



Weatherford

ARRAY INDUCTION
DUAL NEUTRON - PHOTO DENSITY
LOG

COMPANY	ALTA MESA SERVICES LLC		
WELL	ML INVESTMENTS 3-10		
FIELD	WILLOW		
PROVINCE/COUNTY	PAYETTE		
COUNTRY/STATE	U.S.A. / IDAHO		
LOCATION	1376 FVWL & 3044 FNL		
SEC 10	TWP 8N	RGE 4W	Other Services
Latitude	44.045240 COMPACT CROSS DIPOLE		
Longitude	-116.805930		
API Number	11-075-20031		
Permanent Datum GL, Elevation	2251 feet		
Log Measured From KB, 12.00 feet above Permanent Datum			
Drilling Measured From KB			
Date	22-NOV-2017		
Run Number	1		
Service Order	6443-198147325		
Depth Diller	5000.00 feet		
Depth Logger	5002.00 feet		
First Reading	4994.57 feet		
Last Reading	1098.00 feet		
Casing Diameter	1107.00 feet		
Casing Logger	1098.00 feet		
Bit Size	8.500 inches		
Hole Fluid Type	WBM		
Density / Viscosity	10.50 lb/USg	42.00 sec/Qt	
PH / Fluid Loss	7.10	4.00 ml/30Min	
Sample Source	FLOWLINE		
Rm @ Measured Temp	2.42 @105.0	ohm-m	
Rmf @ Measured Temp	1.81 @105.0	ohm-m	
Rmc @ Measured Temp	3.05 @105.0	ohm-m	
Source Rmf / Rmc	CALC	CALC	
Rm @ BHT	1.44 @ 19.0	ohm-m	
Time Since Circulation	5 HRS		
Max Recorded Temp	186.00	deg F	
Equipment / Base	13173	CASPER	
Recorded By	ARBER ÇUKU		
Witnessed By	MIKE McMENNAMY		

Elevations:
KB 2263.00
DF 2263.00
GL 2251.00

BOREHOLE RECORD

Last Edited: 20-NOV-2017 15:07

Bit Size inches	Depth From feet	Depth To feet
8.500	1107.00	5000.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	9.625	0.00	1107.00	40.00

REMARKS

SOFTWARE: LOGGED WITH WLS 17.03.9609

ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST.

TOOLS: RUN 1: MAI, MFE, MXC, SKJ, MIS E, SKJ, SHA, MVC, MPD, MDN, MCG, SHA, CBH RAN IN COMBINATION

HARDWARE: MPD: 8 INCH PROFILE PLATE
MDN: DUAL ECCENTRALIZER
MPD SIDE-WALL SUPPORTED BY MVC BELOW
MAI: INLINE CENTRALIZER (MANDREL)

MATRIX FOR POROSITY CALCULATION : 2.65g/cc.

LAT: 44°02'42.86582" N; LONG: 116°48'21.3482" W

TOTAL HOLE VOLUME FROM TD TO SURFACE CASING = 1720 CUBIC FEET
ANNULAR VOLUME WITH 5.5 INCH PRODUCTION CASING FROM TD TO SURFACE CASING = 1080 CUBIC FEET .

CONFIDENTIAL

HOLE AND ANNULAR VOLUME CALCULATED FROM DENSITY CALIPER (CLDC) CURVE.

BOREHOLE RUGOSITY AND WASHOUTS MAY AFFECT REPEATABILITY AND DATA QUALITY.

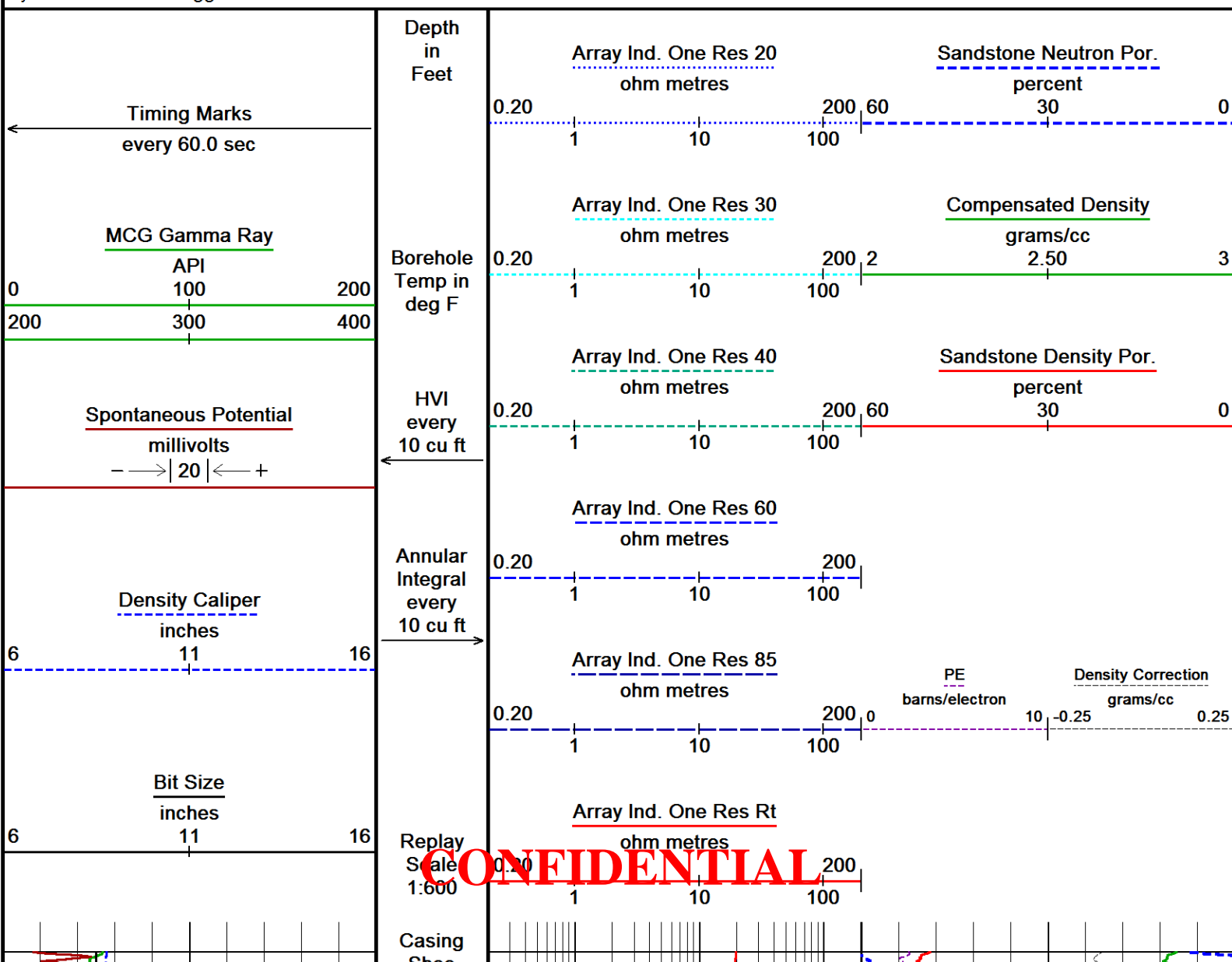
CONFIDENTIAL

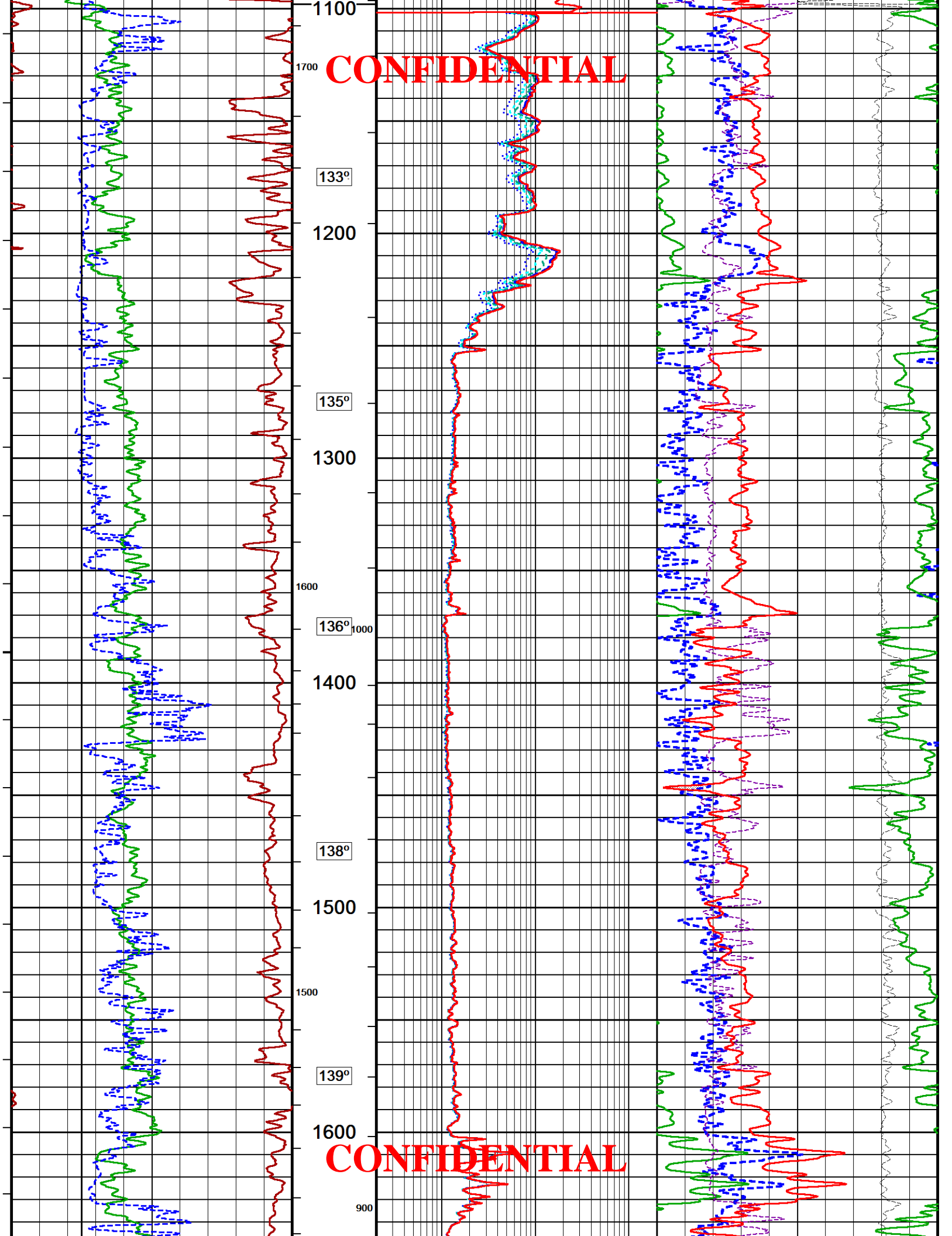
AT THE INTERVAL 3973-3984 FT CALIPERS WERE CLOSED DUE TO TIGHT PULLS ON THE LINE .

In interpreting, communicating or providing information and/or making recommendations, either written or oral, as to logs or test or other data, type or amount of material, or Work or other service to be furnished, or manner of performance, or in predicting results to be obtained, the Contractor will give the Company the benefit of the Contractor's best judgment based on its experience and will perform all such Work in a good and workmanlike manner. Any interpretation of test or other data, and any recommendation or reservoir description based upon such interpretations, are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and assumptions are not infallible, and with respect to which professional engineers and analysts may differ. ACCORDINGLY ANY INTERPRETATION OR RECOMMENDATION RESULTING FROM THE SERVICES WILL BE AT THE SOLE RISK OF THE COMPANY, AND THE CONTRACTOR CANNOT AND DOES NOT WARRANT THE ACCURACY, CORRECTNESS OR COMPLETENESS OF ANY SUCH INTERPRETATION OR RECOMMENDATION, WHICH INTERPRETATIONS AND RECOMMENDATIONS SHOULD NOT, THEREFORE, UNDER ANY CIRCUMSTANCES BE RELIED UPON AS THE SOLE OR MAIN BASIS FOR ANY DRILLING, COMPLETION, WELL TREATMENT, PRODUCTION OR FINANCIAL DECISION, OR ANY PROCEDURE INVOLVING ANY RISK TO THE SAFETY OF ANY DRILLING ACTIVITY, DRILLING RIG OR ITS CREW OR ANY OTHER INDIVIDUAL. THE COMPANY HAS FULL RESPONSIBILITY FOR ALL DECISIONS CONCERNING THE SERVICES.

2 INCH MAIN PASS

Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 27-NOV-2017 14:06
 Filename: C:\Users\E181066\AppData\Local\Temp\Weatherford PreView\0\RUN_1_MAIN_PASS.dta Recorded on 22-NOV-2017 02:58
 System Versions: Logged with 17.03.9609 Processed with 17.03.9609 Plotted with 16.05.4584





