KOLAR Document ID: 1488238

Confidentiality Requested:
☑ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

Form ACO-1
January 2018
Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 9346
Name: Diehl Oil Inc
Address 1: 205 E 13TH
Address 2: PO BOX 234
City: HAYS State: KS Zip: 67601 + 0234
Contact Person: Glenn D Diehl
Phone: (785) 625-6711
CONTRACTOR: License # 33350
Name: Southwind Drilling, Inc.
Wellsite Geologist: Roger Moses
Purchaser: CHS

Designate Type of Completion:
☑ New Well ☐ Re-Entry ☐ Workover
☑ Oil ☐ WSW ☐ SWD
☐ Gas ☐ DH ☐ EOR
☐ OG ☐ GSW
☐ CM *(Coal Bed Methane)*
☐ Cathodic ☐ Other *(Core, Expl., etc.)*:

If Workover/Re-entry: Old Well Info as follows:
Operator:
Well Name:
Original Comp. Date: Original Total Depth:
☐ Deepening ☐ Re-perf. ☐ Conv. to EOR ☐ Conv. to SWD
☐ Plug Back ☐ Liner ☐ Conv. to GSW ☐ Conv. to Producer

☐ Commingled Permit #:
☐ Dual Completion Permit #:
☐ SWD Permit #:
☐ EOR Permit #:
☐ GSW Permit #:

11/06/2019 Spud Date or Recompletion Date
11/12/2019 Date Reached TD
01/10/2020 Completion Date or Recompletion Date

API No.: 15-051-26978-00-00
Spot Description: 50' E N/2 N/2 SE/4
W2 - NW - NE - SE Sec. 22 Twp. 13 S. R. 17 ☐ East ☑ West
2310 Feet from ☐ North / ☑ South Line of Section
1270 Feet from ☑ East / ☐ West Line of Section
Footages Calculated from Nearest Outside Section Corner:
☐ NE ☐ NW ☑ SE ☐ SW
GPS Location: Lat: (e.g. xx.xxxxx) , Long: (e.g. -xxx.xxxxx)
Datum: ☐ NAD27 ☐ NAD83 ☐ WGS84
County: Ellis
Lease Name: ROME "A" Well #: 4
Field Name: Catherine South
Producing Formation: Arbuckle
Elevation: Ground: 1973 Kelly Bushing: 1983
Total Vertical Depth: 3612 Plug Back Total Depth: 3550
Amount of Surface Pipe Set and Cemented at: 222 Feet
Multiple Stage Cementing Collar Used? ☑ Yes ☐ No
If yes, show depth set: 1996 Feet
If Alternate II completion, cement circulated from: 1996
feet depth to: 0 w/ 235 sx cmt.

Drilling Fluid Management Plan
(Data must be collected from the Reserve Pit)
Chloride content: 4000 ppm Fluid volume: 560 bbls
Dewatering method used: Hauled to Disposal
Location of fluid disposal if hauled offsite:
Operator Name: Cla-Mar Oil Company, LLC
Lease Name: Dechant 1 License #: 6509
Quarter SW Sec. 17 Twp. 14 S. R. 18 ☐ East ☑ West
County: Ellis Permit #: D24904.0

AFFIDAVIT
I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY
☐ **Confidentiality Requested**
Date: 01/23/2020
☐ **Confidential Release Date:** 01/22/2022
☑ **Wireline Log Received** ☑ **Drill Stem Tests Received**
☑ **Geologist Report / Mud Logs Received**
☐ **UIC Distribution**
ALT ☐ I ☑ II ☐ III **Approved by:** Karen Ritter **Date:** 01/23/2020

Page Two

Operator Name: Diehl Oil Inc Lease Name: ROME "A" Well #: 4

Sec. 22 Twp. 13 S. R. 17 ☐ East ☑ West County: Ellis

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

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

Drill Stem Tests Taken *(Attach Additional Sheets)*	☑ Yes	☐ No
Samples Sent to Geological Survey	☑ Yes	☐ No
Cores Taken	☐ Yes	☑ No
Electric Log Run	☑ Yes	☐ No
Geologist Report / Mud Logs	☑ Yes	☐ No

List All E. Logs Run:
Attached

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

Name	Top	Datum
Stone Corral	1188	+795
Topeka	2985	-1002
Heebner	3228	-1245
Lansing	3274	-1291
Base K. C.	3503	-1520
Arbuckle	3521	-1538

CASING RECORD ☐ New ☑ Used
Report all strings set-conductor, surface, intermediate, production, etc.

Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
Surface	12.25	8.625	20	222	Class A	150	cc 4%
Production	7.875	5.5	17	3610	Class A	135	EA-2

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
☐ Perforate ☑ Protect Casing ☐ Plug Back TD ☐ Plug Off Zone	0-1996	MIDCON II	235	Calseal, salt, Halad 322, Flocele
	-			

1. Did you perform a hydraulic fracturing treatment on this well? ☐ Yes ☑ No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? ☐ Yes ☐ No *(If No, skip question 3)*
3. Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? ☐ Yes ☐ No *(If No, fill out Page Three of the ACO-1)*

Date of first Production/Injection or Resumed Production/ Injection: 01/10/2020

Producing Method: ☐ Flowing ☑ Pumping ☐ Gas Lift ☐ Other *(Explain)*

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
	18.8	0	22.1		31

DISPOSITION OF GAS: ☐ Vented ☐ Sold ☐ Used on Lease *(If vented, Submit ACO-18.)*

METHOD OF COMPLETION: ☐ Open Hole ☑ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*

PRODUCTION INTERVAL:

Top	Bottom
3526	3534
3538	3544

Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record *(Amount and Kind of Material Used)*
2	3526	3534			250 gal HCl
2	3538	3544			250 gal HCl
			CIBP Cast Iron Bridge Plug	3550	
2	3552	3556			250 gal HCl

TUBING RECORD: Size: 2.375 Set At: 3545 Packer At:

Mail to: KCC - Conservation Division, 266 N. Main, Suite 220, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	Diehl Oil Inc
Well Name	ROME "A" 4
Doc ID	1488238

All Electric Logs Run

Dual Induction
Compensated Density Neutron
Micro Resistivity
Cement Bond

Form	ACO1 - Well Completion
Operator	Diehl Oil Inc
Well Name	ROME "A" 4
Doc ID	1488238

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Surface	12.25	8.625	20	222	Class A	150	cc 4%
Production	7.875	5.5	17	3610	Class A	135	EA-2

JOB LOG

SWIFT Services, Inc.

DATE 11/07/19 | PAGE NO. 1

CUSTOMER Diehl Oil Inc | WELL NO. #84 | LEASE Rome A | JOB TYPE Surface | TICKET NO. 32663

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS T	PUMPS C	PRESSURE (PSI) TUBING	PRESSURE (PSI) CASING	DESCRIPTION OF OPERATION AND MATERIALS
	0100							On location, Set up trucks, Rig still Drilling
								8 5/8" x 20#
	0230							Start Casing
	0315							Break Circulation
	0325							Hook up to Swift
	0338	4	5					Start water ahead
		4						Start Cmt
		4	36					Fin Cmt, Start Displacement
	0345	4	13¼					Fin Displacement, Cmt Circulated
								Shut in
								Release Truck
								Wash up
								Rack up
	0415							Job Complete
								Thanks, Jon, Austin, Kirby

JOB LOG

SWIFT Services, Inc.

DATE 11/12/18 | PAGE NO. 1

CUSTOMER Dieh| O,| Inc | WELL NO. #4 | LEASE Rome 'A' | JOB TYPE Long String | TICKET NO. 32664

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS T	PUMPS C	PRESSURE (PSI) TUBING	PRESSURE (PSI) CASING	DESCRIPTION OF OPERATION AND MATERIALS
	1630							On location w/ Float Equipment
								Rig laying Down Collars
								17# x 5½ used casing
								RTD - 3612
								LTD - 3611
								Total Pipe - 3604
								Baffle @ 3583
								D.V. Tool @ 1996 on # 39 Top of.
								Turbolizers - 1, 3, 5, 7, 9, 11, 13, 15, 38
								Baskets - 2, 39. Bottom of
	1800							Start Casing w/ Float Equipment
	2000							Break Circulation on Bottom
	2200	4	12				400	Pump Mudflush
		4	20				400	Pump KCL Spacer
		2	7					Plug Rathole w/ 30 SKS, EA2
		2	3½					Plug Mousehole w/ 15 SKS, EA2
	2220							Start Cmt, 135 SKS EA-2
		4	32					Fin Cmt, Shut Down
								Drop Plug, Washout Pump & Lines
	2240	8					400	Start Displacement
		7	60				500	Catch Cmt
		6	83				1000	Land Plug 1000 Lift PSI
								1500 Land PSI
	2300							Drop D.V. Bomb
	2310							Open D.V. Tool
		5						Start Cmt, 235 SKS SMD
	0000	5	120					Fin Cmt
								Drop Plug
		6						Start Displacement
	1215	6	46½				600	Land Plug Lift 600 PSI
								Cmt circulated Land 1200 PSI
								Release Truck, Dry - Wash up
								Rack up
	1240							Job Complete
								Thanks
								Jon, Austin, Kirby

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Diehl Oil Inc.**

PO Box 234
Hays KS 67601

ATTN: Roger Moses

Rome A #4

22-13S-17W Ellis,KS

Start Date: 2019.11.11 @ 01:25:00
End Date: 2019.11.11 @ 08:36:15
Job Ticket #: 66328 DST #: 1

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2019.11.12 @ 16:17:53

DRILL STEM TEST REPORT

Diehl Oil Inc.

PO Box 234
Hays KS 67601

ATTN: Roger Moses

22-13S-17W Ellis,KS

Rome A #4

Job Ticket: 66328 **DST#: 1**

Test Start: 2019.11.11 @ 01:25:00

GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 04:05:15
Time Test Ended: 08:36:15

Test Type: Conventional Bottom Hole (Initial)
Tester: Royal Fisher
Unit No: 77

Interval: 3508.00 ft (KB) To 3555.00 ft (KB) (TVD)
Total Depth: 3555.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

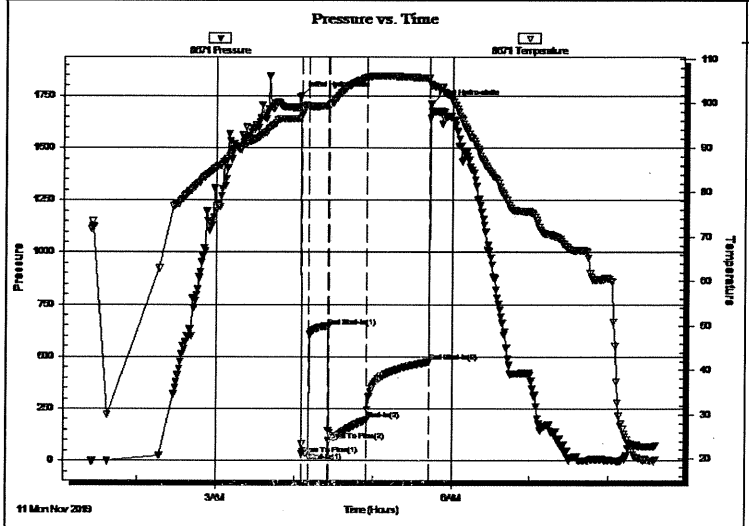
Reference Elevations: 1983.00 ft (KB)
1973.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8671 **Outside**

Press@RunDepth: 197.19 psig @ 3509.00 ft (KB)
Start Date: 2019.11.11 End Date: 2019.11.11
Start Time: 01:25:05 End Time: 08:36:14

Capacity: 8000.00 psig
Last Calib.: 2019.11.11
Time On Btm: 2019.11.11 @ 04:04:45
Time Off Btm: 2019.11.11 @ 05:44:00

TEST COMMENT: 5 - IFP - Surface blow built up to 7"
15 - ISI - No Return
30 - Surface blow built to B.o.B. in 3 mins.
45 - Faint return started in 5 mins. and built to 1"



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1749.14	96.71	Initial Hydro-static
1	31.60	97.14	Open To Flow (1)
6	39.53	99.32	Shut-In(1)
21	644.93	99.49	End Shut-In(1)
22	94.94	99.55	Open To Flow (2)
51	197.19	105.80	Shut-In(2)
99	474.98	105.67	End Shut-In(2)
100	1709.67	104.05	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
126.00	OCMW - 10%o - 5%m - 85%w	1.29
189.00	Free Oil - 100%o	1.94
128.00	OCM - 20%o - 80%m	1.31

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Diehl Oil Inc.

PO Box 234
Hays KS 67601

ATTN: Roger Moses

22-13S-17W Ellis,KS

Rome A #4

Job Ticket: 66328 **DST#: 1**

Test Start: 2019.11.11 @ 01:25:00

GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 04:05:15
Time Test Ended: 08:36:15

Test Type: Conventional Bottom Hole (Initial)
Tester: Royal Fisher
Unit No: 77

Interval: 3508.00 ft (KB) To 3555.00 ft (KB) (TVD)
Total Depth: 3555.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

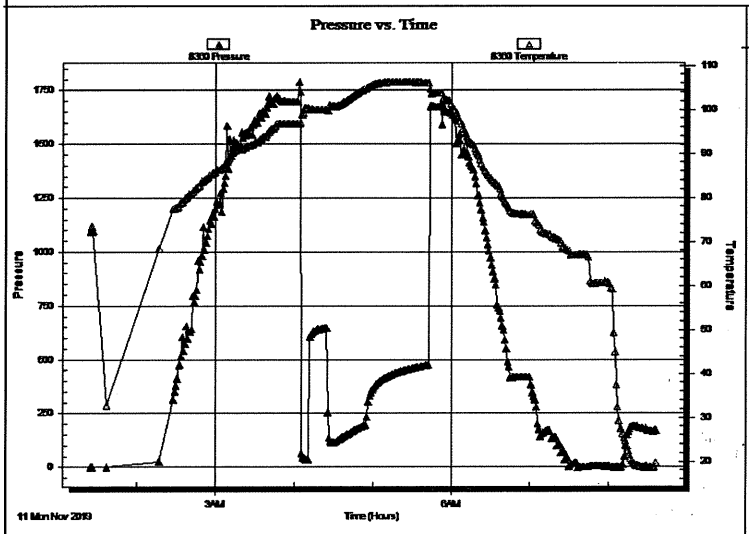
Reference Elevations: 1983.00 ft (KB)
1973.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8360 **Inside**

Press@RunDepth: psig @ 3509.00 ft (KB)
Start Date: 2019.11.11 End Date: 2019.11.11
Start Time: 01:25:05 End Time: 08:36:14

Capacity: 8000.00 psig
Last Calib.: 2019.11.11
Time On Btm:
Time Off Btm:

TEST COMMENT: 5 - IFP - Surface blow built up to 7"
15 - ISI - No Return
30 - Surface blow built to B.o.B. in 3 mins.
45 - Faint return started in 5 mins. and built to 1"



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
126.00	OCMW - 10%o - 5%m - 85%w	1.29
189.00	Free Oil - 100%o	1.94
128.00	OCM - 20%o - 80%m	1.31

Gas Rates

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

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Diehl Oil Inc.

PO Box 234
Hays KS 67601

ATTN: Roger Moses

22-13S-17W Ellis,KS

Rome A #4

Job Ticket: 66328 **DST#: 1**

Test Start: 2019.11.11 @ 01:25:00

Tool Information

Drill Pipe:	Length:	3497.00 ft	Diameter:	3.25 inches	Volume:	35.88 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight to Pull Loose:	52000.00 lb
					Total Volume:	35.88 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		15.00 ft					String Weight: Initial	42000.00 lb
Depth to Top Packer:		3508.00 ft					Final	44000.00 lb
Depth to Bottom Packer:		ft						
Interval betw een Packers:		47.00 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	
Shut In Tool	5.00			3487.00		
Hydraulic tool	5.00			3492.00		
EM Tool	3.00			3495.00		
Safety Joint	3.00			3498.00		
Packer	5.00			3503.00	26.00	Bottom Of Top Packer
Packer	5.00			3508.00		
Stubb	1.00			3509.00		
Recorder	0.00	8360	Inside	3509.00		
Recorder	0.00	8671	Outside	3509.00		
Perforations	10.00			3519.00		
Change Over Sub	1.00			3520.00		
Drill Pipe	31.00			3551.00		
Change Over Sub	1.00			3552.00		
Bullnose	3.00			3555.00	47.00	Bottom Packers & Anchor
Total Tool Length:	**73.00**					

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Diehl Oil Inc.

PO Box 234
Hays KS 67601

ATTN: Roger Moses

22-13S-17W Ellis,KS

Rome A #4

Job Ticket: 66328 **DST#: 1**

Test Start: 2019.11.11 @ 01:25:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	31 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	36000 ppm
Viscosity:	60.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	8.78 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	4000.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
126.00	OCMW - 10%o - 5%m - 85%w	1.293
189.00	Free Oil - 100%o	1.939
128.00	OCM - 20%o - 80%m	1.313

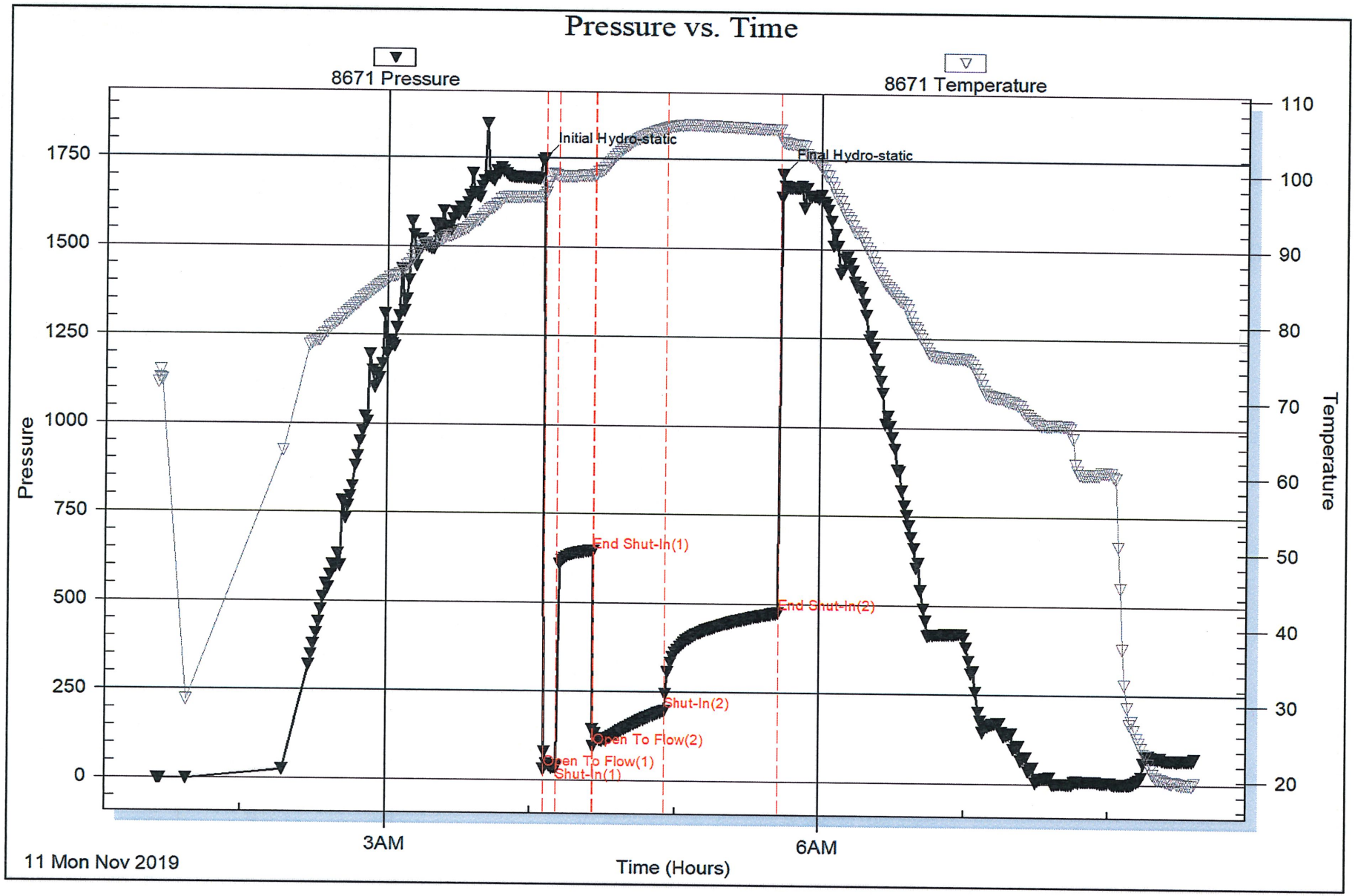
Total Length: 443.00 ft Total Volume: 4.545 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

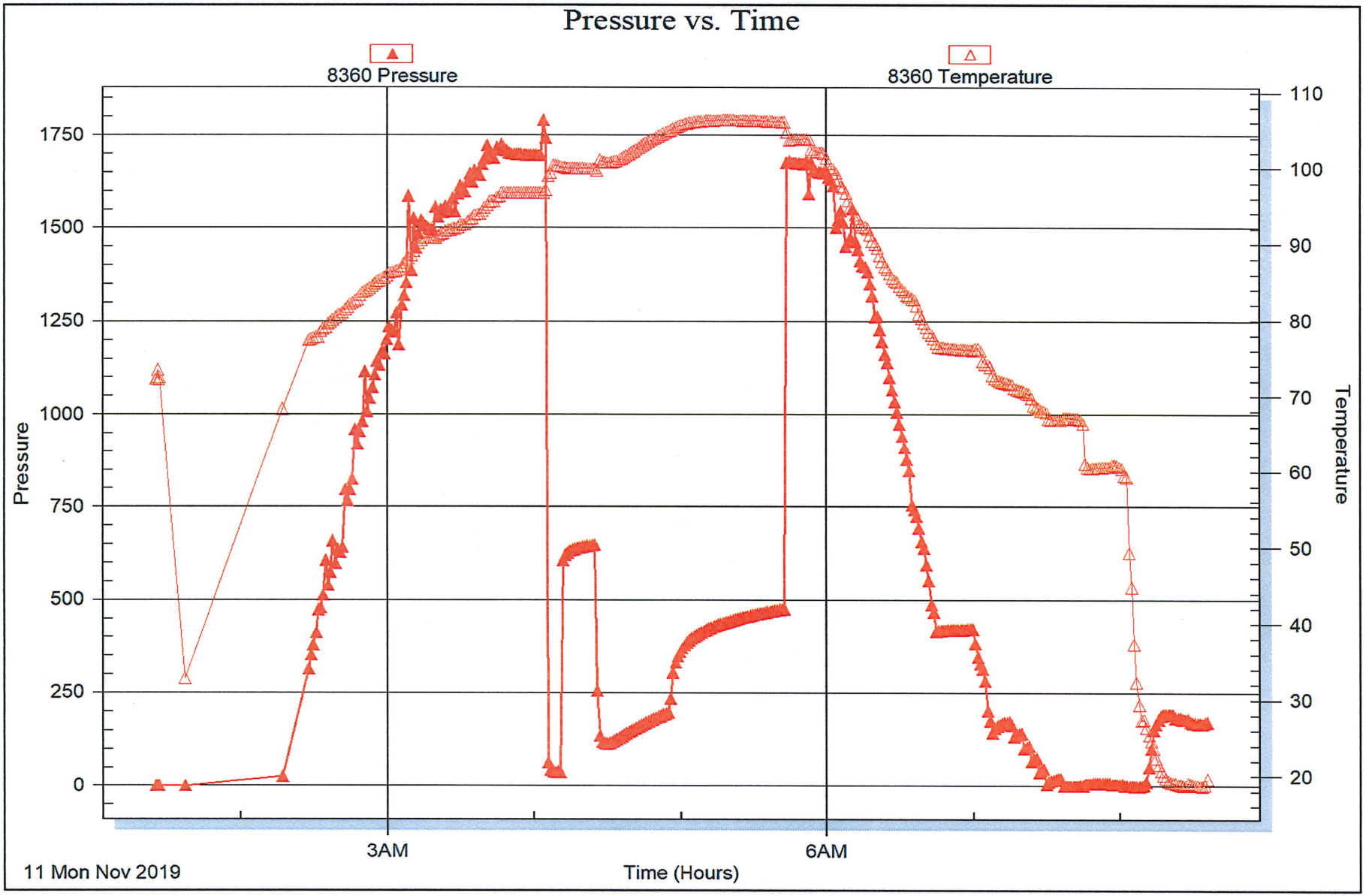
Recovery Comments: Salinity - .601@22 deg.

Serial #: 8671 **Outside** Diehl Oil Inc. Rome A #4 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 66328 Printed: 2019.11.12 @ 16:17:55

Serial #: 8360 **Inside** Diehl Oil Inc. Rome A #4 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 66328 Printed: 2019.11.12 @ 16:17:55

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Diehl Oil Inc.**

PO Box 234
Hays KS 67601

ATTN: Roger Moses

Rome A #4

22-13S-17W Ellis,KS

Start Date: 2019.11.11 @ 15:39:00
End Date: 2019.11.11 @ 21:58:15
Job Ticket #: 66329 DST #: 2

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2019.11.12 @ 16:17:25

DRILL STEM TEST REPORT

Diehl Oil Inc.

