

Worker suffers fatal injuries after being struck by
reversing crew truck

April 29, 2019

The contents of this report

This document reports the Alberta Occupational Health and Safety (OHS) investigation of a fatal incident that occurred in April 2019. It begins with a short summary of what happened. The rest of the report covers this same information in greater detail.

Incident summary

A worker suffered fatal injuries from being struck by a reversing crew truck.

Background information

Owner

The Fort Hills oil sands mining and processing operation located approximately 90 kilometres (km) north of Fort McMurray, Alberta, was jointly owned through the Fort Hills Energy Corporation, which consisted of three limited partners, or co-owners: Suncor Energy Incorporated (54.1%), Teck Resources Limited (21.3%), and Total E&P Canada Limited (24.6%). Construction of Fort Hills began in October 2013, with oil production commencing in January 2018. Fort Hills was capable of processing 14 500 tonnes of oil sand per hour, and average production of 31 955 barrels of bitumen per day.

Prime contractor

The prime contractor, Suncor Energy Services Inc., was an affiliate business unit of Suncor Energy Incorporated that was overseeing execution of work at the Fort Hills work site. Suncor Energy Services Inc. was an energy company with head offices in Calgary, Alberta. Beginning commercial development of Canada's oil sands in 1967, Suncor Energy Services Inc. was a global energy company that extracted and upgraded oil sands, and produced refined oil and gas products for industrial, commercial and retail customers. They employed approximately 12 500 people company wide, and approximately 1150 workers at the Fort Hills oil sands mining and processing work site.

Employer

The employer of the deceased worker, Ledcor Pipe & Infrastructure Inc. (Ledcor), was a subsidiary of Ledcor Site Services Ltd., and was responsible for execution of the hydro-transport and tailings pipeline maintenance at the Fort Hills site in accordance with a contract between Suncor Energy Services Inc. and Ledcor Site Services Ltd. Ledcor Pipe & Infrastructure Inc. employed approximately 130 workers at the Suncor Fort Hills work site.

Lead Hand

The Lead Hand (LH) was the operator of the Ford F350 crew truck that reversed over the deceased worker. The LH had been employed by Ledcor Pipe & Infrastructure Inc. for approximately two years, and had a valid class five British Columbia driver's license. The LH had

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completed employer (Ledcor) provided training on light duty vehicle operation, light duty trailer operation, spotter safety, loader, skid steer and dozer operation. Additionally, the LH had received employer safety training for supervisors, Oilsands Safety Association (OSSA) Basic Safety Orientation, work site specific safety orientation, Alberta Construction Safety Association (ACSA) Construction Safety Training System (CSTS-09), and Suncor Fort Hills Mine Driving training.

Pipefitter 1

The Pipefitter 1 (PF1) had been employed by Ledcor Pipe & Infrastructure Inc. at the work site for approximately seven and a half months, and was registered as an apprentice Steamfitter/Pipefitter in Newfoundland Labrador, commencing in April 2015. PF1 had employer (Ledcor) provided training on light duty vehicle operation, light duty trailer operation, spotter safety, and had been put through a new employee mentorship program. Additionally, PF1 had training that included OSSA Basic Safety Orientation, work site specific safety orientation, the ACSA CSTS-09 course, and Suncor Fort Hills Mine Driving training.

Pipefitter 2

The Pipefitter 2 (PF2), the deceased worker, had been employed by Ledcor Pipe & Infrastructure Inc. at the work site for approximately seven and half months and was registered as an apprentice Steamfitter/ Pipefitter in Newfoundland Labrador, commencing in June 2015. PF2 had employer (Ledcor) provided training on light duty vehicle operation, light duty trailer operation, spotter safety, and had been put through a new employee mentorship program. Additionally, PF2 had training that included OSSA Basic Safety Orientation, work site specific safety orientation, the ACSA CSTS-09 course, and Suncor Fort Hills Mine Driving training.

Side Boom Operator 1

The Side Boom Operator 1 (SBO1) had been employed by Ledcor at the work site for approximately three months, and had approximately 25 years of experience in the oil and gas industry. This included pipeline bolt up work and heavy equipment operation. SBO1 had employer (Ledcor) provided training on light duty vehicle operation, pipe layers (also known as a side boom crane), loader, and dozer operation. Additionally, SBO1 had received OSSA Basic Safety Orientation, work site specific safety orientation, and completed the ACSA CSTS-09 course.

Side Boom Operator 2

The Side Boom Operator 2 (SBO2) had been employed by Ledcor at the work site for approximately one year and two months, and had approximately three years of prior

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experience in the construction industry. SB02 had employer (Ledcor) provided training on light duty vehicle operation, spotter safety and had been put through a new to industry mentorship program. Additional employer training included pipe layers (also known as a side boom crane), loader, and skid steer operation. SB02 had completed the OSSA Basic Safety Orientation, work site specific safety orientation, and the ACSA CSTS-09 course.

