



Staying Efficient with Modern Hydro Excavation Best Practices

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Why Hydro Excavation

- Soft Excavation
 - Safe
 - Damage prevention
 - Existing infrastructure
- Efficient
 - Smaller footprint
 - Minimizes or eliminates spoils
 - Reduces cost
- Regulations
 - Nationally recognized





History of Hydro Excavation

- 1800's
 - Used by gold miners in the mid-1800's for hydro mining
- 1969
 - First Vacuum Excavator mounted to a modified truck chassis
- 1990's
 - Vacuum Excavation became an excepted practice
- Today
 - Required practice in many areas





Advances in Technology

- Engine Efficiencies
 - HP gains
 - Dynamic loading
 - Fuel efficiency
 - Quieter packages
- Other Improvements
 - Hydraulic systems
 - Blower technology
 - Nozzle advancements
 - Decreased footprint





Benefits of Technology Advancements

More Suction at the Tool

- Longer Uptime
 - Fuel efficiencies
 - Less water used
- Production
 - Nozzle advancements
 - Pump advancements
 - Use of heaters
- Jobsite Versatility





Nozzle Advancements

- Rotating Nozzles
 - Less flow / more productive
 - Ability to be rebuilt
 - Better internal materials
- Lessons Learned
 - No fan nozzles
 - Keep lance moving
 - Make sure the nozzle is the right rating for your vacuum





Expanding Vacuum Uses

- Traditional Vac Uses
 - HDD support
 - Mud disposal
- Today's Vac Uses
 - Daylighting
 - Post job mapping
 - Slot trenching
 - Soft excavation





Cross Bore

- What is a cross bore?
- What can be done to mitigate cross bores?





Choosing the Right Vacuum Excavator

- What Type of Work?
 - Frequency?
 - What are the soil conditions?
- Horsepower
 - Gas or diesel?
- Vacuum Specs
- Water System
- Air





Vacuum Excavation Best Practices

- Always Call 811
- Nozzle Selection
- Pressure Selection
- Keep the Digging Lance Moving





Vacuum Excavation Best Practices

- Verify Locates
- Physically Expose Conflict Zones
- White Line Intended Path
- Heated Water Cuts Better





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Q&A