



# COAL COMBUSTION RESIDUALS

## FEDERAL CCR RULE

EPA-HQ-2009-0640 affects most coal burning electrical generating plants requiring them to investigate potential contamination from CCR landfills and surface impoundments.

## TURBIDITY ISSUES

Excessive turbidity is a potential problem associated with groundwater monitoring systems near CCR impoundments. Complete well development is often difficult to accomplish where the natural lithology is finer, more silty and interbedded. Heavy metal contaminants in turbid water can compromise water samples both short and long-term resulting in false-positive or artificially high analytical results.

## CASCADE'S SOLUTION

Our sonic drilling system offers the best solution under these conditions. Sonic imparts substantially less disturbance to the borehole wall during drilling. Well construction takes place within a temporarily cased borehole so that proper filter sand pack and well seal can be placed evenly around the well screen and casing - assuring as-built construction is as designed. Development then tends to be much faster, more effective, and longer lasting compared with conventionally installed wells where natural formations are churned and smeared back up the borehole wall.



## SPECIALIZED CCR SERVICES & EQUIPMENT

Services	Equipment
ASTM Sample Collections	Air Rotary, Mud Rotary
Bedrock Coring	Direct Push Technology (DPT)
Drilling	Hydraulic Profiling Tool (HPT)
IDW Management	Hollow Stem Auger Drilling
Packer Testing	Membrane Interface Probe (MIP)
Permeability Testing	Sonic Drilling Technology
Soil Sampling	uVost
Subsurface Investigation	
Well Development	
Well Installation	



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