



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1139058  
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: \_\_\_\_\_



1139058

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 <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  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: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
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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

<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <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> _____ <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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Form	ACO1 - Well Completion
Operator	K & B Norton Oil & Investments, LLC
Well Name	Fisher 8
Doc ID	1139058

Tops

Name	Top	Datum
Anhydrite	1364	+721
Topeka	3058	-973
Heebner	3288	-1203
Toronto	3307	-1222
Lansing	3331	-1246
Base Kansas City	3561	-1476
Arbuckle	3620	-1535
RTD	3700	-1616



## DRILL STEM TEST REPORT

Prepared For: **K & B Norton Oil Inv. LLC**

1209 W. Park Grove Dr.  
Manhattan KS 665030-2469

ATTN: Richard Bell

### **Fisher #1**

#### **28-11s-18w Ellis,KS**

Start Date: 2013.02.18 @ 04:00:00

End Date: 2013.02.18 @ 10:53:00

Job Ticket #: 51481                      DST #: 1

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

Printed: 2013.02.27 @ 10:39:14

K & B Norton Oil Inv. LLC  
28-11s-18w Ellis,KS  
Fisher #1  
DST # 1  
Arbuckle  
2013.02.18



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

K & B Norton Oil Inv. LLC  
1209 W. Park Grove Dr.  
Manhattan KS 66503-2469  
ATTN: Richard Bell

**28-11s-18w Ellis,KS**  
**Fisher #1**  
Job Ticket: 51481      **DST#: 1**  
Test Start: 2013.02.18 @ 04:00:00

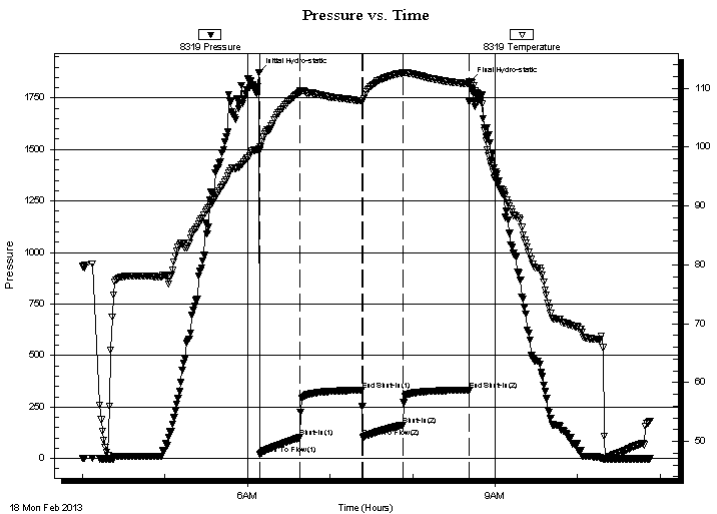
## GENERAL INFORMATION:

Formation: **Arbuckle**  
Deviated: No Whipstock: ft (KB)      Test Type: Conventional Bottom Hole (Initial)  
Time Tool Opened: 06:09:00      Tester: Cody Bloedorn  
Time Test Ended: 10:53:00      Unit No: 59  
**Interval: 3607.00 ft (KB) To 3628.00 ft (KB) (TVD)**      Reference Elevations: 2085.00 ft (KB)  
Total Depth: 3628.00 ft (KB) (TVD)      2080.00 ft (CF)  
Hole Diameter: 7.88 inches      Hole Condition: Fair      KB to GR/CF: 5.00 ft

**Serial #: 8319      Outside**  
Press @ Run Depth: 162.94 psig @ 3625.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2013.02.18      End Date: 2013.02.18      Last Calib.: 2013.02.18  
Start Time: 04:00:05      End Time: 10:52:59      Time On Btm: 2013.02.18 @ 06:08:30  
Time Off Btm: 2013.02.18 @ 08:42:00

**TEST COMMENT:** 30 - IF- 7" blow  
45 - IS- No return  
30 - FF- 5 1/2" blow  
45 - FS- No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1874.28	99.76	Initial Hydro-static
1	20.97	99.45	Open To Flow (1)
30	102.11	109.36	Shut-In(1)
75	331.43	107.84	End Shut-In(1)
76	104.56	107.95	Open To Flow (2)
105	162.94	112.62	Shut-In(2)
153	329.87	110.73	End Shut-In(2)
154	1829.17	111.08	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
310.00	OCMW, 20%M, 20%O, 60%W	2.28
124.00	OCM, 10%O, 90%M	1.11
30.00	GO, 20%G, 80%O	0.42

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

K & B Norton Oil Inv. LLC

**28-11s-18w Ellis,KS**

1209 W. Park Grove Dr.  
Manhattan KS 665030-2469

**Fisher #1**

Job Ticket: 51481

**DST#: 1**

ATTN: Richard Bell

Test Start: 2013.02.18 @ 04:00:00

## Tool Information

Drill Pipe:	Length: 3215.00 ft	Diameter: 3.80 inches	Volume: 45.10 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 404.00 ft	Diameter: 2.75 inches	Volume: 2.97 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 48000.00 lb
			<u>Total Volume: 48.07 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 44000.00 lb
Depth to Top Packer:	3607.00 ft			Final 44000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	21.00 ft			
Tool Length:	41.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3588.00	
Shut In Tool	5.00			3593.00	
Hydraulic tool	5.00			3598.00	
Packer	4.00			3602.00	20.00 Bottom Of Top Packer
Packer	5.00			3607.00	
Stubb	1.00			3608.00	
Perforations	17.00			3625.00	
Recorder	0.00	8166	Inside	3625.00	
Recorder	0.00	8319	Outside	3625.00	
Bullnose	3.00			3628.00	21.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>41.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

K & B Norton Oil Inv. LLC

**28-11s-18w Ellis,KS**

1209 W. Park Grove Dr.  
Manhattan KS 665030-2469

**Fisher #1**

Job Ticket: 51481

**DST#: 1**

ATTN: Richard Bell

Test Start: 2013.02.18 @ 04:00:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.37 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1700.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
310.00	OCMW, 20%M, 20%O, 60%W	2.277
124.00	OCM, 10%O, 90%M	1.111
30.00	GO, 20%G, 80%O	0.421

Total Length: 464.00 ft      Total Volume: 3.809 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

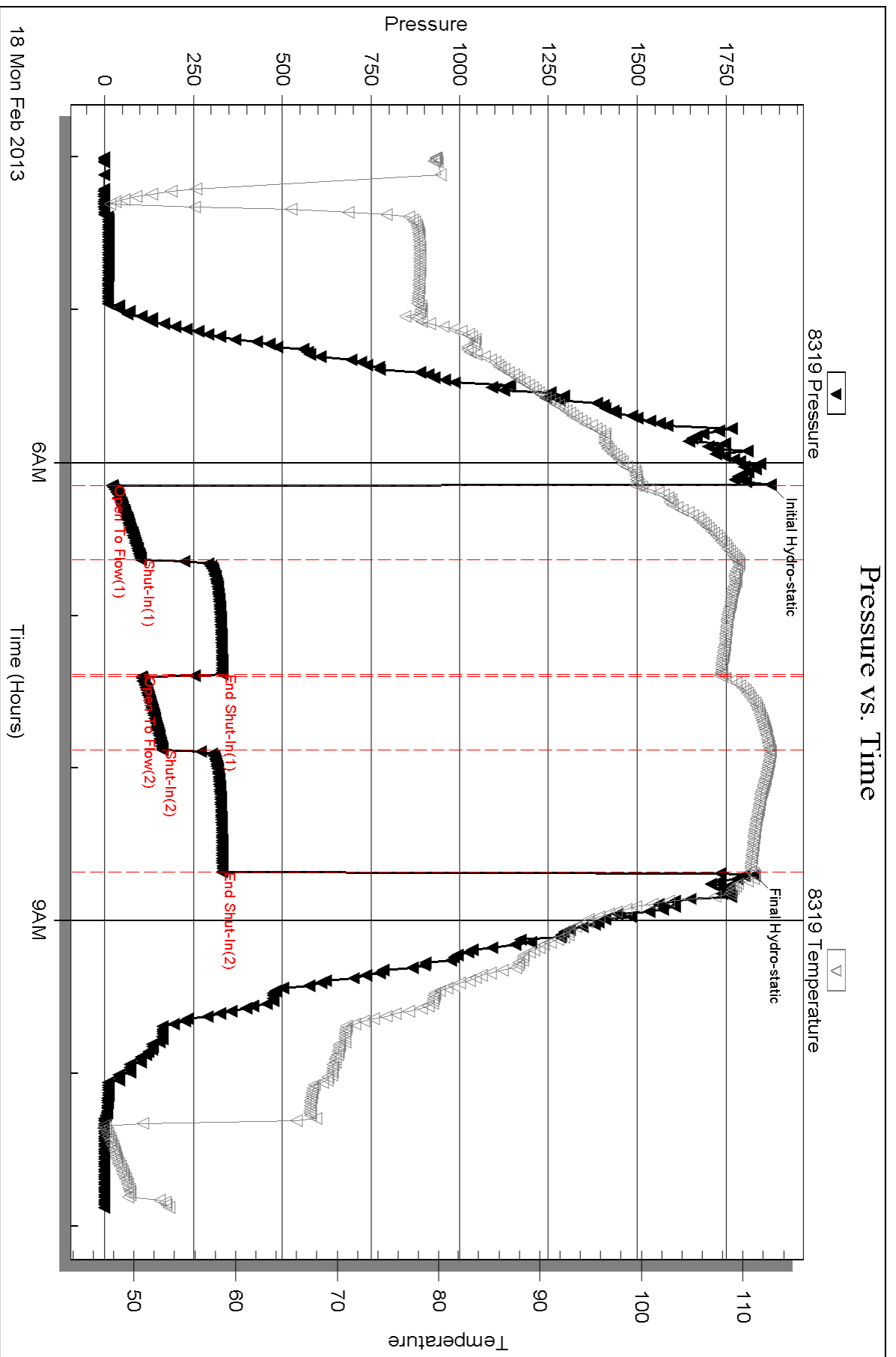
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





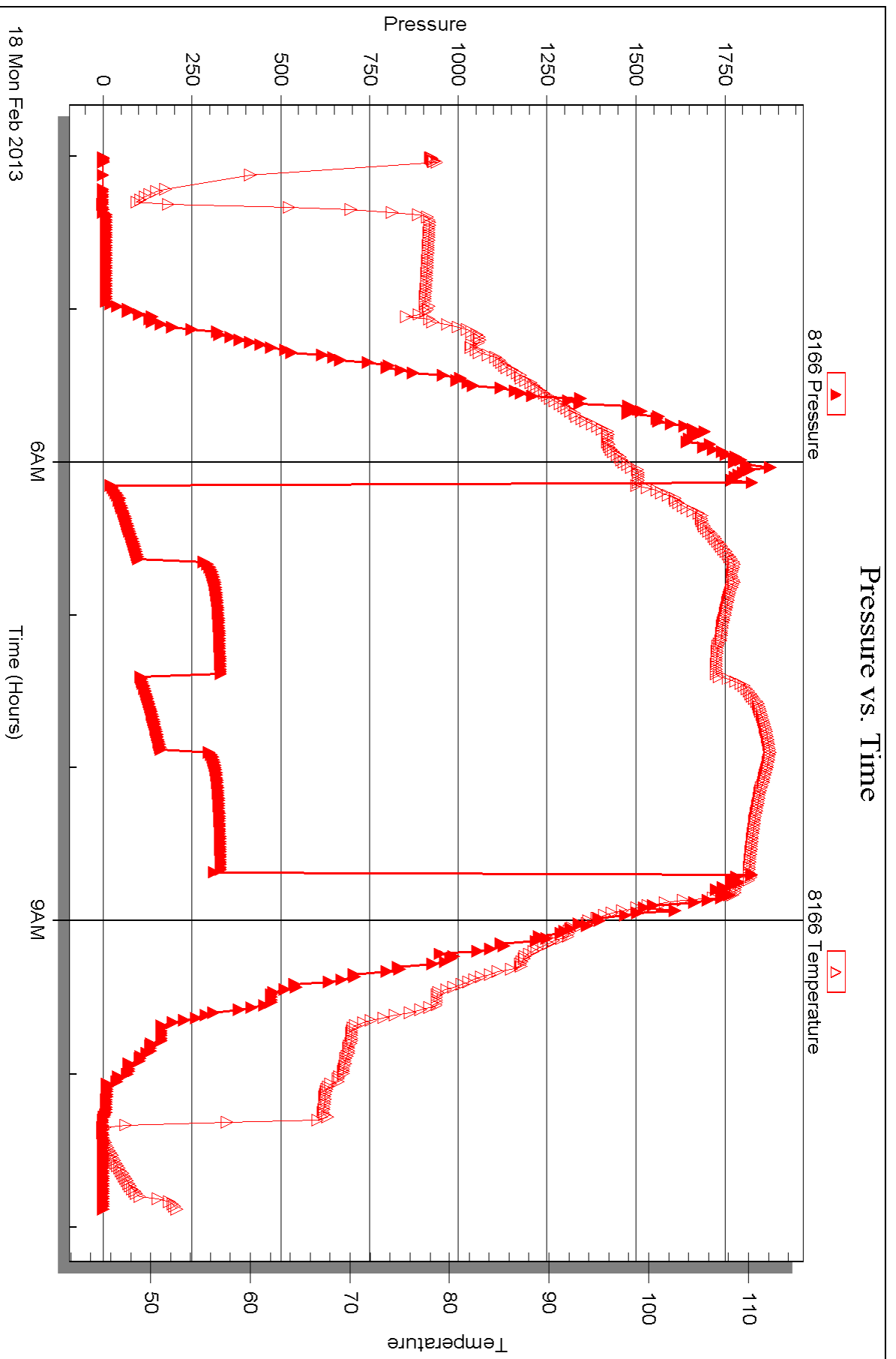
Serial #: 8166

Inside

K & B Norton Oil Inv. LLC

Fisher #1

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 51481

Printed: 2013.02.27 @ 10:39:18



## DRILL STEM TEST REPORT

Prepared For: **K & B Norton Oil Inv. LLC**

1209 W. Park Grove Dr.  
Manhattan KS 665030-2469

ATTN: Richard Bell

### **Fisher #1**

#### **28-11s-18w Ellis,KS**

Start Date: 2013.02.18 @ 19:07:00

End Date: 2013.02.19 @ 02:05:00

Job Ticket #: 51481                      DST #: 2

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

Printed: 2013.02.27 @ 10:38:37

K & B Norton Oil Inv. LLC  
28-11s-18w Ellis,KS  
Fisher #1  
DST # 2  
Arbuckle  
2013.02.18



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

K & B Norton Oil Inv. LLC  
1209 W. Park Grove Dr.  
Manhattan KS 665030-2469  
ATTN: Richard Bell

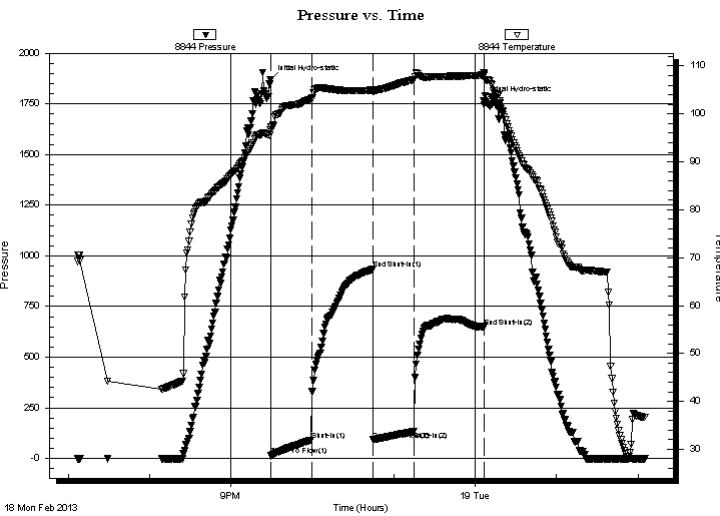
**28-11s-18w Ellis,KS**  
**Fisher #1**  
Job Ticket: 51481      **DST#: 2**  
Test Start: 2013.02.18 @ 19:07:00

## GENERAL INFORMATION:

Formation: **Arbuckle**  
Deviated: No Whipstock:                      ft (KB)  
Time Tool Opened: 21:29:40  
Time Test Ended: 02:05:00  
Interval: **3628.00 ft (KB) To 3652.00 ft (KB) (TVD)**  
Total Depth: 3652.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Reference Elevations: 2085.00 ft (KB)  
2080.00 ft (CF)  
KB to GR/CF: 5.00 ft  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Jim Svaty  
Unit No: 39

**Serial #: 8844      Outside**  
Press @ RunDepth: 133.30 psig @ 3649.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2013.02.18      End Date: 2013.02.19      Last Calib.: 2013.02.19  
Start Time: 19:07:05      End Time: 02:05:40      Time On Btm: 2013.02.18 @ 21:29:30  
Time Off Btm: 2013.02.19 @ 00:06:30

**TEST COMMENT:** 30-IFP- BOB in 22 min.  
45-ISIP- No Return  
30-FFP- Surface Blow in 2 min. Building to 6"  
45-FSIP- No Return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1871.93	97.39	Initial Hydro-static
1	13.53	96.69	Open To Flow (1)
30	90.16	103.14	Shut-In(1)
75	934.60	104.97	End Shut-In(1)
76	91.98	104.67	Open To Flow (2)
106	133.30	107.22	Shut-In(2)
157	650.49	108.11	End Shut-In(2)
157	1764.02	108.65	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
278.00	WCM 40%w 60% m Show of Oil	2.04

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

K & B Norton Oil Inv. LLC

**28-11s-18w Ellis,KS**

1209 W. Park Grove Dr.  
Manhattan KS 665030-2469

**Fisher #1**

Job Ticket: 51481

**DST#: 2**

ATTN: Richard Bell

Test Start: 2013.02.18 @ 19:07:00

## Tool Information

Drill Pipe:	Length: 3215.00 ft	Diameter: 3.80 inches	Volume: 45.10 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 404.00 ft	Diameter: 2.75 inches	Volume: 2.97 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 45000.00 lb
			<u>Total Volume: 48.07 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial 40000.00 lb
Depth to Top Packer:	3628.00 ft			Final 42000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	24.00 ft			
Tool Length:	44.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Change Over Sub	1.00			3609.00	
Shut In Tool	5.00			3614.00	
Hydraulic tool	5.00			3619.00	
Packer	4.00			3623.00	20.00 Bottom Of Top Packer
Packer	5.00			3628.00	
Stubb	1.00			3629.00	
Perforations	20.00			3649.00	
Recorder	0.00	8372	Inside	3649.00	
Recorder	0.00	8844	Outside	3649.00	
Bullnose	3.00			3652.00	24.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>44.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

K & B Norton Oil Inv. LLC

**28-11s-18w Ellis,KS**

1209 W. Park Grove Dr.  
Manhattan KS 665030-2469

**Fisher #1**

Job Ticket: 51481

**DST#: 2**

ATTN: Richard Bell

Test Start: 2013.02.18 @ 19:07:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

40000 ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1800.00 ppm

Filter Cake: 4.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
278.00	WCM 40%w 60%m Show of Oil	2.042

Total Length: 278.00 ft      Total Volume: 2.042 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .600 @ 20

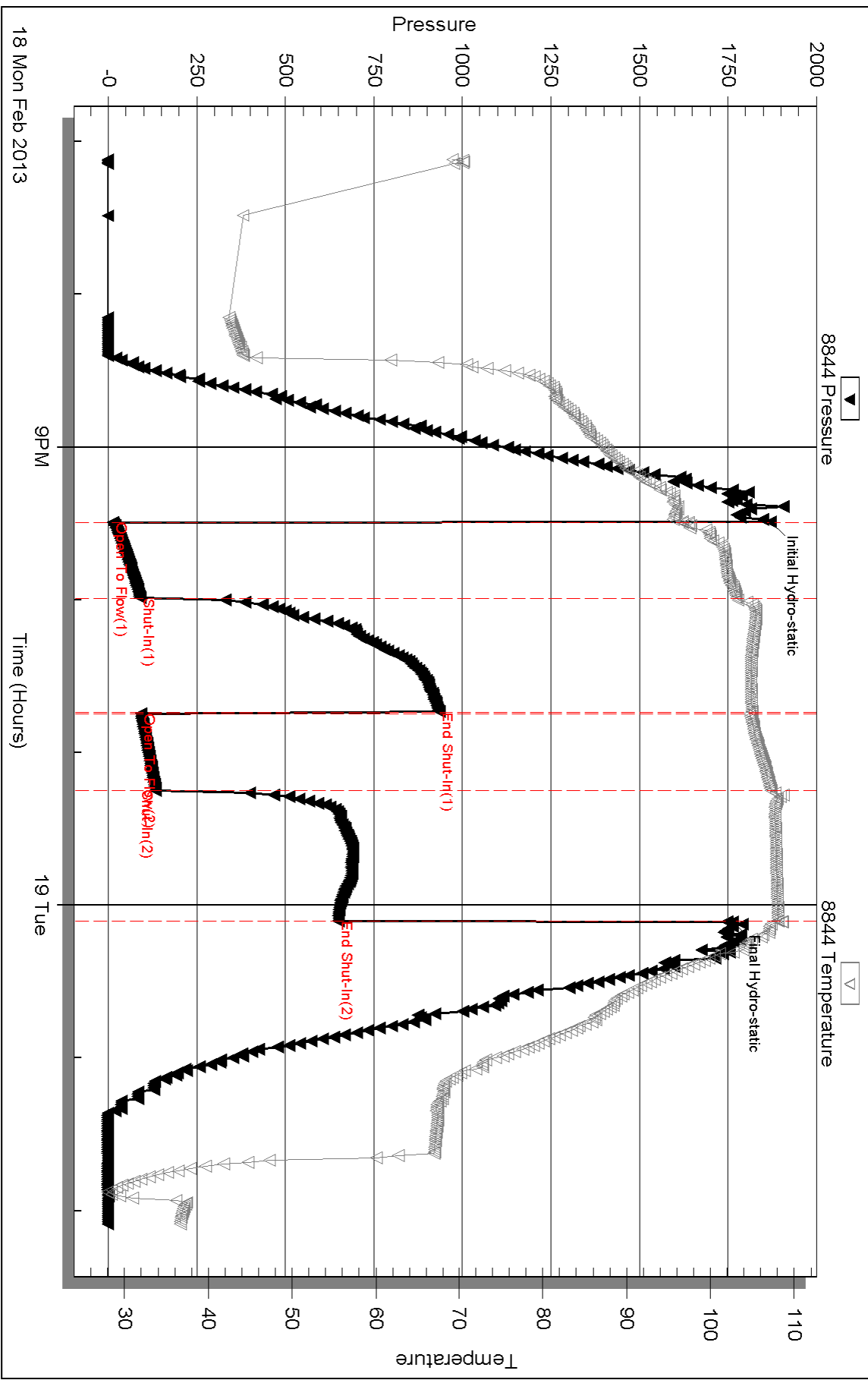
Serial #: 8844

Outside K & B Norton Oil Inv. LLC

Fisher #1

DST Test Number: 2

### Pressure vs. Time



Triobite Testing, Inc

Ref. No: 51481

Printed: 2013.02.27 @ 10:38:40



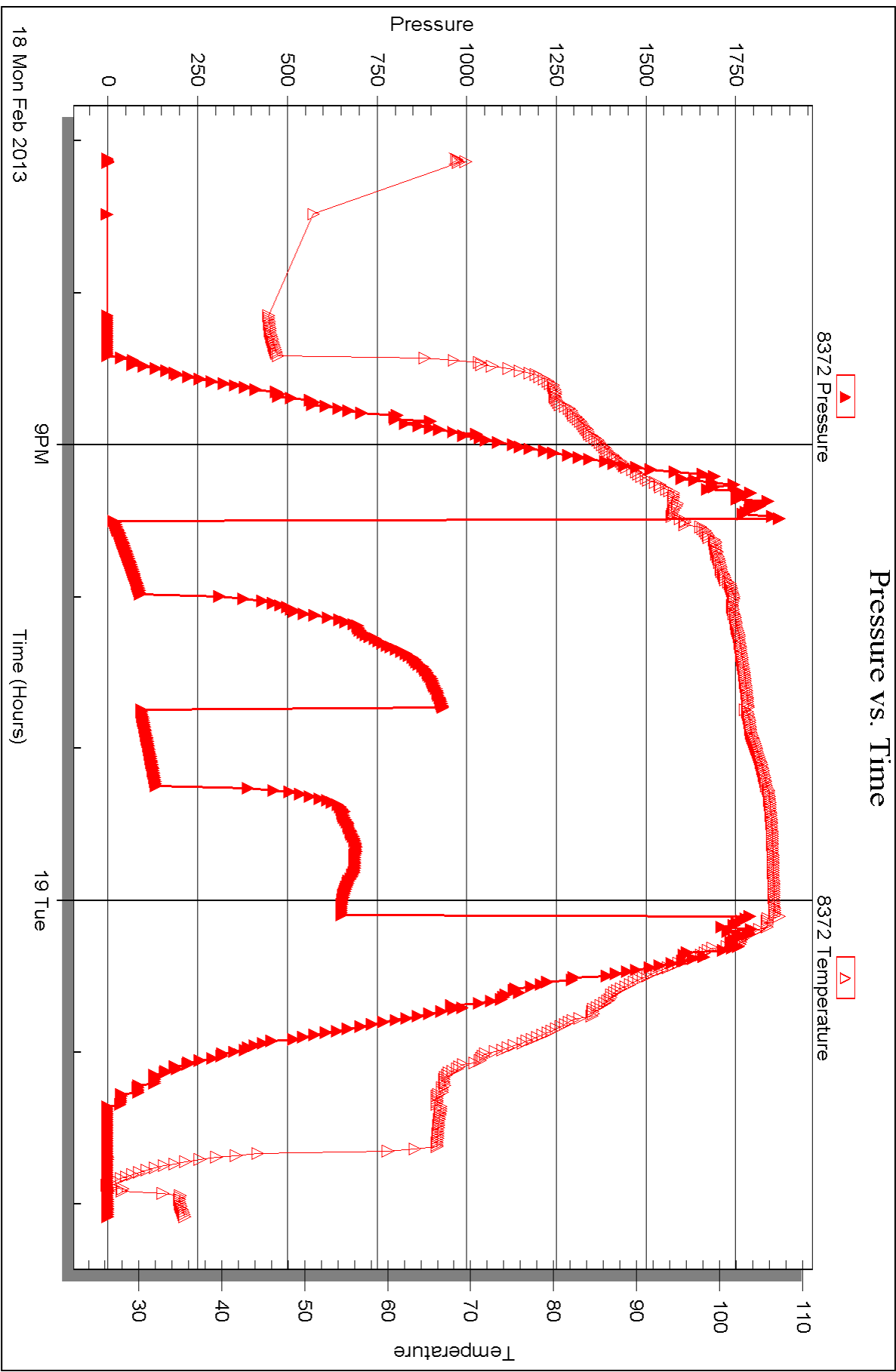
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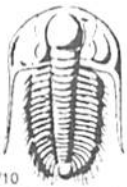
Inside

