### Cardwell KM-150

**Self – propelled mechanically driven workover rig**

#### PRINCIPAL PARTICULARS

<table>
<thead>
<tr>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Portable/Mechanical</td>
</tr>
<tr>
<td>Rating</td>
<td>300HP</td>
</tr>
<tr>
<td>Workover depth</td>
<td>2000m</td>
</tr>
</tbody>
</table>

#### DRAWWORKS

<table>
<thead>
<tr>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Cardwell K150</td>
</tr>
<tr>
<td>Horsepower rating</td>
<td>240HP</td>
</tr>
<tr>
<td>Driven by</td>
<td>1x CAT 3306 diesel engine</td>
</tr>
<tr>
<td>Drilling line diameter</td>
<td>7/8”</td>
</tr>
<tr>
<td>Sand drum</td>
<td>9842ft @ 5/8”</td>
</tr>
</tbody>
</table>

#### MAST

<table>
<thead>
<tr>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>125-69</td>
</tr>
<tr>
<td>Height</td>
<td>21,03m</td>
</tr>
<tr>
<td>Hook load</td>
<td>56t @ x 4 lines</td>
</tr>
</tbody>
</table>

#### ROTARY EQUIPMENT

<table>
<thead>
<tr>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rotary table type</td>
<td>Gradner-Denver ,RT 17.5</td>
</tr>
<tr>
<td>Rotary table opening</td>
<td>17 ½”</td>
</tr>
<tr>
<td>Rotary Table capacity</td>
<td>90t</td>
</tr>
<tr>
<td>Driven by</td>
<td>drawwork,s</td>
</tr>
<tr>
<td>Swivel type</td>
<td>King Oil 15MB</td>
</tr>
<tr>
<td>Swivel capacity</td>
<td>136t</td>
</tr>
<tr>
<td>Top Drive System</td>
<td>Power Swivel Bowen S-3.5</td>
</tr>
<tr>
<td>TDS capacity</td>
<td>120t</td>
</tr>
<tr>
<td>TDS max. torque</td>
<td>8 000 ft lbs</td>
</tr>
<tr>
<td>TDS max. speed</td>
<td>172 rpm</td>
</tr>
</tbody>
</table>

#### TRAVELING EQUIPMENT

<table>
<thead>
<tr>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traveling Block type</td>
<td>McKissick</td>
</tr>
<tr>
<td>Block capacity</td>
<td>75t</td>
</tr>
<tr>
<td>Q – ty and size of sheaves</td>
<td>3x 23,62“</td>
</tr>
<tr>
<td>Hook type</td>
<td>integrated</td>
</tr>
<tr>
<td>Hook capacity</td>
<td>75t</td>
</tr>
</tbody>
</table>

#### DRIVE GROUP

<table>
<thead>
<tr>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine type</td>
<td>CAT 3306</td>
</tr>
<tr>
<td>Horsepower rating</td>
<td>240KM</td>
</tr>
<tr>
<td>Compressors</td>
<td>1x Airpol N-30</td>
</tr>
</tbody>
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#### MUD SYSTEM

<table>
<thead>
<tr>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mud Pumps type</td>
<td>Gradner-Denver PAH 200</td>
</tr>
<tr>
<td>Horsepower rating</td>
<td>275HP</td>
</tr>
<tr>
<td>Power pump</td>
<td>CAT 3406 diesel engine</td>
</tr>
<tr>
<td>Shale Shakers</td>
<td>1 MI Swaco Mongoose</td>
</tr>
<tr>
<td>Active Mud System</td>
<td>40m³</td>
</tr>
<tr>
<td>High pressure line</td>
<td>2 ½”/5000psi</td>
</tr>
</tbody>
</table>

#### BOP EQUIPMENT

<table>
<thead>
<tr>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOP Control Unite type</td>
<td>CH6U-76</td>
</tr>
<tr>
<td>Double ram BOP</td>
<td>Shaffer 7 1/16”-3K</td>
</tr>
</tbody>
</table>

#### INSTRUMENTATION

<table>
<thead>
<tr>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight Indicator</td>
<td>Martin Decker type AAA-15</td>
</tr>
<tr>
<td>Recorder</td>
<td>Martin Decker</td>
</tr>
<tr>
<td>Drilling Control System</td>
<td>Martin Decker</td>
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