



LWD MEMORY LOG

Gamma Ray

Company: ConocoPhillips

Well: STATE_LA_PLATA_5-65_13-15_3DH

Field: Arapahoe County (NAD83/TN)

County: Arapahoe County Country: United States

State: Colorado

Surface Location:

Latitude:

Longitude:

Other Services:

Directional

Directional

Directional

Directional

Directional

Directional

Directional

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Directional

Directional

SEC:

13

TWN:

5S

RGE:

65W

Elevation:

5896.80 ft

Elev. KB:

5923.00 ft

Elev. DF:

5896.80 ft

Elev. GL:

5896.80 ft

Elev. GL:

5896.80 ft

Elev. GL:

5896.80 ft

Elev. GL:

Ground Level

Ground Level

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Interval Logged

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Interval Logged

Date From:

2017-12-02

Top: (ft)

2450.00

Azi Reference North:

True

Dip Angle: (deg)

66.53

Total Magnetic Field Strength: (nT)

51910

Mag to Reference North Correction: (deg)

8.53 E

Mag to Reference North Correction: (deg)

Date To:

2017-12-03

Bottom: (ft)

17732.60

Spud Date:

2017-11-29

Spud Date:

2017-11-29

Spud Date:

2017-11-29

Spud Date:

2017-11-29

Spud Date:

Borehole Record

Borehole Record

Borehole Record

Borehole Record

Borehole Record

Borehole Record

Borehole Record

Borehole Record

Borehole Record

Borehole Record

Borehole Record

Borehole Record

Borehole Record

Hole Size (in)

From (ft)

To (ft)

Size (in)

Weight (lb/ft)

From (ft)

To (ft)

13.250

26.20

2450.00

9.625

36.00

26.20

2440.00

13.250

26.20

2450.00

9.625

36.00

26.20

2440.00

9.625

36.00

26.20

2440.00

9.625

36.00

8.500

2450.00

17333.00

8.500

15282.60

0.56

190.97

0.56

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0.56

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2450.00

17732.60

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Crew								
Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite
Brent Cass	2017-11-30	2017-12-06						

Mud Properties Record											
Date / Time	Run No.	Measured Depth (ft)	Mud Type	Density (ppg)	Viscosity (cP)	pH	Fluid Loss (cm3)	Oil / Water	Source	Total Chlorides (ppm)	K+ (%)
2017-12-02 09:16	1	2450.00	Diesel-Oil Based Mud	10.2	49	0	4.2	59.2/40.8	Active Pit	58000	0.00
2017-12-03 05:27	1	6151.83	Diesel-Oil Based Mud	9.8	13	0	4.3	68.6/31.4	Active Pit	71000	0.00
2017-12-05 05:33	1	13378.74	Diesel-Oil Based Mud	9.6	16	0	4.0	64.7/35.3	Active Pit	69000	0.00

Mud Resistivity Record				Surface				Downhole		
Date / Time	Run No.	Measured Depth (ft)	Surface Temp (degF)	Rm (ohm.m)	Rmf (ohm.m)	Rmc (ohm.m)	BHCT (degF)	Rm @ BHCT (ohm.m)	Rmf @ BHCT (ohm.m)	Rmc @ BHCT (ohm.m)
2017-12-02 09:31	1	2450.00	70.0	100.000	N/A	N/A	70.0	100.000	N/A	N/A

Equipment and Service Data							
Run No.	Tool	Serial Number	Measurement	Sensor Offset (ft)	Bit Offset (ft)	Max O.D. (in)	Min I.D. (in)
1	OnTrak	12382038	Pressure	0.90	10503.80	6.750	0.000
1	OnTrak	12382038	Gamma (double)	1.79	10504.69	6.750	0.000
1	OnTrak	12382038	Resistivity (4tx)	5.83	10508.73	6.750	0.000
1	OnTrak	12382038	Directional (mag)	11.62	10514.52	6.750	0.000

