Harnessing Unstructured Data to Create Capital-Efficient Operations

CREATING DOCUMENT INTELLIGENCE USING AI

ThoughtTrace™

TABLE OF CONTENTS

Introduction

Headlines are increasingly contradictory: Is the oil and gas market recovering or is there an iceberg ahead? I ordered a crystal ball from Amazon yesterday – psychic revelations TBD. While we wait, let's look at three leading factors affecting the industry's sustained success from a perspective of strategic development and asset management:

1. Tightening profit margins
2. Increasing variation in operating terms and laws
3. The volumes of unstructured data every organization has

Another crucial factor to consider is the changing face of the traditional oilman in the information age. After discussing how these issues affect the current landscape, we'll examine how advances in technology can help overcome the challenges they present by creating visibility into unstructured data, improving net revenue interest, and providing a means to operate within cashflow.

Everything Has Changed

Big hat, an even bigger belt buckle, and a wad of cash is the mental image most of the nation has had of oilmen since the days of hit series *Dallas* in the late 1970s. Since then the price of oil has been on a roller coaster. The price explosion of the early aughts and shale drilling success have combined to introduce a new generation to the oil boom. Yet prices have staggered, and in recent years the faces and behaviors typified by drama television excess have changed dramatically.

Boom and bust cycles have also created as many losers as winners. Low break-even points and strict capital discipline have put every major cost center under the microscope. Keep in mind that global consumption trends reported by the U.S. Energy Information Administration illustrate the demand for new discoveries must outpace the decline curves of assets in production and development year over year.

The only way to satisfy the demand for new discoveries – which must increase 2.5 percent to keep pace – is to create an exploration plan that is profitable in the lowest of commodity prices. Not only that, but you must continue to efficiently develop assets in the most lucrative regions and exploit your competitive advantage arsenal. For example, in January 2018, BP set a precedent for approval of any new project proposal by requiring profitability at $40/bbl; in March 2019, Exxon Mobil Corporation said it was planning to reduce costs to around $15/bbl. To uphold this type of capital discipline, companies must evaluate their assets, processes, and efficiency gaps, and focus on the commercial viability of their portfolio and potential expansion.

To uphold this type of capital discipline, companies must evaluate their assets, processes, and efficiency gaps, and focus on the commercial viability of their portfolio and potential expansion.

THE PROFIT MARGIN BIGGEST LOSER:

Grocery Stores or Oil & Gas Extraction?

The reality of shrinking profit margins has caused both major and minor players in the industry to take a few long, hard looks in the mirror. Oil and gas extraction was ranked as the “least profitable industry” in 2017 by Sageworks, a nasty surprise for those in sector who might have assumed the top spot would be grocery stores. Volatile price swings, increased costs of labor and equipment, fresh and frac water logistics, and increasingly scarce pipeline capacity have all caused production expenses to soar, complicating the profit picture.

But is that all? What about the devil in the details?

Asset evaluation is a balance of exploration, strategic development, and production asset types. And the pressure to produce makes it critical to both business and greater economic success. There are three types of evaluation that must be performed: technical, financial, and geopolitical. Results are then contextualized with an organization’s own technical capabilities, experience, and substructure to identify the perfect mix and match of assets for profitability.

The complexity of strict, time-bound goals often force companies to outsource this analysis to financial, legal, and/or technical services companies. Historically, high commodity prices have made this process less than thorough, leaving companies to rely on a small percentage of the content analysis and broad assumptions to fill in

Oil and gas extraction was ranked as the “least profitable industry” in 2017 by Sageworks, a nasty surprise for those in sector who might have assumed the top spot would be grocery stores.

the gaps. Those assumptions would often include lease terms, burdens, and sales point designations. Such standard language was tied to nonmaterial issues, and thus largely sidelined in evaluation. But the market today has proven that the risks are vast for those who don't have the intelligence to fill in those blanks with informed, accurate answers.

