

Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION

Form ACO-1

November 2016

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

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 #: \_\_\_\_\_

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: \_\_\_\_\_

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  Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

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

| 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<br><input type="checkbox"/> Protect Casing<br><input type="checkbox"/> Plug Back TD<br><input type="checkbox"/> 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:<br><input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____ |         |             |               |         |
| Estimated Production Per 24 Hours                                   | Oil Bbls.  | Gas Mcf | Water Bbls. | Gas-Oil Ratio | Gravity |

|   |   |  |
|---|---|--|
| DISPOSITION OF GAS:<br><input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease<br><i>(If vented, Submit ACO-18.)</i> | METHOD OF COMPLETION:<br><input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled<br><i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i> | PRODUCTION INTERVAL:<br>Top _____ Bottom _____ |
|---|---|--|

| Shots Per Foot | Perforation Top | Perforation Bottom | Bridge Plug Type | Bridge Plug Set At | Acid, Fracture, Shot, Cementing Squeeze Record<br><i>(Amount and Kind of Material Used)</i> |
|----------------|-----------------|--------------------|------------------|--------------------|---|
|                |                 |                    |                  |                    |   |
|                |                 |                    |                  |                    |   |
|                |                 |                    |                  |                    |   |
|                |                 |                    |                  |                    |   |

|                |       |         |            |  |
|----------------|-------|---------|------------|--|
| TUBING RECORD: | Size: | Set At: | Packer At: |  |
|----------------|-------|---------|------------|--|



# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025  
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 376

|  |        |      |    |      |    |       |    |                      |        |  |    |             |  |        |        |
|--|--------|------|----|------|----|-------|----|----------------------|--------|--|----|-------------|--|--------|--------|
| Date   | 9-8-17 | Sec. | 14 | Twp. | 10 | Range | 33 | County               | Thomas | State  | KS | On Location |  | Finish | 4:00pm |
| Lease  |        |      |    |      |    |       |    | Well No.             |        | Owner  |    |             |  |        |        |
| Lippelmann   |        |      |    |      |    |       |    | 1-14                 |        | To Quality Oilwell Cementing, Inc.   |    |             |  |        |        |
| Contractor   |        |      |    |      |    |       |    | Bottom Stage         |        | You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed. |    |             |  |        |        |
| Type Job   |        |      |    |      |    |       |    | DU Job               |        | Charge To  |    |             |  |        |        |
| Hole Size  |        |      |    |      |    |       |    | 7 7/8                |        | EIK Energy   |    |             |  |        |        |
| Csg.   |        |      |    |      |    |       |    | 5 1/2 17#            |        | Street   |    |             |  |        |        |
| Tbg. Size  |        |      |    |      |    |       |    |                      |        | City   |    |             |  |        |        |
| Tool   |        |      |    |      |    |       |    | DU Tool #52          |        | State  |    |             |  |        |        |
| Cement Left in Csg.  |        |      |    |      |    |       |    | 39.20                |        | The above was done to satisfaction and supervision of owner agent or contractor.   |    |             |  |        |        |
| Meas Line  |        |      |    |      |    |       |    | Displace             |        | Cement Amount Ordered  |    |             |  |        |        |
|  |        |      |    |      |    |       |    | 10842 BCL            |        | 175 cum 10% Salt 5% Gilsomite  |    |             |  |        |        |
| EQUIPMENT  |        |      |    |      |    |       |    | Pumptrk              |        | Common   |    |             |  |        |        |
|  |        |      |    |      |    |       |    | 20                   |        | 175  |    |             |  |        |        |
| JOB SERVICES & REMARKS   |        |      |    |      |    |       |    | Bulktrk              |        | Poz. Mix   |    |             |  |        |        |
|  |        |      |    |      |    |       |    | 9                    |        |  |    |             |  |        |        |
| REMARKS:   |        |      |    |      |    |       |    | Bulktrk              |        | Gel.   |    |             |  |        |        |
|  |        |      |    |      |    |       |    |                      |        |  |    |             |  |        |        |
| Rat Hole   |        |      |    |      |    |       |    | Hulls                |        | Salt 15  |    |             |  |        |        |
|  |        |      |    |      |    |       |    |                      |        |  |    |             |  |        |        |
| Mouse Hole   |        |      |    |      |    |       |    | Flowseal             |        | Flowseal   |    |             |  |        |        |
|  |        |      |    |      |    |       |    |                      |        |  |    |             |  |        |        |
| Centralizers   |        |      |    |      |    |       |    | Kol-Seal             |        | 825  |    |             |  |        |        |
|  |        |      |    |      |    |       |    |                      |        |  |    |             |  |        |        |
| Baskets  |        |      |    |      |    |       |    | Mud CLR              |        | 48 500 gal   |    |             |  |        |        |
|  |        |      |    |      |    |       |    |                      |        |  |    |             |  |        |        |
| D/V or Port Collar   |        |      |    |      |    |       |    | CFL-117 or CD110 CAF |        | 38   |    |             |  |        |        |
|  |        |      |    |      |    |       |    |                      |        |  |    |             |  |        |        |
| 5 1/2 @ 4714 - Ball @ 4675   |        |      |    |      |    |       |    | Sand                 |        | Handling 198   |    |             |  |        |        |
|  |        |      |    |      |    |       |    |                      |        |  |    |             |  |        |        |
| Est. Circulation - Pump 500 gal mud clear to 10 BCL KCL.                 |        |      |    |      |    |       |    | Mileage              |        | FLOAT EQUIPMENT  |    |             |  |        |        |
|  |        |      |    |      |    |       |    |                      |        | Guide Shoe 40 Scratchers   |    |             |  |        |        |
| Cement 5 1/2 with 175 SR Clear Lines & Displace Phys. Phys land @ 1600#. |        |      |    |      |    |       |    | Centralizer          |        | 10 Turbo's   |    |             |  |        |        |
|  |        |      |    |      |    |       |    |                      |        | Baskets 3 caged  |    |             |  |        |        |
| Drop dent & open DU Tool. Circulate 3#RS.                                |        |      |    |      |    |       |    | AFU Inserts          |        | 3 Limit Clamps   |    |             |  |        |        |
|  |        |      |    |      |    |       |    |                      |        | Float Shoe 1   |    |             |  |        |        |
| DU Tool  |        |      |    |      |    |       |    | Latch Down           |        | 1  |    |             |  |        |        |
|  |        |      |    |      |    |       |    |                      |        |  |    |             |  |        |        |
| DU Tool  |        |      |    |      |    |       |    | Pumptrk Charge       |        | 15 prod string Bottom Stage  |    |             |  |        |        |
|  |        |      |    |      |    |       |    |                      |        |  |    |             |  |        |        |
| Signature  |        |      |    |      |    |       |    | Mileage              |        | 15   |    |             |  |        |        |
|  |        |      |    |      |    |       |    |                      |        |  |    |             |  |        |        |
| Total Charge   |        |      |    |      |    |       |    | Tax                  |        |  |    |             |  |        |        |
|  |        |      |    |      |    |       |    |                      |        | Discount   |    |             |  |        |        |
| Signature  |        |      |    |      |    |       |    | Total Charge         |        |  |    |             |  |        |        |
|  |        |      |    |      |    |       |    |                      |        |  |    |             |  |        |        |

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Federal Tax I.D.# 20-2886107

Phone 785-483-2025  
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Home Office P.O. Box 32 Russell, KS 67665

No. 377

|       |        |      |    |      |    |       |    |          |        |                                    |    |             |  |        |         |
|-------|--------|------|----|------|----|-------|----|----------|--------|------------------------------------|----|-------------|--|--------|---------|
| Date  | 9-8-17 | Sec. | 14 | Twp. | 10 | Range | 33 | County   | Thomas | State                              | KS | On Location |  | Finish | 7:30 AM |
| Lease |        |      |    |      |    |       |    | Location |        | Oakley & J-70 West 1/4 25 7w #1/2U |    |             |  |        |         |

|                     |            |  |           |  |                                    |
|---------------------|------------|--|-----------|--|------------------------------------|
| Lease               | Lippelmann | Well No.   | 1-14      | Owner  | To Quality Oilwell Cementing, Inc. |
| Contractor          | WW*2       | You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed. |           |  |                                    |
| Type Job            | DV Job     | Top Stage  | Charge To | ELK Energy   |                                    |
| Hole Size           | 7 7/8      | T.D.   | 4718      | Street   |                                    |
| Csg.                | 5 1/2      | Depth  |           | City   |                                    |
| Tbg. Size           |            | Depth  |           | State  |                                    |
| Tool                | DV Tool    | Depth  | 2435      | The above was done to satisfaction and supervision of owner agent or contractor. |                                    |
| Cement Left in Csg. |            | Shoe Joint   |           | Cement Amount Ordered  | 425 80/20 EMD 1/4 #FB              |

|                  |          |       |                   |
|------------------|----------|-------|-------------------|
| Meas Line        | Displace | 61 BC | 500 gal med clear |
| <b>EQUIPMENT</b> |          |       |                   |
| Pumptrk          | 20       | No.   | Cementor          |
|                  |          |       | Helper            |
| Bulktrk          |          | No.   | Driver            |
|                  |          |       | Driver            |
| Bulktrk          | 21       | No.   | Driver            |
|                  |          |       | Driver            |

|                                   |       |                      |           |
|-----------------------------------|-------|----------------------|-----------|
| <b>JOB SERVICES &amp; REMARKS</b> |       |                      |           |
| Remarks:                          | Hulls |                      |           |
| Rat Hole                          | 30SK  | Flowseal             | 10' 110 # |
| Mouse Hole                        |       | Kol-Seal             |           |
| Centralizers                      |       | Mud CLR 48           | 500 gal   |
| Baskets                           |       | CFL-117 or CD110 CAF | 38        |
| D/V or Port Collar                |       | Sand                 |           |
|                                   |       | Handling             | 425       |
|                                   |       | Mileage              |           |

|                        |  |             |  |
|------------------------|--|-------------|--|
| <b>FLOAT EQUIPMENT</b> |  |             |  |
|                        |  | Guide Shoe  |  |
|                        |  | Centralizer |  |
|                        |  | Baskets     |  |
|                        |  | AFU Inserts |  |
|                        |  | Float Shoe  |  |
|                        |  | Latch Down  |  |

|                |  |             |           |
|----------------|--|-------------|-----------|
| Pumptrk Charge |  | prod string | Top Stage |
| Mileage        |  | 15          |           |
| Tax            |  |             |           |
| Discount       |  |             |           |
| Total Charge   |  |             |           |

X Signature *[Signature]*





# MICRORESISTIVITY LOG

Company ELK ENERGY HOLDINGS, LLC  
 Well LIPPELMANN NO 1-14  
 Field WILDCAT  
 County THOMAS  
 State KANSAS

Company ELK ENERGY HOLDINGS, LLC  
 Well LIPPELMANN NO 1-14  
 Field WILDCAT  
 County THOMAS State KANSAS

Location: API #: 15-193-20998-00-00  
 2305' FNL & 2110' FWL  
 SEC 14 TWP 10S RGE 33W  
 Permanent Datum GROUND LEVEL Elevation 3139'  
 Log Measured From KELLY BUSHING  
 Drilling Measured From KELLY BUSHING  
 Other Services CNL/CDL DIL  
 Elevation K.B. 3144'  
 D.F. N/A  
 G.L. 3139'

|                        |               |
|------------------------|---------------|
| Date                   | 9/7/2017      |
| Run Number             | ONE           |
| Depth Driller          | 4720'         |
| Depth Logger           | 4718'         |
| Bottom Logged Interval | 4717'         |
| Top Log Interval       | 3800'         |
| Casing Driller         | 8.625" @ 347' |
| Casing Logger          | 344'          |
| Bit Size               | 7.875"        |
| Type Fluid in Hole     | CHEMICAL      |
| Salinity, ppm CL       | 3,500         |
| Density / Viscosity    | 9.4 58        |
| pH / Fluid Loss        | 9.0 9.6       |
| Source of Sample       | FLOWLINE      |
| Rm @ Meas. Temp        | .80 @ 65      |
| Rmt @ Meas. Temp       | .60 @ 65      |
| Rmc @ Meas. Temp       | 1.08 @ 65     |
| Source of Rmf / Rmc    | CHARTS        |
| Rm @ BHT               | .42 @ 123     |
| Operating Rig Time     | 3 HOURS       |
| Max Rec. Temp. F       | 123 DEGF      |
| Equipment Number       | 108           |
| Location               | HAYS          |
| Recorded By            | J. HENRICKSON |
| Witnessed By           | SEAN DEENIHAN |

<<< Fold Here >>>

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

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.  
 OAKLEY WEST EXIT  
 1 NORTH TO F RD, 6 WEST TO RD 23, 3/4 SOUTH, EAST INTO

Log Measured From: KELLY BUSHING 5 Ft. Above Permanent Datum

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

|   |  |
|---|--|
| Your Pioneer Energy Services Crew<br>Engineer: J. HENRICKSON<br>Operator:<br>Operator:<br>Operator: | This Log Record Was Witnessed By<br>Primary Witness: SEAN DEENIHAN<br>Secondary Witness:<br>Secondary Witness:<br>Secondary Witness: |
|---|--|

# Log Variables

DatabaseC:\ProgramData\Warrior\Data\elk\_energy\_lippelmann\_1\_14.db  
 Dataset field/well/stackml/pass3.1/\_vars\_

## Top - Bottom

|           |              |                  |                   |                |                  |       |                  |
|-----------|--------------|------------------|-------------------|----------------|------------------|-------|------------------|
| A         | BOREID<br>in | BOTTEMP<br>degF  | CASEOD<br>in      | CASETHCK<br>in | FLUIDDEN<br>g/cc | M     | MATRXDEN<br>g/cc |
| 1         | 7.875        | 125              | 5.5               | 0              | 1                | 2     | 2.71             |
| NPORSEL   | PERFS        | SNDERR<br>mmho/m | SNDERRM<br>mmho/m | SPSHIFT<br>mV  | SRFTEMP<br>degF  | SZCOR | TDEPTH<br>ft     |
| Limestone | 0            | 0                | 0                 | -260           | 76               | Off   | 4718             |

| Sensor             | Offset (ft)             | Schematic | Description  | Length (ft) | O.D. (in) | Weight (lb) |
|--------------------|-------------------------|-----------|--|-------------|-----------|-------------|
| GR                 | 40.58                   |           | GR-M&W (89-M&W)                                      | 3.00        | 3.50      | 50.00       |
| CNLSC<br>CNSSC     | 37.48<br>36.73          |           | CNT-M&W (tk10-MW)                                    | 5.50        | 3.50      | 100.00      |
| LSD<br>DCAL<br>SSD | 28.43<br>28.42<br>27.93 |           | CDL-M&W (168-986)                                    | 8.50        | 4.00      | 250.00      |
| MCAL<br>MI<br>MN   | 19.83<br>19.83<br>19.83 |           | ML-PSI STKBL ML (PSI-02)<br>Stackable Microlog Tools | 7.58        | 4.00      | 65.00       |
| RLL3<br>RLL3F      | 15.80<br>15.79          |           |  |             |           |             |
| CILD               | 8.00                    |           | DIL-M&W (1987)                                       | 18.50       | 3.50      | 220.00      |

CILM 4.70

SP 0.20

Dataset: elk\_energy\_lippelmann\_1\_14.db: field/well/stackml/pass3.1  
 Total length: 43.08 ft  
 Total weight: 685.00 lb  
 O.D.: 4.00 in

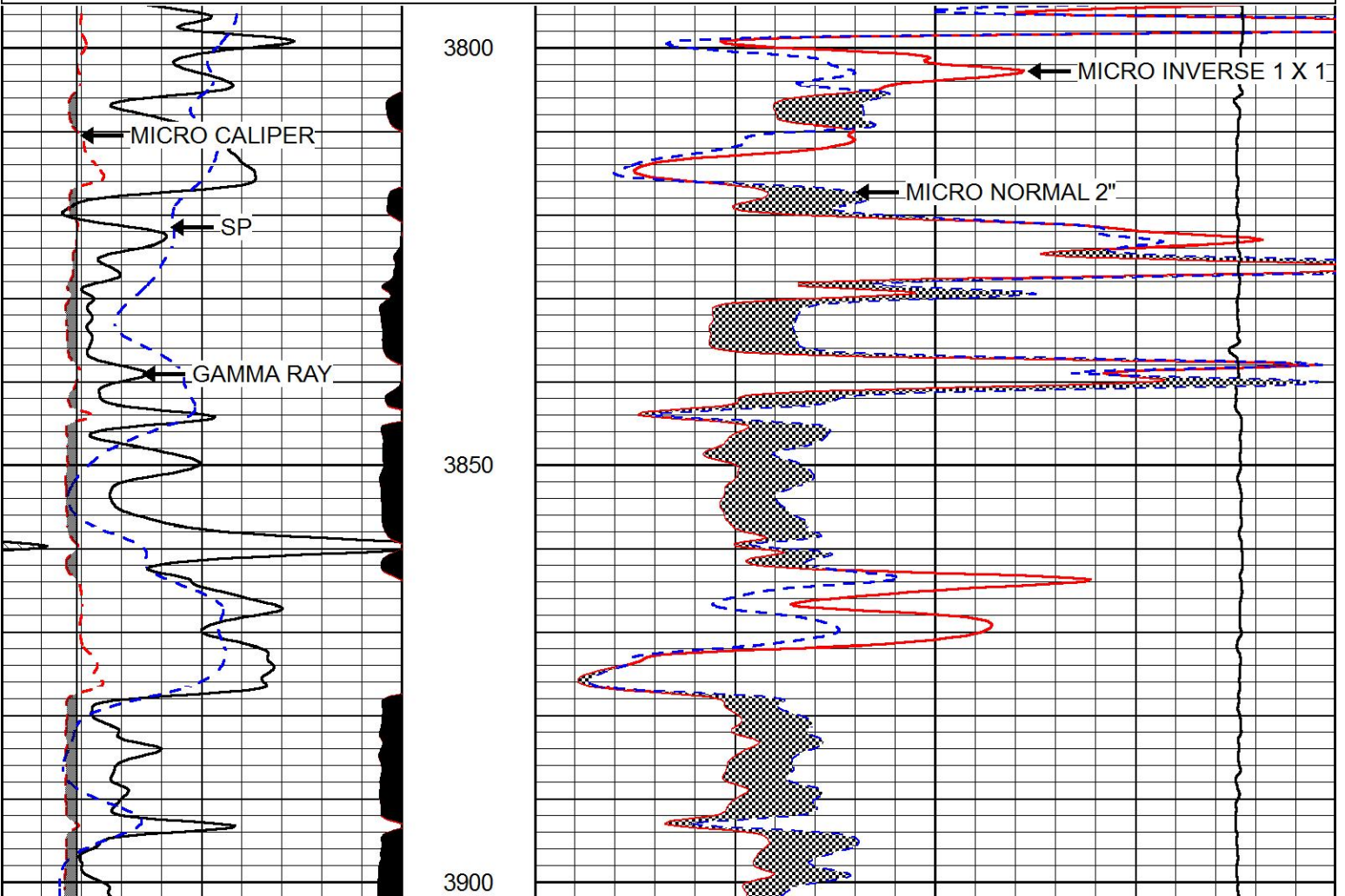


# MAIN PASS

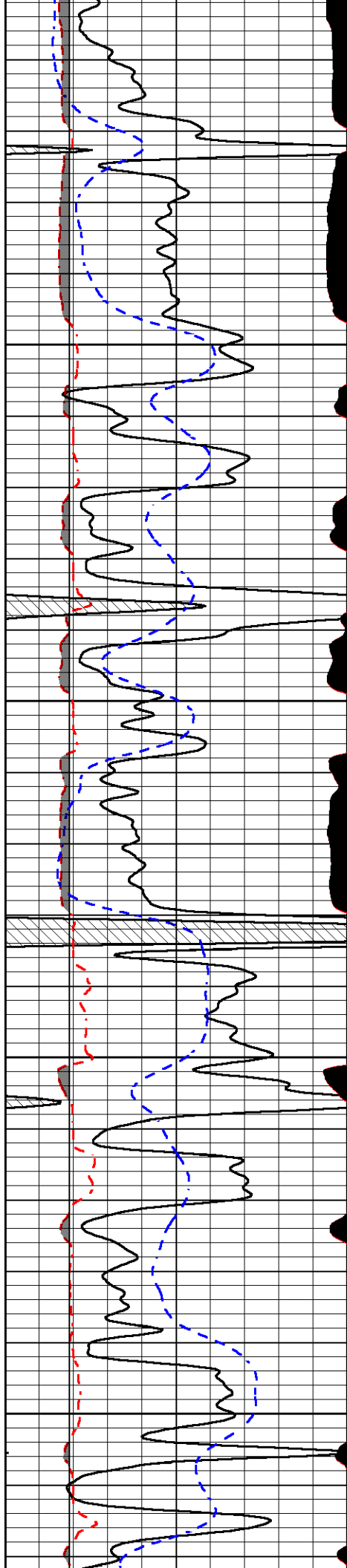
Database File elk\_energy\_lippelmann\_1\_14.db  
 Dataset Pathname stackml/pass3.1  
 Presentation Format micro  
 Dataset Creation Thu Sep 07 14:06:47 2017  
 Charted by Depth in Feet scaled 1:240

|      |                    |     |
|------|--------------------|-----|
| 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  |





