



Gamma Ray

REALTIME LOG

Scale: 1:600	MD	Company: SandRidge Energy	Well: Suzanne 3306 3-34H
Status: Final Print		Field: Harper County	County: Harper
Job ID: _____		Surface Location: _____	State: Kansas
API Number: 15077220240100		Latitude: 37° 08' 15.633" N	Longitude: 97° 57' 06.994" W
Permanent Datum (P.D.): _____	Mean Sea Level	Elevation: 1296.00 ft.	Directional/SS: _____
Log Measured From: Kelly Bushing	_____	18.00 ft.	Elevations: _____
		Above P.D. _____	KBI: 18.00 ft.
			DFI: 1296.00 ft.
			GL: 1278.00 ft.

Interval Logged	Dates	Magnetic Field Reference
Top: 3000 ft.	Date From: 06/Mar/14	Dip Angle: 65.27°
Bottom: 8964 ft.	Date To: 17/Mar/14	Azi Reference North: Grid
	Spud Date: 06/Mar/14	Total: _____
		Field Strength: 51673.5 nT
		North Correction: 4.10°

Borehole Record		Casing Record	
Hole Size	From	To	Size
6.125 in.	5223 ft.	9027 ft.	9.625 in.
			7 in.
			26.00 lb/ft
			897 ft.
			5223 ft.

Mud Record		Deviation Record	
Type	From	To	Hole Size
Water Based	6987 ft.	5223 ft.	8.75 in.
Water Based	5223 ft.	9027 ft.	6.125 in.
			90.5° / 194.4°
			91.8° / 180.7°
			/
			/
			/
			/

Any opinion and / or recommendation expressed orally or written herein, has been prepared carefully and may be used if the user so elects, however, no representative or warranty is made by ourselves or our agents as to the correctness or completeness, and no liability is assumed for any damages resulting from use of the same. INTEQ's liabilities and obligations shall be governed by INTEQ's Standard Terms and Conditions.

Log Run Summary

LWD Run No.	BHA Run No.	Bit Run No.	Bit Size (in.)	Bit Type	Bit Gauge Length (in.)	Assembly Type	Logged Interval		Bit Depth Interval		Date / Time		Circ. Time (hrs.)
							Top (ft.)	Bottom (ft.)	From (ft.)	To (ft.)	Start	End	
1	1	2	8.75	PDC	3	Steerable	3000	5166	687	5223	06/Mar/2014 5:00	13/Mar/2014 02:30	104.10
2	2	3	6.125	PDC	3	Steerable	5166	8964	5223	9027	13/Mar/2014 19:45	17/Mar/2014 16:00	77.00

Crew

Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite
William Kilmer	06/Mar/2014	17/Mar/2014	Jared Barnes	06/Mar/2014	17/Mar/2014			

Witness	
Name	LWD Run Number
Tony Lejia	1
Michael Kulehisly	1, 2

Mud Properties Record												
Date / Time	LWD Run No.	Measured Depth (ft.)	Mud Type	Density (PPG)	Viscosity (cp)	pH	Fluid Loss (cc)	Oil / Water	Source	Total Chlorides (ppm)	K+ (%)	
08/Mar/14	1200	1	1096	Water Based Mud	8.9	36	9.0	0.0	0/99.2	Suction	56000	N/A
09/Mar/14	13:00	1	2968	Water Based Mud	8.6	50	11.5	0.0	0/99.6	Suction	400	N/A
10/Mar/14	09:00	1	3886	Water Based Mud	8.6	50	10.5	0.0	0/99.0	Suction	11000	N/A
11/Mar/14	11:00	1	4462	Water Based Mud	8.6	45	11.0	0.0	0/97.0	Suction	12000	N/A
12/Mar/14	11:30	1	5081	Water Based Mud	9.1	45	10.5	0.0	0/94.7	Suction	8000	N/A
13/Mar/14	11:30	2	5223	Water Based Mud	9.0	45	10.0	0.0	0/95.5	Suction	12000	N/A
14/Mar/14	12:00	2	5471	Water Based Mud	8.4	27	11.0	0.0	0/99.0	Suction	1200	N/A
15/Mar/14	13:30	2	6821	Water Based Mud	8.6	27	10.5	0.0	0/99.5	Suction	2300	N/A
16/Mar/14	14:00	2	8026	Water Based Mud	8.6	27	10.5	0.0	0/99.5	Suction	3000	N/A