141° CONFIDENTIAL

1700

1400

143°

1800

145°

1900

BIT

RTAO →

R850 →

R600 →

800
R400 →

146°
R300 →

R200 →

1300

2000

DPRS →

PDPE →

DEN →

DCOR →

NPRS →

CLDC

← SPCG

GRGC

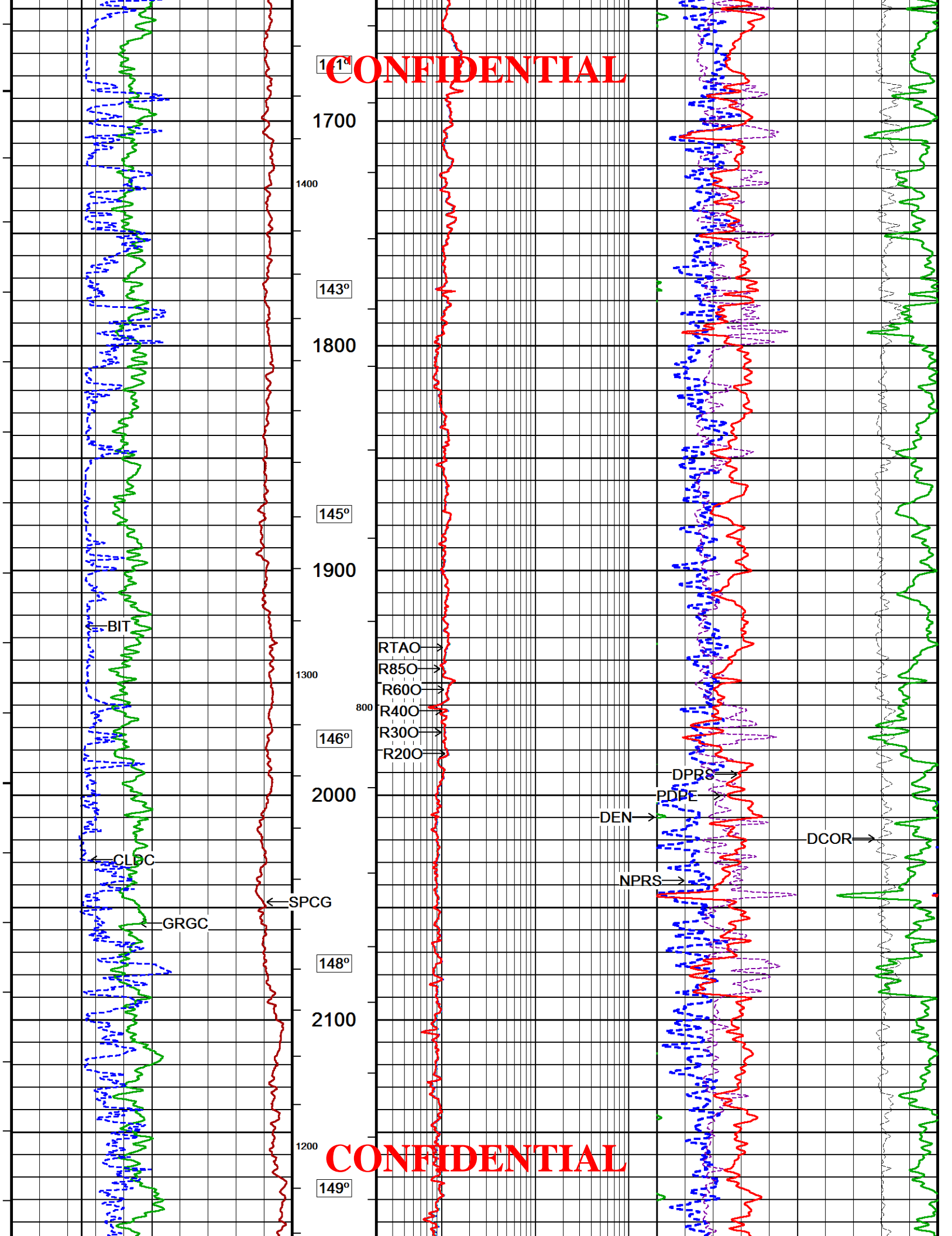
148°

2100

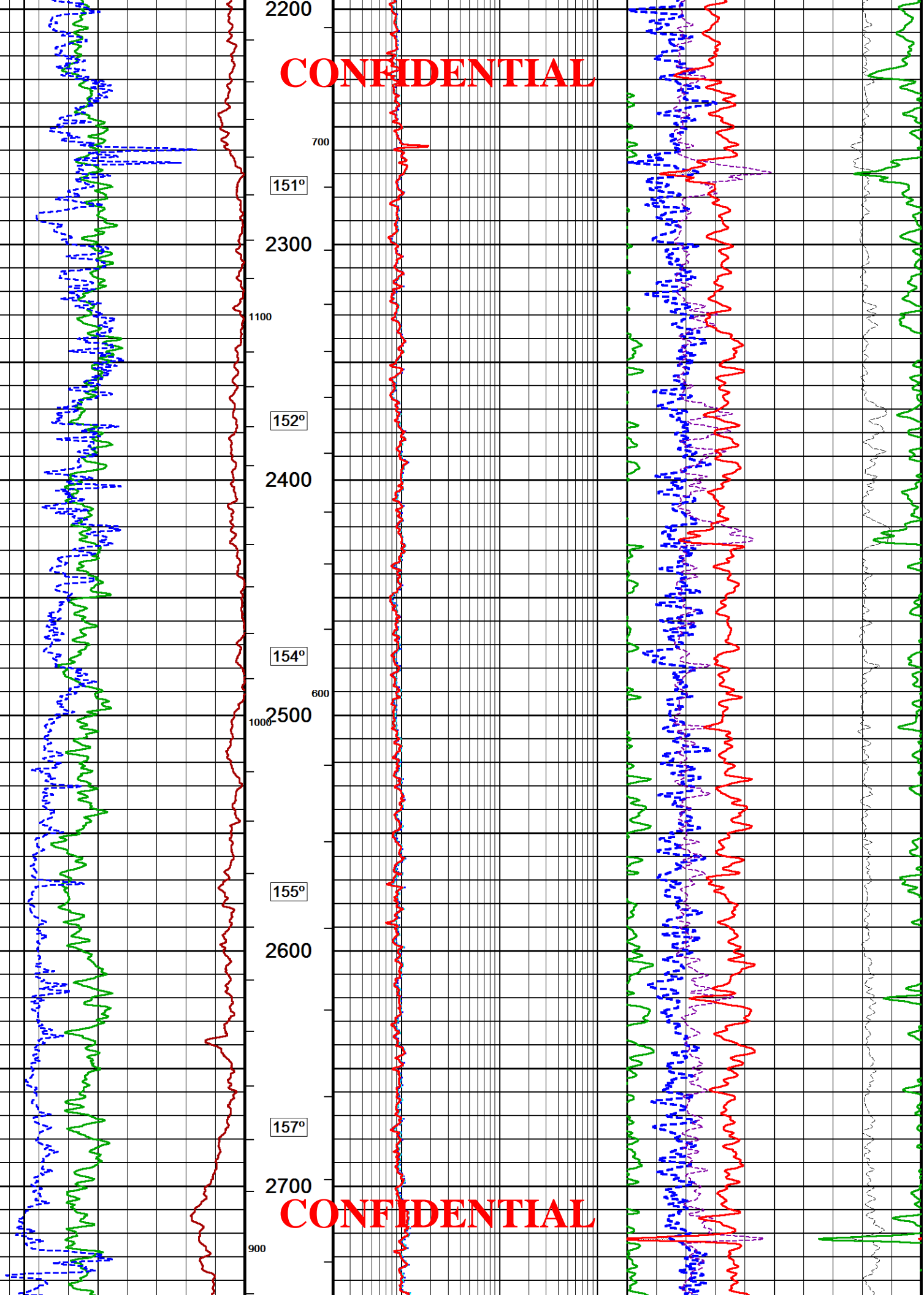
1200

CONFIDENTIAL

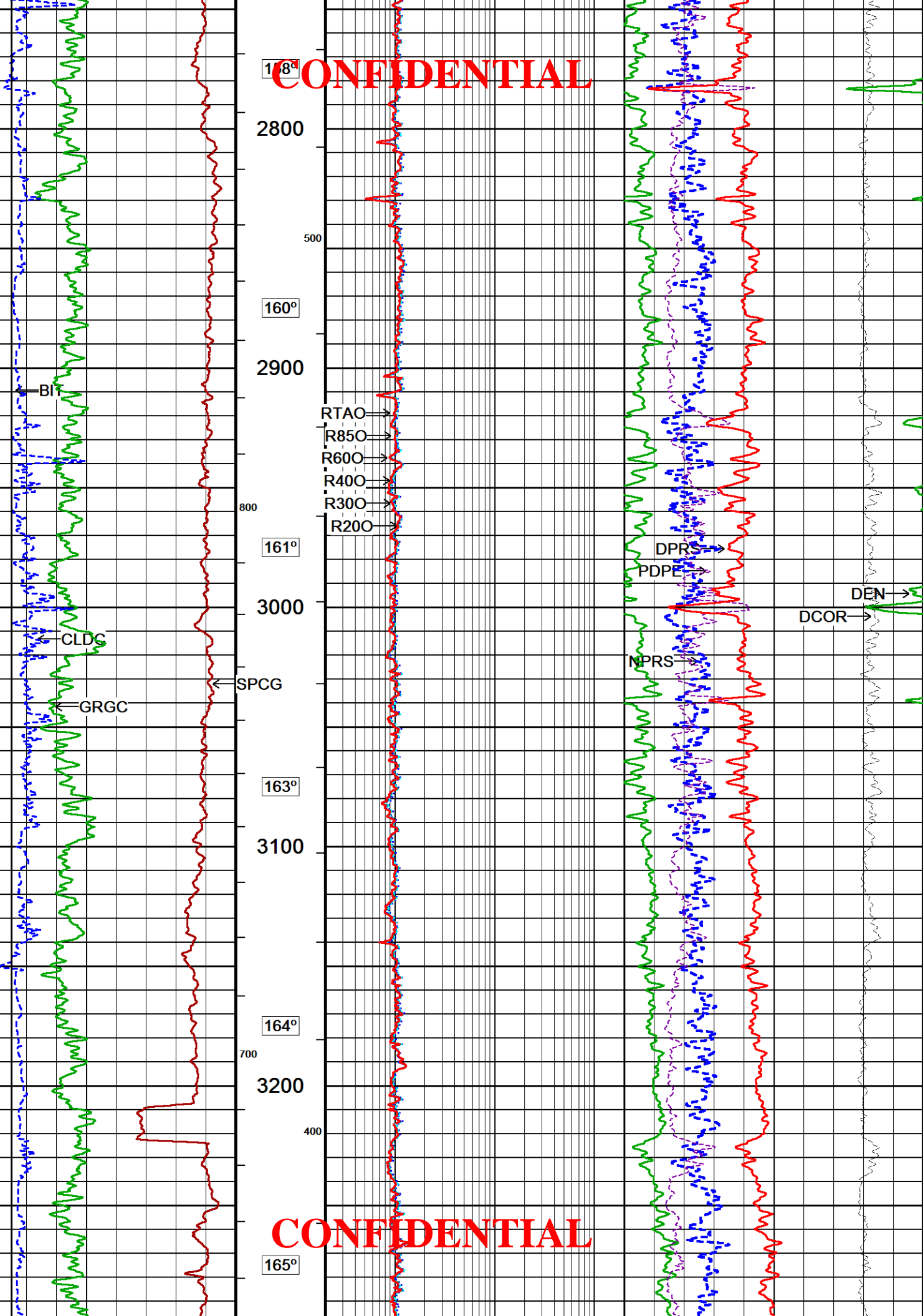
149°



CONFIDENTIAL



CONFIDENTIAL



CONFIDENTIAL

CONFIDENTIAL

167°

3400

600

169°

3500

169°

3600

300

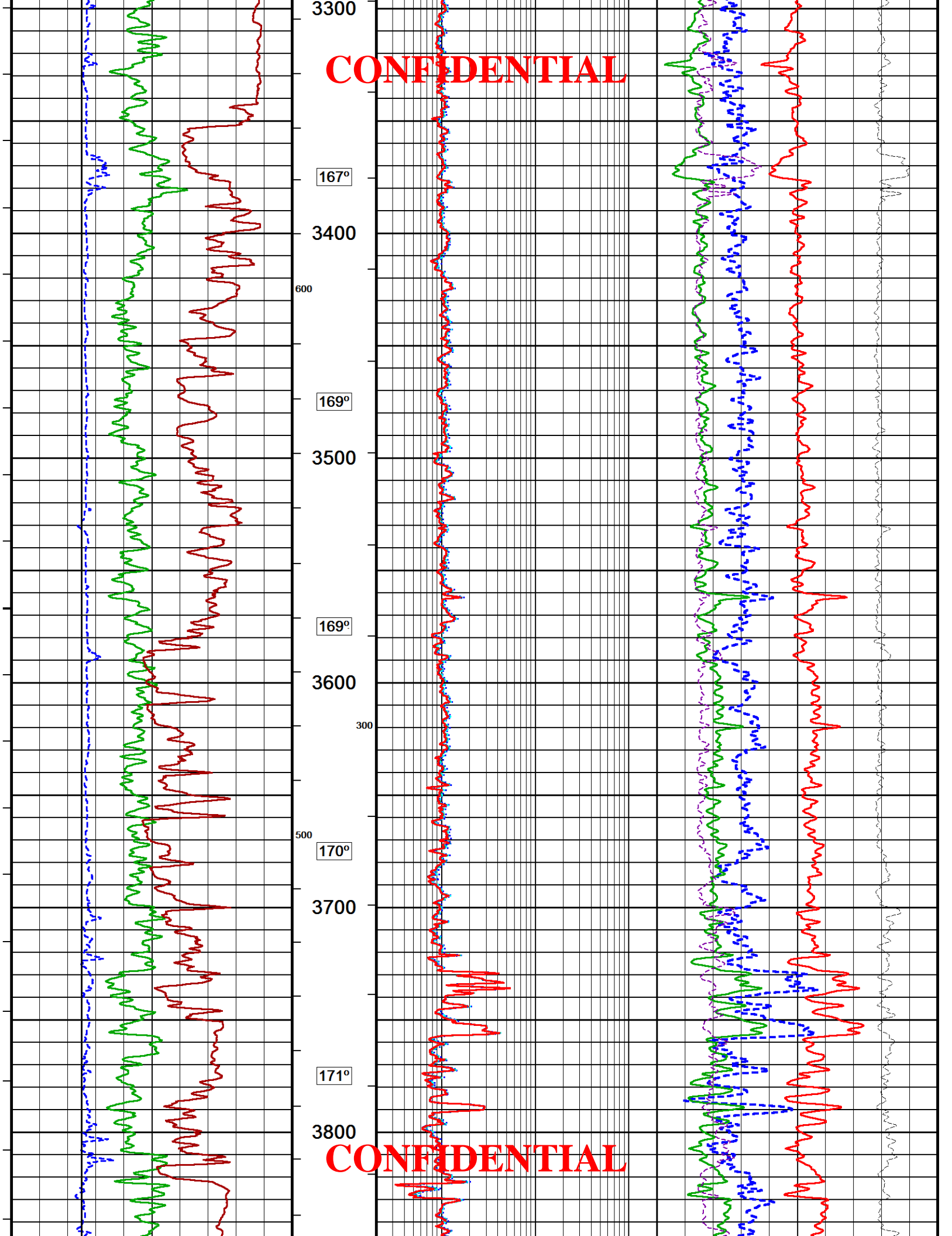
170°

3700

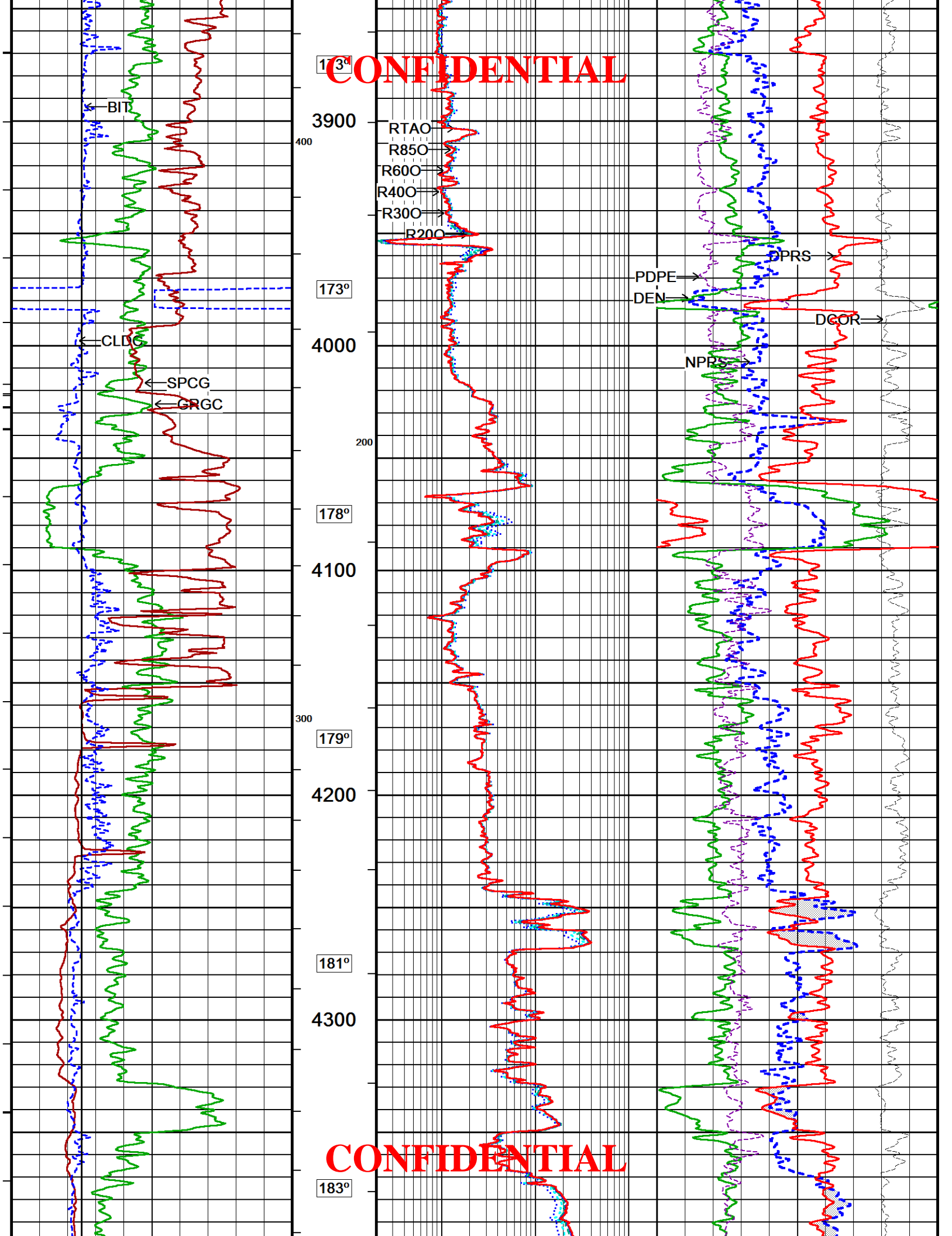
171°

3800

CONFIDENTIAL



CONFIDENTIAL



CONFIDENTIAL

CONFIDENTIAL

183°

4500

182°

4600

184°

100 4700

186°

4800

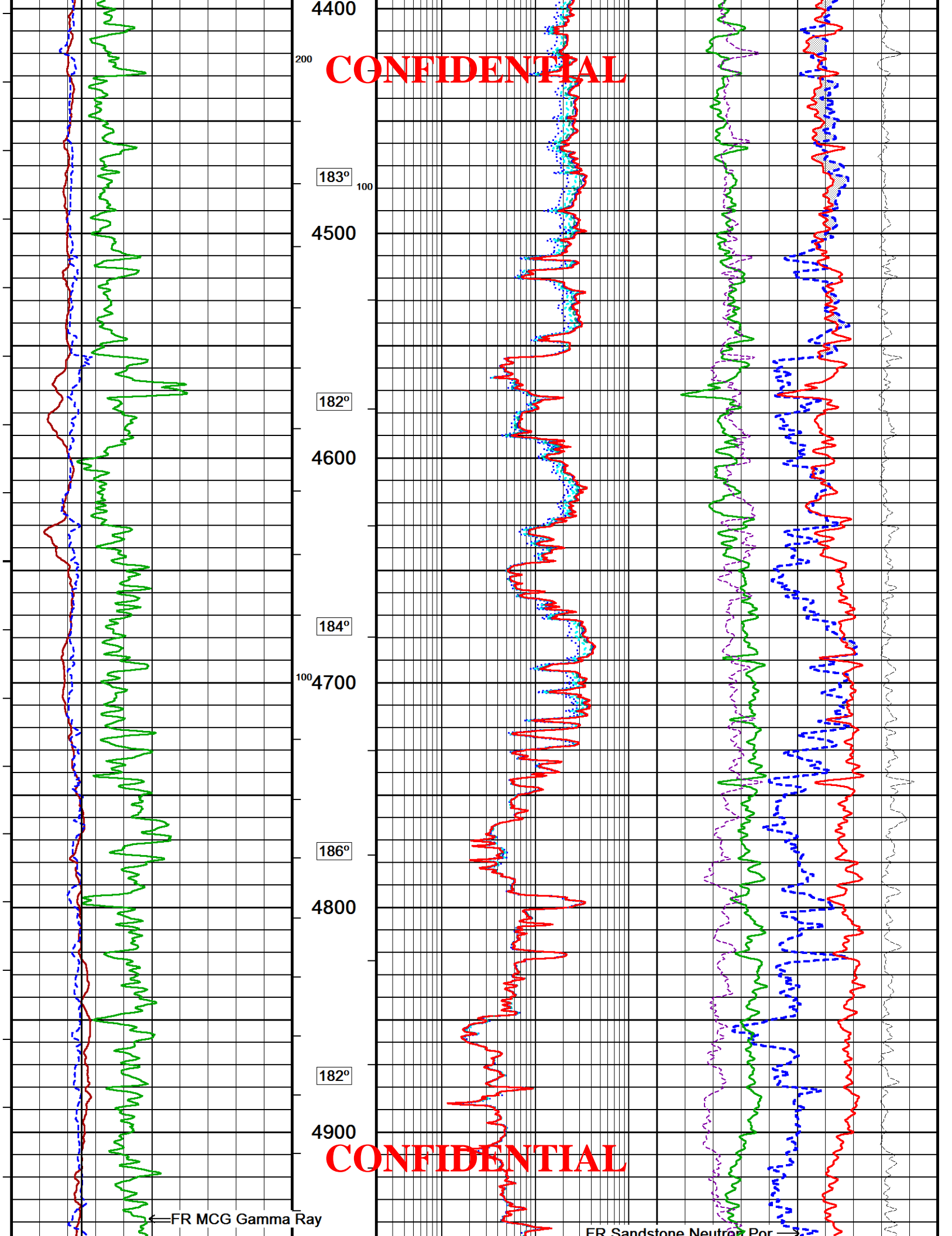
182°

4900

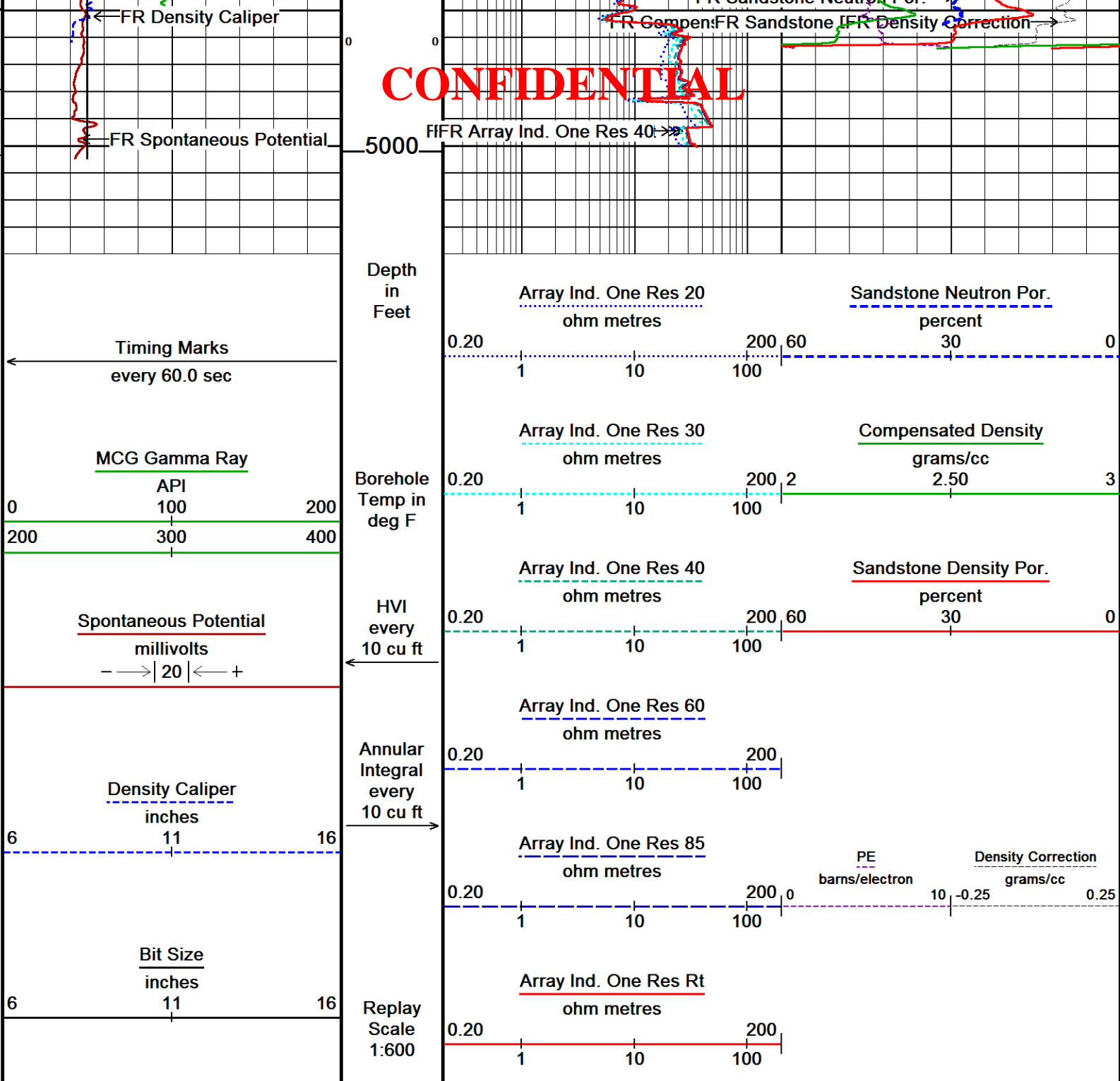
CONFIDENTIAL

←FR MCG Gamma Ray

ER Sandstone Neutron Por



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Depth Based Data - Maximum Sampling Increment 10.0cm

Filename: C:\Users\E181066\AppData\Local\Temp\Weatherford PreView\0\RUN_1_MAIN_PASS.dta

