In situ Leaching otherwise known as In Situ Recovery (ISR) is one of the two primary extraction methods that are currently used to obtain uranium from underground. ISR method is used to recover uranium but can also be used to extract several other metals such as nickel, copper and gold, where other mining and milling methods may be too expensive or environmentally disruptive.

The process is an attractive option for miners because of its low operational costs, generally lower environmental impact and comparatively short set up time. How it works:

### Recent CSA Global In Situ Leach Projects

<table>
<thead>
<tr>
<th>NATION</th>
<th>PROJECT</th>
<th>WORK COMPLETED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kazakhstan</td>
<td>Karatau (Budenovskoye deposit)</td>
<td>Geological modelling, 43-101 report (Resource and Reserve estimation)</td>
</tr>
<tr>
<td></td>
<td>Akbastau (Budenovskoye deposit)</td>
<td>Geological modelling, 43-101 report (Resource and Reserve estimation)</td>
</tr>
<tr>
<td></td>
<td>South Inkai (Inkai deposit)</td>
<td>Geological modelling, 43-101 report (Resource and Reserve estimation)</td>
</tr>
<tr>
<td>Turkey</td>
<td>Temrezli</td>
<td>Geological modelling, resource estimation QA/QC analysis</td>
</tr>
</tbody>
</table>

### Inhouse In Situ Leach Experience

<table>
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</thead>
<tbody>
<tr>
<td>Kazakhstan</td>
<td>Akdala (Akdala deposit)</td>
<td>Due Diligence</td>
</tr>
<tr>
<td></td>
<td>Kyzylkum (Kharasan-1 deposit)</td>
<td>Due Diligence</td>
</tr>
<tr>
<td>Russia</td>
<td>Dalmatovskoe</td>
<td>Management of exploration</td>
</tr>
<tr>
<td></td>
<td>Kholiovskoe</td>
<td>Management of exploration</td>
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<tr>
<td></td>
<td>Khiagdinskoe</td>
<td>Management of exploration</td>
</tr>
</tbody>
</table>
We draw on our collective experience to customise exploration and mining solutions to each client’s requirements. Our advice and services are tailored to respond to the individual advantages and constraints of each geographical region. This approach helps us to provide a holistic approach to operating on nickel projects.

We have worked with all sizes of companies from small businesses to international majors, as well as with governments and NGO’s. We make it our business to get to know and understand the region’s cultural diversity, political background, sovereign risk, workforce and technical capability. We identify with each region’s approach to sustainability and its level of support for our industry.

**About CSA Global**

We are a leading geological, mining and management consulting company with over 30 years experience in the international mining industry.

**Exploration & Evaluation**

- Research & targeting studies
- Exploration planning & supervision
- Field investigations
- Project reviews & evaluation
- Technical & expert reporting

**Data Management & Mapping**

- Data capture & validation
- Database design & management
- GIS & mapping services
- Database hosting, security & audits
- Intranet design & setup

**Resources & Mine Geology**

- Data collection & QA/QC audits
- Geological modelling & Mineral Resource estimation (*JORC, NI.43-101, PERC, China, Russia, etc*)
- Resource assessment & expert reporting
- Mine geology reviews & contract services
- Grade control & dilution management

**Mining & Projects**

- Ore reserve reporting & classification
- Mine & operations design & strategy
- Engineering studies (*concept & PFS to BFS*)
- Due diligence & operational audits
- Strategic planning & productivity improvement

**Community Development & Sustainability**

- Impact assessment & sustainability programs
- Stakeholder liaison & community engagement
- Landscape interpretation & geotourism
- Educational workshops & training courses
- Sustainability benchmarking & certification

**www.csaglobal.com**

CSA Global Head Office
Level 2, 3 Ord Street
West Perth, WA 6005
T +61 8 9355 1677
E csaaus@csaglobal.com

Global offices in
Perth • Brisbane • Darwin • Adelaide • Horsham • Jakarta • Vancouver • Johannesburg • Moscow

Scan QR Code for the Capability Statements section of our website