



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1152900
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: _____



1152900

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <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

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____ <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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DRILL STEM TEST REPORT

Prepared For: **TDI Inc**

1310 Bison Rd.
Hays KS 67601

ATTN: Tom Denning / Herb D

Bieler #1

9-15s-19w Eliis,KS

Start Date: 2013.07.17 @ 02:21:01

End Date: 2013.07.17 @ 08:43:01

Job Ticket #: 53996 DST #: 1

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

Printed: 2013.07.22 @ 09:56:51



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

TDI Inc
 1310 Bison Rd.
 Hays KS 67601
 ATTN: Tom Denning / Herb D

9-15s-19w Eliis,KS
Bieler #1
 Job Ticket: 53996 **DST#: 1**
 Test Start: 2013.07.17 @ 02:21:01

GENERAL INFORMATION:

Formation: "C"
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 04:06:46
 Time Test Ended: 08:43:01
 Interval: **3314.00 ft (KB) To 3365.00 ft (KB) (TVD)**
 Total Depth: 3365.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Tate Lang
 Unit No: 70
 Reference Elevations: 2034.00 ft (KB)
 2023.00 ft (CF)
 KB to GR/CF: 11.00 ft

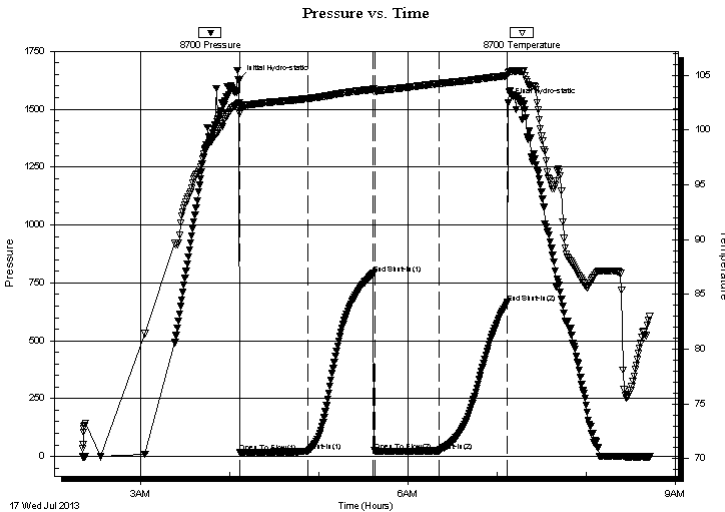
Serial #: 8700

Outside

Press @ Run Depth: 24.23 psig @ 3318.00 ft (KB)
 Start Date: 2013.07.17 End Date: 2013.07.17
 Start Time: 02:21:06 End Time: 08:43:00
 Capacity: 8000.00 psig
 Last Calib.: 2013.07.17
 Time On Btm: 2013.07.17 @ 04:06:31
 Time Off Btm: 2013.07.17 @ 07:07:31

TEST COMMENT: Weak surface blow built to 2 in.
 Dead no blow back
 Weak surface blow built to 1 in.
 Dead no blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1625.61	102.46	Initial Hydro-static
1	16.17	101.49	Open To Flow (1)
46	21.44	102.88	Shut-In(1)
91	789.92	103.73	End Shut-In(1)
91	23.95	103.54	Open To Flow (2)
135	24.23	104.24	Shut-In(2)
181	664.09	104.97	End Shut-In(2)
181	1526.63	105.27	Final Hydro-static

Recovery

Gas Rates

Length (ft)	Description	Volume (bbl)
30.00	2%O 98%M (Skim of oil on top of tool)	0.42

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

TDI Inc
 1310 Bison Rd.
 Hays KS 67601
 ATTN: Tom Denning / Herb D

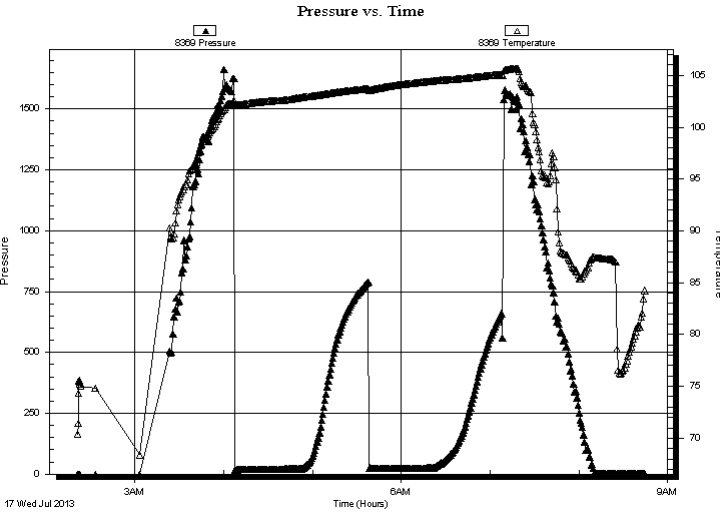
9-15s-19w Eliis,KS
Bieler #1
 Job Ticket: 53996 **DST#: 1**
 Test Start: 2013.07.17 @ 02:21:01

GENERAL INFORMATION:

Formation: **"C"**
 Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 04:06:46 Tester: Tate Lang
 Time Test Ended: 08:43:01 Unit No: 70
Interval: 3314.00 ft (KB) To 3365.00 ft (KB) (TVD) Reference Elevations: 2034.00 ft (KB)
 Total Depth: 3365.00 ft (KB) (TVD) 2023.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 11.00 ft

Serial #: 8369 **Inside**
 Press @ Run Depth: psig @ 3318.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.07.17 End Date: 2013.07.17 Last Calib.: 2013.07.17
 Start Time: 02:21:20 End Time: 08:44:29 Time On Btm:
 Time Off Btm:

TEST COMMENT: Weak surface blow built to 2 in.
 Dead no blow back
 Weak surface blow built to 1 in.
 Dead no blow back



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

Recovery		
Length (ft)	Description	Volume (bbl)
30.00	2%O 98%M (Skim of oil on top of tool)	0.42

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI Inc
1310 Bison Rd.
Hays KS 67601
ATTN: Tom Denning / Herb D

9-15s-19w Eliis,KS
Bieler #1
Job Ticket: 53996 **DST#: 1**
Test Start: 2013.07.17 @ 02:21:01

Tool Information

Drill Pipe:	Length: 3310.00 ft	Diameter: 3.80 inches	Volume: 46.43 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 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: 46.43 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial	42000.00 lb
Depth to Top Packer:	3314.00 ft			Final	42000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	51.00 ft				
Tool Length:	72.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3294.00	
Shut In Tool	5.00			3299.00	
Hydraulic tool	5.00			3304.00	
Packer	5.00			3309.00	21.00 Bottom Of Top Packer
Packer	5.00			3314.00	
Stubb	1.00			3315.00	
Perforations	3.00			3318.00	
Recorder	0.00	8369	Inside	3318.00	
Recorder	0.00	8700	Outside	3318.00	
Change Over Sub	1.00			3319.00	
Drill Pipe	32.00			3351.00	
Change Over Sub	1.00			3352.00	
Perforations	10.00			3362.00	
Bullnose	3.00			3365.00	51.00 Bottom Packers & Anchor

Total Tool Length: 72.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI Inc

9-15s-19w Eliis,KS

1310 Bison Rd.
Hays KS 67601

Bieler #1

Job Ticket: 53996

DST#: 1

ATTN: Tom Denning / Herb D

Test Start: 2013.07.17 @ 02:21:01

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: 60.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.18 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1600.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
30.00	2%O 98%M (Skim of oil on top of tool)	0.421

Total Length: 30.00 ft Total Volume: 0.421 bbf

Num Fluid Samples: 0

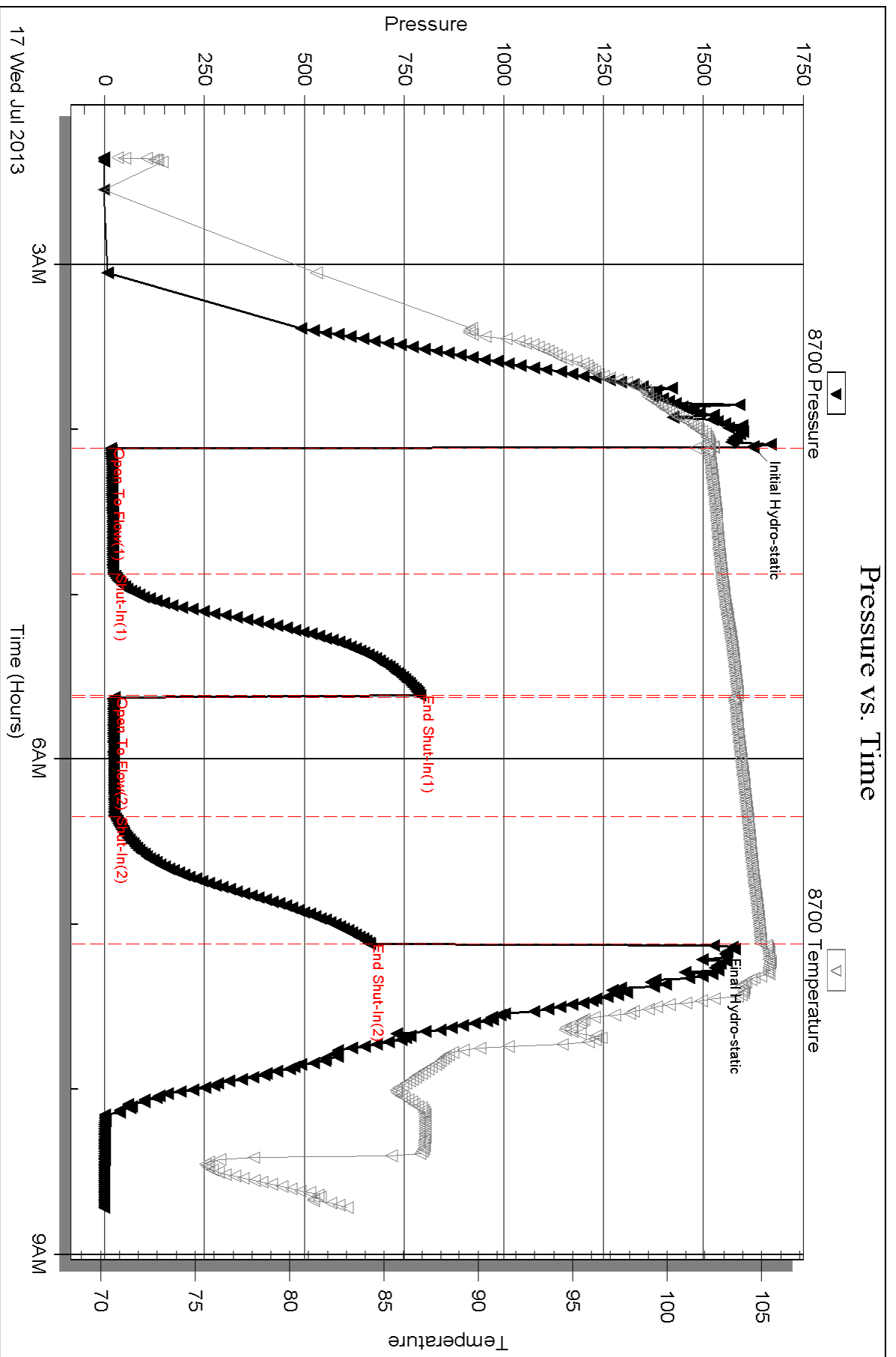
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



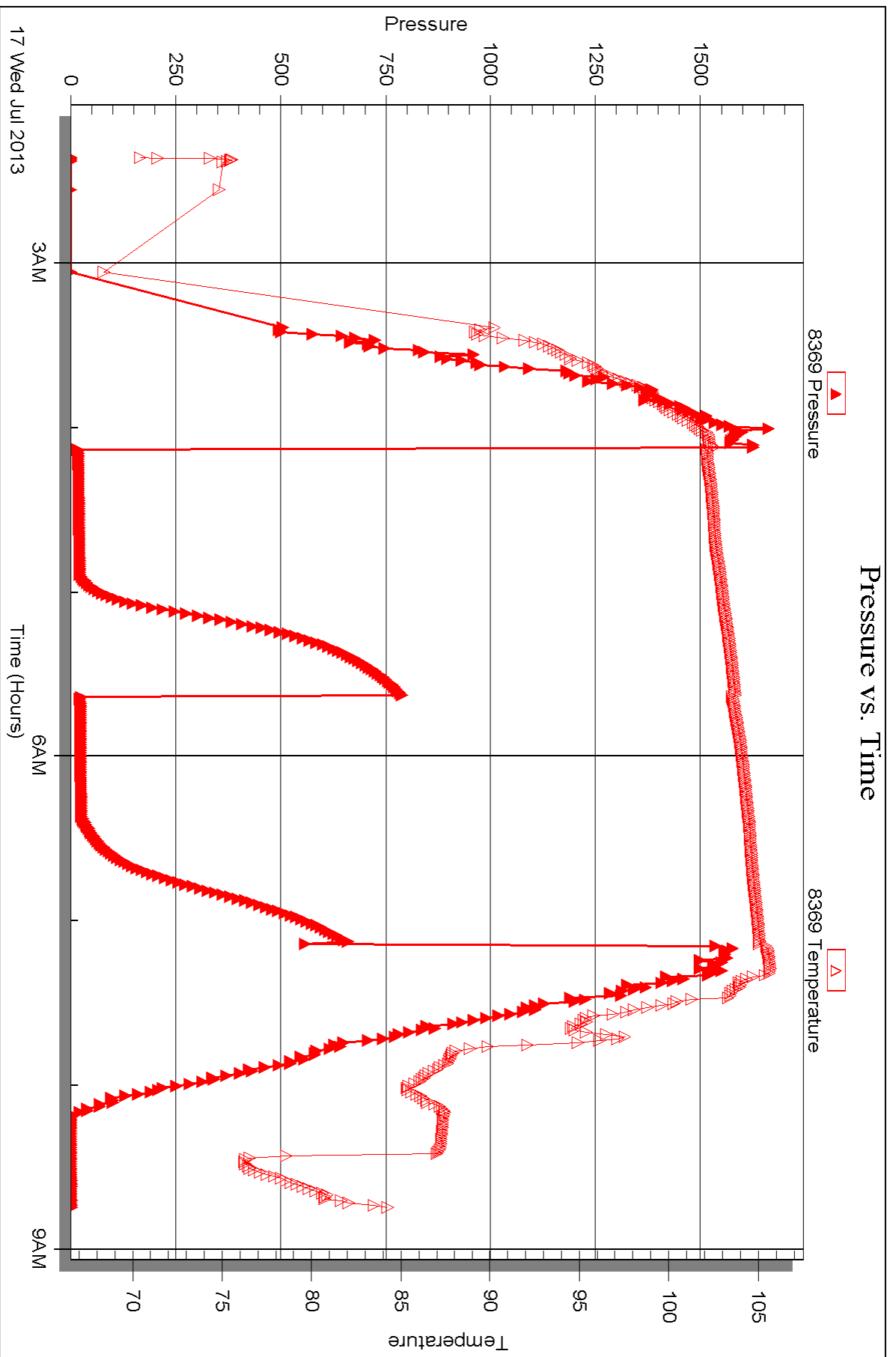
Serial #: 8369

Inside

TDI Inc

Bieler #1

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 53996

Printed: 2013.07.22 @ 09:56:54



DRILL STEM TEST REPORT

Prepared For: **TDI Inc**

1310 Bison Rd.
Hays KS 67601

ATTN: Tom Denning / Herb D

Bieler #1

9-15s-19w Eliis,KS

Start Date: 2013.07.18 @ 02:30:39

End Date: 2013.07.18 @ 09:57:24

Job Ticket #: 53997 DST #: 2

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

Printed: 2013.07.22 @ 09:56:12

TDI Inc
9-15s-19w Eliis,KS
Bieler #1
DST # 2
I-J
2013.07.18



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TDI Inc
1310 Bison Rd.
Hays KS 67601
ATTN: Tom Denning / Herb D

9-15s-19w Eliis,KS
Bieler #1
Job Ticket: 53997 **DST#: 2**
Test Start: 2013.07.18 @ 02:30:39

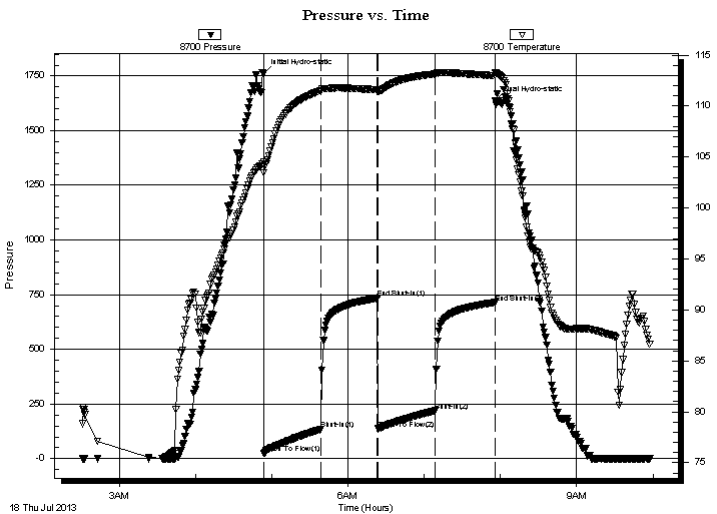
GENERAL INFORMATION:

Formation: **I-J**
Deviated: **No** Whipstock: **ft (KB)** Test Type: **Conventional Bottom Hole (Reset)**
Time Tool Opened: **04:53:39** Tester: **Tate Lang**
Time Test Ended: **09:57:24** Unit No: **70**
Interval: 3478.00 ft (KB) To 3530.00 ft (KB) (TVD) Reference Elevations: **2034.00 ft (KB)**
Total Depth: **3530.00 ft (KB) (TVD)** **2023.00 ft (CF)**
Hole Diameter: **7.88 inches** Hole Condition: **Good** KB to GR/CF: **11.00 ft**

Serial #: 8700 **Outside**
Press @ Run Depth: **219.08 psig @ 3483.00 ft (KB)** Capacity: **8000.00 psig**
Start Date: **2013.07.18** End Date: **2013.07.18** Last Calib.: **2013.07.18**
Start Time: **02:30:44** End Time: **09:57:23** Time On Btm: **2013.07.18 @ 04:53:24**
Time Off Btm: **2013.07.18 @ 07:55:54**

TEST COMMENT: B.O.B. In 14 mins.
Dead no blow back
B.O.B. In 24 mins
Dead no blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1760.58	104.47	Initial Hydro-static
1	24.31	103.45	Open To Flow (1)
45	133.87	111.55	Shut-In(1)
90	733.03	111.62	End Shut-In(1)
90	136.13	111.42	Open To Flow (2)
136	219.08	113.15	Shut-In(2)
182	713.84	112.97	End Shut-In(2)
183	1636.43	113.30	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
180.00	2%M 98%W	2.52
120.00	15%M 85%W	1.68
115.00	50%M 50%W	1.61
5.00	100% Free Oil	0.07
0.00	60 GIP	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI Inc
1310 Bison Rd.
Hays KS 67601
ATTN: Tom Denning / Herb D

9-15s-19w Eliis,KS
Bieler #1
Job Ticket: 53997 **DST#: 2**
Test Start: 2013.07.18 @ 02:30:39

Tool Information

Drill Pipe:	Length: 3468.00 ft	Diameter: 3.80 inches	Volume: 48.65 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	60000.00 lb
			<u>Total Volume: 48.65 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial	41000.00 lb
Depth to Top Packer:	3478.00 ft			Final	43000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	52.00 ft				
Tool Length:	73.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3458.00	
Shut In Tool	5.00			3463.00	
Hydraulic tool	5.00			3468.00	
Packer	5.00			3473.00	21.00 Bottom Of Top Packer
Packer	5.00			3478.00	
Stubb	1.00			3479.00	
Perforations	4.00			3483.00	
Recorder	0.00	8369	Inside	3483.00	
Recorder	0.00	8700	Outside	3483.00	
Change Over Sub	1.00			3484.00	
Drill Pipe	32.00			3516.00	
Change Over Sub	1.00			3517.00	
Perforations	10.00			3527.00	
Bullnose	3.00			3530.00	52.00 Bottom Packers & Anchor

Total Tool Length: 73.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI Inc

9-15s-19w Eliis,KS

1310 Bison Rd.
Hays KS 67601

Bieler #1

Job Ticket: 53997

DST#: 2

ATTN: Tom Denning / Herb D

Test Start: 2013.07.18 @ 02:30:39

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: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.18 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1600.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
180.00	2%M 98%W	2.525
120.00	15%M 85%W	1.683
115.00	50%M 50%W	1.613
5.00	100% Free Oil	0.070
0.00	60 GIP	0.000

Total Length: 420.00 ft Total Volume: 5.891 bbl

Num Fluid Samples: 0

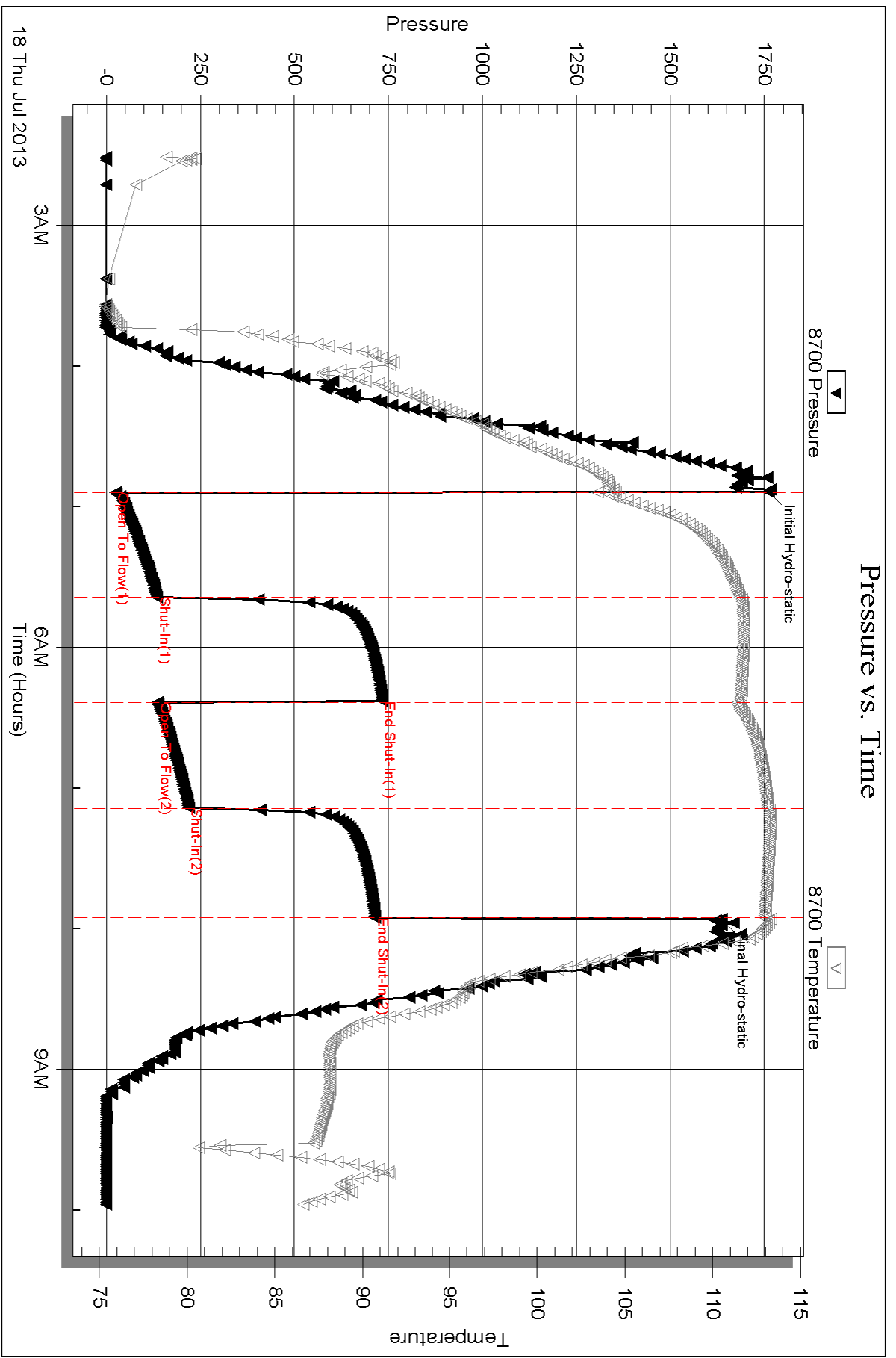
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .066 @ 83 F 130,000



