

# MINING WELL REHAB



## WELL EQUIPMENT RECOVERY

Vandalism is a common and expensive problem for property owners. One mining company was able to save thousands of dollars and avoid the total loss of two production wells damaged by vandals. This success of this project depended on experienced drilling crews who were able to safely recover well pumps and piping that had fallen over 700 feet to the bottom of two production wells.

**CLIENT:** Arizona mining client

**TECHNOLOGIES:** Rotary drilling

**GEOLOGY:** Sands, gravels, clays, volcanic rocks, various bedrock

**SERVICE:** Environmental drilling

## CLIENT NEEDS & GOALS

- Avoid the total loss of two production wells
- Recover pumping equipment dislodged by vandalism
- Complete phase 1 of project without injury or further property damage



*Drill site setup with 50K drill and support truck*



*Crew having a safety discussion on the work platform of the drill*





## CHALLENGES & SITE INFORMATION

Vandals dislodged both the well pump and drop pipe in two production wells. The first is an 835 foot 16-inch steel production well, constructed in 1975. The second is a 735 foot 10-inch steel production well, constructed in 1976. The client estimated the weight of the column pipe, line shaft, and pump in excess of 50,000 pounds.

The extensive weight of the equipment and well depth required a minimum pull back capacity on the drill rig of 100,000 pounds. Consequently, the drill rig and support equipment would require additional safety retrofits including hand rails, lock out devices, and crown out devices. All equipment had to pass a thorough safety inspection by the client and a third-party engineer before it was allowed on the project site.

## SOLUTION

A combination air and mud rotary drilling rig with custom safety engineering controls would provide the necessary power and versatility to complete the project. No other drilling technology is capable of reaching the extreme depth and diameter that this project requires. The rig is also capable of performing a wide range of drilling tasks with little reconfiguration including: air rotary casing hammer, down-hole hammer, direct air rotary and mud rotary. This versatility reduces down-time with seamless transition through different project phases.

## RESULTS

All equipment was safely recovered on the first attempt in production well #1. The client was able to avoid the cost of closing the well and installing a new one. This was possible only with unique combination of expert crews, proper drilling technology, and fishing equipment. Recovery work is still in progress on well #2.



*Transducer wire that was removed from the well*



*Drop pipe & column pipe retrieved from the existing wells*

