SHORE-BASED LOG PROCESSING

HOLE 395A

Bottom felt: 4494 mbrf (used for depth shift to seafloor)
Total penetration: 664 mbsf (drilled during DSDP Leg 45)
Total core recovered: 106 m (18%)

Logging Runs

Logging string 1: ARI/GPIT/HNGS
Logging string 2: FMS/DSI/GPIT/NGT (3 passes)
Logging string 3: DIT/HLDS/APS/GPIT/HNGS

The wireline heave compensator was used to counter ship heave during the ARI/GPIT/HNGS run and the first two passes of the FMS/DSI/GPIT/NGT. It did not function in the other runs.

Casing

The casing shoe was set at 112 mbsf during Leg 45. Even after accurate depth correlation (see "Depth shift" section) between the logging runs recorded during Leg 109, the logs showed the casing shoe at different depths; furthermore, these depths differed from the depth given by the drillers. Possible reasons for this discrepancy were ship heave and drill string and/or wireline stretch. The casing depths recorded during Leg 109 are the following:

DIT/LSS/GR: Casing at 112.5 mbsf
ACT/GST/NGT: Casing at 118 mbsf
LDT/CNTG/GPIT: Casing at 115 mbsf

The logs recorded during Leg 174B were depth-matched to the logs recorded during Leg 109; this time, however, none of the gamma-ray logs show clearly where the casing shoe is, and other logs, such as resistivity and density, end at 120 mbsf, consistently with the same logs recorded during Leg 109. This depth is a few meters below the casing depth indicated by the drillers (113 mbsf).

Processing

Depth shift: Original logs have been first depth shifted to the seafloor (–4494 m) and then depth-matched to the logging data recorded during Leg 109. The program used is an interactive, graphical depth-match program that allows the user to visually correlate logs and to define appropriate shifts. The reference and match channels are displayed on the screen, with vectors connecting old (reference curve) and new (match curve) shift depths. The total gamma-ray curve (SGR or HSGR) from the NGT or HNGS tool run on each logging string and the resistivity channels have been used to correlate the logging runs at Hole 395A. A list of the amount of differential depth shifts applied at this hole is available upon request.

Gamma-ray processing: NGT and HNGS data have been processed to correct for borehole size and type of drilling fluid.

Acoustic data processing: At the time of this writing, the Dipole Sonic Imager data had not been processed yet. Full sonic waveform analysis is required to obtain accurate compressional and shear velocities.

Quality Control

During the processing, quality control of the data is mainly performed by cross-correlation of all logging data. Large (>12 in) and/or irregular borehole affects most recordings, particularly those that require eccentralization (APS, HLDS) and a good contact with the borehole wall. Hole deviation can also affect the data negatively; the FMS, for example, is not designed to be run in holes deviated more than 10°, as the tool weight might cause the caliper to close.

Data recorded through casing should be used qualitatively only because of the attenuation on the incoming signal.

Hole diameter was recorded by the hydraulic caliper on the HLDS tool (LCAL) and on the FMS string (C1 and C2).

Additional information about the logs can be found in the "Introduction" and "Site 395" chapters of Volume 174B of the *Initial Reports*. For further questions about the logs, please contact:

