



Directed Technologies Drilling Incorporated

SAMPLING UNDER TANKS, BUILDINGS AND ROADS



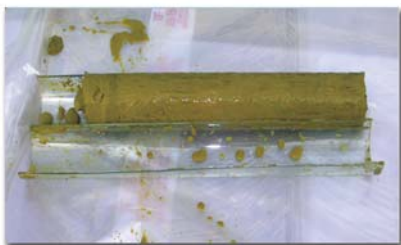
Soil Sampling in "Inaccessible" Areas

Directed Technologies Drilling has the expertise and technology to make site investigation and soil sampling at previously inaccessible locations a reality.

SOIL SAMPLING UNDER INFRASTRUCTURE

Site investigation at active facilities can be difficult to impossible using traditional soil sampling techniques. Potential contamination source areas are often under infrastructure (i.e., above or below ground storage tanks) and inaccessible.

Directed Technologies Drilling has developed soil sampling equipment and techniques for use with directional drilling rigs that allow for soil sample collection from beneath site structures.



DIRECTIONAL DRILLING & SOIL SAMPLING

While the process is time consuming and can be difficult, it allows samples to be collected from locations it was previously impossible to reach. The idea is simple, advance a borehole to the proposed soil sampling location using

Lateral Thinking Yields Better Solutions

Directed Technologies Drilling, Inc. (DTD) is a leader in horizontal directional drilling (HDD) technology. Our objective is complete client satisfaction. We apply experience and innovative thinking to provide quality service that is unrivaled in the industry.

DTD has the most experienced team of professionals in the business. James Doesburg, President, is a recognized authority on HDD and pioneered many of its innovations and environmental applications. Principals and project managers have academic degrees in geology or hydrogeology and are recognized authorities in the field by groups including the Colorado Center for Environmental Management, the University of Wisconsin and the National Ground Water Association.

DTD has offices in Washington state and Pennsylvania and has completed projects in 29 U.S. states, Mexico, Europe and Japan.

Coupling technical experience with an unblemished safety record and a team of HAZWOPER trained employees, DTD is the clear choice for your directional environmental drilling needs.



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directional drilling. Remove the drill bit from the bore, attach the soil sampling device and advance it into the borehole with the drill rig. The sampler is driven all the way to the proposed sampling location in a closed position, preventing any soil or debris from entering the sampler. Once at the targeted location, the sampler is mechanically opened and locked into position; this locking allows it to be driven or rotated into the undisturbed soils at the sample location. Once the sample is taken, the drill rods and sampler are retrieved from the borehole, sampler removed and drill bit placed back onto the drill rods. The drill bit is driven back into the borehole, and drilling progresses to the next sample location.

ABOUT THE SAMPLES

The soil samples collected using these techniques are 12 inches in length and slightly less than 2 inches in diameter. **Directed Technologies Drilling**

has successfully sampled in fine to medium grained cohesive soils.

The application may be limited by very low or very high cohesive strength soils, but modification to the sampling technique may allow sampling in a wider variety of settings.

CONTACT US TO LEARN MORE

Please contact us to discuss your site specific conditions and determine whether or not soil sampling with directional drilling equipment may work for you.

Contact us at 800.239.5950 or info@horizontaldrill.com.



DTD's Commitment to Health & Safety

At **Directed Technologies Drilling, Inc.** safe completion of every project is of utmost importance. Our field teams are small, efficient and highly experienced by design. All of our employees have completed the Occupational Safety and Health Administration's (OSHA) 40-hour HAZWOPER training (1910.120) and have up-to-date 8-hour refresher training.

DTD's safety record is remarkable. With an unblemished safety record and no lost time injuries, our crews are the best and safest available in the horizontal environmental drilling business.

