



Pneumatic Hammers “Just Another Tool in the Toolbox” on HDD Projects

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THE **UNDERGROUND** UTILITIES EVENT

Underground Construction Technology | Jan. 29-31, 2019 | Fort Worth, TX

PIPE RAMMING

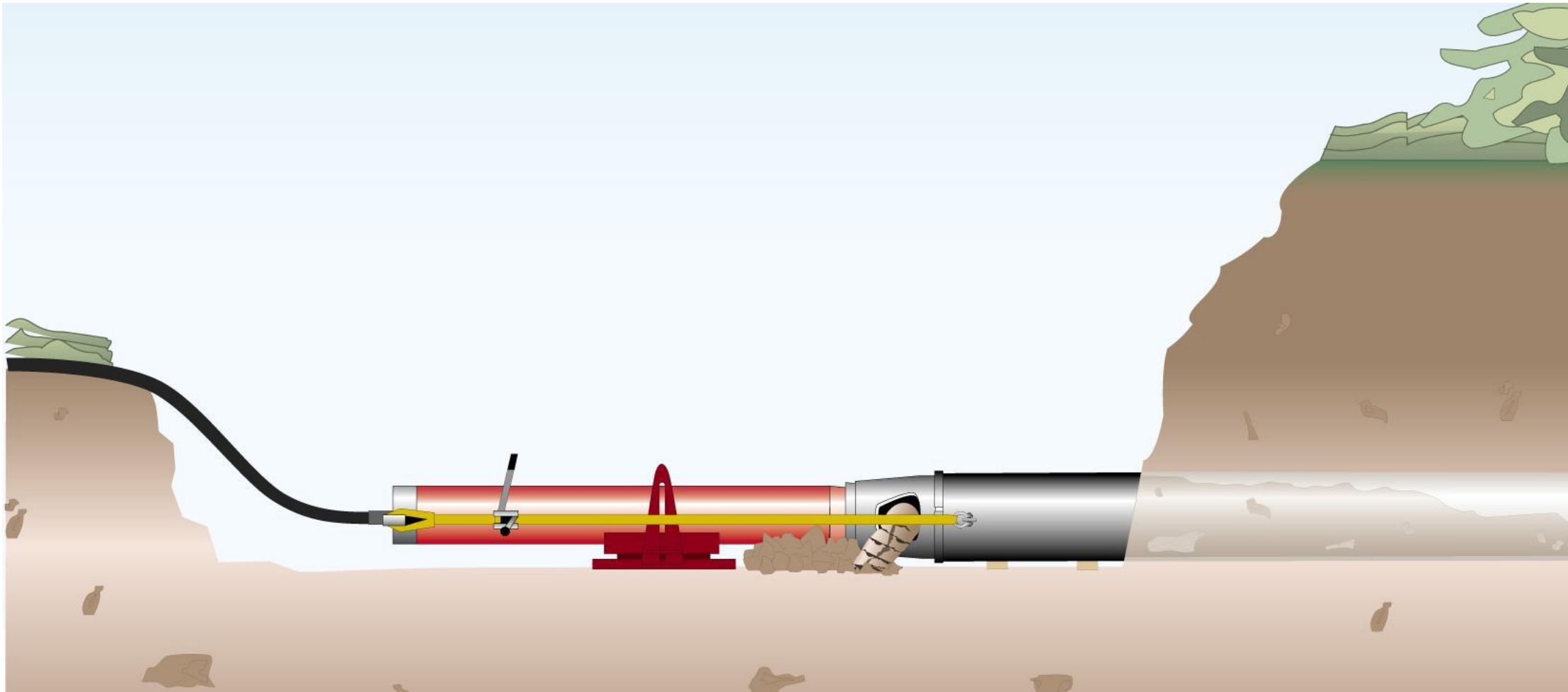


STANDARD RAMMING

- 4-in through 147-in casings
- 118-in, 122-in, 138-in & 147-in casings
Successfully Rammed
- Eliminates Slump or Rise
- Tools Configure to a Range of Casing
Diameters



