

THE ROLE OF THE  
**Oil and Gas Industry in  
Alaska's Economy**

October 2011



Prepared by



Prepared for



Alaska Oil and Gas Association

# *The Role of the Oil and Gas Industry In Alaska's Economy*

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*Juneau • Anchorage*

*October 2011*

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# Executive Summary

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The Alaska Oil and Gas Association (AOGA) contracted with McDowell Group to assess the role of the oil and gas industry in Alaska’s economy and in the economies of the Municipality of Anchorage, the Kenai Peninsula Borough, the Matanuska-Susitna Borough, the Fairbanks North Star Borough, the City of Valdez, and the North Slope Borough. The economic impact analysis conducted for this study was based on detailed expenditure and payroll data provided by “Primary Companies” in Alaska’s oil and gas industry (including production and exploration companies, refineries, and pipeline companies).<sup>1</sup> Data was also drawn from the Alaska Department of Labor and Workforce Development (ADOLWD), the U.S. Bureau of Economic Analysis, and a variety of other public sources.

The findings of this study are divided into two categories: 1) those reflecting a detailed analysis of the industry’s size and impact on Alaska’s economy, including direct, indirect, and induced impacts; and 2) those reflecting trends in the industry as it is more narrowly defined by the ADOLWD and federal government statistical agencies. This report’s principal aim is to answer questions about the industry’s size and influence on the Alaska economy.<sup>2</sup> Secondly, the report seeks to provide useful information about trends in the industry as reflected in government statistics that are regularly published and often seen by industry watchers, policy makers, and the general public as a measure of the industry’s health.

## Key Statewide Findings

### Oil and Gas Industry-Related Employment and Payroll

- Employment and payroll in Alaska’s oil and gas industry in 2010 included direct (Primary Company) impacts of 4,848 jobs and \$764 million in payroll. This includes 4,000 jobs and \$600 million in annual payroll for Alaska residents.
- In-state spending by Primary Companies on goods and services, and in-state spending of payroll dollars earned by employees of the Primary Companies creates substantial indirect and induced employment and payroll for Alaska residents. The substantial “multiplier effect” of Primary Company activity in Alaska includes employment with oil support services firms, other businesses that provide goods and services to the industry, and other support sector firms throughout Alaska where industry payroll dollars are spent.

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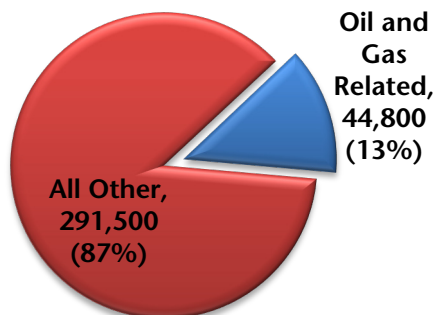
<sup>1</sup> “Primary Companies” include Alyeska Pipeline Service Company, Anadarko Petroleum Corporation, Apache Corporation, BP Exploration (Alaska) Inc., Chevron, ConocoPhillips Alaska, Inc., eni petroleum, ExxonMobil Production Company, Flint Hills Resources, Alaska, Marathon Oil Company, Petro Star Inc., Pioneer Natural Resources Alaska, Inc., Shell Exploration & Production Company, Statoil, Tesoro Alaska Company, and XTO Energy, Inc.

<sup>2</sup> In-depth industry impact studies such as this one are impractical to do every year and are not designed to be a time series for use in comparing change within the industry over time. Government data sets for employment and wages, on the other hand, *are* designed for that purpose, although they give a less comprehensive picture of an industry’s total economic impact at any one point in time.

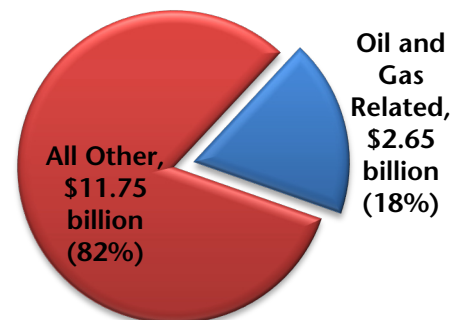
- Including all direct, indirect, and induced employment and wages, the oil and gas industry in Alaska accounted for 44,800 jobs and just under \$2.65 billion in annual payroll to Alaska residents in 2010. To state differently, for each Primary Company direct job, nine jobs are generated in the Alaska economy. For each dollar earned by employees of the Primary Companies, a total of three and a half payroll dollars are generated in Alaska. These numbers do not include jobs and wages in Alaska created by the expenditure of oil-related taxes and royalties paid to state and local government. They also do not include jobs and income related to the Alaska Permanent Fund and savings accounts that exist because of prior years' oil taxes, royalties, or other oil-related payments.
- The industry accounted for 13 percent of all private sector employment in Alaska (44,800 jobs out of a total of 336,300 jobs) and 18 percent of all private sector resident earnings (\$2.65 billion in payroll out of total of \$14.4 billion).
- The oil and gas industry accounted for approximately 10 percent of all employment in Alaska and 13 percent of all resident earnings.

### Oil & Gas Industry-Related Private Sector Employment and Payroll in Alaska Share of Total Private Sector Employment

#### Private Sector Employment



#### Private Sector Payroll



Source: U.S. Bureau of Economic Analysis and McDowell Group estimates. Includes direct, indirect and induced employment.

### Trends in Oil and Gas Industry Employment and Payroll

- Government-published data, though including only a partial measure of oil and gas industry employment, provides an indication of trends in the industry. According to this data, employment grew steadily from 2003 to 2008, peaking at 13,700 jobs (including resident and non-resident jobs) in December 2008. This employment figure includes jobs with oil and gas "extraction" firms and oil support services companies, but excludes refineries and pipeline employment, as well as much of the industry's indirect employment and all of the industry's induced employment.

- Based on the same published data, industry employment then fell to as low as 12,000 in 2009 where it remained relatively unchanged for several months before gradually increasing to around 13,000 by the end of 2010.<sup>3</sup>
- While insufficient data is available for industry-wide quantitative analysis, anecdotal reports and individual companies' data indicate much of the recent employment increase is connected to higher spending on long-term maintenance and repair of aging infrastructure while spending on development of new projects has been relatively flat.

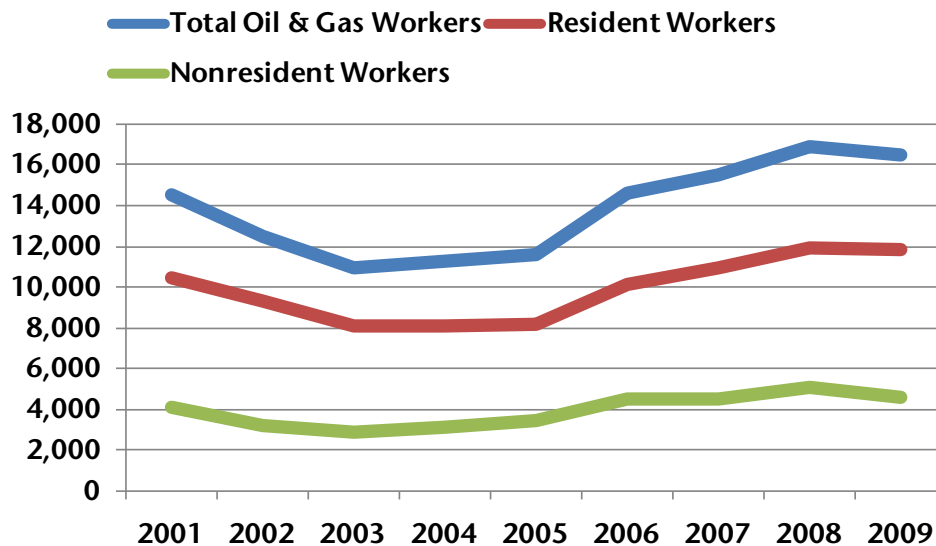
### **Nonresident Participation in Alaska Oil and Gas Industry**

- Based on government-published data, nonresident employment in the oil and gas industry has varied only marginally since 2000 and has not shown a clear trend either up or down. The high point for nonresident workers in the industry over that period was 31 percent in 2006 and the low point was 26 percent in 2002. The percentage of nonresident oil and gas workers in 2009 (the most recent year available) was 28 percent.
- Without exception, increases in the number of nonresident workers in the oil and gas industry over the last decade have corresponded with increases in the number of resident workers in the industry. In other words, more nonresident hire has historically meant more resident hire as well. Similarly, in every year where the number of resident oil and gas workers declined, the number of nonresident workers in the industry also fell.
- From 2005 to 2009, the number of oil and gas industry workers who were Alaska residents increased from about 8,200 to more than 11,800 – a jump of over 3,600 workers (44 percent). Over that same period the number of workers that were nonresidents rose from about 3,400 to about 4,600 – an increase of about 1,200 workers (35 percent).

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<sup>3</sup> Oil and gas employment estimates are published monthly, but preliminary estimates are subject to significant revisions, so this report limits its discussion of oil and gas employment numbers to those that have gone through the first set of revisions (employment numbers are revised as many as three times, although the first revision is typically the largest). The government employment statistics for the industry discussed here are by place of work and include jobs held by both Alaska residents and nonresidents. A separate data set, which is also used in this study, divides employment in the industry into jobs held by Alaska residents and jobs held by nonresidents.

## Resident and Nonresident Participation in Alaska's Oil and Gas Industry, 2001-2009 (Excludes Refineries and Pipeline Workers)



Source: ADOLWD.

## Key Local Area Findings

### Municipality of Anchorage

- The Primary Companies provided 2,040 direct jobs to Anchorage residents and total annual payroll of \$345 million in 2010.
- Primary Companies and oil support services firms together accounted for 4,183 jobs and \$599 million in annual payroll for Anchorage residents.
- Including all direct, indirect, and induced effects, the oil and gas industry accounted for 25,400 jobs in Anchorage and \$1.56 billion in payroll.
- Oil and gas industry payroll was equal to approximately 16 percent of all Anchorage private sector earnings and approximately 14 percent of private sector employment.
- The oil and gas industry paid \$3.5 million in property taxes to the Municipality in 2010. BP was the 6th largest property tax payer in Anchorage.
- Two oil and gas producers were ranked among Anchorage's top 15 private sector employers in 2010. BP ranked 7<sup>th</sup> and ConocoPhillips ranked 13<sup>th</sup>.
- Since peaking in 2008, direct oil and gas industry employment in Anchorage in 2010 was down by about 8 percent, according to government-published data.

## **Kenai Peninsula Borough**

- Primary Companies accounted for 837 jobs for Kenai Peninsula Borough (KPB) residents in 2010, earning total annual payroll of \$92 million.
- Including Primary Companies and oil support services firms, the oil and gas industry accounted for 2,748 jobs and \$239 million in payroll for KPB residents.
- Four of the top ten largest private sector employers in the KPB are oil and gas industry firms.
- Including all direct, indirect, and induced effects, the oil and gas industry accounted for 4,700 jobs in the KPB and total annual payroll of \$320 million in 2010.
- Oil and gas industry-related payroll was equal to approximately 24 percent of all KPB resident earnings. The industry's impact in terms of jobs was equal to 15 percent of all jobs and 19 percent of all private sector jobs.
- The oil and gas industry paid \$6.8 million in property taxes to the KPB in 2010, 12.4 percent of total property tax revenues for the Borough.