K & B Norton Oil Inv. LLC

Fisher #1

DST Test Number: 2





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 51594

Well Name & No. Fisher #1 Test No. 1 Date 2-18-13  
 Company K & B Norbn Oil & Investments LLC Elevation 2085 KB 2080 GL  
 Address 1209 W. Park Grove Dr. Manhattan KS, 66503-2469  
 Co. Rep / Geo. Richard Bell Rig Shields  
 Location: Sec. 28 Twp. 11s Rge. 18w Co. Ellis State KS

Interval Tested 3607 - 3628 Zone Tested Arbuckle  
 Anchor Length 21' Drill Pipe Run 3215' Mud Wt. 9.0  
 Top Packer Depth 3602 Drill Collars Run ~~3602~~ Vis 54  
 Bottom Packer Depth 3607 Wt. Pipe Run 404' WL 7.4  
 Total Depth 3628 Chlorides 1700 ppm System LCM —  
 Blow Description IF - 7" blow  
ISI - No blow back  
FF - 5 1/2" blow  
FSI - No return

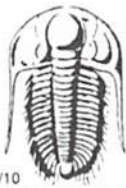
Rec	Feet of	%gas	%oil	%water	%mud
<u>310</u>	<u>OC MW</u>	<u>20</u>	<u>60</u>	<u>20</u>	
<u>124</u>	<u>OCM</u>	<u>10</u>		<u>90</u>	
<u>30</u>	<u>60</u>	<u>20</u>	<u>80</u>		

Rec Total 464' BHT 110° Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>1874</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>1:15pm</u>
(B) First Initial Flow <u>20</u>	<input type="checkbox"/> Jars	T-Started <u>4:00am</u>
(C) First Final Flow <u>102</u>	<input type="checkbox"/> Safety Joint	T-Open <u>6:10am</u>
(D) Initial Shut-In <u>331</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>8:40am</u>
(E) Second Initial Flow <u>104</u>	<input checked="" type="checkbox"/> Hourly Standby <u>.75h 75h</u>	T-Out <u>11:00am</u>
(F) Second Final Flow <u>162</u>	<input checked="" type="checkbox"/> Mileage <u>28 RT</u> 43.40	Comments
(G) Final Shut-In <u>329</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1829</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>45</u>	<input type="checkbox"/> Day Standby	Total <u>1268.40</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1268.40</u>	

Approved By \_\_\_\_\_ Our Representative Cody Bloodom

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 51481

4/10

Well Name & No. Fisher #1 Test No. 2 Date 2-18-13  
 Company K+B Norton Oil Inv, LLC Elevation 2085 KB 2080 GL  
 Address 1209 W. Park Grove Dr. Manhattan Ks, 66503  
 Co. Rep / Geo. Rich Bell Rig Shields  
 Location: Sec. 28 Twp. 11<sup>s</sup> Rge. 18<sup>w</sup> Co. Ellis State Ks

Interval Tested 3628-3652 Zone Tested Arbuckle  
 Anchor Length 24 Drill Pipe Run 3215 Mud Wt. 9.2  
 Top Packer Depth 3623 Drill Collars Run 0 Vis 56  
 Bottom Packer Depth 3628 Wt. Pipe Run 404 WL 7.8  
 Total Depth 3652 Chlorides 1800 ppm System LCM 4

Blow Description IFP - Bob in 22 min  
ISIP - No Return  
FFP - Surface Blow in 2 min Building to 6 in.  
FSIP - No Return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>278</u>	<u>WCM Show of Oil</u>		<u>40</u>	<u>60</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 278 BHT 108 Gravity \_\_\_\_\_ API RW 1600 @ 20 °F Chlorides 40000 ppm

(A) Initial Hydrostatic 1871  Test 1150 T-On Location 19:00  
 (B) First Initial Flow 13  Jars T-Started 19:07  
 (C) First Final Flow 90  Safety Joint T-Open 21:29  
 (D) Initial Shut-In 934  Circ Sub T-Pulled 23:59  
 (E) Second Initial Flow 91  Hourly Standby T-Out 02:05  
 (F) Second Final Flow 133  Mileage 43.40 Comments \_\_\_\_\_  
 (G) Final Shut-In 650  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1764  Straddle \_\_\_\_\_

Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Initial Open 30  Shale Packer \_\_\_\_\_  
 Initial Shut-In 45  Extra Packer \_\_\_\_\_  
 Final Flow 30  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Final Shut-In 45  Day Standby \_\_\_\_\_ Total 1193.40  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1193.40

Approved By \_\_\_\_\_ Our Representative [Signature]

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



PO Box 93999  
Southlake, TX 76092

Voice: (817) 546-7282  
Fax: (817) 246-3361

# INVOICE

Invoice Number: 134842  
Invoice Date: Feb 13, 2013  
Page: 1

<b>Bill To:</b>
K & B Norton Oil & Inv. LLC 1209 W. Park Grove Dr. Manhattan, KS 66503-2469

Now Includes:



Customer ID	Field Ticket #	Payment Terms	
Norton	54152	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS2-01	Russell	Feb 13, 2013	3/15/13

Quantity	Item	Description	Unit Price	Amount
185.00	MAT	Fisher #8 Class A Common	17.90	3,311.50
4.00	MAT	Gel	23.40	93.60
7.00	MAT	Chloride	64.00	448.00
173.51	SER	Cubic Feet	2.48	430.31
94.92	SER	Ton Mileage	2.60	246.79
1.00	SER	Surface	1,512.25	1,512.25
12.00	SER	Pump Truck Mileage	7.70	92.40
12.00	SER	Light Vehicle Mileage	4.40	52.80
1.00	EQP	8.5/8 Rubber Plug	131.04	131.04
1.00	CEMENTER	Tony Pfannenstiel		
1.00	CEMENTER	Bobby Smith		
1.00	EQUIP OPER	Kevin Rupp		
1.00	OPER ASSIST	Nathan Donner		

Subtotal	6,318.69
Sales Tax	251.00
Total Invoice Amount	6,569.69
Payment/Credit Applied	
<b>TOTAL</b>	<b>6,569.69</b>

ALL PRICES ARE NET, PAYABLE  
30 DAYS FOLLOWING DATE OF  
INVOICE. 1 1/2% CHARGED  
THEREAFTER. IF ACCOUNT IS  
CURRENT, TAKE DISCOUNT OF

\$ 1,674.45

ONLY IF PAID ON OR BEFORE

Mar 10, 2013

# ALLIED OIL & GAS SERVICES, LLC 054152

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31  
RUSSELL, KANSAS 67665

SERVICE POINT:

Russell

DATE <u>2-13-13</u>	SEC. <u>28</u>	TWP. <u>11</u>	RANGE <u>18</u>	CALLED OUT	ON LOCATION	JOB START <u>5:30 AM</u>	JOB FINISH <u>6:00 AM</u>
LEASE <u>Fisher</u>	WELL # <u>F</u>	LOCATION <u>Hays, KS</u>			COUNTY <u>Ellis</u>	STATE <u>KS</u>	
OLD OR (NEW) (Circle one)		<u>11m to Dean Hill rd 3/4 mile</u>					

CONTRACTOR <u>Shields Drilling</u>	OWNER
TYPE OF JOB <u>SURFACE</u>	
HOLE SIZE <u>8 5/8</u>	T.D. <u>219.81'</u>
CASING SIZE	DEPTH
TUBING SIZE	DEPTH
DRILL PIPE	DEPTH
TOOL	DEPTH
PRES. MAX	MINIMUM
MEAS. LINE	SHOE JOINT
CEMENT LEFT IN CSG.	
PERFS.	
DISPLACEMENT <u>13.04 bbl @ 14.20</u>	

CEMENT AMOUNT ORDERED	<u>185 sk "H"</u>
	<u>31.00 21.00</u>

COMMON	<u>185 sk</u>	@ <u>17.90</u>	<u>\$3311.50</u>
POZMIX		@	
GEL	<u>4 sk</u>	@ <u>23.40</u>	<u>\$93.60</u>
CHLORIDE	<u>7 sk</u>	@ <u>64.00</u>	<u>\$448.00</u>
ASC		@	
		@	
		@	
		@	
		@	
		@	
		@	
		@	
HANDLING	<u>173.51</u>	@ <u>2.48</u>	<u>\$430.31</u>
MILEAGE	<u>94.92</u>	@ <u>2.60</u>	<u>\$246.79</u>
			TOTAL <u>\$4530.20</u>

EQUIPMENT

PUMP TRUCK # <u>409</u>	CEMENTER <u>Tony P.</u>	HELPER <u>Kevin K.</u>
BULK TRUCK # <u>410</u>	DRIVER <u>Nathan D.</u>	
BULK TRUCK #	DRIVER	

REMARKS:

\* Pump moved to circulate to surface.  
 \* Pump cement @ 219.81' = 185 sk to 28.19 sk start.  
 \* Displace w 13.04 bbl cement to surface.

SERVICE

DEPTH OF JOB	<u>219.81'</u>
PUMP TRUCK CHARGE	<u>\$1,512.25</u>
EXTRA FOOTAGE	@
MILEAGE Heavy 12m	@ <u>7.70</u> <u>\$92.40</u>
MANIFOLD Light 12m	@ <u>4.40</u> <u>\$52.80</u>
	@
	@
TOTAL <u>\$1,657.45</u>	

CHARGE TO: K&B Norton Oil

STREET \_\_\_\_\_

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

PLUG & FLOAT EQUIPMENT

1x 7/8" rubber plug	@	<u>\$131.04</u>
	@	
	@	
	@	
	@	
TOTAL <u>\$131.04</u>		

To: Allied Oil & Gas 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.

PRINTED NAME Thomas S Engel

SIGNATURE Thomas S Engel

SALES TAX (if Any)	<u>2.57</u>
TOTAL CHARGES	<u>\$4,318.69</u>
DISCOUNT	<u>1674.45</u> IF PAID IN 30 DAYS

Thank you for your BS 2-13  
 good job net 4644.24

PO Box 93999  
Southlake, TX 76092

Voice: (817) 546-7282  
Fax: (817) 246-3361

# INVOICE

Invoice Number: 134950  
Invoice Date: Feb 20, 2013  
Page: 1

<b>Bill To:</b>
K & B Norton Oil Inv. LLC 1209 W Park Grove Dr Manhattan, KS 66503-2469

Now Includes:



Customer ID	Field Ticket #	Payment Terms	
K&B	56872	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS2-02	Russell	Feb 20, 2013	3/22/13

Quantity	Item	Description	Unit Price	Amount
		Fisher #8		
228.00	MAT	Class A Common	17.90	4,081.20
152.00	MAT	Pozmix	9.35	1,421.20
13.00	MAT	Gel	23.40	304.20
150.00	MAT	ASC	20.90	3,135.00
750.00	MAT	Gilsonite	0.98	735.00
100.00	MAT	Flo Seal	2.97	297.00
24.00	MAT	Mud Flush	58.70	1,408.80
599.10	SER	Cubic Feet	2.48	1,485.77
305.58	SER	Ton Mileage	2.60	794.51
1.00	SER	Long String D V	2,558.75	2,558.75
12.00	SER	Pump Truck Mileage	7.70	92.40
12.00	SER	Light Vehicle Mileage	4.40	52.80
1.00	EQP	5.5 Flex Latch Fown	324.09	324.09
1.00	EQP	5.5 Float Shoe	475.02	475.02
1.00	EQP	5.5 D V Tool	5,335.26	5,335.26
2.00	EQP	5.5 Basket	394.29	788.58
8.00	EQP	5.5 Centralizer	57.33	458.64
1.00	SER	Production -- Top Stage	2,406.25	2,406.25
1.00	CEMENTER	Robert Yakubovich		
1.00	CEMENTER	Glenn Ginther		

Subtotal	Continued
Sales Tax	Continued
Total Invoice Amount	Continued
Payment/Credit Applied	
<b>TOTAL</b>	<b>Continued</b>

ALL PRICES ARE NET, PAYABLE  
30 DAYS FOLLOWING DATE OF  
INVOICE. 1 1/2% CHARGED  
THEREAFTER. IF ACCOUNT IS  
CURRENT, TAKE DISCOUNT OF

\$ 8,787.90

ONLY IF PAID ON OR BEFORE  
Mar 17, 2013



PO Box 93999  
Southlake, TX 76092

Voice: (817) 546-7282  
Fax: (817) 246-3361

# INVOICE

Invoice Number: 134950  
Invoice Date: Feb 20, 2013  
Page: 2

**Bill To:**

K & B Norton Oil Inv. LLC  
1209 W Park Grove Dr  
Manhattan, KS 66503-2469

Now Includes:



Customer ID	Field Ticket #	Payment Terms	
K&B	56872	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS2-02	Russell	Feb 20, 2013	3/22/13

Quantity	Item	Description	Unit Price	Amount
1.00	CEMENTER	Bobby Smith		
1.00	EQUIP OPER	Woody O'Neil		
1.00	OPER ASSIST	Danny Sinner		
1.00	OPER ASSIST	Nathan Donner		

Subtotal	26,154.47
Sales Tax	1,182.13
Total Invoice Amount	27,336.60
Payment/Credit Applied	
<b>TOTAL</b>	<b>27,336.60</b>

ALL PRICES ARE NET, PAYABLE  
30 DAYS FOLLOWING DATE OF  
INVOICE. 1 1/2% CHARGED  
THEREAFTER. IF ACCOUNT IS  
CURRENT, TAKE DISCOUNT OF

\$ 8,787.90

ONLY IF PAID ON OR BEFORE

Mar 17, 2013

# ALLIED OIL & GAS SERVICES, LLC 056872

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31  
RUSSELL, KANSAS 67665

SERVICE POINT:

Russell KS

DATE <u>2-20-13</u>	SEC. <u>28</u>	TWP. <u>11</u>	RANGE <u>18</u>	CALLED OUT	ON LOCATION	JOB START <u>5:00 AM</u>	JOB FINISH <u>5:30 AM</u>
LEASE <u>Fisher</u>	WELL# <u>8</u>	LOCATION <u>Hays KS 11 N Wints</u>			COUNTY <u>Ellis</u>	STATE <u>KS</u>	
OLD OR <u>NEW</u> (Circle one)							

CONTRACTOR Shields

TYPE OF JOB Lang string D.V.

HOLE SIZE 7 7/8 T.D. 3700

CASING SIZE 5 1/2 15.5 DEPTH 3701.67

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL D.V. DEPTH 1380

PRES. MAX MINIMUM

MEAS. LINE SHOE JOINT 22.10

CEMENT LEFT IN CSG 22.10

PERFS.

DISPLACEMENT 8700 bbl 32 3/4 bbl

OWNER

CEMENT

AMOUNT ORDERED 150 ASC 5# Gilsonite/st  
380 60/40 4% gal 74 # 510  
1000 gal Mud-Flush

COMMON	<u>228</u>	@	<u>17.90</u>	<u>4081.20</u>
POZMIX	<u>152</u>	@	<u>9.35</u>	<u>1421.20</u>
GEL	<u>13</u>	@	<u>23.40</u>	<u>304.20</u>
CHLORIDE		@		
ASC	<u>150</u>	@	<u>20.90</u>	<u>3135.00</u>
Gilsonite	<u>15</u>	@	<u>0.98</u>	<u>735.00</u>
Flu seal	<u>100</u>	@	<u>2.97</u>	<u>297.00</u>
Mud Flush	<u>2.4</u>	@	<u>58.70</u>	<u>1408.80</u>
		@		
		@		
		@		
		@		
HANDLING	<u>599.10</u>	@	<u>2.48</u>	<u>1485.77</u>
MILEAGE	<u>305.58</u>	@	<u>2.60</u>	<u>794.51</u>
				TOTAL <u>13662.68</u>

EQUIPMENT 1/2

Bobs. + Glenn G

PUMP TRUCK CEMENTER Robert V

# 417 HELPER Woody O

BULK TRUCK

# 378 DRIVER Danny S

BULK TRUCK

# 481 DRIVER Nathan D

REMARKS:

ran 87j + of 5 1/2 15.5 csg circulate 1 hr  
mix 500 gal mud flush mix 150 ASC  
dis place 60 1/2 water 27 mud drop dart  
land plug at 1700# drop dart open tool  
mix 500 gal mud flush mix 30 sts in  
Kathak mix 15 sts in mouse hole mix 345  
sts 60/40 dis place 32 3/4 bbl of water  
land plug at

Thank you!!  
Zad stage

SERVICE

DEPTH OF JOB	<u>3700</u>
PUMP TRUCK CHARGE	<u>2558.75</u>
EXTRA FOOTAGE	@
MILEAGE	<u>12</u> <u>HVMI</u> @ <u>7.70</u> <u>92.40</u>
MANIFOLD	@
	<u>12</u> <u>LVMI</u> @ <u>4.40</u> <u>52.80</u>
	@ <u>2406.25</u>
TOTAL <u>5110.20</u>	

CHARGE TO: Kand B Worton Oil & Investment

STREET \_\_\_\_\_

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

PLUG & FLOAT EQUIPMENT

Flex-latchdown	@	<u>324.09</u>	<u>324.09</u>
Float shoe	@	<u>475.02</u>	<u>475.02</u>
D.V. tool	@	<u>5335.26</u>	<u>5335.26</u>
Basket	<u>2</u>	@	<u>394.29</u> <u>788.58</u>
centralicer	<u>8</u>	@	<u>57.33</u> <u>458.64</u>
TOTAL <u>7381.59</u>			

To: Allied Oil & Gas 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.

SALES TAX (If Any) 1182.13

TOTAL CHARGES 26154.47

DISCOUNT 8787.90 IF PAID IN 30 DAYS

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

SIGNATURE [Signature]

before tax 2-21 BS  
Net 17366.57



A.P.T.# 15-051-26462-00-00

**GEOLOGICAL REPORT**  
 DRILLING TIME AND SAMPLE LOG

COMPANY K+B Norton Oil & Investments, LLC  
 LEASE Fisher # 8  
 FIELD Riverview  
 LOCATION 2310' FSL + 2205' FEL  
 SEC 28 TWSP 11S RGE 18W  
 COUNTY Ellis STATE Kansas

ELEVATION  
 KB 2085'  
 DF 2083'  
 GL 2080'  
 Depths Measured From  
 Log KB Drilling KB

CONTRACTOR Shields Drlg. Co., Inc.  
 SPUD 2-12-13 COMP 2-19-13  
 SAMPLES SAVED FROM 3050' TO R.T.D.

CASING  
 Surface 8 5/8" @ 216'  
 Production 5 1/2"

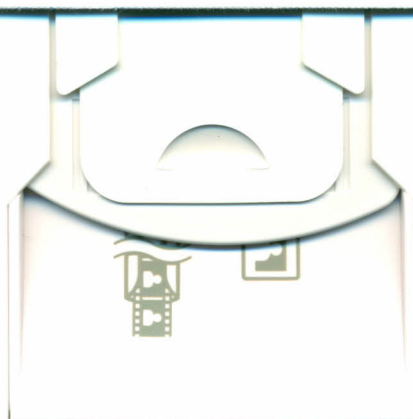
ELECTRIC LOGS  
Nabors

FORMATION TOPS AND STRUCTURAL POSITION

FORMATION	SAMPLE	E. LOG	DATUM	A	B	C	D
			<i>E. log</i>	●	●		
Anhydrite	1365	1364 +	721	+ 704	+ 719		
Base Anhydrite	1407	1406 +	679		+ 676		
Topeka	3058	3058 -	973	- 973	- 973		
Heebner	3288	3288 -	1203	- 1202	- 1203		
Toronto	3307	3307 -	1222	- 1223	- 1223		
Lansing	3331	3331 -	1246	- 1246	- 1246		
Base Kansas City	3561	3561 -	1476	- 1479	- 1481		
Arbuckle	3620	3620 -	1535	- 1525	- 1527		
Total Depth	3700	3701 -	1616	- 1620	- 1598		

REFERENCE WELLS

- A Kenmark Corp. Fisher #4, 1070' FSL + 2080' FEL Sec. 28-11S-18W
- B Kenmark Corp. Fisher #5, 700' FSL + 1420' FEL Sec. 28-11S-18W
- C
- D



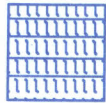
REMARKS

This well ran 8 to 10 feet lower on the Arbuckle top than the reference wells. It was decided production casing would be cemented to further test the Arbuckle. The following zones could be tested; 3644'-3646', 3636'-3638' and 3624'-3628'.