Mnemonics		
Curve	Description	Units
GRAX	Gamma Ray Apparent	API
TCDX	Downhole Temperature	degF
ROP_AVG	Rate of Penetration, 3.0 ft. Average	ft/hr
TVD	True Vertical Depth	ft
WOB_AVG	Weight on Bit, 1.0 ft Average	klbs
GRIX	Gamma Ray Data Density	unitless
GRTX	Gamma Ray Time Since Drilled	seconds


Equipment and Service Data						
LWD Run No.	Tool	Serial Number	Measurement	Bit Offset (ft)	Max O.D. (in.)	Min I.D. (in.)
1	DIR	12592549	Directional	51.10	6.75	3.25
1	SRIG	12461710	Gamma	56.19	6.75	3.25
2	DIR	12479871	Directional	55.86	4.75	2.88
2	SRIG	10442082	Gamma	60.95	4.75	2.88

Service and Tool Mnemonics		
Mnemonic	Name	Description
DIR	Directional	Wellbore Directional Survey
SRIG	Inclination and Gamma	Probe Based Gamma Ray and Inclination Module

Comments
<p>1) Gamma was logged starting at 3000 feet MD (2984 TVD).</p> <p>2) Baker Hughes INTEQ run 1 utilized a 6 3/4 inch NaviGamma Service (Directional and Gamma Ray) atop a 8 3/4 inch bit and 6 3/4" steerable assembly from 687 to 5223 feet MD (687 to 4476 feet TVD).</p> <p>3) Baker Hughes INTEQ run 2 utilized a 4 3/4 inch NaviGamma Service (Directional and Gamma Ray) atop a 6 1/8 inch bit and 4 3/4" steerable assembly from 5223 to 9027 feet MD (4476 to 4480 feet TVD).</p> <p>4) Depth measurements were obtained from a depth control system not supplied by Baker Hughes INTEQ. Due to a lack of control by Baker Hughes INTEQ logging engineers, depth calculations and measurements could not be independently verified and the unverified depths are supplied to INTEQ are being used to present logging data.</p>

Remarks				
Number	Measured Depth (ft)	Hole Section (in.)	LWD Run No.	Remark
1	5223	8.75	2	The interval from 5166 to 5223 feet MD (4478 to 4476 feet TVD) was logged up to 37 hours after drilling due to a trip out of hole to place casing and to pickup a new bit, motor, and MWD.
2	9027	6.125	2	The interval from 8964 to 9027 feet MD (4482 to 4480 feet TVD) was not logged due to Gamma Ray sensor to bit offset at well TD.

Curve Mnemonics		
Curve	Description	Units
GRAX	Gamma Ray - Apparent	API
GRIX	Gamma Ray - Data Point Indicator	unitless
GRTX	Gamma Time Since Drilled GRTX	min
ROP_AVG	Depth Averaged ROP	ft/hr
TCDX	Downhole Temperature	degF
TVD	True Vertical Depth TVD	ft
WOB_AVG	AVERAGE Weight On Bit	klbf

	Company : SandRidge Energy, Inc
	Well : Suzanne 3306 3-34H
	Interval : 2975.00 - 9050.00 feet
	Created : 17/Mar/2014 9:36:21 AM

