

PARAMOUNT PAPER



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EVOLVE OR DIE

**INNOVATE YOUR
LAND OPERATIONS**



Evolve or Die: Innovate Your Land Operations

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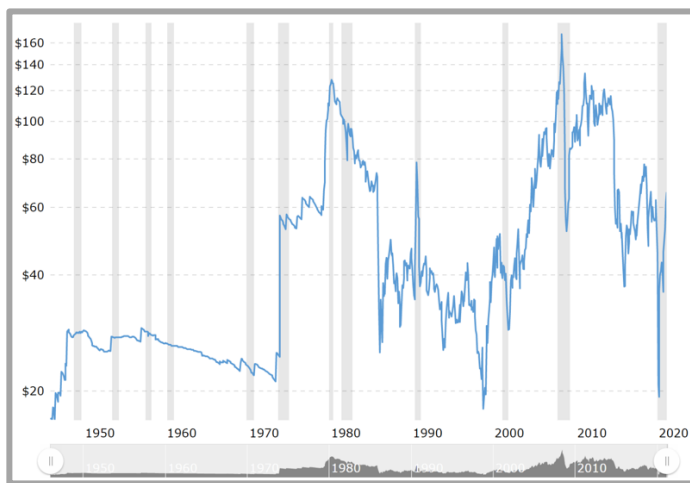
In the fictional media, the rogue sage typically begins training the eager student with “Forget everything you know about...”

This paper is not asking you to forget everything you know about land and land administration, but it will challenge you to think differently about how common key functions have been performed. It will also provide ideas and insights to consider in order to create the most value for investors and stakeholders in any environment.

Oil and Gas Trends

The oil and gas industry is cyclical. Commodity prices fluctuate according to geopolitical turmoil, basic economics of supply and demand, hedge fund speculation, and weather patterns. If one or more of these factors combine and/or become prolonged, then the industry can face a long-term event of depressed prices.

The charts below (as of April 23, 2021) show historical oil prices, adjusted for inflation. The chart on the left displays prices for the past 70 years. The chart on the right is the previous 20 years. The gray areas within the charts depict recognized economic recessions, including the one that most recently occurred in conjunction with the global pandemic. (Data provided by MacroTrends.)



