Uravan, CO
In Virginia

FIGURE 3.3 Map showing uranium occurrences in Virginia; subsequent figures present this information for each of the different types of uranium occurrence. Note that uranium occurrences are not necessarily uranium ore deposits. SOURCE: modified from Lasseter (2010).
The Cole Hill Ore
Core

FIGURE 3.15 Drill core from the Leatherwood Granite showing highly sheared and mineralized granite. The average $\text{U}_3\text{O}_8$ percentage in this 10-foot core section is 0.679%. SOURCE: Wales (2010).
TABLE 3.2 Uranium resources of the Cole Hill deposits, in millions of tons and millions of Pounds In-Place. SOURCE: NI 43-101 compliant resource estimates prepared by Behre Dolbear and Marshall Miller and Associates, Inc., April, 2009).\(^{50}\)

<table>
<thead>
<tr>
<th>Cutoff %U(_3)O(_8)</th>
<th>Measured(^{1})</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Total(^{1})</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tons(^{2})</td>
<td>% U(_3)O(_8)</td>
<td>Pounds(^{4}) U(_3)O(_8)</td>
<td>Tons(^{2})</td>
<td>% U(_3)O(_8)</td>
<td>Pounds(^{4}) U(_3)O(_8)</td>
</tr>
<tr>
<td>0.100</td>
<td>0.755</td>
<td>0.228</td>
<td>3.45</td>
<td>6.27</td>
<td>0.215</td>
<td>26.9</td>
</tr>
<tr>
<td>0.075</td>
<td>1.35</td>
<td>0.164</td>
<td>4.44</td>
<td>24.0</td>
<td>0.116</td>
<td>55.9</td>
</tr>
<tr>
<td>0.050</td>
<td>2.28</td>
<td>0.124</td>
<td>5.65</td>
<td>35.4</td>
<td>0.101</td>
<td>71.7</td>
</tr>
<tr>
<td>0.025</td>
<td>6.62</td>
<td>0.064</td>
<td>8.42</td>
<td>92.1</td>
<td>0.060</td>
<td>111.0</td>
</tr>
</tbody>
</table>

\(^{1}\) Total tonnage above cutoff grade and average weight % U\(_3\)O\(_8\) of that tonnage
\(^{2}\) Millions of short tons based on a rock density of 2.56 g/cc
\(^{3}\) Weight %
\(^{4}\) Millions of Pounds in-Place
Processing the Ore

- Ore – a rock with valuable elements in minerals.

The minerals are extracted from the ore and the elements from the minerals.
For Linear Thinkers

FIGURE 4.7 Simple schematic uranium processing flow diagram showing the unit process steps, from ore produced by an open pit or underground mine through to yellowcake production. SOURCE: WNA (2010e)
Underground mining
Virginia Uranium animation
Underground Processing
In-situ leaching

Pump acids into the sands to dissolve the uranium minerals