Work site, equipment and materials

Work site

The work site, Suncor Fort Hills, located approximately 87 km north of Fort McMurray, Alberta, was an open-pit mine capable of sustaining production of 14 500 tonnes of oil sand per hour.



Figure 1. Shows a satellite image of the Fort Hills work site. Yellow track from Gate 9 to approximate location of incident scene was approximately 9.6 km (photo and distance calculations from Google Maps).

- A. Highway 63.
- B. Suncor Fort Hills Gate 9 (main gate access to work site, approximately 84 km north of Fort McMurray, Alberta).
- C. Upper Bench office complex.
- D. Emergency Meeting Point 29.
- E. Approximate location of Ledcor laydown warehouse.
- F. Approximate location of fatality incident.



Figure 2. The work area where the incident occurred, point F in the aforementioned satellite image.

Vehicle

The vehicle involved in the incident was a 2019 Ford F350 Super Duty 4x4 Crew Cab truck, with aftermarket flatdeck installation.



Figure 3. Shows the front view of the Ford F350 crew cab truck involved in the incident as left by the Wood Buffalo Royal Canadian Mounted Police (RCMP) following completion of their on scene investigation.

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Figure 4. Shows the driver side view of the Ford F350 crew cab truck involved in the incident.



Figure 5. Shows the rear of the Ford F350 crew cab truck involved in the incident.

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Sequence of events

On April 29, 2019, the workday began with a foreman morning toolbox meeting at approximately 5:30 a.m. at the Ledcor Upper Bench office complex (UBOC), commonly referred to as the Upper Bench. At the meeting, the LH for Ledcor Crew C was designated by the Ledcor Superintendent as the supervisor responsible for the day, and would be driving the Foreman's crew truck, Ledcor unit 13898. The Foreman for Crew C had gone home one day early from the current 14 day shift, which was on its last working day before scheduled days off. SBO1 was assigned to Crew C at that time for the remaining day's work. All members of the Crew were scheduled to depart the work site at the conclusion of the workday for seven days off.

At approximately 6:00 a.m., all Ledcor work crews assembled at the Upper Bench for their morning toolbox meeting. All foremen briefed their crews on assigned work for the day and identified their crew toolbox meeting locations in front of everyone present. Safety related topics for the day were also communicated to all present.

At approximately 6:20 a.m., Crew C conducted a follow-up toolbox meeting in the Upper Bench parking lot. The plan for the day's work was discussed in further detail. No safety concerns were expressed by the crew for the day's work at that time. Following the meeting, members of Crew C dispersed to assemble necessary tools, materials and equipment for the workday.

PF1, who was driving Ledcor crew truck unit 13693, drove to the laydown warehouse in order to obtain tools needed for the day's work with two workers (Worker 1 (W1) and Worker 2 (W2)) who had been assigned to Crew C. Tools obtained at the laydown warehouse included an impact gun, airline hose, and wrenches.

At approximately 7:20 a.m., PF1 initiated a field level hazard assessment (FLHA) for installation of pipe and components on final tailings line two (FTL2), from pedestals six (PED6) to seven (PED7). SBO1, SBO2, W1, W2, PF1, PF2, and the LH all signed on to the FLHA initiated by PF1 between 7:30 – 7:40 a.m. At this point, PF2 drove SBO1 and SBO2 to their side boom cranes located at PED11 laydown area in Ledcor crew truck unit 13777.

SBO1 and SBO2 completed inspections of their side boom cranes and moved them to the workface for the day.

At approximately 8:05 a.m., the LH drove to the Suncor permit office and obtained a cold safe work permit for removal of a 28 inch blind in the area of PED6 on FTL2.

At approximately 9:10 a.m., the LH prepared a FLHA for the blind removal work to be

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completed in accordance with the recently obtained cold safe work permit. Workers involved with this task signed on to the FLHA at approximately 9:30 a.m., and this task was completed at approximately 10:07 a.m. Upon completion, the LH returned to the Suncor permit office to close out the permit for removal of the blind.

At approximately 10:20 a.m., while still at the Suncor permit office to close out the blind removal permit, the LH obtained a new Suncor cold safe work permit for the connection of FTL2 into PED7. This task was part of the work identified in the FLHA prepared by PF1 at 7:20 a.m.

At approximately 11:10 a.m., all workers who had signed on to the FLHA initiated by PF1 at 7:20 a.m. signed on to it again. All members of Crew C that had not been involved in the blind removal work between 9:30 – 10:07 a.m. had been waiting until this point to begin the FTL2 connection work.

At approximately 12:30 p.m., Crew C had completed two bolt up connections on FTL2 and took their lunch break of approximately 30 minutes.

