

COMPANY : TERRA EP
WELL : RWF 442-18
FIELD : RULISON
COUNTY : GARFIELD
STATE : COLORADO
COUNTRY : USA
UWI : 05-045-24035-00

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WELL LOCATION NAD83
LAT:39.5309430°N LONG:107.9212240°W

SEC:17 TWP:6S RANGE:94W

OTHER SERVICES

DIRECTIONAL
ROP
CONDUCTIVITY
FETR

DEPTH REF. : RKB

REF. HEIGHT : 24.000 ft RKB to Ground Level

GROUND LEVEL : 6174.500 ft G.L. to MEAN SEA LEVEL

BOREHOLE RECORD

DEVIATION RECORD

HOLE SIZE in	FROM ft	TO ft	INCLINATION deg	FROM ft	TO ft
13.5	108	1118	0.00 - 0.00	0	120
			0.00 - 14.43	120	601.00
			14.43 - 14.43	601.00	1100

CASING RECORD

[illegible]

Run Data

RUN NUMBER	MWD-001								
START DATE	5/14/2019								
START TIME	20:13								
END DATE	05/15/2019								
END TIME	06:30								
DEPTH IN (ft)	108								
DEPTH OUT (ft)	1118								
LOG TOP (ft)	108								
LOG BOTTOM (ft)	1077								
HOLE SIZE (in)	13.5								
MUD DATA @ (ft)	1118								
MUD TYPE	LSND								
DENSITY (lb / gal)	9.5								
VISCOSITY (s / qt)	63								
pH	9.5								
FLUID LOSS (cm3 / 30)	16,00								
SALINITY (ppm)	2200								
Rm (ohmm @ deg F)	-								
Rmf (ohmm @ deg F)	-								
MAX TEMP (deg F)	109								
Rm @ MAX TEMP (ohmm)	-								
LWD ENGINEER #1	T. HEIL								
LWD ENGINEER #2	R. CUEVAS								
LWD ENGINEER #3	P. SALLIE								
LOG WITNESS #1	-								
LOG WITNESS #2	-								

Remarks

TERRA EP PRODUCTION AFE# 70-051300755

SCIENTIFIC DRILLING INTERNATIONAL JOB#

ALL REFERENCES IN THE DEPTH TRACK ARE AT BIT DEPTH.

ALL DATA IS MEMORY DATA UNLESS STATED OTHERWISE.

FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO GAMMA RAY TOTAL CURVE

FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO RATE OF PENETRATION CURVE

FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO PHASE SHIFT RESISTIVITY, 23" CURVE

FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO ATTENUATION RESISTIVITY, 23" CURVE

FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO PHASE SHIFT RESISTIVITY, 33" CURVE

FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO ATTENUATION RESISTIVITY, 33" CURVE

FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO PHASE SHIFT CONDUCTIVITY, 33" CURVE

RUN #1: MWD / PRT-GAMMA LOGGING RUN

SENSORS S/N: CONT = 1039 / MWD EYE = 606 / PRT = 335 / GAMMA = 1390

B TO S OFFSETS: CONT = 94.82 FT. / MWD EYE = 72.22 FT./ PRT = 44.78 / GAMMA = 41.28

MNEMONICS LIST:

GR = GAMMA RAY TOTALAR33 = ATTENUATION RESISTIVITY, 33"

ROP = RATE OF PENETRATIONFETR = FET OF RESISTIVITY

PR23 = PHASE SHIFT RESISTIVITY, 23"T-TEMP = TOOL TEMPERATURE

AR23 = ATTENUATION RESISTIVITY, 23"PC33 = PHASE SHIFT CONDUCTIVITY, 33"

PR33 = PHASE SHIFT RESISTIVITY, 33"

All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions as set out in our current price schedule.

