

SAFETY ALERT

Breaker-Out Injured While Securing Skyline to Backline Anchor Stump

Background

Two breaker outs were in the process of re-setting the rigging in a new extraction corridor where the hauler was using a 'North Bend System'. At the time of the accident both breaker outs were stationed on the backline of the setting. The hauler operator positioned the butt rigging to the far back tail-hold block, 190m from the tower, and then lowered the main-rope, tail-rope and skyline to the ground. This provided sufficient slack in the skyline to enable the skyline shackle to be loosened sufficiently to slip the skyline off the stump.

The skyline was then secured to a new skyline anchor stump using a "Knock-Out" Pin Shackle. This is a shackle designed with a long pin and knock out head used to release skylines where insufficient slack occurs. The advantage of these shackles over screw pin shackles is their relative ease of release.

After completion of the shift there was slack, requiring the hauler operator to tension up the skyline. As the skyline tensioned up it travelled across into the new corridor catching on two stumps. **One breaker out was standing directly behind the skyline stump with his foot on the skyline to ensure that it bedded correctly into the stump notch.** The second breaker out positioned himself about 6 metres away uphill observing proceedings.

As the skyline moved into the new corridor it freed from two stumps it was caught on causing it to become shock-loaded 2-3 times. During this shock-loading and without warning, the shackle pin released from the skyline shackle causing the skyline to unwrap at speed from around the stump.

The eye of the skyline struck the breaker out positioned beside the stump with force on the right leg slightly below the knee resulting in a fracture of the lower knee and chipped knee cap.



The Knock-Out Pin Shackle used to secure the Madill 171 skyline to the anchor stump

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Contributing Factors

The following observations were made as part of the investigation;

- A relatively small molly grommet from a piece of straw-line. A larger tail-rope grommet would have made for a tighter fit into the pin hole.
- Breaker out was standing directly behind the stump with his right foot on the skyline to ensure it bedded correctly into the stump notch.
- Separation of the knock out pin from the shackle was due to either;
 - Incorrectly securing the molly grommet into the pin, coupled with dragging the shackle secured to the skyline eye over the cutover which had the effect of further weakening the grommet connection
 - or
 - The molly grommet was never placed in the pin at all.



Recommendations

1. ***Screw in shackles are the preferred option when attaching a skyline to a back anchor stump.***
2. ***If a 'knock out shackle' must be used it is imperative that the molly grommet is suitably sized, correctly fitted and inspected following each new skyline shift, add checks into hauler operator's diary, date and time checked.***
3. ***No person should stand closer than 3 metres to an anchor stump during line tensioning. They must also not be standing directly behind the anchor stump.***