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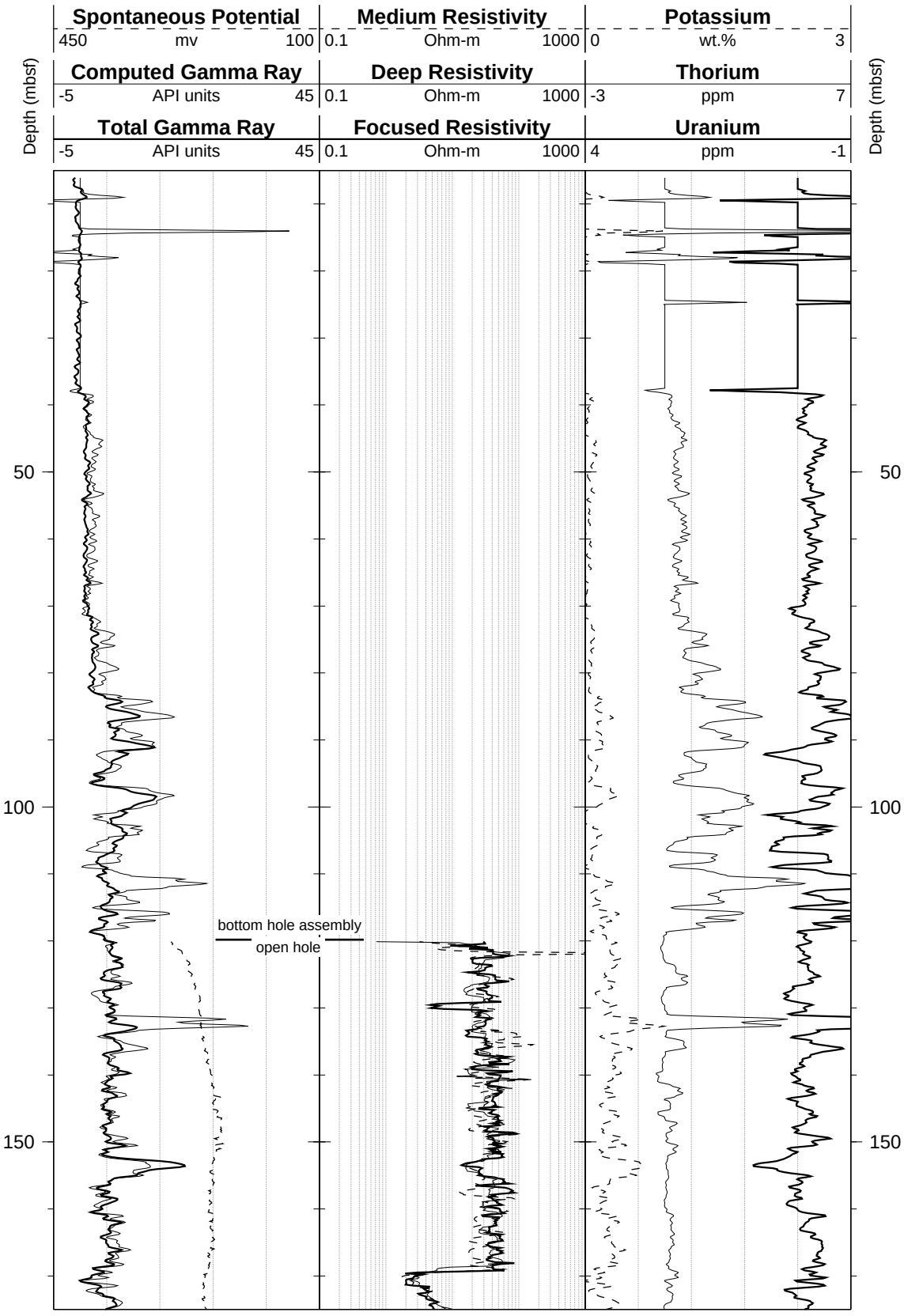
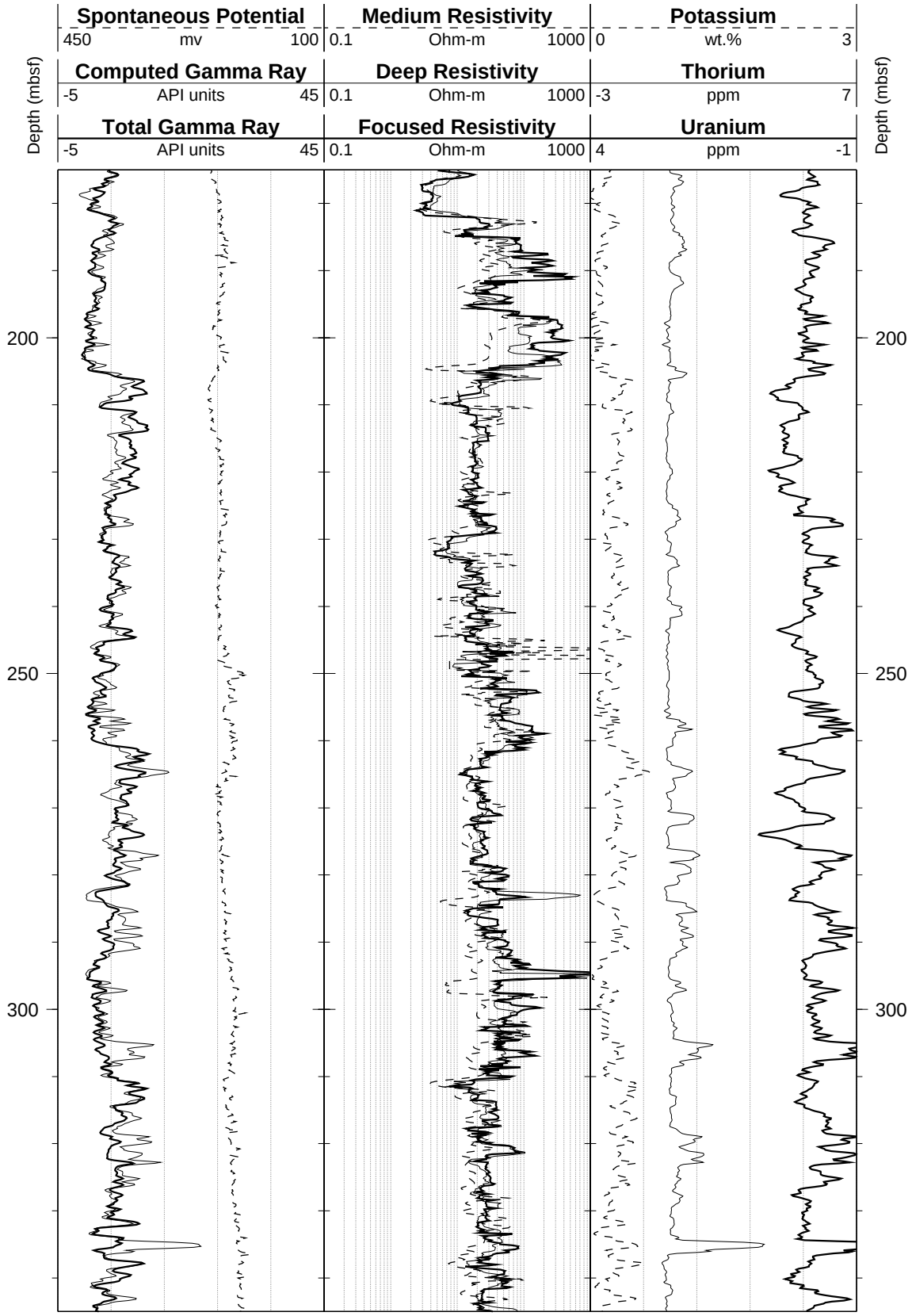
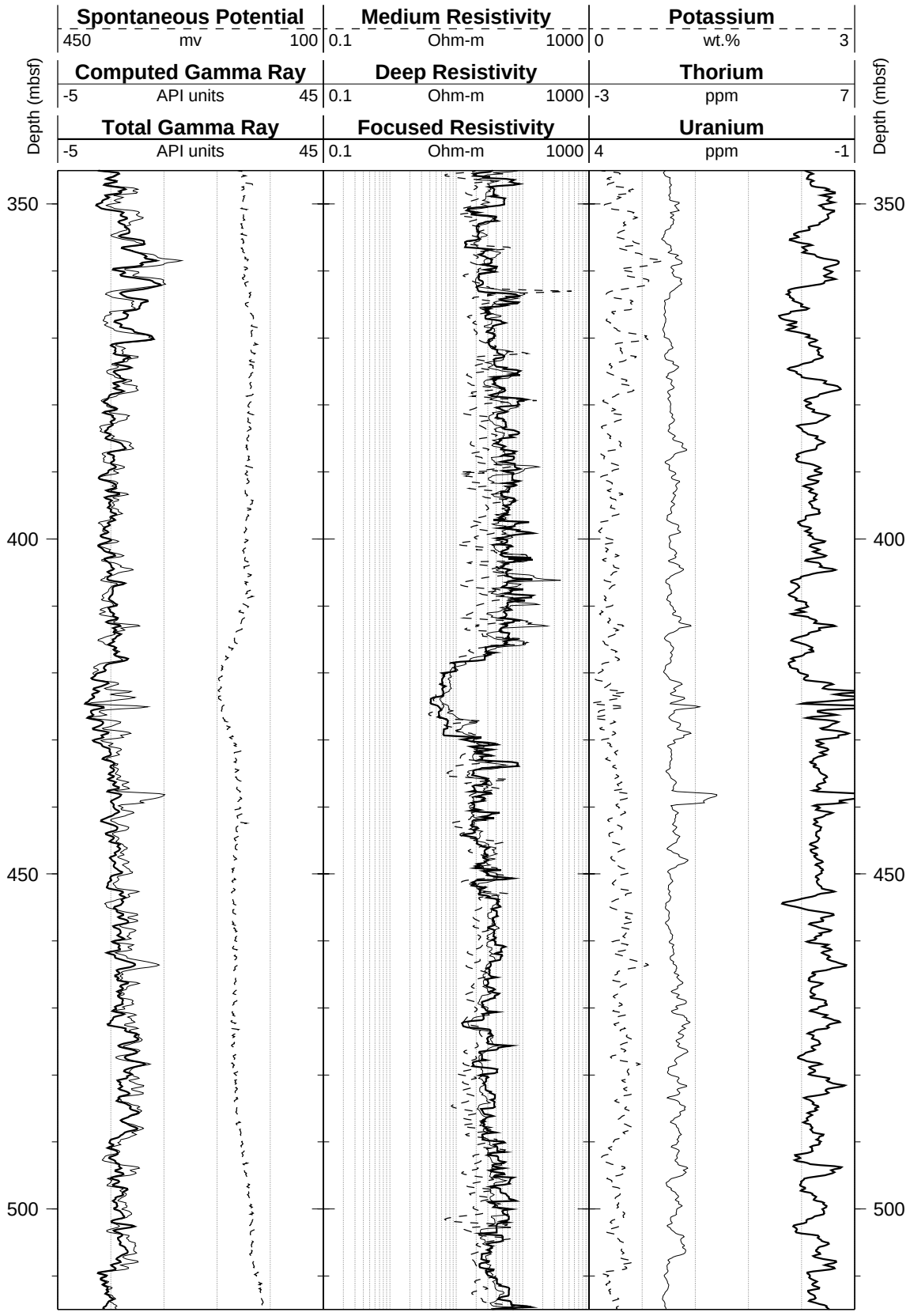
Hole 395A: Natural Gamma Ray-Resistivity Logging Data



