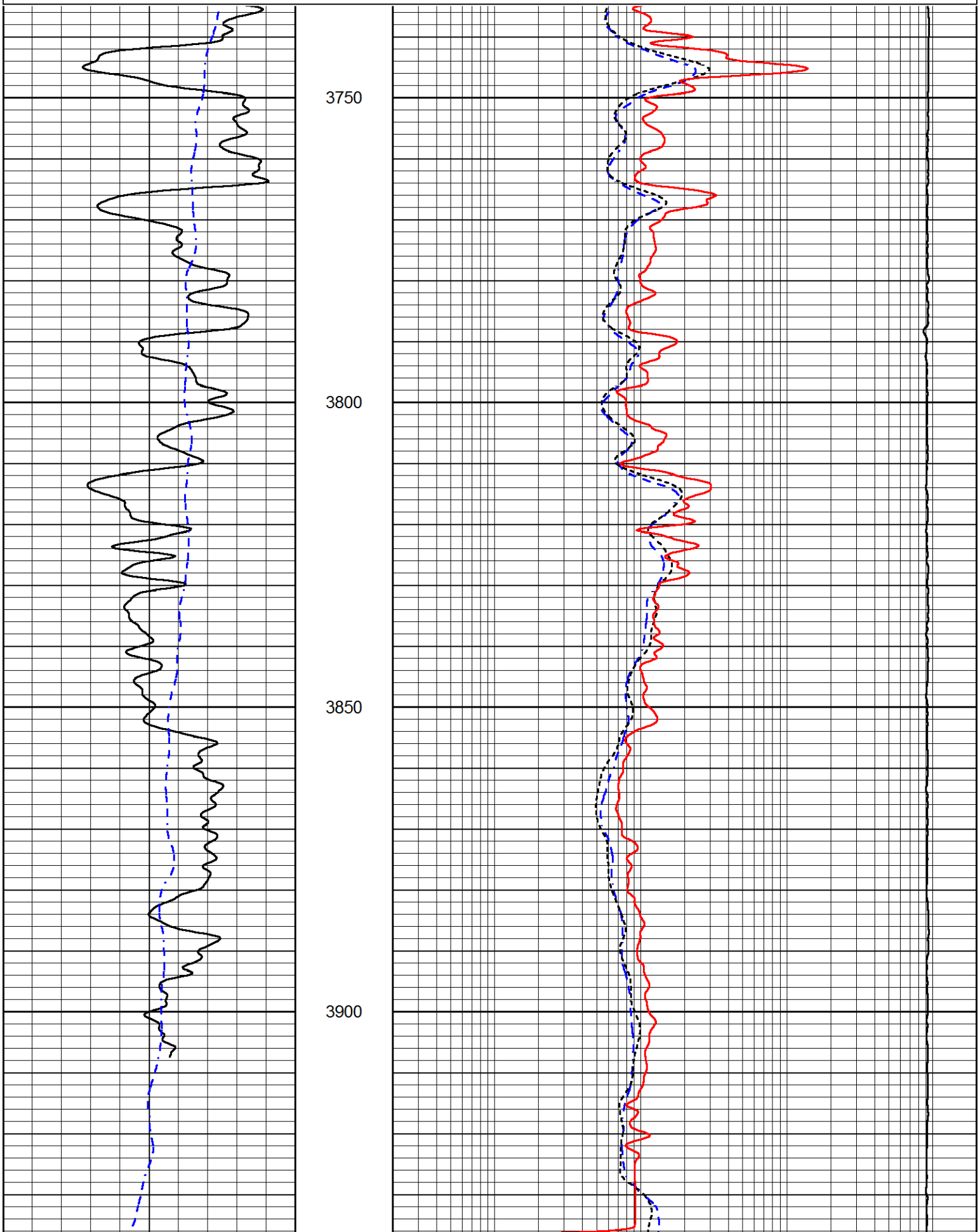
Database File	joegerstneroil_llg_1-3.db
Dataset Pathname	stackmel/pass2.1
Presentation Format	dil
Dataset Creation	Sat Dec 17 13:10:38 2016
Charted by	Depth in Feet scaled 1:240

