Compact™ Well Shuttle Messenger System

Conveys Compact logging tools in the absence of wireline

**Applications**

- High-angle, high-dogleg-severity, and horizontal wells
- Difficult hole conditions that preclude other conveyance options
- Wells with instability due to lost circulation or underbalanced operations
- Long intervals
- Small-footprint operations in which no space is available for a wireline unit

**Features**

- The shuttle messenger tool (SMT) pushes the logging tools through the bottomhole assembly (BHA), which enables them to pass through high-dogleg areas.
- The drillpipe can be rotated and circulated at any time during the logging operation.

**Benefits**

- Provides full well control in operations where wireline logging is not feasible
- Enables logging of extended-reach horizontal wells in one trip, which eliminates the need for multiple-latching pipe-conveyed logging operations
- Offers a faster, safer, and more cost-effective method of conveying logging-while-drilling (LWD) tools than pipe-conveyed wireline
- Complements measurement-while-drilling tools by providing continuous, wireline-quality data

**Tool Description**

The Compact well shuttle (CWS) messenger system conveys Compact logging tools inside the drillpipe, where they are fully protected from the borehole environment. Because Compact tools operate in battery-memory mode, they can be conveyed without wireline. Moreover, because the CWS does not restrict mud circulation or pipe rotation, it is a suitable alternative to pipe-conveyed logging.

When the BHA reaches total depth, the SMT is pumped down from the surface to release the Compact tool string into the open hole, where it lands in a no-go arrangement. The drillpipe is then tripped out of the hole while the logging tools acquire data, which is available for download upon recovery at the surface. A shuttle float valve is normally added to the BHA to enhance well control and to prevent debris from fouling the deployment mechanism.
## Specifications

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<table>
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<tbody>
<tr>
<td>Recommended hole size</td>
<td>&gt;6 in. (&gt; 52 mm)</td>
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<tr>
<td>Thread type</td>
<td>3.5 in. IF NC38</td>
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<td>Recommended makeup torque</td>
<td>7,200 ft-lb (9,762 N·m)</td>
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<tr>
<td>Maximum flow rate (tools inside pipe)</td>
<td>6 bbl/min (0.16 m³/min)</td>
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<tr>
<td>Maximum flow rate (tools landed)</td>
<td>40 bbl/min (6.36 m³/min)</td>
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<tr>
<td>Maximum rotation rate (tools inside pipe)</td>
<td>60 rpm</td>
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<tr>
<td>Maximum rotation rate (tools landed)</td>
<td>30 rpm</td>
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</tbody>
</table>

![Diagram: Compact Well Shuttle Improves Efficiency in Extended-Reach Wells](image)

1. Drilling
2. Short trip
3. Circulating bottoms up
4. Trip pipe to surface
5. Trip pipe to bottom with Compact tools
6. Circulate and deploy logging tools
7. Trip pipe / acquire FE data
8. Prepare to run casing
9. Log lower section only
10. Reposition latch
11. Log upper section