THE PROCESS: Typical Pipe Ramming Configuration

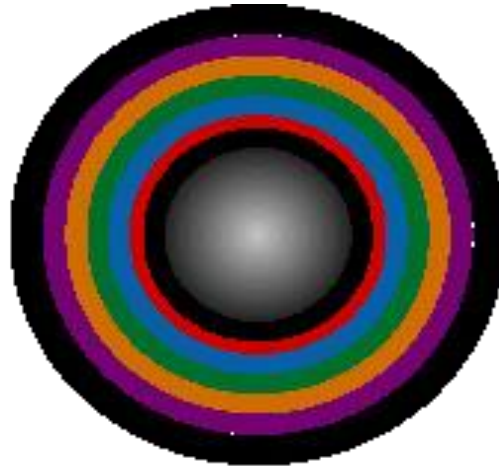




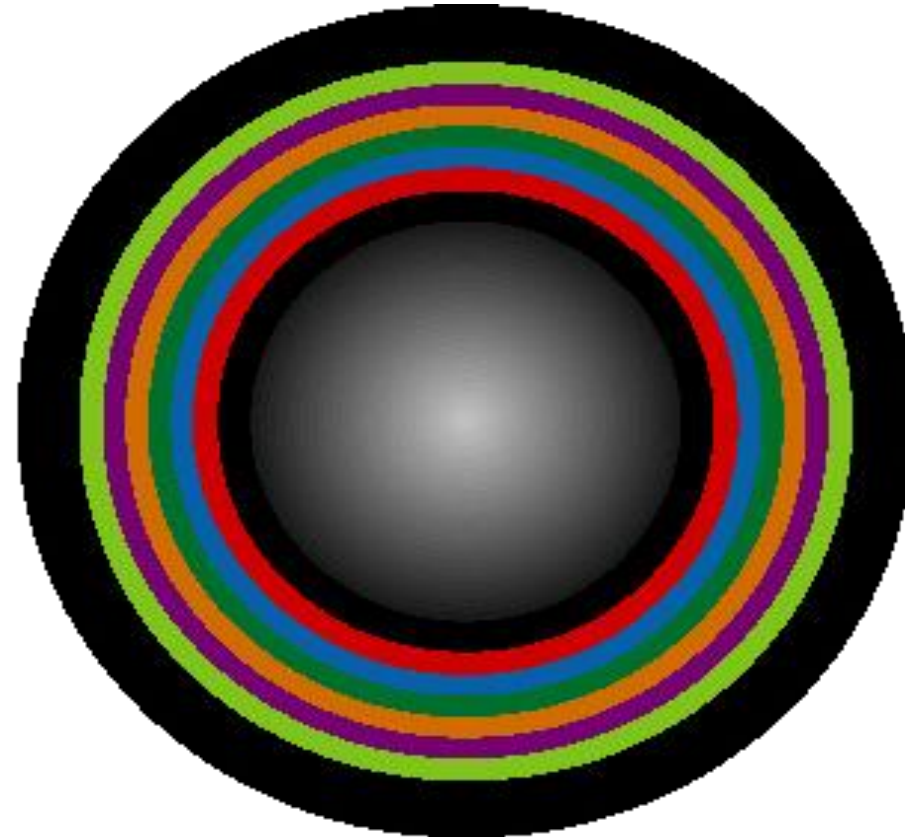
ROUTINE
12" Thru 36"



CHALLENGING
36" Thru 80"



ADVANCED
80" Thru 147"