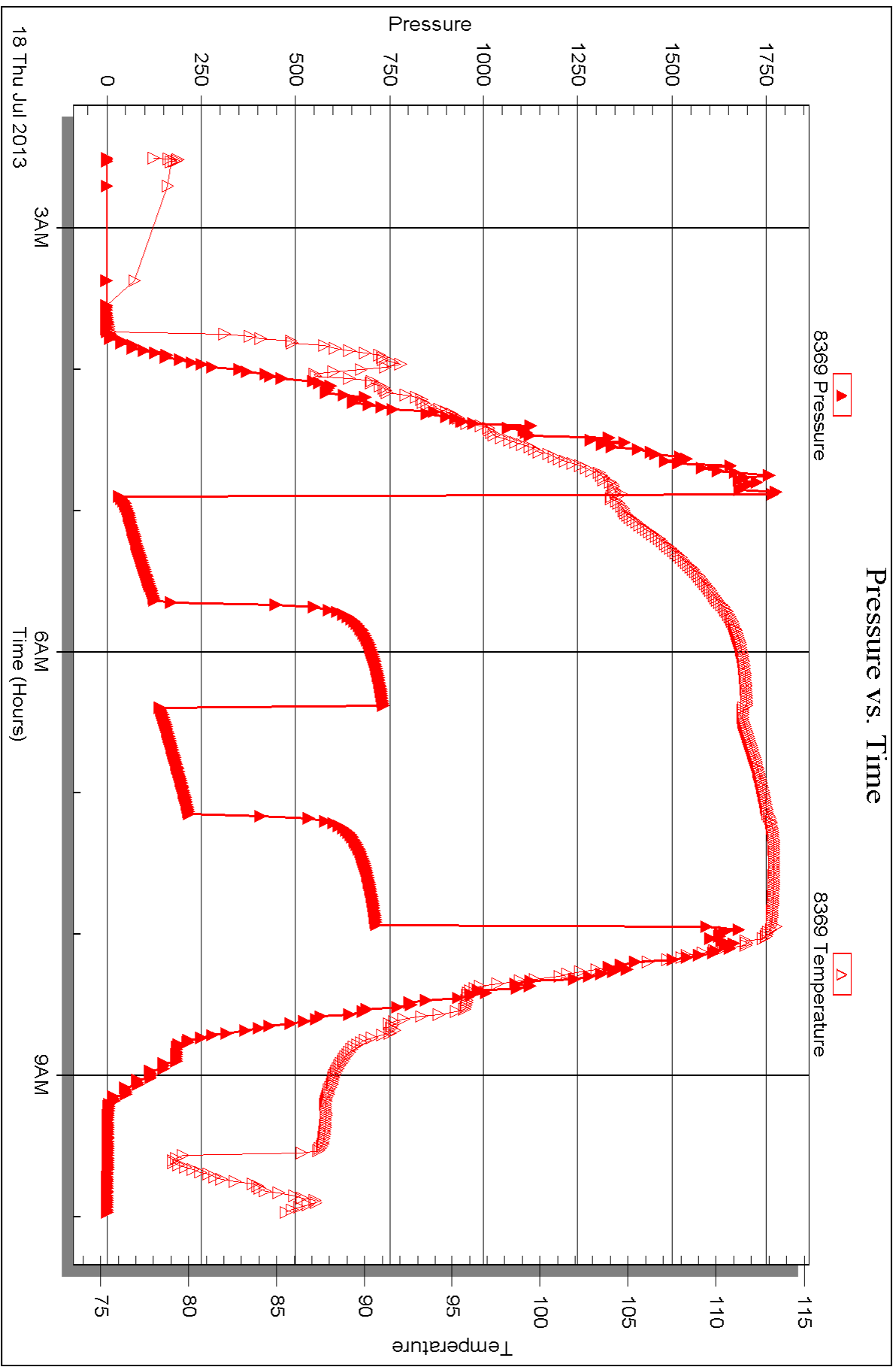
Serial #: 8369

Inside

TDI Inc

Bieler #1

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **TDI Inc**

1310 Bison Rd.
Hays KS 67601

ATTN: Tom Denning / Herb D

Bieler #1

9-15s-19w Eliis,KS

Start Date: 2013.07.19 @ 11:26:12

End Date: 2013.07.19 @ 17:30:57

Job Ticket #: 53998 DST #: 3

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

Printed: 2013.07.22 @ 09:54:36

TDI Inc
9-15s-19w Eliis,KS
Bieler #1
DST # 3
G
2013.07.19



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TDI Inc
1310 Bison Rd.
Hays KS 67601
ATTN: Tom Denning / Herb D

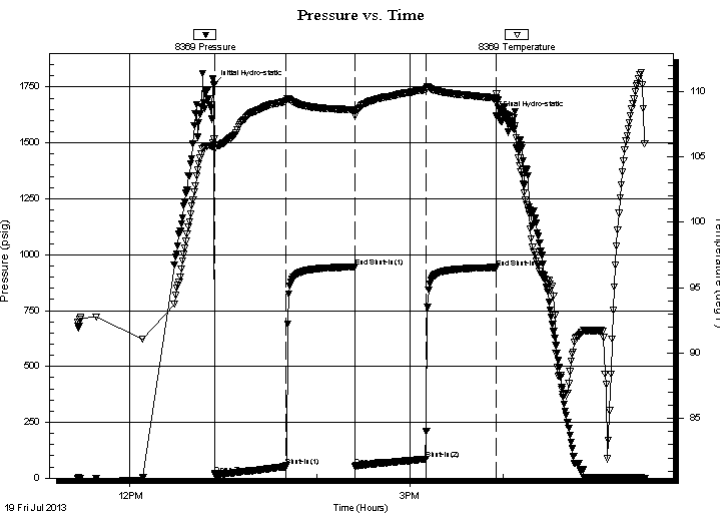
9-15s-19w Eliis,KS
Bieler #1
Job Ticket: 53998 **DST#: 3**
Test Start: 2013.07.19 @ 11:26:12

GENERAL INFORMATION:

Formation: **G**
Deviated: **No** Whipstock: **ft (KB)** Test Type: **Conventional Straddle (Reset)**
Time Tool Opened: **12:54:12** Tester: **Tate Lang**
Time Test Ended: **17:30:57** Unit No: **70**
Interval: 3410.00 ft (KB) To 3430.00 ft (KB) (TVD) Reference Elevations: **2034.00 ft (KB)**
Total Depth: **3750.00 ft (KB) (TVD)** **2023.00 ft (CF)**
Hole Diameter: **7.88 inches** Hole Condition: **Good** KB to GR/CF: **11.00 ft**

Serial #: 8369 **Inside**
Press @ Run Depth: **85.68 psig @ 3411.00 ft (KB)** Capacity: **8000.00 psig**
Start Date: **2013.07.19** End Date: **2013.07.19** Last Calib.: **2013.07.19**
Start Time: **11:26:17** End Time: **17:30:56** Time On Btm: **2013.07.19 @ 12:53:57**
Time Off Btm: **2013.07.19 @ 15:55:27**

TEST COMMENT: Fair surface blow built to 7 in.
Dead no blow back.
Fair surface blow built to 4 in.
Dead no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1762.56	106.37	Initial Hydro-static
1	16.99	105.56	Open To Flow (1)
47	51.10	109.25	Shut-In(1)
91	944.71	108.56	End Shut-In(1)
91	54.39	108.11	Open To Flow (2)
136	85.68	110.13	Shut-In(2)
182	942.52	109.48	End Shut-In(2)
182	1623.39	109.79	Final Hydro-static

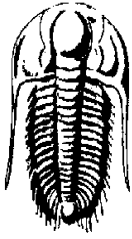
Recovery

Length (ft)	Description	Volume (bbl)
60.00	2%M 98%W	0.84
80.00	20%M 80%W	1.12

* Recovery from multiple tests

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TDI Inc
1310 Bison Rd.
Hays KS 67601
ATTN: Tom Denning / Herb D

9-15s-19w Eliis,KS
Bieler #1
Job Ticket: 53998 **DST#: 3**
Test Start: 2013.07.19 @ 11:26:12

GENERAL INFORMATION:

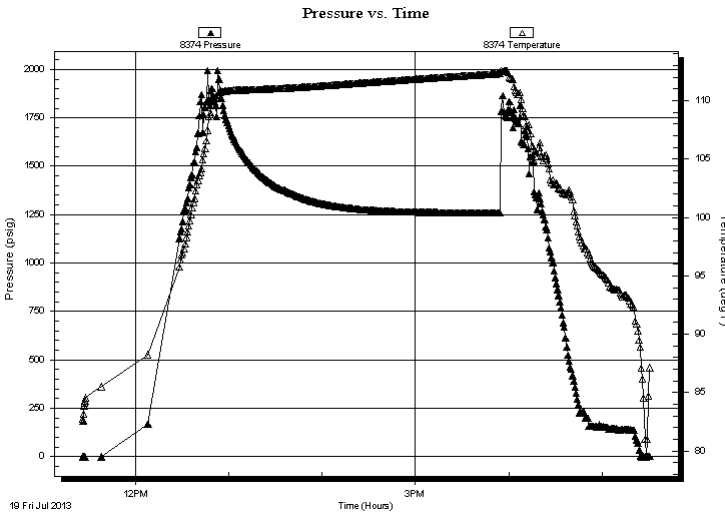
Formation: **G**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Straddle (Reset)
Time Tool Opened: 12:54:12 Tester: Tate Lang
Time Test Ended: 17:30:57 Unit No: 70
Interval: 3410.00 ft (KB) To 3430.00 ft (KB) (TVD) Reference Elevations: 2034.00 ft (KB)
Total Depth: 3750.00 ft (KB) (TVD) 2023.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 11.00 ft

Serial #: 8374 Below (Straddle)

Press@RunDepth: psig @ 3747.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2013.07.19 End Date: 2013.07.19 Last Calib.: 1899.12.30
Start Time: 11:26:12 End Time: 17:30:51 Time On Btm:
Time Off Btm:

TEST COMMENT: Fair surface blow built to 7 in.
Dead no blow back.
Fair surface blow built to 4 in.
Dead no blow back

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
60.00	2%M 98%W	0.84
80.00	20%M 80%W	1.12

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

TDI Inc
1310 Bison Rd.
Hays KS 67601
ATTN: Tom Denning / Herb D

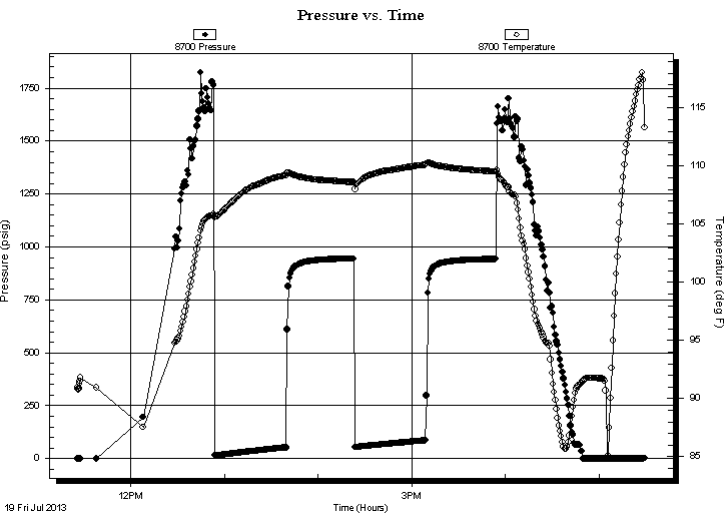
9-15s-19w Eliis,KS
Bieler #1
Job Ticket: 53998 **DST#: 3**
Test Start: 2013.07.19 @ 11:26:12

GENERAL INFORMATION:

Formation: **G**
Deviated: **No Whipstock:** ft (KB)
Time Tool Opened: 12:54:12
Time Test Ended: 17:30:57
Interval: **3410.00 ft (KB) To 3430.00 ft (KB) (TVD)**
Total Depth: 3750.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Straddle (Reset)
Tester: Tate Lang
Unit No: 70
Reference Elevations: 2034.00 ft (KB)
2023.00 ft (CF)
KB to GR/CF: 11.00 ft

Serial #: 8700 **Outside**
Press @ RunDepth: psig @ 3411.00 ft (KB)
Start Date: 2013.07.19 End Date: 2013.07.19
Start Time: 11:26:08 End Time: 17:29:32
Capacity: 8000.00 psig
Last Calib.: 2013.07.19
Time On Btm:
Time Off Btm:

TEST COMMENT: Fair surface blow built to 7 in.
Dead no blow back.
Fair surface blow built to 4 in.
Dead no blow back



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
60.00	2%M 98%W	0.84
80.00	20%M 80%W	1.12

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI Inc
1310 Bison Rd.
Hays KS 67601
ATTN: Tom Denning / Herb D

9-15s-19w Eliis,KS
Bieler #1
Job Ticket: 53998 **DST#: 3**
Test Start: 2013.07.19 @ 11:26:12

Tool Information

Drill Pipe:	Length: 3411.00 ft	Diameter: 3.80 inches	Volume: 47.85 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 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:	60000.00 lb
			<u>Total Volume: 47.85 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial	50000.00 lb
Depth to Top Packer:	3410.00 ft			Final	52000.00 lb
Depth to Bottom Packer:	3427.00 ft				
Interval between Packers:	17.00 ft				
Tool Length:	361.00 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			3390.00	
Shut In Tool	5.00			3395.00	
Hydraulic tool	5.00			3400.00	
Packer	5.00			3405.00	21.00 Bottom Of Top Packer
Packer	5.00			3410.00	
Stubb	1.00			3411.00	
Recorder	0.00	8369	Inside	3411.00	
Recorder	0.00	8700	Outside	3411.00	
Perforations	15.00			3426.00	
Blank Off Sub	1.00			3427.00	17.00 Tool Interval
Packer	3.00			3430.00	
Stubb	1.00			3431.00	
Perforations	4.00			3435.00	
Change Over Sub	1.00			3436.00	
Drill Pipe	310.00			3746.00	
Change Over Sub	1.00			3747.00	
Recorder	0.00	8374	Below	3747.00	
Bullnose	3.00			3750.00	323.00 Bottom Packers & Anchor

Total Tool Length: 361.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI Inc

9-15s-19w Eliis,KS

1310 Bison Rd.
Hays KS 67601

Bieler #1

Job Ticket: 53998

DST#: 3

ATTN: Tom Denning / Herb D

Test Start: 2013.07.19 @ 11:26:12

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: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3200.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
60.00	2%M 98%W	0.842
80.00	20%M 80%W	1.122

Total Length: 140.00 ft Total Volume: 1.964 bbl

Num Fluid Samples: 0

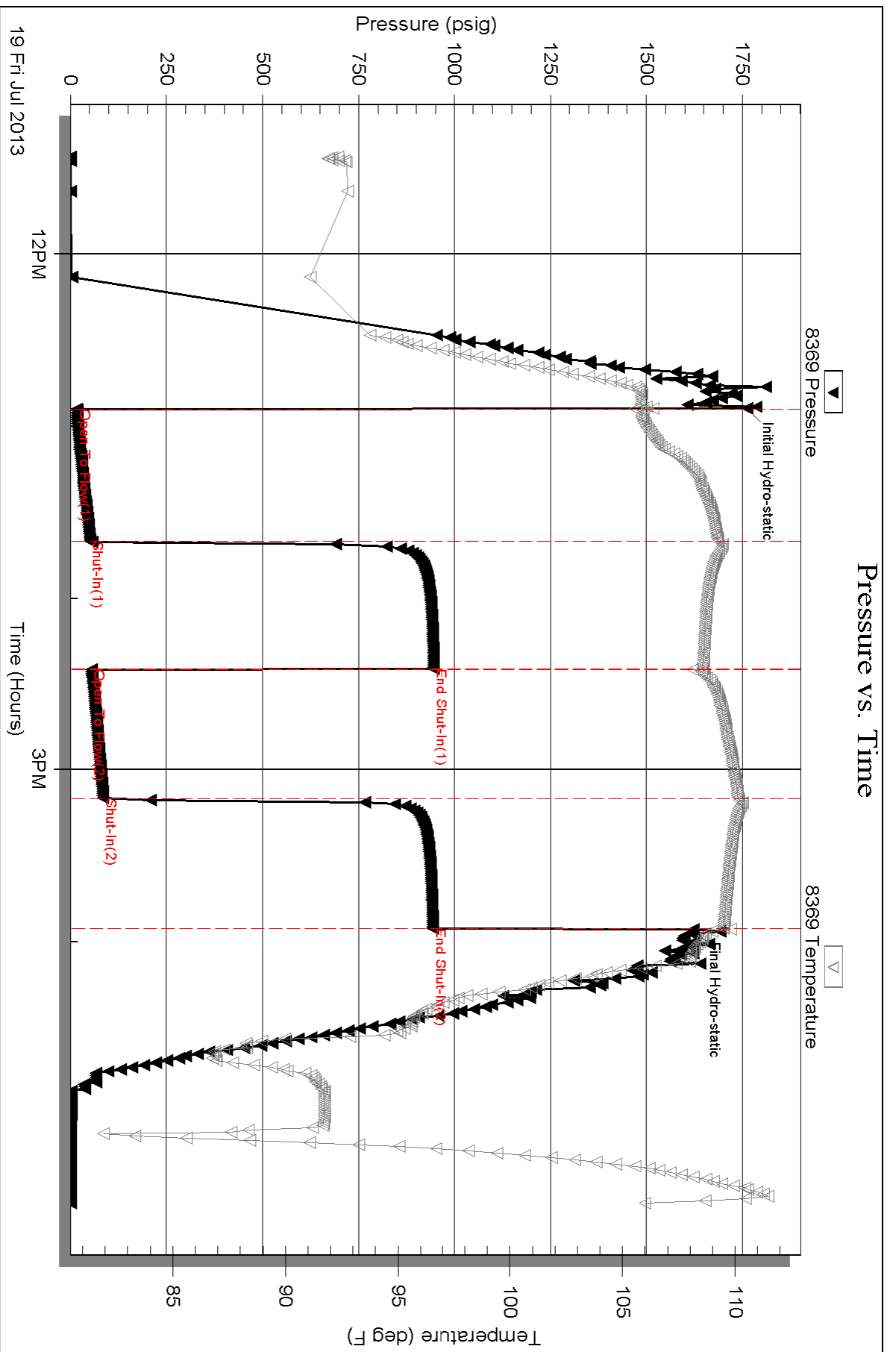
Num Gas Bombs: 0

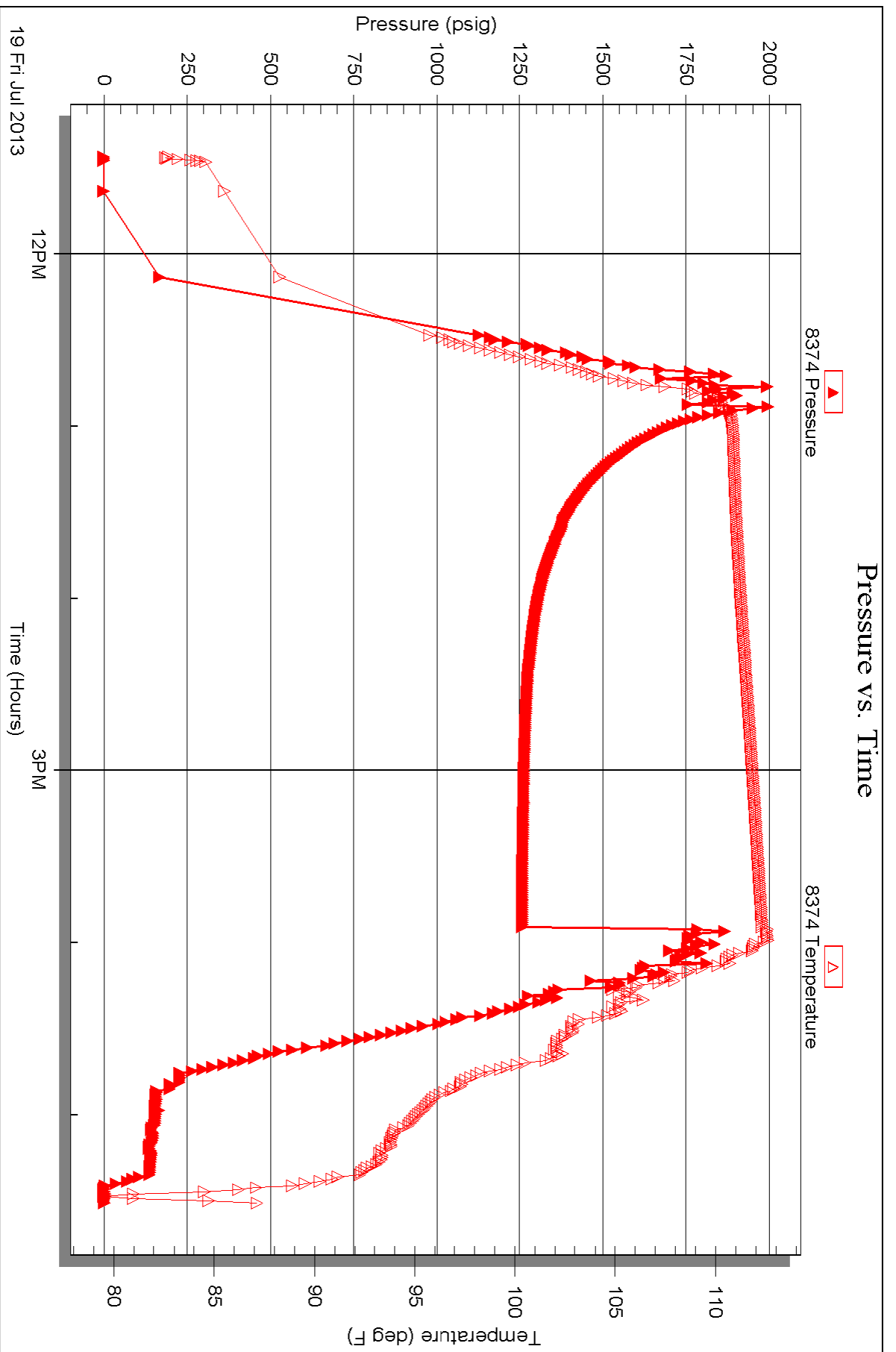
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .050 @ 105 F = 110,000



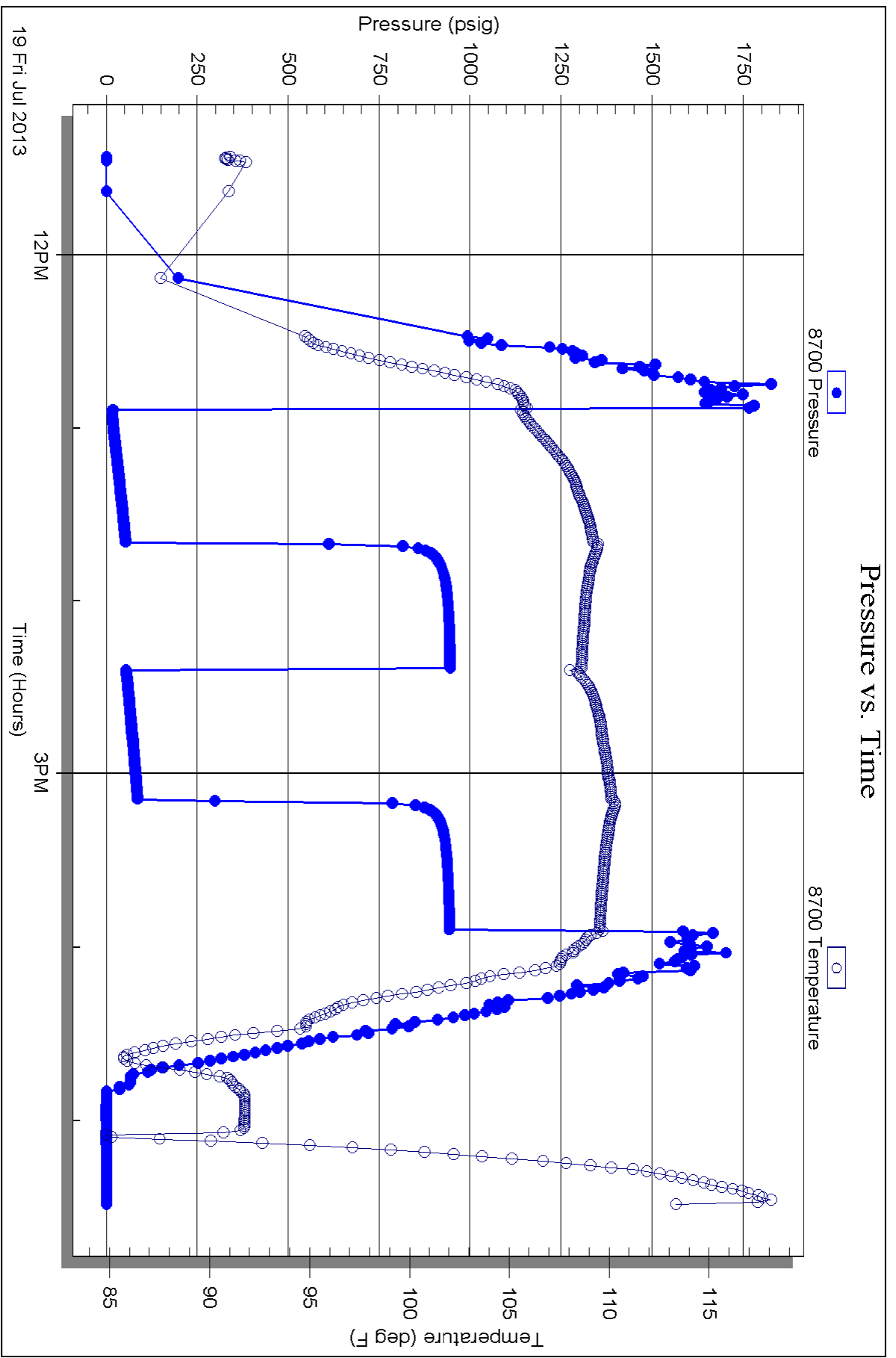


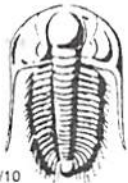
Serial #: 8700

Outside TDI Inc

Bieler #1

DST Test Number: 3





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 53996

Well Name & No. Bieder #1 Test No. 1 Date 7-17-13
 Company TDT INC. Elevation 2034 KB 2023 GL
 Address 1310 Bison Rd., Hays KS, 67601
 Co. Rep / Geo. Tom Deming / Herb Deines Rig Southwings Rig #1
 Location: Sec. 9 Twp. 15 Rge. 19 Co. Ellis State Ks

Interval Tested 3314 3365 Zone Tested "C"
 Anchor Length 51 Drill Pipe Run 3310 Mud Wt. 8.9
 Top Packer Depth 3310 Drill Collars Run 0 Vis 60
 Bottom Packer Depth 3314 Wt. Pipe Run 0 WL 7.2
 Total Depth 3365 Chlorides 1600 ppm System LCM 1#

Blow Description Weak surface blow built to 2in
Dead no blow back
Weak surface blow built to 1in.
Dead no blow back

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>30</u>	Feet of <u>150cm (skin oil on top tool)</u>	%gas <u>2</u>	%oil <u>98</u>	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 30 BHT 105 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 1625 Test 1150 T-On Location 1200.50
 (B) First Initial Flow 16 Jars T-Started 02:21
 (C) First Final Flow 21 Safety Joint T-Open 04:07
 (D) Initial Shut-In 790 Circ Sub T-Pulled 07:07
 (E) Second Initial Flow 24 Hourly Standby T-Out 08:45
 (F) Second Final Flow 24 Mileage 34 R/T 52.70
 (G) Final Shut-In 664 Sampler
 (H) Final Hydrostatic 1527 Straddle Ruined Shale Packer

