

# JOB SAFETY ANALYSIS

## Ditch Witch® Horizontal Directional Drill



**JOBSITE LOCATION:**

**DATE:**

**JOBSITE SUPERVISOR:**

**COMPLETED BY:**

**LOCATE TICKET #:**

**CUSTOMER:**

**EMERGENCY PHONE #S:**

**Jobsite Classification:**

- Electric
- Natural Gas
- Crystalline Silica Dust
- Other

**Recommended Personal Protective Equipment (PPE):**

- Safety glasses**
- Hearing protection**
- Electrically insulated boots & gloves**
- Hard hat**
- High visibility vest/clothing**

TASK:	POTENTIAL HAZARD:	RECOMMENDED ACTION/PROCEDURE:
Maintenance	Fluid injection while checking for leaks.	Check for leaks with engine off. If system is pressurized, use cardboard- not your hand- to check for leaks.
	Rotating or moving parts	Perform all maintenance and repairs with engine off.  Wear proper PPE.
	Crushing weight while working under area that's supported by a stabilizer or cylinder	Be sure to use the cylinder locks or drill frame support, if provided, prior to working under a supported area.
Loading & unloading the drill from trailer	Struck by	Keep yourself and all bystanders at a safe distance. Load drill at low throttle.
Transporting drill on trailer	Loss of vehicle control, trailer sway	Ensure proper weight distribution. (Ten to fifteen percent of total trailer weight must be on the tongue.)  Ensure tow vehicle is rated for the weight of the trailer and equipment. Consider any additional weight (downhole tools, water, mud, etc.)
	Unstable drill or loose parts/equipment	Tiedown machine properly.  Secure any loose components
Preparing jobsite	Working near traffic, struck by	Arrange for traffic control.  Wear proper PPE, such as high visibility clothing.
	Striking existing utility while excavating	Whiteline proposed excavation area. Then, call your local One-Call to have underground utilities located before digging.  Verify locates and expose any utilities in the planned path.
Setting up the drill	Machine rollover while mobilizing on an incline	Complete a risk assessment to ensure slope and conditions are conducive to a safe working environment.  Follow proper procedures in operator's manual while on inclines.
	Striking existing utility while driving anchors	Have utilities located and verified prior to beginning work.  Operate only from the proper operator station or platform, if provided, while driving the anchors.  Wear proper PPE, such as electrically insulated boots and gloves, when within 10' of an electric line.

Always complete your own Job Safety Analysis based on the job and jobsite. You should always read and understand the operator's manual before operating any equipment.

For additional information, please e-mail [safety@ditchwitch.com](mailto:safety@ditchwitch.com) or visit [ditchwitch.com/safe](http://ditchwitch.com/safe).



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Drilling near or around existing utilities	Striking existing utility while drilling or backreaming	<p>Locate and verify existing utilities prior to excavation. Only use soft excavation to verify the utility will not be damaged.</p> <p>Expose the utility to the depth of the intended bore path.</p> <p>Always track drill head at least every half to full length of pipe.</p> <p>Maintain two-way communication with tracker.</p> <p>Know emergency procedures.</p> <p>Consider the size of the backreamer and ensure there is sufficient clearance during pullback.</p>
	Striking electric line	<p>Keep everyone at least 10' away from the drill while it is operating.</p> <p>Wear proper PPE.</p> <p>Ensure that the ESID is set up and functioning properly.</p> <p>Know emergency procedures.</p> <ul style="list-style-type: none"> <li>If you are on the drill, do not move. Remain on drilling machine. Warn others nearby that an electric strike occurred and to stay back. Contact electric company. Reverse drilling direction. Do not touch pipe with hands or hand-held tools. Follow ESID procedures in operator's manual. Do not resume drilling or allow anyone into area until given permission by the electric company.</li> <li>If you are off the drill or bonded equipment, do not touch any equipment connected to the drilling unit. Stay where you are unless you are wearing electric insulating boots. If you leave, do not return to area or allow anyone into area until given permission by electric company.</li> </ul>
	Striking gas line	<p>Immediately shut off engine and remove any ignition sources.</p> <p>Warn others that a gas line has been cut and that they should leave the area. This may include nearby homes or buildings.</p> <p>Know emergency procedures.</p> <ul style="list-style-type: none"> <li>Immediately shut off engine and remove any ignition sources. Warn others that a gas line has been cut and that they should leave the area. This may include nearby homes or buildings. Leave jobsite as quickly as possible. Immediately call your local emergency phone number and utility company. If jobsite is along a street, stop traffic. Do not return until given permission by emergency personnel and utility company.</li> </ul>
	Striking existing utility due to lost or inaccurate tracking	<p>Calibrate beacon</p> <p>Start shift/job with fresh batteries</p> <p>Check all interference along planned bore path</p>
Crossing existing utility	Striking existing utility	Utilities that will be crossed during drilling and backreaming must be exposed and watched by a spotter.
Drilling parallel to existing utility	Striking existing utility	More frequent tracking and potholing is needed to ensure the tolerance zone is not encroached.

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Drilling near or around existing sewer lines	Crossbore- gas line installed through a sewer line	<p>A pre and/or post bore inspection may be needed.</p> <p>All residential and commercial sewer lines must be located prior to beginning work.</p> <p>Notify occupants about the gas line and ask them to call if they start having problems with their sewer lines.</p>
Drilling	Moving or rotating parts	<p>Ensure all guarding is in place.</p> <p>Set up drill to minimize amount of pipe exposed outside of the entry pit.</p> <p>Set up a barrier around the front of the machine.</p> <p>Keep bystanders away from machine and rotating parts while drilling.</p>
Manually loading/unloading drill pipe	Moving or rotating parts	<p>All hands and clothing need to be away from the pipe and moving parts before any movement is engaged after the pipe has been set.</p>
Using add-a-pipe	Electric strike, moving parts, ejected pipe	<p>Follow proper procedures in the operator's manual.</p> <p>Be sure that all parts are stopped, not moving before loading pipe, and pipe guide is in place.</p> <p>Workers should not manually load pipe while drilling is in operation.</p> <p>Once the pipe is placed in the loader, workers should step back at least 10 feet.</p>
Breaking joints and changing tools	Rotating or moving parts	<p>Stop rotation when the drill head surfaces.</p> <p>Use lockout/tagout process, such as DrillLok or tracker control, to lock out the drill from the exit pit before breaking joints, changing tools and connecting product.</p> <p>Do not enter any pit until the rotation and thrust is disabled and verified.</p>
	Struck by pipe wrench	<p>Always use the appropriate breakout devices such as quick wrenches, hydratongs or EZ Connect. Never use pipe wrenches, machine power, backhoes, etc. to loosen or tighten downhole tools.</p>
Changing pipe boxes	Crushing weight while changing pipe box	<p>Be sure all pins and keepers are installed in the box prior to lifting.</p> <p>Have proper lifting device and keep pipe box evenly distributed.</p>
	Arcing or contacting overhead electric lines	<p>Check surroundings for any overhead power lines and maintain required OSHA distance.</p>
Pulling back product	Swivel kinks causing product to whip	<p>Stay away from any product being installed.</p> <p>Inspect swivel prior to use.</p> <p>Pull reamer up to the borehole before rotating.</p>

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**DON'T LEARN  
SAFETY  
BY ACCIDENT**



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