Case Study:
World’s first DTS installation in a horizontal ICD completion

DTS used to determine horizontal flow contribution and shut-in cross flow in world’s first DTS installation with a horizontal ICD completion

Well Data

<table>
<thead>
<tr>
<th>Location</th>
<th>Saudi Arabia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well Type</td>
<td>Single lateral horizontal oil producer</td>
</tr>
<tr>
<td>Installation Date</td>
<td>2009</td>
</tr>
<tr>
<td>Hole Size</td>
<td>6 1/8&quot;</td>
</tr>
</tbody>
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Project Objectives

To successfully install DTS in an ICD completion and use the data to determine the inflow rate allocation to within 20% of PLT results.

Tendeka Solution

Tendeka’s high resolution DTS system was used to read the downhole temperature. The data was monitored using Tendeka’s data interpretation software FloQuest. Multi-rate testing and PLT was compared.

Project Results

Results were published in SPE paper SPE 122448 showing flow. Contribution matches to within 20% of the PLT results, hence successful conclusion of the trial test.

- DTS surveys were successfully taken
- Clear indications of well shut-in, well producing and change of rate
- Flow detected along the horizontal interval in all segments at all production rates