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HDD ASSIST TECHNIQUES

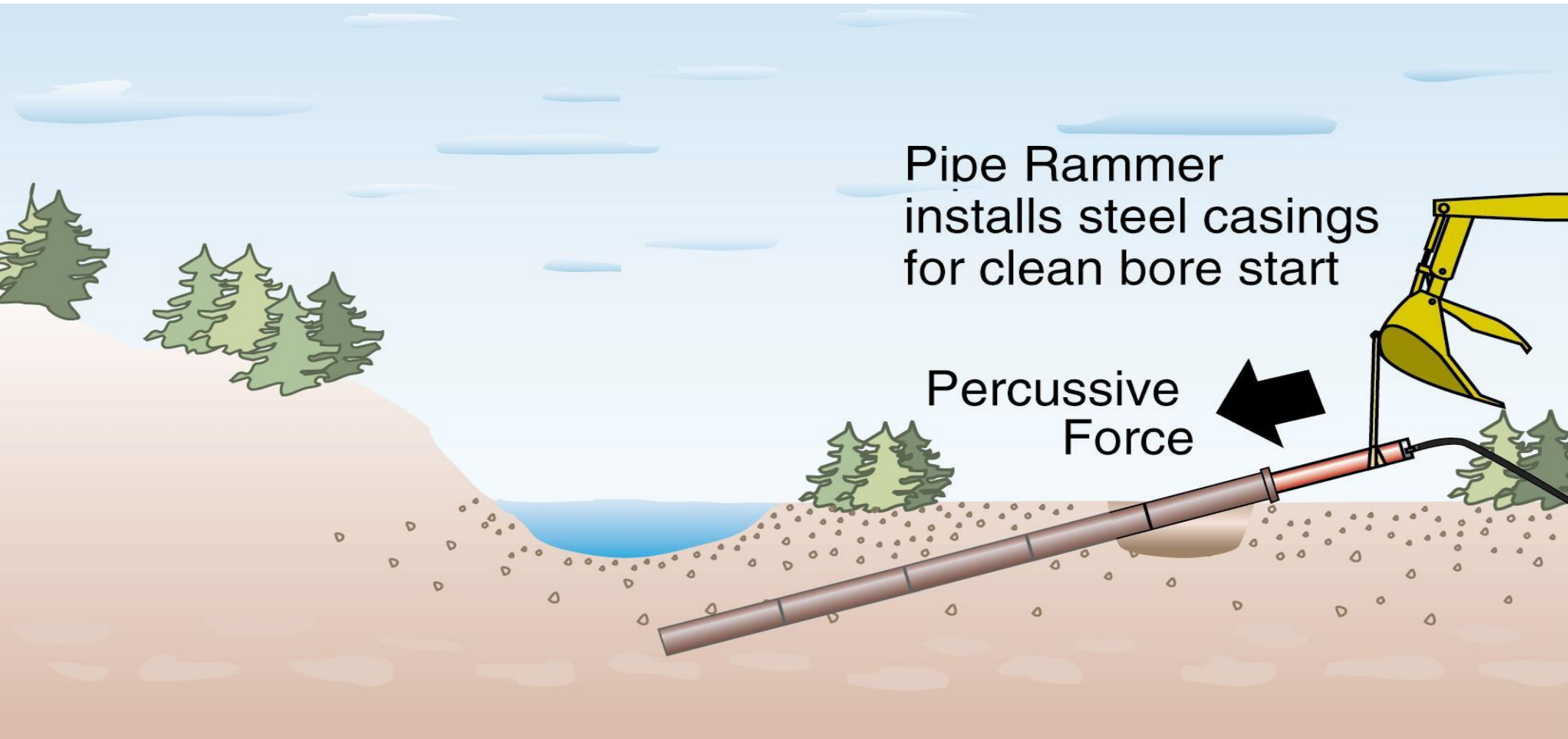


CONDUCTOR BARREL

- Ram Casing Through Difficult Soils
- Preferable Starting Point for Drilling
- Guide for Down-hole or Mud Motors
- Friction-Free Section for Pullback