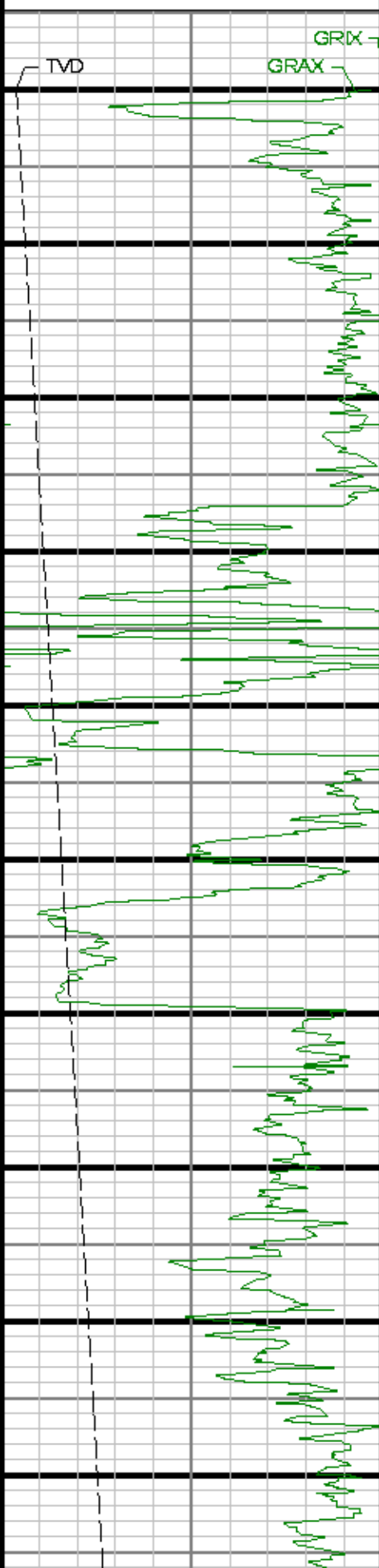
Gamma Ray Apparent 1.0 ft Avg GRAX	MWD	Rate Of Penetration 3.0 ft AVG	Surface Weight On Bit 1.0 ft WOB_AVG
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API
True Vertical Depth TVD
ft
2900 5000

Well: 1:600

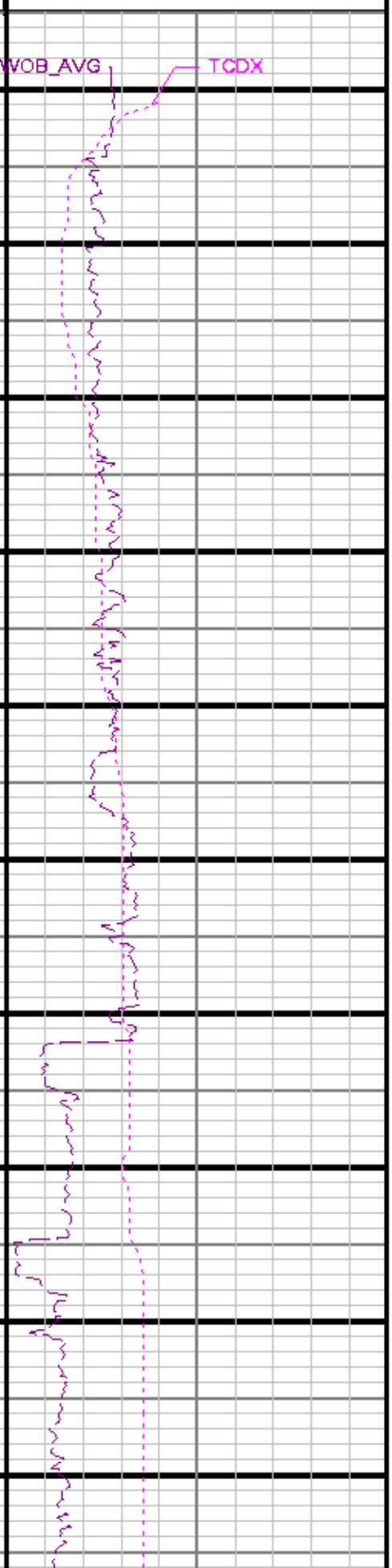
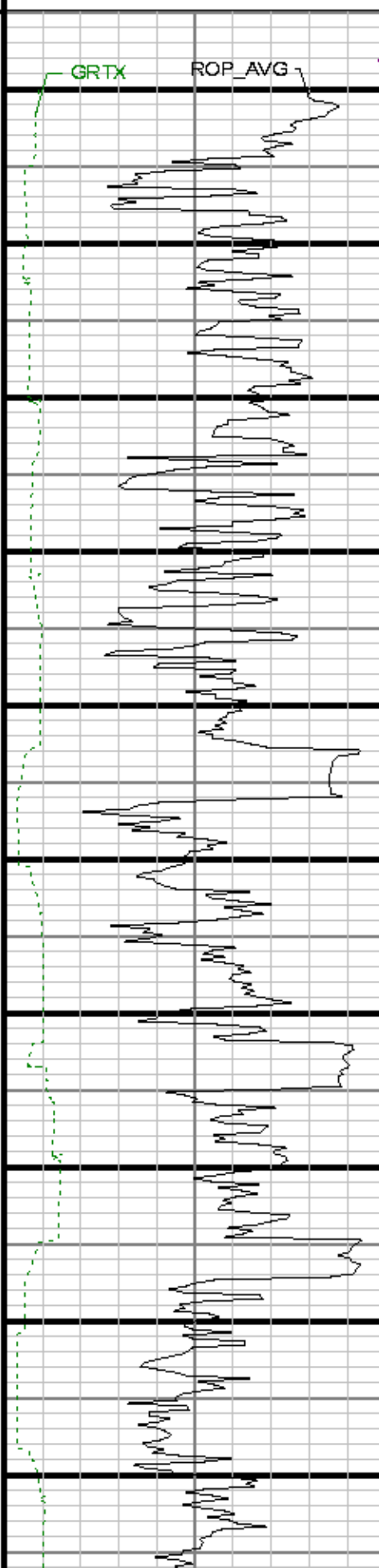
ft/hr
Gamma Time Since Drilled GRTX
min
0 600