System Versions: Logged with 17.03.9609 Processed with 17.03.9609 Plotted with 16.05.4584

Plotted on 27-NOV-2017 14:06

Recorded on 22-NOV-2017 02:58

↑ 2 INCH MAIN PASS ↑

↓ 5 INCH MAIN PASS ↓

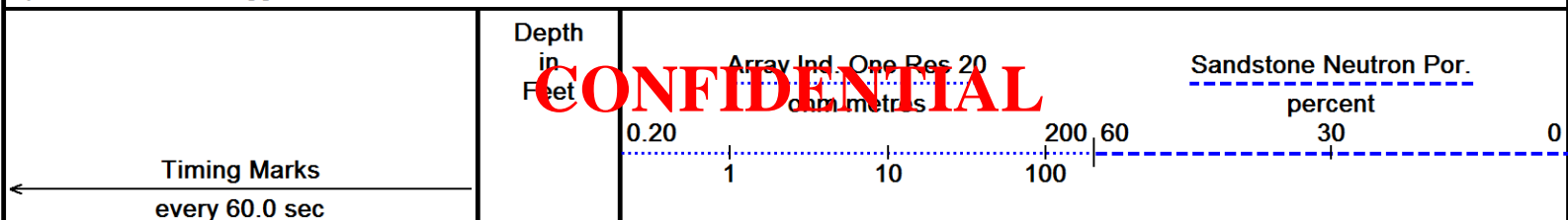
Depth Based Data - Maximum Sampling Increment 10.0cm

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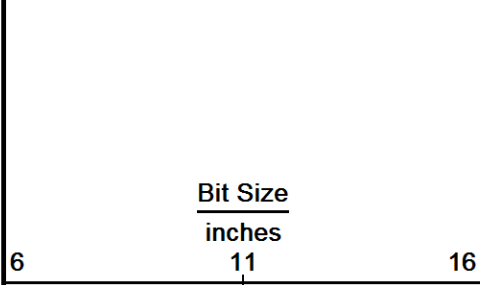
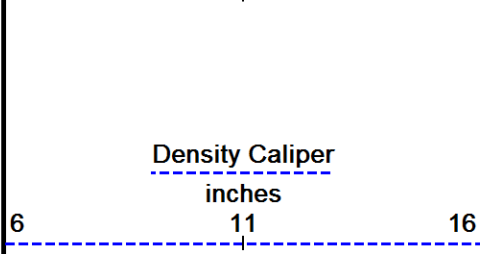
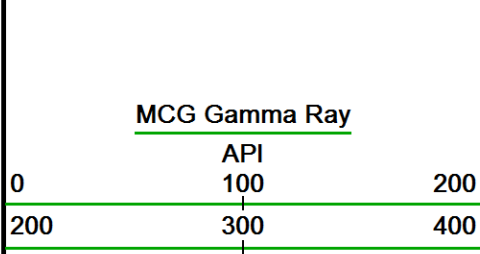
System Versions: Logged with 17.03.9609 Processed with 17.03.9609 Plotted with 16.05.4584

Plotted on 27-NOV-2017 14:06

Recorded on 22-NOV-2017 02:58



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Borehole
Temp in
deg F

HVI
every
10 cu ft

Annular
Integral
every
10 cu ft

Replay
Scale
1:240

1088
Casing
Shoe
1100

1700

133°

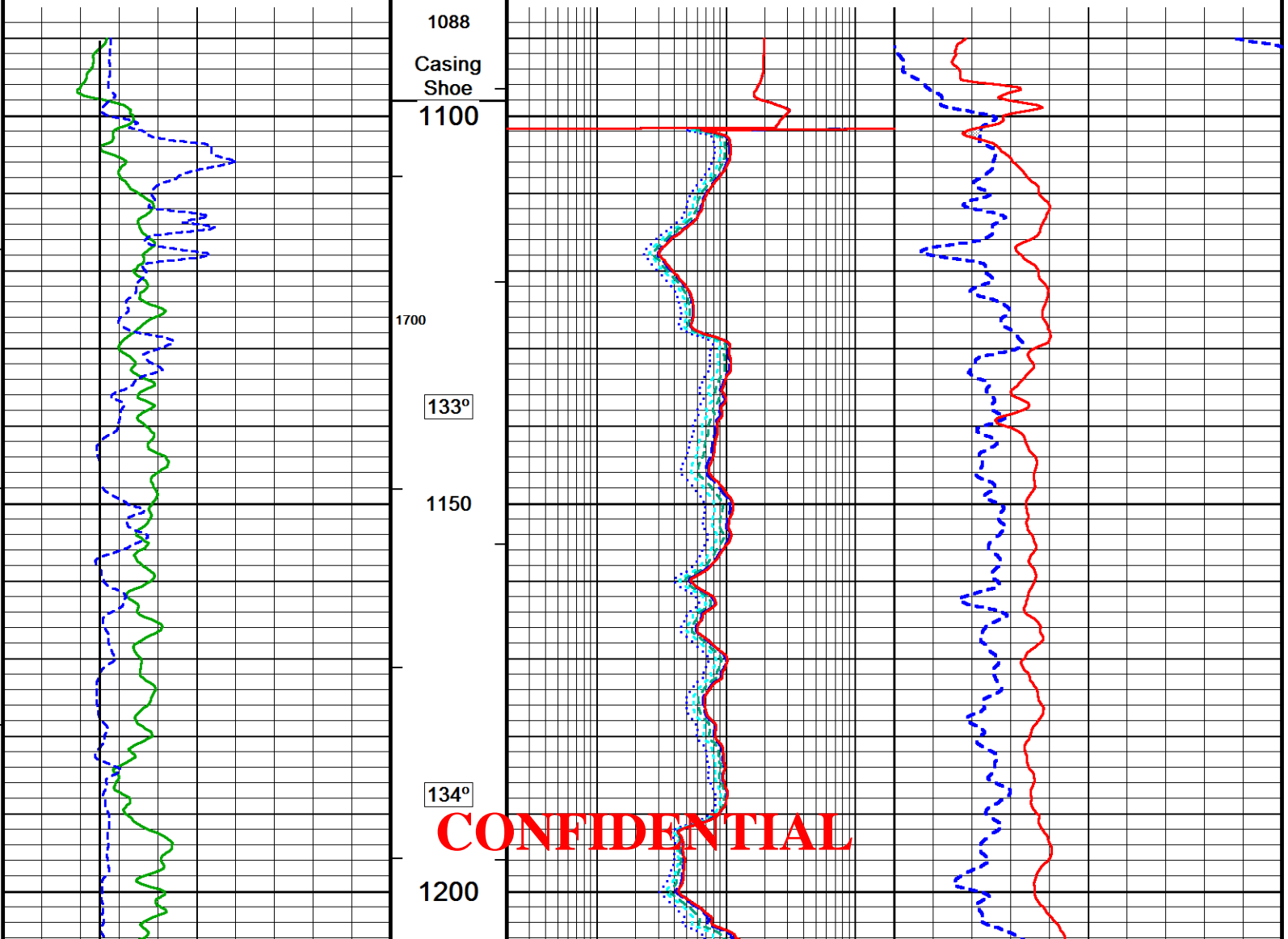
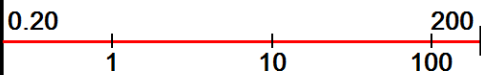
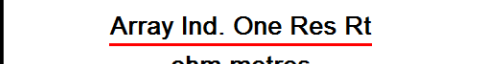
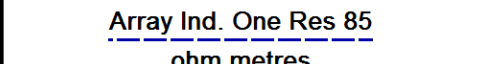
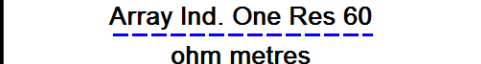
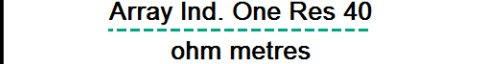
1150