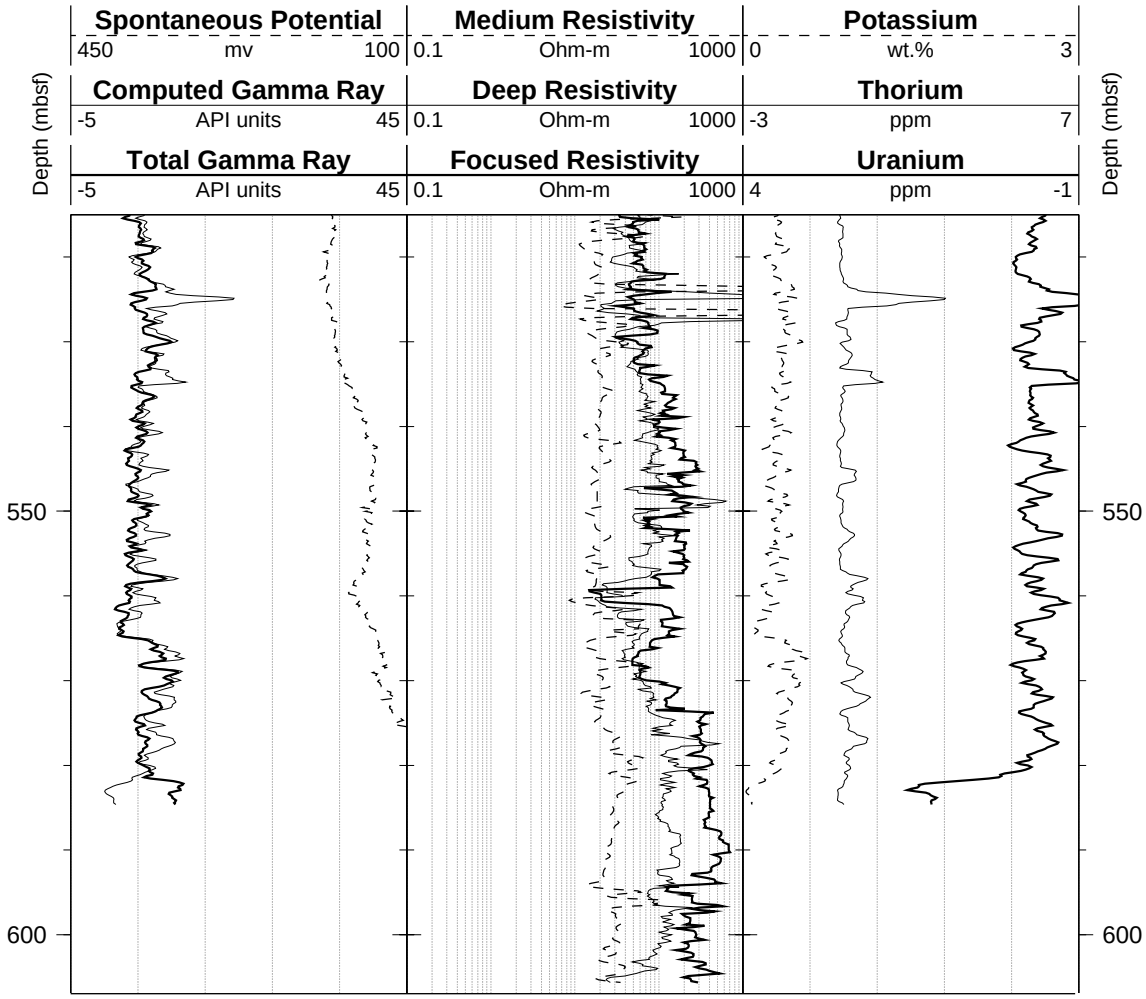
Hole 395A: Natural Gamma Ray-Resistivity Logging Data (cont.)



