



Innovation, Energy and Mines

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Manitoba's Upstream Petroleum Industry 2010 Spill Statistics and Report

Manitoba's petroleum exploration and production industry in 2010 recorded 72 spills. This is 23% larger than the 5 year average of 55.4. The total volume of these spills is 687m³; 25% less than the 5 year average of 920 m³. Average spill size in 2010 is 10 m³, 41% less than the 5 year average.

Figures accompanying this report show spill trends for the past 25 years. The number and volume of spills occurring each year over the last decade has generally decreased (Figure 1, 2). Yearly average spill size is seen in Figure 3. Figure 4 shows the percentage of total production spilled; 0.005% in 2010. Industry produced about 13.1 million m³ of fluid. Of this 14% was crude oil and 86% was salt water.

Wellhead leaks accounted for 47% of the spilled volume in 2010, pipeline/flowline breaks were responsible for 17% (Figure 5, 6), batteries equipment failure for 9%, and tanks resulted in 24% of the spills. Trucking accounted for the remaining 3% of the spilled volume.

Figure 7 shows the spilled volume by quarter. In 2010, 26% of the spills occurred in the 1st quarter, 26% in the 2nd quarter, 21% in the third quarter, and 27% in the 4th quarter.

Spills in 2010 affected 7.6 ha of land. Off lease spills or spills that affected agricultural land accounted for 66.5% of the volume of spills and affected 33.5% of land. In 2010, about 87% of volume spilled was recovered during clean-up operations.

When a spill occurs, a company is required to contact the Petroleum Branch within 24 hours. This allows the Branch the opportunity to inspect the spill site and clean-up operations. When a spill occurs off lease land the site is typically entered into the Branch's rehabilitation monitoring program. There were 57 rehabilitation sites entered into the program in 2010.

A typical spill clean up involves a vacuum truck collecting all the freestanding fluid, which is then trucked to an approved treatment and disposal facility. The spill site is usually treated with gypsum and calcium nitrate to encourage biodegradation of oil and leaching of salts. The rate of application of these amendments varies according to the degree of contamination. Where onsite treatment is not feasible, the contaminated soil is recovered and disposed of at an approved facility.

If you have any questions on this report please contact Paulette Seymour, Senior Petroleum Technician at (204) 945-6575.