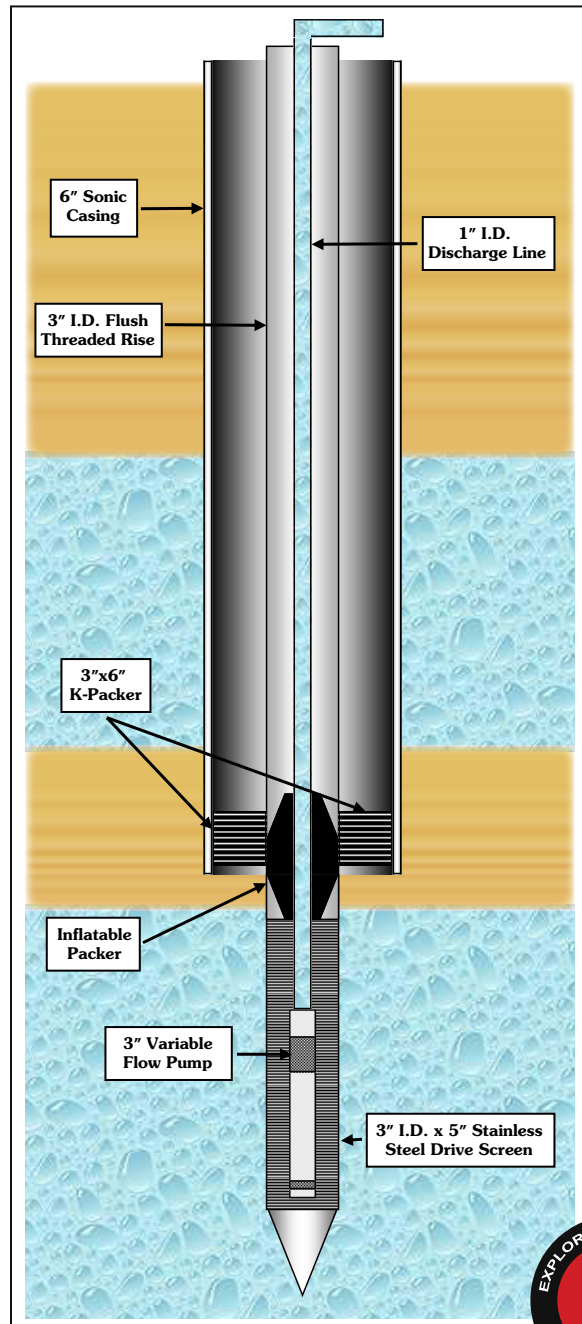


# WATER SAMPLING

depth discreet • sonic point

When used in combination with a WDC Sonic Drilling rig, the SonicPoint depth discreet sampling water sampling system is an excellent tool for providing reliable, isolated zone water samples at pumping rates ranging from 1/2 - 30 GPM. Pumping can be performed with electric submersible or low-flow bladder pumps, with flow rates being typically dependant on total dynamic head and geologic formation yield.

The SonicPoint water sampling method is particularly effective when water samples are required at depths beyond the capabilities of the direct push or hollow stem auger drilling methods. The flush-threaded casing advanced by the sonic drilling method can seal single or multiple contaminated water bearing zones in a cased, zero-annulus environment that eliminates the potential for cross contamination. Also, because sonic drilling does not utilize drilling mud for cuttings removal, costly re-sampling efforts caused by drilling mud contamination are avoided.



## Typical Procedure

1. The formation is cored using a 4-inch sonic core barrel.
2. Flush-threaded 6-inch temporary casing is advanced to the bottom of the cored interval.
3. The 4-inch sonic core barrel is advanced beyond the 6-inch temporary casing and the soil sample is retrieved. A 3-inch stainless steel screen and riser casing is vibrated into the cored section of the borehole allowing the formation to collapse around the screen. The 3" x 6" K-packer separates and centers the 6-inch sonic casing and 3-inch riser.
4. A submersible pump is lowered into the riser and set in the screen. An inflatable packer is located above the pump on the column pipe.
5. The packer is inflated, thus isolating the screen section.
6. Water sampling and pump testing are performed.
7. The packer is deflated and the pump removed from the 3-inch screen and riser.
8. The screen and 3-inch riser are vibrated and removed from the formation.
9. Flush-threaded temporary casing is advanced to the bottom of the previously cored and water sampled section.
10. The operation is repeated.



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