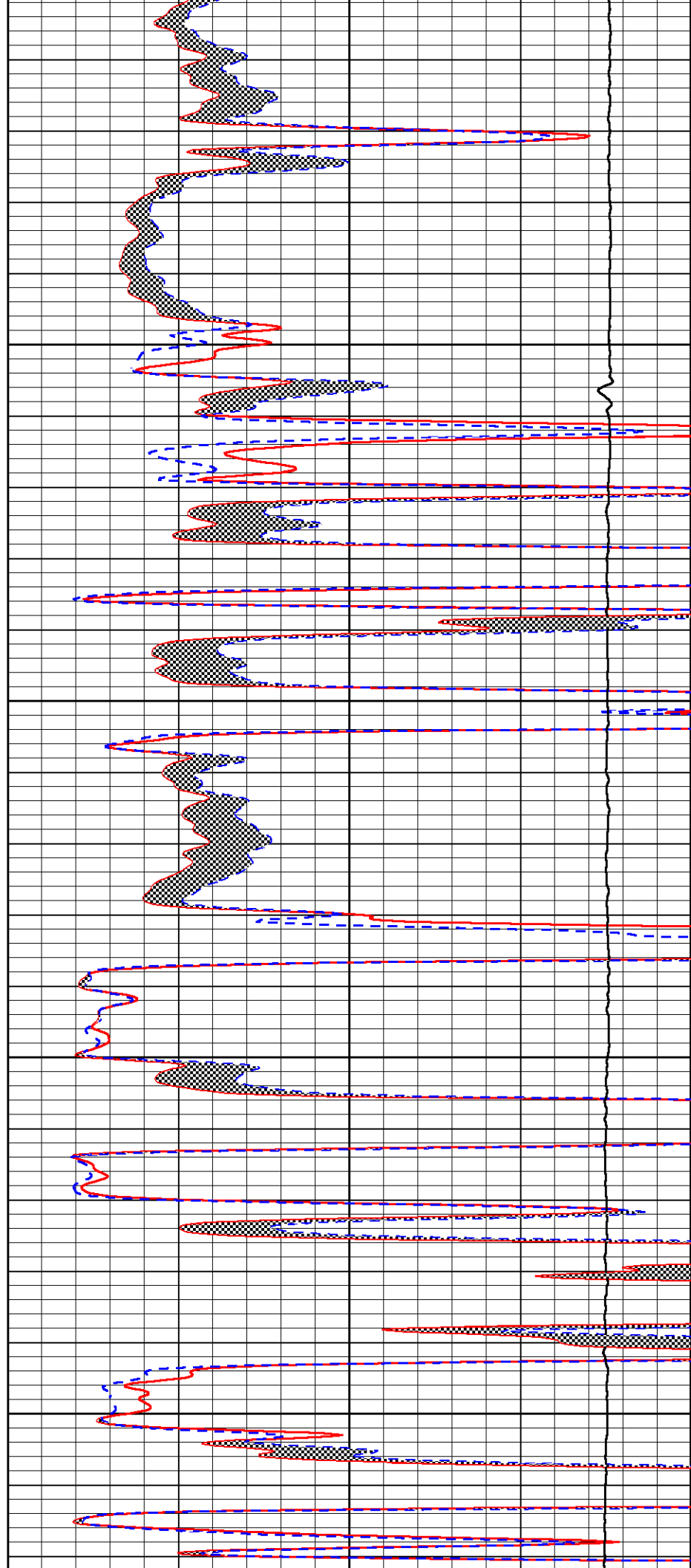


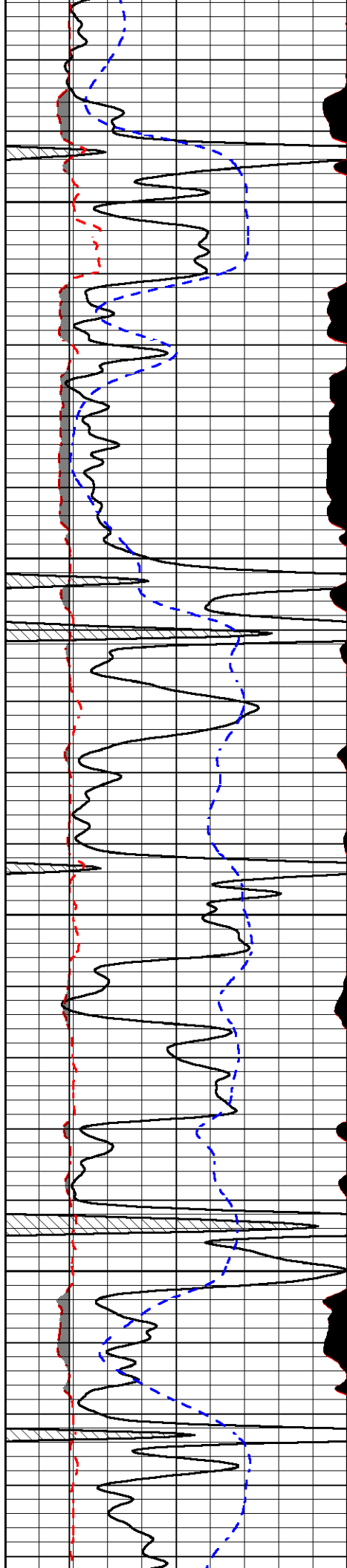
3950

4000

4050

4100



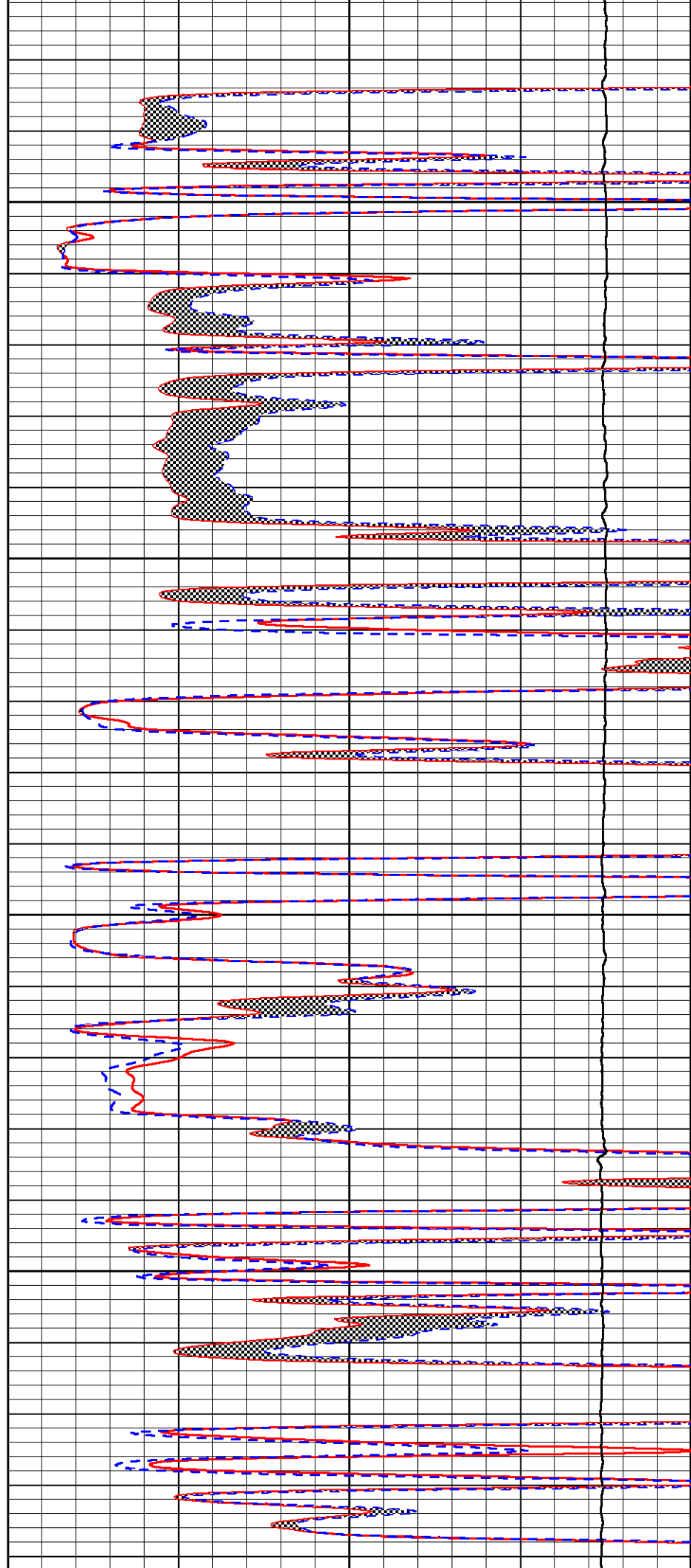


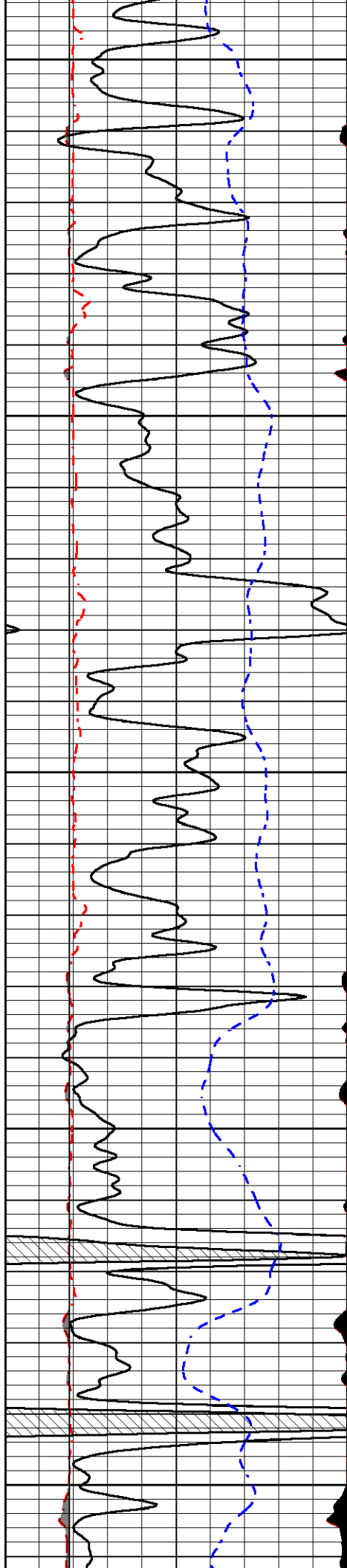
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4200

4250

4300





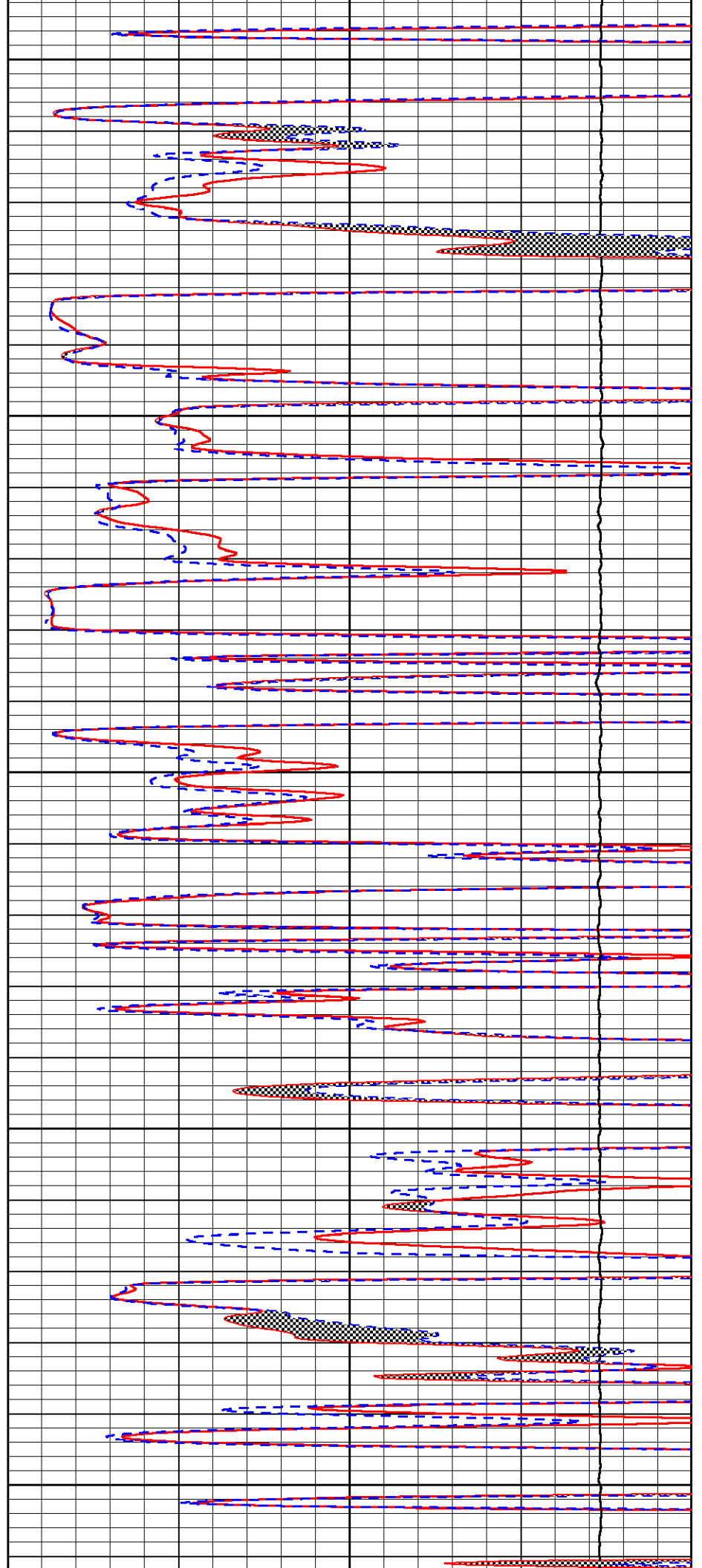
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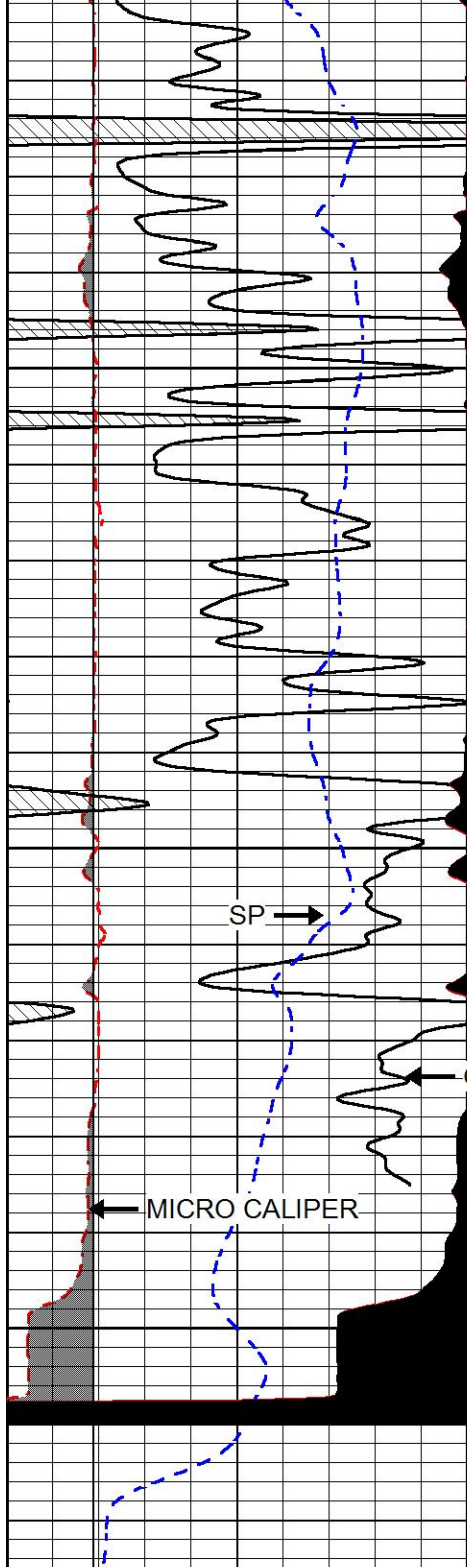
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4450

4500

4550





4600

4650

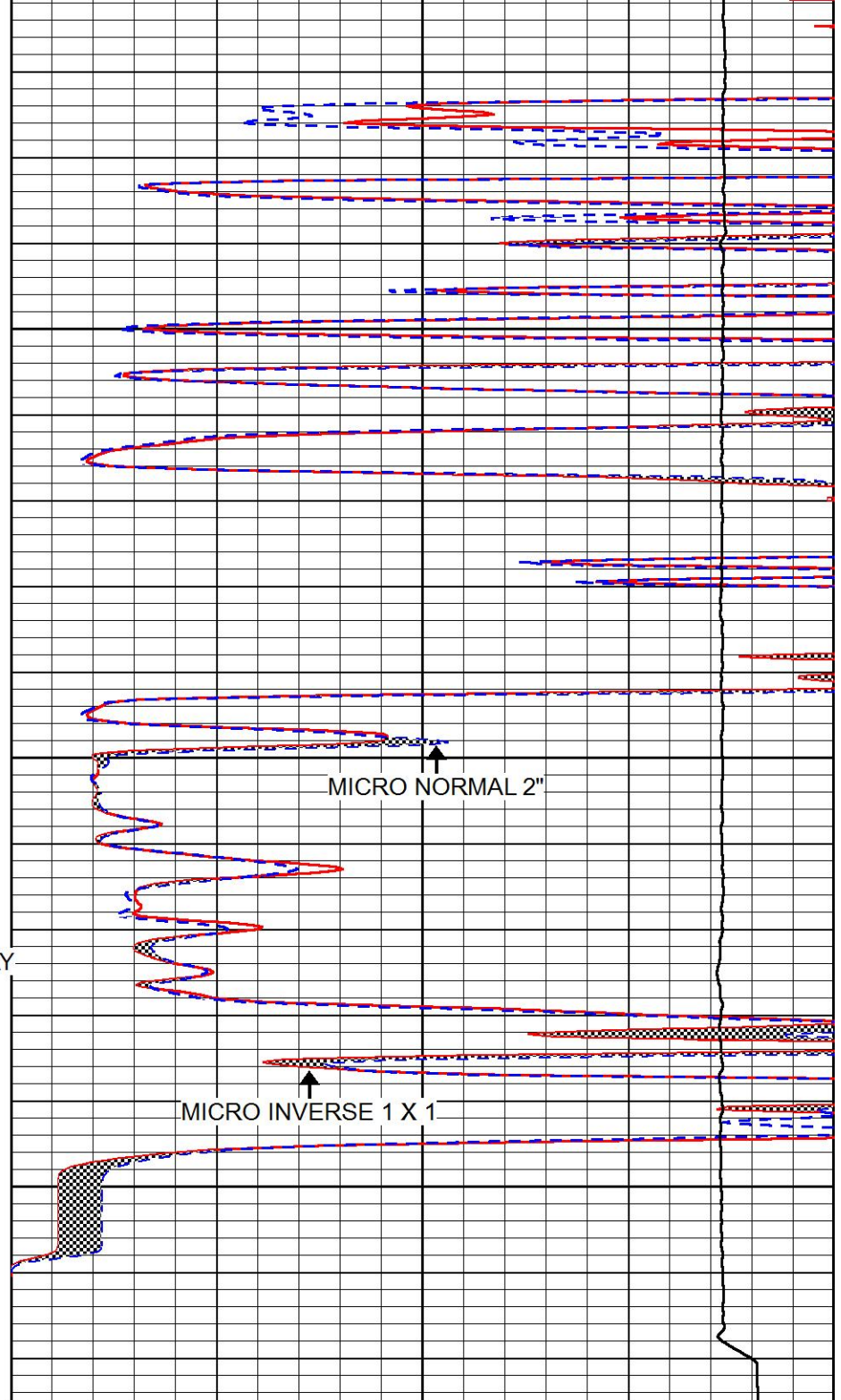
4700

SP →

GAMMA RAY

← MICRO CALIPER

|      |                    |     |
|------|--------------------|-----|
| 0    | GAMMA RAY (GAPI)   | 150 |
| 6    | MICRO CALIPER (in) | 16  |
| 6    | BIT SIZE (in)      | 16  |
| -200 | SP (mV)            | 0   |



