

Case Study

Drilling Beliefs & Analytics | DBA

Stuck Pipe Pack-Off Highlighted with Early Alerts

During sliding operations, DBA Stuck Pipe Risk Belief provided early and repeated warnings before a pack-off incident occurred. Although the alerts were not acted upon in time, the case highlights how timely recognition of DBA signals can prevent stuck events, avoid fishing operations, and reduce costly NPT.

NPT Incurred:

96 hours

Potential Cost Savings:

\$650,000

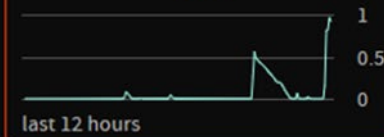
Stuck Pipe - Drilling

▲ 00:02:37

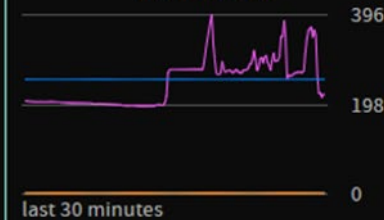
Packoff

Stuck Pipe Risk Belief

0.87



Hookload



Hookload **225.04**

Drilling Ref **0**

Reaming Ref **251.89**

Backreaming Ref **0**

Potential Sticking Mode

Differential Belief **0**

Geometry Belief **0.01**

Packoff Belief **0.99**

Unknown Belief **0**



Event Summary

While sliding in the intermediate section, DBA Stuck Pipe Pack-Off Belief provided strong early signals of increasing pack-off risk. These were accompanied by abnormal pressure fluctuations and inability to rotate the drillstring. Despite the alerts, corrective actions were delayed, and the rig had to work the string free after the incident developed.

Response

Rigsite personnel eventually circulated and worked the pipe to release the string. The reactive response restored operations, but at the cost of increased operational risk and non-productive time (NPT).

Outcome and Value Delivered

This event illustrates the critical role of DBA in providing early warnings. If acted upon at the first indications, the operator could have prevented the pack-off, avoiding roughly 4 days of NPT. Furthermore, if the rig's efforts in freeing the pipe were unsuccessful, it could have resulted in fishing operations, BHA lost in hole charges, and additional NPT, which could exceed \$650,000, highlighting the importance of timely recognition and response to DBA insights.

Well Details

Timeframe:

July 2025

Location:

Midland Basin - US Land

Well Section:

8.5" Intermediate

Measured Depth:

9,569 ft

Key Event Timeline

Day 1 – 21:15
First DBA Alert

DBA Stuck Pipe Pack-Off Belief triggered up to 0.9 twice before pack-off event.

Day 1 – 22:15
Early Warning Signs

Early alerts coincided with pressure fluctuations and string immobility during slide.

Day 1 – 23:00
Stuck After Slide

Driller unable to rotate string; evidence confirmed by tour sheet data.

Day 4 – 23:45
Response

Crew circulated and worked the pipe to eventually free the string.