PO Box 234
Hays KS 67601

ATTN: Roger Moses

22-13S-17W Ellis,KS

Rome A #4

Job Ticket: 66329 **DST#: 2**

Test Start: 2019.11.11 @ 15:39:00

GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 17:39:45
Time Test Ended: 21:58:15

Test Type: Conventional Bottom Hole (Initial)
Tester: Royal Fisher
Unit No: 77

Interval: 3555.00 ft (KB) To 3567.00 ft (KB) (TVD)
Total Depth: 3567.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

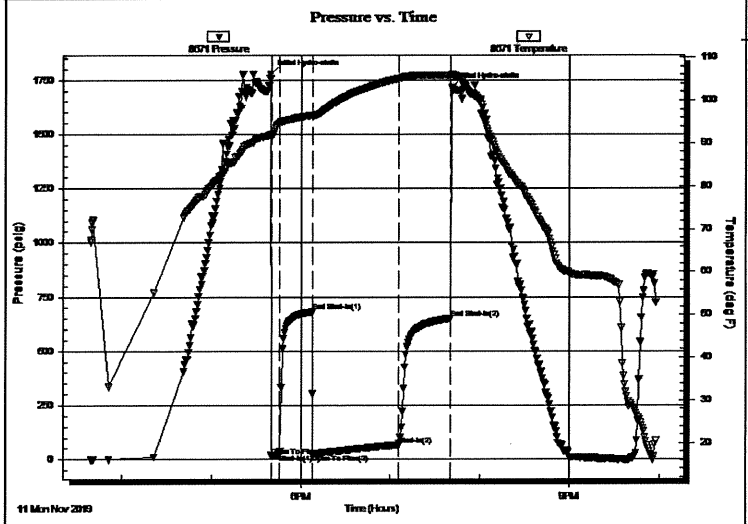
Reference Elevations: 1983.00 ft (KB)
1973.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8671 **Outside**

Press@RunDepth: 66.69 psig @ 3556.00 ft (KB)
Start Date: 2019.11.11 End Date: 2019.11.11
Start Time: 15:39:05 End Time: 21:58:14

Capacity: 8000.00 psig
Last Calib.: 2019.11.11
Time On Btm: 2019.11.11 @ 17:39:30
Time Off Btm: 2019.11.11 @ 19:41:15

TEST COMMENT: 5 - IFP - Surface blow built up to 2"
20 - ISI - No Return
60 - FFP - Surface blow built up to 7"
30 - FSI - No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1776.09	91.97	Initial Hydro-static
1	17.26	91.45	Open To Flow (1)
6	22.47	94.73	Shut-In(1)
28	681.56	96.50	End Shut-In(1)
29	24.06	96.31	Open To Flow (2)
87	66.69	105.12	Shut-In(2)
122	651.80	105.76	End Shut-In(2)
122	1714.72	106.12	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
63.00	OCMW - 40%o - 10%m - 50%w	0.65
50.00	OCMW - 50%o - 10%m - 40%w	0.51

Gas Rates

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

DRILL STEM TEST REPORT

Diehl Oil Inc.

PO Box 234
Hays KS 67601

ATTN: Roger Moses

22-13S-17W Ellis,KS

Rome A #4

Job Ticket: 66329 **DST#: 2**

Test Start: 2019.11.11 @ 15:39:00

GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 17:39:45
Time Test Ended: 21:58:15

Test Type: Conventional Bottom Hole (Initial)
Tester: Royal Fisher
Unit No: 77

Interval: 3555.00 ft (KB) To 3567.00 ft (KB) (TVD)
Total Depth: 3567.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

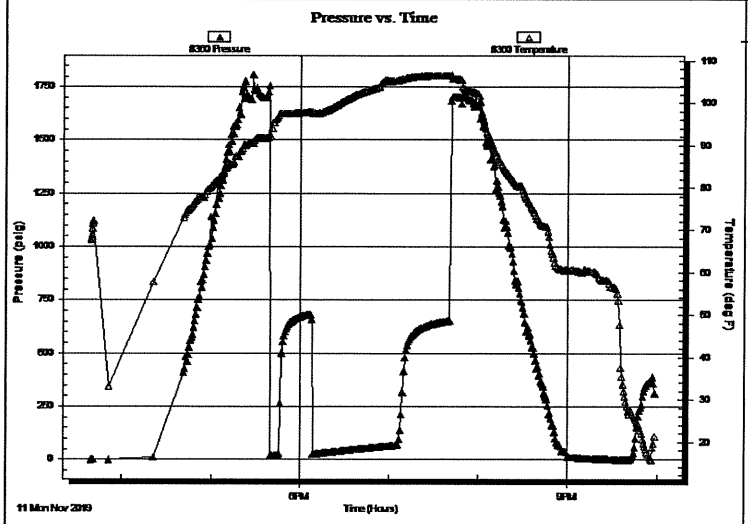
Reference Elevations: 1983.00 ft (KB)
1973.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8360 **Inside**

Press@RunDepth: psig @ 3556.00 ft (KB)
Start Date: 2019.11.11 End Date: 2019.11.11
Start Time: 15:39:05 End Time: 21:58:29

Capacity: 8000.00 psig
Last Calib.: 2019.11.11
Time On Btm:
Time Off Btm:

TEST COMMENT: 5 - IFP - Surface blow built up to 2"
20 - ISI - No Return
60 - FFP - Surface blow built up to 7"
30 - FSI - No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
63.00	OCMW - 40%o - 10%m - 50%w	0.65
50.00	OCMW - 50%o - 10%m - 40%w	0.51

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Diehl Oil Inc.

PO Box 234
Hays KS 67601

ATTN: Roger Moses

22-13S-17W Ellis,KS

Rome A #4

Job Ticket: 66329 **DST#: 2**

Test Start: 2019.11.11 @ 15:39:00

Tool Information

Drill Pipe:	Length:	3560.00 ft	Diameter:	3.25	inches	Volume:	36.53	bbl
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00	inches	Volume:	0.00	bbl
Drill Collar:	Length:	0.00 ft	Diameter:	0.00	inches	Volume:	0.00	bbl
						Total Volume:	36.53	bbl

Drill Pipe Above KB:	31.00 ft
Depth to Top Packer:	3555.00 ft
Depth to Bottom Packer:	ft
Interval betw een Packers:	12.00 ft
Tool Length:	38.00 ft
Number of Packers:	2 Diameter: 6.75 inches

Tool Weight:	2500.00 lb
Weight set on Packer:	25000.00 lb
Weight to Pull Loose:	42000.00 lb
Tool Chased	0.00 ft
String Weight: Initial	40000.00 lb
Final	40000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Shut In Tool	5.00			3534.00		
Hydraulic tool	5.00			3539.00		
EM Tool	3.00			3542.00		
Safety Joint	3.00			3545.00		
Packer	5.00			3550.00	26.00	Bottom Of Top Packer
Packer	5.00			3555.00		
Stubb	1.00			3556.00		
Recorder	0.00	8360	Inside	3556.00		
Recorder	0.00	8671	Outside	3556.00		
Perforations	8.00			3564.00		
Bullnose	3.00			3567.00	12.00	Bottom Packers & Anchor
Total Tool Length:	**38.00**					

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Diehl Oil Inc.

PO Box 234
Hays KS 67601

ATTN: Roger Moses

22-13S-17W Ellis,KS

Rome A #4

Job Ticket: 66329 **DST#: 2**

Test Start: 2019.11.11 @ 15:39:00

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:	bbl		
Water Loss:	7.99 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	4000.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
63.00	OCMW - 40%o - 10%m - 50%w	0.646
50.00	OCMW - 50%o - 10%m - 40%w	0.513

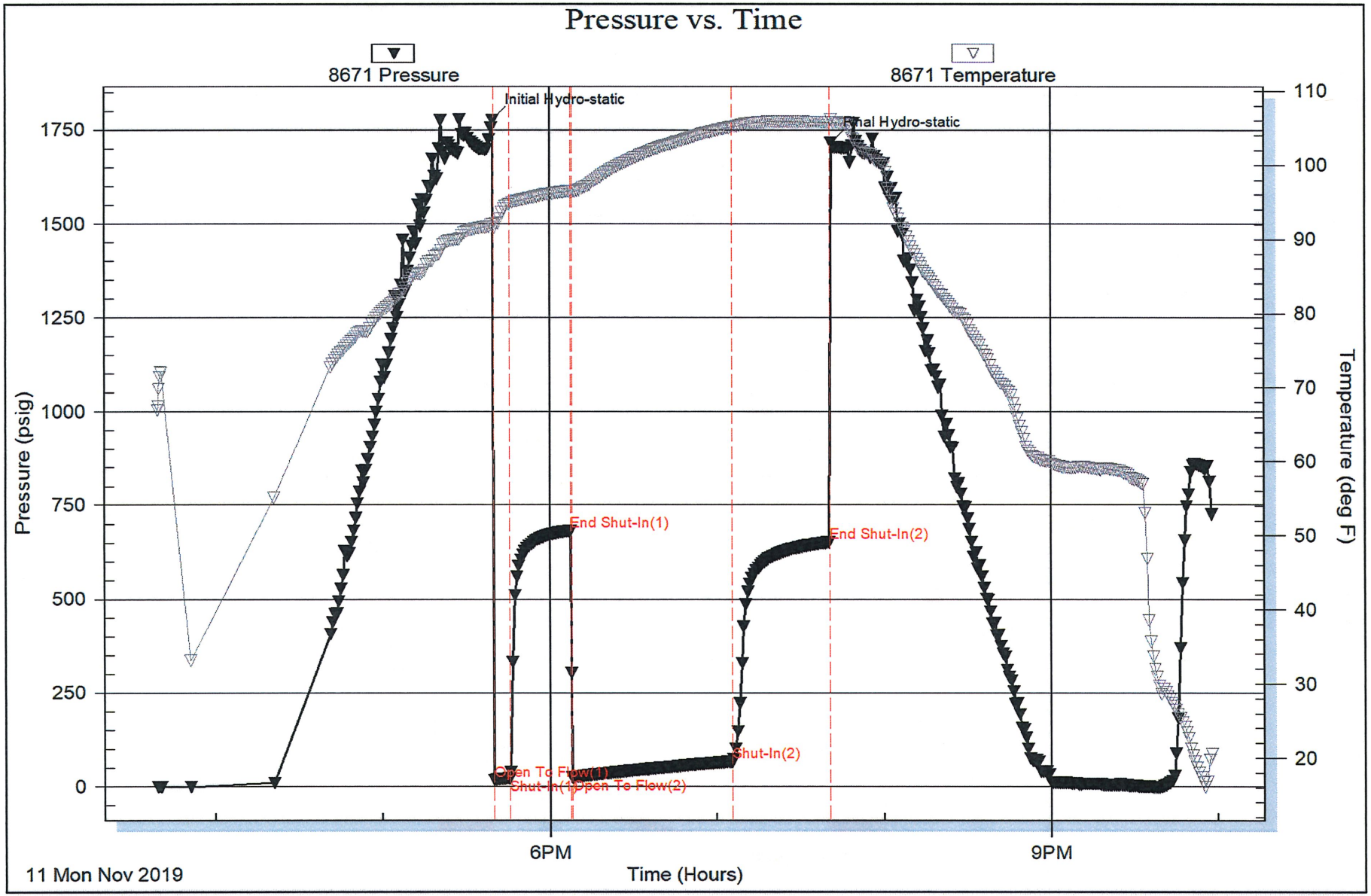
Total Length: 113.00 ft Total Volume: 1.159 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

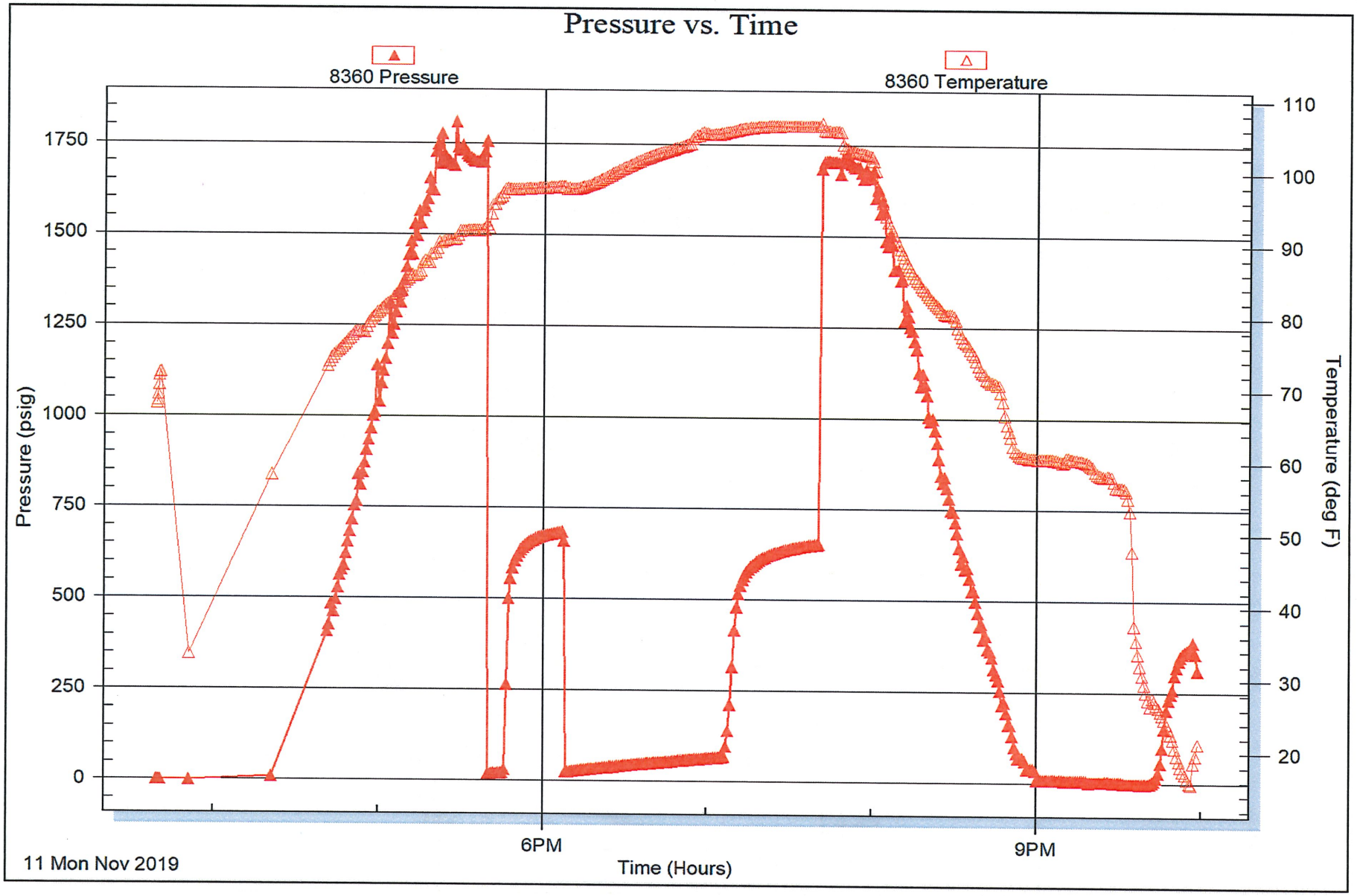
Recovery Comments:

Serial #: 8671 **Outside** Diehl Oil Inc. Rome A #4 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 66329 Printed: 2019.11.12 @ 16:17:27

Serial #: 8360 **Inside** Diehl Oil Inc. Rome A #4 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 66329 Printed: 2019.11.12 @ 16:17:27

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket 66328

NO.

Well Name & No. Rome A-4 Test No. 1 Date 11-11-19

Company Diehl Oil Inc. Elevation 1983 KB 1973 GL

Address PO Box 234 Hays Ks 67601

Co. Rep / Geo. Roger Moses Rig Southwind #8

Location: Sec. 22 Twp 13S Rge. 17W Co. Ellis State Ks

Interval Tested 3508' - 3555' Zone Tested Arbuckle

Anchor Length 47' Drill Pipe Run 3497 Mud Wt. 8.9

Top Packer Depth 3503' Drill Collars Run 0 Vis 60

Bottom Packer Depth 3508' Wt. Pipe Run 0 WL 8.8

Total Depth 3555' Chlorides 4000 ppm System LCM 1/2#

Blow Description IFP - Surface blow built to 7"

IST - No Return

FFP - Surface blow built to B.O.B in 3 mins

FST - Faint return started 5 mins. in & built to

Rec	126'	Feet of	OCMW	%gas	10	%oil	85	%water 5 %mud
Rec	189'	Feet of	Free Oil	%gas	100	%oil		%water %mud
Rec	128'	Feet of	OCM	%gas	20	%oil		%water 80 %mud
Rec		Feet of		%gas		%oil		%water %mud
Rec		Fpet of		%gas		%oil		%water %mud

Rec Total 443 BHT 104°F Gravity 31@60° API RW .601 @ 22 °F Chlorides 36,000 ppm

(A) Initial Hydrostatic	1749	☒ Test	1200	T-On Location	12:35am
(B) First Initial Flow	32	☐ Jars		T-Started	1:25am
(C) First Final Flow	40	☒ Safety Joint	75	T-Open	4:05am
(D) Initial Shut-In	645	☐ Circ Sub		T-Pulled	5:40am
(E) Second Initial Flow	95	☐ Hourly Standby		T-Out	8:24am
(F) Second Final Flow	197	☒ Mileage	1½ R/T 16	Comments	
(G) Final Shut-In	475	☐ Sampler			
(H) Final Hydrostatic	1710	☐ Straddle		☒ EM Tool	350 First
		☐ Shale Packer		☐ Ruined Shale Packer	Time
Initial Open	5	☐ Extra Packer		☐ Ruined Packer	
Initial Shut-In	15	☐ Extra Recorder		☐ Extra Copies	
Final Flow	30	☐ Day Standby		Sub Total	0
Final Shut-In	45	☐ Accessibility		Total	1291
		Sub Total	1291	MP/DST Disc't	

Approved By _____ Our Representative _____

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket 66329

NO.

Well Name & No. Rome A-4 Test No. 2 Date 11-11-19

Company Diehl Oil Inc. Elevation 1983 KB 1973 GL

Address PO Box 234 Hays Ks 67601

Co. Rep / Geo. Roger Moses Rig Southwind #8

Location: Sec. 22 Twp 13S Rge. 17W Co. Ellis State Ks

Interval Tested 3555'-3567' Zone Tested Arbuckle

Anchor Length 12' Drill Pipe Run 3560 Mud Wt. 8.8

Top Packer Depth 3550' Drill Collars Run 0 Vis 54

Bottom Packer Depth 3555' Wt. Pipe Run 0 WL 8

Total Depth 3567' Chlorides 4000 ppm System LCM 1#

Blow Description IFP-Surface blow built to 2"

ISI-No Return

FFP-Surface blow built up to 7"

FSI-No Return

Rec	63'	Feet of	OCMW	%gas	50	%oil	40	%water 10 %mud
Rec	50'	Feet of	OCMW	%gas	40	%oil	50	%water 10 %mud
Rec		Feet of		%gas		%oil		%water %mud
Rec		Feet of		%gas		%oil		%water %mud
Rec		Feet of		%gas		%oil		%water %mud

Rec Total 113' BHT 106°F Gravity ____ API RW ____ @ ____ °F Chlorides ____ ppm

(A) Initial Hydrostatic	1776	☒ Test	1200	T-On Location	2:45pm
(B) First Initial Flow	17	☐ Jars		T-Started	3:39pm
(C) First Final Flow	22	☒ Safety Joint	75	T-Open	5:40pm
(D) Initial Shut-In	1082	☐ Circ Sub		T-Pulled	7:35pm
(E) Second Initial Flow	24	☐ Hourly Standby		T-Out	9:59pm
(F) Second Final Flow	107	☒ Mileage	1½ R/T 16	Comments	Loaded Tool after test
(G) Final Shut-In	1052	☐ Sampler			
(H) Final Hydrostatic	1715	☐ Straddle		☒ EM Tool	350
		☐ Shale Packer		☐ Ruined Shale Packer	
Initial Open	5	☐ Extra Packer		☐ Ruined Packer	
Initial Shut-In	20	☐ Extra Recorder		☐ Extra Copies	
Final Flow	60	☐ Day Standby		Sub Total	350
Final Shut-In	30	☐ Accessibility		Total	1641
		Sub Total	1291	MP/DST Disc't	

Approved By ____ Our Representative Roger Moses

COMPENSATED DENSITY NEUTRON LOG

Company Diehl Oil Inc.
Well Rome 'A' #4
Field Catharine South
County Ellis State Kansas

Company Diehl Oil Inc.
Well Rome 'A' #4
Field Catharine South
County Ellis
State Kansas

Location: API # : 15 051 26978
2310' FSL & 1270' FEL
SEC 22 TWP 13S RGE 17W

Other Services
DIL
ML

Permanent Datum	Ground Level	Elevation 1973'
Log Measured From	KB 10' AGL	
Drilling Measured From	KB	

Elevation
K.B. 1983'
D.F. 1982'
G.L. 1973'

Date	11/12/19		
Run Number	One		
Depth Driller	3612'		
Depth Logger	3611'		
Bottom Logged Interval	3589'		
Top Log Interval	2900'		
Casing Driller	8 5/8" @ 222'		
Casing Logger	222'		
Bit Size	7 7/8"		
Type Fluid in Hole	Chemical		
Density / Viscosity	8.8/54		
pH / Fluid Loss	10.0/8.0		
Source of Sample	Pit	Chlorides 4000 PPM	
Rm @ Meas. Temp	1.9@55degf		
Rmf @ Meas. Temp	1.5@55degf		
Rmc @ Meas. Temp	2.4@55degf		
Source of Rmf / Rmc	Calculated		
Rm @ BHT	1.0@94degf		
Time Circulation Stopped	3:15 a.m		
Time Logger on Bottom	6:50 a.m		
Maximum Recorded Temperature	94degf		
Equipment Number	T605		
Location	Hays, KS		
Recorded By	Casey Patterson		
Witnessed By	Mr. Glenn Diehl	Mr. Roger Moses	

<<< Fold Here >>>

Comments

Hays,KS toToulon, North on Toulon to Vinyard Rd., Go East 2 mi. to 310 Rd. ,
North on 310 Rd 1/4 mi, East Through Cattle Guard,
North around Tank Batteries East into Location

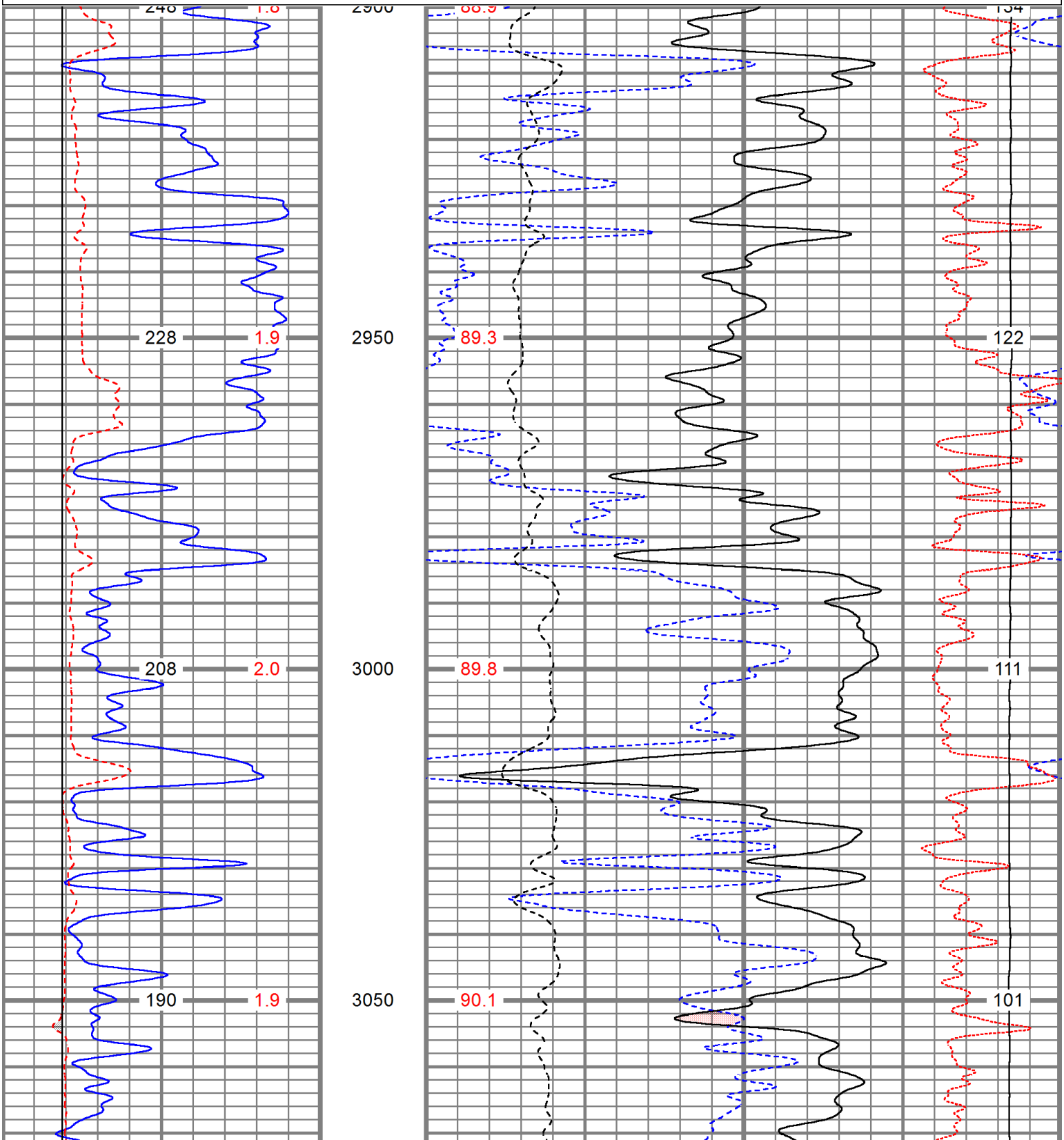
Thanks for using Gemini Wireline LLC
785-625-1182