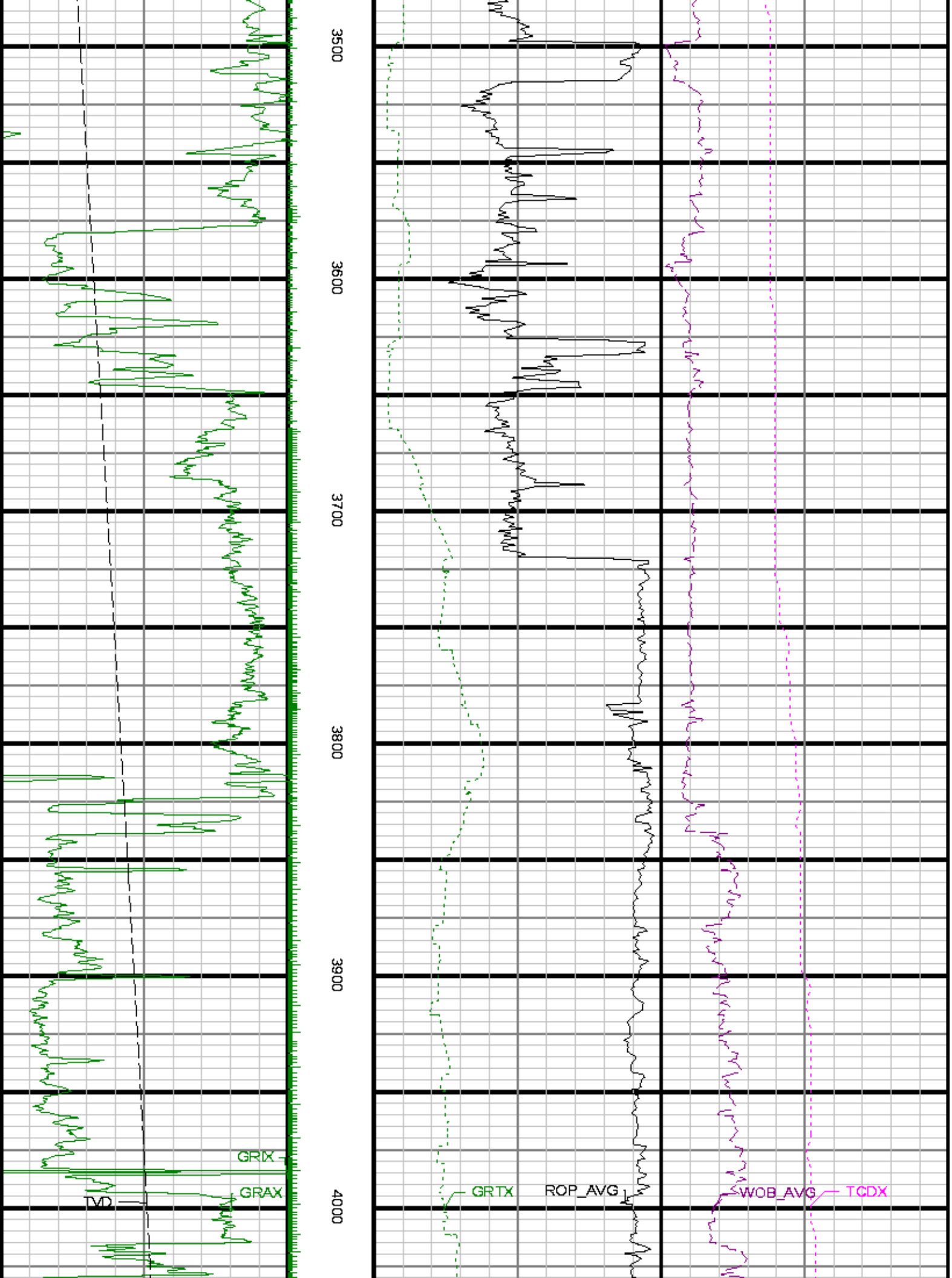
klbf
Downhole Temperature TCDX
degF
50 200

