

Horizontal Well Systems for Improving Remedial Efficiency and Zone of Influence

To improve remediation efficiency and expand the zone of influence, Directional Technologies, Inc. transferred technology from the oil and gas industry to the environmental industry. The oil and gas industry has used directional drilling for decades to improve oil recovery, based on a simple concept that the more screen contact there is with the “pay-zone,” the more production gained.

For over 24 years, Directional Technologies, Inc. has coupled this oilfield technology with Horizontal Directional Drilling techniques to design and install horizontal well systems. Not only is a horizontal well system much more efficient than their vertical counterparts, many times horizontal well systems produce a greater zone (or radius) of influence from the horizontal well centerline.

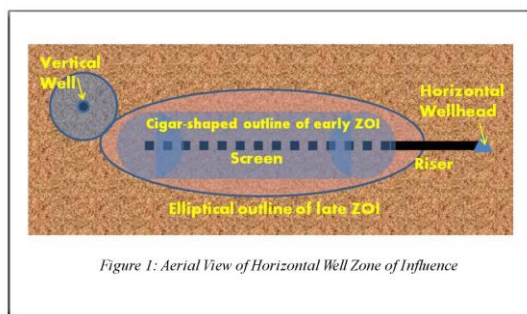


Figure 1: Aerial View of Horizontal Well Zone of Influence

Horizontal well systems are more efficient than vertical wells because:

- A single horizontal well can usually replace 10 to 20 vertical wells, depending on configuration.
- A horizontal well system is more cost effective when considering footage of screen/treatment area.
- Because of the larger screen area in contact with the impacted media, a horizontal well system needs fewer wells, and therefore fewer pumps, less piping, all lowering overall Operation and Maintenance (O&M) costs of the remediation project.
- Since impacted plumes can be long and narrow due to groundwater flow, a horizontal well system is more logical of an approach in “chasing” a plume. Horizontal well systems have a greater zone of influence due to longer lengths of horizontal well screen in contact with the impacted media.
- Vertical systems often require trenching to connect wells to surface remediation equipment, resulting in unnecessary costs; a horizontal well system can be drilled from one location and accessed from a single horizontal well vault.
- Horizontal well systems cause less site disruption and allow access beneath buildings, roads, and other infrastructure.
- Horizontal well screens are engineered to deliver superior zones of influence over standard “off-the-shelf” screens.

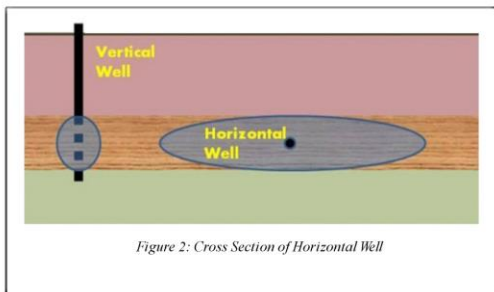


Figure 2: Cross Section of Horizontal Well

Directional Technologies, Inc. has installed more than 1,000 Horizontal Remediation Wells since 1992.

Please contact us at
1-877-788-4HRW (4479) or drilling@directionaltech.com
to bring this level of experience and knowledge to your next project.