MICRO NORMAL 2"

MICRO INVERSE 1 X 1

|       |                             |    |
|-------|-----------------------------|----|
| 0     | MICRO INVERSE 1 X 1 (Ohm-m) | 40 |
| 0     | MICRO NORMAL 2" (Ohm-m)     | 40 |
| 15000 | LINE TENSION (lb)           | 0  |

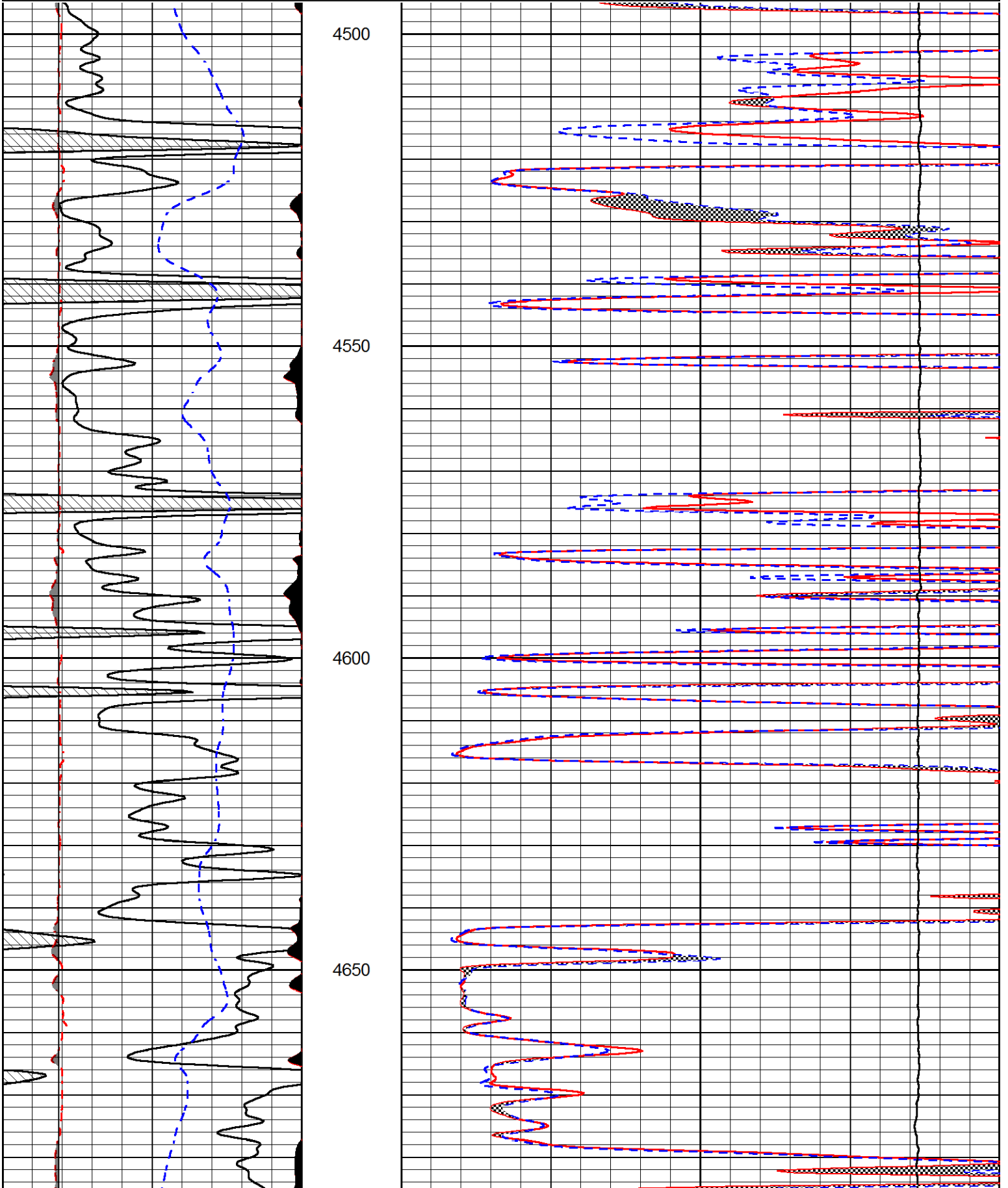


# REPEAT SECTION

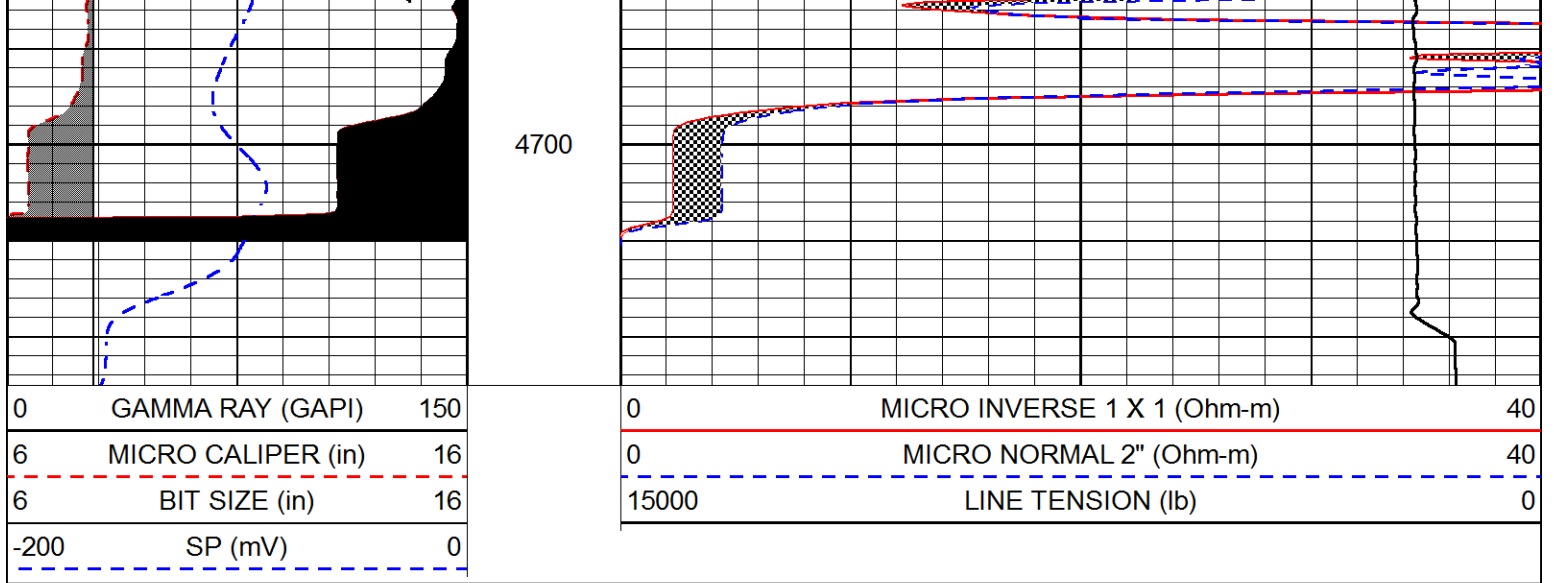
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 Dataset Pathname stackml/pass2.1  
 Presentation Format micro

|      |                    |     |
|------|--------------------|-----|
| 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 elk\_energy\_lippelmann\_1\_14.db  
 Dataset Pathname stackml/pass3.1  
 Dataset Creation Thu Sep 07 14:06:47 2017

Dual Induction Calibration Report

Serial-Model: 1987-M&W  
 Calibration Performed: Tue Apr 11 16:07:38 2017

| Loop:  | Readings |          | References |         |        | Results |          |
|--------|----------|----------|------------|---------|--------|---------|----------|
|        | 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 |

Microlog Calibration Report

Serial-Model: PSI-02-PSI STKBL ML  
 Performed: Fri Jun 23 00:25:19 2017

|         | Readings |        | References |         |       | Results    |           |
|---------|----------|--------|------------|---------|-------|------------|-----------|
|         | Zero     | Cal    | Zero       | Cal     |       | m          | b         |
| Normal  | 0.0031   | 0.0043 | 0.0000     | 10.0000 | Ohm-m | 16000.0000 | 0.0000    |
| Inverse | 0.0000   | 0.0013 | 0.0000     | 10.0000 | Ohm-m | 18000.0000 | 0.0000    |
| Caliper | 1.0020   | 1.0834 | 5.5000     | 16.5000 | in    | 135.1560   | -131.4000 |

Compensated Density Calibration Report

Serial-Model: 168-986-M&W  
 Source / Verifier: /  
 Master Calibration Performed: Tue Apr 11 16:07:47 2017

Master Calibration

|           | Density |      | Far Detector | Near Detector |     |
|-----------|---------|------|--------------|---------------|-----|
| Magnesium | 1.755   | g/cc | 4691.86      | 4818.19       | cps |
| Aluminum  | 2.675   | g/cc | 859.57       | 3020.22       | cps |

Spine Angle = 74.61

Density/Spine Ratio = 0.523

|            | Size  |    | Reading |
|------------|-------|----|---------|
| Small Ring | 4.00  | in | 1.03    |
| Large Ring | 14.00 | in | 1.23    |

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: Tue Apr 11 16:08:01 2017

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 ELK ENERGY HOLDINGS, LLC  
 Well LIPPELMANN NO 1-14  
 Field WILDCAT  
 County THOMAS  
 State KANSAS



# DUAL INDUCTION LOG

Company ELK ENERGY HOLDINGS, LLC  
 Well LIPPELMANN NO 1-14  
 Field WILDCAT  
 County THOMAS  
 State KANSAS

Company ELK ENERGY HOLDINGS, LLC  
 Well LIPPELMANN NO 1-14  
 Field WILDCAT  
 County THOMAS State KANSAS

Location: API #: 15-193-20998-00-00  
 2305' FNL & 2110' FWL  
 SEC 14 TWP 10S RGE 33W  
 Permanent Datum GROUND LEVEL Elevation 3139'  
 Log Measured From KELLY BUSHING  
 Drilling Measured From KELLY BUSHING  
 Other Services  
 CNL/CDL  
 MEL  
 Elevation  
 K.B. 3144'  
 D.F. N/A  
 G.L. 3139'

|                        |               |
|------------------------|---------------|
| Date                   | 9/7/2017      |
| Run Number             | ONE           |
| Depth Driller          | 4720'         |
| Depth Logger           | 4718'         |
| Bottom Logged Interval | 4717'         |
| Top Log Interval       | 300'          |
| Casing Driller         | 8.625" @ 347' |
| Casing Logger          | 344'          |
| Bit Size               | 7.875"        |
| Type Fluid in Hole     | CHEMICAL      |
| Salinity, ppm CL       | 3,500         |
| Density / Viscosity    | 9.4 58        |
| pH / Fluid Loss        | 9.0 9.6       |
| Source of Sample       | FLOWLINE      |
| Rm @ Meas. Temp        | .80 @ 65      |
| Rmt @ Meas. Temp       | .60 @ 65      |
| Rmc @ Meas. Temp       | 1.08 @ 65     |
| Source of Rmf / Rmc    | CHARTS        |
| Rm @ BHT               | .42 @ 123     |
| Operating Rig Time     | 3 HOURS       |
| Max Rec. Temp. F       | 123 DEGF      |
| Equipment Number       | 108           |
| Location               | HAYS          |
| Recorded By            | J. HENRICKSON |
| Witnessed By           | SEAN DEENIHAN |

<<< Fold Here >>>

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

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.  
 OAKLEY WEST EXIT  
 1 NORTH TO F RD, 6 WEST TO RD 23, 3/4 SOUTH, EAST INTO

Log Measured From: KELLY BUSHING 5 Ft. Above Permanent Datum

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

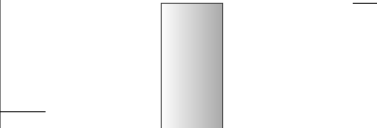
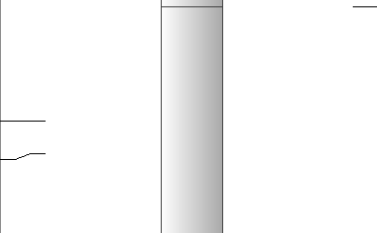
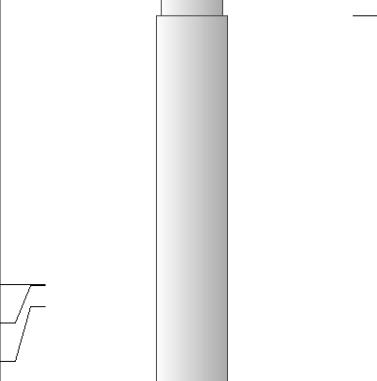
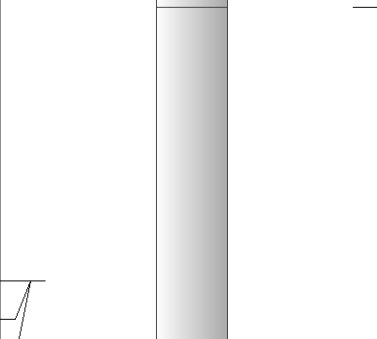
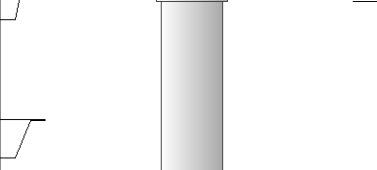
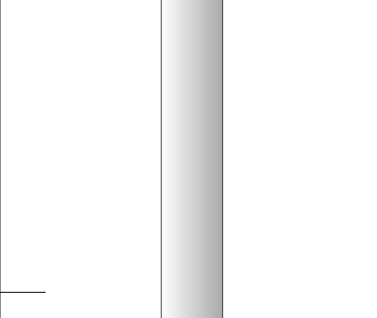
|                                   |                                  |
|-----------------------------------|----------------------------------|
| Your Pioneer Energy Services Crew | This Log Record Was Witnessed By |
| Engineer: J. HENRICKSON           | Primary Witness: SEAN DEENIHAN   |
| Operator:                         | Secondary Witness:               |
| Operator:                         | Secondary Witness:               |
| Operator:                         | Secondary Witness:               |

# Log Variables

DatabaseC:\ProgramData\Warrior\Data\elk\_energy\_lippelmann\_1\_14.db  
 Dataset field/well/stackml/pass3.1/\_vars\_

## Top - Bottom

|           |              |                  |                   |                |                  |       |                  |
|-----------|--------------|------------------|-------------------|----------------|------------------|-------|------------------|
| A         | BOREID<br>in | BOTTEMP<br>degF  | CASEOD<br>in      | CASETHCK<br>in | FLUIDDEN<br>g/cc | M     | MATRXDEN<br>g/cc |
| 1         | 7.875        | 125              | 5.5               | 0              | 1                | 2     | 2.71             |
| NPORSEL   | PERFS        | SNDERR<br>mmho/m | SNDERRM<br>mmho/m | SPSHIFT<br>mV  | SRFTEMP<br>degF  | SZCOR | TDEPTH<br>ft     |
| Limestone | 0            | 0                | 0                 | -260           | 76               | Off   | 4718             |

| Sensor             | Offset (ft)             | Schematic   | Description  | Length (ft) | O.D. (in) | Weight (lb) |
|--------------------|-------------------------|---|--|-------------|-----------|-------------|
| GR                 | 40.58                   |    | GR-M&W (89-M&W)                                      | 3.00        | 3.50      | 50.00       |
| CNLSC<br>CNSSC     | 37.48<br>36.73          |    | CNT-M&W (tk10-MW)                                    | 5.50        | 3.50      | 100.00      |
| LSD<br>DCAL<br>SSD | 28.43<br>28.42<br>27.93 |   | CDL-M&W (168-986)                                    | 8.50        | 4.00      | 250.00      |
| MCAL<br>MI<br>MN   | 19.83<br>19.83<br>19.83 |  | ML-PSI STKBL ML (PSI-02)<br>Stackable Microlog Tools | 7.58        | 4.00      | 65.00       |
| RLL3<br>RLL3F      | 15.80<br>15.79          |  |  |             |           |             |
| CILD               | 8.00                    |  | DIL-M&W (1987)                                       | 18.50       | 3.50      | 220.00      |

CILM 4.70

SP 0.20

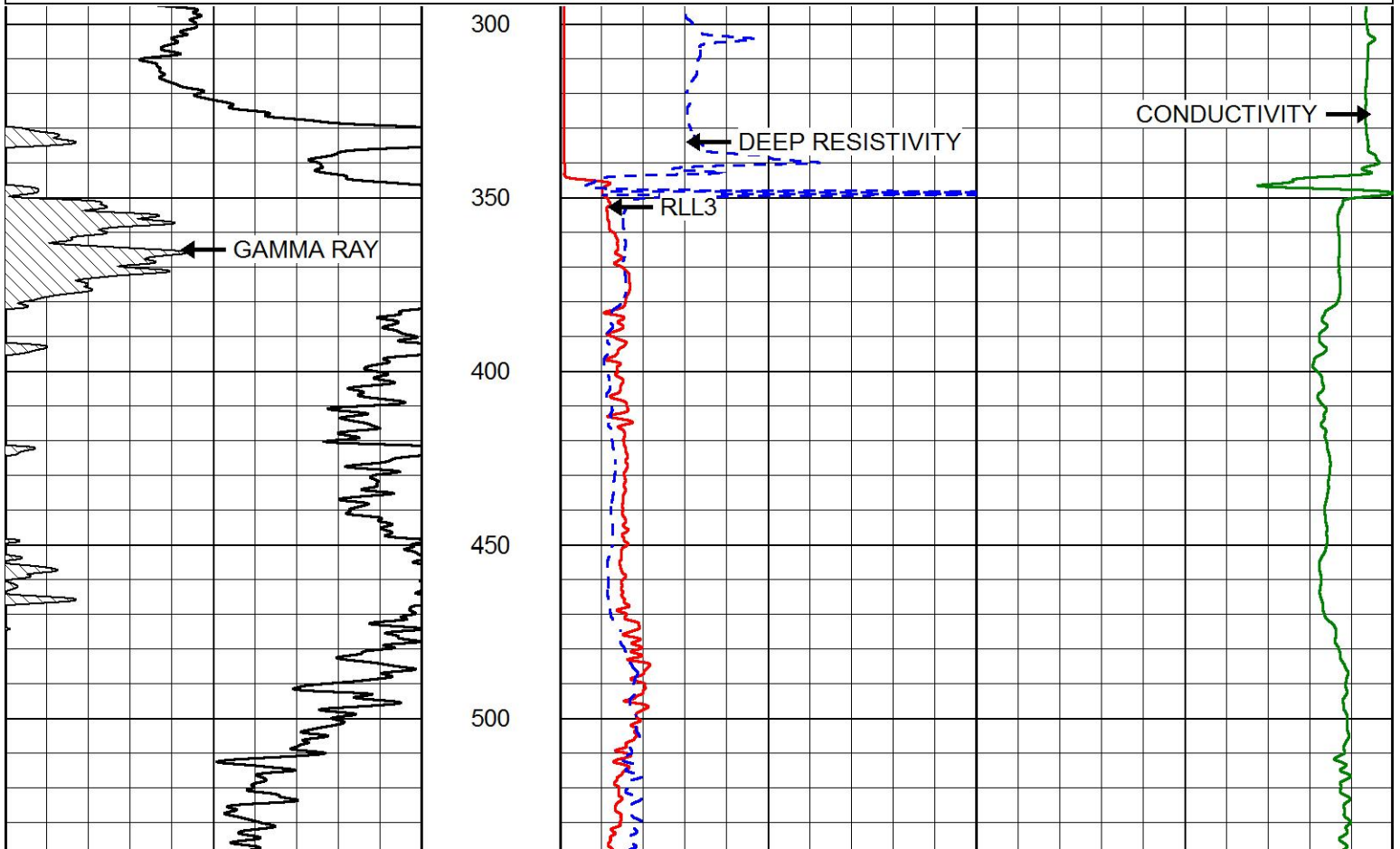
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 Total length: 43.08 ft  
 Total weight: 685.00 lb  
 O.D.: 4.00 in