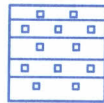
Richard B. Bell  
2-20-13

7502

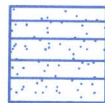
LEGEND



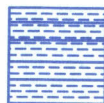
Anhydrite



Salt



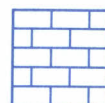
Sandstone



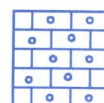
Shale



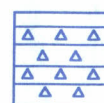
Carb sh



Limestone



Ool.Lime



Chert



Dolomite

DRILLING TIME IN MINUTES  
PER FOOT  
Rate of Penetration Decreases



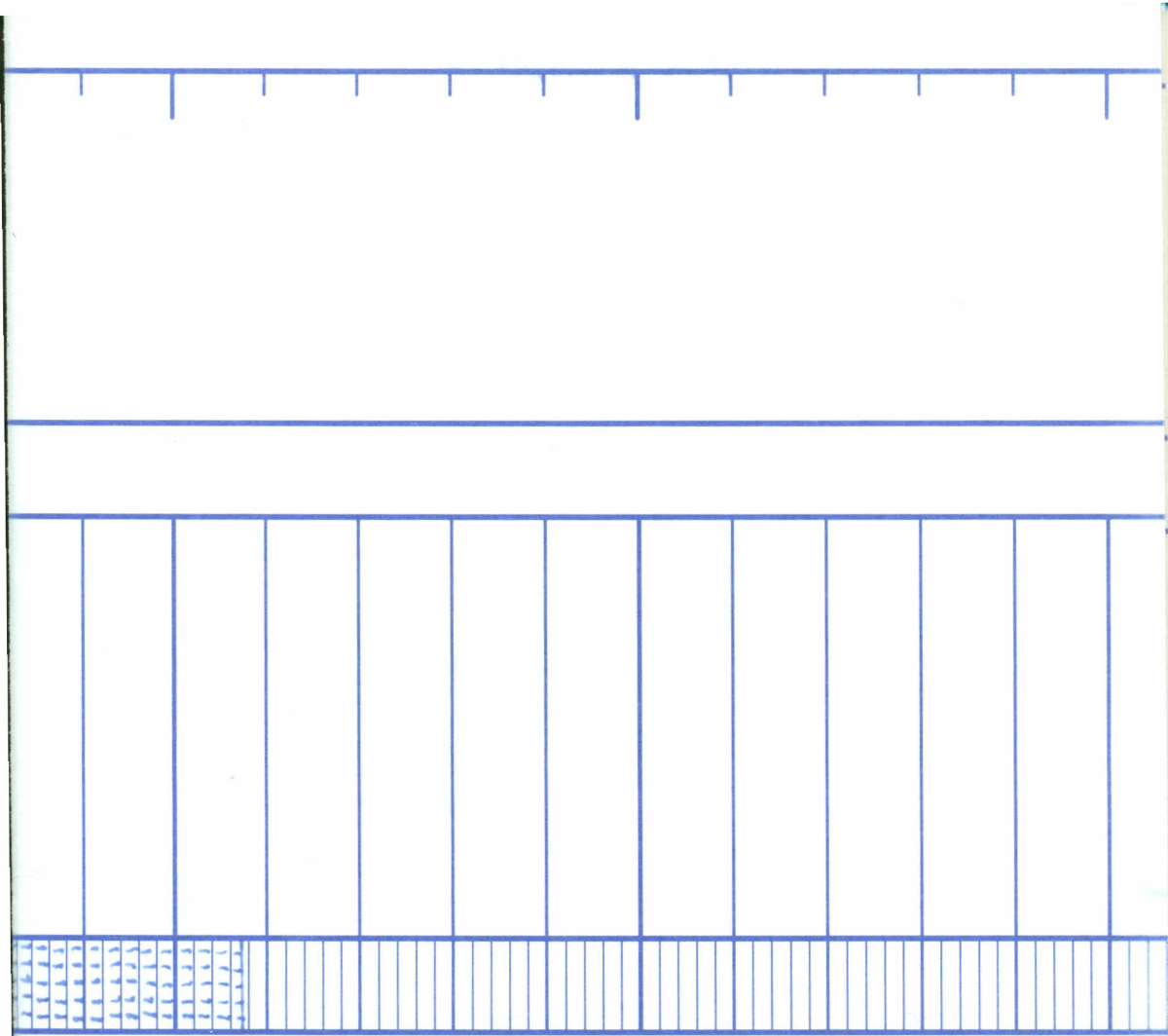
5" 10" 15" 20" 25"

LOG 7710

DEPTH	LITHOLOGY	SAMPLE DESCRIPTIONS	OIL SHOWS	REMARKS
1350				
60				
70				
80				

Anhydrite

Casing



90

1400

1410

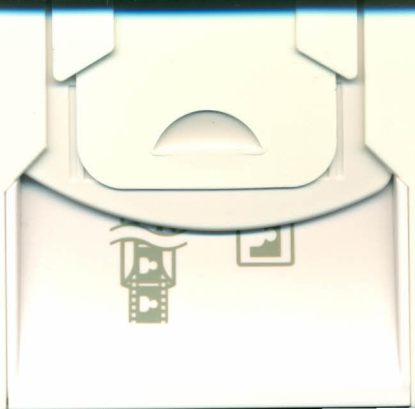
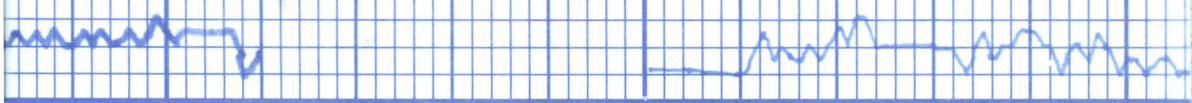
2900

20

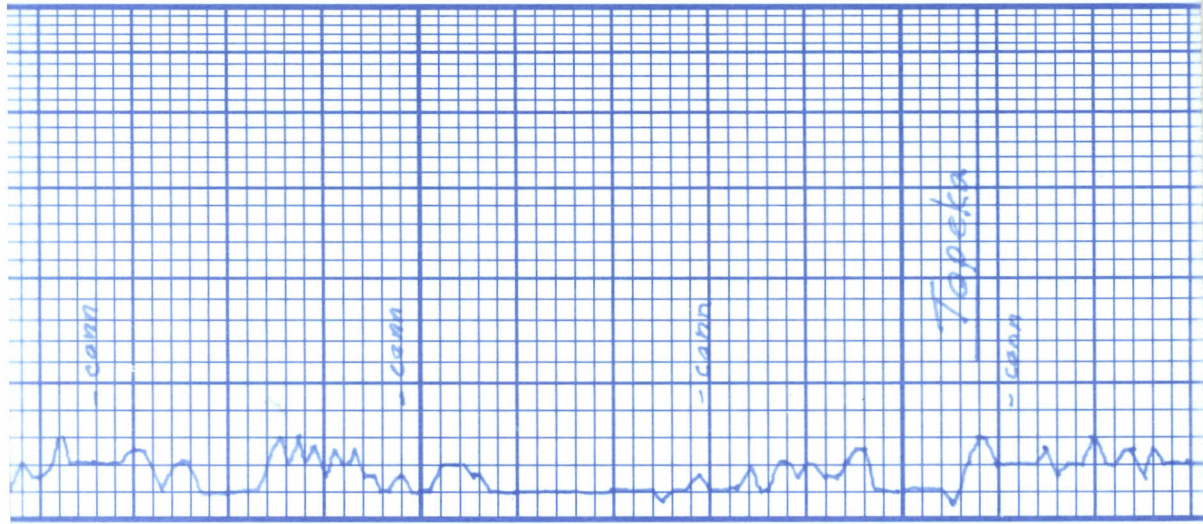
40

Base Anhydride

can



Samples are lagged  
good samples



15: wh-tn cky-fxn dns  
 15: wh-tn sli. swc. fxn frnkt  
 incln @ Lt. 0.5tn Tr fny dss  
 a gd cut ✓  
 15: tn-yed-gry cky-fxn-  
 sli-fsif dns. ✓  
 15: wh-tn-gry cky-fxn-sli-  
 fsif pr. pp @ Lt. Spth 0.5tn  
 fr cut on crushing N.F.O.  
 No odor  
 15: wh-tn-gry sli. cky-fsif  
 pp @ N.S.O.  
 15: aa Sh: gry  
 Tr Δ dtk gry  
 15: wh-tn cky-fxn-sli-fsif  
 dns N.S.O. No cut  
 15: wh-tn sli. cky-fsif pp @  
 N.S.O. Tr Δ tn fsif  
 Tr blk carb sh.  
 15: gry fsif dns  
 Sh: gry ✓  
 15: wh-tn-gry cky-fsif Tr  
 pr. pp @ Tr pr. Lt. 0.5tn  
 Lt. cut on crushing N.F.O.  
 No odor  
 15: wh-tn sli. cky-fxn  
 Tr swc friable N.S.O.  
 15: wh-gry

3100

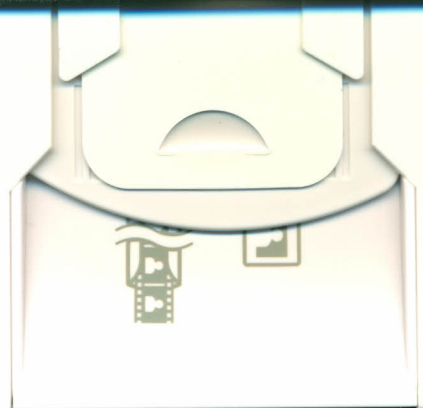
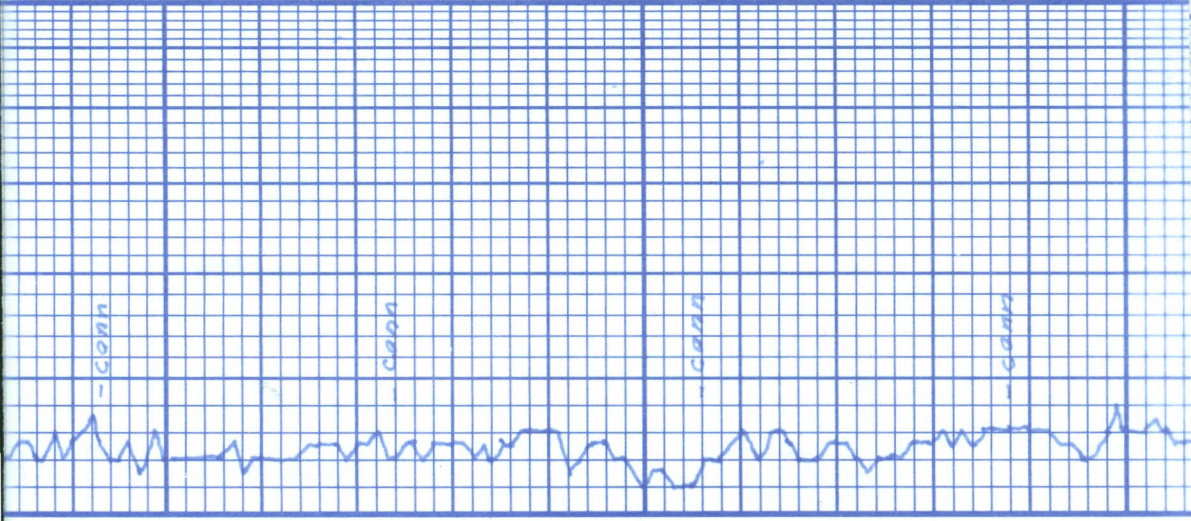
20

40

60

80

3200



Sh: gry

LS: wh to sl: cky - fcln dns  
LS: gry fslf dns Δ gry  
Tr: blk carb sh

||

LS: wh to sl: cky - fcln -  
Sl: fslf dns N.S.O. No cat

aa. Sh: gry, blk Δ wh: gry

LS: wh to sl: cky - fcln cpl.  
ps. sl: ool Lt. Spth ash  
cut on crushing N.F.O.

No odor

aa. Sh: gry, grn

LS: wh to gry sl: cky - fslf  
dns N.S.O.

LS: aa Tr Δ gry

Sh: blk carb

LS: wh - gry fslf dns  
Tr: sh: gry fslf.

Sh: gry, brn

LS: wh to fcln dns Tr ash.  
edge str N.F.O. No odor

Sh: gry, brn

20

40

60

80

3300

20

-can

-can

-can Heebner

Toronto

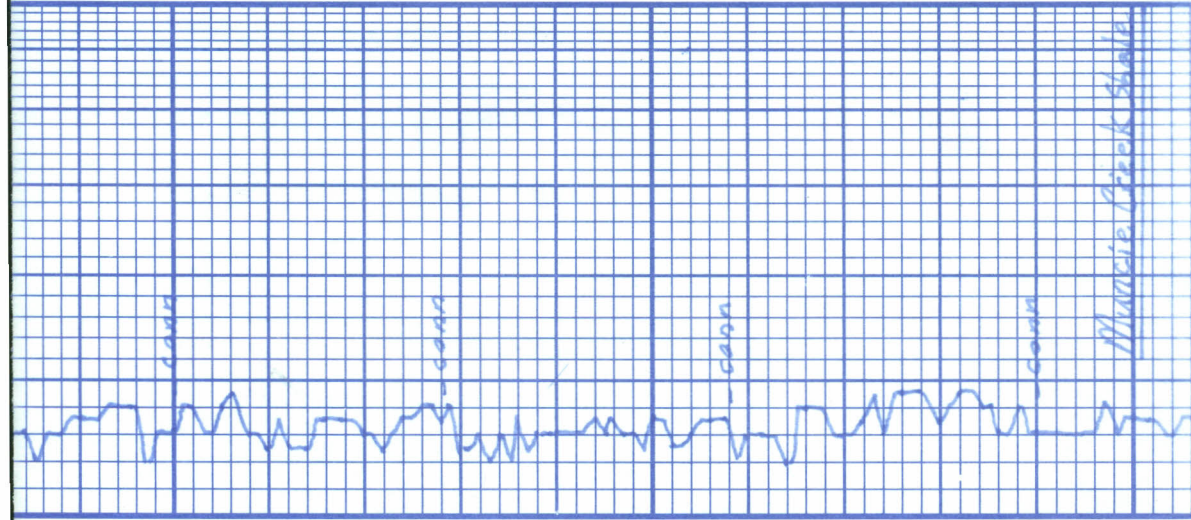
-can

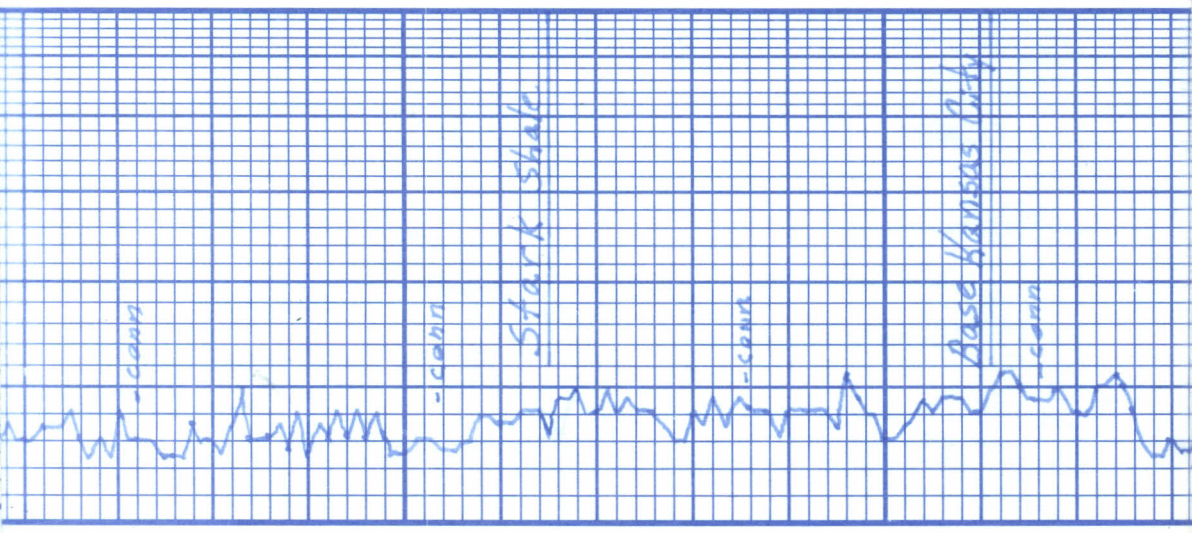
Langston

✓	LS: whtn incr. cky. fckn dms Tr. pr. kt. 0 stn N.F.O. No odor
✓	LS: gry fslf dms N.S.O. Sh: gry, brn
✓	LS: whtn cky. fckn sli. fslf Tr. impart 0 Tr. Spd 0 Stn N.F.O. No odor
✓	LS: whtn sli. cky. fckn sub- oil. sli. oil pr. pp 0 Tr. kt. 0 Stn N.F.O. v. ft. odor
✓	LS: whtn fckn dms blk spd asph 5tn N.F.O. No odor
✓	LS: whtn sli. cky. fckn sli. oil pp 0 Tr. Spd 0 Stn Tr pp F.O. v. ft. odor
✓	LS: whtn sli. cky. fckn Tr oil pp 0 - sli. vly 0 Tr. kt. 0 Stn Tr asph 5tn ft. odor
	LS: tn- gry fslf dms Tr asph SPS sli gry Δ tr Tr. blk carb st



'A' 40  
60  
'C'  
80  
'D'  
3400  
E / F  
20  
'G'  
40





60	'I'	LS: whtn sli:cky-faln Tr. Pr. pp φ Tr. pr. ft. spid 0.5th N.F.O. Δ wk
80	'J'	sh:brn, gry LS: whtn sli:cky-faln v. sli 0.01 pr. pp φ Tr. spid 0.5th N.F.O. ft. odor Δ wk
3500	'K'	LS: whtn cky-faln sli:ool pp φ Tr. isol. Vugs ft. 0.5th N.F.O. ft odor Δ tn
20	'L'	sh: gry, brn LS: whtn faln-sli:slf pp φ Tr. isol. vugs Tr. kt. spid 0.5th Tr. asph 5th ft. odor N.F.O.
40		a.a. sh:brn, gry same
60		LS: whtn sli:cky-faln-sli: fslf pr. pp φ Tr. kt. 0.5th N.F.O. No. odor sh:brn sli:cky, gry, grn
80		sh: gry, grn Tr. LS: whtn sh: brn, gry

Board 3629.38  
Strap 3629.20  
Diff. .18

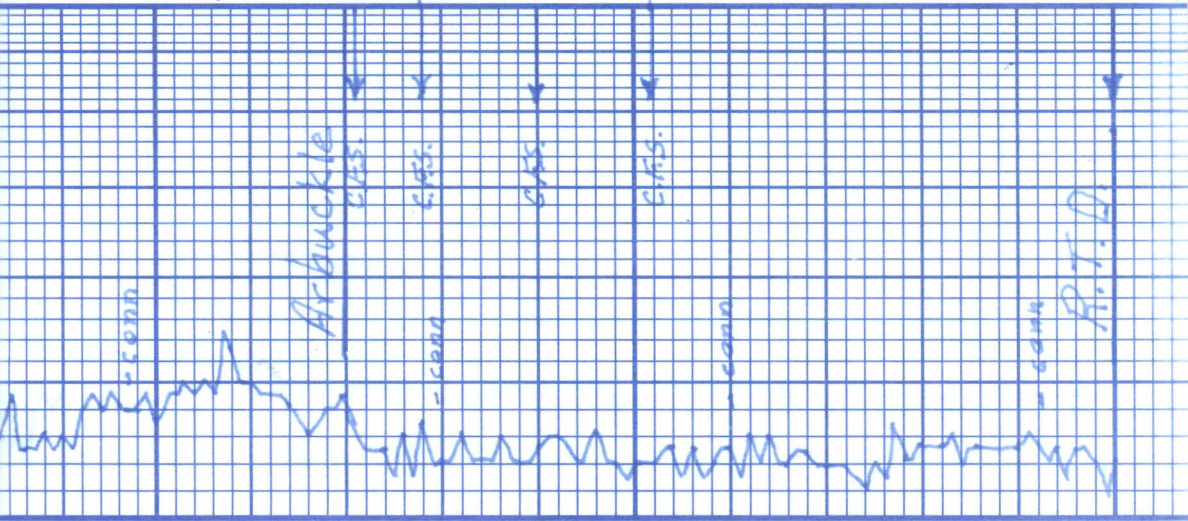


Trilobite Testing

DST#1 3607-3628  
 30-45-30-45  
 IF: wk blow incr. to 7"  
 ISI: No blow  
 FF: wk blow incr. to 5 1/2"  
 FSI: No blow  
 Recovery: 464' Total  
 30' CO 20% B, 80% O  
 124' OCM 102.0, 90% M  
 310' OCMW 20%, 20% M  
 60% W  
 Hyd: 1874-1829#  
 FP: 20-102/104-162#  
 BHP: 331-329#  
 BHTemp: 110°F.

DST#2 3628-3652  
 30-45-30-45  
 IF: B.O.B. in 22 min.  
 ISI: No blow  
 FF: wk blow incr. to 6"  
 FSI: No blow  
 Recovery: 278' WLM  
 sli: Show oil  
 40% M 60% W  
 Hyd: 1871-1764#  
 FP: 13-90/91-133#  
 BHP: 934-650#  
 BHTemp: 108°F  
 Chlorides: 49,000ppm

LS: aa. incr. cky dng sly wh. to - ye.	Sh: grey, brn
XTY fcl + brn ls: wh. to fcln - f. s. l. s. pr pp φ Tr asph 5gr	Sh: Turq. waxy
Dol: tn fcln - mxln inxln φ Kt. O Sat. pp f. O. g. odor	Dol: tn fcln - mxln inxln φ 5th Tr. Suc friable w/lt-fc O sat pp f. O. on crushing Tr. wh. - yel. odor
Dol: a.a. Tr. vgy φ Tr. oalc Sli: decr. O stn Δ wk	Dol: a.a. mostly barren
Dol: tn fcln - mxln Tr. vgy φ inxln φ decr. lt-f. O sat	Dol: aa. Sant. pcs. w/lt stn mostly barren
Dol: a.a. sli. asph spks	



Conservation Division  
Finney State Office Building  
130 S. Market, Rm. 2078  
Wichita, KS 67202-3802



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

Mark Sievers, Chairman  
Thomas E. Wright, Commissioner  
Shari Feist Albrecht, Commissioner

Sam Brownback, Governor

May 28, 2013

Ken Norton  
K & B Norton Oil & Investments, LLC  
1209 W. PARK GROVE DR.  
MANHATTAN, KS 66503-2469

Re: ACO1  
API 15-051-26462-00-00  
Fisher 8  
SE/4 Sec.28-11S-18W  
Ellis County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,  
Ken Norton



**COMPLETION  
& PRODUCTION  
SERVICES CO.**

**DUAL  
INDUCTION  
LOG**

Company K & B NORTON OIL & INVESTMENTS, LLC  
Well FISHER #8  
Field BEMIS-SHUTTS  
County ELLIS  
State KANSAS

Company K & B NORTON OIL & INVESTMENTS, LLC  
Well FISHER #8  
Field BEMIS-SHUTTS  
County ELLIS State KANSAS

Location: API # : 15-051-26462-0000  
2310' FSL & 2205' FEL  
E/2 - NW - NW - SE  
SEC 28 TWP 11S RGE 18W  
Permanent Datum GROUND LEVEL Elevation 2080  
Log Measured From KELLY BUSHING 5' A.G.L.  
Drilling Measured From KELLY BUSHING  
Other Services  
CDL/CNL  
MEL  
Elevation  
K.B. 2085  
D.F. 2083  
G.L. 2080

Date	2/19/13		
Run Number	ONE		
Depth Driller	3700		
Depth Logger	3701		
Bottom Logged Interval	3699		
Top Log Interval	0		
Casing Driller	8 5/8" @ 206		
Casing Logger	216		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 2000 PPM	
Density / Viscosity	9.2/52		
pH / Fluid Loss	10.0/8.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.75 @ 51F		
Rmt @ Meas. Temp	0.42 @ 51F		
Rmc @ Meas. Temp	0.68 @ 51F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	0.34 @ 113F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	113F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JEFF GRONIEWEG		
Witnessed By	RICHARD BELL		

<<< 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

THANK YOU FOR USING NABORS, HAYS, KS. (785) 628-6395  
DIRECTIONS:  
HAYS, KS - 10 MILES NORTH TO DEAN HILL RD - 3/4 MILE WEST & NORTH  
WEST INTO (APPROX. 200' BEFORE CATTLE GUARD)  
NOTE: WE HAD MEDIUM INDUCTION PROBLEMS, BUT DID NOT RUN ANOTHER  
TOOL AS PER CUSTOMERS ORDERS.

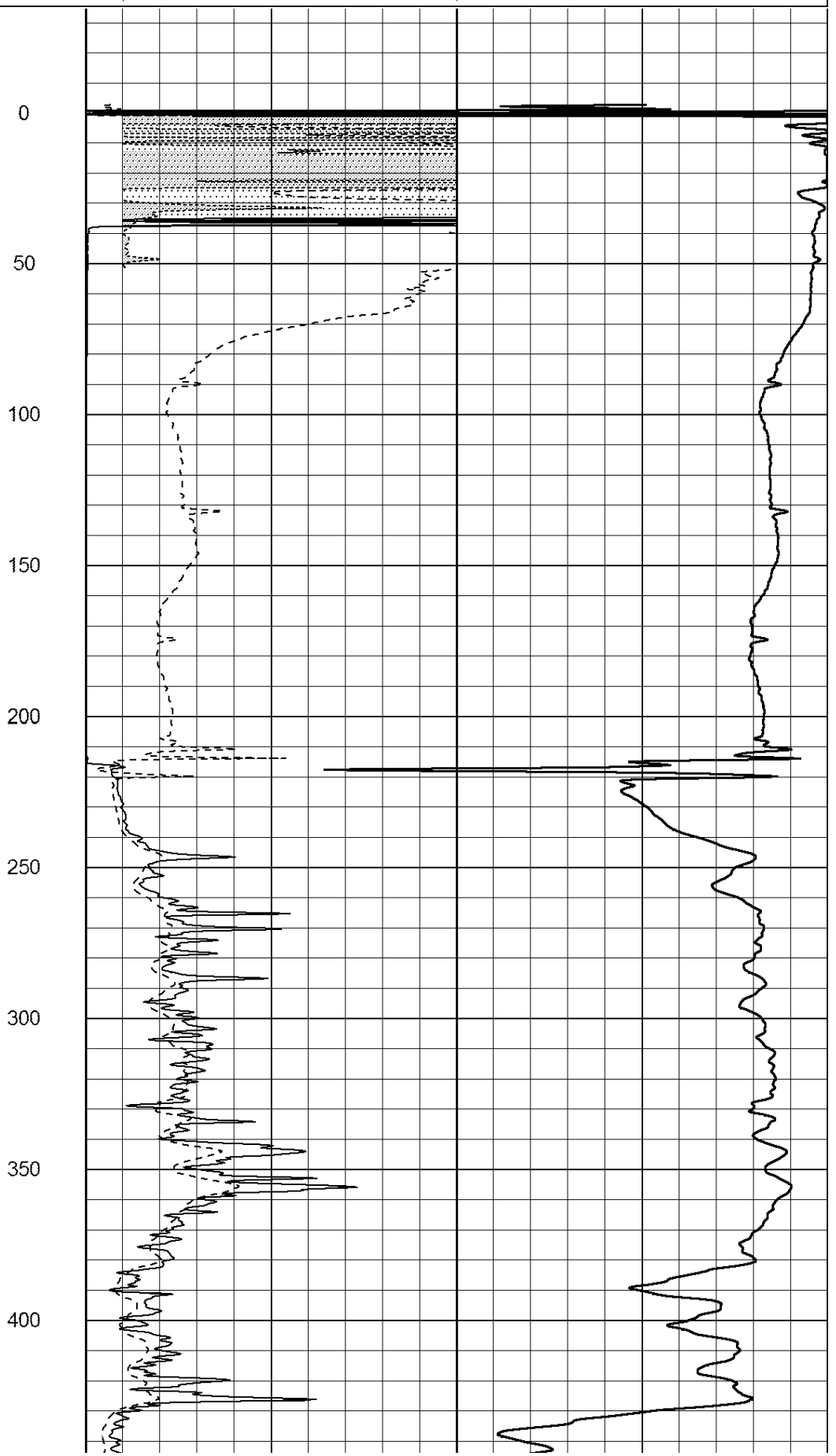
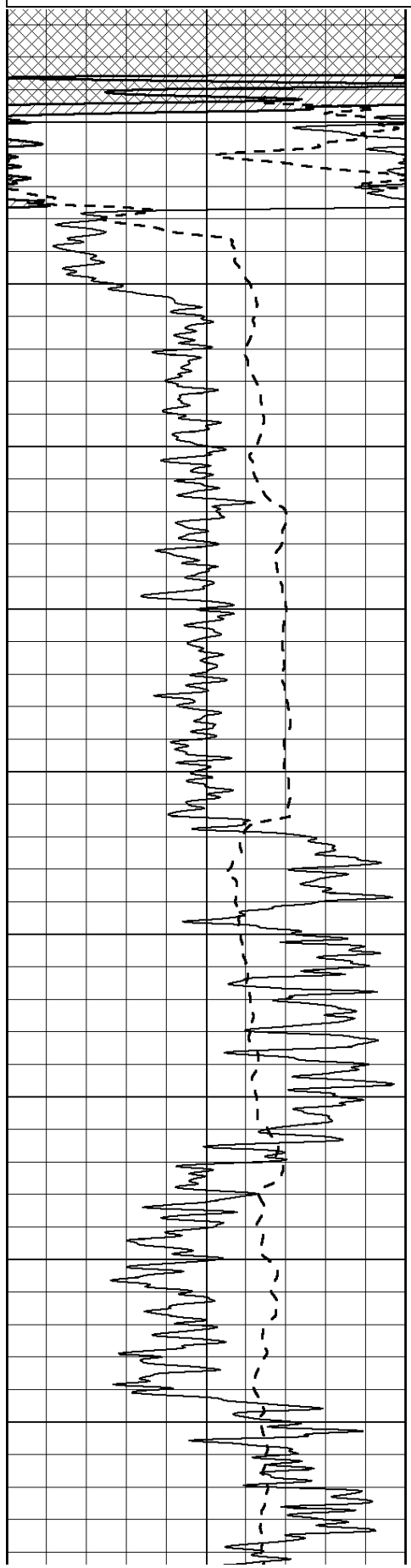
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Dataset Creation: Tue Feb 19 13:30:09 2013  
Charted by: Depth in Feet scaled 1:600

