This latest profile of the American independent producer provides a fascinating look at how independents have evolved in just the past few years. Perhaps most interesting is the strength of the industry as this snapshot was taken in 2007-2008, during volatile economic times that saw prices rise dramatically, and then fall just as fast. Even though the commodity price collapse and financial crisis took place after the survey was conducted, visible changes are apparent since the last survey was conducted in 2000.

Of course strength through adversity has been the story of independent producers for decades, who, prepared for both, have continued to endure through bust and boom. These latest survey results only speak further to this truth, painting the picture of a prudent and versatile industry that is dealing with increased volatility and heightened political scrutiny. For our part, during the past 80 years, the Independent Petroleum Association of America has proudly worked on the industry’s behalf on the national stage.

Emulating the resolve and preparation of its members, IPAA has geared up its efforts in the face of recent significant changes in the political and economic landscape. One can see the changes in technology over time – the growth of horizontal drilling and the advent of hydraulic fracturing. One can see how political hurdles have become as challenging as financial hurdles. Demographic data shows the aging of the industry and the workforce challenges ahead in attracting new talent to the exploration and production (E & P) sector. In addition, we have broken the data down into three size groups to better illustrate how small, medium and large-sized independents are coping with these changes.

Expanding advocacy campaigns to counter misinformation in the media and to promote a balanced American energy policy, IPAA remains proactive beyond Capitol Hill in its efforts to advance and defend the industry. In the face of new legislative and regulatory challenges (and some old) IPAA has worked to shape the national debate on energy to include not only the importance of American oil and natural gas production, but also the importance of the independent producer on the American economy as well. More than holding our own, the industry’s profile is now being seen across the country in the media and in the most powerful corners of Washington, D.C.

This latest survey shows that very industry in action, meeting its challenges head on, and in many cases thriving.

Thank you to the support of our members for making our results in Washington and across the nation possible, and special thanks to those who submitted responses to this survey. For questions, contact Frederick Lawrence at 202/857-4722.

The major conclusions of the survey include:

- Independents range in size from small one-or-two person private companies up to very large public firms. More than one-fifth of responding independents are publicly traded firms, with their stock being traded on the NYSE (57.1%), NASDAQ (23.8%) and AMEX (19.1%). Volatility is becoming more and more of a mainstay and companies have expanded their use of financial instruments to counter rapidly shifting commodity prices.

- The offshore area continues to be a noteworthy domain of independents although the numbers have declined slightly since the last survey conducted in 2000. Currently, almost 10% of responding firms operate in federal waters, while 14.6% operate in state waters, a decrease in both categories from the 2000 survey.

- Nearly 11% of responding firms currently operate internationally which is down slightly from the 11.6% reported in the 2000 survey. Just over 11% of responding firms plan to pursue international opportunities within the next five years. The areas most often indicated for future exploration include Canada, South America and the North Sea.

- The past two conclusions indicate that U.S. independents have become more focused on domestic onshore production operations compared to offshore or international pursuits including a growing focus toward unconventional natural gas production. This focus is significant as IPAA data shows that independents produce approximately 68% of our oil, 85% of our natural gas and drill almost 90% of the country’s wells.

- The industry is more high tech than ever with horizontal drilling and hydraulic fracturing featuring large in our production profile. Over one-quarter of independents expect to participate in horizontal drilling ventures by the year following the survey (2008). Over 62% saw an increased budget for seismic (2007-2008) which grew by 50% (median). The median respondent hydraulically fractured 12 wells in 2007 and the most popular EOR technologies were water flooding (71.6%) and horizontal drilling (43.2%).

- The most common forms of organization for responding firms are S Corporations and C Corporations, with over 63% of respondents being organized in this way. Compared to the 2000 survey an increasing number of companies are established as limited liability companies (over 20% compared to 10% in 2000).

- The average independent respondent has been in business for 26 years, employs 11 full-time and three part-time people and produces gross revenues of $7,851,000 (median).

- Independents tend to be well-educated with a large majority holding a degree from some level of higher education (over 94% with a bachelor’s degree or higher). Over 62% of independents surveyed possess a professional background in either engineering or geology with another 24% in either accounting or finance.
The following summarizes the results of the survey’s ten major components, with highlights including demographics, company profile, capital formation, technology, international operations, public lands—onshore, public lands—offshore, oil and gas operations, marginal well operations and taxes. A new addition to the producer survey includes size differentials based on the company’s full-time employee count with 1-19 a small-size independent, 20-249 a medium-size independent and 250 and over a large-size independent.