134°

1200

Array Ind. One Res 30
ohm metres

Sandstone Density Por.
percent



CONFIDENTIAL

CONFIDENTIAL

135°

1250

135°

1300

136°

1350

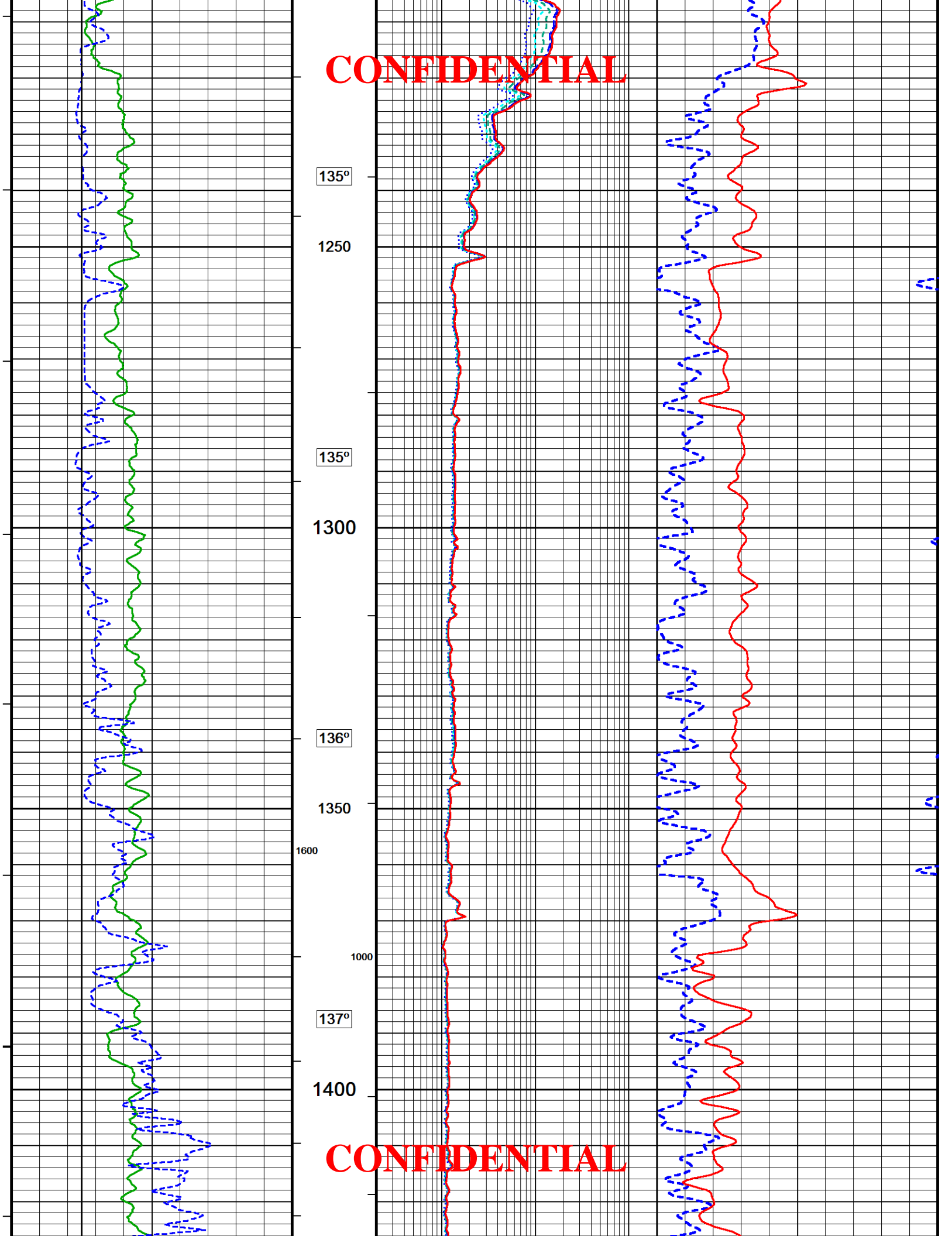
1600

1000

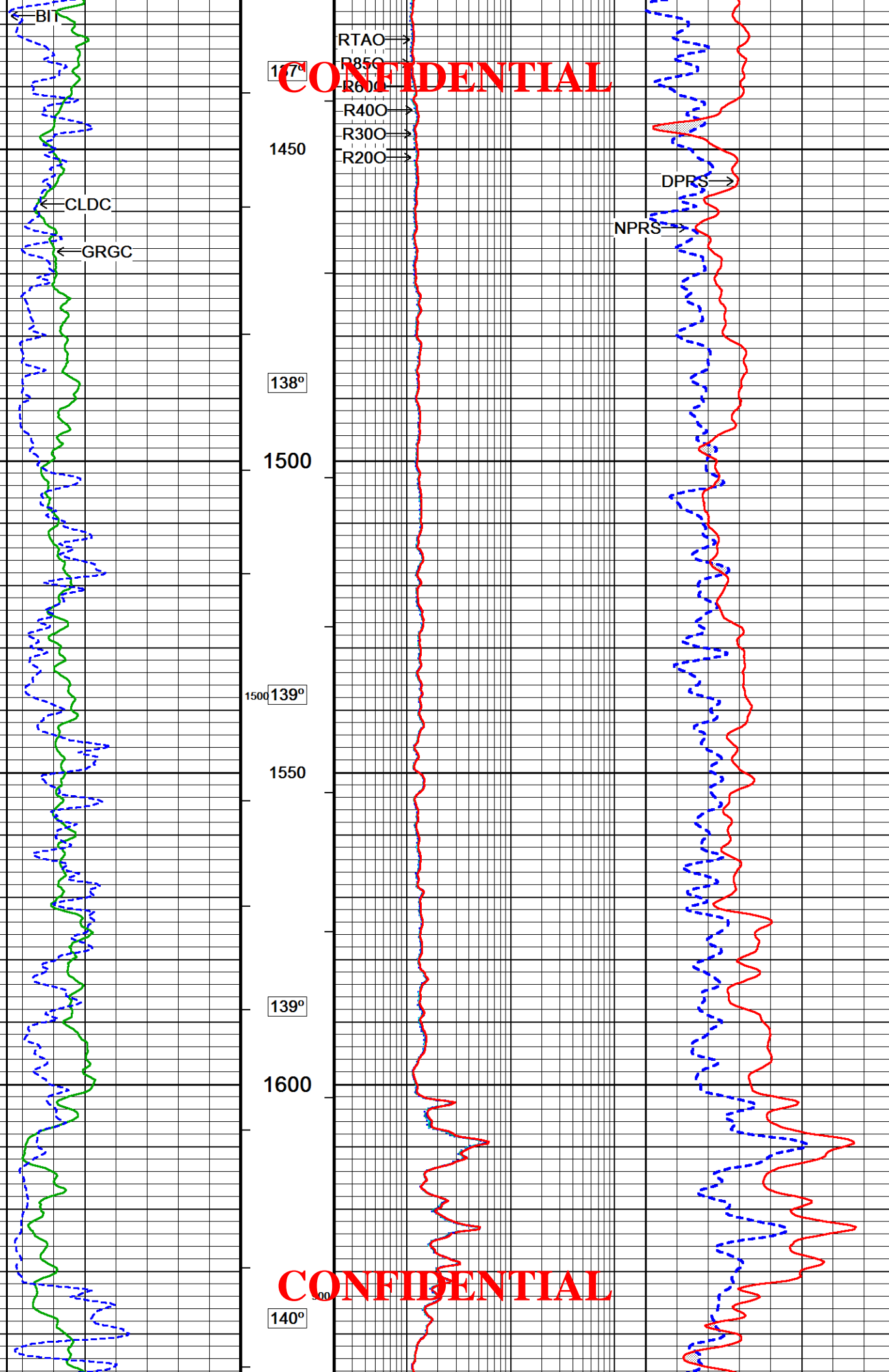
137°

1400

CONFIDENTIAL

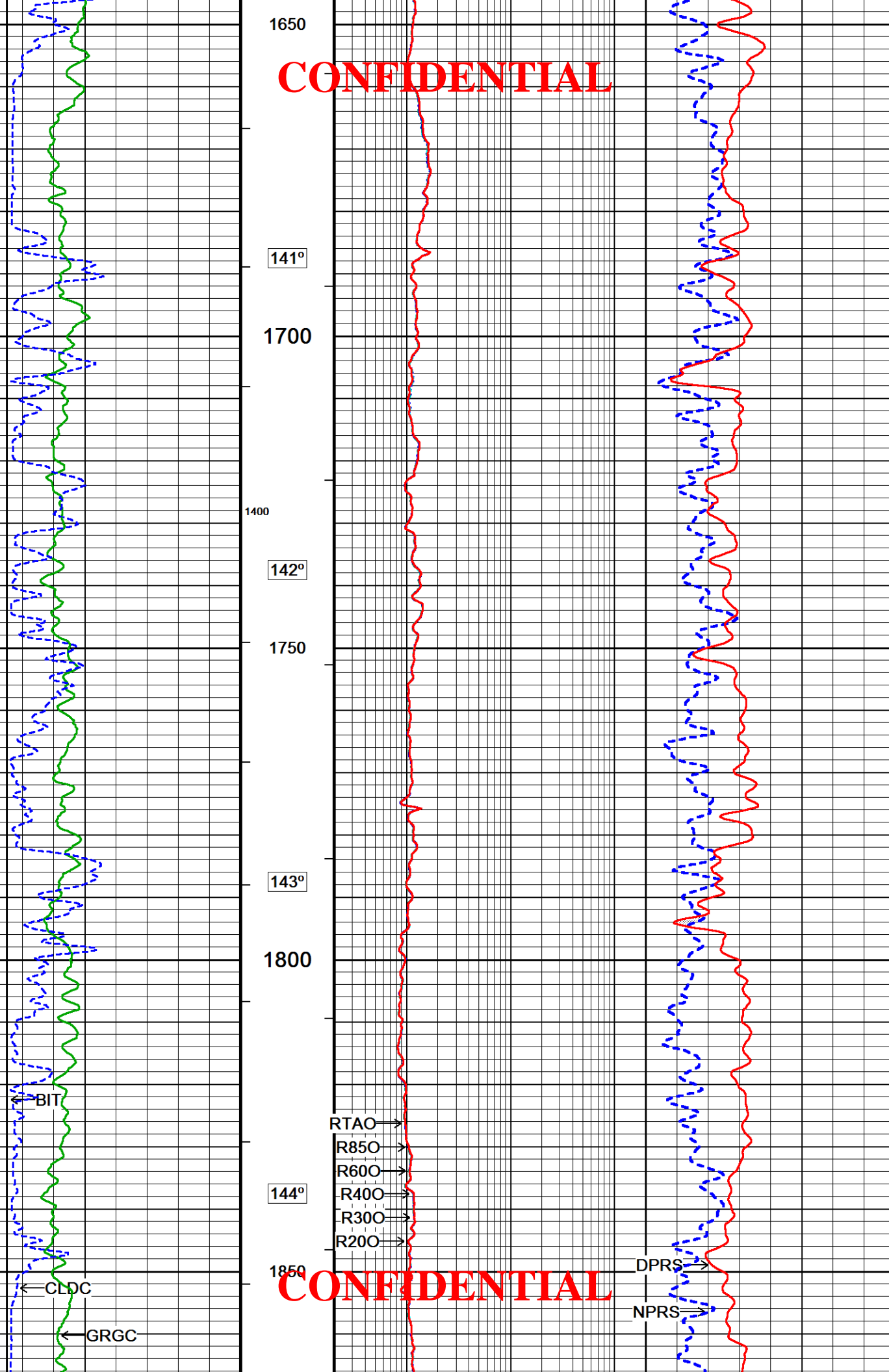


CONFIDENTIAL



CONFIDENTIAL

CONFIDENTIAL



1650

141°

1700

1400

142°

1750

143°

1800

144°

1850

← BIT

← CLDC

← GRGC

RTAO →

R850 →

R600 →

R400 →

R300 →

R200 →

DPRS →

NPRS →

CONFIDENTIAL

CONFIDENTIAL

145°

1900

146°

1300

1950

800

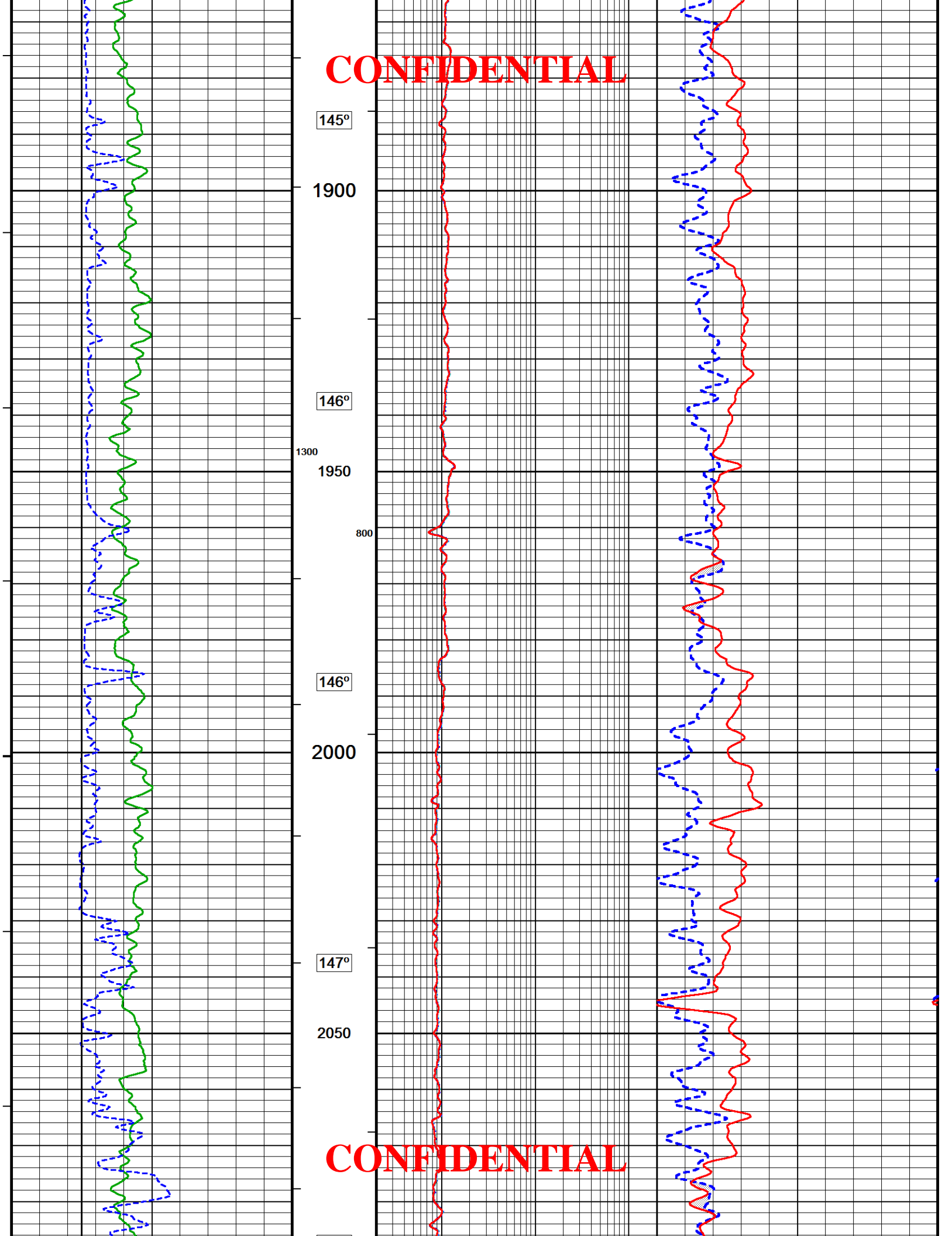
146°

2000

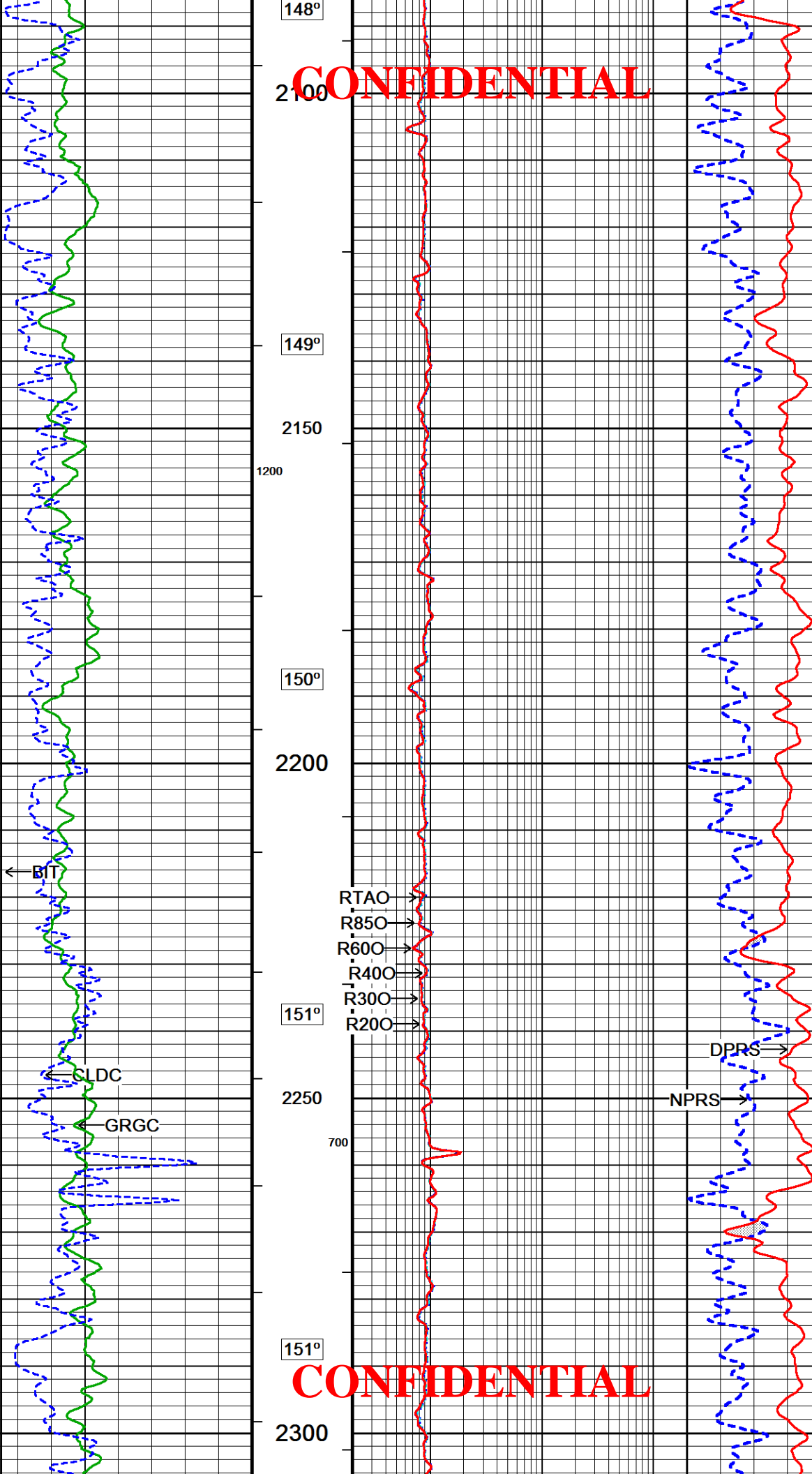
147°

2050

CONFIDENTIAL



CONFIDENTIAL



CONFIDENTIAL

CONFIDENTIAL

1100

152°

2350

153°

2400

153°

2450

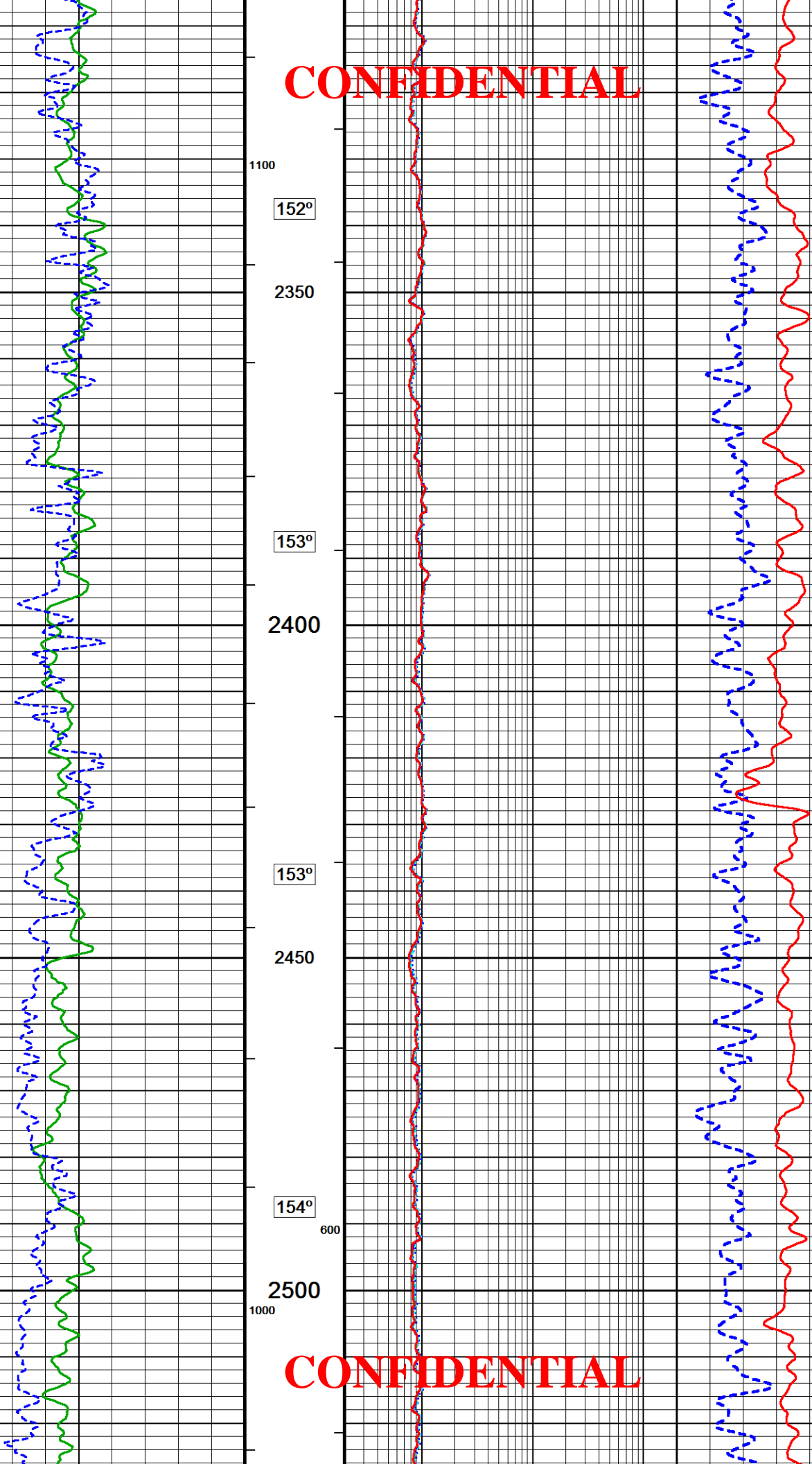
154°

600

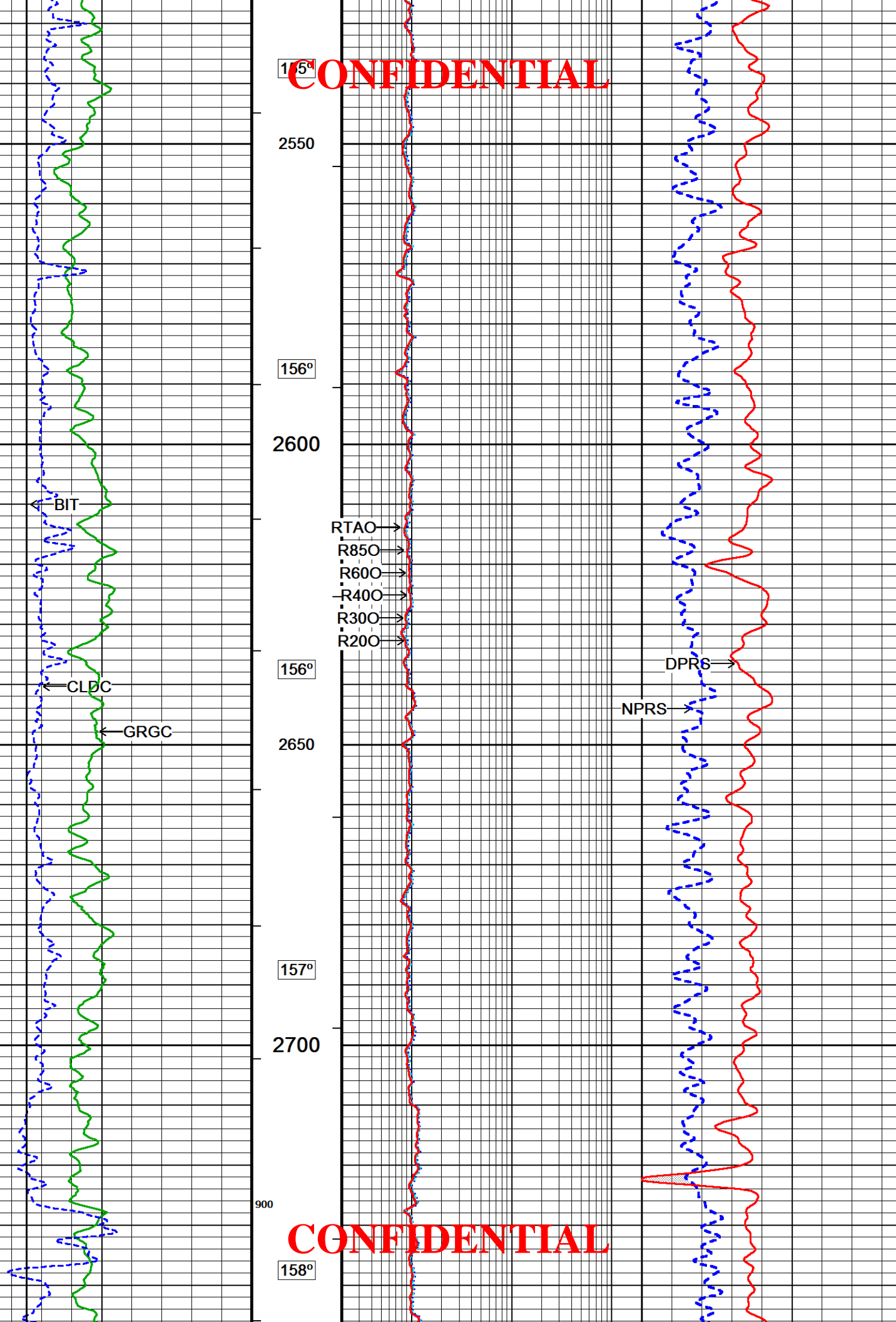
2500

1000

CONFIDENTIAL



CONFIDENTIAL



CONFIDENTIAL

CONFIDENTIAL

159°

2800

159°

2850

500

160°

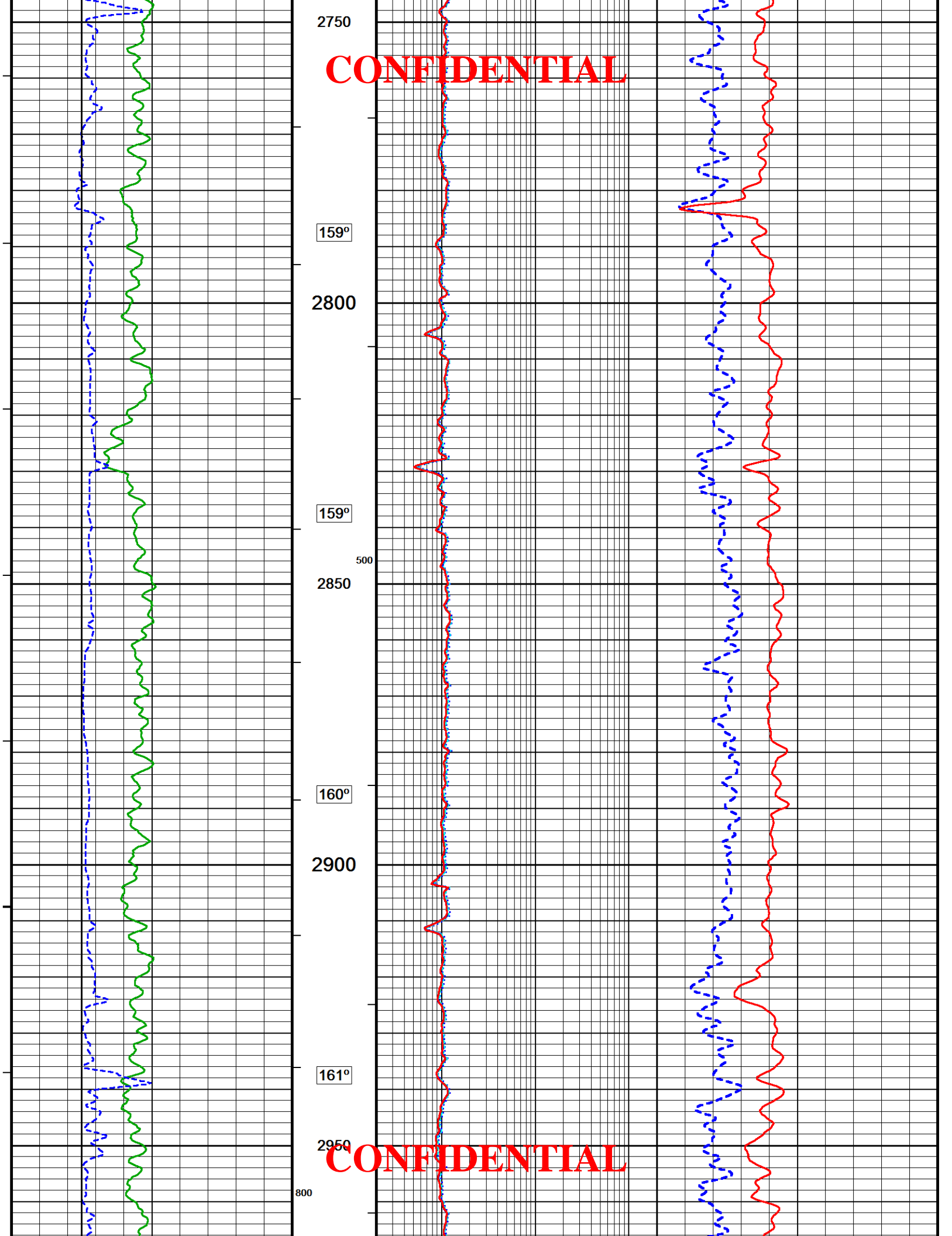
2900

161°

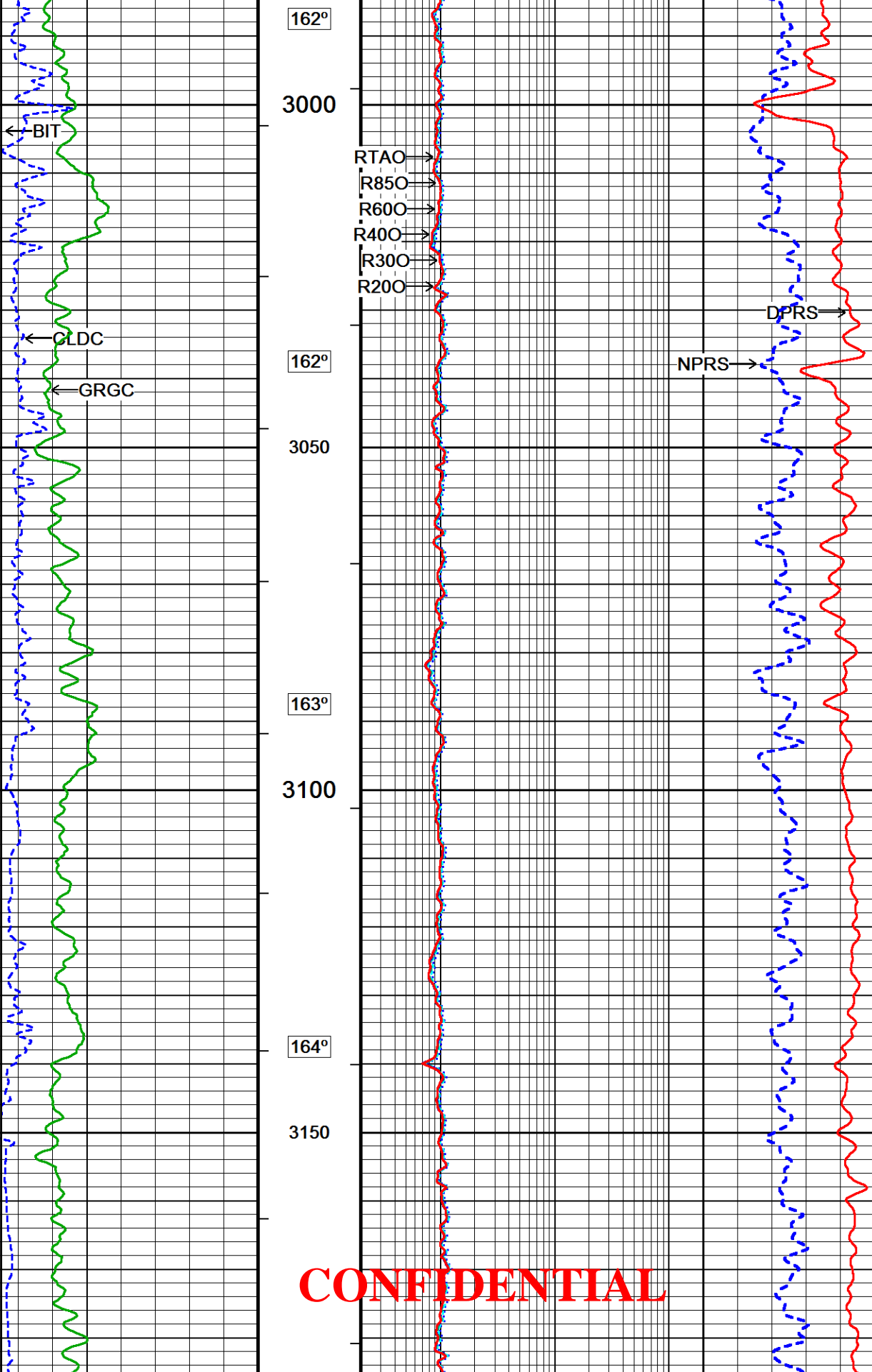
2950

CONFIDENTIAL

800

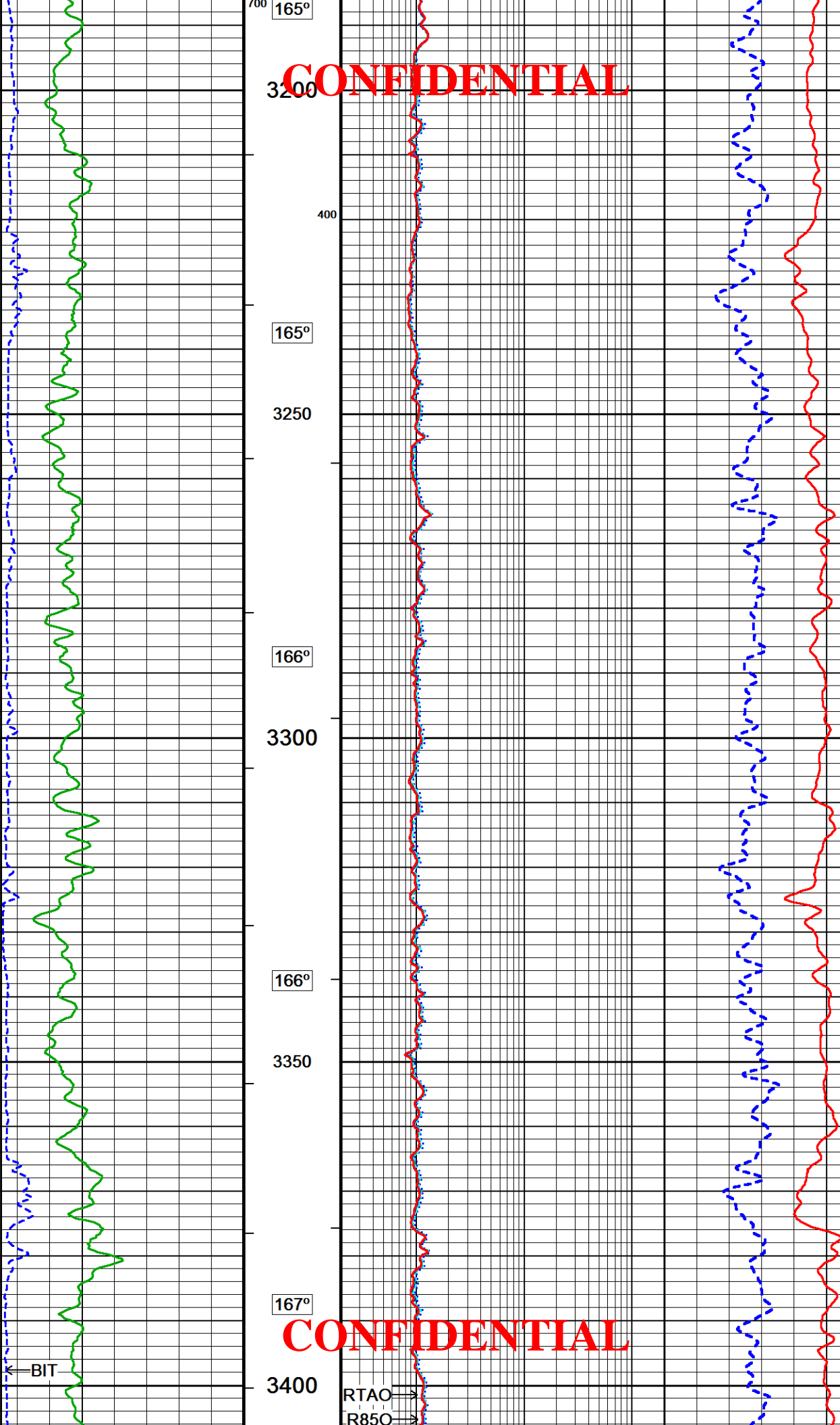


CONFIDENTIAL



CONFIDENTIAL

CONFIDENTIAL



165°

166°

166°

167°

700

RTAO →

R850 →

