

Petroleum Professional Development Center

Continuing Education for Oil & Gas Professionals

Oil & Gas Performance Metrics

Concepts & Application

**A Non-Technical Training Course
for Oil & Gas Professionals**

This one-day course introduces the key metrics used to analyze the performance of oil & gas companies. Specifically designed for those who work in the oil & gas industry, this course will teach participants how to calculate and use performance metrics to gain quantitative and qualitative insight into the underlying strength of an oil & gas company. Topics include operational analysis, margin and cash flow analysis, reserves growth and validation, capital efficiency, return on investment, and other combinations of performance metrics that provide clear insight into overall company performance. Using clear, non-technical language and relevant examples, this course provides participants with a better understanding of how performance metrics can be used to quickly spot underperformance, proactively improve, and ensure performance targets and objectives are met.

Those Who Attend this Course Will Learn:

- Which of the literally thousands of performance metrics are most relevant to those who work in the oil & gas industry
- What operational metrics can be used to determine the quality and performance of a company's field operations
- How to calculate margin and cash flow metrics and use them to quantify a company's overall operational and financial strength
- How to calculate and apply reserve-backed metrics to determine the strength and validity of a company's reserve report
- How to read and use financial statements to analyze company-level performance
- How to perform strategic analysis of a company's strengths, weaknesses, opportunities and threats (SWOT)
- Brief introduction to more advanced performance metrics such as ROI, EVA, Growth-Return and Life-Cycle analysis
- The importance and key components of lookback analysis
- How to quantify and qualify a company's ability to weather price volatility
- How to spot early signs of underperformance that are not initially evident in an LOS Statement or Reserve Report

Intended Audience:

This course is designed for oil & gas professionals of all experience levels and backgrounds. Although non-technical, the course does assume a basic familiarity with oil & gas terminology. Knowledge of key performance indicators and other metrics used to set annual targets by participant's employers is a plus and can facilitate additional discussion.



Course & Fee Structure:

Course Fee – Course fee is \$400 per student and includes all course materials. Students can register online at Course Catalogs (midland.edu)

Scheduled Dates: Spring 2024 – 5/20
Fall 2024 – TBD

Onsite Training – The Course fee is \$1,025 per student plus \$250 per diem per day for travel expenses in Texas, or \$250 per day plus airfare if outside of Texas. Fees include all course materials and a copy of the book Oil & Gas Performance Analysis (list price \$105).

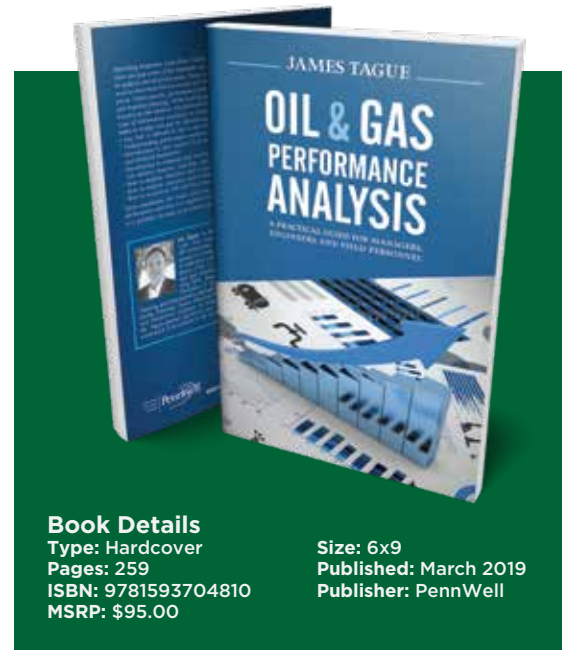


Instructor:

Jim Tague is an oil & gas consultant with extensive industry experience and the author of PennWell Publishing's "Oil & Gas Performance Analysis ." He is a Principal Consultant with the Performance Analytics Group and a former COO, CFO, and Senior Vice President of Corporate Planning and Development. With both an MBA and a Master's Degree in Petroleum Engineering, he can seamlessly present both the technical and financial aspects of many petroleum disciplines to a wide-ranging audience. As an author and experienced speaker, he is known for his ability to establish rapport with his students. In addition to his industry experience, Jim served as a carrier-based E-2C Hawkeye Naval Flight Officer in the U.S. Navy. Mr. Tague has a B.S. in Materials Science and Engineering (with Honors) from the University of Florida, a M.S. in Petroleum Engineering from the University of Texas, and an MBA from the University of Phoenix.