FIELD COPY

Gamma Ray Total (GR)

0Unit = aapi150

Rate of Penetration (ROP)

1000Unit = ft/hr0

MEASURED DEPTH

1:240 (ft)

0

50

Phase Shift Resistivity, 23" (PR23)

0.2Unit = ohmm2000

Attenuation Resistivity, 23" (AR23)

0.2Unit = ohmm2000

Phase Shift Resistivity, 33" (PR33)

0.2Unit = ohmm2000

Attenuation Resistivity, 33" (AR33)

0.2Unit = ohmm2000

FET of Resistivity (FETR)

0Unit = hr10

Tool Temperature (T-TEMP)

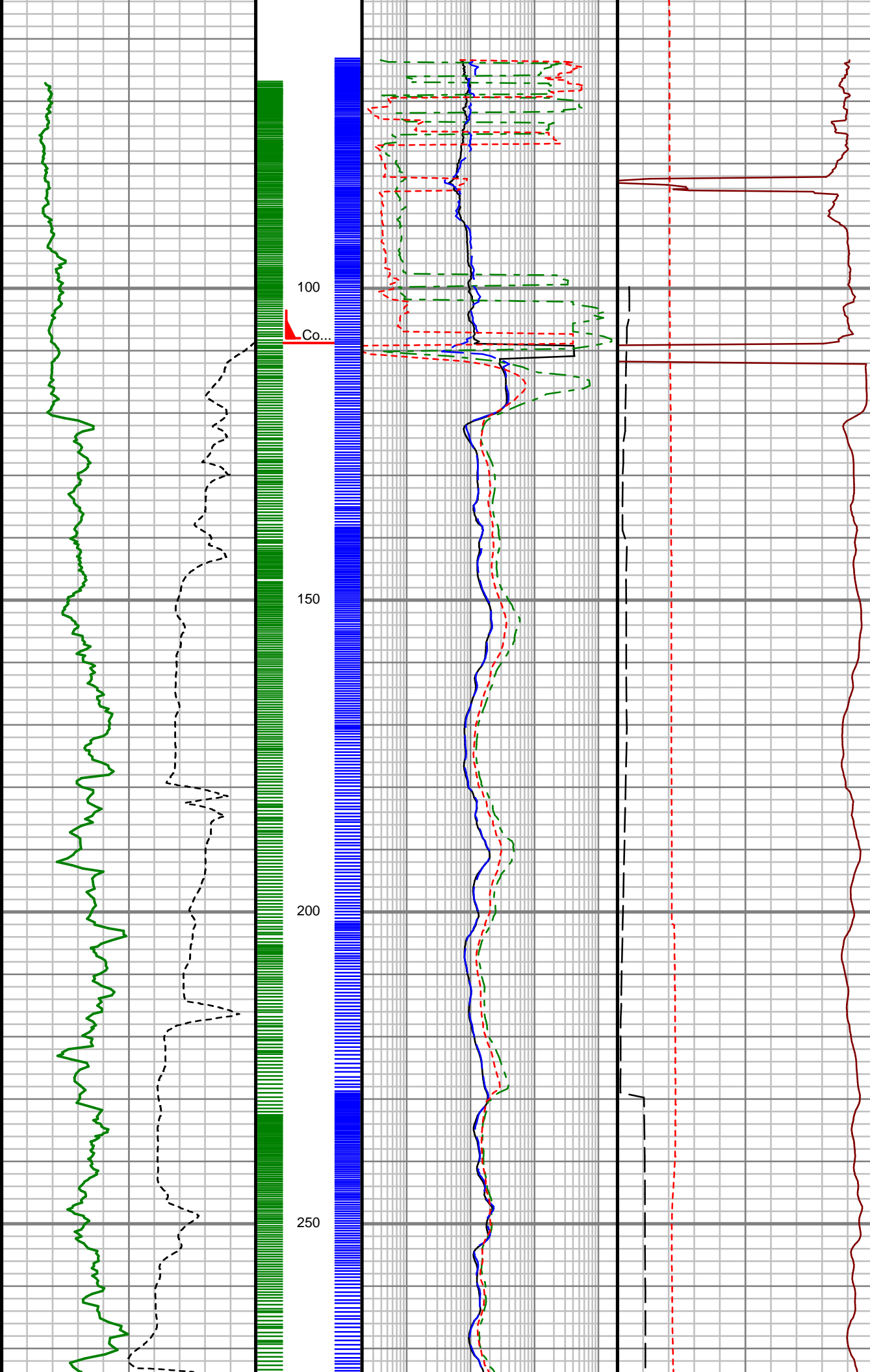
50Unit = °F200

Phase Shift Conductivity, 33" (PC33)