← BIT

CONFIDENTIAL

600

← CLDC

← GRGC

168°

3450

169°

3500

169°

3550

169°

3600

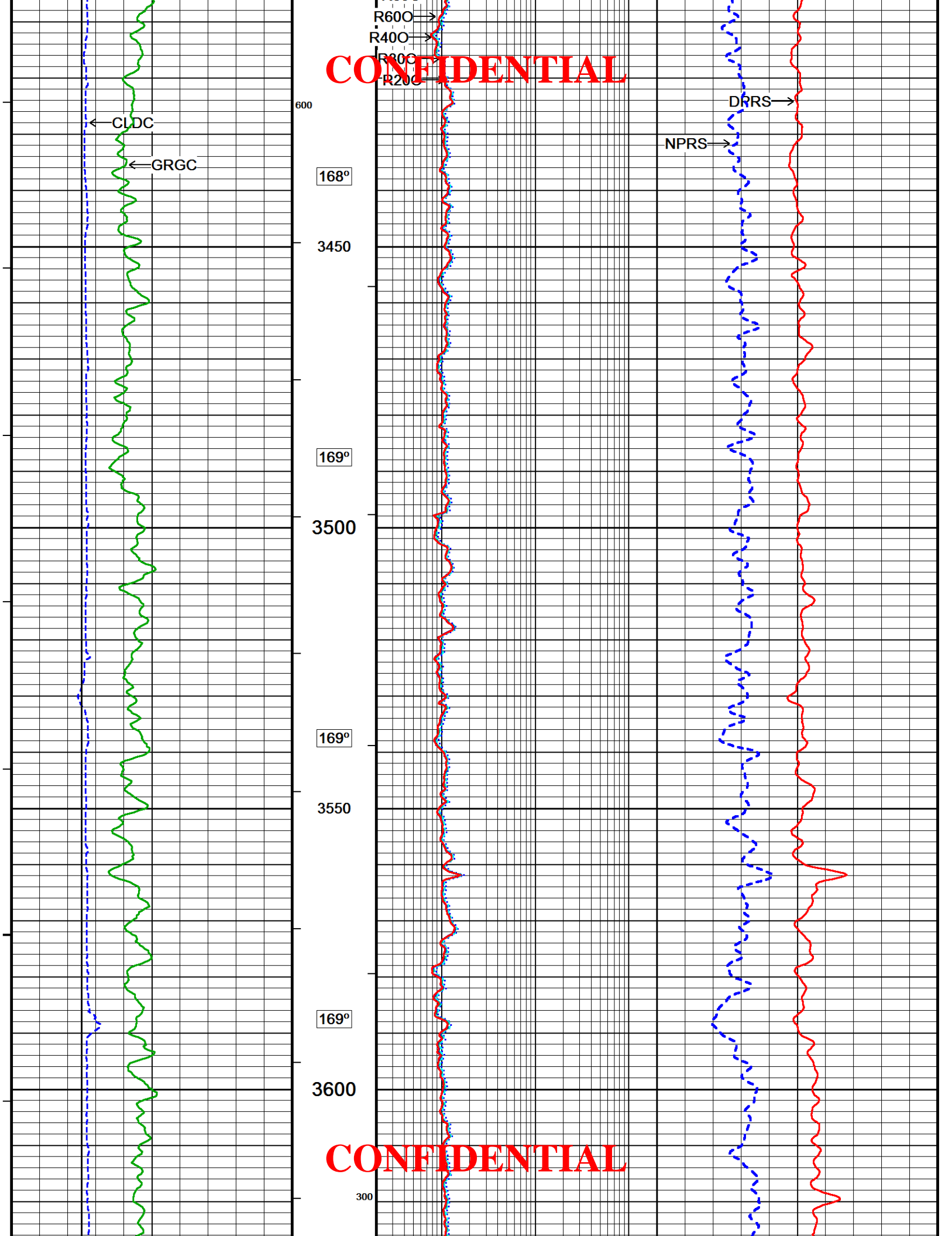
CONFIDENTIAL

300

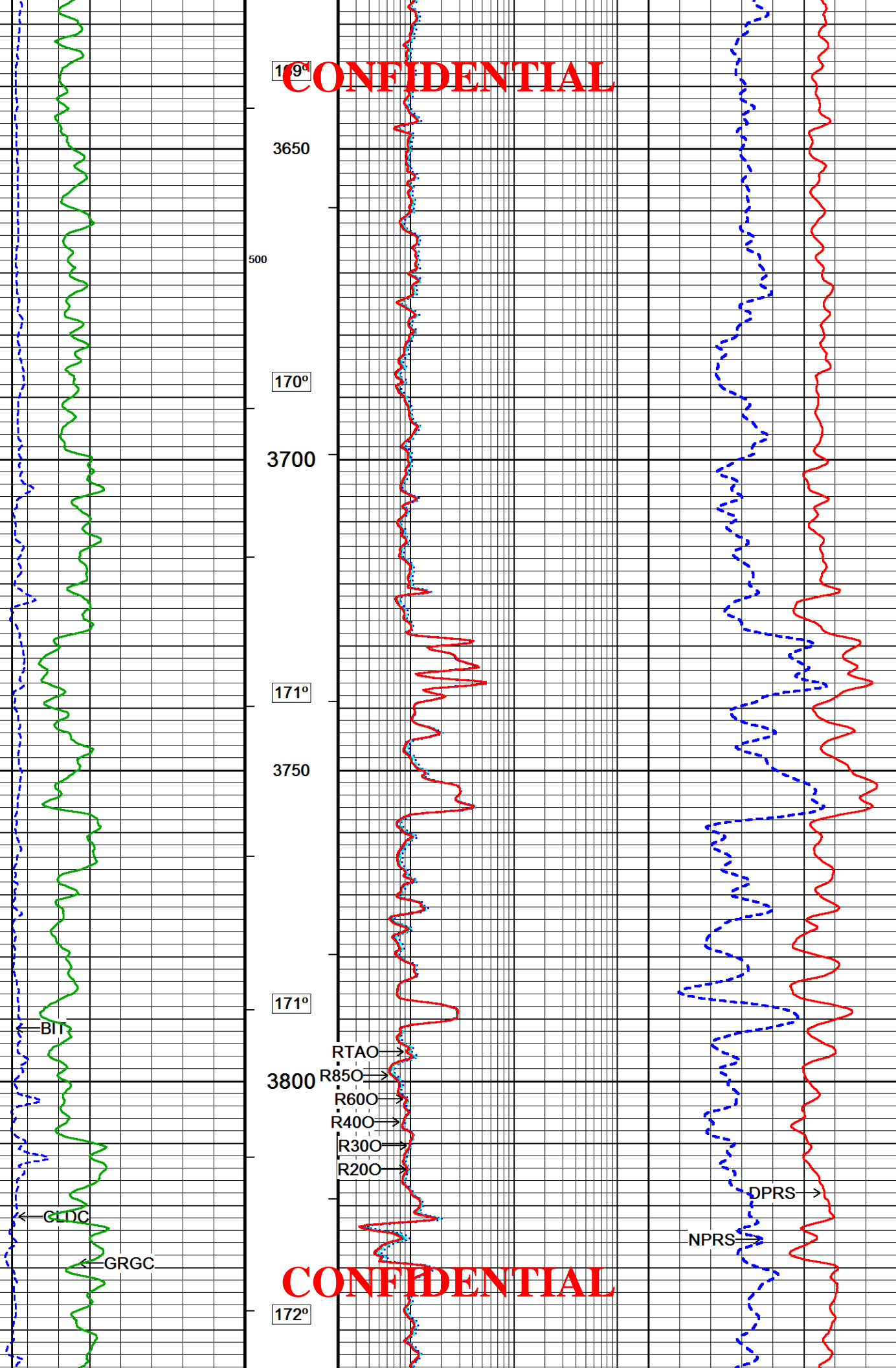
R600 →
R400 →
R300 →
R200 →

DRRS →

NPRS →



CONFIDENTIAL



CONFIDENTIAL

CONFIDENTIAL

173°

3900

400

173°

3950

174°

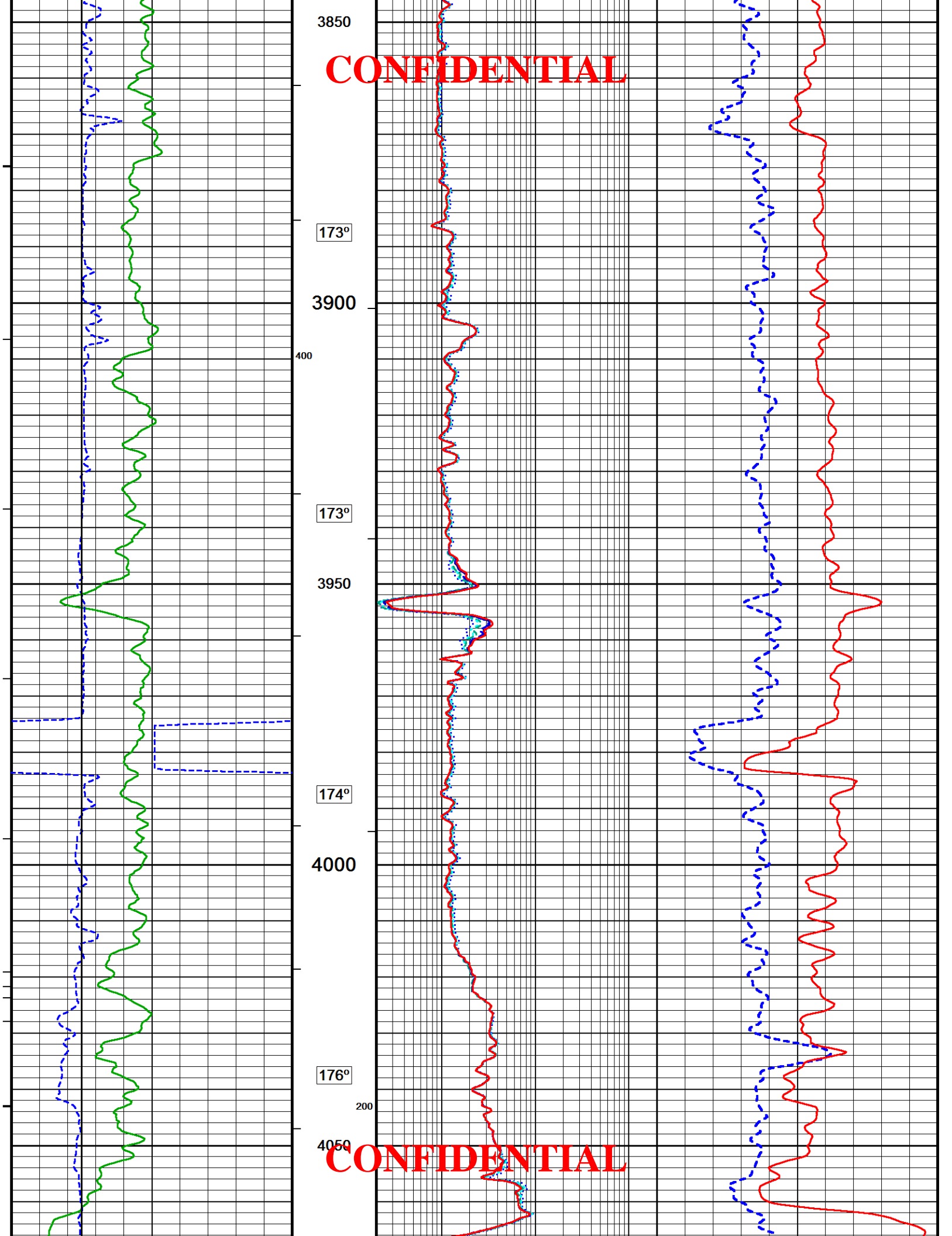
4000

176°

200

4050

CONFIDENTIAL



CONFIDENTIAL

179°

4100

179°

4150

300

180°

4200

180°

4250

CONFIDENTIAL

← BIT

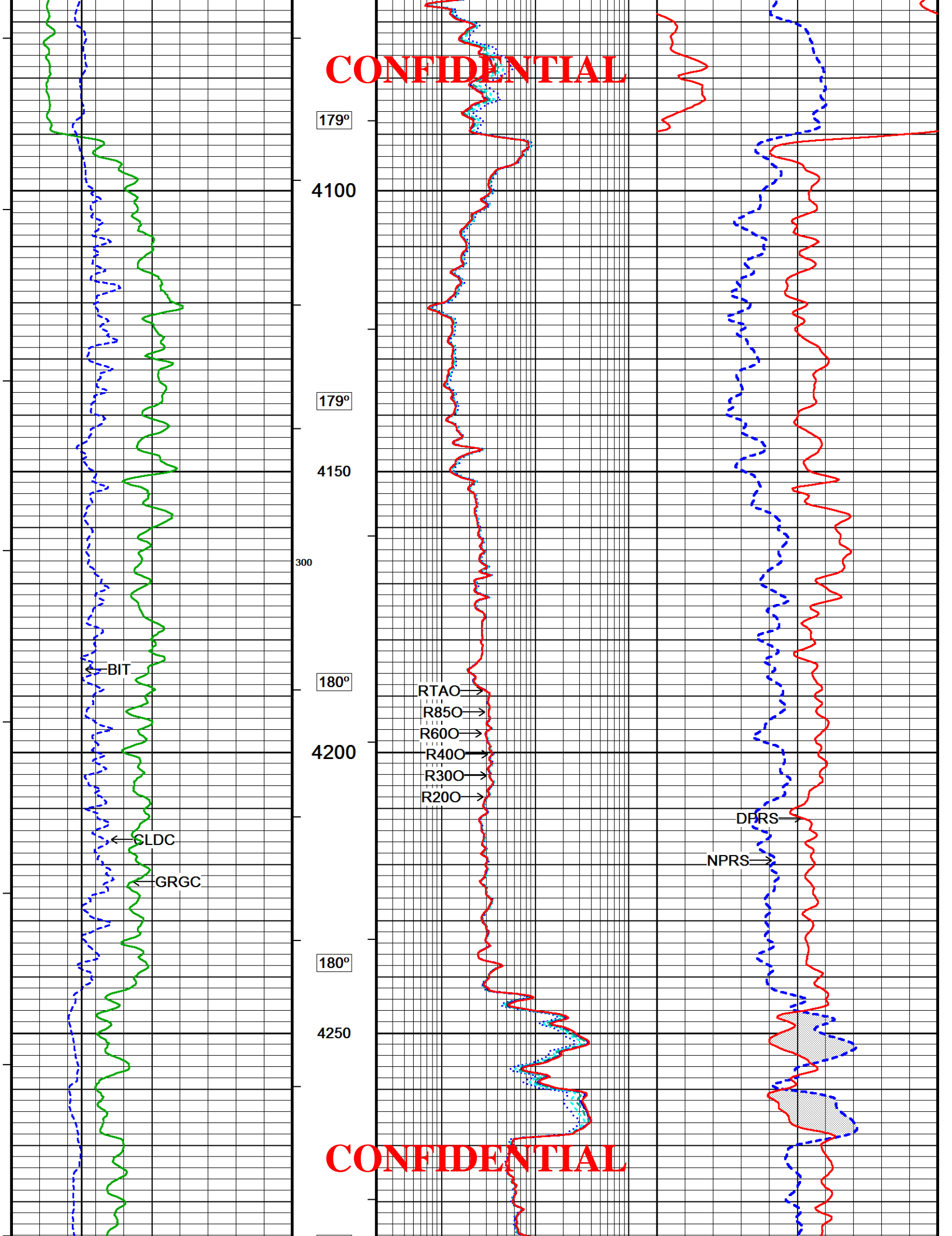
← SLDC

← GRGC

RTAO →
R850 →
R600 →
R400 →
R300 →
R200 →

DPRS →

NPRS →



181°

CONFIDENTIAL

183°

4350

183°

4400

200

183°

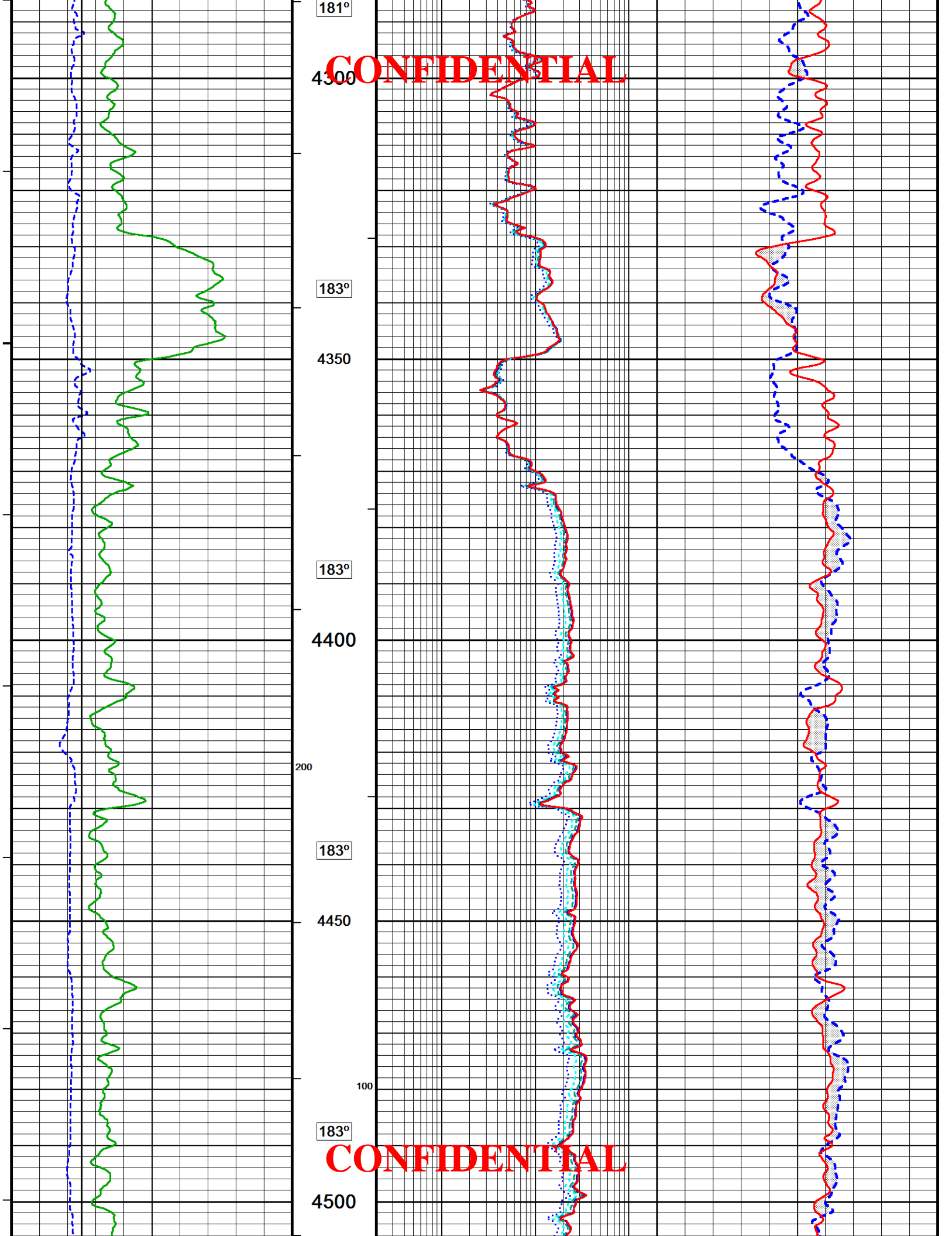
4450

100

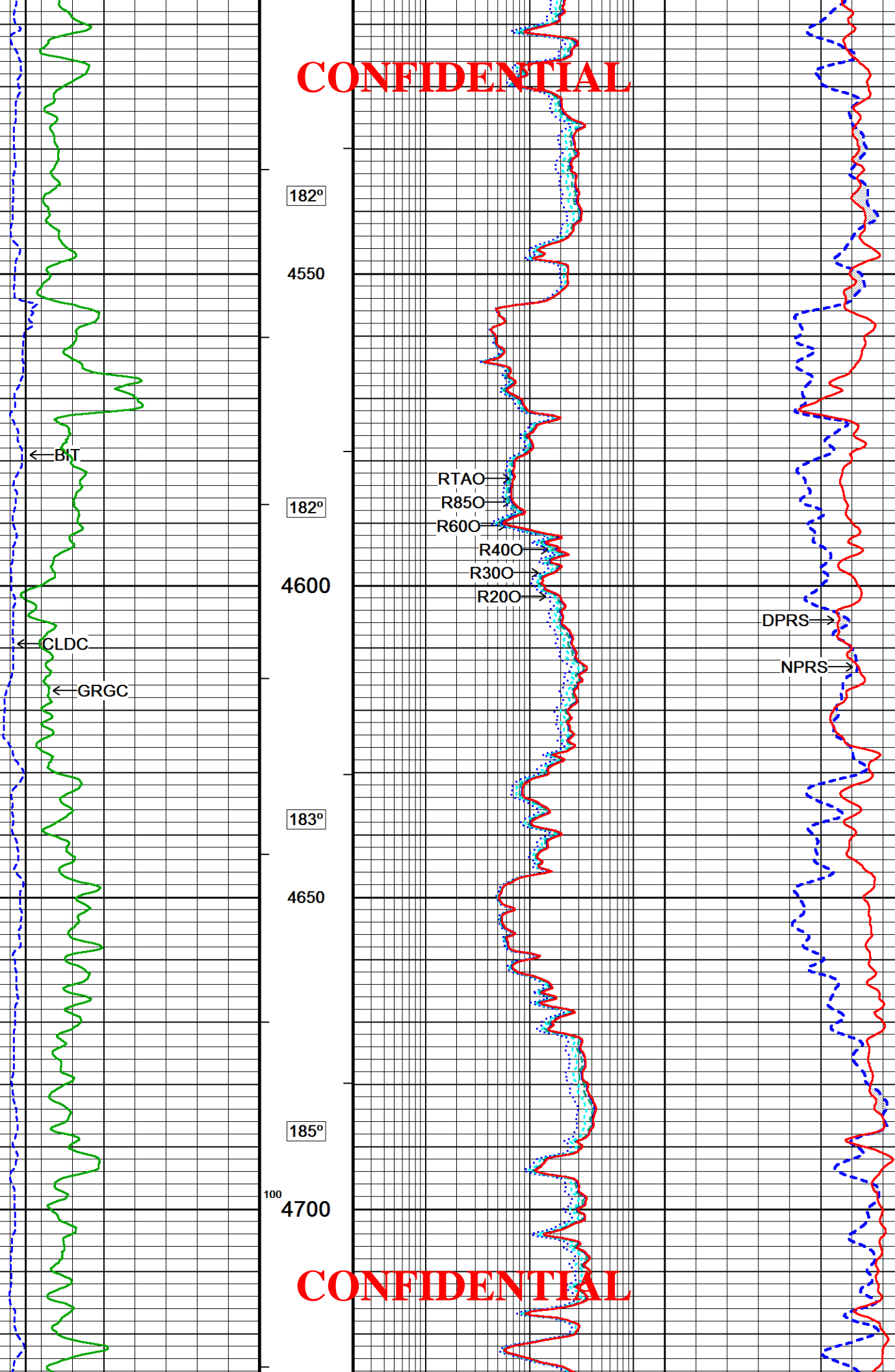
183°

4500

CONFIDENTIAL



CONFIDENTIAL



182°

4550

182°

4600

183°

4650

185°

100
4700

← BJT

← CLDC

← GRGC

RTAO →

R850 →

R600 →

R400 →

R300 →

R200 →

DPRS →

NPRS →

CONFIDENTIAL

CONFIDENTIAL

175°

4750

186°

4800

184°

4850

182°

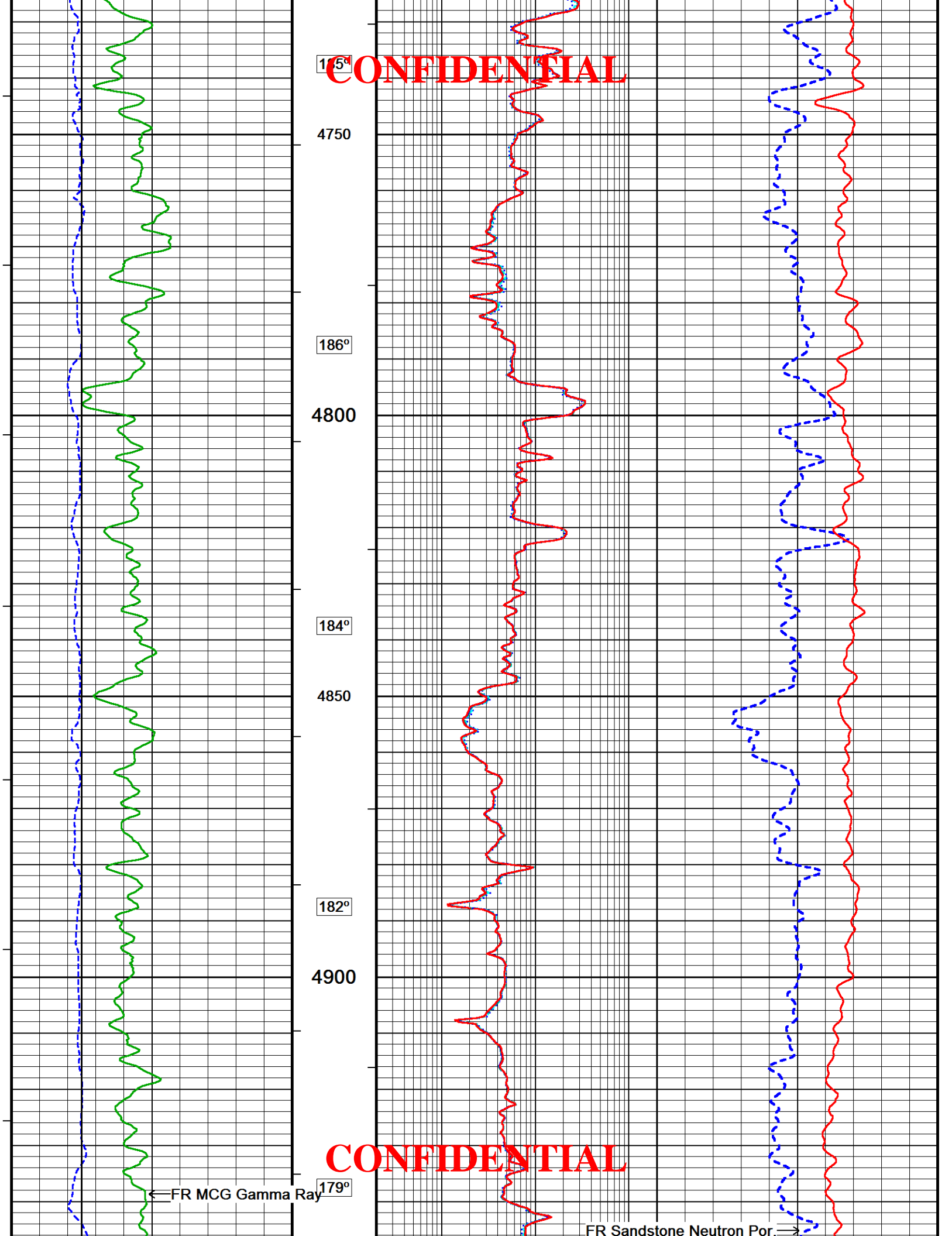
4900

CONFIDENTIAL

← FR MCG Gamma Ray

179°

FR Sandstone Neutron Por. →



CONFIDENTIAL

4950

5000

← FR Density Caliper

FR Sandstone Density Por. →

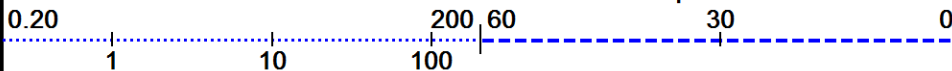
