

Direct Burial Sensor Systems

When containment is optional, but detection is not.

For some applications such as fueling systems and transport oil pipelines, a sensor system that detects small leaks in the piping may be preferable or more economically viable compared to a full double containment piping system (check applicability of Federal, State, and Local regulations).



Shown above is a typical installation showing the main fuel oil carrier pipe and the laser slotted PVC conduit located side by side in the trench. Standard backfill and compaction is used to cover the pipe and conduit. TraceTek Direct Burial fuel oil sensor cables are later pulled into the conduit.

How It Works

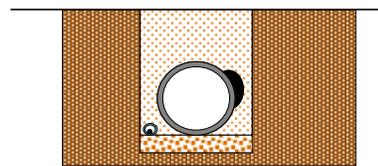
The amount of backfill contaminated in the first 24 hours is not that large, even for a leak rate of 10 liters per hour (2.6 GPH).

Because the native compacted soil is less porous than the back fill in the trench, the leak will tend to saturate the backfill faster than it leaches into the surrounding soil.

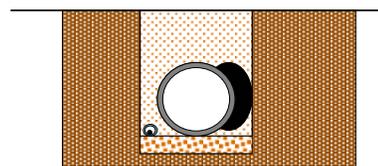
Every trench/backfill/moisture combination is a little different. These test results show the general concept and point out that in the early stage of a small leak there is not a huge volume of soil contamination

The trench become quite saturated hours or days before the spill is visible on the surface or has spread too deeply underground or laterally.

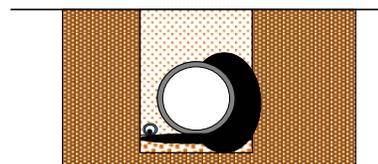
The liquid fuel in the backfill is drawn into the slotted conduit via capillary action. The TT5000 is such a good scavenger of liquid hydrocarbons that detection occurs even when there is not an abundance of flowing fuel in the soil. The TT5000 ignores the presence of groundwater.



Time = 15 Minutes
 Leak Rate = 10 Liters/hr
 Spill Size = 2.5 Liters
 Cont. Soil = 0.007 m³
 @ 66% Solids



Time = 3 Hours
 Leak Rate = 10 Liters/hr
 Spill Size = 30 Liters
 Cont. Soil = 0.09 m³
 @ 66% Solids



Time = 10 Hours
 Leak Rate = 10 Liters/hr
 Spill Size = 100 Liters
 Cont. Soil = 0.3 m³
 @ 66% Solids



Time = 20 Hours
 Leak Rate = 10 Liters/hr
 Spill Size = 200 Liters
 Cont. Soil = 0.6 m³
 @ 66% Solids

Please contact us for complete engineering specifications, AutoCad drawing details and system design assistance.