



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1322113  
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

Form must be Typed  
Form must be Signed  
All blanks must be Filled

WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

- New Well       Re-Entry       Workover
- Oil       WSW       SWD       SIOW
- Gas       D&A       ENHR       SIGW
- OG       GSW       Temp. Abd.
- 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 ENHR       Conv. to SWD
- Plug Back       Conv. to GSW       Conv. to Producer
- Commingled      Permit #: \_\_\_\_\_
- Dual Completion      Permit #: \_\_\_\_\_
- SWD      Permit #: \_\_\_\_\_
- ENHR      Permit #: \_\_\_\_\_
- GSW      Permit #: \_\_\_\_\_

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE       NW       SE       SW

GPS Location: Lat: \_\_\_\_\_, Long: \_\_\_\_\_  
(e.g. xx.xxxxx)      (e.g. -xxx.xxxxx)

Datum:  NAD27       NAD83       WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ 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: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

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: \_\_\_\_\_
- Confidential Release Date: \_\_\_\_\_
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

1322113

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**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 <i>(Attach Additional Sheets)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
Cores Taken	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Electric Log Run	<input type="checkbox"/> Yes <input type="checkbox"/> No			
List All E. Logs Run:				

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> 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

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate				
<input type="checkbox"/> Protect Casing				
<input type="checkbox"/> Plug Back TD				
<input type="checkbox"/> Plug Off Zone				

Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 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)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD: Size: \_\_\_\_\_ Set At: \_\_\_\_\_ Packer At: \_\_\_\_\_ Liner Run:  Yes  No

Date of First, Resumed Production, SWD or ENHR. \_\_\_\_\_ Producing Method:  
 Flowing  Pumping  Gas Lift  Other *(Explain)* \_\_\_\_\_

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
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DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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**DUAL  
INDUCTION  
LOG**

Company LaVeta Oil & Gas  
 Well P. Spangenberg #15  
 Field Richardson  
 County Stafford  
 State Kansas

Company LaVeta Oil & Gas  
 Well P. Spangenberg #15  
 Field Richardson  
 County Stafford State Kansas

Location: 735' FSL & 1225' FWL  
 API #: 15 185 23971  
 Permanent Datum Ground Level Elevation 1827'  
 Log Measured From KB 10' AGL  
 Drilling Measured From KB  
 Other Services CDNL  
 Elevation K.B. 1837'  
 D.F. 1836'  
 G.L. 1827'

Date	11-8-16
Run Number	One
Depth Driller	3570'
Depth Logger	3575'
Bottom Logged Interval	3573'
Top Log Interval	250'
Casing Driller	8 5/8" @ 257'
Casing Logger	257'
Bit Size	7 7/8"
Type Fluid in Hole	Chemical
Density / Viscosity	9.2/6.4
PH / Fluid Loss	9.2/8.8
Source of Sample	Pit
Rm @ Meas. Temp	3.1@72degf
Rmf @ Meas. Temp	2.32@72degf
Rmc @ Meas. Temp	3.72@72degf
Source of Rmf / Rmc	Calculated
Rm @ BHT	1.99@112degf
Time Circulation Stopped	6:00 p.m.
Time Logger on Bottom	8:30 p.m.
Maximum Recorded Temperature	112degf
Equipment Number	T127
Location	Hays, KS
Recorded By	Gus Pfanenstiel
Witnessed By	Mr. Bruce Reed

<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

**Comments**

Thanks for using Gemini Wireline LLC  
 785-625-1182



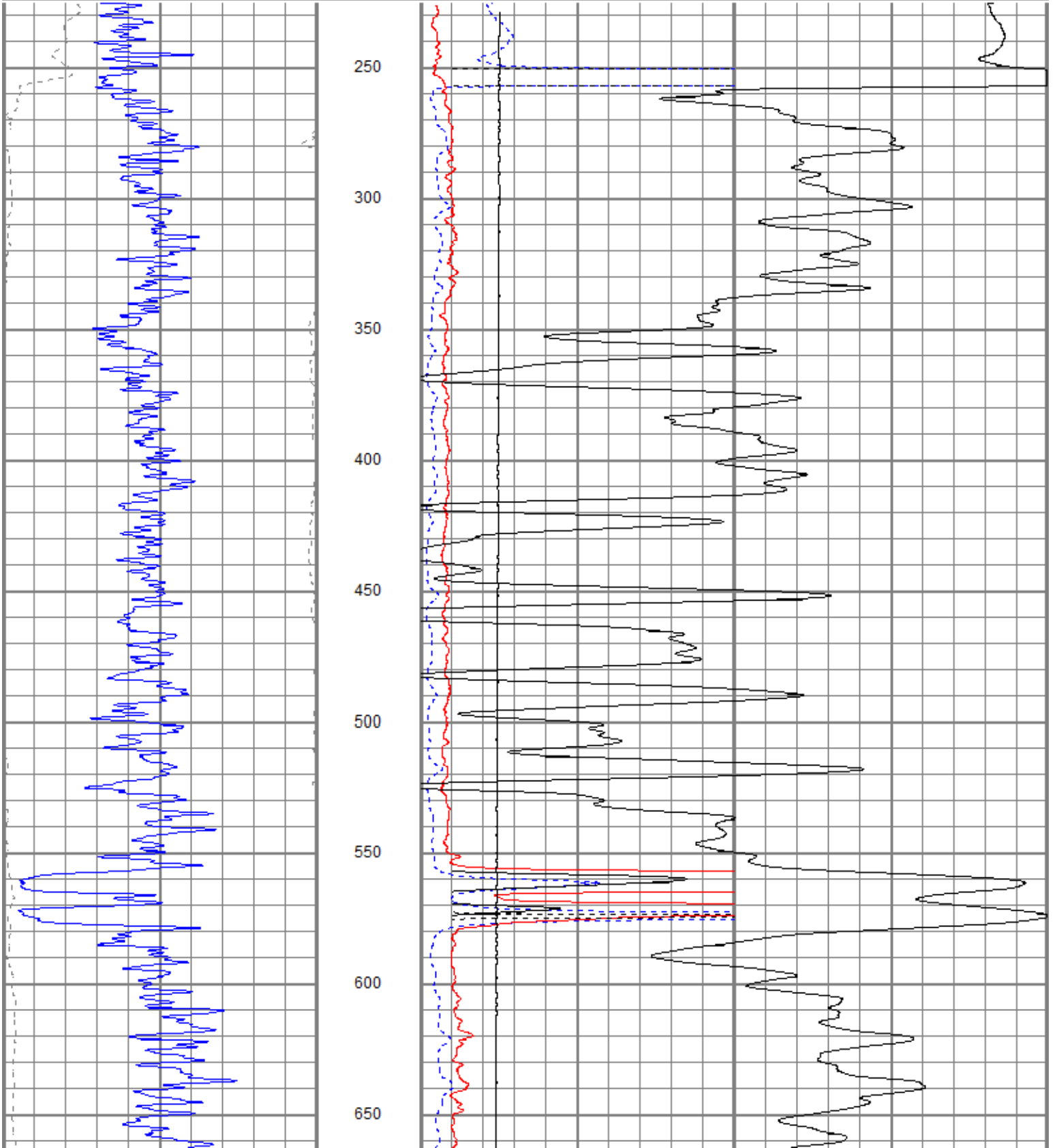
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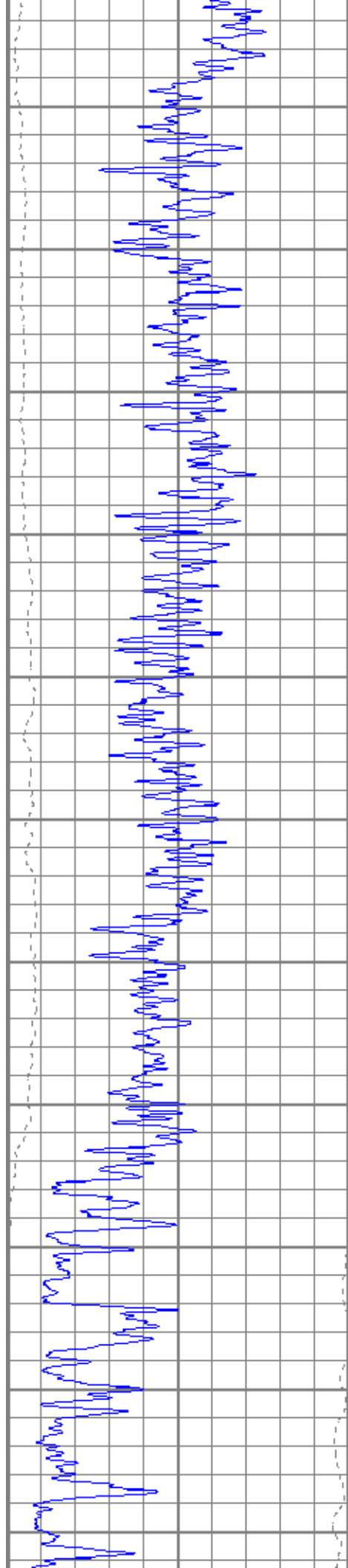
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 Dataset Pathname pass2  
 Presentation Format kdiffin2  
 Dataset Creation Tue Nov 08 20:58:28 2016  
 Charted by Depth in Feet scaled 1:600