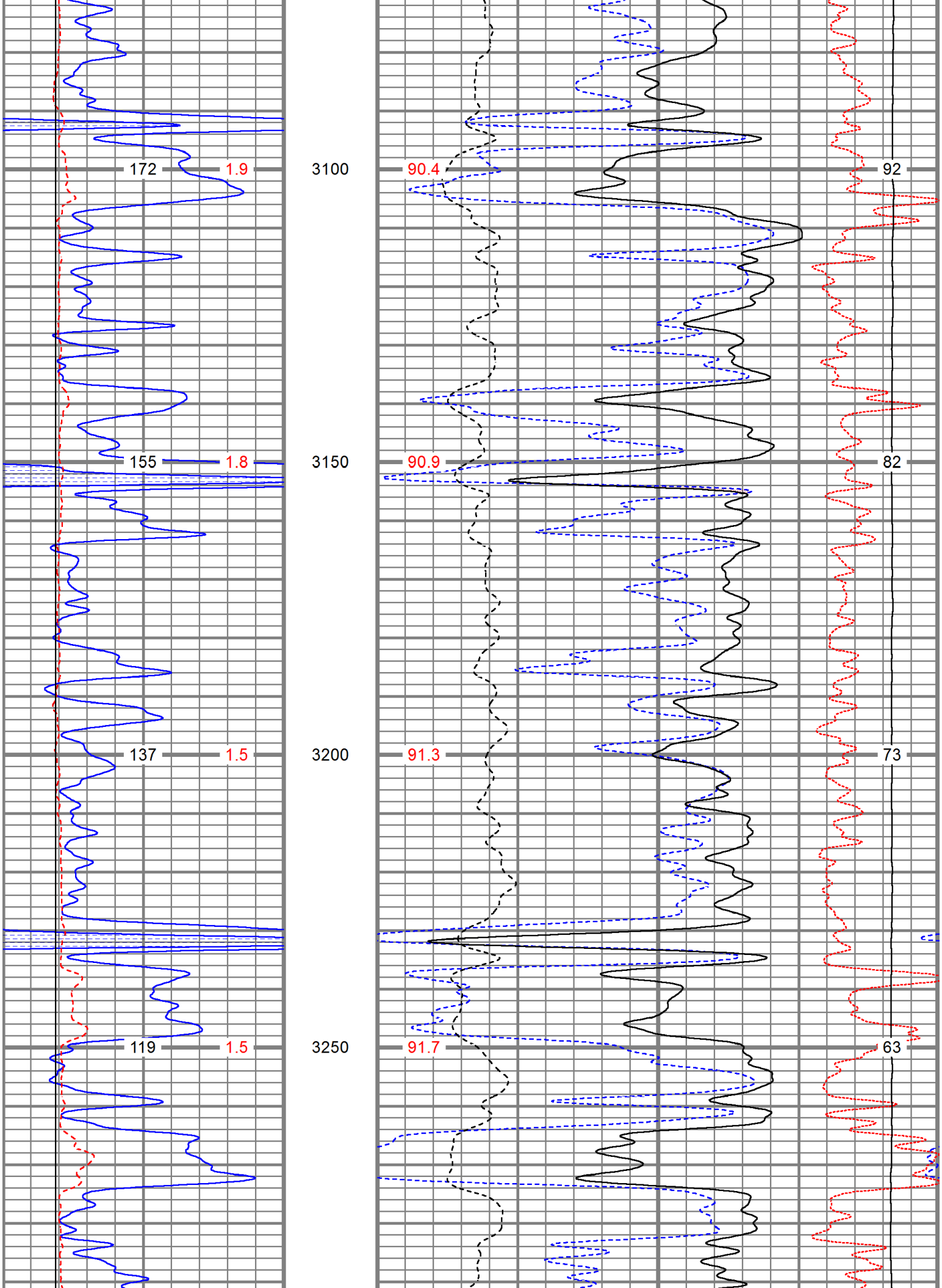
MAIN PASS

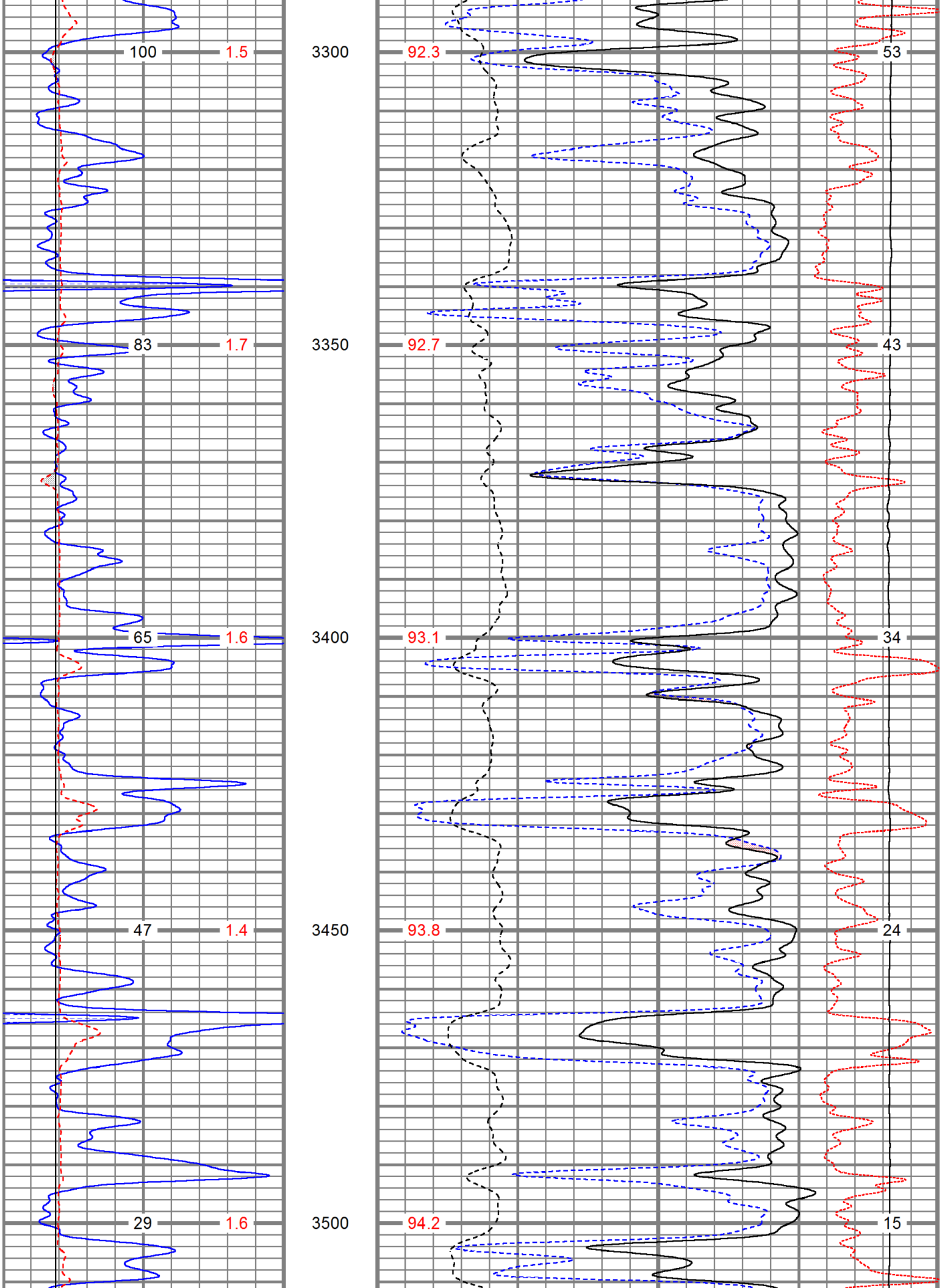
Database File	doromea#4oh.db
Dataset Pathname	pass2
Presentation Format	digital_kcdnl
Dataset Creation	Tue Nov 12 07:09:38 2019
Charted by	Depth in Feet scaled 1:240

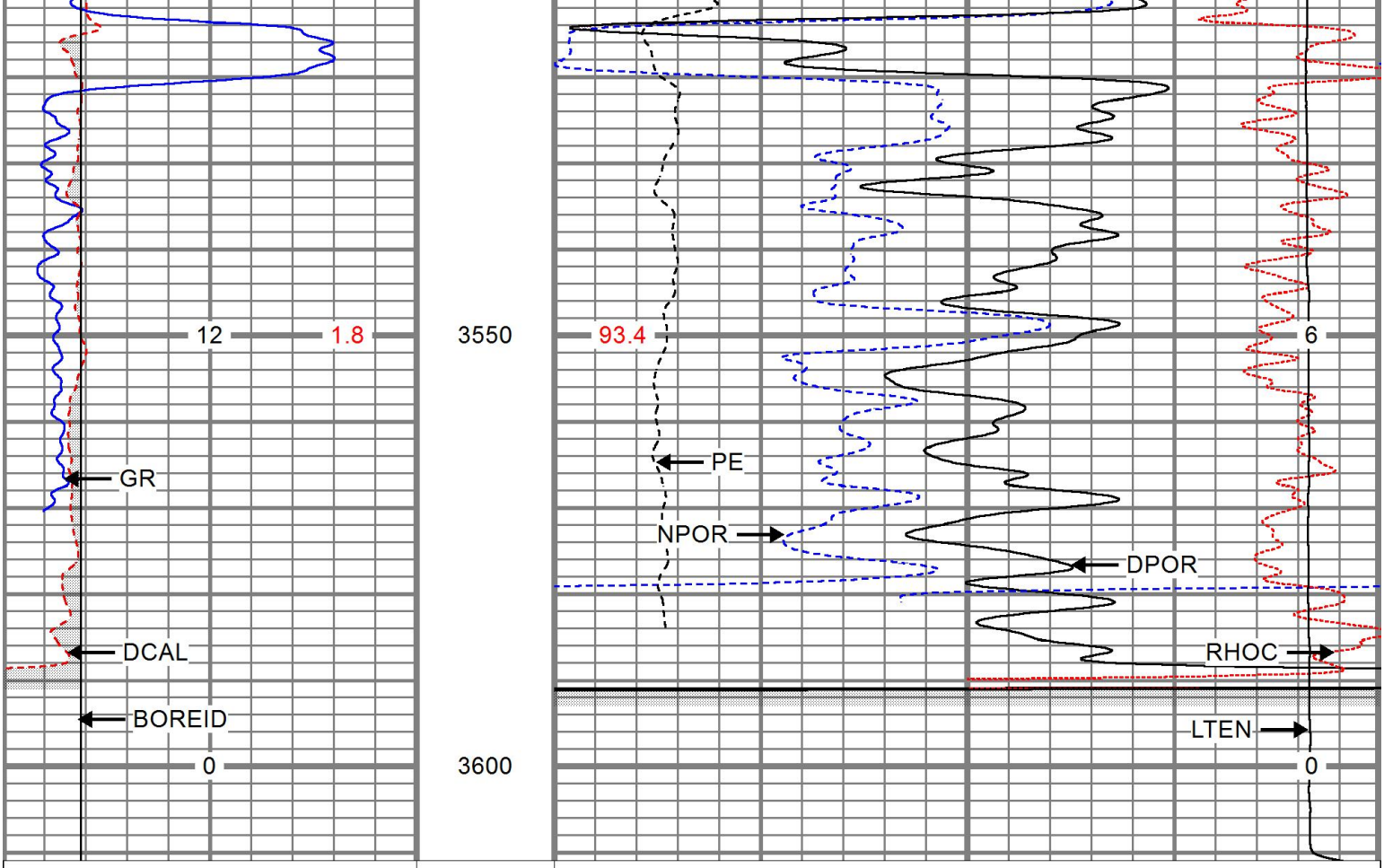
0	GR (GAPI)	150
6	DCAL (in)	16
6	BOREID (in)	16
	TBHV (ft3)	DEVI (deg)

30	NPOR (pu)	-10
30	DPOR (pu)	-10
70	DPOR (pu)	30
0	Pe (barn)	10
-0.25	RHOC (g/cc)	0.25
	TEMP (degF)	
8000	LTEN (lb)	0
		ABHV (ft3)




172
1.9
3100
90.4
92
155
1.8
3150
90.9
82
137
1.5
3200
91.3
73
119
1.5
3250
91.7
63


100
1.5
3300
92.3
53
83
1.7
3350
92.7
43
65
1.6
3400
93.1
34
47
1.4
3450
93.8
24
29
1.6
3500
94.2
15

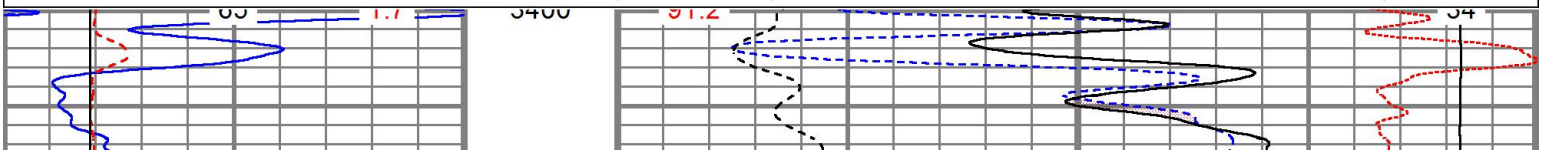


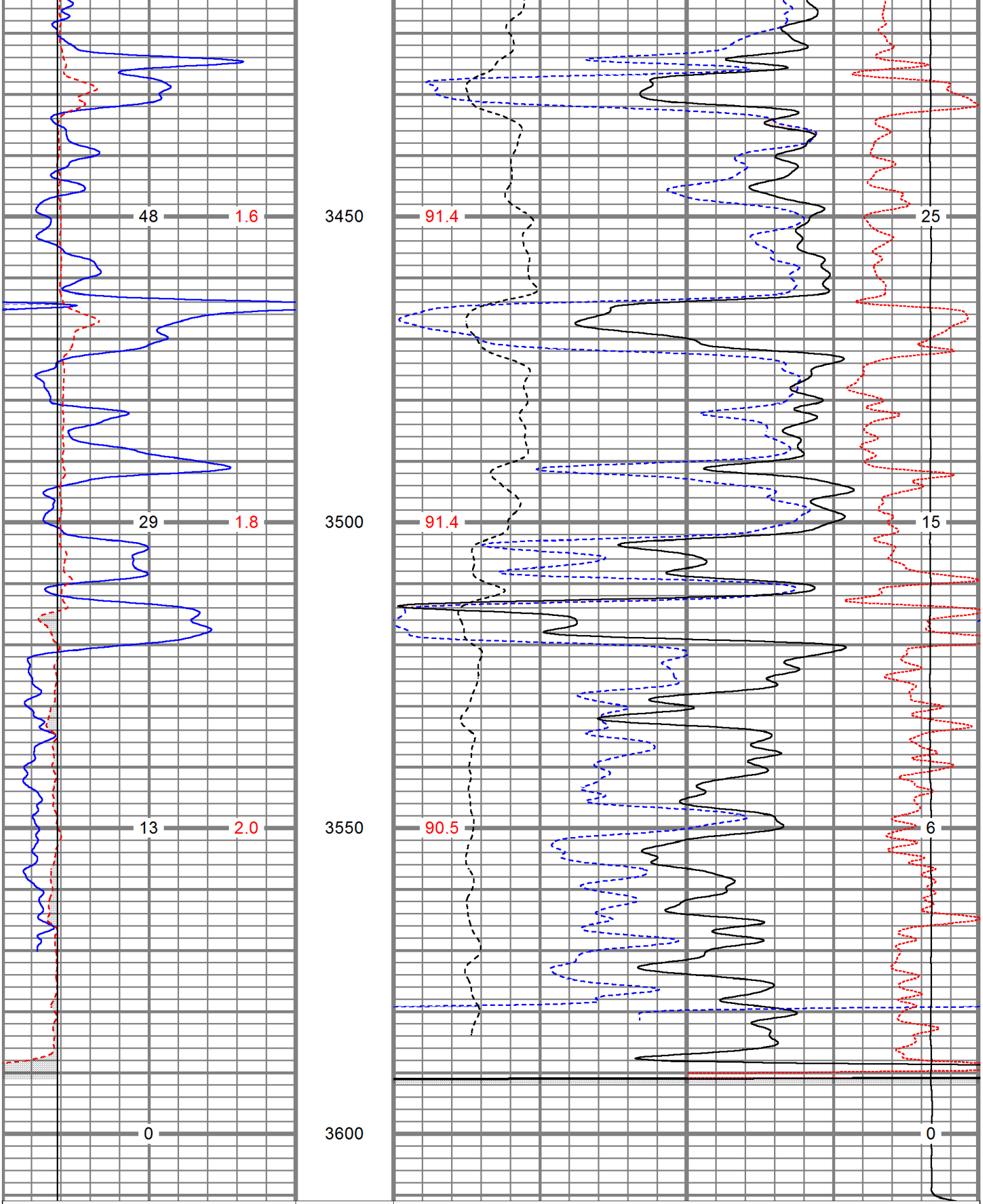
0	GR (GAPI)	150	30	NPOR (pu)	-10			
6	DCAL (in)	16	30	DPOR (pu)	-10			
6	BOREID (in)	16	70	DPOR (pu)	30			
TBHV (ft3)	DEVI (deg)		0	Pe (barn) 10	-0.25	RHOC (g/cc)	0.25	
			TEMP (degF)		8000	LTEN (lb)	0	
						ABHV (ft3)		

REPEAT SECTION

Database File	doromea#4oh.db
Dataset Pathname	pass1
Presentation Format	digital_kcdnl
Dataset Creation	Tue Nov 12 06:57:52 2019
Charted by	Depth in Feet scaled 1:240

0	GR (GAPI)	150	30	NPOR (pu)	-10			
6	DCAL (in)	16	30	DPOR (pu)	-10			
6	BOREID (in)	16	70	DPOR (pu)	30			
TBHV (ft3)	DEVI (deg)		0	Pe (barn) 10	-0.25	RHOC (g/cc)	0.25	
			TEMP (degF)		8000	LTEN (lb)	0	
						ABHV (ft3)		




48
1.6
3450
91.4
25
29
1.8
3500
91.4
15
13
2.0
3550
90.5
6
0
3600
0
0
GR (GAPI)
150
6
DCAL (in)
16
6
BOREID (in)
16
TBHV (ft3)
DEVI
(deg)
30
NPOR (pu)
-10
30
DPOR (pu)
-10
70
DPOR (pu)
30
0
Pe (barn)
10
-0.25
RHOC (g/cc)
0.25
TEMP
8000
LTEN (lb)
0

(degF)	ABHV (ft3)

Calibration Report

Database File	doromea#4oh.db
Dataset Pathname	pass2
Dataset Creation	Tue Nov 12 07:09:38 2019

Dual Induction Calibration Report

Serial-Model:	1989-ADM
Surface Cal Performed:	Wed Jun 06 19:34:10 2018
Downhole Cal Performed:	Wed Jun 06 19:34:10 2018
After Survey Verification Performed:	Wed Jun 06 19:34:10 2018

Surface Calibration

	Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	-0.012	0.665	V	0.000	350.000	mmho/m	516.748	6.134
Medium	-0.013	0.752	V	0.000	400.000	mmho/m	522.482	6.987
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	-0.011	0.668	V	0.000	350.000	mmho/m	515.730	5.704
Medium	-0.015	0.752	V	0.000	550.000	mmho/m	716.653	10.787

Downhole Calibration

	Readings			References			Results	
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.000	0.000	mmho/m	0.419	351.110	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	-0.877	400.105	mmho/m	1.000	0.000
Shallow	2.502	0.040	V	500.000	2.000	Ohm-m	180.323	-0.126

After Survey Verification

	Readings			Targets			Results	
Internal:	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	0.000	0.000	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	0.000	0.000	mmho/m	1.000	0.000
Shallow	0.000	0.000	Ohm-m	500.000	2.000	Ohm-m	1.000	0.000

Neutron Calibration Report

Serial Number:	AD5139	
Tool Model:	ADMY5139	
Performed:	(Not Performed)	
Calibrator Value:	1	NAPI
Calibrator Reading:	1	cps
Sensitivity:	1	NAPI/cps

Temperature Calibration Report

Serial Number:	WithOutMC
Tool Model:	WOMC
Performed:	(Not Performed)

	Reference		Reading	
Low Reference:	0.00	degF	0.00	degF
High Reference:	1.00	degF	1.00	degF
Gain:	1.00			
Offset:	0.00			
Delta Spacing	1			

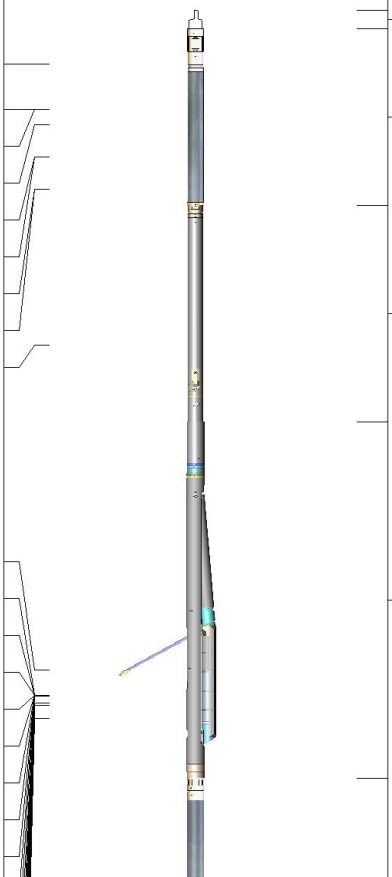
Inclinometer Calibration Report

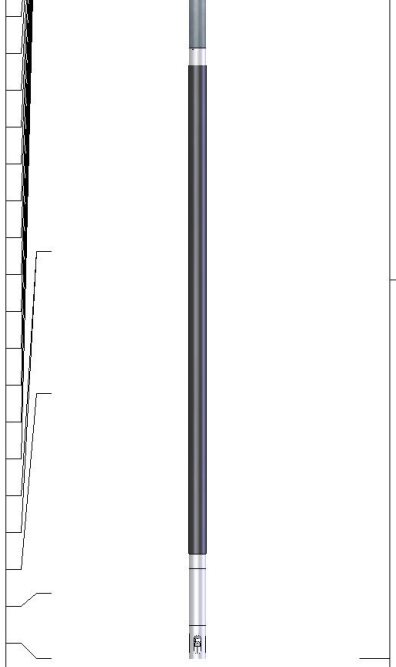
Performed: Thu Oct 25 16:29:34 2018

	Low Read.	High Read.	Low Ref.	High Ref.	
X Accelerometer	205.00	1843.00	-1.00	1.00	gee
Y Accelerometer	205.00	1843.00	-1.00	1.00	gee
Z Accelerometer					gee

Gamma Ray Calibration Report

Serial Number:	WithOutMC	
Tool Model:	WOMC	
Performed:	Wed Dec 06 22:30:58 2017	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	1.0000	GAPI/cps

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			CHD-STD	0.50	1.69	1.00
GR	38.31					
ACCY	37.15		ADT-WOMC (WithOutMC) Telemetry Without Mud Cell	4.58	3.50	120.00
ACCX	37.15					
SSTAT	36.73					
PSTAT	35.90					
ASTAT	35.90					
GRD	35.06		NEU-ADMY5139 (AD5139) Admyer NEU DIGITAL	5.65	3.50	50.00
TEMP	35.06					
NEU	31.00					
LStat	22.54					
LS8	21.88		ADT1LITH-A (1) Admyr Litho Density Tool	9.29	3.50	240.00
LS7	21.88					
LS6	21.88					
LS5	21.88					
LS4	21.88					
LS3	21.88					
LS2	21.88					
LS1	21.88					

