

## EFSEC Testimony: Tesoro/Savage Oil Terminal

According to the Federal Railroad Administration, there were 292 derailments by Burlington Northern trains last year. In July of last year, one of these derailments was loaded with coal and 30 coal cars turned on their sides in Pasco, WA. If 30 cars containing over 800,000 gallons of fracked oil overturned and spilled oil into the Columbia River east of Vancouver, it would be important to know what the effects to fish and wildlife and to the environment would be. Also, how would the machinery at a dam be affected if the derailment occurred upstream to one of the dams? Since there are very swift currents in the Columbia River, how could the oil effectively be cleaned up?

If the tracks are blocked due to a derailment, what would be the impact to other freight trains traversing the route? It is my understanding that about 30 trains traverse the route along the north side of the Columbia River every day. And, if proposed terminals are permitted for coal and oil, many more trains would be on the tracks, double the number that are currently using these tracks. I am submitting a copy of the news article about the Pasco derailment, the Federal Railroad Administration derailment statistic, as well as some photos of a few of the tracks used by both eastbound and westbound trains along the Columbia River.

The scope of any study for this proposal should definitely include the Federal Railroad Administration and the National Transportation Safety Board. Studies have been done on DOT-111 tank cars and found them to be generally ineffective in preventing impact damage. I am including copies of power point slides given as part of a presentation by Paul Stancil of the National Transportation Safety Board regarding the inadequacies of this type of tank car. Using DOT-111 tank cars to transport hundreds of thousands of barrels of fracked crude oil every day should be prohibited.

Storing approximately 90 MILLION gallons of fracked oil at the Port of Vancouver should give us all pause for thought. How large would the blast zone be in the event of a fire or explosion? Would it obliterate the downtown area of Vancouver? And, how does the venting of these storage tanks affect greenhouse gas emissions. And, what would happen to these storage tanks and the above-ground pipelines in the event of a large earthquake? The scope of any study needs to address all of these issues.

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October 29, 2013

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July 3, 2012 in Region

## Coal train derails in Columbia River Gorge

Associated Press

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Tags: Burlington Northern Santa Fe Railway coal train derailment

PASCO — A railroad spokesman says about 30 cars of a 125-car coal train bound from Wyoming's Powder River Basin to British Columbia have derailed along a Columbia River Gorge route east of Pasco, blocking a main rail line.

Burlington Northern Santa Fe spokesman Gus Melonas said no injuries were reported in the Monday evening derailment.

He says the majority of the derailed cars ended up on their sides and an undetermined amount of coal spilled. Melonas says no environmental threat was reported.

Railroad officials are on site and the cause of the derailment is under investigation.

Melonas says more than 30 trains use that track daily. Heavy equipment was being dispatched from Pasco to shove the rail cars off the line so crews can replaced the damaged tracks. BNSF hopes to reopen the rail line as soon as today.

Melonas says some rail traffic is being rerouted via Wenatchee, as well as the Seattle to Vancouver, Wash., route.