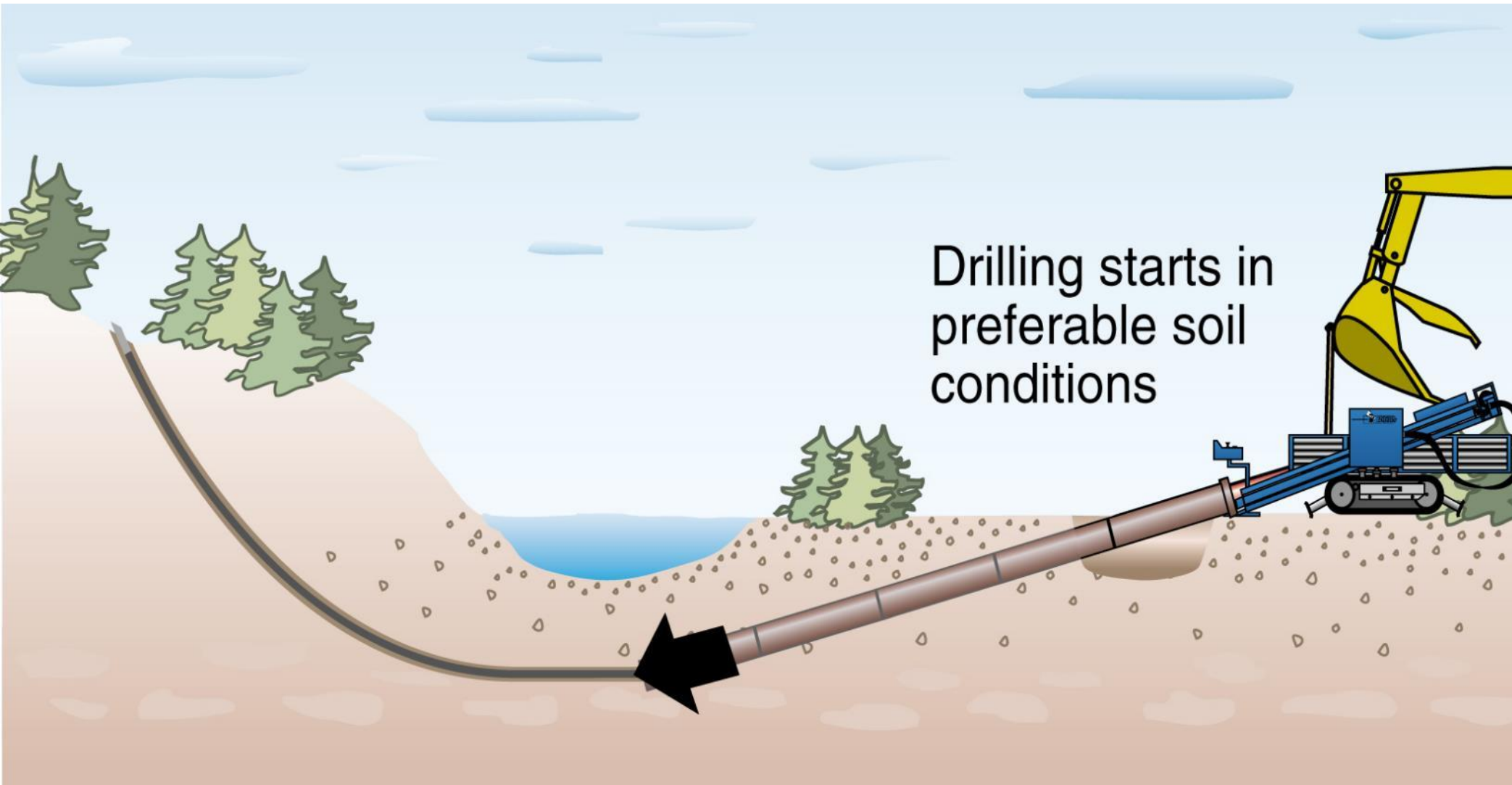


Conductor Barrel Step 1-Job Site





Conductor Barrel Step 2-Job Site







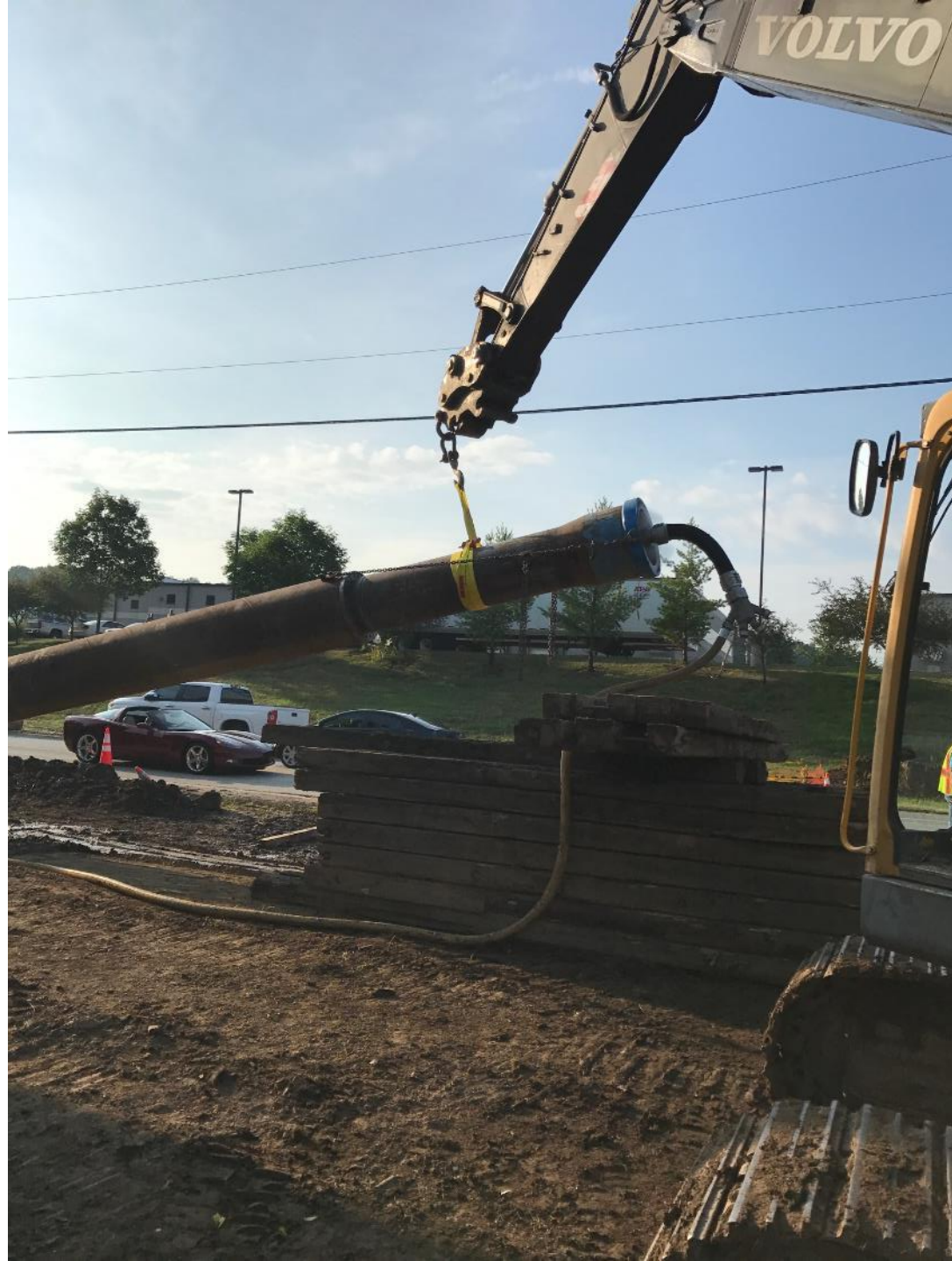












