

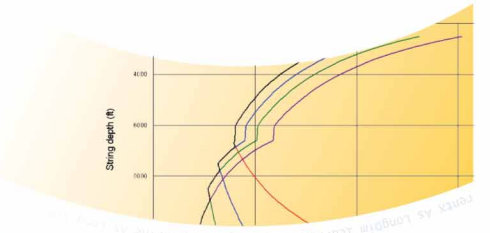
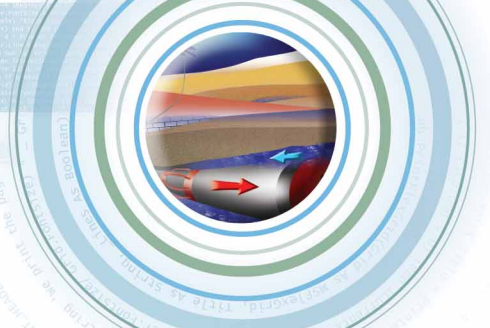
# SurgeMOD

## Surge and swab hydraulics

Moving a pipe in the hole is accompanied by a displacement of the mud, leading to pressure variations. The accurate prediction of surge / swab pressure is of great importance in wells where the pressure must be maintained within narrow limits to ensure trouble-free drilling and completion operation.

SurgeMOD is developed to design and analyze the complex downhole hydraulics when running casing or making a trip.

- Pipe end: closed / open / auto-fill / bit / circulation sub
- Optimal trip speed design
- Surge pressure for given pipe speed
- Sensitivity study on tripping speed
- Multiple weak zones
- Pressure drop cross float shoe
- Bingham plastic or power law fluids
- Model selection based on viscometer readings
- Allowable flow rate after the casing is set
- Tripping animation
- MS Word report
- Supports oil field, SI and customized units



| Pressure | Q  | V   | W    | ... |
|----------|----|-----|------|-----|
| 100      | 10 | 100 | 1000 | ... |
| 200      | 20 | 200 | 2000 | ... |
| 300      | 30 | 300 | 3000 | ... |