**Demographic Summary**

Perhaps one of the most important results of a study of this nature is the development of a demographic profile of the association’s membership. The following table shows the demographic highlights as reported by the 2008 survey participants.

<table>
<thead>
<tr>
<th>POSITION IN COMPANY</th>
<th>Small-size independents</th>
<th>Medium-size independents</th>
<th>Large-size independents</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEO</td>
<td>23.6%</td>
<td>19.4%</td>
<td>0.0%</td>
</tr>
<tr>
<td>President</td>
<td>45.8</td>
<td>19.4</td>
<td>0.0</td>
</tr>
<tr>
<td>COO</td>
<td>0.0</td>
<td>5.6</td>
<td>7.7</td>
</tr>
<tr>
<td>CFO</td>
<td>0.0</td>
<td>11.1</td>
<td>15.4</td>
</tr>
<tr>
<td>Vice President</td>
<td>5.6</td>
<td>16.7</td>
<td>23.1</td>
</tr>
<tr>
<td>Owner</td>
<td>12.5</td>
<td>13.9</td>
<td>0.0</td>
</tr>
<tr>
<td>Partner</td>
<td>9.7</td>
<td>2.8</td>
<td>7.7</td>
</tr>
<tr>
<td>Manager</td>
<td>1.4</td>
<td>2.8</td>
<td>7.7</td>
</tr>
<tr>
<td>Other</td>
<td>1.4</td>
<td>8.3</td>
<td>38.5</td>
</tr>
</tbody>
</table>

The vast majority of small and medium-size company respondents are either Presidents or CEOs of the reporting company while Vice Presidents, CFOs or other employees typically responded for the large-size independents. Based on all respondents, the highest percentage of valid respondents, 35.3%, are Presidents of the reporting company, with an additional 20.3% holding the position of CEO.

<table>
<thead>
<tr>
<th>AGE GROUP</th>
<th>Small-size independents</th>
<th>Medium-size independents</th>
<th>Large-size independents</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-39</td>
<td>1.3</td>
<td>2.5</td>
<td>21.4</td>
</tr>
<tr>
<td>40-49</td>
<td>11.3</td>
<td>20.0</td>
<td>21.4</td>
</tr>
<tr>
<td>50-59</td>
<td>55.0</td>
<td>45.0</td>
<td>42.9</td>
</tr>
<tr>
<td>60-65</td>
<td>2.5</td>
<td>5.0</td>
<td>14.3</td>
</tr>
<tr>
<td>66 and over</td>
<td>30.0</td>
<td>27.5</td>
<td>0.0</td>
</tr>
</tbody>
</table>

A comparison of age groups for all respondents indicates the largest percentage of respondents, 49.7%, are between 50 and 59 years of age. An additional 29.0% are 66 and over, while 13.8% of respondents are between 40 and 49. Entrants into the industry have historically tracked crude oil prices, whereas the largest age group reflected an extended period of higher prices. This has not been the case based on data between the past two surveys. Compared to the 2000 survey, the 20-39 and 40-49 groups both shrunk while the 50-59 age category grew from 17.6% to 49.7% illustrating serious future workforce challenges for the industry.

<table>
<thead>
<tr>
<th>LEVEL OF EDUCATION COMPLETED</th>
<th>Small-size independents</th>
<th>Medium-size independents</th>
<th>Large-size independents</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School</td>
<td>8.9</td>
<td>2.4</td>
<td>0.0</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>55.7</td>
<td>63.4</td>
<td>28.6</td>
</tr>
<tr>
<td>Master’s degree</td>
<td>32.9</td>
<td>26.8</td>
<td>64.3</td>
</tr>
<tr>
<td>Doctorate</td>
<td>2.5</td>
<td>7.3</td>
<td>7.1</td>
</tr>
</tbody>
</table>

The upstream sector is an increasingly highly educated industry with 55.2% of the independents responding possessing a Bachelor’s degree, and an additional 39.3% possessing degrees beyond the undergraduate level. The percentage holding a Doctorate has doubled since the 2000 survey. Engineering and geology are the predominant areas of professional background representing 62.10% of total respondents. Since 2000, the percentage of geologists has increased by 12.8% and the percentage of respondents with financial backgrounds has fallen by 6.1%.

