



# Oil & Gas Performance Audits



# INTELLIGENT INSIGHT

## The Value of Information

As a capital provider, you are responsible for the success of your portfolio. Meeting and exceeding desired investment returns requires both opportune deployment of capital and insightful analysis of the data and risks involved.

## The Ever Changing World of Oil & Gas Investment

Even under the best of circumstances, not every oil & gas investment will produce desired returns. And with investor expectations and paradigms changing even quicker than commodity prices, it is critical to understand your portfolio's positioning under these changing circumstances, particularly when it comes to quickly identify and addressing underperforming assets.

## The Oil & Gas Performance Audit

Having a full understanding of an oil & gas investment's ability to reach expected returns under a wide range of changing expectations is the key to identifying and addressing potential performance issues within your portfolio. This is where a performance audit can make the difference. Going far beyond the standard reserves analysis, a performance audit can analyze an entire asset or company's ability to create value and return on investment – from operations, to reserves growth and monetization, capital efficiency, cash flow generation and overall organizational strength.

## The Performance Analytics Group

The Performance Analytics Group specializes in full spectrum upstream oil & gas performance audits. In today's upstream oil & gas world, the value of information is more important than ever. Let us take the guesswork out of your analysis and give you the information necessary to make the decisions that strengthen your portfolio of oil & gas assets.

# OUR APPROACH

Performance Analytics approaches every assignment using an integrated, multi-disciplined analytical framework. This unique integrated approach provides unparalleled insight into the ability of a field or company to create value and desired investment returns on a consistent go-forward basis. Using sophisticated quantitative and qualitative analytical techniques, our audits focus on (but are not limited to):

- Operations
- Cash Flow Generation
- Reserves Growth and Monetization
- Capital Efficiency
- Field & Portfolio Analysis
- Overall Strategic Position
- Financial Strength
- Investment Returns

By combining quantitative analysis with qualitative insight, our clients can be assured that on a go-forward basis, all operational, engineering and reserve assumptions are based on realistic financial expectations, and that all financial projections are grounded in realistic engineering assumptions. Armed with this information, clients can confidently pursue options that not only optimize future performance but ensure maximum value generation under a wide variety of scenarios.



# OPERATIONAL ANALYSIS

Operations are the heart and soul of a successful oil & gas company. But other than a simple P&L statement, how do you know if fields are being run efficiently and profitably?

The answer requires an in-depth look at operations – from operating expenses, cost control, optimal well and facility operation, and organizational strength.

This may be intuitive, but the analysis required to succinctly and clearly determine whether assets are optimized for profitable production is complex and requires significant amounts of data.

To properly analyze operations for their ability to consistently and profitably support value creation, analysis should answer at a minimum the following key performance questions.



## Key Performance Questions

### 1. Do current and future production expectations reflect realistic assumptions and are they in line with past history?

- Production Trends - past and current
- Accuracy of forecasts
- Alignment with field objectives
- Accuracy of metrics / impact of BOE and commodity mix

### 2. Are operating costs under control and in line with expectations?

- LOS analysis / recurring and non-recurring
- Workover costs and variability
- EOR Costs - current and projected
- Facility costs - current and projected
- Overhead/Regulatory and Taxes
- Margin/ Differential costs

### 3. Is Field and Well Productivity Optimized?

- Well down-time and service costs
- Well failure analysis /causality
- Water production and disposal

# CASH FLOW GENERATION

Cash flow is the lynchpin to value creation, yet the term is often vague and nebulous with varying definitions.

Operational cash flow is the first measure of profitability, but it can be misleading. Free Cash Flow after capital is the ultimate measure of profitability and is currently the metric most valued by investors. Yet negative free cash flow is often necessary especially in the early stages of growth.