0	GR (GAPI)	150
-200	SP (mV)	0

1000	CILD (mmho/m)	0
10000	LTEN (lb)	0

0	RILD (Ohm-m)	50
0	RLL3 (Ohm-m)	50
50	RILD x 10 (Ohm-m)	500
50	RLL3 x 10 (Ohm-m)	500





700

750

800

850

900

950

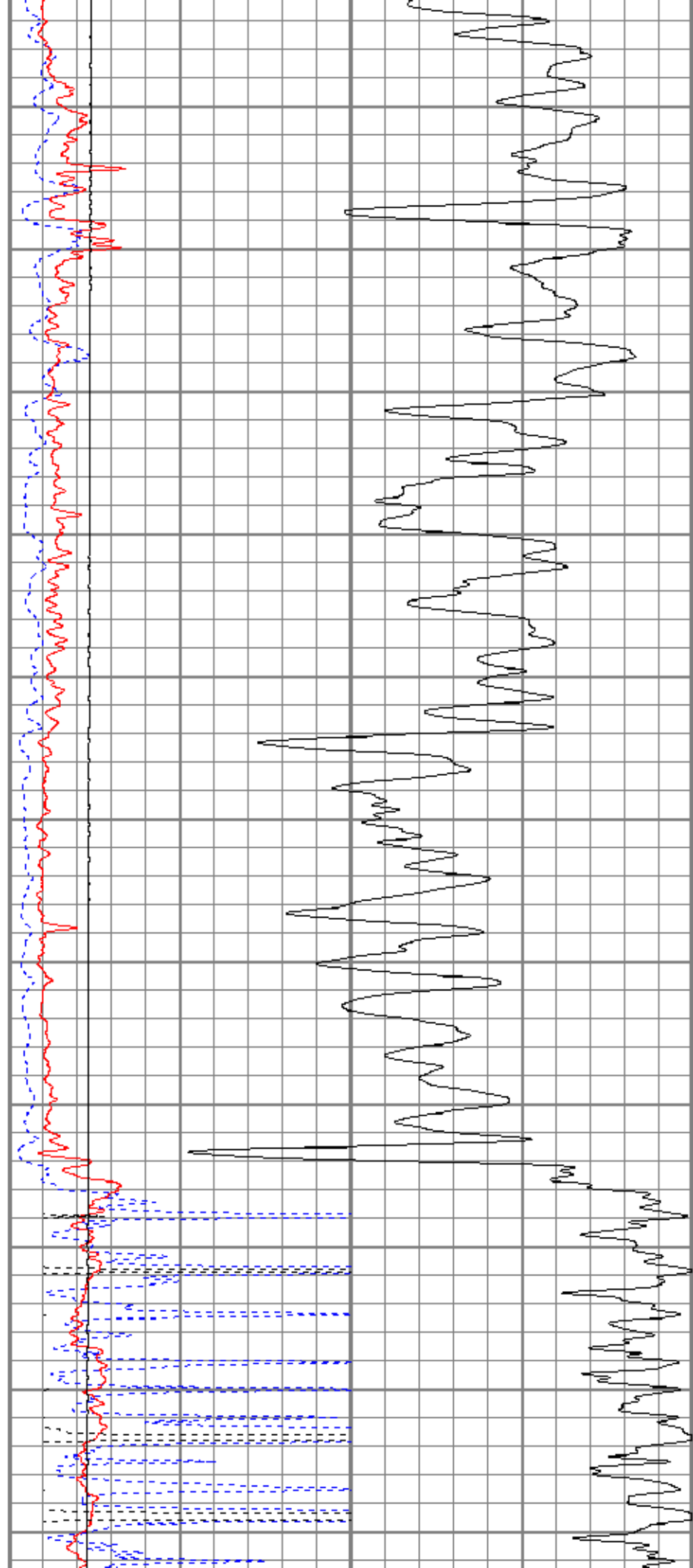
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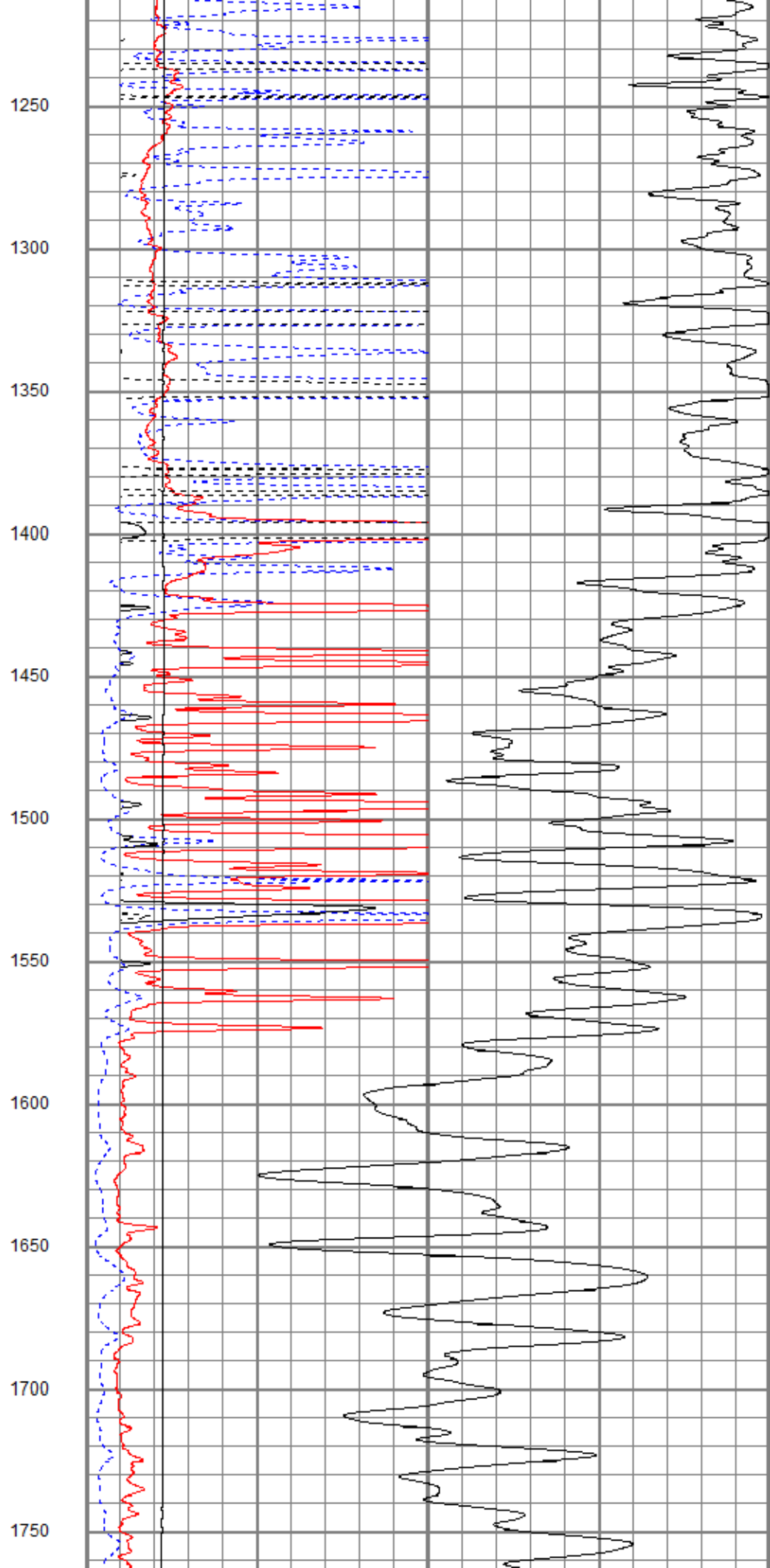
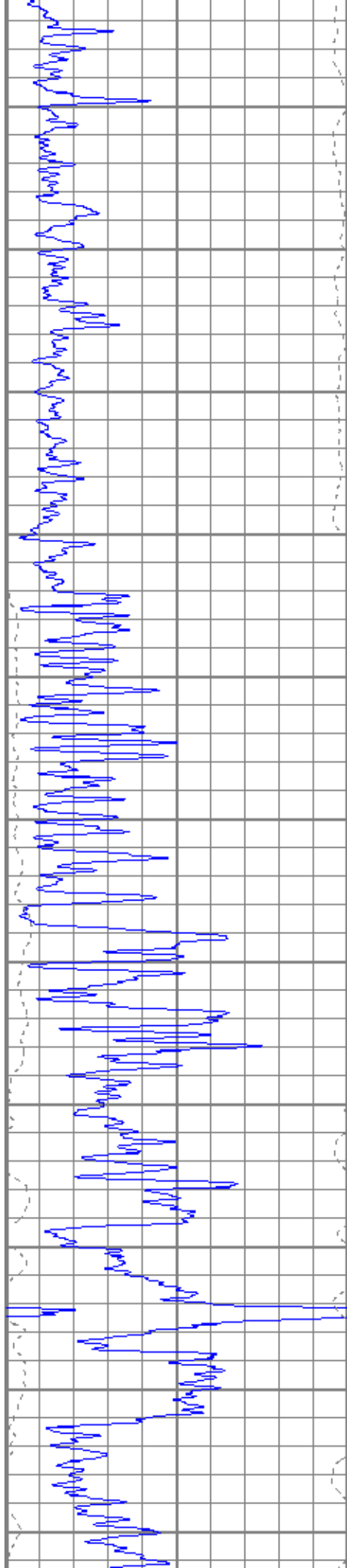
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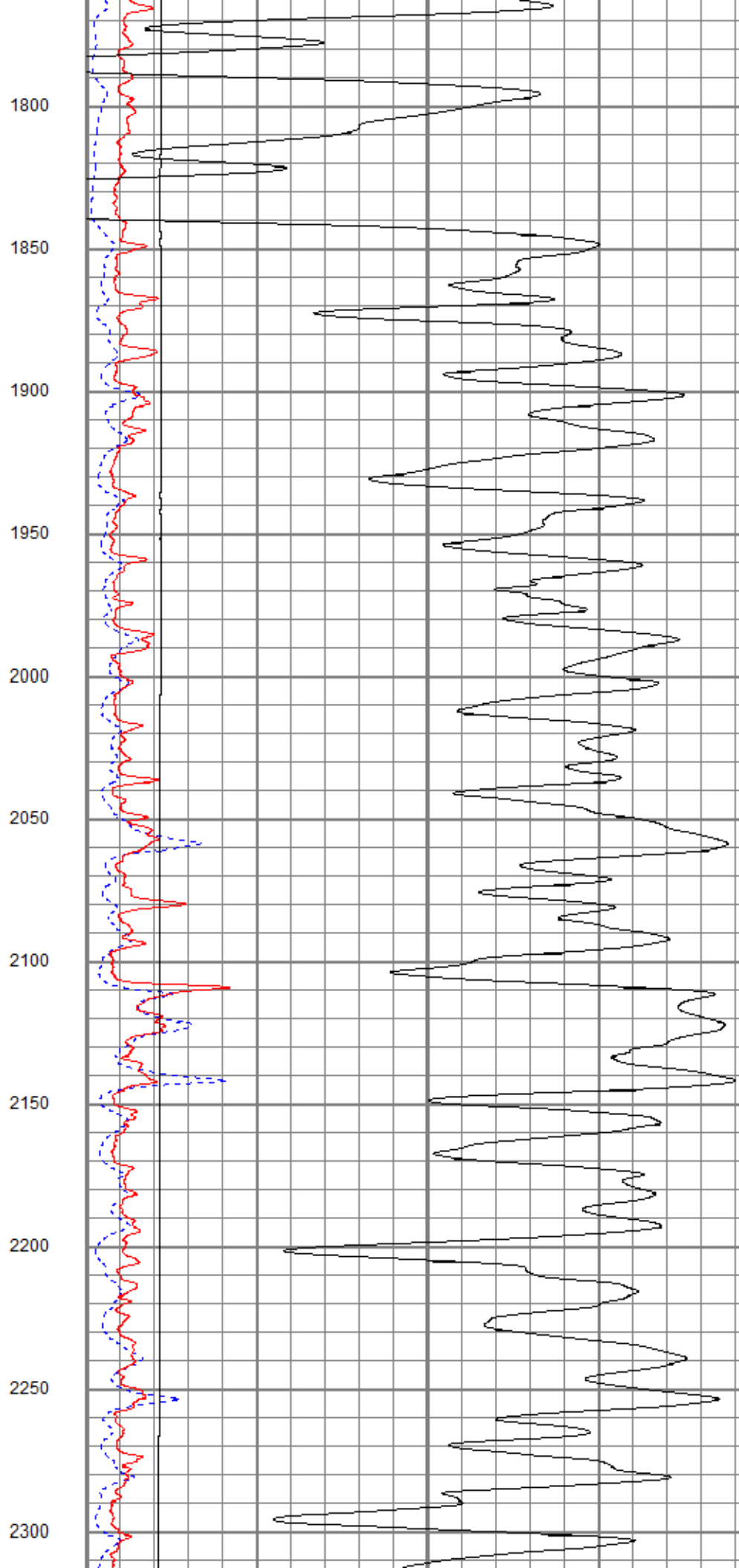
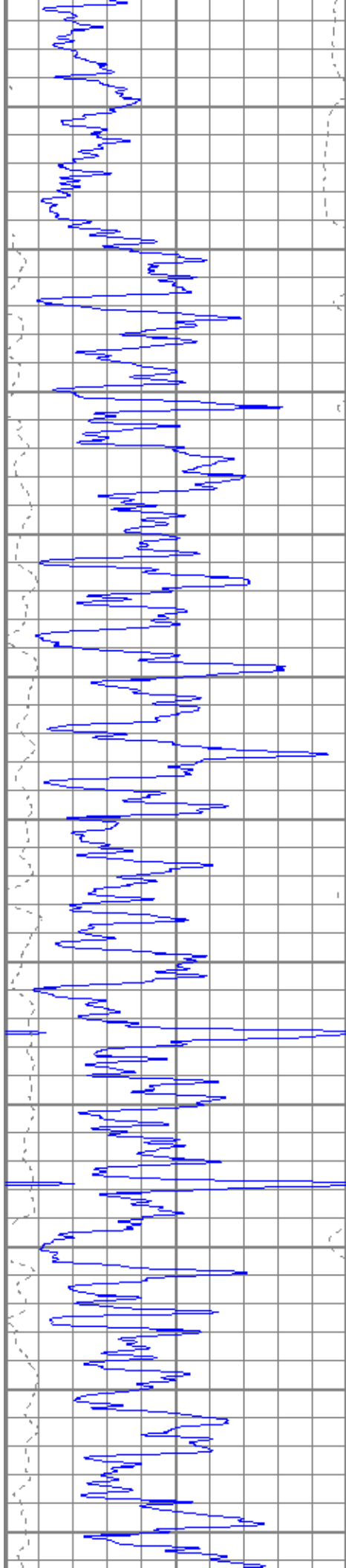
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1150