<table>
<thead>
<tr>
<th>PROFESSIONAL BACKGROUND</th>
<th>Small-size independents</th>
<th>Medium-size independents</th>
<th>Large-size independents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineer</td>
<td>39.7</td>
<td>36.1</td>
<td>21.4</td>
</tr>
<tr>
<td>Geologist</td>
<td>29.5</td>
<td>16.7</td>
<td>7.1</td>
</tr>
<tr>
<td>Finance</td>
<td>5.1</td>
<td>19.4</td>
<td>21.4</td>
</tr>
<tr>
<td>Accountant</td>
<td>9.0</td>
<td>19.4</td>
<td>28.6</td>
</tr>
<tr>
<td>Landman</td>
<td>11.5</td>
<td>5.6</td>
<td>7.1</td>
</tr>
<tr>
<td>Economics</td>
<td>0.0</td>
<td>2.8</td>
<td>0.0</td>
</tr>
<tr>
<td>Marketing</td>
<td>5.1</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Government relations</td>
<td>0.0</td>
<td>0.0</td>
<td>14.3</td>
</tr>
</tbody>
</table>

The respondents hold a high level of authority which varies depending on the size of the company. Almost 71% of the respondents report that they are responsible for making the final decision in the company’s purchase of oil field service and supplies and an additional 14.3% play some role in the decision process.
Of the services typically recommended by respondents, 70.7% report that they typically recommend financial services, 61.8% said that they recommend drilling contractor services and 60.2% recommend formation evaluation/well completion services [Graph 2].

There were a total of 150 surveys submitted by independent producers. An additional 16 surveys were submitted by members of IPAA that did not classify as independents and were not included in these results. The data have been organized into size categories based on full-time employees to match U.S. census data. Small independents have less than 20 employees. Medium-size independents have between 20-249 employees and large independents have over 250 employees. To be included as a small, medium or large independent the respondent company had to be classified as an independent producer based on being primarily focused on E & P business and tax classification.

Throughout this report, the percentages shown are based on the valid, non-missing responses for each question (rather than on the total sample size of 150).

* The basic definition of Independents is a non-integrated company which receives nearly all of its revenues from production at the wellhead. They are exclusively in the exploration and production segment of the industry, with no marketing or refining within their operations. The tax definition published by the IRS, states that a firm is an Independent if its refining capacity is less than 50,000 barrels per day in any given day or their retail sales are less than $5 million for the year.
As expected, the dominant business activity of all surveyed association members is production (83.1%) and exploration (79.5%) with an aggregate of 80.5% in the collective E & P sector. The remainder of the membership is comprised of service-supply firms, integrated producers, other association affiliates, consultants, financial providers, marketers and royalty owners.

A large percentage of independent producers are organized as S Corporations and C Corporations at 34.2% and 28.9%, respectively. A total of 92.2% of all responding companies are classified as independent (versus integrated) for tax purposes. (Note: only data from independents are used except where noted otherwise.) More than one-fifth of responding companies reported their stock is publicly traded. Of publicly-traded independent producers, the NYSE is the predominant exchange at 57.1%. The remaining independents were registered on NASDAQ and AMEX exchanges at 23.8% and 19.1% respectively with the AMEX proportion growing 8.4% since the 2000 survey and the NASDAQ declining by 1.2%. Only 14.7% of all respondents were publicly traded which is down from 21.1% of public respondents in the 2000 survey.

Capital Formation

Although the mix of capital coming into the industry has been changing, the most frequently mentioned source of capital is generated through internal sources at 41.4% followed by banks at 21.1% and outside investors (oil & gas partners) at 18.6%. This is why the industry's capital expenditures are highly correlated to crude oil or natural gas prices; most of the industry uses internally or industry generated funds for reinvestment. Private debt, private equity and industry partnerships represent the largest percentage of total funding for operations. The proportion of projects financed through outside sources is relatively small with 31% of projects being $0-$1 million and an additional 29.2% being $1.1-$5 million. Price expectation plays a large part in the budgeting process for exploration and production companies. The 2007-2008 crude oil and natural gas markets were more favorable to the industry compared to previous surveys, which was reflected by increased expectations as demonstrated by capital expenditure budgets. Median capital expenditures for 2007 were $3,500,000 and median budgeted capital expenditures for 2008 were $7,500,000. As might be expected capital expenditures increase with company gross revenues. Budgeted expenditures for 2008 ranged from $2,500,000 for small-sized independents to $2,150,000,000 for the largest firms.

