

United States Coast Guard



Events Leading to the Grounding of the MODU KULLUK

Oceans bay, Alaska on 31 December 2012

Report of Investigation for the KULLUK Grounding



“....that the inadequate assessment and management of risks by the parties involved was the most significant causal factor of the mishap. Vessel and the operations they conduct are growing more complex and the risks that accompany these operations increase, whether in Alaskan waters or not. “

**Rear Admiral Joseph A. Servidio, USCG
Assistant Commandant for Prevention Policy**

The original tow.....

Vessel Name:		Kulluk		Vessel Type:		Conical Arctic MODU Drilling Rig	
Official Number:		Year Built:		Vessel Flag:		Tonnage:	
2522		1883		Marshall Is.		27,968	
Propulsion:						Propulsion Type:	
None						None	
Length:	Beam:	Draft:	Total Shaft Horsepower:	Crew:			
265.7 Circular in Shape	Vessel is conical	10.5 M	N/A	18			
Owner:				Operator:			
Shell				Noble Drilling			



Vessel Name:		Aiviq		Vessel Type:		Ice Classed , Anchor Handling Tug Supply	
Official Number:		Year Built:		Vessel Flag:		Tonnage:	
1237683		2012		United States		12,892	
Propulsion:						Propulsion Type:	
Twin Controllable Pitch Props on Two Shafts, tunnel thrusters fore and aft and swing down thruster						Diesel	
Length:	Beam:	Draft:	Total Shaft Horsepower:	Crew:			
324.5 Ft		28 Feet	21,776	18			
Towing Capabilities:						Bollard Pull:	
Multiple Winches and Supporting Equipment, Purpose Built Towing Vessel						208 Tons	
Owner:				Operator:			
Offshore Service Vessels, LLC				Galliano Marine Services, LLC			