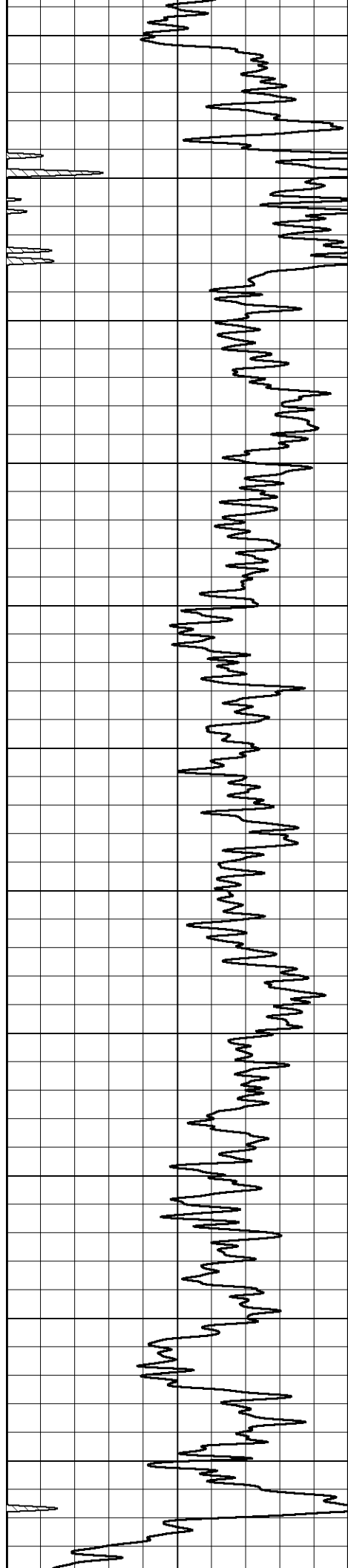
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 Presentation Format dil2in  
 Dataset Creation Thu Sep 07 14:06:47 2017  
 Charted by Depth in Feet scaled 1:600

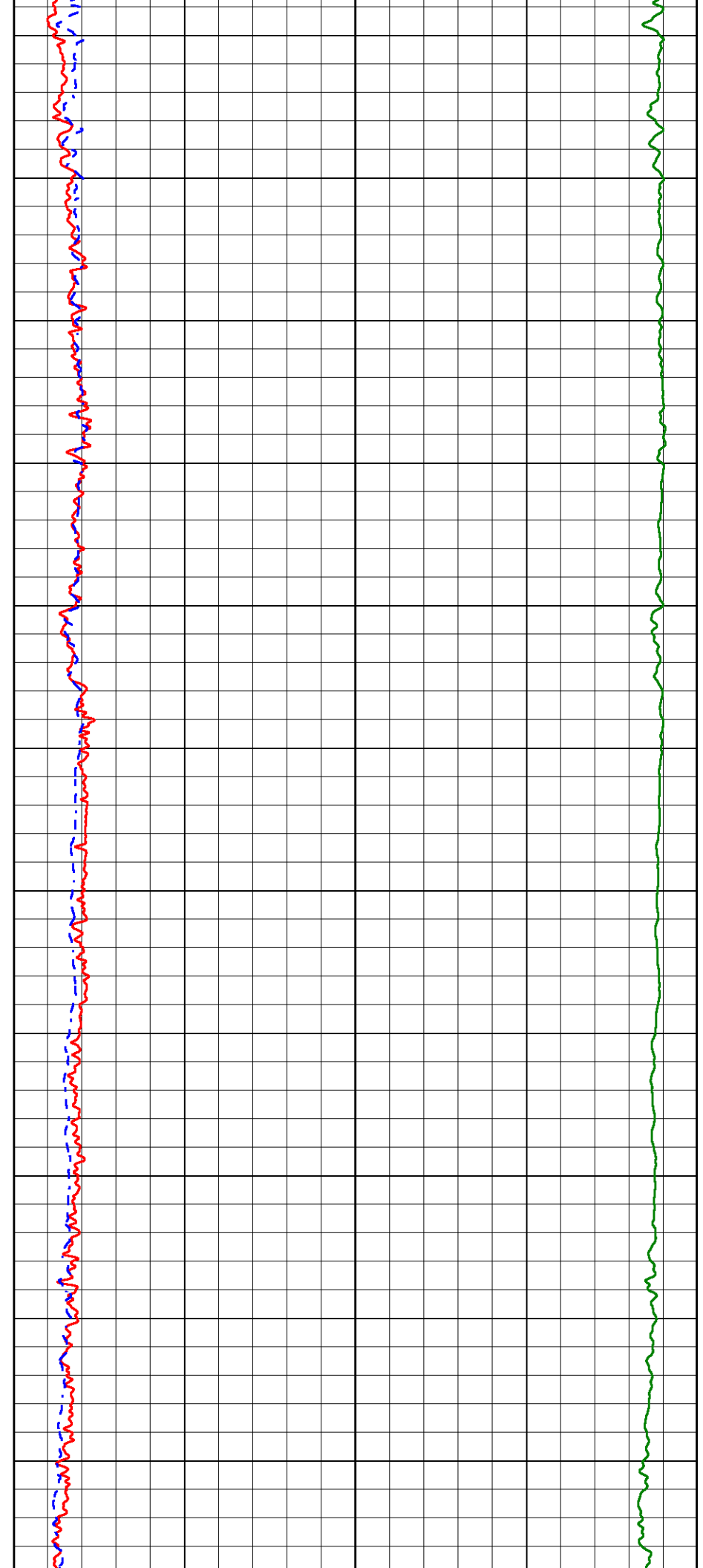
|   |                  |     |      |                          |     |
|---|------------------|-----|------|--------------------------|-----|
| 0 | GAMMA RAY (GAPI) | 150 | 2000 | CONDUCTIVITY (mmho/m)    | 0   |
|   |                  |     | 0    | RLL3 (Ohm-m)             | 50  |
|   |                  |     | 0    | DEEP RESISTIVITY (Ohm-m) | 50  |
|   |                  |     | 50   | RLL3 (Ohm-m)             | 500 |
|   |                  |     |      | DEEP RESISTIVITY         |     |
|   |                  |     | 50   | (Ohm-m)                  | 500 |

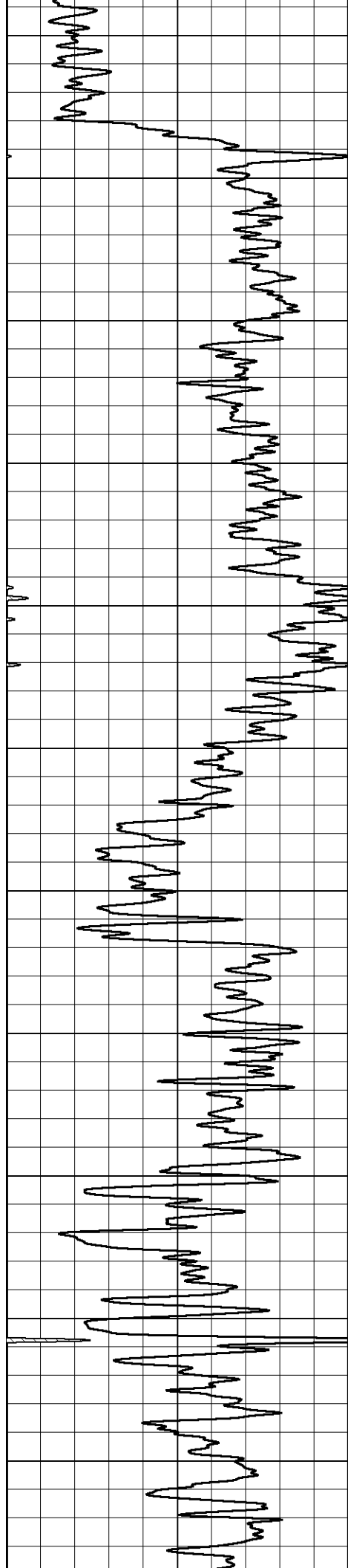




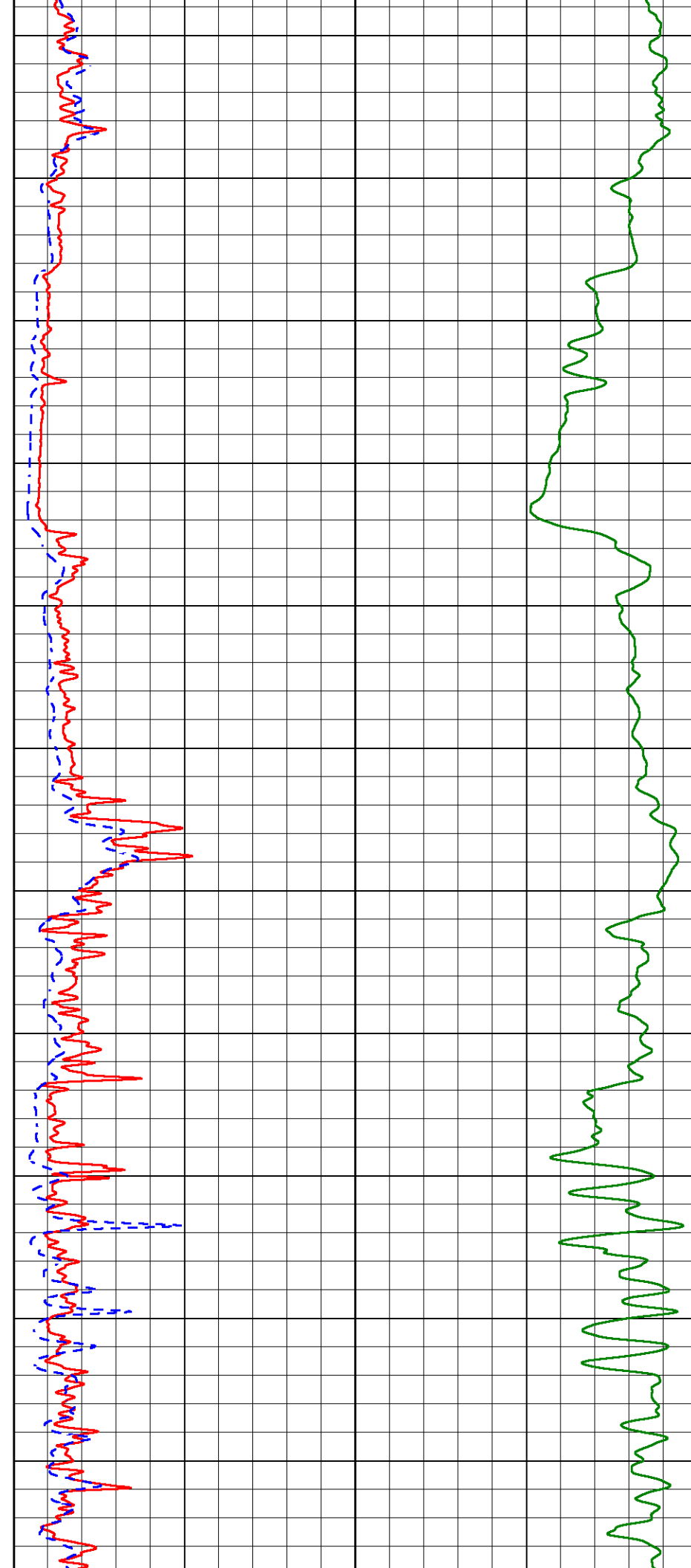


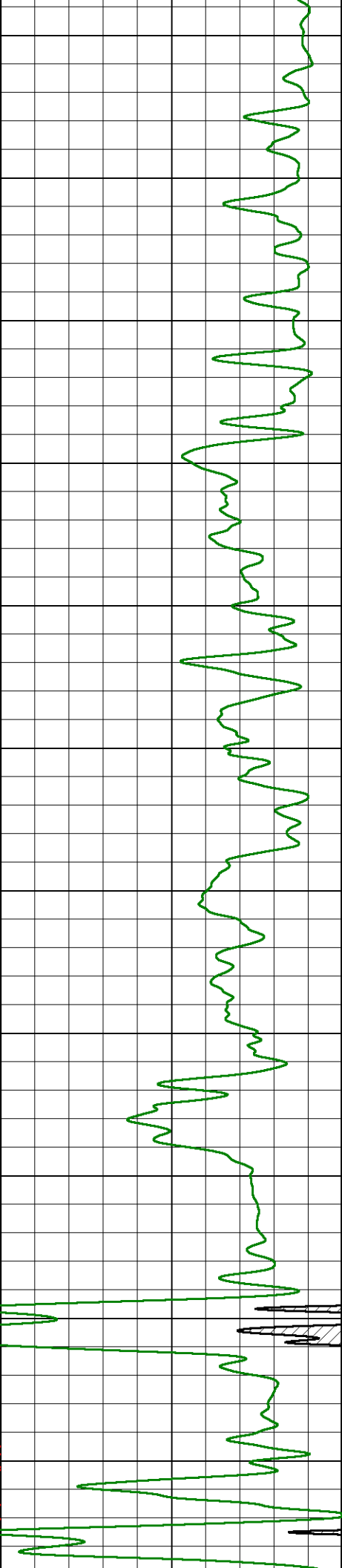
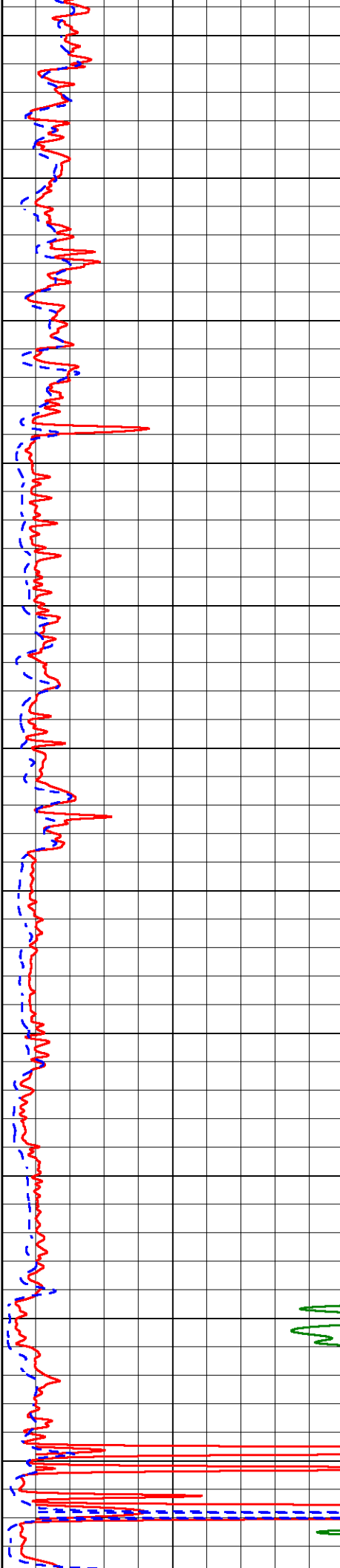
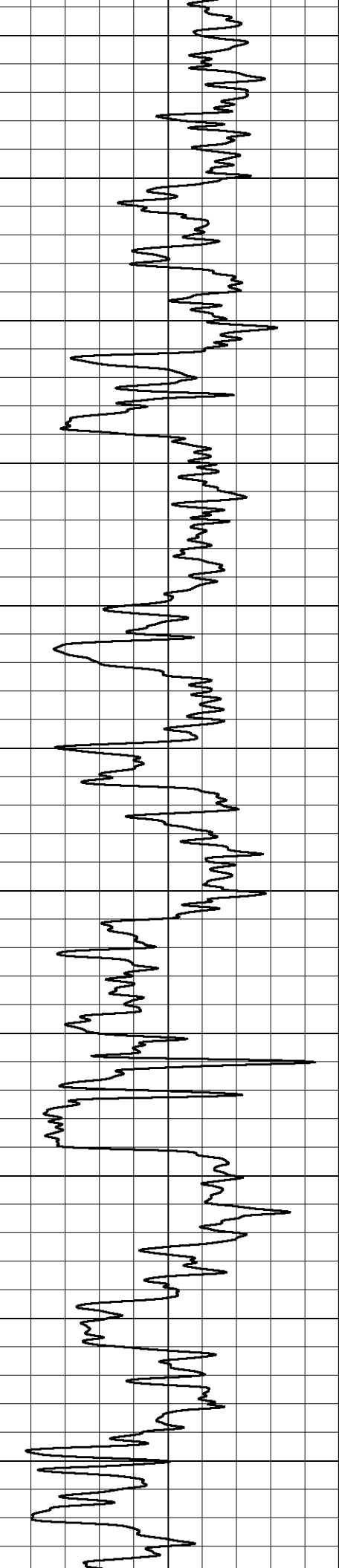
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650  
700  
750  
800  
850  
900  
950  
1000  
1050

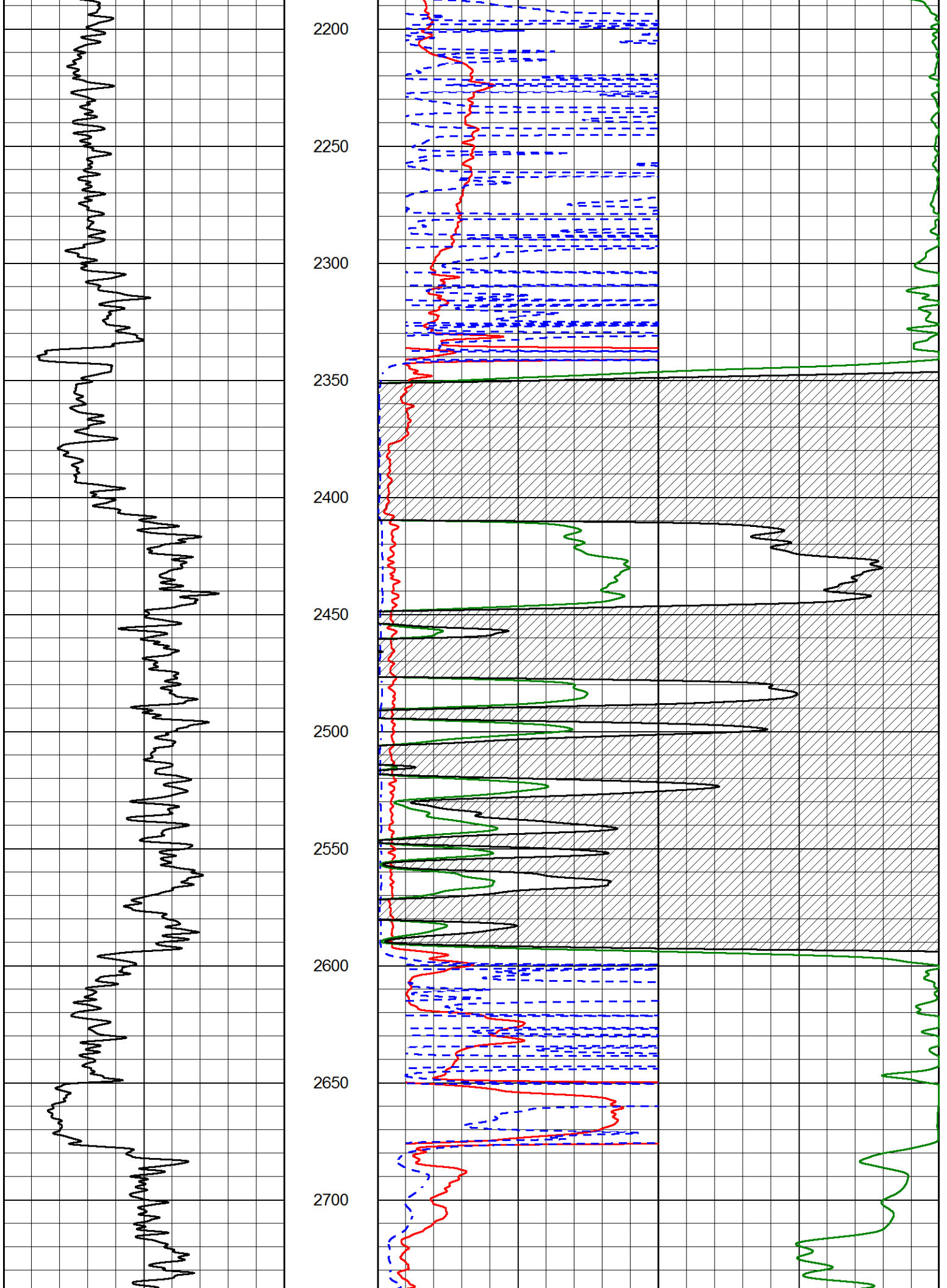


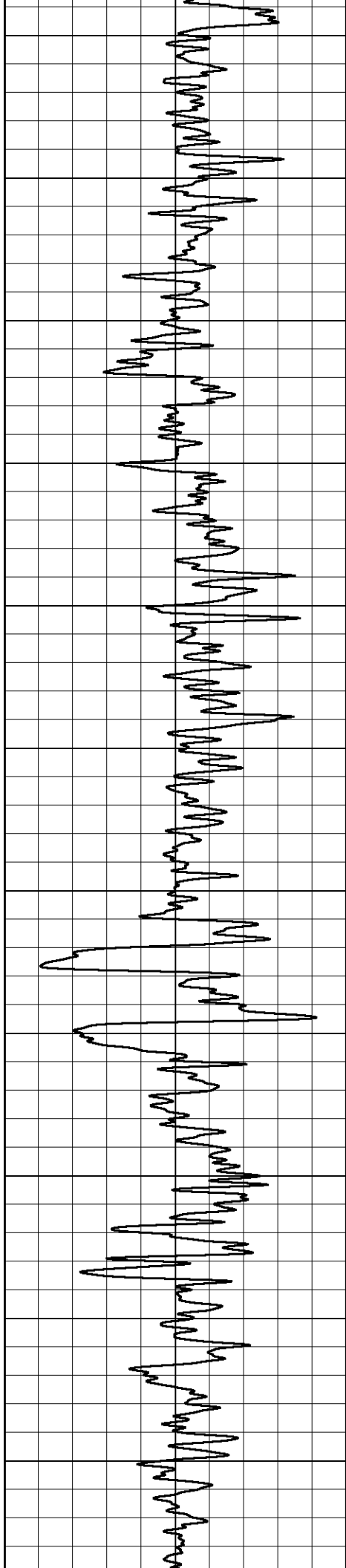


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1200  
1250  
1300  
1350  
1400  
1450  
1500  
1550  
1600