Based on relative proportions, production comprised 70% of a company’s financing, followed by exploration at 50% and pipelines at 9%. The median amount financed for these areas was $5,000,000, $6,500,000 and $750,000 respectively. The total General & Administrative budget for 2008...
was $1,450,000 with amounts ranging from a median amount of $850,000 for small-sized independents, $5,400,000 for mid-sized independents and $100,000,000 for large independents.

Volatility of prices is something that all producers continue to face, but swaps, at 41.5% have replaced futures and long-term contracts as the financial instruments most frequently used to stabilize price levels. The use of futures, which was most popular in 2000, fell to a second place tie at 26.8% (with other) followed by the use of options at 19.5%. Coping with volatility has become an increasingly important component of the E & P industry as witnessed with the proliferation of hedging strategies to mitigate risk associated with more extreme commodity price fluctuations.

FINANCIAL INSTRUMENTS CURRENTLY USED TO GUARANTEE PRICE LEVELS

Technology

Besides company personnel, in many cases, the use of technology is the second biggest contributor to the independents' relative success. Technology can contribute significantly to a company's bottom line in the forms of improved efficiency and reduced costs. The survey highlighted the following three technologies – horizontal drilling, seismic and hydraulic fracturing – and their increasing importance to domestic production. Based on all independent respondents, the average company participated in an average of ten horizontal drilling ventures in 2007 (compared to just one in the 2000 survey). Size made a big difference with the large-size independents operating an average of 87 horizontal drilling ventures compared to eight for the mid-sized independent and one for the small-sized independent. A total of 26.6% of respondents indicated that they did not participate in horizontal drilling ventures in 2007 but expected to do so in 2008.

The average respondent hydraulically fractured 54 wells on average (12 median) in 2007. The percentage of production affected averaged almost 51% (a median of 30%). The large companies hydraulically fractured an average of 269 wells compared to 44 for the mid-sized and 14 for the small-sized independents. The average number of wells using other stimulation techniques (e.g. cavitation) was 28 with a median of 18. These techniques encapsulated an average of 49% of production or a median of 35%. For more information on the importance of hydraulic fracturing, please visit http://www.energyindepth.org. In regard to enhanced oil recovery (EOR) technologies used, water flooding was top at 71.6% followed by horizontal drilling at 43.2% and then multi-lateral well-bores at 13.6% and polymer augmented water flooding at 12.4% (multiple responses allowed).

The small-sized independents primarily were split between the utilization of water flooding (66.7%) and horizontal drilling (31.1%). The mid-sized independents used water flooding and horizontal drilling (75% and 60% respectively) in addition to some other flooding technologies (25% for polymer augmented water flooding and 20% for carbonate water flooding). The large-sized independents responded with an 87.5% and 50% mix for water flooding and horizontal drilling which was supplemented by multilateral well bores (50%), carbonate water flooding (25%), and CO2 injection (25%).

The median budget for seismic activity of companies in 2008 is $800,000, compared to a budget of $350,000 for the 2000 survey. The range of the median averages of companies was from $340,000 for the small independents to $25 million for the large independents. The use of 3-D seismic is now more prevalent, outpacing 2-D with a median of 99.5% representing 3-D and 25% representing 2-D. The proportion of 3-D for the large independents averaged 91% compared to 72% for mid-sized and 94% for small-sized independents. 3-D seismic has proven to be an extremely important exploration and exploitation tool that has become more competitively priced due to the increased speed and memory of the computer.

International Operations

The international arena is an area where a select group of independents are considering risking relatively small amounts of their exploration budgets for large (and typically oil) reserve payoffs. However, the growth in onshore unconventional natural gas plays most probably forestalled international
ambitions over the past two years (2006-2008) as companies focused on consolidating domestically and targeting regional shale plays. A total of 10.8% of responding firms reported participating in international operations, a decrease of 0.8% from the 2000 survey. Of those independents that did not participate in international operations, 11.1% planned to do so within the next five years (significantly down from 27.3% in the 2000 survey). The projects responding independents will be pursuing internationally are primarily onshore E & P and production enhancements followed by redevelopment/refurbishment and E & P offshore [Graph 7].

