

Using AI and ML to Identify Exploration Opportunities in the Illinois Basin



About CountryMark®

CountryMark is an oil exploration, production, refining and marketing company. They have an oil exploration and production group that operates more than 900 oil wells producing ~1,300 barrels of oil per day. More than 90% of CountryMark’s oil leases are located in the Illinois Basin, a 60,000 square mile depression in southern Illinois, southern Indiana and western Kentucky.

The Challenge

CountryMark oil and gas assets began seeing a decline in production that affected their upstream revenues. In turn, revenues from downstream operations were also being affected by the production decline. Traditional techniques are manpower intensive and time consuming. Turning to a data-driven approach, the challenge was two-fold: How to improve prospecting efficiency in the basin? And how to improve the *quality* of the opportunities in the basin?

The Solution

SpeedWise® ML was used to build a predictive model for forecasting well performance and production. The application looked at over 70 years of historical well-level data that included 100s of well attributes and production data from over 330,000 wells, and well logs from more than 100,000 wells going back over 40 years. After integrating these attributes with basin-level data, SpeedWise® ML used machine learning and AI to forecast IP, decline rates and EUR, ultimately leading to the identification of new actionable opportunities. Production allocation results included 156 MMBO in 1,138 sections from 5 counties.

The Benefits



Build ML Models 10x Faster

Smart AutoML technology finds the optimal model configuration for your models automatically.



Smart Data Processing

Quickly process and clean data needed for ML. Options to autopilot smart data processing are also provided.



Maximize ML through Collaboration

A collaborative platform makes sharing data and models across organizational teams as easy as a button click.



Say “Goodbye Black Box.”

Get the answers and also the reasons behind the answers using our built- in explainable machine learning module.

About APN Partner and Amazon Web Services

With high-performance compute options powered by machine learning, Amazon Web Services (AWS) enables organizations to undergo broad digital transformations with modern, cloud-native solutions. Together, QRI’s SpeedWise® SaaS solutions and the cloud-based services offered by AWS create increased scalability and security, suitable to be used by businesses of all sizes. Organizations take full advantage of SML’s speed, real-time collaborative features and powerful data integration capabilities.

Next Steps

To learn more about how AWS and QRI’s SpeedWise® ML can help your business, visit www.qrigroup.com/SpeedWiseML