For this reason, cash flow analysis requires a comprehensive analysis growth, capital spent, debt, and return on investment in order to gain a true perspective of value creation. Some of the more important aspects of cash flow analysis include:



## Key Performance Questions

### 1. Profitability Analysis

- All-In cost analysis
- Product Mix
- Margin analysis
- Commodity price vulnerability/hedges

### 2. What is the true free cash flow?

- Cash flow after G&A /debt /taxes
- Cash flow after capital expenditures
- Cash flow after financing

### 3. Cash Flow and Value Creation.

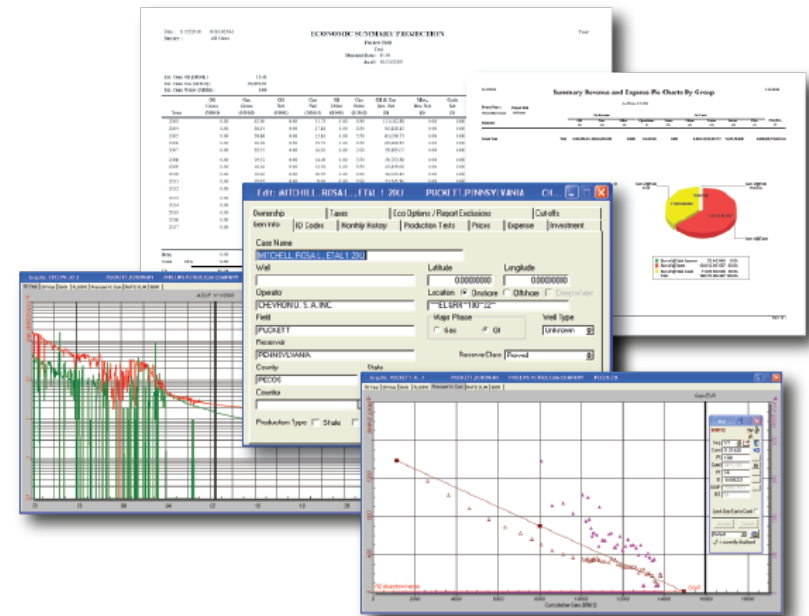
- Cash Flow versus Growth profile
- Mix of growth and cash flow assets
- Can cash flow meet future capital needs needed to fund growth

# RESERVES ANALYSIS

Successful and profitable reserves monetization is the key to value creation. And for companies pursuing growth, reserve adds are a must.

Yet reserves, even audited reserves, are not always a reliable indicator of future performance. In fact, many oil & gas companies have failed to meet future reserve projections for a wide variety of reasons – both internal and external.

Consequently, it is important not only to validate current reserve bookings but to assess a field or company's ability to profitably monetize these reserves. This requires analysis not only of the reserve report itself, but numerous additional factors including:



## Key Performance Questions

### 1. How much oil/gas can realistically be economically recovered?

- Analysis of booked reserves versus total resource base and known recovery factors

### 2. How accurate have historical reserve forecasts proven to be?

- Comparison of past reserve forecasts to actual results
- Ability to successfully implement development plan
- Amount of variation from reserve forecasts

### 3. How realistic is the current reserve forecast?

- Ratio of PDP to Total Proved
- Vulnerability to commodity prices
- Concentration risk
- Projected decline versus actual decline
- The impact and amount of "non-recurring" spend removed from reserves calculations
- Validity of decline rates as measured by reserve revisions

# CAPITAL EFFICIENCY

Capital Efficiency is a term used to describe a field or company's ability to earn a desired return on any given investment – either individually or in aggregate.

Capital Efficiency can be measured by a variety of means including Dollar Payout (DPI), Present Value Ratio (PVR), and Return on Investment (ROIC).

Unfortunately straight Capital Efficiency metrics seldom provide the insight necessary to determine whether capital investments are truly capable of providing desired returns in light of growth mandates, corporate strategy and many other parameters. To truly assess capital efficiency, key performance metrics must be analyzed and answers to the following must be determined:



## Key Performance Questions

### 1. Are capital projects generating expected returns?

- F&D cost analysis
- Recycle Ratio
- Return on Investment / IRR / PVR / DPI

### 2. What is the required "maintenance capital" to hold growth steady?

- Decline rate analysis
- Annual repair expenditures plus "non-recurring" expenditures
- F&D analysis / Timing of spend
- Calculation of base capital spend to hold production steady

### 3. Do projected returns match historical returns?

- Multi-year comparison of actual spend to planned spend
- Impact of annual capital spend that is "unbudgeted"
- Lookback examining projected production and costs to actual production and costs

# FIELD & PORTFOLIO ANALYSIS

For performance audits to be truly comprehensive and effective, it is necessary to move beyond company and portfolio level analysis of operations, reserves, and cash flow and analyze the source itself for much of the data – the individual fields.