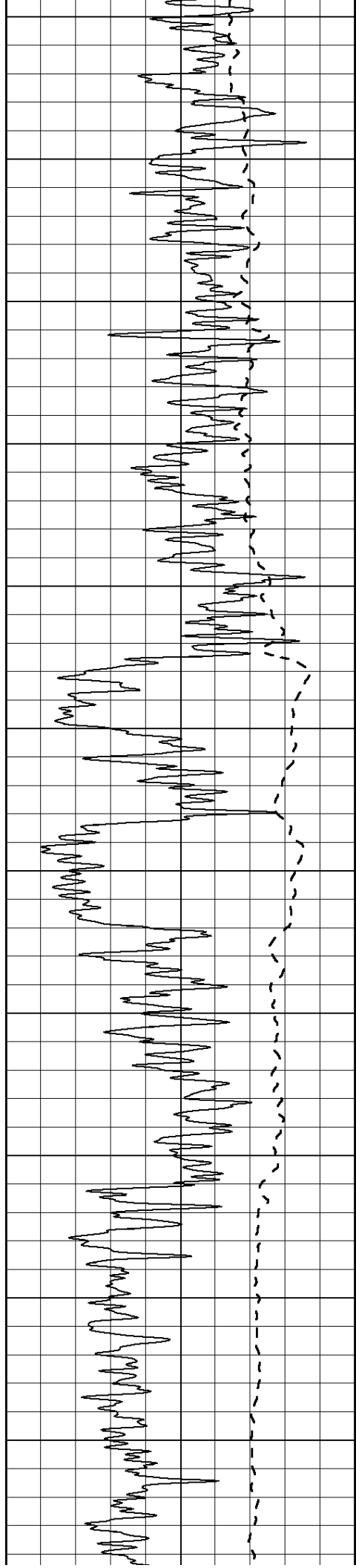
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-100	SP (mV)	100

0	RLL3 (Ohm-m)	50
0	RILD (Ohm-m)	50

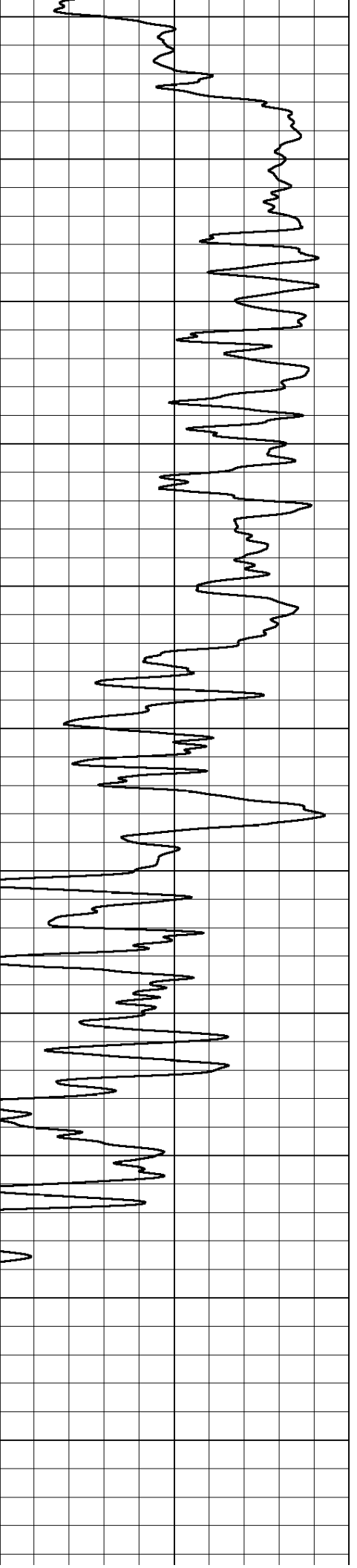
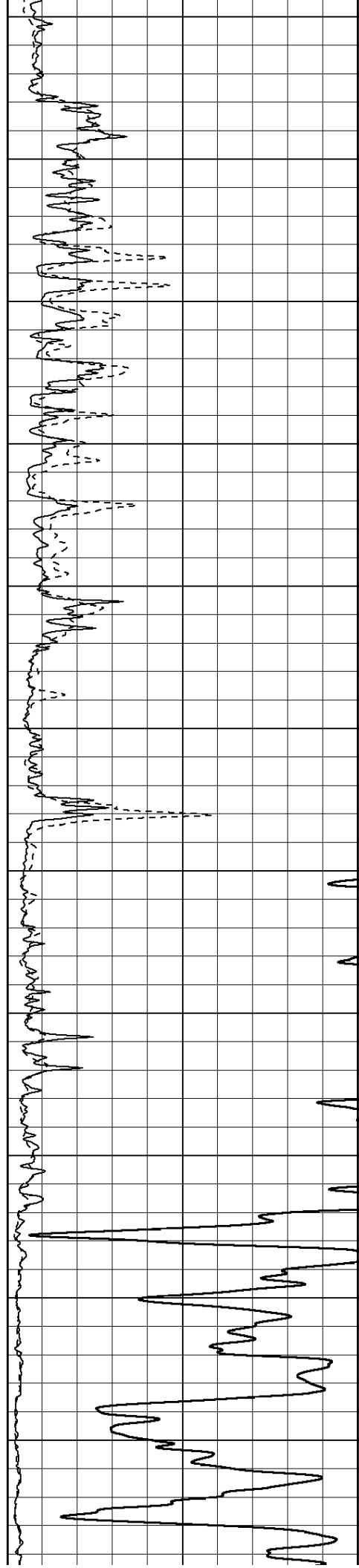
1000	CILD (mmho/m)	0
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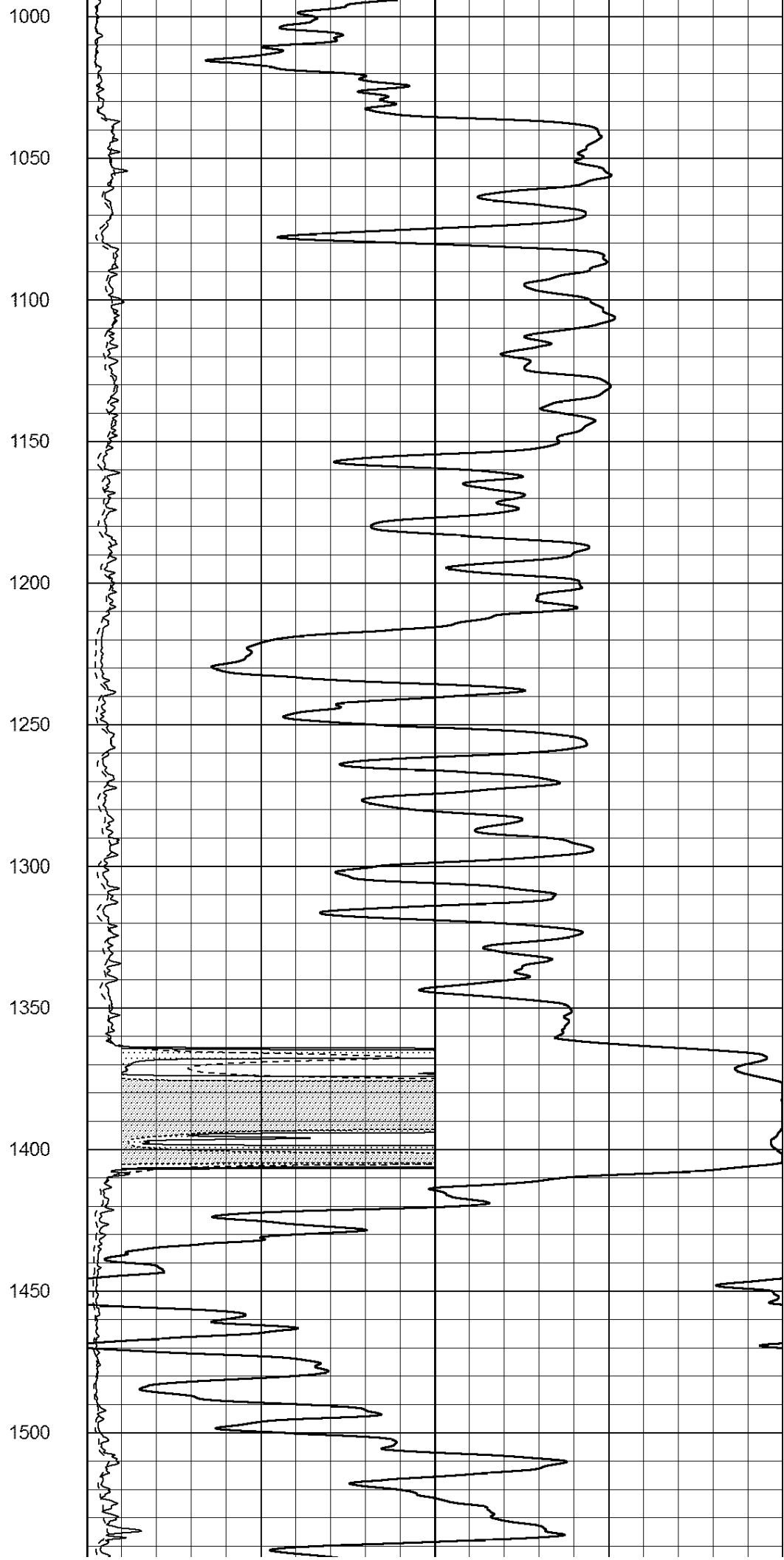
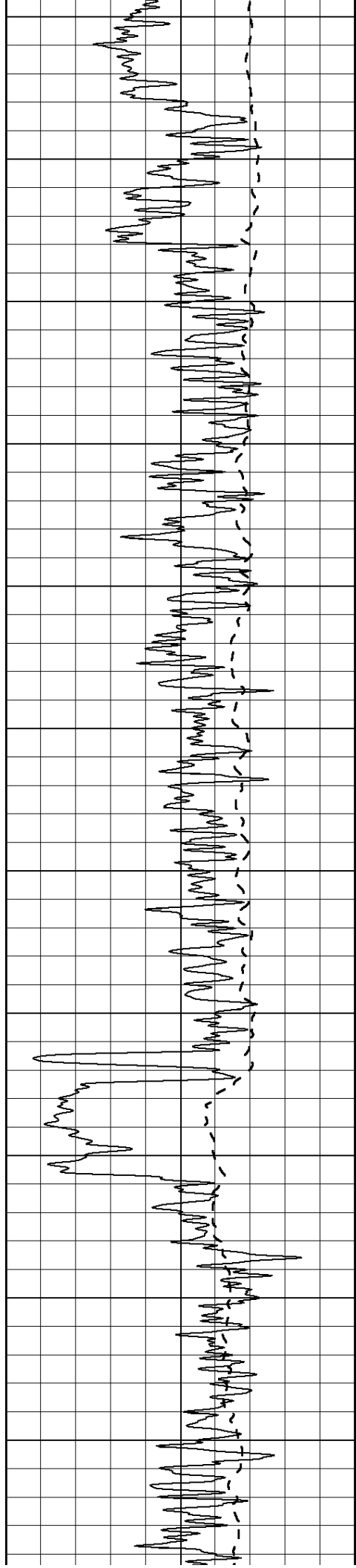
50	RILD X10 (Ohm-m)	500
50	RLL3 X10 (Ohm-m)	500

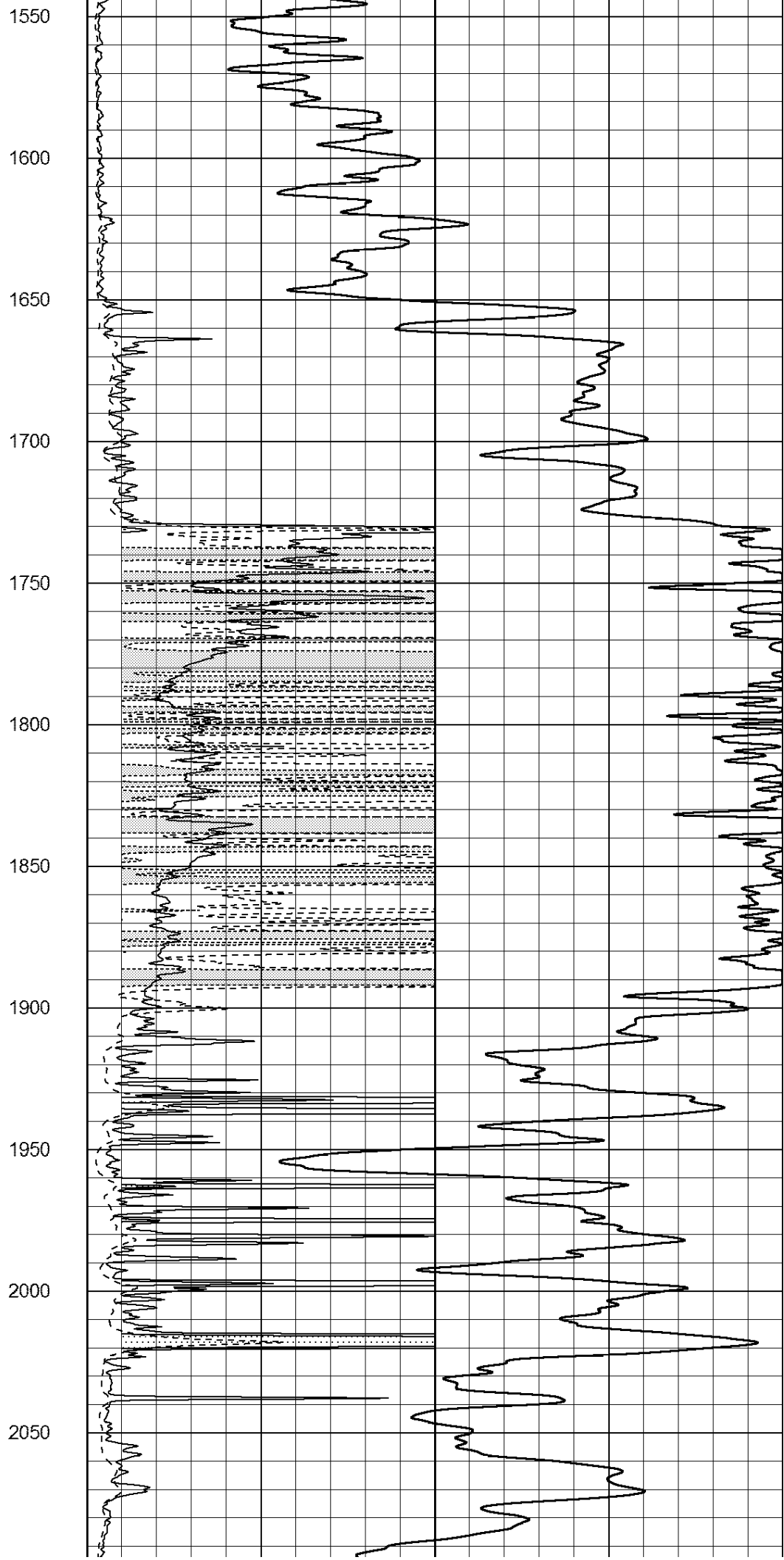
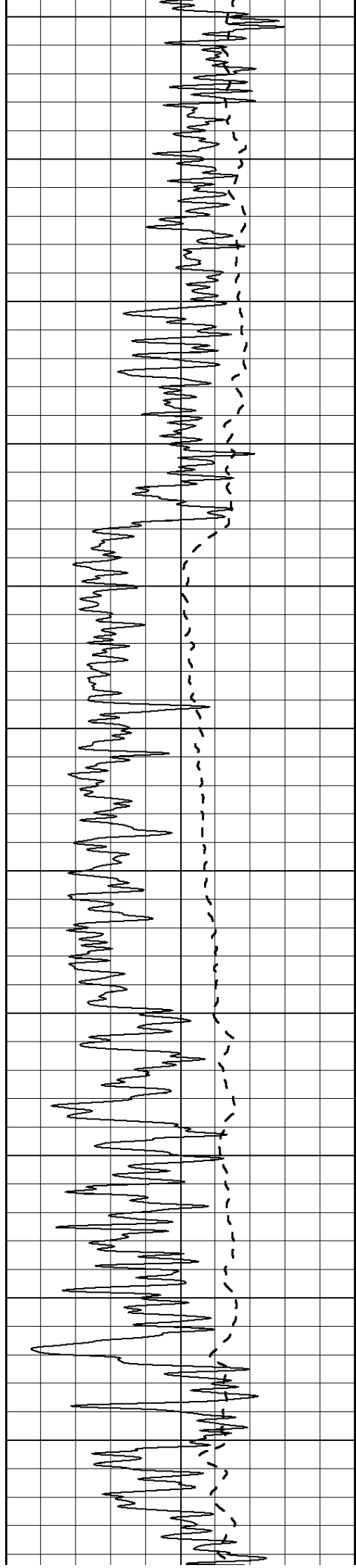


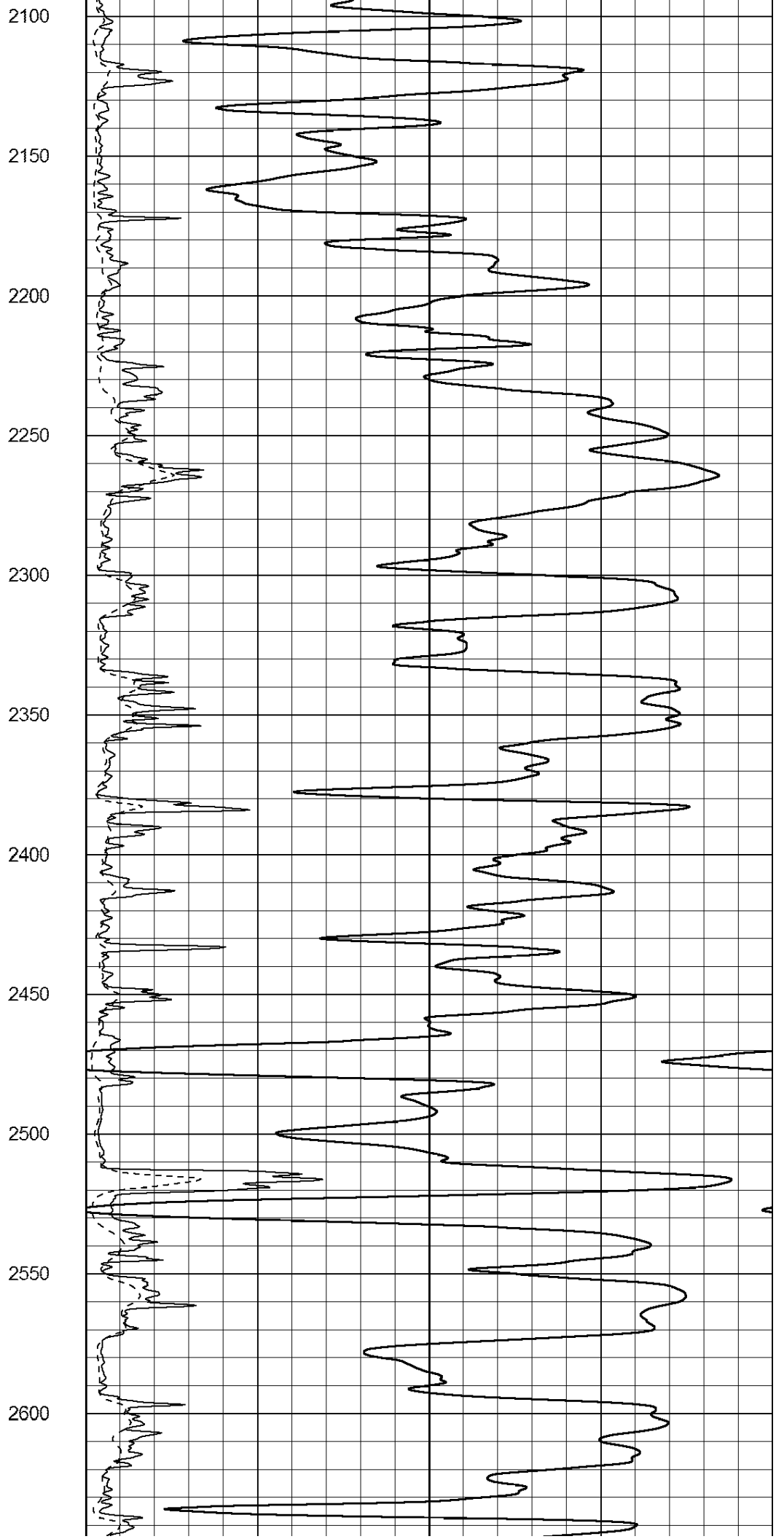
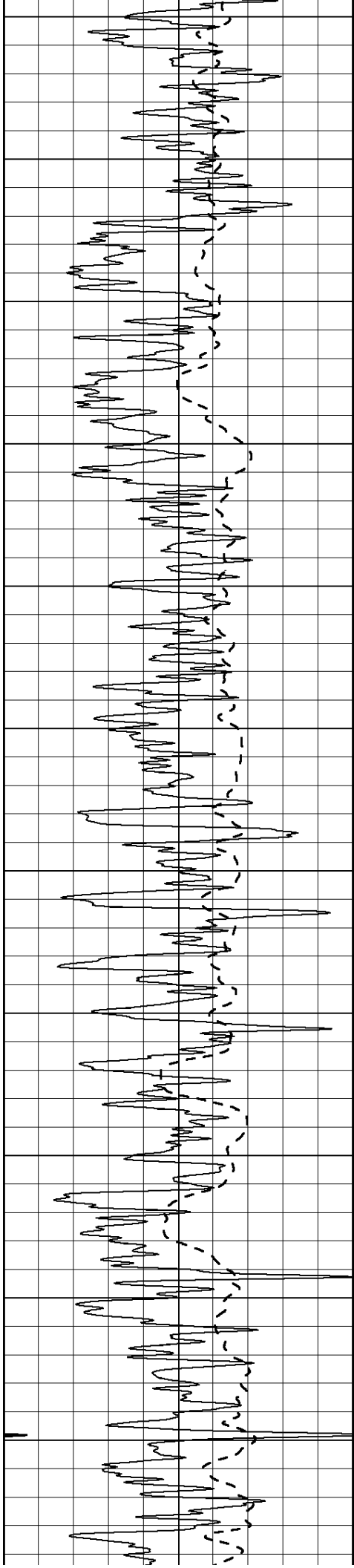