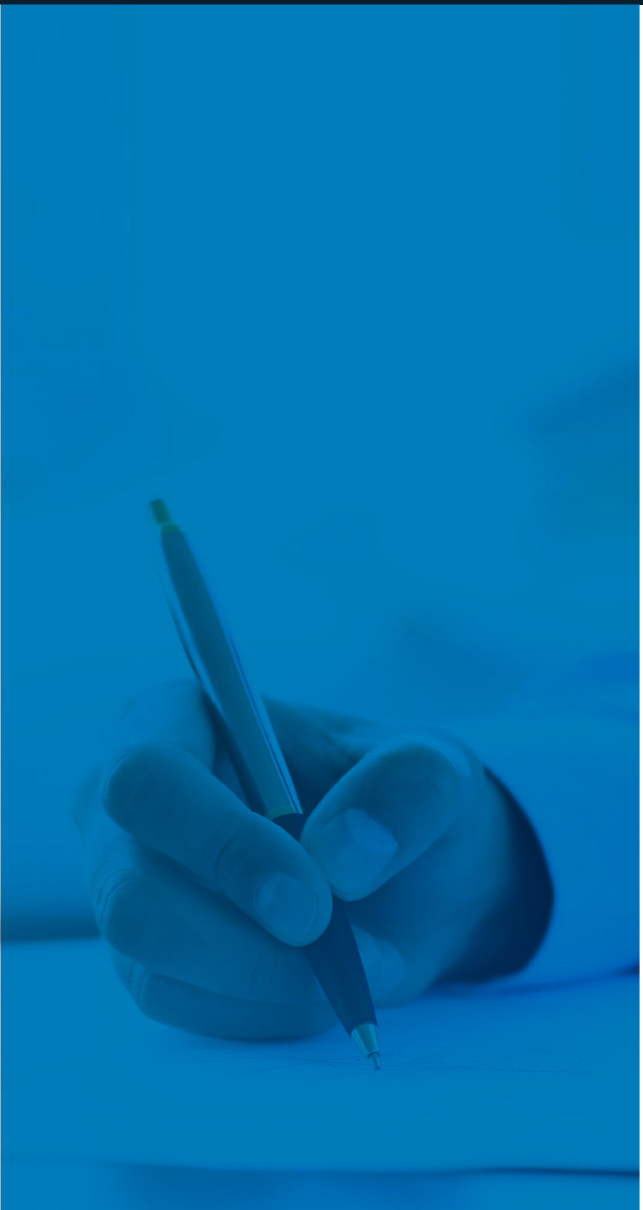
Does the Standard Form Really Exist?

While we sometimes see stunning advances in energy industry technology, those improvements are frequently in the oilfield and rarely in the office. In fact, the sometimes sluggish evolution of the industry is most evident in the records room of any oil and gas company. For decades, the Producers 88 oil and gas lease has long been the standard form used across the lower 48. It gave the landowner and operator a shared understanding of the guidelines and principles on which it was founded and the perception of an industry standard contract. Remnants of the clauses, cadence, and foundational language can still be found in the backbone of oil and gas contracts negotiated today. The reality, however, is that the concept of a universal form is a figment in the imagination of an energy executive.

Custom lease provisions have opened a Pandora's box for interpretation and litigation around two important topics negotiated between parties: money and time. Acreage retention, depth severances, and royalty deductions are some of the most complex provisions. Therefore, they yield widely variable interpretations after the ink has dried on the signature line. Take your pick of judgements and settlements across the nation: Crawford

Fun Fact:

Did you know that the name Producers 88 came from the title a print job was given at a local printing company? After success in the development under those leases, a farmer would ask his neighbor which lease form he signed and the name that was printed at the top by default printer settings was the name of the order: Producers 88.



in Texas, Union Pacific in Colorado, or Schillo in Ohio. The fine line between profit and loss can be swiftly crossed with the strike of a pen or the hammer of a gavel.

Oil and gas leases, right of way easements, and commercial agreements signed in the good times live on during the tough times, too. This rolling tide is washing away at the profitability of development through unique sales point clauses, best-of-pricing language, rising royalty percentages, and far less production burden sharing among interest owners. Each of these changes potentially squeeze already miniscule profit margins.

Oil and gas leases, right of way easements, and commercial agreements signed in the good times live on during the tough times, too.

Mineral and property owners have also used technology and community organizations to increase their negotiating influence, compounding the stress on the bottom line. Resources like social media networking, town hall meetings, and even billboards allow owners to access information and spur collaboration. In negotiating pools of leases to potential operators, mineral owners are leveraging their ownership interest in the resources to give them the biggest possible piece of the profit pie. This can include compensation for production at a rate that wasn't paid to the operator – a practice that in other markets would be laughable.

There is also a concerted attack on the supply chain required to move the resources from the source to the sales point. Consumer-ready oil and gas products are rarely present in an immediately marketable form. But the industry practice of deducting commodity improvement expenses from net revenue has been turned upside down by royalty deduction exclusions for both mineral owners and overriding royalty interest owners. These terms and restrictions are lurking in the fine details of hundreds of millions of contractual agreements layered throughout the history of the industry.