Oil & Gas Performance Analysis

Operating Expenses, Cash Flow, Finding and Development Costs, and Return on Capital Employed –are but a few of the hundreds of measurements and metrics used to analyze performance in the oil & gas industry. From individual oil & gas wells to entire companies, performance analysis provides the information necessary to make key decisions. Unfortunately, performance analysis is often seen as a function of upper management. Thus its value and ability to create actionable information at the field level is often lost. This book seeks to overcome this gap by introducing the basic oil & gas performance analysis concepts to a wider audience. Using clear and non-technical language, the reader will quickly understand how performance analysis can be used to make better decisions and improve overall performance – not just at the corporate level but throughout the entire company.



Book Details

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Pages: 259
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Course Schedule

Introduction.....	8:30AM - 9:00AM
Module One - Operational Metrics and Analysis.....	9:00AM - 10:00AM
Module Two - The Preparation of a Reserve Report.....	1:00PM - 4:30PM
Module Three - Reserve Metrics and Analysis.....	11:00AM - 12:00PM
Lunch.....	12:00PM - 1:00PM
Module Four - Financial Metrics and Analysis.....	1:00PM - 2:00PM
Module Five - Advanced Oil & Gas Performance Analysis.....	2:00PM - 3:00PM
Module Six - Applied Performance Analysis.....	3:00PM - 4:00PM
Wrap Up & Conclusion.....	4:00PM - 4:30PM

Course Content by Topic

Introduction

Purpose - The introduction will begin with the need for performance analysis in the oil & gas industry, how it can be used in the world of Energy Finance, and how it can improve overall portfolio performance.

Data, Metrics, and KPIs - The terms “data,” “measures,” “metrics,” and “KPIs” are frequently used in performance analysis. In many cases, they are used interchangeably. In reality, however, each is a subset of the other. While this fact may seem trivial, it is important to know and understand the definition of each of these terms. This is particularly important when presenting the analysis to others. Using the correct terminology helps avoid confusion and adds credibility to any discussion concerning performance analysis.

Module One - Operational Metrics and Analysis

The Lease Operating Statement - One of the most important data sources used in performance analysis is the lease operating statement (LOS). The LOS is a general term applied to various monthly production, revenue, expense, and income statements. As the name of the report states, a LOS report can be prepared for every property and field down to the lease and well level. Unfortunately, the format of the LOS depends on the accounting software used and often allows the user to set defined fields. Thus, it is imperative to have a thorough understanding of the information contained in an LOS, how it is reported, and how it can be used for performance analysis.

Operational Metrics and Analysis - This segment will cover and provide examples of performance analysis related to the operational aspects of oil & gas - those that are encountered in some form or another on an almost daily basis, including production analysis, operational expense analysis, and other performance metrics primarily related to field operations.

Module Two - Cash Flow Metrics and Analysis

Understanding Cash Flow - Cash flow has multiple definitions - operational, free cash flow, net income and many others. Understanding how each is calculated and what they mean is critical to understanding how cash flow can be used to evaluate performance.

Cash Flow Metrics and Analysis - Cash flow is a critical metric used to determine the profitability of a field, portfolio, and company. This segment will demonstrate how operational cash flow, free cash flow and other cash metrics can be used to evaluate the profitability and long-term viability of an oil & gas asset.

Module Three - Reserve Metrics and Analysis

The Reserve Report - By definition, reserves represent the remaining amount of petroleum that can be commercially recovered from known accumulations of hydrocarbons. Needless to say, the efficient and profitable production of these reserves is critical to the success of any oil & gas company. For this reason, reserve data is an important part of oil & gas performance analysis. A reserve report contains a tremendous amount of information, and knowing how it is prepared and how to interpret the results is a critical aspect of performance analysis in the oil & gas industry.

Key Reserve Metrics - This portion will establish the concept of reserves, how reserves are calculated, and how the information found in a reserve report can provide the data necessary to analyze a field company's ability to profitably add, monetize, and continue to grow successfully through the development of existing and addition of new reserves.