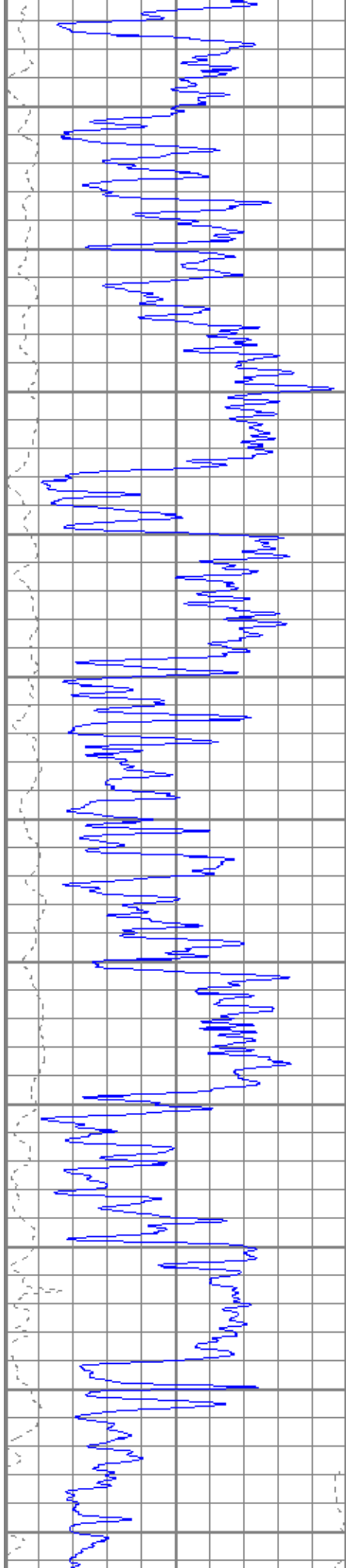
1200











2350

2400

2450

2500

2550

2600

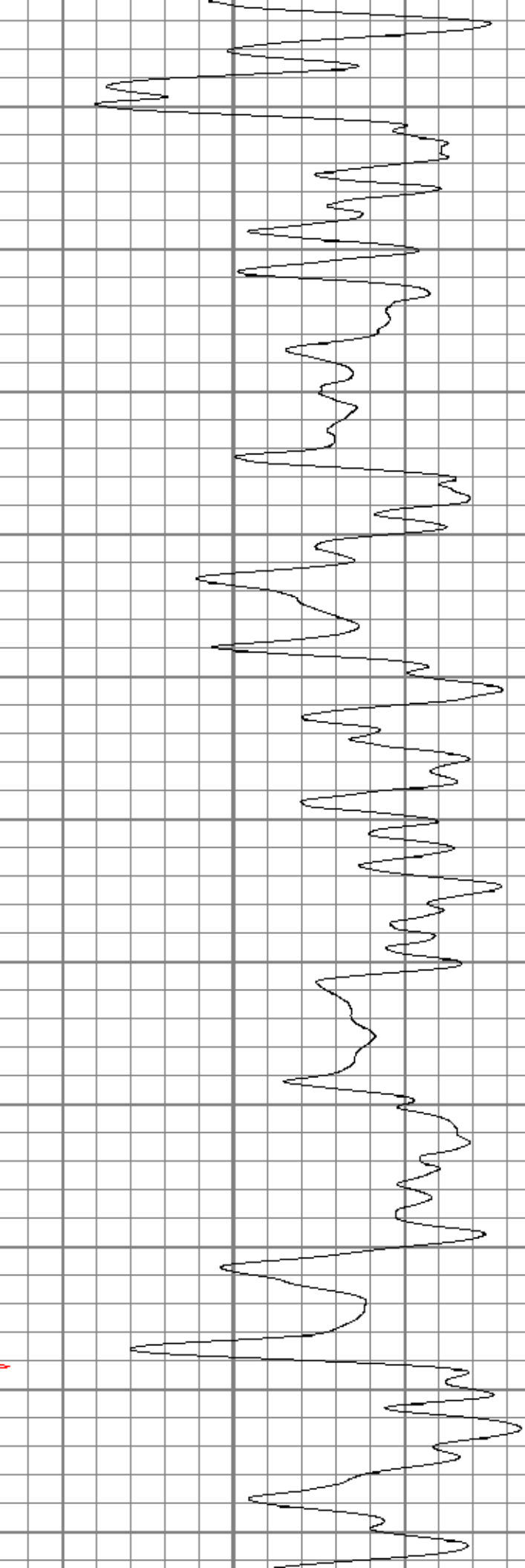
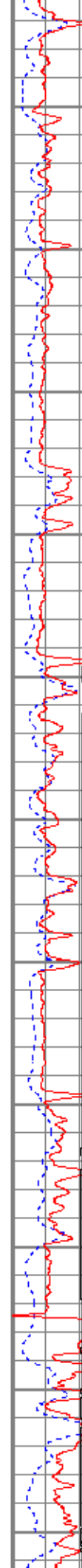
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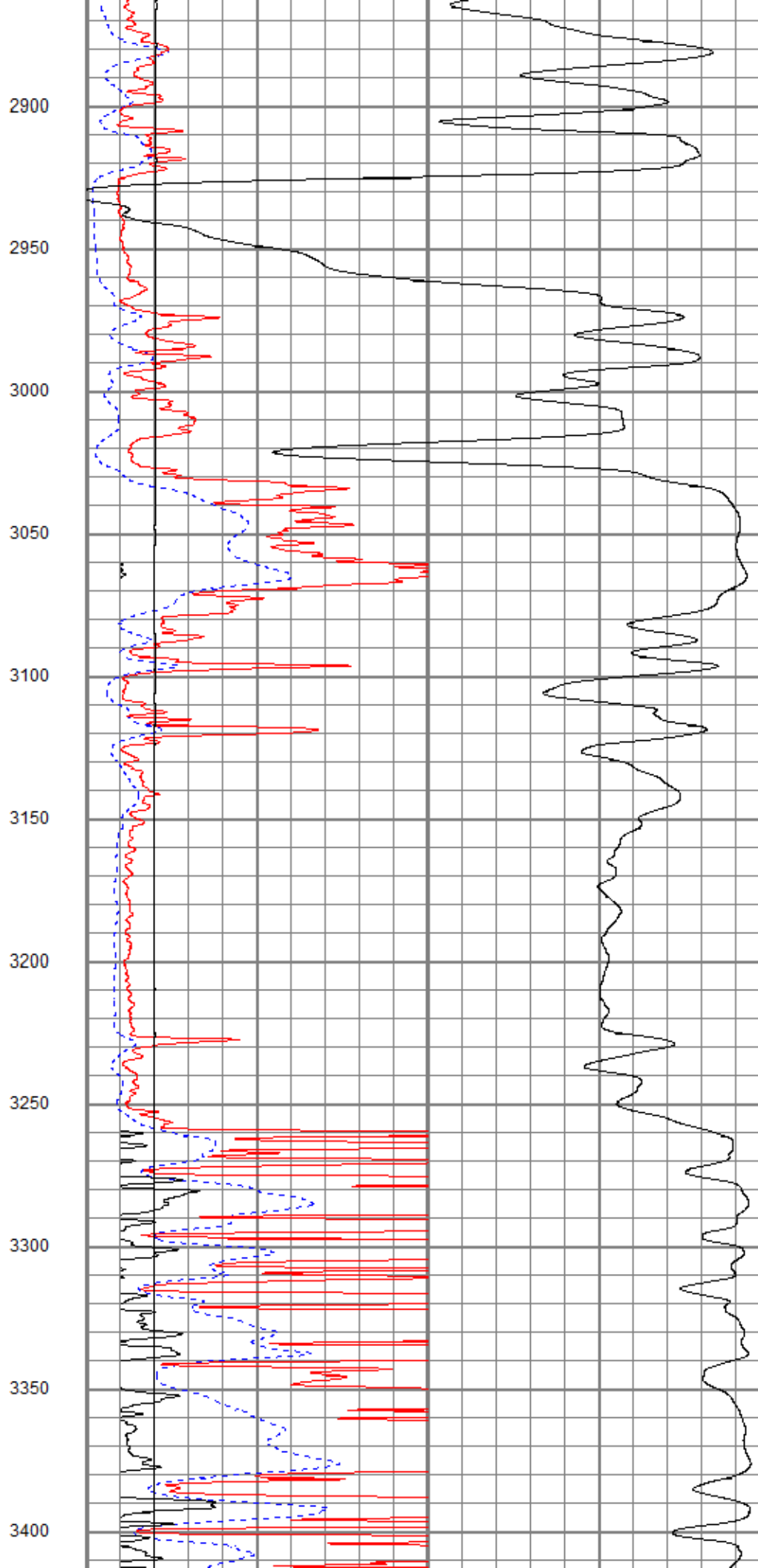
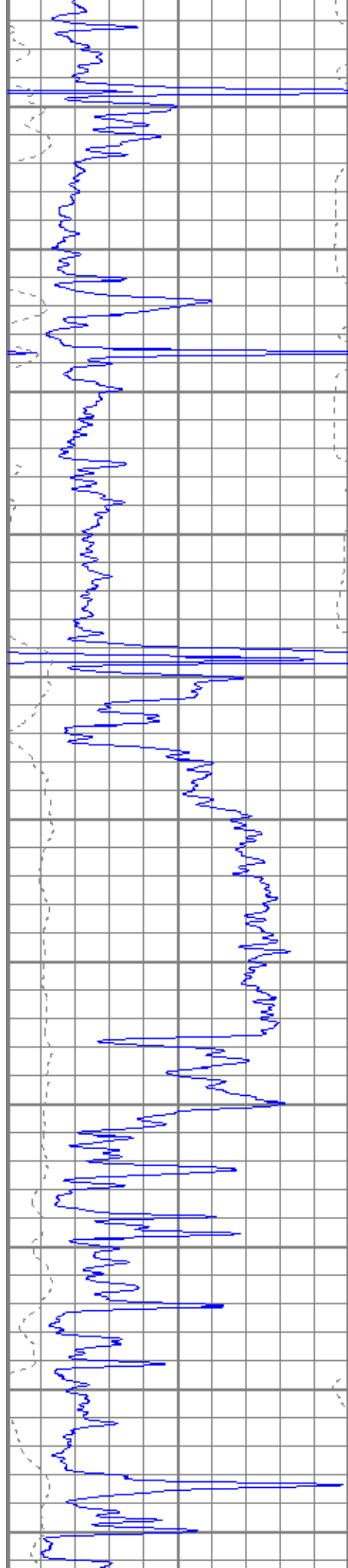
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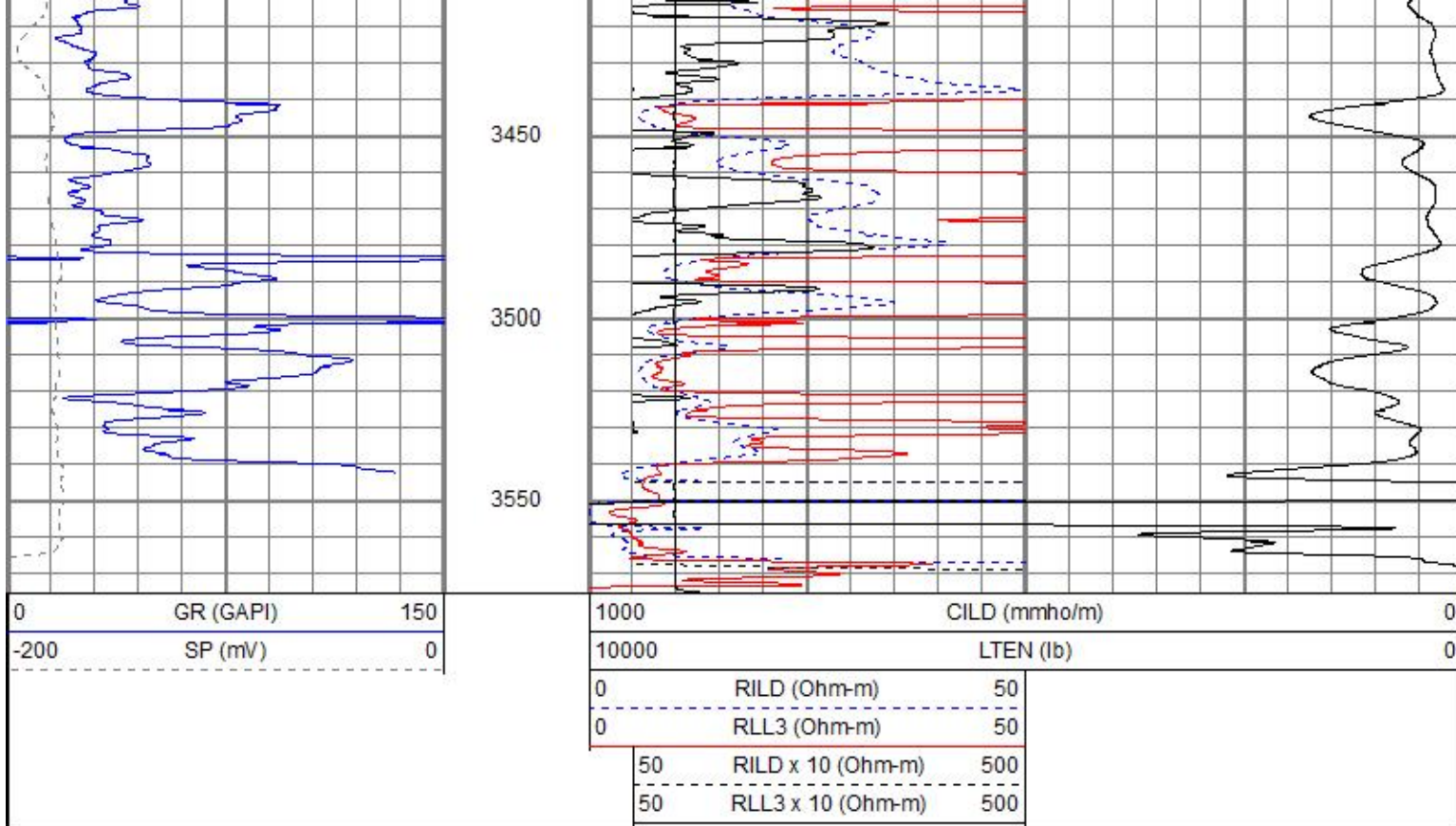
2750

2800

2850



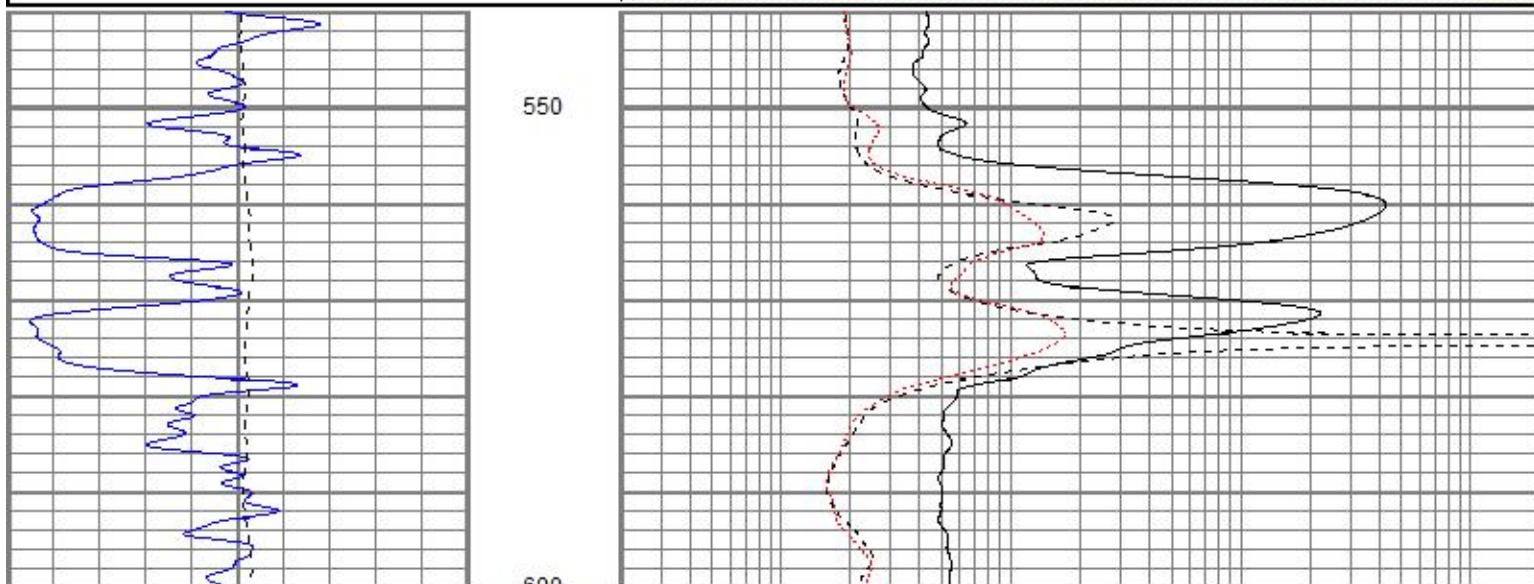




# Main Pass

Database File: lop.db  
 Dataset Pathname: pass2  
 Presentation Format: kdil  
 Dataset Creation: Tue Nov 08 20:58:28 2016  
 Charted by: Depth in Feet scaled 1:240