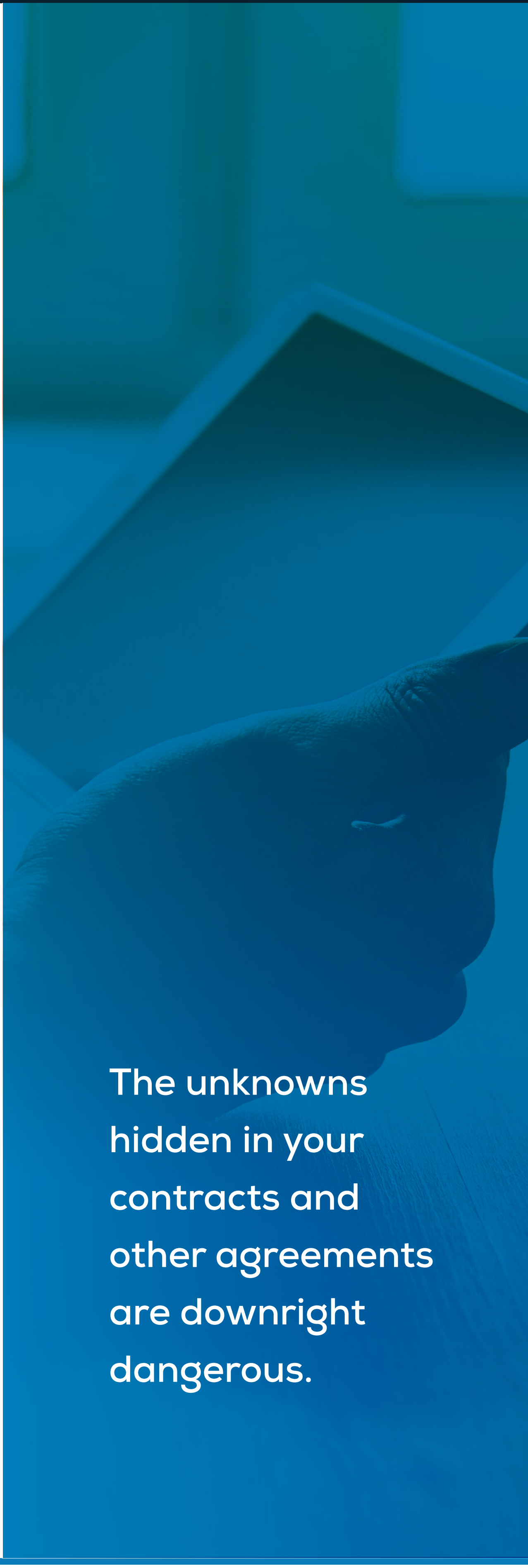
What Do We Own? Unstructured Data

The shifting standards and practices necessitate an assembly of industry, legal, technical, and financial experts. They are tasked with navigating a company through the unpredictable, turbulent, and very costly waves unleashed by an ocean of unstructured data. But varying levels of experience, attentiveness, and quality of analysis can add to that uncertainty in evaluation.

What exactly is unstructured data? It's a term used for the information locked away within the pages of documents, communications, contracts, agreements, opinions, legislation, permits, and any other text-based strategic record. It's of the utmost importance companies recognize that unstructured data is fundamental to the link between profit margins and lease provisions. As the saying goes, "You don't know what you don't know." In this industry, the unknowns hidden in your contracts and other agreements are downright dangerous.

Consider the development hurdles that appear in pugh, pooling, and depth severances. Missing these provisions will hit where it really hurts: on the reserves report and forward-looking statements. The loss of PUDs in your development plan and any future uphole or downhole development potential will radically devalue the company's assets. These details are not readily available or easily accessible; alternatives result in countless man hours lost for true analysis and increased risk in those assumptions.

Seasoned professionals in this space say that you are often better off reading and analyzing the source itself.



This 10,000-foot view of your assets that AI delivers will allow you to make both development and divestiture decisions at a speed and level of confidence not possible before.

The questions you ask of the contract substance, the parties involved, and the urgency of the situation will be unique to each case. The data that's gathered is invaluable, but thorough analysis is rare due to time constraints and bandwidth limitations of Land and Lease teams. The competitive advantage gained is held in the ideal synergy: a company rowing in the same direction. But who has time to row across the ocean?

What's the solution? Stop reading your contracts.