Module Four - Financial Metrics and Analysis

Review of Common Financial Statements - Financial statements (10 Q's, 10 K's, proxies, and similar materials) provide a wealth of data for performance analysis. These reports include operational and financial data and data on many other aspects of oil & gas operations. Becoming familiar with financial statements and knowing where to find the relevant data for performance analysis is an important facet of oil gas performance analysis.

Financial Statement Analysis - This section will cover and discuss key oil and gas metrics (not just financial) that can be found within a financial report. The data and metrics discussed include FASB 69 data, debt-level metrics, ROIC, and other metrics that can be used to measure overall performance.

Module Five - Advanced Oil & Gas Performance Analysis

SWOT Analysis - This section will discuss SWOT Analysis – Strengths, Weaknesses, Opportunities, and Threats. Although SWOT analysis can be conducted as a standalone exercise using high-level data or historical performance measures, it is best used to bring together all facets of performance analysis, including operational, reserves, financial, and any other forms of analysis. When used in this manner, SWOT analysis can serve as the culmination of any performance study, large or small – from a single field to an entire company.

Return on Investment Analysis - Return on Investment (ROI) analysis seeks to determine the financial returns on any given oil & gas investment. This section will take the basic concepts of return on investment analysis and expand upon them in order to demonstrate just how important and valuable ROI analysis can be. In particular, this chapter will focus on the concept of growth versus investment returns, which is a powerful method to analyze the current state of any oil & gas field or company.

Weighted Average (Scorecard) Performance Analysis - A weighted average performance analysis uses a matrix to combine multiple performance measures. Then it weighs each one in order of priority or importance to stated objectives. Weighted average analysis can be used at the field level or all the way up to an entire company-level performance analysis.

Module Six - Applied Oil & Gas Performance Analysis

Lookback Analysis - Lookbacks represent an exceptionally powerful tool for an analyst seeking to determine the overall strength of an oil & gas company. Key lookbacks focus on validation of previous pro-forma forecasts, analysis of reserves forecasts from previous years, and the ability to create sustained value over time. This section will cover what data is necessary to create a lookback, what to focus on in a lookback study. It will provide templates that can be used to facilitate lookback analysis.

Price Volatility - Participants will be taught how to quantify a company's ability to withstand price volatility using a combination of key metrics and lookback studies. Key warning signs of a company's inability to withstand low prices over time will be discussed, as will metrics that highlight a company's ability to create value under any price environment.

Early Signs of Underperformance - LOS and reserve reports do not always reveal early signs of underperformance. However, if analyzed over time, many metrics do and can provide clear indications of future underperformance. This section will introduce and discuss how to find the relevant data and calculate key metrics that can be used to identify the potential for underperformance.

Training Approach and Goals

This course takes a comprehensive and interdisciplinary approach to introduce the multitude of performance metrics utilized by management to analyze and track performance in the oil & gas industry. It uses a tiered and logical approach to connect various performance objectives related to operations, cash flow, reserves, and capital efficiency to build a full understanding of overall performance. By delving into industry metrics and integrating both quantitative and qualitative analysis, students acquire invaluable insights into corporate and asset performance, thus honing their decision-making skills in crucial areas like field management, acquisitions, and forecasting. Importantly, it directly addresses the gap between management directives and those who are expected to meet these targets and objectives, empowering all who work in the oil & gas industry with essential knowledge to align with organizational objectives. This understanding equips participants to effectively contribute to maximizing value creation and achieving organizational goals.



PETROLEUM PROFESSIONAL DEVELOPMENT CENTER PPDC

Oil & Gas Training

The Petroleum Professional Development Center (PPDC) of Midland College provides quality continuing education for the Permian Basin energy industries. The center is one of seven mid-career training centers worldwide recognized by the American Association of Petroleum Geologists (AAPG).

The mission of the PPDC is to provide quality continuing education designed to keep oil and gas industry professionals current in their areas of expertise through dynamic interaction between the community, the college, and the industry. The PPDC will provide high quality, timely, and pertinent educational opportunities to meet the professional development needs of those working in the regional energy industry.

Many of our classes qualify for re-certification credits that Professional Engineers, Professional Geologists and Petroleum Landmen use to maintain their professional certification status.

The PPDC also holds various symposiums on timely issues important to the region's oil and gas industry.



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