0	GR (GAPI)	150	0.2	RILD (Ohm-m)	2000
-100	SP (mV)	100	0.2	RLL3 (Ohm-m)	2000
			0.2	RILM (Ohm-m)	2000



0	GR (GAPI)	150	0.2	RILD (Ohm-m)	2000
-100	SP (mV)	100	0.2	RLL3 (Ohm-m)	2000

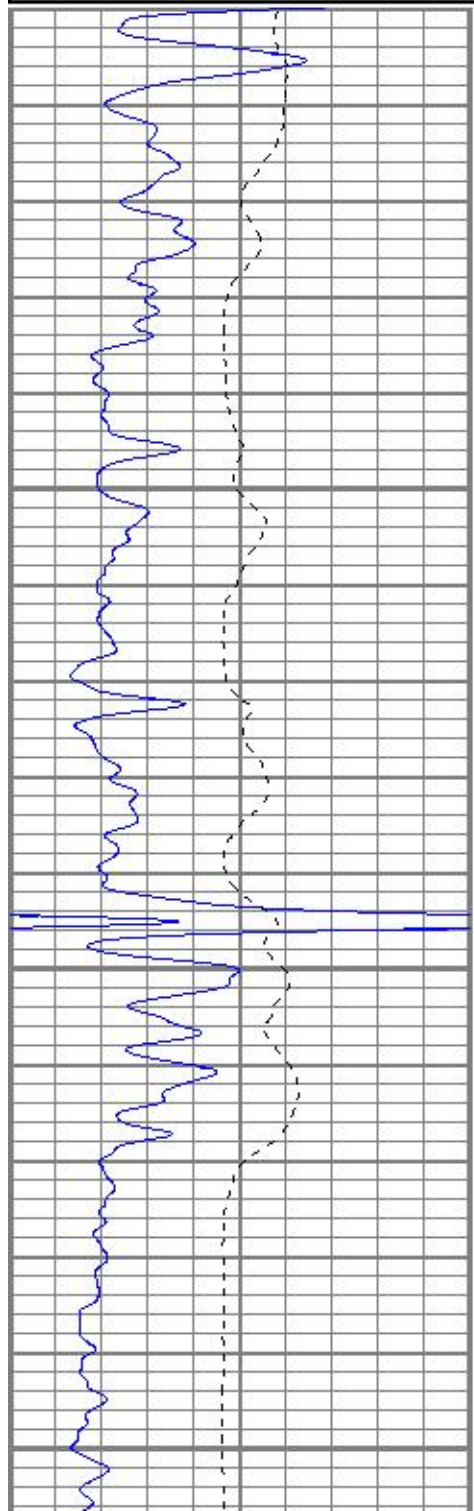


# Main Pass

Database File      lop.db  
 Dataset Pathname    pass2.1  
 Presentation Format   kdil  
 Dataset Creation    Tue Nov 08 21:18:52 2016  
 Charted by            Depth in Feet scaled 1:240

