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Remediation Stugsundsudden Söderhamn

DEME: creating land for the future

Member of the DEME Group

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Investigation of contamination

- Working method: according to Swedish EPA report 4807
- Selective unit volumes:
  - Rutnät: 10 m × 10 m × 0.5 m
  - Sampling done by WSP

- Chemical classification:
  - XRF monitoring: heavy metals
  - Lab analysis: heavy metals and poly aromatic hydrocarbons

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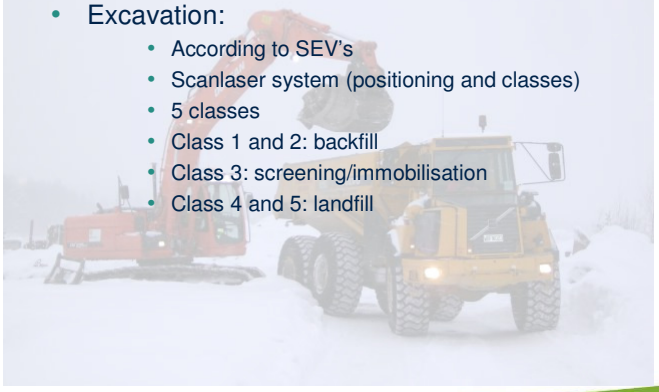
Excavation works

- Excavation:
  - According to SEV's
  - Scanlaser system (positioning and classes)
  - 5 classes
  - Class 1 and 2: backfill
  - Class 3: screening/immobilisation
  - Class 4 and 5: landfill



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Treatment of materials

- Class 1 material
  - Backfill material (no restrictions)
- Class 2 material
  - Backfill (< 1m of the surface)
- Class 3 material
  - Screening of material
  - < 50 mm: immobilisation
  - > 50 mm: backfill material
- Class 4 and 5 material
  - Landfill for disposal

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Treatment of class 3 material

- Step 1: screening
  - quality of the fraction > 50 mm: amount of fines (< 2 mm) < 5%

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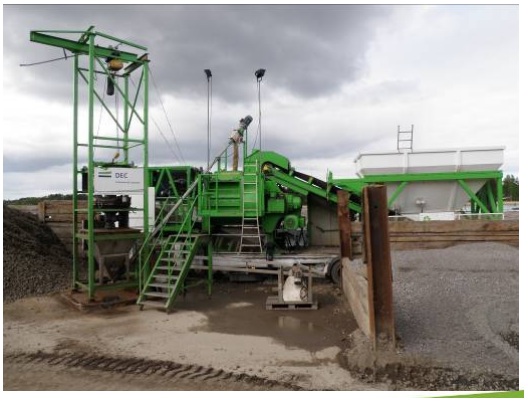
Treatment of class 3 material

- Step 2: immobilisation
  - FeDEC, quality check: leaching tests



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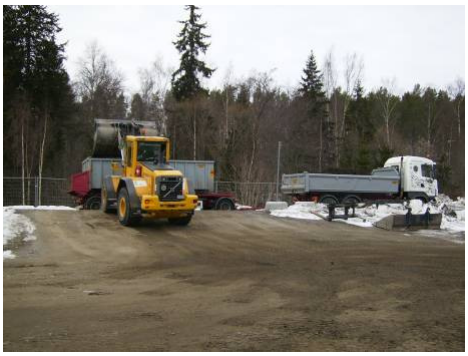
Treatment of class 4 and 5 material



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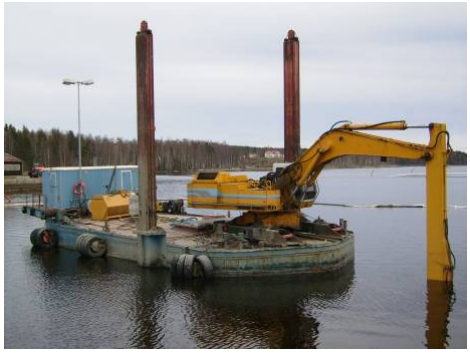
Dredging works

- Long reach and backhoe dredger



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Dredging works

- Sonar scan was performed of the areas to dredge;
- Depth of dredging (Scanlaser);
- Quality of the dredged sediment (chemical analysis);
- Sampling of the sediment bottom
  → 3 surface samples (0.00 – 0.03 m / 100 m)

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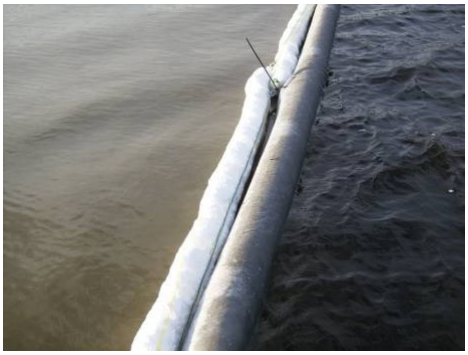
Dredging works

- Turbidity monitoring



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Water treatment installation

- Groundwater and enclosed water;
- Run off water from the treatment platform;
- Water from the dewatering area

→ Quality check: arsenic and PAH concentrations