

Cerberus™ for Wireline



CTES presents a unique modeling program to predict the behavior and capabilities of wireline and slickline cables in vertical and deviated wells. Where conventional stretch charts and 'rules of thumb' generally apply only to vertical wells, *Cerberus for Wireline* uses sophisticated and proven modeling algorithms to analyze the effect of deviated well profiles and numerous parameters on the cable performance.

*Answer these critical questions
and extend your use of wireline
in deviated wells:*

- ❖ *Will the tools reach TD?*
- ❖ *What weight is needed to overcome wellhead pressure?*
- ❖ *How fast can you safely run in hole?*
- ❖ *What is your maximum allowable pull?*
- ❖ *Which weak point should be used?*
- ❖ *What should the surface weight vs. depth be?*
- ❖ *What is the tool depth correcting for stretch?*
- ❖ *Where is the stuck point in a highly deviated well?*
- ❖ *What is the fluid lift force on the tools?*
- ❖ *How much force will a tractor have to pull to get to bottom?*
- ❖ *Can the tool be pumped to bottom?*

Cerberus for Wireline is closely related to CTES' Cerberus software, the industry-leading modeling program for coiled tubing.

What should my tension device read at a given depth?

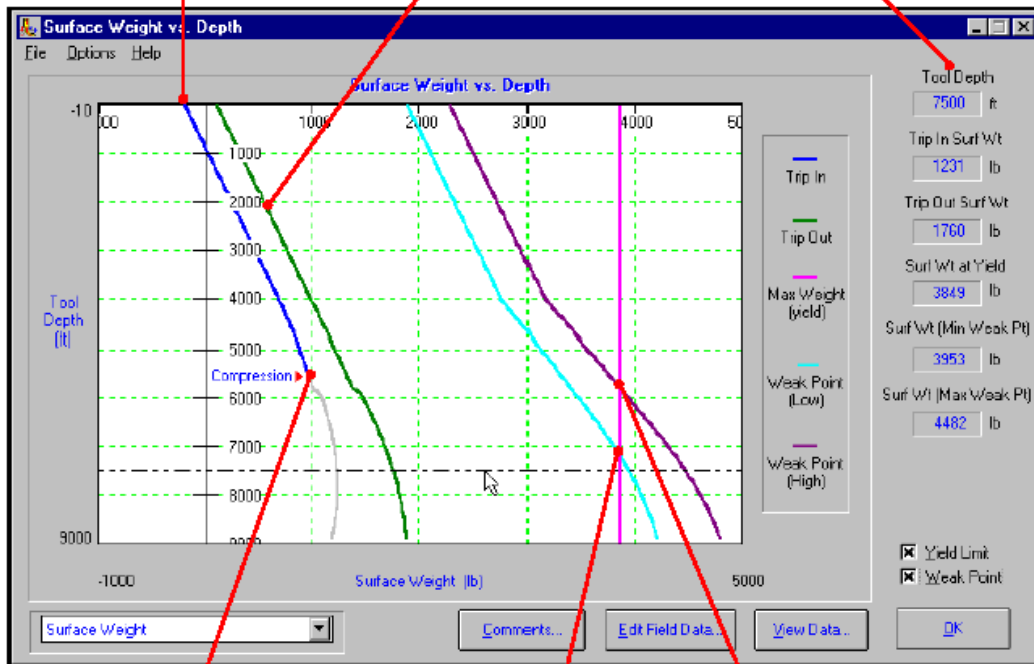
Compare the predictions from *Cerberus for Wireline* with well site readings to anticipate problems before they lead to costly failures. Know how much tension increase to expect as you start to pull up.

Is there enough weight on the tool to get down?

If the predicted measured weight at surface is negative, you don't have enough tool weight to get downhole. *Cerberus for Wireline* will tell you how much weight you need.

Dynamic data display.

Digital displays change to reflect the position of the cursor on the graph. All graphs are zoomable and printable.



Can I reach TD in this deviated well?

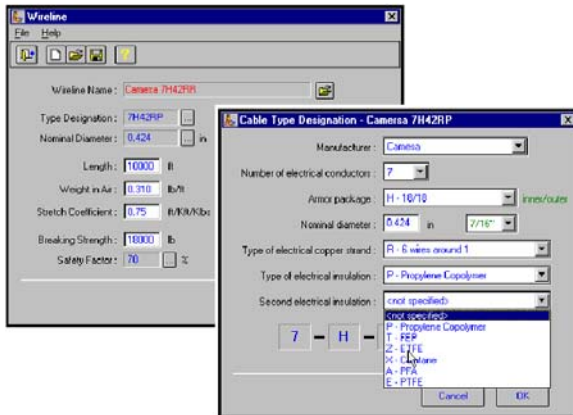
The first question - will the combined effects of tool weight, tool stiffness, contact friction in casing and open hole, buoyancy, lift due to flow, wellhead pressure, stuffing box friction, and the influence of centralizers and rollers, allow the tool to reach the required depth in a deviated well?

Could the cable break before the weak point?

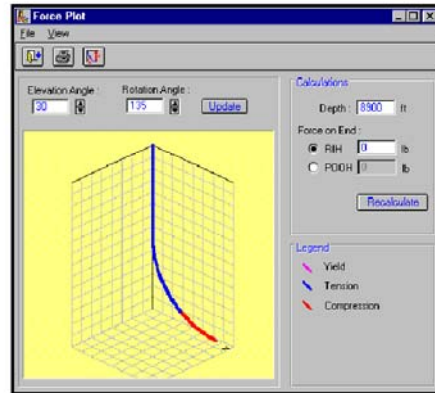
If the weak point rating is too high, you might exceed the cable breaking strength at surface before the weak point fails downhole. *Cerberus for Wireline* will help you select the optimum weak point for the job.

