Application Note

Cross Sectioning of Oil Shale

Related instrument: Leica EM TIC3X
Cross Sectioning of Oil Shale
Market: Oil Industry, Research Institutes, Universities

PURPOSE
Ion beam slope cutting is a method that can achieve very flat regions of material combinations consisting of hard and soft areas. Oil shale is a fine grained material with organic and inorganic compounds. The material is very brittle.

GOAL
Cross section of oil shale to see organic and inorganic compounds.

PROCESS DESCRIPTION
(benchmark values for this particular sample)

Mechanical pre-preparation: not necessary

<table>
<thead>
<tr>
<th>TIC 3X Parameters</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Acceleration voltage</td>
<td>6 kV</td>
</tr>
<tr>
<td>Gun current</td>
<td>2.2 mA</td>
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<tr>
<td>Milling time</td>
<td>4 h</td>
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</tbody>
</table>

RESULTS

- The cut is very flat and clean.
- Compounds like clay, pyrite and quartz are visible.

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Cross section of oil shale found in Iraq with clay, pyrite crystals and quartz.
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