## **Matanuska-Susitna Borough**

- While little oil and gas industry activity occurs in the Matanuska-Susitna Borough (Mat-Su), 2,566 oil industry jobs were held by Mat-Su residents (including 418 Primary Company employees and 2,148 oil support services company employees) in 2010. Most of the residents who hold these jobs work on the North Slope, but reside in Mat-Su. Some Mat-Su residents also hold oil industry jobs located in Anchorage.
- Mat-Su residents earned an estimated \$228 million in oil and gas industry wages (\$65 million earned by Primary Company employees). Local spending by oil and gas industry workers generated over 900 additional jobs and \$40 million in annual wages.
- Total direct, indirect and induced oil and gas industry-related employment and payroll in Mat-Su is estimated at 3,600 jobs and \$268 million in payroll.
- The oil and gas industry accounted for an estimated 11 percent of all Mat-Su resident earnings and 11 percent of all Mat-Su employment. Within the private sector, the oil and gas industry's impact was the equivalent of 14 percent of all employment and earnings.

## **Fairbanks North Star Borough**

- Fairbanks North Star Borough (FNSB) residents held 313 Primary Company jobs in 2010, earning total annual payroll of \$44 million. Including oil support services jobs held by Fairbanks residents, the oil industry accounted for 1,060 jobs and \$87 million in annual payroll.
- Including all direct, indirect, and induced effects, the oil and gas industry accounted for an annual average 3,000 jobs in the FNSB and total annual payroll of \$168 million in 2010.
- The oil and gas industry's impact on the FNSB economy was equal to 11 percent of private sector earnings and 8 percent of private sector employment.



- The oil and gas industry paid \$9.2 million in property taxes to the FNSB in 2010, 9.6 percent of total Borough revenues. The industry also paid \$163,000 in property taxes to the City of Fairbanks.
- Oil and gas industry firms are among the largest property tax payers in the FNSB. Alyeska Pipeline Service Company is the single largest contributor of property tax revenues. The Flint Hills refinery is the fourth largest.

## Valdez

- Valdez residents held 285 Primary Company jobs in 2010, accounting for \$38 million in payroll. Including oil support services firms, the oil and gas industry accounted for 374 jobs for Valdez residents in 2010. Wages for those jobs totaled \$44 million.
- Including all direct, indirect, and induced effects, the oil and gas industry generated 700 jobs in Valdez and total annual payroll of \$57 million.
- Alyeska Pipeline Service Company is the largest year-round private employer in Valdez.
- Local oil-related property taxes totaled \$43 million in 2010, 90 percent of the city’s total property tax revenue.

## North Slope Borough

- Most of the state’s oil and gas industry jobs in Alaska are on the North Slope (8,386 jobs accounting for \$850 million in annual payroll, by place of work); however, few local borough residents are employed directly by the industry. Most of the industry’s economic impact on the borough is related to tax payments.
- Local oil-related property taxes totaled \$271 million in 2010, 98 percent of the borough’s total property tax revenue.
- Including all direct, indirect, and induced effects, the oil and gas industry generated 1,500 jobs in the North Slope Borough and total annual payroll of \$100 million, almost all related to taxes paid by the oil industry.

### Resident Employment and Payroll Generated by Alaska’s Oil and Gas Industry, 2010

	Direct, Indirect, and Induced Employment	Direct, Indirect, and Induced Payroll (\$ millions)
Anchorage	25,400	\$1,562
Fairbanks	3,000	\$168
Kenai	4,700	\$320
Mat-Su	3,600	\$268
North Slope	1,500	\$100
Valdez	700	\$57
Unattributed	5,900	\$173
<b>Total Alaska</b>	<b>44,800</b>	<b>\$2,648</b>

Sources: Primary Companies, ADOLWD, and McDowell Group estimates.

# Economic Benefits Related to Payment of Taxes and Royalties

## State Taxes and Royalties

- Oil is the reason Alaska is the only state in the nation that does not have either a state sales tax or a personal income tax. As a result of oil revenue, Alaska has enjoyed budget surpluses and growing rainy-day accounts during a severe national recession that exposed most states to large deficits.
- Nearly 80 percent of oil revenue flowing to the state (\$4.9 billion in fiscal year (FY) 2010) was unrestricted, which means it was available for appropriation by the state legislature (subject to the governor's veto). The remaining \$1.3 billion was restricted and went primarily to the Alaska Permanent Fund, school funds, and the Constitutional Budget Reserve (the state's main rainy-day fund).
- The \$4.9 billion in FY 2010 oil revenue represented 89 percent of all unrestricted state revenue, a percentage that reveals the critical role the industry plays in financing state government. No other state is so dependent on a single industry for tax revenue.
- From 1959 to 2010, oil revenues have totaled \$157 billion in 2010 dollars, which equals 98 percent of all state revenue from natural resources.<sup>4</sup>

## Property Taxes

- Oil and gas property taxes paid to the State and then distributed to local governments totaled \$334 million in FY 2010 and made up 23 percent of all local tax revenue.
- Oil and gas property tax revenue increased 15 percent in FY 2010, while total local sales tax revenue declined 7 percent and other "special tax" revenue also declined (9 percent). Special taxes include motor fuel, raw fish, bed, and alcohol and tobacco taxes, among others.

## Alaska Permanent Fund

- The Alaska Permanent Fund and the Permanent Fund Dividend (PFD) program were made possible by oil revenues. A person who has been a resident of Alaska from 1982 through 2010 – and filed his or her yearly applications for the dividend – has received over \$32,000 in PFD money. In all, the Alaska Permanent Fund has paid about \$18 billion in dividends to Alaskans over its nearly 30-year history.

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<sup>4</sup> Alaska Department of Revenue data compiled and inflation-adjusted by Scott Goldsmith in UA Research Summary No. 17, February 2011; Institute of Social and Economic Research, University of Alaska Anchorage.

## **Jobs Related to Oil Industry Taxes and Royalties**

- The employment and payroll effects of oil industry taxes and royalties were not considered in this study. However, a University of Alaska Anchorage (UAA) study estimated government spending made possible by oil revenue creates about 16,000 state government jobs, 15,000 local government jobs, and 18,000 private sector jobs for a total of nearly 50,000 jobs.<sup>5</sup>
- The UAA study also estimated if the impact of the PFD is considered, the total number of jobs created comes closer to 60,000.

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<sup>5</sup> *Alaska's Petroleum Industry: Transformative, But is it Sustainable?* Scott Goldsmith presentation sponsored by Northrim Bank, April 2011.

## Study Scope

The Alaska Oil and Gas Association (AOGA) contracted with McDowell Group to assess the role of the oil and gas industry in Alaska's economy and in the economies of the Municipality of Anchorage, the Kenai Peninsula Borough, the Matanuska-Susitna Borough, the Fairbanks North Star Borough, the City of Valdez, and the North Slope Borough. To accomplish this task, the McDowell Group study team collected data from a variety of sources, including spending and payroll data from 16 "Primary Companies," including:

- Alyeska Pipeline Service Company
- Anadarko Petroleum Corporation
- Apache Corporation
- BP Exploration (Alaska) Inc.
- Chevron
- ConocoPhillips Alaska, Inc.
- eni petroleum
- ExxonMobil Production Company
- Flint Hills Resources, Alaska
- Marathon Oil Company
- Petro Star Inc.
- Pioneer Natural Resources Alaska, Inc.
- Shell Exploration & Production Company
- Statoil
- Tesoro Alaska Company
- XTO Energy, Inc.

Many of the Primary Companies were able to provide detailed financial information, including the amount of money they spend with specific Alaska companies, job counts and payroll information by both place of work and place of residence, and the amount they pay in state and local taxes.

The study team also gathered select information from a variety of companies who were significant beneficiaries of Primary Company spending. Much of this second-level research was with companies categorized in government statistics as oil and gas support companies, but some was also with companies not generally considered part of the oil and gas industry, including construction companies, transportation companies, and companies that provide geological, engineering, and related services.

In addition to the data collected directly from the Primary Companies and others that are direct recipients of much of the Primary Company spending, the study team collected data and information from a variety of published and unpublished sources, including the Alaska Department of Labor and Workforce Development (ADOLWD), the Alaska Department of Revenue, the Alaska Department of Commerce, Community and Economic Development, the U.S. Bureau of Labor Statistics, the U.S. Bureau of Economic Analysis (BEA), and the U.S. Department of Energy, Energy Information Administration, among others.

To measure multiplier effects produced by the Primary Companies' spending with Alaska businesses and the wages paid to Alaska residents, the study team used the IMPLAN<sup>6</sup> (IMpact Analysis for PLANning) input-output modeling system to build custom models for Alaska and each of the regions studied. The task of the models was to quantify the jobs and payroll added to the Alaska economy and the various regions' economies as industry and resident employee spending ripples through the respective economies in subsequent rounds of spending.

## Report Organization

This report begins with a chapter providing background information on the oil and gas industry in Alaska, with brief discussions of prices, production, and markets. Chapter 2 describes the oil and gas industry in Alaska, including brief profiles of the Primary Companies and examples of companies that also play key roles in the industry, but are not captured in published oil and gas industry employment data. This chapter also summarizes spending by Primary Companies in support of their Alaska operations. In Chapter 3, the statewide employment and payroll impacts of the industry are presented. Local area employment and payroll impacts are presented in Chapter 4. Chapter 5 summarizes employment trends in Alaska's oil and gas industry over the past ten years. This chapter also addresses trends in Alaska resident employment in the industry. Finally, Chapter 6 provides data on oil industry payments to state and local governments, and briefly discusses the employment impacts of those payments.

## Other Studies and their Comparability

Because of the oil and gas industry's obvious importance to the state, it has been the frequent subject of studies by government agencies, academic institutions, and private-sector businesses and associations. One study by the University of Alaska Anchorage's Institute of Social and Economic Research (ISER),<sup>7</sup> estimated that nearly a third of all jobs for Alaska residents are generated by Alaska's petroleum sector. Another shorter, more recent study by the same author, estimated that without the oil industry's current and historical contributions, Alaska's economy would be about half its current size.<sup>8</sup>

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<sup>6</sup> IMPLAN was first developed in the 1970s as part of the U.S. Forest Service's efforts to model different land management planning options. It is one of the most widely-used input-output models designed to quantify and detail the total impact of different events or industries on a regional, state, or national economy.

<sup>7</sup> *Structural Analysis of the Alaska Economy: What are the Drivers*, Scott Goldsmith, October 2008

<sup>8</sup> *Oil Pumps Alaska's Economy to Twice the Size – But What's Ahead?* Scott Goldsmith, UA Research Summary No. 17, February 2011

ADOLWD has also published a number of articles and reports on the industry, in addition to regularly producing employment and wage data. One of the most recent articles in 2008 noted that no other state in the nation depends more on oil than Alaska does. The article noted that oil and gas activity accounted for 29 percent of Alaska's gross state product – the highest of any state.<sup>9</sup>

Nationally, Price Waterhouse Coopers published a study in 2009 that estimated the economic impact of the oil and natural gas industry in each state and the nation as a whole.<sup>10</sup> That study estimated oil and natural gas generated more than 43,000 jobs in Alaska, or about 10 percent of the state's total employment.