0	GR (GAPI)	150
-100	SP (mV)	100

0.2	RILD (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
0.2	RILM (Ohm-m)	2000

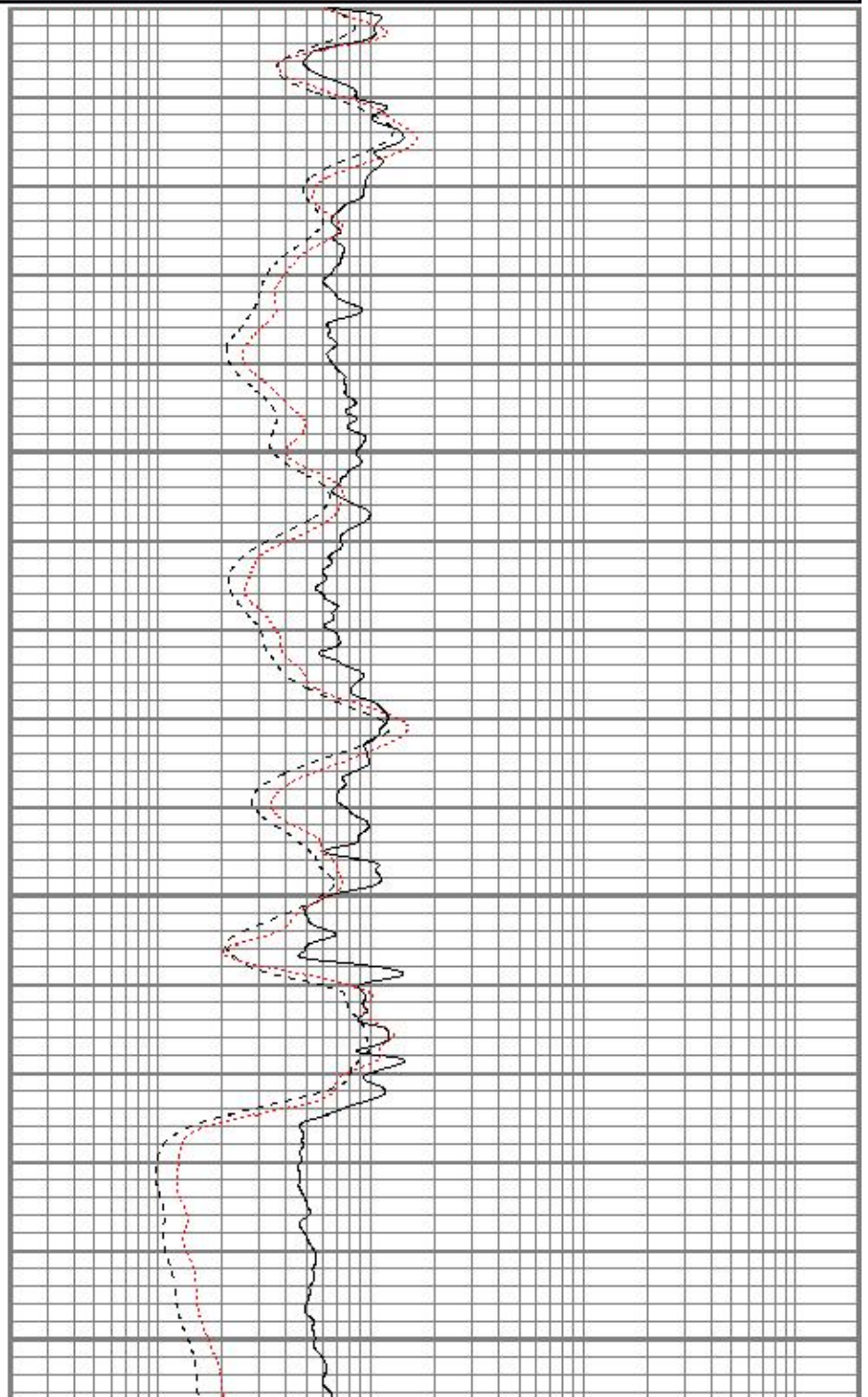


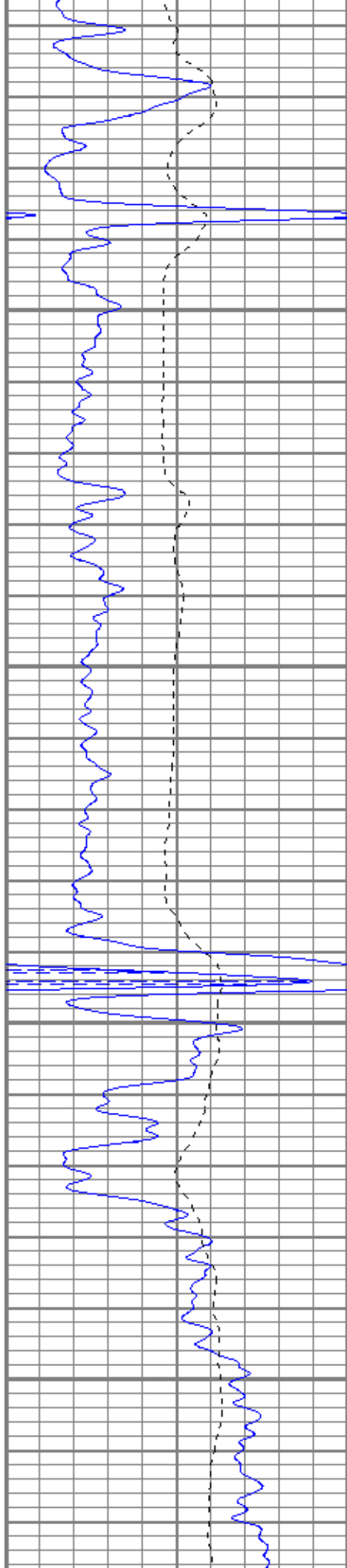
2000

2850

2900

2950



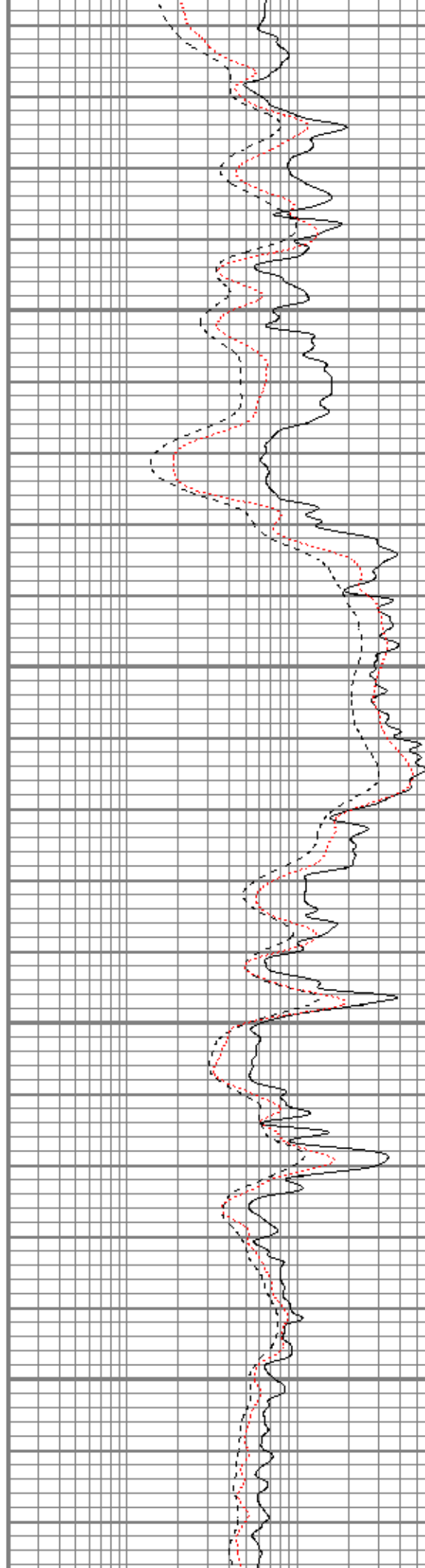


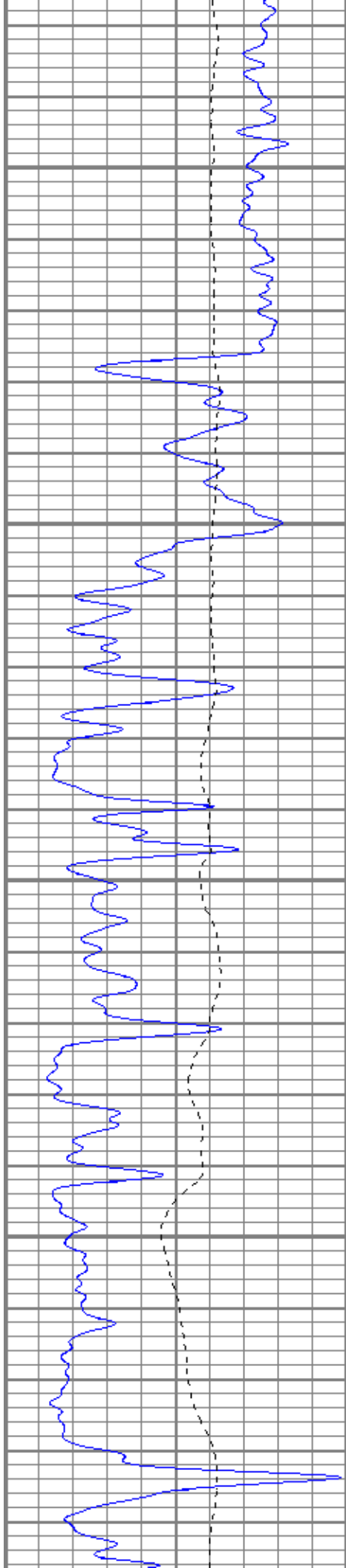
3000

3050

3100

3150



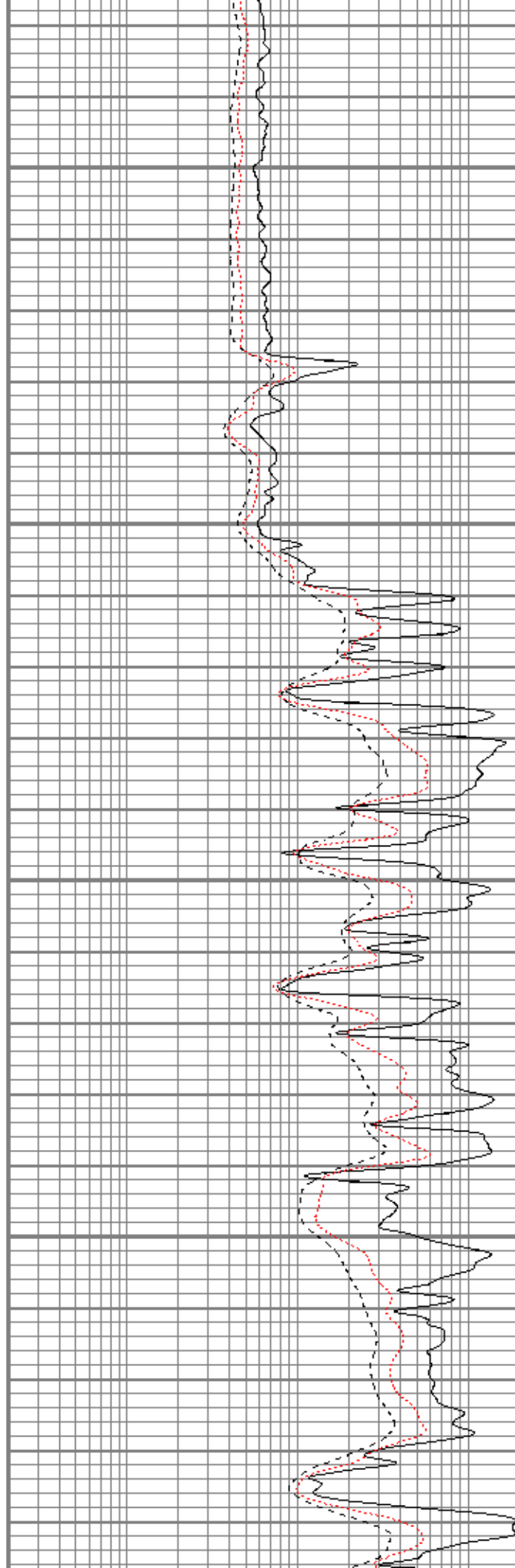


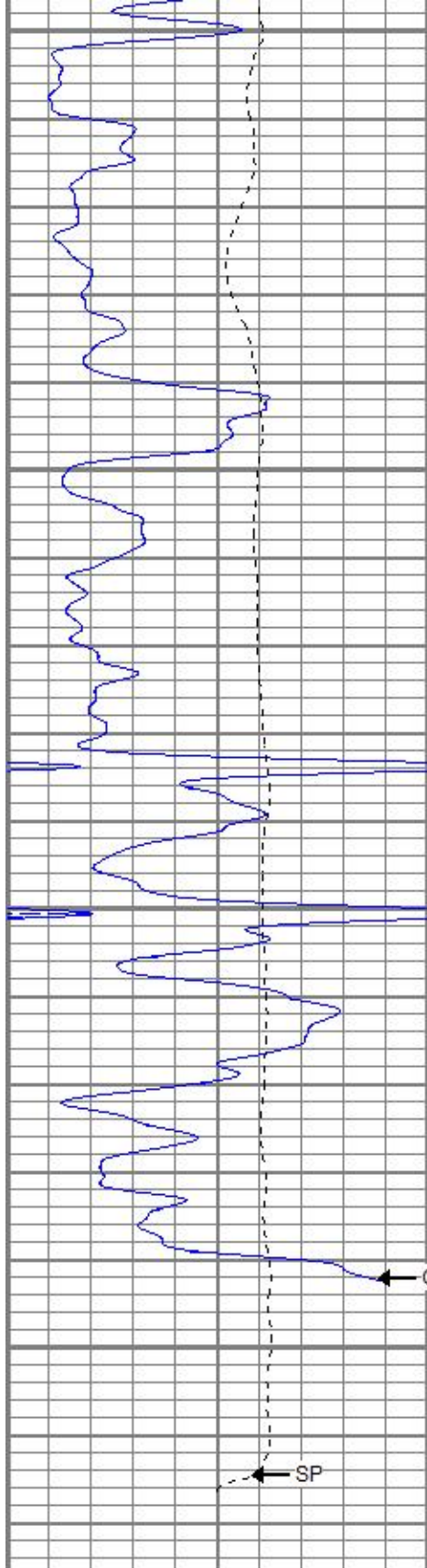
3200

3250

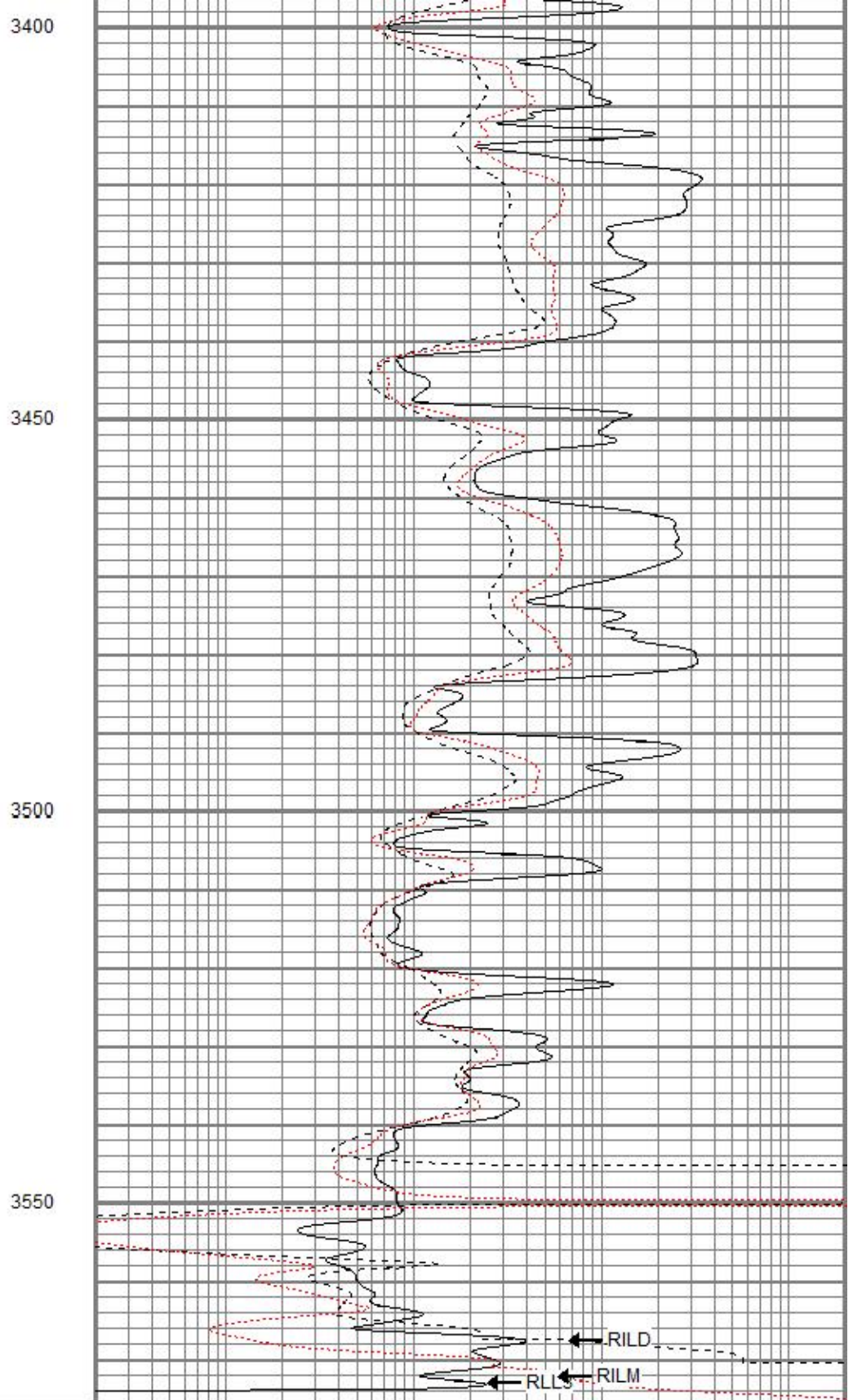
3300

3350





0	GR (GAPI)	150
-100	SP (mV)	100



0.2	RILD (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
0.2	RILM (Ohm-m)	2000

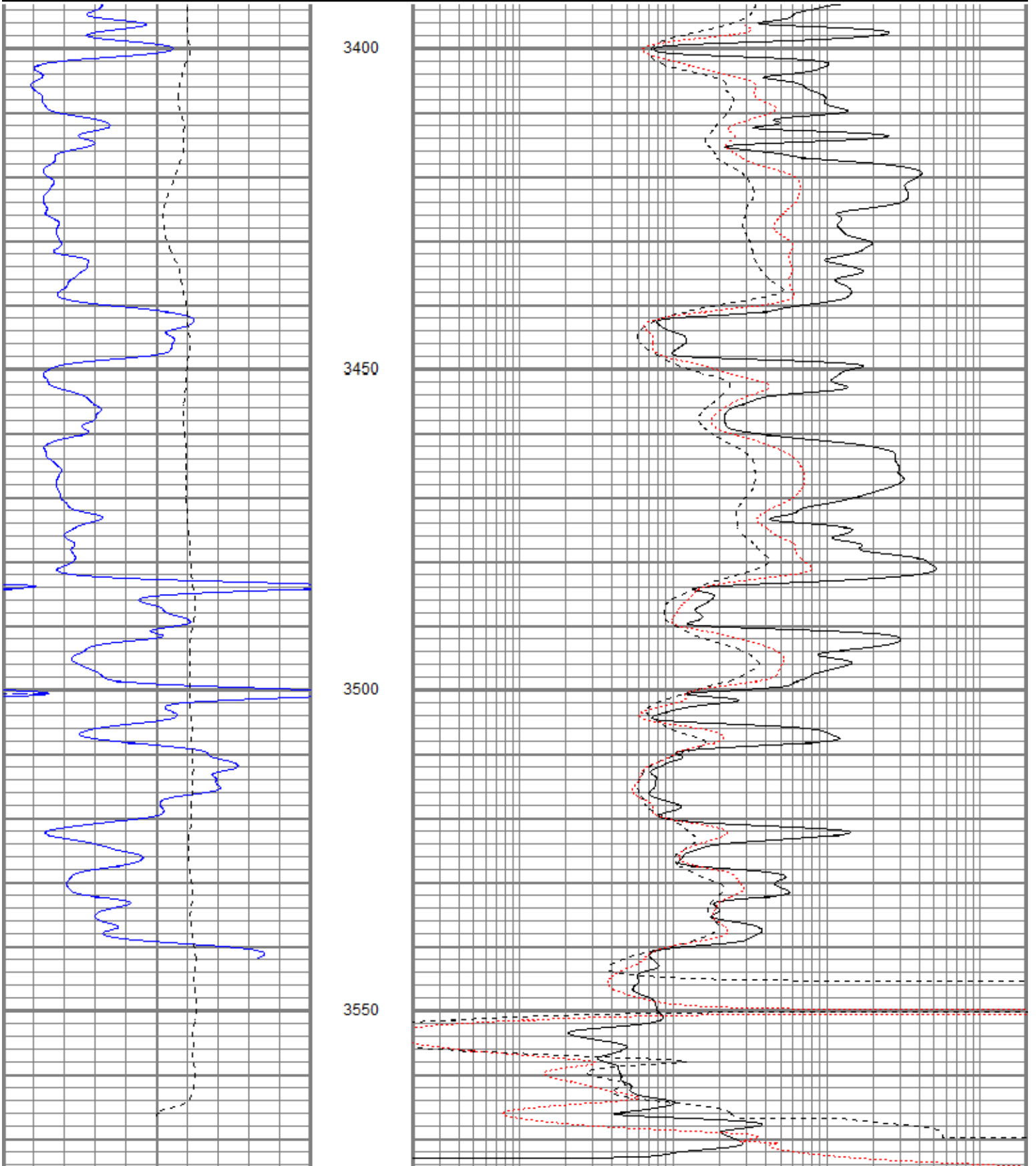


Repeat Pass

Database File lop.db  
 Dataset Pathname pass1.1  
 Presentation Format kdil  
 Dataset Creation Tue Nov 08 21:12:14 2016  
 Charted by Depth in Feet scaled 1:240

0	GR (GAPI)	150
-100	SP (mV)	100

0.2	RILD (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
0.2	RILM (Ohm-m)	2000



0	GR (GAPI)	150
100	SP (mV)	100

0.2	RILD (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000



100	SI (mV)	0.2	RILEY (Ohm-m)	2000
		0.2	RILM (Ohm-m)	2000

Database File		lop.db	
Dataset Pathname		pass1.1	
Dataset Creation		Tue Nov 08 21:12:14 2016	

**Dual Induction Calibration Report**

Serial-Model:	1989-ADM
Surface Cal Performed:	Mon Jul 11 21:35:42 2016
Downhole Cal Performed:	Mon Jul 11 21:36:11 2016
After Survey Verification Performed:	Mon Jul 11 21:36:11 2016

Surface Calibration									
Loop:	Readings			V	References			Results	
	Air	Loop			Air	Loop		m	b
Deep	0.002	0.656		V	0.000	350.000	mmho/m	535.560	-1.118
Medium	0.003	0.745		V	0.000	400.000	mmho/m	538.828	-1.427
Internal:	Zero	Cal		Zero	Cal		m	b	
Deep	0.002	0.656		V	0.000	350.000	mmho/m	535.220	-1.003
Medium	0.003	0.745		V	0.000	550.000	mmho/m	741.357	-2.036

Downhole Calibration									
Internal:	Readings			V	References			Results	
	Zero	Cal			Zero	Cal		m	b
Deep	-0.036	349.993	mmho/m	V	-0.114	350.108	mmho/m	1.001	-0.078
Medium	0.039	400.181	mmho/m	V	0.053	399.799	mmho/m	0.999	0.013
Shallow	2.503	0.015	V	V	500.000	2.000	Ohm-m	200.177	-15.046

