



Worker fatally injured in trench collapse

September 1, 2020

The contents of this report

This document reports the Alberta Occupational Health and Safety (OHS) investigation of a fatal incident that occurred in September 2020. 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 was installing a septic tank at the bottom of an excavation. The worker sustained life threatening injuries when a portion of the excavation sloughed in. Emergency Medical Services (EMS) transported the worker to the High Level hospital where the worker was pronounced deceased.

Background information

Owner

Tolko Industries Ltd. High Level (Tolko) had operations located throughout Western Canada and the Southern United States. Tolko was a lumber and pellet mill that employed 325 employees. On August 10, 2020, Tolko issued a contract to Northern Services for the installation of a septic tank that was to be installed behind the Tolko main office building in High Level.

Prime contractor/employer

Northern Services (High Level) (1978) Ltd. (Northern Services) was located in High Level, Alberta and had been a family owned and operated business since 1978. There were two divisions within this company, Contracting Division and Equipment Rentals/Sales, which employed 18 employees in total. The Contracting Division of Northern Services was under contract with Tolko to provide the installation of a septic tank behind the Tolko main office building in High Level.

Sub-contractor

Pinnacle Services Ltd. (Pinnacle Services) was established in 2000 and employed 12 workers with operations in High Level and Rainbow Lake, Alberta. Northern Services hired an excavator and operator from Pinnacle Services to assist with the installation of a septic tank at the Tolko High Level work site.

Maintenance Manager

The Maintenance Manager was employed with Tolko since 2016 and was the contact for Northern Services regarding the installation of the septic tank. The Maintenance Manager issued the work order and purchase order to Northern Services.

Supervisor

The Supervisor started working for Northern Services in 1991. The Supervisor was part owner of Northern Services, a journeyman plumber, and an air conditioning mechanic. The Supervisor was directing work on site at the time of the incident.

Plumber

The Plumber was hired by Northern Services in 2000 and held a journeymen plumber certificate. The Plumber received fatal injuries while installing a septic tank in the bottom of an excavation.

Apprentice Plumber

The Apprentice Plumber was hired by Northern Services in 2018 and was a first year plumber apprentice. The Apprentice Plumber was assisting the Plumber with the installation of the septic tank when the incident occurred.

Heavy Equipment Operator

The Heavy Equipment Operator (Operator) was hired by Pinnacle Services in 2013 and had over 25 years of experience operating heavy equipment. The Operator dug the excavation and then lowered the base of the septic tank into the excavation.

Work site, equipment and materials

Work site

The work site at 11401 92 St, High Level, Alberta was located behind the main office building at the Tolko plant in High Level.

Excavator

The excavator (Figure 1), a John Deere 250 G mid-size excavator, was used to dig the excavation and place the septic tank into the excavation. It had the net power of 140 kilowatts (kW), maximum digging depth of 7.61 metres (m) and operating weight of 25 436 kilograms (kg).



Figure 1. The excavator was owned and operated by Pinnacle Services.

Ladder

The ladder (Figure 2), a Louisville aluminum two-section extension ladder, was placed into the north side of the excavation. The Northern Services workers used the ladder to enter and exit the excavation. The ladder was extended to approximately 6.1 m. The ladder had a weight capacity of 102.05 kg and maximum extension length of 7.3 m.



Figure 2. The ladder that the two labourers used to access the excavation.

Excavation

The excavation measured approximately 4.6 m wide from the west to east edge, 7.3 m from south to north edge and 6.7 m deep (Figure 3). The excavation exhibited constant sloughing from the edges throughout the OHS investigation. Initial sloughing of the excavation occurred at the south side of the excavation (Figure 3A).



Figure 3. Looking into the excavation from the east side facing west. The picture was taken by the safety person at Tolko on September 1, 2020.

A. The south side of the excavation where the sloughing occurred.

Septic tank

The septic tank (Figure 4), a 2300 gallon 8 foot diameter GMH holding tank, was manufactured by AWS Alberta Wilbert Sales located in Alberta. The septic tank came in three sections. The top section (Figure 4A) measured 91 centimeters (cm) high and 2.4 m wide and weighed 3039 kg. The middle section (Figure 4B) measured 91cm high and 2.4 m wide and weighed 3039 kg. The base section measured 91 cm high and 2.4 m wide.



Figure 4. The top and middle sections of the septic tank were located approximately 7 m from the excavation.

- A. The top section of the septic tank.
- B. The middle section had the slings attached in preparation to attach it to the excavator. It would have been the next section to be placed in the excavation.

