**GSA Supplemental Data Item 2010265**

**Typical dimensions and densities for coherent experimental sandbox collapses, nuclear-test sinks in desert alluvium, Fernandina caldera in basalt, and calderas on Mars**

Supplemental to *GSA Today*, v. 20, no. 10, p. 4–10: Caldera collapse: Perspectives from comparing Galápagos volcanoes, nuclear-test sinks, sandbox models, and volcanoes on Mars, by Keith A. Howard, U.S. Geological Survey, 345 Middlefield Road, Menlo Park, California 94025-3591, USA, khoward@usgs.gov

<table>
<thead>
<tr>
<th>Collapse Structures</th>
<th>Approx. bulk density, kg m$^{-3}$</th>
<th>Diameter, D</th>
<th>Max. cliff height, Hcr</th>
<th>Typical ratio D/Hcr</th>
<th>Collapse volume, km$^3$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sandbox collapse structures reported here</td>
<td>~1500</td>
<td>10 cm</td>
<td>1 cm</td>
<td>6–10</td>
<td>$10^{-13}$</td>
</tr>
<tr>
<td>Some other coherent sandbox collapse structures*</td>
<td>1500–1890</td>
<td>1–60 cm</td>
<td>0–3 cm</td>
<td>3–12</td>
<td>$10^{-15}$–$10^{-11}$</td>
</tr>
<tr>
<td>Nuclear-test sinks in desert alluvium†</td>
<td>1690–1970</td>
<td>100–300 m</td>
<td>12 m</td>
<td>8–25</td>
<td>up to $2 \times 10^{-3}$</td>
</tr>
<tr>
<td>Fernandina caldera in basalt</td>
<td>2300–2800</td>
<td>2–4 km</td>
<td>0.3–0.5 km</td>
<td>7–8</td>
<td>1.5</td>
</tr>
<tr>
<td>Mars calderas (gravitational acceleration 38% of Earth’s)</td>
<td>~2500</td>
<td>10–100 km</td>
<td>1–4 km†</td>
<td>20</td>
<td>up to $5 \times 10^{3}$</td>
</tr>
</tbody>
</table>

* Roche et al. (2000, 2001); Kennedy et al. (2004).
‡ Case et al. (1973).

**References Cited**


