

**Our Ocean Backyard — *Santa Cruz Sentinel* columns by Gary Griggs, Director, Institute of Marine Sciences, UC Santa Cruz.**

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**The Hazards of Arctic Drilling**



*The Shell drilling vessel Kulluk before washing up on shore.*

The *Kulluk*, a Royal Dutch Shell drilling barge, was pulled off the coastline of a remote Aleutian island on January 6 and towed to a protected bay on Kodiak Island where it will be thoroughly inspected before its next transit. The drilling vessel ran aground on New Year's Eve in the midst of high seas while being towed to Seattle for maintenance and upgrades.

The rig had been drilling exploratory wells in Arctic waters as part of Shell's \$5 billion program to rejuvenate its offshore Arctic oil efforts that have been inactive for about 20 years. The melting of increasing amounts of ice in the Arctic has allowed greater access to drilling vessels.

The *Kulluk* is the second Shell drilling vessel to end up on the Alaskan shoreline in less than six months. It's an odd shaped circular barge, 266 feet in diameter with a 160-foot high derrick in its middle and a funnel-shaped, reinforced steel hull that allows it to operate in ice.

A 360-foot ice-breaking tug, the *Aiviq*, was towing the drilling barge. On December 27, during 35-foot seas and 60 miles an hour winds, certainly rough but not unusual Aleutian weather, the main towline to the *Kulluk* broke. Hours later, while trying to connect to an emergency cable, the huge tug lost power to all four of its engines.

The Coast Guard then sent the cutter *Alex Haley* to take over towing the drilling vessel, but the rough seas again caused towlines to break. The *Haley* was forced to return to the station at Kodiak for repairs.

The Coast Guard evacuated the 18-person crew of the *Kulluk* by helicopter as fears for the vessel's safety mounted. A smaller tugboat, the *Alert*, was now dispatched to assist in the emergency while the *Aiviq's* engines were being repaired. The ship was able to again get a line to the *Kulluk*, but that also failed. The plan was to use the tug *Alert* to tow the drilling vessel to a harbor on Kodiak, but with the high seas it didn't have enough power and had to disconnect, which is when the *Kulluk* drifted onto the sand and gravel shoreline.

Finally, the now repaired original tow ship, the icebreaker *Aiviq*, pulled the drilling vessel off the rocks Sunday night and started the slow tow to a sheltered bay on Kodiak Island. High winds and large swells made progress slow, but by Monday the ships had completed the 45-mile rescue trip. The next step was a complete underwater examination of the ship's hull by inspectors and a sign off by the U.S. Coast Guard before the drilling vessel is towed to Seattle.

The drillship is carrying about 150,000 gallons of diesel fuel and lubricant. This is a very small volume compared to the tankers moving along our coast today. For comparison, the *Exxon Valdez*, which grounded on a reef near Valdez, Alaska, in 1989, about 300 miles north-east of where this incident took place, spilled 11 million gallons of crude oil of a total cargo of about 62 million gallons. Fortunately, the shoreline where the *Kulluk* was stranded was sand and gravel rather than rocks, so no leakage has been reported.

While Kodiak Island is a few thousand miles away, and probably doesn't really register here in Central California, on Monday morning a 752-foot oil tanker, the *Overseas Reymar*, "grazed" one of the towers supporting the San Francisco Bay Bridge in the fog. Hours earlier, the tanker, with a capacity of about 20 million gallons, had just unloaded its cargo at the Shell refinery in Martinez.

Five years ago, a very similar Bay Bridge collision involving the *Cosco Busan*, spilled 53,000 gallons of heavy bunker fuel into the bay, fouling 69 miles of shoreline and killing thousands of birds.

Environmentalists have called for a halt to Arctic offshore drilling as a result of a series of problems with Shell's closely watched 2012 effort, including a criminal investigation over issues with safety and pollution control equipment on another of its drill ships. On Monday, the president of Shell Oil Company said in a written statement about the *Kulluk* that the company does extensive preparation to ensure such incidents don't occur and is sorry about the grounding.

Shell's foray into drilling off the coast of Alaska has been closely watched, and the latest incident has sparked criticism from environmental groups and some politicians, who have argued that the extreme weather offshore Alaska and in the Arctic makes equipment problems—and hazardous leaks—more likely to occur and more difficult to rectify.

The Alaska Dispatch reported that Shell had attempted to pull the *Kulluk* through the dangerous weather in an attempt to avoid paying millions in state taxes to Alaska, which it would have owed if the drilling vessel remained in Alaskan waters through January 1. “By risking hazardous conditions to save money, Shell showed a blatant disregard for the safety of the *Kulluk* crew and the Alaskan environment”.

One meteorologist has stated that Shell Oil made a misguided and poorly informed decision to move a huge drilling platform from Dutch Harbor, Alaska to Seattle starting December 21. The Gulf of Alaska is known to be one of the stormiest regions on the planet with one major storm after another during midwinter. The forecasts on the day they left suggested the potential for big storms during the 3-4 week voyage to Seattle.

Secretary of Interior Ken Salazar earlier this week announced a full assessment of Shell's 2012 Arctic drilling to examine “operational issues” associated with the *Kulluk*, and the drillship *Noble Discoverer* (which grounded in July), as well as issues with the containment vessel *Arctic Challenger* and the failure of its containment dome during a Puget Sound test last year. Getting ships into the Arctic and drilling for oil all of a sudden doesn't seem as safe as Shell assured us all it would be.

Congressman Ed Markey of Massachusetts, the top Democrat on the Natural Resources Committee, expressed his concerns in a statement Tuesday. "Oil companies keep saying they can conquer the Arctic, but the Arctic keeps disagreeing with the oil companies."