Potential Impacts of In Situ Leaching for Uranium Production

Erik Molvar, Wildlife Biologist, Biodiversity Conservation Alliance
Table 1. U.S. Forward-Cost Uranium Reserves by State, Year-End 2008

<table>
<thead>
<tr>
<th>State</th>
<th>$50/lb</th>
<th>$100/lb</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ore (million tons)</td>
<td>Grade² (%)</td>
</tr>
<tr>
<td>Wyoming</td>
<td>145</td>
<td>0.076%</td>
</tr>
<tr>
<td>New Mexico</td>
<td>64</td>
<td>0.140%</td>
</tr>
<tr>
<td>Arizona, Colorado,</td>
<td>22</td>
<td>0.145%</td>
</tr>
<tr>
<td>Utah</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Texas</td>
<td>15</td>
<td>0.089%</td>
</tr>
<tr>
<td>Other²</td>
<td>28</td>
<td>0.090%</td>
</tr>
<tr>
<td>Total</td>
<td>275</td>
<td>0.098%</td>
</tr>
</tbody>
</table>

² Average percent U₃O₈ per ton of ore.
² Includes Alaska, California, Idaho, Montana, Nebraska, Nevada, North Dakota, Oregon, South Dakota, Virginia, and Washington.

Notes: Uranium reserves that could be recovered as a byproduct of phosphate and copper mining are not included in this table. Reserves values in forward-cost categories are cumulative; that is, the quantity at $100 per pound U₃O₈ includes all reserves up to and including that cost. Totals may not equal sum of components because of independent rounding. See EIA Glossary for definition of reserves. "Reserves," as reported here, do not necessarily imply compliance with U.S. or Canadian government definitions for purposes of investment disclosure.

Sources: Estimated by Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels, based on company reports, industry conferences, and U.S. Department of Energy, Grand Junction Office, files.

Table 2. U.S. Forward-Cost Uranium Reserves by Mining Method, Year-End 2008

<table>
<thead>
<tr>
<th>Mining Method</th>
<th>Ore (million tons)</th>
<th>Grade² (percent U₃O₈)</th>
<th>U₃O₈ (million pounds)</th>
<th>Ore (million tons)</th>
<th>Grade² (percent U₃O₈)</th>
<th>U₃O₈ (million pounds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underground</td>
<td>76</td>
<td>0.142%</td>
<td>215</td>
<td>323</td>
<td>0.094%</td>
<td>608</td>
</tr>
<tr>
<td>Openpit</td>
<td>54</td>
<td>0.086%</td>
<td>95</td>
<td>260</td>
<td>0.063%</td>
<td>325</td>
</tr>
<tr>
<td>In Situ Leaching</td>
<td>145</td>
<td>0.080%</td>
<td>230</td>
<td>241</td>
<td>0.060%</td>
<td>289</td>
</tr>
<tr>
<td>Other</td>
<td>&lt;0.5</td>
<td>0.152%</td>
<td>1</td>
<td>4</td>
<td>0.064%</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>275</td>
<td>0.098%</td>
<td>539</td>
<td>828</td>
<td>0.074%</td>
<td>1,227</td>
</tr>
</tbody>
</table>

² Average percent U₃O₈ per ton of ore.

Notes: Uranium reserves that could be recovered as a byproduct of phosphate and copper mining are not included in this table. Reserves values in forward-cost categories are cumulative; that is, the quantity at $100 per pound U₃O₈ includes all reserves up to and including that cost. Totals may not equal sum of components because of independent rounding. See EIA Glossary for definition of reserves. "Reserves," as reported here, do not necessarily imply compliance with U.S. or Canadian government definitions for purposes of investment disclosure. Sources: Estimated by Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels, based on company reports, industry conferences, and U.S. Department of Energy, Grand Junction Office, files.

Major U.S. Uranium Reserves

Sources: Based on U.S. Department of Energy, Grand Junction Project Office (GJPO). National Uranium Resources evaluation. Interim report (June 1979) Figure 3.2; and GJPO data files.
Treasured landscapes

Jack Morrow Hills area

Adobe Town

Wyoming Range

Ken Driese photo

Scott Smith photo

Erik Molvar photo
Sage Grouse and Sharp-tailed Grouse Habitats
Wildlife Crucial Ranges
Brewer’s sparrow

Sage sparrow

Sage thrasher

USFWS photos
Habitat Fragmentation

- Atlantic Rim CBM Field (left)
- Continental Divide – Wamsutter Field (right)
- Jonah Field (below)

Morgan Heim photo

BCA photo

Perry Walker photo
Satellite image,
Jonah Field,
2005

Courtesy
SkyTruth
Moving Toward Sustainable Drilling

US Locations of Mines With Uranium
EPA Draft Database
Former In Situ Leaching site, Texas
Kingsville Dome ISL facility, Texas