Initial Open 45 Shale Packer Ruined Packer
 Initial Shut-In 45 Extra Packer Extra Copies
 Final Flow 45 Extra Recorder Sub Total 0
 Final Shut-In 45 Day Standby Total 1202.70
 Accessibility MP/DST Disc't
 Sub Total 1202.70

Approved By [Signature] 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.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 53997

Well Name & No. Bieler #1 Test No. 2 Date 7-18-13
 Company TDI INC. Elevation 2034 KB 2023 GL
 Address _____
 Co. Rep / Geol. Tom Deming Herb Deines Rig Southwind #1
 Location: Sec. 9 Twp. 15 Rge. 19 Co. Ellis State KS

Interval Tested 3478 3530 Zone Tested "I+J"
 Anchor Length _____ Drill Pipe Run 3468 Mud Wt. 9.1
 Top Packer Depth _____ Drill Collars Run 0 Vis 52
 Bottom Packer Depth _____ Wt. Pipe Run 0 WL 7.8
 Total Depth 3530 Chlorides 1900 ppm System LCM 1#

Blow Description B.O.B. In 14 mins.
Dead no blow back
B.O.D. In 24 mins.
Dead no blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>0</u>	<u>60 GTP</u>	<u>100</u>			
<u>5</u>	<u>Free Oil</u>		<u>100</u>		
<u>180/15</u>	<u>AB MW</u>			<u>50</u>	<u>50</u>
<u>180</u>	<u>SMCW</u>			<u>98</u>	<u>2</u>
<u>120</u>	<u>MCW</u>			<u>85</u>	<u>15</u>

Rec Total 420 BHT 113 Gravity _____ API RW 266 @ 83 °F Chlorides 130 ppm

(A) Initial Hydrostatic 1761 Test 1150 T-On Location 02:20
 (B) First Initial Flow 24 Jars T-Started 02:30
 (C) First Final Flow 134 Safety Joint T-Open 04:52
 (D) Initial Shut-In 733 Circ Sub T-Pulled 07:52
 (E) Second Initial Flow 136 Hourly Standby T-Out 09:57
 (F) Second Final Flow 219 Mileage 34 RT 52.70 Comments _____
 (G) Final Shut-In 714 Sampler _____
 (H) Final Hydrostatic 1636 Straddle _____ Ruined Shale Packer _____
 Initial Open 45 Shale Packer _____ Ruined Packer _____
 Initial Shut-In 45 Extra Packer _____ Extra Copies _____
 Final Flow 45 Extra Recorder _____ Sub Total 0
 Final Shut-In 45 Day Standby _____ Total 1202.70
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1202.70

Approved By [Signature] 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.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 53998

Well Name & No. Bieler # Test No. 7-19-13 Date 3
 Company TDI INC. Elevation 2034 KB 2023 GL
 Address _____
 Co. Rep / Geo. Tom Denning Herb Deins Rig Southwind #1
 Location: Sec. 9 Twp. 15 Rge. 19 Co. Ellis State KS

Interval Tested 3410 3430 Zone Tested G
 Anchor Length 20' 220 Drill Pipe Run 3411 Mud Wt. 9.3
 Top Packer Depth 3406 Drill Collars Run 0 Vis 56
 Bottom Packer Depth 3410 Wt. Pipe Run 0 WL 8.0
 Total Depth 3750 Chlorides 3200 ppm System LCM 1^u

Blow Description Fair surface blow built to 7 in
Dead No blow back
Fair surface blow built to 4 in
Dead No blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>80</u>	<u>MCW</u>			<u>80</u>	<u>20</u>
<u>60</u>	<u>VS MCW</u>			<u>92</u>	<u>2</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Rec Total 140 BHT 110 Gravity - API RW 0.50 @ 105° F Chlorides 110000 ppm
 (A) Initial Hydrostatic 1763 Test 1150 T-On Location 10:45
 (B) First Initial Flow 17 Jars _____ T-Started 11:26
 (C) First Final Flow 51 Safety Joint _____ T-Open 12:54
 (D) Initial Shut-In 945 Circ Sub _____ T-Pulled 15:54
 (E) Second Initial Flow 54 Hourly Standby _____ T-Out 17:32
 (F) Second Final Flow 86 Mileage 34 R/A 52.70 Comments _____
 (G) Final Shut-In 8947 Sampler _____
 (H) Final Hydrostatic 11023 Straddle 600 Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____

Initial Open 45 Sub Total 0
 Initial Shut-In 45 Total 1802.70
 Final Flow 45 MP/DST Disc't _____
 Final Shut-In 45 Sub Total 1802.70

Approved By [Signature] 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.

OPERATOR

Company: TDI, INC
 Address: 1310 BISON ROAD
 HAYS, KANSAS 67601

Contact Geologist: TOM DENNING
 Contact Phone Nbr: 785-628-2593
 Well Name: BIELER # 1
 Location: N2 NE SW SE Sec 9-15s-19w
 Pool: WILDCAT
 State: KANSAS

API: 15-051-26,534-00-00
 Field: UNNAMED
 Country: USA



1310 BISON ROAD
 HAYS, KANSAS 67601
 (785) 628-2593

Scale 1:240 Imperial

Well Name: BIELER # 1
 Surface Location: N2 NE SW SE Sec 9-15s-19w
 Bottom Location:
 API: 15-051-26,534-00-00
 License Number: 4787
 Spud Date: 7/12/2013 Time: 5:30 PM
 Region: ELLIS COUNTY
 Drilling Completed: 7/19/2013 Time: 2:47 AM
 Surface Coordinates: 1250' FSL & 1650' FEL
 Bottom Hole Coordinates:
 Ground Elevation: 2024.00ft
 K.B. Elevation: 2034.00ft
 Logged Interval: 2900.00ft To: 3750.00ft
 Total Depth: 3750.00ft
 Formation: LANSING-KANSAS CITY
 Drilling Fluid Type: CHEMICAL/FRESH WATER GEL

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude: -99.4358218 Latitude: 38.7582459
 N/S Co-ord: 1250' FSL
 E/W Co-ord: 1650' FEL

LOGGED BY

Company: SOLUTIONS CONSULTING, INC
 Address: 108 W 35TH
 HAYS, KS 67601

Phone Nbr: (785) 639-1337
 Logged By: Geologist Name: HERB DEINES

CONTRACTOR

Contractor: SOUTHWIND DRILLING INC.
 Rig #: 1
 Rig Type: MUD ROTARY

Rig Type: MUD ROTARY
 Spud Date: 7/12/2013
 TD Date: 7/19/2013
 Rig Release: 7/19/2013

Time: 5:30 PM
 Time: 2:47 AM
 Time: 11:00 PM

ELEVATIONS

K.B. Elevation: 2034.00ft Ground Elevation: 2024.00ft
 K.B. to Ground: 10.00ft

NOTES

RECOMMENDATION TO PLUG AND ABANDON WELL BASED ON NEGATIVE RESULTS OF THREE DSTS

OPEN HOLE LOGGING BY PIONEER ENERGY SERVICES: DUAL INDUCTION LOG, DUAL COMPENSATED POROSITY LOG, MICRORESISTIVITY LOG

DRILL STEM TESTING BY TRILOBITE TESTING INC: TWO (2) CONVENTIONAL TESTS AND ONE (1) STRADDLE TEST

FORMATION TOPS SUMMARY AND CHRONOLOGY OF DAILY ACTIVITY

BIELER # 1

1250' FSL & 1650' FEL, SE/4

Sec. 9-15s-19w

2024' GL 2034' KB

WILLIE # 1

NW SE SE SE

Sec. 9-15s-19w

Reference Well

<u>FORMATION</u>	<u>SAMPLE TOPS</u>	<u>LOG TOPS</u>	<u>LOG TOPS</u>
Anhydrite	1253+ 781	1249+ 785	+ 785
B-Anhydrite	1290+ 744	1287+ 747	+ 749
Topeka	3014- 980	3018- 984	- 977
Heebner Shale	3283-1249	3281-1247	-1246
Toronto	3305-1271	3302-1268	-1268
LKC	3330-1296	3328-1294	-1293
BKC	3569-1535	3573-1539	-1540
Arbuckle	3666-1632	3682-1648	-1620
RTD	3750-1716		
LTD		3749-1715	

SUMMARY OF DAILY ACTIVITY

7-12-13 spud 5:30 PM, set 8 5/8" surface pipe to 223.03' w/ 150sxs
 Common 2%gel 3%CC, plug down 10:30 PM, slope 1 degree


7-13-13 226', drill plug at 6:30AM

7-14-13 1635', drilling

7-15-13 2420', drilling, displaced 2648-70

7-16-13 3070', drilling
 7-17-13 3365', DST # 1 3314'-3365' "A-C" LKC, TIWB, drilling
 7-18-13 3530', DST # 2 3478'-3530' "I-J" LKC, TIWB, drilling
 7-19-13 3750', RTD 3750'@2:47AM, CCH, TOWB, logs, DST # 3 straddle test
 3410'-3430' "G" LKC, P&A

DST # 1 "A-C" LKC TEST SUMMARY

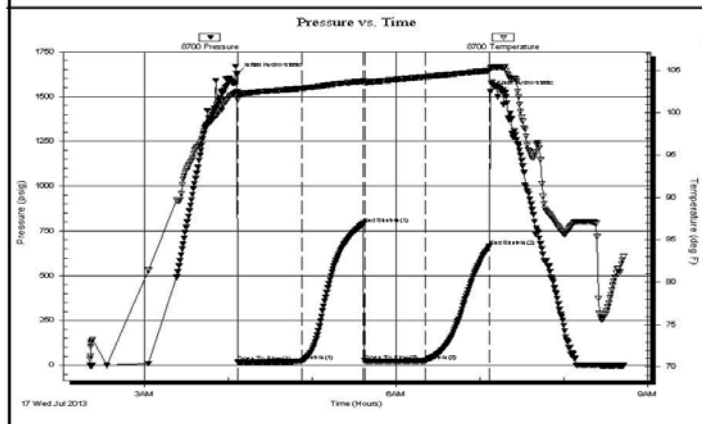
	DRILL STEM TEST REPORT		
	TDI INC. 1310 Bison Rd. Hays KS, 67601 ATTN: Tom Denning / Herb D	9-15-19-Eliis Co KS Bieler #1 Job Ticket: 53996 DST#: 1 Test Start: 2013.07.17 @ 02:21:01	

GENERAL INFORMATION:

Formation: "C"	Test Type: Conventional Bottom Hole (Initial)
Deviated: No Whipstock: ft (KB)	Tester: Tate Lang
Time Tool Opened: 04:06:46	Unit No: 70
Time Test Ended: 08:43:01	Reference Elevations: 2034.00 ft (KB)
Interval: 3314.00 ft (KB) To 3365.00 ft (KB) (TVD)	2023.00 ft (CF)
Total Depth: 3365.00 ft (KB) (TVD)	KB to GR/CF: 11.00 ft
Hole Diameter: 7.88 inches	Hole Condition: Good

Serial #: 8700 Outside	Capacity: 8000.00 psig
Press@RunDepth: 24.23 psig @ 3318.00 ft (KB)	Last Calib.: 2013.07.17
Start Date: 2013.07.17 End Date: 2013.07.17	Time On Btm: 2013.07.17 @ 04:06:31
Start Time: 02:21:06 End Time: 08:43:00	Time Off Btm: 2013.07.17 @ 07:07:31

TEST COMMENT: Weak surface blow built to 2 in.
 Dead no blow back
 Weak surface blow built to 1 in.
 Dead no blow back




PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1625.61	102.46	Initial Hydro-static
1	16.17	101.49	Open To Flow (1)
46	21.44	102.88	Shut-In(1)
91	789.92	103.73	End Shut-In(1)
91	23.95	103.54	Open To Flow (2)
135	24.23	104.24	Shut-In(2)
181	664.09	104.97	End Shut-In(2)
181	1526.63	105.27	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
30.00	2%O 98%M (Skim of oil on top of tool)	0.42

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

DST # 2 "I - J" LKC TEST SUMMARY

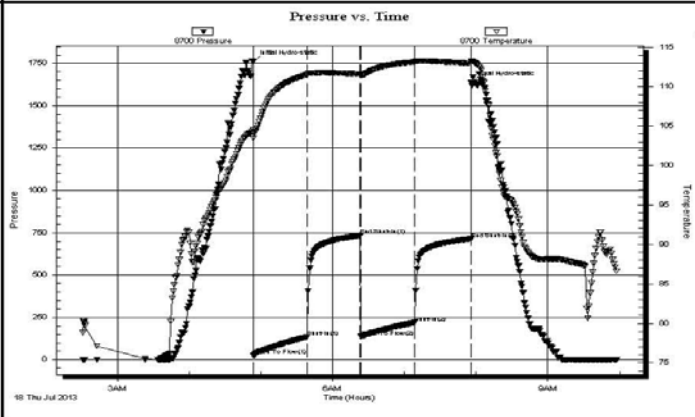
 TRILOBITE TESTING, INC.	DRILL STEM TEST REPORT	
	TDI INC. 1310 Bison Rd. Hays KS. 67601 ATTN: Tom Denning / Herb D	9-15-19-Ellis Co KS Bieler #1 Job Ticket: 53997 DST#: 2 Test Start: 2013.07.18 @ 02:30:39

GENERAL INFORMATION:

Formation: I&F	Test Type: Conventional Bottom Hole (Reset)
Deviated: No Whipstock: ft (KB)	Tester: Tate Lang
Time Tool Opened: 04:53:39	Unit No: 70
Time Test Ended: 09:57:24	Reference Elevations: 2034.00 ft (KB)
Interval: 3478.00 ft (KB) To 3530.00 ft (KB) (TVD)	2023.00 ft (CF)
Total Depth: 3530.00 ft (KB) (TVD)	KB to GR/CF: 11.00 ft
Hole Diameter: 7.88 inches	Hole Condition: Good

Serial #: 8700 Outside	Capacity: 8000.00 psig
Press@RunDepth: 219.08 psig @ 3483.00 ft (KB)	Last Calib.: 2013.07.18
Start Date: 2013.07.18 End Date: 2013.07.18	Time On Btm: 2013.07.18 @ 04:53:24
Start Time: 02:30:44 End Time: 09:57:23	Time Off Btm: 2013.07.18 @ 07:55:54

TEST COMMENT: B.O.B. in 14 mins.
 Dead no blow back
 B.O.B. in 24 mins
 Dead no blow back



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1760.58	104.47	Initial Hydro-static
1	24.31	103.45	Open To Flow (1)
45	133.87	111.55	Shut-In(1)
90	733.03	111.62	End Shut-In(1)
90	136.13	111.42	Open To Flow (2)
136	219.08	113.15	Shut-In(2)
182	713.84	112.97	End Shut-In(2)
183	1636.43	113.30	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
180.00	2% M 98% WV	2.52
120.00	15% M 85% WV	1.68
115.00	50% M 50% WV	1.61
5.00	100% Free Oil	0.07
0.00	60 GIP	0.00

* Recovery from multiple tests

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

DST # 3 STRADDLE TEST 3410'-3430' "G" LKC TEST SUMMARY BOTTOM PACKER HELD



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

TDI INC.
1310 Bison Rd.
Hays KS, 67601

9-15-19-Ellis Co KS

Bieler #1
Job Ticket: 53998 **DST#: 3**
Test Start: 2013.07.19 @ 11:26:12

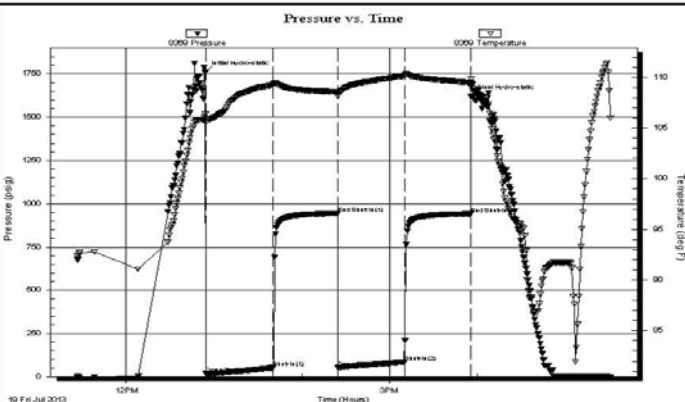
ATTN: Tom Denning / Herb D

GENERAL INFORMATION:

Formation: **G**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 12:54:12
Time Test Ended: 17:30:57
Test Type: Conventional Straddle (Reset)
Tester: Tate Lang
Unit No: 70
Interval: **3410.00 ft (KB) To 3430.00 ft (KB) (TVD)**
Reference Elevations: 2034.00 ft (KB)
Total Depth: 3750.00 ft (KB) (TVD)
2023.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good
KB to GR/CF: 11.00 ft

Serial #: 8369 Inside
Press@RunDepth: 85.68 psig @ 3411.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2013.07.19 End Date: 2013.07.19 Last Calib.: 2013.07.19
Start Time: 11:26:17 End Time: 17:30:56 Time On Btm: 2013.07.19 @ 12:53:57
Time Off Btm: 2013.07.19 @ 15:55:27

TEST COMMENT: Fair surface blow built to 7 in.
Dead no blow back
Fair surface blow built to 4 in.
Dead no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1762.56	106.37	Initial Hydro-static
1	16.99	105.56	Open To Flow (1)
47	51.10	109.25	Shut-In(1)
91	944.71	108.56	End Shut-In(1)
91	54.39	108.11	Open To Flow (2)
136	85.68	110.13	Shut-In(2)
182	942.52	109.48	End Shut-In(2)
182	1623.39	109.79	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	2% M 98% W	0.84
80.00	20% M 80% W	1.12

Gas Rates

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

* Recovery from multiple tests

Trilobite Testing, Inc

Ref. No: 53998

Printed: 2013.07.19 @ 23:23:16

ROCK TYPES

Clystgy	Lmst fw<7	Carbon Sh	Dol Lime
Chtcong	Lmst fw>7	shale, red	Lscong
Dolprim	shale, grn	Shcol	CglSandy
Dolsec	shale, gry	Ss	

ACCESSORIES

MINERAL

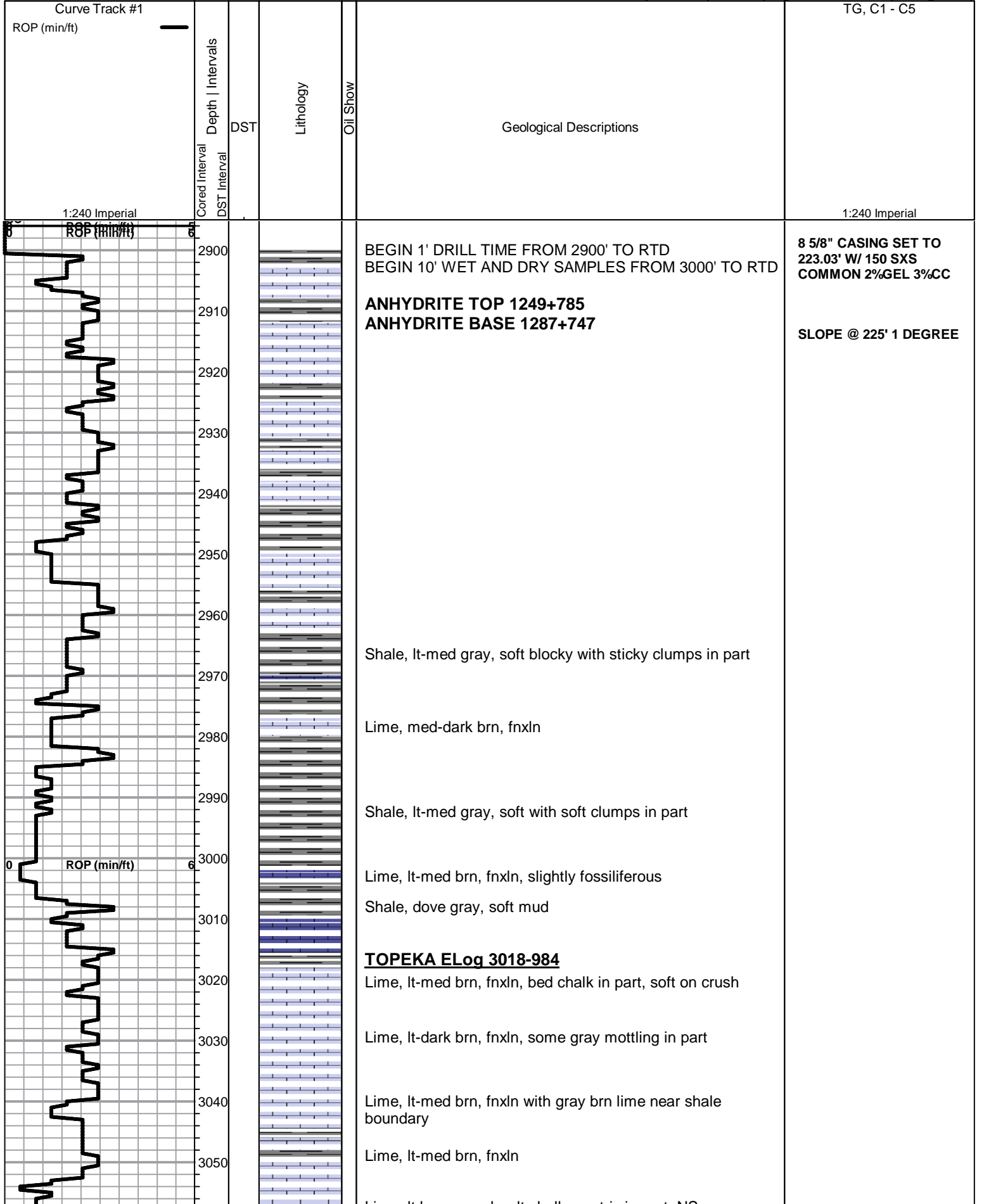
- ▲ Chert, dark
- ≡ Nodules
- P Pyrite
- Sandy
- Varicolored chert

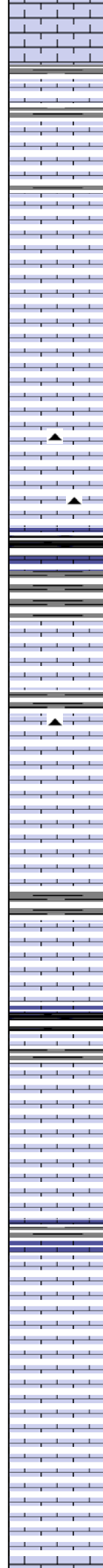
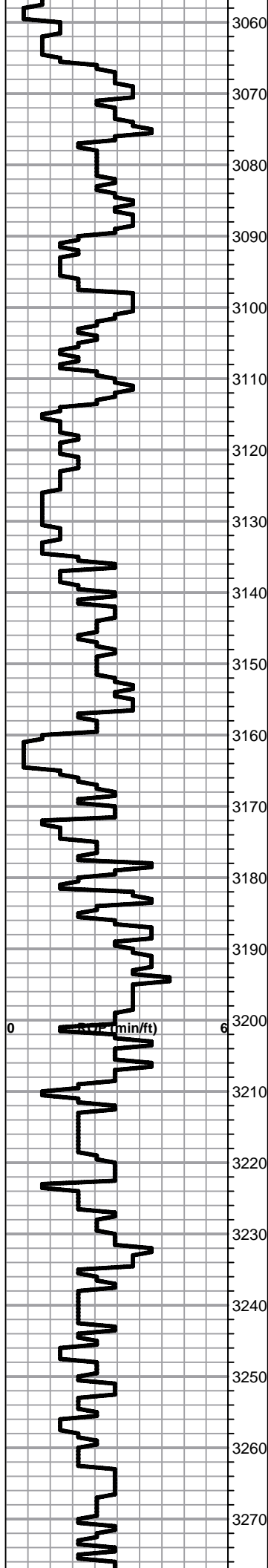
FOSSIL

- Oolite
- ⊕ Oomoldic

OTHER SYMBOLS

- DST Int
- DST alt
- Core





Lime, lt brn, granular, lt chalky matrix in part, NS

Lime, lt-dark brn, fn-micro xln, hard on crush

Lime, lt-med brn-grayish brn, fnxln, slightly fossiliferous in part

Lime, lt brn-lt grayish brn, fnxln with thin fusulinid beds in part

Lime, lt-med brn, fnxln-granular

Lime, med brn, fnxln-granular, sticky chalk clumps in part

Lime, lt-med brn, granular, chalk clumps in part

Shale, black carbonaceous, fissile, blocky

Lime, tan-lt brn, fn-micro xln

Lime, lt brn-lt grayish brn, fn-micro xln, fossiliferous chert

Lime, lt-med brn, granular grading into fnxln, slightly fossiliferous

Lime, lt brn-lt gray, fnxln, slightly fossiliferous in part

Lime, lt brn, fnxln, slightly fossiliferous

Shale, black carbonaceous, fissile, blocky

Lime, lt brn, fnxln

Lime, lt-med brn, fnxln-granular in part, few chips with spongelike vuggy porosity, specks of free oil with lt odor on break.