LSV	21.88					
LSD	21.86					
SSV	21.67					
SS8	21.67					
SS7	21.67					
SS6	21.67					
SS5	21.67					
SS4	21.67		DIL-ADM (1989) Dual Induction	19.71	4.00	300.00
SS3	21.67					
SS2	21.67					
SS1	21.67					
DCAL	21.61					
SSD	21.27					
SP	10.60					
CILD	10.60					
CILM	6.89					
RLL3	1.70					
TR_Mon	0.00					

Dataset:	doromea#4oh.db: field/well/run1/pass2
Total length:	39.73 ft
Total weight:	711.00 lb
O.D.:	4.00 in

DUAL INDUCTION LOG

Company Diehl Oil Inc.
Well Rome 'A' #4
Field Catharine South
County Ellis
State Kansas

Company Diehl Oil Inc.
Well Rome 'A' #4
Field Catharine South
County Ellis
State Kansas

Location: API # : 15 051 26978
2310' FSL & 1270' FEL
SEC 22 TWP 13S RGE 17W

Other Services
CDNL
ML

Permanent Datum Ground Level Elevation 1973'
Log Measured From KB 10' AGL
Drilling Measured From KB

Elevation
K.B. 1983'
D.F. 1982'
G.L. 1973'

Date	11/12/19	
Run Number	One	
Depth Driller	3612'	
Depth Logger	3611'	
Bottom Logged Interval	3609'	
Top Log Interval	210'	
Casing Driller	8 5/8" @ 222'	
Casing Logger	222'	
Bit Size	7 7/8"	
Type Fluid in Hole	Chemical	
Density / Viscosity	8.8/54	
pH / Fluid Loss	10.0/8.0	
Source of Sample	Pit	Chlorides 4000 PPM
Rm @ Meas. Temp	1.9@55degf	
Rmf @ Meas. Temp	1.5@55degf	
Rmc @ Meas. Temp	2.4@55degf	
Source of Rmf / Rmc	Calculated	
Rm @ BHT	1.0@94degf	
Time Circulation Stopped	3:15 a.m	
Time Logger on Bottom	6:50 a.m	
Maximum Recorded Temperature	94degf	
Equipment Number	T605	
Location	Hays, KS	
Recorded By	Casey Patterson	
Witnessed By	Mr. Glenn Diehl	Mr. Roger Moses

<<< Fold Here >>>

Comments

Hays,KS toToulon, North on Toulon to Vinyard Rd., Go East 2 mi. to 310 Rd. ,
North on 310 Rd 1/4 mi, East Through Cattle Guard,
North around Tank Batteries East into Location

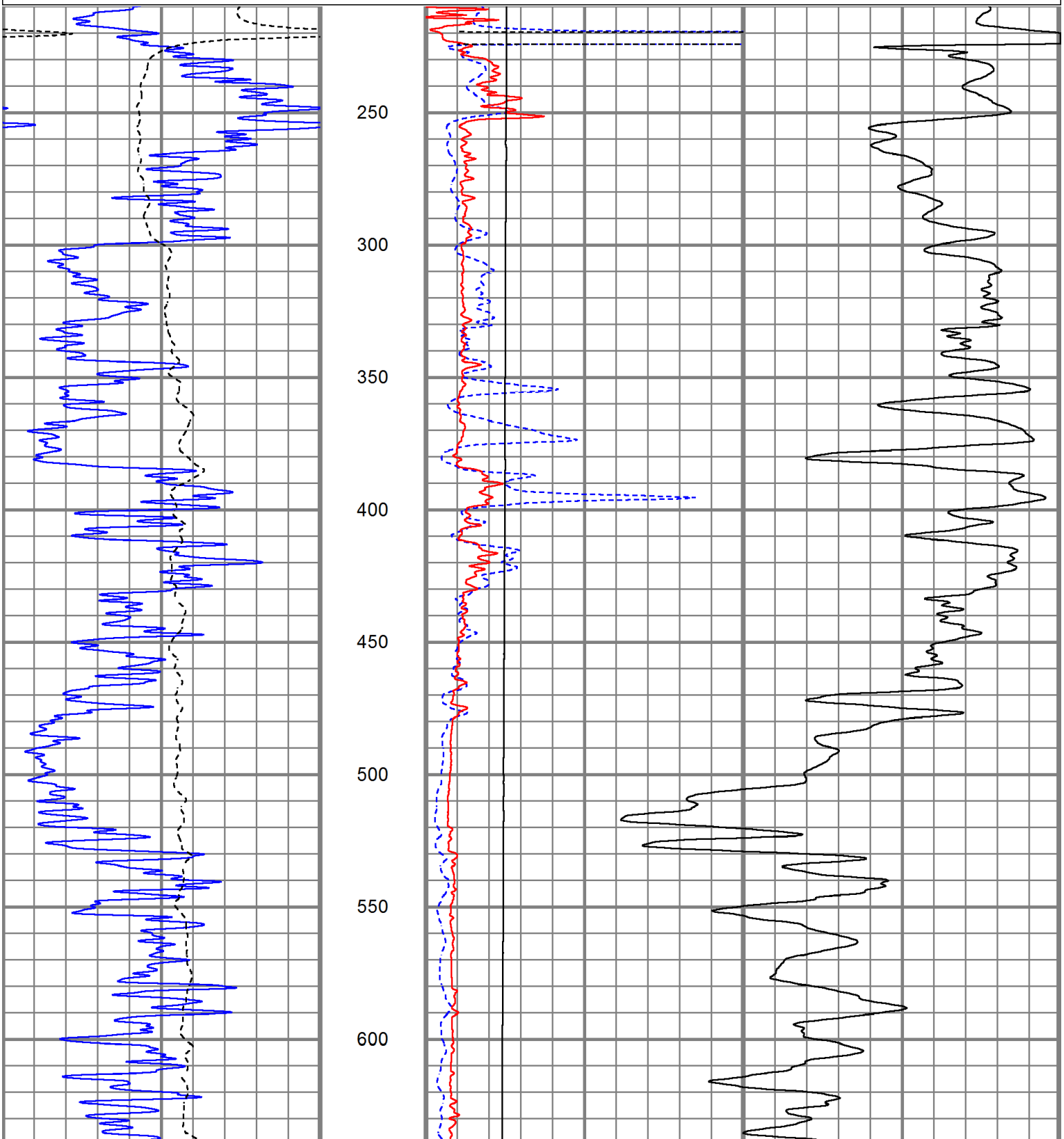
Thanks for using Gemini Wireline LLC
785-625-1182

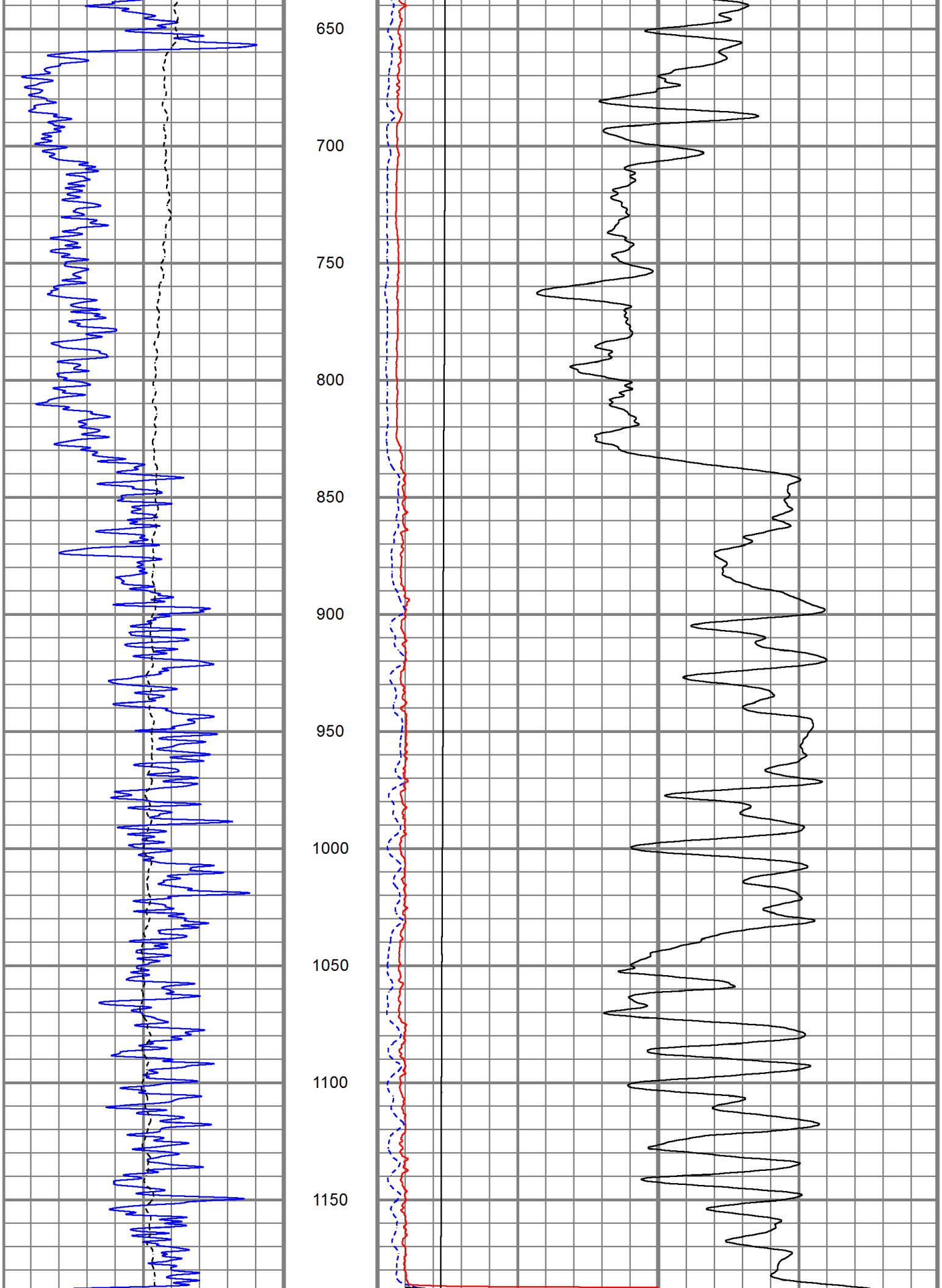
MAIN PASS

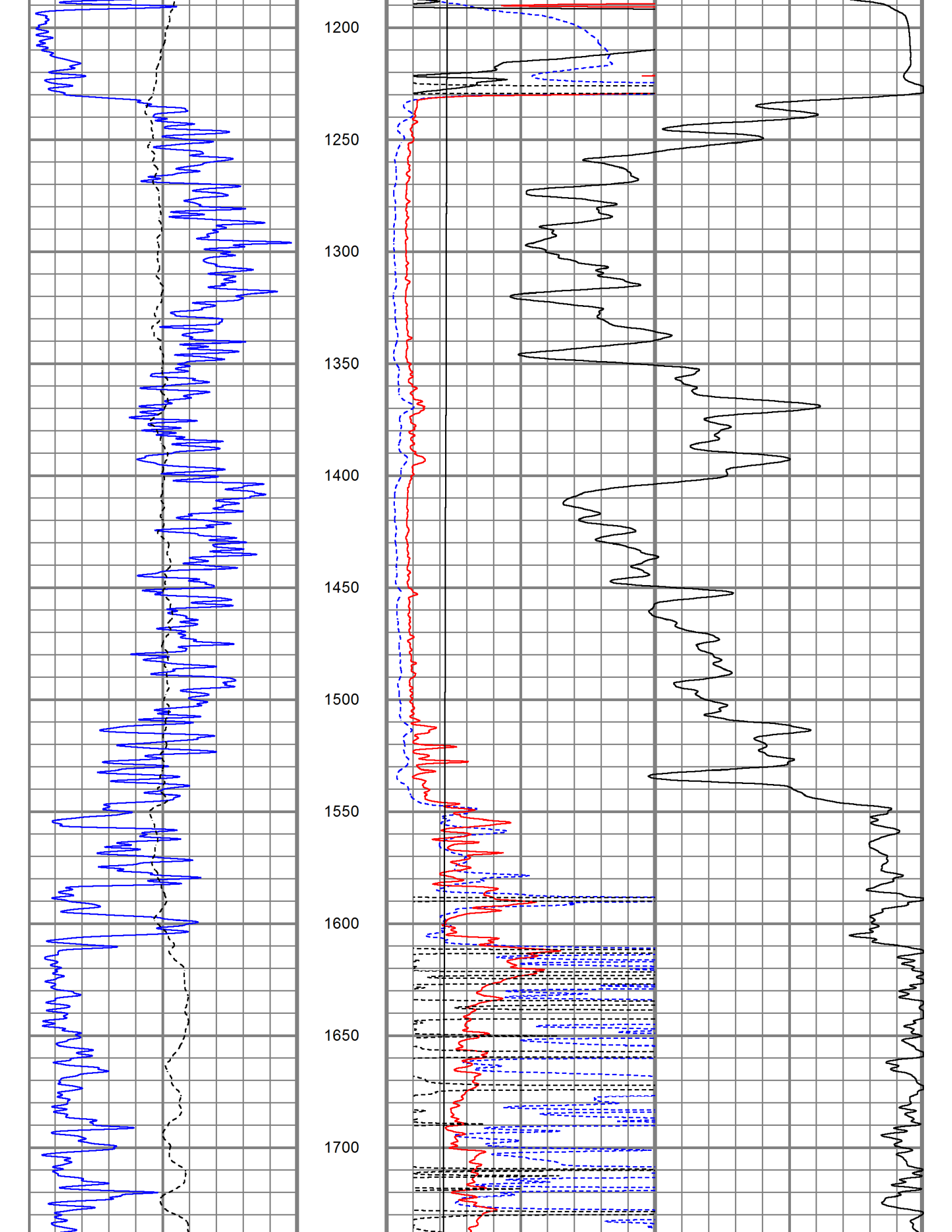
Database File	doromea#4oh.db
Dataset Pathname	pass2
Presentation Format	kdillinn
Dataset Creation	Tue Nov 12 07:09:38 2019
Charted by	Depth in Feet scaled 1:600

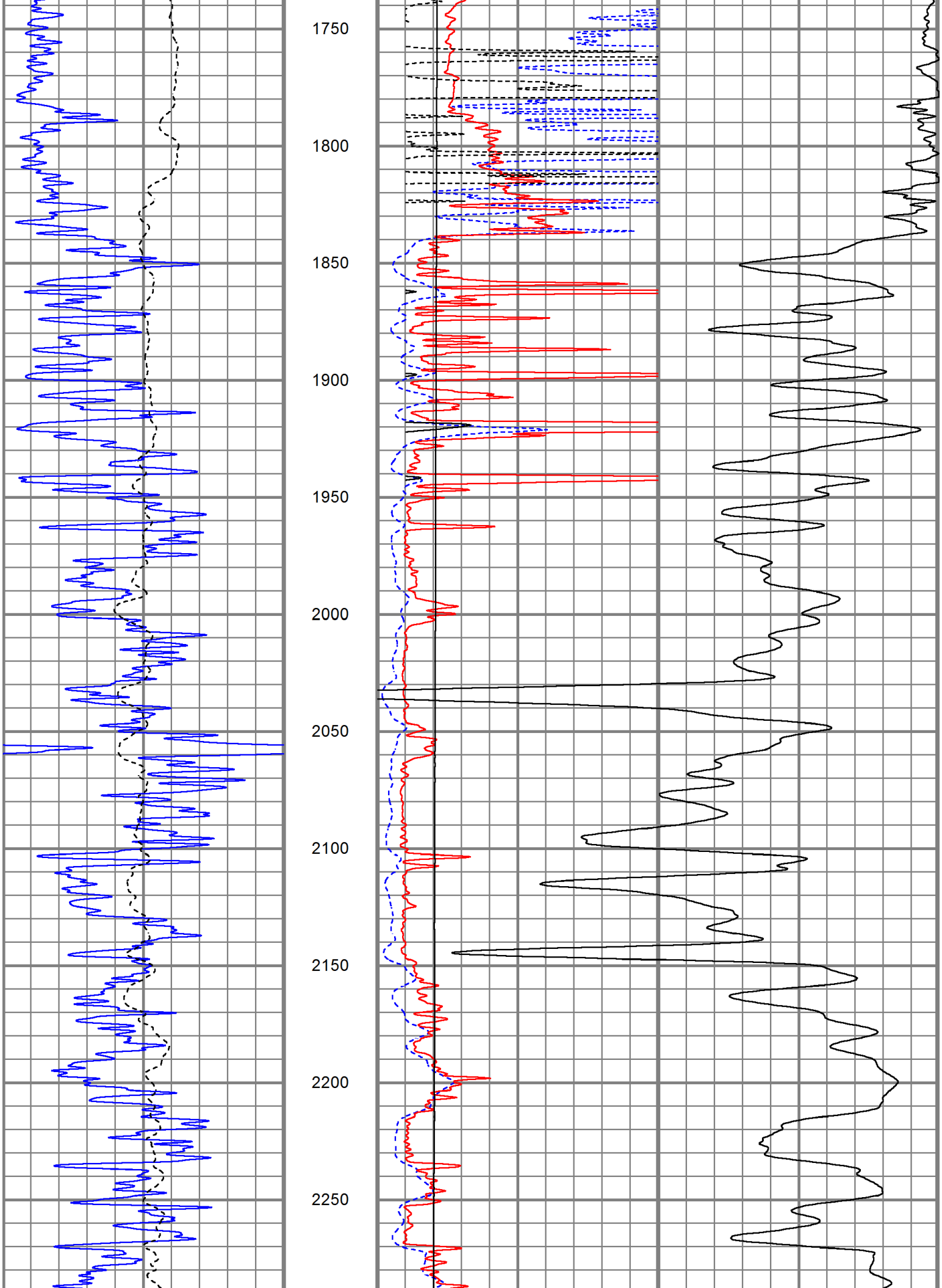
0	GR (GAPI)	150
-100	SP (mV)	100

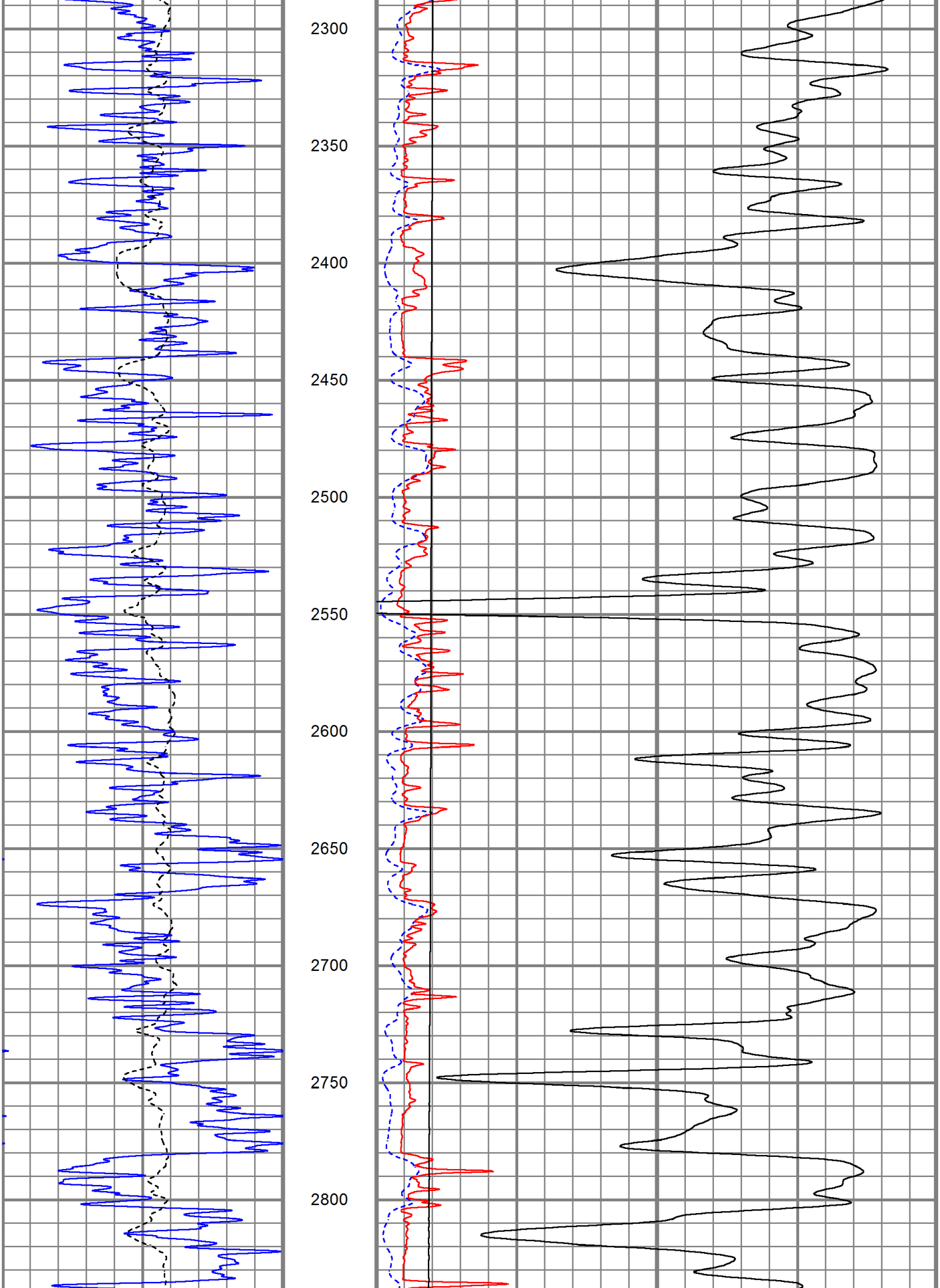
1000	CILD (mmho/m)	0
10000	LTEN (lb)	0
0	RILD (Ohm-m)	50
0	RLL3 (Ohm-m)	50
50	RILD x 10 (Ohm-m)	500
50	RLL3 x 10 (Ohm-m)	500

