



An empty BNSF Railway unit oil train passes Hazel Green, Wis., headed for the oil fields of North Dakota. TRAINS: Matt Van Hatten

## Five myths about crude oil by rail

A lot of what you've been hearing is not true. It's time to set the record straight

**Three years have passed** since the village was rocked by the scandal, namely the remarriage, after *half a century* of divorce, of Mr. Big Rail and Ms. Crude Oil. People are still aghast. Who would have imagined these two would find each other attractive again? Yet a lot of loose tongues are *still* spreading gossip, and frankly, much of it is simply not true. To promote harmony in the village, your scribe this month wishes to set the record straight. Here are five commonly articulated myths that have no basis in fact.

**1. It's just a fling and won't last.** The way oil is priced worldwide virtually guarantees this marriage will endure. The world oil price (Brent) in recent years has usually been \$10 to \$25 a barrel higher than the West Texas Intermediate (WTI) price for oil from the U.S. interior, and oil from new discoveries in North Dakota and Canada is further discounted from the WTI price. Follow me so far? Refineries on the west and east coasts are not reached by pipelines from the country's oil-producing midsection, and had to pay the Brent price (or something close to it) to buy oil from overseas or Alaska's North Slope. It was difficult for these refineries to compete and stay in business.

Now these coastal refineries are flocking to oil by rail like drowning men to life preservers. If they can get oil \$10 to \$25 a barrel cheaper, they're way ahead even after paying the railroads. Therefore, the east and west coasts, I maintain, will be the ultimate destination for much, if not most, of the oil coming from the Bakken shale formation in North Dakota and Saskatchewan. And the only way to get it there is by rail.

**2. The Keystone XL pipeline will disrupt the marriage.** Not at all. TransCanada's XL, according to the environmental impact statement, is supposed to bring up to 730,000 barrels a day of stuff from Canada (more about "stuff" in a minute) to refineries on the U.S. Gulf Coast, and pick up another 100,000 barrels of North Dakota oil as it passes through that state. But there are problems with the XL. First, it may never be approved by the U.S. government. Second, Gulf Coast refineries are being flooded by light sweet crude oil of the sort North Dakota produces. I concede that pipelines can get North Dakota crude to the Gulf cheaper than railroads, but question whether there will be much appetite for it. Third, the "stuff" from Canada is not well-suited to pipelines.

**3. Railroads cannot compete with pipelines head to head.** In theory, that's largely true. Between Point A and Point B, if there are no complicating hang-ups, pipe will underprice rail. Now, let's talk about "stuff." The oil being extracted in northern Alberta, above Edmonton, is so heavy that you cannot do conventional drilling. Either you mine it and extract the oil from the sand, or you heat it underground and boil it out, so to speak. What you get is an oil called bitumen. Gulf Coast refiners are largely geared for this

heavy oil — it's a natural destination for this oil — but there's a catch: Bitumen will not flow through a pipeline. Pipeline shippers have to buy condensate, transport it to northern Alberta, and then dilute the bitumen with it so that they end up pumping 72 percent bitumen and 28 percent condensate, or "stuff." So what goes through the pipe is 28 percent waste. At the other end, refiners have to remove the diluent. It's a costly process. At least a couple of oil industry experts who have studied the economics of all this say bitumen can be shipped a lot cheaper by unit train, particularly if you use insulated tank cars with coils for steam injection to permit raw bitumen to be loaded and unloaded. Facilities that will do just that are being built or planned at both ends. The same experts say that even if you dilute the bitumen with 18 percent condensate to make it flow in and out of ordinary tank cars, unit trains are still the low-cost winner, although not by much.

**4. Crude oil doesn't explode.** That was the prevailing wisdom before a runaway, unmanned crude oil train piled up in Lac-Mégantic, Quebec, in July, killing dozens. And in November an Alabama & Gulf Coast crude oil train derailed over a wooden trestle near Aliceville, Ala., and press reports state that three cars of crude exploded (while other derailed cars

did not). Today, I suppose the popular belief is that crude oil is explosive. The truth is that both myths are untrue (or true, take your pick). The lighter the crude oil, the more likely it will be to contain explosive elements such as butane and benzene that may separate from the heavy components during transport. If released and ignited, an explosion may result, according to published safety data sheets. Both the Lac-Mégantic and Aliceville accidents involved light sweet crude that originated in North Dakota. As for tar-like bitumen, you could probably hit it with a flamethrower with no explosive effects.

**5. The backlog of tank car orders is creating a bubble that will burst.** That bit of village gossip had validity because after all, booms are followed by busts, and freight car manufacturers aren't exempt. But after the Association of American Railroads in November got behind the idea of retrofitting (or reassigning or scrapping) 78,000 of the 92,000 cars hauling flammable liquids such as ethanol and crude oil, it pretty much insured that the carbuilders will be turning out tank cars at their peak 24,000-a-year rate for some time to come. That bust appears to be a long way off. **I**

**COASTAL REFINERIES ARE FLOCKING TO OIL BY RAIL LIKE DROWNING MEN TO LIFE PRESERVERS.**

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