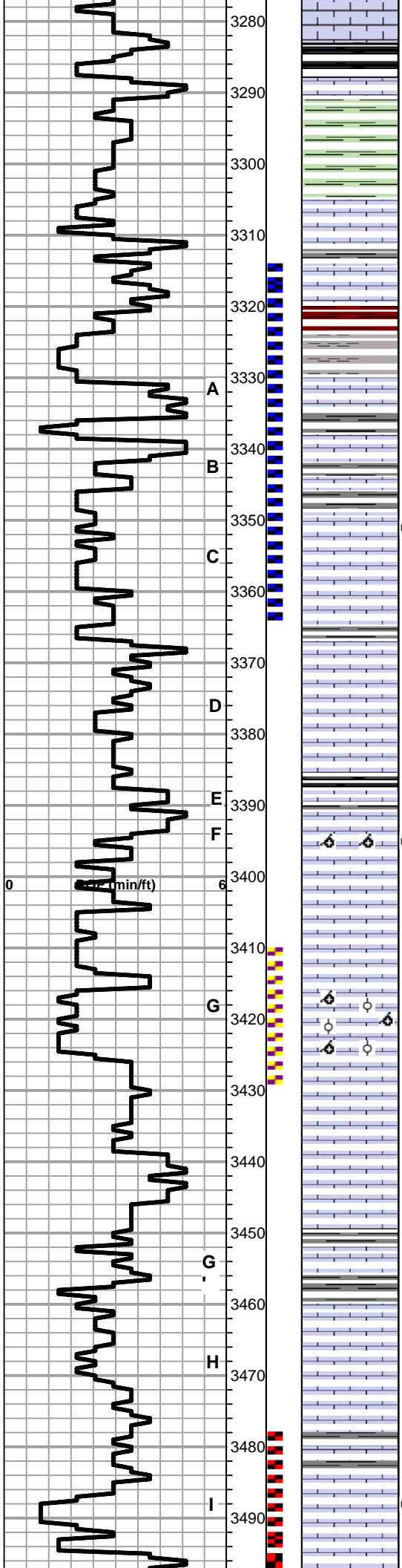
Lime, lt-med brn, fnxln, slightly fossiliferous

Lime, lt brn, granular, increasing bedded chalk with sticky clumps in part

Lime, crm-lt brn, fnxln-granular, decreasing chalk content

Lime, crm-lt brn, fnxln

Lime, lt-med brn, bedded chalk in part



HEEBNER SHALE SPL 3283-1249

Shale, black carbonaceous, fissile, blocky
Lime, med brn, fn-vfxln

Shale, lime green, soft forming soft mud in part

TORONTO SPL 3305-1271

Lime, white-crm, fnxln, NS

Lime, crm-tan, fnxln, NS

Shale, reddish brn, soft blocky

LKC SPL 3330-1296

Lime, lt-med brn, fnxln

Lime, lt-med brn, fn-vfxln grading into gray lime near shale

Lime, lt-med brn, fnxln, few oolitic chips, lt scattered staining, Very Lt Odor, NFO

Lime, lt-med brn, fnxln

Lime, lt-med brn, fnxln

Lime, lt brn, fnxln, bedded chalk in part, NS

Shale, black carbonaceous
Lime, lt gray-pale greenish gray, fnxln

Lime, crm-lt brn, fnxln, oomoldic chips in part with trace of spotty staining NFO, very Lt Odor,

Lime, crm-tan, fnxln, lot of bedded chalk

Lime, crm, fnxln

Lime, crm, oolitic/oomoldic, largely barren, NS

Lime, crm-tan, fn-micro xln, bedded chalk in part, some chips of lime with tint of light gray

Lime, crm-lt brn, fn-micro xln, bedded chalk in part

Lime, dark brn-grayish brn, fn-micro xln, slightly fossiliferous

Lime, crm-lt brn, mostly fnxln, few chips with trace of spotty staining, NFO, No Odor

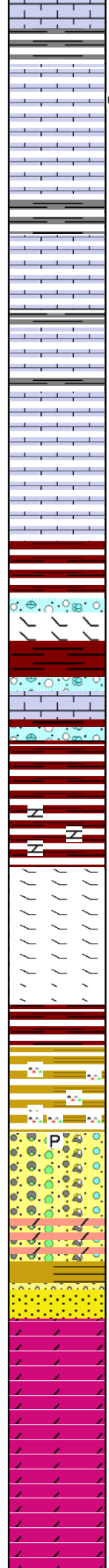
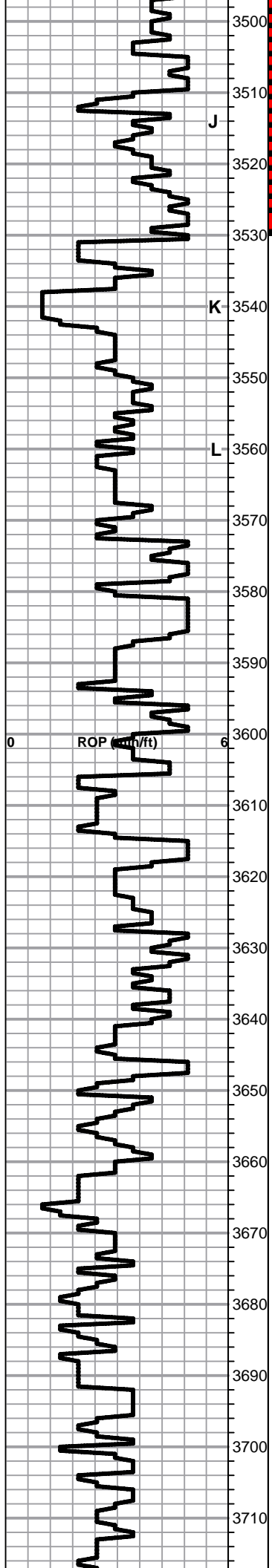
Lime, lt-med brn-grayish brn, fnxln, slight bedded chalk

Lime, crm-tan, fnxln-granular, fine interxln porosity, specks of staining, NFO

Lime, crm-tan, fnxln

DST # 1 3314' TO 3365' SEE
HEADER FOR TEST
SUMMARY

DST # 3 STRADDLE TEST
3410' TO 3430' SEE
HEADER FOR TEST
SUMMARY



Lime, crm, dolomitic in part, scattered vuggy porosity, spotty staining with very lt odor, NFO

Lime, crm-tan-lt gray, fnxln

Shale, dove gray forming soft mud in part

Lime, white, granular, chalk, NS

Lime, tan, fn-micro xln

Lime, lt brn-lt grayish brn, fn-vfxln

Lime, crm-lt brn, frn-micro xln

BKC ELog 3573-1539

Shale, reddish brn-dark brn,

Lime, crm-lt brn, fnxln-micritic, very hard, slight chalk

Shale, grays, reds, brn, maroon, soft blocky

Lime, clastic mix in part with red shale staining

Shale, red wash forming soft red mud in part

Shale, red wash, small chert nodules in part

MARMATION ELog 3619-1585

Lime, crm-lt brn, fnxln, dolomitic, hard on crush, orange chert fragments

Shale, vari colored, soft blocky , deep red wash

Shale, vari colored, vari colored cherts

Shales and cherts, vari colored

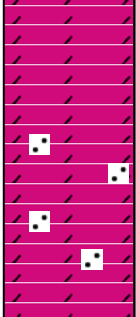
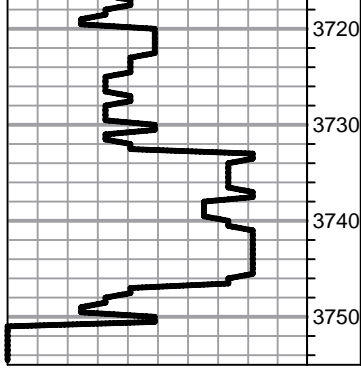
mix of lt brn sucrosic dolomite and cherts, trace of gilsonite

ARBUCKLE ELog 3682-1648

Dolomite, crm, fnxln with thin zones of med-cxln, hard on crush

Dolomite, crm, fnxln, hard on crush

Dolomite, crm, fnxln, hard on crush



Dolomite, crm, fn-cxln, granular mix with specks of green glauconite in part

Dolomite, crm, fnxln, increasing quartz grain inclusions with scattered hard clusters and fused quartz

RTD 3750-1716 LTD 3749-1715

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. 7262

Date	Sec.	Twp.	Range	County	State	On Location	Finish
7-12-13	9	15	19	Ellis	KS		10:30 PM

Location Antinina 2W 2S 1 1/2 W N Into

Lease	Well No.	Owner
Bieler	#1	To Quality Oilwell Cementing, Inc.
Contractor	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	Charge To	
Surface	TDE	
Hole Size	T.D.	
12 1/4	226 ft	
Csg.	Depth	
8 5/8	225 ft	
Tbg. Size	Depth	
Tool	Depth	The above was done to satisfaction and supervision of owner agent or contractor.
Cement Left in Csg.	Shoe Joint	Cement Amount Ordered
20 ft		150 3x2

Meas Line Displace 13 bbl

EQUIPMENT				Common
Pumptrk	No.	Cement Helper		150
3		Matt		
Bulktrk	No.	Driver		Poz. Mix
3		Doug		Gel. 3
Bulktrk	No.	Driver		Calcium 5
PU		Brett		

JOB SERVICES & REMARKS	
Remarks:	Hulls
Rat Hole	Salt
Mouse Hole	Flowseal
Centralizers	Kol-Seal
Baskets	Mud CLR 48
D/V or Port Collar	CFL-117 or CD110 CAF 38
	Sand
	Handling 158
	Mileage

FLOAT EQUIPMENT	
Cement	Guide Shoe
	Centralizer
	Baskets
Circulated!	AFU Inserts
	Float Shoe
	Latch Down

Pumptrk Charge	Surface
Mileage	14
	Tax
	Discount
	Total Charge

X Signature *[Signature]*

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. 7424

Date	7-19-13	Sec.	9	Twp.	15	Range	19	County	Ellis	State	KS	On Location		Finish	1:45 AM
------	---------	------	---	------	----	-------	----	--------	-------	-------	----	-------------	--	--------	---------

Location **Antinino 2W, 2S, 1/2W, Nn2**

Lease	Bieler	Well No.	1	Owner	To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.		
Contractor	Southwind 1				Charge To	TDI, Inc.	
Type Job	Plug				Street		
Hole Size	7 7/8	T.D.				City	State
Csg.		Depth				The above was done to satisfaction and supervision of owner agent or contractor.	
Tbg. Size		Depth				Cement Amount Ordered 270sx 60/40 4% Gel 1/4 # Flow	
Tool		Depth					
Cement Left in Csg.		Shoe Joint					
Meas Line		Displace					

EQUIPMENT

Pumptrk	16	No.	Cementer		Common	162
			Helper	Lonnie W.	Poz. Mix	108
Bulktrk	12	No.	Driver		Gel.	10
			Driver	Heath	Calcium	
Bulktrk	PU	No.	Driver	Travis		

JOB SERVICES & REMARKS

Remarks:		Hulls	
Rat Hole		Salt	
Mouse Hole		Flowseal	67#
Centralizers		Kol-Seal	
Baskets		Mud CLR 48	
D/V or Port Collar		CFL-117 or CD110 CAF 38	
1st Plug at 3662 50sx		Sand	
2nd Plug at 1271 25sx		Handling	
3rd Plug at 523 100sx		Mileage	
4th Plug at 273 40sx		FLOAT EQUIPMENT	
5th Plug at 40 10sx		Guide Shoe	
Rat hole 30sx		Centralizer	
Mouse hole 15sx		Baskets	
		AFU inserts	
		Float Shoe	
		Latch Down	
		1 wood plug	
		Pumptrk Charge	plug
		Mileage	14

X Signature **[Signature]**

Tax	
Discount	
Total Charge	

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

July 24, 2013

Tom Denning
TDI, Inc.
1310 BISON RD
HAYS, KS 67601-9696

Re: ACO1
API 15-051-26534-00-00
Bieler 1
SE/4 Sec.09-15S-19W
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,
Tom Denning



Pioneer Energy Services

Dual Induction Log

15-051-26,534-00-00

API No.

Company **TDI, Inc.**

Well **Bieler No. 1**

Field **Virginia**

County **Ellis** State

Kansas

Location **N2 NE SW SE
1250' FSL & 1650' FEL**

Sec: **9** Twp: **15 S** Rge: **19 W**

Permanent Datum **Ground Level** Elevation **2024**

Log Measured From **Kelly Bushing** **10 Ft. Above Perm. Datum**

Drilling Measured From **Kelly Bushing**

Other Services

**CNL/CDL
MEL**

Elevation

**K.B. 2034
D.F. 2024
G.L. 2024**

Date	7/19/2013	
Run Number	One	
Depth Driller	3750	
Depth Logger	3749	
Bottom Logged Interval	3748	
Top Log Interval	200	
Casing Driller	8.625 @ 223	
Casing Logger	221	
Bit Size	7.875	
Type Fluid in Hole	Chemical	
Salinity, ppm Cl	3200	
Density / Viscosity	9.3 56	
pH / Fluid Loss	10.5 8.0	
Source of Sample	Flowline	
Rm @ Meas. Temp	.22 @ 84	
Rmf @ Meas. Temp	.17 @ 84	
Rmc @ Meas. Temp	.30 @ 84	
Source of Rmf / Rmc	Charts	
Rm @ BHT	.16 @ 114	
Operating Rig Time	3 1/2 Hours	
Max Rec. Temp. F	114	
Equipment Number	108	
Location	Hays	
Recorded By	D. Martin	
Witnessed By	Herb Deines	Tom Denning

<<< 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 Log-Tech, Inc.
(785) 625-3858

Antonino, KS
2 W, 2 S, 1/4 W, N Into

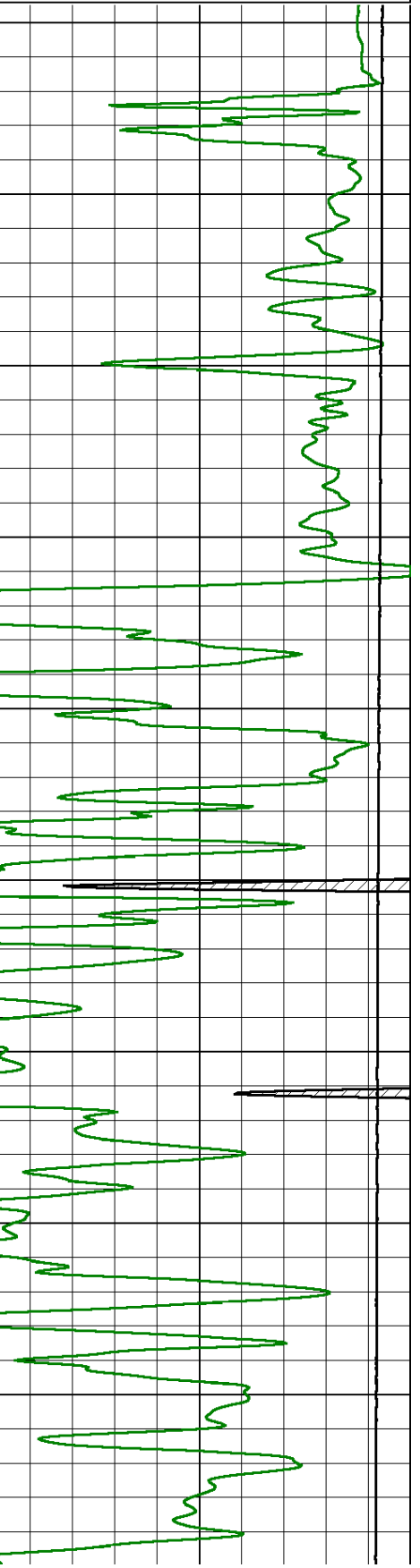
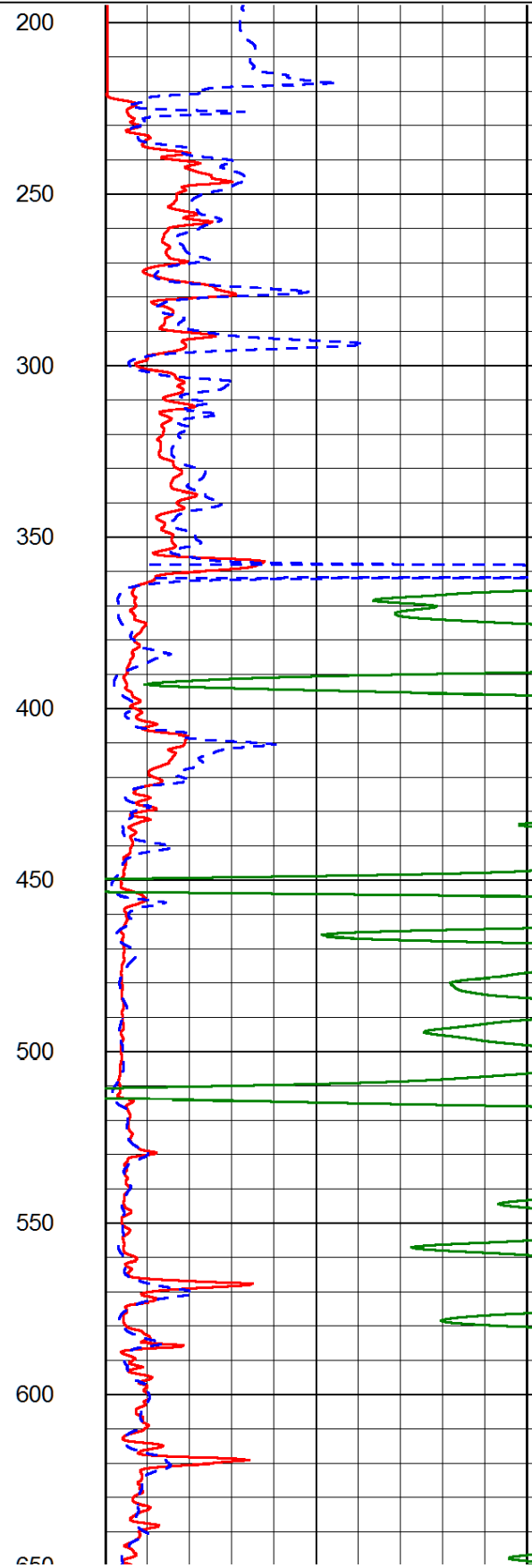
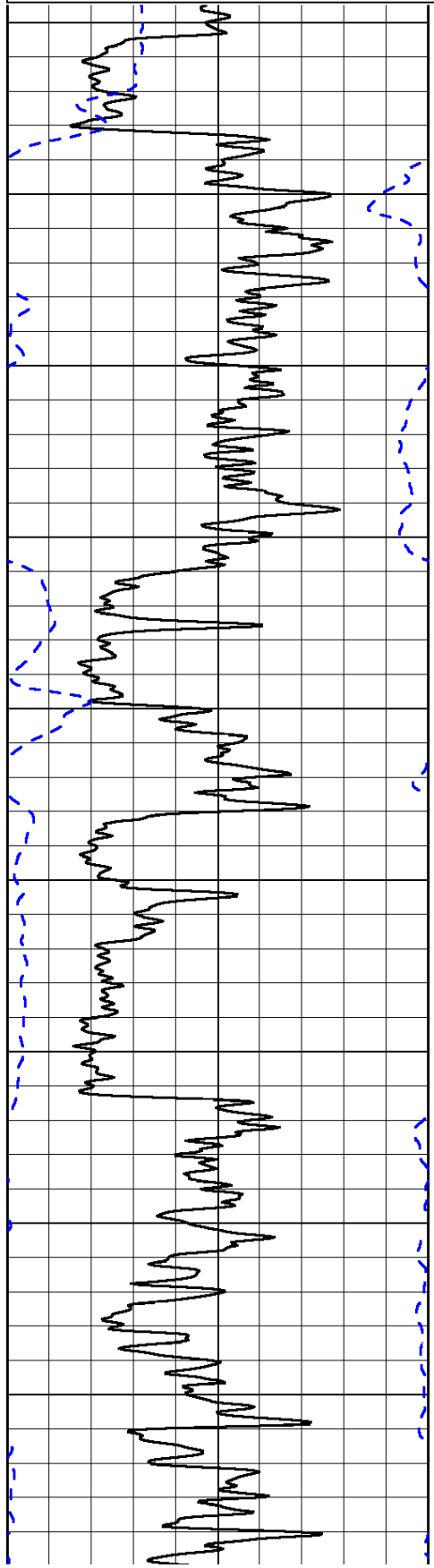
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 Charted by: Depth in Feet scaled 1:600

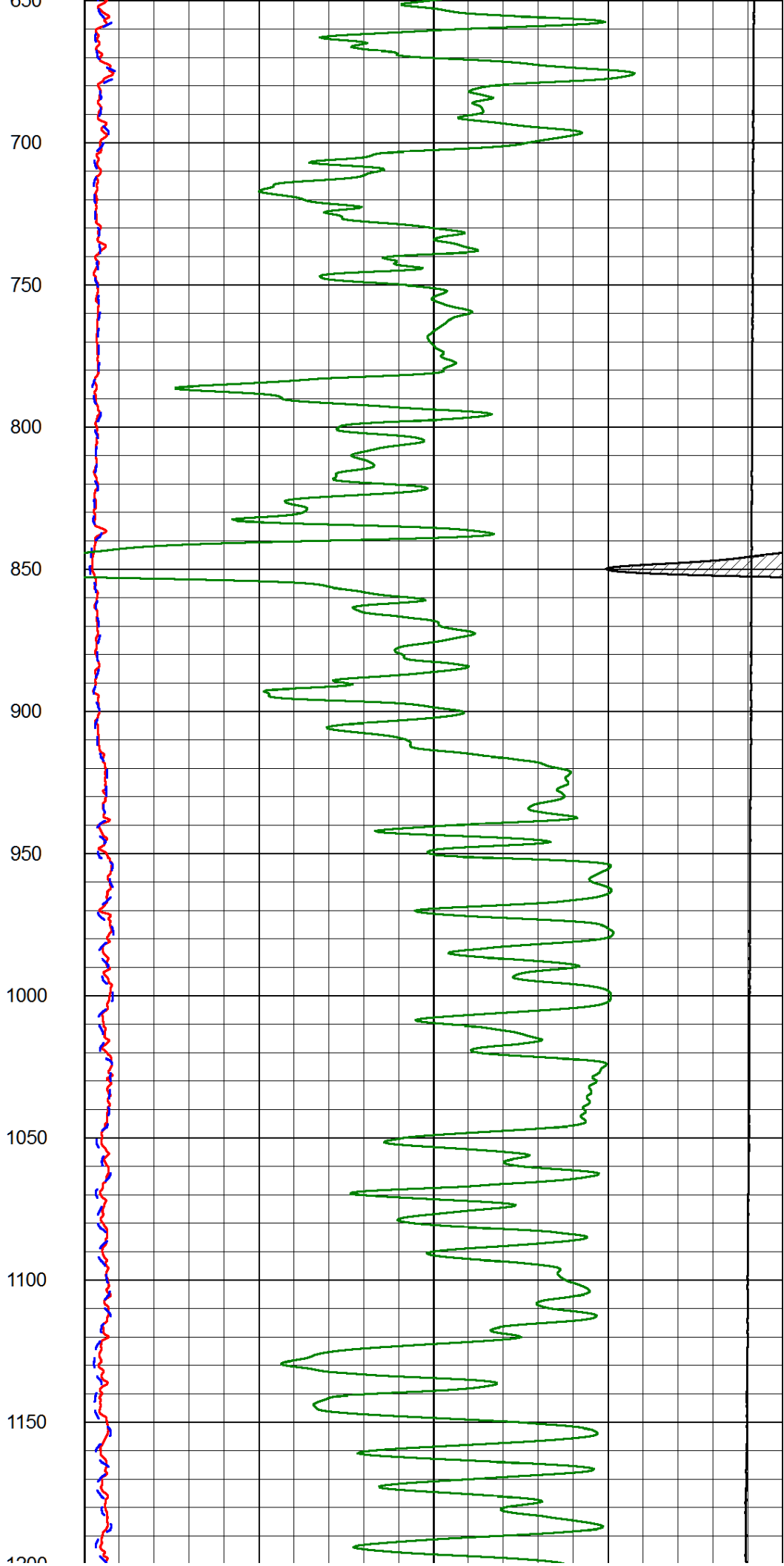
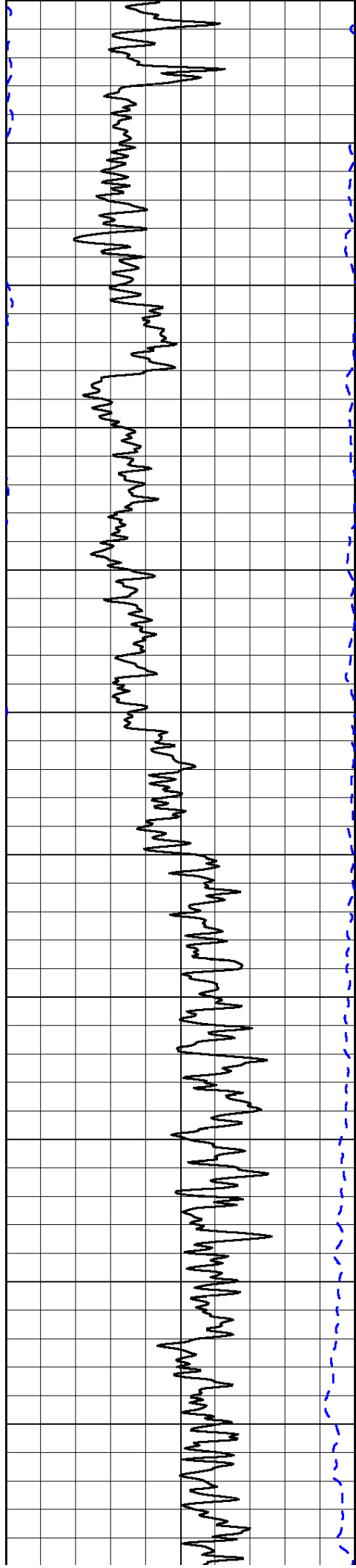
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-200	SP (mV)	0