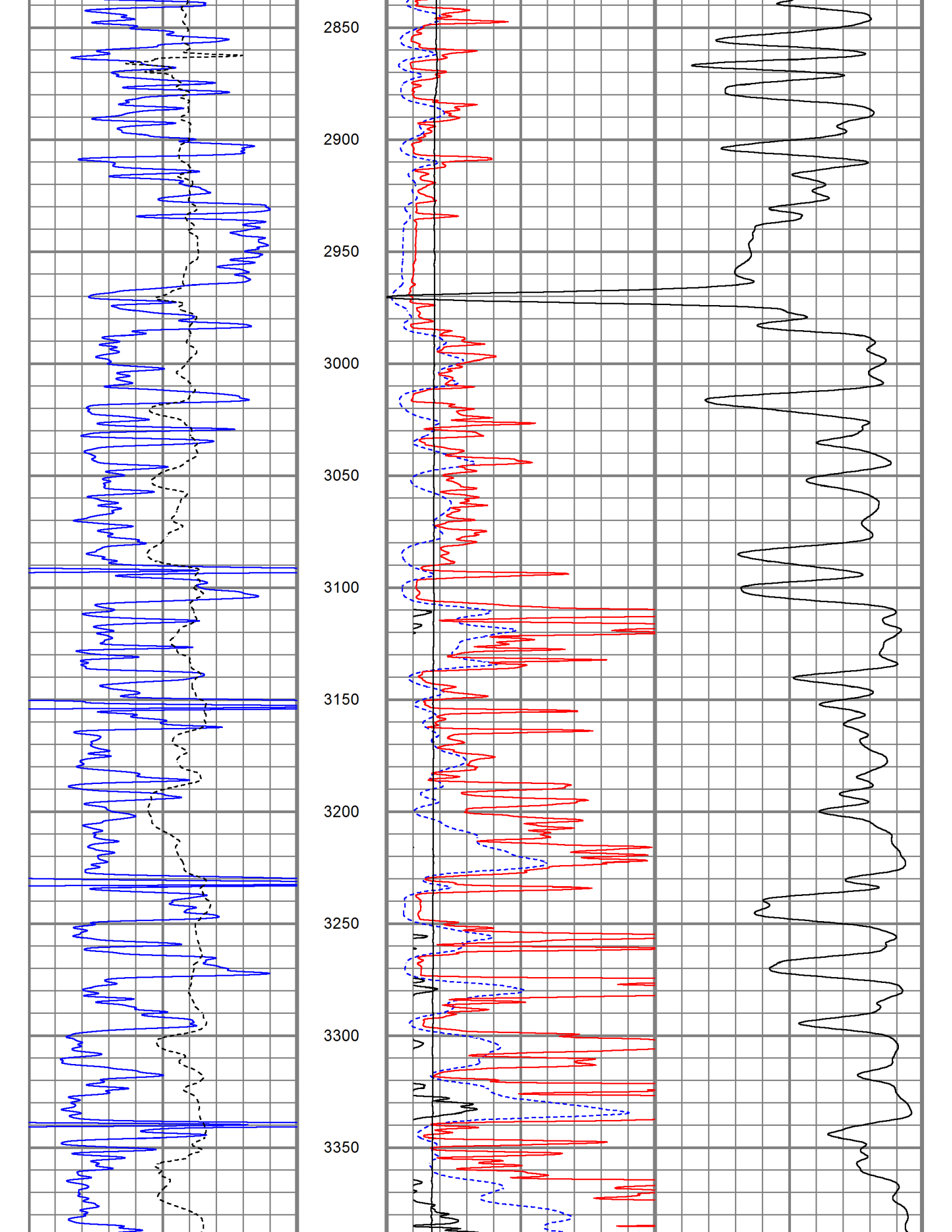


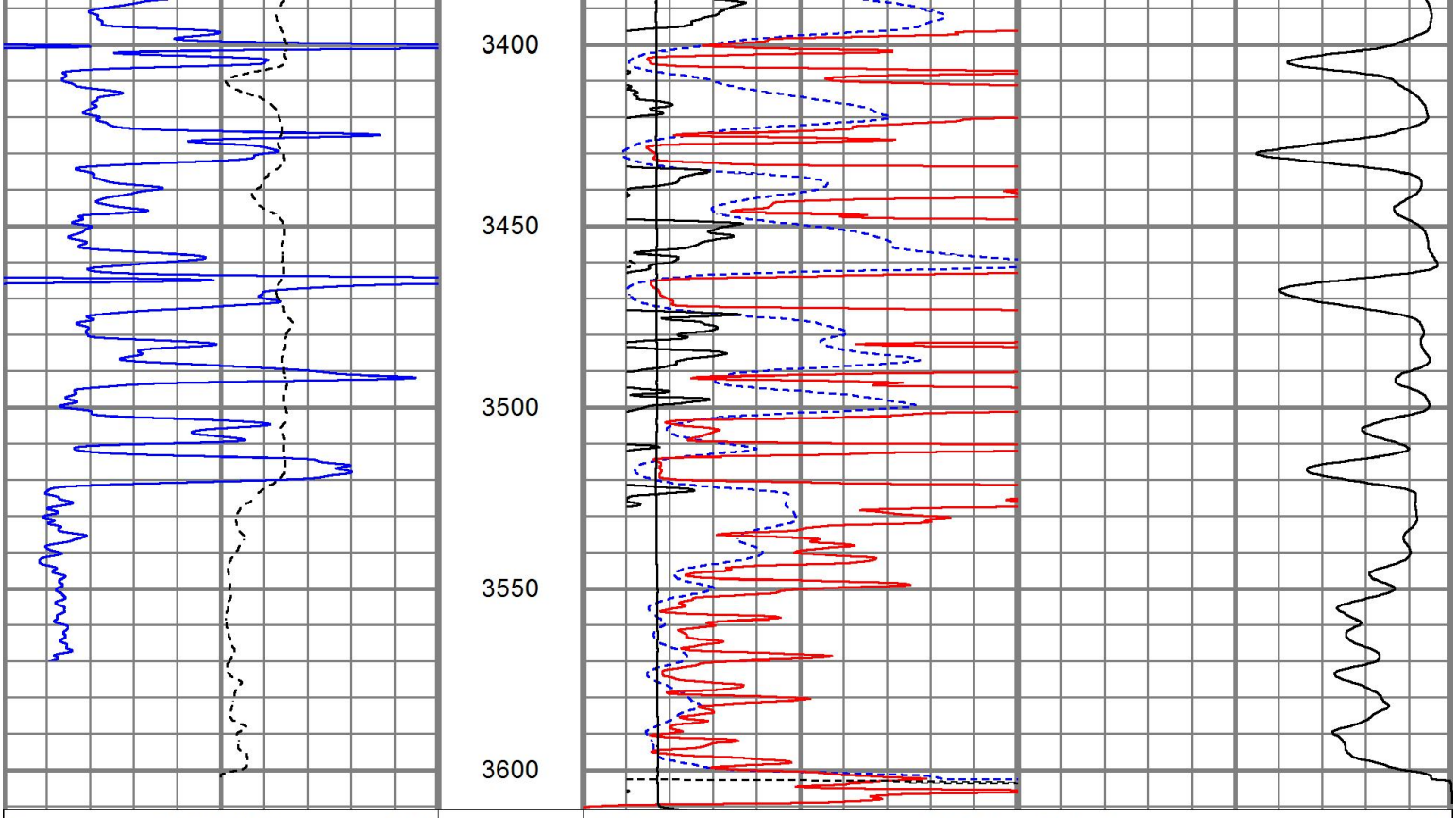

650
700
750
800
850
900
950
1000
1050
1100
1150


1200
1250
1300
1350
1400
1450
1500
1550
1600
1650
1700


1750
1800
1850
1900
1950
2000
2050
2100
2150
2200
2250


2300
2350
2400
2450
2500
2550
2600
2650
2700
2750
2800


2850
2900
2950
3000
3050
3100
3150
3200
3250
3300
3350



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

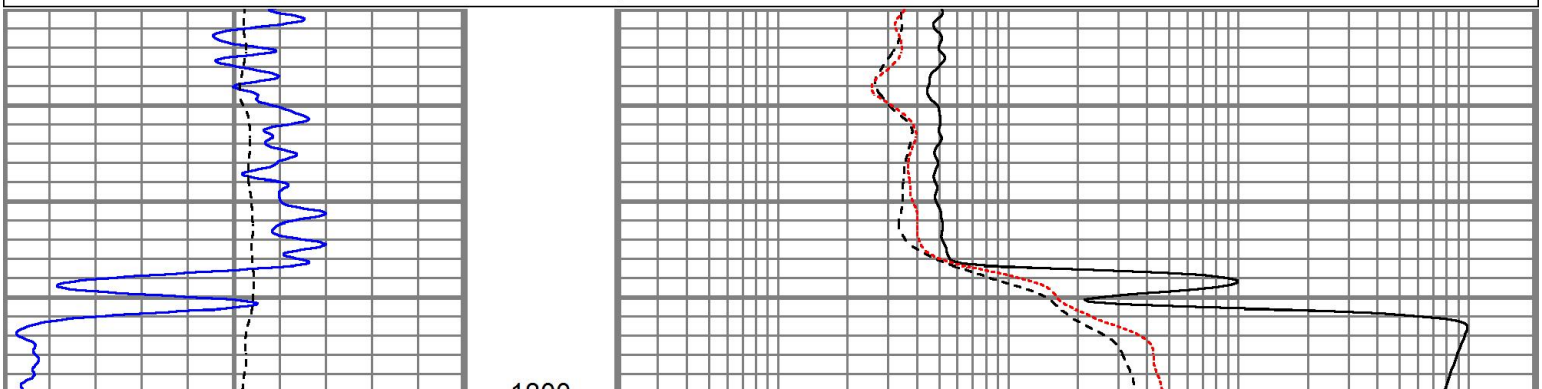
1000	CILD (mmho/m)	0
10000	LTEN (lb)	0
0	RILD (Ohm-m)	50
0	RLL3 (Ohm-m)	50
50	RILD x 10 (Ohm-m)	500
50	RLL3 x 10 (Ohm-m)	500

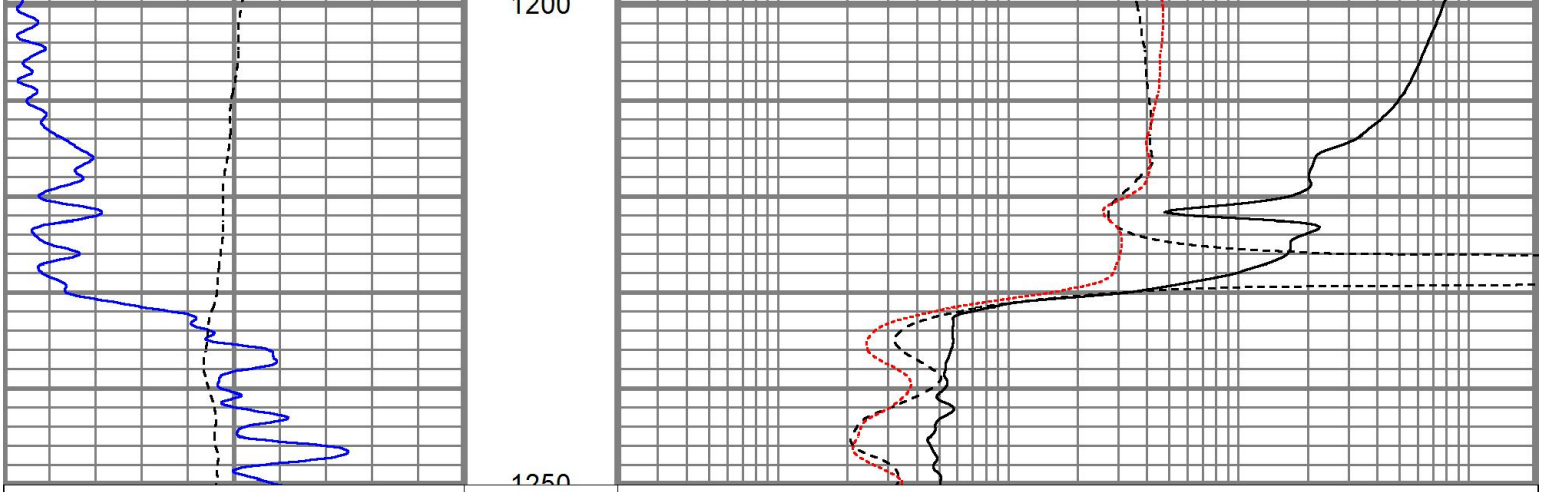
MAIN PASS

Database File	doromea#4oh.db
Dataset Pathname	pass2
Presentation Format	kdil
Dataset Creation	Tue Nov 12 07:09:38 2019
Charted by	Depth in Feet scaled 1:240

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

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





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

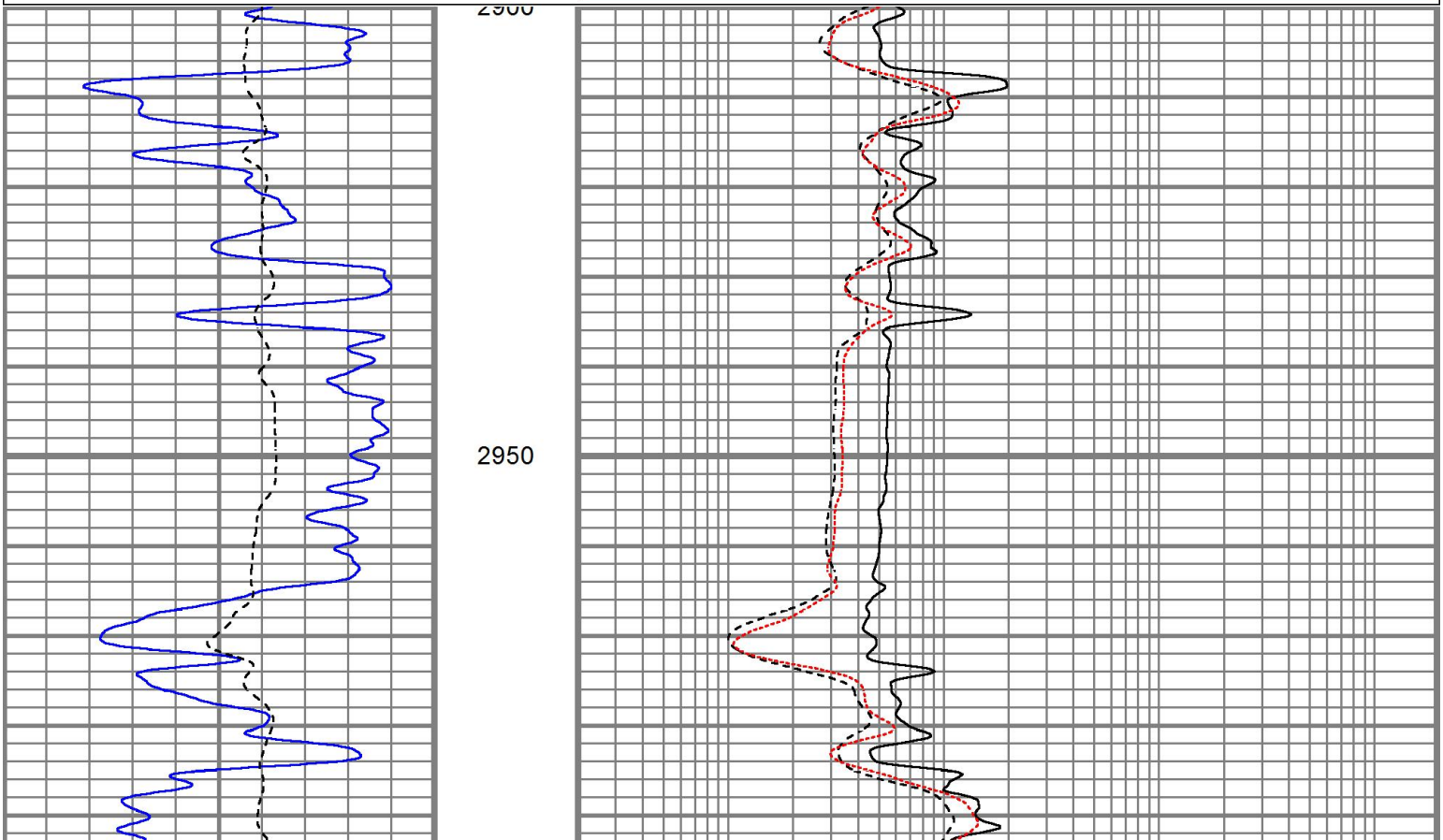
0.2	RILD (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
0.2	RILM (Ohm-m)	2000

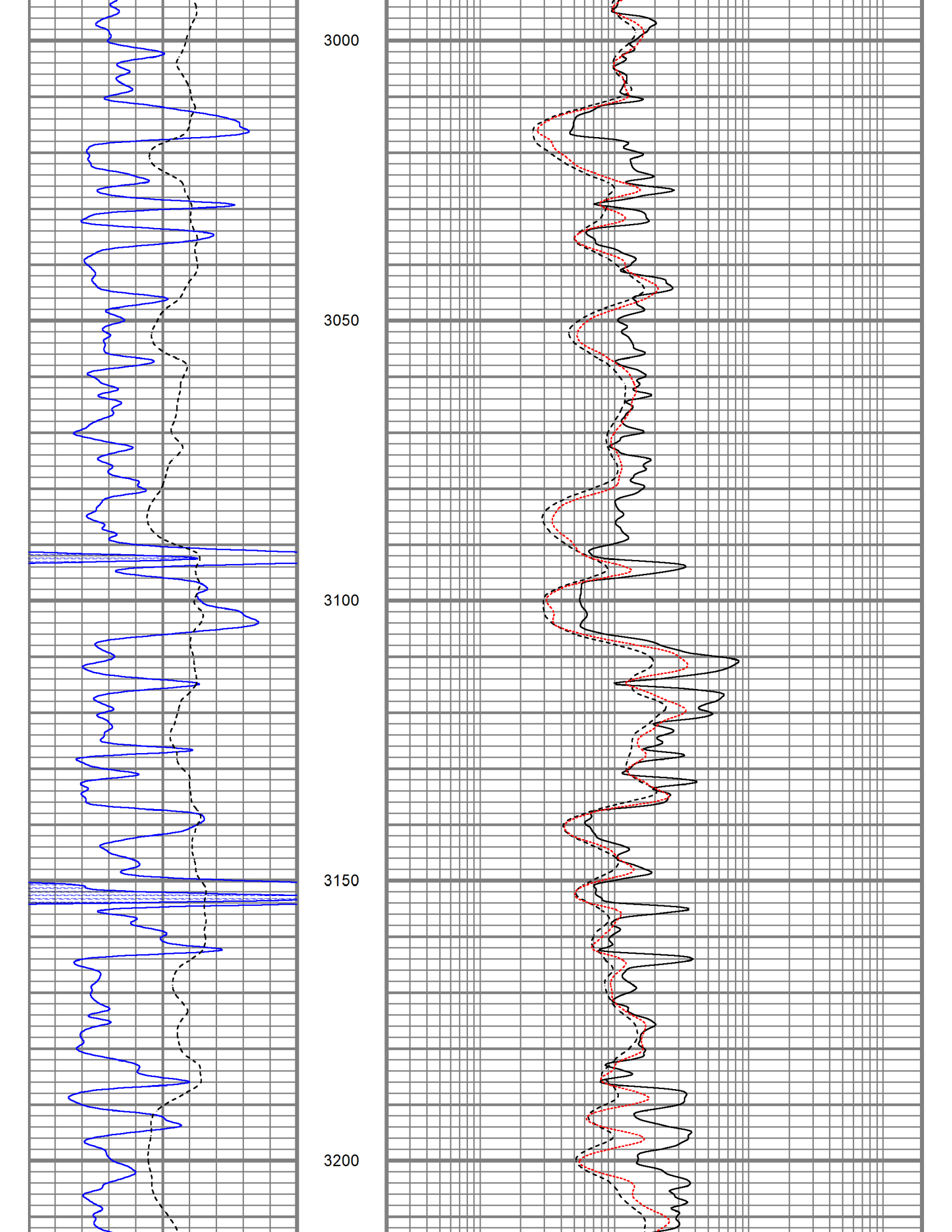
MAIN PASS

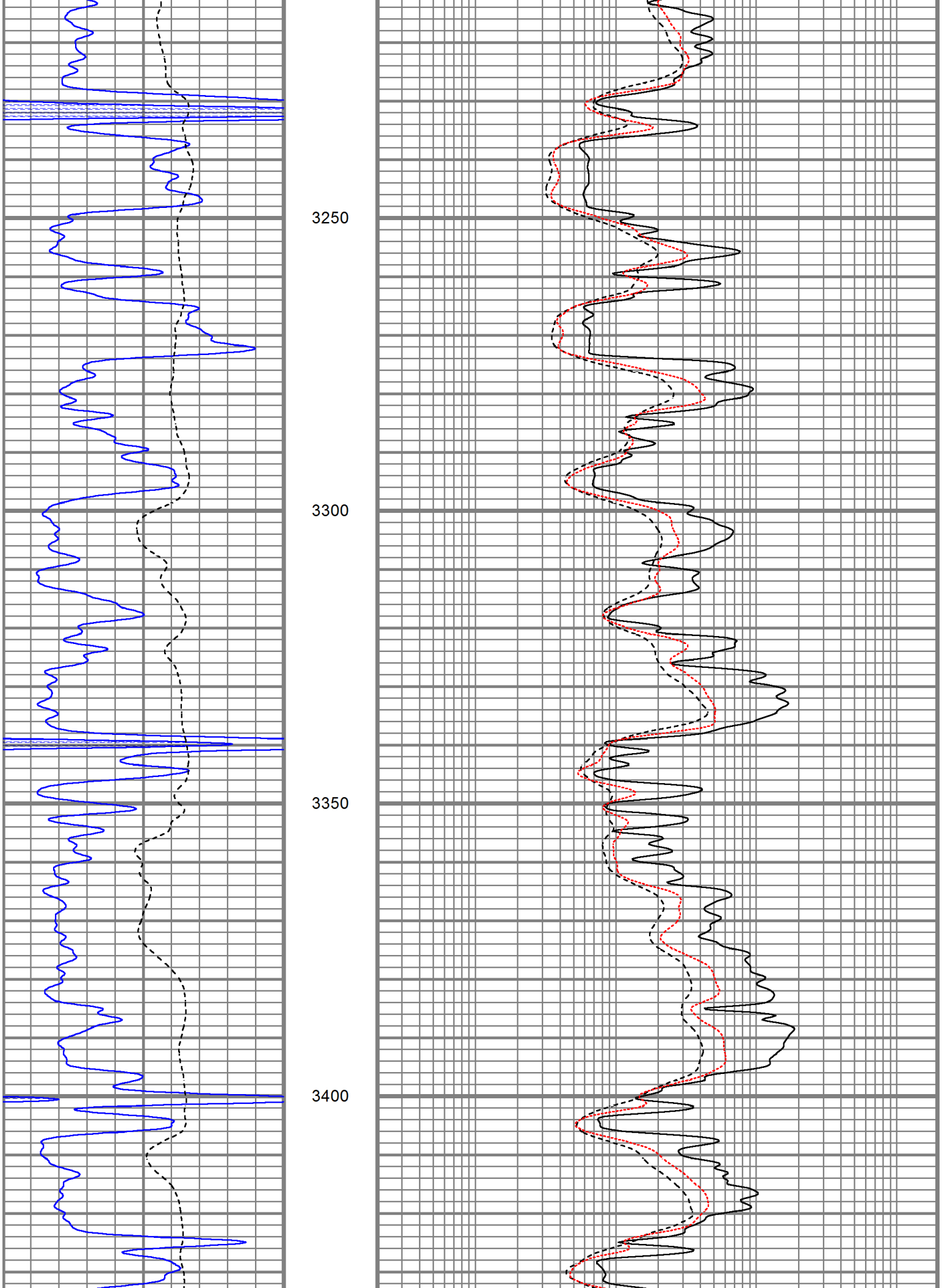
Database File	doromea#4oh.db
Dataset Pathname	pass2
Presentation Format	kdil
Dataset Creation	Tue Nov 12 07:09:38 2019
Charted by	Depth in Feet scaled 1:240