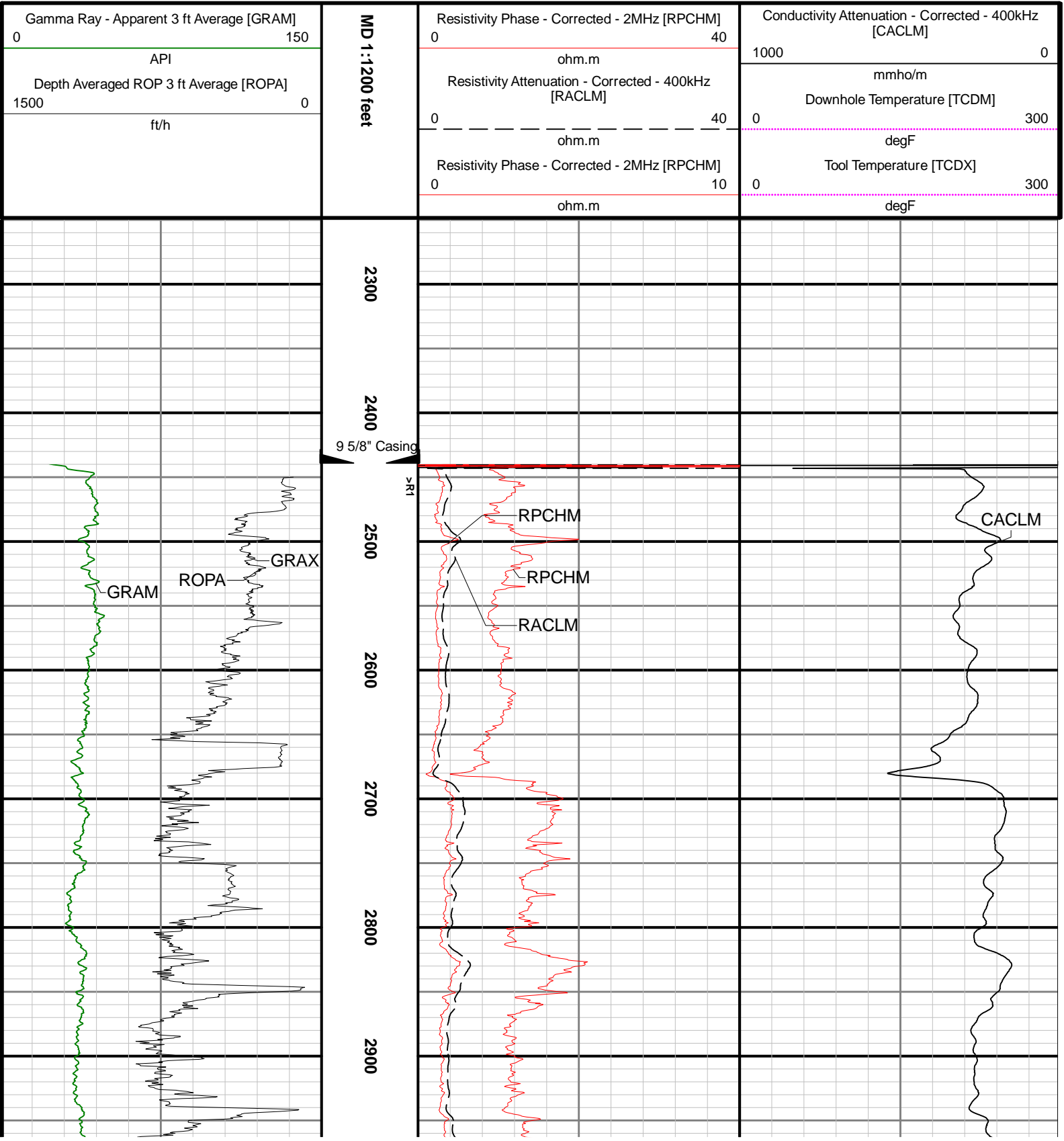
Service and Tool Mnemonics		
Mnemonic	Name	Description
OTK	OnTrak	Sensor Sub (Inc, Azi, Temp, Azimuthal GR, Res, AP, VSS), OnTrak Platform

