

INTEGRATED IMPLEMENTATION OF THE ENVIRONMENTAL DATABASE PLATFORM EQUIS AND THE GEOSTATISTICAL SOFTWARE KARTOTRAK TO PERFORM POLLUTION CHARACTERIZATION AND TO DESIGN THE REMEDICATION OF INDUSTRIAL SITES

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ABSTRACT

Objectives: Building a workflow to gather and handle all available information over a contaminated site, from data acquisition to the optimization of impacted zones to be characterized and remediated.

Simultaneously combining a validated management tool and geostatistical visualization system in a secure workflow providing decision-makers with reliable remedial solutions for industrial sites.

Added-value of this combination comes from the harmonization and validation of all available data along the project lifetime. Lithological and piezometric data, organoleptic and visual information, on-site and laboratory measurements from soil, water and soil gas are compiled and integrated in the environmental data management platform EQUIS that has been adapted and personalized to suit Ramboll needs.

Transferring data to mapping, modelling and visualization tools is also simplified. Kartotrak has been chosen to perform statistical and geostatistical analyses and 3D visualization. It brings concrete results delineating zones to be remediated, better understanding of contamination transfers and estimating impacted volumes together with associated uncertainties.

This methodology guarantees the reliability and quality of data together with an optimization and an increased reliability of characterization and remediation costs. Contamination placed into the environmental context also strengthens the overall understanding of customer challenges and communication with partners and authorities becomes easier.

Methodology of this workflow and real case studies will be presented and discussed.

Key Words: Environmental Database; acquisition, validation and quality control of environmental data; integrated workflow; GIS; 3D visualization; Exploratory Spatial data analysis and geostatistics; pollution delineation; Kartotrak; EQUIS.