Appendix IV

Digital Borehole Images, Slabbed Core Photographs, Thin-Section Photomicrographs, and Whole-Core Porosity and Permeability Data
Figure A1. (A) Digital borehole image, (B) slabbed core photograph, (C) thin-section photomicrograph, and (D) whole-core porosity and permeability data for the peloid grainstone and packstone rock-fabric facies of HFC5 for the G-3712 test corehole. Slabbed core sample (B) is from a depth of approximately 7.18 to 7.52 feet below land surface. The thin section photomicrograph (C) is from a depth of 7.3 feet below land surface. The depths have been adjusted downward 1.1 feet to match the digital optical log depth.
Figure A2. (A) Digital borehole image, (B) slabbled core photograph, (C) thin-section photomicrograph, and (D) whole-core porosity and permeability data for the coral framestone rock-fabric facies of HFC4 for the G-3692 test corehole. Slabbled core sample (B) is from a depth of approximately 10.7 to 11.25 feet below land surface. The thin section photomicrograph (C) is from a depth of 10.8 feet below land surface.
Figure A3. (A) Digital borehole image, (B) slabbed core photograph, (C) thin-section photomicrograph, and (D) whole-core porosity and permeability data for the peloid wackestone and packstone rock-fabric facies of HFC4 for the G-3725 test corehole. Slabbed core sample (B) is from a depth of approximately 11.71 to 12.0 feet below land surface. The thin section photomicrograph (C) is from a depth of 11.9 feet below land surface. The depths have been adjusted downward 2.0 feet to match the digital optical log depth.
Appendix IV  5

Figure A4. (A) Digital borehole image, (B) slabbed core photograph, (C) thin-section photomicrograph, and (D) whole-core porosity and permeability data for the gastropod floatstone and rudstone rock-fabric facies of HFC2 for the G-3710 test corehole. Slabbed core sample (B) is from a depth of approximately 27.48 to 27.70 feet below land surface. The thin section photomicrograph (C) is from a depth of 27.63 feet below land surface. The depths have been adjusted downward 3.3 feet to match the digital optical log depth.

Gastropod floatstone and rudstone rock-fabric facies

Leaky, low-permeability ground-water flow class
Characterization of Aquifer Heterogeneity Using Cyclostratigraphy and Geophysical Methods in the Upper Part of the Karstic Biscayne Aquifer, Southeastern Florida

Figure A5. (A) Digital borehole image, (B) slabbed core photograph, (C) thin-section photomicrograph, and (D) whole-core porosity and permeability data for the conglomerate rock-fabric facies of HFC4 for the G-3696 test corehole. Slabbed core sample (B) is from a depth of approximately 17.75 to 18.01 feet below land surface. The thin section photomicrograph (C) is from a depth of 17.9 feet below land surface. The depths have been adjusted upward 1.1 feet to match the digital optical log depth.

**Leaky, low-permeability ground-water flow class**

<table>
<thead>
<tr>
<th>Whole Core</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Max Kair</strong></td>
<td>1,035 md</td>
</tr>
<tr>
<td><strong>90 x Kair</strong></td>
<td>680 md</td>
</tr>
<tr>
<td><strong>Vertical Kair</strong></td>
<td>5,624 md</td>
</tr>
<tr>
<td><strong>Helium Porosity</strong></td>
<td>12.5%</td>
</tr>
</tbody>
</table>

360° VIEW OF BOREHOLE WALL

**Conglomerate rock-fabric facies**

- Freshwater(?)-limestone intraclast
- Limestone intraclast
- 360° VIEW OF BOREHOLE WALL

Intraclast 0.08 inch
Figure A6. (A) Digital borehole image, (B) slabbed core photograph, (C) thin-section photomicrograph, and (D) whole-core porosity and permeability data for the pedogenic limestone (massive calcrete) rock-fabric facies of HFC3b for the G-3690 test corehole. Slabbed core sample (B) is from a depth of approximately 11.46 to 11.60 feet below land surface. The thin section photomicrograph (C) is from a depth of 11.5 feet below land surface. The depths have been adjusted upward 0.2 feet to match the digital optical log depth.
Characterization of Aquifer Heterogeneity Using Cyclostratigraphy and Geophysical Methods in the Upper Part of the Karstic Biscayne Aquifer, Southeastern Florida

