



Land Treatment Facilities: General Information

Petroleum hydrocarbons, such as diesel fuel and gasoline, are the most common contaminants in the Yukon. Cleaning up hydrocarbon-contaminated soils is, however, a relatively straightforward process.

All soil naturally contains bacteria and other microbes that can “eat” hydrocarbons, turning them into the energy the microbes need to live and producing carbon dioxide and water. Unfortunately, these microbes typically don’t work very effectively when the soil is in the ground. In order to help the microbes work, the soil is excavated and placed in a land treatment facility.

Soil in a land treatment facility, or LTF, is often heaped in piles (often called “biopiles”) or rows to encourage heat retention and optimize the use of space, or spread out in a thin layer to increase the availability of oxygen (often called “landfarming”). In both cases, the soil is typically tilled or turned to keep it oxygenated, and occasionally water or fertilizer is added to help the microbes work as quickly as possible. Some of the hydrocarbons will also evaporate, or volatilize, during this process.

Once the hydrocarbons have been degraded to suitable levels, the remediated soil can be used for other projects, such as construction fill, road beds, or landfill cover material.

Land Treatment Facilities do not create an environmental hazard provided they are built on a suitable site, and are designed and operated properly. An improperly constructed or operated LTF could, however, contaminate the native soil and groundwater near it, creating a new contaminated site. For this reason the Contaminated Sites Regulation has established permits which impose conditions on the siting, construction and operation of Land Treatment Facilities.

Land Treatment Facility Permits

A permit is required for the construction or operation of a Land Treatment Facility. Facilities must also be constructed and operated in accordance with all other applicable laws, including zoning bylaws. Environmental Protection Officers with the Yukon Government carry out regular inspections of Land Treatment Facilities. In addition, operators of Land Treatment Facilities must submit annual reports to the Environmental Protection Branch describing specified details of the operation of their LTF each year.

A detailed application form must be completed to obtain a Land Treatment Facility permit. The application must provide information on the suitability of the site, the size and nature of the proposed Facility, operational procedures, and a conceptual abandonment plan. The Environmental Programs Branch reviews the plans before issuing a permit to ensure the facility will be built and operated properly to prevent the creation of a new contaminated site.

More information on the permitting, construction, and operational requirements for Land Treatment Facilities is available from the Environmental Programs Branch in a separate document, the Land Treatment Facility Guidelines.

Re-using the treated soil

Once soil has been treated in a Land Treatment Facility it is tested to ensure contaminant levels are low enough to allow the soil to be re-used. Sampling and testing must be carried out according to protocols developed by the Environmental Programs Branch. Acceptable contaminant levels depend on how the soil will be re-used: soils for use on parkland, agricultural, or residential land require lower contaminant levels than soils for use on commercial or industrial land. Remediated soil is often used as clean fill on sites where depressions or hollows are being filled in.

For more information on land treatment facilities and contaminated sites, please contact:

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