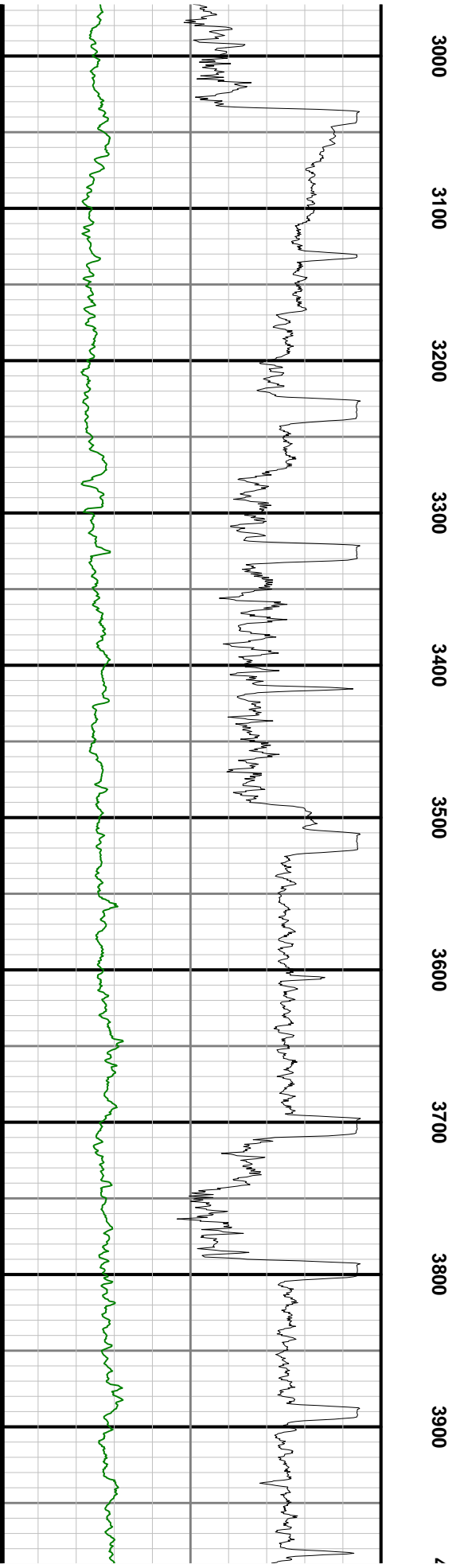
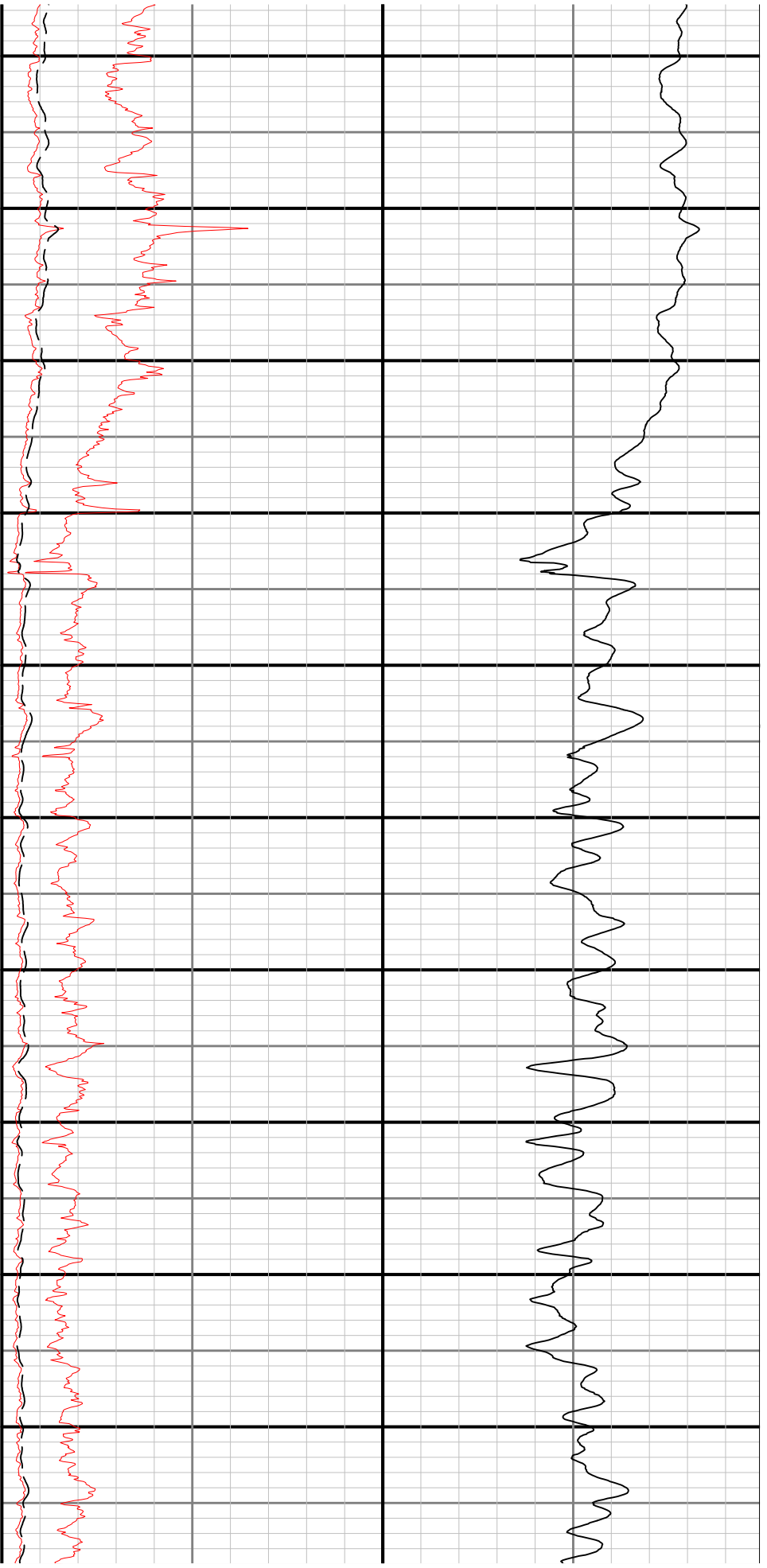
Comments	
1	Depth measurements were obtained from a depth control system not supplied or operated by Baker Hughes Drilling Services. Due to the lack of control by Baker Hughes logging engineers, depth calibrations and measurements could not be independently verified and the unverified depths as supplied to Baker Hughes are being used to present logging data.
2	Baker Hughes LWD run 1 utilized 6.750 inch NaviGamma services (Gamma Ray and Directional) behind an 8.50 inch bit and steerable assembly from 2450 to 17733 feet MD (2450 to 7993 feet TVD).
3	Numerous gaps in Gamma Ray data are present at the end of the log due to tool shutting down while drilling ahead.