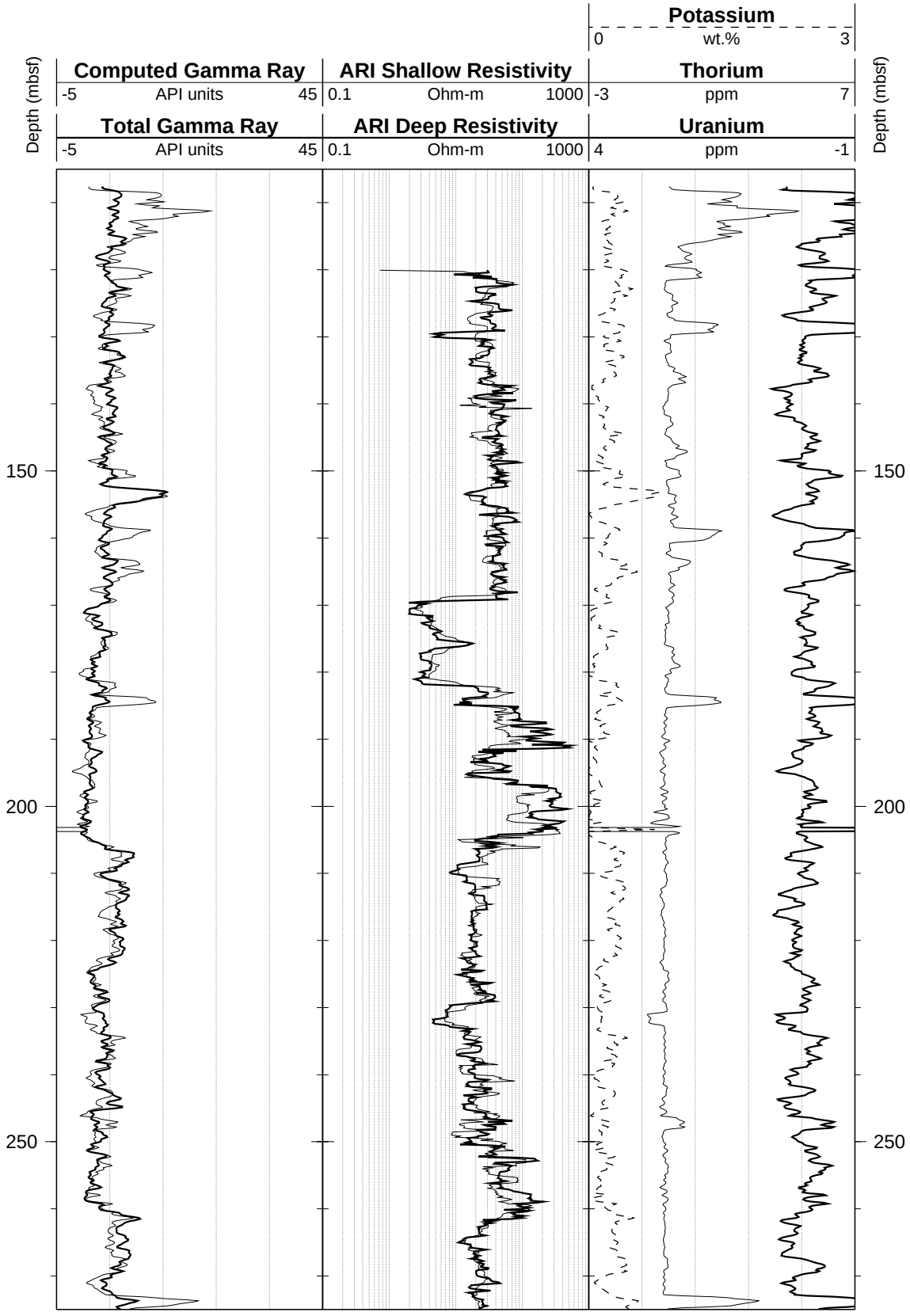
Hole 395A: Natural Gamma Ray-Resistivity Logging Data (cont.)



