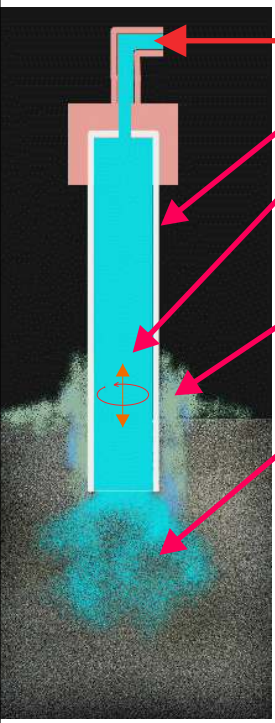
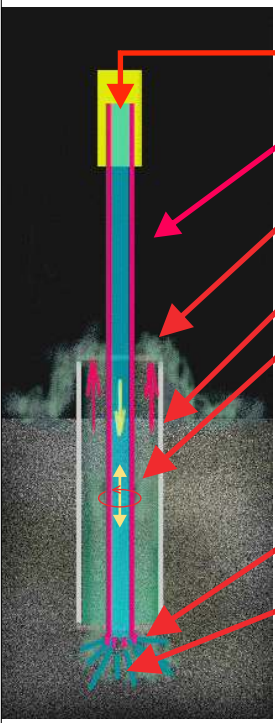
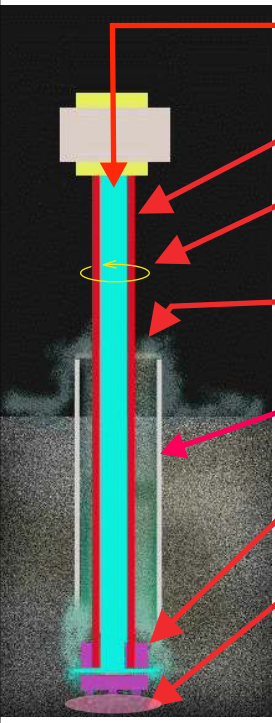


# Water Jetting, Wash Boring and Rotary Boring

WATER JETTING	WASH BORING	ROTARY BORING
 <p>Water under very high pressure</p> <p>Casing</p> <p>Hole advanced by brute jetting action of water and rotating and surging of casing</p> <p>Return water outside of casing, making all related observations useless</p> <p>Huge volume of soil below is disturbed, water ingress is very high and test volume is no longer intact. All tests/samples are bad.</p>	 <p>Water under pressure</p> <p>Drill string</p> <p>Return water inside of casing, making related observations possible</p> <p>Casing</p> <p>Hole advanced rotating and surging of bit attached to drill string</p> <p>Cutting bit</p> <p>Most flushing water discharged downwards, some water enters soils below. With care, only some tests/samples are possible.</p>	 <p>Water under pressure</p> <p>Compatible Drill string</p> <p>Hole advanced by cutting action of rotating bit attached to drill string and hydraulic thrust</p> <p>Return water inside of casing, making related observations possible</p> <p>Compatible Casing</p> <p>Cutting bit</p> <p>All most all flushing water discharged sideways, very little ingress in to soil below. Very little disturbance to soil volume below. Good tests/samples are possible.</p>
<p>Hole advanced by jetting of high pressure water down wards into soil below casing and surging and rotating action of casing. Hole ed mainly by destructive forces of water under high pressure</p> <p><b>Return water OUTSIDE of the casing</b></p> <p>Cheap adapted Machine Very fast, very cheap</p> <p><i>Test volume disturbed and altered Samples and testis not representative or bad</i></p> <p><b>No skill required</b></p> <p><i>Not in compliance with Specification requiring sampling and testing or Code of practice</i></p>	<p>Hole advanced by rotating and surging action of cutting bit attached to drill string inside casing. Water discharged sideways and downwards into soils below</p> <p><b>Return water INSIDE of the casing.</b></p> <p>Machine various including manual, more suited for water wells, boring for disturbed samples</p> <p><i>Test volume disturbed and altered Samples and testis not representative or reliable</i></p> <p><b>Some skill</b></p> <p><i>Doubtful compliance with Specification requiring sampling and testing or Code of practice</i></p>	<p>Hole advanced by cutting bit attached to the bottom of drill string and hydraulic thrust with cuttings transported upwards by drilling fluid/water. Use compatible casings and rods, drag and cutting bits cutting bits varying with soil types. Almost all water discharged sideways</p> <p><b>Return water INSIDE of casing</b></p> <p>Machine suited for quality sampling and testing High degree of observations possible eg return water, water losses, penetration rates etc. Rig very costly</p> <p><i>Test volume intact, samples acceptable, reliable</i></p> <p><b>Skill essential</b></p> <p><i>In compliance with Specification requiring sampling and testing and Code of practice</i></p>