Is the weak point strong enough for the job?

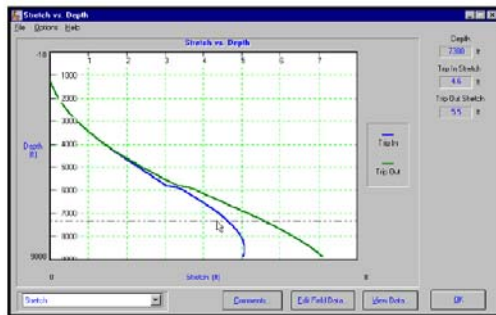
If the weak point rating is too low, you might separate it unintentionally, especially coming out of a highly deviated well.



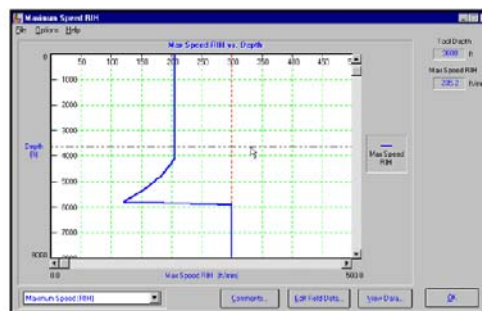
Cerberus for Wireline features a wireline manager that allows you to choose from standard cables or specify your own cable parameters.



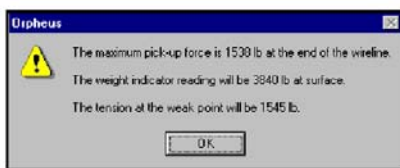
A 3-D view of the well profile allows you to see where the cable is in tension or compression relative to the well features, and calculate how much tractor force is required to ensure the cable is in tension everywhere.



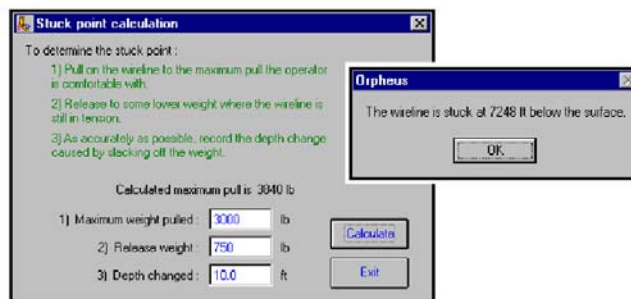
Cerberus for Wireline will calculate how much stretch to expect due to tension and temperature. Conventional stretch charts only work in vertical holes. Our software allows you to make accurate predictions even in complex deviated holes.



How fast can you safely run in hole without the risk of birdcaging, especially with fluid upflow? This graph shows you the maximum speed at all points in the well.



Will you be using the cable to shift a downhole sleeve or recover a fish? Find out how much pull you can safely apply without breaking the weak point or cable, even in severe doglegs.



Cable stuck downhole? Calculate where, even in a highly deviated well, using this feature.

Input Parameters

Wireline

- diameter
- weight in air
- stretch coefficient
- breaking strength
- maximum percent overpull

Weakpoint

- minimum rating
- maximum rating

Toolstring

- OD and ID
- length
- weight
- yield strength
- Young's Modulus
- rollers
- centralizers
- knuckle joints

Well

- casing/liner/tubing geometry
- variable friction coefficients
- temperature gradient
- survey data import/export
- rotating 3-D well view

Fluids

- density
- rheology
- flow rate
- upflow / downflow
- distribution

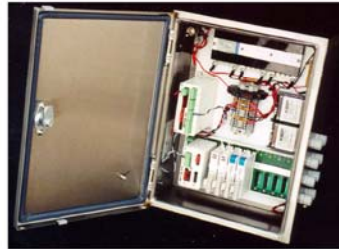
Wellsite

- wellhead pressure
- stuffing box friction
- variable force on end (e.g. tractor)

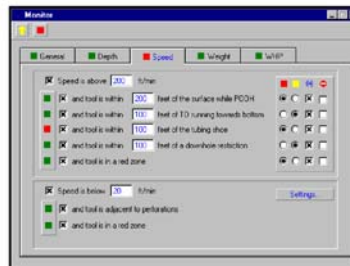
Additional Features

- step by step calculation "Wizard"
- English/metric/custom units
- automatic internet updates
- network ready
- professional printing and reporting
- online help files
- extensive technical support
- data protection system

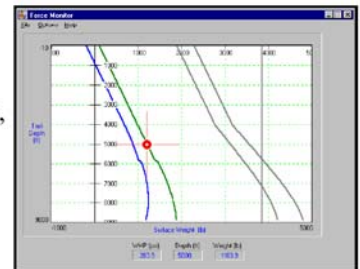
Real-Time Monitoring



Measured depth and weight are compared with model predictions, and visual and audible warnings given if significant discrepancies are detected.



Cerberus for Wireline can also be run as a real-time monitor when run with a data acquisition system such as CTES' Orion™.



Intelligent alarms warn you if you approach the surface, or downhole obstacles such as tubing shoes or nipples, too quickly.