

xSight analytics service for casing exits

Analytics and real-time downhole data for improved operational efficiency, predictable performance, and consistent service delivery

Casing exit operations provide a way to access a reservoir zone from an existing wellbore. However, milling a clean casing window in a single trip is not efficiently and consistently achieved. In more complex offshore wells, the failure rate could be as high as 20 percent in some cases due to additional trips caused by failure of downhole equipment or suboptimal window quality that requires additional window polishing. Non-optimal milling parameters could lead to excessive vibration and other downhole milling dysfunctions reducing milling efficiency, and in the worst cases, causing downhole tool failures.

The **xSight analytics service for casing exits** from Baker Hughes leverages well data analytics and an enabling cloud-based software application to add value through improved operational efficiency and consistent service delivery. The xSight analytics service for casing exits provides assurance of single-run window milling with reduced window drag, reduced vibration, and increased ROP for faster window milling and higher quality windows.

Well data is collected pre-job to conduct risk assessments and provide recommended milling parameters based on data analytics models, which have been trained from historical data sets and validated by performance improvement

in the field. Data sets from historical jobs are used to develop predictive and prescriptive models. In this manner, well details, BHA details, downhole data, and surface data provide a holistic perspective on the casing exit operation. Accurate downhole measurements eliminate uncertainty and provide reliable input data for analytics modeling.

During operations, advanced analytics are used with real-time downhole measurements to enable data-driven decision making. Prescriptive analytics, coupled with real-time downhole measurements ensure the best operating envelope while enforcing accurate control, combined with a corrective action roadmap during milling. This approach pertains not only to rotational speed (RPM) and weight on bit (WOB) control, but also to the management of torque-on-bit (TOB), vibration, ROP, and window quality.

After the job, data is collected from the rig and downhole tools to enable post job analytics. This includes key performance indicators (KPIs) and data visualizations to describe job performance and to provide future recommendations, all enabling real-time optimization, and continuous improvement.

Contact us to learn how Baker Hughes can help you assess your next well to achieve clean casing windows in single trips, efficiently every time.

Application

Casing exits

Benefits

- Assesses risk for single-run success and mitigation recommendations
- Optimizes milling parameters determined from data analytics models
 - Higher ROP in window milling
 - Clean window with lower window drag
- Determines operating thresholds for downhole measurement
- Provides corrective action roadmap for real-time adjustments
- Optimizes in real-time for complete control of downhole milling conditions
- Offers a complete post-job analysis through access to web-based software
- Provides planned vs actual parameter comparison and recommendations for future operations