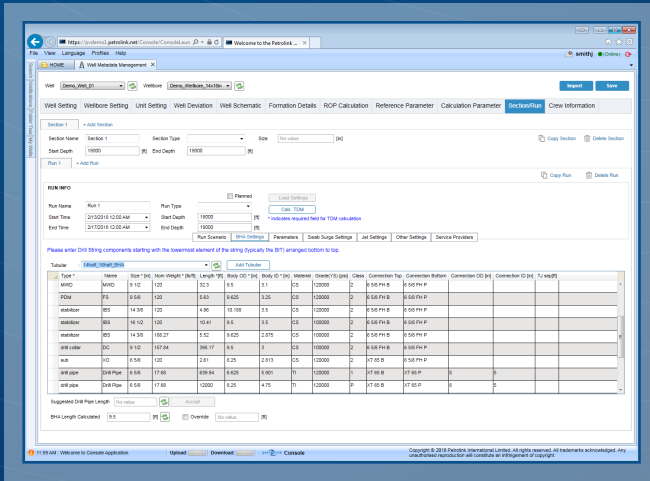


# Torque and Drag Modeling and Analytics

Whether it's from tight hole conditions, wellbore friction or cuttings buildup caused by poor hole cleaning, torque and drag from any source is a critical problem to overcome. Our Torque and Drag Modeling and Analytics tool gives you an automated way to create a model and do real time updates of actual vs the torque and drag model. As a result, you no longer have to wait for post analysis to determine if conditions are good enough to perform the next drilling operation. Remote access enables shared capabilities at the rig site and collaboration from anywhere in the world.



## Here's how it works:

Using advanced algorithms and logics, this tool derives events based on deviations from the model and alerts you of the event, such as poor hole cleaning, over pulls, tight spots, drag and potential stuck pipe situations.

With that information, you have the power to address and correct the event in real time while ensuring that equipment integrity is intact.

## With the Torque and Drag Modeling and Analytics tool, drillers can:

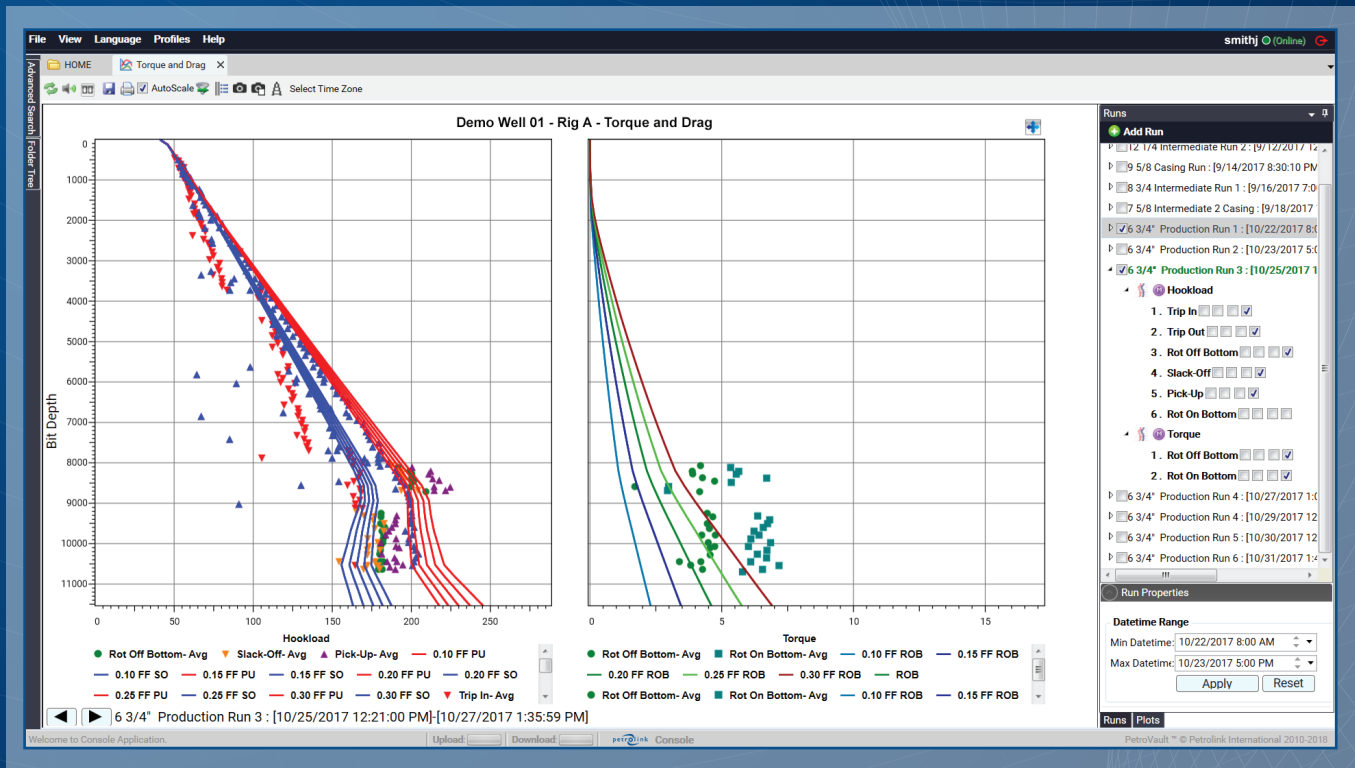
- Monitor torque and hookload behavior in real-time
- Calculate hookload and surface torque model and update it in real-time
- Analyze and calculate predicted downhole forces
- Create a casing running roadmap, and minimize early casing setting

With this information, you can determine in real-time if the conditions downhole are right to perform your next operation, without having to wait on offline data and analysis. By evaluating your torque and drag conditions in real-time and alerting you of deviations, our Torque and Drag Modeling and Analytics tool ensures detailed analysis of torque and drag to determine optimal hole conditions for your operations and reduces non-productive time.



# Torque and Drag Modeling and Analytics

## Sample of Torque and Drag display



## Features:

- Adjust the input parameters on the fly for the Torque and Drag Model
- Update input parameters from real-time data
- Smart filtering of actual Torque & Drag values based on activity
- Run-by-run comparison
- Can plot the values using the maximum, minimum or average ranges
- Ability to adjust / upload new models



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