**Harness Oil and Gas Big Data with Analytics: Optimize Exploration and Production with Data-Driven Models**

Keith R. Holdaway

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**DESCRIPTION**

*Use big data analytics to efficiently drive oil and gas exploration and production*

Harness Oil and Gas Big Data with Analytics provides a complete view of big data and analytics techniques as they are applied to the oil and gas industry. Including a compendium of specific case studies, the book underscores the acute need for optimization in the oil and gas exploration and production stages and shows how data analytics can provide such optimization. This spans exploration, development, production and rejuvenation of oil and gas assets.

The book serves as a guide for fully leveraging data, statistical, and quantitative analysis, exploratory and predictive modeling, and fact-based management to drive decision making in oil and gas operations. This comprehensive resource delves into the three major issues that face the oil and gas industry during the exploration and production stages:

- Data management, including storing massive quantities of data in a manner conducive to analysis and effectively retrieving, backing up, and purging data
- Quantification of uncertainty, including a look at the statistical and data analytics methods for making predictions and determining the certainty of those predictions
- Risk assessment, including predictive analysis of the likelihood that known risks are realized and how to properly deal with unknown risks
Covering the major issues facing the oil and gas industry in the exploration and production stages, *Harness Big Data with Analytics* reveals how to model big data to realize efficiencies and business benefits.

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**ABOUT THE AUTHOR**

**KEITH R. HOLDAWAY** is Principal Industry Consultant and Principal Solutions Architect at SAS, where he helps drive implementation of innovative oil and gas solutions and products. He also develops business opportunities for the SAS global oil and gas business unit that align SAS advanced analytics from Exploratory Data Analysis and predictive models to subsurface reservoir characterization and drilling/production optimization in conventional and unconventional fields. Prior to joining SAS, Holdaway was a senior geophysicist with Shell Oil, where he conducted seismic processing and interpretation and determined seismic attributes in 3D cubes for soft computing statistical data mining.

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