

**SCOPE**

Substrates: sand  
Pollution: heavy to very heavy  
Pollutant: fluid to slightly viscous  
Sea: with or without tides



**EQUIPMENT NEEDED**

Basic equipment:

- Pump
- Vacuum tanker
- Storage facilities

Extra equipment:

- Power shovel (digging trenches, forming bunds)
- Plastic sheeting, geotextile (protection)
- Machine with front rubber scraper blade
- Manual scraper (as used in pig sties)

**DESCRIPTION/PRINCIPLE**

Consists of pumping accumulations of oil concentrated at collection points:

- (case 1) on the mid-foreshore, in a shore-sealing boom or a bund (a small embankment) on a slope, or in shallow pits if the foreshore is subhorizontal.
- (case 2) on the upper foreshore, in a trench with a bund.

In the first case, the fluid oil is scraped, mechanically or manually, towards trenches around 0.5 m deep.

In the second case, a trench is dug at low tide along the high tide mark of the day, the sand is removed to form a protective bund on the land side of the trench and the trench is covered with a tarpaulin.

**CONDITIONS OF USE**

Pollution: pumpable oil with low to moderate viscosity – heavy pollution

Substrate: tamped, fine-grain sand, good load-bearing capacity, sufficient thickness of sediment (for trenches/bunds).

Site: accessible to public works machinery; very wide foreshore (case 1); small relatively sheltered beach (case 2).

**IMPACT ON THE ENVIRONMENT**

Physical: digging trenches: risk of temporary formation of quicksand after filling by the following tides.

Biological: toxic effects in the long term if the pollutant persists in the trenches after filling; otherwise temporary disturbance; recolonisation in the long run.

**PERFORMANCE**

Yield: variable according to the pumping means used.

Minimum workforce required: 2 to 3 workers per pumping unit; more if scraping is manual.

Waste: pollutant mixed with varying quantities of sand.

**OBSERVATIONS**

- Case 1 should only be considered in the case of a major spill of a fluid pollutant and exclusively on a foreshore where a large area is uncovered by the tides.
- Case 2 = difficult to implement; accurately assess the day's high tide level and the sea state; protect bunds or trenches using a tarpaulin in order to prevent the bund from collapsing and to restrict the mixing of sand and oil in the trench.
- Clean out the trenches and remove the tarpaulins before leaving the worksite.
- Pumping using vacuum trucks is the most appropriate method: use vacuum trucks which can be opened to remove the sand.
- Assess the possibility of injecting a demulsifier during pumping.