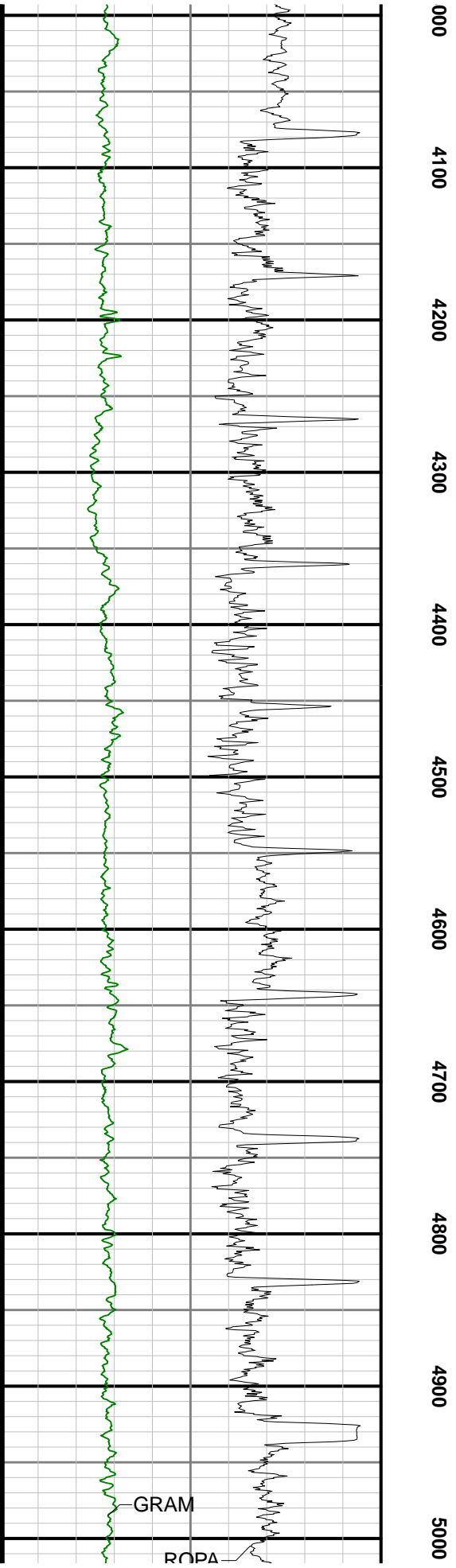
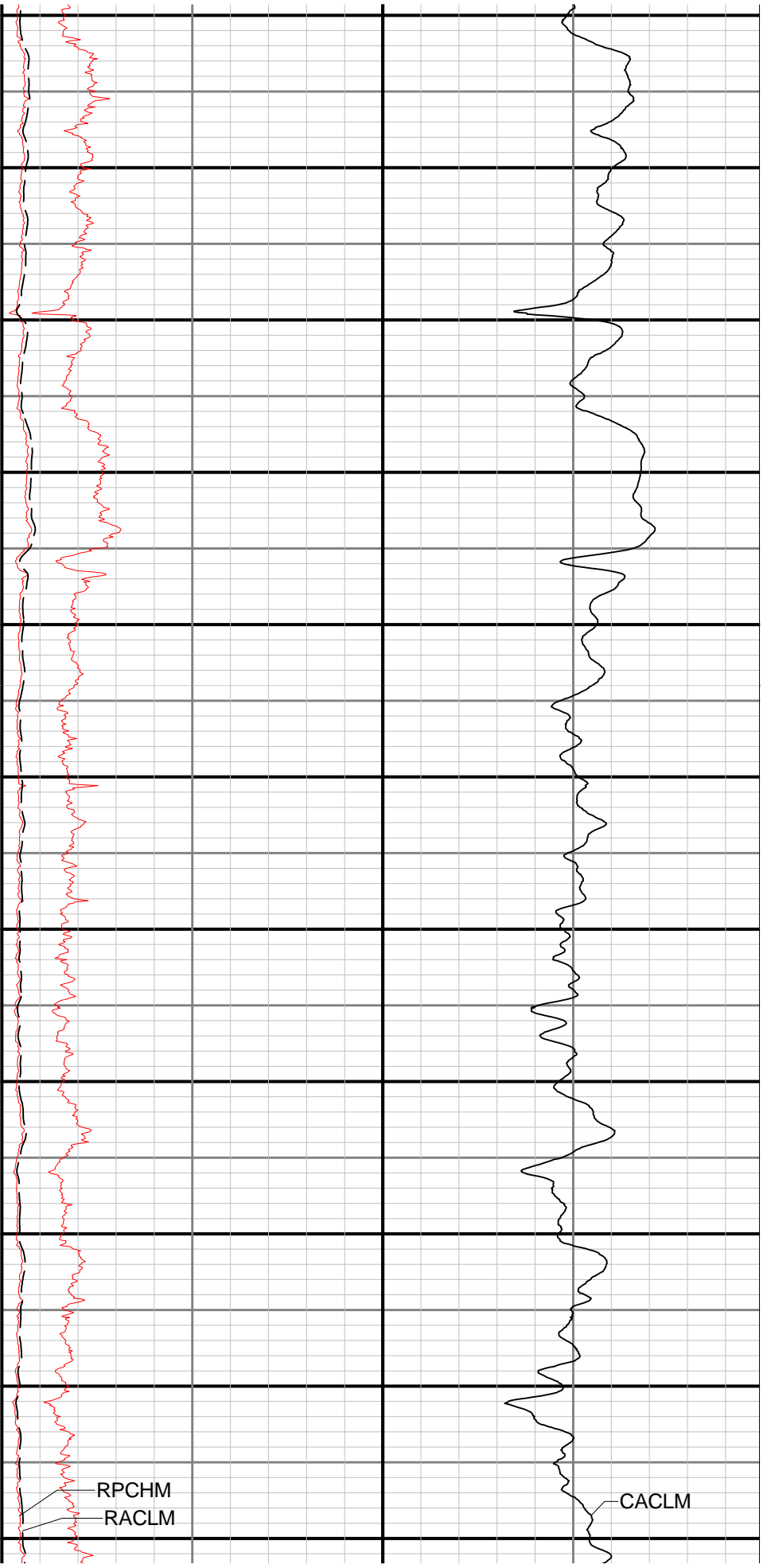
Remarks				
Number	Measured Depth (ft)	Hole Section (in)	Run No.	Remark
1	17728.00	8.500	1	The interval from 17721 to 17733 feet MD (7993 feet TVD) was not logged due to the sensor to bit offset at well TD.