Each field must be analyzed for its ability to create value via cash flow generation, reserves monetization, capital efficiency and return on investment. In addition, it is important to analyze field performance as a part of a portfolio of assets. Portfolio analysis can determine whether a company is positioned and capable of meeting its overall plan and strategy to maximize value creation. Key questions related to Field and portfolio analysis include:

## Key Performance Questions

### 1. Field Performance

- What is the overall performance of each field?
- Are any fields problematic and if so, what is being done to address underperformance?
- Are the producing fields aligned with corporate strategy?
- What is the growth potential of each field?
- What is the real P&A timing and liability of each field
- Are there any legal or environmental threats?

### 2. How balanced is the Portfolio

- Product mix of portfolio /commodity price positioning and vulnerability
- Growing versus declining assets (life cycle mix)
- Concentration risk of portfolio's assets
- Overall profitability of the portfolio
- Ability of portfolio to grow organically



# FINANCIAL STRENGTH

Financial analysis is generally focused on the financial strength of a company – from its current cash flow and profitability, to the impact of capital spending, debt and debt covenants. At the corporate level analysis, financial analysis is often used in benchmarking and calculating returns via ROIC analysis, or if public, Total Shareholder Returns.

These calculations are fairly routine. However financial analysis is far from perfect – especially when analyzed in and of itself. While this basic analysis can provide a snapshot of the current financial condition of a field or company, predicting future financial performance requires much more in-depth analysis including answers to the following key aspects of performance:

## Key Performance Questions

### 1. What is the financial strength of the company

- EBITDA and Net Income
- Debt levels and covenants
- Benchmarking and Ranking

### 2. Accuracy of financial forecasting

- How accurate are previous forecasts
- Accuracy of future financial forecasts – debt and capital spend

### 3. Sources and uses /ability to fund capital spending

- Ability to grow within free cash flow
- Need for additional capital
- What sources are available to finance capital spending
- Contingency plans / commodity price vulnerability

# ORGANIZATIONAL CAPABILITY

A company's organizational capability is critical to profitably creating value in the oil and gas industry. To be successful, the company's organizational capabilities must focus on the business's ability to manage operations, grow and monetize reserves, and maintain strong balance sheet – especially in times of commodity price volatility.

Analysis of a company's organizational capability is more of a qualitative exercise, and is not always the easiest to ascertain. Vulnerabilities can be hidden, however it is still possible to discover and ascertain a company's organizational strengths and weaknesses. This analysis requires insightful observations of:

# STRATEGIC POSITIONING

The strategic position of a field or company is often overlooked when analyzing performance. This is truly unfortunate because strategic analysis answers many questions that strict quantitative performance analysis can not.

For instance, what is threat of future regulation and taxes? How exposed are reserves to price changes and changes to tax structures. Does a company have the personnel and expertise to successfully secure and exploit new opportunities?

All of these questions and more require a holistic approach to performance analysis that is best captured through SWOT. Overall, SWOT analysis can serve as a capstone to a multi-disciplined performance analysis by serving as a singular comprehensive summary of all performance strengths and weaknesses under a wide variety of scenarios.

# SWOT Analysis

## Strengths

1. ....
2. ....
3. ....
4. ....
5. ....
6. ....

## Weaknesses

1. ....
2. ....
3. ....
4. ....
5. ....
6. ....

## Opportunities

1. ....
2. ....
3. ....
4. ....
5. ....
6. ....

## Threats

1. ....
2. ....
3. ....
4. ....
5. ....
6. ....

## Key Performance Questions

### 1. Is the company appropriately staffed?

- What is the company's strategy – is it staffed appropriately to succeed?
- Is the organizational structure appropriate for the stated corporate strategy and objectives?

