



UNDERGROUND AWARENESS™

Underground Awareness safety talks are intended to promote discussions of safety issues among underground construction professionals. You should always read and understand the operator's manual before operating any equipment. For additional information, please e-mail safety@subsite.com.

TOPIC:

HORIZONTAL DIRECTIONAL DRILL — WORKING IN AND AROUND THE EXIT PIT.

POTENTIAL HAZARDS

- Caught in
- Struck by
- Drawn into
- Falls

PRECAUTIONS

- Exit pit personnel must maintain two-way communication with the drill operator whenever anyone is near the exit pit. All communication devices should be monitored regularly for fresh batteries.
- Use appropriate breakout devices to add or remove downhole tools from drill string. Never use pipe wrenches, machine power, backhoes, etc. to loosen or tighten downhole tools.
- Keep everyone clear of the exposed drill string until the drill operator has given the "all clear" or exit pit controls have deactivated thrust and rotation on the horizontal drill.
- The drill operator should not restart thrust or rotation until given the "all clear."
- The drill operator should not rotate the drill string after the bit/tool has cleared the bore hole. Only thrust, at minimum speed, should be used to advance or retract the drill string.
- Do not stand to the side of the exposed drill string.
- Do not stand on the exposed drill string.
- Do not stand in or near the edge of an observation pit with a rotating drill string.
- Wear eye protection.
- Stay clear of pressurized drilling fluid.
- Follow OSHA or local guidelines for trenching and excavation. Make sure pits 5 foot or deeper are protected from a cave-in.

INFORMATION/FACTS

- A rotating drill string can grab clothing, jewelry, and hair. It can kill you or crush your arm or your leg.
- Trench/pit sides can cave in up to a distance of 3/4 the depth of the trench/pit. (For example: A 4 foot deep pit can cave off up to 3 feet from the edge of the pit.)
- Drill string and backreamer can suddenly "walk" sideways when rotated on the ground.
- Pipe wrenches can fly off of the drill pipe and strike personnel with enough force to kill. Wrenches will slip from under a backhoe bucket.
- Pressurized drilling fluid can injure. Stay clear and wear eye protection.

CAUGHT UNAWARE

- A drill operator was having trouble advancing the drill string. An observation pit had been dug previously. A crew member was in the pit removing a piece of metal that had been wrapped around the drill string. The drill operator started drilling before the crew member was out of the pit. The next pipe was bent and it struck the crew member as he climbed out of the pit. It broke his leg and damaged his knee.
- A crew was drilling under a highway. The drill operator did not have visibility to the exit pit. He thought he received a signal to begin backreaming. The exit pit crewman was still near the end of the drill string and the backreamer grabbed his coat and pulled him into the bore hole, killing him. The operator was not aware that the crew member was caught until he didn't reappear.
- A crew was using pipe wrenches and a backhoe to loosen a tool joint. A pipe wrench slipped from under the backhoe bucket, flew through the air and struck a crew member in the head. He died several hours later from massive brain damage.

Safety starts with Awareness.