For the most part, each of the studies must speak for itself, but to help avoid confusion between this study and the others, the following methodological points are noted:

- The studies done by ISER estimate the number of jobs generated by oil taxes and other revenue in addition to the number of jobs the industry generates in direct business spending and payroll. Consequently, the ISER studies' estimates of total employment generated by the industry are significantly larger than the estimates in studies, including this one, that limit their focus to the non-tax related impacts of the industry.
- The published data from ADOLWD designated as "oil and gas" includes only companies categorized as oil producers (North American Industrial Classification System (NAICS) Sector 211) and oil support services companies (NAICS Sectors 213111 and 213112). Not included in their definition of oil and gas companies are refineries, Alyeska Pipeline Service Company, the company that operates and maintains the Trans-Alaska Pipeline System (TAPS), and a large number of companies whose business is entirely or primarily tied to oil and gas, but not reported as such.
- The Price Waterhouse Coopers study includes gasoline stations and several categories of petroleum-related manufacturing in its definition of the oil and natural gas industry that are not included in this study. The Price Waterhouse Coopers study, like this one, does not include an estimate of the number of jobs generated by oil and gas taxes, and other state and local revenue.

In differentiating this study from the other studies mentioned above, the main points are: 1) it includes proprietary data collected directly from oil and gas companies to take a closer look at the industry's role in the Alaska economy, 2) it includes a more expansive definition of the oil and gas industry than the one used by government statistical agencies including ADOLWD, and 3) it does not attempt to quantify the jobs generated by the oil and gas industry's tax and other payments to state and local government. Although the details of the various studies differ, there is little dispute the oil and gas industry's importance to the state is without rival in the private sector.

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<sup>9</sup> *Alaska's Oil Industry: Producing a Third Less Oil, But Providing a Record Number of Jobs*, Neal Fried, Alaska Economic Trends, September 2008

<sup>10</sup> *The Economic Impacts of the Oil and Natural Gas Industry on the U.S. Economy: Employment, Labor Income and Value Added*. Price Waterhouse Coopers, September 8, 2009

# Chapter 1. Background

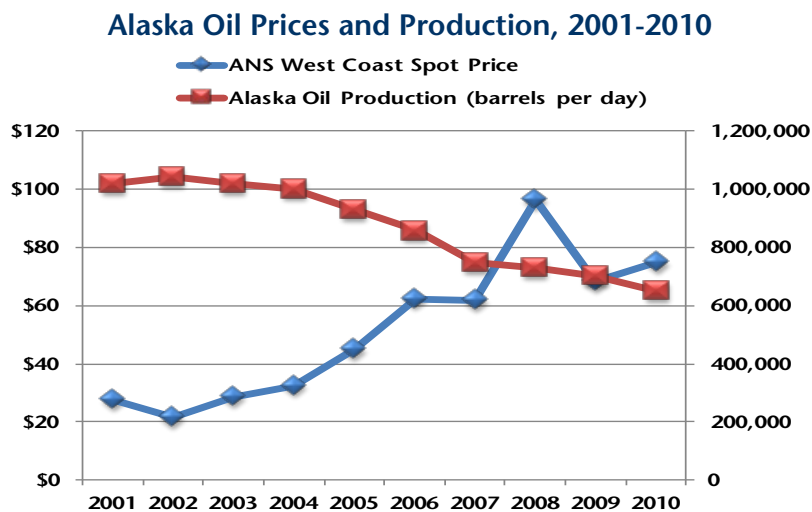
The last decade has been an eventful one for the oil and gas industry, which has seen dramatic swings in world oil prices, a deep global recession, and political unrest in the Middle East and North Africa. Specific to Alaska, issues have included changes to tax structure, delays in much-anticipated oil exploration and development on the Outer Continental Shelf, and an increasing focus on maintenance of aging North Slope infrastructure, all overlain by the steady decline in Prudhoe Bay production and TAPS throughput. Through all this, the oil industry has remained a cornerstone of Alaska's economy. To set the stage for in-depth analysis of the oil and gas industry's role in the Alaska economy today, this chapter offers a broad overview of oil market production and price trends, and Alaska's role in domestic and global production.

## Prices and Production

Although oil prices have a long history of unpredictable movement, prices in the last several years have been especially volatile. From an average daily Alaska North Slope price of about \$20 per barrel in 2002, prices rose to an average daily price of \$97 in 2008. Prices then dropped back down during the recession before beginning another climb initially connected to the economic recovery. Prices then surged higher as large-scale political protests and instability in several major world oil producing countries created supply concerns.

While the annualized prices in the chart below show significant movement, they mask even more volatility. In 2008, for example, daily prices rose as high as \$144 per barrel on July 3. By December 24, less than six months later, prices had fallen to \$27 per barrel. More recently the daily price peaked at \$125 per barrel in April 2011 before dropping back to the \$110 range in May.

Because of the nature of producing oil in Alaska and the expected decline in production from the enormous Prudhoe Bay oil field – easily the largest in North America – the trend in Alaska oil production has been more clear and easier to predict than oil prices.



Source: Alaska Department of Revenue.

The Alaska Department of Revenue forecasts continuing declines through 2020, when production is expected to be around 520,000 barrels per day, assuming an investment of 51 percent in new oil.<sup>11</sup> That amount is about a quarter of the 2 million barrels per day that were produced in 1988, the peak production year for Alaska.

## **World Oil Market**

The role of Alaska's oil and gas industry in the state's economy is closely tied to factors affecting international supply and demand. When the global recession hit in 2008 and 2009, world demand for oil fell for the first time since 1983 and oil prices plunged from historical highs. In the short term, those kinds of changes do not have a significant impact on oil and gas operations in Alaska because projects here tend to be large and require significant time to develop. The recent development of the Ooogaruk offshore field in the Beaufort Sea by Pioneer and eni, for example, took five years from exploration phase to production, and that was an unusually short period for the development of a new offshore field on the North Slope.

In the longer term, world oil prices have a clear effect on oil company investment in Alaska and the other oil-producing regions of the world. To state the obvious, higher oil prices mean more investment and the ability to develop fields that would otherwise not be economically feasible. The Energy Information Administration (EIA), among others, forecasts gradually increasing oil consumption over the next decade and a corresponding increase in supply to meet that demand. Because much of the easily accessed oil has already been produced – both in Alaska and worldwide – there will be generally higher operating costs to generate the additional supply, and prices are forecasted to rise, though not dramatically.<sup>12</sup>

## **Alaska's Role in National and International Oil Markets**

U.S. crude oil production peaked at 9.6 million barrels a day in 1970. From there it declined steadily to a cyclical low point of 8.1 million barrels a day in 1976. Alaska oil – Prudhoe Bay in particular – then helped reverse the decline in 1978. Alaska production of 1.2 million barrels a day in 1978 marked the beginning of an expansion of U.S. oil production that lasted until 1985 when production reached a high point of 9 million barrels a day.

From 1985 to 2008, however, U.S. oil production fell consistently and dropped below 5 million barrels a day in 2008 before surging back up to 5.5 million barrels a day over the next two years as high prices and new drilling technologies stimulated activity in North Dakota, Texas, and the Gulf of Mexico.

Alaska's role in U.S. production has diminished from its peak in 1988 when it accounted for 25 percent of all U.S. production. With the increase in U.S. production outside of Alaska in 2009 and 2010, Alaska's share of the U.S. total fell to 11 percent. Alaska remains an important part of any U.S. oil production discussions; however, with 17 percent of proved crude oil reserves (not including federal offshore reserves) and strong industry interest on the Outer Continental Shelf in the Beaufort and Chukchi Seas. That oil would be in

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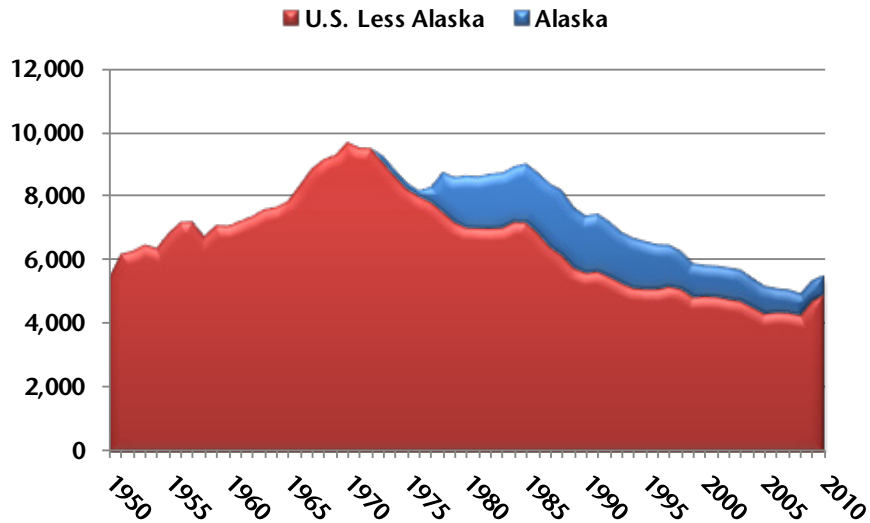
<sup>11</sup> Fall 2010 Revenue Sources Book.

<sup>12</sup> Oil price forecasting has proven notoriously difficult, however. The point here is that oil forecasters generally agree the fundamentals of increasing world demand and limited supply suggest oil prices are more likely to stay at or above their currently high levels than drop back down to the range of prices more common during the 1990s and first half of the 2000s.



federal waters, but relevant to Alaska because of the impact it would have on keeping the TAPS viable and on furthering development of smaller fields on state lands and in state waters.

### U.S. and Alaska Oil Production, 1950-2010 (thousands of barrels per day)



Source: Energy Information Administration.

In terms of world oil production, the U.S. was the third largest single-country producer of crude oil in 2010 behind Russia and Saudi Arabia. Other Middle East countries are also major producers and China has steadily increased its oil production over the last several decades.

### World Crude Oil Production, 2010



Source: Energy Information Administration.

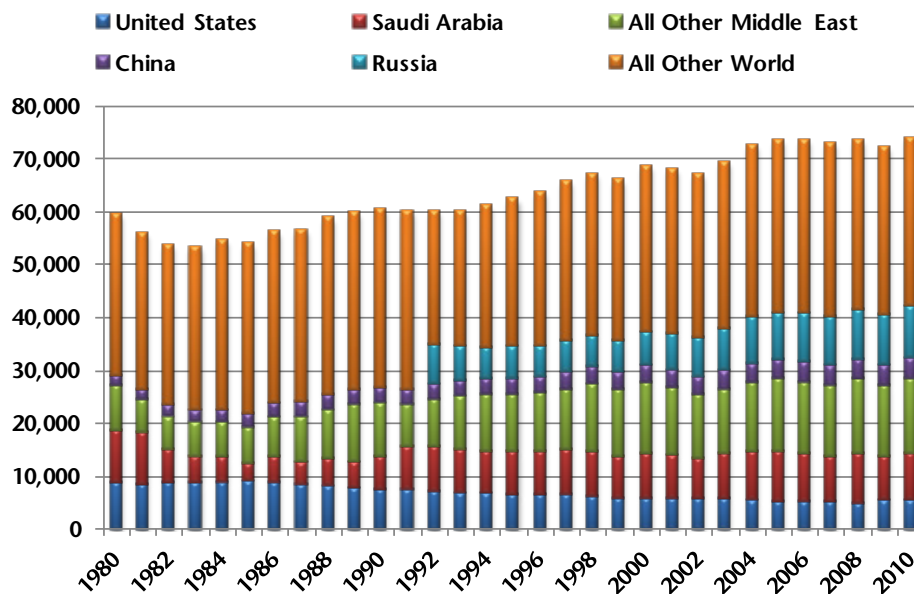
Over the course of the last three decades – essentially the period during which Alaska has been a major part of world oil production – the share of world production that has come from the U.S. has fallen from a high of 20 percent in 1985 to a low of 7.2 percent in 2008. Increased U.S. production over the last two years boosted the U.S. share of world production to 8 percent in both 2009 and 2010.