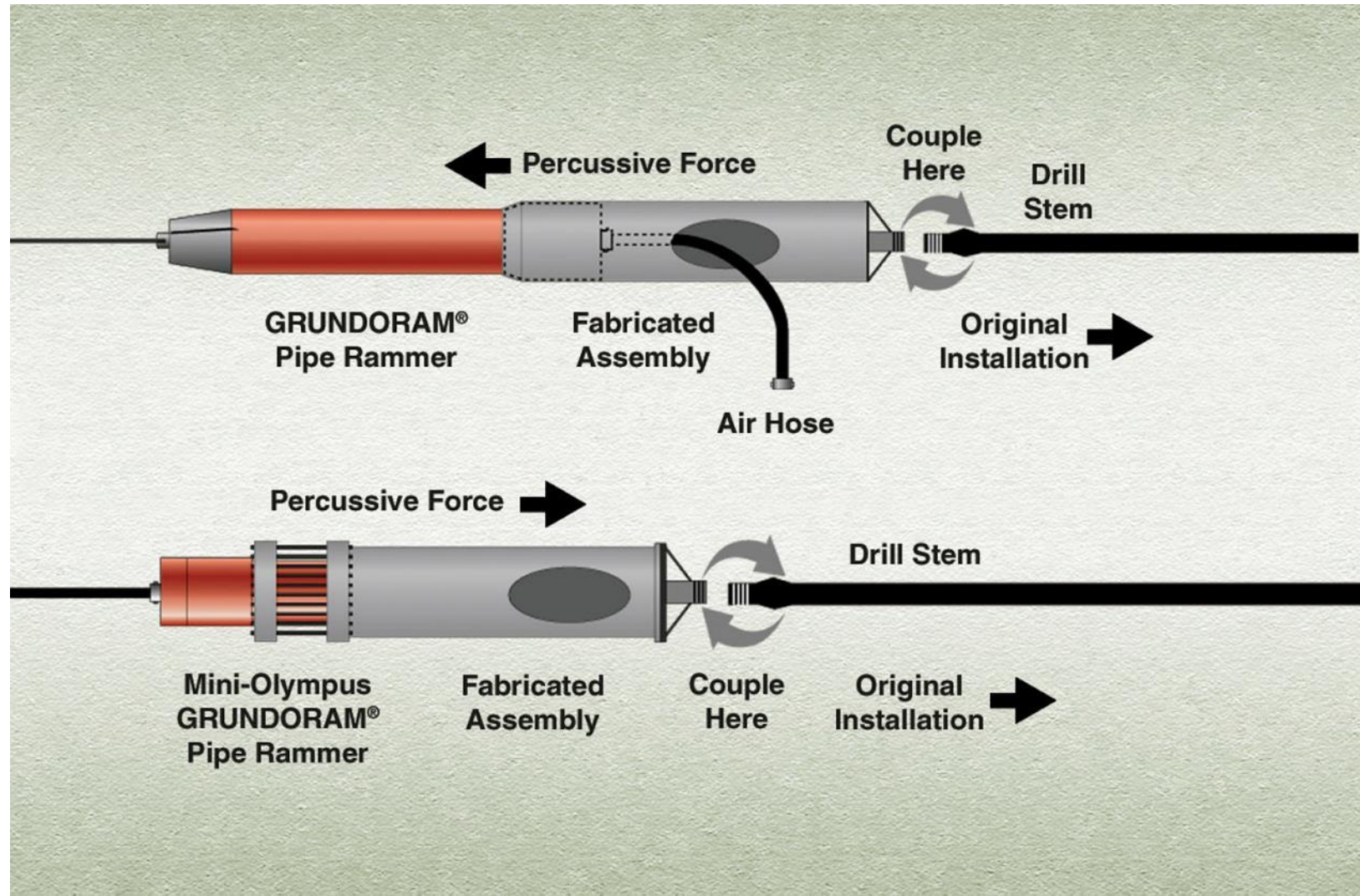


DRILL STEM RECOVERY

- Rammer Fitted with Special Sleeve
- Drill Stem Welded to Back of Sleeve
- Percussion Frees Stuck Drill Stem
- Push Through or Pull Out