Three possible towing routes

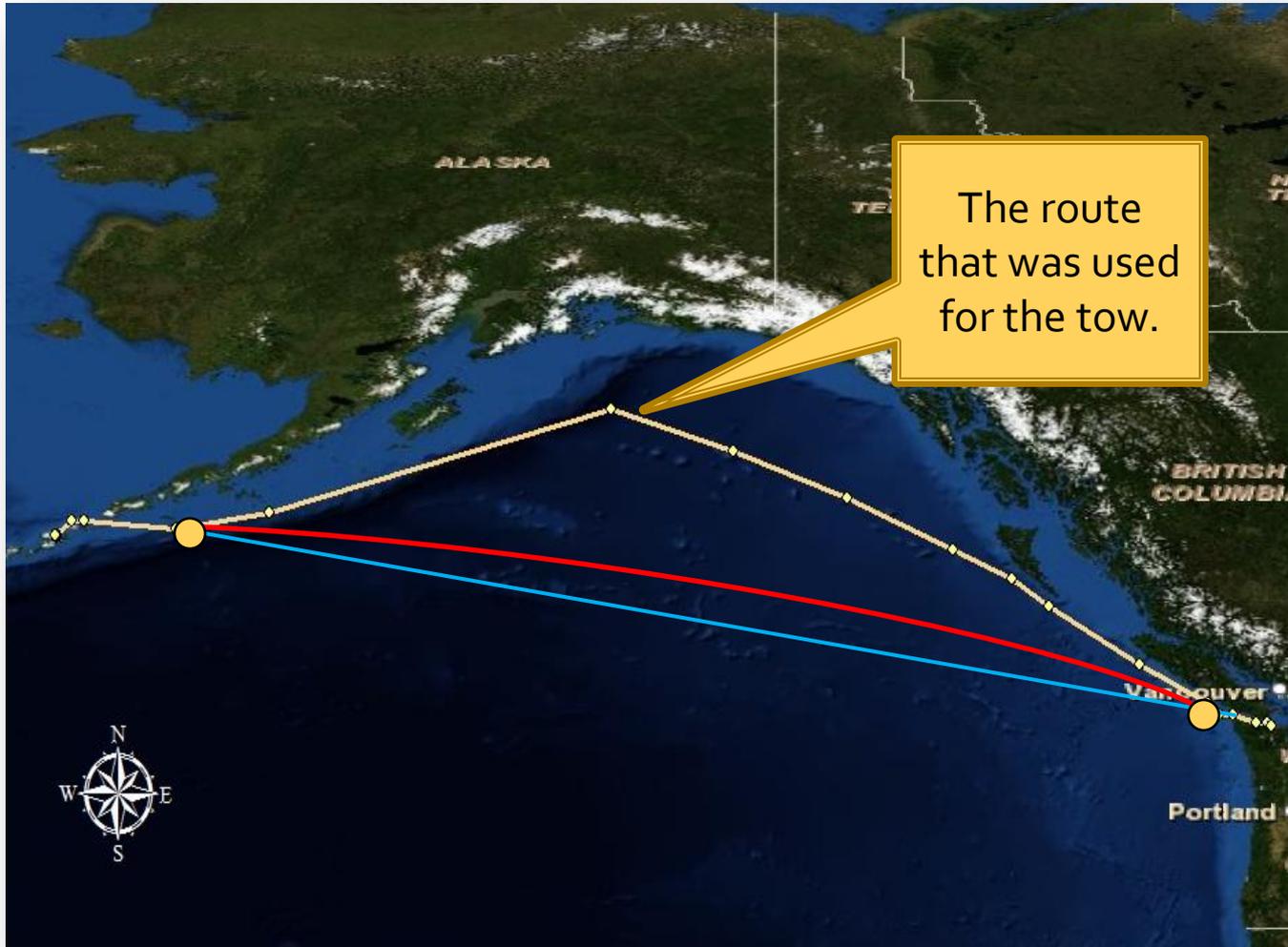
More Coastal
Planned
Route



Rhumb
Line
Route

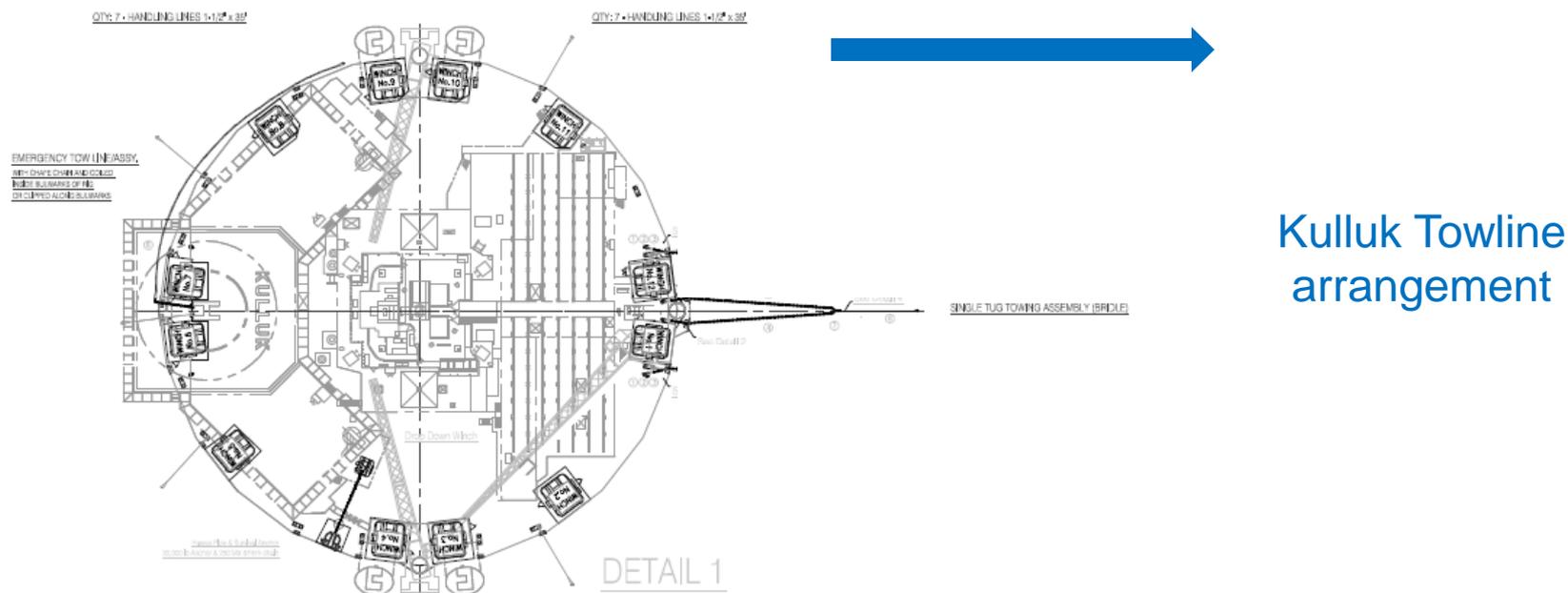


Great
Circle
Route



Departure with KULLUK in tow.....

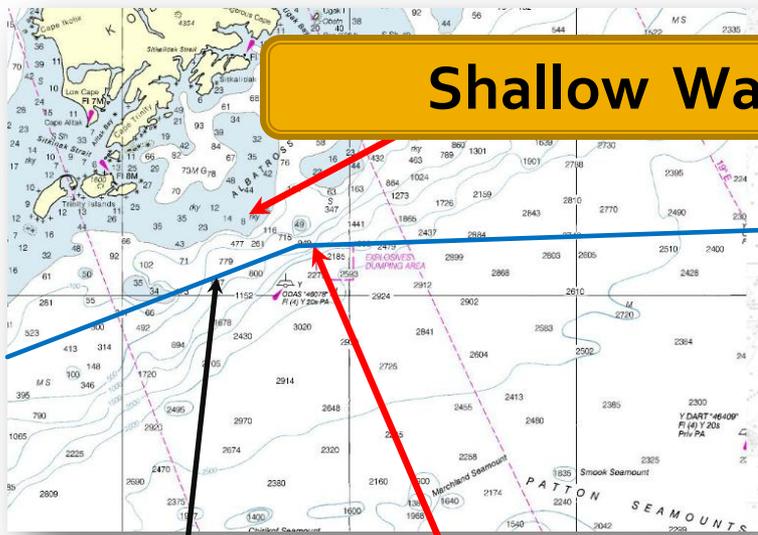
- Afternoon **December 21, 2012** the KULLUK begins the tow to the Seattle area , AIVIQ is the towing vessel. The Tow Plan calls for a coastal route to the shipyard in the Seattle area.



