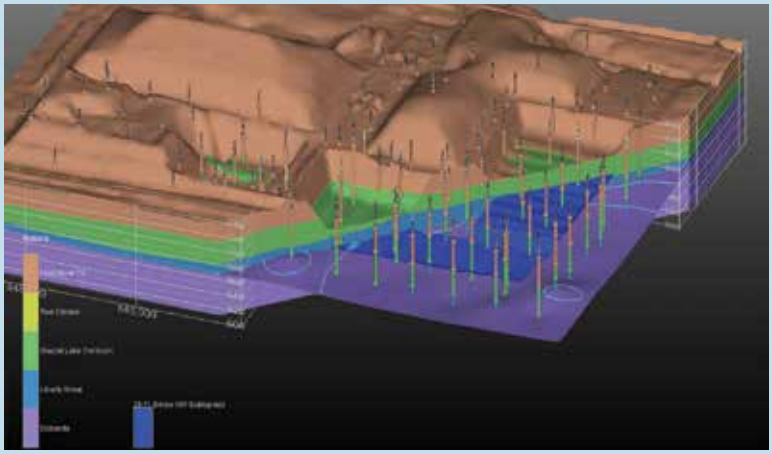
Conceptual Site Model Services

The Conceptual Site Model (CSM) is a data collection and decision tool which is often used for Coal Combustion Residual (CCR) facilities to define and scope environmental issues and guide design decisions. The CSM is one of the first steps identified in uniform federal policy developed by the USEPA, USDOD, and USDOE. It conceptualizes the relationship between contaminant sources and receptors through consideration of potential or actual migration and exposure pathways.

Foth develops CSMs to integrate the native site physical characteristics with pollutant characteristics and evaluate the probability and impact of potential outcomes. Foth will often refine the CSM as we collect and evaluate targeted high-value data to meet project milestones. Once finalized, Foth will use the CSMs to identify or evaluate:

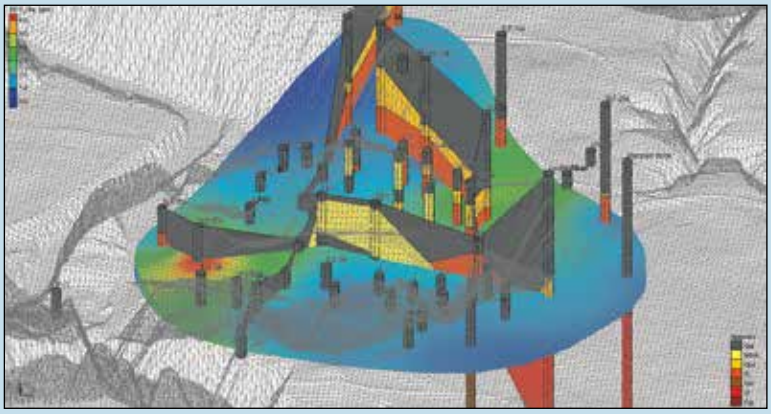
- Regional geologic mapping and depositional environments of native geologic deposits.
- Site geologic deposits and CCR deposits, vertical thickness and aerial extent, and direct sensing down-hole field survey.
- Discretization of CCR deposits into process effluents (fly ash, bottom ash, etc.) based on geotechnical and geophysical properties.
- Occurrence of groundwater and CCR pore-water, potentiometric, phreatic, and perched systems.
- Movement of groundwater and CCR pore-water seepage, hydraulic testing, instrumentation, hydraulic conductivity, gradients, and contour maps.
- Quality of groundwater and CCR pore-water, native geochemistry, nature magnitude and extent of potential chemical impacts.
- Surface water-groundwater interaction, losing stream and groundwater recharge, gaining stream and groundwater discharge, seasonality, and river flood stage analysis.
- Study area delineation, model domain discretization and boundary conditions, numerical hydraulic modeling, fate & transport predictive modeling, calibrations, and simulations.

Foth developed a CSM from direct sensing field investigations to identify the magnitude and extent of LNPAL contamination.



CSM for historic site decommissioning of tank holder supporting additional remedial investigation

Foth developed a CSM from existing site information to evaluate the mobility and stability characteristics of a legacy groundwater contaminant plume.



CSM for municipal solid waste water facility supporting corrective action evaluations

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