United States
Environmental Protection
Agency
Washington, DC 20460
(OS-420) WF

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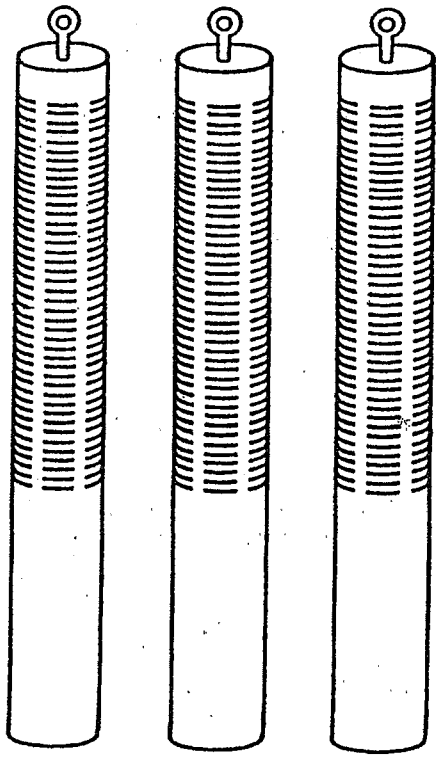
Solid Waste And Emergency Response (OS-420) WF

EPA Filter Canisters

A New Method For Recovering Free Product



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Some Information About Filter Canisters

Filter canisters can help to clean up contaminated sites by removing liquid petroleum, known as free product, floating on groundwater.

The diagram shows a filter canister that has been lowered into a monitoring well so that it contacts the layer of free product floating on top of the groundwater. The filter is constructed of a material which allows free product, but no groundwater, to enter. Gravity causes free product to trickle through the filter and then drip into the bottom of the canister.

Canisters can store between 0.5 to 2.0 gallons of free product. The free product that is collected can be removed from canisters either manually or automatically. Manually operated canisters are pulled up and emptied much like a bailer. Automated canisters are emptied without removal by means of a suction pump. Recovered free product can be up to 100-percent pure petroleum that is ready to be reused or recycled.

Some Applications Of Filter Canisters

Use filter canisters to:

- Initiate removal of free product immediately.
- Remove free product at sites with low-permeability soils or low-yield wells, where traditional pumping methods are ineffective.
- Remove thin layers of free product and intermittently occurring free product.
- Complement other treatment techniques such as pump-and-treat, vapor extraction, and air sparging.

For Additional Information

A more detailed discussion of filter canisters is presente in an article entitled "Cutting the High Cost of Free Product Removal," published in *LUSTLine* (Bulletin 16, March 1992). To order this publication send $2.50 to:

NEIWPCC
85 Merrimac Street
Boston, Massachusetts 02114
800 424-9364

You may contact manufacturers of filter canisters and similiar devices that incorporate filters. As of October 1992, EPA is aware of the following manufacturers:

EnviroProducts, Inc.
1431 Renson Street, Suite A
Lansing, Michigan 48910
800 368-4764

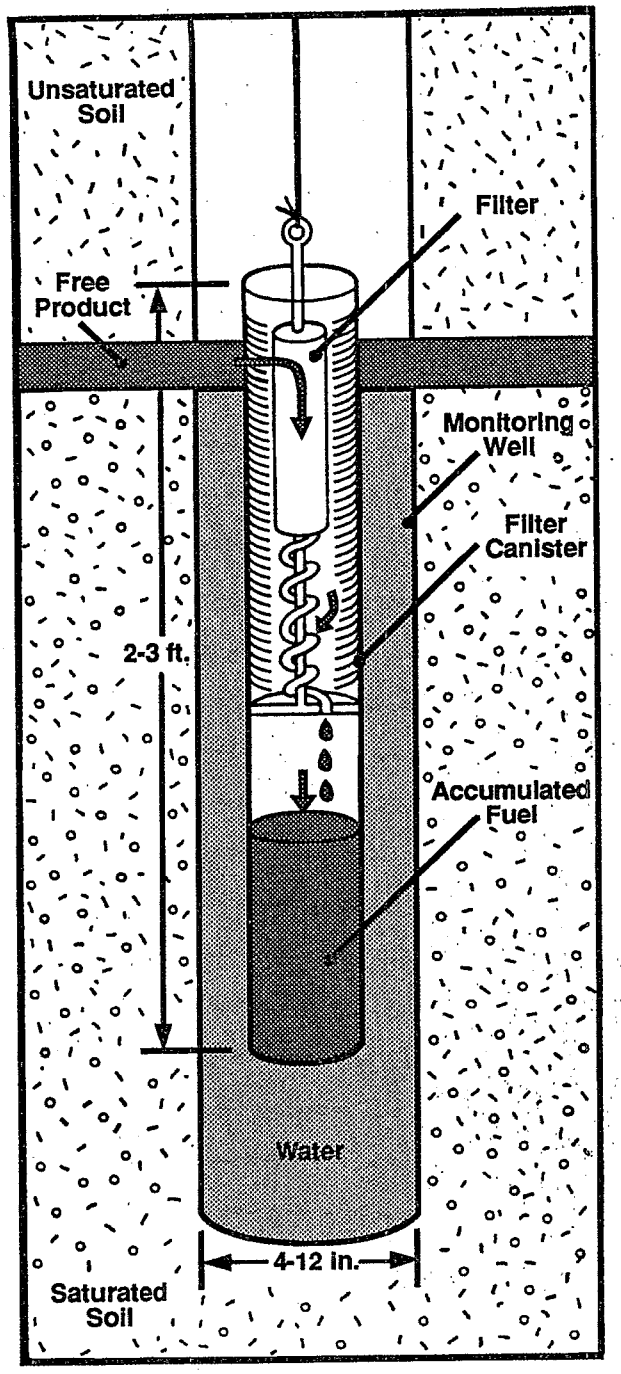
Halliburton NUS Environmental Corporation
16360 Park 10 Place, Suite 300
Houston, Texas 77084
713 492-1888

Horner Creative Products, Inc.
212 Morton Street
Bay City, Michigan 48706
800 443-0711

Keck Instruments, Inc.
P.O. Box 345
Williamston, Michigan 48895
800 542-5681

ORS Environmental Equipment
32 Mill Street
Grenville, New Hampshire 03048
800 228-2310

PJ Products Company
30 Greenfield Lane
Scituate, Massachusetts 02066
617 545-1685



Some Advantages Of Filter Canisters

Filter canisters have a variety of advantages.

- Filter canisters do not disturb or draw down the groundwater level, so they minimize the "smearing" of free product below the water table.
- Petroleum is separated from water, so discharging and treating contaminated water is unnecessary.
- Filter canisters can be installed in monitoring wells in only minutes.
- Permits are not required to install or operate filter canisters.
- Canisters are relatively inexpensive; prices range from $400 to $1000 per canister.
- More free product can be removed with less effort than with traditional manual bailing.
- Canisters are reusable.
- No power source is required.

Some Limitations Of Filter Canisters

Filter canisters do not remove fuel bound to soil or dissolved in groundwater. Filter canisters recover only free product.

The rate of free-product recovery depends on the thickness of the free product and the rate of flow into the well. Filter canisters do not control groundwater gradient. If free product is spreading quickly, separate groundwater gradient control may be required to prevent further migration of contamination. Several filter canisters may be needed to capture all of the free product.

Because filter canisters have been in wide use for less than a year only limited performance data are available.