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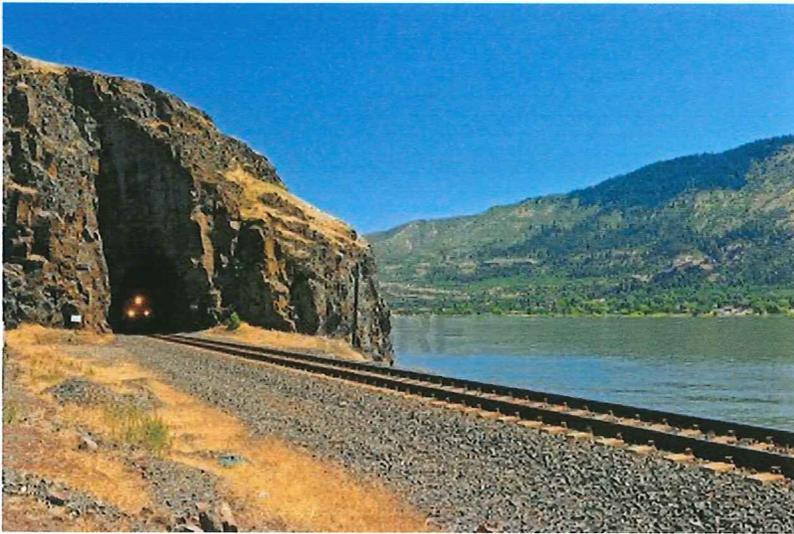
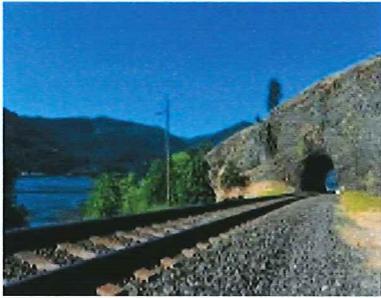
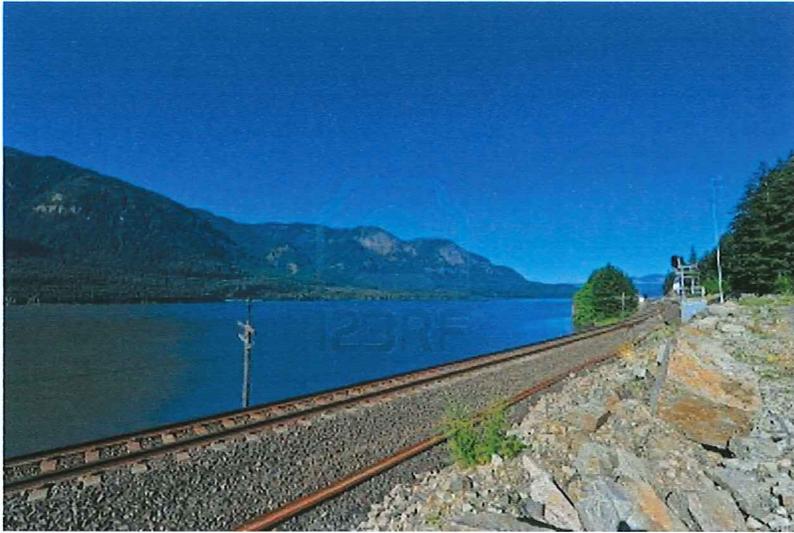
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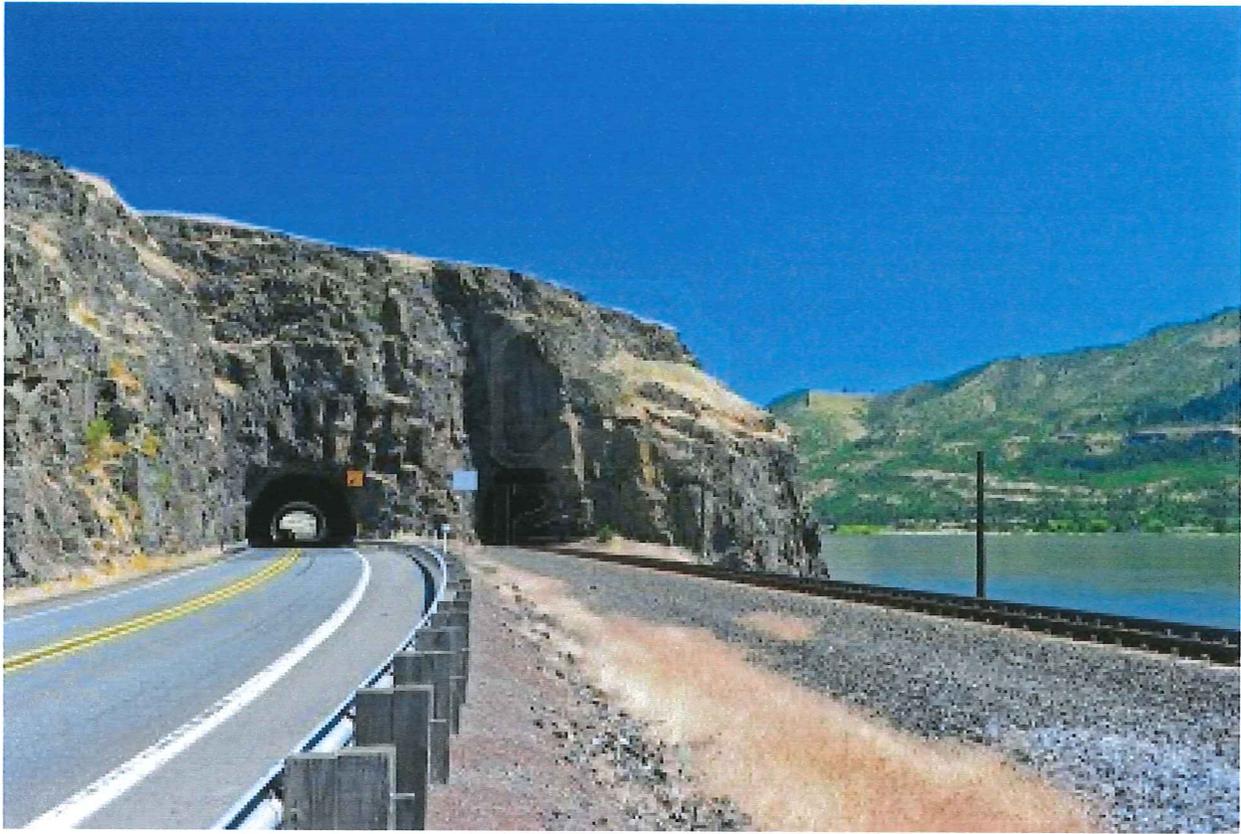
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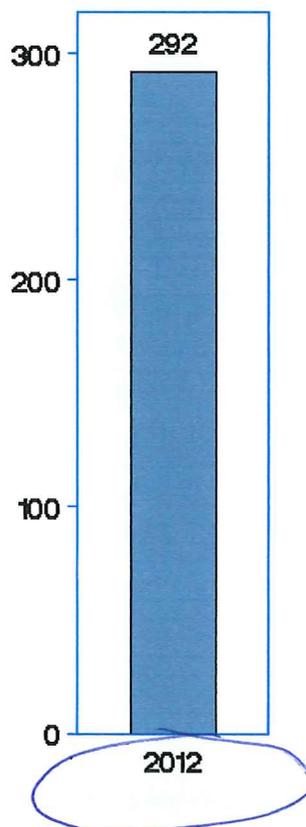




