

THE PUBLIC CITIZEN

Prof has crude answer to potholes

Pure oil from Alberta makes better asphalt



HUGH ADAMI

Sick of all those “landmines” that have littered Ottawa roads for months?

A Queen's University professor says potholes would not be a problem if the city followed his advice and used asphalt containing pure Alberta crude to pave its streets.

But Simon Hesp, a chemist and chemical engineer at Queen's, says he's been getting the cold shoulder from Ottawa (and other Ontario municipalities) since he began promoting the use of asphalt made without inferior additives such as used engine oil and oil residues. The City of Kingston, home to Queen's, has been following Hesp's advice for the past five years. According to the municipality, the asphalt on reconstructed roads and overlays is standing up to Hesp's hype. No cracks, no potholes, no problems. “It's night and day,” Hesp says: the asphalt costs only 10 to 15 per cent more, but adds several years to a road's life cycle.

“If you get crude oil from Alberta, you distil it and what's left in the bottom is the asphalt cement. You use it as a glue to hold the sand and aggregate together.

“Alberta crude produces the best-quality asphalt cement in the world.



WAYNE CUDDINGTON/OTTAWA CITIZEN

Jacques Landriault dumps asphalt into a pothole on McKay Street in New Edinburgh as work crews continue filling potholes around the city.

It is stiff enough at high temperatures in the summer to prevent rutting.

“In the winter, you want to prevent cracking.” But because of the use of asphalt with inferior binders, “it's totally out of control in Ontario and Quebec. We have roads that go in the first winter. They start to crack in the wheel paths, and after five years it's rubble.”

City engineering officials could not be reached for comment.

Hesp Research Group, which includes postgraduate Queen's students, works with the Ontario Ministry of Transportation in building and monitoring test sites on provincial roads. There are more than 30 test sites throughout the province, and pavement trials can be checked online at hespresearchgroup.ca. There is a 10-year-old test section in frigid Timmins, Hesp says, where the pavement withstood cracking at -48 C in 2004, and is still “in very good shape.” In sections where asphalt with less costly additives such as old engine oil were used a binder, the pavement is “a joke.”

HOW BAD WAS THIS WINTER?

Some motorists swear they have never seen Ottawa's roads in such bad shape. A long and freezing-cold winter without typical January-February thaws did not help.

Kevin Wylie, manager of Ottawa's road services branch, expects crews to be working well into May fixing tens of thousands of potholes. The city is using 41 city and contracted crews. As of March 18, 1,320 tonnes of hot-mix and 666 tonnes of cold-mix asphalt (cold patch) had been used. Crews had filled 98,533 potholes as of Tuesday, but no one wants to guess how many more are out there. For all of last year, 193,244 potholes were filled — roughly 15,000 more than in 2011 and 2012. In 2010, 133,513 were filled.

Potholes begin to form during thaw-freeze cycles. Water seeps into cracks on road surfaces and freezes, causing weak spots, leading to asphalt breaking and crumbling.

“I think this will be one of our heavy years,” says Wylie. “I don't know if it's going to be our worst.”

Despite the war-torn look of our roads, Wylie figures cost of repairs, which include summer assignment, will run around the typ-

ical \$6.5-million mark.

WILL THE CITY COVER DAMAGE TO MY CAR?

Pigs fly, but only very occasionally, so chances are you'll be out of pocket if you ruin a wheel or wreck your suspension. Ontario's Municipal Act has city hall's back on this one.

According to the city's website: “Provincial government standards require the city to fix a pothole within a period that ranges between four and 30 days, depending on the size of the pothole and whether it is on a paved or unpaved road.”

There's more: “It is important to note that the city's obligation to fix a pothole is triggered only after the municipality becomes aware of the problem.”

So, unless someone advises the city's help line, 311, a pothole could be there all winter and wreak havoc on hundreds of cars. But the city would not be responsible.

David Tafel ruined a front tire, wheel and hubcap after his 2013 Hyundai hit “a sharp and deep” pothole on St. Patrick Street in February. Replacement costs totalled \$475. He has filed a claim with the city. Wylie acknowledges that St. Patrick is one of the worst streets in the city, but under the rules, you'd have to think the odds are stacked against Tafel.

As of March 18, the city had received 3,330 calls about potholes, and had already filled 56,075.

Of 497 claims in 2013, only 17 were approved. To the end of March this year, 382 claims had been received.

Between 2005 and 2012, there were 1,912 claims submitted. Only 53 were paid out.

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