



Investigation Report
Worker Struck by Winch Cable
Fatality – January 3, 2014

Final Report

The contents of this report

This document reports Occupational Health and Safety's investigation of a fatal accident in January 2014. It begins with a short summary of what happened. The rest of the report covers this same information in much greater detail.

Incident summary

Two workers were loading a rig tank onto a flat deck truck via the use of the truck's deck mounted winch. As the tank was being loaded, it was observed that the winch's wire cable was not spooling back onto the drum properly. During the re-wrapping of the winch cable, the rig tank slipped off the back end of the flatbed truck. A worker standing on the flatbed truck assisting with the spooling of the winch line was fatally injured when the wire cable snapped taut under the weight of the tank.

Background information

Mosaic Energy Ltd. (Mosaic) was the owner of the lease site. Founded in 2004, Mosaic had engaged in the development of oil and gas reservoirs throughout Western Canada. Mosaic had contracted Savanna Well Servicing to perform routine maintenance at the incident location. Mosaic had also contracted Feuser Oilfield Consulting Ltd. to act as the Mosaic representative and perform supervision of the well service activities.

Savanna Well Servicing (Savanna) was a division of Savanna Energy Services Corp. Savanna operated a fleet of over one hundred well service rigs and performed well service operations in Western Canada, the United States of America and Australia. Savanna was contracted by Mosaic to perform the well service at this location. The fatally injured worker was an employee of Savanna.

Feuser Oilfield Consulting Ltd. (Feuser) was contracted to perform well supervision activities on behalf of Mosaic during the time the well service activities took place. Feuser was also to act as the representative for the owner of the lease site.

The two workers directly associated with the incident were the rig manager and the derrickhand.

The rig manager was the senior supervisor in charge of the rig, employed by Savanna and possessed seven years industry experience.

The derrickhand was third in command of the rig's crew, also employed by Savanna and possessed four years industry experience.

Equipment and materials

Western Star Flat Deck Truck and the Rig Tank

2011 Western Star Flat Deck Winch Truck owned and operated by Savanna Well Servicing and the multi-tonne rig tank.

Figure 1



Photo (looking south) identifying the Flat Deck Truck (left) and Rig Tank (right), in their post-incident locations.