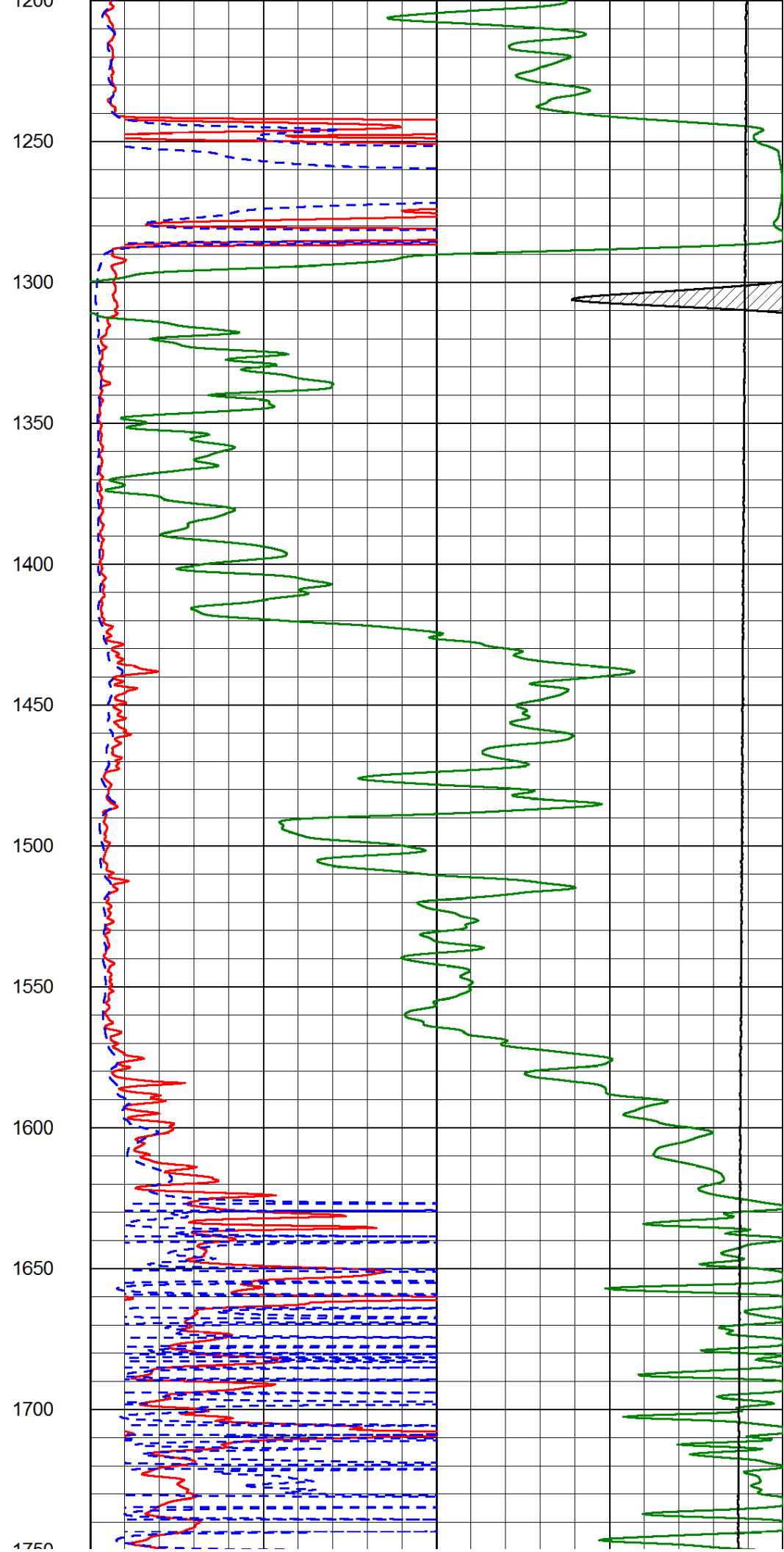
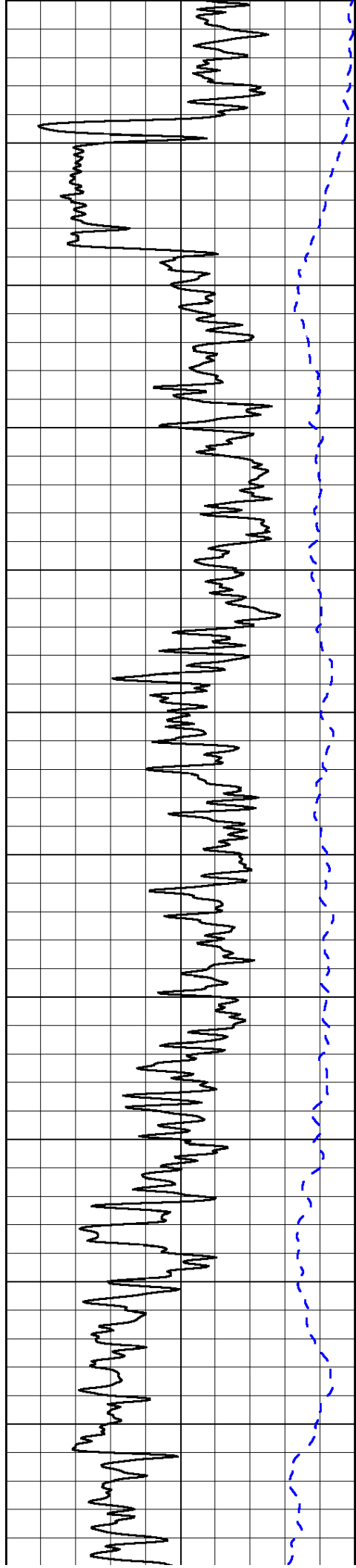
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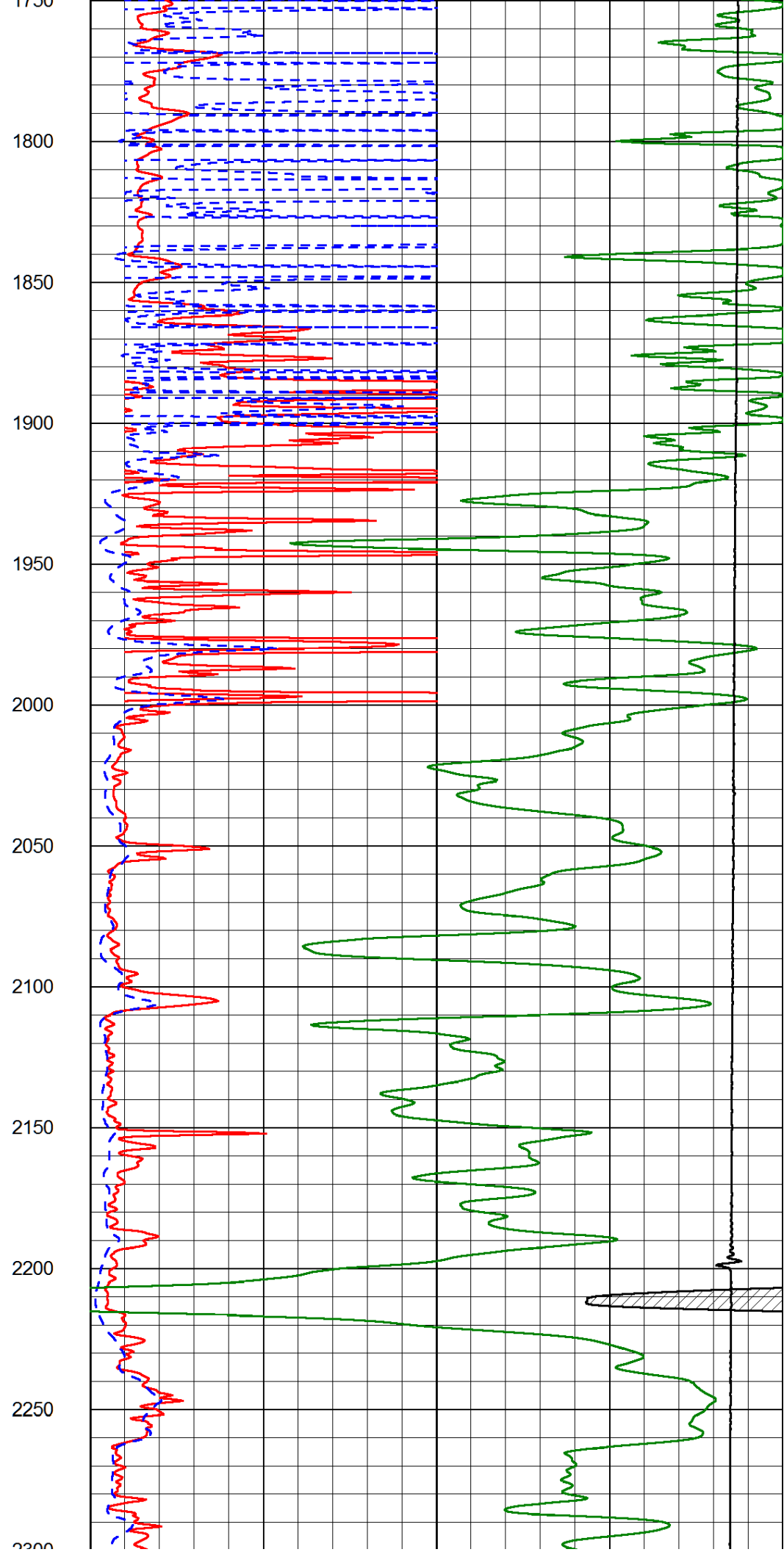
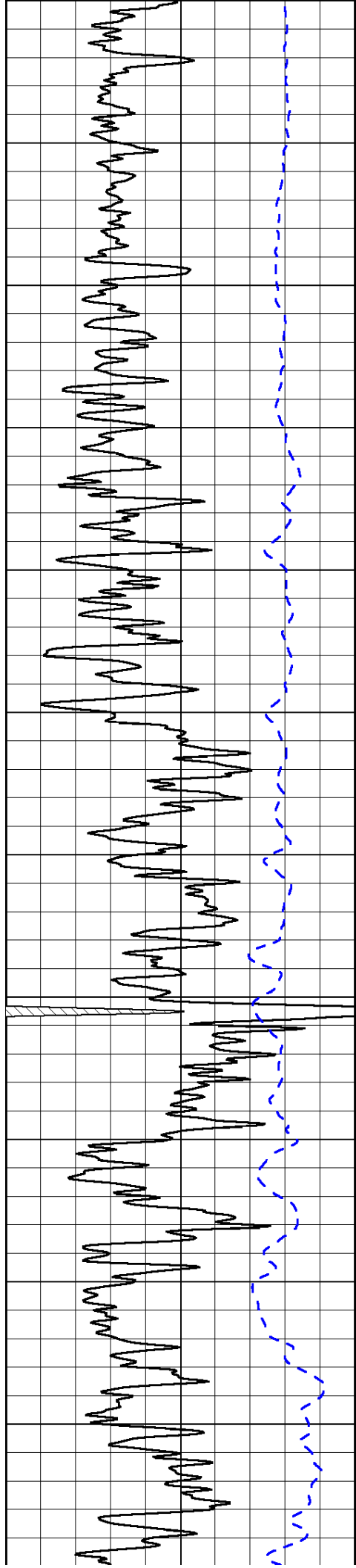
1000	Conductivity (Ohm-m)	0
15000	Line Tension (lb)	0

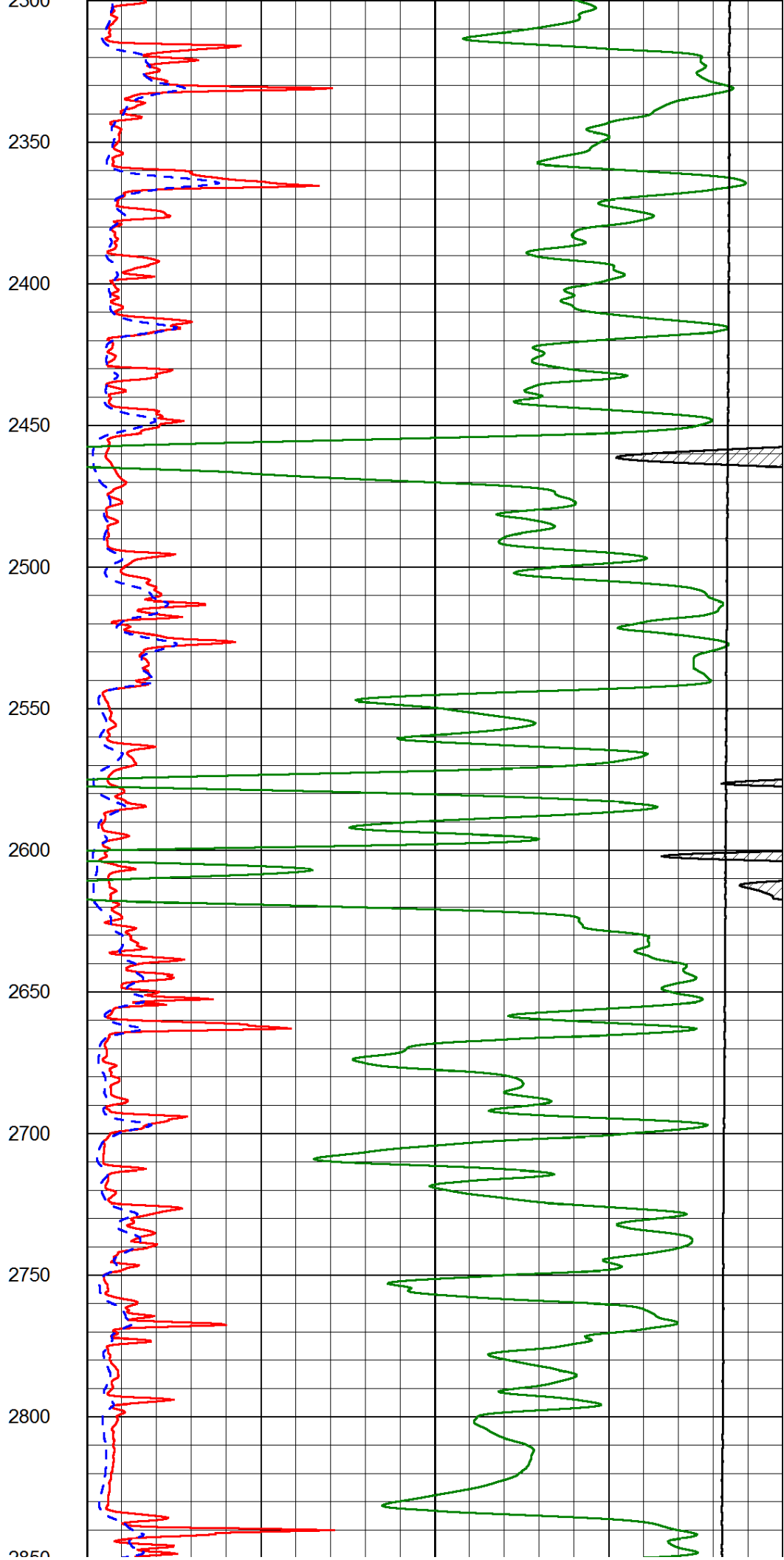
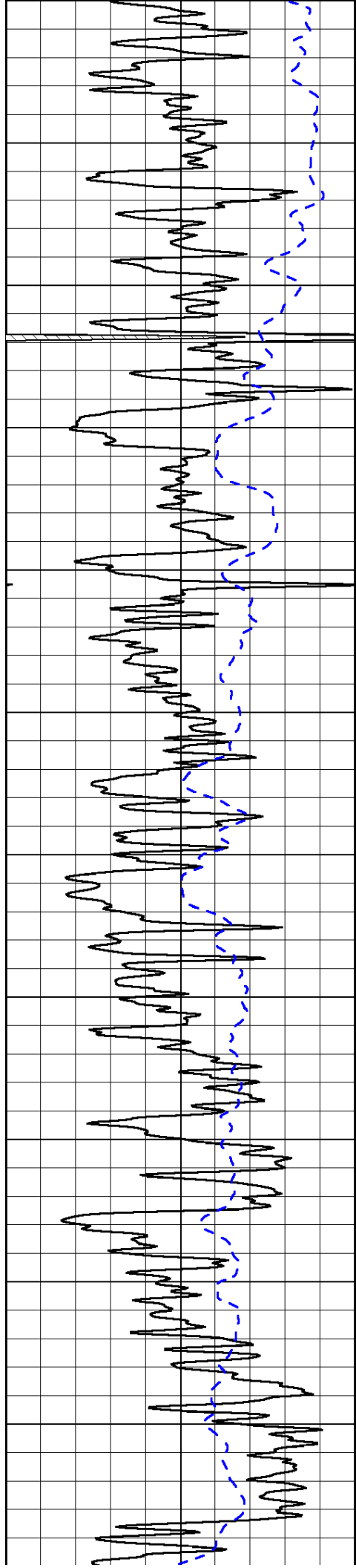
Shallow Resistivity		
50	(Ohm-m)	500
50	Deep Resistivity (Ohm-m)	500

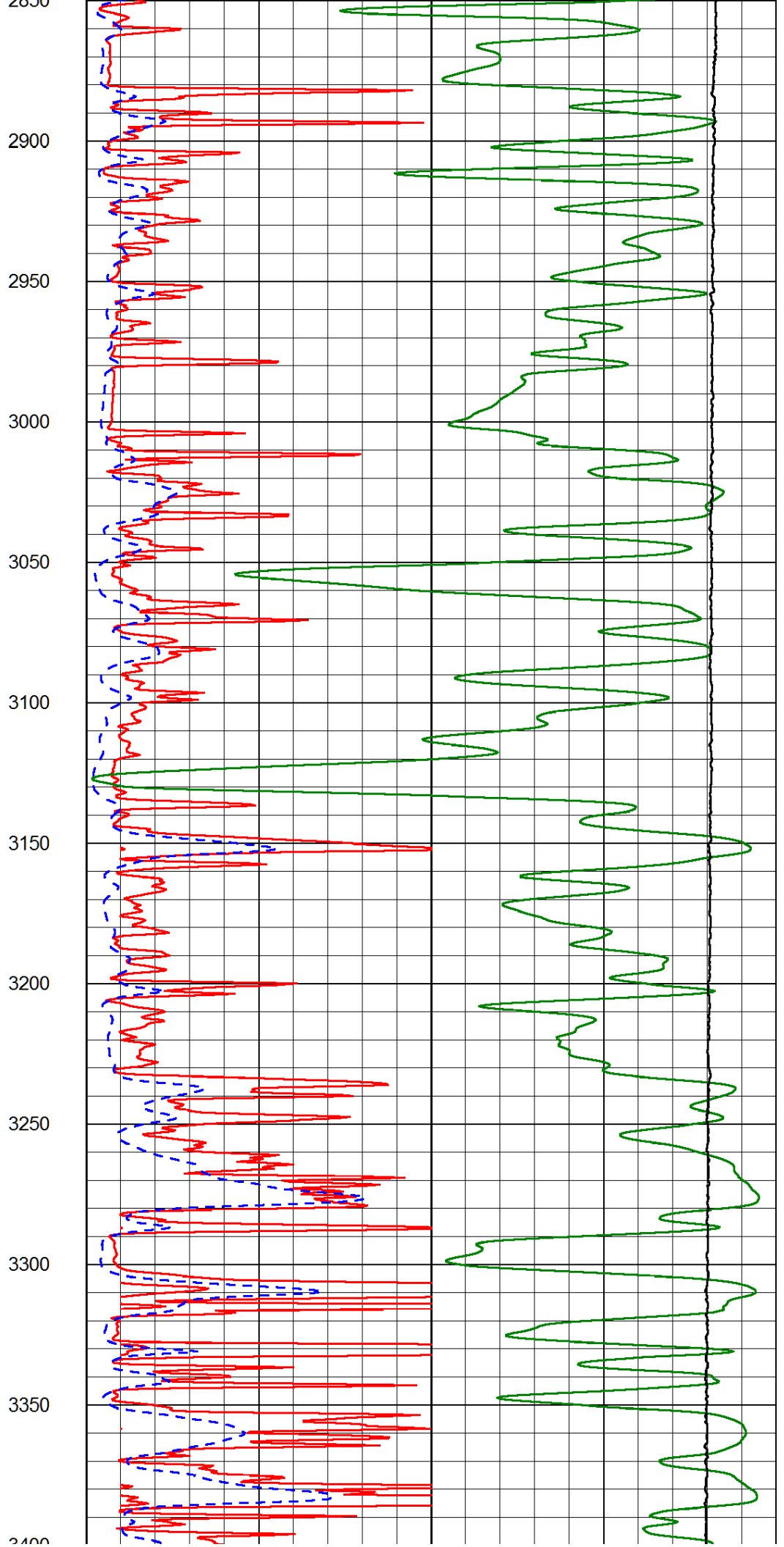
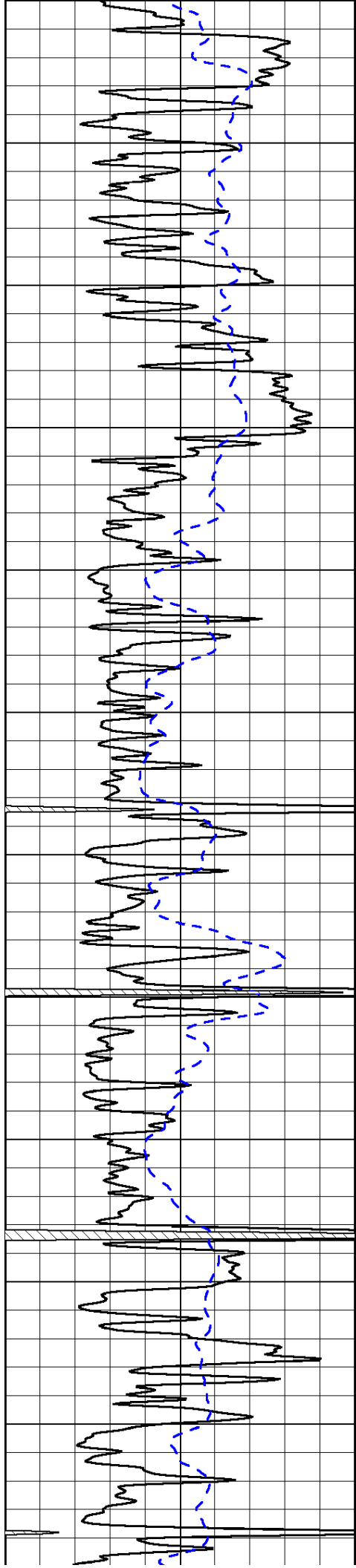