According to the U.S. Energy Information Administration, estimated U.S. crude oil production grew 5 percent between 2008 and 2009. Production from the Lower 48 States grew 8 percent while Alaska production fell 15 percent over this same time period.<sup>13</sup>

Other relevant points about world production data include the following:

- As a region, the Middle East remains the world’s largest producer of oil.
- Russia’s share of world oil production has consistently grown over the last two decades.
- A large share of world oil production (43 percent in 2010) comes from many other countries other than high-profile producers in the Middle East, Russia, China, and the U.S.

### World Crude Oil Production, 1980-2010 (thousands of barrels per day)



Source: Energy Information Administration.

Note: No data was available for Russia separate from the former Soviet Union prior to 1992.

To summarize Alaska’s role in the larger domestic and international oil markets – markets that have a direct and significant impact on the Alaska oil and gas industry – Alaska plays a declining, but still important role in U.S. oil production. Alaska’s share of international oil production is very small, less than one percent in 2010, which means that changes in Alaska oil production do not have a large effect on oil prices.

Although much of the world’s oil is produced in certain regions and countries, substantial amounts of oil comes from all over the globe. In other words, the large international oil and gas companies that produce most of the world’s oil have a significant number of geographic options available to them when they make investment decisions.

<sup>13</sup> [http://www.eia.gov/dnav/pet/pet\\_crd\\_pres\\_a\\_EPCO\\_R10\\_mmbbl\\_a.htm](http://www.eia.gov/dnav/pet/pet_crd_pres_a_EPCO_R10_mmbbl_a.htm)

A final point relates to oil consumption. In 2010, the U.S. consumed 18.7 million barrels of petroleum products a day, which was 22 percent of total world consumption. With just 8 percent of world production and concerns about the political stability of several major oil producing regions around the world, there is escalating interest in stimulating U.S. oil production and reducing the nation's dependence on oil imports. That interest bodes well for Alaska, assuming it remains an attractive investment option relative to other U.S. locations.

# Chapter 2. Profile of Alaska's Oil and Gas Industry

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## Composition of Alaska's Oil and Gas Industry

Government-published employment statistics for the oil and gas industry in Alaska provide only a partial measure of the industry's size and impact. That is not to say they are deficient – they do essentially what they were designed to do, group companies by the type of work they do – but knowing how many jobs there are in the oil and gas industry as defined by government statistics is different than knowing the full impact of the industry on Alaska's economy.

Government oil and gas employment statistics include jobs in companies classified in North American Industrial Classification System (NAICS) sector 211, "oil & gas extraction," sectors 213111 "drilling oil and gas wells," and 213112 "support activities for oil and gas operations." They do not include approximately 800 TAPS-related jobs, which are classified under transportation, nor do they include refinery employment of about 400 workers. Government-published oil and gas industry employment data also excludes several thousand jobs directly connected to North Slope (and Cook Inlet) production activity, but reported in other sectors, including jobs in construction, transportation, camp support services, engineering services, etc. These jobs are as closely tied to the oil industry as any other, but are reported as components of other sectors of the economy.<sup>14</sup>

An example of one of the larger firms directly engaged in North Slope activity, but not reported as part of the industry is NANA WorleyParsons (classified in Sector 541 "professional, scientific, and technical services"). Additional examples of large employers (more than 70 employees) include:

- CONAM Construction Company, based in Anchorage, is a general construction contractor specializing in oil and gas facilities (classified in Sector 237 "heavy construction").
- Alaska West Express, Inc., an Alaska trucking company, transports general commodities, bulk chemicals, tankers, heavy haul products, oil field materials, heavy machinery, and other products.
- Beacon Occupational Health & Safety Services provides medical, safety and training services to include occupational health (pre-hire/annual surveillance), drug and alcohol testing services, safety consulting, remote medical staffing, safety staffing and training.
- Bristow Alaska, Inc. is a commercial helicopter operator providing transportation services to the oil and gas industry. Bristow Alaska is classified in Sector 481 "air transportation."
- Advanced Supply Chain International provides materials management services, purchasing administration, warehouse operations, supply chain management/supplier management and e-commerce web tools. All of the firm's business is with the oil and gas sector.

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<sup>14</sup> The North American Industrial Classification System attempts to assign employers into one category or another based on what the predominant activity of the employer is – transporting something, for example, or providing professional geologic services – so the connection to an industry as a source of their business does not generally affect their classification.

Other noted businesses with substantial interest in Alaska's oil and gas industry include NANA Management Services and Doyon Universal Services (Sector 561), AHTNA Construction (Sector 237), ERA Helicopters, Lynden Transport, Alaska Interstate Construction, and Crowley Marine Services (in various transportation sectors). These firms are active in other sectors of the Alaska economy, but the revenue generated in the oil and gas industry is critical if not essential to business sustainability.

Vendor data collected from the Primary Companies indicates about 35 to 40 percent of oil company spending is with firms not included in published oil industry support services employment figures. This spending generates approximately 7,000 jobs in Alaska, based on McDowell Group estimates.

### **Other Dimensions of Oil and Gas Industry Economic Impacts in Alaska**

The challenge in measuring the economic impact of Alaska's oil and gas industry is in tracking dollars that start with the oil producers but then filter through the thousands of Alaska's businesses and organizations that provide goods and services to oil-related business and their employees. Oil dollars move through the economy as spending on goods and services, payroll to Alaskan employees, taxes paid to local governments, and taxes and royalties paid to state government.

## **Oil and Gas Industry Spending in Alaska**

To support the analysis of oil and gas industry economic impacts in Alaska, Primary Companies were surveyed to collect data on expenditures in support of Alaska operations. The survey identified a total of approximately \$6.1 billion in spending in support of Alaska operations, including payroll but excluding state taxes and royalty payments. To give some context to this spending, it is helpful to understand in general who the Primary Companies are and their role in Alaska's oil and gas industry. Brief profiles of Primary Company activity and interests in Alaska follow, in alphabetical order.

- **Alyeska Pipeline Service Company** operates and maintains the 800-mile Trans Alaska Pipeline System (TAPS) and the Valdez Marine Terminal. Alyeska directly employs approximately 750 people statewide along with another 1,000 workers employed on a contract basis. Alyeska is the largest employer and taxpayer in the community of Valdez.
- **Anadarko Petroleum Corporation** is an exploration and production company with 22 percent ownership of Alpine and surrounding satellite field production. Anadarko has about 1.4 million net (about 4 million gross) state, federal and Arctic Slope Regional Corporation exploration acres on the North Slope.
- **Apache Corporation** is an oil and gas exploration and production company that recently acquired significant lease holdings in the Cook Inlet area. Apache is among the largest acreage holders in the inlet.
- **BP Exploration (Alaska) Inc.** is operator and 26 percent owner of Prudhoe Bay and satellite fields. BP has 47 percent ownership of TAPS. BP also has ownership interests in Kuparuk area fields and is majority owner and operator of the Endicott and Northstar fields. With approximately 2,000 employees working in Alaska, BP is one of the largest private sector employers in the state (ranked 7th in 2009).

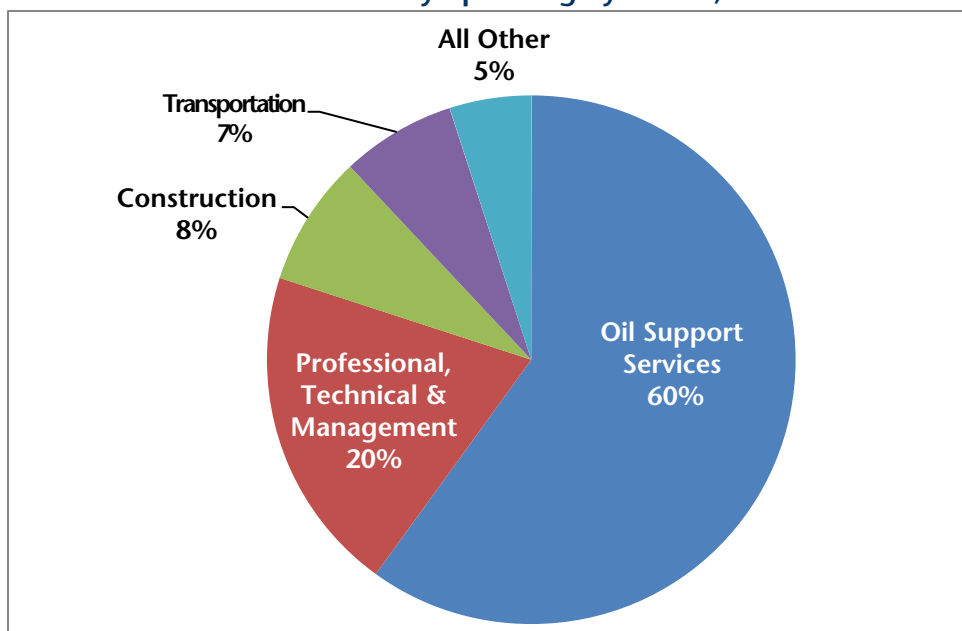
- **Chevron** operates offshore Cook Inlet oil fields and the Swanson River oil field on the Kenai Peninsula. The company also operates five onshore natural gas fields, and two gas storage facilities. Chevron also has ownership interests in two other gas fields and has a 2 percent ownership interest in Prudhoe Bay and satellite fields. Hilcorp Energy is in the process of acquiring Chevron's Cook Inlet assets.
- **ConocoPhillips Alaska, Inc.** is 36 percent owner of Prudhoe Bay and 28 percent owner of TAPS. ConocoPhillips also has oil and gas production interests in Cook Inlet, and co-owns (with Marathon Oil Company) and operates the Kenai Liquefied Natural Gas Plant. The firm is among the top 20 largest private sector employers in Alaska.
- **eni petroleum** owns interests in 172 leases in Alaska including 89 located in the federal OCS and 83 state leases. eni is 100 percent owner and operator of the Nikaitchuq Field at Oliktok Point. eni also owns 30 percent of the Oooguruk Field.
- **ExxonMobil Production Company** is 36 percent owner of Prudhoe Bay and 20 percent owner of TAPS. ExxonMobil operates Point Thomson and has working interests in Kuparuk, Endicott and Granite Point fields.
- **Flint Hills Resources, Alaska** owns and operates the North Pole Refinery a facility with crude oil processing capacity of about 220,000 barrels per day. The refinery processes North Slope crude oil and supplies gasoline, jet fuel, heating oil, diesel, and other products to Alaska markets.
- **Marathon Oil Company** has operating and non-operating interests in 10 fields in Alaska, with activities focused on the exploration and development of natural gas in Cook Inlet. Marathon operates facilities for natural gas storage and for handling drilling and production solids.
- **Petro Star Inc.** is an Alaskan-owned refining and fuel marketing company that operates refineries in North Pole and Valdez. Petro Star's refineries draw crude supply from TAPS to produce off-road and marine diesel, commercial and military jet fuel, and home heating oil.
- **Pioneer Natural Resources Alaska, Inc.** is an exploration and production company that operates the Oooguruk field west of Prudhoe Bay. Pioneer was the first independent company to operate a producing field on the North Slope.
- **Shell Exploration & Production Company** has a long history in Alaska's oil and gas industry, including oil production in Cook Inlet dating back to the 1960s. Shell's current interests include 137 leases in the Beaufort Sea and 275 leases in the Chukchi Sea. Plans to drill exploratory wells in the Beaufort and Chukchi Sea are pending.
- **Statoil** is an international energy company that recently expanded into Alaska by acquiring 16 leases in the Chukchi Sea (including 14 joint bids with eni petroleum). Statoil is also a 25 percent owner in the Devils Paw Chukchi Sea prospect (with majority owner ConocoPhillips).
- **Tesoro Alaska Company** operates a refinery in Kenai (the company also owns and operates 31 retail outlets in Alaska). The refinery manufactures jet fuel, diesel, gasoline, propane, asphalt and heavy oils.
- **XTO Energy, Inc. (a subsidiary of ExxonMobil)** operates two platforms in the Cook Inlet (purchased from Shell Exploration & Production in 1998). The firm also operates an onshore production facility located in Nikiski.

