<table>
<thead>
<tr>
<th>Tentative Date</th>
<th>Schedule</th>
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<tbody>
<tr>
<td>November/December, 2013</td>
<td>Propulsion Trials Builders Sea Trials I and II Completed</td>
</tr>
<tr>
<td>February, 2014</td>
<td>Acceptance Trial</td>
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<tr>
<td>April to early May</td>
<td>Drydock Bay Shipbuilding Sturgeon Bay (Z-drive Repair/Modification)</td>
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<tr>
<td>May</td>
<td>Acceptance Trial part II</td>
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<tr>
<td>Late May, 2014</td>
<td>Accept the SIKULIAQ</td>
</tr>
<tr>
<td>June, 2014</td>
<td>Dockside MMC (Outfit and Crew Training)</td>
</tr>
<tr>
<td>Late June, 2014</td>
<td>Depart Great Lakes via St Lawrence Sea Way</td>
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<tr>
<td>July, 2014</td>
<td>WHOI (PCO2, Gravimeter, Geo Cam install)</td>
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<tr>
<td>July, 2014</td>
<td>Puerto Rico Winch Trials</td>
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<tr>
<td>August, 2014</td>
<td>Transit to the Pacific via Panama Canal</td>
</tr>
<tr>
<td>September, 2014</td>
<td>Begin Science Operations</td>
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</table>
• Lube oil suction line passes through the stem box and into the housing for the seals and bearing at the bottom of the stem box. The housing is stationary.

• The lube oil passes through a port in the housing and mates up with an oil groove in a lining that rides on the steering tube. The steering tube connects to the shank and the pod and rotates to turn the Z-drive.

• There is a port in the groove of the lining that allows the oil to pass from the groove through a passage machined within the steering tube and down into the pod for the suction pickups.

• The vertical shaft rotates within the steering tube to transmit the power down to the lower gear box.

• The lining on the steering tube with the oil groove is pinned in place to rotate with the steering tube using three pins. Wartsila believes the three pins have failed which allowed the lining to shift rotationally relative to the steering tube so the port in the groove of the lining no longer lines up with the internal oil passage in the steering tube.
APPLY "PIPE SEALANT":
LOCTITE 577
P/N T002007114
CTD Load Handling System
Multi-Tool Interface Pack & Tooling Development

April Status Slides

Prepared for: The Glosten Associates

18 April 2014

By: Michael T. Einhorn P.E.
Einhorn Engineering, PLLC
Headbox Detachment
Headbox Detachment

Strap and stow
MTIP Isometric View

- Hydraulic Substation
- Signal Panel
- Crutch Rest
Jib Attachment

- Nylatron Sheave
- Quick Release Pin
- Quick Release Pin

Diagram showing the components of the jib attachment.
Jib Attachment Wire Routing

Load Cell

Wireless Anti-two block sensor (transferred from AMI headbox)
Docking Head Concept-Jason configuration

MTIP Interface
Hydraulic Helical Drive (1/2)
Lift winch
Guide roller (1 of 4)
Air springs

Gear Box
Slewing drive
Docking Head with Jason ROV
Docking Head Concept—Sentry Configuration

Sentry Mating Module
Docking Head with Sentry ROV
Science Winch Tool
Integrated Bridge (Marine Technologies)
AFT Winch Room (Traction Winch)
Forward Winch Room
Acceptance Trials
February, 2014
Questions?