



Worker found deceased in water tank

February 19, 2022

Summary of investigation and outcomes

Background information

Work site parties

Prime contractor

Artis Exploration Ltd. (Artis) was a privately held company involved in oil and gas exploration in Western Canada.

Artis owned the lease site located at 14-8-31-24W4M referred to as Twining Field (14-8) where the incident occurred.

Artis had contracted Goliath Snubbing Ltd. and Sky-Hook Picker Services operating as Horizon Oilfield Services for snubbing and completion activities at the Twining Field (14-8) lease location.

There was one Artis representative on site at the time of incident.

Employer

Sky-Hook Picker Services Inc. operating as Horizon Oilfield Services (Horizon Oilfield Services) was a Drumheller, Alberta based vacuum and steam services provider for the oil and gas industry.

At the time of incident, Horizon Oilfield Services was providing steam services for the completion activities being undertaken at the Twining Field (14-8) lease location.

Horizon Oilfield Services owned the steam truck unit that was on site and employed the two steam truck operators (operator 1 and operator 2).

- Operator 1 was an employee of Horizon Oilfield Services and was an experienced operator. Operator 1 was operating the steam truck during the day shift February 18, 2022, providing steam for various activities at the site.
- Operator 2 was an employee of Horizon Oilfield Services and was a newer operator. Operator 2 was operating the steam truck during the night shift (February 18-19, 2022), providing steam for various activities at the site, including snubbing activities.

Contractor

Goliath Snubbing Ltd. (Goliath) was an oilfield well snubbing company located in Grande Prairie, Red Deer and Edson, Alberta which operated across Western Canada.

Goliath was contracted by Artis to install well casings on two new wells at the Twining Field (14-8) lease location.

There were six Goliath personnel on site at the time of incident.

The work

On the day of incident, operator 2 was operating the steam truck during the night shift, providing steam for various activities at the site, including the snubbing activities undertaken by the Goliath snubbing crew (Figure 3).

The work site

The Artis lease site located at 14-8-31-24W4M, referred to as Twining Field (14-8) was a four-well gas production lease located south of Three Hills, Alberta (Figure 1.)