These firms were surveyed to gather information about their spending in Alaska. Each was asked to provide data on vendor spending (purchases with companies that provided goods and services in support of their operations in Alaska), Alaska resident payroll data, and other information pertinent to spending in Alaska.

In terms of economic impact in Alaska, most important is how and where oil industry spending filters through the state's economy. Under the best of circumstances it is difficult to measure with precision how money spent with support services firms affects local and statewide economies. There are hundreds of businesses providing goods and services to Alaska's oil producers, some based in Alaska with resident and nonresident employees and some based outside Alaska but with satellite offices in Alaska and also with resident and nonresident employees. Further, Alaska-based and Lower-48 based firms spend non-payroll money in Alaska, as well as outside of Alaska, in support of their operations.

Most spending (about 60 percent) by oil producers in support of Alaska operations in 2010 was with oil support services firms. Another 20 percent is with professional, technical and administrative services firms, 8 percent with construction companies, 7 percent with transportation providers, and 5 percent with a variety of firms throughout the economy (wholesale and retail firms, communications companies, and others).

**Alaska Oil Industry Spending by Sector, 2010**



Source: Primary Companies and McDowell Group estimates.

# Chapter 3. Statewide Impacts of the Oil and Gas Industry

## Direct Employment and Payroll

As defined in this study, direct oil and gas industry employment includes only the jobs provided to Alaska residents by Primary Companies. Those jobs (and the in-state spending by Primary Companies) then generate significant additional employment and payroll – some of which is identified in government statistics as part of the industry and some of which is not.

Total Primary Company employment from October 2009 through September 2010, the most recent period available, averaged 4,848 jobs. Total payroll over that period was \$764 million. Not all of those jobs were held by Alaska residents, however. Over the same period, the average monthly job count for Alaska residents was 3,997 and total payroll was \$600 million.

**Direct Employment and Payroll in Alaska’s Oil and Gas Industry, 2010  
By Place of Work and Place of Residence**

	Employment	Payroll (\$ millions)
Primary Companies – Total	4,848	\$764
<b>Primary Companies – Alaska Residents</b>	<b>3,997</b>	<b>\$600</b>

Source: ADOLWD, Primary Companies, and McDowell Group estimates.  
Note: Data based on annual average employment.

## Indirect and Induced Employment and Payroll

Defining and estimating the total indirect and induced impacts of the oil and gas industry is more complicated than for many other industries. One complication is that government-published data sets combine a significant portion of indirect oil and gas support services employment together with Primary Company employment.

In this study, however, companies categorized as oil and gas support services<sup>15</sup> in government statistics are included as part of the indirect impact of the Primary Companies presence and activity in Alaska. Over the October 2009 to September 2010 time period, there were 9,101 jobs in oil and gas support services and total payroll of \$898 million.

A second category of employment defined in this study as part of the indirect impact of the industry was identified based on analysis of Primary Company vendor data. A variety of other support services companies provided goods and services to the Primary Companies but were classified by government statistics in a number of other sectors, including transportation, construction, and professional and business services. Primary Company spending with these companies generated an estimated 7,100 jobs and \$541 million in payroll.

<sup>15</sup> NAICS codes 213111 (drilling oil and gas wells) and 213112 (support activities for oil and gas operations).



Finally, as both types of support services companies purchase goods and services in support of their business operations, and as Alaska resident employees of Primary Companies and support services companies spend their payroll dollars in-state, additional jobs and income are created. Analysis conducted for purposes of this study indicates these subsequent cycles of spending created slightly over 26,000 indirect and induced jobs in Alaska. Combining direct, indirect, and induced impacts, the oil and gas industry in Alaska generated 44,800 jobs and just under \$2.65 billion in annual payroll. This estimate does not include jobs and income in Alaska stemming from the expenditure – or saving – of state government oil-related taxes and royalties paid by the oil industry.

### **Alaska Resident Employment and Labor Income in the Oil and Gas Industry, 2010**

	Employment	Payroll (\$ millions)
<b><i>Direct Impacts</i></b>		
Primary Companies	3,997	\$600
<b><i>Indirect Impacts</i></b>		
Reported Oil & Gas Industry Support Services*	7,670	\$641
Other Support Services**	7,100	\$541
<b><i>Other Indirect and Induced Impacts</i></b>		
All Other Indirect and Induced	26,033	\$866
<b>Grand Total (Direct, Indirect, and Induced)</b>	<b>44,800</b>	<b>\$2,648</b>

\*Includes ADOLWD Oil and Gas Support Services Sectors 213111 and 213112.

\*\*Other Support Services includes construction, transportation services, engineering and other technical services, and a variety of other business and professional services provided under contract to Primary Companies.

According to BEA data, Alaska residents earned \$20.9 billion on the job in 2009 (including self-employment). Of that amount, oil and gas industry-related payroll (direct, indirect, and induced) accounted for approximately 13 percent, not including Alaskan earnings associated with taxes and royalties paid by the oil industry. In terms of private sector earnings, the oil and gas industry accounts for 18 percent of the total.

According to BEA's place-of-work employment data, the Alaska economy included 445,663 jobs in 2009. Based on that figure, the oil industry's 44,800 jobs represent about 10 percent of all employment in Alaska. In terms of private sector employment, the oil and gas industry accounts for 13 percent of the total.

# Chapter 4. Local/Regional Impact Profiles

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This chapter provides an overview of oil and gas industry employment and payroll impacts in six local areas: the Municipality of Anchorage, the Kenai Peninsula Borough, the Matanuska-Susitna Borough, the Fairbanks North Star Borough, the City of Valdez, and the North Slope Borough.

## Municipality of Anchorage

More than half of the jobs created in Alaska as a direct or indirect result of oil industry activity are in the Anchorage economy. Anchorage is Alaska's service and supply center and Alaska headquarters for oil producers, oil industry support services and supply businesses, and many other businesses connected in some way to the oil industry. As such, much of the oil and industry money spent in Alaska passes through the Anchorage economy.

### Key Findings

- A total of 2,040 Primary Company employees reside in Anchorage, accounting for \$345 million in annual payroll.
- A slightly larger number (2,143) of Oil and Gas Support Services company employees reside in Anchorage, with annual payroll of \$254 million.
- An additional 5,800 jobs in Anchorage are also directly connected to Primary Company spending in Alaska, including jobs with professional services firms, transportation providers, and a variety of other companies, generating approximately \$413 million in annual payroll.
- Including all direct, indirect, and induced effects, the oil and gas industry accounted for an annual average 25,400 jobs in Anchorage and total annual payroll of \$1.56 billion in 2010.
- Oil and gas industry-related payroll (including all multiplier effects) equaled approximately 16 percent of total Anchorage private sector earnings. In terms of jobs, oil and gas industry employment was equivalent to 14 percent of total private sector employment in Anchorage.
- The oil and gas industry paid \$3.5 million in property taxes to the Municipality in 2010. BP is the 6th largest property tax payer in Anchorage.
- Two Primary Companies are ranked among the top 15 private sector employers in Anchorage, in terms of 3rd quarter 2010 employment.

### Direct Employment and Payroll

Primary Companies provided nearly 1,900 jobs located in Anchorage and paid nearly \$400 million in annual payroll. Not all of those jobs are held by Anchorage residents, however, and many Anchorage residents hold oil and gas jobs on the North Slope and in Cook Inlet. In all, an average of 2,040 direct oil and gas jobs (jobs in Primary Companies) were held by Anchorage residents over the October 2009 to September 2010 time period. Annual payroll for those jobs totaled \$345 million.

## Indirect and Induced Employment and Payroll

Primary Company activity generates three categories of indirect and induced employment and payroll. The first is the group of companies categorized in government statistics as oil and gas support services.<sup>16</sup> A total of 2,143 Anchorage residents worked in these companies and received annual payroll of \$254 million.

There were another 5,800 jobs in Anchorage and \$413 million in annual payroll in firms that directly provided goods and services to the Primary Companies but were categorized in sectors other than oil and gas support services (transportation, construction, and professional and business services, among others).

Finally, as support services companies purchase goods and services in support of their operations, and as local employees of oil and gas industry firms spend their payroll dollars in Anchorage, additional jobs and income are created. These subsequent cycles of spending created slightly over 15,400 indirect and induced jobs in Anchorage and \$550 million in payroll, bringing the total economic impact of the oil and gas industry in the local economy to 25,400 jobs and \$1.56 billion in payroll.

### Alaska Resident Employment and Payroll in the Oil and Gas Industry in Anchorage, 2010

	Employment	Payroll (\$ millions)
<b>Direct Impacts</b>		
Primary Companies	2,040	\$345
<b>Indirect Impacts</b>		
Reported Oil & Gas Industry Support Services*	2,143	\$254
Other Support Services**	5,800	\$413
<b>Other Indirect and Induced Impacts</b>		
All Other Indirect and Induced	15,417	\$550
<b>Grand Total</b>	<b>25,400</b>	<b>\$1,562</b>

Source: ADOLWD, Primary Companies, and McDowell Group estimates.

\*Includes ADOLWD Oil and Gas Support Services Sectors 213111 and 213112.

\*\*Other Support Services includes construction, transportation services, engineering and other technical services, and a variety of other business and professional services provided under contract to Primary Companies.

Accounting for all direct, indirect, and induced employment, the oil and gas industry is responsible for an estimated 16 percent of total Anchorage resident earnings and 13 percent of Anchorage employment. Within the private sector, the industry accounts for 21 percent of Anchorage resident earnings and 17 percent of employment.

<sup>16</sup> NAICS codes 213111 (drilling oil and gas wells) and 213112 (support activities for oil and gas operations).