Figure A7. (A) Digital borehole image, (B) slabbed core photograph, (C) thin-section photomicrograph, and (D) whole-core porosity and permeability data for the pedogenic limestone (root-mold limestone) rock-fabric facies of HFC3b for the G-3679 test corehole. Slabbed core sample (B) is from a depth of approximately 14.40 to 14.73 feet below land surface. The thin section photomicrograph (C) is from a depth of 14.6 feet below land surface.
Figure A8. (A) Digital borehole image, (B) slabbed core photograph, (C) thin-section photomicrograph, and (D) whole-core porosity and permeability data for the mudstone and wackestone rock-fabric facies of HFC3b for the G-3688 test corehole. Slabbed core sample (B) is from a depth of approximately 12.09 to 12.34 feet below land surface. The thin section photomicrograph (C) is from a depth of 12.3 feet below land surface. The depths have been adjusted upward 1.0 foot to match the digital optical log depth.
Figure A9. (A) Digital borehole image, (B) slabbed core photograph, (C) thin-section photomicrograph, and (D) whole-core porosity and permeability data for the skeletal grainstone and packstone rock-fabric facies of HFC2 for the G-3679 test corehole. Slabbed core sample (B) is from a depth of approximately 28.11 to 28.48 feet below land surface. The thin section photomicrograph (C) is from a depth of 28.3 feet below land surface.
Figure A10. (A) Digital borehole image, (B) slabbed core photograph, (C) thin-section photomicrograph, and (D) whole-core porosity and permeability data for the sandy skeletal grainstone and packstone rock-fabric facies of HFC2 for the G-3732 test corehole. Slabbed core sample (B) is from a depth of approximately 26.77 to 27.05 feet below land surface. The thin section photomicrograph (C) is from a depth of 27.0 feet below land surface. The depths have been adjusted downward 1.4 feet to match the digital optical log depth.
Figure A11. (A) Digital borehole image, (B) slabbed core photograph, (C) thin-section photomicrograph, and (D) whole-core porosity and permeability data for the laminated peloid grainstone and packstone rock-fabric facies of HFC3a for the G-3672 test corehole. Slabbed core sample (B) is from a depth of approximately 24.01 to 24.31 feet below land surface. The thin section photomicrograph (C) is from a depth of 24.2 feet below land surface. The depths have been adjusted downward 0.2 feet to match the digital optical log depth.
Figure A12. (A) Digital borehole image, (B) slabbed core photograph, (C) thin-section photomicrograph, and (D) whole-core porosity and permeability data for the pelecypod floatstone and rudstone rock-fabric facies of HFC3a for the G-3714 test corehole. Slabbed core sample (B) is from a depth of approximately 20.03 to 20.28 feet below land surface. The thin section photomicrograph (C) is from a depth of 20.15 feet below land surface. The depths have been adjusted downward 1.32 feet to match the digital optical log depth.
Figure A13. (A) Digital borehole image, (B) slabbed core photograph, (C) thin-section photomicrograph, and (D) whole-core porosity and permeability data for the sandy pelecypod floatstone and rudstone rock-fabric facies of HFC1? for the G-3732 test corehole. Slabbed core sample (B) is from a depth of approximately 40.47 to 40.76 feet below land surface. The thin section photomicrograph (C) is from a depth of 40.6 feet below land surface. The depths have been adjusted downward 1.1 feet to match the digital optical log depth.

Sandy pelecypod floatstone and rudstone rock-fabric facies

Diffuse-carbonate ground-water flow class
Figure A14. (A) Digital borehole image. (B) Slabbed core photograph, (C) Thin-section photomicrograph, and (D) Whole-core porosity and permeability data for the touching-vug pelecypod floatstone and rudstone rock-fabric facies of HFC3a for the G-3710 test corehole. Slabbed core sample (B) is from a depth of approximately 23.98 to 24.31 feet below land surface. The thin section photomicrograph (C) is from a depth of 24.2 feet below land surface. The depths have been adjusted upward 2.1 feet to match the digital optical log depth.
Figure A15. (A) Digital borehole image, (B) slabbed core photograph, (C) thin-section photomicrograph, and (D) whole-core porosity and permeability data for the vuggy wackestone and packstone rock-fabric facies of HFC3a for the G-3717 test corehole. Slabbed core sample (B) is from a depth of approximately 21.78 to 22.06 feet below land surface. The thin section photomicrograph (C) is from a depth of 21.9 feet below land surface. The depths have been adjusted downward 1.6 feet to match the digital optical log depth.

Vuggy wackestone and packstone rock-fabric facies

Horizontal conduit ground-water flow class
Figure A16. (A) Digital borehole image, (B) slabbed core photograph, (C) thin-section photomicrograph, and (D) whole-core porosity and permeability data for the skeletal sandstone rock-fabric facies of HFC3a for the G-3732 test corehole. Slabbed core sample (B) is from a depth of approximately 43.96 to 44.27 feet below land surface. The thin section photomicrograph (C) is from a depth of 44.0 feet below land surface.