450  
500  
550  
600  
650  
700  
750  
800  
850  
900  
950

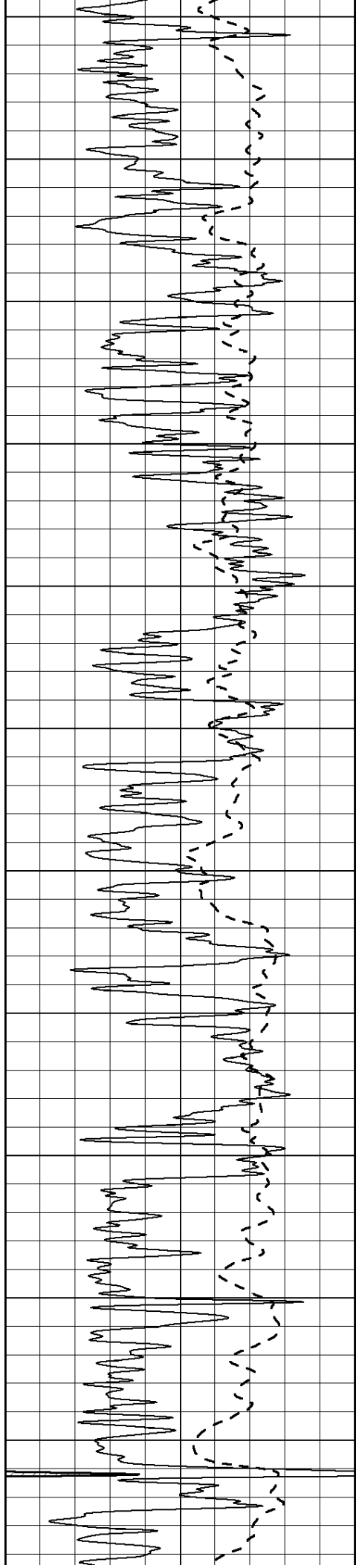












2650

2700

2750

2800

2850

2900

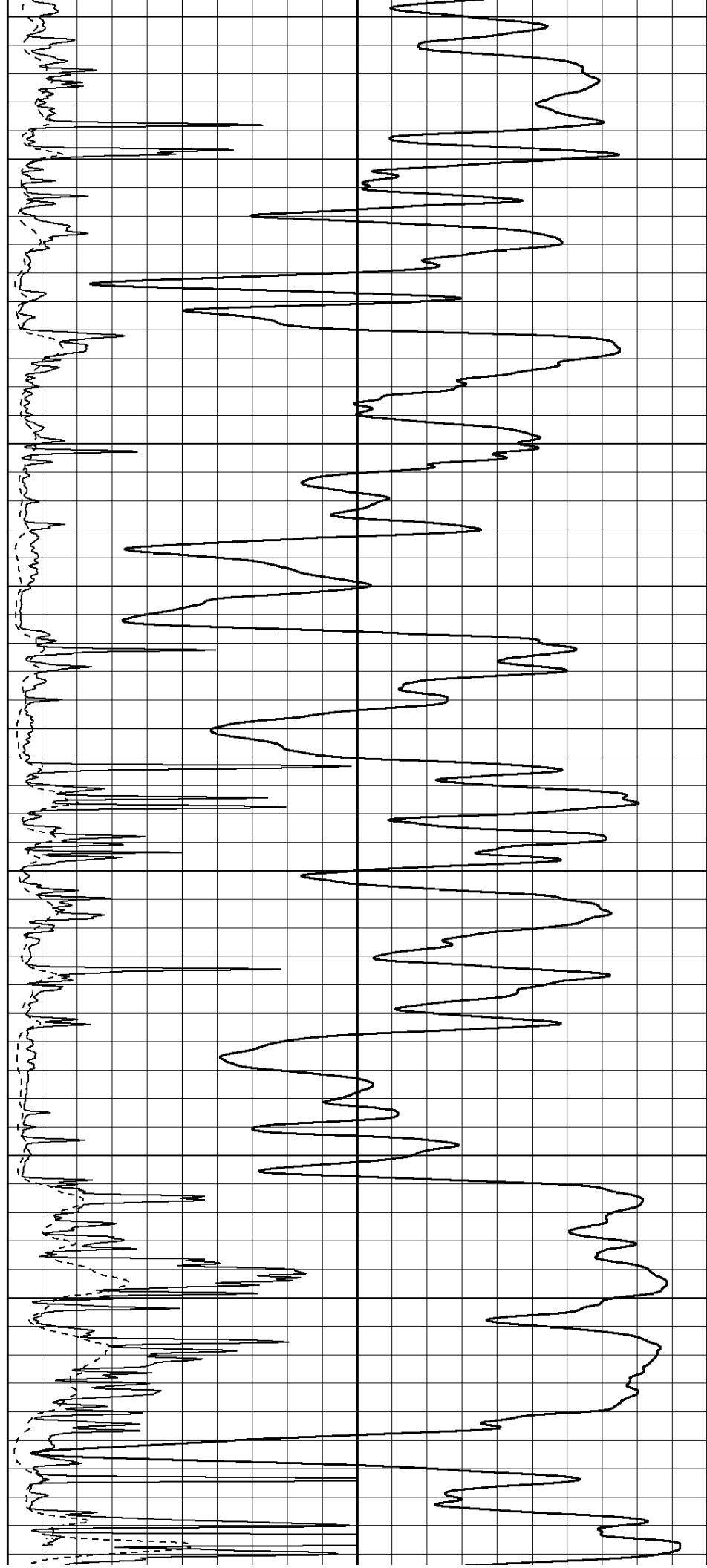
2950

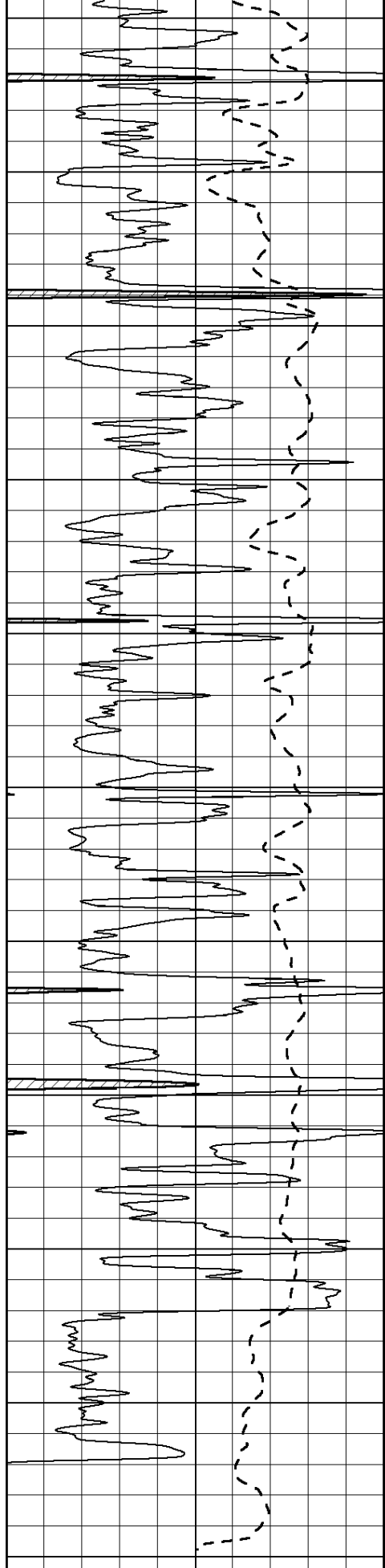
3000

3050

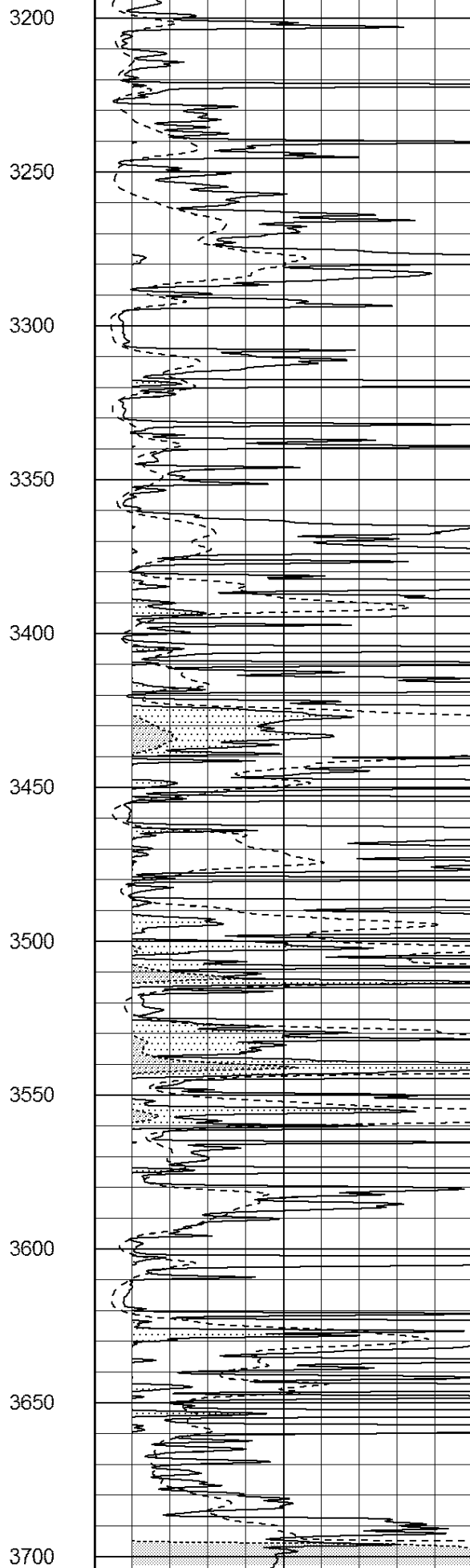
3100

3150

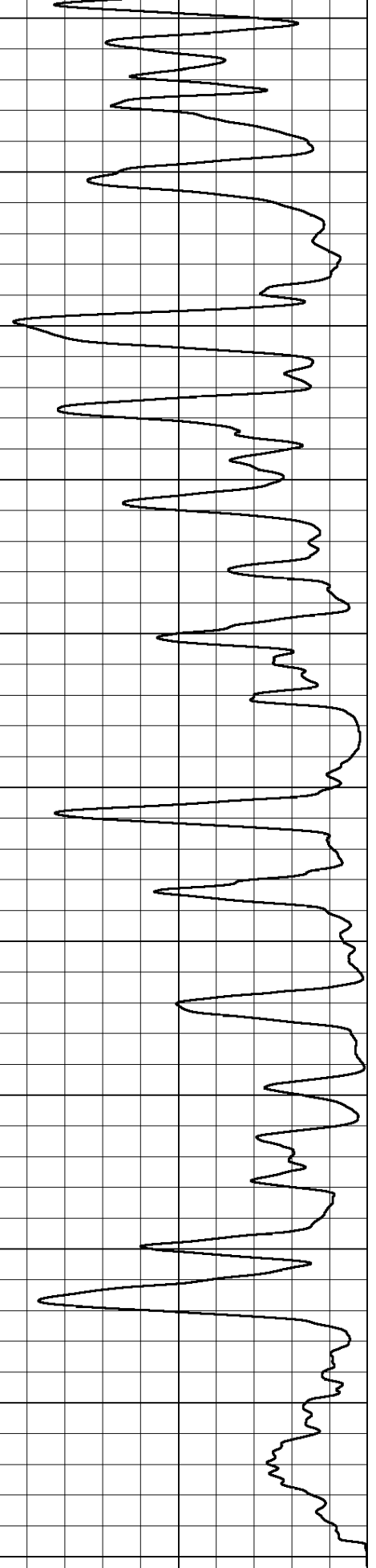




0      Gamma Ray (GAPI)      150  
 -100      SP (mV)      100



0      RLL3 (Ohm-m)      50  
 0      RILD (Ohm-m)      50



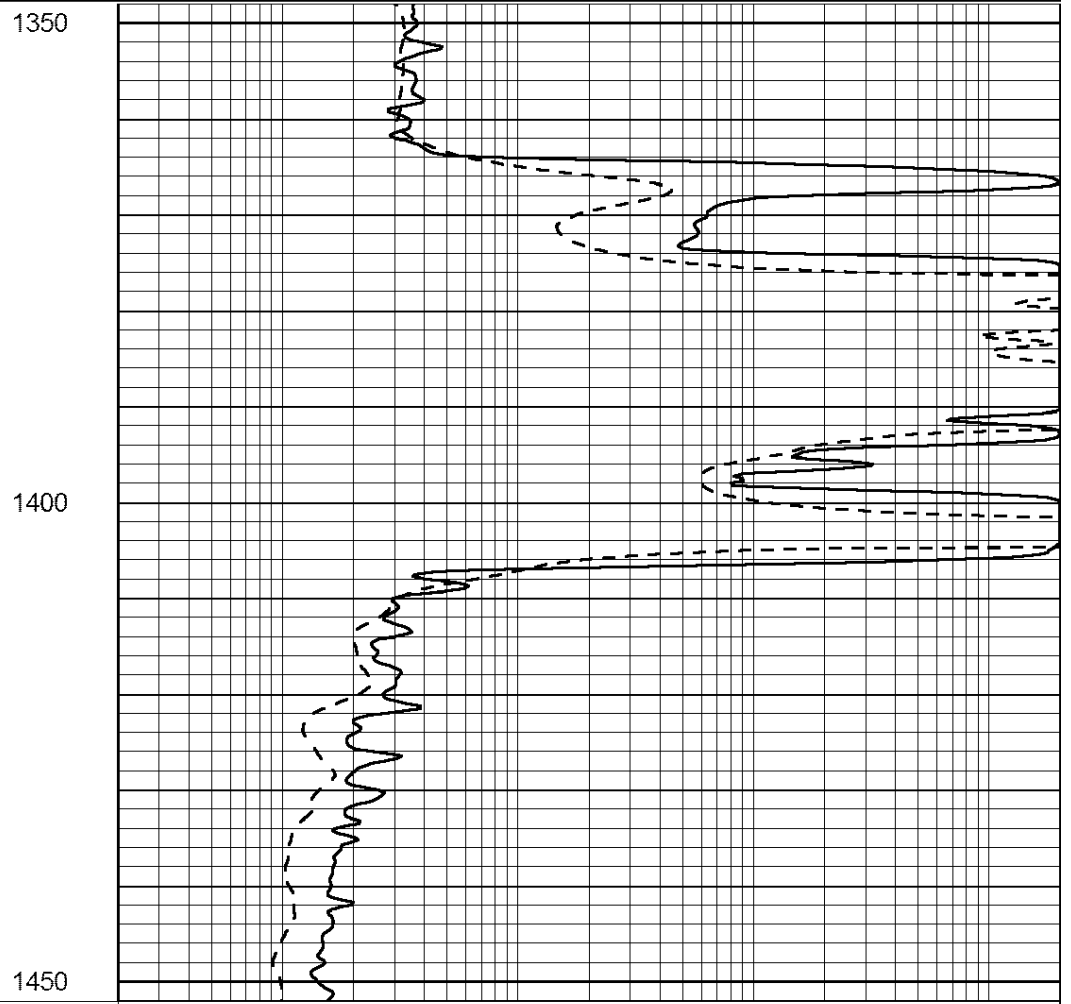
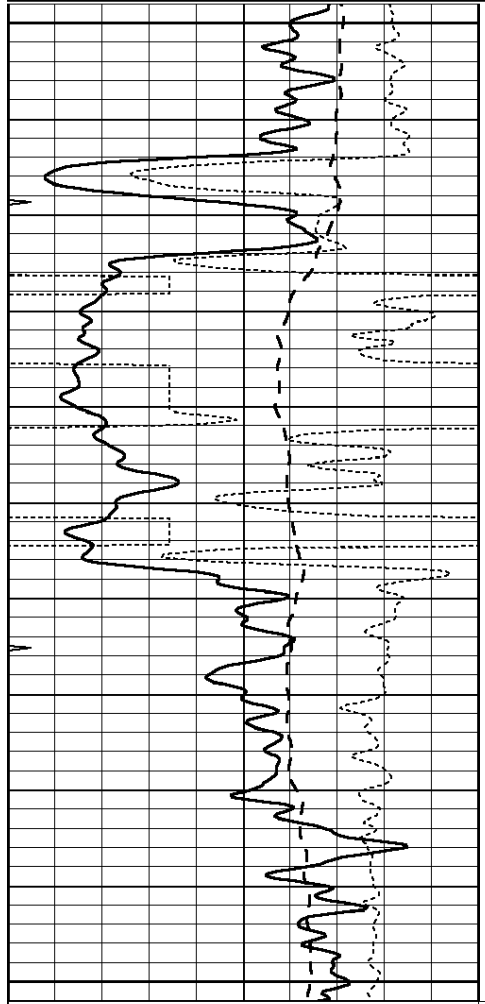
1000      CILD (mmho/m)      0

50	RILD X10 (Ohm-m)	500
50	RLL3 X10 (Ohm-m)	500

Database File: 010648ddn.db  
 Dataset Pathname: pass3.4  
 Presentation Format: \_dil  
 Dataset Creation: Tue Feb 19 13:30:09 2013  
 Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000



0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000

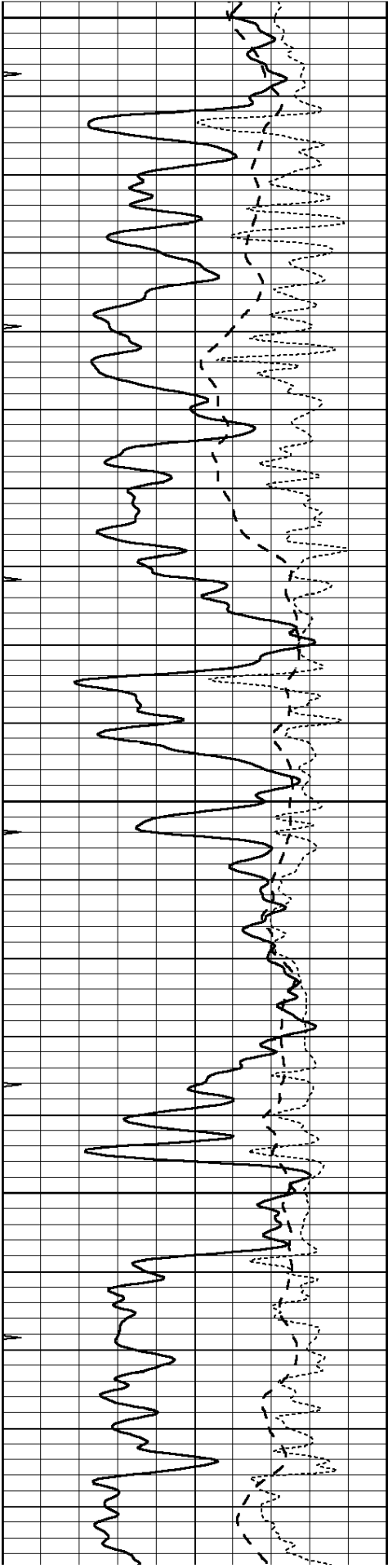
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 Dataset Pathname: pass3.4  
 Presentation Format: \_dil  
 Dataset Creation: Tue Feb 19 13:30:09 2013  
 Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
---	------------------	-----

0.2	SHALLOW GUARD (Ohm-m)	2000
-----	-----------------------	------

-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

0.2 DEEP INDUCTION (Ohm-m) 2000

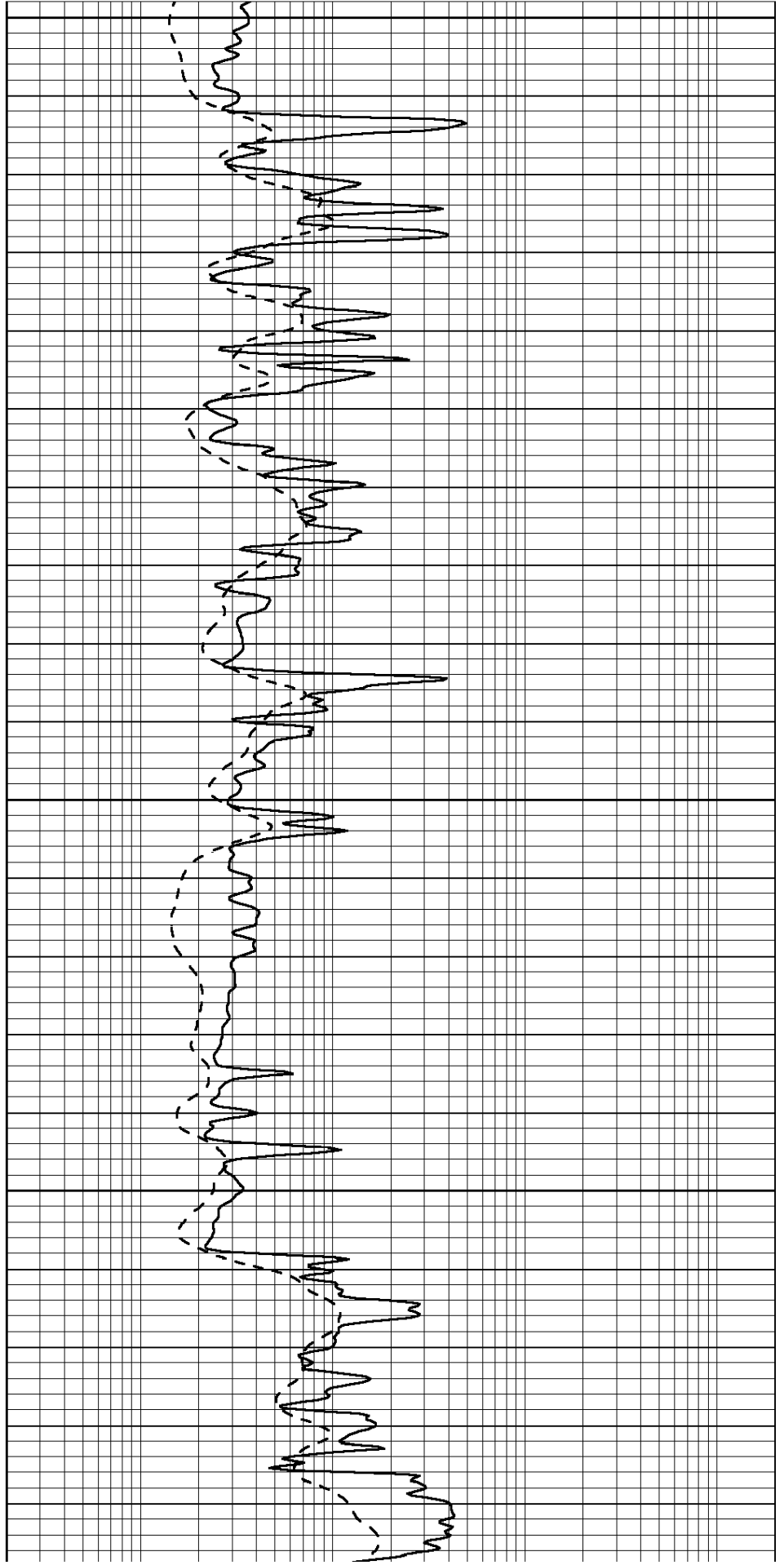


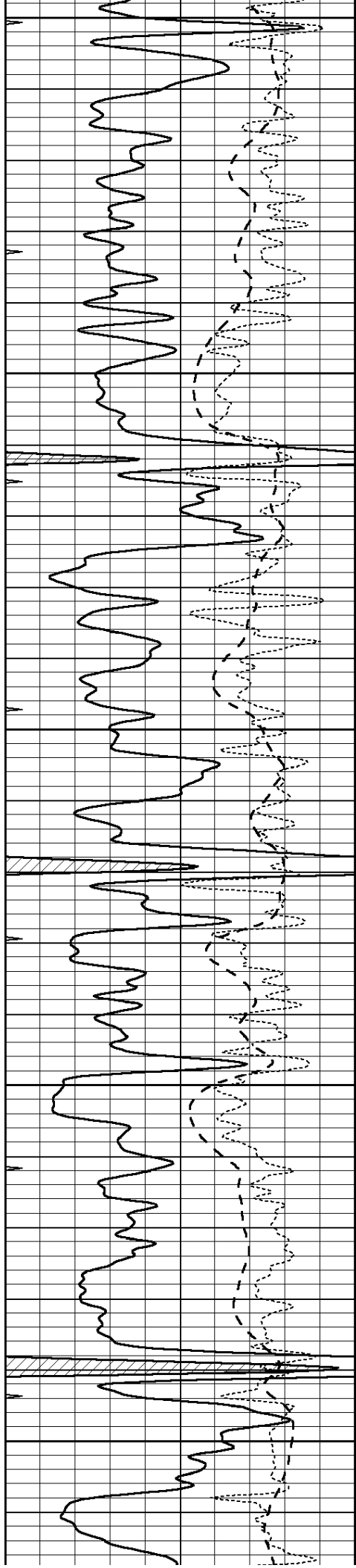
2900

2950

3000

3050





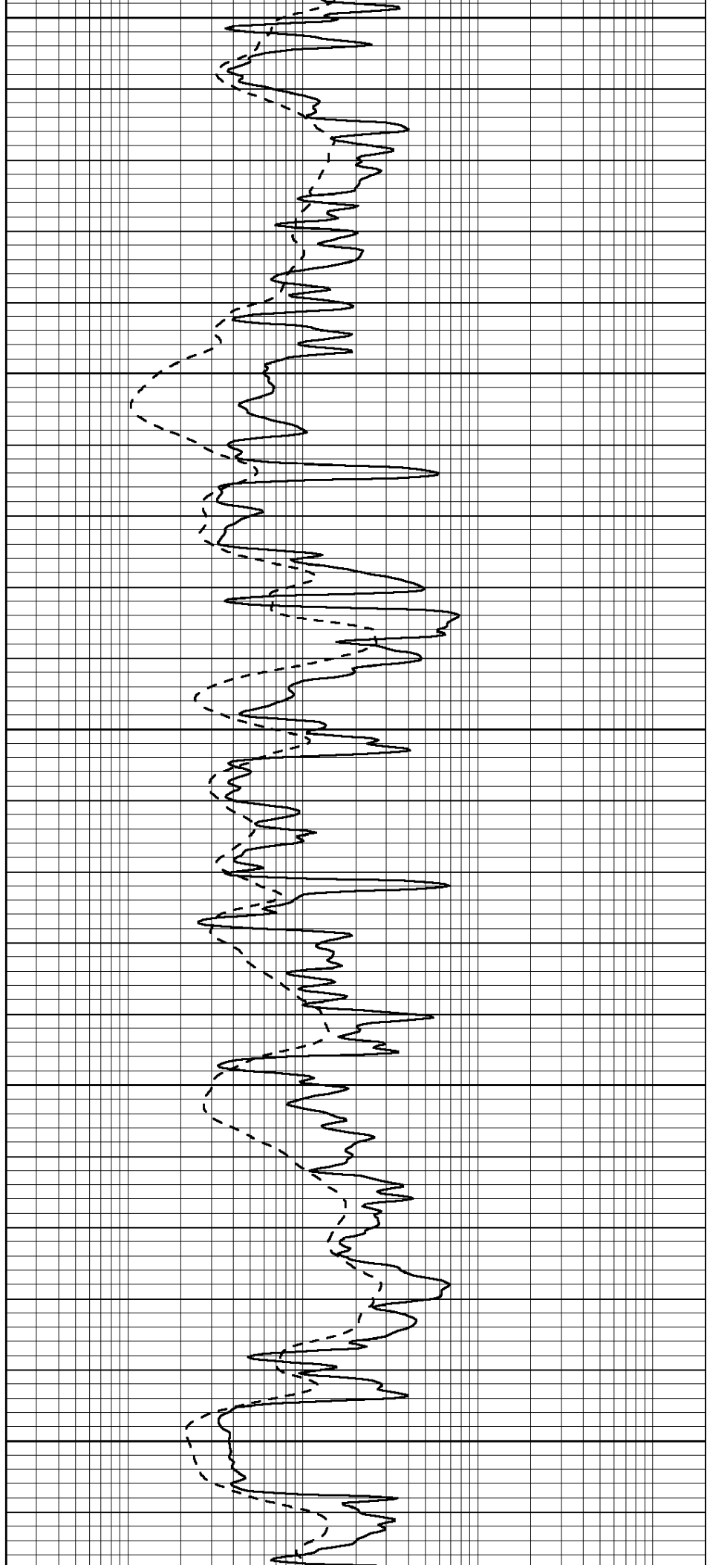
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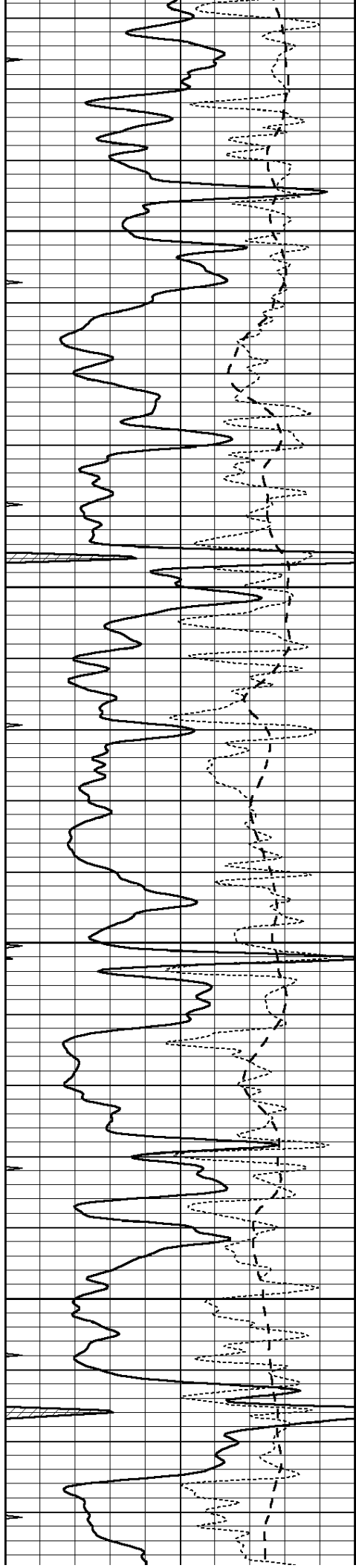
3150

