

JANUARY 23, 2012

## APPENDIX A: INTERWELLBORE COMMUNICATION DURING FRACTURING OPERATION EVENTS

Since 2008, almost 2,000 wells have been drilled in Alberta that utilized horizontal, multi-stage, hydraulic fracturing to enhance oil and gas recovery. Of these, more than 640 were gas wells and almost 1,300 were oil wells. The ERCB has confirmed five instances of hydraulic fracturing impacting nearby energy wells. There are no documented cases of a similar occurrence impacting water wells in Alberta.

The most recent incident occurred on Friday, January 13, 2012, when a Midway Energy Ltd. multi-stage fracturing operation appears to have impacted a nearby Wildstream Exploration Ltd. oil well. This most recent event remains under ERCB investigation.

No public safety or significant environmental impact was recorded in any of the incidents, including the most recent.

Following is a list of the five events.

**Date:** January 13, 2012  
**Owner of fractured well:** Midway Energy Ltd.  
**Owner of impacted well:** Wildstream Exploration Ltd.  
**Location of incident:** 35 kilometres southwest of Innisfail, Alberta  
**Surface distance between wells:** 1.2 kilometres  
**Subsurface distance between wells:** Under investigation  
**Fracture fluid:** Fracturing oil, sand, nitrogen  
**Volume released:** Unconfirmed, ERCB investigation underway  
**Current status:** Spill cleaned. ERCB investigation underway. No public safety impacts. Limited environmental impact.

**Date:** September 24, 2011  
**Owner of fractured well:** Bonterra Energy Ltd.  
**Owner of impacted well:** Sword Energy  
**Location of incident:** 30 kilometers east of Drayton Valley  
**Surface distance between wells:** Approximately 475 metres  
**Subsurface distance between wells:** 470 metres  
**Fracture fluid:** Nitrogen, foam, water  
**Volume released:** Approximately 8m<sup>3</sup>  
**Current status:** Spill cleaned up. No public safety impacts. Minimal environmental impact.

**Date:** March 17, 2011  
**Owner of fractured well:** Yangarra Resources  
**Owner of impacted well:** Yangarra Resources  
**Location of incident:** 16 kilometres north of Rocky Mountain House  
**Surface distance between wells:** Approximately 1,500 metres  
**Subsurface distance between wells:** 110 metres

**Fracture fluid:** Nitrogen, foam, water  
**Volume released:** Approximately 2.3 m<sup>3</sup>  
**Current status:** Spill cleaned up. No public safety impacts. Minimal environmental impact.

**Date:** December 9, 2010  
**Owner of fractured well:** Bellatrix Exploration  
**Owner of impacted well:** Bellatrix Exploration  
**Location of incident:** 38 kilometres northwest of Rocky Mountain House  
**Surface distance between wells:** Approximately 530 metres  
**Subsurface distance between wells:** 475 metres  
**Fracture fluid:** Nitrogen, foam, water  
**Volume released:** No liquid spill  
**Current status:** No public safety impacts. No environmental impact.

**Date:** October 19, 2009  
**Owner of fractured well:** Talisman Energy (now owned by Advantage Oil & Gas)  
**Owner of impacted well:** Talisman Energy (now owned by Advantage Oil & Gas)  
**Location of incident:** 75 kilometres northwest of Grand Prairie near BC border  
**Surface distance between wells:** Approximately 1,600 metres  
**Subsurface distance between wells:** 190 metres  
**Fracture fluid:** Emulsified carbon dioxide  
**Volume released:** Less than 1 m<sup>3</sup>  
**Current status:** Spill cleaned up. No public safety impacts. Minimal environmental impact.