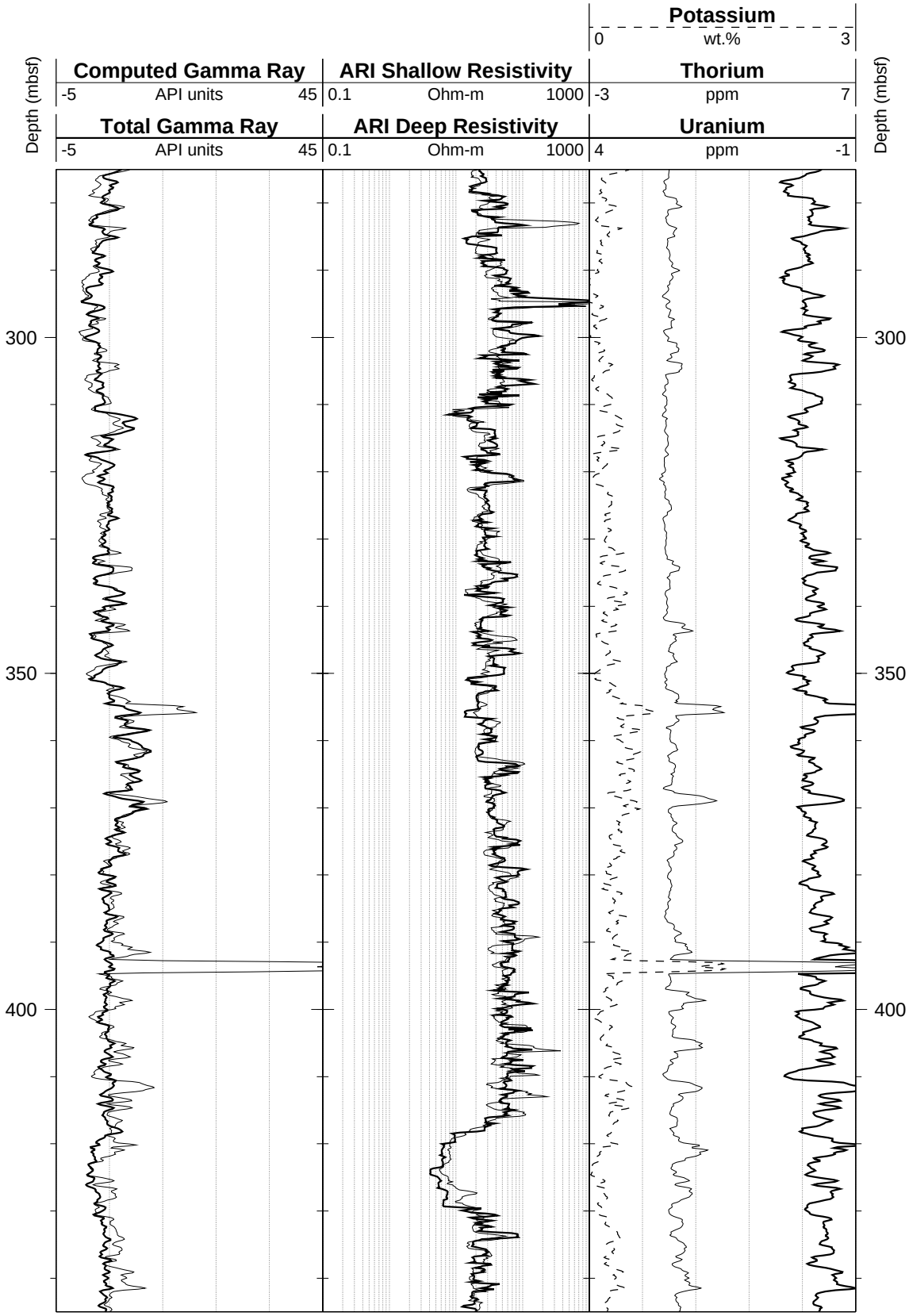
Hole 395A: Natural Gamma Ray-Resistivity Logging Data (cont.)