FIFR Array Ind. One Res 40 →

Depth in Feet

Array Ind. One Res 20
ohm metres

Sandstone Neutron Por.
percent

Timing Marks
every 60.0 sec



MCG Gamma Ray

Borehole Temp in deg F

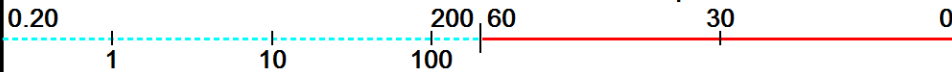
Array Ind. One Res 30
ohm metres

Sandstone Density Por.
percent

API

100

200



0

200

300

400

HVI every 10 cu ft

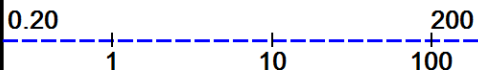
Array Ind. One Res 40
ohm metres



Density Caliper
inches

Annular Integral every 10 cu ft

Array Ind. One Res 60
ohm metres

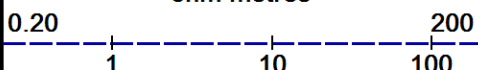


6 11 16

Bit Size
inches

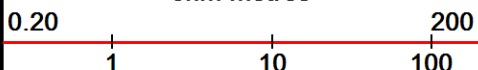
Replay Scale
1:240

Array Ind. One Res 85
ohm metres



6 11 16

Array Ind. One Res Rt
ohm metres



Depth Based Data - Maximum Sampling Increment 10.0cm

Plotted on 27-NOV-2017 14:06

Filename: C:\Users\E181066\AppData\Local\Temp\Weatherford_Preview\01R1UN_1_MAIN_PASS.dta

Recorded on 22-NOV-2017 02:58

System Versions: Logged with 17.03.9609 Processer with 17.03.9609 Ploter with 6.05.4584

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5 INCH MAIN PASS



5 INCH REPEAT PASS

Depth Based Data - Maximum Sampling Increment 10.0cm

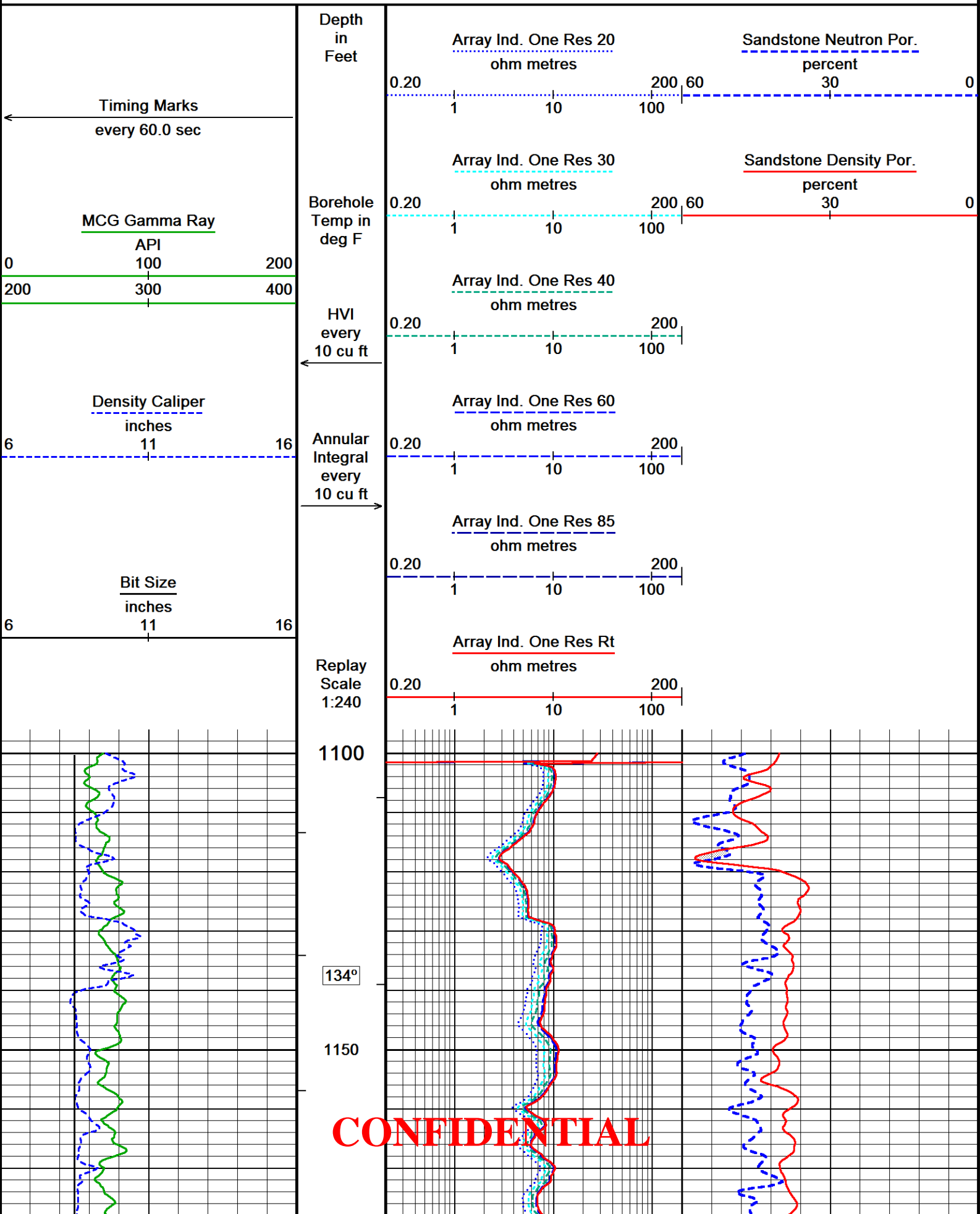