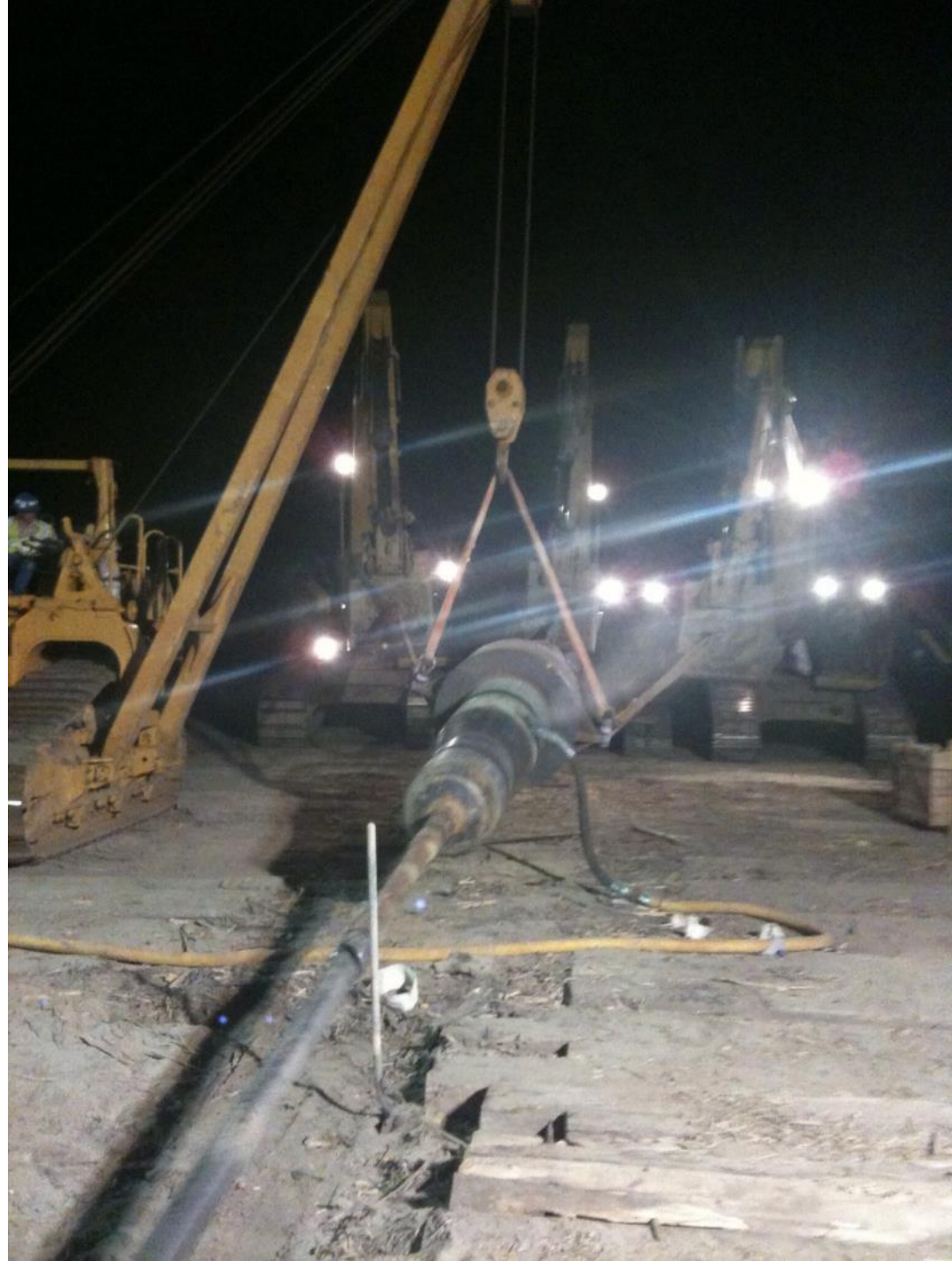


Drill Stem Retrieval









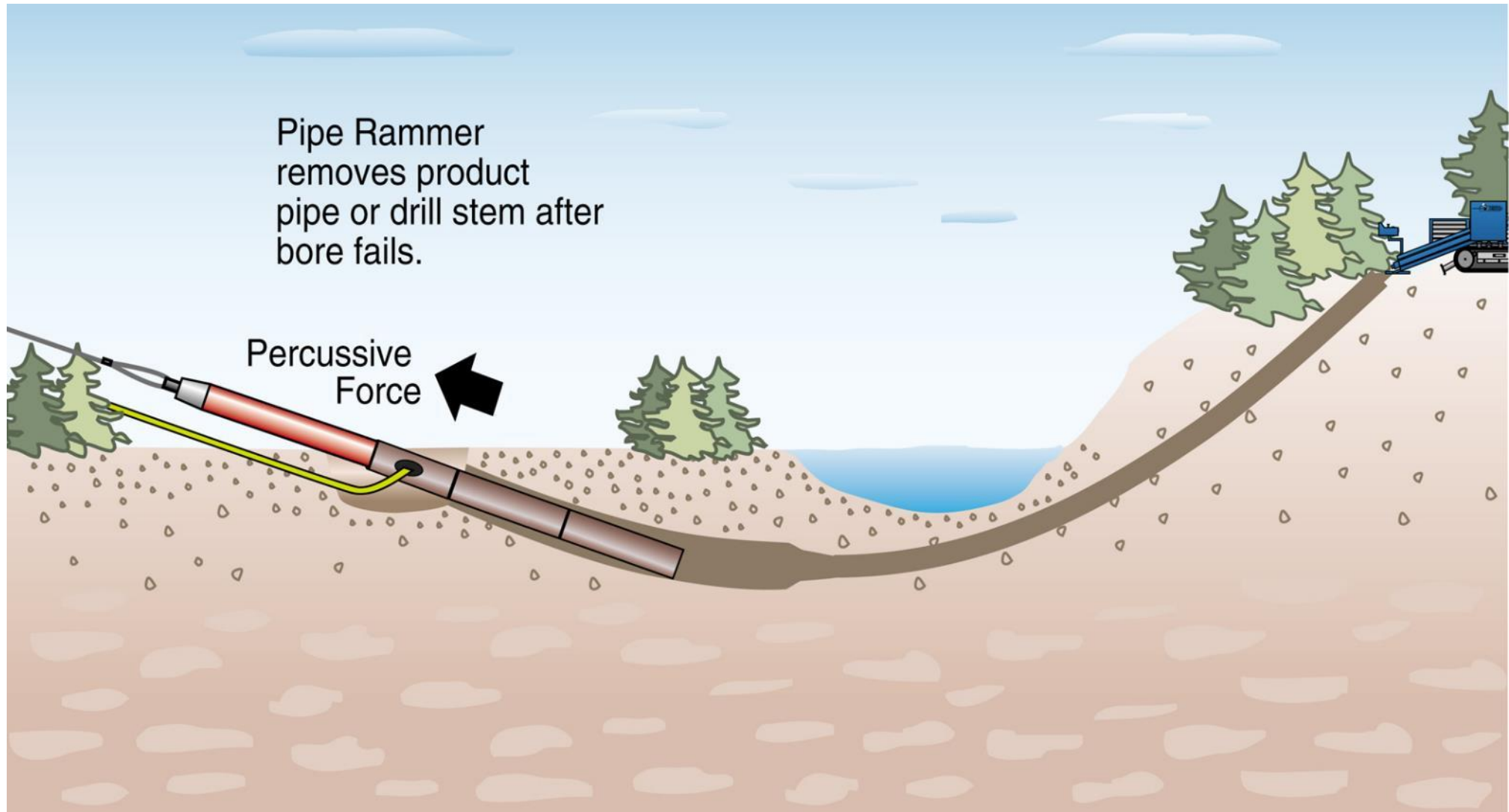


PIPE REMOVAL/ BORE SALVAGE

- Rammer Attached to Product Pipe
- Percussion Removes Pipe from Bore
- Salvage Job
- Bore Again