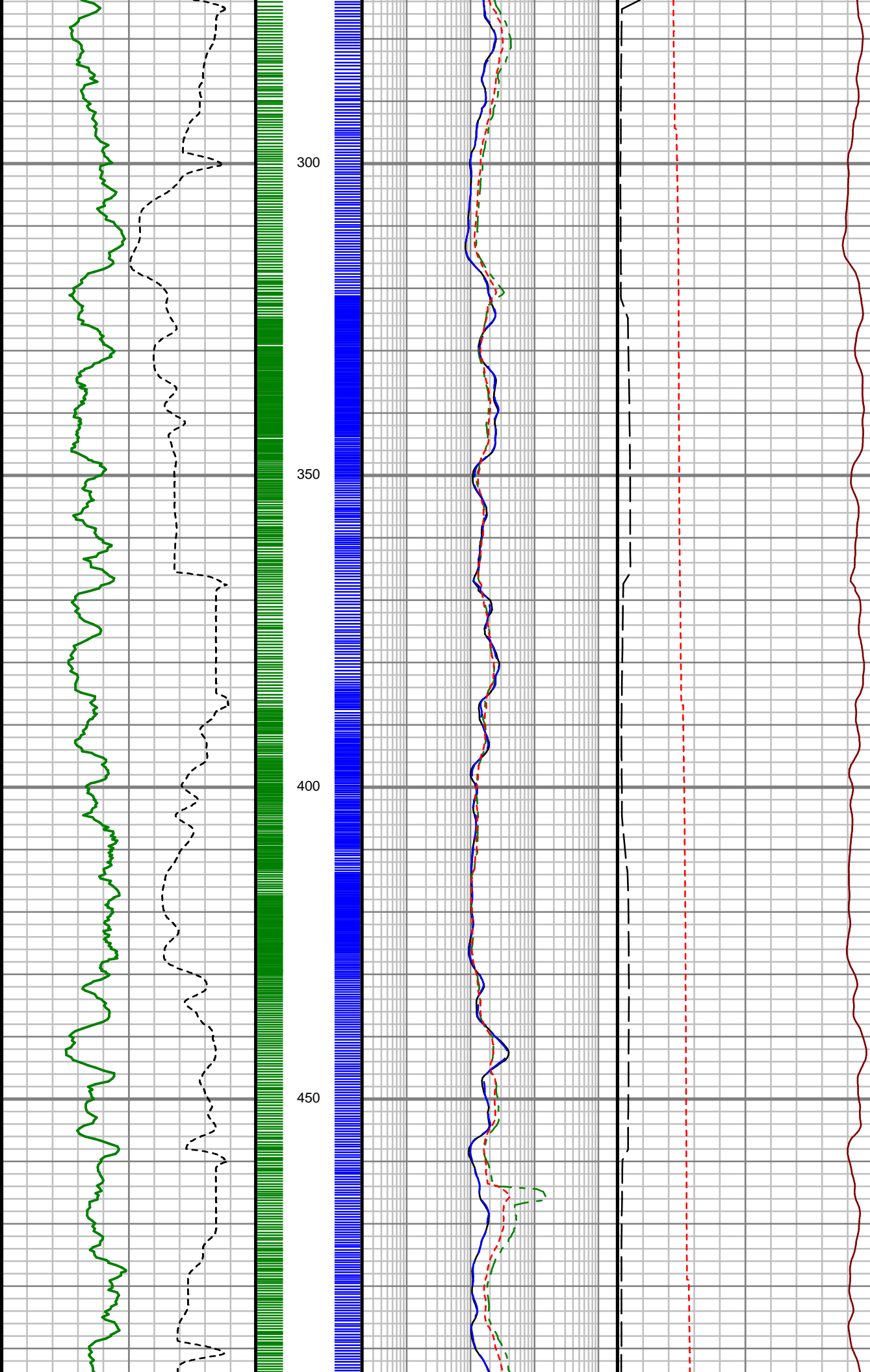
1000Unit = mmho/m0

Comments

T MD: 0.00 ft
Inc: 0.00 deg
Az: 0.00 deg