Kulluk Towline arrangement

Close up detail of location of the towing gear failure

For Illustrative Purposes – Not to Scale



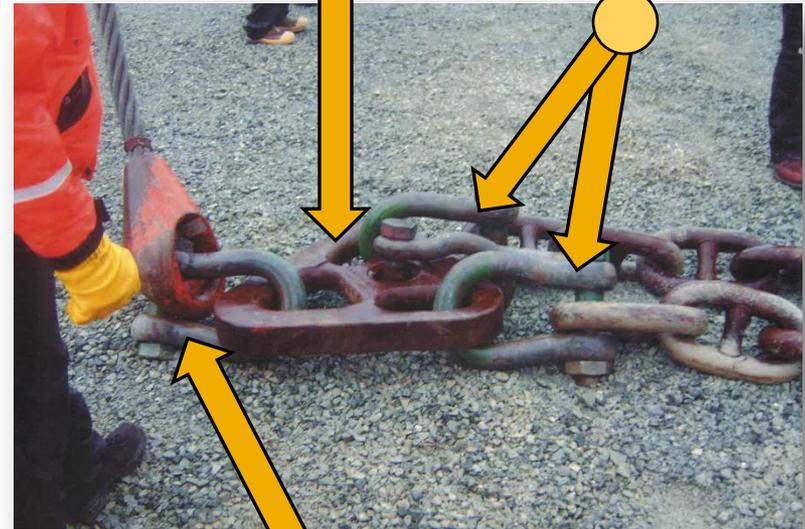
Shallow Water

Planned Route

Approximately
1140 hours
27 December 2012 the
critical towing gear
between AIVIQ and
KULLUK parts

Towing plate or tri plate

2 - 120 ton
shackles listed
as 85 tons in
Tow Plan



Part missing after Dec
27th tow line failure

Location of response vessels



USCGC ALEX HALEY



GUARDSMAN



NANUQ



ALERT



157 Miles west of scene at the time of dispatch

Planned Route

1140 hours
27 December 2012 the critical towing gear between AIVIQ and KULLUK fails

During the course of the response efforts.....

- Several tow lines or associated components fail.
- The designated single towing vessel experiences loss of all main engines and other engineering issues.
- Extreme weather even for Alaskan waters influences operations.
- Response vessels attempted to assist the KULLUK while not adequately matched to the job at hand.
- The KULLUK 18 person riding crew is evacuated safely under challenging conditions.

- **December 31, 2012**
- Shortly after 8:15 pm AST the KULLUK is unmanned and adrift
- At approximately 8:40 pm AST the unmanned KULLUK grounds.



KULLUK grounds Oceans Bay December 31, 2012

Towing Safety Advisory Council

Task Statement #14-01

- **Review** the Report of Investigation along with supporting information and provide comments and recommendations to the Coast Guard and the industry based on your findings.
- **Make** recommendations regarding additional considerations when towing MODUs in the arctic marine environment.
- **Evaluate** the practice of logging ocean towing operations for MODUs or vessels of a similar nature. Determine the effectiveness of a log being kept detailing the history of each item of the towing equipment utilized for the MODU tow. This includes shackles, towing plates, connector links, bridge chains, surge equipment pendant wires and other towing connections.
- **Examine and prescribe** technical standard and best practices for ocean tows of MODUs or vessels of a similar nature to include towing equipment, identification and logging of the use of this equipment, inspection regimes to include trip-in-tow and warranty surveys and non-destructive testing of towing equipment prior to tows. Development of technical standards should include review of existing primary source standards such as the U.S. Navy Towing Manual.
- **Examine and prescribe** a process for the issuing of tracking certificates that accompany towing hardware to include identifying a particular component by a standardized and permanent tracking method.

Task Statement (continued):

- **Provide** a detailed review of towing configurations and tow escorts for MODU ocean tows and development of tow plans in most effective manner.
- **Evaluate** usage and application of strain monitoring devices equipped on towing vessels to determine the recommended procedures to reduce the likelihood of towing equipment failures. Examine the correlation between catenary and the information provided by strain monitoring devices to effectively provide safety in towing operations.
- **Examine and make recommendations** regarding the competencies and conduct of the towing vessel master, and the tow master (if separate) for ocean towing of MODUs or other vessels of a similar nature.
- **Examine and make recommendations** regarding the competencies and conduct of the marine warranty surveyor for trip-in-tow or other surveys for ocean towing of MODU or other vessels of a similar nature.
- **Make recommendations** for the development of a comprehensive process for planning and executing tows, including final tow plans, in a manner compatible with the use of a safety management system for ocean towing of MODUs or other vessels of a similar nature.
- **Provide any other recommendations** to the Coast Guard that the Committee feels is appropriate for this subject matter.

Contact:

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