

Studsvik

Freeze-Tec Dredging



Freeze-Tec

Freeze-Tec dredging is a safe, clean process for the removal of contaminated material. Contaminated sediments are stabilized, in position, and are safely removed in a frozen state. The material can then be examined, treated, and disposed of after thawing.

Freeze-Tec Dredging Benefits



Reduced Costs

- Portable and flexible solution, can be tailored to any size and shape required
- Ability to dredge in thin layers and precise freeze depths
- Allows targeted removal of contaminated materials
- Significantly reduced volumes removed for treatment and storage
- Can utilize passive dewatering through freeze-thaw drying effect, allowing for superior reduction of water content
- Can dewater sediment under water



Reduced Environmental Impact

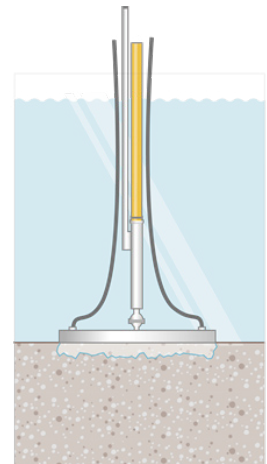
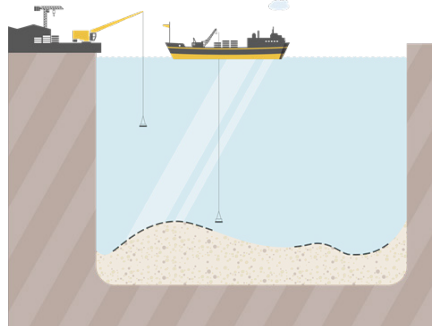
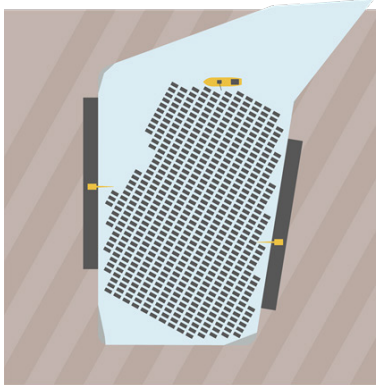
- Very low contamination risk
- Prevents the redistribution of contaminated material during the lifting process
- Due to the contaminated sediment being frozen on removal, the extraction minimises turbidity
- Greatly reduces the impact on the surrounding area and ecosystem



Enhance Process Safety

- Offers a safe method for removing radioactive and combustible, unstable materials
- Ability to safely and easily transport material in stable state
- Limits direct human contact with contaminated materials

Portable and flexible, can be tailored to any size and shape required.



The standard Freeze-Tec dredging plates, to be used for firmer sediment or sludge with a dry substance percentage of 25% and up, are 2 x 5 meters in size. They are operated with 4 to 10 plates per section, and up to 6 sections per freezing unit. There are no limitations to how big of an area the freeze dredging plates can cover and it is common for one freezing unit to cover a surface area of 400 to 600m². The freeze depth is decided with a time card and the maximum freeze depth with the standard plate is approximately 80cm. The system is portable and flexible, it can be tailored to any size and shape required.



During the salvage operation of a crashed DC-3 air craft that was resting on the ocean floor, the freeze dredging plates were operated as deep as 125m to facilitate the recovery of the air craft.

Move material and objects under water, encapsulating contamination



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