After Survey Verification									
Internal:	Readings			V	Targets			Results	
	Zero	Cal			Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	V	-0.036	349.993	mmho/m	1.001	-0.078
Medium	0.000	0.000	mmho/m	V	0.039	400.181	mmho/m	0.999	0.013
Shallow	0.000	0.000	Ohm-m	V	500.000	2.000	Ohm-m	1.000	0.000

**Compensated Density Calibration Report**

Serial-Model:	2501DHT-DHT
Source / Verifier:	csv-j12 /
Master Calibration Performed:	Thu Jan 21 09:35:41 2016
Before Survey Verification Performed:	
After Survey Verification Performed:	

Master Calibration					
	Density			Far Detector	Near Detector
Magnesium	1.750	g/cc		711.36	284.22 cps
Aluminum	2.660	g/cc		133.07	180.42 cps
Spine Angle = 74.83			Density/Spine Ratio = 0.524		
	Size			Reading	
Small Ring	8.05	in		5979.71	
Large Ring	14.00	in		9974.72	

Before Survey Verification

Target

g/cc  
g/cc  
g/cc

Measured

g/cc  
g/cc  
g/cc

After Survey Verification

Target

g/cc  
g/cc  
g/cc

Measured

g/cc  
g/cc  
g/cc

Gamma Ray Calibration Report

Serial Number: 2000  
 Tool Model: P2000  
 Performed: Sun Dec 13 16:43:47 2015

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps  
 Calibrator Reading: 1.0 cps

Sensitivity: 0.2200 GAPI/cps

Neutron Calibration Report

Serial Number: 5108  
 Tool Model: PROBE  
 Performed: Thu Jan 21 09:36:17 2016

Calibrator Value: 1 NAPI

Calibrator Reading: 1 cps

Sensitivity: 1 NAPI/cps

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
NEU	36.60		CHD-None	0.75	1.50	5.00
			NEU-PROBE (5108) Probe	4.92	3.63	85.00
GR	30.81		GR-P2000 (2000)	3.67	3.25	40.00
			CDL-DHT (2501DHT) Digital High Temp CDL Tool	9.69	4.00	201.00
LSD	22.02					
DCAL	21.73					
SSD	21.48					
HEADVOLT	19.71					

SP	10.60						
CILD	10.60			DIL-ADM (1989) Dual Induction	19.71	4.00	300.00
CILM	6.89						
RLL3	1.70						

Dataset: lop.db: field/well/run1/pass1.1  
 Total length: 38.73 ft  
 Total weight: 631.00 lb  
 O.D.: 4.00 in

Company: LaVeta Oil and Gas  
 Address: PO Box 780  
 Middleburg, VA 20118

**OPERATOR**

Contact Geologist:  
 Contact Phone Nbr:  
 Well Name: #15 Paul Spangenberg  
 Location: Section 29-22S-11W  
 Pool: API: 15-185-23971  
 State: Kansas Field: Richardson  
 Country: USA

Scale 1:240 Imperial

Well Name: #15 Paul Spangenberg  
 Surface Location: Section 29-22S-11W  
 Bottom Location:  
 API: 15-185-23971  
 License Number:  
 Spud Date: 11/1/2016 Time: 11:30 AM  
 Region: Stafford County  
 Drilling Completed: 11/8/2016 Time: 10:15 AM  
 Surface Coordinates: 735' FSL & 1225' FWL  
 Bottom Hole Coordinates:  
 Ground Elevation: 1827.00ft  
 K.B. Elevation: 1837.00ft  
 Logged Interval: 3000.00ft To: 3570.00ft  
 Total Depth: 3570.00ft  
 Formation:  
 Drilling Fluid Type: Chemical (MudCo)

**SURFACE CO-ORDINATES**

Well Type: Vertical  
 Longitude:  
 N/S Co-ord: 735' FSL  
 E/W Co-ord: 1225' FWL  
 Latitude:

**LOGGED BY**



Company: TerraTech Energy Service LLC.  
 Address: 1632 S. West St. Suite 12  
 Wichita, KS 67208  
 Phone Nbr: 316-617-3959  
 Logged By: Geologist Name: Bruce Reed

**CONTRACTOR**

Contractor: EC Services  
 Rig #: 6  
 Rig Type: mud rotary  
 Spud Date: 11/1/2016 Time: 11:30 AM  
 TD Date: 11/8/2016 Time: 10:15 AM  
 Rig Release: 11/9/2016 Time: 7:30 AM

**ELEVATIONS**

K.B. Elevation: 1837.00ft Ground Elevation: 1827.00ft  
 K.B. to Ground: 10.00ft

**NOTES**

Surface Casing: 8-5/8" at 257'  
 Production Casing: None

Daily Penetration:  
 11/01/16 SPUD @ 11:30 AM  
 11/02/16 400'  
 11/03/16 1600'  
 11/04/16 2488'  
 11/05/16 2875'  
 11/06/16 3422'  
 11/07/16 3560'  
 11/08/16 3560' RTD @ 10:15 AM  
 11/09/16 3570' Rig released @ 7:30 AM

**DRILL STEM TESTS**

DST #1 3526'-3560' Simpson. Weak, 1/2 inch blow during the first flow period. No blow during the second flow period. Recovered: 5' Mud  
 IFP/30" 15-18 psi, ISIP/30" 38 psi, FFP/30" 16-16 psi, FSIP/30" 35 psi

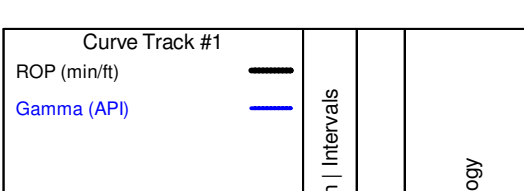
DST #2 3564'-3570' Arbuckle. Strong blow, BOB in 2 minutes during the first flow period. Strong blow, BOB in 2 minutes on the second flow period.  
 Recovered: 186' GIP, 130' Oil, 126' GOMCW (20% G, 24% O, 50% W, 6% M), 1071' Water  
 IFP/15" 54-256 psi, ISIP/30" 1250 psi, FFP/30" 262-590 psi, FSIP/60" 1248 psi

**GEOLOGICAL TOPS**

Formation	Log Tops	Datum	Sample Top	Datum Comparison*
Heebner	3090'	-1253	3085'	-1248 flat
Brown Lime	3227'	-1390	3222'	-1385 flat
Lansing	3252'	-1415	3247'	-1410 +1
Base KC	3500'	-1663	3496'	-1659 -1
Arbuckle	NL	NL	3564'	-1727 -3

\*Reference well: LaVeta Oil & Gas, #12 Spangenberg, 1430' FSL / 1870' FWL  
 Section 29-22S-11W, Stafford County, Kansas

**ROCK TYPES**



**ACCESSORIES**

**MINERAL**  
 ◄ Dolomitic  
 ▲ Chert White

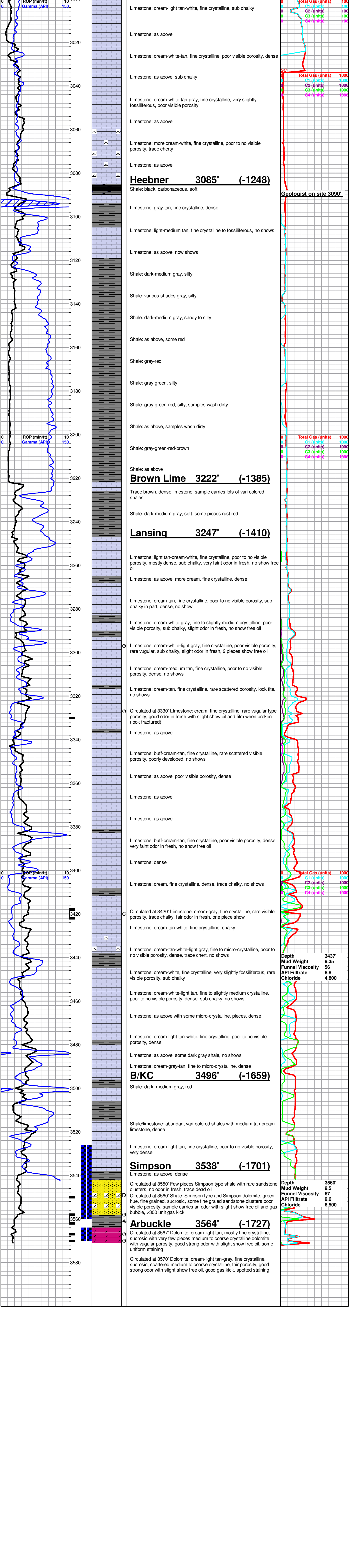
**OTHER SYMBOLS**

**INTERVALS**  
 ■ Core  
 ◌ DST

**Oil Show**  
 ● Good Show  
 ○ Fair Show  
 ○ Poor Show  
 ○ Spotted or Trace  
 ○ Questionable Stn  
 D Dead Oil Stn  
 ■ Fluorescence  
 \* Gas

**DST**  
 ■ DST Int  
 ■ DST alt  
 ■ Core  
 || tail pipe

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**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

LaVeta Oil & Gas

**29-22S-11W Stafford**

305 N Buffalo  
Stafford, KS 67578

**P Spangenberg 15**

Job Ticket: 57967

**DST#: 1**

ATTN: Bruce Reed

Test Start: 2016.11.06 @ 22:29:50

## GENERAL INFORMATION:

Formation: **Simpson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:23:50

Time Test Ended: 04:19:20

Test Type: Conventional Bottom Hole (Initial)

Tester: Leal Cason

Unit No: 74

**Interval: 3526.00 ft (KB) To 3560.00 ft (KB) (TVD)**

Reference Elevations: 1837.00 ft (KB)

Total Depth: 3560.00 ft (KB) (TVD)

1827.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8159**

**Inside**

Press@RunDepth: 16.01 psig @ 3527.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2016.11.06

End Date:

2016.11.07

Last Calib.:

2016.11.07

Start Time: 22:29:51

End Time:

04:19:20

Time On Btm:

2016.11.07 @ 00:22:20

Time Off Btm:

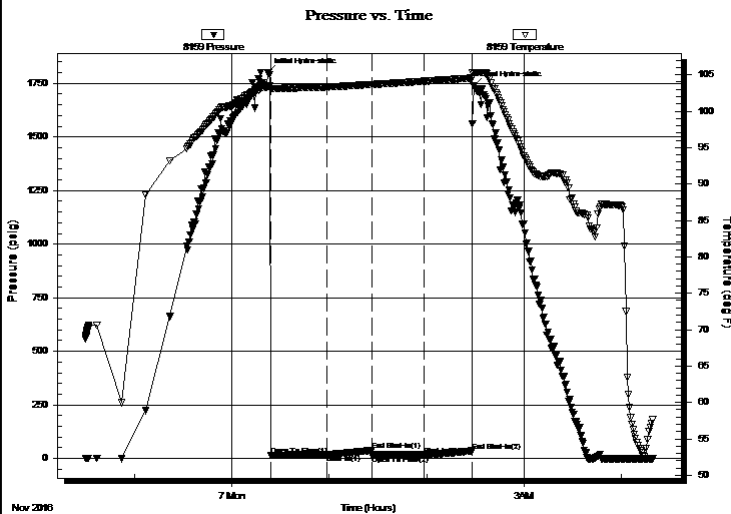
2016.11.07 @ 02:29:05

TEST COMMENT: IF: Weak 1/2 inch Blow

IS: No Blow Back

FF: No Blow

FS: No Blow Back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1801.20	103.38	Initial Hydro-static
2	15.01	102.94	Open To Flow (1)
37	17.95	103.31	Shut-In(1)
64	38.05	103.66	End Shut-In(1)
65	15.97	103.66	Open To Flow (2)
96	16.01	104.11	Shut-In(2)
126	35.42	104.54	End Shut-In(2)
127	1740.54	105.28	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud	0.07