Oil Prices for the Past 70 Years



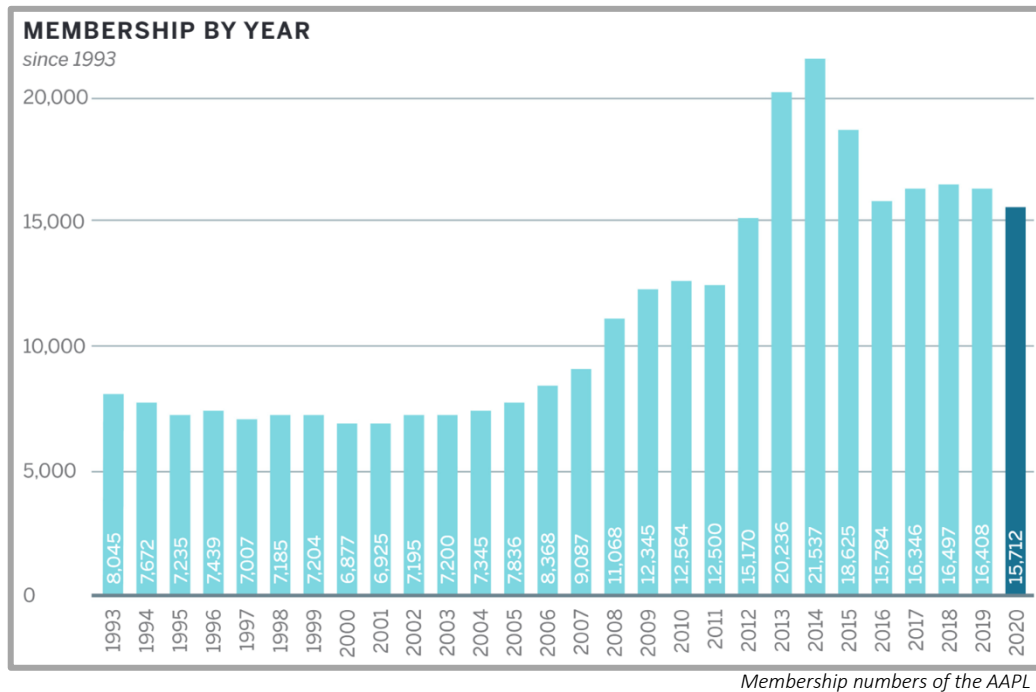
Oil Prices for the Past 20 Years

Anyone who has worked in the oil and gas industry for any period of time has faced the reality that staffing levels within companies have largely coincided with the rise and fall of oil prices. As oil prices are high, companies are encouraged to maintain or increase drilling activity and production levels, leading to the perceived necessity of employing ample staff to carry out those objectives. Low commodity prices, however, lead to decreased activity, fallen revenues, and the pressure to alleviate burdens on the general and administrative (G&A) budget line, leading to layoffs.

What the authors have additionally observed, however, is that the time between the periods of these oil price rise and fall trends, and the coinciding hiring and staff reduction actions, is contracting. Whereas our predecessors may have faced one to two severe industry downturns in their careers, we now experience these cycles every three to four years or shorter.



Consider the changing membership numbers of the American Association of Professional Landmen (AAPL). This data comes from the AAPL 2019-2020 Annual Report. As of this writing, membership count in 2021 was at approximately 12,116, down from 15,712 in 2020.



Recognize the transition of jobs in the land profession. Landmen are increasingly identifying opportunities to transfer their skills to other energy segments outside of the mainstream hydrocarbons. Even the AAPL, in 2020 and 2021, formally revised the definition of “land work” to formally recognize land activities that occur with alternative energy sources.

In 2013, the book *The Frackers* sensationalized the unprecedented event that has taken place in the 21st century. The world knows it as the “shale revolution.” Those of us in the land profession know it as the “land grab.” Millions of acres of oil and gas leasehold were purchased, bartered, and traded by tens of thousands of landmen. However, the times of blanket leasing activities over entire counties have dwindled. So, what happens next?

Everyone answers to someone. Especially for public companies, the parties answered to are the shareholders, the investment community, and the financial analysts. During the past decade, companies and executives have been rewarded with high stock prices and newsworthy compensation packages. The attitude was to buy, drill, and produce as much as possible, no matter the cost. Towards the end of 2018, however, that attitude faced an abrupt about-face. Now the primary focus is generating free cash flow, no matter what the price of oil and/or natural gas is. Since the beginning of 2019, that strategy has been requisite in order to see a positive uptick in the public markets.

Without the need to use hyperbole, the world changed in 2020. COVID-19 dramatically altered our work environments. Most offices went to critical skeleton crews or closed entirely. Working from home was no longer just a perk that a few disrupting companies offered. It became mandatory. Almost immediately, a new phrase was adopted: “The New Normal.”

As has been illustrated in these first two pages, the oil and gas industry was a victim with massive casualties in 2020. Decimated oil prices led to an abrupt halt of most activity. Companies went into triage mode to stay alive. Many could



not take all of the necessary actions fast enough and failed. Within a few months, the *Houston Chronicle* was reporting that over 100,000 people had been displaced from their employment.

Human resources software provider ADP estimates that it costs over \$4,000 to hire a new employee. It further reports from the Bureau of Labor Statistics that salary only accounts for 70% of total compensation, meaning that up to 30% of the total package covers benefits such as “paid leave, supplemental pay, insurance, retirement and savings plans and legally required payments like FICA.” When most employees are let go, they often receive a severance package as a consolation for their job loss. The point attempting to be made here is that it is expensive to hire and lay off employees, and it becomes unfeasible to continue that trend every few years in massive scale.

The New Normal

How will land departments and oil and gas operations be different?

As the oil and gas sector continues to recover, and beyond, it will do so with fewer full-time staff than it previously had. Companies will still need critical matters and operations handled, and they will supplement their workforce with consultants/contractors and technology.

To illustrate the steps which can be taken to realize operational efficiency, the authors present a hierarchy for achieving ***Intelligent Land Operations***:



Take Control of Your Data

Each step builds on the one below it, beginning with taking control of your organization’s data. For internal data, this is, at a minimum, digitizing all land records and files and employing optical character recognition, mapping all of the assets and



agreements for visual representation, and creating and abiding by processes that mitigate backlog. For external data, it is taking advantage of several providers who provide courthouse and regulatory information, illustrating leasing activity and operations of peers and competitors.