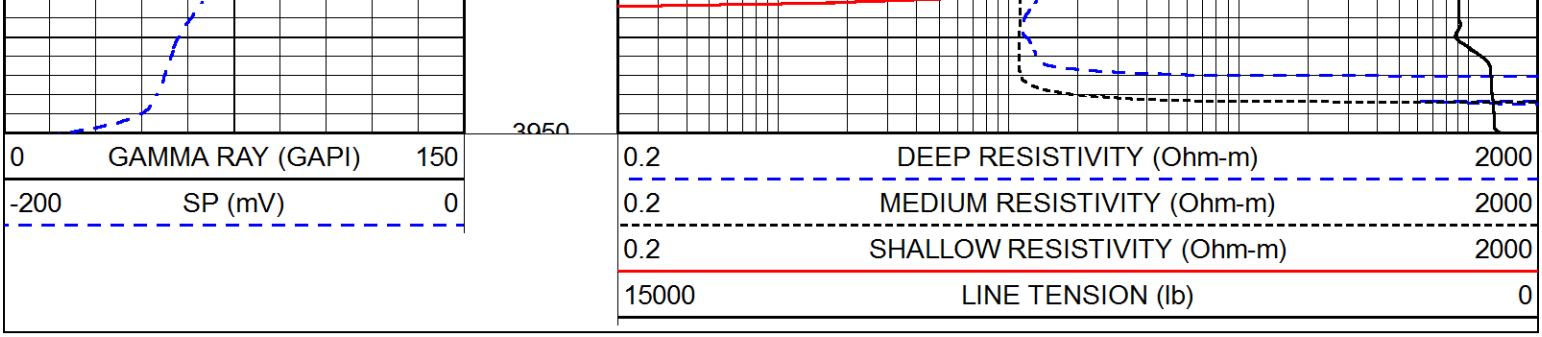
0	GAMMA RAY (GAPI)	150
-200	SP (mV)	0

0.2	DEEP RESISTIVITY (Ohm-m)	2000
0.2	MEDIUM RESISTIVITY (Ohm-m)	2000
0.2	SHALLOW RESISTIVITY (Ohm-m)	2000
15000	LINE TENSION (lb)	0

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	SHALLOW RESISTIVITY (Ohm-m)	2000
15000	LINE TENSION (lb)	0





Calibration Report

Database File	joegerstneroil_llg_1-3.db
Dataset Pathname	stackmel/pass2
Dataset Creation	Sat Dec 17 12:16:50 2016

Dual Induction Calibration Report

Serial-Model:	1987-M&W
Calibration Performed:	Thu Nov 17 20:52:56 2016

	Readings		References			Results	
Loop:	Air	Loop	Air	Loop		Gain	Offset
Deep	178.615	710.235	0.000	255.800	mmho/m	0.530	-36.500
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.440	-110.500

Compensated Density Calibration Report

Serial-Model:	71-914-M&W
Source / Verifier:	/
Master Calibration Performed:	Thu Nov 17 21:42:33 2016

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4314.49	5307.52	cps
Aluminum	2.675	g/cc	822.19	3456.36	cps

Spine Angle = 75.49 Density/Spine Ratio = 0.537

	Size		Reading
Small Ring	4.00	in	1.16
Large Ring	14.00	in	1.57

Compensated Neutron Calibration Report

Serial Number:	tk10-MW
Tool Model:	M&W
Calibration Performed:	Wed Nov 16 11:21:36 2016

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:	89-M&W	
Tool Model:	M&W	
Calibration Performed:	Thu Nov 17 21:13:32 2016	
Calibrator Value:	1000.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	6.2	cps
Sensitivity:	0.5200	GAPI/cps

PIONEER
Pioneer Energy Services

Company	JOE GERSTNER OIL, LLC
Well	LLG NO. 1-3
Field	WILDCAT
County	RUSH
State	KANSAS

SWIFT Services, Inc.