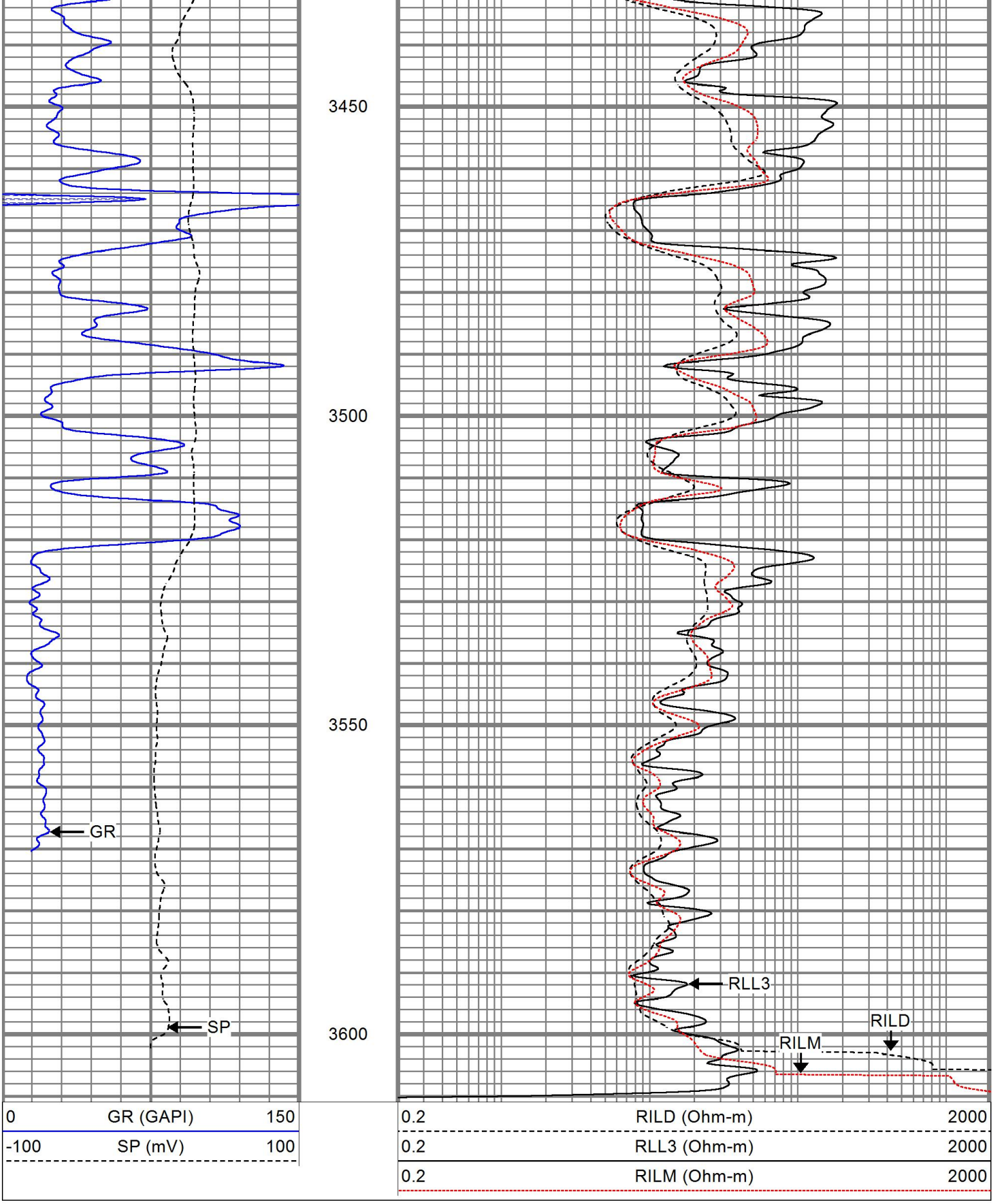
0	GR (GAPI)	150
-100	SP (mV)	100

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




3000
3050
3100
3150
3200


3250
3300
3350
3400



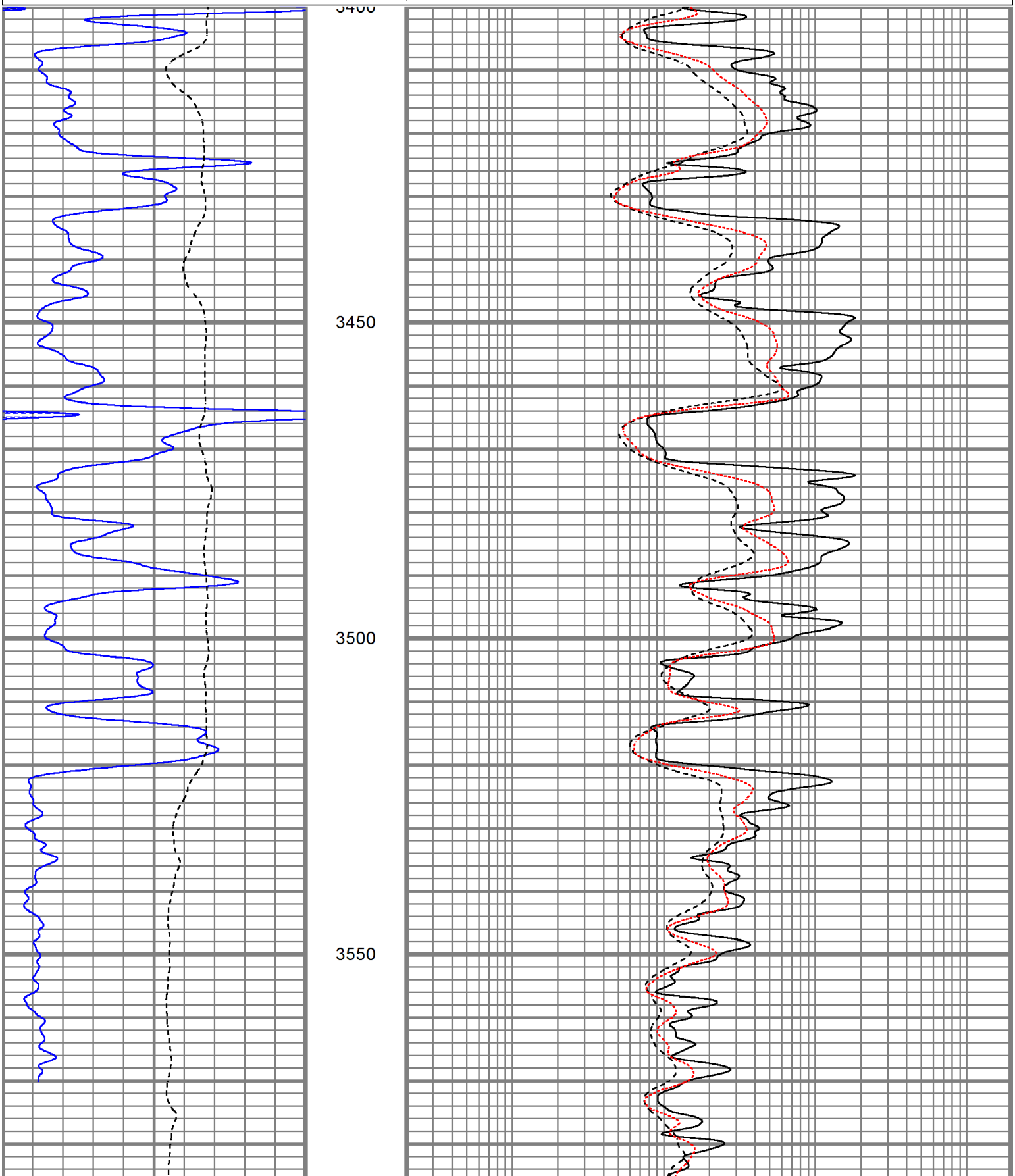
GEMINI WIRELINE

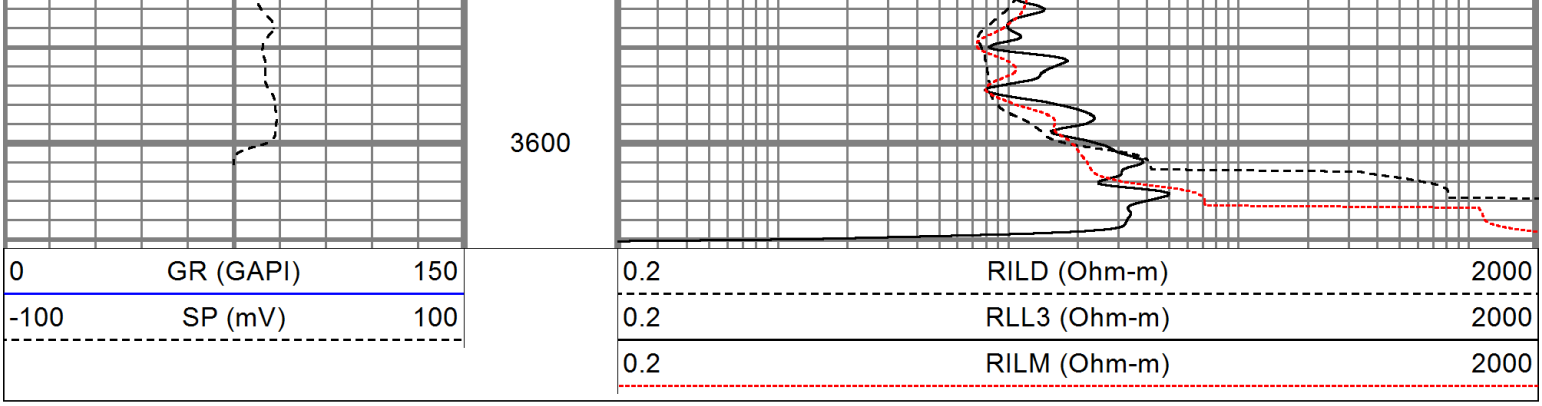
REPEAT SECTION

Database File	doromea#4oh.db
Dataset Pathname	pass1
Presentation Format	kdil
Dataset Creation	Tue Nov 12 06:57:52 2019
Charted by	Depth in Feet scaled 1:240

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

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





Calibration Report

Database File	doromea#4oh.db
Dataset Pathname	pass2
Dataset Creation	Tue Nov 12 07:09:38 2019

Dual Induction Calibration Report

Serial-Model:	1989-ADM
Surface Cal Performed:	Wed Jun 06 19:34:10 2018
Downhole Cal Performed:	Wed Jun 06 19:34:10 2018
After Survey Verification Performed:	Wed Jun 06 19:34:10 2018

Surface Calibration

	Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	-0.012	0.665	V	0.000	350.000	mmho/m	516.748	6.134
Medium	-0.013	0.752	V	0.000	400.000	mmho/m	522.482	6.987
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	-0.011	0.668	V	0.000	350.000	mmho/m	515.730	5.704
Medium	-0.015	0.752	V	0.000	550.000	mmho/m	716.653	10.787

Downhole Calibration

	Readings			References			Results	
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.000	0.000	mmho/m	0.419	351.110	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	-0.877	400.105	mmho/m	1.000	0.000
Shallow	2.502	0.040	V	500.000	2.000	Ohm-m	180.323	-0.126

After Survey Verification

	Readings			Targets			Results	
Internal:	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	0.000	0.000	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	0.000	0.000	mmho/m	1.000	0.000
Shallow	0.000	0.000	Ohm-m	500.000	2.000	Ohm-m	1.000	0.000

Neutron Calibration Report

Serial Number:	AD5139	
Tool Model:	ADMY5139	
Performed:	(Not Performed)	
Calibrator Value:	1	NAPI

Calibrator Reading:	1	cps
Sensitivity:	1	NAPI/cps

Temperature Calibration Report

Serial Number:	WithOutMC
Tool Model:	WOMC
Performed:	(Not Performed)

	Reference		Reading	
Low Reference:	0.00	degF	0.00	degF
High Reference:	1.00	degF	1.00	degF

Gain:	1.00
Offset:	0.00
Delta Spacing	1

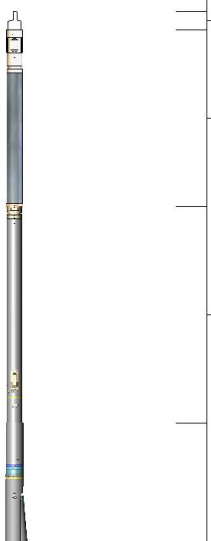
Inclinometer Calibration Report

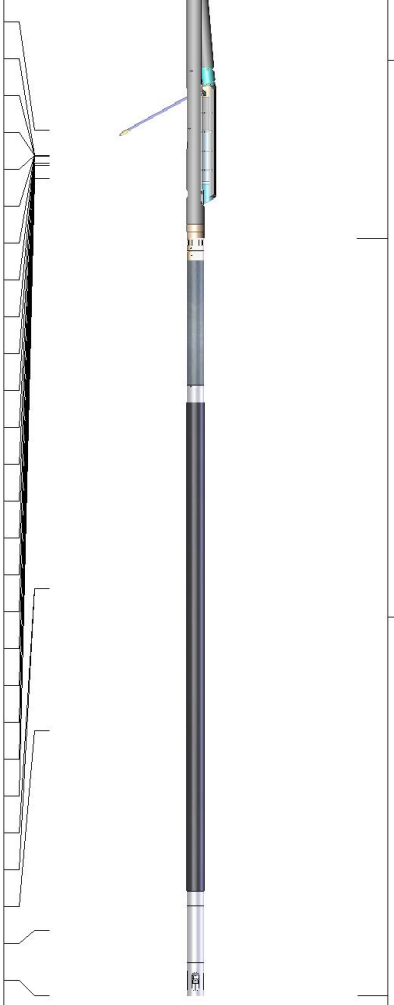
Performed: Thu Oct 25 16:29:34 2018

	Low Read.	High Read.	Low Ref.	High Ref.	
X Accelerometer	205.00	1843.00	-1.00	1.00	gee
Y Accelerometer	205.00	1843.00	-1.00	1.00	gee
Z Accelerometer					gee

Gamma Ray Calibration Report

Serial Number:	WithOutMC	
Tool Model:	WOMC	
Performed:	Wed Dec 06 22:30:58 2017	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	1.0000	GAPI/cps

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			CHD-STD	0.50	1.69	1.00
GR	38.31					
ACCY	37.15		ADT-WOMC (WithOutMC) Telemetry Without Mud Cell	4.58	3.50	120.00
ACCX	37.15					
SSTAT	36.73					
PSTAT	35.90					
ASTAT	35.90					
GRD	35.06		NEU-ADMY5139 (AD5139) Admyer NEU DIGITAL	5.65	3.50	50.00
TEMP	35.06					
NEU	31.00					

LStat	22.54				
LS8	21.88		ADT1LITH-A (1) Admyr Litho Density Tool	9.29	3.50	240.00
LS7	21.88					
LS6	21.88					
LS5	21.88					
LS4	21.88					
LS3	21.88					
LS2	21.88					
LS1	21.88					
LSV	21.88					
LSD	21.86					
SSV	21.67					
SS8	21.67					
SS7	21.67					
SS6	21.67					
SS5	21.67					
SS4	21.67		DIL-ADM (1989) Dual Induction	19.71	4.00	300.00
SS3	21.67					
SS2	21.67					
SS1	21.67					
DCAL	21.61					
SSD	21.27					
SP	10.60					
CILD	10.60					
CILM	6.89					
RLL3	1.70					
TR_Mon	0.00					

Dataset:	doromea#4oh.db: field/well/run1/pass2
Total length:	39.73 ft
Total weight:	711.00 lb
O.D.:	4.00 in

MICRO RESISTIVITY LOG

Company Diehl Oil Inc.
Well Rome 'A' #4
Field Catharine South
County Ellis
State Kansas

Company Diehl Oil Inc.
Well Rome 'A' #4
Field Catharine South
County Ellis
State Kansas

Location: API # : 15 051 26978
2310' FSL & 1270' FEL
SEC 22 TWP 13S RGE 17W

Other Services
CDNL
DIL

Permanent Datum	Ground Level	Elevation 1973'
Log Measured From	KB 10' AGL	
Drilling Measured From	KB	

Elevation
K.B. 1983'
D.F. 1982'
G.L. 1973'

Date	11/12/19		
Run Number	Two		
Depth Driller	3612'		
Depth Logger	3611'		
Bottom Logged Interval	3609'		
Top Log Interval	2900'		
Casing Driller	8 5/8" @ 222'		
Casing Logger	222'		
Bit Size	7 7/8"		
Type Fluid in Hole	Chemical		
Density / Viscosity	8.8/54		
pH / Fluid Loss	10.0/8.0		
Source of Sample	Pit	Chlorides 4000 PPM	
Rm @ Meas. Temp	1.9@55degf		
Rmf @ Meas. Temp	1.5@55degf		
Rmc @ Meas. Temp	2.4@55degf		
Source of Rmf / Rmc	Calculated		
Rm @ BHT	1.0@94degf		
Time Circulation Stopped	3:15 a.m		
Time Logger on Bottom	8:35 a.m		
Maximum Recorded Temperature	94degf		
Equipment Number	T605		
Location	Hays, KS		
Recorded By	Casey Patterson		
Witnessed By	Mr. Glenn Diehl	Mr. Roger Moses	

<<< Fold Here >>>

Comments

Hays,KS toToulon, North on Toulon to Vinyard Rd., Go East 2 mi. to 310 Rd. ,
North on 310 Rd 1/4 mi, East Through Cattle Guard,
North around Tank Batteries East into Location

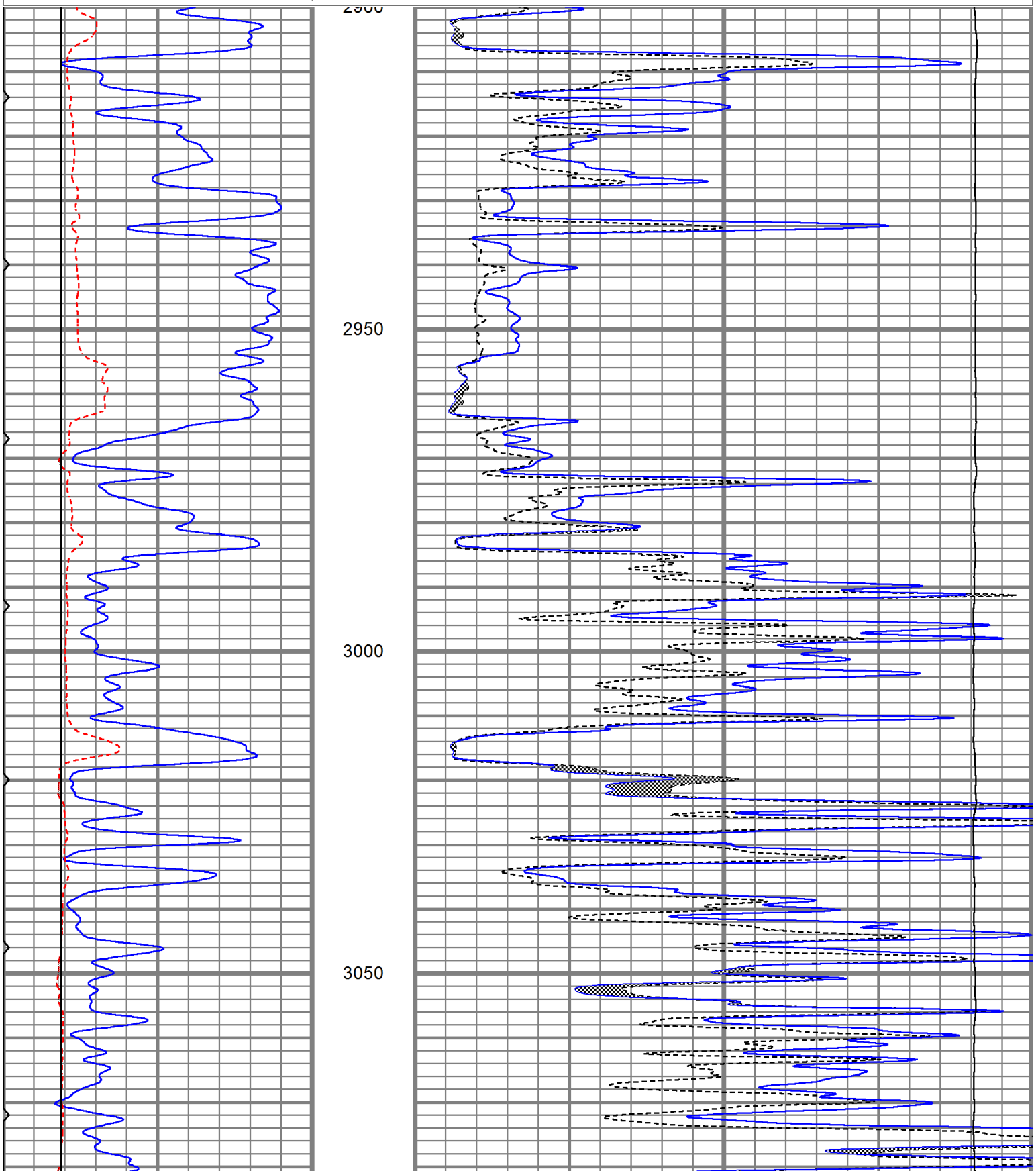
Thanks for using Gemini Wireline LLC
785-625-1182

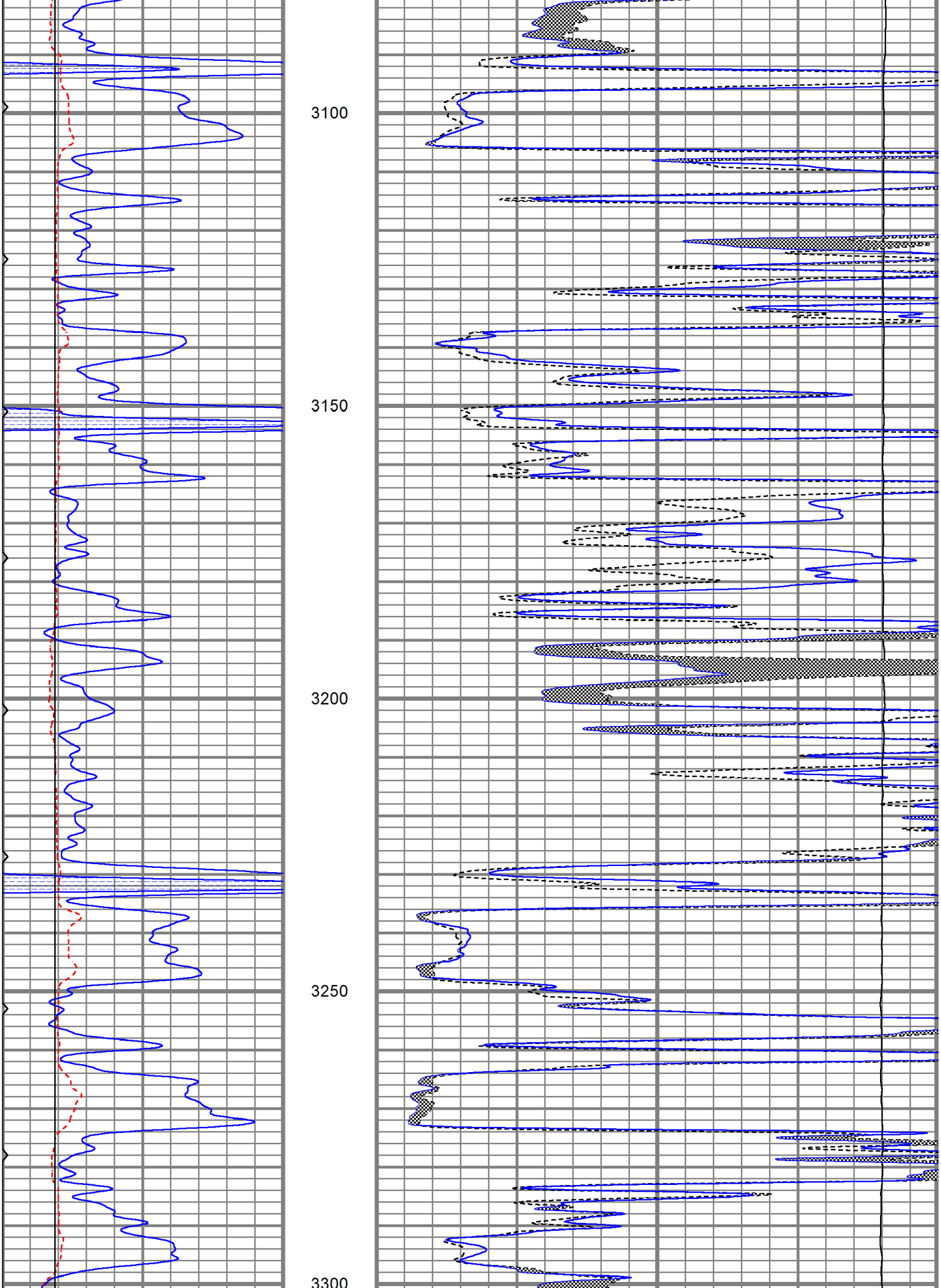
MAIN PASS

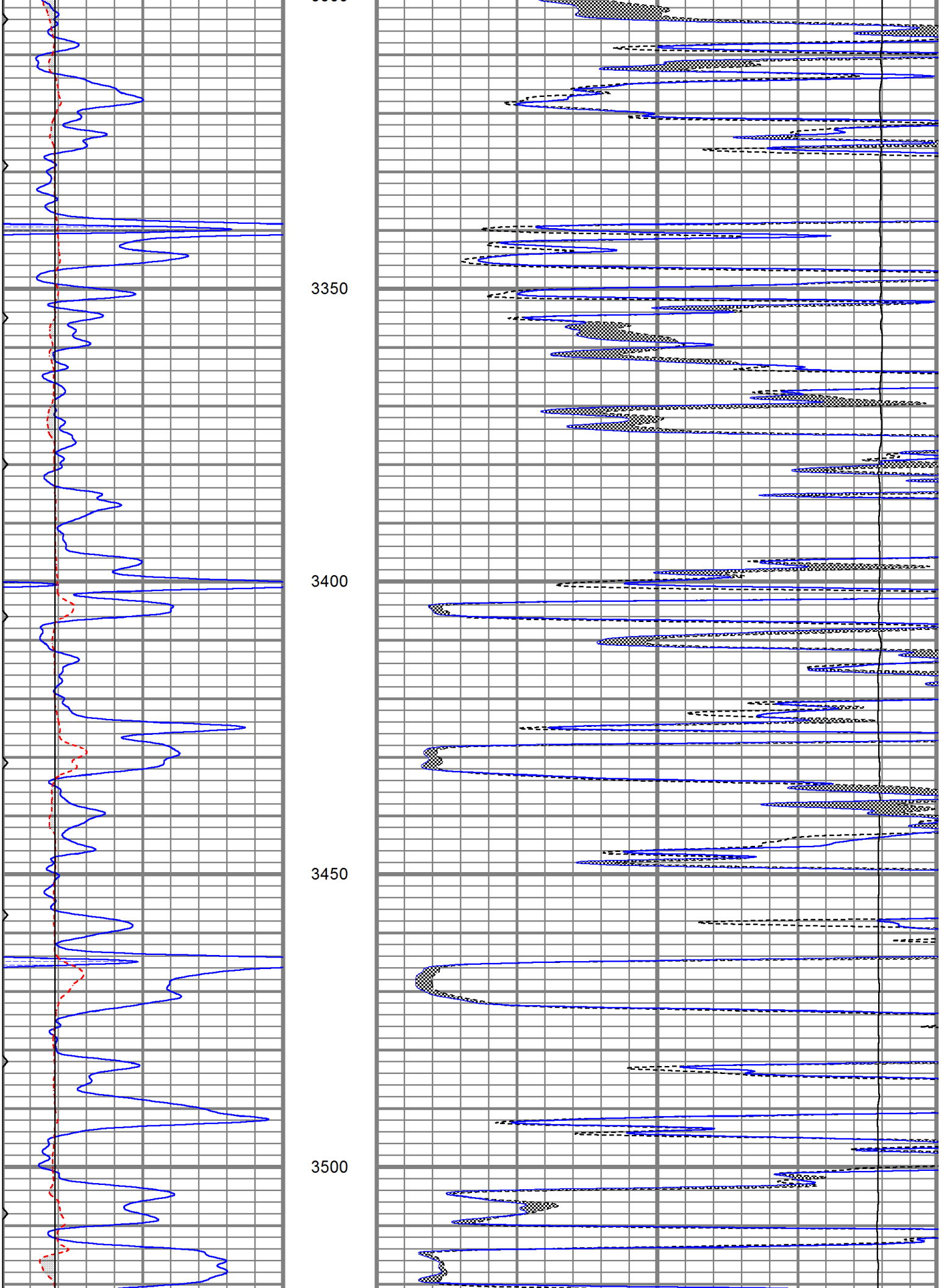
Database File	doromea#4oh.db
Dataset Pathname	pass4.1
Presentation Format	kml
Dataset Creation	Tue Nov 12 09:26:31 2019
Charted by	Depth in Feet scaled 1:240