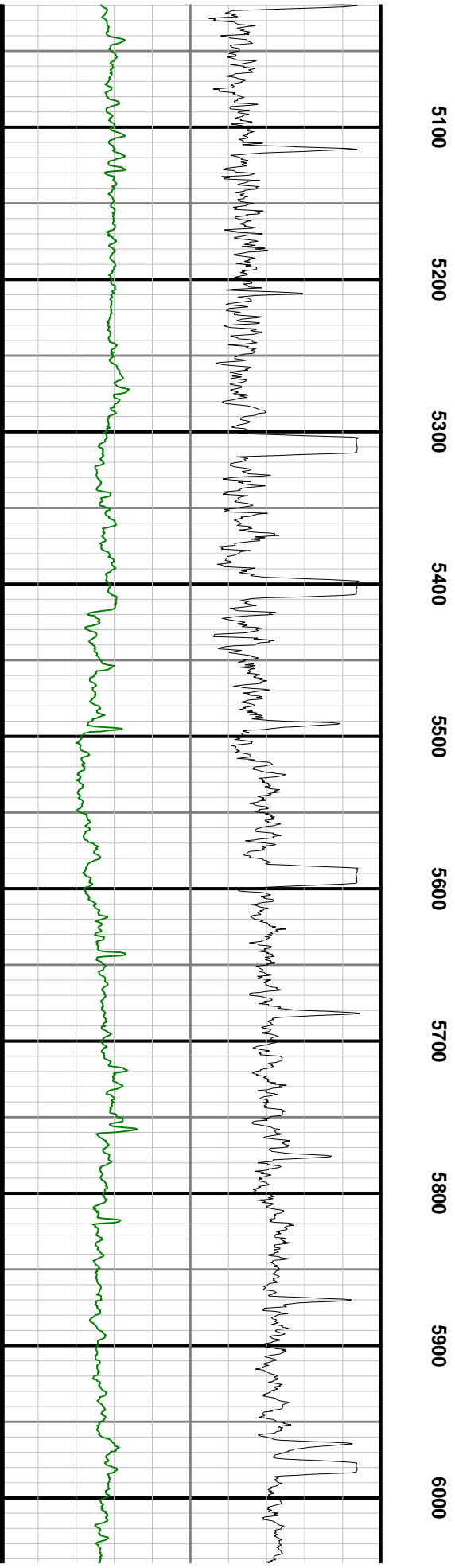
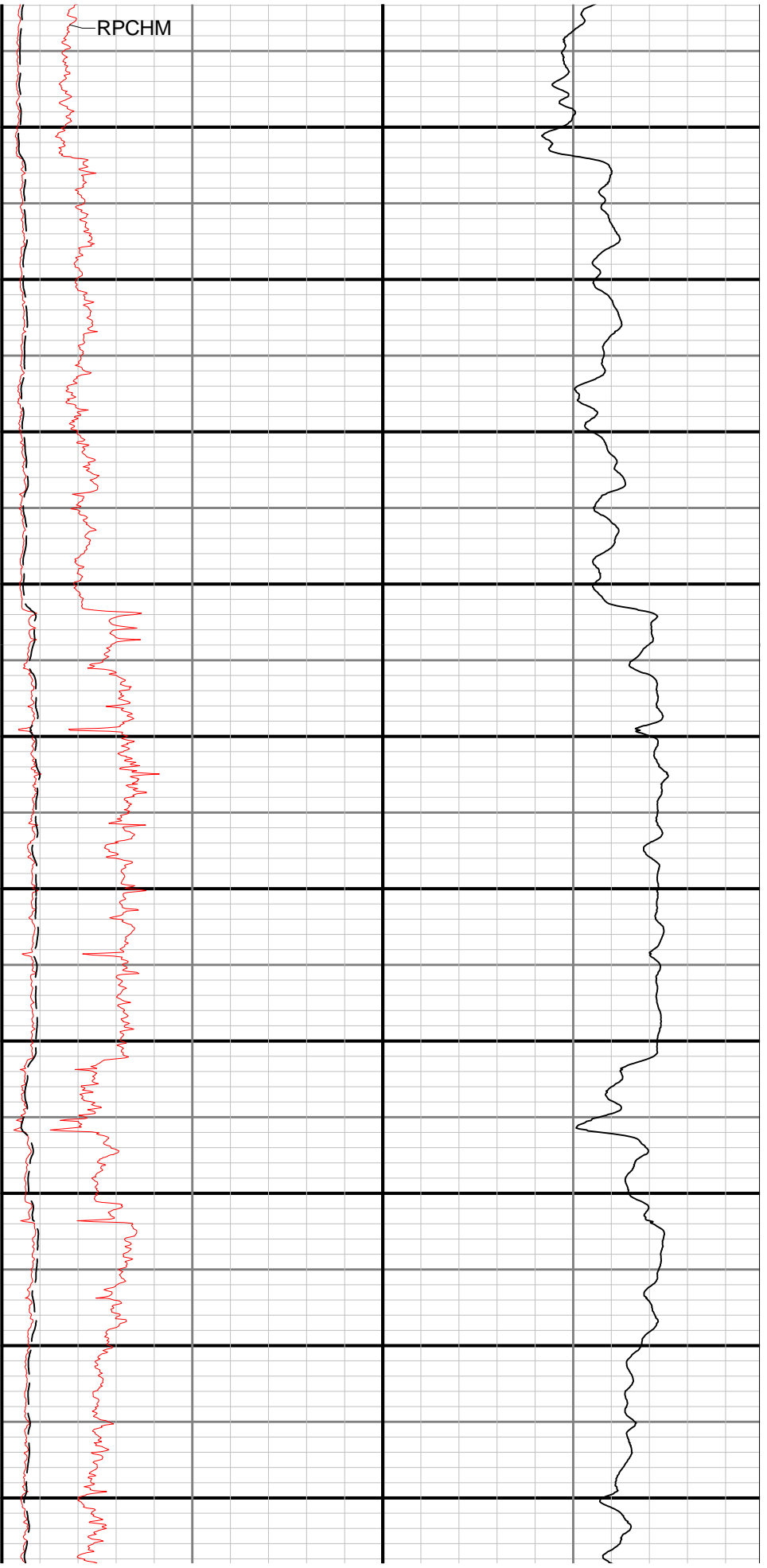
Curve Mnemonics		
Presented Curves	Description	Units
CACLM	Conductivity Attenuation - Corrected - 400kHz	mmho/m
RACLM	Resistivity Attenuation - Corrected - 400kHz	ohm.m