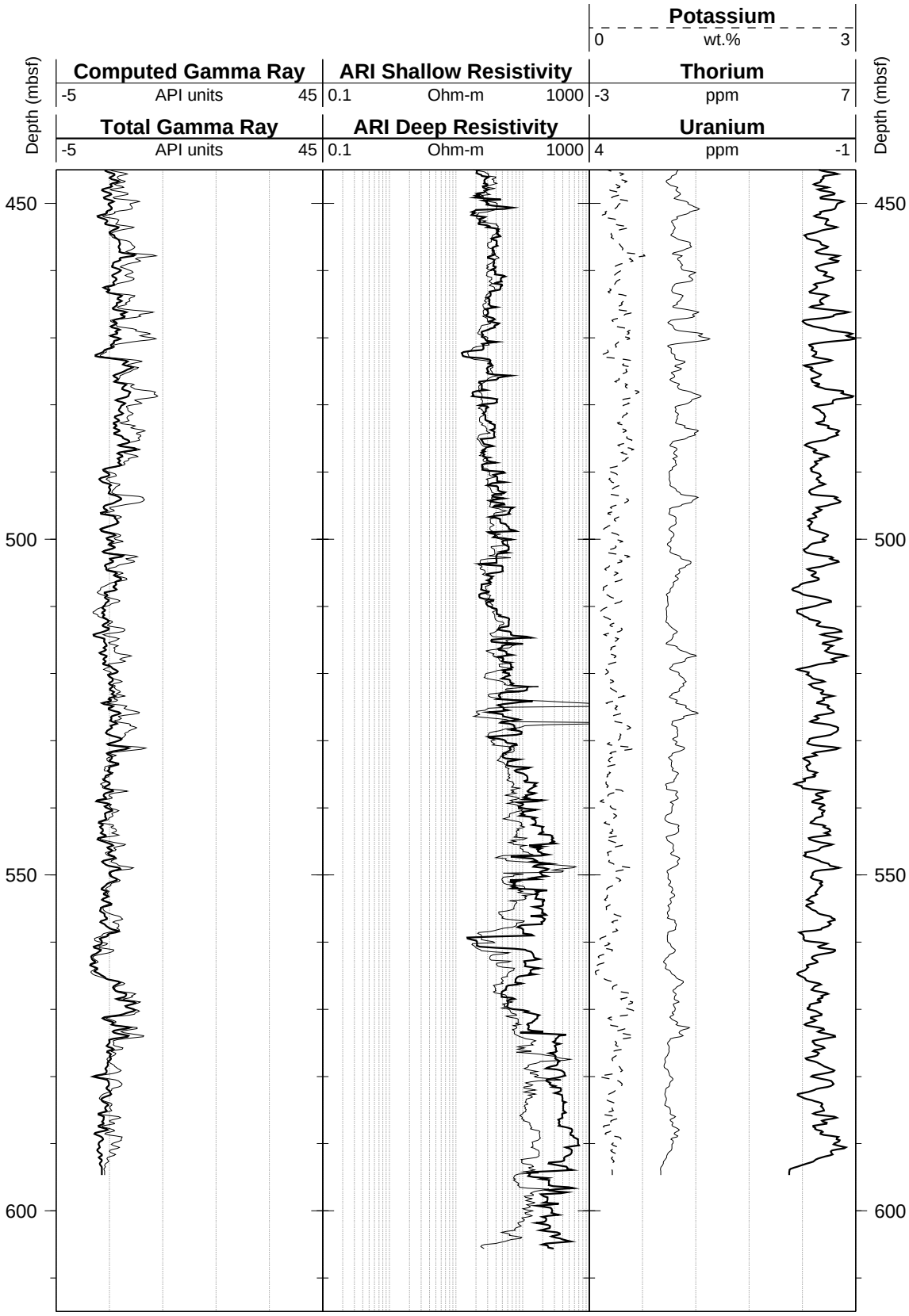
Hole 395A: Natural Gamma Ray-Resistivity Logging Data