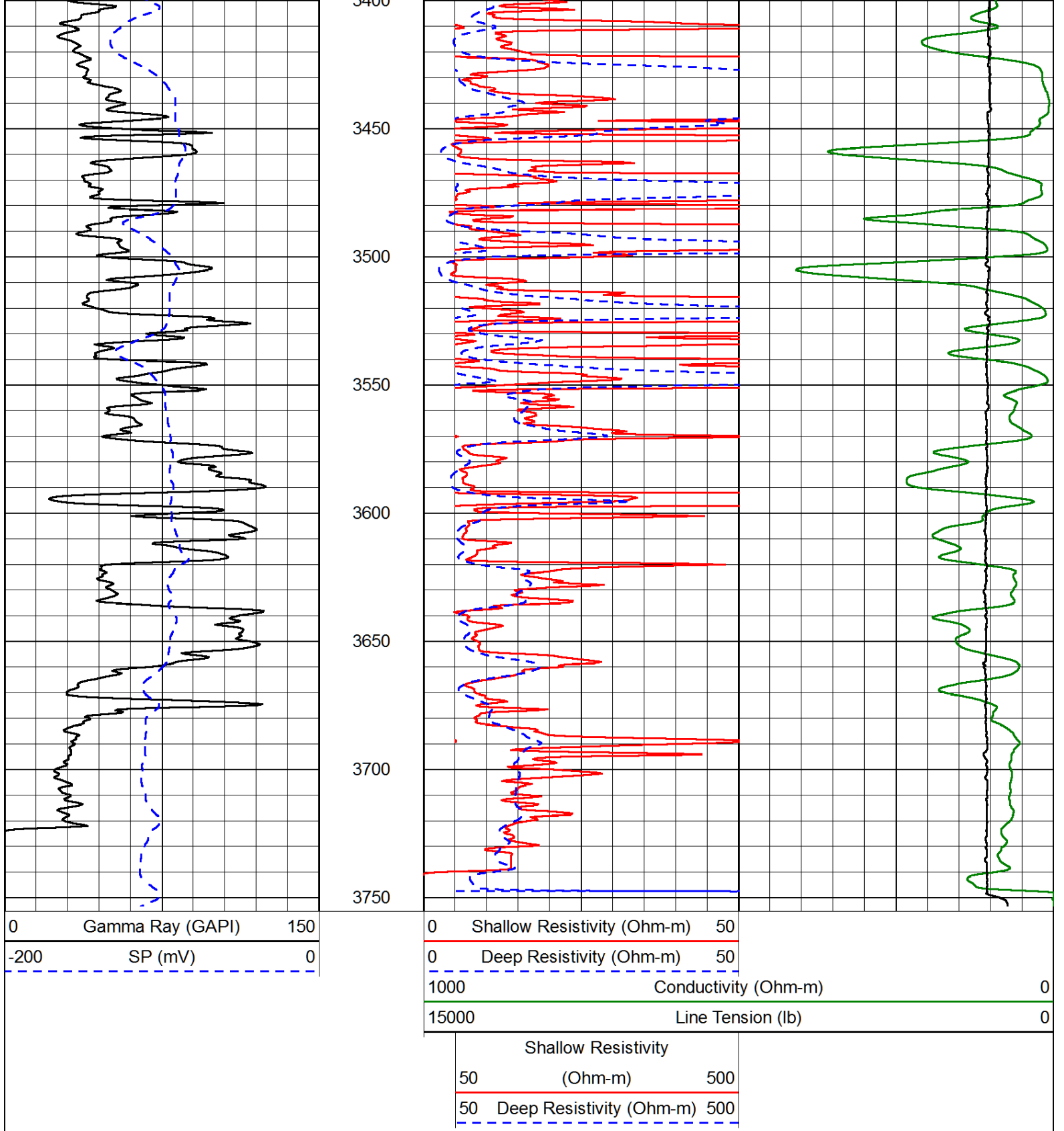




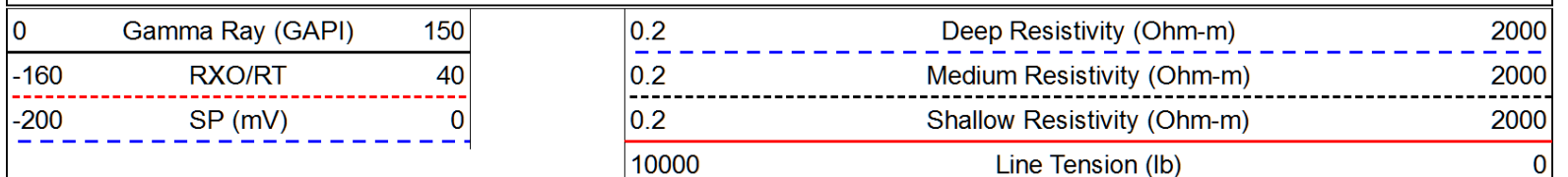




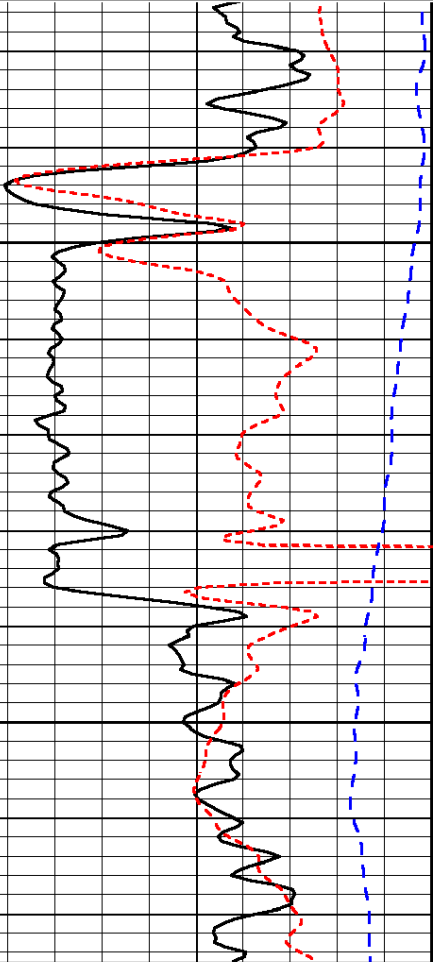




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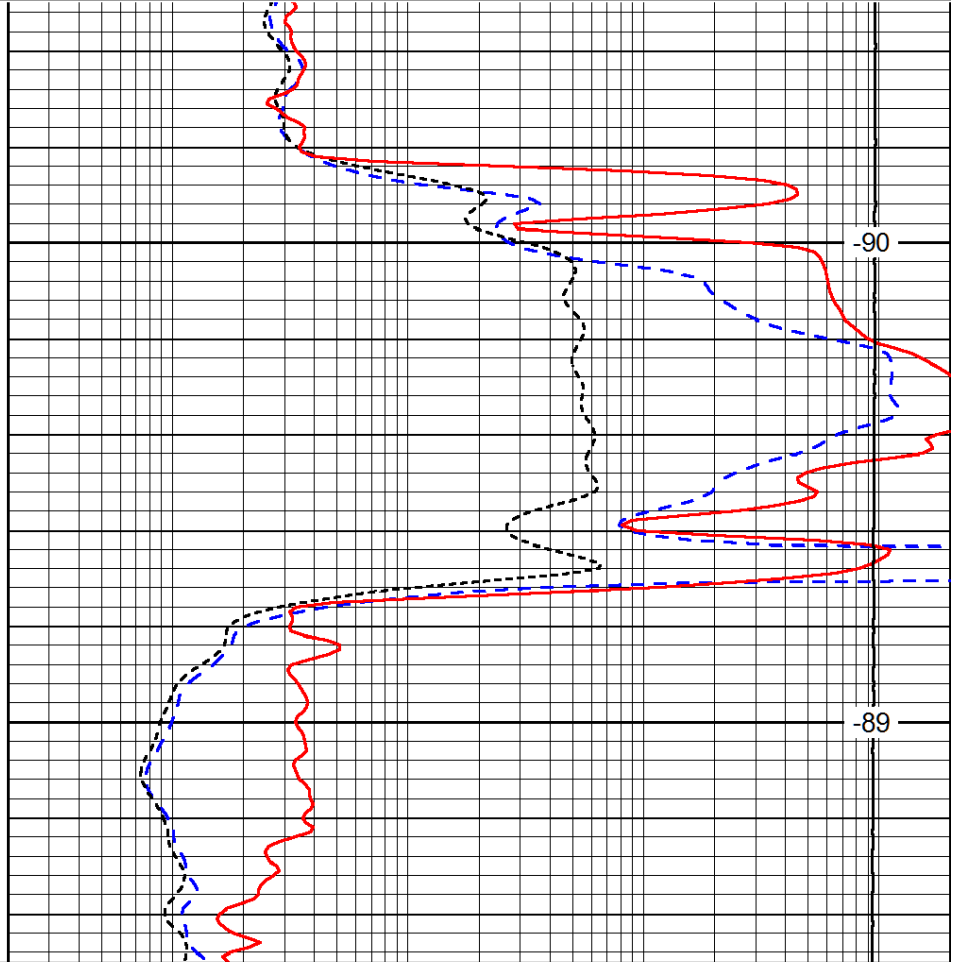
LSPD
(ft/min)



1250

1300

0	Gamma Ray (GAPI)	150
-160	RXO/RT	40
-200	SP (mV)	0



-90

-89

0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	Shallow Resistivity (Ohm-m)	2000
10000	Line Tension (lb)	0

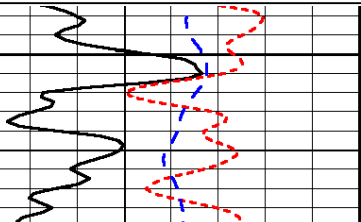
LSPD
(ft/min)

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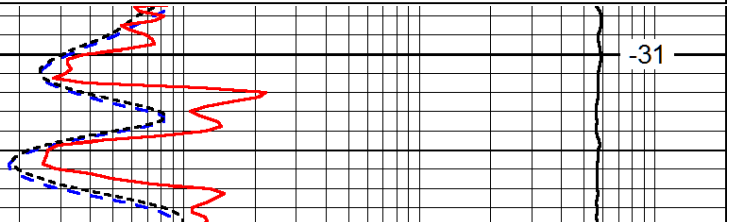
0	Gamma Ray (GAPI)	150
-160	RXO/RT	40
-200	SP (mV)	0

0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	Shallow Resistivity (Ohm-m)	2000
10000	Line Tension (lb)	0

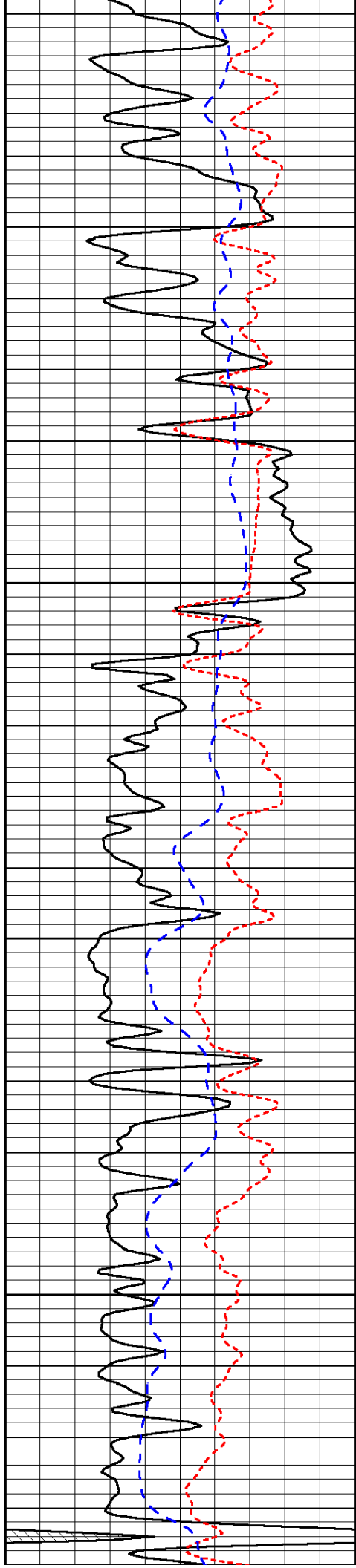
LSPD
(ft/min)



2900



-31

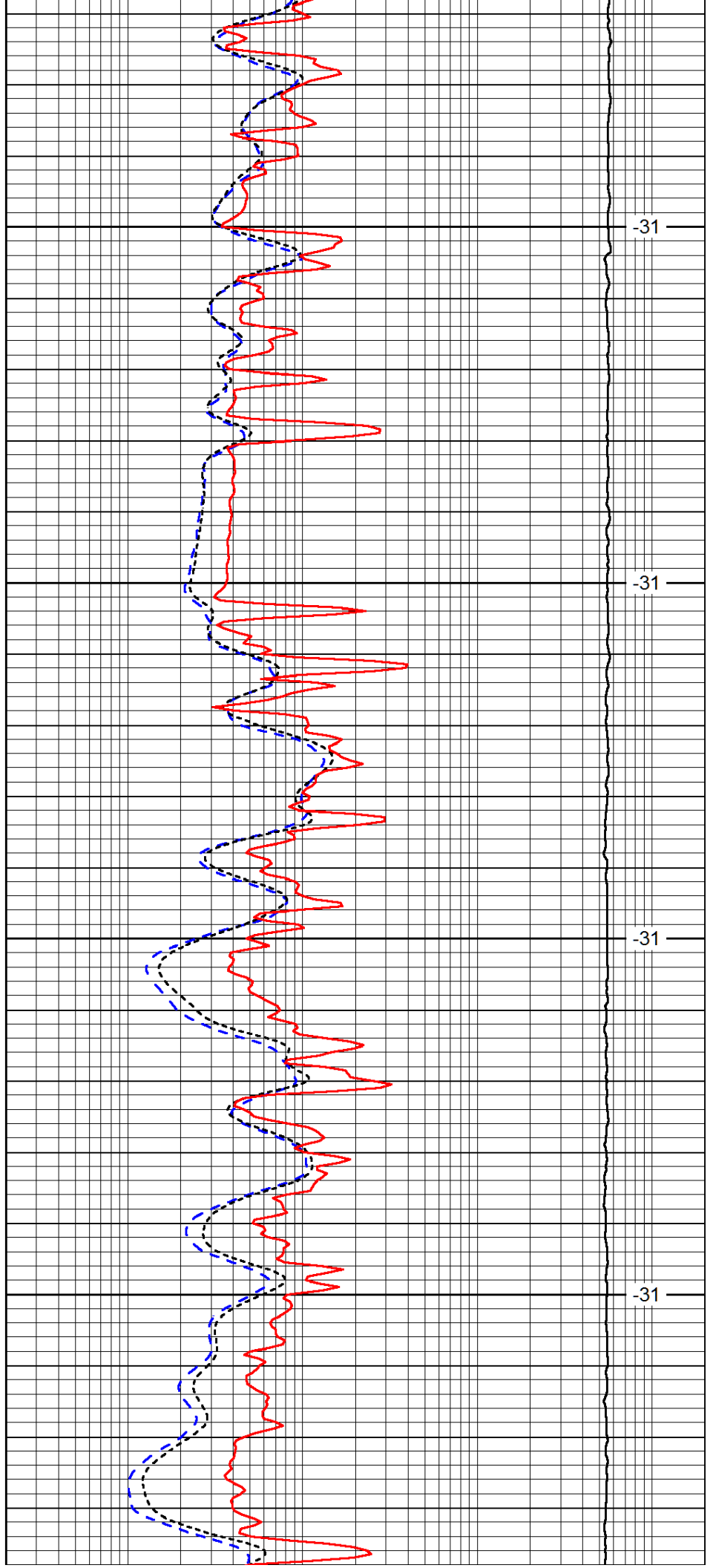


2950

3000

3050

3100

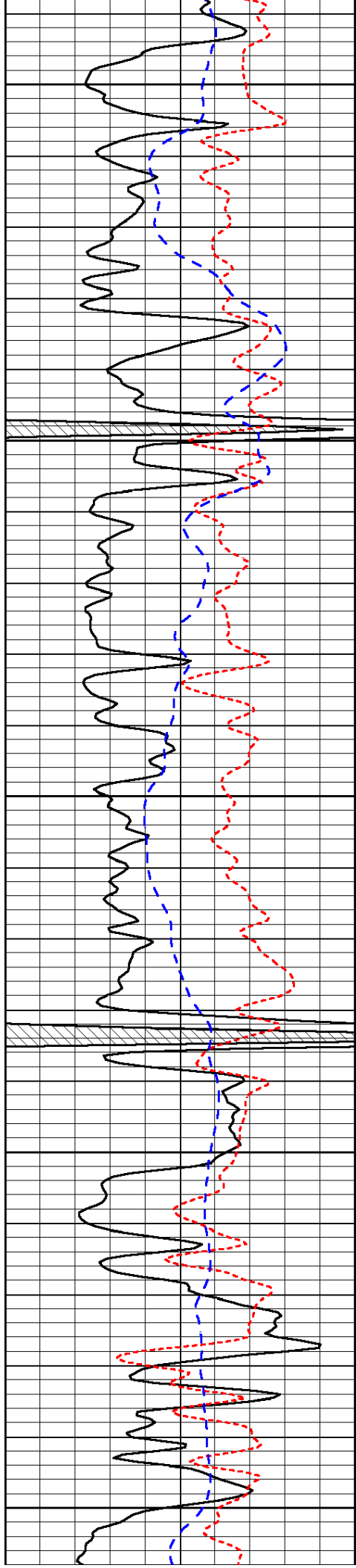


-31

-31

-31

-31



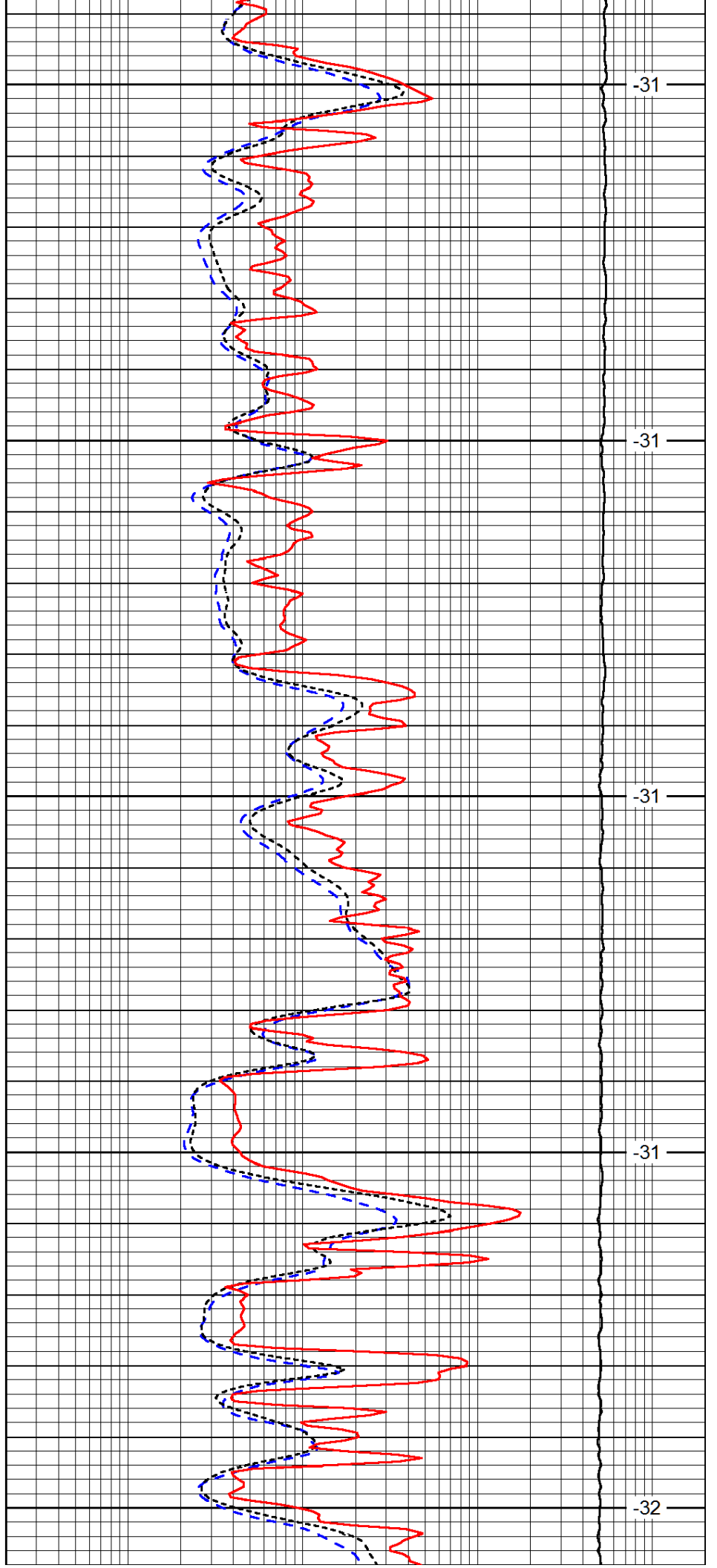
3150

3200

3250

3300

3350



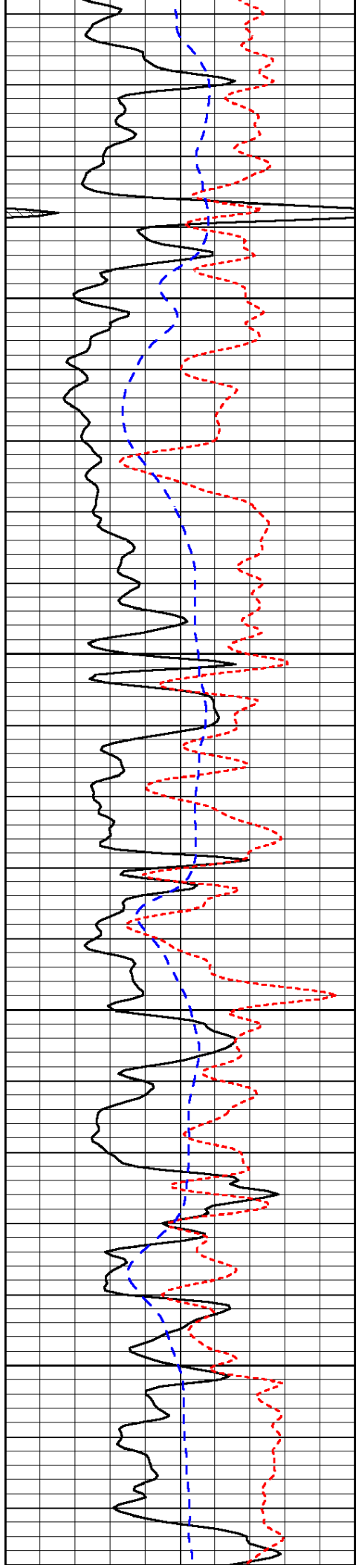
-31

-31

-31

-31

-32

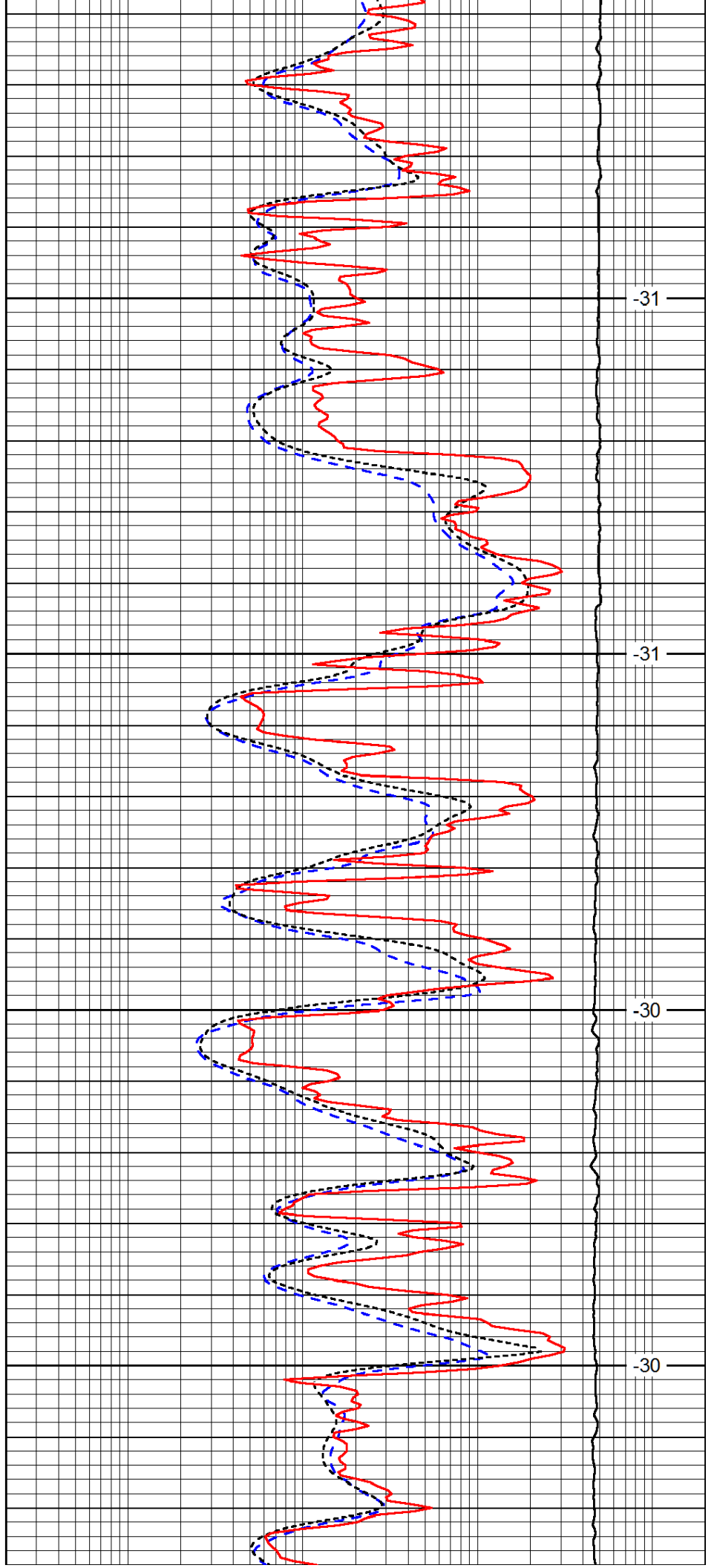


3400

3450

3500

3550

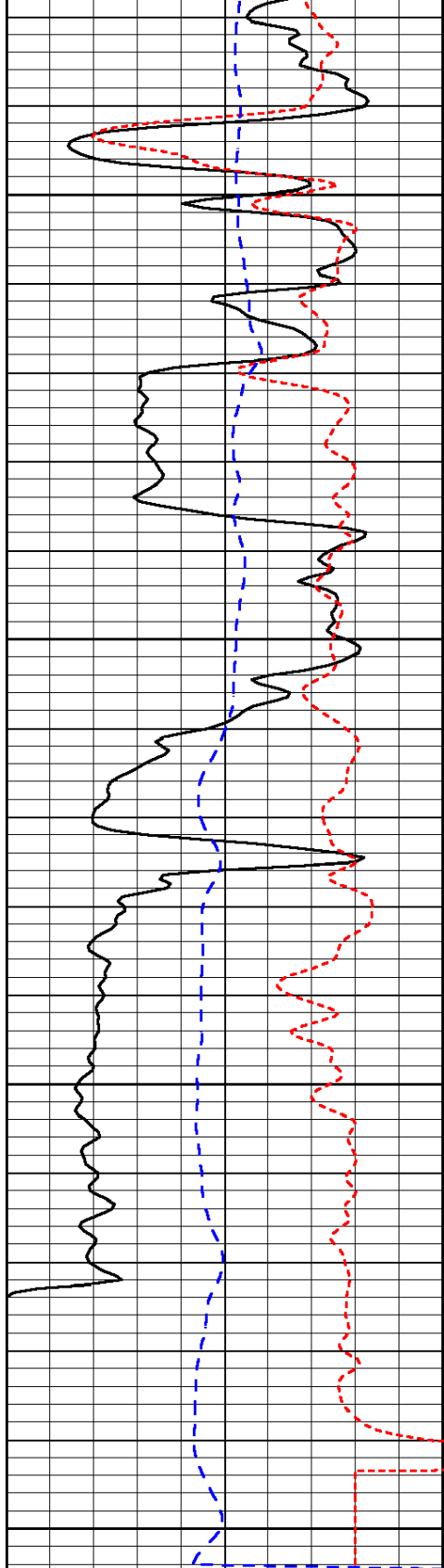


-31

-31

-30

-30



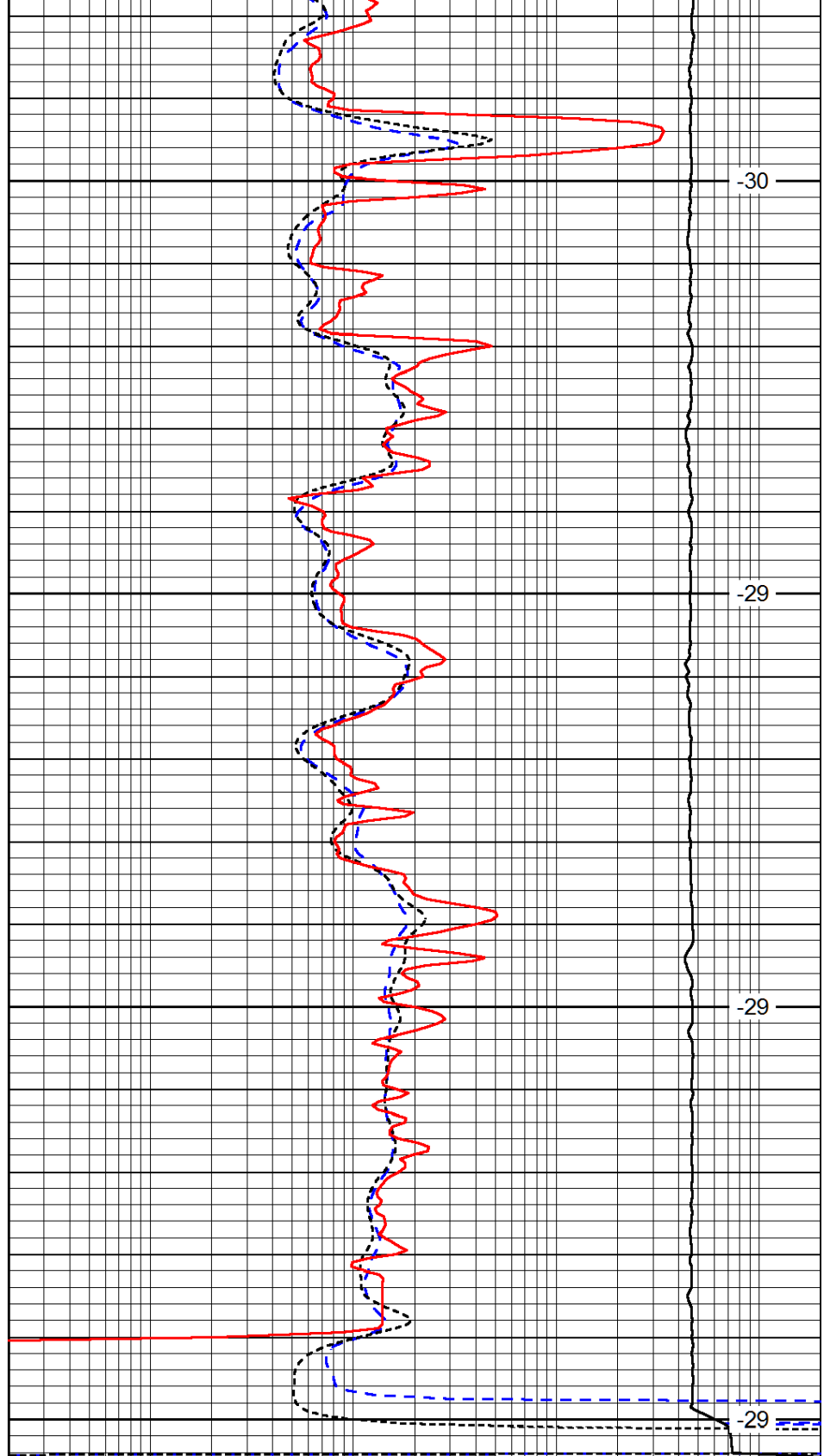
3600

3650

3700

3750

0	Gamma Ray (GAPI)	150
-160	RXO/RT	40
-200	SP (mV)	0



-30

-29

-29

-29

0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	Shallow Resistivity (Ohm-m)	2000
10000	Line Tension (lb)	0

