

PFE LESSONS LEARNED: Caught on Drill

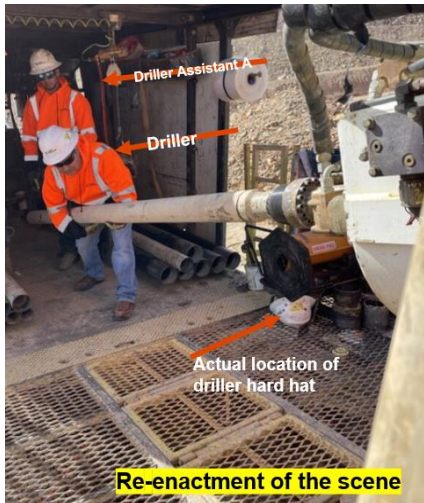


Entanglement & Crushing

Incident Overview

Tyrone, March 10, 2024

A contractor driller became bound and entangled when their jacket snagged on a 4-inch core barrel as they tried to remove it from a running sonic drill. The assistant on deck and the one on the ground were unable to reach the emergency stop button based on their positions. The driller rotated with the core barrel until becoming unbound and sustained multiple injuries.



Causal Factors

- The driller left the control panel to assist a helper perform the two-man steel break method, an improvised unsafe method. The break method used resulted in the driller becoming entangled on the core barrel.
- A 4-inch pipe clamp was not used to break the core barrel. The tool was missing from the rig.
- The interlock barrier system allowed for RPMs to be manually increased.

Site Specific Actions



- **Engineering** – sonic drills will be stopped from operating until the following controls are implemented:
 - Install a dead man switch on the control panel to engage rotation when guard opened.
 - Install additional E-stops on the trailer. If no trailer, E-stops will be installed in designated place outside the line of fire.
 - Verify if rotation barrier is open, low power mode (20 RPM max) is triggered.
 - Verify adequate pipe clamps are present (administrative).
 - Freeport Hydromet manager and Safety will verify the completion of controls and implementation.

Global Action Item

In addition to the Freeport action items above, the contractor will implement the following controls:



- **Administrative** – Send daily workplace exam and job safety analysis to Tyrone Health and Safety manager for review/approval.
- **Administrative** – Prior to restart, all contractor drilling crews will complete a training conducted by a Freeport Health and Safety representative focusing on identification of fatal energy, critical controls and stop work expectations.
- **Administrative** – Drilling and Blasting Corporate steering team will incorporate contract drill rigs in annual site audits, based on availability.



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Employee & Contractors including Drill Contractors

- Never touch or come in contact with a rotating piece of equipment.
- Never bypass safety devices.
- Keep loose clothing away from moving pieces of equipment.
- Verify you have the correct tools to complete a job before starting work.
- **Stop work** if you don't have the right tools or the original work plan changes.



Freeport Leadership

- Participate in planning of tasks to help ensure all tools needed to complete the job safely are available.
- Go out and put your eyes as work is being done as much as possible
- **Stop work** when needed. Exemplify stop work as a Freeport expectation and communicate it is ok for your team to stop work. Put safety before production.
- Utilize Fatal Risk Management (FRM) tools for verification that all critical controls are in place.



All of Us

- **Stop work** if you do not have the necessary tools to complete the job safely.
- Never touch or come in contact with any rotating or moving pieces of equipment.
- Never bypass safety devices.

Preliminary Incident Details

Operation	Tyrone
Date / Time	March 10, 2024 / 1:43 p.m.
Event Type	Lost Time Injury
Summary	A contractor driller became bound and entangled when their jacket snagged on a 4-inch core barrel as they tried to remove it from a running sonic drill. The assistant on deck and the one on the ground were unable to reach the emergency stop button based on their positions. The driller rotated with the core barrel until becoming unbound and sustained multiple injuries.
Risk Category	Actionable – Significant (3) Likely (3)
Findings / Missing Controls	<ul style="list-style-type: none"> • Failure to follow contractor standard operating procedure for barrel removal • Improper/missing tool for the task • Rotation Barrier Interlock was bypassed
Applicable Policies / Procedures	FCX-HS04 Control of Hazardous Energy Policy
Employee Condition	The driller sustained multiple injuries to the left leg requiring surgery as well as minor cuts and scrapes. They are expected to make a full recovery.
Contact	Rachel Adams, Manager-Health and Safety

Photos / Links