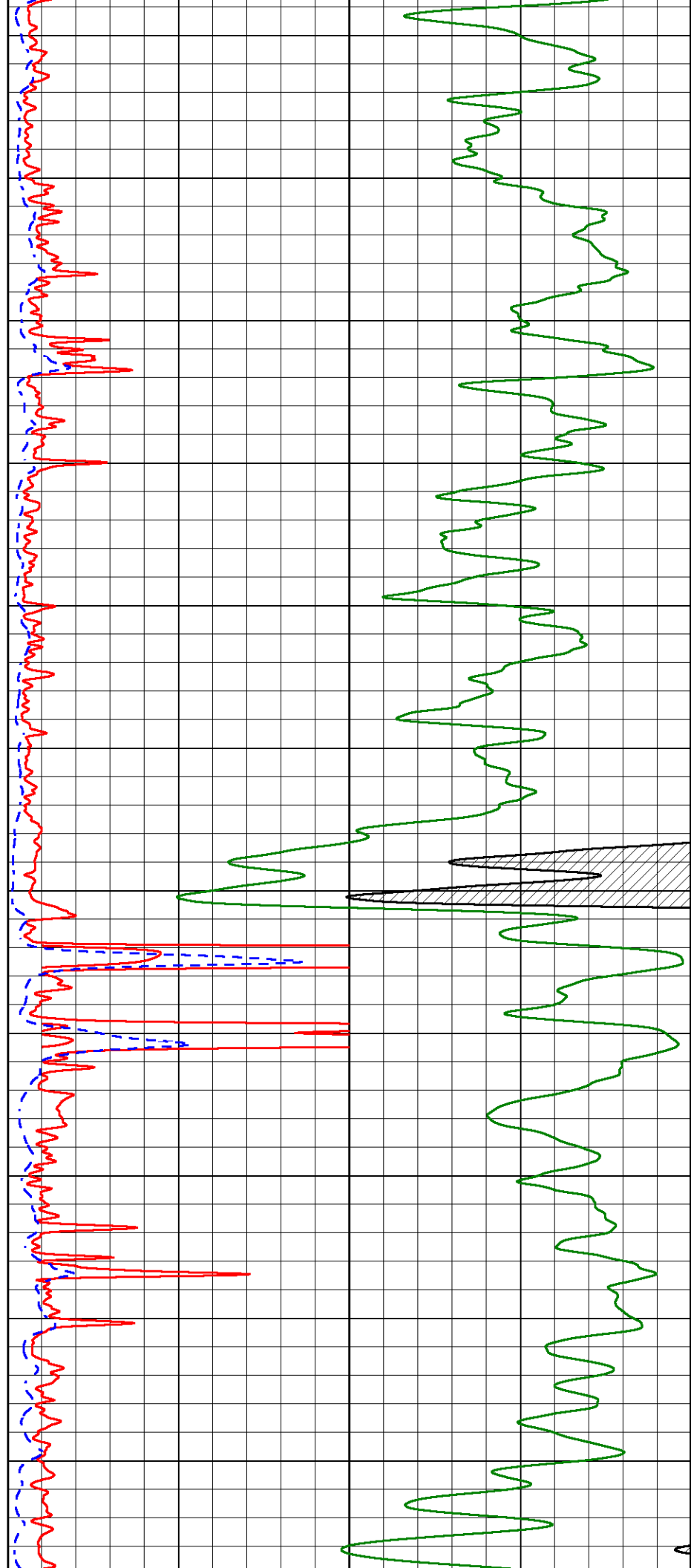




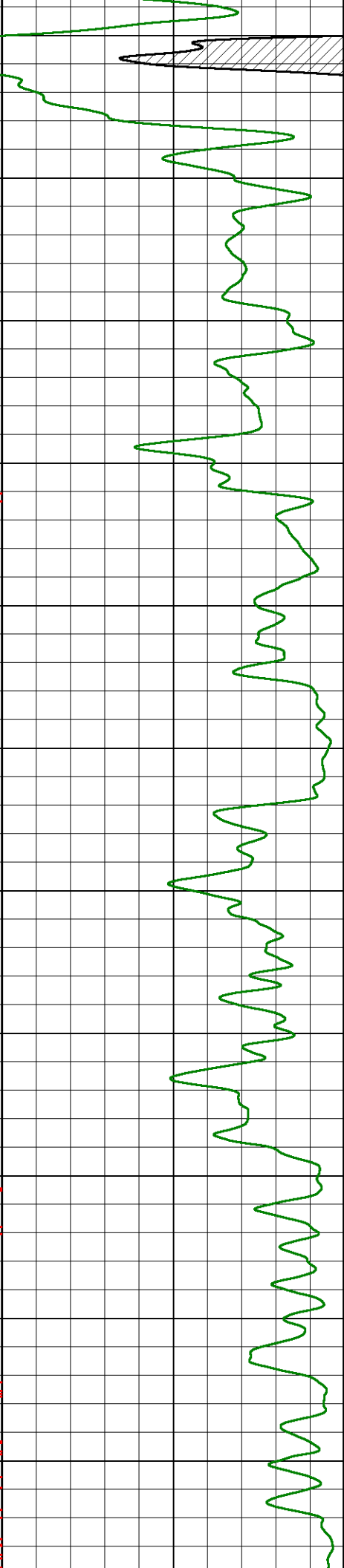
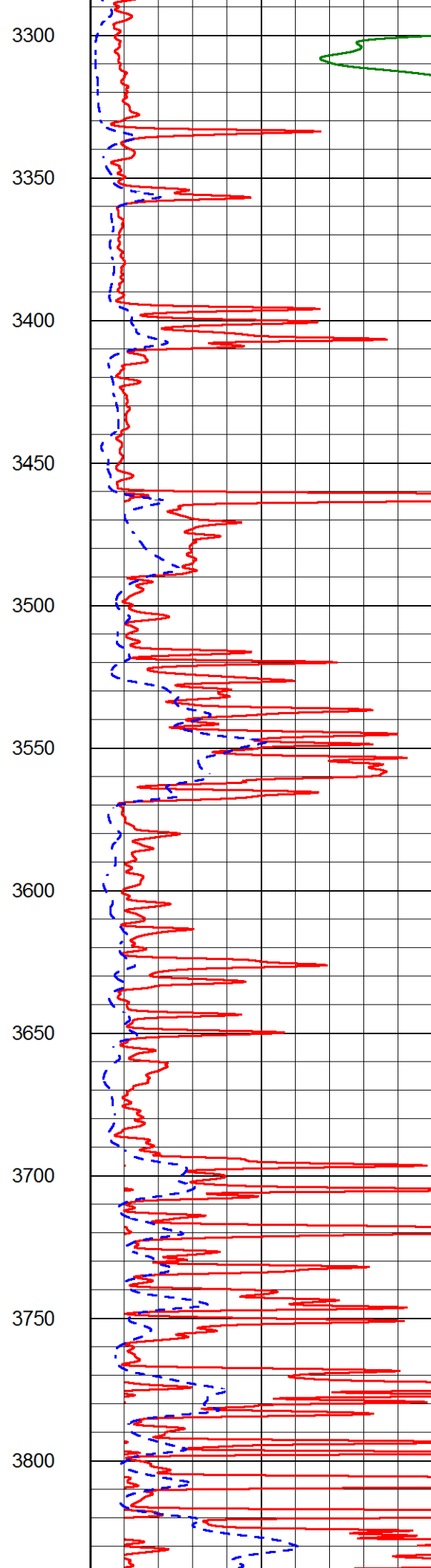
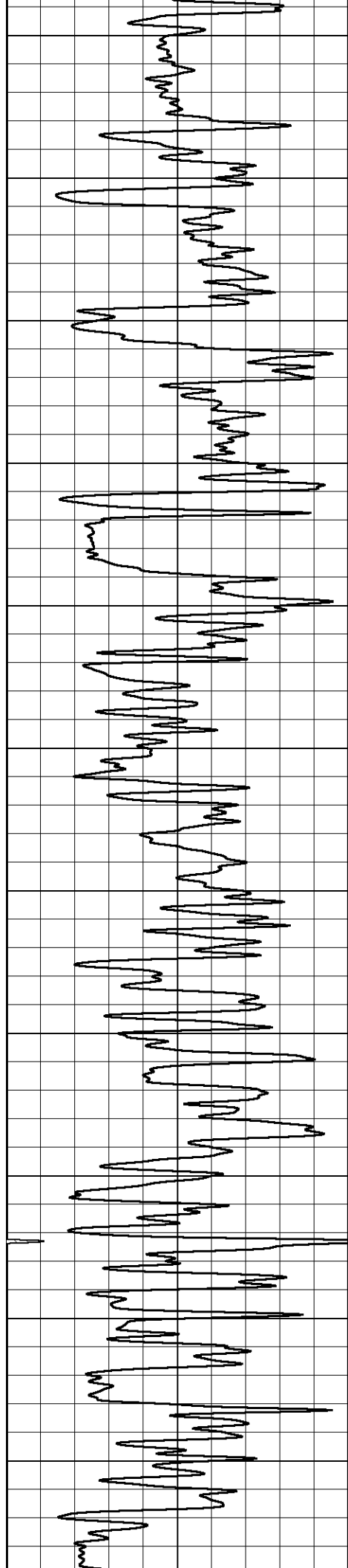


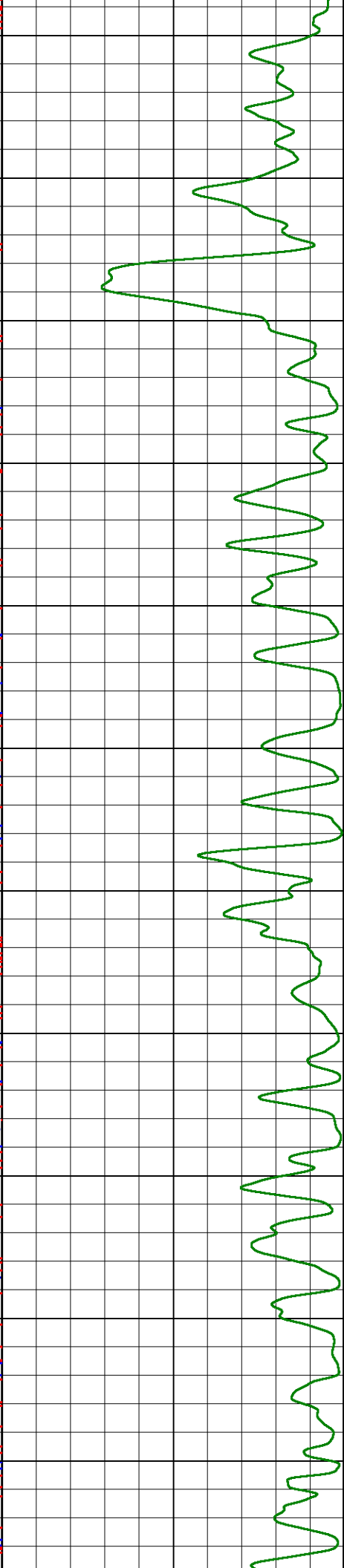
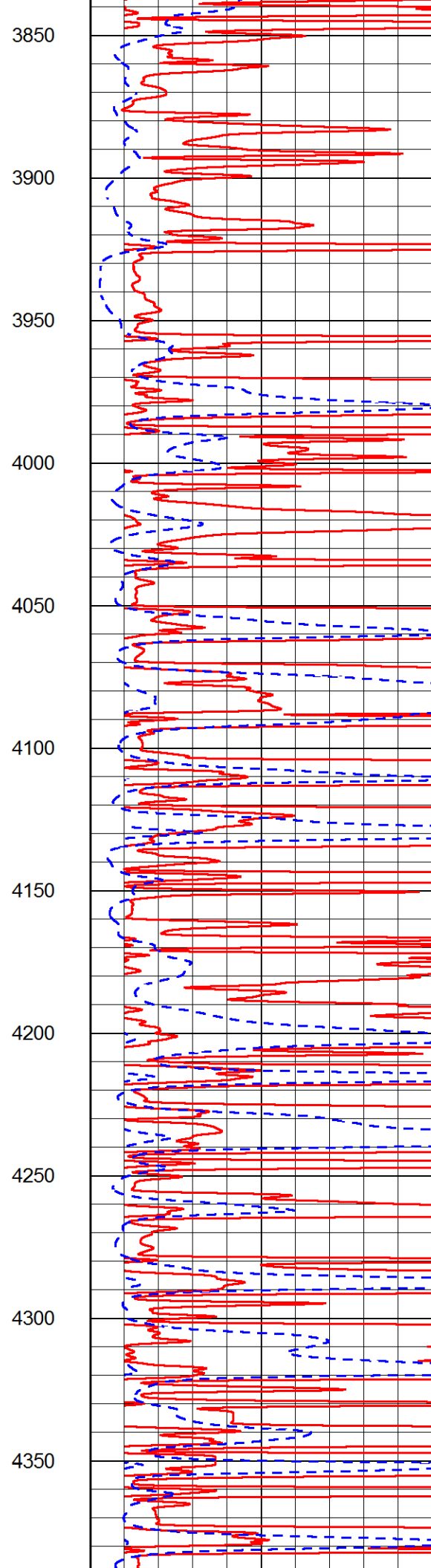
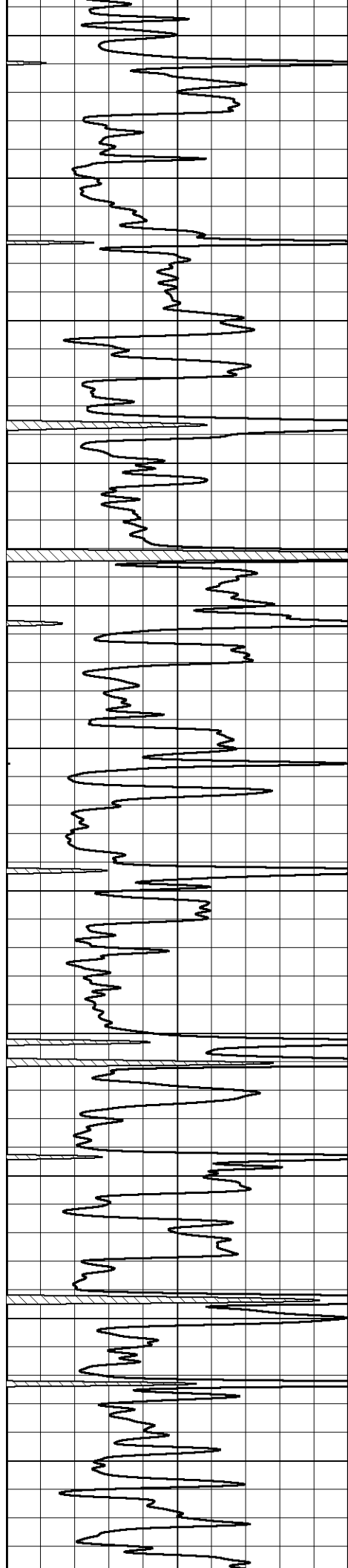


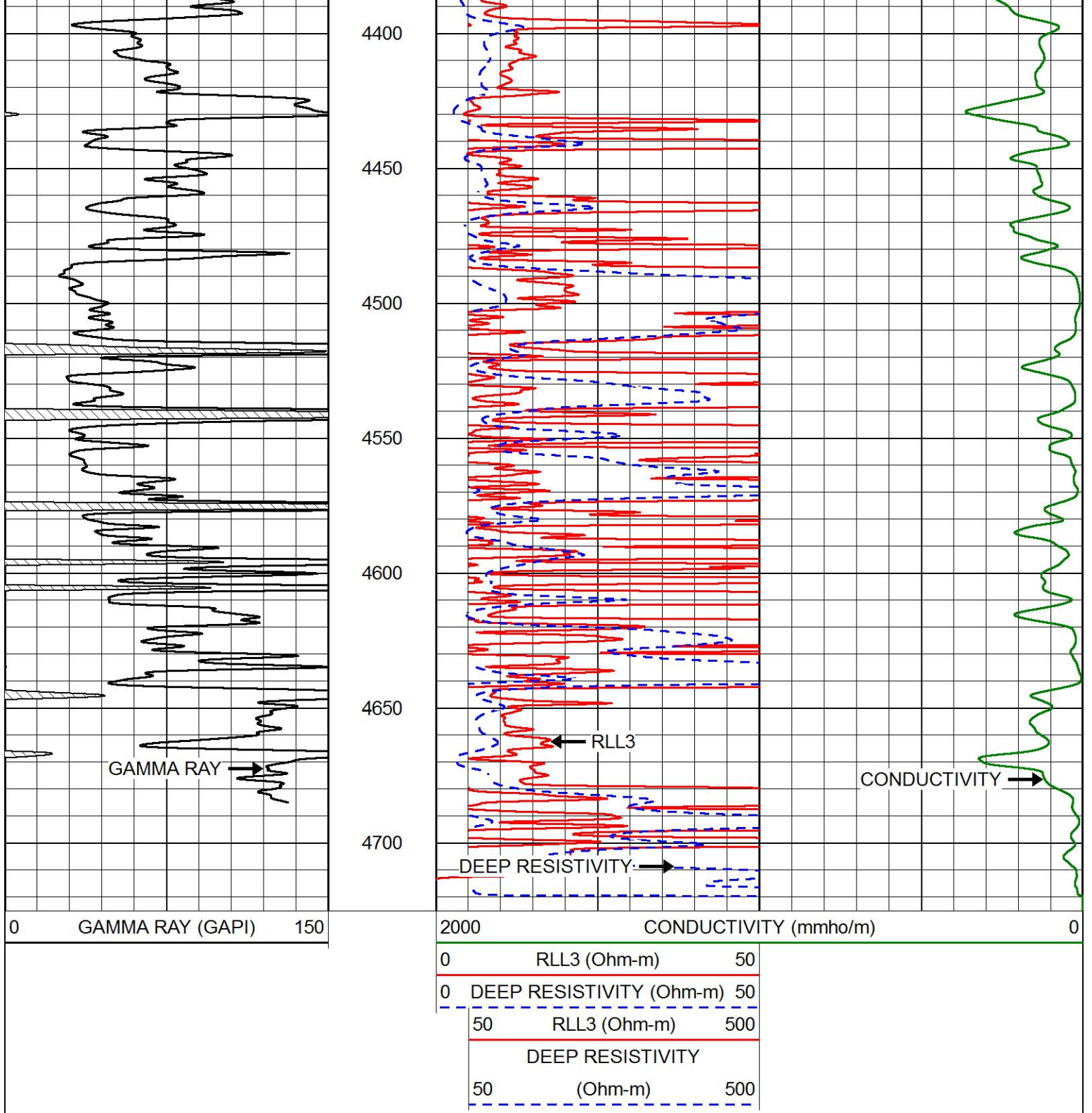
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2850  
2900  
2950  
3000  
3050  
3100  
3150  
3200  
3250