Plotted on 27-NOV-2017 14:06

Filename: C:\Users\E181066\AppData\Local\Temp\Weatherford\PreVis\RUN_1_REPEAT_PASS.dta

Recorded on 22-NOV-2017 02:08

System Versions: Logged with 17.03.9609 Processed with 17.03.9609 Plotted with 6.15.4584

CONFIDENTIAL



CONFIDENTIAL

134°

1200

134°

1250

134°

1300

1350

Depth
in
Feet

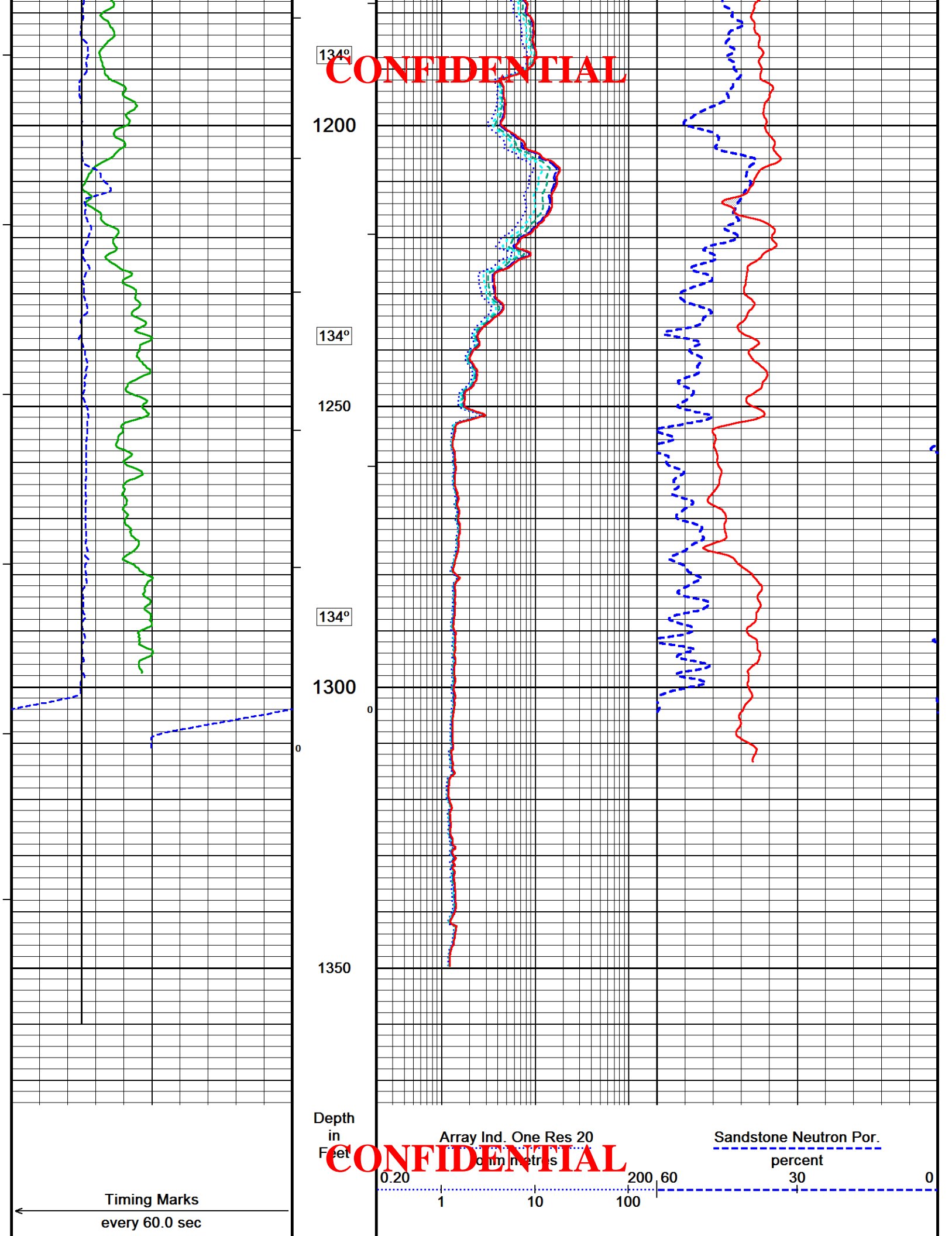
Array Ind. One Res 20

CONFIDENTIAL

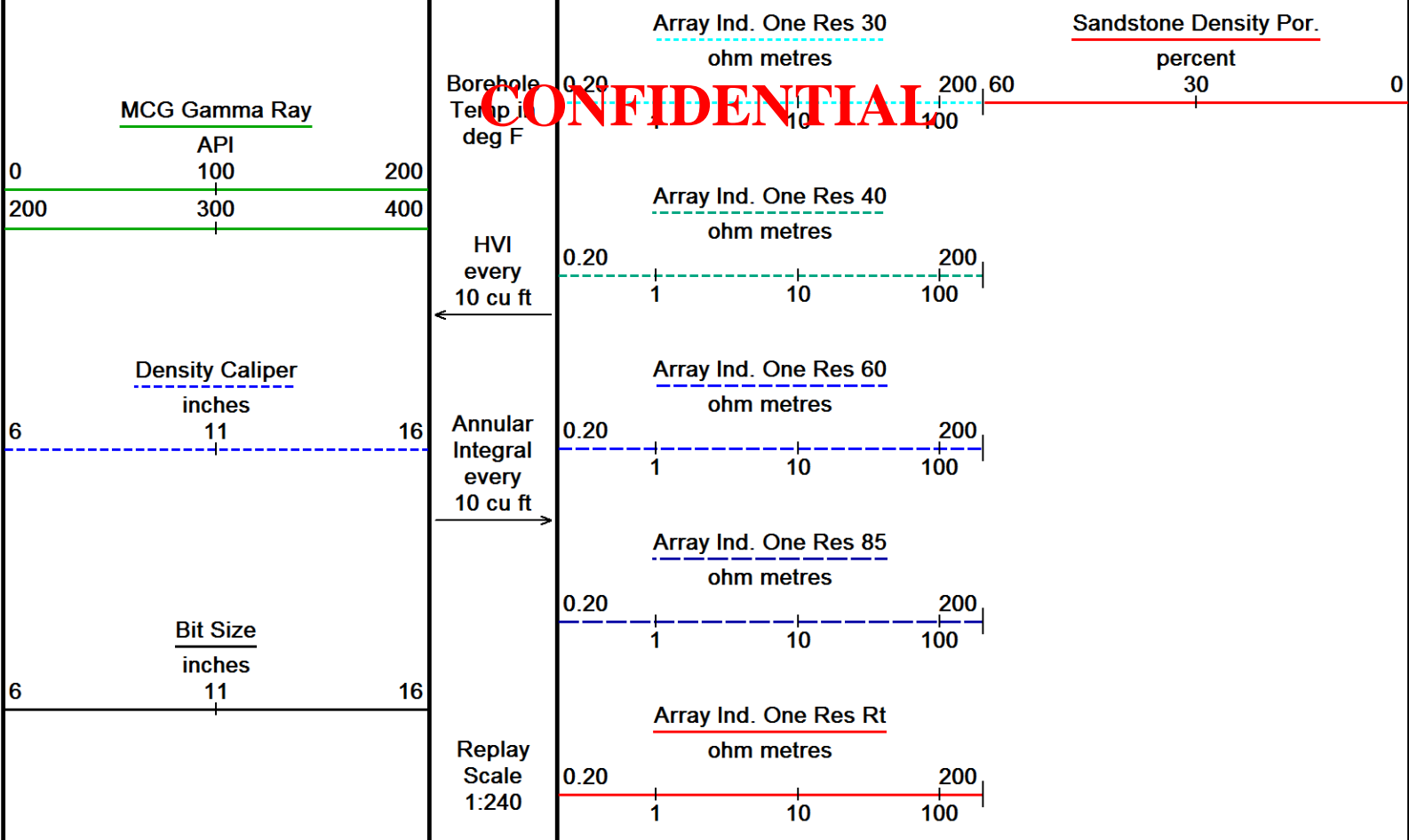
Sandstone Neutron Por.
percent

0.20 1 10 100 200 60 30 0

Timing Marks
every 60.0 sec



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Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 27-NOV-2017 14:06
 Filename: C:\Users\E181066\AppData\Local\Temp\Weatherford PreView\...RUN_1_REPEAT_PASS.dta Recorded on 22-NOV-2017 02:08
 System Versions: Logged with 17.03.9609 Processed with 17.03.9609 Plotted with 16.05.4584

↑ **5 INCH REPEAT PASS** ↑

BEFORE SURVEY CALIBRATION

C:\Users\E181066\AppData\Local\Temp\Weatherford PreView\0\RUN_1_MAIN_PASS.dta

General Constants All 000

Last Edited on 20-NOV-2017,16:02

General Parameters

Mud Resistivity	2.420	ohm-metres
Mud Resistivity Temperature	105.000	degrees F
Water Level	0.000	feet
Borehole Fluid Processing	Wet Hole	