At approximately 1:23 p.m., the LH departed the PED6 – PED7 workface in crew truck 13898 with W1 and W2 to transport them to the Upper Bench Office. Prior to departure, PF1 was assigned as the competent designate supervisor at the workface by the LH in the LH's absence until approximately 2:30 p.m.

While enroute to the Upper Bench Office, the LH was required to return towards the PED6 – PED7 workface and meet PF2, who was driving Ledcor crew truck 13777. Gaskets and studs required at the workface had been forgotten in back of the LH's crew truck and needed to be transferred to PF2. Once complete, the LH proceeded to transport W1 and W2 to the Suncor permit office so they could remove their lockout/tagout locks from the lockbox associated with work on FTL2.

At approximately 1:57 p.m., the LH dropped W1 and W2 off at the UBOC, where both workers were laid off by Ledcor.

At approximately 2:30 p.m., the LH travelled back to the PED6 – PED7 workface and checked in with Crew C to ascertain the status of bolt up work on FTL2.

At approximately 2:49 p.m., the LH departed Crew C's location and travelled south in their crew truck to assess remaining work along FTL2. A text message update was sent to the Ledcor Superintendent by the LH containing details of work completed on the line, and work

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remaining. The LH then returned to the location of Crew C, who were finishing a Victaulic clamp bolt up on FTL2. The LH drove up to the side boom crane being operated by SBO1, and parked perpendicular to FTL2 facing the side boom (north) at a distance LH was confident that SBO1 could observe them. The LH dismounted their crew truck and met with Crew C to discuss work progress.

It was decided the crew would clean up at that connection, and move south along FTL2 to the next connection to be bolted up, and then take their afternoon coffee break at that location. The LH was required to move their crew truck in order for the side boom cranes to move south along FTL2 to the next connection point. PF2, who had been working with SBO1, was no longer needed at the current line connection point, and began walking south with the LH, parallel to FTL2, and away from SBO1's side boom crane. The LH and PF2 were casually conversing as they walked south together.

The LH mounted their crew truck to move it from the path of the side boom cranes, and PF2 continued to walk south towards the next line connection point. The LH intended to back their truck away from SBO1's side boom crane in a southwestern direction, and then advance to the opposite (west) side of the FTL2 road and re-park.

At approximately 3:05 p.m., the LH honked their horn twice, checked their rear facing mirrors, and not seeing any obstructions or PF2, proceeded to reverse their vehicle, driving over PF2. The LH continued to back up in a southwest direction until they observed PF2 lying on the ground in front of their crew truck. Upon observing PF2 on the ground, the LH immediately stopped their crew truck, dismounted, and went to where PF2 was laying.

At approximately, 3:07 p.m., the LH called Suncor Emergency Services and the Ledcor General Foreman to report the incident. Concurrently, SBO2 and PF1, who were cleaning up air tools and line between SBO1 and SBO2's side boom cranes, observed the LH outside of their crew truck on the phone with no hard hat and ran to their location. Also at that time, SBO2, who had been in the processes of retracting their crane boom in order to begin movement south, observed PF2 lying on the ground, and then the LH outside of their truck. SBO2 immediately dismounted their side boom crane and provided first aid. PF2 was unconscious and unresponsive.

The LH gave instructions to PF1 to drive to meet emergency services at Mine Entry Point (MEP) B, which was the location of Emergency Meeting Point 29 in the Suncor Fort Hills Emergency Preparedness Plan. SBO2 proceeded to move the crew truck with air trailer parked between the

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side boom cranes in order to clear the roadway for arrival of emergency services. While this was occurring, SB01 remained with PF2 and provided what assistance they could based upon the extent of injuries observed.

At approximately 3:25 p.m., Suncor Emergency Services arrived at the incident location and attempted resuscitation of PF2. PF2 was evacuated to the Suncor Medical Center, where resuscitation efforts continued.

At approximately 4:18 p.m., PF2 was pronounced deceased at the Suncor Medical Center.

At approximately 4:47 p.m., Suncor Energy Inc. notified the RCMP of the fatality incident. Members of the Wood Buffalo RCMP detachment responded to the work site and commenced investigation.

At approximately 4:57 p.m., Suncor Energy Inc. notified Alberta Occupational Health and Safety (OHS) of the fatality incident, at which time Alberta OHS investigation commenced.

At approximately 10:25 p.m., investigation activities at the work site were completed by the Wood Buffalo RCMP, and the incident scene turned over to Alberta OHS, who continued investigation.

Completion

A review for enforcement action was completed on March 25, 2020, and it was determined that the file would be referred to Alberta Justice for review. The entire file was sent to Alberta Justice on May 27, 2020. After a thorough review, Alberta Justice advised Alberta OHS on March 29, 2021, charges were not recommended.

This investigation was completed on May 17, 2021.

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Signatures

ORIGINAL REPORT SIGNED

Lead Investigator

May 17, 2021

Date

ORIGINAL REPORT SIGNED

Manager

May 17, 2021

Date