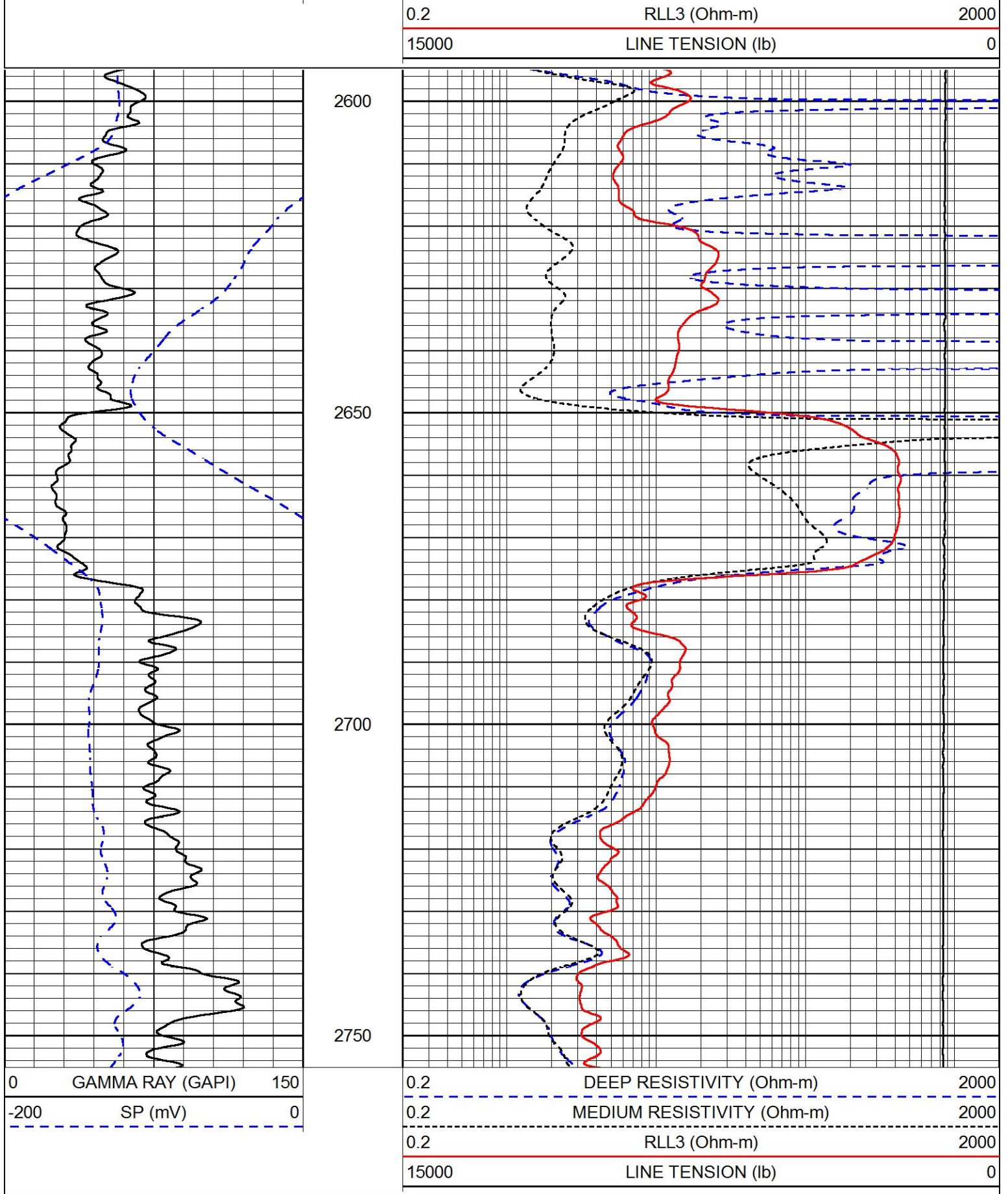


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 Presentation Format dil  
 Dataset Creation Thu Sep 07 14:06:47 2017  
 Charted by Depth in Feet scaled 1:240

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

|     |                            |      |
|-----|----------------------------|------|
| 0.2 | DEEP RESISTIVITY (Ohm-m)   | 2000 |
| 0.2 | MEDIUM RESISTIVITY (Ohm-m) | 2000 |

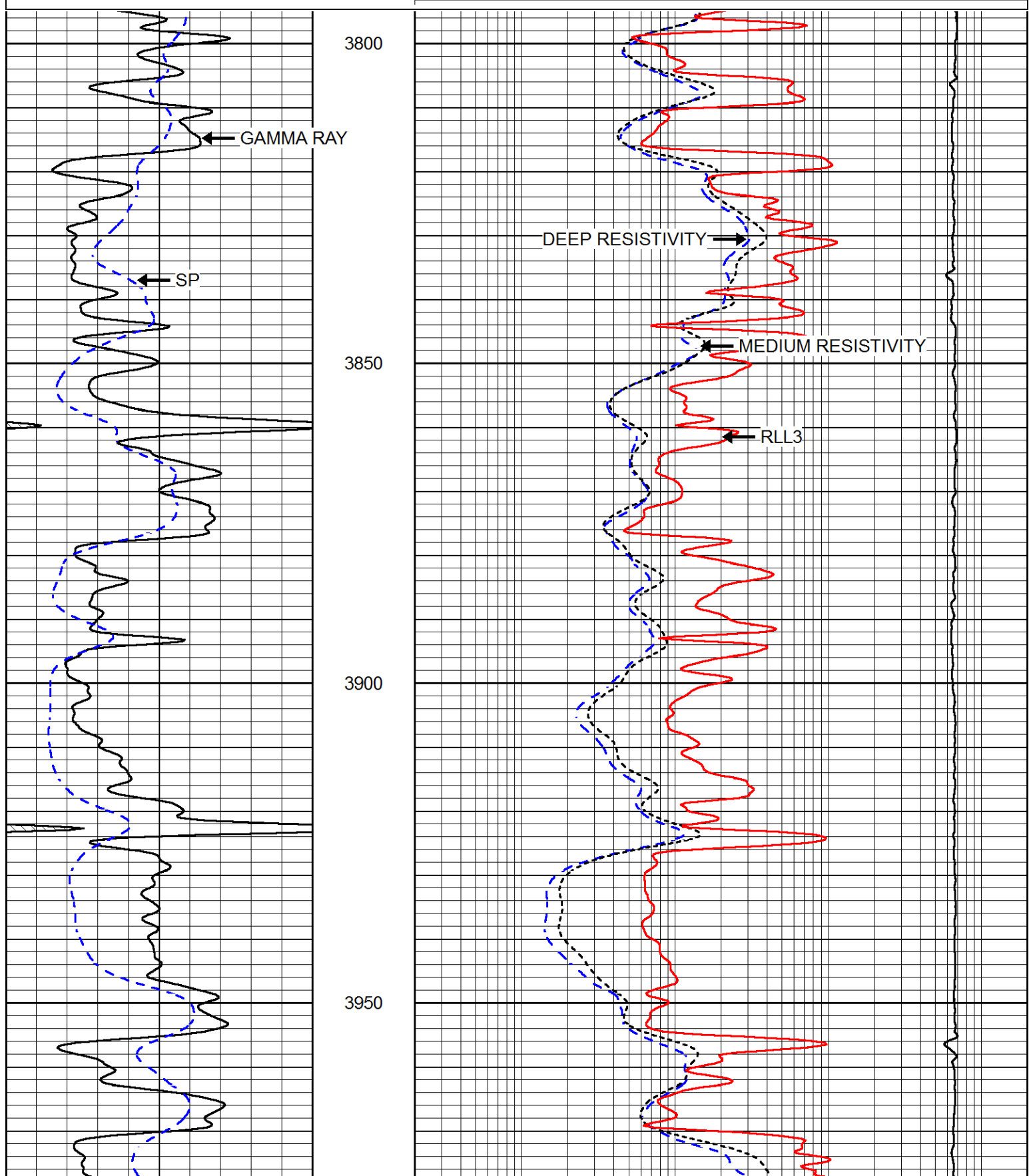


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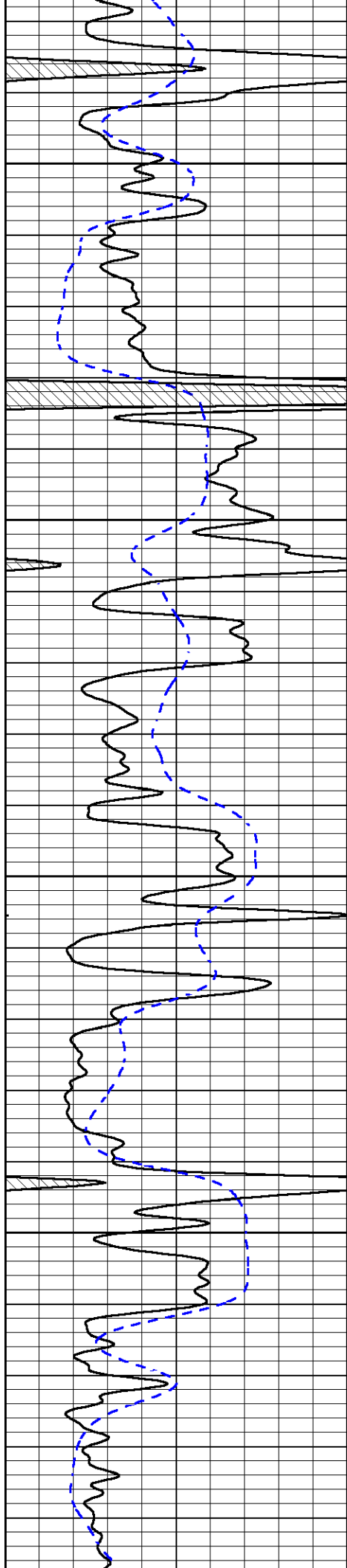
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 Presentation Format dil  
 Dataset Creation Thu Sep 07 14:06:47 2017  
 Charted by Depth in Feet scaled 1:240

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

|       |                            |      |
|-------|----------------------------|------|
| 0.2   | DEEP RESISTIVITY (Ohm-m)   | 2000 |
| 0.2   | MEDIUM RESISTIVITY (Ohm-m) | 2000 |
| 0.2   | RLL3 (Ohm-m)               | 2000 |
| 15000 | LINE TENSION (lb)          | 0    |





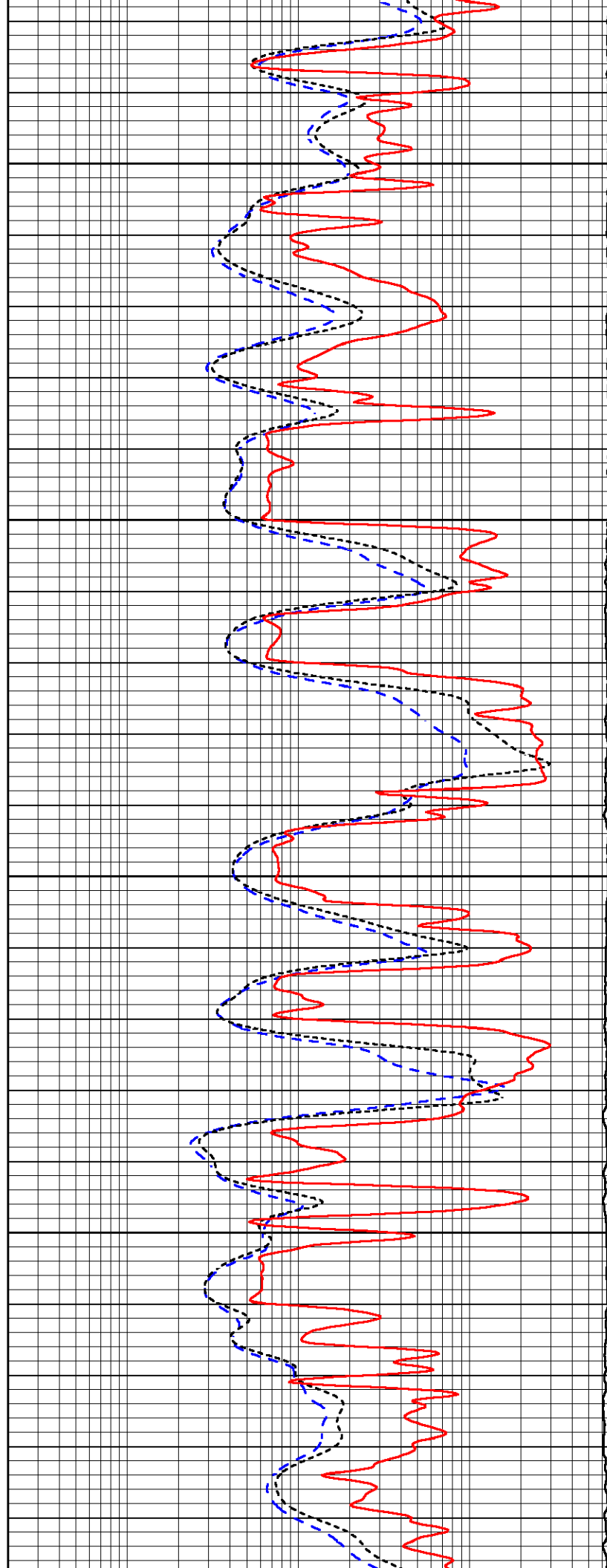


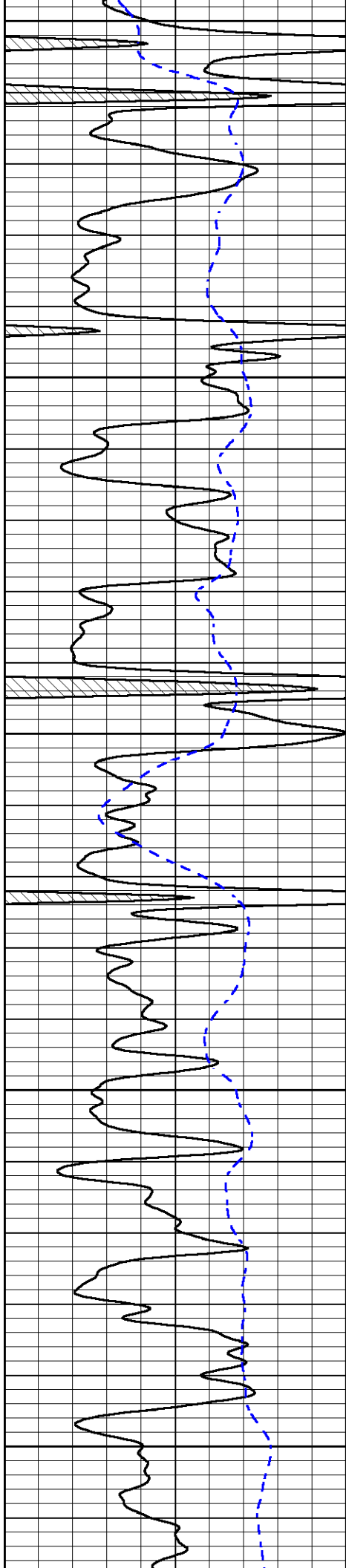
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4050

4100

4150





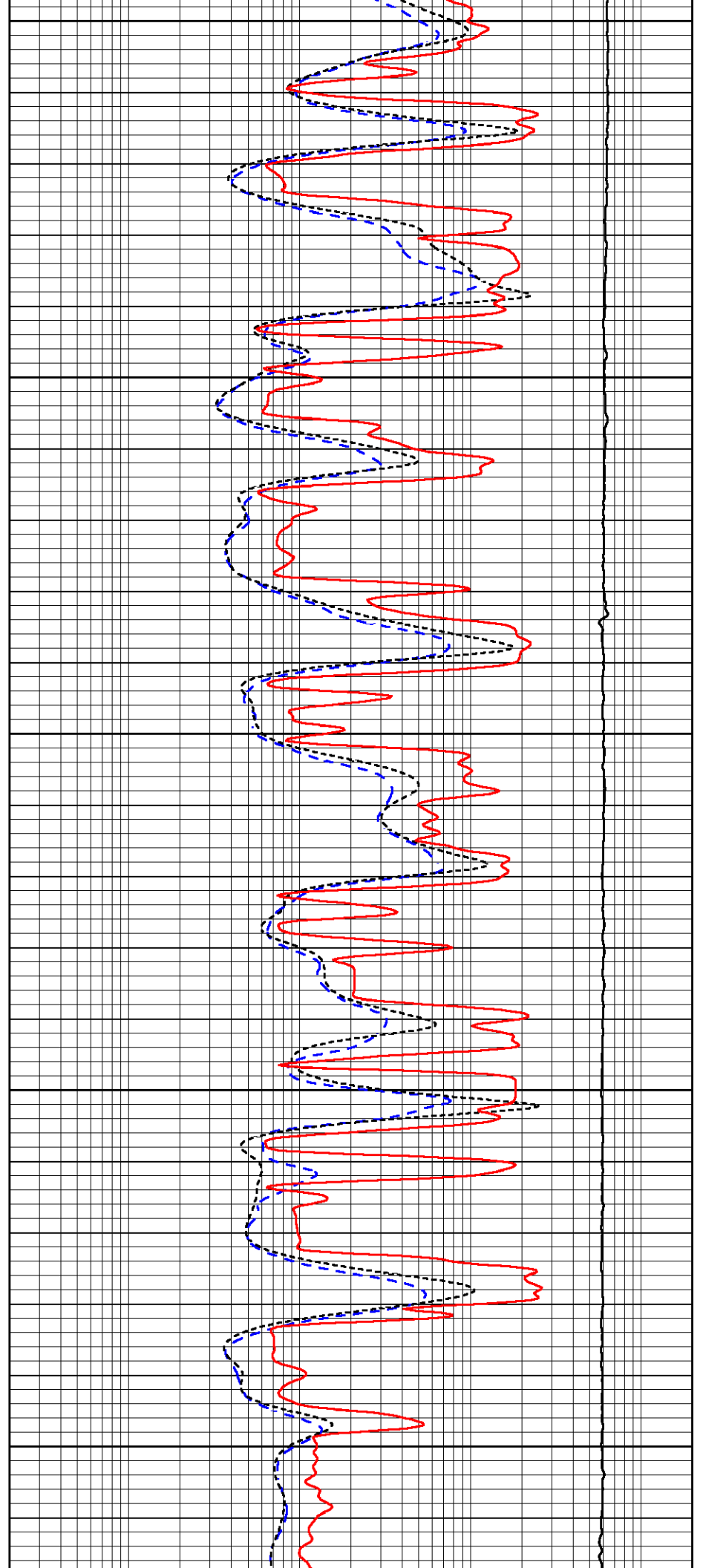
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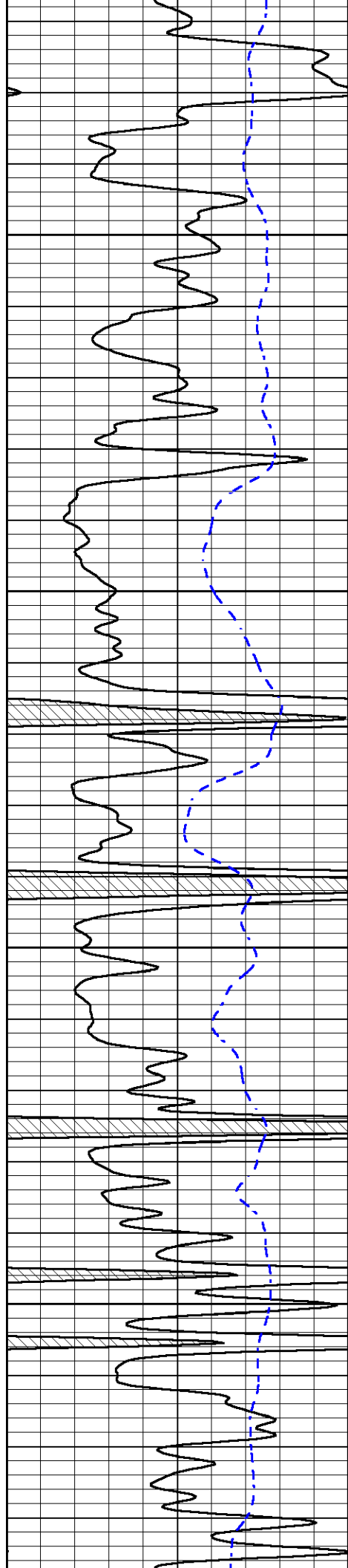
4250

