ENERGY SAFETY CANADA

SAFETY ALERT

ISSUE # 11-2021

Coil Tubing BOP Stack Separation

Description:

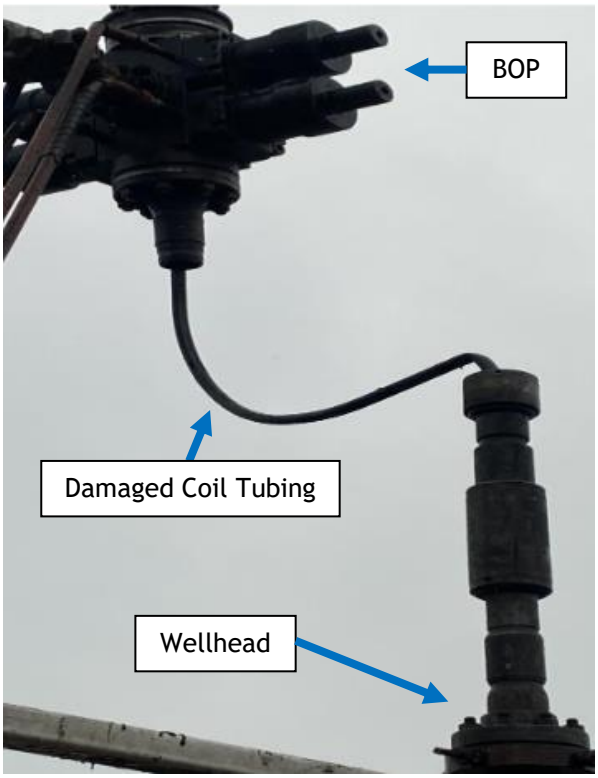
A coil tubing crew was running a fibre optic string into a production well. While placing the coil tubing into the well, the blowout preventor (BOP) separated from the wellhead. This resulted in damage to the coil tubing and loss of well control protection.

What Went Wrong:

- A connector that mated the BOP with the coil tubing riding valve was worn. In addition, because of its design using a ring, the connector was subject to a specific failure mode leading to separation.
- The crane hook holding the injector was excessively pulling up (i.e., too much hook weight) on the injector and stack, causing the injector and BOP to jump off the stack when the connection failed.

Actions Taken/Recommendations:

- The connection type that uses a ring was replaced with a new design that is not subject to the same failure mode.
- Load cells were installed on all cranes to monitor hook weight during all lifts and when holding equipment on wellheads. The procedure was modified accordingly to define allowable hook weights.
- The inspection procedure was updated to require visual inspection of all threaded and flanged connections in the stack prior to being placed on the wellhead.



View of separated stack and damaged coil tubing

View of connection that failed, including ring

Industry Resources

- DACC IRP Volume #21 – Coiled Tubing Operations
- Coiled Tubing Well Servicing Blowout Prevention Course
- Process Safety: A Barrier Focused Approach
- Process Safety Posters

Help industry by sharing lessons learned from an incident. Submit your Safety Alert.