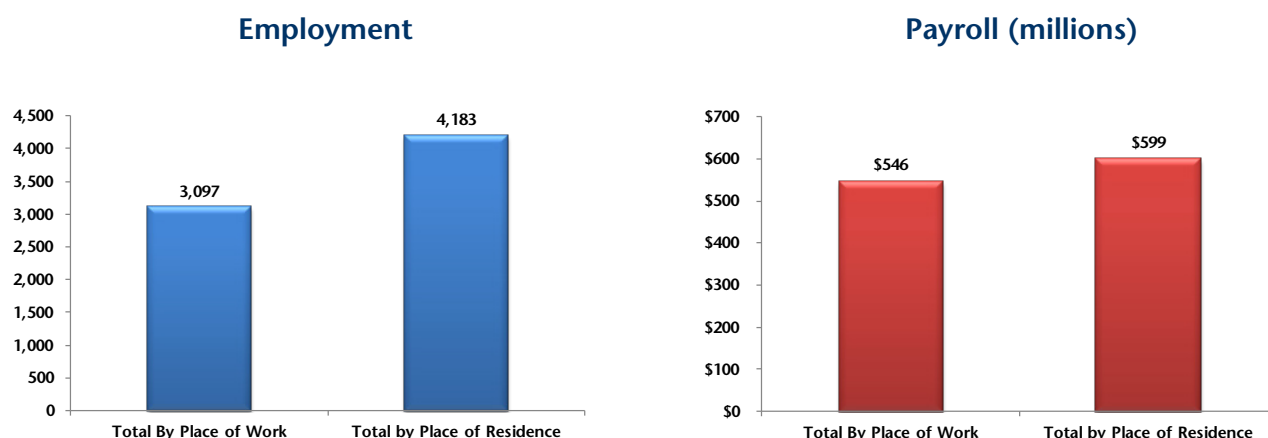
## **Oil and Gas Jobs in Anchorage by Place of Work and Place of Residence**

The following graph and table illustrate two different aspects of the oil and gas industry's employment impact on Anchorage: employment by place of work and employment by place of residence. This study defines the direct economic impact of the industry as the Anchorage resident employment and payroll in Primary Companies – because those payroll dollars are the ones most likely to circulate through the Anchorage economy in spending on housing, goods and services, taxes, etc. – but there is also economic relevance in the number of industry jobs located in the city, irrespective of where the job holders live.

Data by place of work and place of residence was available for Primary Companies and for companies designated in government statistics as oil and gas support services. Combined employment for the two categories by place of work averaged 3,097 in 2010, a considerably smaller number than the 4,183 jobs held by Anchorage residents in those same two categories.

Most of that difference is accounted for by the oil and gas support services companies, for which the majority of the jobs are on the North Slope. A considerable number of those North Slope workers commute from homes in Anchorage on various schedules that facilitate working at a remote work site (two weeks on and two weeks off, for example) and living hundreds of miles away. Job holders who worked in Anchorage earned \$546 million in 2010 and Anchorage residents who worked for Primary Companies or oil and gas support services companies anywhere in the state earned \$599 million.

## Anchorage Primary Company and Oil and Gas Support Services Employment and Payroll by Place of Work and by Place of Residence, 2010



### Municipality of Anchorage Primary Company and Support Industry Employment and Payroll by Place of Work and by Place of Residence, 2010

	Anchorage Employment	Anchorage Payroll (\$ millions)
<b>Place of Work</b>		
Primary Companies	1,883	\$392
Oil and Gas Support Services	1,214	\$154
<b>Total By Place of Work</b>	<b>3,097</b>	<b>\$546</b>
<b>Place of Employee Residence</b>		
Primary Companies	2,040	\$345
Oil and Gas Support Services	2,143	\$254
<b>Total by Place of Residence</b>	<b>4,183</b>	<b>\$599</b>

Source: ADOLWD, Primary Companies, and McDowell Group estimates.

### Anchorage's Largest Employers

Two Primary Companies, BP and ConocoPhillips, are among Anchorage's top 15 employers, based on 3rd quarter 2010 ADOLWD data. Specific employment data is not available for individual companies due to ADOLWD confidentiality restrictions. However, the employers listed in the following table are ranked according to number of employees during the July through August period of 2010.

## Top 15 Private Sector Employers in Anchorage Ranked by 3<sup>rd</sup> Quarter 2010 Employment

	Employment
Providence Hospital	1000+
GCI Communication Corp	1000+
Alaska Airlines	1000+
Alaska Native Tribal Health Consortium	1000+
Federal Express Corporation	1000+
Alaska Regional Hospital	750-999
<i>BP Exploration (Alaska) Inc</i>	500-749
Alaska Communications Systems	500-749
Hope Community Resources Inc	500-749
United Parcel Service	500-749
<i>NANA Management Services LLC*</i>	250-499
Southcentral Foundation	250-499
Horizon Lines of Alaska LLC	250-499
<i>ConocoPhillips</i>	250-499
Wal-Mart Associates Inc	250-499

Source: ADOLWD.

\* NANA Management Services is a significant oil and gas industry service provider.

## Kenai Peninsula Borough

The Kenai Peninsula Borough (KPB) has a substantial oil and gas industry presence. Oil and gas production in Cook Inlet creates jobs and income for borough residents, as does operation of Tesoro's refinery. The KPB also enjoys substantial economic benefit from the payroll dollars spent in the local economy by North Slope workers who reside in the borough.

### Key Findings

- A total of 837 Primary Company employees reside in the KPB, accounting for \$92 million in annual payroll.
- A larger number (1,911) of Oil and Gas Support Services company employees reside in the KPB, with annual payroll of \$147 million.
- Including all direct, indirect, and induced effects, the oil and gas industry accounted for an annual average 4,700 jobs in the KPB and total annual payroll of \$320 million in 2010.
- Oil and gas industry-related payroll was equal to approximately 24 percent of all KPB resident earnings. The industry's impact in terms of jobs was equal to 15 percent of all jobs and 19 percent of all private sector jobs.
- The oil and gas industry paid \$6.8 million in property taxes to the KPB in 2010, 12 percent of total property tax revenues for the Borough. The industry also paid \$81,000 in property taxes to the City of Kenai (3.4 percent of the City total).

## Direct Employment and Payroll

Primary Company employment (by place of work) in the KPB averaged 501 in 2010, with total annual payroll of \$56 million. The numbers are higher for Primary Company jobs held by Kenai residents because some Anchorage oil industry jobs are held by KPB residents, and because some KPB residents commute to jobs on the North Slope. Borough residents held a total of 837 Primary Company jobs and received \$92 million in payroll in 2010.

## Indirect and Total Oil and Gas Industry Related Employment

Primary Company activity generates three categories of indirect and induced employment and payroll. First is the group of companies categorized in government statistics as oil and gas support services.<sup>17</sup> A total of 1,911 KPB residents worked in these companies and received annual payroll of \$147 million.

There were another 400 jobs in KPB and \$28 million in annual payroll in firms that directly provided goods and services to the Primary Companies, but were categorized in sectors other than oil and gas support services (transportation, construction, and professional and business services, among others). Finally, as support services companies purchase goods and services in support of their operations, and as local employees of oil and gas industry firms spend their payroll dollars in KPB, additional jobs and income are created. These subsequent cycles of spending created about 1,550 indirect and induced jobs in Anchorage, and \$53 million in payroll. Combining the direct, indirect, and induced effects, the oil and gas industry generated 4,700 jobs and \$320 million in payroll.

### Alaska Resident Employment and Payroll in the Oil and Gas Industry in KPB, 2010

	Employment	Payroll (\$ millions)
<b>Direct Impacts</b>		
Primary Companies	837	\$92
<b>Indirect Impacts</b>		
Reported Oil & Gas Industry Support Services*	1,911	\$147
Other Support Services**	400	\$28
<b>Other Indirect and Induced Impacts</b>		
All Other Indirect and Induced	1,552	\$53
<b>Grand Total</b>	<b>4,700</b>	<b>\$320</b>

Source: ADOLWD, Primary Companies, and McDowell Group estimates.

\*Includes ADOLWD Oil and Gas Support Services Sectors 213111 and 213112.

\*\*Other Support Services includes construction, transportation services, engineering and other technical services, and a variety of other business and professional services provided under contract to Primary Companies.

<sup>17</sup> NAICS codes 213111 (drilling oil and gas wells) and 213112 (support activities for oil and gas operations).

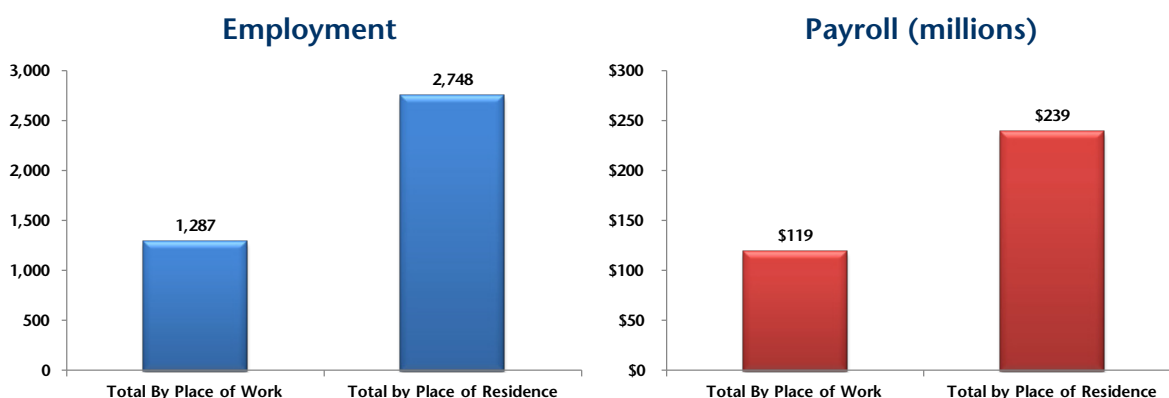
## Oil and Gas Jobs in KPB by Place of Work and Place of Residence

The following graph and table illustrate two different aspects of the oil and gas industry's employment impact on KPB: employment by place of work and employment by place of residence. This study defines the direct economic impact of the industry as the KPB resident employment and payroll in Primary Companies – because those payroll dollars are the ones most likely to circulate through the local economy in spending on housing, goods and services, taxes, etc. There is also economic relevance in the number of industry jobs located in the borough, irrespective of where the job holders live.

Data by place of work and place of residence was available for Primary Companies and for companies designated in government statistics as oil and gas support services. Combined employment for the two categories by place of work averaged 1,287 in 2010, less than half the number of KPB residents in those same two categories. The primary reason for the difference is a significant number of North Slope workers commute to their remote work sites from KPB residences.

Payroll differences are in the same range, with \$119 million paid to people who work in KPB and a much larger \$239 million paid to residents of the borough, irrespective of where their actual oil industry jobs are located.

### Kenai Peninsula Borough Primary Company and Support Industry Employment and Payroll by Place of Work and by Place of Residence, 2010



### Kenai Peninsula Borough Primary Company and Support Industry Employment and Payroll by Place of Work and by Place of Residence, 2010

	KPB Employment	KPB Payroll (\$ millions)
<b>Place of Work</b>		
Primary Companies	501	\$56
Oil and Gas Support Services	786	\$63
<b>Total By Place of Work</b>	<b>1,287</b>	<b>\$119</b>
<b>Place of Employee Residence</b>		
Primary Companies	837	\$92
Oil and Gas Support Services	1,911	\$147
<b>Total by Place of Residence</b>	<b>2,748</b>	<b>\$239</b>

Source: ADOLWD, Primary Companies, and McDowell Group estimates.



## KPB's Largest Employers

Two Primary Companies, Tesoro and Chevron, are among KPB's top employers, based on 3<sup>rd</sup> quarter 2010 ADOLWD data. ASRC Energy Services and Peak Oilfield Services are also among the largest. Due to ADOLWD confidentiality restrictions, specific employment data is not available for individual companies. However, firms listed in the following table are ranked according to number of employees during the July through August period of 2010.