Truck Mounted Winch

Figure 2

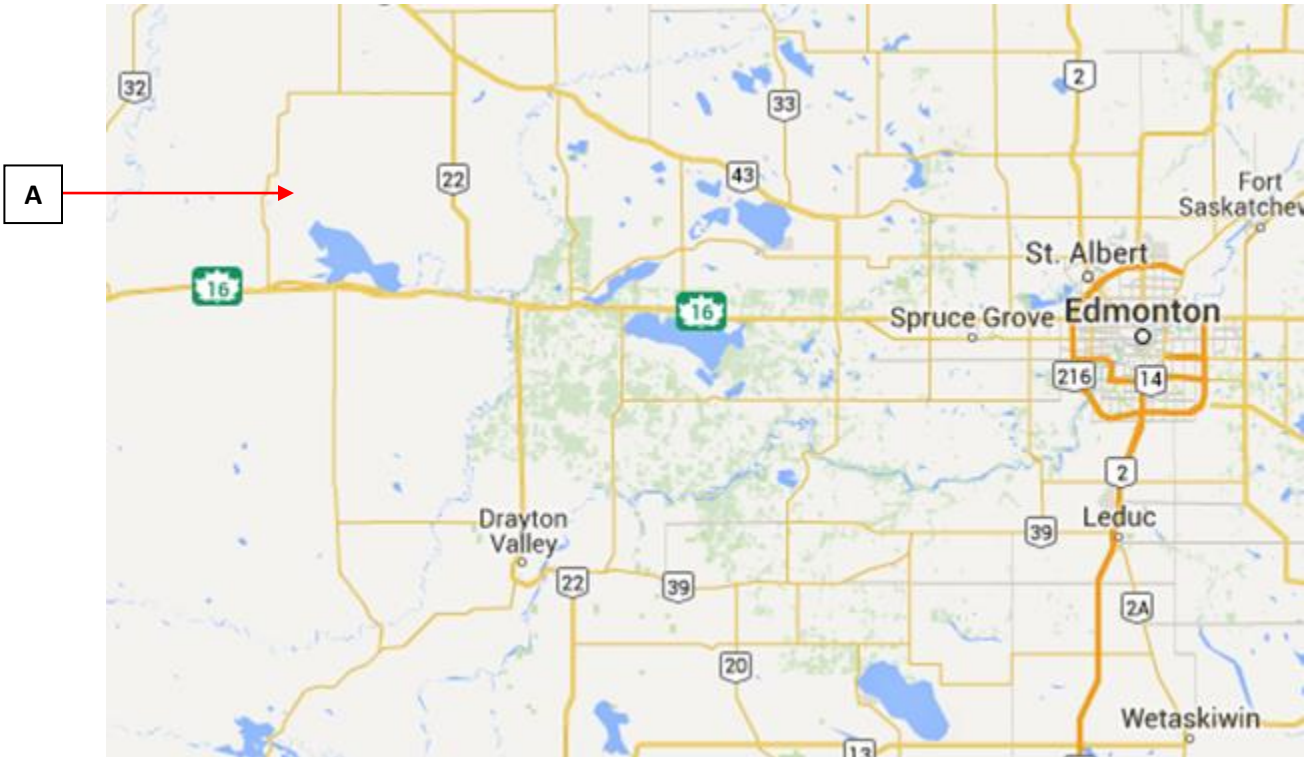


Photo (looking east) identifying the truck mounted winch (post incident).

Sequence of events

January 3, 2014, Savanna workers were performing routine well servicing activities on a lease site owned by Mosaic Energy, located at 5-10-55-11-W5 near Mackay, Alberta.

Figure 3



Partial Map of Alberta, (Image obtained from Google Maps).

A. Identifies the approximate location of the well site.

Savanna workers were in the process of completing the day's well servicing activities. The rig manager and the derrickhand were in the process of loading the rig tank onto the flat-deck truck. Workers utilized the truck's winch to hoist the rig tank onto the flat deck. The winch cable was spooled-out, laid on the surface of the deck, over the rear mounted roller, and latched onto the center of the rig tank's base (Figure 4).

Figure 4

Photo showing the winch cable and where it was latched to the rig-tank (post incident).

A. Identifies the roller (is the entire width of the flat-deck).

B. Identifies the cable.

The rig manager was standing on the ground next to the flat-deck while the derrickhand was inside the cab of the vehicle operating the winch. It was determined the winch equipped on this flat deck had no “free-spool” capability and could only spool in or spool out by engaging the winch motor.

The front of the tank was raised and set to rest on the back of the deck with the winch line pulled taut. This placed the tank in an angled position with the front of the tank resting on the flat-deck and the back end of the tank still on the ground. Putting the tank in this position would have allowed a vacuum truck operator the ability to pressure wash the interior of the tank and vacuum out any residue which may have remained within the tank after it was emptied. As the tank was being hoisted into position, workers observed the winch cable was not “spooling” properly on to the drum.

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A new winch cable had recently been installed and was not spooling properly on to the drum as it had yet to establish a “memory”. Concerned the improper spooling could damage the new winch cable, the rig manager advised the derrickhand to stop spooling in the winch cable.

With the front of the rig tank resting on the back end of the flat deck, the rig manager requested the derrickhand to spool out extra winch cable. The plan was to create slack then manually guide the spooling cable back in and ensure it wrapped properly on to the drum.

After spooling out some cable, the rig manager proceeded to climb up onto the flat deck and guided the winch cable back onto the drum by holding the cable in his hand. The rig manager grabbed hold of the winch cable and signaled the derrickhand (who was still in the cab) to spool in the winch cable. While constantly keeping the cable taut, the rig manager helped guide the cable back onto the drum properly.

The rig manager then slipped and fell (the metal surface combined with cold temperature and accumulated snow produced a slippery surface). Not wanting to allow the winch cable to slacken, the rig manager continued to pull on the cable as he got back to his feet.

The rig tank then unexpectedly slipped off the back of the flat deck, slamming the winch cable tight against the surface of the flat deck. The rig manager was struck in the leg by the winch cable as it tightened under the weight of the falling tank. The tank came to rest with the front of the tank suspended off the ground by the tightened winch cable.

Workers contacted Emergency Medical Services (EMS) via 911. It was noted that weather conditions were rapidly deteriorating and Highway 16 was in poor driving condition which delayed EMS’ arrival to the lease site.

When EMS arrived, they loaded the injured rig manager into the ambulance and transported him to a medical facility in Edson. This worker was then transported via ground ambulance to Edmonton. The worker had succumbed to his injuries and was declared deceased at the University of Alberta Hospital, located in Edmonton.

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Completion

Alberta Justice conducted a preliminary screening on February 26, 2014. On December 19, 2014 Alberta Justice determined the case did not support any charges under the Occupational Health and Safety Legislation.

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Signatures

ORIGINAL REPORT SIGNED

January 15, 2016

Lead Investigator

Date

ORIGINAL REPORT SIGNED

January 15, 2016

Manager

Date

ORIGINAL REPORT SIGNED

January 18, 2016

Director

Date