

Fears linger over doomed train's cargo

Lac-Mégantic residents suspect more than oil was spilled

Monique Beaudin, Postmedia News Edmonton Journal

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Nearly a month after the deadly train derailment in Lac-Mégantic, Que., questions remain about exactly what was inside the 72 train cars and the potential health and environmental impacts.

The train was carrying crude oil from North Dakota, but the Transportation Safety Board said Thursday that crude oil doesn't usually lead to the "fierce fire" and subsequent explosions seen in Lac-Mégantic on July 6. Several government agencies - including the TSB, the federal and provincial environment departments, and the federal transport department - have taken samples of liquids from the site, said TSB investigator Donald Ross. The TSB took samples from nine train cars that did not leak and from another Montreal, Maine & Atlantic Railway train parked in Farnham, Ross said.

"There will be results from all kinds of fluids taken from all kinds of locations," Ross said.

While the TSB has requested that the testing be expedited, it could still take several weeks for results, he said.

Crude oil is a mixture of hydrocarbons and other chemicals, whose composition can vary depending on where the oil is from. In North Dakota, oil production has boomed in recent years, as producers use hydraulic fracturing - injecting a mixture of water, sand and chemicals at high pressure - to break up rock and release the oil.

Independently of the TSB, toxicologist Daniel Green also collected water and soot samples in Lac-Mégantic and along the Chaudiere River in the days after the accident to "get a better handle on what was spilled."

He found soot from the smoke that resulted from the fire on mailboxes, pool covers and vegetation across the lake from the town, and smelled what he said was a very strong solvent. Green said people told him of cleanup workers who had been burned or were affected in ways that aren't usually associated with crude oil.

"If the TSB has information that tells us that other chemicals were spilled, then I think they have a duty to inform the people of Lac-Mégantic," said Green, president of the Societe pour vaincre la pollution. "People need to know what they were exposed to and what they continue to be exposed to in these oil products."

Green said results of tests done on the samples he collected should be available shortly.

Keith Stewart, climate and energy campaign co-ordinator for Greenpeace Canada, said the TSB should look at the composition of crude oil coming from the Bakken formation, which straddles North Dakota, Montana, Saskatchewan and Manitoba.

Stewart compared safety-data sheets prepared by a company that produces conventional crude oil and Bakken crude. The documents show there can be up to 10 times as much benzene in Bakken crude, as well as high levels of hydrogen sulphide, compared with conventional crude oil.

Benzene is a known carcinogen that can cause leukemia. Hydrogen sulphide rises to the surface when heated and shaken, Stewart said - conditions that would be met by travelling across the continent in dark-coloured train cars in the summer. That could have resulted in a layer of highly explosive hydrogen sulphide at the top of the train cars that derailed in Lac-Mégantic, Stewart said.

Another unknown, he said, is whether fluids used for hydraulic fracturing may have been mixed in with the oil in the derailed train. Fracking fluids can contain chemicals ranging from ethylene glycol (antifreeze) to the carcinogen naphthalene to hydrochloric acid, and can be highly flammable, Stewart said.

Also acting independently, the founder of a U.S. oil-spill cleanup company collected oily water from the Chaudiere River. Scott Smith said tests on those samples confirmed it was Bakken crude, and found "very concerning" levels of polycyclic aromatic hydrocarbons (PAHs). The U.S. Environmental Protection Agency says PAHs seem to be associated with cancer.

Spurred by the devastation in Lac-Mégantic, Smith is now in North Dakota, where he said he is trying to learn more about the composition of Bakken crude.

"What I'm learning is that Bakken crude, over time, has become more explosive," said Smith, president of Opflex Solutions.

Neither the North Dakota Department of Mineral Resources nor the North Dakotabased Energy and Environment Research Centre would speak to Postmedia News on Thursday about the composition of Bakken crude oil.

The regional public-health department in Quebec's Eastern Townships based its analysis of the accident's health risks on the fact that the train was carrying light crude oil, said Dr. Melissa Genereux, the agency's director of public health.