

2. High Positive Pressure - If the system pressure becomes positive due to a huge increase in the Btu value of the contaminate, blow-off covers in the Multi-tube dust collector, and the heat exchanger will activate to release the pressure and ensure the safety of the people working in the area of the plant.

Small positive pressure occurrences in the PTU, are contained by the PTU seals, unique to SPI plants, until the plant automated controls, or the operator, has adjusted ID fan to bring the plant back into a negative pressure operation.

3. Emergency Shutdown - The plant has an emergency shutdown button in clear view of the operator that, when activated, shuts down all components of the LTTD plant including the electrical power feed to each component.
4. Feed System Bypass Chute: The feed system conveyor that carries feed soil to the Primary Treatment Unit, has a bypass chute that is hydraulically controlled from the Control House. The diversion chute is used in situations where the feed material should be stopped immediately. Such an example would be a loss in burner control in the PTU.
5. PTU Tee Flights: The PTU drum uses flighting or lifters to veil the soil as it moves through the drum. The flights near the burner end of the drum are designed to separate the flame from the soils. This avoids creating additional contaminants that would be produced if cold material were allowed to contact the flame and cause partial quenching
6. Alarm Lights - The Envirosoil Limited LTTD system is equipped with an Alarm Lights section located on the Plant Motor Control console. This section is dedicated to identifying a component failure that interferes with the continued operations of the plant. These enunciators will light and blink to identify when a problem exists with a plant component. An audible alarm will also sound.

4.4.4 Environmental Safeguards

Environmental safeguards for Low Temperature Thermal Desorption will fall into 1 of 3 general categories: soil analysis, stack monitoring, and site monitoring.

Soil Analysis

The soil is tested for its contaminant constituents before and after treatment. The soil is pre-screened to determine the contaminants associated with the soil. The pre-screening is most often done by consultants, and is done on-site for the owner or at Envirosoil. Soil entering Envirosoil's facility with no advance chemical analyses, does so under an emergency agreement that gives Envirosoil the right to test the soil and reject it if it does not meet the entrance requirements. All soils entering the facility are individually identified and reported to the Nova Scotia Department of the Environment through submission of quarterly monitoring reports.



The soil is tested after treatment to confirm the success of the LTTD treatment. No soils are removed from the contaminated soil holding areas until this confirmation is received.

Stack Monitoring

Envirosoil's LTTD plant includes continuous stack monitoring as standard equipment. A digital readout is located in the operator's control house and provides a continuous readout of oxygen and combustible levels of the stack gases. The oxygen and combustible content of the stack gases is a direct indication of the LTTD plant's performance.

Site Monitoring

Additional environmental safeguards can be designed into the facility and these will be different at each site that the LTTD plant operates. Envirosoil's Rocky Lake facility is located within the boundaries of a 2500 acre quarry site. The soil treatment and storage area is isolated from the remaining quarry site by a clay liner that completely encompasses the site. A collection pond, with a 100 year storm design volume collects all surface runoff. A water treatment facility located on the clay lined site pumps and treats all pond water, before it is discharged off-site.

There are monitoring wells located around the perimeter of the Envirosoil site. The groundwater is sampled and tested by an independent professional consultant on a monthly basis. Water discharged from the site in surface ditches, as well as the down gradient ponds located outside the quarry, are also routinely tested. The data and results of the monitoring program are reported to the Nova Scotia Department of the Environment, by an independent professional consulting firm, on a quarterly basis.