Establish Clear Lines of Communication and Accountability

For establishing clear lines of communication, an internal online chat platform, such as Teams or Slack, keeps communication transparent and open. Conversations containing critical information and insight are not lost when staffing assignments are revised or turnover occurs.

Anything that can be measured should be measured. Progress is then tracked and understood through the use of key performance indicators (KPI). KPIs present accountability and encourage continuous improvement.

Maximize Worker Engagement and Productivity

The University of Oxford has researched and concluded that happy workers are 13% more productive. Company culture has an overwhelming effect to a worker's happiness, particularly when there are opportunities for providing and receiving mentorship. Positivity is further fostered when the supervisor is in tune with the team members' struggles and concerns and can provide the needed coaching.

Ever important are building and nurturing relationships. This applies to creating and maintaining cohesiveness internally within the organization. It additionally creates business development opportunities when employed with current and potential business partners.

The first three steps of the hierarchy are solely to meet the basic requirements of being effective. Hitting these levels create a foundation for continuous improvement. To go above and beyond, and to enhance growth possibilities, the top three steps complete the pyramid of efficiency and delivering maximum value.

Make Your Budget Go Further

To modernize workflows is to have the ability for plug and play resources that are available, however and whenever needed. The presented assertion is that the same qualified, capable, and experienced land professionals who were displaced are able and currently available to contribute their services on a contract or consulting basis. There are numerous benefits to both parties. Here are two key points that should be remembered:

1. For the contractor - they have the opportunity to apply their skills and services to multiple clients and thereby have multiple engagements and possibilities for new experiences and contacts.
2. For the employer utilizing the service - when 3rd party groups are used, work can often be billed to a well or prospect, thereby saving the general and administrative line item of the company budget.

When contemplating which services can effectively be outsourced, through actual experience, the authors offer this list, which is comprehensive, but not exhaustive:

- Acquisition evaluation
- Agreement negotiation and execution
- Agreement analyses and summaries
- Artificial intelligence introduction and implementation
- Asset development
- Broker and vendor management
- Divestiture marketing
- Drilling and unit well preparation
- Land software evaluation and implementation
- Leasehold strategies, trades, and execution
- Non-operated well proposals
- Net revenue interest strategies
- Operational support
- Process and workflow efficiencies
- Transactional support



Remain Ahead of the Curve

Whether organizations were prepared or not, the “New Normal” has quickly thrust most professionals into working from home. Once seemed as a challenge to effectively keep staff engaged and on task, even while everyone works from separate locations, today’s tools are creating the effect of having everyone working and collaborating together virtually. While there were many initial doubts as to the effectiveness of a remote working environment, 2020 demonstrated that it can be done and be done well.

Key considerations to a productive distance working ecosystem include open and transparent communication tools, collaborative software, and reasonable flexibility and understanding of varying schedules.

Many companies in the oil and gas industry have largely embraced technology, but use cases for land departments have seemed limited up until the present time.

One example of capital investment in supercomputing is Total’s Pangaea III. In 2019, the oil and gas major announced their machine was ranked #1 in the industry and #11 in the world. It is capable of 31.7 petaflops (equivalent to 170,000 laptops combined) and 76 petabytes of storage (equivalent to 50 million HD movies).

In 2017, BP announced its supercomputer had meticulously reviewed its existing data and concluded that there was an additional 200 million barrels of oil resources in BP’s Gulf of Mexico Atlantis field.

Even with these breakthroughs, budgets for cutting-edge resources have traditionally not trickled down for land professionals’ applications. However, there are tools that have emerged to aid in day-to-day workflows. Artificial intelligence is a term that is often thrown around loosely without a universal definition. Nonetheless, machine learning, a subset of artificial intelligence is prevalent and is becoming a necessary part of creating critical efficiencies for land professionals.

There are multiple software as a service tools that provide intelligent document recognition and text extraction that are targeted specifically for oil and gas lease and agreement analysis. These applications can instantly review a digital copy of an agreement, highlight the critical provisions, and place text into tables for import into the preferred land administration system.

