

Two thermal routes for permanent solutions.

Direct fire thermal and indirect fire thermal. Feed characteristics, organic loading, site conditions and project objectives determine the route.

CHOOSING A ROUTE

The site determines the strategy. For thermal treatment, total organic loading is a primary design threshold: feed below 5% total organics is suited to direct treatment, while feed above 5% is routed to indirect treatment. Material characteristics, site conditions, accessibility, objectives, permitting and scale complete the selection.

The route changes. The standard does not. Every project closes against the regulator's criteria, sampled by a third party and documented in a closure package.

THE TWO THERMAL ROUTES

Direct Fire Thermal

EX SITU, ON SITE

Burner flame and combustion gases contact the feed inside the rotary drum, then an oxidizer treats the liberated organics.

Feed below 5% total organics, including petroleum hydrocarbons F1 to F4, BTEX, crude, drilling waste, tank bottoms and slop oil. PCBs, legacy dioxin residues, furans and chlorinated materials may also be treated directly when loading and project conditions support it.

15 to 70 t/hr across the mobile fleet

Indirect Fire Thermal

EX SITU, ON SITE

The flame remains outside the drum within an insulated box. Hot-fan and condensing configurations provide a smaller, concentrated off-gas stream; condensing can recover hydrocarbons for reuse or sale, while non-condensable gases continue to the oxidizer.

Feed above 5% total organics, including mill scale, biosolids and other high-organic materials. PCBs, legacy dioxin residues, furans and chlorinated materials may use either thermal route depending on loading, feed characteristics and project conditions.

Configured to the contaminant and the permit

ROUTE SELECTION AT A GLANCE

Feed below 5% total organics **Direct fire thermal**	Feed above 5% total organics **Indirect fire thermal**
PCBs, legacy dioxin residues, furans or chlorinated materials **Direct or indirect, based on loading and project conditions**	Remote or access-restricted site **Compact mobile thermal**

Route selection is confirmed by site characterization and pilot work.