Ton Container Sampling Program

TOCDF

The Mustard Characterization Project - conducted in 2003

Purpose:

- To collect a representative number of mustard agent ton containers (TCs) as agreed upon by the State of Utah Division of Sold and Hazardous Waste
- Samples were analyzed for agent purity, agent breakdown products and Human Health Risk Assessment

Results:

- Mustard agent concentrations in the liquid fraction remain high
- Mercury is present
- Identified a relationship between mercury in liquid and mercury in solids

Sample Validation Project - conducted in 2004

Purpose:

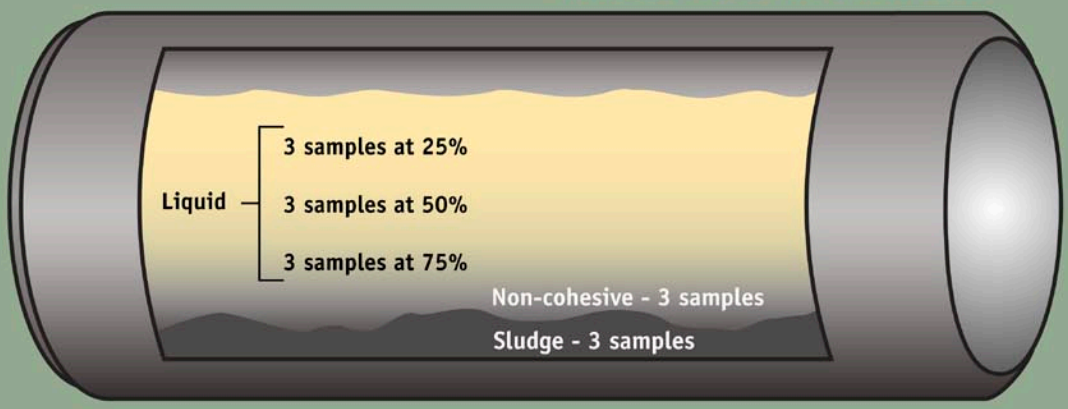
- Validate that a 1 ml sample was representative of the TC contents
  - Fifteen samples were taken from each TC
    - Nine from the liquid layer
    - Three from the non-cohesive* layer
    - Three from the sludge layer

**After completion of the validation project it was discovered that this is not a layer that exists within a TC*

Results:

- A 1 ml liquid sample is representative of the entire liquid contents within a TC
  - If the mercury in the liquid was ≤1 ppm, the mercury in the solids was <24 ppm
  - Two layers existed within a TC – liquid and sludge

SAMPLING OF 13 TON CONTAINERS



Non-intrusive Sampling

- Heel depths within the TC stockpile varied
- Revealed an irregular heel shape

Ton Container X-ray

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