Sequence of events

On June 17, 2020, the Supervisor for Northern Services submitted a quote for the installation of a septic tank to Tolko. The installation of the septic tank was to take place behind the main office at Tolko, located at 11401 92 Street, High Level, Alberta.

On June 18, 2020, Northern Lights Locating Ltd. arrived at Tolko and completed the line location behind the Tolko main office. A copy of the line location drawings were provided to the Supervisor of Northern Services.

On August 10, 2020, Tolko issued a work order (WO) for the installation of the new septic tank to Northern Services. An email exchange occurred between the Maintenance Manager for Tolko and the Supervisor for Northern Services regarding the location of tank installation.

On August 18, 2020, Tolko issued a new WO and purchase order (PO) to Northern Services for the installation of the septic tank.

On August 31, 2020, at approximately 9:58 a.m., the Supervisor of Northern Services called the Maintenance Manager for Tolko, and left a voice message stating that Northern Services would be digging the excavation around 9 a.m. the next morning, weather permitting. The Supervisor, along with other employees of Northern Services, arrived at Tolko and unloaded supplies. A fence barrier was erected around the area of the excavation site and the Supervisor placed stakes in the ground where the dig was to occur. None of the Northern Services workers signed in at Tolko when they arrived at the work site or notified anyone at Tolko that they were on site.

On September 1, 2020, at approximately 8:30 a.m., the Plumber and Apprentice Plumber, from Northern Services, and the Operator from Pinnacle Services arrived at Tolko and went straight to the work site location behind Tolko's main office building. None of these workers signed in at the Tolko office or notified the Maintenance Manager for Tolko that they were on site. The Plumber conducted a hazard assessment and the Apprentice Plumber and Operator signed it.

At approximately 9:30 a.m., the Supervisor for Northern Services arrived at the work site location behind Tolko's main office building. The Supervisor did not sign in at Tolko's main office or notify Tolko's Maintenance Manager that the installation of the sewer tank was proceeding. The Supervisor reviewed and signed the hazard assessment and directed the Operator to start digging in the area where the Supervisor had placed the stakes the day before. Northern Services did not obtain an excavation permit from Tolko prior to starting the work.

The Operator dug an excavation that measured approximately 4.6 m wide, 7.3 m long and 6.7 m deep with straight cuts on all four sides, using the excavator. It was cloudy with sporadic rain showers throughout the day. The soil in the excavation was stiff in consistency and compacted. When the excavation was completed, the Operator stated to the Supervisor that there should be cutbacks on the sides of the excavation.

A ladder was placed into the excavation and the Plumber and Apprentice Plumber utilized the ladder to go down into the excavation.

The Plumber and Apprentice Plumber prepared the excavation for the base of the septic tank and then got out of the excavation. The Operator lowered the base of the septic tank into the excavation, and the two workers went back down into the excavation and started preparing the base for the middle section of the septic tank.

At approximately 11:20 a.m., the Apprentice Plumber was standing on the north side of the septic tank base at the bottom of the excavation. The Plumber bent over the base of the septic tank while installing sealing tape around the rim. The Plumber's back was facing the south side of the excavation. A portion of the south wall of the excavation gave way landing on the Plumber, pinning the worker against the top rim of the septic tank base.

The Site Supervisor went down into the excavation and assisted the Apprentice Plumber in getting the soil off the Plumber. The Site Supervisor told the Apprentice Plumber to get out of the excavation and then put the Plumber in the recovery position. The Apprentice Plumber climbed out of the excavation and called 911.

At approximately 11:30 a.m., High Level By-law Enforcement, Royal Canadian Mounted Police (RCMP), High Level Fire Department and EMS arrived on scene. The High Level Fire Department extracted the Plumber from the bottom of the excavation and EMS transported the worker to the High Level hospital, where the Plumber succumbed to the injuries sustained.

Completion

A review for enforcement action was completed on February 12, 2021, 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 17, 2021. Charges were laid on July 26, 2021. On December 9, 2021, Northern Services (High Level) (1978) Ltd. pled guilty to contravention of Section 443(1)(a) of the Alberta Occupational Health and Safety Code, as the company failed as an employer to stabilize the soil in an excavation by shoring or cutting back the sides of the excavation. At sentencing, Northern Services (High Level) (1978) Ltd. was fined, under Section 49 of *Occupational Health and Safety Act*, \$360,000.00 as part of a creative sentence, in favour of Northern Lakes College to fund industrial Safety Training.

This investigation was completed on May 12, 2022.

Signatures

ORIGINAL REPORT SIGNED

May 18, 2022

Lead Investigator

ORIGINAL REPORT SIGNED

May 12, 2022

Manager