LSPD
(ft/min)



Pioneer Energy Services

Dual Compensated Porosity Log

API No.	15-051-26,534-00-00		
Company	TDL, Inc.		
Well	Bieler No. 1		
Field	Virginia		
County	Ellys		
Location	N2 NE SW SE 1250' FSL & 1650' FEL		
Sec: 9	Twp: 15 S	Rge: 19 W	
Other Services		DILMEL	
Permanent Datum	Ground Level	Elevation 2024	
Log Measured From	Kelly Bushing	10 Ft. Above Perm. Datum	
Drilling Measured From	Kelly Bushing		
Date	7/19/2013		
Run Number	One		
Type Log	CNL / CDL		
Depth Driller	3750		
Depth Logger	3749		
Bottom Logged Interval	3728		
Top Logged Interval	2800		
Type Fluid In Hole	Chemical		
Salinity, PPM CL	3200		
Density	9.3		
Level	Full		
Max. Rec. Temp. F	114		
Operating Rig Time	3 1/2 Hours		
Equipment -- Location	108 Hays		
Recorded By	D. Martin		
Witnessed By	Herb Deines		

Borehole Record				Casing Record			
Run No.	Bit	From	To	Size	Wgt.	From	To
One	12.25	00	223	8.625	23#	00	223
Two	7.875	223	TD				

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Comments

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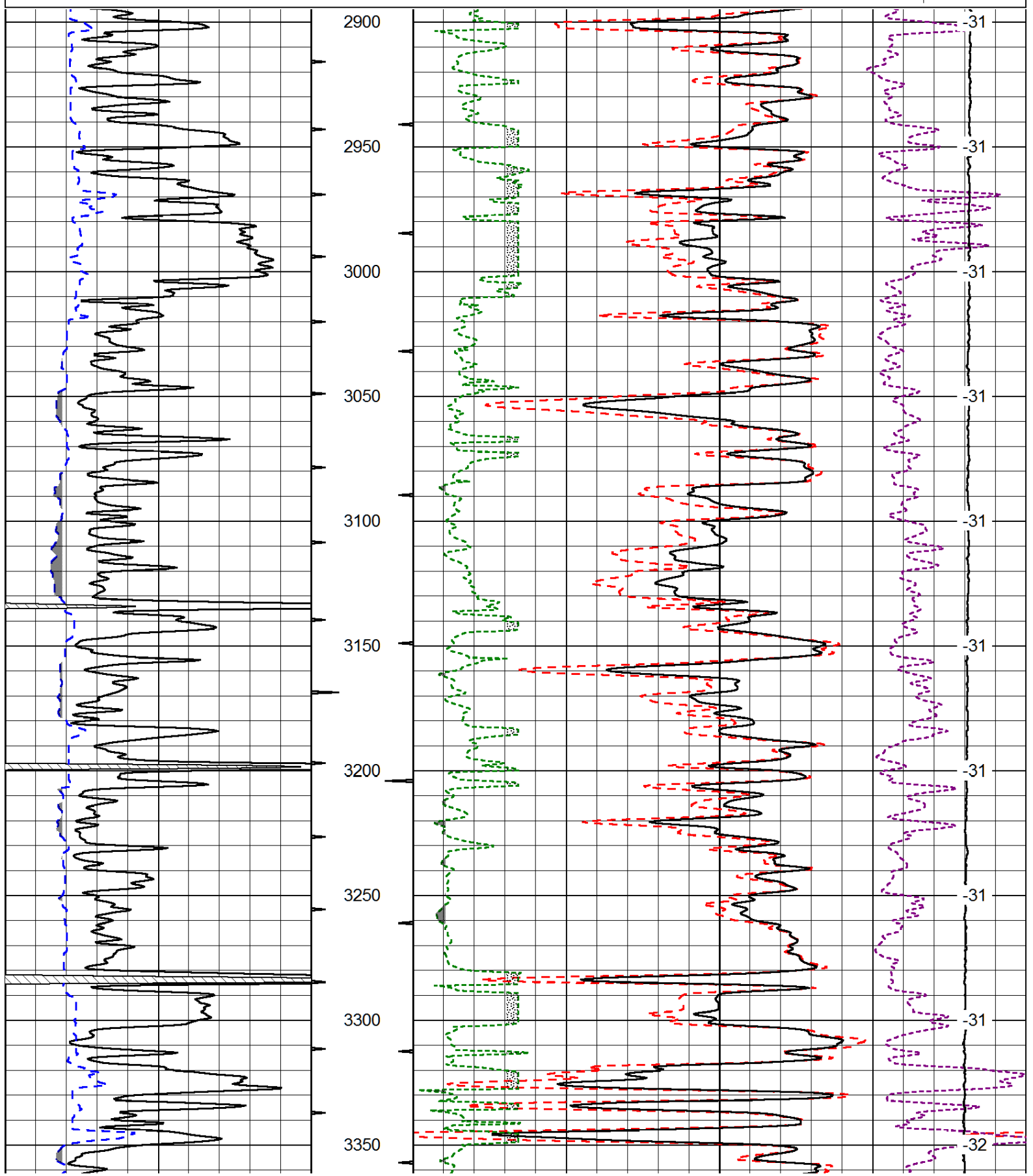
Antonino, KS
2 W, 2 S, 1/4 W, N Into

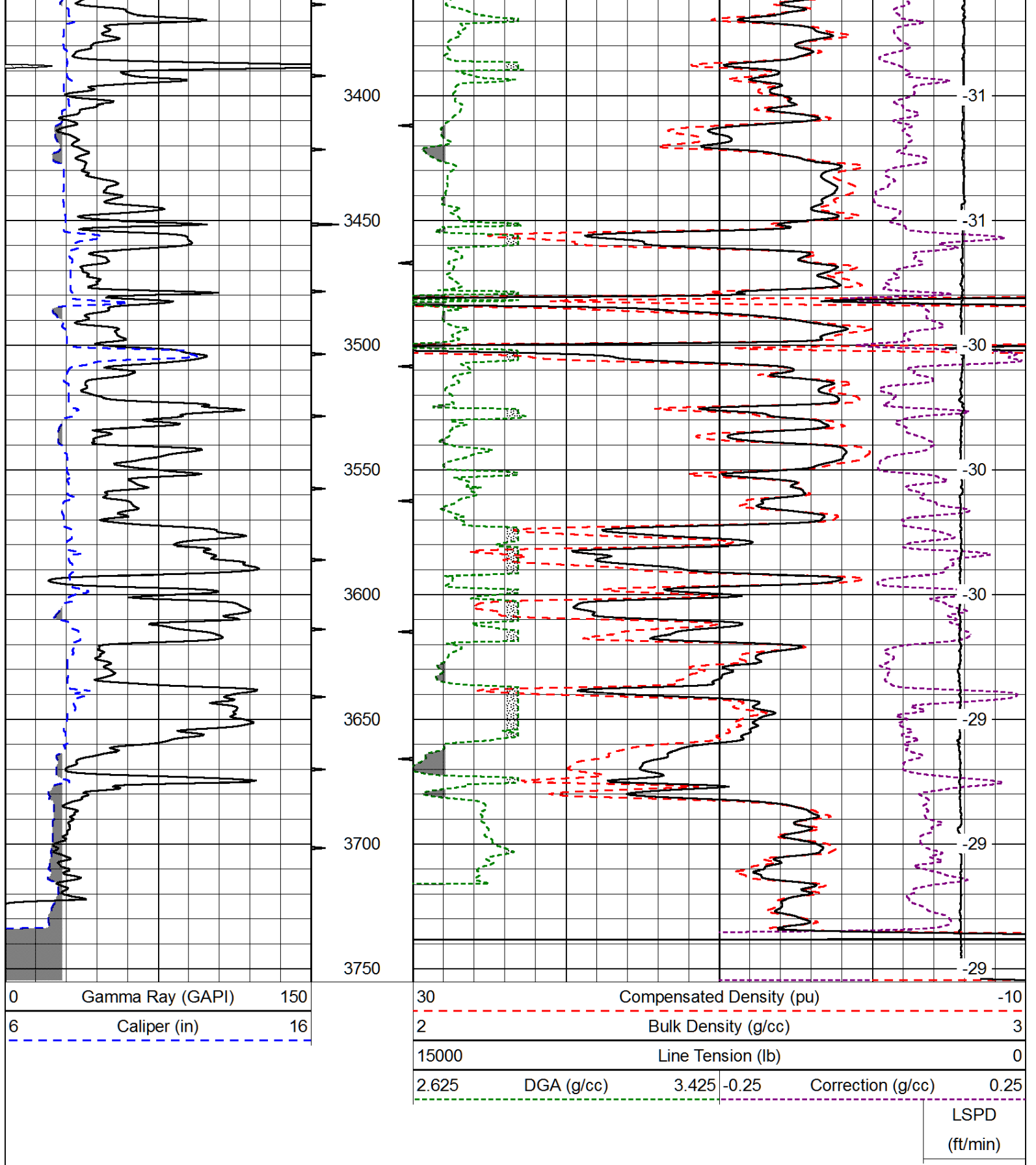
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 Dataset Creation: Fri Jul 19 09:22:18 2013
 Charted by: Depth in Feet scaled 1:600

0	Gamma Ray (GAPI)	150
6	Caliper (in)	16

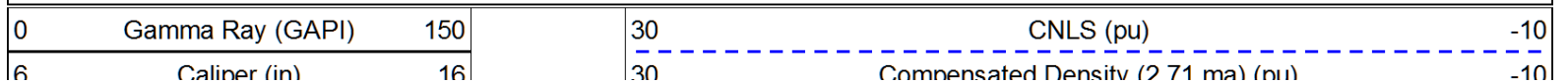
30	Compensated Density (pu)		-10
2	Bulk Density (g/cc)		3
15000	Line Tension (lb)		0
2.625	DGA (g/cc)	3.425	-0.25
	Correction (g/cc)		0.25

LSPD
(ft/min)



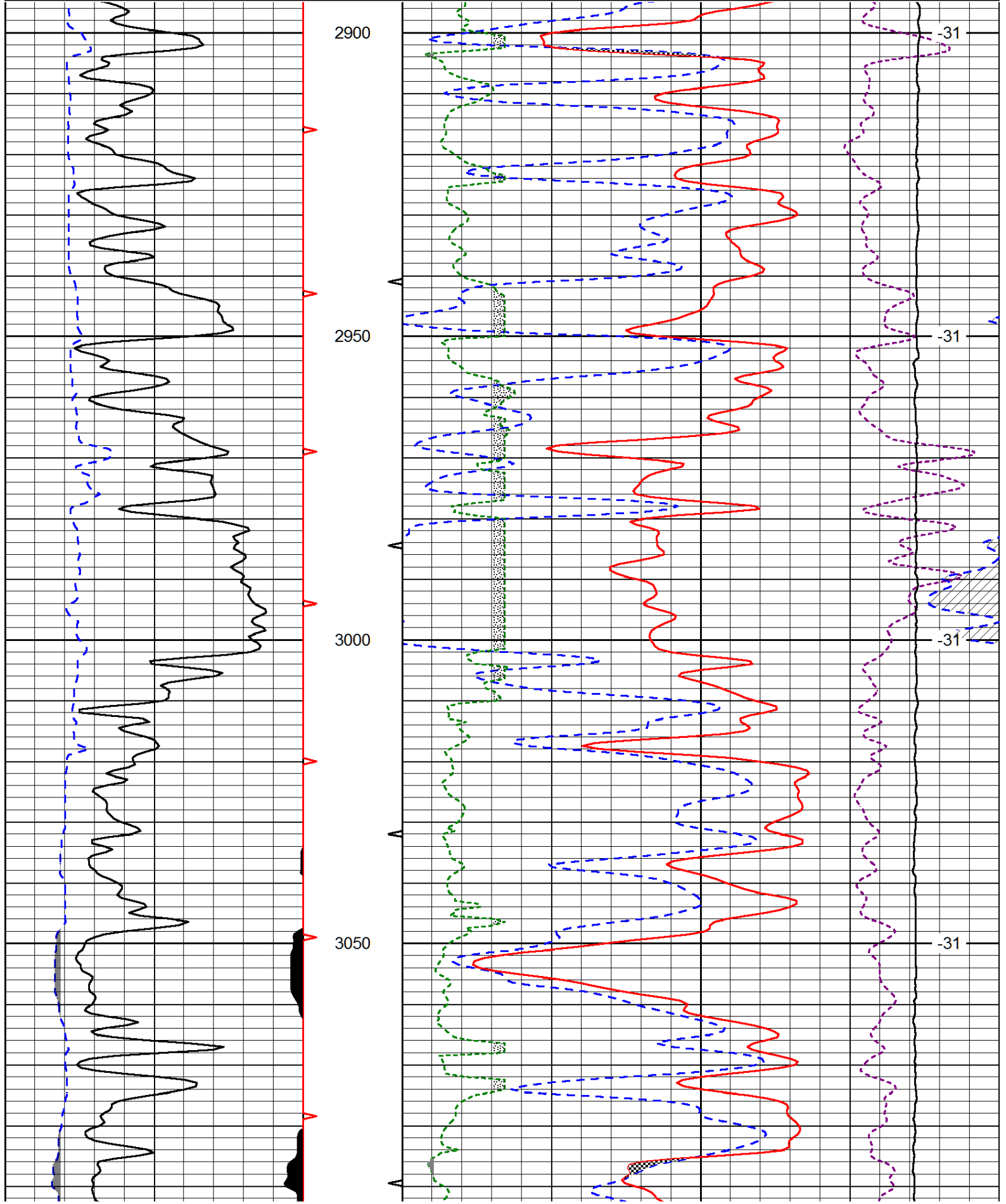


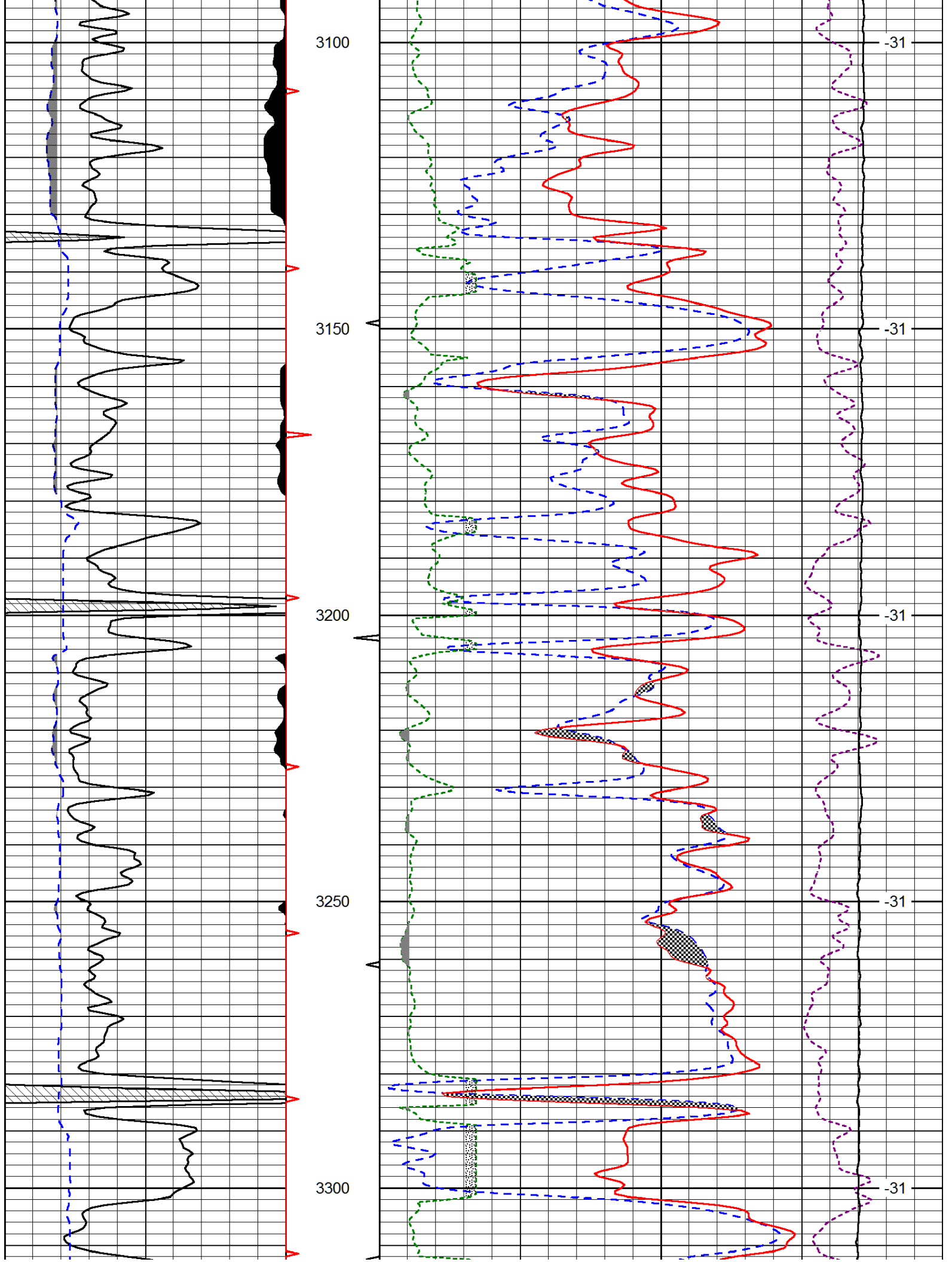
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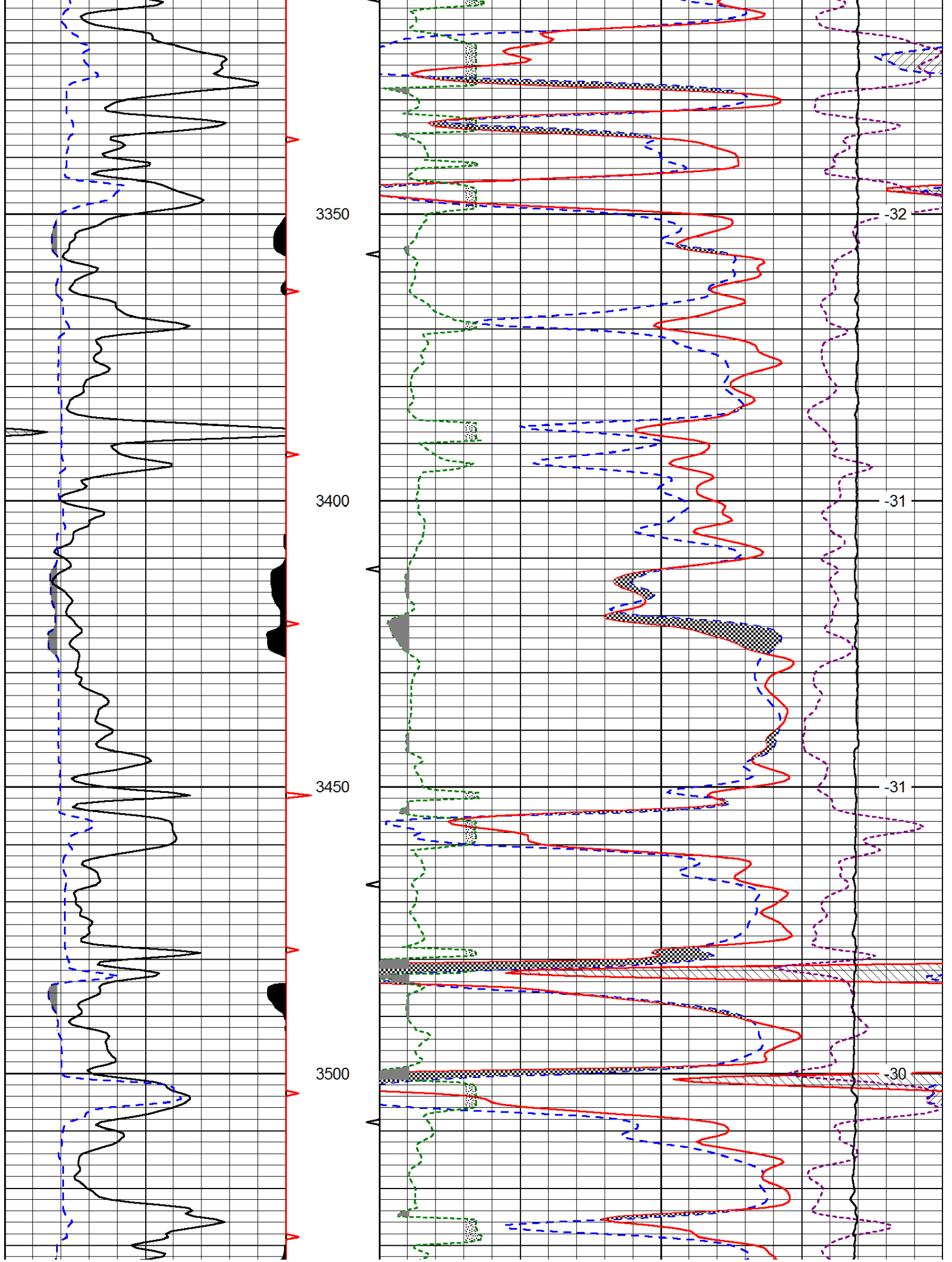


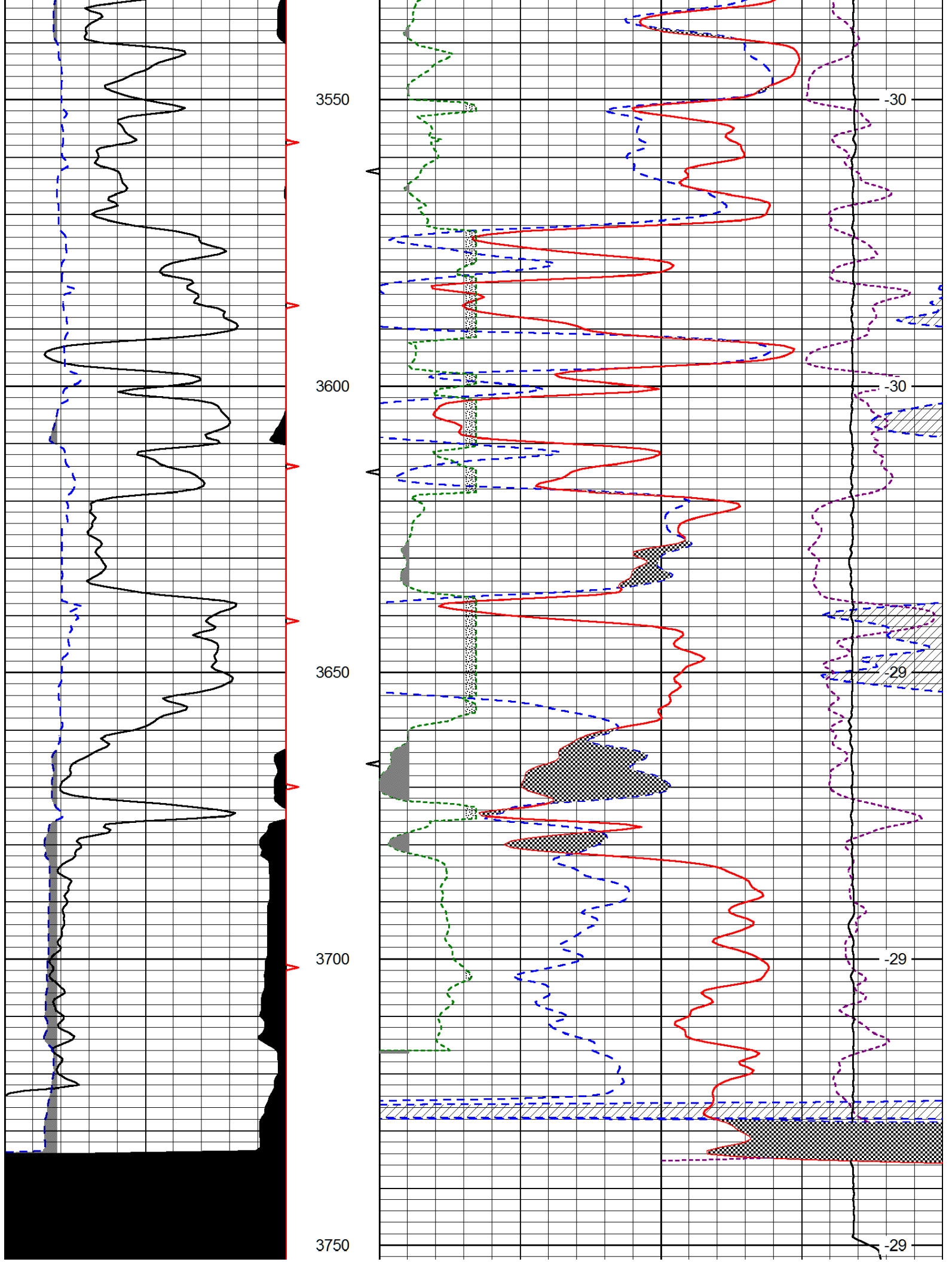
2.625	DGA (g/cc)	3.425	-0.25	Correction (g/cc)	0.25
10000		Line Tension (lb)			0

