

Message

From: Lynn, Tricia [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=D8747BA49CDE485EA4AC58DBF09C3DCD-TRICIA SLUSSER]
Sent: 12/12/2017 5:54:32 PM
To: Brian Owens [REDACTED] **Ex. 6**
Subject: Re: Press Inquiry about Oil spill

Hi Brian—

If attributing, please attribute to “an EPA spokesperson:”

EPA researchers have found the high asphaltene and resin content of dilbit make it quite viscous and heavy. Thus, in certain environmental circumstances (for example: cold temperature, low density freshwater, long weathering times, high particle loads), the oil tends to sink below the air-water surface to the sediments. Conventional crude oils are lighter and float or stay suspended in the water column when dispersed, so sinking is not the main concern during conventional crude oil spills.

Condensate is added to the oil sands to facilitate the product’s movement through the pipeline. The condensate causes a reduction in viscosity making it more flowable. When a spill occurs, the condensate begins to volatilize, and the viscosity begins to increase. Conventional cleanup techniques are utilized to recover the product while the oil is still buoyant. Once the condensate has volatilized, the product might sink, and a different series of cleanup techniques might be required (dredging, etc.); however, there is some buoyancy with the oil, and skimmers can still be utilized.

EPA researchers have produced the report listed below which represents a large body of work that produced manuscripts on the toxicity of dilbit (Mace Barron), dilbit biodegradation (cold and warm temperatures) and chemical characterization (Ruta Deshpande), genomic sequencing of oil degrading bacteria exposed to dilbit (Jorge Santo Domingo), and dilbit dispersion with and without dispersants using the EPA Baffled Flask Method (in the report).

This research informs responders on the fate of dilbits and potential toxicological effects.

Report on Biodegradation and Toxicity of Diluted Bitumen Crude Oils: EPA researchers produced the report: “Characterization and Behavior of Cold Lake Blend and Western Canadian Select Diluted Bitumen Final Report”. Unconventional diluted bitumen (dilbit) oil products present an increasing environmental concern because of extensive transport in North America, recent spills into aquatic habitats, and limited understanding of environmental fate and toxicity. To address knowledge gaps pertaining to the behavior, fate, and effect of select fractions of spilled dilbit, this report summarizes research conducted on the chemical characterization, dispersion effectiveness, biodegradation, and toxicity of two types of dilbit—Western Canadian Select and Cold Lake Blend.

Two other manuscripts by EPA researchers include:

- Toxicity of Cold Lake Blend and Western Canadian Select dilbits to standard aquatic test species
- Biodegradability of Diluted Bitumen (Dilbit)

Best,

Tricia

Tricia Lynn
Office of Public Affairs
U.S. EPA
Office: 202.564.2615

From: Brian Owens [redacted] **Ex. 6**

Sent: Thursday, December 07, 2017 11:15 AM

To: Lynn, Tricia <lynn.tricia@epa.gov>

Subject: Re: Press Inquiry about Oil spill

Thanks Tricia, here are a few of the questions I'd like to ask:

1. How does the behaviour of dilbit differ from conventional oil in a spill on land or in fresh water?
2. Does the EPA response and clean-up of a spill differ between the two types of oil? If so, how? Can you provide examples from, for example, the recent Keystone spill?
3. What research has EPA done, or supported, on how dilbit affects the environment, water, and wildlife during a spill?

Others may come up in the course of my reporting, but those are the main ones for now. It would be great if I was able to speak with an EPA response coordinator who has worked on a dilbit spill, such as the Kalamazoo river one from a few years ago, or the recent Keystone one, to get a first-hand description of how you deal with dilbit.

Cheers,
Brian