



Swan Hills Treatment Centre

Operated by:  EarthTech

Processes and Infrastructure

- Using Best Available Demonstrated Technology (BADT) the Swan Hills Treatment Centre has the capacity to treat a total of 40,000 metric tonnes of waste per year through one of three processes (Incineration, Physical/Chemical neutralization and Stabilization).
- The selection of the treatment process used is dependent on the level and type of contaminants in the waste compound. An array of processes is in place to support the three treatment technologies either by preparing the waste for treatment or by disposing of the treated residue.

INCINERATION

- Organic wastes in solid, liquid or sludge form are destroyed in the incinerator at temperatures up to 1,300° Celsius. The destruction process is completed in the secondary combustion chamber where the resulting flue gases are subjected to temperatures over 1,200° Celsius for a minimum of two seconds residence time. Flue gases are scrubbed of acid gases and particulates in a multi-stage process prior to discharge.
- Residual bottom ash and fly ash are stabilized and placed in secure on-site landfill cells. Atmospheric emissions are closely monitored to ensure they comply with applicable regulatory requirements prior to discharge.

PHYSICAL/CHEMICAL

- Inorganic liquids are chemically treated using neutralization, oxidation/reduction or precipitation. The resulting residue is then filtered to remove solids. The solid residue is then stabilized which is placed in the secure, on-site landfill cells. The treated liquid effluent is injected into a deep well 1,800 metres below ground into a stable geological formation.

STABILIZATION

- Inorganic solid wastes contaminated with trace metals and other toxic compounds are chemically and physically treated (stabilized) using waste specific recipes. The chemical treatment and stabilization ensures that the hazardous constituents will not leak into the environment and the resulting material is then placed in secure, on-site landfill cells.

LAND FILL CELLS

- The on-site Class One landfill cells are impermeable units built into a naturally occurring, low permeability clay formation. Each cell is lined with a heavy synthetic liner and only treated materials are placed in the cells. They are continuously monitored for leachate. When full, the cell is made impervious by sealing with a high density polyethylene cover. Once sealed, the cell is covered with clay, then topsoil is added and the cell is re-vegetated.

A BETTER TOMORROW made possible

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