The biggest hindrances to international operations were the accompanying political uncertainty (33.3%) and capital outlays (25.6%), constituting a reversal from the 2000 survey responses which resulted from the dearth of capital following the 1997-1998 price collapse [Graph 8]. For those companies with international reserves, an average of 14% was outside North America (median of 10%). Latin America and Canada remain popular venues due to their geographic proximity and relatively amenable (albeit increasingly on a country-specific basis) political risk.

Graph 7:

WHAT KIND OF INTERNATIONAL PROJECTS DO YOU PLAN TO PURSUE?

Small Independents
- E&P-onshore: 9%
- E&P-offshore: 9%
- Production enhancement: 40%
- Redevelopment/refurbishment: 27%
- Service/supply: 9%

Medium Independents
- E&P-onshore: 29%
- E&P-offshore: 5%
- Production enhancement: 43%
- Redevelopment/refurbishment: 14%
- Service/supply: 14%

Large Independents
- E&P-onshore: 14%
- E&P-offshore: 43%
- Production enhancement: 14%
- Redevelopment/refurbishment: 71%

Graph 8:

BIGGEST HINDRANCE IN OPERATING INTERNATIONALLY

Small Independents
- Capital outlays: 28%
- Political uncertainty: 28%
- Tax structures: 2%
- Information: 2%
- Tariffs: 2%
- Sanctions: 9%

Medium Independents
- Capital outlays: 33%
- Political uncertainty: 33%
- Tax structures: 5%
- Information: 5%
- Tariffs: 5%

Large Independents
- Capital outlays: 57%
- Political uncertainty: 29%
- Tax structures: 14%

The large-sized independents were much more active internationally with 50% of respondents indicating current operations overseas and with 37.5% of respondents planning to pursue international opportunities over the next five years. Only 8.1% of mid-sized independents and five percent of small-sized independents operate internationally and just 10.8% of mid-sized and 7.5% of small-sized companies are considering international activities in the near future. The large company has on average just 10.5% of its reserves outside of North America. In regard to obstacles, the large-sized
independents were more concerned about political uncertainty (57.1%) while the mid- and small-size independents were more worried about a combination of political uncertainty (33.3% & 31.9%) and capital outlays (33.3% & 27.7%). For more information on the international activity of U.S. independents, please refer to our 2008 International Activity Survey at http://www.ipaa.org/issues/international/2008NewSurveyOnIntlActivity.pdf.

Public Lands—Onshore

Over 43% of responding independents reported they currently hold federal or Indian leases. Based on size, 75% of large-sized independents held federal/Indian leases compared to 61.1% for mid-sized and 28.2% for small-sized independents. The average number of leases ranged from a median amount of 775 for large, 12 for medium and four for small operators. Of all independents who hold such leases, the median number held is 12, an increase from five in the 2000 survey.

The median daily federal production of crude oil was eight barrels (Bbls) per day, while the median daily federal production of natural gas was 16 thousand cubic feet (Mcf) per day; compared to 4.5 Bbls and 50 Mcf in the 2000 survey. Regarding median federal land production volumes, the large independent produced 2,125 Bbls/day and 22,300 Mcf/day compared to 90 Bbls/day and 315 Mcf/day for a medium company. The two greatest hindrances impeding pursuit of federal land opportunities are government regulations at 63.1% (up from 41.0% in 2000) and environmental costs at 48.8% (up from 27.8% in 2000).

Public Lands—Offshore

The offshore area continues to be a robust domain for the industry and especially for independents but the numbers show a decline compared to the 2000 survey. The spate of hurricanes (including Ivan, Katrina, Rita and Ike) certainly played a large role in shaping activity and future plans in this important production arena. While 9.5% of responding independents currently operate in federal waters, 14.6% operate in state waters. More than 18% of respondents plan to operate offshore in the next five years, a decrease of over seven percent compared to 2000. The reduced interest may involve more enticing onshore opportunities combined with a changed perception of hindrances (e.g. hurricanes) and steep financial barriers to entry. When asked about the biggest hindrance impeding pursuit of offshore opportunities, 43.1% of responding independents indicated no interest, 30.6% indicated financial constraints, 25% cited governmental regulations, and 23.6% cited environmental costs. By comparison, in 2000, 27.8% of responding independents indicated financial constraints, 23.6% indicated no interest offshore, 19.4% cited environmental costs, and 19.4% cited government regulations. As in other areas of the survey, regulatory and environmental issues have been catching up to or surpassing financial issues as future developmental hurdles.