### Top Private Sector Employers in KPB Ranked by 3<sup>rd</sup> Quarter 2010 Employment

	Employment
Central Peninsula General Hospital	500-749
<i>ASRC Energy Services</i>	250-499
Frontier Community Services	250-499
Icicle Seafoods Inc.	250-499
Wal-Mart Associates Inc.	250-499
Fred Meyer Inc.	250-499
<i>Tesoro Alaska</i>	100-249
<i>Chevron USA Inc.</i>	100-249
Peninsula Community Health Services	100-249
Inlet Fish Producers Inc.	100-249
<i>Peak Oilfield Services</i>	100-249

Source: ADOLWD.

## Matanuska-Susitna Borough

The oil and gas industry's economic impact on the Matanuska-Susitna (Mat-Su) Borough is based on it being a place where people who work in the industry want to live. The combination of its proximity to Anchorage and its relatively inexpensive housing and land has made it the fastest growing part of the state over the last several decades. Some of that growth is attributable to oil industry workers who work in Anchorage or on the North Slope and want to live in Mat-Su. Although Mat-Su's growing network of businesses receives some benefit from oil industry purchases of goods and services, the most significant impact the industry has on Mat-Su is in the incomes earned in the industry by Borough residents.

### Key Findings

- Mat-Su residents held 418 Primary Company jobs and 2,148 oil and gas support services jobs.
- Mat-Su residents earned an estimated \$221 million in wages from Primary Company and oil and gas support services companies.
- Household spending by those residents generates an additional 934 jobs and \$40 million in wages.

- Total oil and gas industry related employment and payroll in Mat-Su is estimated at 3,600 jobs and \$268 million in payroll.

## Direct Employment and Payroll

Primary Company employment by residents of Mat-Su averaged 418 in 2010, with total annual payroll of \$65 million. The actual work sites for all of those jobs were outside of the borough, mostly on the North Slope Borough or in Anchorage.

## Indirect and Total Oil and Gas Industry Related Employment

An additional 2,148 jobs were held by Mat-Su residents who worked for companies classified as oil and gas industry support services. Another 100 jobs were held by Mat-Su residents working for companies that directly provided goods and services to the Primary Companies in support of their oil and gas operations but categorized in sectors other than oil and gas support services (transportation, construction, and professional and business services, among others).

As Mat-Su residents who work in oil industry jobs spend their money within the borough purchasing goods and services, additional jobs and income are created. That spending created an estimated 934 additional jobs in Mat-Su and \$40 million in payroll. Combining the direct, indirect, and induced effects, the oil and gas industry generated 3,600 jobs and \$268 million in payroll for Mat-Su residents.

### Alaska Resident Employment and Payroll in the Oil and Gas Industry in Mat-Su, 2010

	Employment	Payroll (\$ millions)
<b>Direct Impacts</b>		
Primary Companies	418	\$65
<b>Indirect Impacts</b>		
Reported Oil & Gas Industry Support Services*	2,148	\$156
Other Support Services**	100	\$7
<b>Other Indirect and Induced Impacts</b>		
All Other Indirect and Induced	934	\$40
<b>Grand Total</b>	<b>3,600</b>	<b>\$268</b>

Source: ADOLWD, Primary Companies, and McDowell Group estimates.

\*Includes ADOLWD Oil and Gas Support Services Sectors 213111 and 213112.

\*\*Other Support Services includes construction, transportation services, engineering and other technical services, and a variety of other business and professional services provided under contract to Primary Companies.

The oil and gas industry accounted for an estimated 11 percent of all Mat-Su resident earnings and 11 percent of all Mat-Su employment. Within the private sector, the oil and gas industry's impact was the equivalent of 14 percent of all employment and earnings.

## Oil and Gas Jobs in the Mat-Su Borough by Place of Work and Place of Residence

The following table illustrates two different aspects of the oil and gas industry's employment impact on the Mat-Su Borough: employment by place of work and employment by place of residence. This study defines the direct economic impact of the industry as the Mat-Su resident employment and payroll in Primary Companies – because those payroll dollars are the ones most likely to circulate through the local economy in spending on housing, goods and services, taxes, etc. There is also economic relevance in the number of industry jobs located in the borough, irrespective of where the job holders live.

Data by place of work and place of residence was available for Primary Companies and for companies designated in government statistics as oil and gas support services. This data indicates no Primary Company or support industry employment and payroll by place of work in the Mat-Su Borough. However, the oil and gas industry is a top employer of Mat-Su residents.

**Mat-Su Borough Primary Company and Support Industry  
Employment and Payroll by Place of Work and by Place of Residence, 2010**

	Mat-Su Employment	Mat-Su Payroll (\$ millions)
<b>Place of Work</b>		
Primary Companies	0	\$0
Oil and Gas Support Services	0	\$0
<b>Total By Place of Work</b>	<b>0</b>	<b>\$0</b>
<b>Place of Employee Residence</b>		
Primary Companies	418	\$65
Oil and Gas Support Services	2,148	\$156
<b>Total by Place of Residence</b>	<b>2,566</b>	<b>\$221</b>

Source: ADOLWD, Primary Companies, and McDowell Group estimates.

## Fairbanks North Star Borough

The oil and gas industry in the Fairbanks North Star Borough (FNSB) includes refinery operations, TAPS operations, and oil industry support services-related activity. The borough is also home to a number of North Slope workers.

### Key Findings

- A total of 313 Primary Company employees reside in the FNSB, accounting for \$44 million in annual payroll.
- An estimated total of 747 Oil and Gas Support Services company employees reside in the FNSB, with annual payroll of \$43 million.
- Including all direct, indirect, and induced effects, the oil and gas industry accounted for an annual average 3,000 jobs in the FNSB and total annual payroll of \$168 million in 2010.

- The oil and gas industry paid \$9.2 million in property taxes to the FNSB in 2010, 10 percent of total Borough revenues. The industry also paid \$163,000 in property taxes to the City of Fairbanks.
- Oil and gas industry firms are among the largest property tax payers in the FNSB. Alyeska Pipeline Service Company is the single largest contributor of property tax revenues. The Flint Hills refinery is the fourth largest.

## Direct Employment and Payroll

Primary Company employment (by place of work) in the FNSB averaged 266 in 2010, with total annual payroll of \$29 million. Slightly more Primary Company jobs were held by residents of the borough: 313, for which payroll equaled \$44 million. The majority of borough residents who work for Primary Companies at work sites outside of the borough commute to jobs on the North Slope.

## Indirect and Total Oil and Gas Industry Related Employment

Primary Company activity generates three categories of indirect and induced employment and payroll. The first is the group of companies categorized in government statistics as oil and gas support services.<sup>18</sup> A total of 747 FNSB residents worked in these companies and received annual payroll of \$43 million.

There were another 400 jobs in Fairbanks and \$30 million in annual payroll in firms that directly provided goods and services to the Primary Companies but were categorized in sectors other than oil and gas support services (e.g., transportation, construction, and professional and business services).

Finally, as support services companies purchase goods and services in support of their operations, and as local employees of oil and gas industry firms spend their payroll dollars in FNSB, additional jobs and income are created. These subsequent cycles of spending created about 1,540 indirect and induced jobs in FNSB, and \$51 million in payroll. Combining the direct, indirect, and induced effects, the oil and gas industry generated 3,000 jobs and \$168 million in payroll.

### Alaska Resident Employment and Payroll in the Oil and Gas Industry in FNSB, 2010

	Employment	Payroll (\$ millions)
<b>Direct Impacts</b>		
Primary Companies	313	\$44
<b>Indirect Impacts</b>		
Reported Oil & Gas Industry Support Services*	747	\$43
Other Support Services**	400	\$30
<b>Other Indirect and Induced Impacts</b>		
All Other Indirect and Induced	1,540	\$51
<b>Grand Total</b>	<b>3,000</b>	<b>\$168</b>

Source: ADOLWD, Primary Companies, and McDowell Group estimates.

\*Includes ADOLWD Oil and Gas Support Services Sectors 213111 and 213112.

\*\*Other Support Services includes construction, transportation services, engineering and other technical services, and a variety of other business and professional services provided under contract to Primary Companies.

<sup>18</sup> NAICS codes 213111 (drilling oil and gas wells) and 213112 (support activities for oil and gas operations).

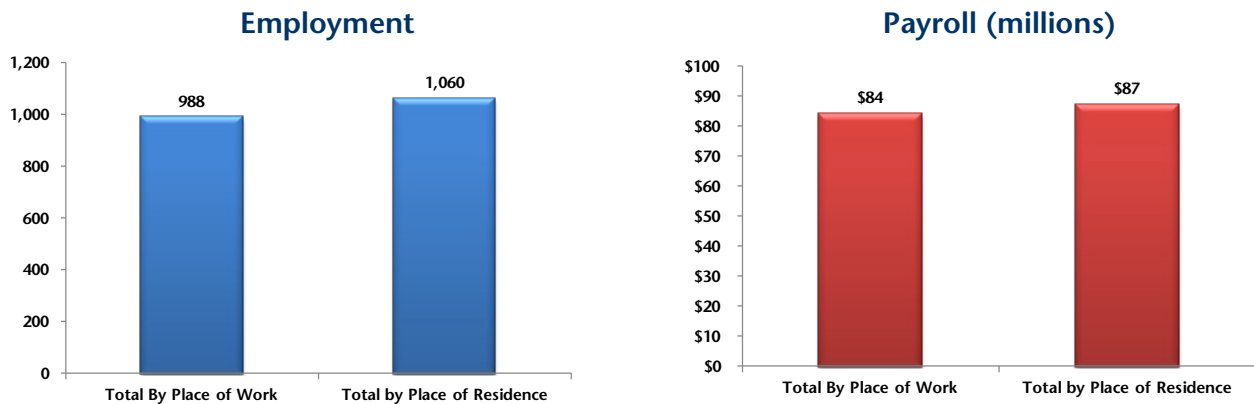
The oil and gas industry's impact on the FNSB economy was equal to 11 percent of private sector earnings and 8 percent of private sector employment. In terms of all jobs (private and public sector), the oil and gas industry's impact was equal to 5 percent of employment and 6 percent of resident earnings.

### **Oil and Gas Jobs in FNSB by Place of Work and Place of Residence**

The following graph and table illustrate two different aspects of the oil and gas industry's employment impact on FNSB: employment by place of work and employment by place of residence. This study defines the direct economic impact of the industry as the FNSB resident employment and payroll in Primary Companies – because those payroll dollars are the ones most likely to circulate through the local economy in spending on housing, goods and services, taxes, etc. There is also economic relevance to the number of industry jobs located in the borough, irrespective of where the job holders live.

Data by place of work and place of residence was available for Primary Companies and for companies designated in government statistics as oil and gas support services. Combined employment for the two categories by place of work averaged 988 in 2010, about 70 fewer than the job count for Fairbanks residents working in the industry (either in Fairbanks or somewhere else in the state). The payroll difference is similar with slightly more payroll going to FNSB residents who work in the industry than for industry jobs that are located within FNSB by place of work.

## Fairbanks North Star Borough Primary Company and Support Industry Employment and Payroll by Place of Work and by Place of Residence, 2010



## Fairbanks North Star Borough Primary Company and Support Industry Employment and Payroll by Place of Work and by Place of Residence, 2010

	FNSB Employment	FNSB Payroll (\$ millions)
<b>Place of Work</b>		
Primary Companies	296	\$29
Oil and Gas Support Services	692	\$55
<b>Total By Place of Work</b>	<b>988</b>	<b>\$84</b>
<b>Place of Employee Residence</b>		
Primary Companies	313	\$44
Oil and Gas Support Services	747	\$43
<b>Total by Place of Residence</b>	<b>1,060</b>	<b>\$87</b>

Source: ADOLWD, Primary Companies, and McDowell Group estimates.