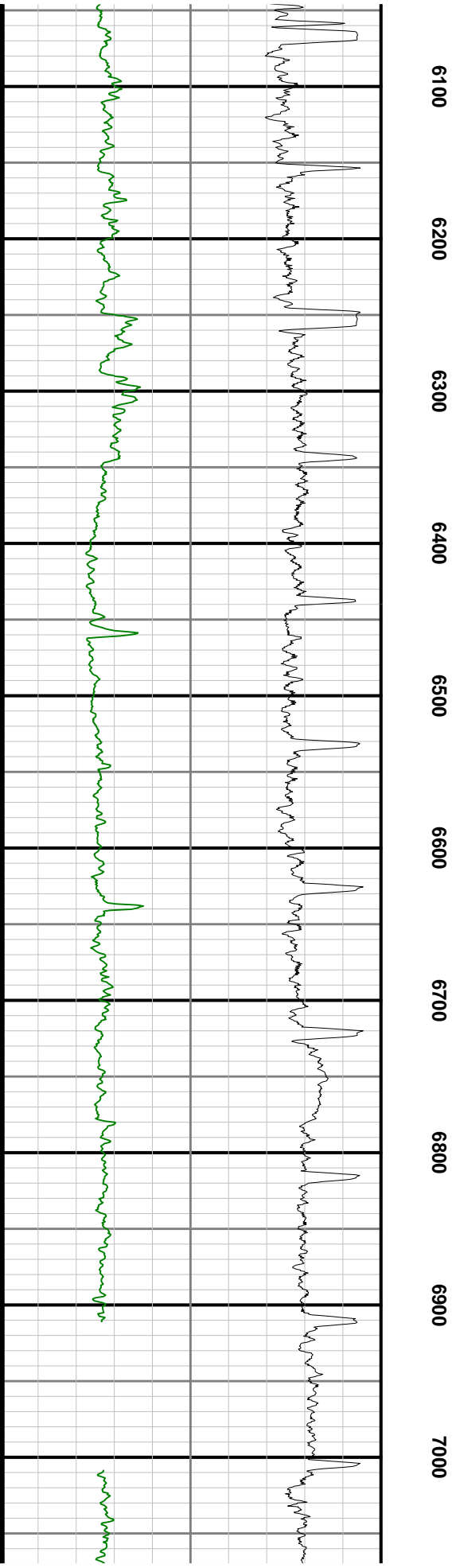
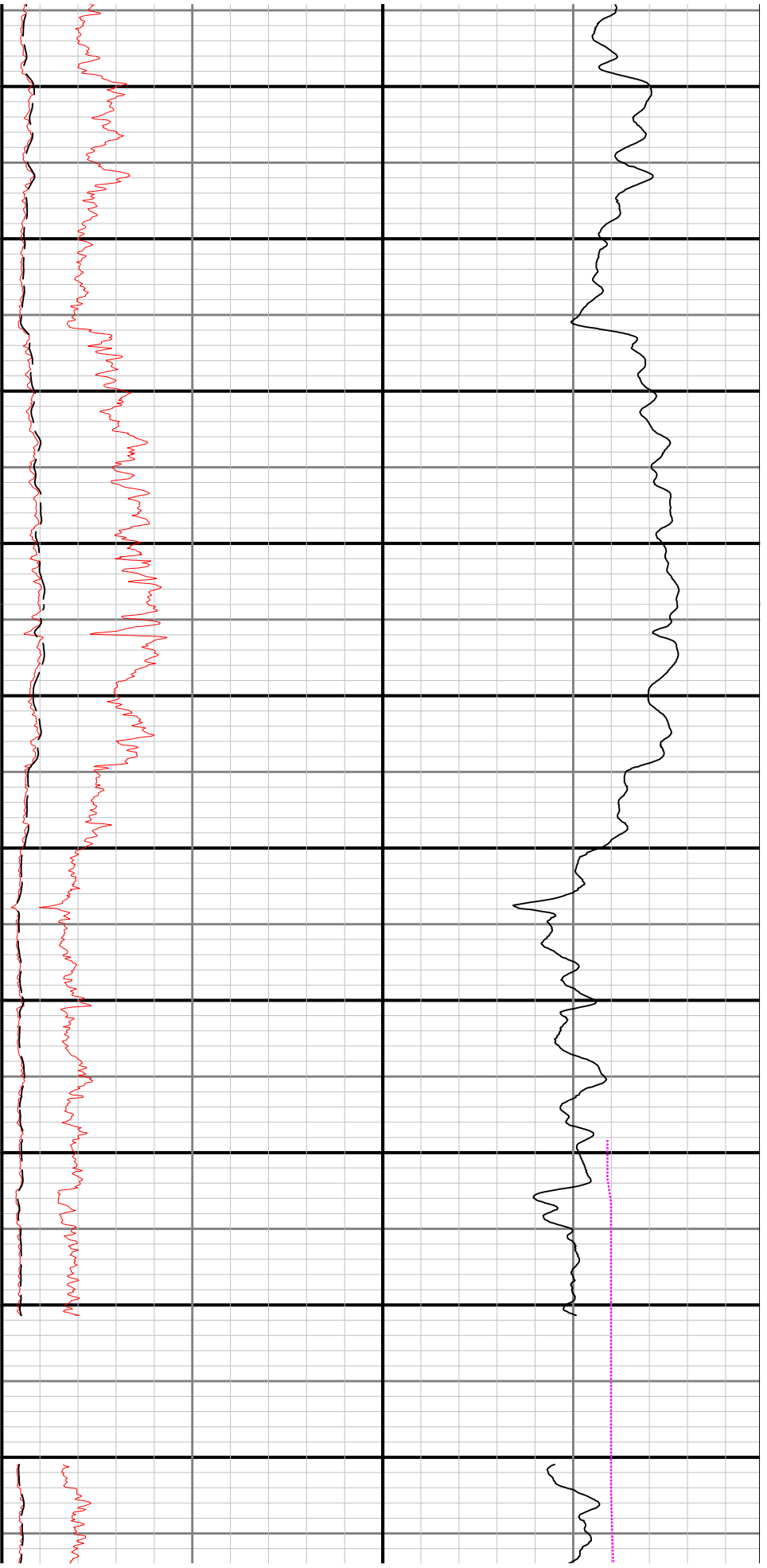
RPCHM	Resistivity Phase - Corrected - 2MHz	ohm.m
TCDX	Downhole Temperature	degF
ROPA	Depth Averaged ROP 3 ft Average	ft/h
GRAM	OnTrak - Gamma Ray - Apparent - Memory 3 ft Average	API
TCDM	Downhole Temperature	degF

