https://www.questconsult.com/software/cfd/

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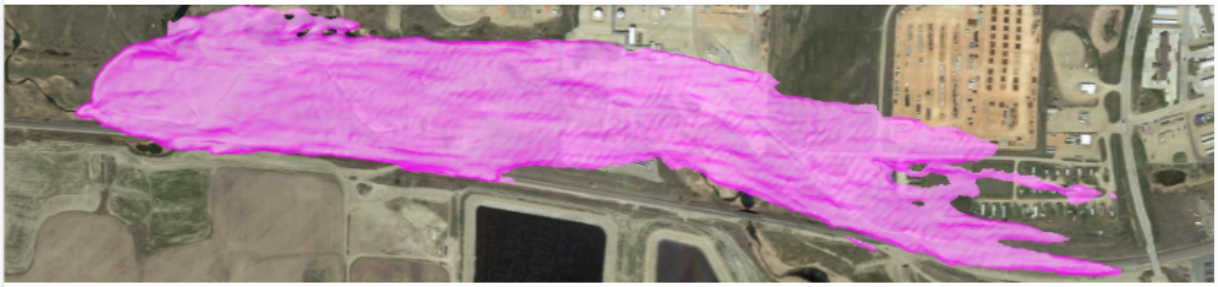


CFD

Computational Fluid Dynamics

In some situations, the simplifying assumptions made with practical modeling solutions do not apply. In these cases, detailed analysis is needed. The techniques of Computational Fluid Dynamics (CFD) are required to find solutions to complex problems where other, simpler models are not appropriate. For these situations we turn to CFD.

For studies requiring CFD, Quest uses the open source software package Fire Dynamics Simulator (FDS), developed by the National Institute of Standards and Technology (NIST). FDS is a CFD model which numerically solves a form of the Navier-Stokes equations appropriate for low-speed, thermally-driven flow with an emphasis on smoke and heat transport from fires. Quest has used FDS to model various fires, as well as vapor dispersion.

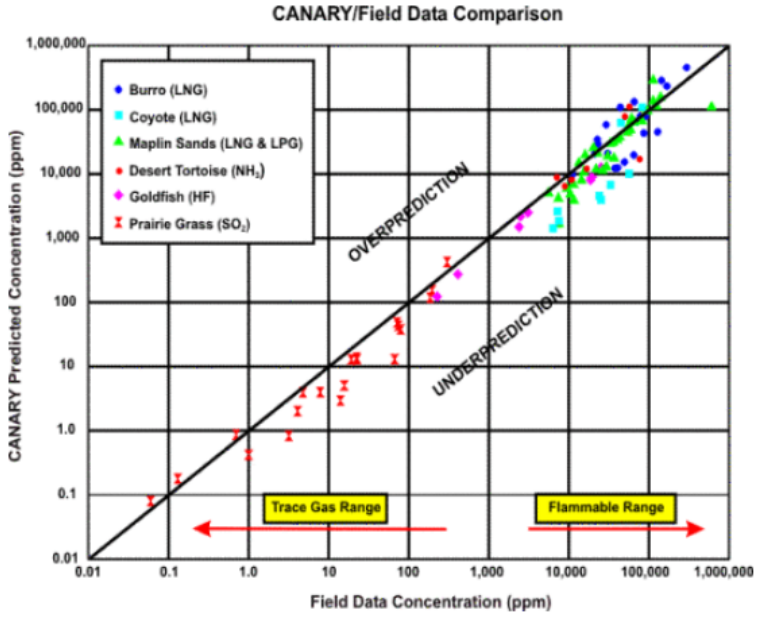
Review our experience in CFD

Video: CFD Simulation with FDS

EXHIBIT

LO195

exhibitsticker.com

Validation

Many of the release rate, source term, dispersion, and fire radiation hazard models within CANARY have been independently reviewed. The figure below presents a summary plot of CANARY dispersion model results versus measured field data. The field data sets are taken from a wide range of experiments for refrigerated liquid releases, two-phase aerosol releases, and passive gas releases. As the comparison shows, CANARY provides good agreement with the field data over a wide range of gas concentrations (flammable to trace).