**1.03 - Overview Charts By Railroad**

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**DERAILMENTS**  
**FOR BNSF Rwy Co. [BNSF], January — December (ALL YEARS)**



**Excludes highway—rail**



**NTSB** National Transportation Safety Board

*Office of Railroad, Pipeline and  
Hazardous Materials Safety*

# **DOT-111 Tank Car Design**

Paul L. Stancil, CHMM

# Previous Investigations

- 1991 Safety Study
- 1992 Superior, Wisconsin
- 2003 Tamaroa, Illinois
- 2006 New Brighton, Pennsylvania
- High incidence of tank failure



# Need for Better Tank Cars

- 69% of tank cars are DOT-111
- Transports wide spectrum of hazmat commodities
- 40,000 DOT-111's used to transport denatured fuel ethanol
- Ethanol is the most frequently transported hazardous material







# Top Fittings Protection

- DOT-111 housings not effective in preventing impact damage



# Post Accident AAR Actions

- All new DOT-111 for ethanol and crude oil service beginning October 1, 2011:
  - Increase head and shell thickness
  - Normalized steel
  - 1/2-inch thick head shield
  - Top fitting protection



# Hazmat Unit Train Operations

- Certain hazardous materials are transported by unit train
- Virtual pipeline
- Risks are greater because of high concentration of hazardous materials
- Increasing number of unit train shipments



# Existing Tank Cars Not Addressed

- AAR actions do not address existing fleet
- Impediments to retrofitting or phase out
- Long service life
- Safety benefits not realized if old and new tank cars are commingled



# DOT-111 Design Inadequacies

- Tank head and shell puncture resistance systems and increased materials thickness may have reduced the severity of the accident
- Housings for protection of DOT-111 top fittings are inadequate to withstand the forces of a derailment



# Bottom Outlet Valves

- 3 bottom outlet valves opened and released product
- Handles supposed to remain closed during transit and break free in an accident
- Alternatively handles can be located above the skid structure



# Operating Handle Failures



CIT Configuration



GE/Trinity Configuration



# Operating Handle Failures (Cont.)

- Valve operating mechanisms compliant with current design requirements
- Handles became caught by objects and debris and caused valves to open
- Operating handles too robust and did not break free on impact
- Existing standards and regulations insufficient to ensure that bottom outlet valves remain closed during accidents