A total of 10.3% of independents reported having drilled wells in federal waters in 2007, while 8.2% drilled wells in state waters, down from respective numbers of 16.4% and 10.5% in 1998. For the active drillers of wells, the median number of wells was nine in federal waters and one well in state waters. Despite the decline in offshore operators, company production was much higher than in the 2000 operator survey. The median offshore crude oil and natural gas production for 2007 was 4,746,500 Bbls and 12,000 Mmcf compared to 283,750 Bbls and 14,313 Mmcf, respectively, in 2000. In addition to dramatically increased production volumes per company, the operating depths have greatly increased with the help of new seismic, drilling and imaging technologies. Of the independents operating offshore, 60% are operating in water of less than 300 feet and 20% are operating in ultra-deepwater over 2,001 feet. By comparison, in 2000, 86.4% were operating in water of less than 300 feet and only 5% were operating in ultra-deepwater over 2,001 feet. Independent producers have become active participants in ultra-deep and deepwater production, reaffirming the lease sale data from the Minerals Management Service (MMS) showing consistently robust participation by independents in the bidding process and in high bids.

Graph 9:

INDEPENDENTS’ OFFSHORE OPERATIONS BY WATER DEPTH

Legend

- 0-300 ft.
- 301-600 ft.
- 601-1,200 ft.
- 1,201-2,000 ft.
- 2,001-5,000 ft.
- 5,001-10,000 ft.
- Over 10,000 ft.
The large independents are by far the most active in this category in similar fashion to international operations. By comparison, 45.5% of large independents operate in federal waters compared to 8.6% of the mid-tier companies and 2.9% of the small-size operators. In regard to the next five years, half of the large companies are planning on operating offshore compared to just 10.7% for mid-size and 12.1% for small-size independents. Regarding production by depth, it is interesting to note that while over 66.7% of the large-size independents’ production comes from the ultra-deepwater (over 2,001 ft.), an impressive 50% of small-size operators’ production is from water depths greater than 5,001 feet.

Oil and Gas Operations
The typical respondent reported a median gross crude oil production per day of 300 Bbls and a net production per day of 160 Bbls. The respondent also reported a median gross natural gas production of 2,000 Mcf and net production of 1,500 Mcf. The largest percentage of independents would increase their exploration budget in 2008 for crude oil at $120.00 and above per Bbl and their exploration budget for natural gas over $11.00 per Mcf. It is important to recall that this survey was taken prior to the collapse in commodity prices and demand which took place in the second half of 2008. Nonetheless, these benchmark prices are illustrative of how price volatility has changed for this industry. For the 2000 survey, the responding producers noted they would increase their exploration budgets at $25.00/Bbl and above (48.1%) and $2.80-$3.20/Mcf (50%).

In 2007, the typical responding independent operated 60.0 gross and 54.0 net crude oil wells and 44.0 gross and 35.0 net natural gas wells. The typical firm drilled nine crude oil wells and 12 natural gas wells in 2007 and planned to drill eight crude oil wells and eight natural gas wells in 2008. Many independents have been continuing to orient their drilling portfolios towards more unconventional gas-directed drilling as shale plays continue to develop. Regarding breakdown of spending in 2007, 31% was directed toward exploration and 69% toward development. Approximately 50% of production was unconventional and natural gas-oriented.

The large independent produced 500,000 Mcf/d gross/255,000 Mcf/d net compared to 6,000 Mcf /2,106 Mcf and 1,500 Mcf /500 Mcf for the mid and small-size producers. The smaller company required a higher crude oil price to increase their exploration budget with 40.6% of small companies reporting over $120 compared to 28.6% of mid-size companies for over $120 and only 12.5% of large-size companies. The large independent would change the budget at the $101-$110/Bbl threshold (37.5%) and $81-$90/Bbl threshold (25%). This held similar to natural gas with small companies requiring prices over $11.00 Mcf (29.5%) compared to a range of $10.01-$11.00 Mcf (24.1%) to over $11 Mcf (20.7%) for the mid-size companies and a larger range of $8.00-$8.50 Mcf (22.2%), $9.01-$9.50 Mcf (22.2%) and $10.01-$11.00 Mcf (22.2%) for the large size companies.