Product Pipe Removal/Bore Salvage-Job Site























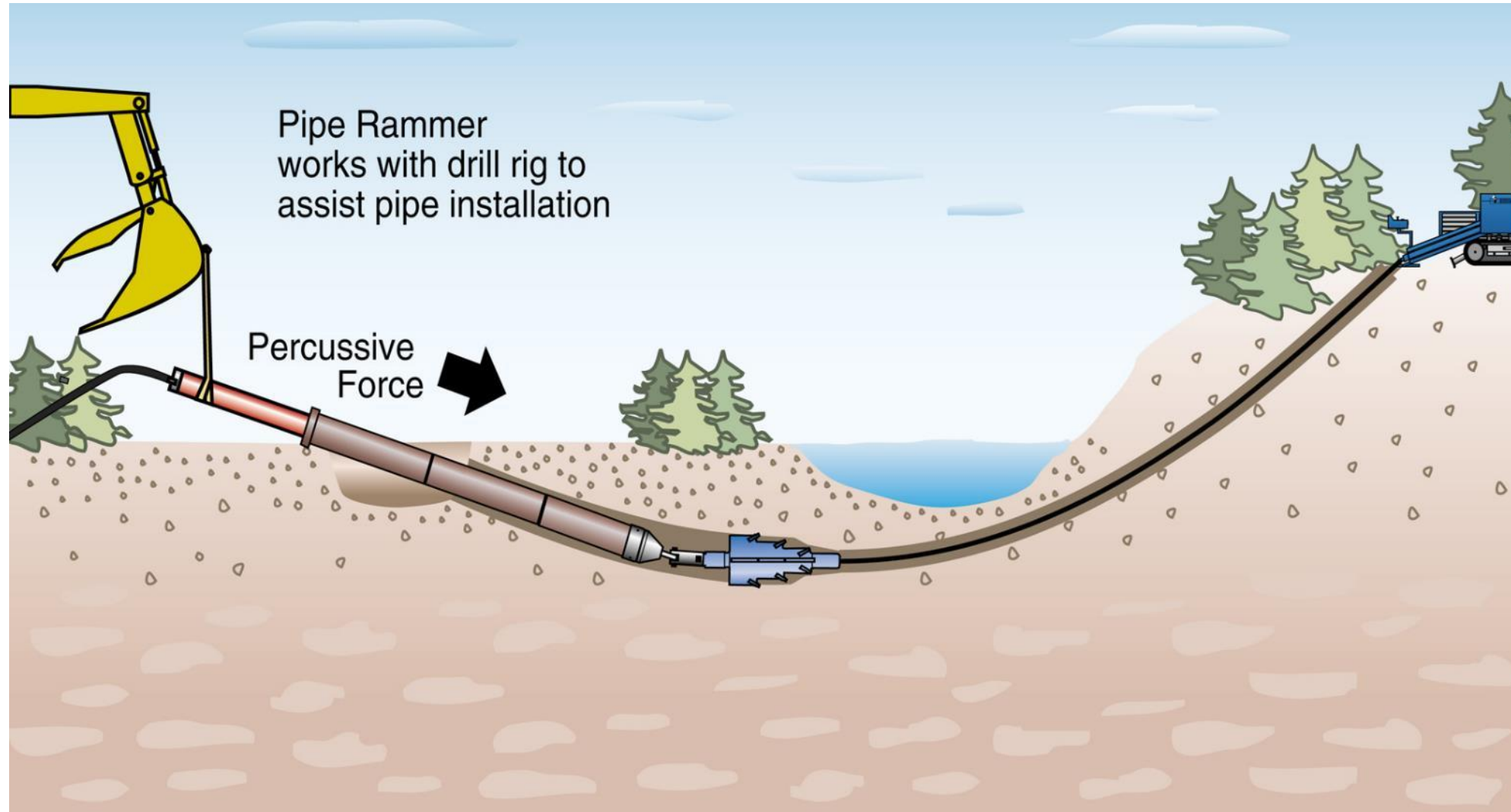


PULLBACK ASSIST

- Rammer Attached to Pipe During Pullback
- Percussion Keeps Pipe Moving
- Helps Prevent High Stress Levels