TVD: 0.00 ft



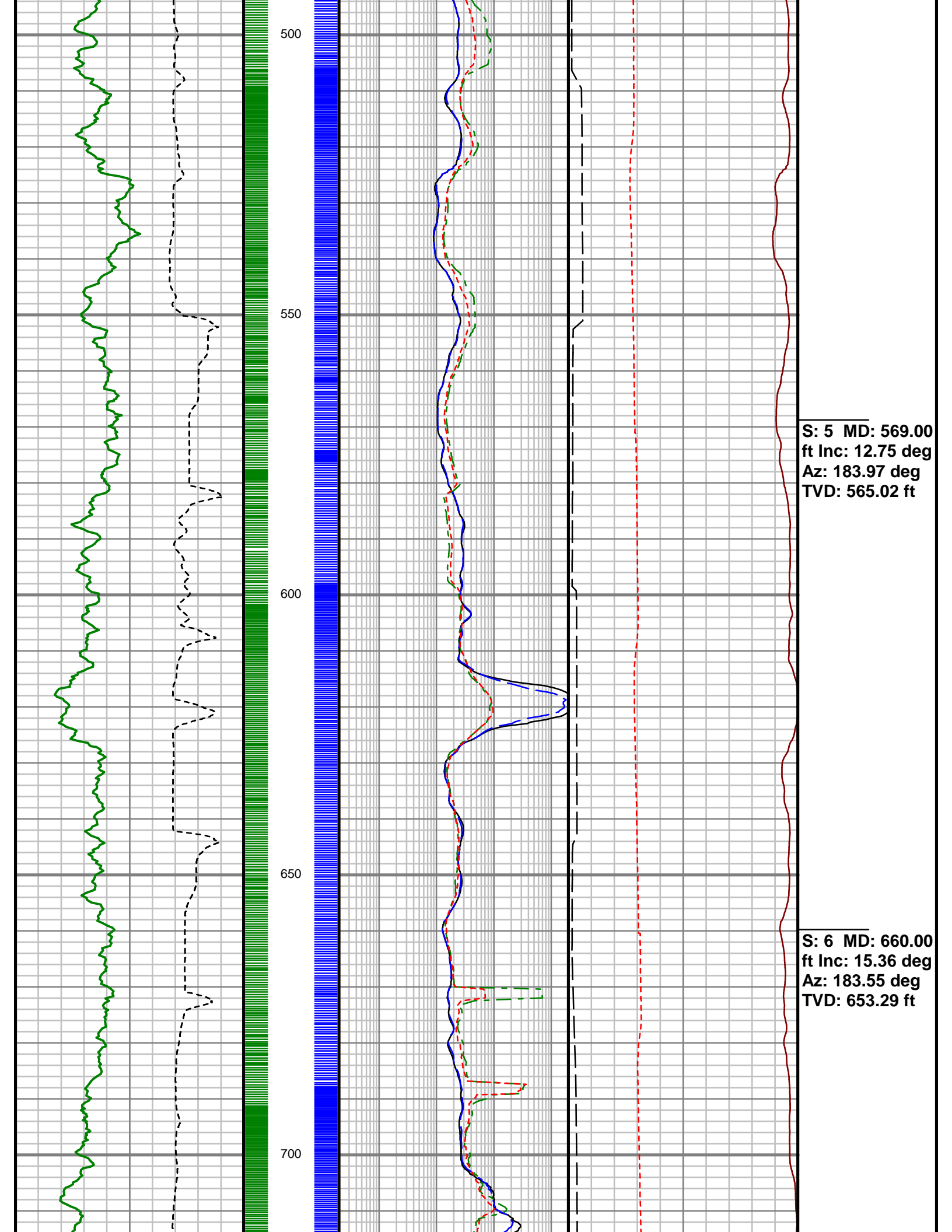
S: 1 MD: 202.00
ft Inc: 3.56 deg
Az: 196.02 deg
TVD: 201.87 ft