The smaller company had a higher amount of spending for exploration (36.4%) compared to the mid-size company (23.1%) or the large independent (17.7%). The small independent also had a much higher proportion of unconventional production (90%), compared to 40% for mid-size and 50% for large-size companies. The smaller and larger independents had more unconventional oil (17.5% and 14.0%) than the mid-sized company (4.3%) but they all shared roughly similar percentages for the proportion of unconventional natural gas: 42.5% for small, 49.8% for medium and 42.2% for large producers. The phenomenon of unconventional natural gas is readily apparent compared to the 2000 survey with the proliferation of plays such as the Barnett, Woodford and Fayetteville in addition to newer activity in the Haynesville and Marcellus. Regarding drilling, the large company drilled 54 oil wells and 300 natural gas wells in 2007 compared to a median of 15/46 for mid-size and 4/5 for small-size. For 2008, the large company planned to drill 64 oil wells and 280 natural gas wells compared to 15/25 and 4/5 for the respective others. The large company in 2007 operated 1000 gross oil wells (619 net) and 3,300 gross natural gas wells (2,651 net) compared to the small company who operated 34 gross oil wells (25 net) and 20 gross natural gas wells (13 net).

For the large independents, median U.S. crude oil production per day was 4,000 Bbl gross and 10,000 Bbl net compared to 750Bbl/450 Bbl for mid-size and 150Bbl/75 Bbl for the small-size producer. The large independent

Graph 10:

<table>
<thead>
<tr>
<th>RANKING OF COST CENTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small Independents</td>
</tr>
<tr>
<td>Environmental costs</td>
</tr>
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<td>Transportation</td>
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<td>Taxes</td>
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<td>Labor</td>
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<td>Other</td>
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For the large independents, median U.S. crude oil production per day was 4,000 Bbl gross and 10,000 Bbl net compared to 750Bbl/450 Bbl for mid-size and 150Bbl/75 Bbl for the small-size producer. The large independent
For the reserves outlook, the large independent held 152 MMBbls of oil and 1,266,528 MMcf of natural gas at year-end 2007 compared to six MMBbls/1,134 MMcf for the mid-sized independent and 100 MMBbls/140 MMcf for the small-size producers. For the typical independent, the median reserves for crude (YE 2007) rose compared to the 2000 survey from 22.6 MMBbls to 71 MMBbls while natural gas reserves dropped from 2,651 MMcf to 2,100 MMcf.

For the pipelines and marketing segment, the large company relied primarily on producer/gatherer (49.4%) while the middle and small independents were more balanced on their gathering sources. Small producers used intrastate pipelines (34.7%), independent gatherers (27.3%), producer/gatherers (23.5%) and interstate pipelines (14.5%). Mid-size producers utilized producer/gatherers (27.9%), interstate pipelines (26.9%), independent gatherers (23.1%), and intrastate pipelines (22.1%). The largest percentage of natural gas, 29.9%, is gathered through intrastate pipelines, followed by producer/gatherer at 27.6% and independent gatherer at 24.1%. The remaining 18.4% is gathered through an interstate pipeline. Compared to the 2000 survey, the largest growth was in the producer/gatherer and independent gatherer categories and the biggest drop was in the interstate pipeline category.

Approximately 32% of small producers marketed their own crude oil and natural gas compared to almost 67% for the mid-size and 80% for the large independents. The median marketed crude ranged from 15,000 Bbl/d for the large, 500 for the mid-size and 213 for the small-size independent. For natural gas, the median amount was 350,000 Mcf/d for large, 5,715 Mcf/d for mid-size and 1,500 for small-sized independents. A total of 45% of the respondents market their own crude oil and natural gas compared to 60% in the 2000 survey. The median amount of crude oil sold for all respondents was 500 Bbls. The median amount of natural gas sold was 2,000 Mcf which compared to 75 Mcf in the 2000 survey. A total of 87.5% reported firm service compared to 12.5% for interruptible service.

Only nine percent of small producers process their own natural gas compared to almost 22% for mid-sized and 40% for large independents. The median amount of natural gas processed ranked from 50% for small, 70% for medium and 55% for large-sized independents. Fifty percent of the large-sized companies held capacity in their name on an interstate natural gas pipeline compared to almost 17% for mid-size and just over 3% for small-sized independents.