## Gas Rates

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



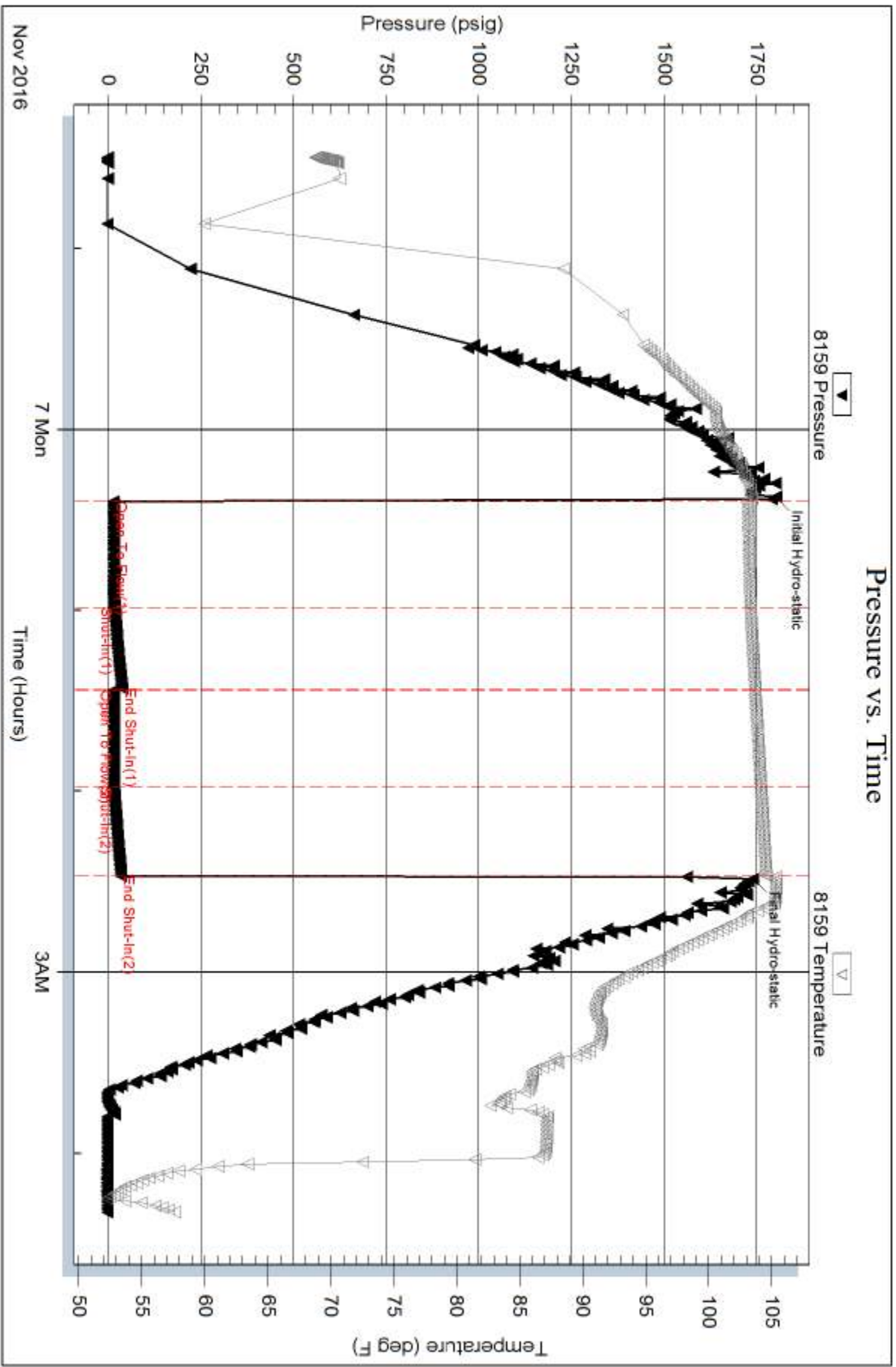
Serial #: 8159

Inside

LaVeta Oil & Gas

P Spangenberg 15

DST Test Number: 1

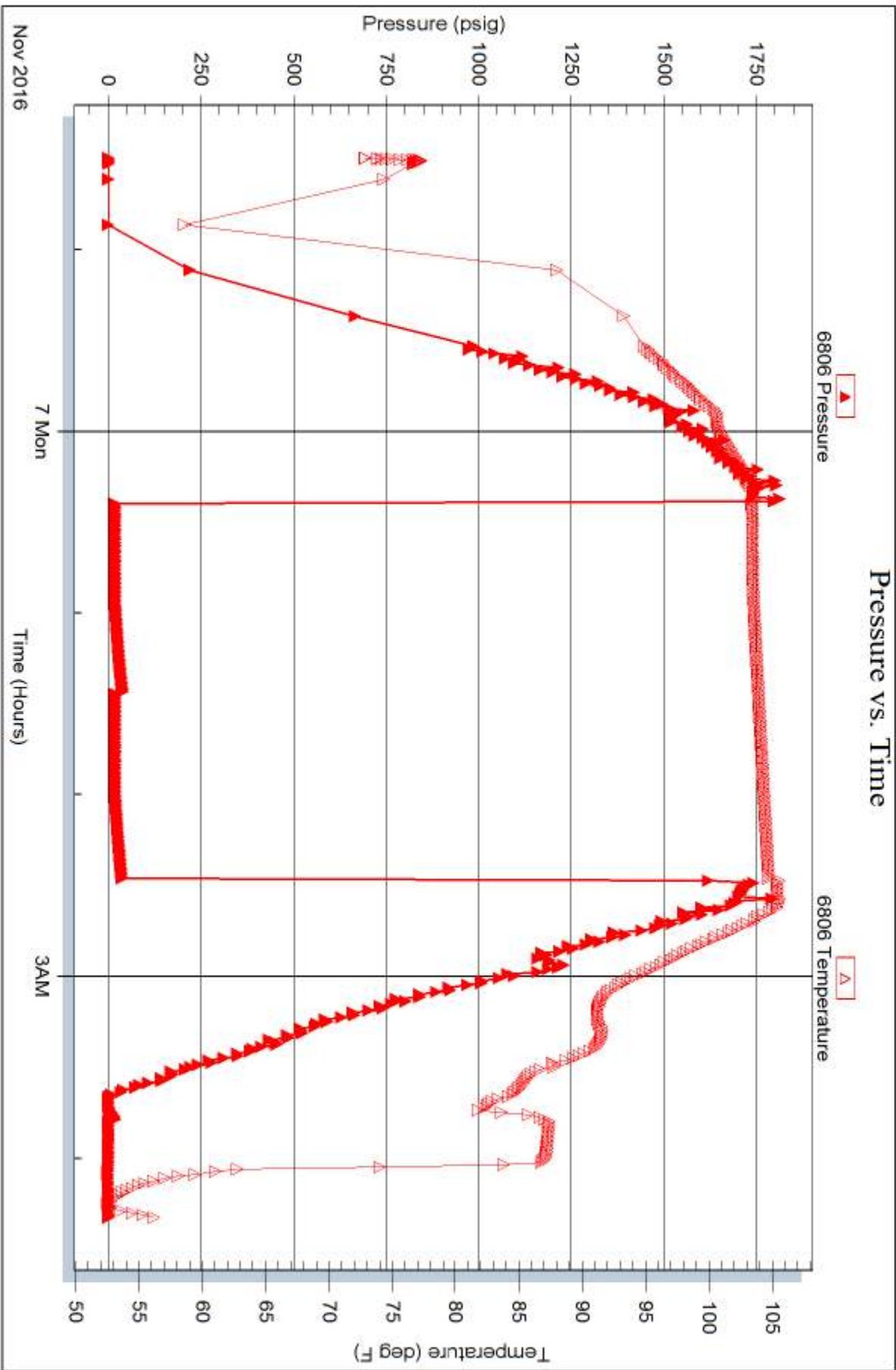


Serial #: 6806

Outside Laveta Oil & Gas

P Spangenberg 15

DST Test Number: 1







**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

LaVeta Oil & Gas

**29-22S-11W Stafford**

305 N Buffalo  
Stafford, KS 67578

**P Spangenberg 15**

ATTN: Bruce Reed

Job Ticket: 57968

**DST#: 2**

Test Start: 2016.11.08 @ 12:57:58

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:47:13

Time Test Ended: 19:09:13

Test Type: Conventional Bottom Hole (Reset)

Tester: Leal Cason

Unit No: 74

**Interval: 3564.00 ft (KB) To 3570.00 ft (KB) (TVD)**

Reference Elevations: 1837.00 ft (KB)

Total Depth: 3570.00 ft (KB) (TVD)

1827.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8159**

**Inside**

Press@RunDepth: 590.04 psig @ 3565.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2016.11.08

End Date:

2016.11.08

Last Calib.:

2016.11.08

Start Time: 12:57:59

End Time:

19:09:13

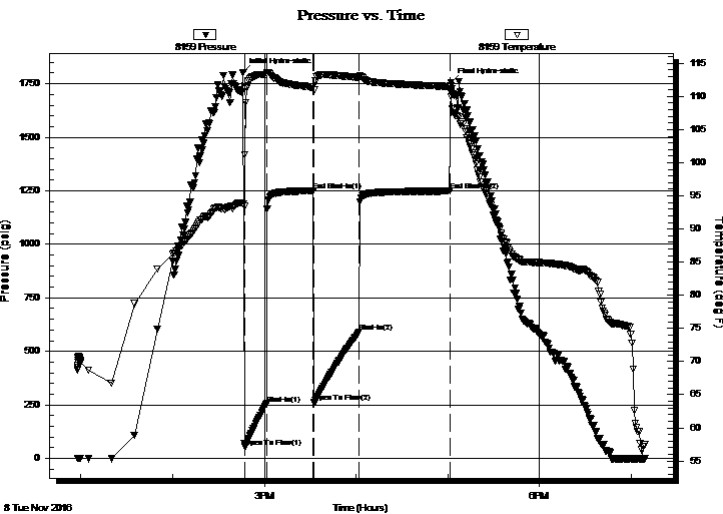
Time On Btm:

2016.11.08 @ 14:46:13

Time Off Btm:

2016.11.08 @ 17:02:13

**TEST COMMENT:** IF: Strong Blow , BOB in 2 minutes  
IS: 1/2 inch Blow Back  
FF: Strong Blow , BOB in 2 minutes  
FS: 1inch Blow Back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1802.86	93.78	Initial Hydro-static
1	54.00	101.23	Open To Flow (1)
16	255.66	113.33	Shut-In(1)
46	1249.53	111.40	End Shut-In(1)
47	261.57	110.96	Open To Flow (2)
76	590.04	112.87	Shut-In(2)
136	1248.48	111.48	End Shut-In(2)
136	1754.18	109.93	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
0.00	186 GIP	0.00
1071.00	Water	15.02
126.00	GSY OMCW 20%G 6%M 24%O 50%M	1.77
130.00	GSY Oil 20%G 80%O	1.82

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

LaVeta Oil & Gas

**29-22S-11W Stafford**

305 N Buffalo  
Stafford, KS 67578

**P Spangenberg 15**

Job Ticket: 57968

**DST#: 2**

ATTN: Bruce Reed

Test Start: 2016.11.08 @ 12:57:58

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:47:13

Time Test Ended: 19:09:13

Test Type: Conventional Bottom Hole (Reset)

Tester: Leal Cason

Unit No: 74

**Interval: 3564.00 ft (KB) To 3570.00 ft (KB) (TVD)**

Reference Elevations: 1837.00 ft (KB)

Total Depth: 3570.00 ft (KB) (TVD)

1827.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 6806 Outside**

Press@RunDepth: psig @ 3565.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2016.11.08

End Date:

2016.11.08

Last Calib.:

2016.11.08

Start Time: 12:57:59

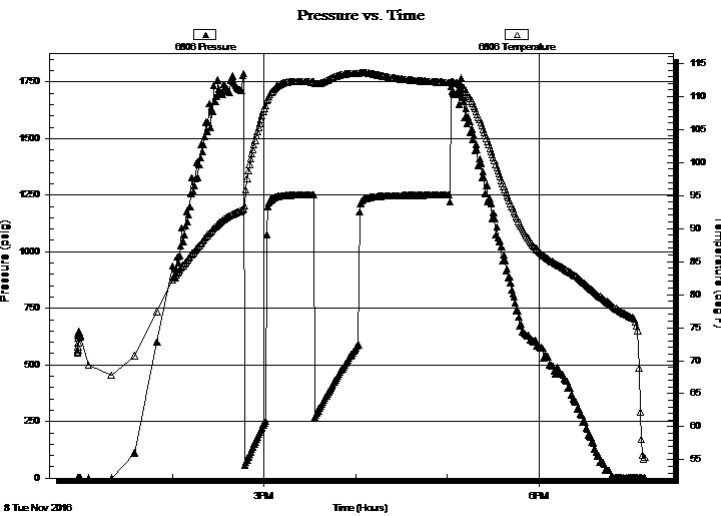
End Time:

19:09:13

Time On Btm:

Time Off Btm:

**TEST COMMENT:** IF: Strong Blow , BOB in 2 minutes  
IS: 1/2 inch Blow Back  
FF: Strong Blow , BOB in 2 minutes  
FS: 1inch Blow Back



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
0.00	186 GIP	0.00
1071.00	Water	15.02
126.00	GSY OMCW 20%G 6%M 24%O 50%M	1.77
130.00	GSY Oil 20%G 80%O	1.82

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

LaVeta Oil & Gas

**29-22S-11W Stafford**

305 N Buffalo  
Stafford, KS 67578

**P Spangenberg 15**

Job Ticket: 57968

**DST#: 2**

ATTN: Bruce Reed

Test Start: 2016.11.08 @ 12:57:58

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

31 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

28000 ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4800.00 ppm

Filter Cake: 0.02 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	186 GIP	0.000
1071.00	Water	15.023
126.00	GSY OMCW 20%G 6%M 24%O 50%M	1.767
130.00	GSY Oil 20%G 80%O	1.824

Total Length: 1327.00 ft      Total Volume: 18.614 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity w as 30 @ 59 degrees  
RW w as .29 @ 60 degrees

