



The Safety Association for Canada's
Upstream Oil and Gas Industry

Induced Hydraulic Fracture Results in Blowout Non-injury incident

SAFETY ALERT

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Enform: Your Partner in Safety

Enform is the upstream oil and gas industry's advocate and leading resource for the continuous improvement of safety performance. Our mission is to help companies achieve their safety goals by providing practices, assessment, training, support, metrics and communication. Our vision is no work-related incidents or injuries in the Canadian upstream oil and gas industry.

An Industry Product

This document was developed by industry for industry. Working collaboratively, Enform works with the submitting organization representative in developing these documents to improve the industry's hazard awareness. Canada's leading oil and gas industry trade associations support the use of shared information to help companies of all sizes improve performance.

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Details

Release Date: July 29, 2011
Incidence Type: Fire
Country and Region: Alberta, Canada

For more information on this event,
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Description of Incident:

An induced hydraulic failure resulted in a well blow out and release of a mixture of Nitrogen and oil.

What Caused It:

- A fracture operation on an offsetting well came into a pumping wellbore and allowed hydraulic fluids to overpressure the equipment on the existing pumping well resulting in a failure of the pumping equipment.
- The induced hydraulic fracture grew 110 m into the effected wellbore at the time of the incident.
- The stuffing box was destroyed and a polish rod was broken on the pump jack.

Corrective Actions:

- A stabbing valve was installed to stop the blow out and the well was secured.

Preventive Actions:

Investigations produced the following preventive recommendations:

- Conduct a full pre-fracture risk assessment to determine a safety radius around the location of the induced hydraulic fracture.
- Any producing well bore, from the same zone, within the safety radius of a planned hydraulic fracture operation should be shut in, and safely isolated to contain any anticipated pressure released from the hydraulic fracture operation.
- Monitor pressures to confirm that there is no inter-zonal connection occurring.

Other preventive actions may include

- If the offsetting well has a surface pumping apparatus, remove the stuffing box and install a master valve. This may further enhance well control, by allowing the operator to monitor the surface pressures during the offsetting fracturing operations.

By industry, for industry