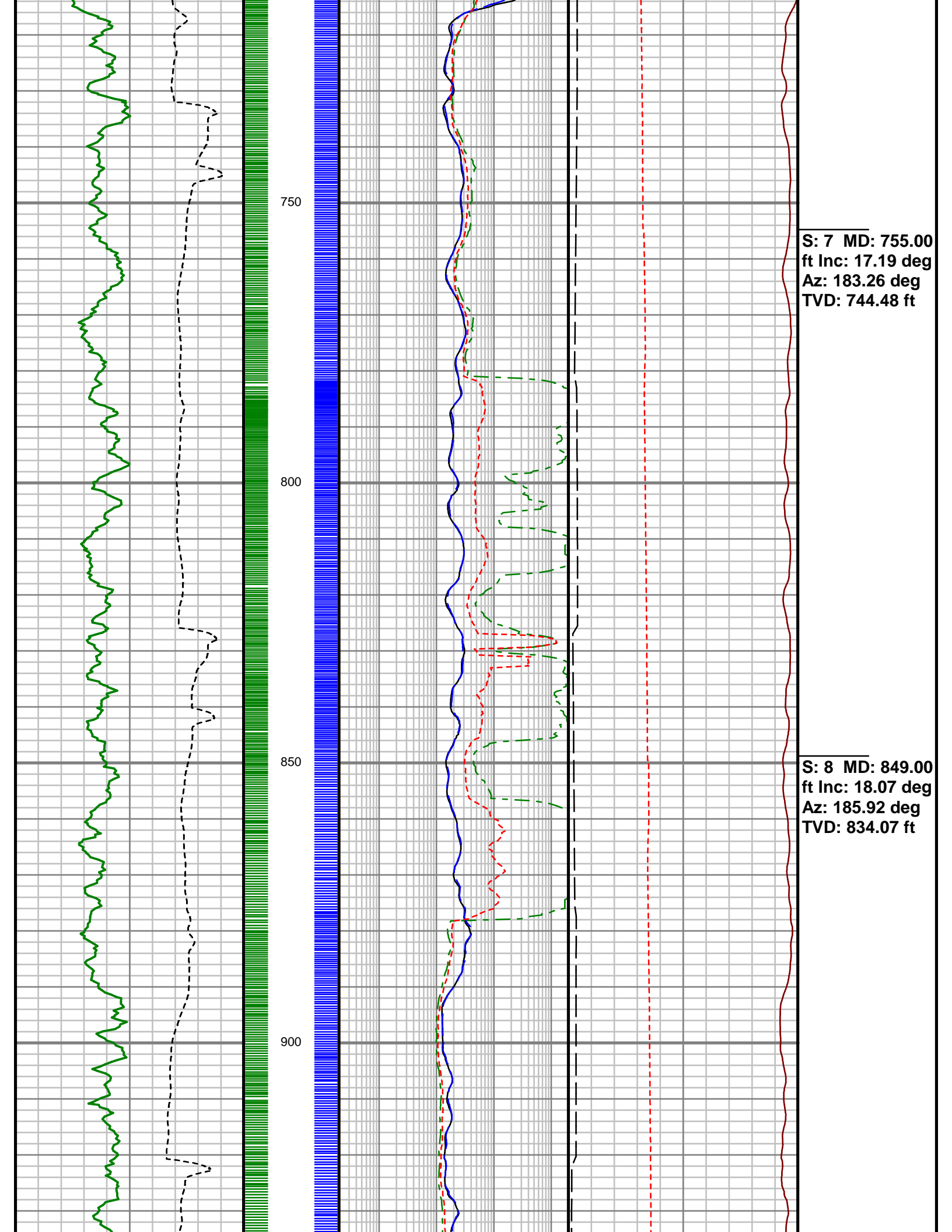


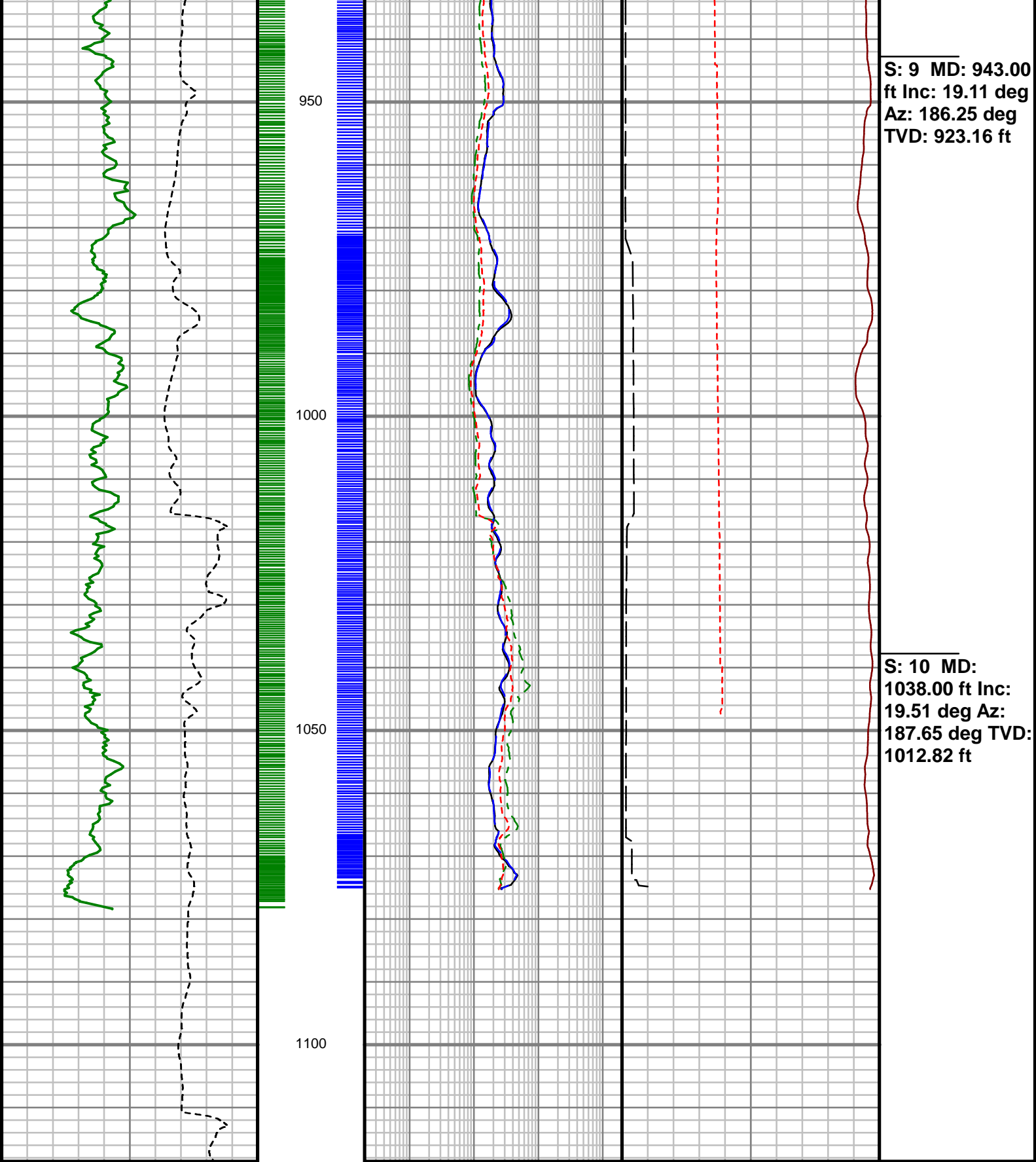
S: 2 MD: 294.00
ft Inc: 5.89 deg
Az: 193.29 deg
TVD: 293.55 ft

S: 3 MD: 385.00
ft Inc: 7.53 deg
Az: 186.08 deg
TVD: 383.93 ft

S: 4 MD: 477.00
ft Inc: 10.02 deg
Az: 182.47 deg
TVD: 474.84 ft







S: 9 MD: 943.00
ft Inc: 19.11 deg
Az: 186.25 deg
TVD: 923.16 ft

S: 10 MD: 1038.00 ft Inc: 19.51 deg Az: 187.65 deg TVD: 1012.82 ft

Rate of Penetration (ROP)

1000 Unit = ft/hr 0

Gamma Ray Total (GR)

0 Unit = aapi 150

MEASURED DEPTH
1:240 (ft)

Attenuation Resistivity, 33" (AR33)

0.2 Unit = ohmm 2000

Phase Shift Resistivity, 33" (PR33)

0.2 Unit = ohmm 2000

Attenuation Resistivity, 23" (AR23)

0.2 Unit = ohmm 2000

Phase Shift Resistivity, 23" (PR23)

0.2 Unit = ohmm 2000

Phase Shift Conductivity, 33" (PC33)

1000 Unit = mmho/m 0

Tool Temperature (T-TEMP)

50 Unit = °F 200

FET of Resistivity (FETR)

0 Unit = hr 10

Comments



PROPAGATION RESISTIVITY
GAMMA RAY

5" = 100' MD