Pegasus Vertex, Inc.

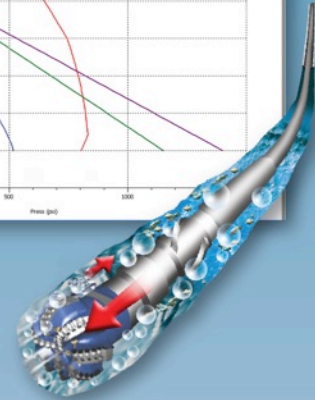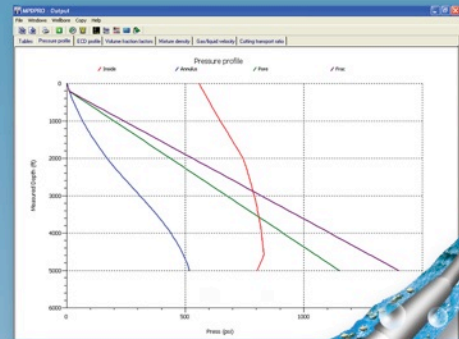## Drilling Software | Sophisticated Yet Simple
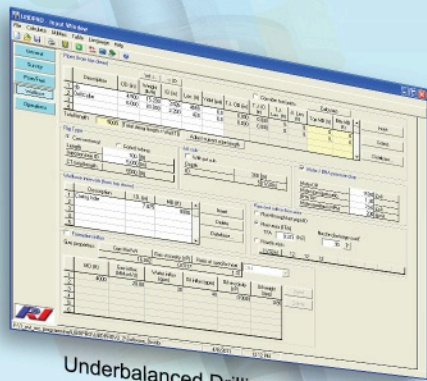
UBDPRO
Underbalanced Drilling Hydraulics

Managed Pressure Drilling (MPD), including Underbalanced Drilling (UBD) technology, precisely controls the annular fluid pressure profile within a wellbore, which allows drilling of what might otherwise be economically unattainable prospects. Managed pressure drilling is often performed with the primary motivation of reducing formation damage. Therefore, increasing production and aerated fluid is commonly employed in the drilling process. In hard rock applications, managed pressure drilling is often performed with the primary motivation of increasing ROP (rate of penetration). Here air/mist drilling fluids are commonly employed.
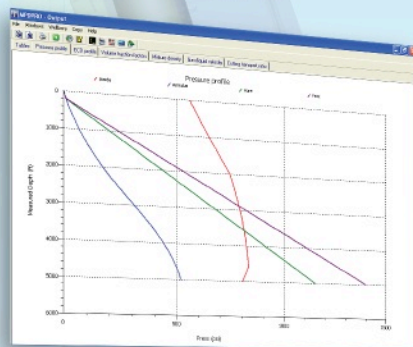
UBDPRO models the complex hydraulics for compressible fluids including air, mist, foam and 2-phase fluids. The advanced software model can be used to optimize gas and liquid injection rates in order to control bottomhole pressure.
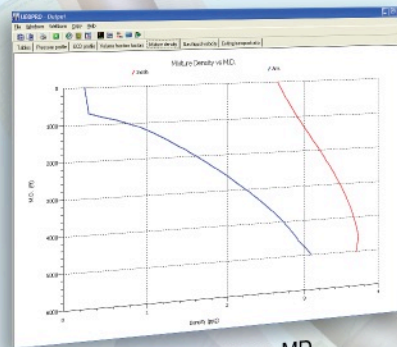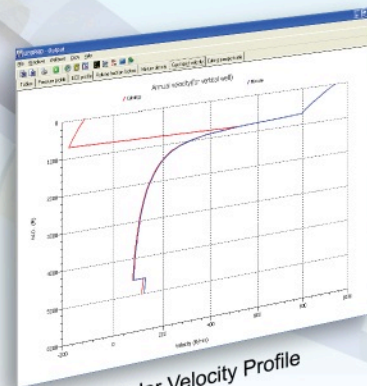
Underbalanced Drilling Hydraulics

Pressure Profile

Features

- Compressible fluid hydraulics
- Up to 1,000 survey stations
- Pore and fracture profiles
- Temperature gradients
- Jet sub
- Motor pressure drop
- Formation influxes
- Foam model: Bingham plastic/Power law/ Chevron's model/Reidenbach and Harris model
- Aerated mud: Beggs-Brill method
- Cutting transport profile
- Optimized flow rate design
- RPM effect
- Microsoft Word® report
- US oil field, SI and customized units
- Multi-language: English, Spanish, Chinese, Russian and Portuguese

Mixture Density vs. MD

System Requirements

- Microsoft Windows® 10
- Microsoft Windows® 8/8.1
- Microsoft Windows® 7
- Microsoft Office® 2010 or later
- Pentium or AMD processor, 1 GHz or faster
- 2 GB RAM (4 GB recommended)
- 200 MB of free disk space for installation
- 1,280 x 768 display resolution with true color
- Install from download link or CD

Annular Velocity Profile