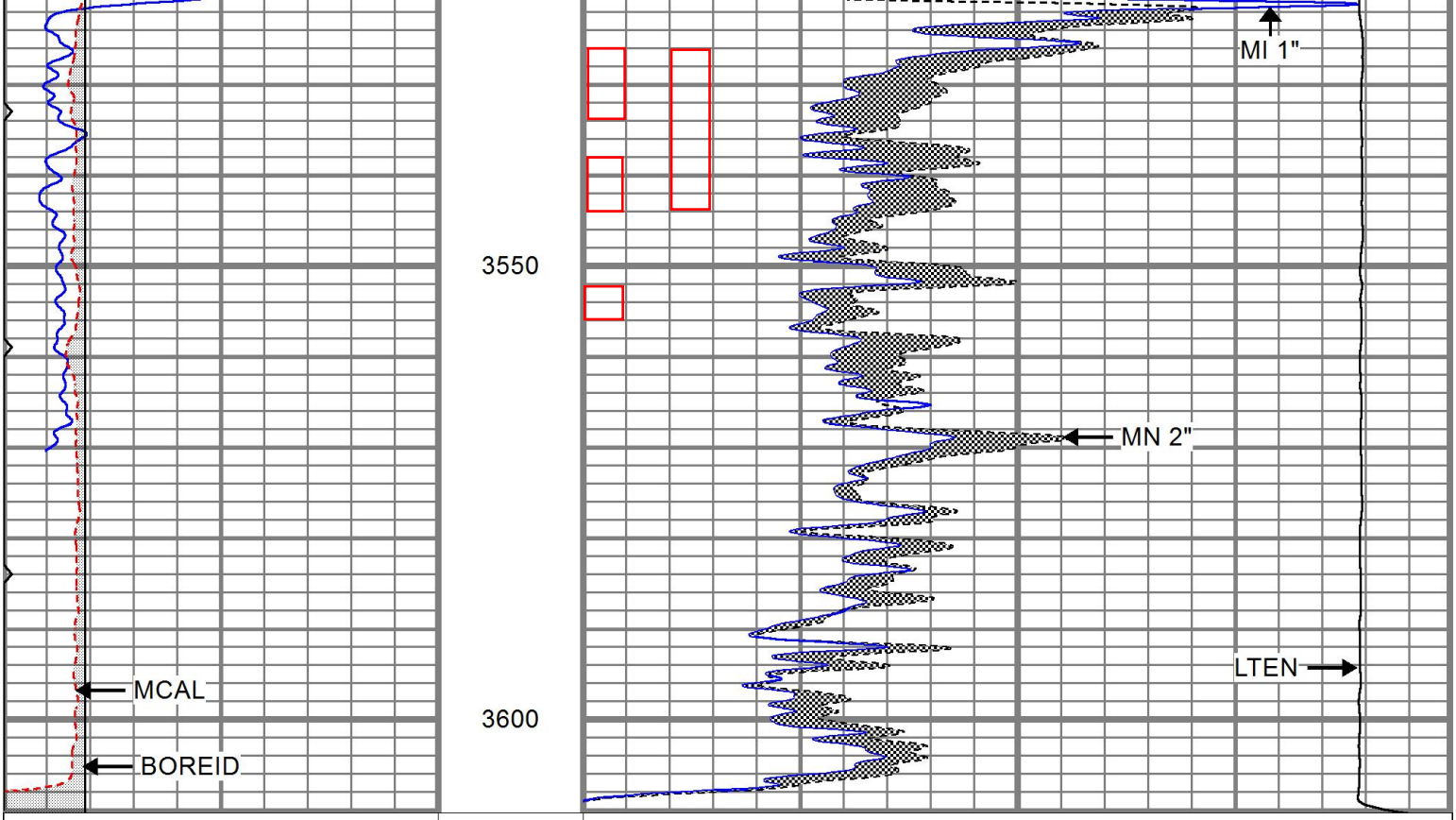
0	GR (GAPI)	150
6	MCAL (in)	16
6	BOREID (in)	16
0	MINMK	50

0	MN 2" (Ohm-m)	20
0	MI 1" (Ohm-m)	20
10000	LTEN (lb)	0




3100
3150
3200
3250
3300


3350
3400
3450
3500



0	GR (GAPI)	150
6	MCAL (in)	16
6	BOREID (in)	16
0	MINMK	50

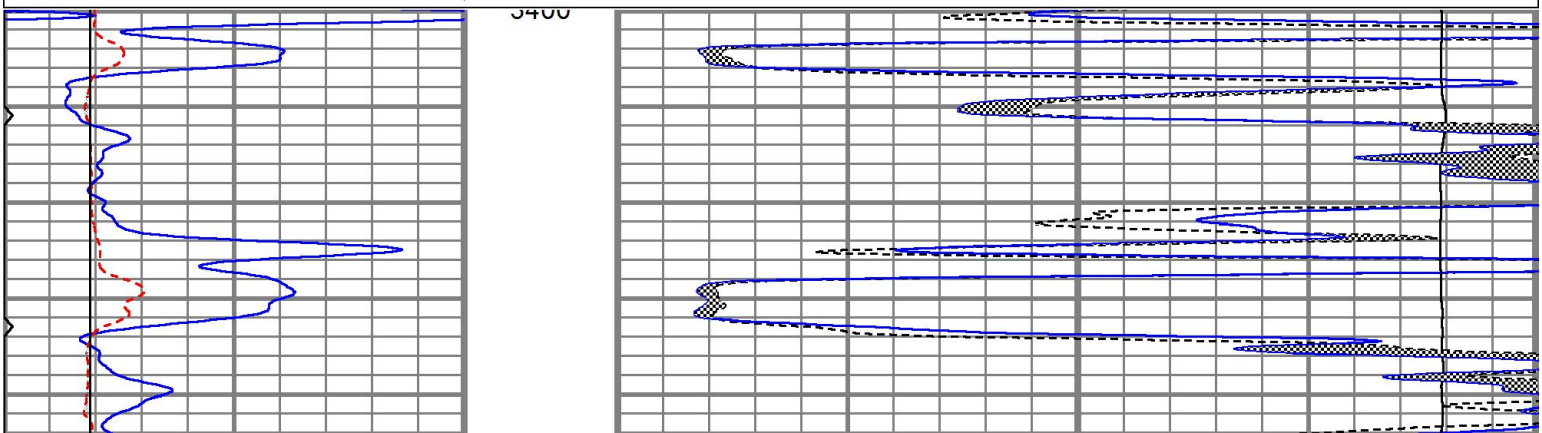
0	MN 2" (Ohm-m)	20
0	MI 1" (Ohm-m)	20
10000	LTEN (lb)	0

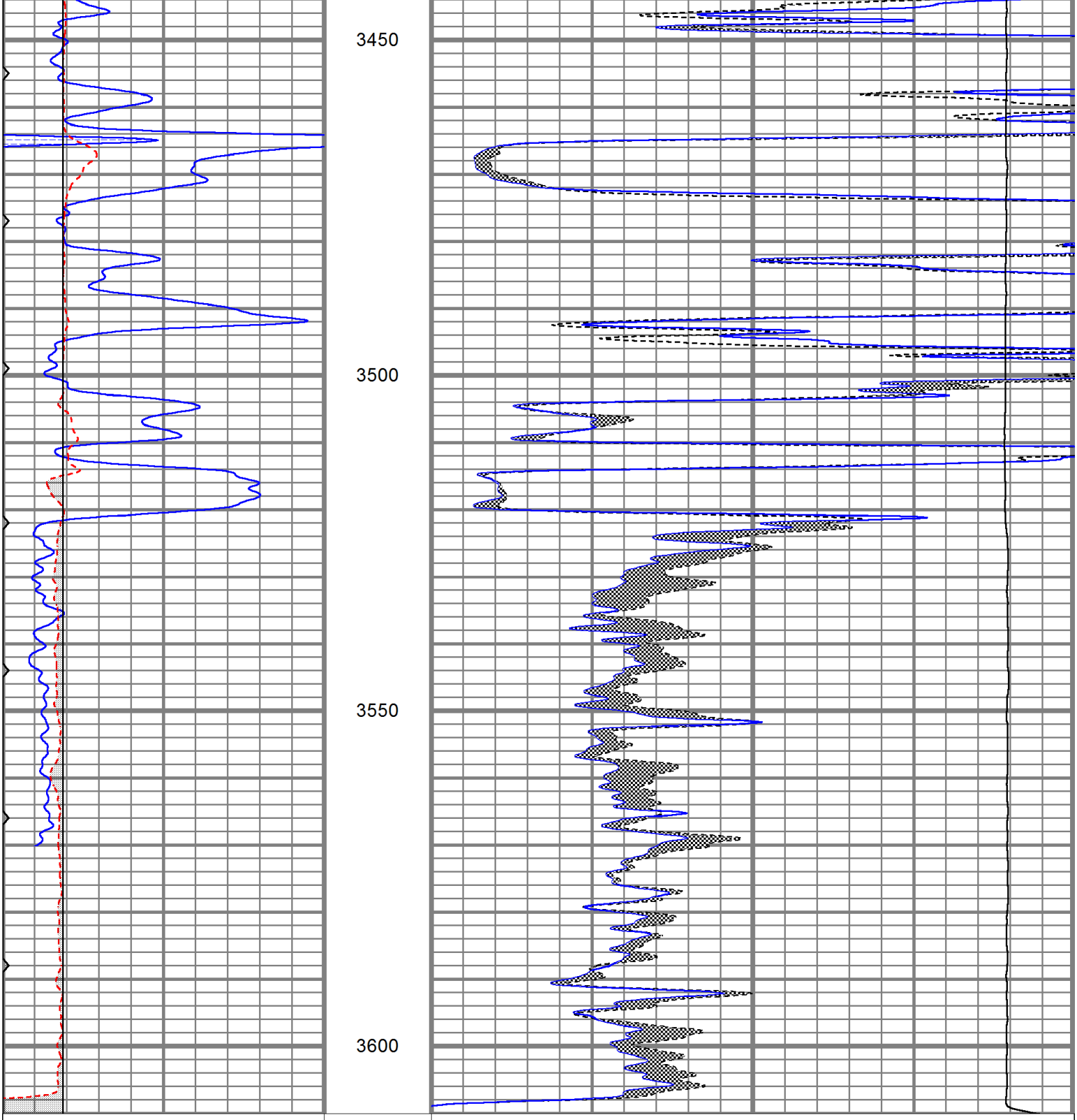
REPEAT SECTION

Database File	doromea#4oh.db
Dataset Pathname	pass3.1
Presentation Format	kml
Dataset Creation	Tue Nov 12 09:06:25 2019
Charted by	Depth in Feet scaled 1:240

0	GR (GAPI)	150
6	MCAL (in)	16
6	BOREID (in)	16
0	MINMK	50

0	MN 2" (Ohm-m)	20
0	MI 1" (Ohm-m)	20
10000	LTEN (lb)	0





Calibration Report

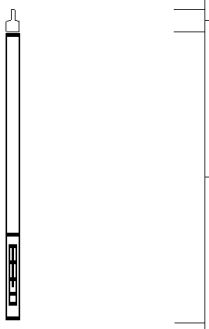
Database File	doromea#4oh.db
Dataset Pathname	pass4.1
Dataset Creation	Tue Nov 12 09:26:31 2019

Microlog Calibration Report

Serial-Model:	9151-Gerhart

Performed: Tue Nov 12 08:40:30 2019

	Readings			References			Results	
	Zero	Cal		Zero	Cal		m	b
Normal	0.0070	0.4745	V	0.0000	10.0000	Ohm-m	21.3906	-0.1497
Inverse	0.0098	0.6146	V	0.0000	10.0000	Ohm-m	16.5351	-0.1622
Caliper	1.0212	2.0456	V	8.0000	15.0000	in	6.8332	1.0218

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			CHD-None	0.75	1.50	5.00
			ML-Gerhart (9151) Gerhart Micro	9.46	4.00	125.00
MCAL	1.83					
MI	1.83					
MN	1.83					

Dataset: doromea#4oh.db: field/well/run1/pass4.1
Total length: 10.21 ft
Total weight: 130.00 lb
O.D.: 4.00 in

RADIATION GUARD LOG

Company Diehl Oil Inc.
Well Rome 'A' #4
Field Catharine South
County Ellis
State Kansas

Company Diehl Oil Inc.
Well Rome 'A' #4
Field Catharine South
County Ellis
State Kansas

Location: API # : 15 051 26978
2310' FSL & 1270' FEL
SEC 22 TWP 13S RGE 17W

Other Services
CDNL
ML
DIL

Permanent Datum	Ground Level	Elevation 1973'
Log Measured From	KB 10' AGL	
Drilling Measured From	KB	

Elevation
K.B. 1983'
D.F. 1982'
G.L. 1973'

Date	11/12/19		
Run Number	One		
Depth Driller	3612'		
Depth Logger	3611'		
Bottom Logged Interval	3609'		
Top Log Interval	2900'		
Casing Driller	8 5/8" @ 222'		
Casing Logger	222'		
Bit Size	7 7/8"		
Type Fluid in Hole	Chemical		
Density / Viscosity	8.8/54		
pH / Fluid Loss	10.0/8.0		
Source of Sample	Pit	Chlorides 4000 PPM	
Rm @ Meas. Temp	1.9@55degf		
Rmf @ Meas. Temp	1.5@55degf		
Rmc @ Meas. Temp	2.4@55degf		
Source of Rmf / Rmc	Calculated		
Rm @ BHT	1.0@94degf		
Time Circulation Stopped	3:15 a.m		
Time Logger on Bottom	6:50 a.m		
Maximum Recorded Temperature	94degf		
Equipment Number	T605		
Location	Hays, KS		
Recorded By	Casey Patterson		
Witnessed By	Mr. Glenn Diehl	Mr. Roger Moses	

<<< Fold Here >>>

Comments

Hays,KS toToulon, North on Toulon to Vinyard Rd., Go East 2 mi. to 310 Rd. ,
North on 310 Rd 1/4 mi, East Through Cattle Guard,
North around Tank Batteries East into Location

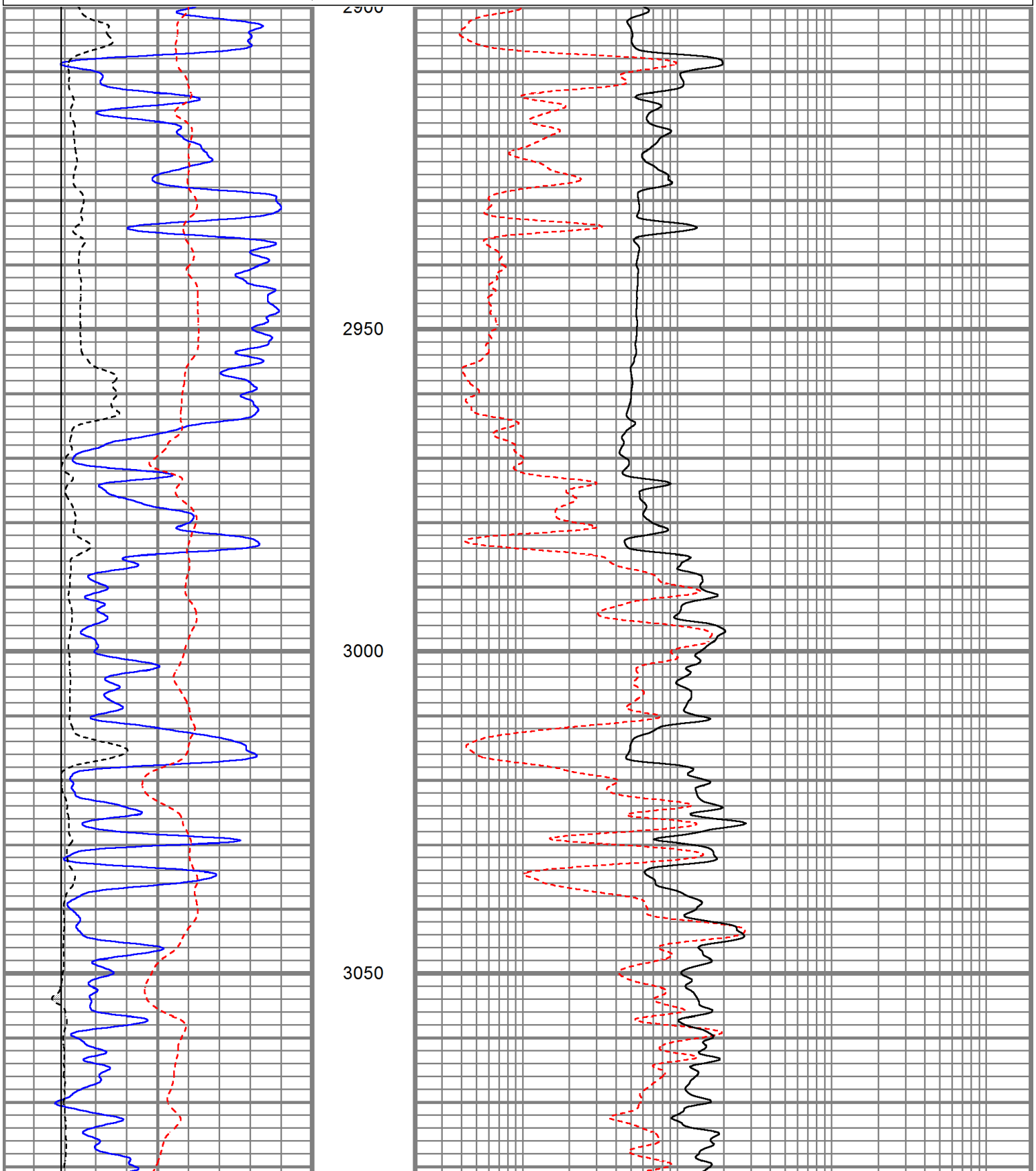
Thanks for using Gemini Wireline LLC
785-625-1182

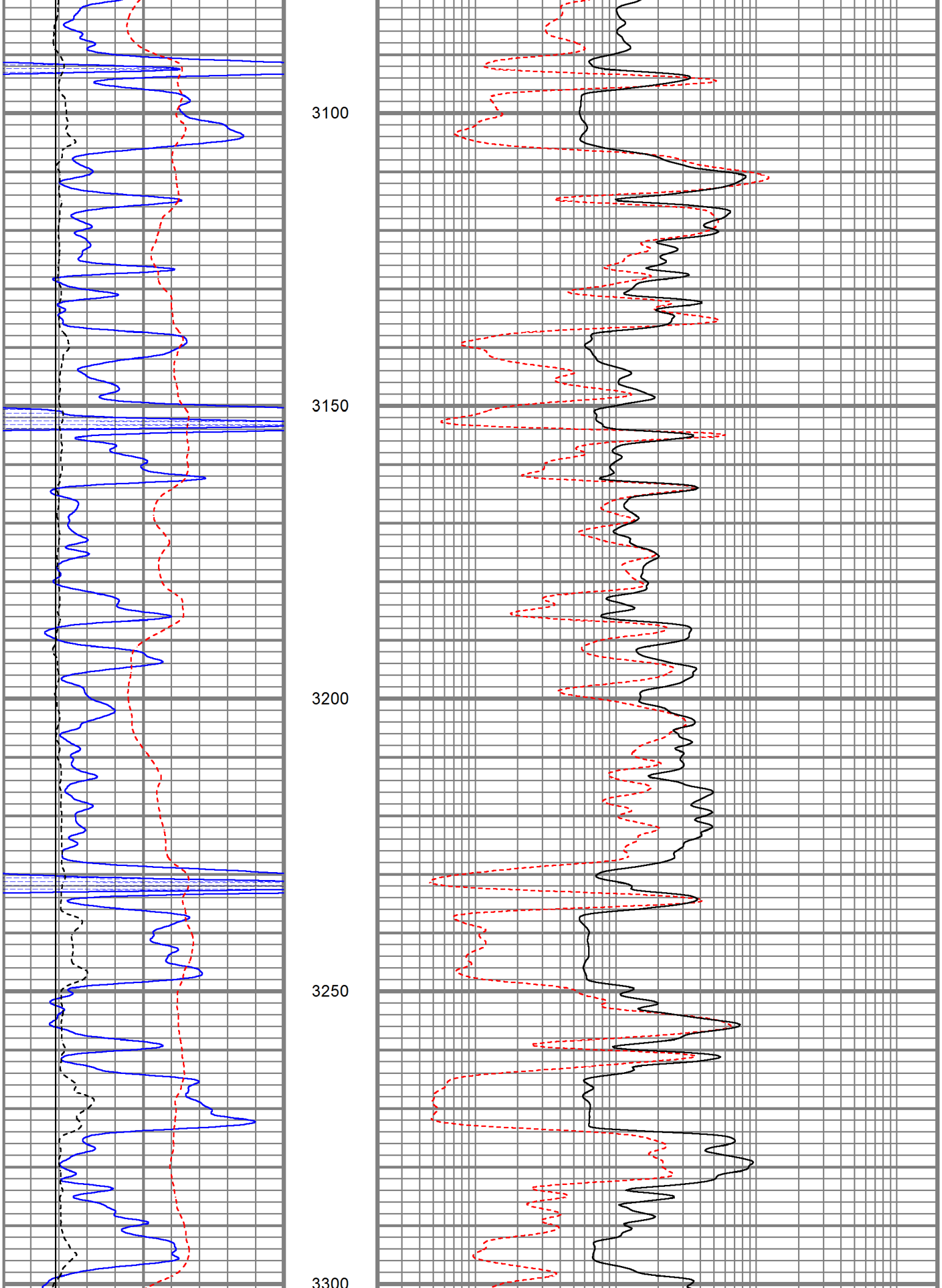
MAIN PASS

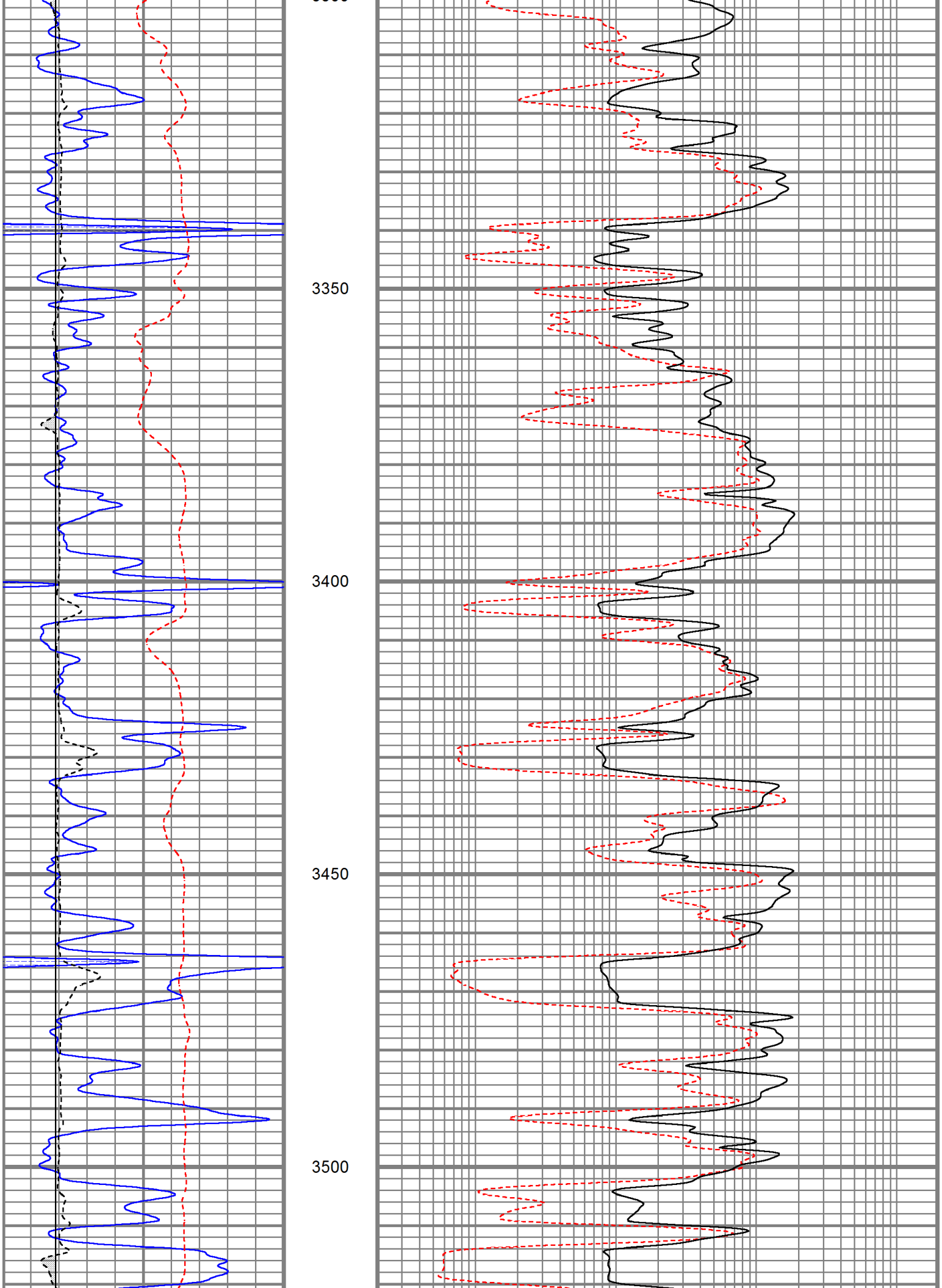
Database File	doromea#4oh.db
Dataset Pathname	pass2
Presentation Format	krg
Dataset Creation	Tue Nov 12 07:09:38 2019
Charted by	Depth in Feet scaled 1:240