### 2. How Knowledgeable is the Workforce?

- Does the company and/or field have the knowledge and skill sets within its employees to succeed?
- Does management have the background and skills to generate expected and/or desired investment returns

### 3. Is the Organization Flexible & Responsive?

- Can the organization adapt to changing industry conditions
- What is the overall morale of the organization?

# OUR FINAL REPORT WILL PROVIDE:

- 1) An operational assessment of production, expenses, workover and drilling activities that includes trend analysis, key component analysis and benchmarking – both internally and externally.
- 2) A review of past and projected financial performance with a focus on operational and free cash flow generation, return on investment, debt and EBITDA covenants, credit matrix analysis, and benchmarking using internal and external metrics.
- 3) An independent assessment of reserves including lookbacks of previous reserve reports and projections, analysis of the impact of non-recurring charges, comparison of projections versus actual performance, and a probabilistic assessment of current reserves using previous historical data.
- 4) Analysis of capital efficiency and return on investment using historical data, actual results, success of capital allocation, returns on investment and growth/return matrix analysis.
- 5) Analysis of individual field performance and performance of the portfolio as a whole by region, asset maturity, growth potential and individual asset returns on investment.
- 6) A SWOT analysis (strengths, weaknesses, opportunities and threats) based on the results of the previous performance analysis that clearly identifies performance areas, weaknesses to be remedied, opportunities to be pursued, and threats to be cognizant of and plan for.
- 7) If desired, a review of a field or company's ability to create value on a consistent basis.

In addition to our report, the Performance Analytics Group will provide an in-house presentation with a following discussion of the results and recommendations.

# IN TODAY'S OIL & GAS WORLD, DESIRED INVESTMENT RETURNS REQUIRE EXTRAORDINARY INSIGHT INTO ALL ASPECTS OF FIELD AND COMPANY PERFORMANCE.

## DO YOU HAVE THE ANSWERS?

The return on an oil & gas investment is the true measure of an field or company's ability to create value. Profitable returns are the culmination of outstanding performance over a period of time. Operations, reserves monetization, proper use of capital, a strong balance sheet, solid strategic positioning and a capable organization can create value under any environment – even in the volatile world of oil & gas.

A Performance Audit can ensure all aspects of an oil gas company are capable of creating value and generating desired investment returns. Whether it is for verifying or establishing a baseline for a successful performance, rapidly identifying the cause of underperformance, or providing the data necessary to explore strategic alternatives, a performance audit can give you the information you need to make real time decisions that will enhance the value of your portfolio.



# THE PERFORMANCE ANALYTICS GROUP

## Who We Are

The Performance Analytics Group, LLC is a specialized consulting firm dedicated to improving performance throughout the oil & gas industry. Using a comprehensive analytical approach, Performance Analytics provides clients with clear unbiased insight into past, current and likely future performance. This insight allows our clients to optimize performance, enhance profitability and maximize value creation.

## Our Service Offering

With our unique and highly specialized ability to analyze all facets of oil & gas performance, we can provide clients with a broad spectrum of services including:

- Performance Audits
- Annual / Semi-annual Performance Reviews
- Turn-around and Restructuring services
- Comprehensive A&D Analysis
- Contract/Interim Management and Executive Advisory Services

These services can be tailored to meet individual client needs – from time critical “one-of” type projects to longer-term assignments on a retained basis. Whether the analysis is applied to a specific problem, an individual field, or an entire company, Performance Analytics can provide the information our clients need to make sound and informed decisions.

## The Performance Analytics Team

The Performance Analytics Group is comprised of highly experienced consultants with over 100 years of industry experience. Every consultant has a technical major and an MBA, as well as executive and managerial experience. All facets of oil and gas activities are represented – from operations, drilling & completions, geology and reserves, to business development, capital planning, and finance. This breadth and depth of expertise allows the Performance Analytics Group to conduct deep dive performance audits and other similar activities that are uniquely tailored to any activity or company in the oil & gas industry.

**For more information, please contact us. We would be glad to discuss how we can provide you with the information you need to make sound operational, financial and informed investment decisions**



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