Aberdeen Test Facility

Halliburton is committed to delivering technically superior products to the oil and gas industry. This commitment is demonstrated by the significant investment made in the Aberdeen Test Facility – a modern, efficient, and reliable environment for conducting technology development. This advanced testing and design validation centre offers:

» Engineering analysis and support
» High temperature/high pressure testing
» Tool qualification to API and ISO requirements

FACILITY FEATURES

The 10,000-sq ft facility incorporates three 32-ft deep vertical cells and one 52-ft long horizontal cell constructed from reinforced concrete accessed via pressure-controlled blast doors. Capable of accommodating 2 3/8-in. through to 13 3/8-in. systems, each cell is equipped with full data acquisition capabilities that allow remote monitoring of test results from the facility control room.

Testing can be conducted using gas (to 15,000 psi) or liquid (to 25,000 psi) and axial loading to 500,000 lbs.

A gantry crane can access the entire facility and helps ensure safe handling of long, heavy assemblies, while individual jib cranes are positioned at each workbench.

Hydraulic / Gas Test Equipment

A safe environment for HPHT testing with remote pressure monitoring and control.

The horizontal test cell accommodates 2 3/8-in. through 13 3/8-in. systems up to 52-ft in length.
HIGH PRESSURE/HIGH TEMPERATURE

Tools capable of operating in higher pressures and temperatures require highly developed test facilities. The Aberdeen Test Facility is rated for gas testing at pressures up to 15,000 psi. All pressure components are contained within the confines of the test cells with each cell incorporating a remote control pressure test system consisting of a SCADA-controlled panel networked to a pressure test panel.

The test cells are rated from 32°F to 400°F with two of the vertical cells fitted with standalone Remote Air Conditioning Systems (RACS), which allow full computer-controlled temperature regulation.

PERFORMANCE

This facility plays a vital role in the continual development and validation of the successful FS, IB, and LV isolation barrier valve products to the ISO 28781 standard along with ISO 14310 V0 qualification testing for the Evo-Trieve® family of retrievable well intervention tools.

Customer-witnessed testing can also be accommodated providing an invaluable opportunity for firsthand evaluation of tool performance.

Aberdeen Test Facility Specifications

<table>
<thead>
<tr>
<th>Vertical Test Cells</th>
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</thead>
<tbody>
<tr>
<td>Maximum Tool Length</td>
<td>32-ft (9.75 m)</td>
</tr>
<tr>
<td>Maximum Tool Diameter</td>
<td>13 3/8-in. (339.76 mm)</td>
</tr>
<tr>
<td>Minimum Tool Diameter</td>
<td>2 3/8-in. (60.33 mm)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Horizontal Test Cell</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Tool Length</td>
<td>53-ft (15.85 m)</td>
</tr>
<tr>
<td>Maximum Tool Diameter</td>
<td>13 3/8-in. (339.76 mm)</td>
</tr>
<tr>
<td>Minimum Tool Diameter</td>
<td>2 3/8-in. (60.33 mm)</td>
</tr>
</tbody>
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<tr>
<th>Maximum Pressure</th>
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<tbody>
<tr>
<td>Fluid</td>
<td>25,000 psi (1,723 bar)</td>
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<tr>
<td>Gas (1 ft³/0.028³)</td>
<td>15,000 psi (1,034 bar)</td>
</tr>
</tbody>
</table>

| Temperature Range           | 32°F to 400°F (0°C to 204°C) |
| Maximum Tension and Compression | 500,000 lbs (226,796 kg); No rotation |
| Control Room                | Data acquisition room allowing remote control of applied pressures and temperatures; CCTV review |

For more information, contact your local Halliburton representative or visit us on the web at www.halliburton.com