3200

3250

3300



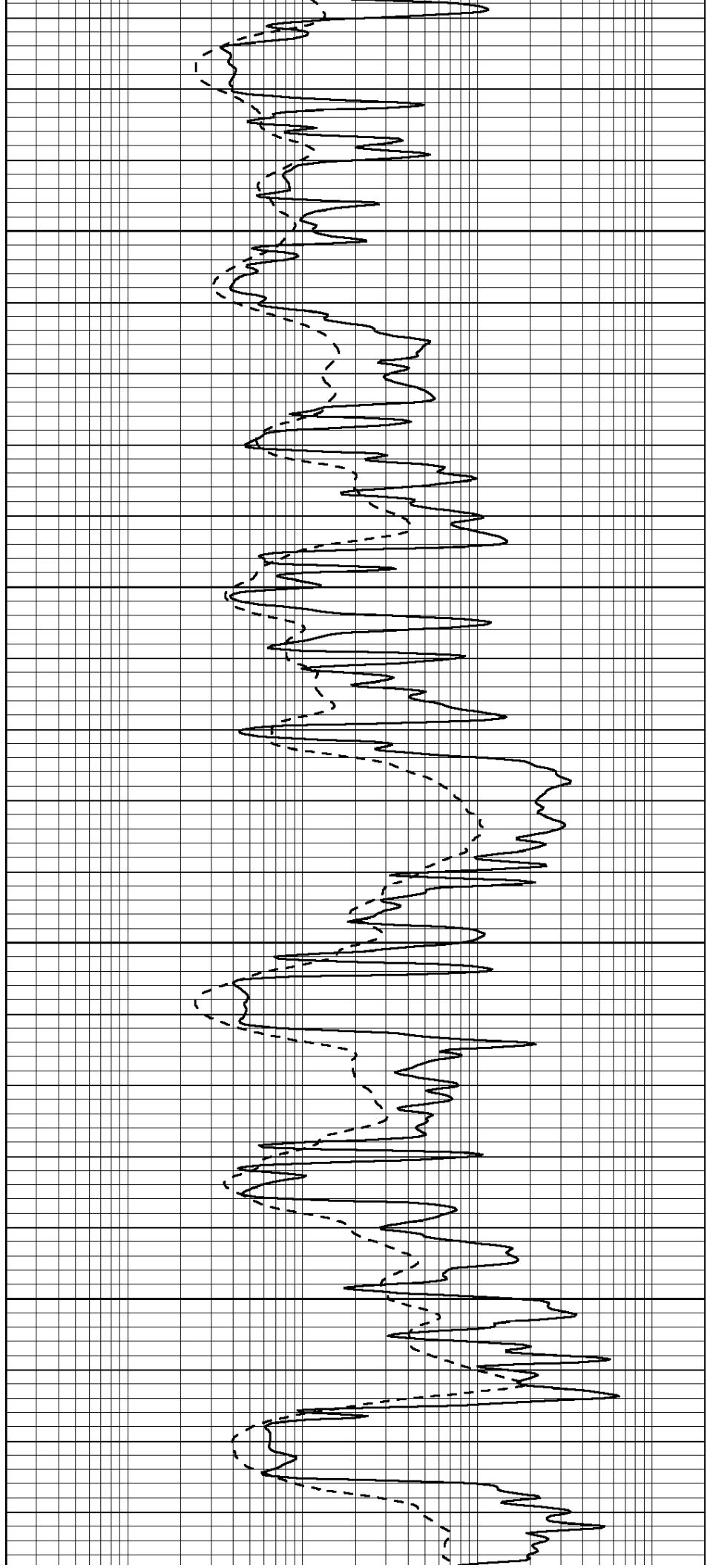


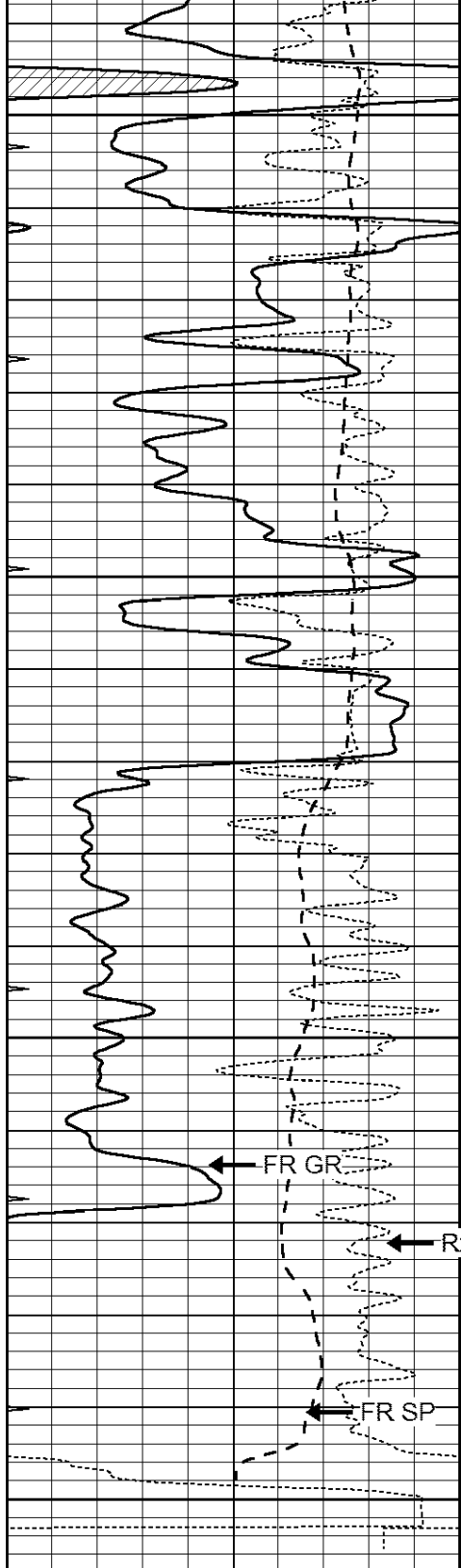
3350

3400

3450

3500





3550

3600

3650

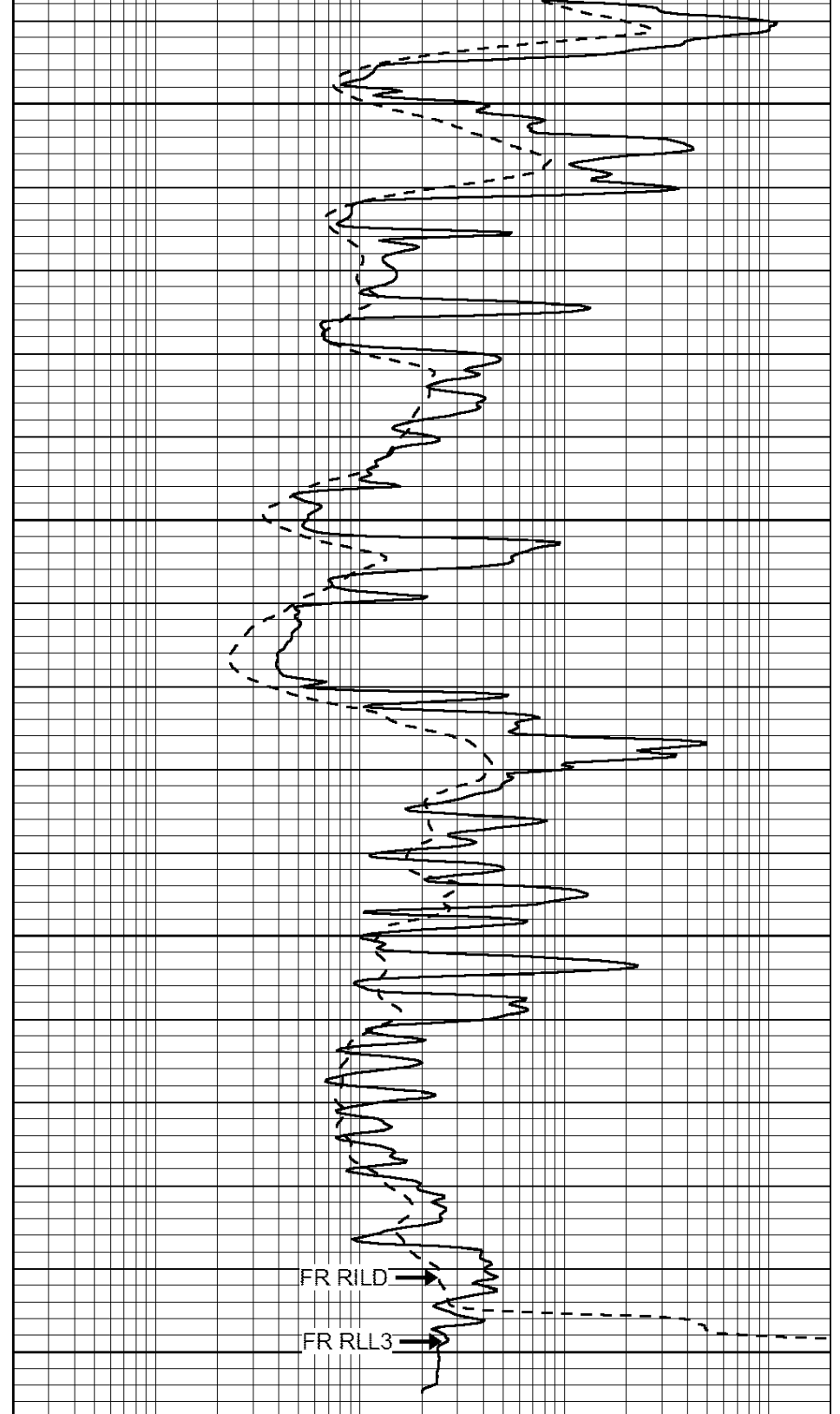
FR GR

RxoRt

FR SP

LTD 3701

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20



FR RILD

FR RLL3

0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000

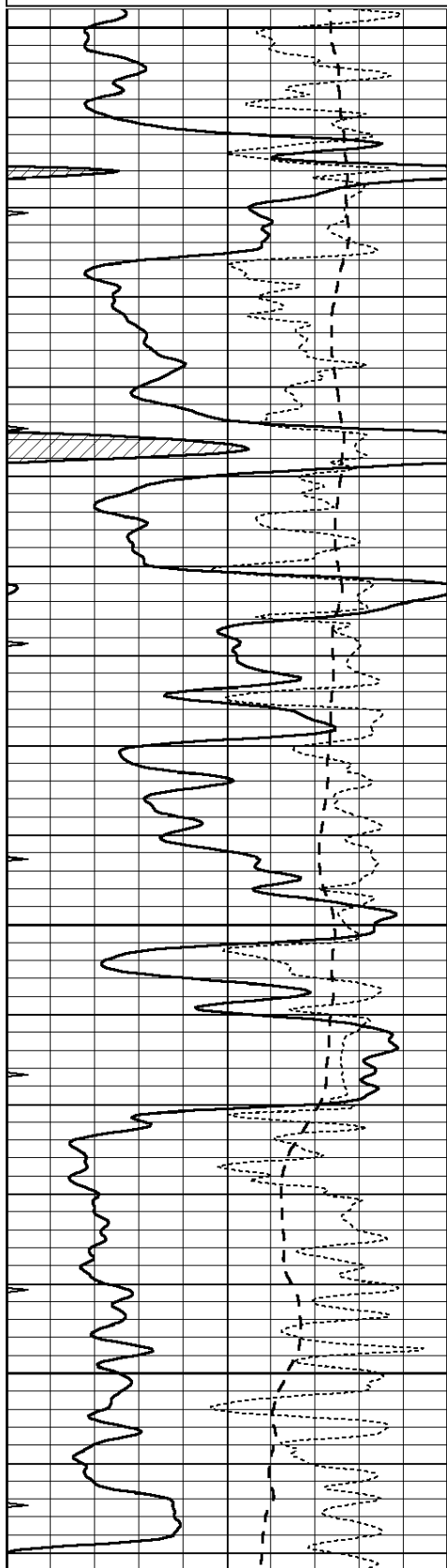


# REPEAT SECTION

Database File: 010648ddn.db  
 Dataset Pathname: pass2.2  
 Presentation Format: \_dil  
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 Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000

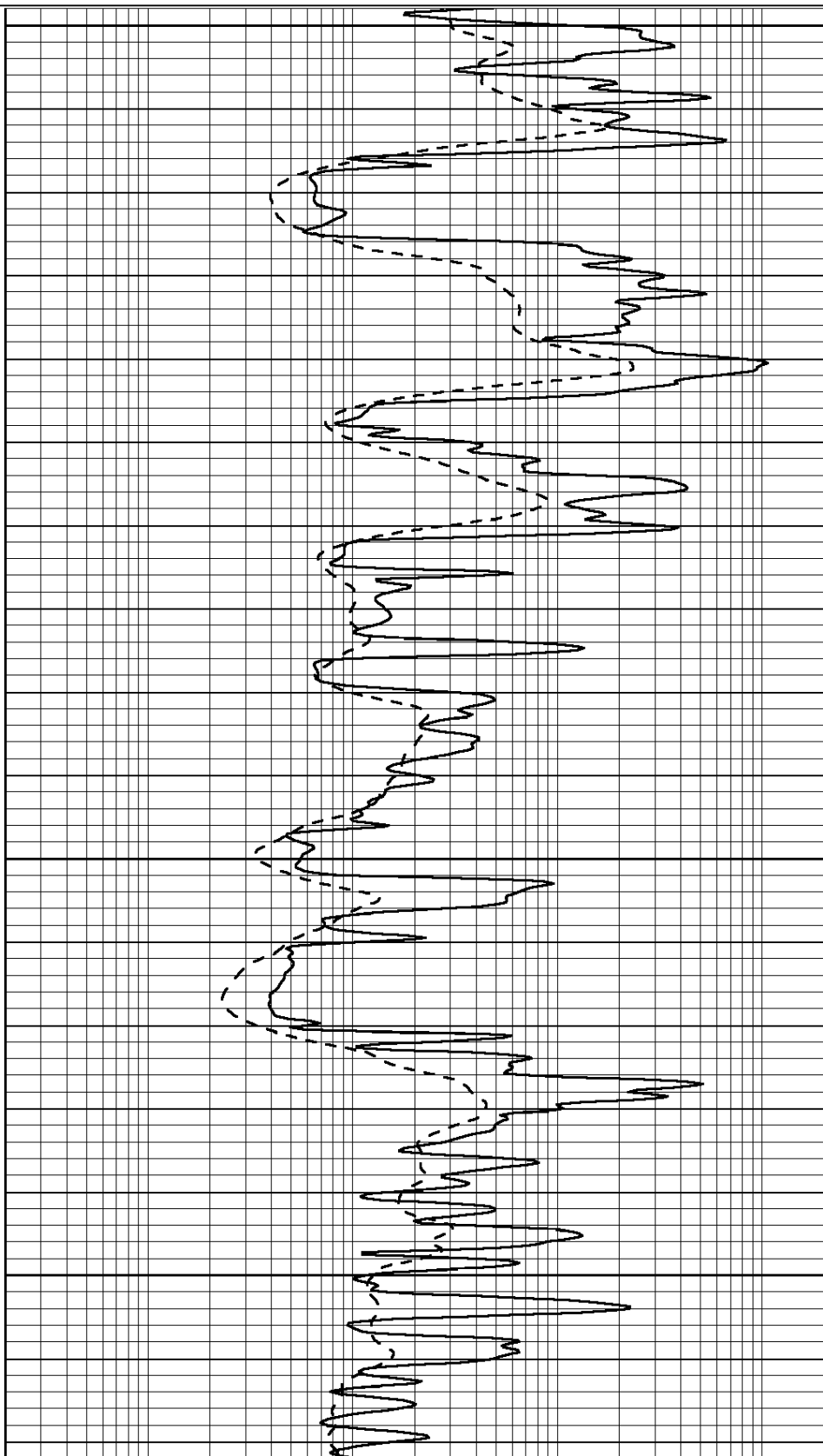


3500

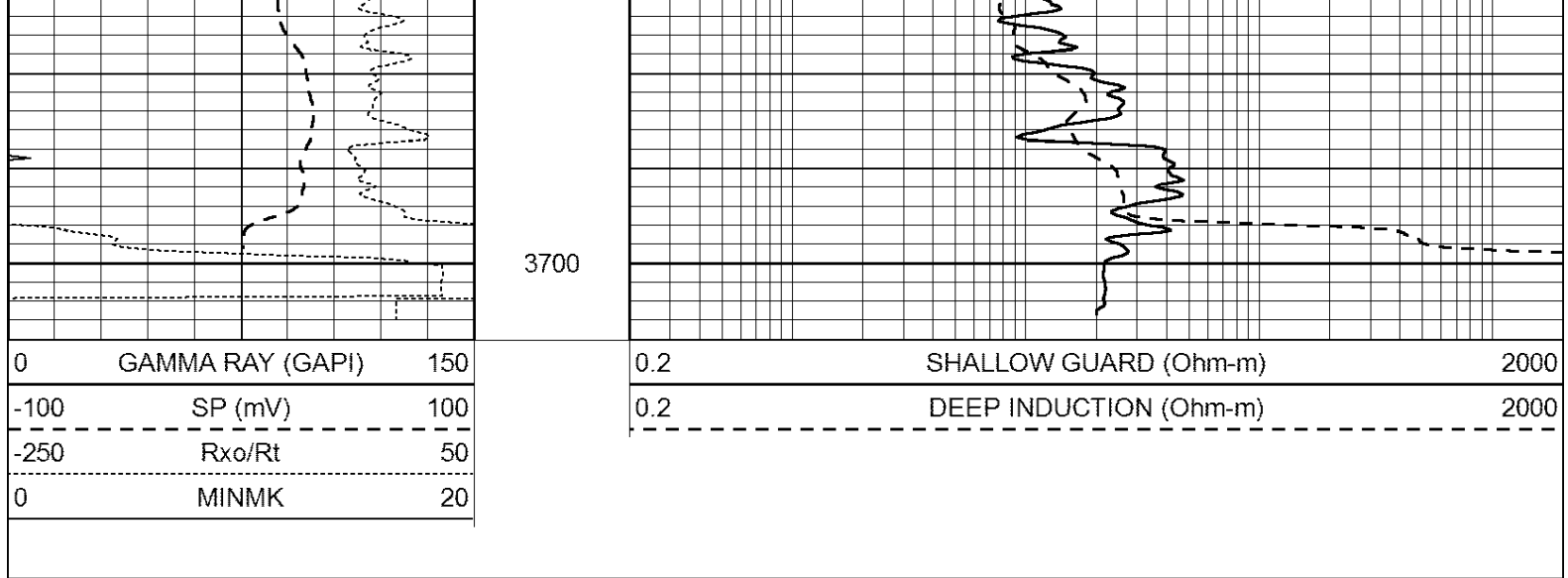
3550

3600

3650







### Calibration Report

Database File: 010648ddn.db  
 Dataset Pathname: pass3.4  
 Dataset Creation: Tue Feb 19 13:30:09 2013

### Dual Induction Calibration Report

Serial-Model: PROBE8-DILG  
 Surface Cal Performed: Fri Aug 01 06:33:19 2008  
 Downhole Cal Performed: Mon Jul 28 11:08:27 2008  
 After Survey Verification Performed: Mon Jul 28 11:08:27 2008

#### Surface Calibration

Loop:	Readings			References			Results	
	Air	Loop		Air	Loop		m	b
Deep	0.015	0.648	V	0.000	400.000	mmho/m	632.616	-9.730
Medium	0.029	0.796	V	0.000	464.000	mmho/m	605.049	-17.680
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.017	0.657	V	0.000	400.000	mmho/m	625.153	-10.619
Medium	0.016	0.757	V	0.000	464.000	mmho/m	625.992	-9.739

#### Downhole Calibration

	Readings			References			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	2.011	405.777	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	7.590	503.393	mmho/m	1.000	0.000
LL3		7.500	V		1500.000	Ohm-m		
		0.000	V		20.000	Ohm-m		
		-7.200	V		3800.000	mmho-m		

#### After Survey Verification

	Readings			Targets			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	0.000	0.000	mmho/m	0.000	0.000
Medium	0.000	0.000	mmho/m	0.000	0.000	mmho/m	0.000	0.000
LL3		1.000	Ohm-m		1.000	Ohm-m		
		0.000	Ohm-m		0.000	Ohm-m		
		1.000	mmho-m		1.000	mmho-m		

### Compensated Density Calibration Report

Serial-Model:  
 Source / Verifier:  
 Master Calibration Performed:  
 Before Survey Verification Performed:  
 After Survey Verification Performed:

GEAR3-GEARHART  
 143 / 143  
 Fri Jan 04 15:48:16 2013

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.710	g/cc	935.36	501.55	cps
Aluminum	2.580	g/cc	209.32	357.01	cps
Spine Angle = 77.21			Density/Spine Ratio = 0.567		
	Size		Reading		
Small Ring	8.00	in	4.29	V	
Large Ring	14.00	in	6.24	V	

Before Survey Verification

Target	Measured
g/cc	g/cc
g/cc	g/cc
g/cc	g/cc

After Survey Verification

Target	Measured
g/cc	g/cc
g/cc	g/cc
g/cc	g/cc

Compensated Neutron Calibration Report

Serial Number: 6I  
 Tool Model: G

CALIBRATION

Detector	Readings	Target	Normalization
Short Space	1.00 cps	1.00 cps	1.0000
Long Space	1.00 cps	1.00 cps	1.0000

PRE-SURVEY VERIFICATION

	Detector	Readings	Measured	Target
1)	Short Space	cps	pu	pu
	Long Space	cps		
2)	Short Space	cps	pu	
	Long Space	cps		
3)	Short Space	cps	pu	
	Long Space	cps		

POST-SURVEY VERIFICATION

	Detector	Readings	Measured	Target
1)	Short Space	cps	pu	pu
	Long Space	cps		
2)	Short Space	cps		

2)	Long Space	cps	pu	pu
3)	Short Space	cps		
	Long Space	cps	pu	pu

Gamma Ray Calibration Report

Serial Number:	#8	
Tool Model:	OPEN	
Performed:	Mon Jun 13 16:56:43 2011	
Calibrator Value:	150.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	175.0	cps
Sensitivity:	0.8371	GAPI/cps



**COMPLETION  
& PRODUCTION  
SERVICES CO.**

**MICRO  
LOG**

Company K & B NORTON OIL & INVESTMENTS, LLC  
Well FISHER #8  
Field BEMIS-SHUTTS  
County ELLIS  
State KANSAS

Company K & B NORTON OIL & INVESTMENTS, LLC  
Well FISHER #8  
Field BEMIS-SHUTTS  
County ELLIS State KANSAS

