Dispersion modeling and radiant heat analysis assists in the determination of exclusion zones around the well site. The modeling and analysis are critical parts of well control planning for both surface intervention and relief well planning and execution.

Computational modeling of gas dispersion and radiant heat identifies the hazards present on site in the event of a well control event and greatly reduces exposure to risk. Establishing site control boundaries delineates safe placement of emergency response personnel, command posts, well control equipment, and identifies which communities need to be evacuated from the areas affected by radiant heat and toxic or explosive gas plumes.

During relief well operations, it is essential to perform an analysis to determine an acceptable relief well location outside of pre-determined exclusion zones and upwind of the gas plume. This greatly reduces risk to personnel and equipment.

Boots & Coots in-house engineering expertise utilizes CANARY™, software consultants by Quest, a comprehensive and flexible package that enables modeling of almost any scenario, or multiple scenarios, in which flammable or toxic fluid or gas is released. In addition, we utilize Phast™ Consequence Software, by DNV-GL, which is a world leading analysis tool that is also used to model a wide range of scenarios including dispersion and flammability effects.

**CANARY Software Features & Benefits**
- Uses – radiant heat modeling, gas dispersion modeling
- Flexible – accepts a wide range of user inputs
- Quickly models multiple scenarios
- Defensible – CANARY software modeling results are used by multiple governmental agencies and the software has been independently verified multiple times
- Expertise – Boots & Coots engineers are skilled industry power users

**Phast Consequence Software Features & Benefits**
- Uses – radiant heat modeling, gas dispersion modeling
- Results – explanatory graphical outputs and reports
- Expertise – Boots & Coots engineers are skilled industry power users

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For more information, contact your Boots & Coots representative or email us at boots-coots@halliburton.com.

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