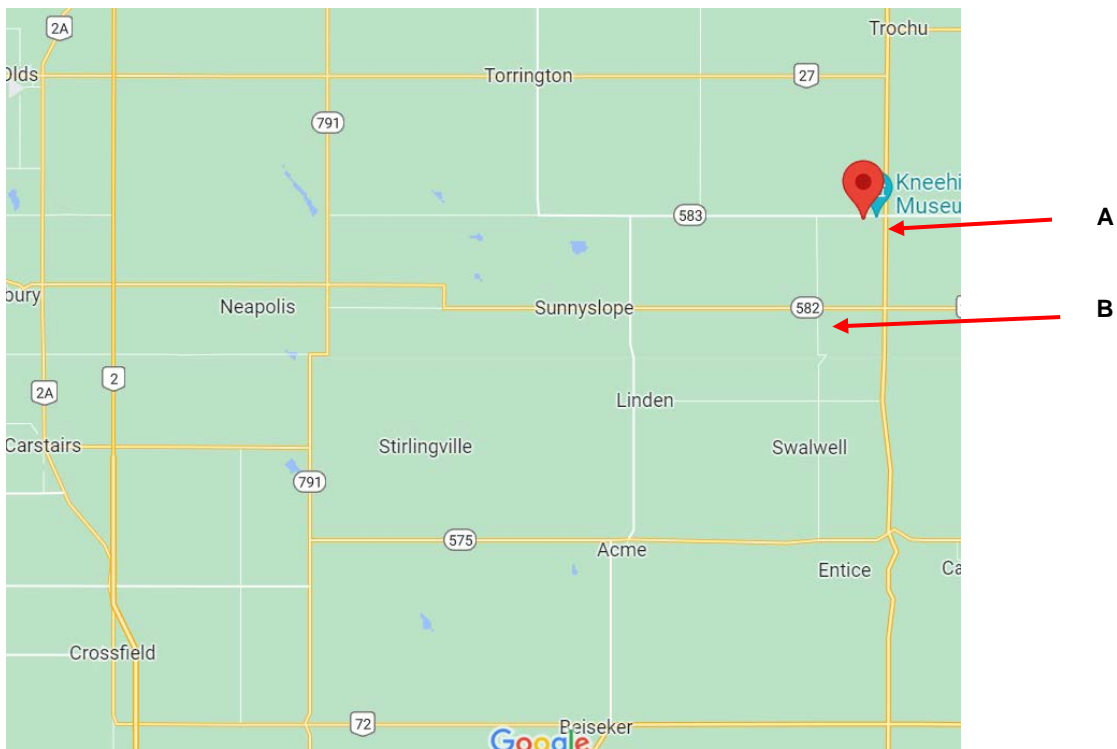


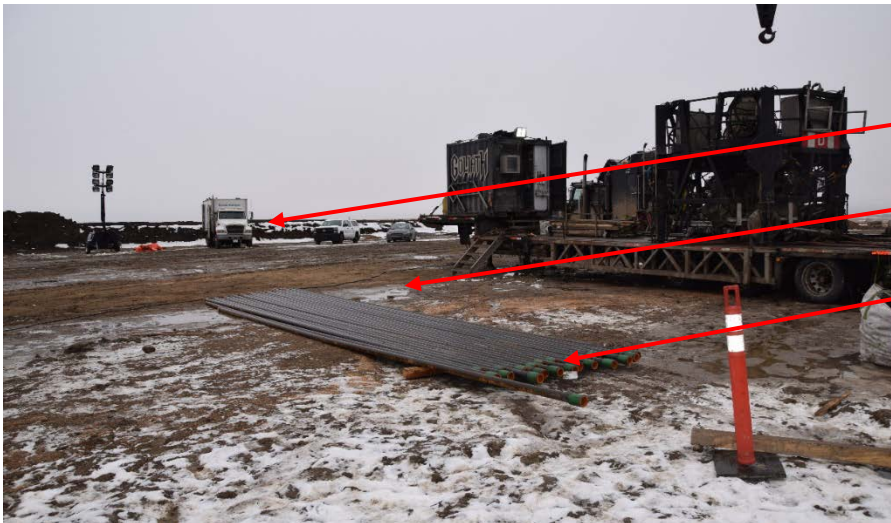
Figure 1. Google Map showing the approximate location of the incident site.

- A. Three Hills, Alberta
- B. The approximate location of the Twining Field (14-8) lease site

At the time of the incident, there were two operational wells and two wells that were undergoing completion (Figure 2).



Figure 2. Twining Field (14-8) as viewed from lease gate looking west. The two active wells are shown in the foreground. The incident area is located near the crane.



A

B

C

Figure 3. Goliath work site with Horizon Oilfield Services steam truck in the background. The steam truck had been moved by the Horizon Oilfield Services operator 1 prior to the discovery of the Horizon Oilfield Services operator 2.

- A. Horizon Oilfield Services steam truck after being relocated by operator 1
- B. Approximate position of the Horizon Oilfield Services steam truck while providing steam for Goliath's snubbing activities
- C. Casing being steamed by Goliath personnel

Industry code

The Workers' Compensation Board – Alberta (WCB) categorizes this industry as 09902 Cleaning Svcs – Mobile Pressure.

Equipment and materials

Steam truck unit

Thermo King Western Inc.

Cube van (GVW: 15 522 kilograms)

The steam truck involved in the incident was a Thermo King Western Inc. cube van that was owned by Horizon Oilfield Services (Figure 4).



Figure 4. Horizon Oilfield Services steam truck on the Twining Field (14-8) showing the side access to the cargo area open.

In the cargo area of the steam truck was a PowerJet PJ Oil Fired Water Heater (Figure 5), Isuzu diesel engine, and two water tanks with a combined capacity of 4 cubic metres (m³).



Figure 5. Oil-fired water boiler in the cargo area of the steam truck.

Each water tank was 1.82 metres (m) long by 1.47 m tall by 1.22 m wide (Figure 6). Each were fitted with a 0.40 m diameter circular access on the top (Figure 7). The two tanks were connected together and drained into the boiler system simultaneously.



Figure 6. One of the two water tanks in the back of the cargo area of the steam truck, with the steam hose reels in the foreground. This was the tank that was involved in the incident.



Figure 7. The access opening on the top of the water tank that was involved in the incident.

The incident

What happened

On February 18, 2022, Horizon Oilfield Services was providing steam services for well completion activities being undertaken at the Artis site. At approximately 5:30 a.m., on February 19, 2022, operator 2 was found to be missing and was later discovered deceased in one of the water supply tanks in the steam truck.

Facts and findings

- Operator 2 had been in regular contact with their employer and operator 1.
- There had been an issue with the steam boiler on the steam truck shortly after the night shift started, but operator 2 was able to resolve it.
- Operator 2 had been seen sporadically on site during the night shift by various personnel.
- Operator 2 gave control of the steam wand to Goliath personnel while they maintained the steam truck.
- The water tank was 1.47 m tall and had a 0.4 m diameter opening in the top.
- The water tanks contained the water used to supply the boiler system.
- There was no necessity to access the inside the water tank while the steam truck was in operation.

Mechanism of injury

Mechanism of injury: Unknown.

Likely cause

Alberta Occupational Health and Safety (OHS) determined the events that took place were unforeseeable and could not establish a cause of this incident.

Outcomes

Work site parties

Prime contractor

Artis implemented the following corrective action(s) to prevent recurrence.

- Reinforce expectations with Artis completions supervisors that work should not start on site without contractor field level hazard assessments (FLHA) reviewed and signed by the Artis representative.
- Provide a full review of required Key Site Safety documentation requirements for field execution teams and their relationship to the Artis Hazard Assessment Process.
- Enhance Contractor Safety Agreement (CSA) requirement to all on-site service providers as a condition to maintaining Artis Approved Vendor status.
- Ensure vendors acknowledge and have copies of these expectations and signed copies are in the contractor management database.
- Ensure a continued focus on rescuer safety and response strategies.

OHS

OHS completed the investigation and conducted a review for enforcement action on May 9, 2023. No charges were laid in relation to the incident. OHS notified the next of kin of the outcome and proceeded with file closure and the investigation summary completion.

Related information

Key prevention messages

- Employers and supervisors should be aware of the obligations and requirements set out in the *Alberta Occupational Health and Safety Act* and Code.

Additional resources

For annual workplace injury, illness and fatality statistic reports and infographics, go to alberta.ca/ohs-statistics.aspx.

Statement of completion

This summary was completed by the Government of Alberta.

December 11, 2023

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