Innovative start-ups are creating and distributing land management platforms that are designed by land professionals and thereby are meant to be more intuitive than the traditional lease modules that are added to the company’s accounting software. They are being created and utilized in the cloud for continuous back-up and accessibility from any device at any time.

Examples of additional innovations that have been speculated, tested, and/or released:

- The use of blockchain for property ownership conveyances and transactions
- Instant summaries of oil and gas agreements
- Cloud collaboration for agreement drafting, negotiation, and signature among multiple parties simultaneously
- Automatic title updates through conveyance interpretation and interest calculation on the latest public record documents

Deliver Maximum Value

The ultimate purpose of this roadmap is to Deliver Maximum Value. The future success of oil and companies and land departments will rely on approaching critical tasks and functions differently than how they have traditionally been



handled. Recent current events have presented the opportunity to introduce and achieve Intelligent Land Operations and embrace innovative changes that will create efficiencies in common workflows and alleviate the pressure placed on staffing budgets. For both the employer and the contractor, there are positive outcomes that can be achieved for individual and enterprise development and the bottom line.

A Plausible Use Case – A company making a large acquisition that will expand its operations

Innovate E&P is a (fictional) public company that has had an operated position in Oklahoma for many years. In 2019, it began receiving pressure from its shareholders and public financial analysts to reduce its spending and focus more on achieving free cash flow. Believing that its G&A was too heavy for its new direction, Innovate began quietly laying off a handful of employees every several weeks. It was confident that 2020 would bring new opportunities, and it could keep its operations and production on a steady climb.

When the pandemic arrived in 2020, Innovate faced all of the same economic challenges as other oil and gas companies. In prudent response, it unfortunately had two major reductions in force. This included eliminating more than half of its land department. Due to operational streamlining the company had previously done, it was able to weather the worst times without the need to shed any assets.

Now 2021 has arrived, and oil prices have unexpectedly returned to strong levels. Other distressed E&P companies are looking to take advantage of a higher price environment to make their strategic exits. This has left Innovate with a favorable opportunity to expand its asset base into the Permian Basin. It has found a sizeable, operated position to acquire, and it is taking steps to bring that to fruition.

This presents the land department with several challenges:

- Now working with only half of the staff it had before, there does not seem to be sufficient internal people resources to take on the due diligence, implementation, and operational tasks that will be critical to taking on this new position.
- While the remaining staff is more than capable to handle Oklahoma items, experience and expertise is limited on operations and regulatory in the Permian.
- Most of the land department personnel are still working from home, and it is uncertain when everyone will be back in the office together.

Past practices would have led to the conclusion that hiring more people would be the only effective way to make everything come together. From traditional practice, land service providers would be able to assist on the due diligence portion of the acquisition, but Innovate had low confidence that they possess the necessary practical experience to be able to additionally handle more complex land matters associated with asset implementation and future operations.

However, the new normal has introduced an abundance of subject matter expertise and tools that are readily available on the market. With this in mind, the land department of Innovate selects resource partners and tools to handle the upcoming acquisition.

To tackle the due diligence and integration of its new leases and data, Innovate employs a software that utilizes machine learning that can quickly identify the document type and provides summaries and text extraction of the key agreement provisions and upcoming obligations. Their capable contract staff provides quality assurance on the data results. Innovate's lease analysts then have a streamlined process for importing the data into their lease management system.



Being an operated position in a new area, Innovate engages landmen, who have previously worked in the Permian Basin for other operators in-house, on a contract basis. The consultants prepare future drill plans and create summaries of the planned well units that include a map of the outline, applicable leases, ownership, any underlying agreements, and recommendations on permitting, pooling or allocation, potential acreage trades, and how to contract with other partners in getting their participation. Innovate's company landmen then have most of the preliminary operational work already done for them, which allows them to focus on business development relationships to form strategic alliances and acreage trades in the area.

In order to keep everyone coordinated through distanced working, Innovate uses a platform that provides instant messaging individually and in groups, host video and audio calls, and share files. At least once a week, an update meeting is held with the in-house team and the contract team. The land service provider also has a web-based application and dashboard that Innovate can log on to in order to view current work assignments and collaborate on the critical initiatives.

With the utilization of Intelligent Land Operations, Innovate executes on a higher level of efficiency and productivity than it previously had, while preserving the company's G&A reduction goals.

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