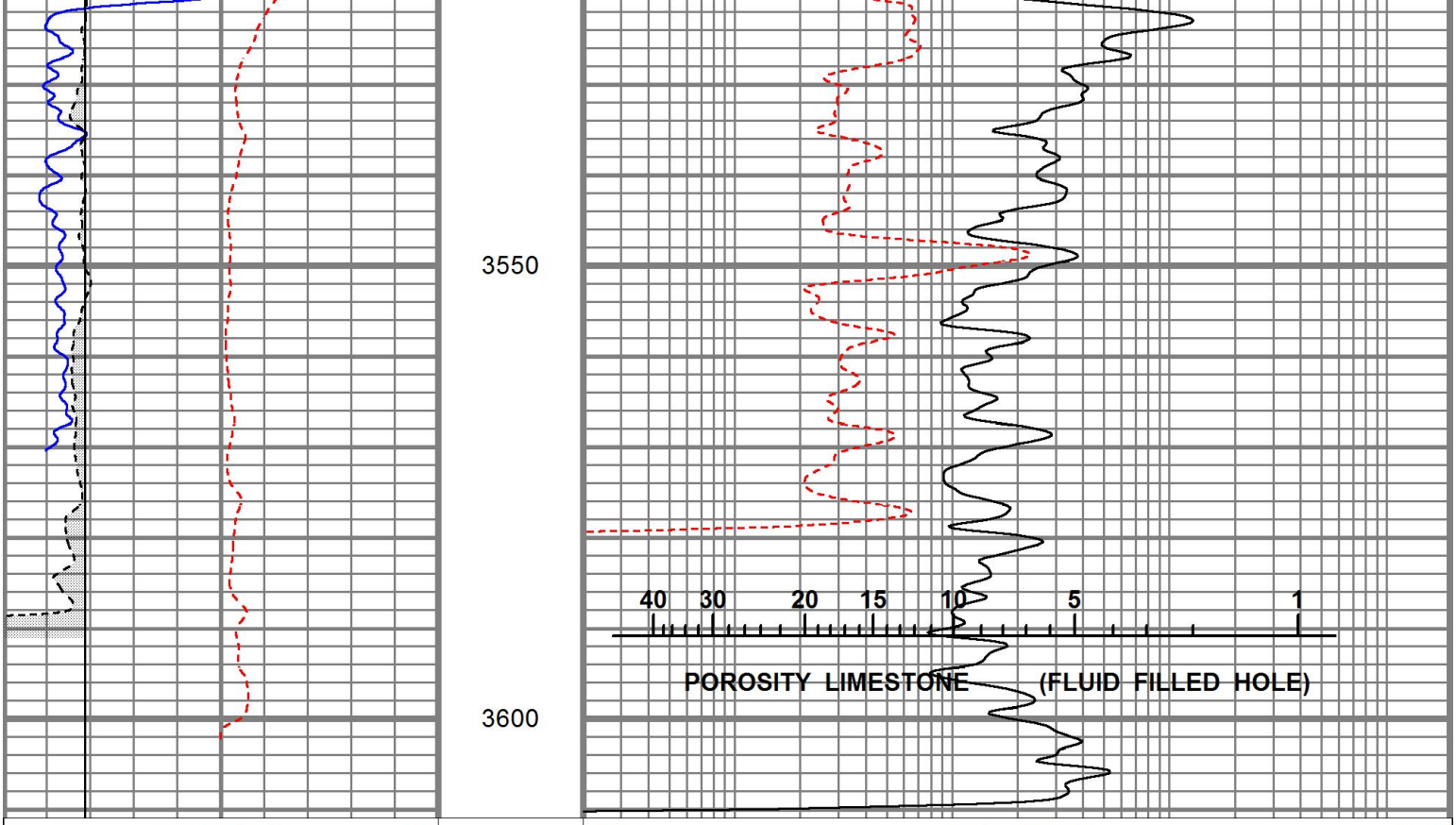
0	GR (GAPI)	150
6	BOREID (in)	16
-100	SP (mV)	100
6	DCAL (in)	16

160	NEU (NAPI)	620
0.2	RLL3 (Ohm-m)	2000




3100
3150
3200
3250
3300


3350
3400
3450
3500



0	GR (GAPI)	150
6	BOREID (in)	16
-100	SP (mV)	100
6	DCAL (in)	16

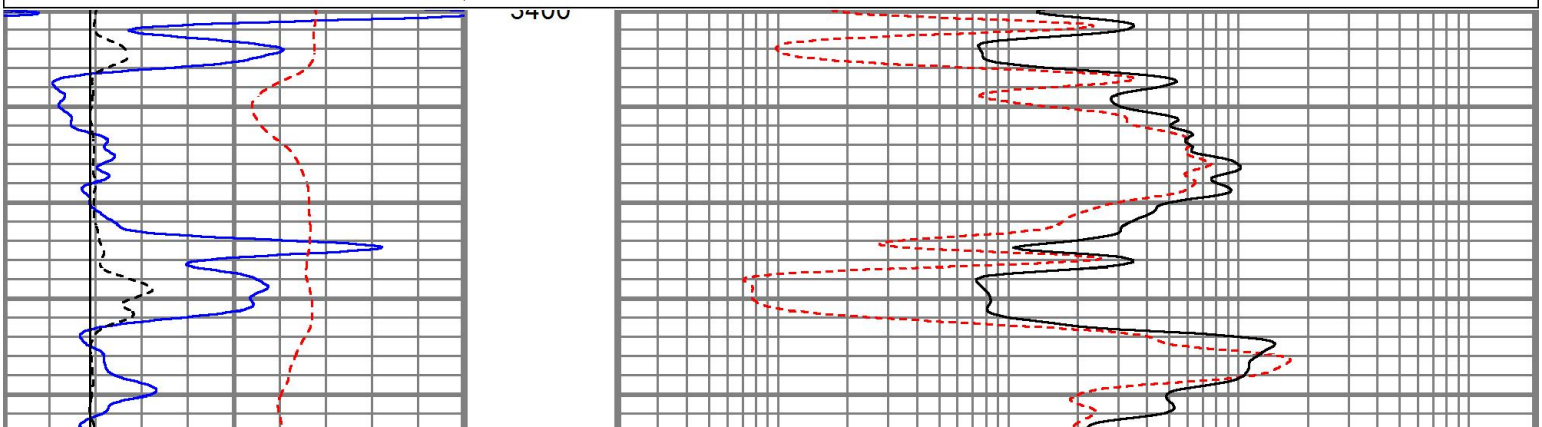
160	NEU (NAPI)	620
0.2	RLL3 (Ohm-m)	2000

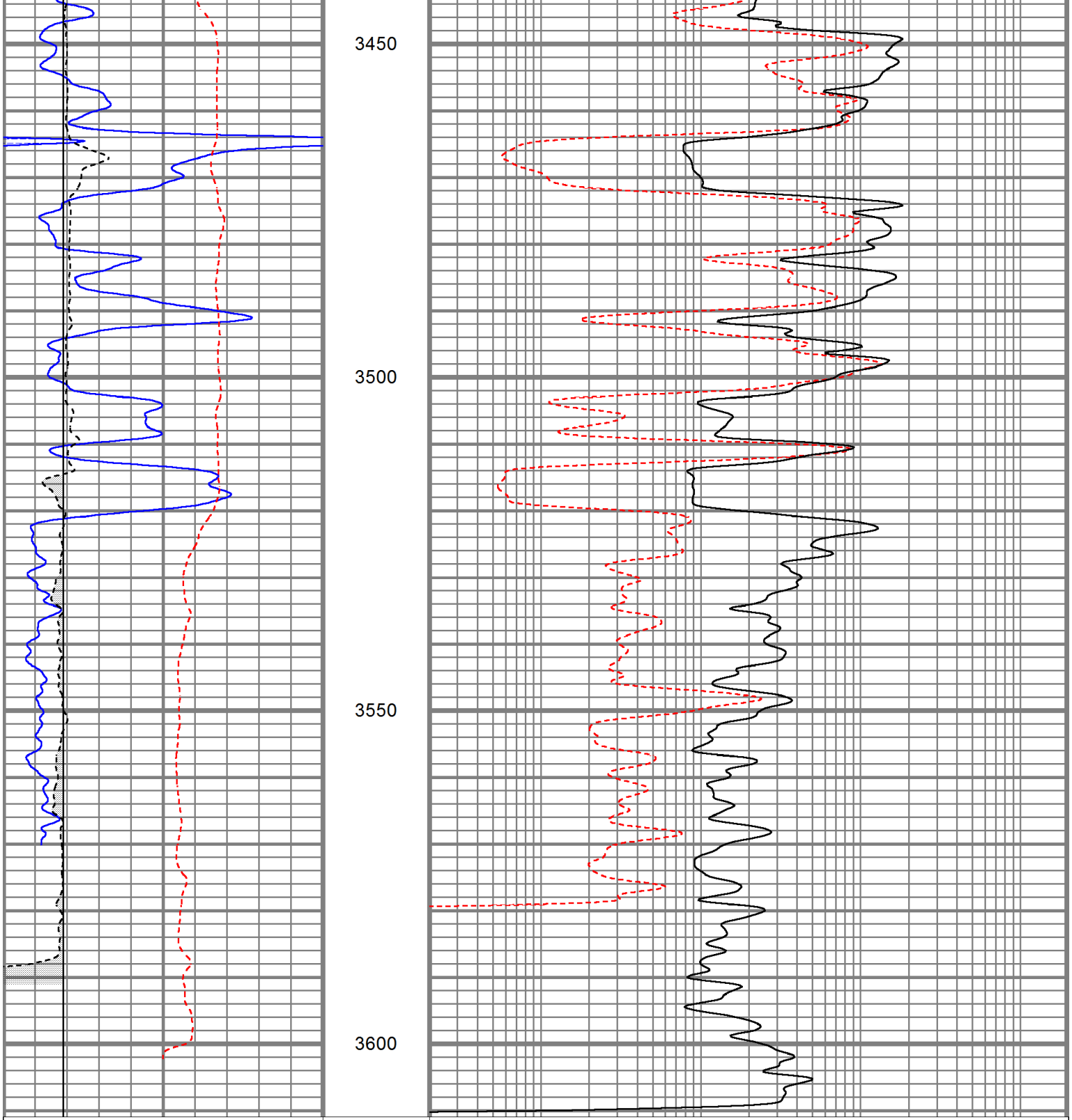
REPEAT SECTION

Database File	doromea#4oh.db
Dataset Pathname	pass1
Presentation Format	krg
Dataset Creation	Tue Nov 12 06:57:52 2019
Charted by	Depth in Feet scaled 1:240

0	GR (GAPI)	150
6	BOREID (in)	16
-100	SP (mV)	100
6	DCAL (in)	16

160	NEU (NAPI)	620
0.2	RLL3 (Ohm-m)	2000





Calibration Report

Database File	doromea#4oh.db
Dataset Pathname	pass2
Dataset Creation	Tue Nov 12 07:09:38 2019

Dual Induction Calibration Report

Serial-Model:	1989-ADM

Surface Cal Performed:	Wed Jun 06 19:34:10 2018
Downhole Cal Performed:	Wed Jun 06 19:34:10 2018
After Survey Verification Performed:	Wed Jun 06 19:34:10 2018

Surface Calibration

	Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	-0.012	0.665	V	0.000	350.000	mmho/m	516.748	6.134
Medium	-0.013	0.752	V	0.000	400.000	mmho/m	522.482	6.987
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	-0.011	0.668	V	0.000	350.000	mmho/m	515.730	5.704
Medium	-0.015	0.752	V	0.000	550.000	mmho/m	716.653	10.787

Downhole Calibration

	Readings			References			Results	
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.000	0.000	mmho/m	0.419	351.110	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	-0.877	400.105	mmho/m	1.000	0.000
Shallow	2.502	0.040	V	500.000	2.000	Ohm-m	180.323	-0.126

After Survey Verification

	Readings			Targets			Results	
Internal:	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	0.000	0.000	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	0.000	0.000	mmho/m	1.000	0.000
Shallow	0.000	0.000	Ohm-m	500.000	2.000	Ohm-m	1.000	0.000

Neutron Calibration Report

Serial Number:	AD5139	
Tool Model:	ADMY5139	
Performed:	(Not Performed)	
Calibrator Value:	1	NAPI
Calibrator Reading:	1	cps
Sensitivity:	1	NAPI/cps

Temperature Calibration Report

Serial Number:	WithOutMC			
Tool Model:	WOMC			
Performed:	(Not Performed)			
	Reference		Reading	
Low Reference:	0.00	degF	0.00	degF
High Reference:	1.00	degF	1.00	degF
Gain:	1.00			
Offset:	0.00			
Delta Spacing	1			

Inclinometer Calibration Report

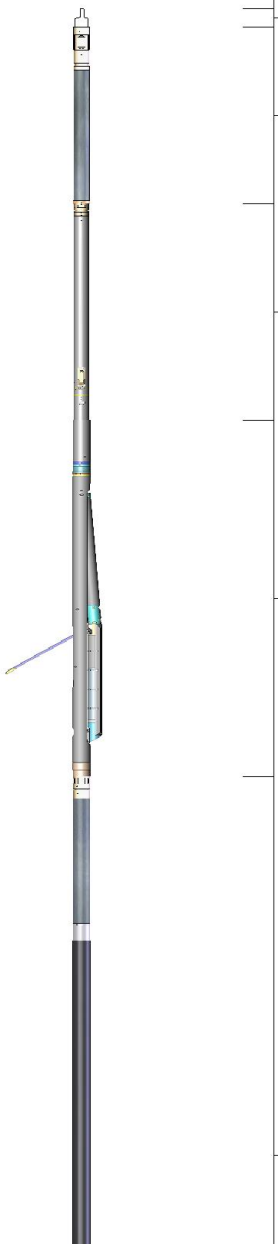
Performed:	Thu Oct 25 16:29:34 2018

	Low Read.	High Read.	Low Ref.	High Ref.	
X Accelerometer	205.00	1843.00	-1.00	1.00	gee
Y Accelerometer	205.00	1843.00	-1.00	1.00	gee
Z Accelerometer					gee

Gamma Ray Calibration Report

Serial Number:	WithOutMC	
Tool Model:	WOMC	
Performed:	Wed Dec 06 22:30:58 2017	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	1.0000	GAPI/cps

Sensor	Offset (ft)
GR	38.31
ACCY	37.15
ACCX	37.15
SSTAT	36.73
PSTAT	35.90
ASTAT	35.90
GRD	35.06
TEMP	35.06
NEU	31.00
LStat	22.54
LS8	21.88
LS7	21.88
LS6	21.88
LS5	21.88
LS4	21.88
LS3	21.88
LS2	21.88
LS1	21.88
LSV	21.88
LSD	21.86
SSV	21.67
SS8	21.67
SS7	21.67
SS6	21.67
SS5	21.67
SS4	21.67
SS3	21.67
SS2	21.67



Description	Length (ft)	O.D. (in)	Weight (lb)
CHD-STD	0.50	1.69	1.00
ADT-WOMC (WithOutMC) Telemetry Without Mud Cell	4.58	3.50	120.00
NEU-ADMY5139 (AD5139) Admyer NEU DIGITAL	5.65	3.50	50.00
ADT1LITH-A (1) Admyr Litho Density Tool	9.29	3.50	240.00
DIL-ADM (1989) Dual Induction	19.71	4.00	300.00

SS1	21.67
DCAL	21.61
SSD	21.27
SP	10.60
CILD	10.60
CILM	6.89
RLL3	1.70
TR_Mon	0.00

Dataset:	doromea#4oh.db: field/well/run1/pass2
Total length:	39.73 ft
Total weight:	711.00 lb
O.D.:	4.00 in

Roger L. Moses
P.O. Box 385
Hays, Kansas 67601
Email: mosesoil@reagan.com
Phone: 785.656.1729

GEOLOGIC REPORT LOG

COMPANY Diehl Oil Inc
Hays, Kansas
WELL Rome 'A' 4
FIELD Catharine South
LOCATION W/2-NW-NE-SE
SEC. 22 TWP. 13s RGE. 17w
COUNTY Ellis
STATE Kansas

PRODUCTION Oil
ELEVATION KB 1983' DF GL 1973'
Drilling Measured From: Kelly Bushing
Samples Saved From 2950 To: TD
Drilling Time From 2950 To: TD
Samples Examined From: 2950 To: TD
Geological Supervision From 2800 To Total Depth
Wellsite Geologist Roger Moses
Electrical Surveys DIL, Radiation Guard, Density Neutron, Micro Resistivity

OPERATOR Diehl Oil Inc
CONTRACTOR Southwind Drlg. Inc
COMM: COMP:

CASING RECORD

SURF: 8 5/8 @ 222' PROD: 5 1/2 @ 3614' KB
TOTAL DEPTH DRILLERS: 3612'
TOTAL DEPTH LOG: 3611'

FORMATION TOPS AND STRUCTURAL POSITION

FORMATION	SAMPLE TOP	ELECTRIC LOG TOP	SUB-SEA DATUM	STRUCTURAL POSITION
Anhydrite	1193 (+790)	1191	+792	+10
Anhydrite Base	1230 (+753)	1230	+753	N/A
Topeka	2986 (-1003)	2984	-1001	N/A
Heebner	3231 (-1248)	3229	-1246	+10
Toronto	3251 (-1268)	3249	-1266	N/A
Lansing	3275 (-1292)	3274	-1291	+11
B/Kansas City	3506 (-1523)	3503	-1520	+16
Arbuckle	3533 (-1550)	3520	-1537	+12

REFERENCE WELL FOR STRUCTURE Brooks Pierre Rome 1, NW-NW-SE, 2310' FSL & 2310' FEL, Sec 22-T13S-R17W, Ellis County, Kansas

DAILY PENETRATION / BIT RECORD

DATE	DEPTH	NO	SIZE	MAKE	TYPE	DEPTH OUT	FEET	HOURS
11-6-19	Spud	1	12 1/4	Varel	Tooth	223'	223'	2 1/4
11-7-19	223'	2	7 7/8	Varel	HE29H	3555'	3332'	64 3/4
11-8-19	1523'	3	7 7/8			3612	57'	2 1/2
11-9-19	2675'							
11-10-19	3378'							
11-11-19	3355							
11-12-19	Logging							

DRILL STEM TESTS

No.	Interval	IFP/Time	ISIP/Time	FFP/Time	FSIP/Time	IHP-FHP	RECOVERY
1	3508-3555	40/5	645/15	198/30	475/45	1750-1710	126' OCMW 10% 5% ... ; 189' Free Oil 100%; 128' OCM 20% 80%
2	3555-3567	22/5	682/25	67/60	652/35	1776-1715	63' OCMW 40% 10% 5...; 50' OCMW 50% 10% 40%

REMARKS AND RECOMMENDATIONS This well ran high to the comparison well throughout. Based on structure and favorable drill stem results production casing was ran and cemented in.

Respectfully
Roger Moses

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")

DEPTH	SAMPLE DESCRIPTIONS	OIL SHOWS	REMARKS
1190	Anhydrite 1193 (+790) Log (+792)		Dev Surveys @ 223' - 1/4°, @ 3555' - 1°, @ 3612' - 1°
1230	B/Anhydrite 1230 (+753) Log (+753)		Geo on Location @ 2800'
			Displace mud system at 2590'
2950	SH: gry - dkgry		
2970	SH: dkgry, soft		VIS-64 WT-8.6 LCM-3
2980	TOPEKA 2986' (-1003) Log (-1001). LS: gry - dkgry, few tan, f-med xln, intxln Ø, chlky		
3000	LS: gry - few tan, fnxln, intxln Ø, foss, barren, few gry shale		
3020	LS: gry, dns, f-med xln, PP Ø, chlky, foss, NO, NS, chert		
3040	LS: gry - wht, mttld, earthy odor, PP Ø, foss, NO, NS		
3050	SH: gry, plty		
3060	LS: gry, few tan, f-med xln, foss, trans chrt. NO, NS		
3080	SH: gry, soft, plty		
3090	King Hill Carb SH		VIS-59 WT-8.7 LCM-2
3100	SH: gry - dk gry		
3110	LS: wht - tan, f-med xln, PP Ø, intxln Ø, wht chrt, Barren		
3130	LS: wht - tan, f-med xln, barren		
3140	SH: gry, blky		
3150	LS: wht - buff, fn xln, NO NS. Queen Hill Carb SH		VIS-63 WT-8.6 LCM-2
3160	LS: gry, wht, few tan, f-med xln, PP Ø, foss, NO, NS		
3160	SH: gry, plty		
3170	LS: wht, f-med xln, pelliford, mttld, intxln Ø, Barren		
3190	LS: wht - gry, f-med xln, intxln Ø, foss, earthy odor, barren, Δ tan		
3200	LS: wht - lt gry, f-med xln, Sli vug Ø, faint odor, Even dk stain	○	VIS-62 WT-8.6 LCM-2
3210	LS: S a/a Lt-dk stain	○	
3230	HEEBNER 3231 (-1248) Log (-1246). Black, Carb SH.		
3240	SH: gry, plty		
3250	TORONTO 3251 (-1268) Log (-1266). LS: tan - wht, fnxln, intxln Ø, NO NSO		VIS-65 WT-8.6 LCM-2
3270	LS: wht - crm, fn-med xln, inxd w/red-brn-gry sh.		
3275	LANSING 3275 (-1292) Log (-1291). LS: wht - tan, f-med xln, PP Ø, chlky, NO, NSO		
3280	LS: a/a w/ oom Ø, st odor, spks Free Oil dk stn	◐	
3300	LS: Lt gry - few tan, f-med xln, oom Ø, fair odor, dk stain	◐	VIS-65 WT-8.6 LCM-2
3310	LS: wht - lt gry, f-med xln, oom/ooc Ø, tan chrt, Fair odor, Lt stain SFO	◐	
3320	LS: a/a, N sho		
3330	LS: wht - lt gry, f-n xln, intxln Ø, PP Ø, weak odor, dk even stn	◐	
3340	Black, Carb, SH.		VIS-60 WT-8.9 LCM-2
3350	LS: wht - lt grey, fn xln, vug Ø - oom Ø, Fair odor, Lt even stain, SFO	◐	
3370	LS: wht - lt gry, f-med xln, ooc/oom Ø, Sli odor, Lt stn	◐	
3380	LS: wht, f-med xln, intxln Ø, PP Ø, Fair odor, Dk even stain	◐	
3390	LS: gry - tan, f-med xln, ooc/oom Ø, F odor Lt stn. Black, Carb, SH.	○	VIS-59 WT-8.7 LCM-2
3400	LS: gry - tan, f-med xln, ooc Ø, few oom Ø, weak odor, Lt even stain, grn waxy sh, tan chert	○	
3420	LS: wht, fn xln, dns, few brittle, fair-good odor, Sli sho oil, few chrt	◐	
3440	LS: wht - lt gry, f-med xln, intxln Ø, intpart Ø, foss, few tan Δ		
3450	LS: wht - lt gry, f-med xln, dns, PP Ø, weak odor, No sho, foss, tan chrt		VIS-59 WT-8.6 LCM-2
3460	Black, Carb, SH		
3470	LS: wht - lt gry, f-med xln, dns, oom Ø, Fair odor, Lt stain	○	
3480	SH: gry, dk gry, plty		
3490	LS: wht - lt gry, f-med xln, oom Ø, sli odor, No Free Oil, Very lt stain	○	
3500	B/KANSAS CITY 3506 (-1523) (-1520). LS: tan, wht, lt brn, f-med xln.		Pump malfunction From 3505' - 3528. Geolograph not operating
3510	SH: gry, red, blk, blky, soft		
3520	LS: Mix of colors, abund sh, vari clrd, few pcs chrt		
3530	ARBUCKLE 3533 (-1550) (-1537). Dolo: brn, tan, med-coarse gran, sucrosic, staining - sat rx, Fair-Good odor	●	Pump/Geolograph in operation. Bad Smpls 3510' - 3530'
3550	Dolo: brn - tan, med-coarse rhombic xtls, sucrosic, vug Ø, hard/dns, strong odor, VGSFO, sat rx	●	
3560	Dolo: brn, med-coarse xln, rhombic/sucrosic, vug Ø, strong odor, sat w/oil. waxy grn green shale	●	
3570	Dolo: brn, med-coarse xln, rhomb xln, dns, Very strong odor, Oil saturated rocks	●	
3590	Dolo: S a/a	●	VIS-54 WT-8.7 LCM-2
3600	Dolo: brn, med-coarse xln, rhomb xln, vug Ø, Less of odor, Oil sat rocks	●	
3610	TOTAL DEPTH 3612 (-1629)		

C-FS at 3556 and 3566 (drilling time column).