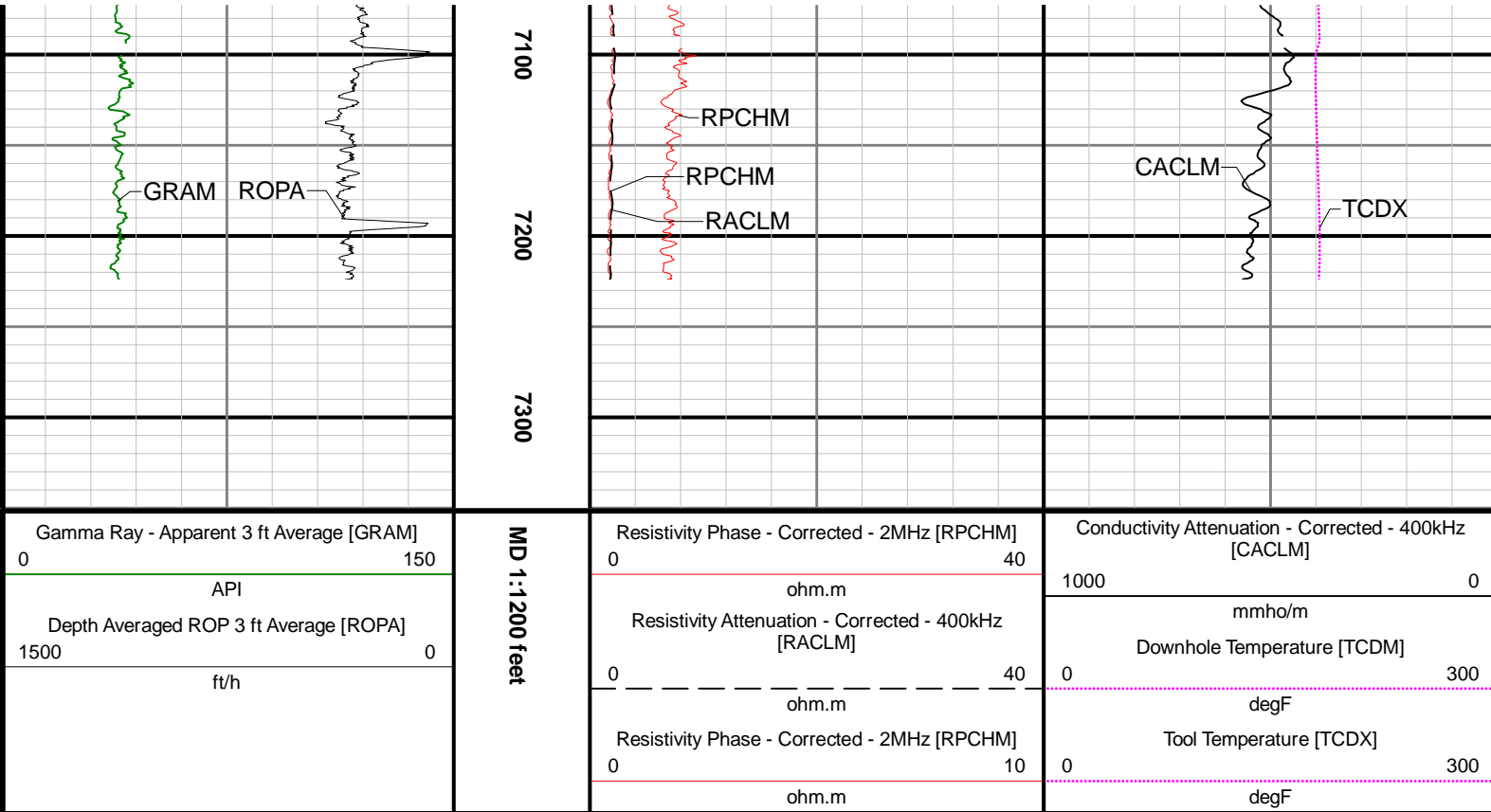













<div><div>BAKER HUGHES</div><div>a GE company</div></div> <div></div>		LWD MEMORY LOG			
		Gamma Ray			
Scale:	Company: ConocoPhillips				
1:1200 MD	Well: STATE_LA_PLATA_5-65_13-15_3DH				
Depth Reference:	Field: Arapahoe County (NAD83/TN)				
Driller's Depth	County: Arapahoe County		Country: United States		
	State: Colorado				
Status:	Surface Location:			Other Services:	
Final Print	Latitude: 40° 41' 01" N			Directional	
	Longitude: 105° 01' 01" W				
API: 05005072590000					
Job ID: 8859910	SEC: 13	TWN: 5S	RGE: 65W		
Permanent Datum (P.D.): Ground Level				Elevations:	
Elevation: 5896.80 ft		Interval: 2450.00 ft - 17732.60 ft	Elev. KB: N/A		
Log Measured From: Rig Floor	Above P.D. 26.20 ft	Created: 2017-12-07 14:30:15	Elev. DF: 5923.00 ft		
			Elev. GL: 5896.80 ft		