SPECTRAL NOISE LOGGING

Spectral Noise Logging Technology is based on acquisition of acoustic noise generated by fluid passing through different types of media (formation, completion elements, cement bond, etc) in frequency and amplitude domains.

Noise recording is based on 2 highly sensitive microphones placed in an oil-filled chamber. The recorded noise passes through the high quality super-silent gain stage, converted into digital bit stream and further digitally processed. A part of the digital processing is the Fast Fourier transformation which builds the frequency response of acquired noise.

Technology application:

- Evaluation of production-injection related processes inside reservoir behind single or multiple barriers, OH section of the well.
- Channelling behind casing, thief zones injection/production determination, ICD/AICV performance evaluation.
- Well integrity evaluation: casing, completion elements leaks, etc.

Technology advantages:

- Split Channels architecture of the SNL tool allows to precisely capture the processes related to zone of the well or reservoir in situation when the same response (frequency/amplitude signatures) might be interpreted obliquely.

<table>
<thead>
<tr>
<th>Specs</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency range, kHz</td>
<td>0.1-60</td>
</tr>
<tr>
<td>Four split channels architecture</td>
<td>Yes</td>
</tr>
<tr>
<td>Sampling rate, sec</td>
<td>0.25-99</td>
</tr>
<tr>
<td>Channels number</td>
<td>512</td>
</tr>
<tr>
<td>Pressure rating, PSI</td>
<td>14,500</td>
</tr>
<tr>
<td>Temp rating, C</td>
<td>150</td>
</tr>
<tr>
<td>Tool OD, in</td>
<td>1.65</td>
</tr>
<tr>
<td>Tool length, cm</td>
<td>65</td>
</tr>
<tr>
<td>Connection</td>
<td>15/16 SR</td>
</tr>
<tr>
<td>Power</td>
<td>Lithium battery</td>
</tr>
</tbody>
</table>

http://northsidetools.com