



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

## Geotechnical Auger Misses 24" Crude Pipe line Near Miss 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: May 24, 2011  
Incidence Type: Equipment Failure  
Country and Region: Alberta, Canada

For more information on this event,  
please contact: [safety@enform.ca](mailto:safety@enform.ca)

#### Description of Incident:

During the course of constructing 22kms of all weather road parallel to a pipeline Right of Way (ROW), a contractor narrowly missed a 24" crude oil pipeline by 1.9 meters with a geotechnical auger unit. This near hit had the potential for serious injuries or fatalities.

- The ROW contains water, oil and a high-pressure gas pipelines. Alberta One Call had been notified for this project.
- An ice road was plowed along the intended route and used to mark out borehole locations.
- The contractor constructing the ice road deviated off the intended route at the same location, where the pipeline ROW made a change in direction. This put the ice road directly on top the pipeline ROW.
- Several gaps in process and procedures allowed the geotechnical drilling to take place within the pipeline ROW.
- The project owner company and the contractor conducted a joint investigation.

#### What Caused It:

There were several contributing factors identified in the investigation:

- A deviation in the ice road location allowed the geotechnical crew with the landmark to drill – this placed the borehole within the ROW
- The pipeline ROW made a significant directional shift towards the ice road that was not identified
- Pipeline locates were conducted intermittently along the proposed route of the road but not immediately adjacent to the bore hole locations
- Inspection staff for both project owner and pipeline owner was understaffed for volume of work being conducted at the time
- Permitting system was inadequate for infrastructure projects conducted off plant site
- Borehole locations were placed via stationing vs. coordinates, which moved design location 18 meters toward pipeline ROW

By industry, for industry



### **Corrective/Preventive Actions:**

#### Outcomes and Recommendations:

- Stakeout existing pipelines/hazards adjacent to proposed ground disturbance
- Ensure any borehole locations are identified using coordinate surveying practices and that the area is swept for utilities prior to ground disturbance
- Develop a tracking system and procedural standard to capture when third party line sweeps are completed and audit performance against the standard
- Ensure all project work is preceded by damage prevention orientation prior to mobilization
- Ensure all stakeholders are qualified to Ground Disturbance 101 and 201 as appropriate
- Establish a more rigorous safe work permitting standard for off plant work
- Include contractors Construction Execution Plan in the application for proximity and crossing agreements
- Ensure all stakeholders are familiar with and follow established process for change management in the field such as Field Change Notice, Design Change Notice and Field Level Hazard Assessment
- Include facility owners/operators at project kick-off meetings

**Follow the recommendations in ENFORM [IRP Vol. 17 - Ground Disturbance and Damage Prevention](#) and Damage Prevention Guidelines from the [Alberta Damage Prevention Council](#)**