- Overcomes Hydrolock, Frees Pipe



Pullback Assist-Job Site









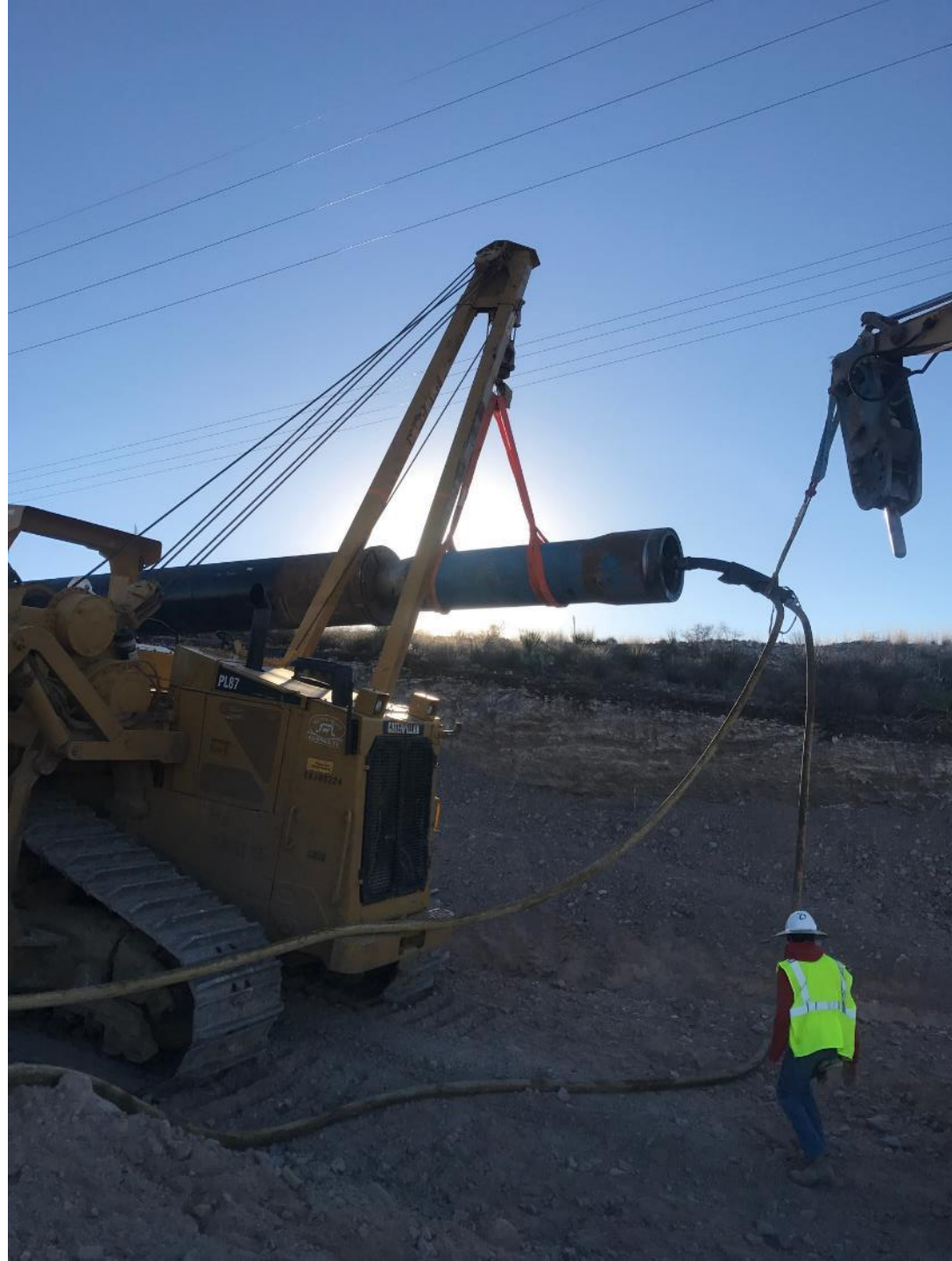


























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Questions?



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