

NOTE: Download this PDF to your computer to enable 3D manipulation for Figure 2!



Interactive Data Visualization Tools Accelerate Site Understanding

Today's site investigations generate complex environmental data that must be explained to stakeholders and decision makers with varying levels of technical knowledge. High Resolution Site Characterization (HRSC) is a proven method of reducing project life cycle costs by generating accurate Conceptual Site Models (CSMs), enabling targeted and more cost-effective remedies. With HRSC, dynamic work strategies and real-time measurement tools generate large data sets to support detailed and accurate CSMs. Advanced data processing and imaging are necessary to allow investigators and decision makers to interpret and understand these dense 3D data sets. Integrating geological, chemical, and hydrological data sets, Stone's data visualization geoscientists produce interactive 3D models, as well as static 3D and 2D images, that help save time and money through a more comprehensive, accurate understanding of the site.

3D Images Aid Understanding of Data

Stone uses high-level data analysis and visualization tools to create sophisticated 3D models that show our clients a detailed picture to help them interpret the large amounts of data resulting from HRSC. Easily produced, these 3D visuals are considered a key part of conceptual model building, reporting, and stakeholder communications. Standard techniques for including them in reports and presentations, however, produce static 2D images that are limited to a fixed, preselected site view (Figure 1).

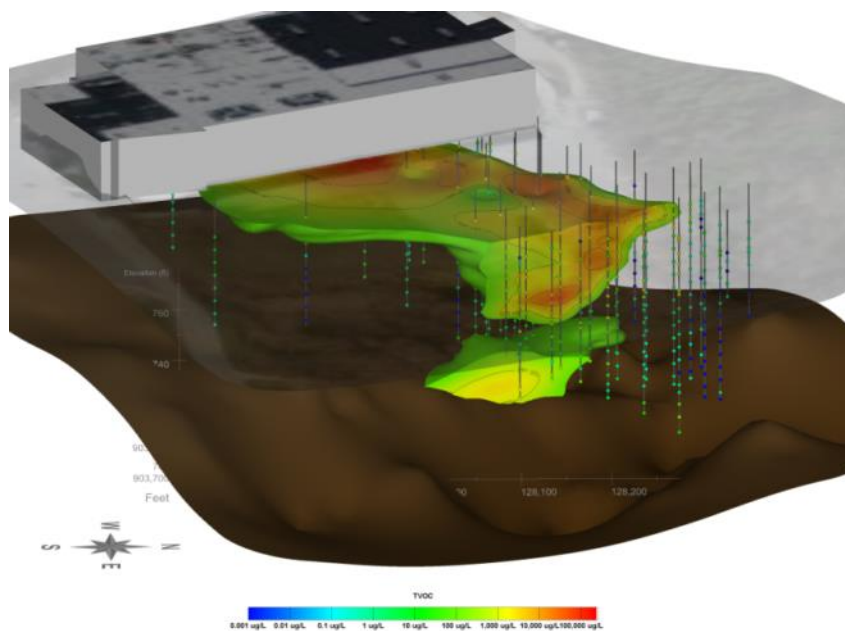


Figure 1: Static Image of Plume Characterization of a Chlorinated Solvent Site in New Hampshire.

Interactive 3D Visuals Increase Site Insights

Stone now also offers dynamic 3D visuals that allow users to see selected parts of a site from multiple angles or view several different preset scenes. They enhance our clients' capability to analyze HRSC data, allowing them to reach accurately informed decisions more rapidly than before. Using C Tech Development Corporation's converter software, Stone's data management team creates interactive 3D figures from site data and publishes them in pdf format. Free Adobe Reader software can be used to view the figures, making them extremely accessible for reports, public presentations, or web sites. Viewers can zoom in or out of the figure and rotate it in any direction to view the site from any angle (Figure 2), resulting in a significantly improved understanding of the site data more quickly when compared with viewing a static 2D image.

Interactive 3D pdfs can be distributed to clients, regulators, or other stakeholders by e-mail or digital link. Users don't have to install additional software, and the interactive images can be included in reports like any other figure.

