

ADVANTAGES OF SONIC DRILLING FOR GEO-CONSTRUCTION PROJECTS

- World's most advanced drilling method for a wide variety of geo-technical and construction applications.
- Patented drilling technology exclusive to Sonic Drilling Ltd.
- Faster drilling rates than most other conventional drilling equipment.
- Holes are drilled, cored and cased by rotating and/or vibrating the drill tooling at sonic resonant frequencies.
- After the installation of various instruments, piezometers, anchors or other tooling inside the casing, the casing can be vibrated out of the ground with little chance of getting stuck.
- Holes can be grouted by the tremie line method inside the casing or by the pressure grout method followed by the extraction of the casing by vibration.
- The sonic drill can be used to provide continuous core samples of most geological formations.
- Sonic drilling has the ability to:
 - Drill in any geological material.
 - Drill very straight holes.
 - Operate at any angle or in any position.
 - Simultaneously drill and case holes to their full depth.
 - Operate with or without compressed air, drilling mud or other drilling fluids.
 - Handle difficult ground conditions.
- In addition to its higher drill speed and greater depth capability, the vibratory action of the sonic drill head also produces much lower peak noise levels than typical top hole hammers (drifters). In congested urban environments, this makes the sonic drill the preferred choice by helping rig operators reduce their exposure to excessive noise levels.



- Investigation to determine soundness of an earth dam.

SONICOR 50K DRILL HEAD

- The patented sonic drill head is manufactured by the Sonic Drill Corporation. It provides the rotation and vibration forces necessary to rapidly drill holes and to allow the coring and casing of any overburden material to create an accurate geological profile of the subsurface.
- High frequency resonant vibrations are sent down the drill string to the drill bit. The operator controls these frequencies to suit the specific conditions of the soil/rock geology.
- An internal air spring isolates the vibrational forces from the rest of the structure.



- Installing casing for cast-in-place concrete piles without disturbing the adjacent structures.



- Finished cast-in-place concrete pile.



- Sonic drilling through difficult ground.



- Test setup for short-stroke sonic drill rig to be used for the installation of horizontal drainage wells inside a collector well caisson.



■ Drilling for geotechnical investigation of a high rise residential building site.



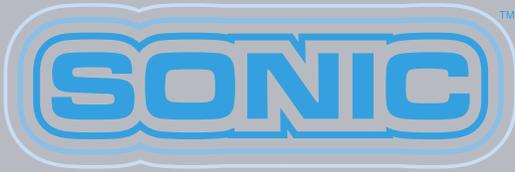
■ Installing combination micro pile and tension anchors for hydro-electric transmission towers in unstable ground conditions.



■ Installing tie-back anchors for a retaining wall.



■ Drilling for the installation of geo-exchange tubing at a highway tunnel entrance.



■ Installing horizontal drains to improve slope stability of a mountainside.



■ Angle drilling to install hydro-electric transmission tower guy wire anchors.



■ Preparations for over water sampling program for earth dam investigation.