CHARGE TO: Jol Gerstner Oil
ADDRESS
CITY, STATE, ZIP CODE

TICKET 29515

PAGE 1 OF

SERVICE LOCATIONS	WELL/PROJECT NO.	LEASE	COUNTY/PARISH	STATE	CITY	DATE	OWNER
1. Hays Ks	1-3	LLG	RUSH	KS		12-12-16	
2. Ness City Ks	TICKET TYPE ☐ SERVICE ☐ SALES	CONTRACTOR	RIG NAME/NO.	SHIPPED VIA	DELIVERED TO	ORDER NO.	
3.		WW DRILLING & F	RIG # 12		LOCATION		
4.	WELL TYPE	WELL CATEGORY	JOB PURPOSE		WELL PERMIT NO.	WELL LOCATION	
REFERRAL LOCATION	Oil	Development	Deep Surface				
	INVOICE INSTRUCTIONS						

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING LOC	ACCT	DF	DESCRIPTION	QTY.	U/M	QTY.	U/M	UNIT PRICE	AMOUNT
575		1			MILEAGE Trk # 113	30	Mi			5 00	150 00
576 D		1			Pump Charge - Deep Surface	1	EA			1250 00	1250 00
290		1			D-Air	5	Gal			42 00	210 00
409		1			Turbolizer	2	EA			95 00	190 00
410		1			Top Plug	1	EA			120 00	120 00
194		1			Plug Container Rental	1	EA			200 00	200 00
330		2			Swift Multi Density	350	SKS			15 75	5512 50
276		2			Flocele	165	lbs			2 25	371 25
581		2			Service Charge Cmt	350	SKS			1 50	525 00
583		2			Drayage (30 miles)	32900	lbs	494	TM	75	370 50

LEGAL TERMS: Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, **PAYMENT**, **RELEASE**, **INDEMNITY**, and **LIMITED WARRANTY** provisions.

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS

X

DATE SIGNED | TIME SIGNED | ☐ A.M. ☐ P.M.

REMIT PAYMENT TO:

SWIFT SERVICES, INC.
P.O. BOX 466
NESS CITY, KS 67560
785-798-2300

SURVEY	AGREE	UN-DECIDED	DIS-AGREE
OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?			
WE UNDERSTOOD AND MET YOUR NEEDS?			
OUR SERVICE WAS PERFORMED WITHOUT DELAY?			
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?			

ARE YOU SATISFIED WITH OUR SERVICE? ☐ YES ☐ NO

☐ CUSTOMER DID NOT WISH TO RESPOND

PAGE TOTAL	8399 25
Rush Co. TAX 6.5%	429 24
TOTAL	9328 49

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowledges receipt of the materials and services listed on this ticket.

SWIFT OPERATOR DAVID EDGERTON | APPROVAL

Thank You!

JOB LOG

SWIFT Services, Inc.

DATE 12-12-16 PAGE NO.

CUSTOMER	WELL NO.	LEASE	JOB TYPE	TICKET NO.
Tom Gerstner	1-3	LLG	Deep Surface	29515

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS T	PUMPS C	PRESSURE (PSI) TUBING	PRESSURE (PSI) CASING	DESCRIPTION OF OPERATION AND MATERIALS
	1230							ON LOCATION
								8 5/8 csg
								RTD - 1135
								Pipe - 1135
								Shoe -
								CENTRALIZERS - 1 & 10
								START Running Csg
	700							BREAK CIRC ON BOTTOM
	730	5	10					PUMP WTR SPACER
	735	6.5	0				600	START CMT @ 11.8 ppg
		6.5	49				500	RAISE WEIGHT to 12.5 ppg
		5.5	92				400	RAISE WEIGHT to 13.5 ppg
		4.5	117				400	RAISE WEIGHT to 14.5 ppg
	805		137					END CMT
								Drop plug
		7	0				400	START DISP.
	815	5	70				600	END DISP
								Lift psi - 600
								LAND psi - 900
								THANKS
								DAVID, JON & ISAAC
								* Circ 70 sks CMT to pit