Location: API # : 15-051-26462-0000  
2310' FSL & 2205' FEL  
E/2 - NW - NW - SE  
SEC 28 TWP 11S RGE 18W  
Permanent Datum GROUND LEVEL Elevation 2080  
Log Measured From KELLY BUSHING 5' A.G.L.  
Drilling Measured From KELLY BUSHING  
Other Services CDL/CNL DIL  
Elevation K.B. 2085 D.F. 2083 G.L. 2080

Date	2/19/13		
Run Number	TWO		
Depth Driller	3700		
Depth Logger	3701		
Bottom Logged Interval	3698		
Top Log Interval	2900		
Casing Driller	8 5/8" @ 206		
Casing Logger	216		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 2000 PPM	
Density / Viscosity	9.2/52		
pH / Fluid Loss	10.0/8.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.75 @ 51F		
Rmt @ Meas. Temp	0.42 @ 51F		
Rmc @ Meas. Temp	0.68 @ 51F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	0.34 @ 113F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	113F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JEFF GRONIEWEG		
Witnessed By	RICHARD BELL		

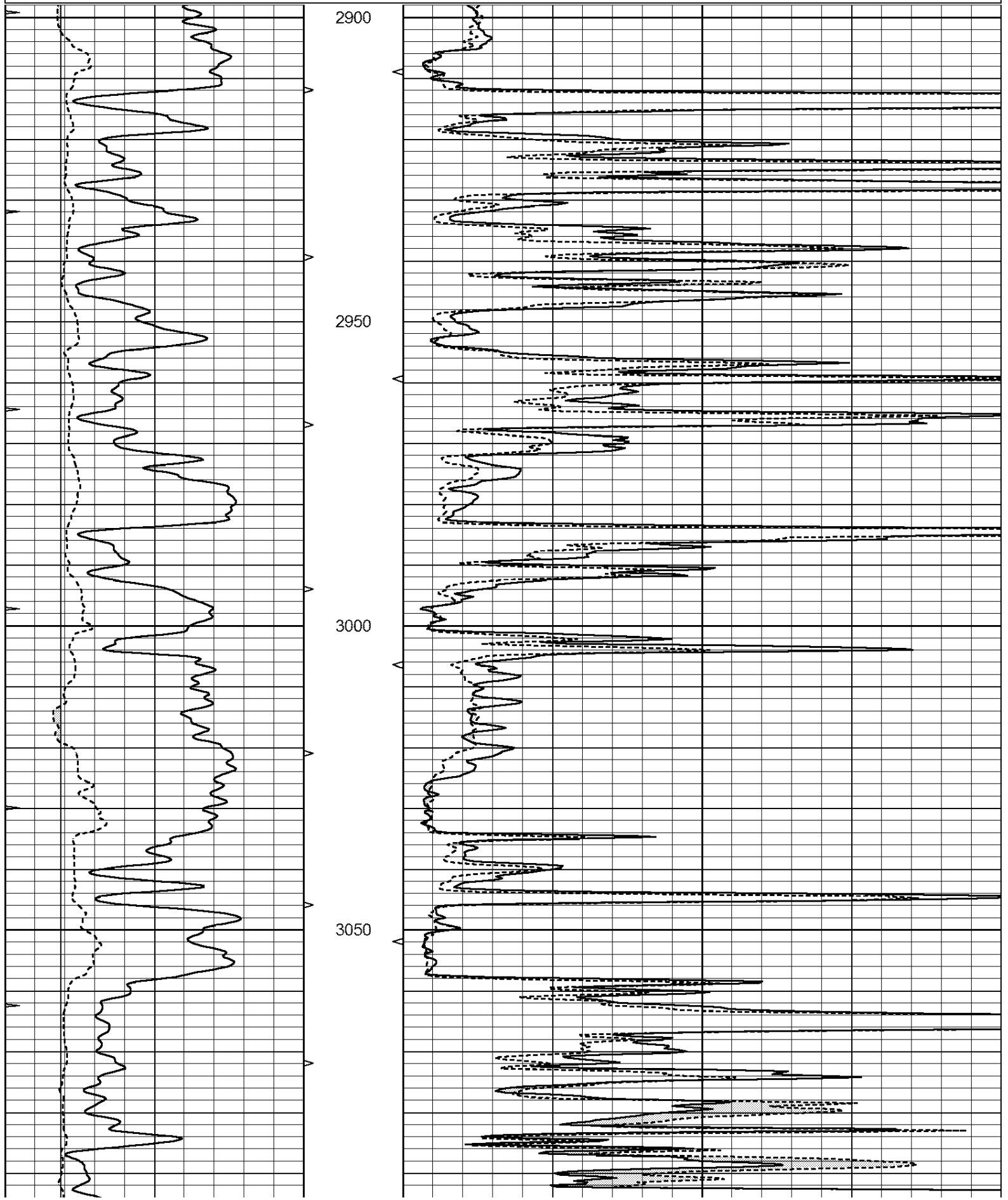
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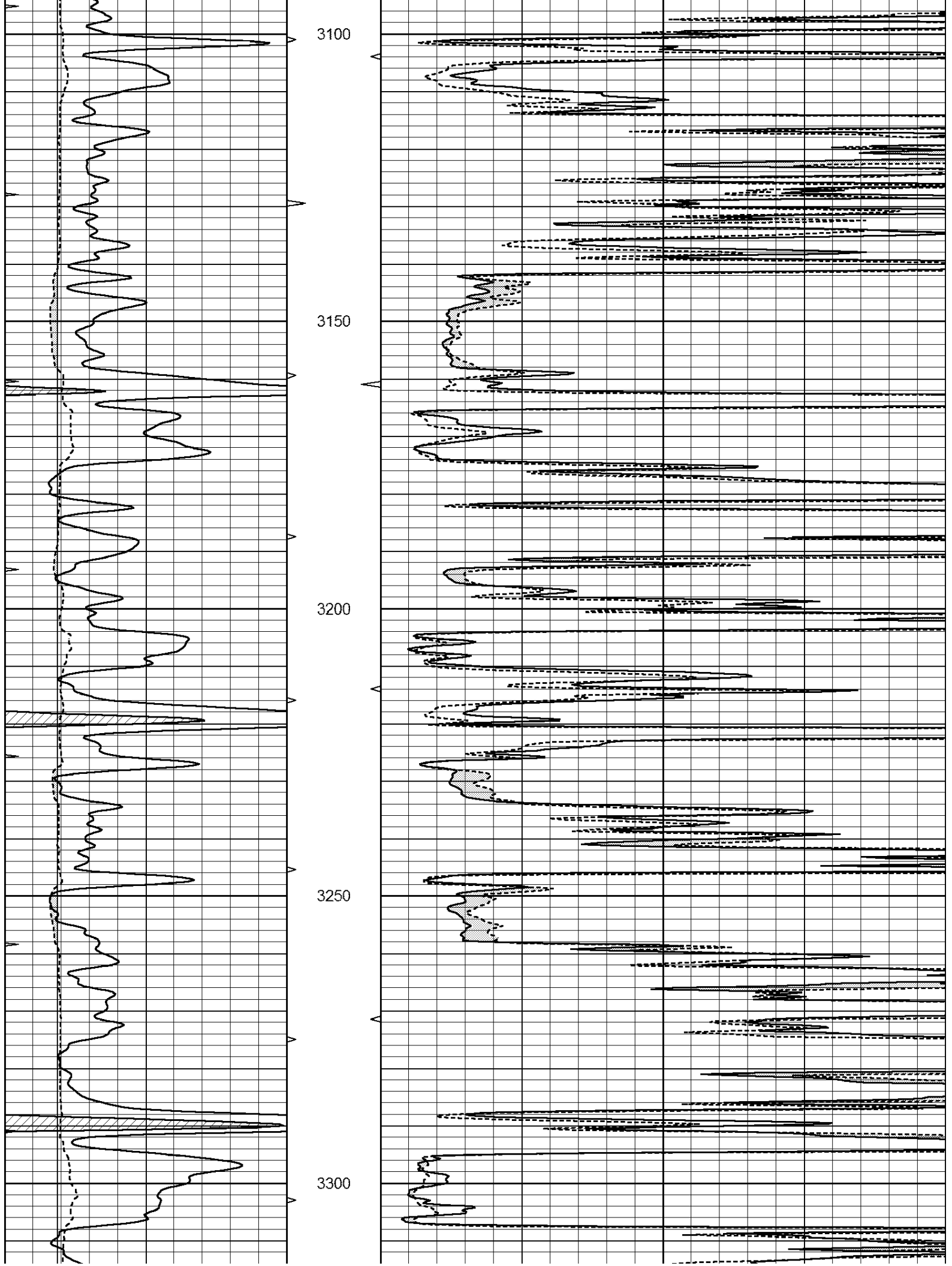
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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.

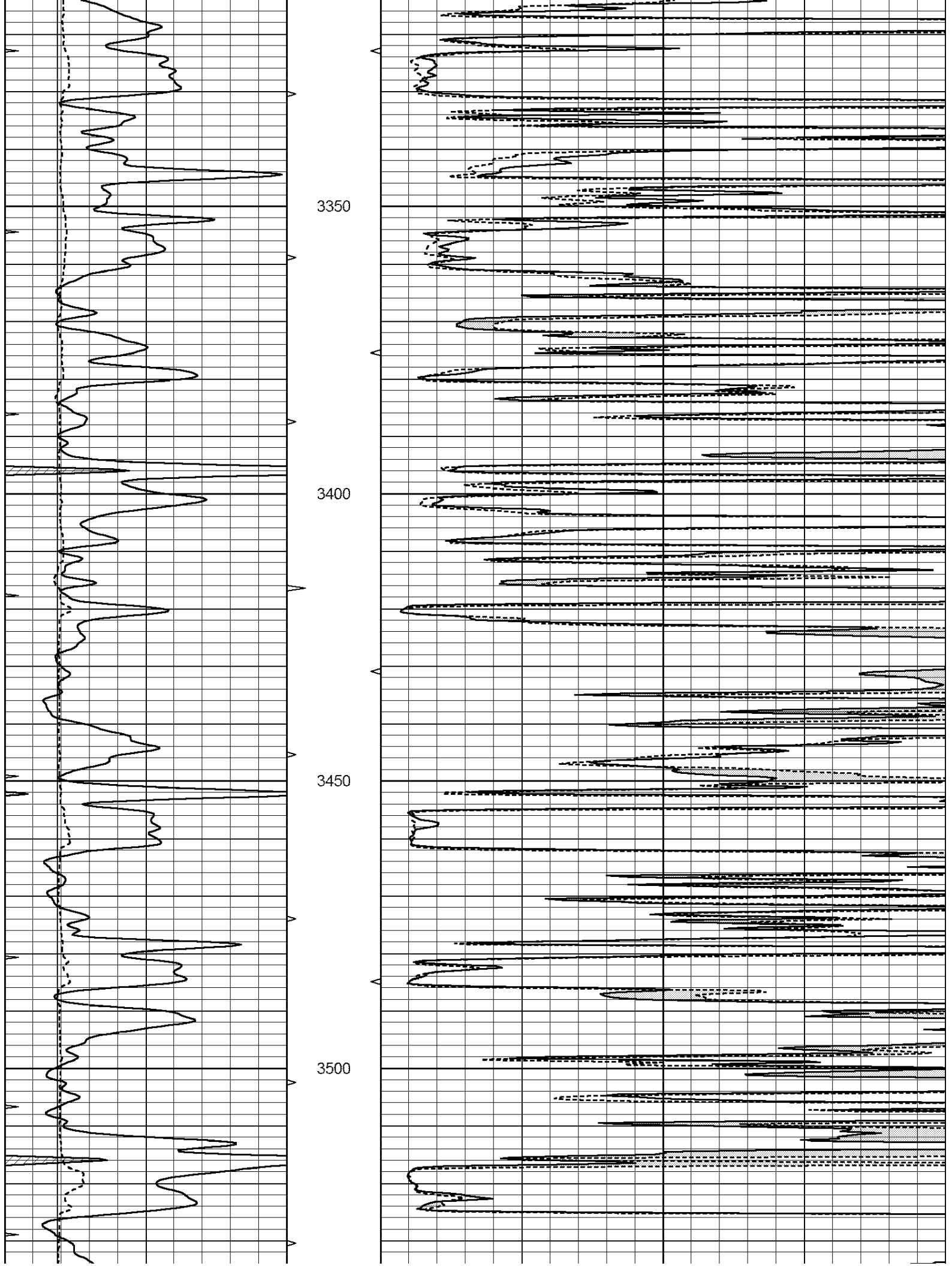
**Comments**

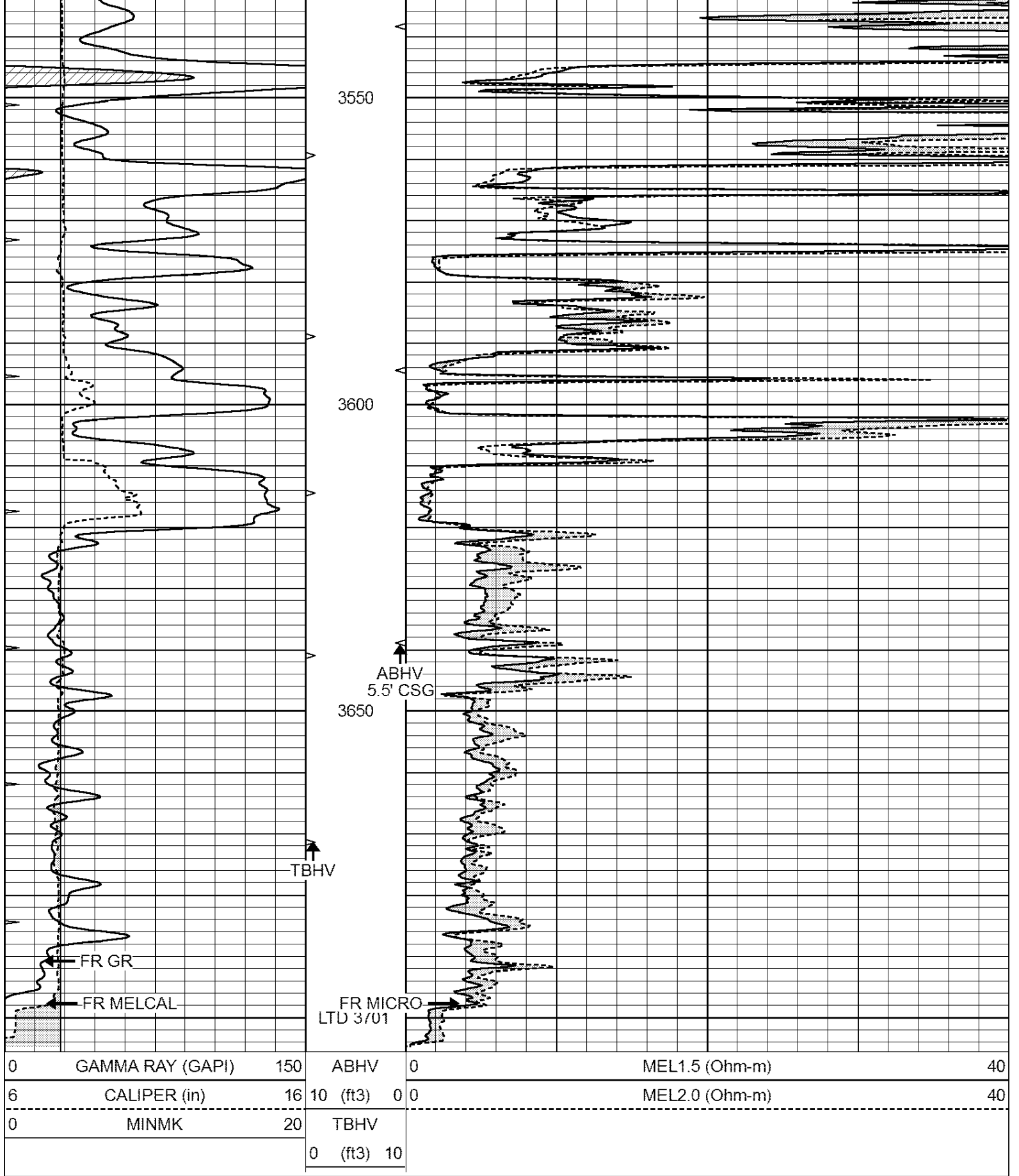
THANK YOU FOR USING NABORS, HAYS, KS. (785) 628-6395  
DIRECTIONS:  
HAYS, KS - 10 MILES NORTH TO DEAN HILL RD - 3/4 MILE WEST & NORTH  
WEST INTO (APPROX. 200' BEFORE CATTLE GUARD)

0	GAMMA RAY (GAPI)	150	ABHV	0	MEL1.5 (Ohm-m)	40
6	CALIPER (in)	16	10 (ft3)	0	MEL2.0 (Ohm-m)	40
0	MINMK	20	TBHV			
			0 (ft3)	10		







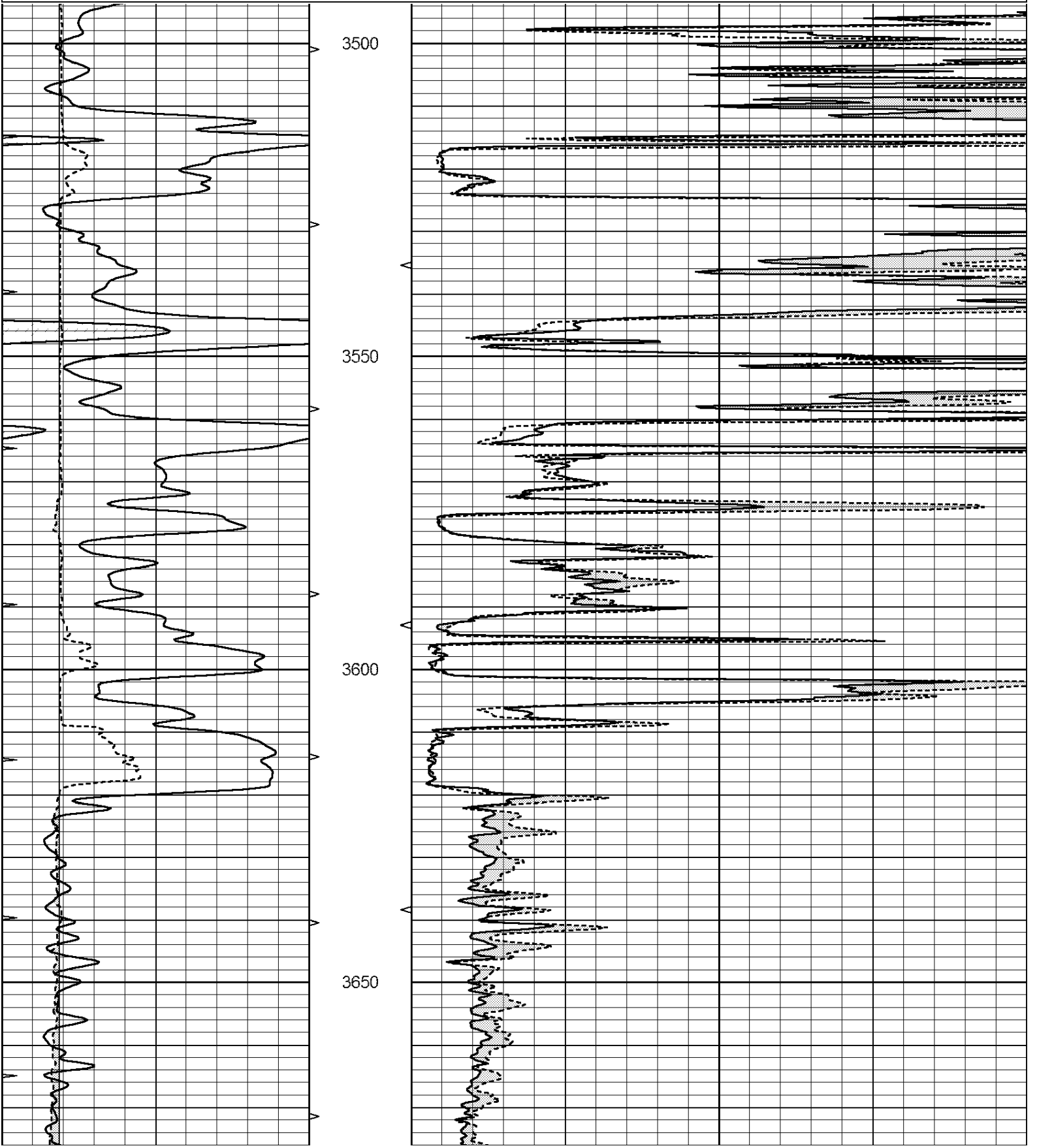


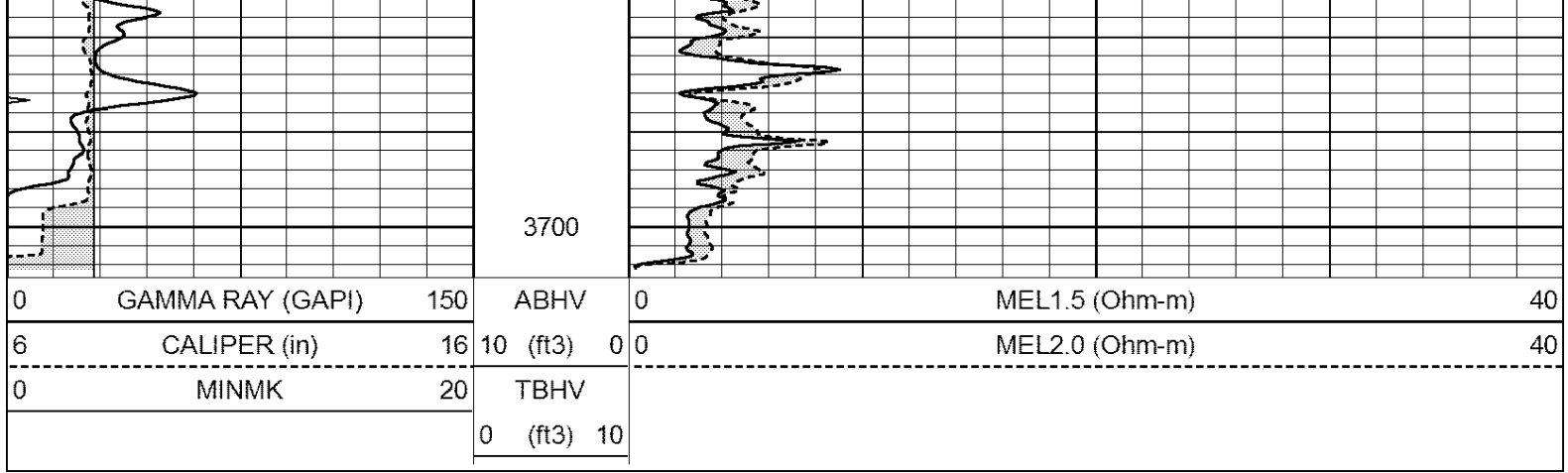
# REPEAT SECTION



Database File: U10648ddh.db  
 Dataset Pathname: pass4.1.2  
 Presentation Format: \_micro  
 Dataset Creation: Tue Feb 19 12:46:53 2013 by Calc Open-Cased 090629  
 Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	ABHV	0	MEL1.5 (Ohm-m)	40
6	CALIPER (in)	16	10 (ft3)	0	MEL2.0 (Ohm-m)	40
0	MINMK	20	TBHV			
			0 (ft3)	10		





### Calibration Report

Database File: 010648ddn.db  
 Dataset Pathname: pass5.1  
 Dataset Creation: Tue Feb 19 13:13:24 2013 by Calc Open-Cased 090629

#### MICRO Calibration Report

Serial Number: MICRO3  
 Tool Model: PROBE  
 Performed: Thu Nov 17 03:06:31 2011

Caliper Calibration: Gain=3.916      Offset=-9.971

	Low Cal	High Cal
References	8.000	14.000
Readings	4.257	5.789

1.5" Calibration: Gain=130.000      Offset=0.300

	Low Cal	High Cal
References	0.000	20.000
Readings	0.004	0.228

2" Calibration: Gain=130.553      Offset=-0.020

	Low Cal	High Cal
References	0.000	20.000
Readings	0.005	0.175

#### Gamma Ray Calibration Report

Serial Number: #8  
 Tool Model: OPEN  
 Performed: Mon Jun 13 16:56:43 2011

Calibrator Value: 150.0      GAPI

Background Reading:	0.0	cps
Calibrator Reading:	175.0	cps

Sensitivity: 0.8371      GAPI/cps



**COMPLETION  
& PRODUCTION  
SERVICES CO.**

**COMPENSATED  
DENSITY/NEUTRON  
LOG**

Company K & B NORTON OIL & INVESTMENTS, LLC  
Well FISHER #8  
Field BEMIS-SHUTTS  
County ELLIS  
State KANSAS

Company K & B NORTON OIL & INVESTMENTS, LLC  
Well FISHER #8  
Field BEMIS-SHUTTS  
County ELLIS State KANSAS

Location: API # : 15-051-26462-0000  
2310' FSL & 2205' FEL  
E/2 - NW - NW - SE  
SEC 28 TWP 11S RGE 18W  
Permanent Datum GROUND LEVEL Elevation 2080  
Log Measured From KELLY BUSHING 5' A.G.L.  
Drilling Measured From KELLY BUSHING  
Other Services DIL/MEL  
Elevation K.B. 2085  
D.F. 2083  
G.L. 2080

Date	2/19/13		
Run Number	ONE		
Depth Driller	3700		
Depth Logger	3701		
Bottom Logged Interval	3677		
Top Log Interval	2900		
Casing Driller	8 5/8" @ 206		
Casing Logger	216		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 2000 PPM	
Density / Viscosity	9.2/52		
pH / Fluid Loss	10.0/8.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.75 @ 51F		
Rmt @ Meas. Temp	0.42 @ 51F		
Rmc @ Meas. Temp	0.68 @ 51F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	0.34 @ 113F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	113F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JEFF GRONIEWEG		
Witnessed By	RICHARD BELL		