4300

4350

4400



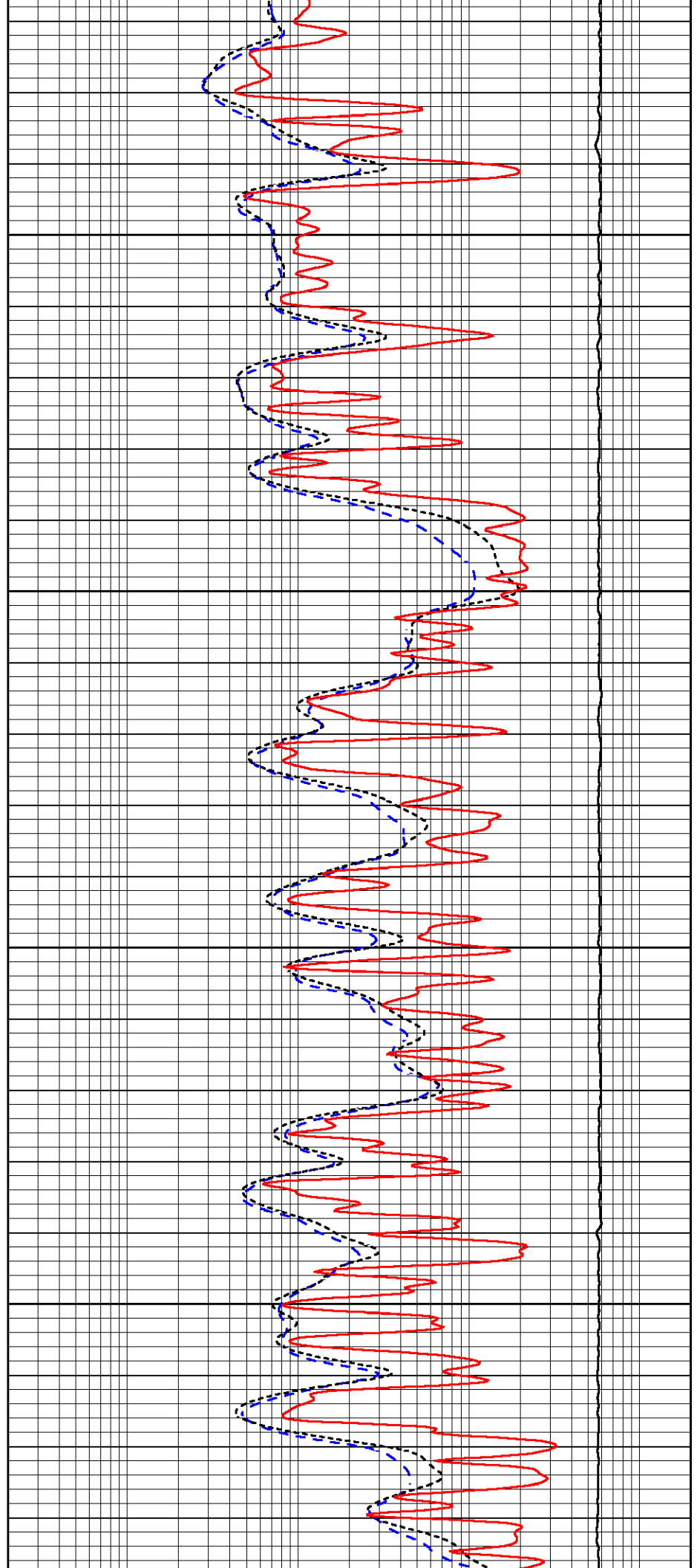


4450

4500

4550

4600

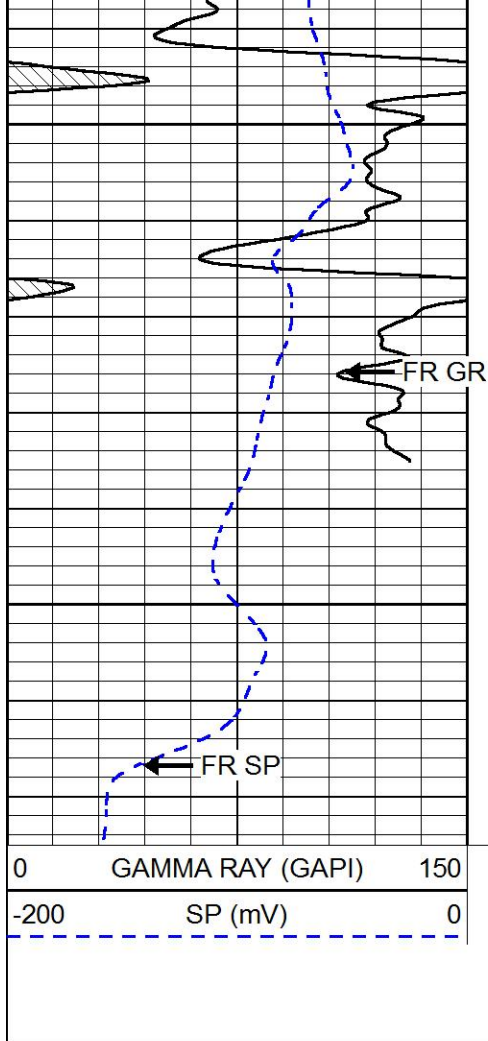


4450

4500

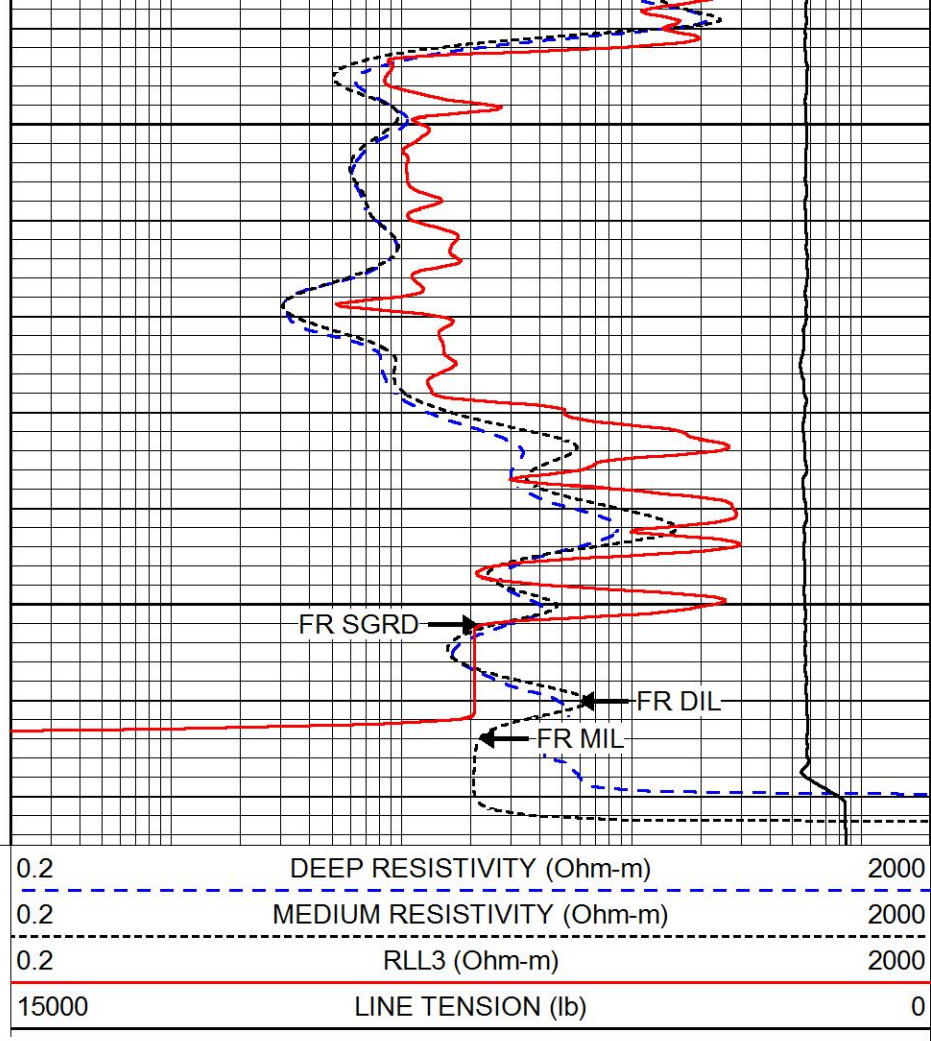
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4600



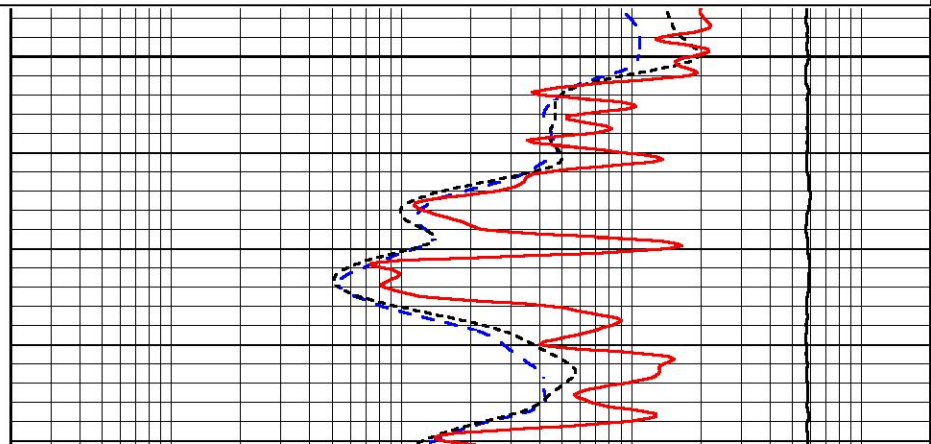
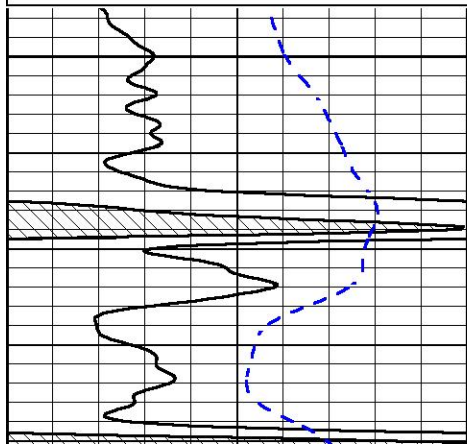
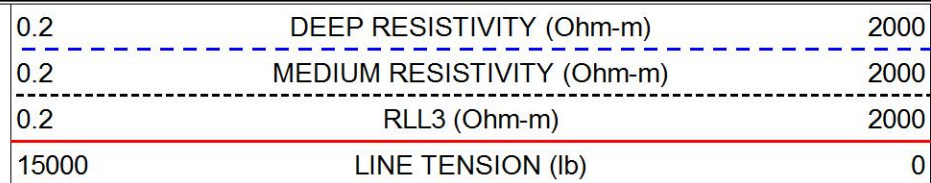
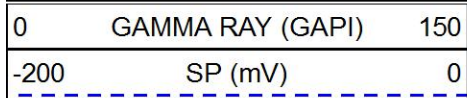
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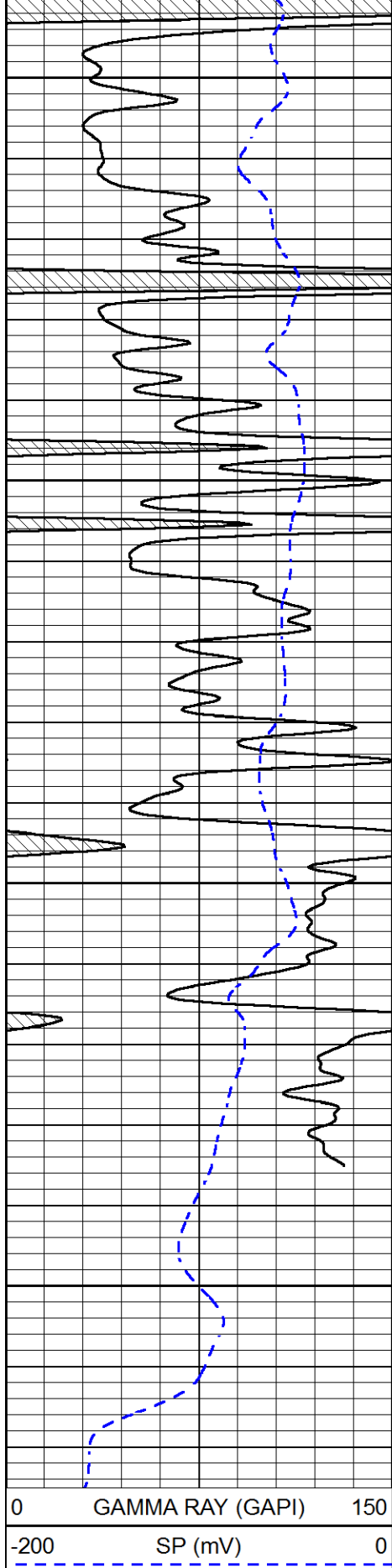
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# REPEAT SECTION

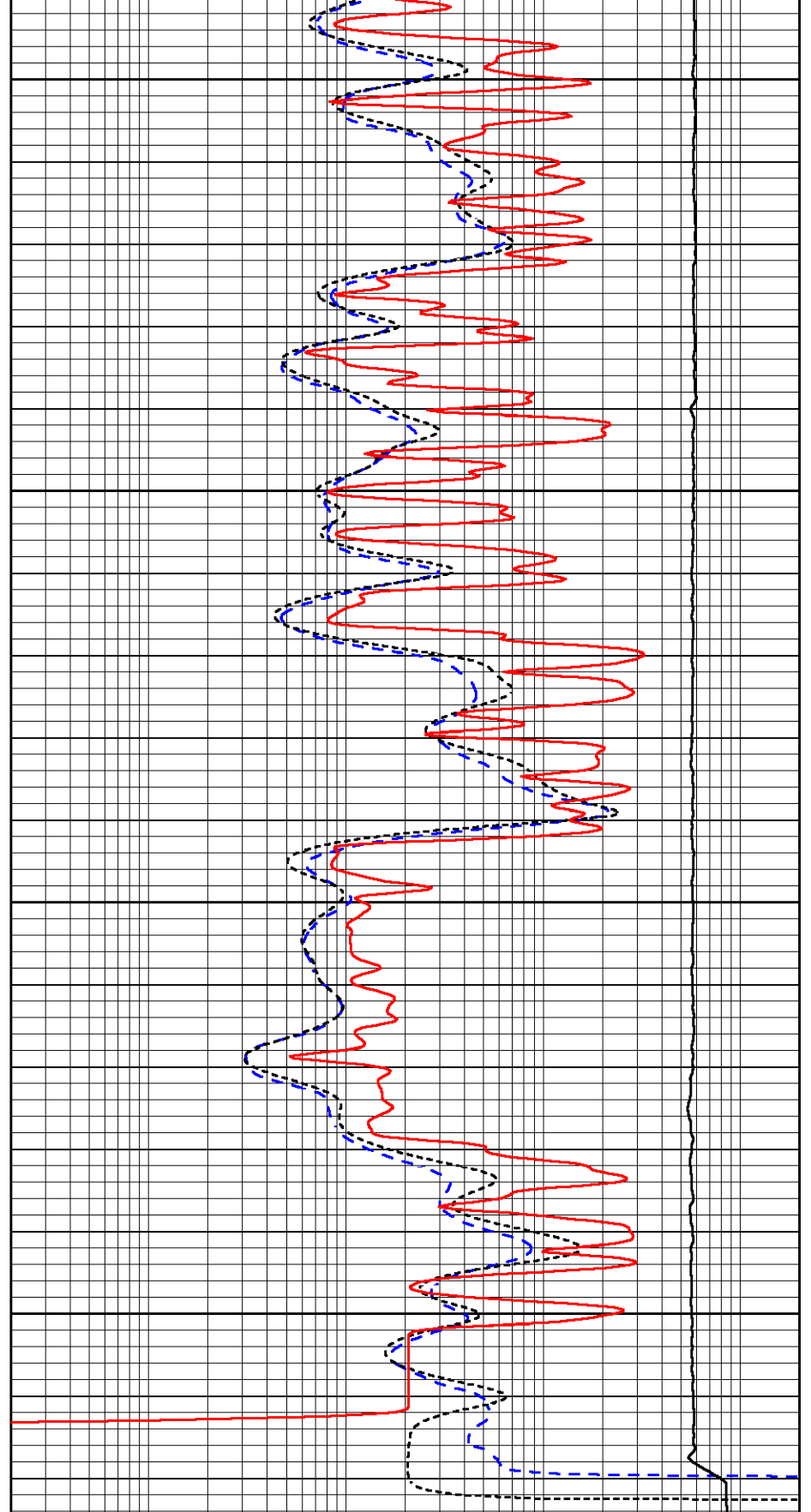
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Dataset Pathname stackml/pass2.1  
Presentation Format dil  
Dataset Creation Thu Sep 07 13:12:05 2017  
Charted by Depth in Feet scaled 1:240





4550  
4600  
4650  
4700

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



0.2 DEEP RESISTIVITY (Ohm-m) 2000  
0.2 MEDIUM RESISTIVITY (Ohm-m) 2000  
0.2 RLL3 (Ohm-m) 2000  
15000 LINE TENSION (lb) 0

Calibration Report

Dual Induction Calibration Report

Serial-Model: 1987-M&W  
 Calibration Performed: Tue Apr 11 16:07:38 2017

| Loop:  | Readings |          | References |         |        | Results |          |
|--------|----------|----------|------------|---------|--------|---------|----------|
|        | 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 |

Microlog Calibration Report

Serial-Model: PSI-02-PSI STKBL ML  
 Performed: Fri Jun 23 00:25:19 2017

|         | Readings |        | References |         |       | Results    |           |
|---------|----------|--------|------------|---------|-------|------------|-----------|
|         | Zero     | Cal    | Zero       | Cal     |       | m          | b         |
| Normal  | 0.0031   | 0.0043 | 0.0000     | 10.0000 | Ohm-m | 16000.0000 | 0.0000    |
| Inverse | 0.0000   | 0.0013 | 0.0000     | 10.0000 | Ohm-m | 18000.0000 | 0.0000    |
| Caliper | 1.0020   | 1.0834 | 5.5000     | 16.5000 | in    | 135.1560   | -131.4000 |

Compensated Density Calibration Report

Serial-Model: 168-986-M&W  
 Source / Verifier: /  
 Master Calibration Performed: Tue Apr 11 16:07:47 2017

Master Calibration

|                     | Density |      | Far Detector                | Near Detector |     |
|---------------------|---------|------|-----------------------------|---------------|-----|
| Magnesium           | 1.755   | g/cc | 4691.86                     | 4818.19       | cps |
| Aluminum            | 2.675   | g/cc | 859.57                      | 3020.22       | cps |
| Spine Angle = 74.61 |         |      | Density/Spine Ratio = 0.523 |               |     |
|                     | Size    |      | Reading                     |               |     |
| Small Ring          | 4.00    | in   | 1.03                        |               |     |
| Large Ring          | 14.00   | in   | 1.23                        |               |     |

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



|                        |                          |          |
|------------------------|--------------------------|----------|
| Serial Number:         | 00 M&W                   |          |
| Tool Model:            | M&W                      |          |
| Calibration Performed: | Tue Apr 11 16:08:01 2017 |          |
| 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 | ELK ENERGY HOLDINGS, LLC |
| Well    | LIPPELMANN NO 1-14       |
| Field   | WILDCAT                  |
| County  | THOMAS                   |
| State   | KANSAS                   |

# Sean Deenihan

## Petroleum Geologist

### GEOLOGIST'S REPORT

#### DRILLING TIME AND SAMPLE LOG

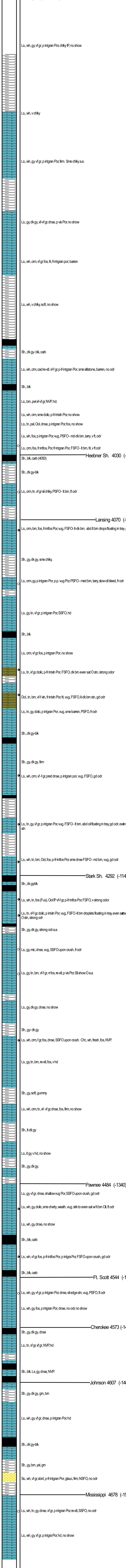
|            |                          |   |                |
|------------|--------------------------|---|----------------|
| COMPANY    | Elk Energy Holdings, LLC | ELEVATIONS                              | KB 3144'       |
| LEASE      | Lippelmann #1-14         | DF                                      |                |
| FIELD      | Wildcat                  | GL                                      | 3.139'         |
| LOCATION   | 2300' ENL & 2130' FWL    | Measurements Are All From Kelly Bushing |                |
| SEC        | 14 TWP 10 S RGE 33 W     | CASING                                  |                |
| COUNTY     | Thomas STATE Kansas      | CONDUCTOR                               | 8-5/8" at 347' |
| CONTRACTOR | WW Drilling Rig #2       | SURFACE                                 | 5.5" @ TD      |
| SPUD       | COMP LTD 4718'           | PRODUCTION                              |                |
| RTD        | 4720'                    | TYPE MUD                                | Chemical       |
| MUD UP     |                          | SAMPLES SAVED FROM                      | 3700' TO RTD   |
|            |                          | DRILLING TIME KEPT FROM                 | 3700' TO RTD   |
|            |                          | SAMPLES EXAMINED FROM                   | 3700' TO RTD   |
|            |                          | GEOLOGICAL SUPERVISION FROM             | 3550'          |
|            |                          | REFERENCE WELL                          | CND/DIL, MIC   |

| Formation    | Sample Tops | E-log Tops   | Struct Pos. |
|--------------|-------------|--------------|-------------|
| B/Anhydrite  |             | 2678 (-466)  |             |
| Heebner Sh.  |             | 4030 (-886)  |             |
| Lansing      |             | 4070 (-926)  |             |
| Stark Sh.    |             | 4292 (-1148) |             |
| Ft. Scott    |             | 4544 (-1400) |             |
| Cherokee Sh. |             | 4573 (-1429) |             |
| Mississippi  |             | 4678 (-1534) |             |

REMARKS Based on sample analysis, log evaluation, and relative structural position, the Lippelmann #1-14 will be further evaluated through production casing.