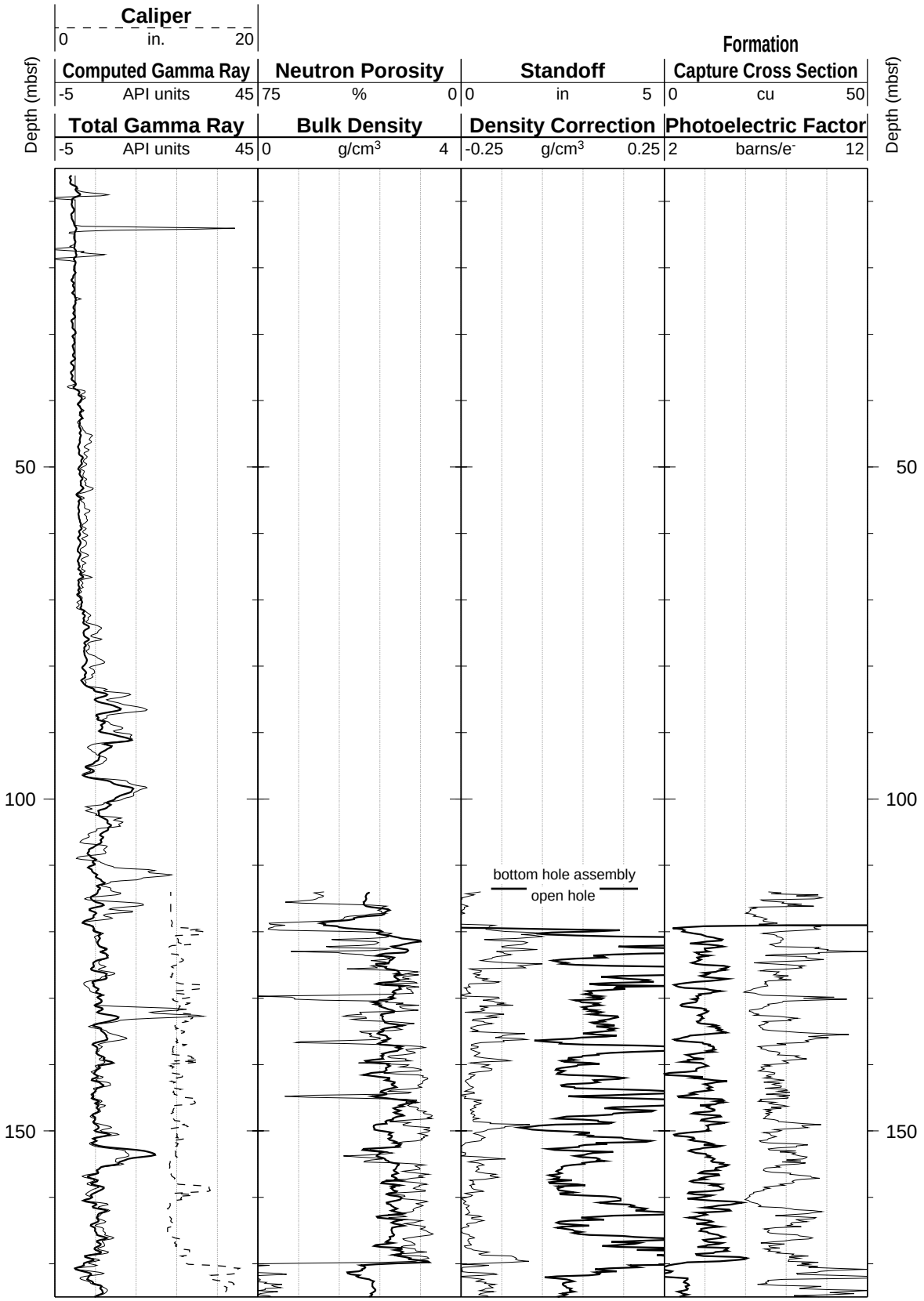
Hole 395A: Natural Gamma Ray-Resistivity Logging Data (cont.)



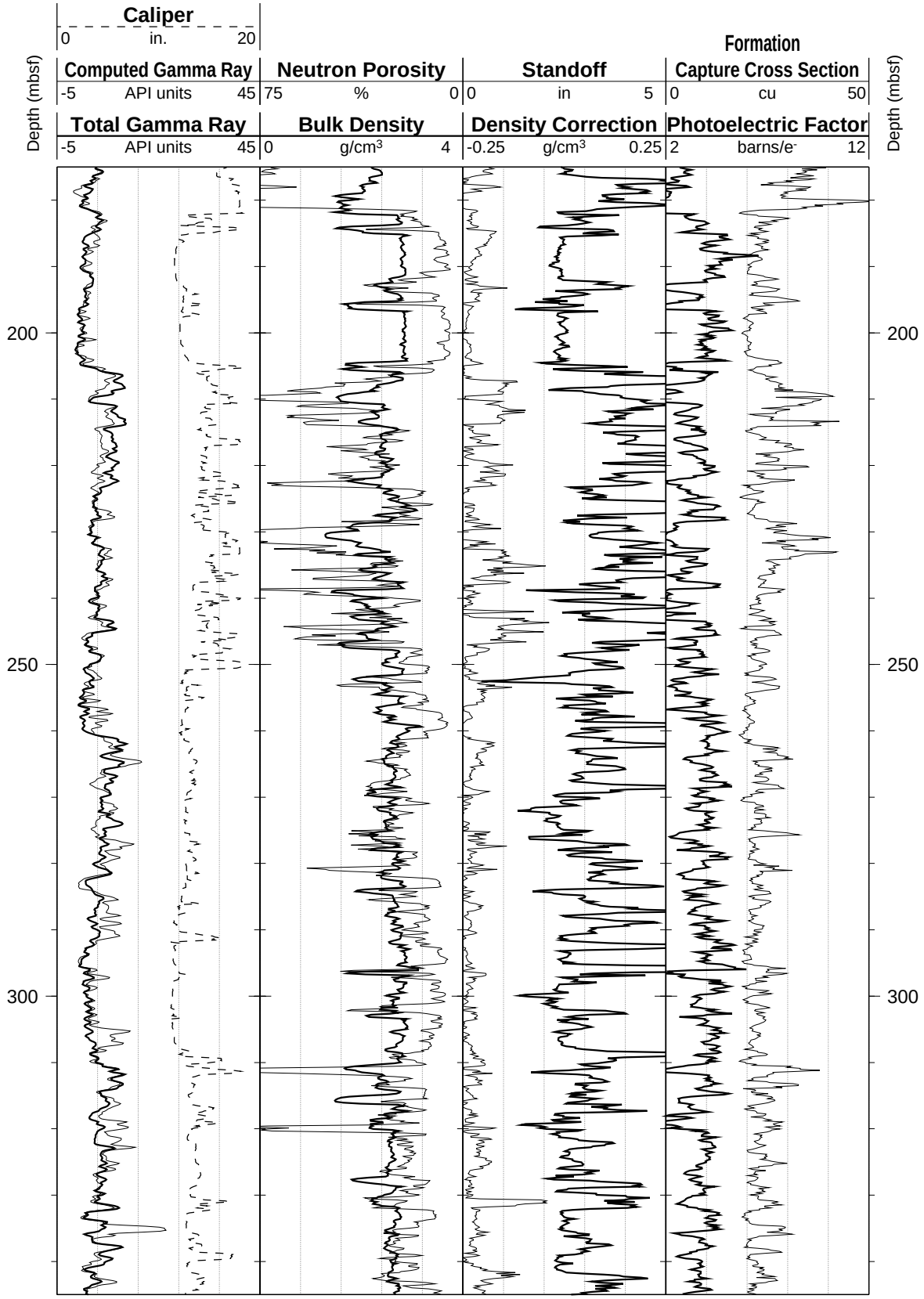
Hole 395A: Natural Gamma Ray-Resistivity Logging Data (cont.)