Hole/Annular Volume and Differential Caliper Parameters

HVOL Method	Single Caliper	
HVOL Caliper 1	Density Caliper	
HVOL Caliper 2	N/A	
Annular Volume Diameter	5.500	inches
Caliper for Differential Caliper	Density Caliper	

Rwa Parameters

Porosity used	Base Density Porosity
Resistivity used	Array Ind. Four Res Rt
RWA Constant A	0.620
RWA Constant M	2.150
SW/APOR Tool Source	0.000

Down-hole Tension Calibration SMS 0

Field Calibration on 20-NOV-2017 19:28

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Reading No	Measured (lb)	Calibrated (lb)
1	14825.67	0.00
2	16767.36	900.00

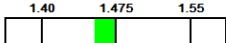
Gamma Calibration MCG-D.K 487

Measured Calibrated (API)

Background	62	42
Calibrator (Gross)	971	668
Calibrator (Net)	910	616

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Gamma Calibration Tolerances MCG-D.K 487

Ratio	1.453		Counts/API
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Gamma Constants MCG-D.K 487

Last Edited on 20-NOV-2017 15:21

Gamma Calibrator Number	GRC 051	
GRC-M Calibrator Jig in Use?	NO	
Inactive Background Jig in Use?	NO	
Mud Density	1.26	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Potassium Equivalence	Chloride	
K Mud Concentration	0.00	%

SP Calibration MCG-D.K 487

Field Calibration on 20-NOV-2017 13:58

	Measured	Calibrated (mV)
Reference 1	99.8	100.0
Reference 2	-104.4	-100.0

High Resolution Temperature Calibration MCG-D.K 487

Field Calibration on 20-NOV-2017,15:21

	Measured	Calibrated(Deg F)
Lower	10.00	10.00
Upper	100.00	100.00

High Resolution Temperature Constants MCG-D.K 487

Last Edited on 25-JUL-2017 18:15

Pre-filter Length	11
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Neutron Calibration MDN-B.J 427

Base Calibration on 23-OCT-2017 16:16

Field Check on 20-NOV-2017 13:10

Base Calibration

	Measured		Calibrated (cps)	
	Near	Far	Near	Far
Ratio	3109	94	3714	110
	33.148		33.764	

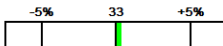
Field Calibrator at Base

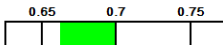
	Calibrated (cps)	
Ratio	1338	2021
	0.662	

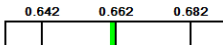
Field Check

	Calibrated (cps)	
Ratio	1508	2283
	0.660	

Neutron Calibration Tolerances MDN-B.J 427

Ratio	33.148	
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Base Check	0.662	
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Field Check	0.660	
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Neutron Constants MDN-B.J 427

Last Edited on 21-NOV-2017,21:03

Neutron Source Id	P31131B	
Neutron Jig Number	6532NK	
Air Hole Processing	Modified Ratio	
Caliper Source for Processing	Density Caliper	
Stand-off	0.60	inches
Mud Density	1.00	gm/cc
Limestone Sigma	7.10	cu
Sandstone Sigma	7.00	cu
Dolomite Sigma	4.70	cu

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Formation Pressure Source	None	
Formation Pressure	N/A	kpsi
Temperature Source	None	
Temperature	N/A	degrees F
Mud Salinity	0.00	kppm
Salinity Correction	Not Applied	
Formation Fluid Salinity Source	None	
Formation Fluid Salinity	N/A	kppm
Barite Mud Correction	Not Applied	

Caliper Calibration MVC-A.A 140

Base Calibration on 20-NOV-2017 14:51
Field Calibration on 20-NOV-2017 14:52

Base Calibration		
Reading No	Measured	Calibrator Size (in)
1	10091	3.99
2	17087	5.96
3	24127	7.96
4	30829	9.85
5	38101	11.88
6	N/A	N/A

Field Calibration		
	Measured Caliper (in)	Actual Caliper (in)
	8.05	7.96

Caliper Calibration MXC-B.A 109

Base Calibration on 20-NOV-2017 14:51
Field Calibration on 20-NOV-2017 14:52

Base Calibration		
Reading No	Measured	Calibrator Size (in)
1	14399	3.99
2	19352	5.96
3	24586	7.96
4	29541	9.85
5	35291	11.88
6	N/A	N/A

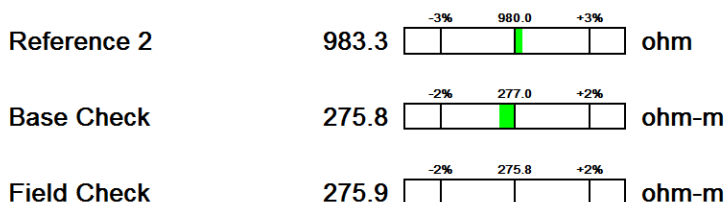
Field Calibration		
	Measured Caliper (in)	Actual Caliper (in)
	7.95	7.96

FE Calibration MFE-C.A 432

Base Calibration on 16-NOV-2017 20:18
Field Check on 20-NOV-2017 14:00

Base Calibration		
	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	983.3	126.8
Base Check		
		275.8
Field Check		
		275.9

FE Calibration Tolerances MFE-C.A 432



FE Constants MFE-C.A 432

Last Edited on 20-NOV-2017,16:02

Running Mode	No Sleeve
MFE K Factor	0.1268

Borehole Correction Constants

Sonde Position	Centred	inches
Hole Size Source	Density Caliper	
Hole Size Constant Value	N/A	inches
Rm Source	Global Value: Temperature Corrected	
Temp. for Rm Corr.	MCG External Temperature	

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Base Calibration

Test Loop Calibration

Channel	Measured (mmho/m)		Calibrated (mmho/m)	
	Low	High	Low	High
1	15.2	433.1	9.3	966.2
2	5.5	361.5	7.6	821.4
3	3.0	249.1	5.2	566.0
4	1.5	127.7	2.6	279.2

Array Temperature 75.7 Deg F

Test Loop Calibration Verified

Channel	Base Check (mmho/m)		Field Check (mmho/m)		Array Temperature
	Low	High	Low	High	
1	17.0	4193.5	17.0	4193.8	57.4
2	32.8	3728.9	32.8	3729.3	
3	30.5	3175.3	30.5	3175.6	
4	21.0	2160.7	21.1	2160.8	
Deep	18.7	2062.5	18.7	2062.5	51.7
Medium	44.0	4161.4	44.0	4162.0	
Shallow	49.1	5536.4	49.1	5537.2	
Array Temperature	57.4		51.7		Deg F

Induction Constants MAI-B.J 437

Last Edited on 22-NOV-2017,05:22

Induction Model RtAP-WBM

Borehole Correction Constants

Tool Centred	Yes
Hole Size Source	Density Caliper
Hole Size Constant Value	N/A inches
Stand-off Type	N/A
Stand-off	N/A inches
Number of Fins on Stand-off	N/A
Stand-off Fin Angle	N/A degrees
Stand-off Fin Width	N/A inches
Rm Source	Global Value: Temperature Corrected
Temp. for Rm Corr.	MCG External Temperature

Squasher Start 0.0020 mhos/metre
Squasher Offset N/A mhos/metre

Borehole Normalisation

DRM1	0.0000	DRC1	0.0000
DRM2	0.0000	DRC2	0.0000
MRM1	0.0000	MRC1	0.0000
MRM2	0.0000	MRC2	0.0000
SRM1	0.0000	SRC1	0.0000
SRM2	0.0000	SRC2	0.0000

Calibration Site Corrections

Channel 1	0.00	mmhos/metre
Channel 2	0.00	mmhos/metre
Channel 3	0.00	mmhos/metre
Channel 4	0.00	mmhos/metre

Symmetrised Receiver Gains

Receiver 1	1.00
Receiver 2	1.00
Receiver 3	1.00
Receiver 4	1.00

Apparent Porosity and Water Saturation Constants

Archie Constant (A)	1.00	
Cementation Exponent (M)	2.00	
Saturation Exponent (N)	2.00	
Saturation of Water for Apor	100.00	percent
Resistivity of Water for Apor and Sw	0.05	ohm-m

Resistivity of Mud Filtrate for Sw 0.00 ohm-m
 Source for Rt 0.00
 Source for Rxo 0.00

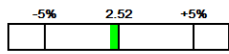
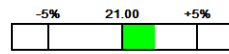
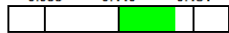
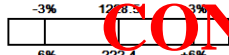
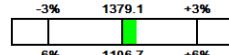

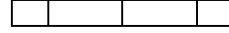
High Resolution Temperature Calibration MAI-B.J 437		CONFIDENTIAL		Field Calibration on 02-NOV-2017,17:00
	Measured	Calibrated(Deg F)		
Lower	10.00	10.00		
Upper	100.00	100.00		

High Resolution Temperature Constants MAI-B.J 437		Last Edited on 05-OCT-2017,12:24	
Pre-filter Length	11		

Caliper Calibration MPD-C.J 380		Base Calibration on 20-NOV-2017 14:11 Field Calibration on 20-NOV-2017 14:12	
Base Calibration		Measured	Calibrator Size (in)
Reading No			
1	14208	3.99	
2	22608	5.96	
3	31340	7.96	
4	39552	9.85	
5	48710	11.88	
6	N/A	N/A	
Field Calibration		Measured Caliper (in)	Actual Caliper (in)
		7.96	7.96

Caliper Calibration Tolerances MPD-C.J 380	
Short Arm Field Cal.	7.96  in

Photo Density Calibration MPD-C.J 380		Base Calibration on 09-NOV-2017 12:51 Field Check on 20-NOV-2017 13:15	
Density Calibration		Measured	Calibrated (sdu)
Base Calibration		Near Far	Near Far
Background	1228 1379		
Reference 1	51065 24377	59690	30917
Reference 2	21126 2451	25135	2545
Field Check at Base	1228.5 1379.1		
Field Check	1228.6 1387.3		
PE Calibration		Measured	Calibrated
Base Calibration	WS WH Ratio	Ratio	Ratio
Background	222 1107		
Reference 1	21445 50885 0.426	0.371	
Reference 2	6075 20998 0.294	0.274	
Field Check at Base	222.4 1106.7		
Field Check	220.5 1106.7		

Photo Density Calibration Tolerances MPD-C.J 380			
Near Density Ratio 2.50		Far Density Ratio 21.46	
PE Calibration 0.126			
Near Den. Field Check 1228.6		Far Den. Field Check 1387.3	
PE WS Field Check 220.5		PE WH Field Check 1106.7	

Density Constants MPD-C.J 380	Last Edited on 22-NOV-2017,01:40
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Density Source Id P21136B
 Nylon Calibrator Number DNC-E 675
 Aluminium Calibrator Number DAC-D 532
 Density Shoe Profile 3 inch
 Caliper Source for Processing Density Caliper
 PE Correction to Density Not Applied
 Mud Density 1.26 gm/cc
 Mud Density Z/A Multiplier
 Mud Filtrate Density 1.00 gm/cc
 Dry Hole Mud Filtrate Density 1.00 gm/cc
 DNCT 0.00 gm/cc
 CRCT 0.00 gm/cc
 Density Z/A Correction Hybrid
 Precision Enhanced Density Processing Not Applied

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Matrix Density (gm/cc)	Depth (ft)
2.65	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00

DOWNHOLE EQUIPMENT

C:\Users\E181066\AppData\Local\Temp\Weatherford PreView0\RUN_1_MAIN_PASS.dta

Cablehead, 11 pin
 CBH-DB 239 LG: 2.40 ft WT: 24.3 lb OD: 2.244 in

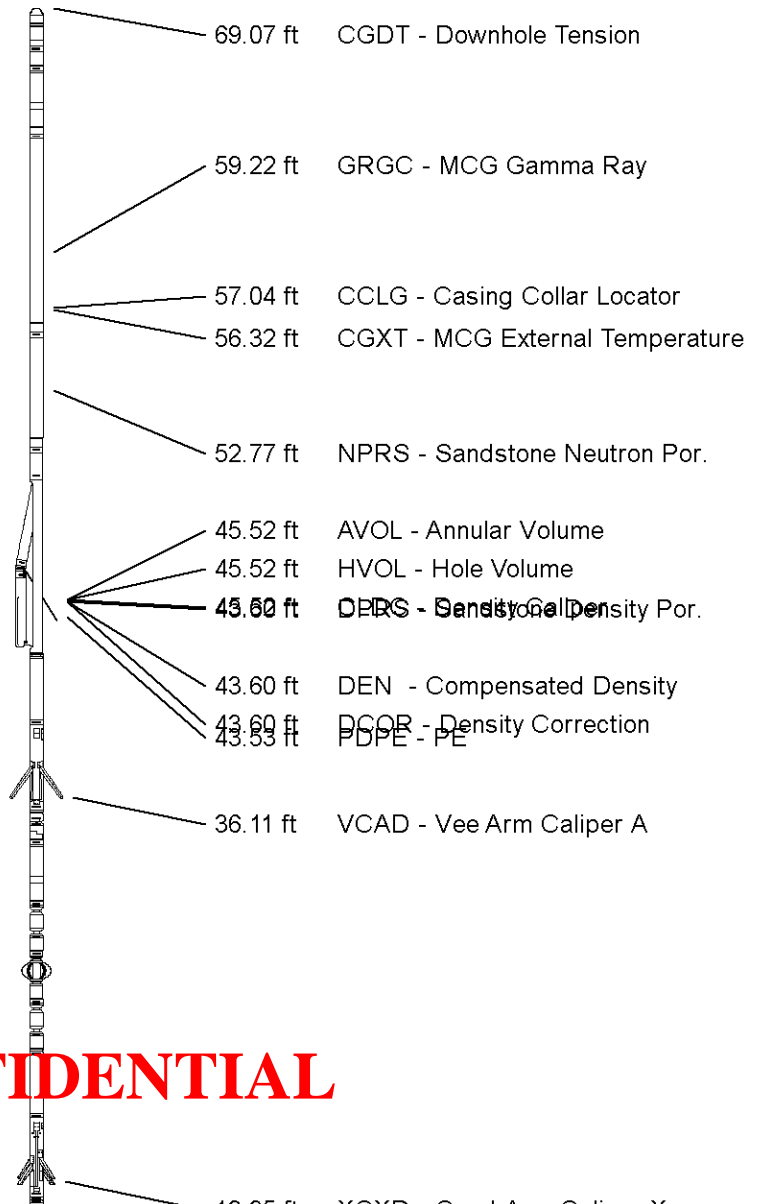
Compact Swivel Head Adaptor
 SHA-J.B 512 LG: 2.30 ft WT: 22.0 lb OD: 2.244 in

Compact Comms Gamma
 MCG-D.K 487 LG: 8.70 ft WT: 63.9 lb OD: 2.244 in

Compact Neutron
 MDN-B.J 427 LG: 5.04 ft WT: 50.7 lb OD: 2.244 in

Compact Density/Caliper
 MPD-C.J 380 LG: 9.59 ft WT: 90.4 lb OD: 2.449 in

Compact Vee Arm Caliper
 MVC-A.A 140 LG: 8.06 ft WT: 61.7 lb OD: 2.244 in



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Compact Swivel Head Adaptor
SHA-J.B 571 LG: 2.30 ft WT: 22.0 lb OD: 2.244 in

Compact Knuckle Joint
SKJ-E.B 537 LG: 2.17 ft WT: 24.3 lb OD: 2.244 in

Compact Inline Standoff sub
MIS-E.B 652 LG: 2.14 ft WT: 15.4 lb OD: 2.244 in

Compact Knuckle Joint
SKJ-E.B 731 LG: 2.17 ft WT: 24.3 lb OD: 2.244 in

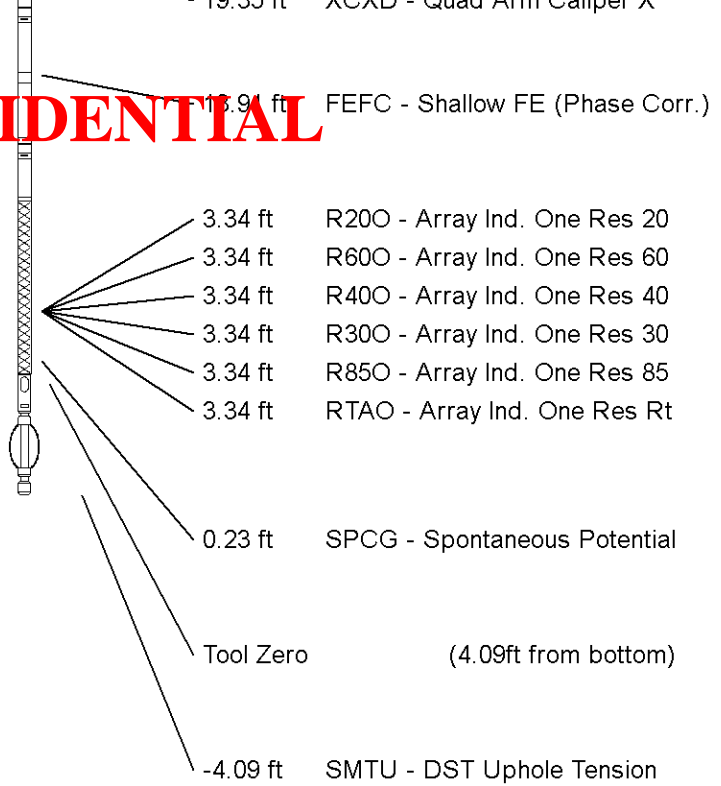
Compact Quad Arm Caliper
MXC-B.A 109 LG: 7.49 ft WT: 77.2 lb OD: 2.240 in

Compact Focussed Electric
MFE-C.A 432 LG: 6.05 ft WT: 48.5 lb OD: 2.244 in

Compact Induction
MAI-B.J 437 LG: 14.76 ft WT: 48.5 lb OD: 2.244 in

Total Length: 73.16 ft Weight: 573.2 lb

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All measurements relative to tool zero.

COMPANY	ALTA MESA SERVICES LLC				
WELL	ML INVESTMENTS 3-10				
FIELD	WILLOW				
PROVINCE/COUNTY	PAYETTE				
COUNTRY/STATE	U.S.A. / IDAHO				
Elevation Kelly Bushing	2263	feet	First Reading	4994.57	feet
Elevation Drill Floor	2263	feet	Depth Driller	5000.00	feet
Elevation Ground Level	2251	feet	Depth Logger	5002.00	feet



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