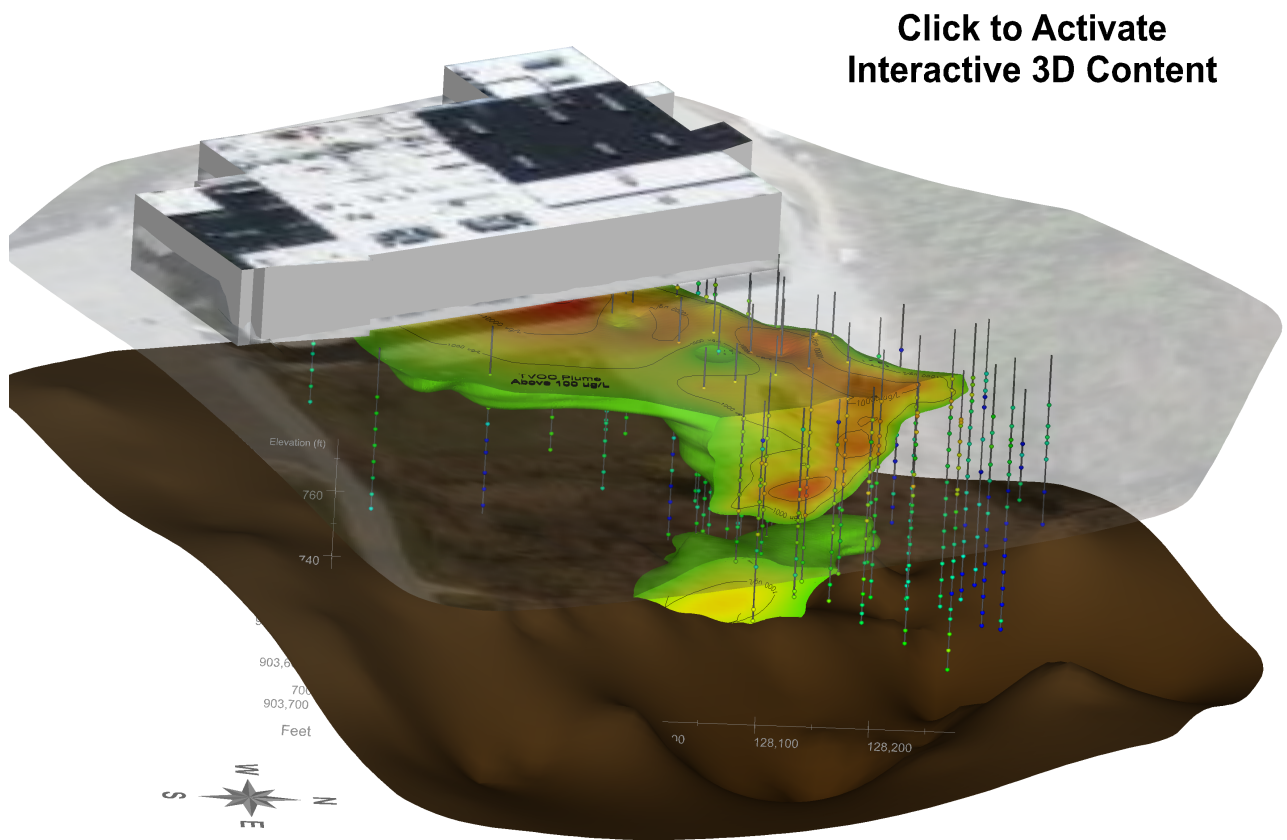


Figure 2: Interactive 3D Image of Plume Characterization of a Chlorinated Solvent Site in New Hampshire

3D Video Site Tours

The same software can also be used to create 3D animations—with or without soundtracks—providing viewers with a pre-planned tour through the 3D model. This method highlights key points about a site to drive remedial decisions.

Animation files can be disseminated by web site links, then downloaded to a viewer's computer and played back on a number of readily available players. Click [here](#) to view a 3D animation of the Pine Street Site in Burlington, Vermont.

Your Environmental Data Brought to Life

At Stone, we are always working to advance our clients' ability to meet environmental challenges. We can help you visualize site investigation data in a format that best answers your questions and saves you time and money. The table below summarizes our capabilities and the levels of investment required.

Comparison of EVS Product Deliverables

Service	Capabilities	Limitations	Time Investment
Static 2D Image or cross-section of 3D model	Can be shared anywhere and printed in reports	No ability to zoom/rotate	Low
3D pdf	Rotate/zoom a single or multiple preset states, open just like any adobe pdf, can be included in reports just like 2D images	Becomes 2D when printed (unless a 3D printer is available)	Low to medium
3D animation	View a pre-planned tour through the 3D model	No user control	High



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