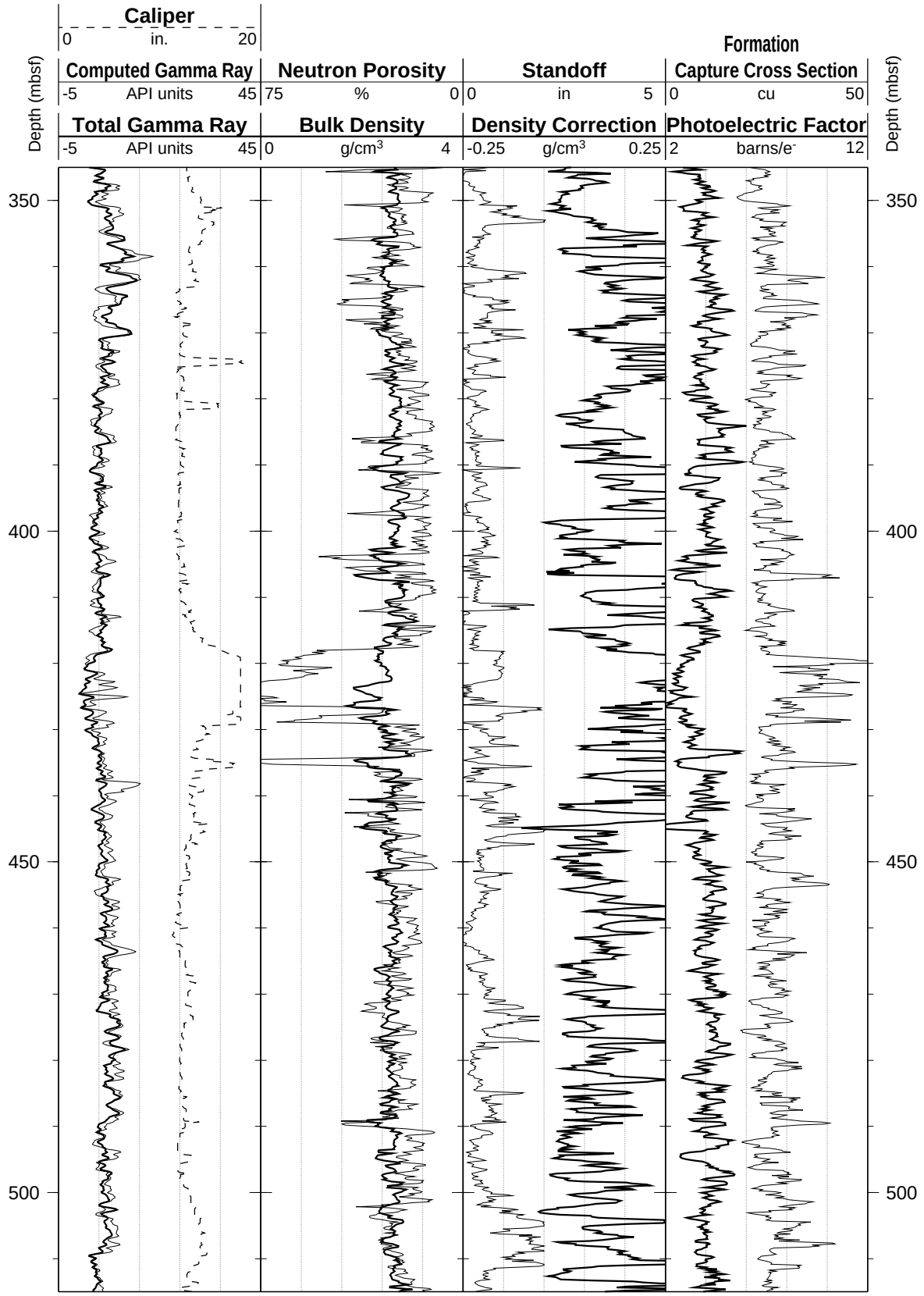
Hole 395A: Natural Gamma Ray-Density-Porosity Logging Data



Hole 395A: Natural Gamma Ray-Density-Porosity Logging Data (cont.)



Hole 395A: Natural Gamma Ray-Density-Porosity Logging Data (cont.)



Hole 395A: Natural Gamma Ray-Density-Porosity Logging Data (cont.)