Respectfully Submitted,

Sean P. Deenihan



RTD: 4720'  
LTD: 4718'

**ELK Energy Holdings, LLC**  
Lippelmann #1-14  
14 -10S-33W  
Thomas Co., KS

KB: 3144'

|   |  |                              |                             |                                  |                               |           |             |                       |                    |                    |  |
|---|--|------------------------------|-----------------------------|----------------------------------|-------------------------------|-----------|-------------|-----------------------|--------------------|--------------------|--|
| API #   | 15-193-20998-00-00                     |                              |                             |                                  |                               |           |             |                       |                    |                    |  |
| Operator:   | ELK Energy Holdings LLC                |                              |                             | Well Name & No: Lippelmann #1-14 |                               |           |             |                       |                    |                    |  |
| Location:   | 2300 FNL & 2130 FWL Section 14-10s-33w |                              |                             |                                  |                               |           | County:     | Thomas                | State:             | Kansas             |  |
| Rig No.:  | 2                                      | Contractor: WW Drilling, LLC |                             |                                  | Tool Pusher: Johnny Nicodemus |           |             |                       |                    |                    |  |
| Drill Collars:  | 14                                     | Size 6.26 x 2.25             |                             |                                  | Rig Phone:                    |           |             |                       |                    |                    |  |
| Take Pump:  | N K-380                                |                              |                             | Liner & Stroke:                  |                               |           | 6x14        | Spud:                 | 9/1/2017 @ 2:00 PM |                    |  |
| Approx. TD:   | 4700'                                  |                              |                             | Elevation: 3,139 G.L.            |                               |           | 3144        | B                     | Hole Complete:     | 9/7/2017 @ 8:30 AM |  |
| Mud Co.:  | Andys Mud                              |                              |                             | Mud Engineer:                    |                               |           |             | Water                 | WW Haul            |                    |  |
| Date  | 09/01/17                               | 09/02/17                     | 09/03/17                    | 09/04/17                         | 09/05/17                      | 09/06/17  | 09/07/17    | 09/08/17              | 09/09/17           | 09/10/17           |  |
| Days  | 1-spud                                 | 2-Drlg                       | 3-Drlg                      | 4-Drlg                           | 5-Drlg                        | 6-Drlg    | 7-Drlg      | 8-Cement              | 9-Done             |                    |  |
| Depth   |  | 380                          | 2040                        | 3300'                            | 3985'                         | 4450'     | 4700'       | 4720'                 | 4720'              |                    |  |
| Ft. Cut   |  | 380                          | 1660                        | 1260'                            | 685'                          | 465'      | 250'        | 20                    |                    |                    |  |
| Drill Time  |  | 0.5                          |                             | 20.75                            | 20                            | 22        |             | 1.5                   |                    |                    |  |
| Down Time   |  |                              |                             | 90                               |                               | 1.5 LG    | 7 Bit trip  |                       |                    |                    |  |
| Co. Time  |  | WOC-10                       |                             | 1000                             | 1.5                           |           |             | 22.5                  | 4.5                |                    |  |
| Bit Wt.   | all                                    | 10,000                       | 20,000                      | 30,000                           | 38,000                        | 38,000    | 38,000      | 38,000                |                    |                    |  |
| RPM   | 100                                    | 85                           | 90                          | 90                               | 85                            | 85        | 85          | 85                    |                    |                    |  |
| Pressure  | 450                                    | 450                          | 650                         | 1000                             | 700                           | 750       | 750         | 800                   |                    |                    |  |
| SPM   | 60                                     | 60                           | 60                          | 60                               | 60                            | 60        | 60          | 60                    |                    |                    |  |
| Mud Cost  |  |                              | 1650                        | 5345                             | 8593                          | 8593      | 8,659       | 8,659                 | 8,659              |                    |  |
| Mud Wt.   |  | 8.5                          | 8.8                         | 9.4                              | 8.8                           | 9.2       | 9.3         | 9.3                   |                    |                    |  |
| Viscosity   |  | 27                           | 28                          | 29                               | 60                            | 58        | 51          | 57                    |                    |                    |  |
| Water Loss  |  |                              |                             |                                  | 7.6                           | 8         | 9.6         | 9.6                   |                    |                    |  |
| Chlorides   |  |                              |                             |                                  | 3000                          | 3500      | 3500        | 3500                  |                    |                    |  |
| L.C.M.  |  |                              |                             | 1#                               | 1.5#                          | 1#        | 1#          | 2#                    |                    |                    |  |
| Dev. Sur  |  | .75-344'                     |                             |                                  |                               |           |             |                       |                    |                    |  |
| Dev. Sur  |  |                              |                             |                                  |                               |           |             |                       |                    |                    |  |
| Fuel  |  | 3164                         | 2882                        | 2543                             | 2204                          | 1808      | 1413        | 1243                  | 1243               |                    |  |
| Water-Pit   |  | 1/4                          | 1/2                         | 1/4                              | 1/4                           | Full      | 1/2         | 1/4                   |                    |                    |  |
| ACC Bit Hrs.  |  | 0.5                          | 23                          | 43.75                            | 63.75                         | 85.75     | 6.75        | 8.25                  |                    |                    |  |
| Formation   | sd-sh                                  | sd-sh                        | sd-sh                       | sd-sh                            | sh-lm                         | sh-lm     | sh-lm       | sh-lm                 |                    |                    |  |
| Weather   |  | Clear                        | Clear                       | Cloudy                           | Clear                         | P/Cloudy  | P/Cloudy    | Clear                 |                    |                    |  |
| No.   | Size                                   | Type                         | Out                         | Ft.                              | Hrs.                          | Cum Hrs.  | Bit Cond    | Serial #              | Tops               |                    |  |
| 1   | 12 1/4                                 | Sm-tooth                     | 344                         | 344                              | 3.5                           | 3.5       | RR          | RD6072                |                    |                    |  |
| 2   | 7 7/8                                  | Sm-F24                       | 4607'                       | 4263'                            | 94.25                         | 97.75     |             | RJ3654                |                    |                    |  |
| 3   | 7 7/8"                                 | Sm-F27                       |                             | 113                              | 8.25                          | 106       |             | RJ2988                |                    |                    |  |
| 4   |  |                              |                             |                                  |                               |           |             |                       | ROP 44.52          |                    |  |
| DEPTH   | SIZE                                   | SACKS                        | CEMENT MATERIAL             |                                  |                               | PLUG DOWN | DRILLED OUT | REMARKS               |                    |                    |  |
| 344'  | 8 5/8                                  | 250                          | Common, 3% cc & 2% gel      |                                  |                               | 8:30 PM   |             | Global Did Circulate  |                    |                    |  |
| 113 jts   |  | 175                          | Bottom + 30 Rathole         |                                  |                               |           |             |                       |                    |                    |  |
| 4715'   | 5 1/2"                                 | 395                          | n The Top and DV tool @ 264 |                                  |                               | 7:30 AM   |             | Quality Did Circulate |                    |                    |  |
| NO  | INTERVAL                               | OPEN                         | SHUT                        | OPEN                             | SHUT                          | RECOVERY  |             |                       |                    |                    |  |
| 1   |  |                              |                             |                                  |                               |           |             |                       |                    |                    |  |
| 2   |  |                              |                             |                                  |                               |           |             |                       |                    |                    |  |
| 3   |  |                              |                             |                                  |                               |           |             |                       |                    |                    |  |
| 4   |  |                              |                             |                                  |                               |           |             |                       |                    |                    |  |
| 5   |  |                              |                             |                                  |                               |           |             |                       |                    |                    |  |
| 6   |  |                              |                             |                                  |                               |           |             |                       |                    |                    |  |
| 7   |  |                              |                             |                                  |                               |           |             |                       |                    |                    |  |
| 8   |  |                              |                             |                                  |                               |           |             |                       |                    |                    |  |
| 9   |  |                              |                             |                                  |                               |           |             |                       |                    |                    |  |
| surface Casing Furnished by: Jayhawk. Ran 8 joints of 8 5/8" tally 336.91 set @ 344'  |  |                              |                             |                                  |                               |           |             |                       |                    |                    |  |
| <b>Remarks: Strap &amp; weld surface by WW Rusty. Anhydrite @ 2655'-2700' Displaced @ 3491' (750 bbls). Short trip @ 3752' (20 stands) 1.5 hrs. Logged by Pioneer (LTD 4718') 2.5 hrs. Ran 113 joints of 5 1/2" casing, set @ 4715' DV Tool @ 2640', Cemented w/600 total sx cement by Quality cementing. Plug down @ 7:30 am, 9/8/2017. Released rig @ 11:30 am, 9/8/2017.</b> |  |                              |                             |                                  |                               |           |             |                       |                    |                    |  |

|                |                              |  |  |              |  |                   |         |               |  |  |
|----------------|------------------------------|--|--|--------------|--|-------------------|---------|---------------|--|--|
| API #          |                              |  |  |              |  |                   |         |               |  |  |
| Operator:      | Well Name & No:              |  |  |              |  |                   |         |               |  |  |
| Location:      |                              |  |  |              |  |                   | County: | State: Kansas |  |  |
| Rig No.:       | Contractor: WW Drilling, LLC |  |  | Tool Pusher: |  |                   |         |               |  |  |
| Drill Collars: | Size:                        |  |  | Rig Phone:   |  |                   |         |               |  |  |
| Take Pump:     | Liner & Stroke:              |  |  |              |  |                   | Spud    |               |  |  |
| Approx. TD:    | Elevation:                   |  |  | G.L.:        |  | KB Hole Complete: |         |               |  |  |
| Mud Co.:       | Mud Engineer:                |  |  |              |  |                   | Water   |               |  |  |

|              |  |  |  |  |  |  |  |  |  |  |
|--------------|--|--|--|--|--|--|--|--|--|--|
| Date         |  |  |  |  |  |  |  |  |  |  |
| Days         |  |  |  |  |  |  |  |  |  |  |
| Depth        |  |  |  |  |  |  |  |  |  |  |
| Ft. Cut      |  |  |  |  |  |  |  |  |  |  |
| D.T.         |  |  |  |  |  |  |  |  |  |  |
| D.T.         |  |  |  |  |  |  |  |  |  |  |
| C.T.         |  |  |  |  |  |  |  |  |  |  |
| Bit Wt.      |  |  |  |  |  |  |  |  |  |  |
| RPM          |  |  |  |  |  |  |  |  |  |  |
| Pressure     |  |  |  |  |  |  |  |  |  |  |
| SPM          |  |  |  |  |  |  |  |  |  |  |
| Mud Cost     |  |  |  |  |  |  |  |  |  |  |
| Mud Wt.      |  |  |  |  |  |  |  |  |  |  |
| Viscosity    |  |  |  |  |  |  |  |  |  |  |
| Water Loss   |  |  |  |  |  |  |  |  |  |  |
| Chlorides    |  |  |  |  |  |  |  |  |  |  |
| L.C.M.       |  |  |  |  |  |  |  |  |  |  |
| Dev. Sur     |  |  |  |  |  |  |  |  |  |  |
| Dev. Sur     |  |  |  |  |  |  |  |  |  |  |
| Fuel         |  |  |  |  |  |  |  |  |  |  |
| Water-Pit    |  |  |  |  |  |  |  |  |  |  |
| ACC Bit Hrs. |  |  |  |  |  |  |  |  |  |  |
| Formation    |  |  |  |  |  |  |  |  |  |  |
| Weather      |  |  |  |  |  |  |  |  |  |  |

| No. | Size   | Type      | Out | Ft. | Hrs. | Cum Hrs. | Bit Cond | Serial # | Tops |
|-----|--------|-----------|-----|-----|------|----------|----------|----------|------|
| 1   | 12 1/4 | Smith     |     |     |      |          | RR       |          |      |
| 2   | 7 7/8  | Sm - F-27 |     |     |      |          | New      |          |      |
| 3   |        |           |     |     |      |          |          |          |      |
| 4   |        |           |     |     |      |          |          |          |      |

| DEPTH | SIZE  | SACKS | CEMENT MATERIAL       | PLUG DOWN | DRILLED OUT | REMARKS |
|-------|-------|-------|-----------------------|-----------|-------------|---------|
|       | 8 5/8 |       | Common, 3% cc, 2% gel |           |             |         |
|       |       |       |                       |           |             |         |
|       |       |       |                       |           |             |         |

| NO | INTERVAL | OPEN | SHUT | OPEN | SHUT | RECOVERY |
|----|----------|------|------|------|------|----------|
| 1  |          |      |      |      |      |          |
| 2  |          |      |      |      |      |          |
| 3  |          |      |      |      |      |          |
| 4  |          |      |      |      |      |          |
| 5  |          |      |      |      |      |          |
| 6  |          |      |      |      |      |          |
| 7  |          |      |      |      |      |          |
| 8  |          |      |      |      |      |          |
| 9  |          |      |      |      |      |          |

Surface Casing Furnished by: \_\_\_\_\_

**Remarks: Spud @**



# GLOBAL OIL FIELD SERVICES, LLC

3127

REMIT TO 24 S. Lincoln  
Russell, KS 67665

SERVICE POINT

Russell

|  |             |                 |           |            |                    |               |                   |
|--|-------------|-----------------|-----------|------------|--------------------|---------------|-------------------|
| DATE 9-1-17  | SEC. 14     | TWP. 10         | RANGE 33  | CALLED OUT | ON LOCATION 6:30pm | JOB START     | JOB FINISH 5:30pm |
| LEASE Lippelman  | WELL#. 1-14 | LOCATION OAKLEY | 6w on CRD |            |                    | COUNTY Thomas | STATE KS          |
| OLD OR NEW (CIRCLE ONE) <input checked="" type="radio"/> NEW <input type="radio"/> OLD |             |                 |           |            |                    |               |                   |

|                          |               |
|--------------------------|---------------|
| CONTRACTOR W & W         | OWNER         |
| TYPE OF JOB SURFACE      |               |
| HOLE SIZE 12 1/8         | T.D. 344      |
| CASING SIZE 8 1/2        | DEPTH 343     |
| TUBING SIZE              | DEPTH         |
| DRILL PIPE               | DEPTH         |
| TOOL                     | DEPTH         |
| PRES. MAX.               | MINIMUM       |
| MEAS. LINE               | SHOE JOINT    |
| CEMENT LEFT IN CSG. 20'  |               |
| PERFS                    |               |
| DISPLACEMENT 20 1/2 bbls |               |
| EQUIPMENT                |               |
| PUMP TRUCK #             | CEMENTER Bill |
|                          | HELPER JASON  |
| BULK TRUCK #             | DRIVER        |
| BULK TRUCK #             | DRIVER        |

|                           |   |
|---------------------------|---|
| CEMENT AMOUNT ORDERED     |   |
| 2500LBS 80/20 3% CC 2% GL |   |
| COMMON                    | @ |
| POZMIX                    | @ |
| GEL                       | @ |
| CHLORIDE                  | @ |
| ASC                       | @ |
| HANDLING                  | @ |
| MILEAGE                   | @ |
| TOTAL                     |   |

REMARKS:

Run 8 hrs of 8" spot c313  
 cent. w/ 2500 lbs cement  
 pump plug w/ 20 1/2 bbls of water  
 cent did cure  
 Thank,

SERVICE

|                   |   |
|-------------------|---|
| DEPTH OF JOB      |   |
| PUMP TRUCK CHARGE |   |
| EXTRA FOOTAGE     | @ |
| MILEAGE           | @ |
| MANIFOLD          | @ |
| TOTAL             |   |

CHARGE TO: EIK Energy Holding

STREET \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

PLUG & FLOAT EQUIPMENT

Global Oil Field Services, LLC  
 You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

|       |   |
|-------|---|
|       | @ |
|       | @ |
|       | @ |
|       | @ |
|       | @ |
| TOTAL |   |

PRINTED NAME \_\_\_\_\_

SIGNATURE *[Signature]*

SALES TAX (If Any) \_\_\_\_\_

TOTAL CHARGES \_\_\_\_\_

DISCOUNT \_\_\_\_\_ IF PAID IN 30 DAYS

Conservation Division  
266 N. Main St., Ste. 220  
Wichita, KS 67202-1513



Phone: 316-337-6200  
Fax: 316-337-6211  
<http://kcc.ks.gov/>

Shari Feist Albrecht, Chair  
Jay Scott Emler, Commissioner  
Pat Apple, Commissioner

Sam Brownback, Governor

January 16, 2018

Rebecca Hayes  
ELK Energy Holdings, LLC #35420  
2250 N. Rock Road, STE 118-107  
Wichita, KS 67226

Re: Lippelmann 1-14  
NW Sec. 14-T10s-R33w  
Thomas County, Kansas  
API# 15-193-20998-00-00

Dear Ms. Hayes,

The Kansas Corporation Commission has received your request for an exception to the Alternate II cementing requirements for the Lippelmann 1-14. From the request, staff acknowledges the well was not cemented to surface pursuant to K.A.R. 82-3-106.

According to the request, the well has 344 feet of 8 5/8" surface casing set with 250 sacks of cement circulated to surface and 4,714 feet of 5 1/2" production casing set with 175 sacks of cement. The bond log indicates cement was circulated from a depth of 2,635 feet to 430 feet with 425 sacks of cement. The base of fresh water is reported at 250 feet and the base of usable water is reported at 1,850 feet. The top of the Dakota Formation is at 1,550'.

After review of this matter by technical staff it was determined that the current construction of the well demonstrates that all fresh and usable water is protected. In accordance with K.A.R. 82-3-106(f) an exception is granted for the Alternate II cementing requirement for the Lippelmann 1-14 well.

Sincerely,

Ryan A. Hoffman  
Director

Cc: Case Morris, District 4 Supervisor  
Rene Stucky, Production Supervisor