Furie Operating Alaska LLC

Project Overview

From 2011 to 2014, Furie Operating Alaska LLC (Furie) drilled five exploration wells in the Kitchen Lights Unit (KLU), located in coastal waters of upper Cook Inlet, using the Spartan 151 jack-up drill rig. These wells are named KLU#1 through 5. KLU#5 will be completed in the spring of 2015. Furie will also drill an additional well (KLU#6).

Additionally, Furie's operational plans for spring 2015 include installation of a monopod platform, construction of a 15-mile subsea pipeline to transport gas, water, and other fluids to an onshore production/treatment facility under construction in Nikiski. The treatment facility is approximately half way complete in the construction process.

Once gas production begins and additional wells are drilled, Furie expects the Kitchen Lights Unit would produce up to 30 billion feet of gas per year *(Petroleum News, week of November 16, 2014).*

Furie Environmental Monitoring Sampling

EPA's Cook Inlet NPDES general permit (AKG-31-5000) requires environmental sampling prior to drilling activities (baseline), during-drilling, and post-drilling. The objective of the environmental monitoring is to examine the fates and effects of hydrocarbons and heavy metals in drilling muds and/or cuttings discharged. Baseline monitoring activities at each KLU well location included water current direction, temperature, salinity, and turbidity data as well as benthic sediment quality samples.

While water quality sampling were successful at most stations, unfortunately, the conditions in Cook Inlet presented significant challenges for sediment sampling. Efforts to collect sediment samples produced rocks and cobbles, resulting in unusable materials. *(Jacobs Engineering Group, Inc., Environmental Sampling Effort Reports for KLU#1 During-Drilling, December 2012, KLU#2 Post-Drilling, January 2014, KLU #3 Post-Drilling, December 2014, and KLU#5 Pre-Drilling and During-Drilling, December 2014).*

Discharge Summary

A review of discharge monitoring reports (DMRs) indicate that the ELG-established effluent limitations of cadmium and mercury limits of 3 mg/kg and 1 mg/kg, respectively, in stock barite were met for the discharge of water-based drilling fluids and drill cuttings. The 96-hour suspended particulate phase (SPP) toxicity test limitation of 30,000 ppm were also met.

The following table represents drilling fluids and cuttings discharge volumes obtained from Furie Operating Alaska and the four KLU exploratory wells drilled between 2011 and 2013. The 20% swell factor for the cuttings discharge volume was assumed by Region 10 based on a review of existing literature.

Drilling Fluids and Cuttings Discharge Volumes* from Furie's Kitchen Lights Unit (KLU) Exploratory Wells				
Well #	**Well Depth (ft)**	**Fluids (bbl)**	**Cuttings (bbl)**	**Cuttings** (bbl)**
KLU 1	15,298	15,568	3,487	4,184
KLU 2	10,750	7,933	2,547	3,056
KLU 3	10,004	7,557	1,337	1,604
KLU 4	9,163	9,938	3,596	4,315

*Drilling fluids and drill cuttings that failed the static sheen test were placed in containers and disposed offshore. The volumes of materials disposed and the frequency in which this occurred is not known.
**Includes 20% swell factor

Other Disposal Options in Cook Inlet

- West McArthur grind and inject facility is a EPA permitted and regulated Class I underground injection well operated by Cook Inlet Energy, LLC.
- On August 1, 2013, the Alaska Department of Environmental Conservation (ADEC) approved a solid waste permit authorizing AIMM Technologies, Inc. to construct a drilling waste monofill on the Kenai Peninsula. Construction of the monofill was completed in late fall of 2014 and is currently accepting drilling waste. The permit expires on August 1, 2018.
- ConocoPhillips Alaska, Inc. also operates a drilling waste disposal monofill onshore at the Beluga River Unit (west side of Cook Inlet). This monofill was permitted on September 1, 2010 and expires on September 1, 2015.
- The Central Peninsula Landfill, located near Soldotna is a large Class 1 landfill that serves all communities on the Kenai Peninsula. The landfill accepts a wide range of materials and has accepted drill cuttings in the past; however, the majority of drilling waste is now being accepted at the AIMM monofill.