Solution

It's time to bring real innovation to the antiquated process of evaluation and completely change the way we look at this responsibility. Using artificial intelligence does more than automate the reading and analysis; it will, in fractions of the time and effort, turn the millions of characters of cluttered contract verbiage into an organized masterpiece of data points ready for consumption.

Envision identifying preferred development locations by geology and topography compared to the most restrictive lease terms, curative requirements, and development burdens with a glance at the map in seconds. This 10,000-foot view of your assets that AI delivers will allow you to make both development and divestiture decisions at a speed and level of confidence not possible before. Crimped margins require fine-tuned strategy to avoid production under unprofitable conditions. Alignment with core asset expansion and retention of proven reserve locations is a competitive advantage you need and want. AI can grant it.

Oil and gas companies across the country are using artificial intelligence software to surface hundreds of valuable provisions and data elements from the most elusive document details. These companies can then leverage that intelligence extracted with help of the software to improve their technical knowledge and development plans, allowing them to locate and avoid critical profit margin eaters, as well as uncover restrictions and obligations, sales point designations, and infrastructure expansion restrictions.

AI software empowers you to make sense of the variations in contractual language seen in written agreements. Algorithms can be trained to scour through peer and public records and recognize the most complex terms buried in them.

Summary

Success in oil and gas is regularly vulnerable to price, cost, and regulation changes. The legislation, operating procedures, and negotiated terms of contracts across the industry can make the term upstream feel more like the direction we are swimming. Consider the effects that the market has had on invested capital. Operators now continuously find themselves searching for development opportunities amid headwinds of strict capital discipline, increasingly complexity, and expensive options.

ThoughtTrace is a leader in artificial intelligence for oil and gas contract intelligence. Having replaced an archaic process with a turn-key SaaS artificial intelligence platform, ThoughtTrace grants industry experts with the tools to read and analyze the most complex contracts

Humans read from

200 – 1000
words per minute.

Our documents contain

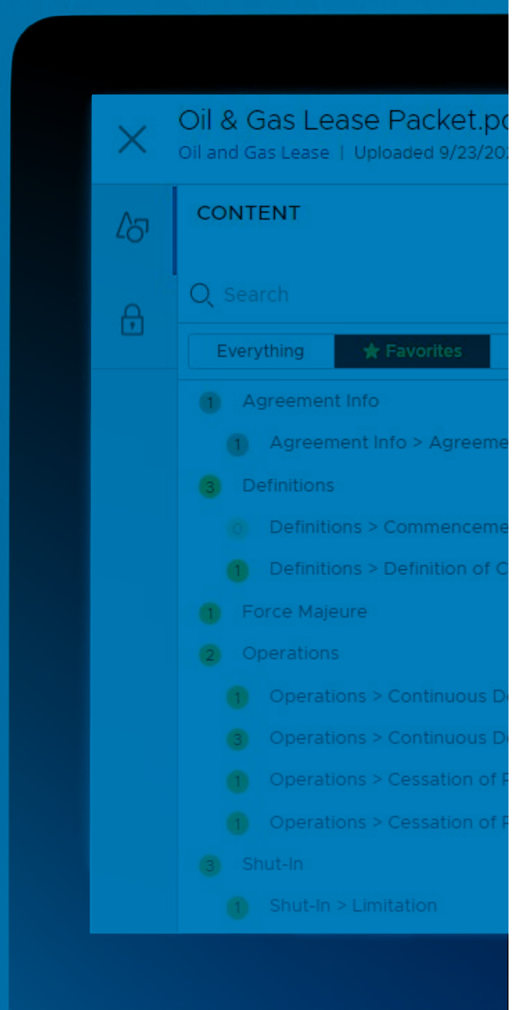
500
words per page.

That's reading about two minutes per page on a good day.

Some AI software can OCR, read, and analyze

100,000
words per minute.

That equates to 200 pages per minute instead of words!



For more information on how ThoughtTrace can start working for your company today, please contact our team and request a demo.

and surface the essential data needed to guide strategic decisions that positively affects profit margins.

The ThoughtTrace software platform was built to transform oil and gas leases, pipeline right-of-ways, gas gathering, and processing contracts – even those pesky surface use agreements. The structured data set, friendly user interface, and API will position your team to make the very best of an increasingly complicated responsibility. This time-saving software allows your staff and peers to spend their valuable time analyzing instead of manually reading and typing.

Ask questions you were never able to ask before, and push your company to achieve consistent efficiency and strategic development. For more information on how ThoughtTrace can start working for your company today, please contact our team and request a demo.

ThoughtTrace™

www.thoughttrace.com