Yarder frame breaks while pulling turn

Incident

In June 2017, a TMY 45 yarder broke and tipped over while pulling a turn into the landing. Fortunately, there were no major injuries to the crew.

The yarder had been manufactured in the mid 1970’s. The owner had purchased it three years prior, and had been operating it routinely without any issues. The day before the incident both a representative from the landowner and an inspector from the WA State Dept. of Labor & Industries had looked at the logging operation and had not found any hazards. The owner inspected the machine routinely for breaks, and the hook tender who rigged up the yarder had over 23 years of experience.

Figure 1 shows a diagram of the set-up of the three-guyline machine on the day of the incident. The skyline and guylines were 1 1/8 inch line in good condition. All three guyline stumps were old growth fir. Stump 1 was the smallest at 30 inches. The soil was rocky and shallow. The hook tender had bored all three stumps to ensure they were solid. On this road, they were pulling on two guyline stumps.

The skyline was anchored to a dozer 2,400 feet out and they were yarding 1,200 feet. The crew had been logging this road for three days without any issues. The timber was mostly 20 inches in diameter or larger. In the back end there was 200 feet of lift; at the low spot over a rock bluff there was 30 feet of lift. They were using an eagle motorized carriage.

The crew was cleaning up the road and had six small hemlock pulp logs choked. When the turn hit the rock bluff the operator stopped pulling because something didn’t feel right. At that moment the frame broke, the yarder spun to the right, and the 30 inch guyline stump(1) pulled.

Luckily, no one was hit by the yarder or the stump, and the yarder operator only suffered some sore ribs. The chaser was standing at the back of the yarder between guylines 2 and 3 and was uninjured.

It is likely that the frame had been cracked for some time on the inside without being noticed.
Contributing Factors

- The yarder had been in service since the mid 1970’s.
- A hydraulic tank originally located under the yarder had been removed before the current owner had purchased it. Although the cut portion of the frame had been repaired well and regularly inspected on the outside, there was likely unknown damage to the inside of the frame. No one had crawled under the machine to inspect the inside of the frame.

Recommendations

Many of the yarders in use today have been in service for decades. Thoroughly inspect machines often. Look for cracks and breaks, especially where any repairs have been made or known weak spots exist.

Photos:

1. Bent yarder frame after a break occurred while pulling a turn
2. Shows where the frame broke during the incident, and the site of the original repairs
3. Bent frame on the cab after the incident