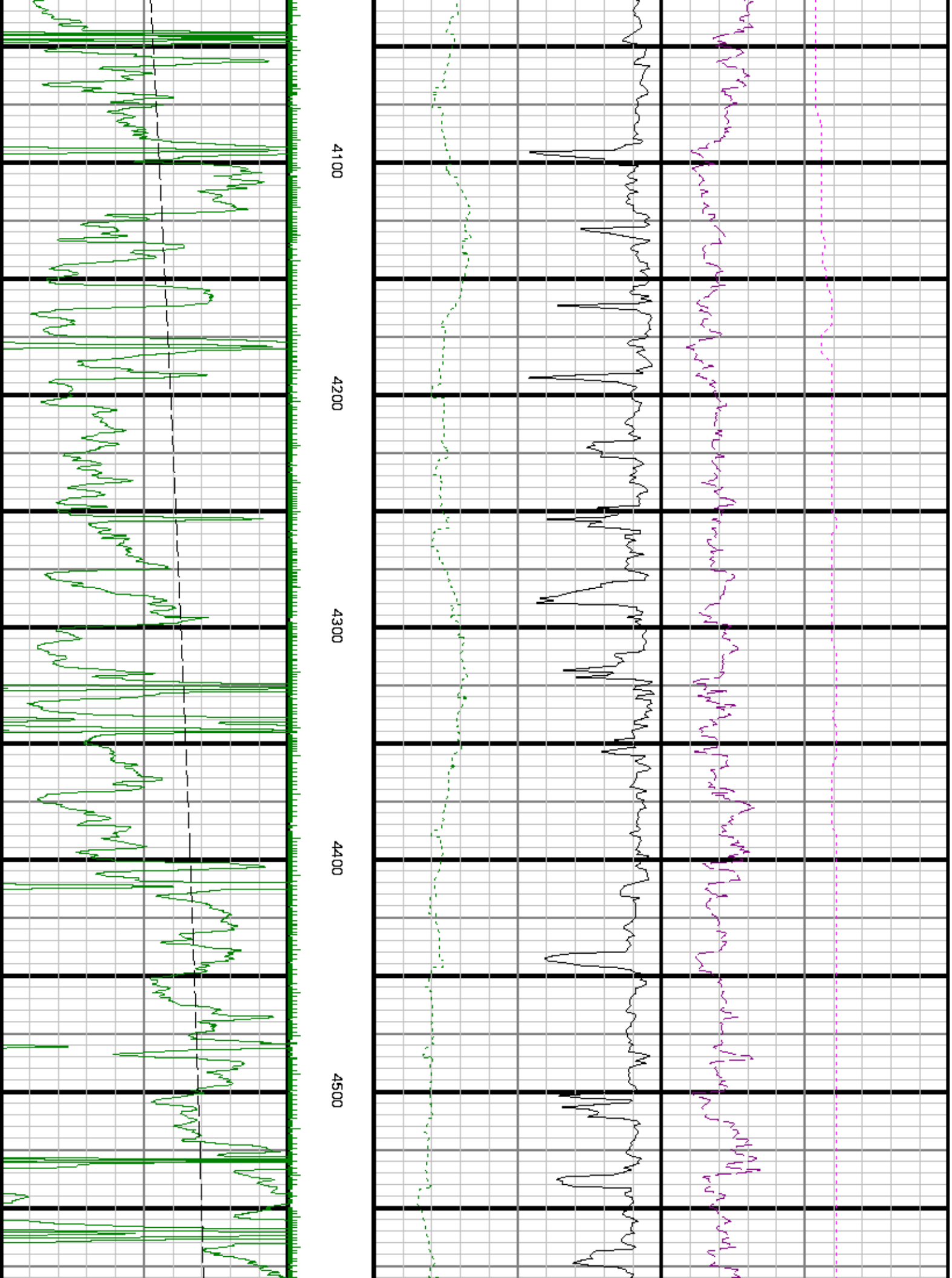


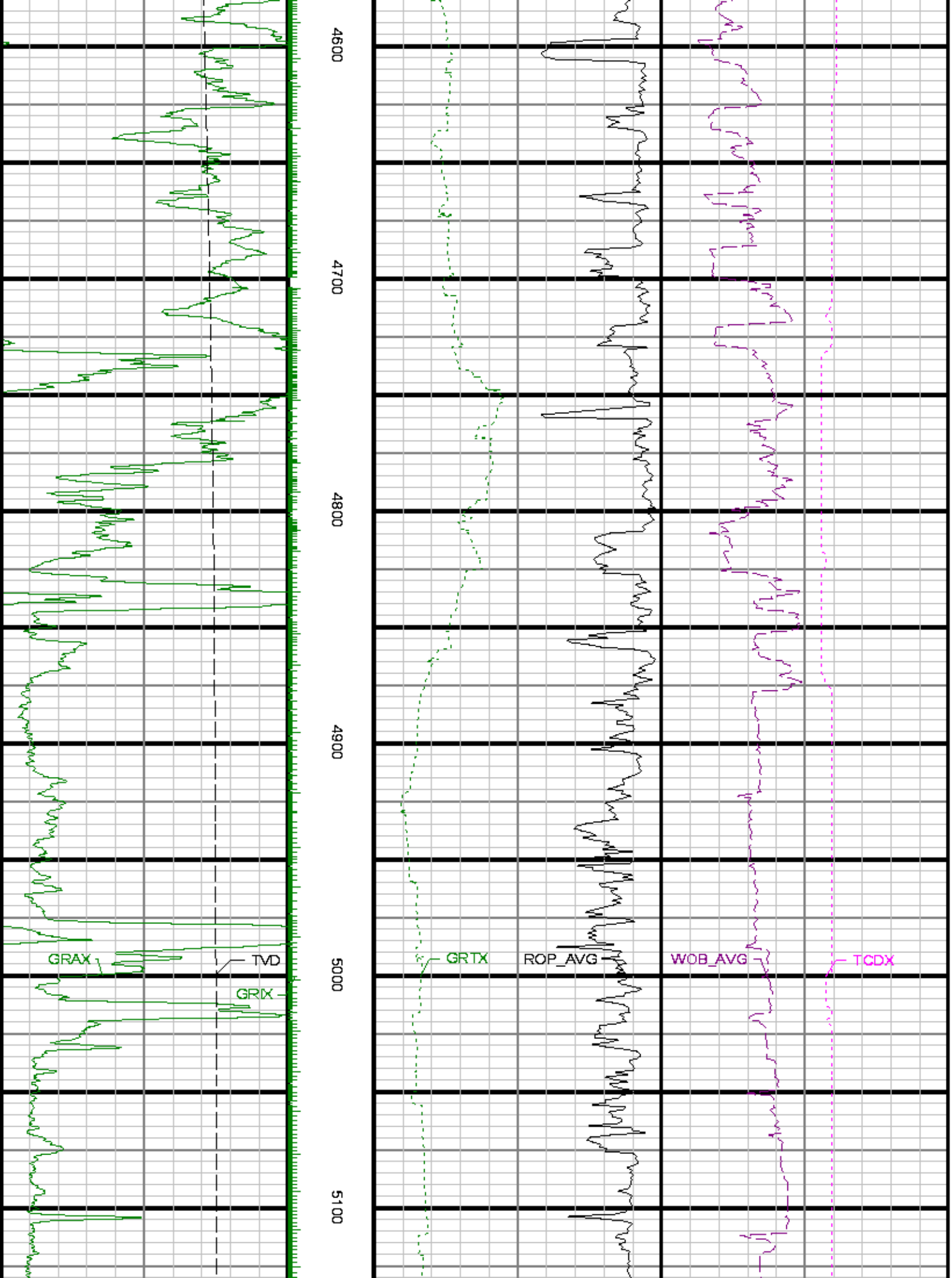
> Run 1

3000
3100
3200
3300
3400









See Remark 1

Run 1 < > Run 2
5200

7" Casing

5300

5400

5500

5600



