

Leakage of gasoil - three-dimensional geostatistical study of the extent of pollution, contribution of simulations as part of estimating mass balance

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On an oil storage site, a gasoil leak occurred at a supply pipe located above a retention pond.

This leak has impacted soils at the holding tanks prior to percolate deep

A 3D geostatistical study was conducted and has achieved the following objectives:

- Evaluate the depth migration of contamination (Figure 1),
- Estimate the extent of pollution (Figure 2),
- Estimate volume of diesel in the soil by conditional simulations (Figure 3).

Drillings, tanks, retention pond and impact are presented in Figure 2 (impact is shown as blue isosurface, drillings as yellow tubes, tanks and retention pond as violet polygons).

Following this study a decontamination strategy has been realized.

(Examples of applications of conditional simulations to other problems concerning contaminated land will also be presented depending on remaining time)

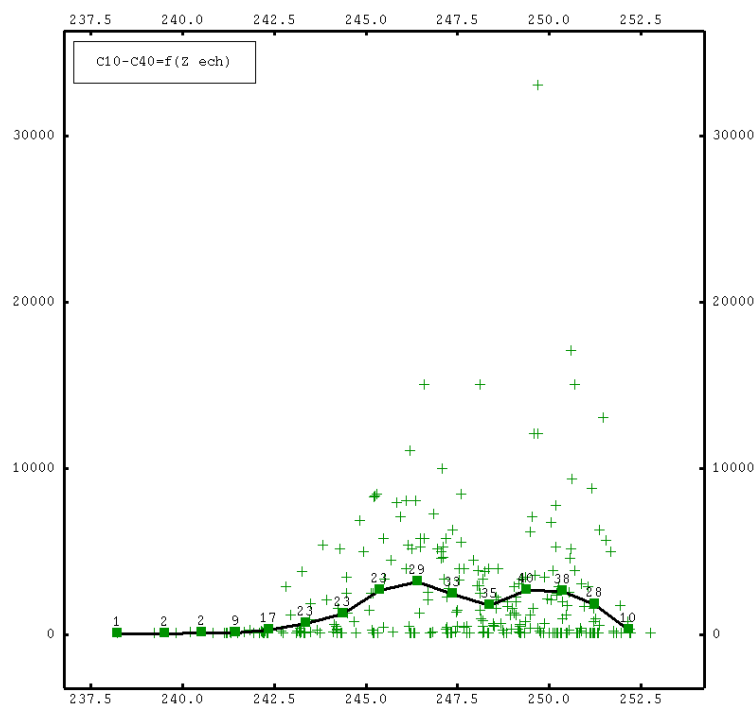


Figure 1. THC mean concentration according to the depth

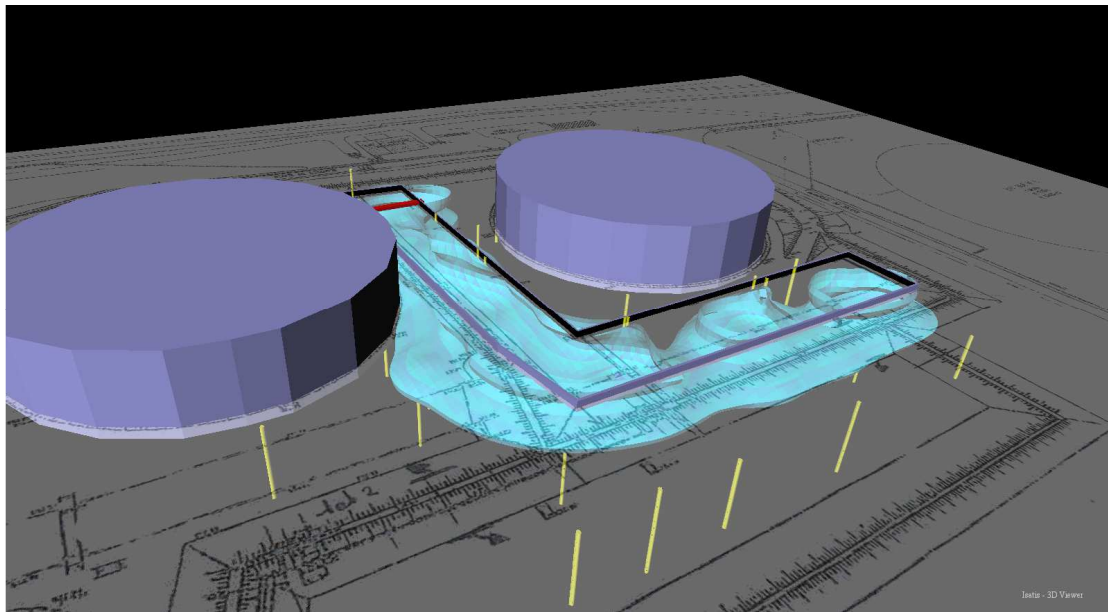


Figure 2. 3D modelled impact of THC

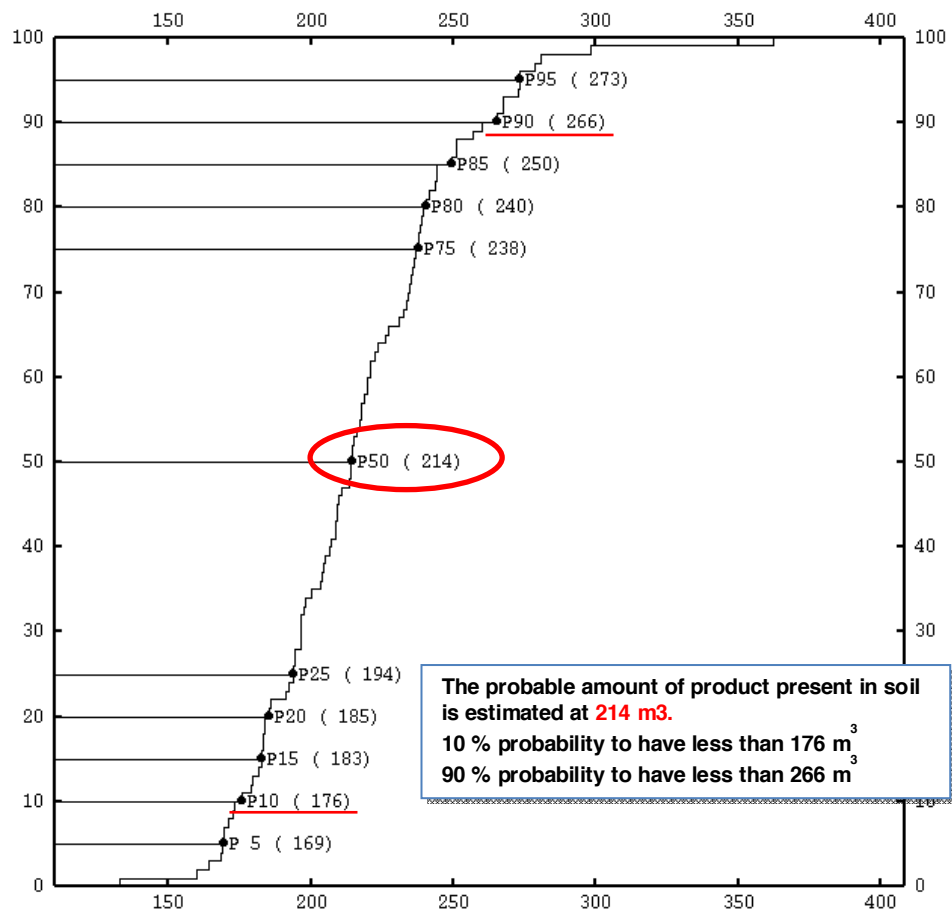


Figure 3. Chart of estimated volumes of pollutant