Serial #: 8159

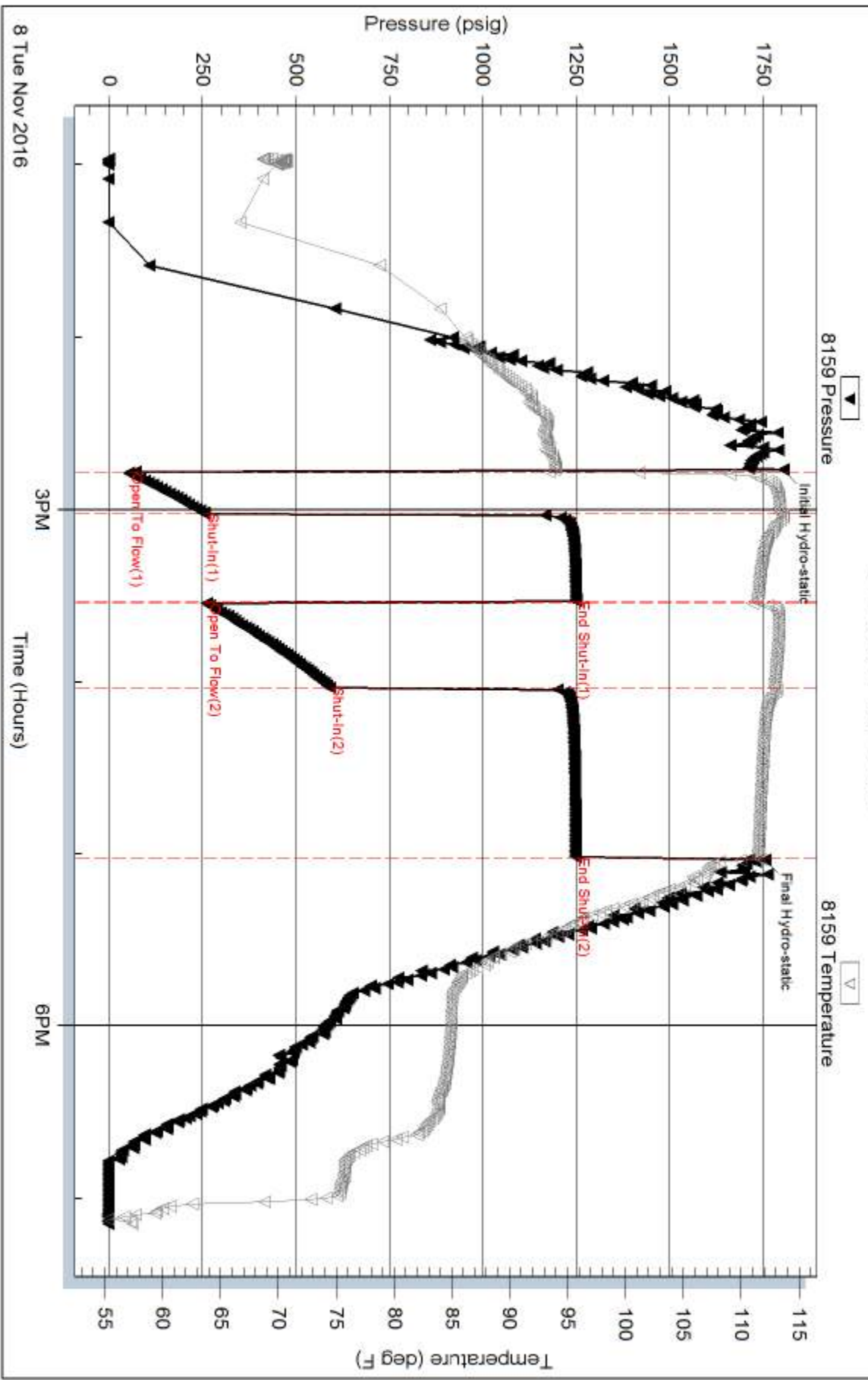
Inside

LaVeta Oil & Gas

P Spangenberg 15

DST Test Number: 2

### Pressure vs. Time

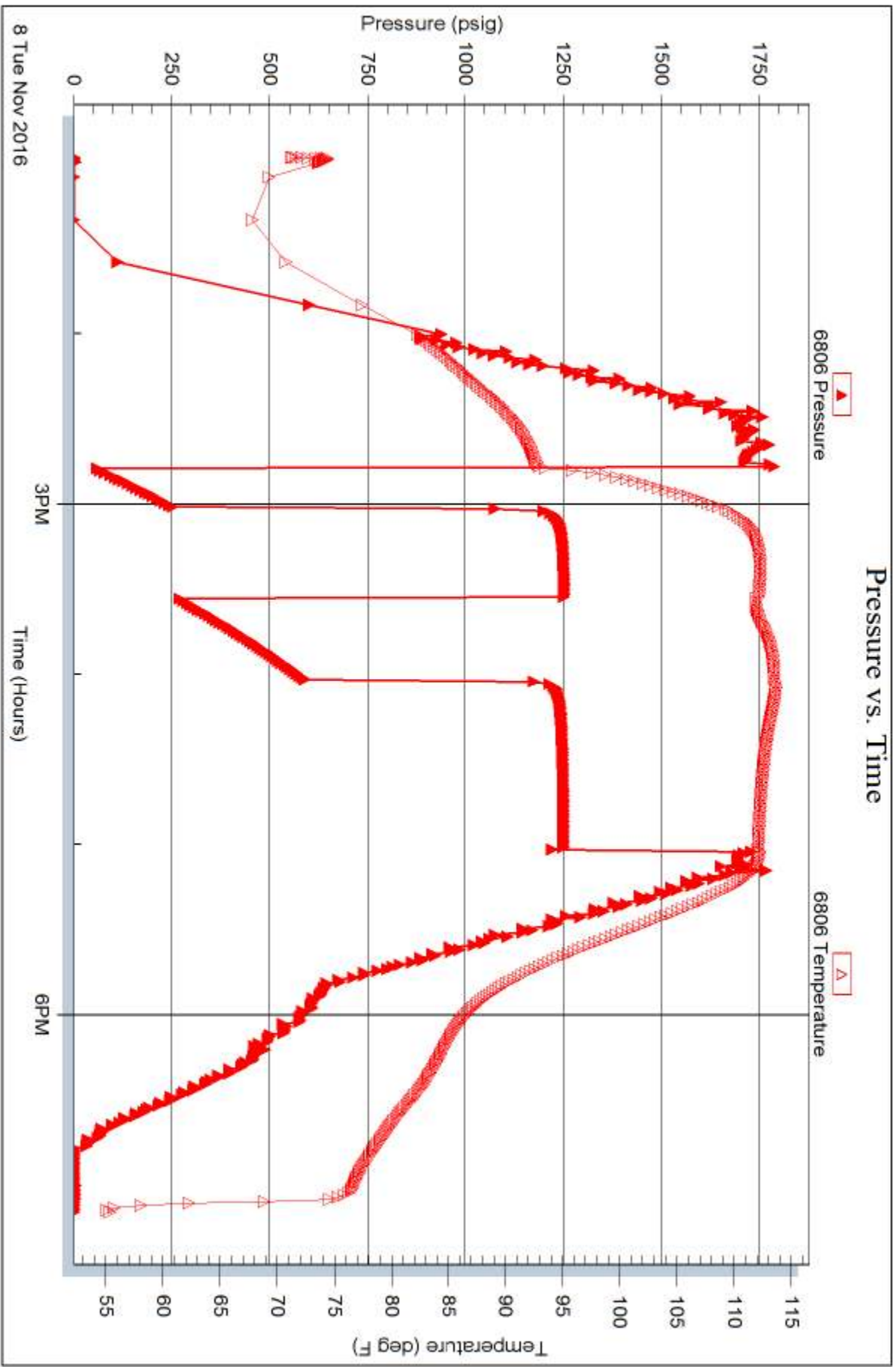


Serial #: 6806

Outside Laveta Oil & Gas

P Spangenberg 15

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 57968

Printed: 2016.11.08 @ 19:52:39



Log services, L.P.

TREATMENT REPORT

Lease: *Veta Oil + Gas* Lease No. \_\_\_\_\_ Date: *11/1/16*  
 Well # *15*  
 Field Order # *14143 A* Station *Pratt KS* Casing *8 5/8* Depth *23 #* County *Stafford* State *KS*  
 Type Job *8 5/8 Surface Pipe 242* Formation \_\_\_\_\_ Legal Description *29.22 11*

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size	Tubing Size	Shots/Ft		Acid	RATE	PRESS	ISIP	
<i>8 5/8</i>								
Depth	Depth	From	To	Pre Pad	Max		5 Min.	
<i>25765</i>								
Volume	Volume	From	To	Pad	Min		10 Min.	
<i>16.5</i>								
Max Press	Max Press	From	To	Frac	Avg		15 Min.	
<i>500</i>								
Well Connection	Annulus Vol.	From	To		HHP Used		Annulus Pressure	
<i>5 5/8</i>								
Plug Depth	Packer Depth	From	To	Flush	Gas Volume		Total Load	

Customer Representative: *Caseal* Station Manager: *Kevin Gordley* Treater: *Scott Graves*

Service Units	<i>38450</i>	<i>78962</i>	<i>86779</i>	<i>14689</i>	<i>14418</i>				
Driver Names	<i>Scott</i>	<i>Darin</i>	<i>—</i>	<i>—</i>	<i>—</i>				

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
<i>5:45</i>					<i>On location Safety meeting</i>
					<i>By up</i>
<i>6:55</i>					<i>Break Circulation</i>
<i>7:09</i>	<i>200</i>			<i>5</i>	<i>Pump HFO Spacer</i>
<i>7:10</i>	<i>300</i>		<i>5</i>	<i>5</i>	<i>Mix 275 gals W/MHO POZ 14.5</i>
<i>7:24</i>	<i>100</i>		<i>60</i>		<i>Shut down</i>
<i>7:25</i>					<i>Release Plug</i>
<i>7:25</i>	<i>300</i>			<i>5</i>	<i>Start displacement</i>
<i>7:26</i>	<i>300</i>		<i>.25</i>	<i>5</i>	<i>Cement Circulated to Surface</i>
<i>7:30</i>	<i>200</i>		<i>15.5</i>		<i>Shut down</i>
					<i>Job Complete</i>
					<i>Circulated 66 bbls cement to Surface</i>

Customer <i>La Veta Oil &amp; Gas</i>	Lease No.	Date <i>11/9/16</i>
Lease <i>Paul Spangenberg</i>	Well # <i>15</i>	
Field Order # <i>14147A</i>	Station <i>Pratt KS</i>	Casing <i>4 1/2 D.P.</i>
		Depth <i>3570'</i>
Type Job <i>Plug to Abandon</i>	Formation <i>242</i>	County <i>Stafford</i>
		State <i>KS</i>

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size	Tubing Size	Shots/Ft		Acid	RATE	PRESS	ISIP	
<i>4 1/2 D.P.</i>				Pre Pad	Max		5 Min.	
Depth <i>3570'</i>	Depth	From	To	Pad	Min		10 Min.	
Volume <i>50.76</i>	Volume	From	To	Frac	Avg		15 Min.	
Max Press <i>500</i>	Max Press	From	To		HHP Used		Annulus Pressure	
Well Connection <i>4 1/2 DP</i>	Annulus Vol.	From	To	Flush	Gas Volume		Total Load	
Plug Depth	Packer Depth	From	To					

Customer Representative <i>Cecil</i>	Station Manager <i>Kevin Cordley</i>	Treater <i>Scott Graves</i>
Service Units <i>58950</i>	<i>20290</i>	<i>84980</i>
Driver Names <i>Scott Brown</i>	<i>Paul</i>	

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
<i>11:30</i>	<i>11/8/16</i>				<i>On location Safety Meeting Rig up</i>
					<i>Load hole with Rig</i>
<i>1:25</i>	<i>300</i>			<i>4</i>	<i>Pump H2O spacer</i>
<i>1:29</i>	<i>150</i>		<i>15</i>	<i>4</i>	<i>Mix 50 stes 60/40 POZ 13.78ppg</i>
<i>1:32</i>	<i>75</i>		<i>12.73</i>	<i>4</i>	<i>Start Displacement with mud</i>
<i>1:45</i>	<i>Ø</i>		<i>48</i>		<i>Shut down</i>
					<i>590'</i>
<i>3:35</i>					<i>Load hole with Rig</i>
<i>3:38</i>	<i>150</i>			<i>4</i>	<i>Pump H2O spacer</i>
<i>3:40</i>	<i>100</i>		<i>10</i>	<i>4</i>	<i>Mix 50 stes 60/40 POZ 13.78 ppg</i>
<i>3:43</i>	<i>100</i>		<i>12.73</i>	<i>4</i>	<i>Start Displacement</i>
<i>3:45</i>	<i>Ø</i>		<i>5.7</i>		<i>Shut down</i>
					<i>280'</i>
<i>3:58</i>					<i>Load hole with Rig</i>
<i>4:00</i>	<i>100</i>			<i>3</i>	<i>Pump H2O spacer</i>
<i>4:01</i>	<i>50</i>		<i>3</i>	<i>4</i>	<i>Mix 50 stes</i>
<i>4:04</i>	<i>Ø</i>		<i>12.73</i>	<i>4</i>	<i>Start Displacement</i>
<i>4:06</i>	<i>Ø</i>		<i>1.5</i>		<i>Shut down</i>
					<i>60'</i>
<i>5:06</i>	<i>Ø</i>			<i>3</i>	<i>Mix 20 stes</i>
<i>5:05</i>	<i>Ø</i>		<i>5.5</i>		<i>Shut down Circulated to Surface</i>

# BASIC

energy services, L.P.

## TREATMENT REPORT

Customer <i>La Veta</i>	Lease No.	Date <i>11/9/16</i>
Lease <i>Paul Spangenberg</i>	Well # <i>15</i>	
Field Order # <i>141477A</i>	Station <i>Pratt KS</i>	Casing <i>4 1/2 D.P.</i>
	Depth <i>5570</i>	County <i>Stafford</i>
Type Job <i>Plug to Abandon</i>	Formation	State <i>KS</i>
		Legal Description

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size	Tubing Size	Shots/Ft		Acid	RATE	PRESS	ISIP	
<i>4 1/2 D.P.</i>				Pre Pad	Max		5 Min.	
Depth <i>5570</i>	Depth	From	To	Pad	Min		10 Min.	
Volume	Volume	From	To	Frac	Avg		15 Min.	
Max Press	Max Press	From	To		HHP Used		Annulus Pressure	
Well Connection	Annulus Vol.	From	To	Flush	Gas Volume		Total Load	
Plug Depth	Packer Depth	From	To					

Customer Representative	Station Manager <i>Kevin Goodley</i>	Treater <i>Scott Graves</i>
Service Units <i>38950</i>	<i>20296</i>	<i>84980</i>
Driver Names <i>Scott Bryan Paul</i>		

Time	Casing Pressure	Tubing Pressure	Bbbs. Pumped	Rate	Service Log
<i>5:08</i>	<i>Ø</i>			<i>2.5</i>	<i>Red hole</i>
<i>5:13</i>	<i>Ø</i>		<i>8</i>		<i>Mix 30 SKS</i>
					<i>Shut down</i>
<i>5:05</i>	<i>Ø</i>			<i>2.5</i>	<i>Mouse hole</i>
<i>5:20</i>	<i>Ø</i>		<i>5</i>		<i>Mix 20 SKS</i>
<i>5:30</i>					<i>Shut down</i>
					<i>Wash up</i>
					<i>Job Complete</i>