Abstract

A literature search and laboratory study were conducted to predict the amount of oil, if any, that would be removed by oil-solid interaction from the surface slick of a pipeline spill onto the Yukon River. Samples of Alaska North Slope crude oil and river water were shaken under various conditions and allowed to settle. The solid particles that sank were withdrawn and any oil associated with the solids was extracted and quantified. From the results, the most important factors affecting the oil-solid interaction process were mixing energy and temperature, and to a lesser degree oil volume and settling time. A reasonable estimate for oil loading on the suspended solids during a spill would be on the order of 0.1 g of oil per g of solid.