LSPD
(ft/min)









0	Gamma Ray (GAPI)	150
6	Caliper (in)	16

30	CNLS (pu)				-10
30	Compensated Density (2.71 ma) (pu)				-10
2.625	DGA (g/cc)	3.425	-0.25	Correction (g/cc)	0.25
10000	Line Tension (lb)				0
					LSPD (ft/min)



Pioneer Energy Services

Microresistivity Log

API No.	15-051-26,534-00-00	
Company	TDL, Inc.	
Well	Bieler No. 1	
Field	Virginia	
County	Elis	State
Location	N2 NE SW SE 1250' FSL & 1650' FEL	
	Sec: 9	Twp: 15 S Rge: 19 W
		Elevation 2024
		10 Ft. Above Perm. Datum
		Other Services CNL/CDL DIL
		Elevation K.B. 2034 D.F. 2024 G.L. 2024

Date	7/19/2013	
Run Number	Two	
Depth Driller	3750	
Depth Logger	3749	
Bottom Logged Interval	3748	
Top Log Interval	2800	
Casing Driller	8.625 @ 223	
Casing Logger	221	
Bit Size	7.875	
Type Fluid in Hole	Chemical	
Salinity, ppm Cl	3200	
Density / Viscosity	9.3	56
pH / Fluid Loss	10.5	8.0
Source of Sample	Flowline	
Rm @ Meas. Temp	.22 @ 84	
Rmf @ Meas. Temp	.17 @ 84	
Rmc @ Meas. Temp	.30 @ 84	
Source of Rmf / Rmc	Charts	
Rm @ BHT	.16 @ 114	
Operating Rig Time	3 1/2 Hours	
Max Rec. Temp. F	114	
Equipment Number	108	
Location	Hays	
Recorded By	D. Martin	
Witnessed By	Herb Deines	

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Comments

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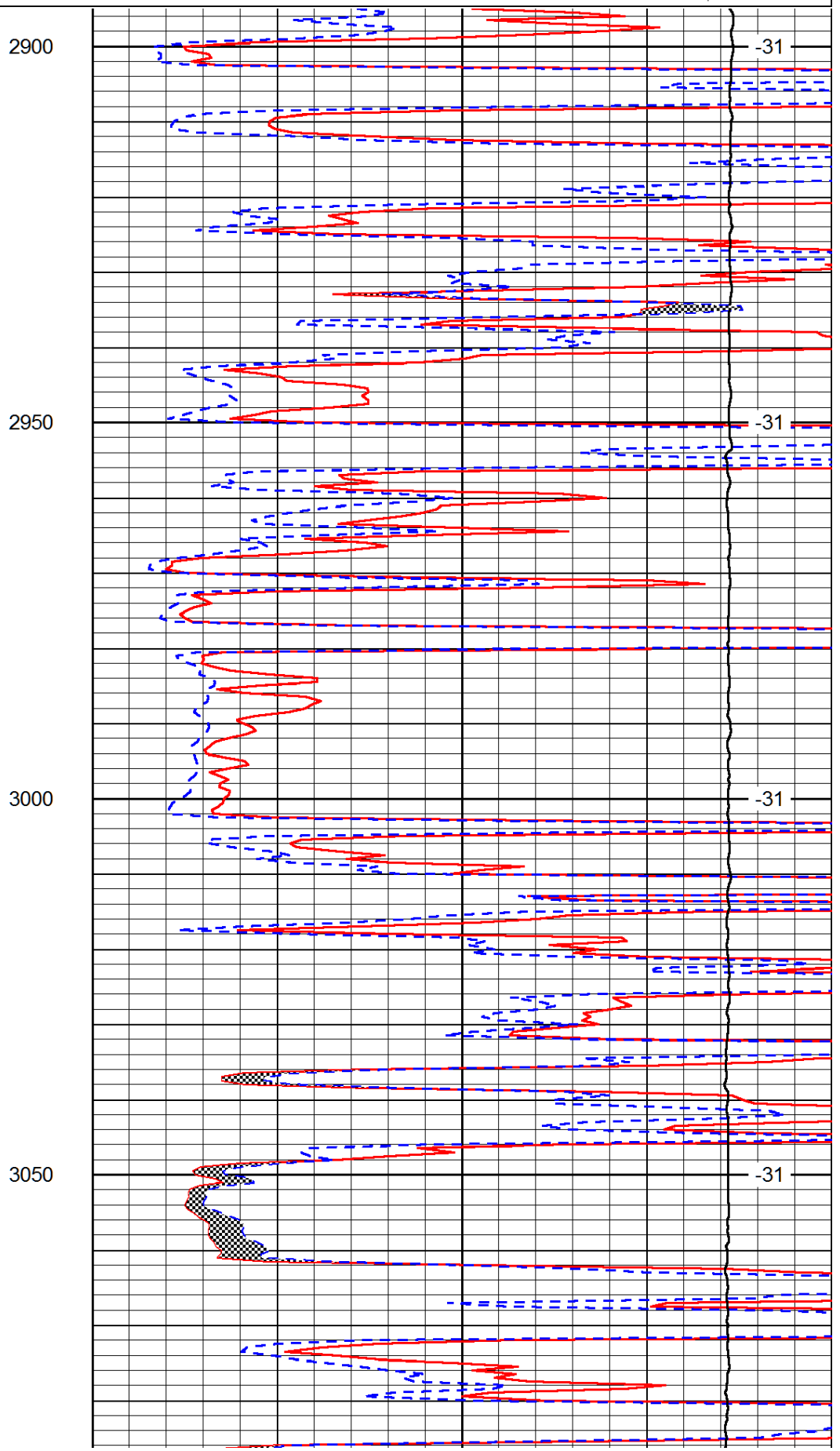
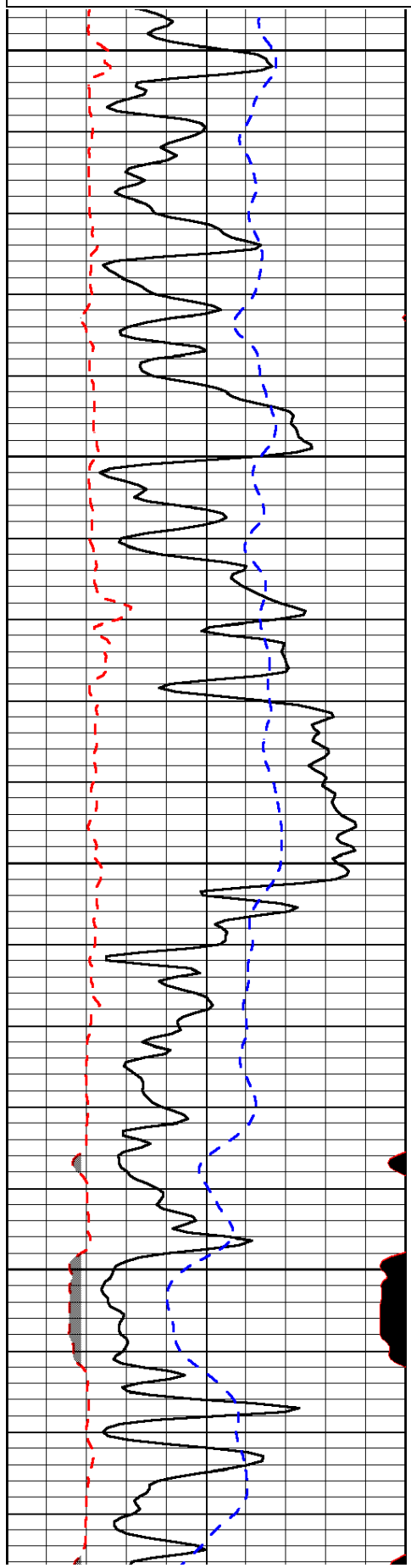
Antonino, KS
2 W, 2 S, 1/4 W, N Into

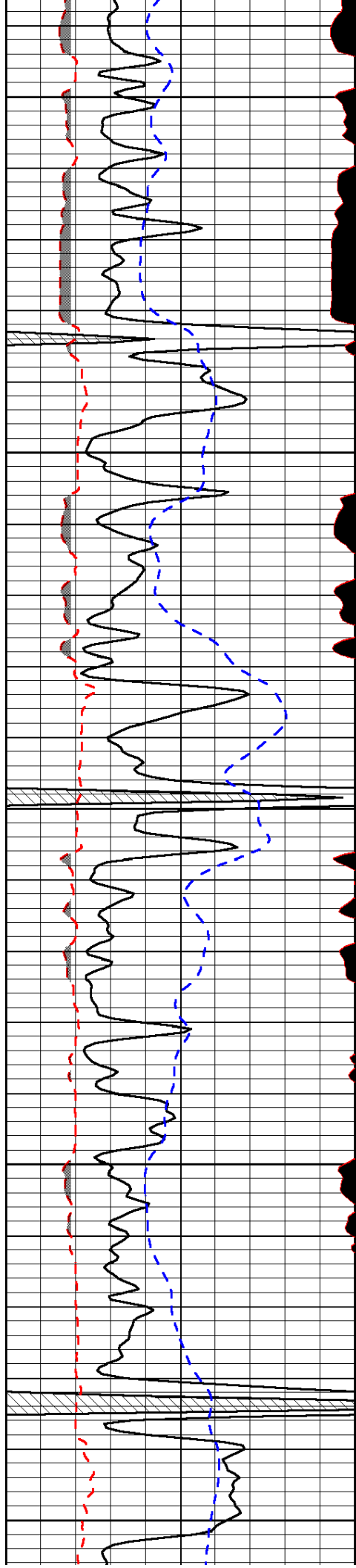
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0	Gamma Ray (GAPI)	150
6	MCAL (in)	16
2.875	Mud Cake (in)	7.875
-200	SP (mV)	0

0	Micro Inverse 1 X 1 (Ohm-m)	40
0	Micro Normal 2" (Ohm-m)	40
10000	Line Weight (lb)	0

LSPD
(ft/min)





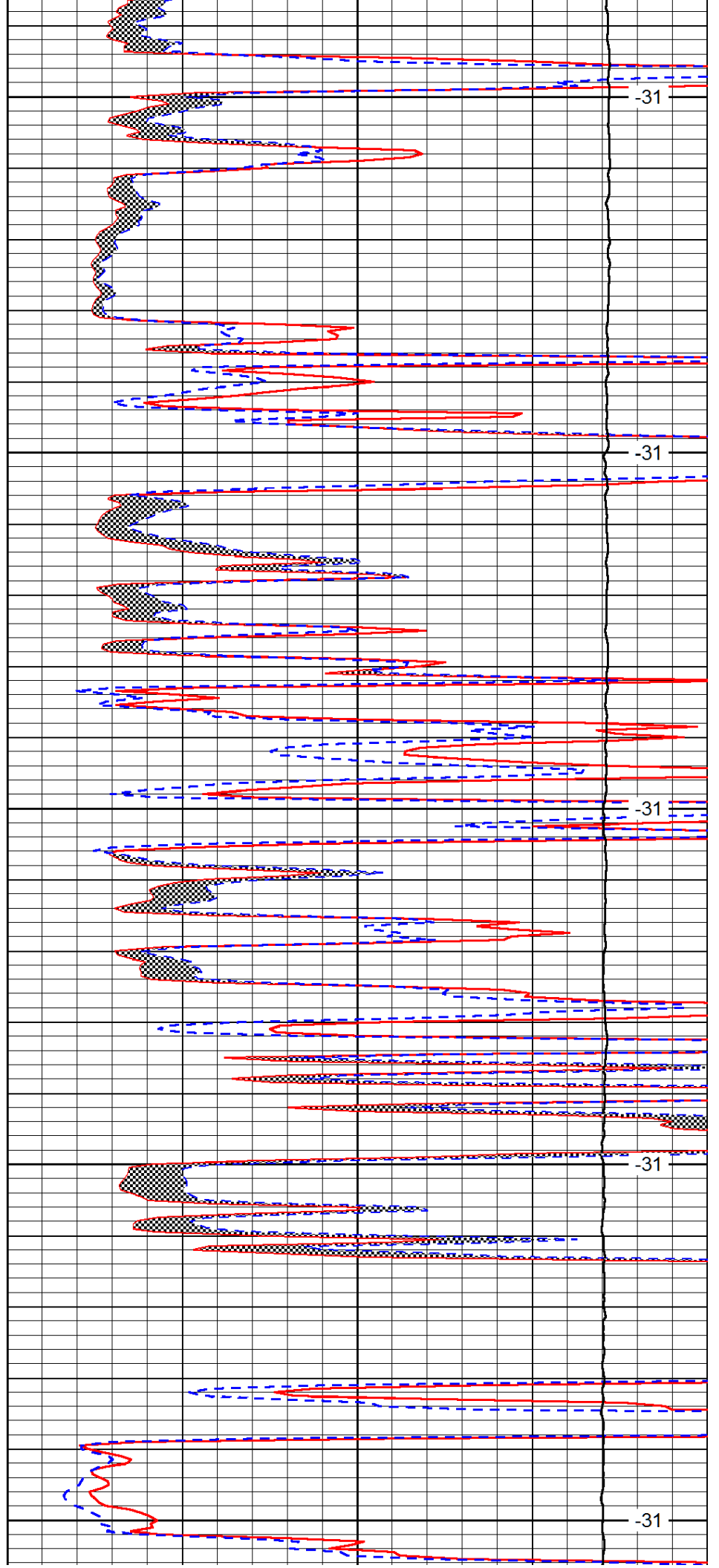
3100

3150

3200

3250

3300



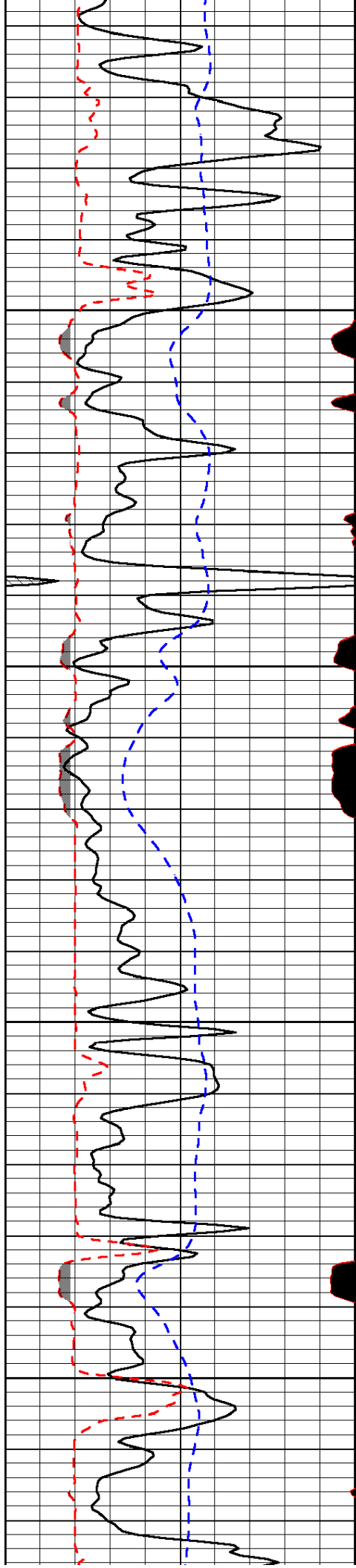
-31

-31

-31

-31

-31

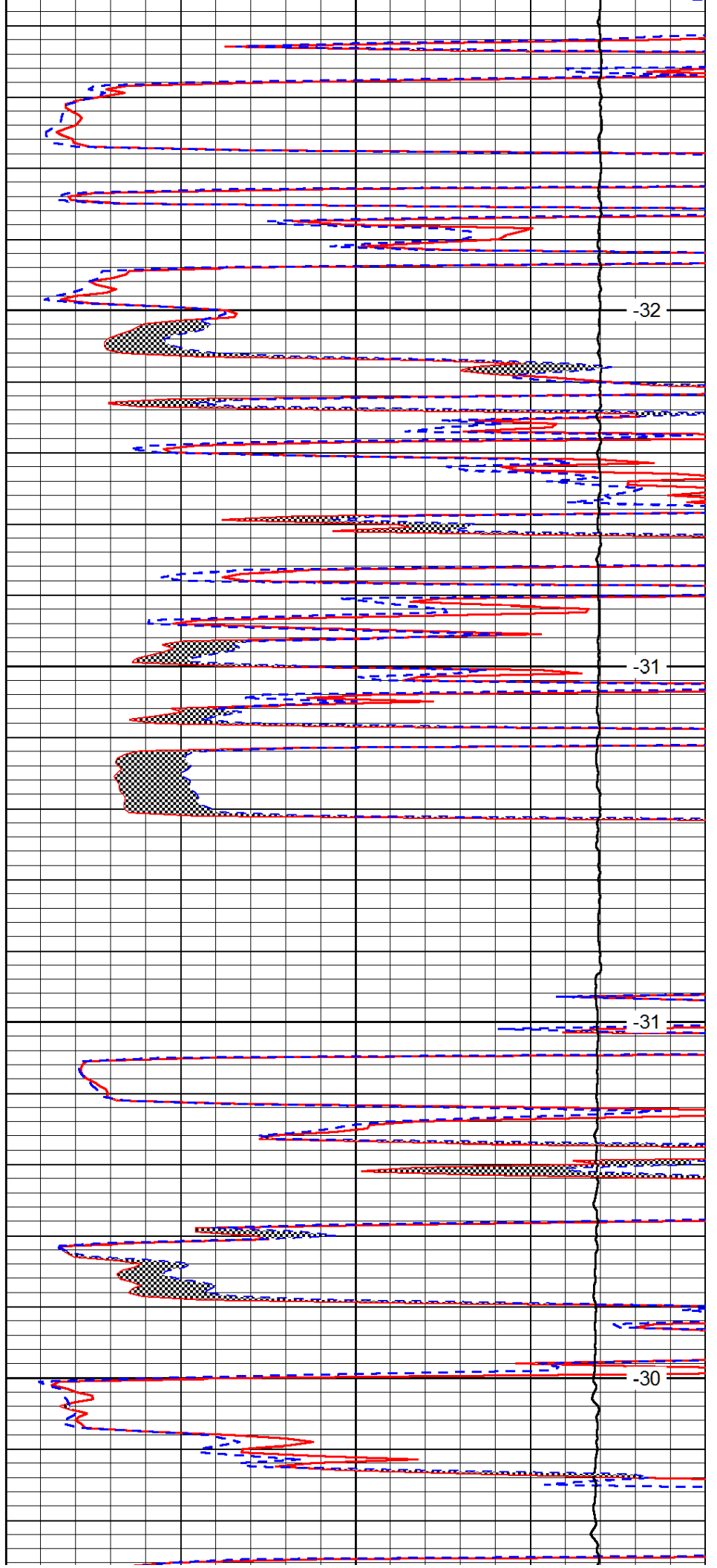


3350

3400

3450

3500

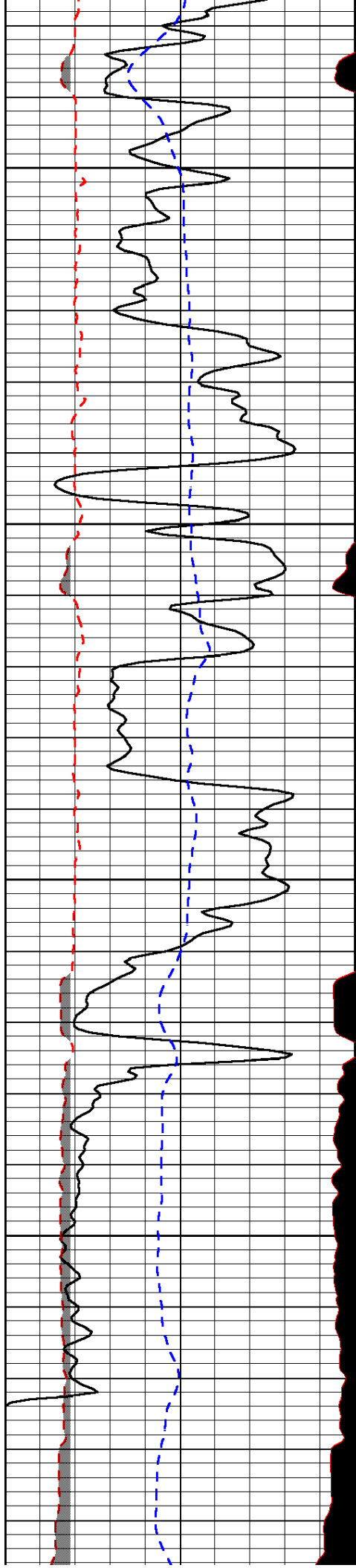


-32

-31

-31

-30

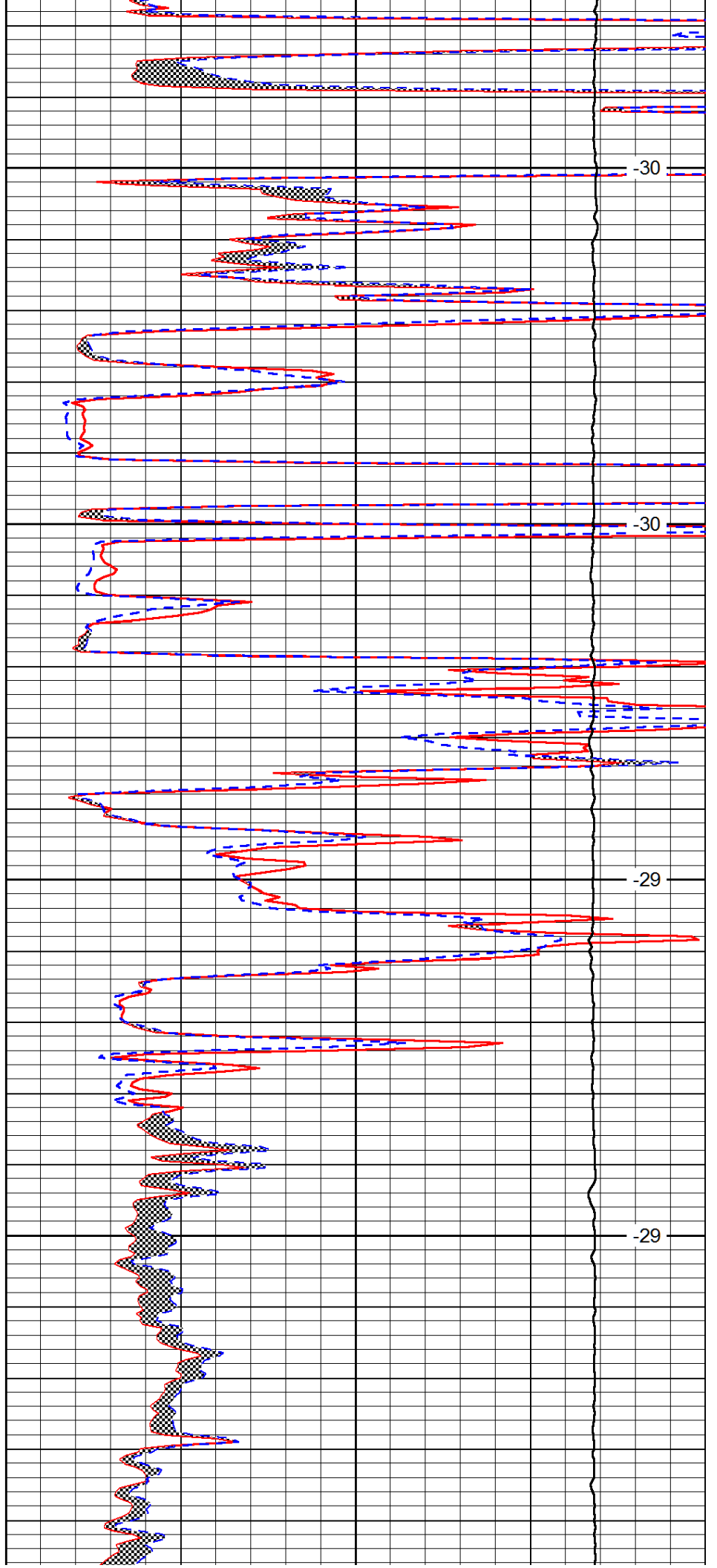


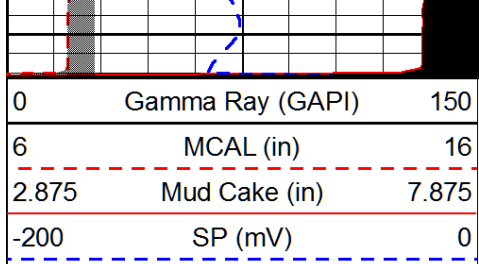
3550

3600

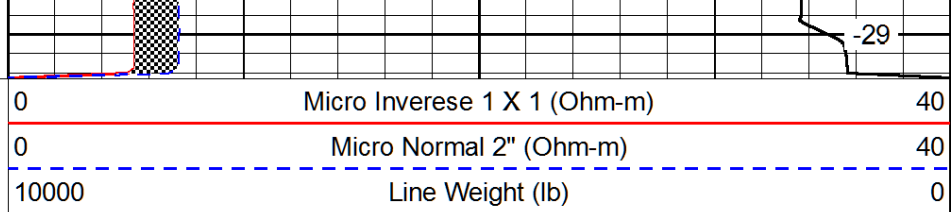
3650

3700





3750



LSPD
(ft/min)