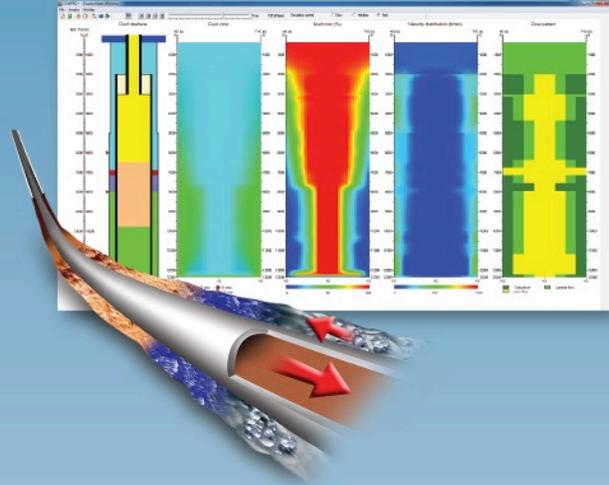# CEMPRO$^+$
Mud Displacement

The ultimate and difficult goal of cementing operations is to provide zonal isolation by displacing drilling mud with cement slurries. Incomplete mud removal causes a poor cement seal and non-productive time (NPT). To ensure critical zonal isolation with the mud removal optimization, Pegasus Vertex, Inc. (PVI) has developed CEMPRO$^+$, the ultimate enhanced version of PVI's mud displacement model, CEMPRO®. The key enhancement of CEMPRO$^+$ is the capability of displacement efficiency modeling.

Designed for land, offshore, conventional and/or foamed operations, CEMPRO$^+$ uses advanced numerical methods to solve momentum and continuity equations on 3D grids and calculates the fluid concentration as well as displacement efficiency. It accounts for many factors that can affect the efficiency of displacement jobs, including fluid properties, pumping rates, casing standoff and complex wellbore geometry.
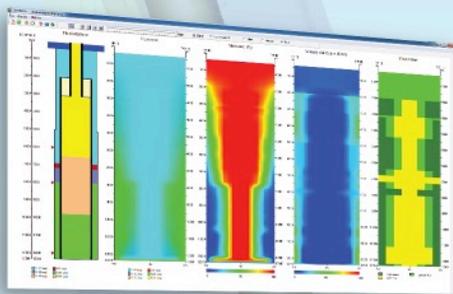
Along with PVI's centralizer placement software CentraDesign, the new CEMPRO$^+$ is the most advanced yet easy-to-use software for cementing operations.
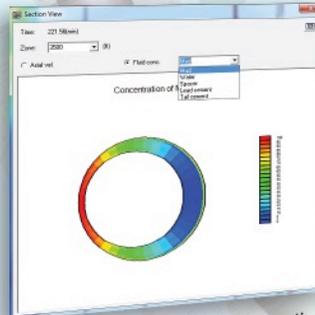
Video

CEMPRO⁺ – Mud Displacement
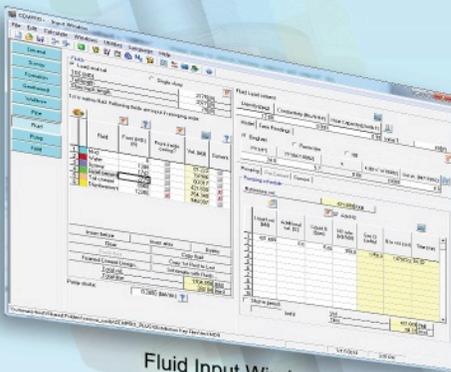
Fluid Input Window
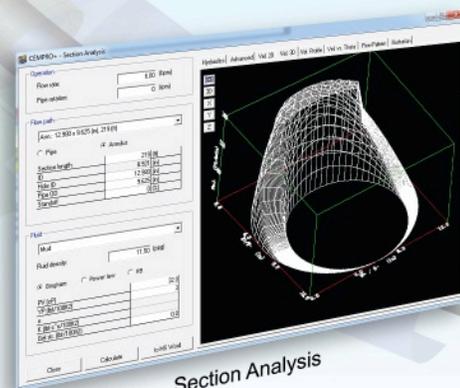

Displacement Simulation

Section View of Fluid Concentration

Section Analysis

Features

- Displacement efficiency
- 2D map of fluid concentration
- Survey import from text or PDF® file
- U-tube simulation
- Offshore – fluid returns to sea floor
- Forward or reverse circulation
- ECD and pressure
- P/T dependent density and rheology
- 12 fluids, each with up to 40 stages
- Circulating temperature
- Foamed cementing
- Displacement animation
- Hook load
- Job evaluation
- Gas flow potential
- Circulation sub
- Eccentric annuli
- Displacement fluid compressibility
- Multi-language: English, Spanish, Chinese and Russian

System Requirements

- Microsoft Windows® 8/8.1
- Microsoft Windows® 7
- Microsoft Windows® Vista
- Microsoft Windows® XP
- Microsoft Office® 2003 or later
- Pentium or AMD processor, 1 GHz or faster
- 2 GB RAM (4 GB recommended)
- 100 MB of free disk space for installation
- 1,024 x 768 display resolution with true color
- Install from download link or CD