The largest percentage of responding firms, 35.6%, reported labor as their largest cost center. This is followed by General and Administrative (G & A) expenses as the largest cost center of 28.3% of responding firms. Two notable cost centers which grew compared to the 2000 survey were taxes at 27.2% for largest cost center compared to 32.3% of responding firms. Two notable cost centers which grew compared to the 2000 survey were taxes at 27.2% for largest cost center compared to 19.8% and environmental costs which grew from 1% to 5.8% as the largest cost center. The largest cost center for the small producers was labor (40%) followed by G & A (27.5%), taxes (25.5%) and environmental costs (8.5%). For mid-size producers, the largest cost center was labor (40%) followed by G & A (34.5%), followed closely by taxes (21.4%) and transportation (7.4%). For large independents, the largest cost center was taxes (37.5%) followed by labor (25%), G & A (25%), and other (16.7%).

Marginal Wells
Crude oil production from marginal wells accounted for large quantities of total production in nearly every size company. A marginal well is defined as a well that produces less than 15 Bbls per day of crude oil or less than 90 Mcf per day of natural gas. Marginal oil accounts for 80% of all crude production for small independents, 40% of production for mid-sized independents and 10% of production for large companies. Natural gas marginal wells are growing in their collective importance with these wells constituting 67.5% of production for small producers, 50% for mid-sized and 11% for large. Responding independents reported operating a median number of 37.0 gross and 32.0 net marginal crude oil wells and 23.0 gross and 37.0 net marginal natural gas wells. Marginal wells represented 75.0% of total crude oil production (up from 65% in the 1998 survey and holding roughly steady compared to the 2000 survey) and 40.0% of total natural gas production for the reporting independents. The typical small independent operated 33 gross and 25 net marginal oil wells in addition to eight gross and 14 net natural gas marginal wells. The mid-size independent operated 65 gross and 120 net oil wells and 50 gross and 59 net marginal gas wells.
The large independent operated 459 gross and 107 net marginal oil wells and 3,350 gross and 500 net marginal gas wells.

As expected, the biggest concern of marginal well operators was the price of crude oil and natural gas. Other concerns listed were labor costs, environmental costs, produced water, and the costs associated with decommissioning a well [Graph 11]. For the large independent, the biggest concern was gas prices (66.7%), followed by energy costs (33.3%) and labor costs (33.3%). For the mid-sized independent, the biggest marginal well concern was a tie between natural gas prices (40%) and crude prices (40%), followed by labor costs (23.8%) and labor costs (38.1%). For the small operator, the biggest issue was crude price (47.1%), followed by gas prices (26%), and then plugging and abandonment (P & A) costs at 22.5%.

Graph 11:

![Biggest Concern of Marginal Well Operations](image)

Responding independents further reported that they operated a median of eight wells that broke even or lost money in 2007, down from 20 in 1999 and 13 in 1997. The median cost to operate a marginal well was $24 per barrel of oil equivalent (Boe) which almost tripled the $8.68 per Boe from the 2000 survey, excluding taxes and corporate overhead expenses. The average operating cost ranged from a high of $26/Boe for a small producer to $23 for a mid-size producer to $20 for a large producer. The small independent had five wells that broke even or lost money on a cash-flow basis for the 2007 fiscal year compared to 33 wells for the mid-sized independent and 50 wells for the large independent.

**Taxes**

Independents reported a median of 6.0 inactive wells (less than two years old) which is slightly up from the 2000 survey. Inactive wells ranged from a median of 153 for large, ten for medium and five for small size independents. Of those responding, over 47% noted that the intangible drilling cost’s (IDC) preference had caused them to pay the alternative minimum tax (AMT). Almost 46% of small independents paid the ATM compared to 50% of the mid-size and just over 33% of the large-sized independents.

The median amount incurred for geological and geophysical expenses for the last fiscal year was $500,000 compared to $175,000 in 2000. Based on size, the median amount incurred for the small independent was $150,000 compared to $900,000 for the mid-size and $28,204,000 for the large independent. The median percentage of these expenses capitalized for the last fiscal year was 40.0% which doubled since the 2000 survey. While the large independent capitalized almost 83% of their geological and geophysical (G & G) expenses, only 25% of mid-size and 10% of small-sized independents did so. The median percentage of the G & G costs that were expensed for the last fiscal year was 60.0%. Small independents expensed 90% of their G & G costs compared to 75% for mid-size and almost 18% for the large-sized independents.
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Photo courtesy of Anadarko Petroleum Corporation