Some Major Horizontal Oil Shale Retorting Plants (Process):
1. Fushun MG, China (Alberta Taciuk Process - ATP)
2. Eesti Energia Narva Oil Plant, Estonia (Galoter)
3. KIO Al Lajjun Pilot Project, Jordan (ATP)
4. OSEC Stuart Oil Shale Project, Qld, Australia (ATP)*
5. UMATAC Alberta Pilot Plant, Canada (ATP)
6. Colony Oil Shale Project, Colorado, USA (TOSCO II)*
7. Enefit's South Project, Utah, USA (Enefit-280)
8. NCUT Devon, Alberta Pilot Plant, Canada (Chattanooga)
9. Rifle Oil Shale Project, Colorado, USA (Paraho II)
10. Ambre Energy NA Vernal Pilot Plant, Utah, USA (Oil-Tech)
11. Unocal Oil Shale Demo Plant, Colorado, USA (Union)*

Some Major Vertical Oil Shale Retorting Plants (Process):
1. Stuart Oil Shale Project, Qld, Australia (Paraho II)
2. Petrobras Sao Mateus do Sul, Brazil (PetroSIX)
3. Kivioli & Kõhtla-Järve Oil Shale Plants, Estonia (Kiviter)
4. Fushun MG, Liaoning, China (Fushun)
5. ONHYM Timahdit Pilot Plant, Morocco (ONHYM)
6. PAMA Mishor Rotem Oil Shale Plant, Israel (PAMA)*
7. NCUT Devon, Alberta Pilot Plant, Canada (Chattanooga)
8. Rifle Oil Shale Project, Colorado, USA (Paraho II)
9. Ambre Energy NA Vernal Pilot Plant, Utah, USA (Oil-Tech)
10. Unocal Oil Shale Demo Plant, Colorado, USA (Union)*

Some Major Oil Shale (Kerogen) In Situ Extraction Projects:
1. Shell Mahogany Research Oil Shale Project, Colorado, USA*
2. Chevron Rio Blanco, Colorado, USA*
3. ExxonMobil Rio Blanco, Colorado, USA
4. AMSO Rio Blanco, Colorado, USA*
5. IEP Geothermal Fuel Cell Rio Blanco, Colorado, USA
6. Red Leaf Resources Seep Ridge, Utah, USA (EcoShale In-Capsule Process)
7. Alpha Project (MDL330), Greenvale Energy, Qld, Australia
8. Tasmania Project (EL 20/2004), Boos Energy, Australia

The largest deposits in the world are found in the Green River Formation U.S. (an estimated 800 billion barrels of recoverable oil from oil shale).

Top 11 countries by in-place oil shale resources, billion barrels (%):
- United States 3706.83 (77.4)
- China 354.43 (7.4)
- Russia 247.88 (5.2)
- Congo Dem. Rep. 100.00 (2.1)
- Brazil 82.00 (1.7)
- Italy 73.00 (1.5)
- Morocco 53.38 (1.1)
- Jordan 34.17 (0.7)
- Australia 31.73 (0.7)
- Estonia 16.29 (0.3)
- Canada 15.24 (0.3)
- Rest of the world 71.18 (1.6)

Total: 4786.13 (100)

<table>
<thead>
<tr>
<th><strong>No.</strong></th>
<th><strong>Beneficiation Plant</strong></th>
<th><strong>Country/Location:</strong></th>
<th><strong>Company:</strong></th>
<th><strong>Start-up:</strong></th>
<th><strong>Status:</strong></th>
<th><strong>Facility type:</strong></th>
<th><strong>Extraction technology:</strong></th>
<th><strong>Production capacity:</strong></th>
<th><strong>Retorting process:</strong></th>
<th><strong>Heating method:</strong></th>
<th><strong>Heat carrier:</strong></th>
<th><strong>Retort type:</strong></th>
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<tbody>
<tr>
<td>1</td>
<td>FMG Fushun Processing Plant</td>
<td>Fushun, Liaoning, China</td>
<td>FMG</td>
<td>2009</td>
<td>Operational</td>
<td>Pilot</td>
<td>In situ or surface mining</td>
<td>8000 bpd (pilot)</td>
<td>Direct</td>
<td>Hot recycled solids</td>
<td>Horizontal</td>
<td>Vertical</td>
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<tr>
<td>2</td>
<td>EnCana Lajunavu Oil Shale Plant</td>
<td>Venta, Estonia</td>
<td>EnCana</td>
<td>2010</td>
<td>Planned</td>
<td>Pilot</td>
<td>In situ or surface mining</td>
<td>600 t/h</td>
<td>Direct</td>
<td>Hot recycled solids</td>
<td>Horizontal</td>
<td>Vertical</td>
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<tr>
<td>3</td>
<td>KDI AI Lajunavu Oil Shale Project</td>
<td>Al Lajun, Jordan</td>
<td>KDI</td>
<td>2021/2023</td>
<td>Planned</td>
<td>Pilot</td>
<td>In situ or surface mining</td>
<td>1000 bpd</td>
<td>Direct</td>
<td>Hot recycled solids</td>
<td>Horizontal</td>
<td>Vertical</td>
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<td>4</td>
<td>OSEC Oil Shale Project</td>
<td>Gladstone, Queensland, Australia</td>
<td>OSEC</td>
<td>1992-2001</td>
<td>Operational</td>
<td>Pilot</td>
<td>In situ or surface mining</td>
<td>10,000 bpd</td>
<td>Direct</td>
<td>Hot recycled solids</td>
<td>Horizontal</td>
<td>Vertical</td>
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<td>5</td>
<td>UMATC Alberta Pilot Plant</td>
<td>Calgary, Alberta, Canada</td>
<td>UMATC</td>
<td>1978</td>
<td>Operational</td>
<td>Pilot</td>
<td>In situ or surface mining</td>
<td>5 t/d</td>
<td>Direct</td>
<td>Hot recycled solids</td>
<td>Horizontal</td>
<td>Vertical</td>
</tr>
</tbody>
</table>