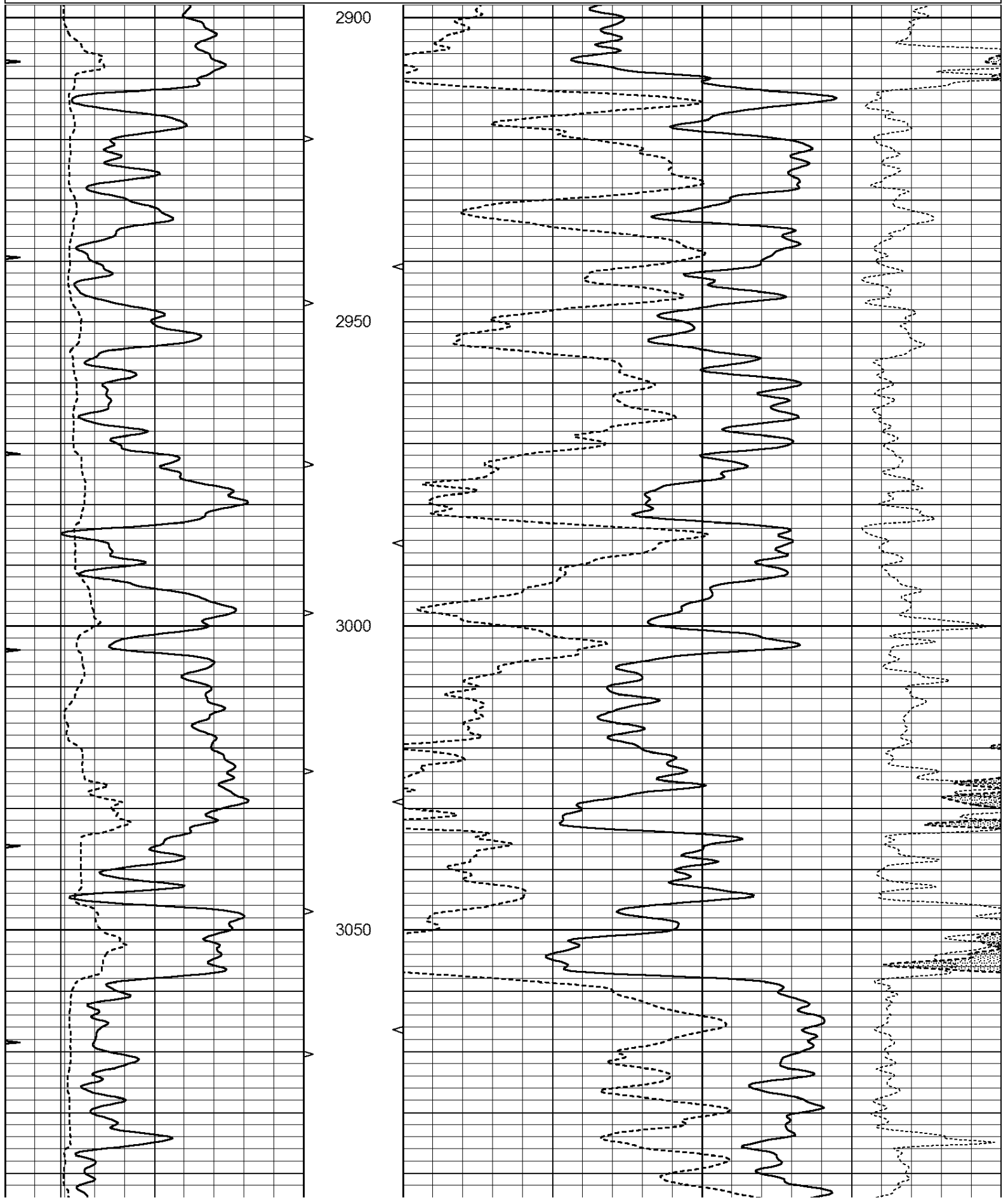
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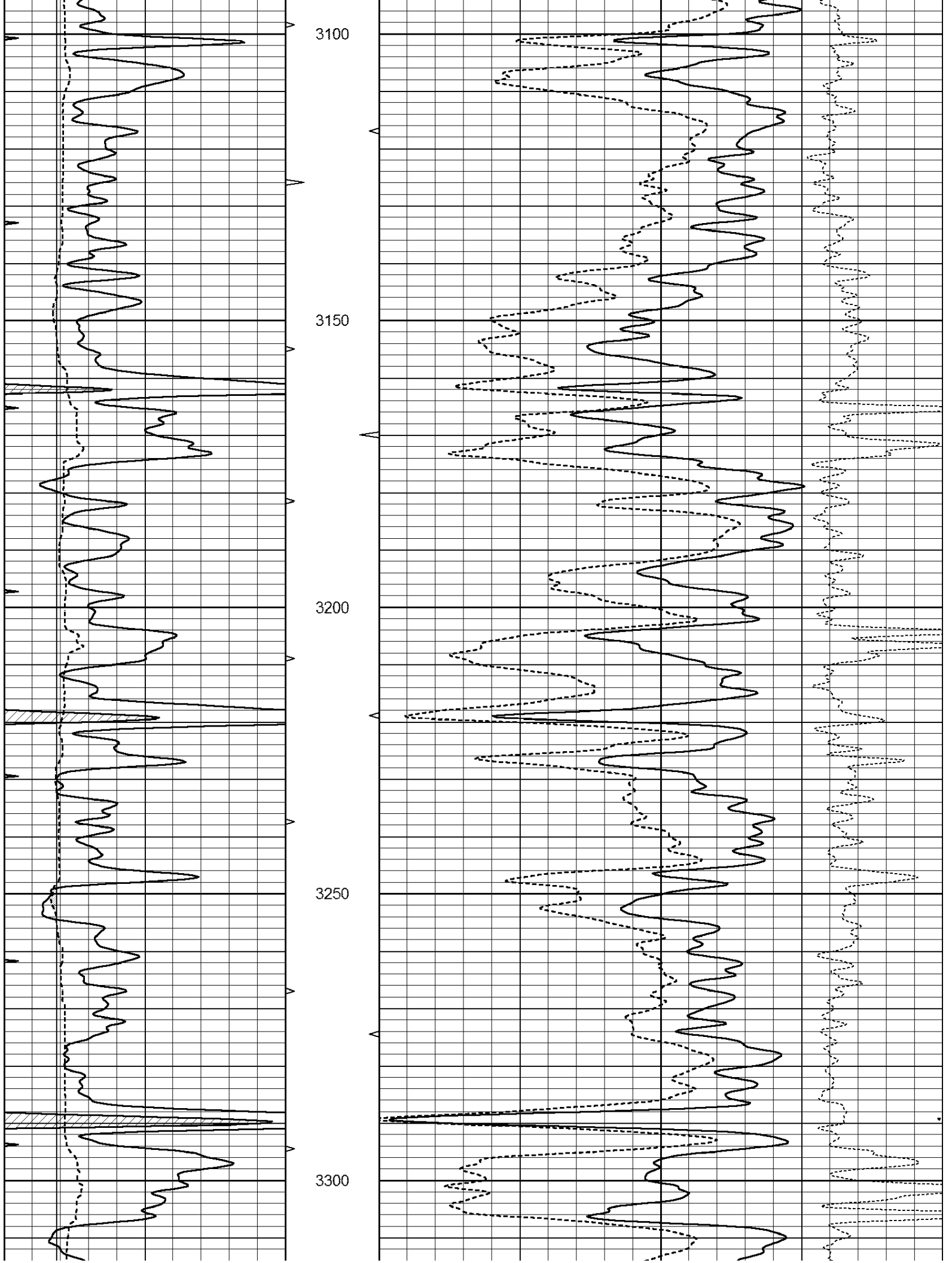
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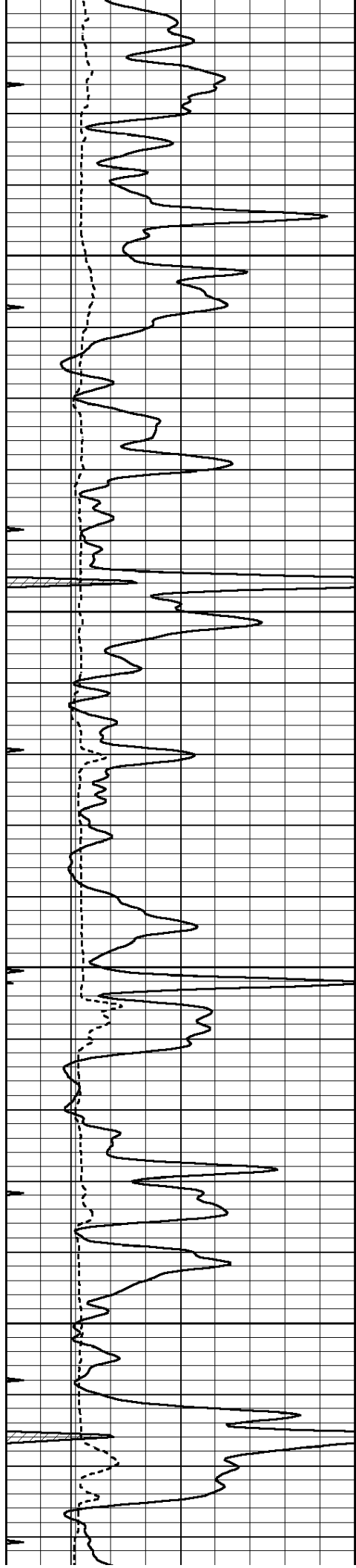
Comments

THANK YOU FOR USING NABORS, HAYS, KS. (785) 628-6395  
DIRECTIONS:  
HAYS, KS - 10 MILES NORTH TO DEAN HILL RD - 3/4 MILE WEST & NORTH  
WEST INTO (APPROX. 200' BEFORE CATTLE GUARD)

0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10
6	CALIPER (in)	16	10 (ft3)	0 30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV		-0.25 CORRECTION (g/cc)	0.25
			0 (ft3)	10		





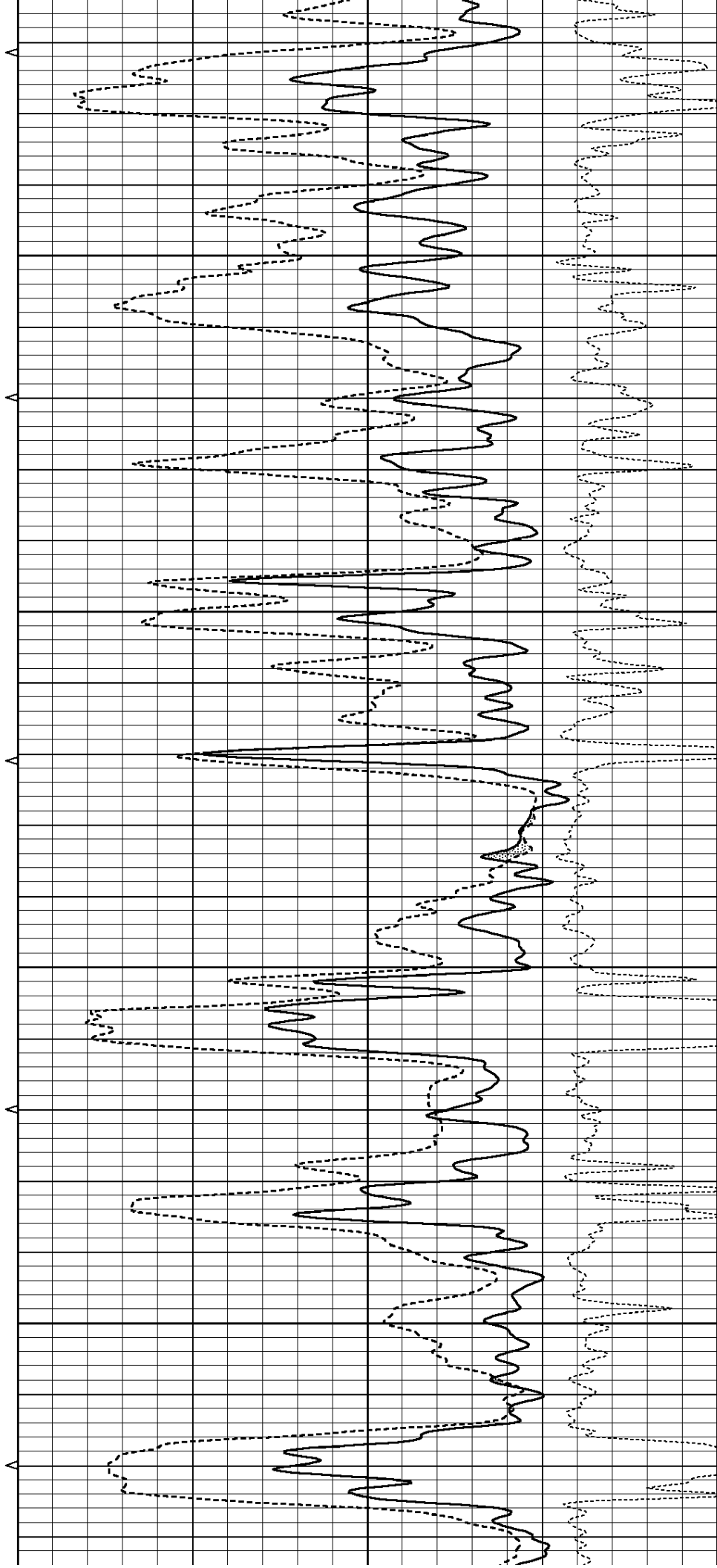


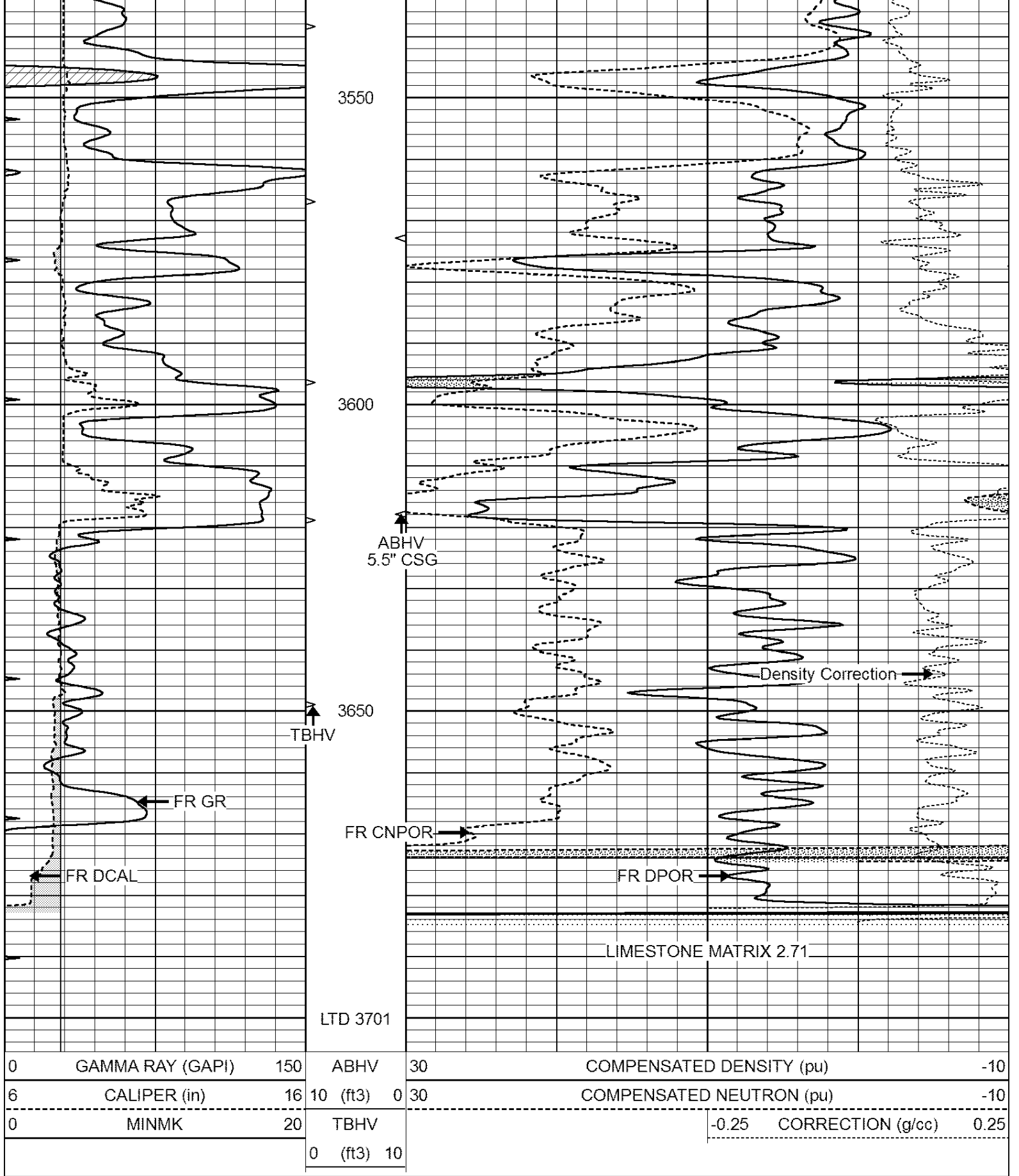
3350

3400

3450

3500

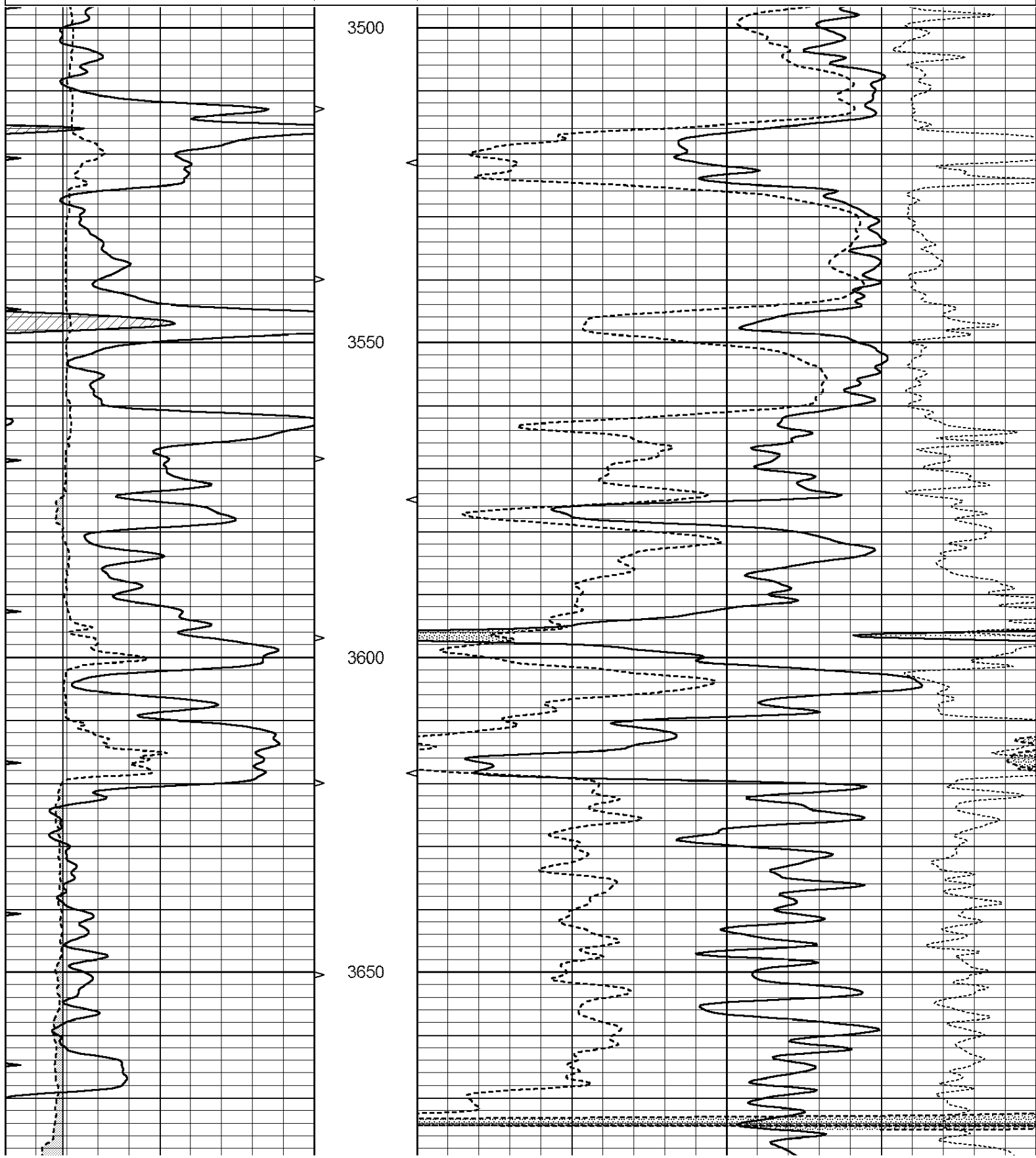




# REPEAT SECTION

Database File: U10648ddh.db  
 Dataset Pathname: pass2.1  
 Presentation Format: den\_neu  
 Dataset Creation: Tue Feb 19 10:42:49 2013 by Calc Open-Cased 090629  
 Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10
6	CALIPER (in)	16	10 (ft3)	0 30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV		-0.25 CORRECTION (g/cc)	0.25
			0 (ft3)	10		





			3700					
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)			-10
6	CALIPER (in)	16	10 (ft3) 0	30	COMPENSATED NEUTRON (pu)			-10
0	MINMK	20	TBHV		-0.25	CORRECTION (g/cc)	0.25	
			0 (ft3) 10					

### Calibration Report

Database File: 010648ddn.db  
 Dataset Pathname: pass3.2  
 Dataset Creation: Tue Feb 19 11:10:39 2013 by Calc Open-Cased 090629

### Dual Induction Calibration Report

Serial-Model: PROBE8-DILG  
 Surface Cal Performed: Fri Aug 01 06:33:19 2008  
 Downhole Cal Performed: Mon Jul 28 11:08:27 2008  
 After Survey Verification Performed: Mon Jul 28 11:08:27 2008

#### Surface Calibration

Loop:	Readings				References			Results	
	Air	Loop			Air	Loop		m	b
Deep	0.015	0.648	V	0.000	400.000	mmho/m	632.616	-9.730	
Medium	0.029	0.796	V	0.000	464.000	mmho/m	605.049	-17.680	
Internal:	Zero	Cal		Zero	Cal		m	b	
Deep	0.017	0.657	V	0.000	400.000	mmho/m	625.153	-10.619	
Medium	0.016	0.757	V	0.000	464.000	mmho/m	625.992	-9.739	

#### Downhole Calibration

	Readings				References			Results	
	Zero	Cal			Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	2.011	405.777	mmho/m	1.000	0.000	
Medium	0.000	0.000	mmho/m	7.590	503.393	mmho/m	1.000	0.000	
LL3		7.500	V		1500.000	Ohm-m			
		0.000	V		20.000	Ohm-m			
		-7.200	V		3800.000	mmho-m			

#### After Survey Verification

	Readings				Targets			Results	
	Zero	Cal			Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	0.000	0.000	mmho/m	0.000	0.000	
Medium	0.000	0.000	mmho/m	0.000	0.000	mmho/m	0.000	0.000	
LL3		1.000	Ohm-m		1.000	Ohm-m			
		0.000	Ohm-m		0.000	Ohm-m			
		1.000	mmho-m		1.000	mmho-m			

### Compensated Density Calibration Report

Serial-Model: GEAR3-GEARHART  
 Source / Verifier: 143 / 143  
 Master Calibration Performed: Fri Jan 04 15:48:16 2013  
 Before Survey Verification Performed:

Before Survey Verification Performed:  
After Survey Verification Performed:

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.710	g/cc	935.36	501.55	cps
Aluminum	2.580	g/cc	209.32	357.01	cps
Spine Angle = 77.21			Density/Spine Ratio = 0.567		
	Size		Reading		
Small Ring	8.00	in	4.29	V	
Large Ring	14.00	in	6.24	V	

Before Survey Verification

Target	Measured
g/cc	g/cc
g/cc	g/cc
g/cc	g/cc

After Survey Verification

Target	Measured
g/cc	g/cc
g/cc	g/cc
g/cc	g/cc

Compensated Neutron Calibration Report

Serial Number: 6I  
Tool Model: G

CALIBRATION

Detector	Readings	Target	Normalization
Short Space	1.00 cps	1.00 cps	1.0000
Long Space	1.00 cps	1.00 cps	1.0000

PRE-SURVEY VERIFICATION

	Detector	Readings	Measured	Target
1)	Short Space	cps		
	Long Space	cps	pu	pu
2)	Short Space	cps		
	Long Space	cps	pu	
3)	Short Space	cps		
	Long Space	cps	pu	

POST-SURVEY VERIFICATION

	Detector	Readings	Measured	Target
1)	Short Space	cps		
	Long Space	cps	pu	pu
2)	Short Space	cps		
	Long Space	cps	pu	pu
3)	Short Space	cps		
	Long Space	cps	pu	pu

Gamma Ray Calibration Report

Serial Number:	#8	
Tool Model:	OPEN	
Performed:	Mon Jun 13 16:56:43 2011	
Calibrator Value:	150.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	175.0	cps
Sensitivity:	0.8371	GAPI/cps