## Valdez

With the exception of the North Slope Borough, no other city or borough in Alaska is more influenced by oil than Valdez, the terminus of the 800-mile trans-Alaska pipeline and the site of the marine terminal from which oil is loaded onto oil tankers and transported to refineries, mainly on the U.S. West Coast. The arrival of oil in Valdez pushed the city's population from about 1,000 in 1970, where it had been for decades, to 3,000 by 1980 and then 4,000 by 1990. The city's 2010 population was 3,976. The marine terminal, Petro Star's Valdez refinery, and other pipeline facilities within the city create a large tax base that per capita is about ten times as large as the Alaska average and is surpassed only by the North Slope Borough.

An additional source of revenue dates back to the 1970s when the owners of the pipeline system paid the city \$13.5 million in exchange for letting them use the city's bonding authority to issue tax-exempt bonds. That windfall was used to create the Valdez Permanent Fund, whose principal is protected by law. Since 1987, the Valdez City Council has made a policy of not appropriating fund earnings to annual operating and capital budgets. That policy and additional financing fees have enabled the fund to grow considerably over the years.

## **Key Findings**

- Primary Companies and oil and gas support services companies with operations in Valdez provided 398 jobs and account for \$49 million in annual payroll, by place of work.
- A total of 374 Primary Company or oil and gas support services company employees reside in Valdez, with annual payroll of \$44 million.
- Including all direct, indirect, and induced effects, the oil and gas industry generated 700 jobs in Valdez and total annual payroll of \$57 million.
- Local oil-related property taxes totaled \$43 million in 2010, 90 percent of the city's total property tax revenue.

## **Direct Employment and Payroll**

Primary Company employment (by place of work) in Valdez averaged 297 in 2010, with total annual payroll of \$40 million. The number of Primary Company jobs held by Valdez residents was only slightly less at 285, with total payroll of \$38 million paid to Valdez residents.

## **Indirect and Total Oil and Gas Industry Related Employment**

Primary Company activity generates three categories of indirect and induced employment and payroll. The first is the group of companies categorized in government statistics as oil and gas support services.<sup>19</sup> A total of 89 Valdez residents worked in these companies and received annual payroll of \$6 million in 2010.

There were another 50 jobs and \$4 million in payroll paid to Valdez residents working for firms that directly provided goods and services to the Primary Companies but were categorized in sectors other than oil and gas support services (e.g., transportation, construction, and professional and business services).

Additionally, as support services companies purchase goods and services in support of their operations, and as local employees of oil and gas industry firms spend their payroll dollars in Valdez, additional jobs and income are created. These subsequent cycles of spending created about 276 indirect and induced jobs in Valdez, and \$9 million in payroll. Combining the direct, indirect, and induced effects, the oil and gas industry generated 700 jobs and \$57 million in payroll.

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<sup>19</sup> NAICS codes 213111 (drilling oil and gas wells) and 213112 (support activities for oil and gas operations).

## Alaska Resident Employment and Payroll in the Oil and Gas Industry in Valdez, 2010

	Employment	Payroll (\$ millions)
<b>Direct Impacts</b>		
Primary Companies	285	\$38
<b>Indirect Impacts</b>		
Reported Oil & Gas Industry Support Services*	89	\$6
Other Support Services**	50	\$4
<b>Other Indirect and Induced Impacts</b>		
All Other Indirect and Induced	276	\$9
<b>Grand Total</b>	<b>700</b>	<b>\$57</b>

Source: ADOLWD, Primary Companies, and McDowell Group estimates.

\*Includes ADOLWD Oil and Gas Support Services Sectors 213111 and 213112.

\*\*Other Support Services includes construction, transportation services, engineering and other technical services, and a variety of other business and professional services provided under contract to Primary Companies.

Although not enough data was available to produce a reliable estimate of the percentage of employment in Valdez tied to oil and gas, an estimated one-quarter of all employment and one-third of the community's total earnings came from the oil and gas industry, either directly or indirectly. That number is very conservative, given that it does not attempt to quantify the direct and indirect payroll impacts of Valdez's considerable oil-related tax revenue.

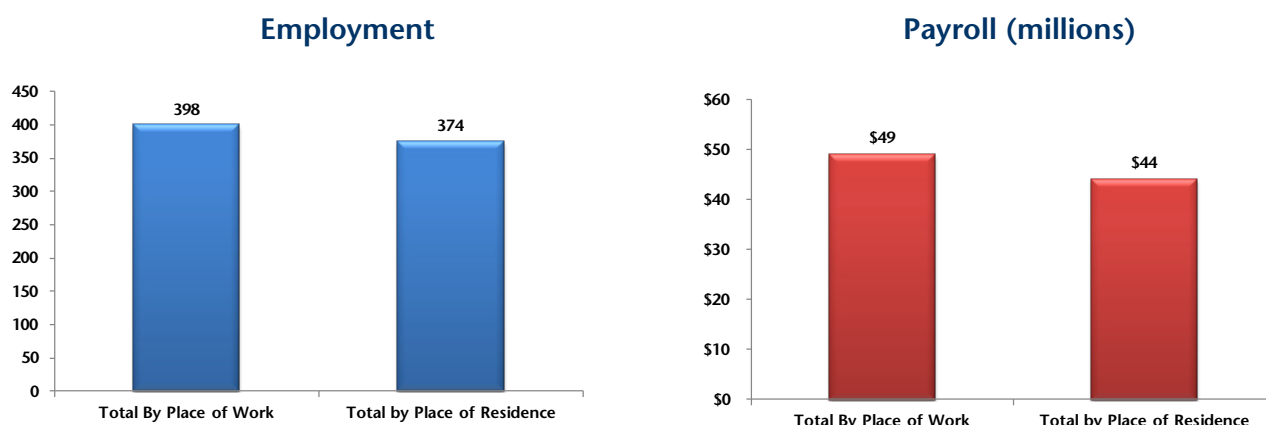
### Oil and Gas Jobs in Valdez by Place of Work and Place of Residence

The following graph and table illustrate two different aspects of the oil and gas industry's employment impact on Valdez: employment by place of work and employment by place of residence. This study defines the direct economic impact of the industry as the Valdez resident employment and payroll in Primary Companies – because those payroll dollars are the ones most likely to circulate through the local economy in spending on housing, goods and services, taxes, etc. There is also economic relevance to the number of industry jobs located in Valdez.

Data by place of work and place of residence was available for Primary Companies and for companies designated in government statistics as oil and gas support services. Combined employment for the two categories by place of work averaged 398 in 2010, slightly more than the 374 jobs held by Valdez residents. The payroll difference is similar with \$49 million being paid to people who work in Valdez, wherever they may live, and \$44 million going to Valdez residents specifically.



## Valdez Primary Company and Oil and Gas Support Services Employment and Payroll by Place of Work and Place of Residence, 2010



## Valdez Primary Company and Oil and Gas Support Services Employment and Payroll by Place of Work and Place of Residence, 2010

	Valdez Employment	Valdez Payroll (\$ millions)
<b>Place of Work</b>		
Primary Companies	297	\$40
Oil and Gas Support Services	91	\$9
<b>Total By Place of Work</b>	<b>398</b>	<b>\$49</b>
<b>Place of Employee Residence</b>		
Primary Companies	285	\$38
Oil and Gas Support Services	89	\$6
<b>Total by Place of Residence</b>	<b>374</b>	<b>\$44</b>

Source: ADOLWD, Primary Companies, and McDowell Group estimates.

### Valdez's Largest Employers

Alyeska Pipeline Service Company was Valdez's second largest private sector employer during the third quarter of 2010 and would be the largest if job numbers were averaged over the course of a full calendar year. Much of Valdez local government is also funded by oil and gas revenues – including \$43 million in oil and gas property taxes in 2010, which was 90 percent of all city property tax revenue and 89 percent of all revenue combined.

## Top 5 Private Sector Employers in Valdez Ranked by 3<sup>rd</sup> Quarter 2010 Employment

	Employment
Peter Pan Seafoods*	250-499
<i>Alyeska Pipeline Service Company</i>	100-249
Providence Hospital	50-99
Safeway	50-99
Connecting Ties	50-99

Source: ADOLWD.

\* Peter Pan's average employment reaches its high point during the third quarter of the year; its annual average job count would be much lower.

## North Slope Borough

The North Slope Borough (NSB) is the inverse of the Mat-Su Borough: a large number of people work there, but very few of those people live there. Almost 7,000 people live in the borough, most of them in Barrow, but the greatest impact the oil and gas industry has on them is through oil-related property tax revenues. The North Slope oil industry infrastructure and work sites are self-contained and hundreds of miles away from most of the borough's resident population.

Prudhoe Bay, the largest oilfield in North America, is the hub for most oil and gas related activity in the borough. About 20 percent of the jobs in Prudhoe Bay are provided by oil producers and about 65 percent are provided by oil support services companies. The remaining 20 percent are categorized in other industries, but directly tied to Prudhoe Bay or other area oil operations (construction, transportation, or professional services, for example).

### Key Findings

- Primary Companies and oil and gas support services companies with operations in the NSB provided 8,260 jobs and accounted for \$850 million in annual payroll, by place of work.
- By place of residence, 20 annualized jobs were held by NSB residents who work for Primary Companies or oil and gas support services companies. Wages for those jobs equaled \$1.8 million.
- Including all direct, indirect, and induced effects, the oil and gas industry generated 1,500 jobs held by residents in the NSB and total annual payroll of \$100 million, almost all related to taxes paid by the oil industry.
- Local oil-related property taxes totaled \$271 million in 2010, 98 percent of the Borough's total property tax revenue.

## Direct Employment and Payroll

Primary Company employment (by place of work) in the NSB averaged 1,959 in 2010, with total annual payroll of \$231 million. The number of Primary Company jobs held by North Slope residents, however, was 5, with total annual payroll of \$0.5 million.

## Indirect and Total Oil and Gas Industry Related Employment

Primary Company activity generates three categories of indirect and induced employment and payroll. The first is the group of companies categorized in government statistics as oil and gas support services. A total of 15 North Slope residents worked in these companies and received annual payroll of \$1.3 million in 2010.

There were another 150 jobs and \$12 million in payroll paid to North Slope residents working for firms that directly provided goods and services to the Primary Companies but were categorized in sectors other than oil and gas support services (e.g., transportation, construction, and professional and business services).

Most importantly, oil-related tax revenue, as well as spending by the North Slope residents who work for the Primary Companies or companies that benefit from their activity, generated 1,330 jobs and \$86 million in payroll. Combining the direct, indirect, and induced effects, the oil and gas industry generated 1,500 jobs and \$100 million in payroll for borough residents.

### Alaska Resident Employment and Payroll in the Oil and Gas Industry in NSB, 2010

	Employment	Payroll (\$ millions)
<b>Direct Impacts</b>		
Primary Companies	5	\$0.5
<b>Indirect Impacts</b>		
Reported Oil & Gas Industry Support Services*	15	\$1.3
Other Support Services**	150	\$12
<b>Other Indirect and Induced Impacts</b>		
All Other Indirect and Induced	1,330	\$86
<b>Grand Total</b>	<b>1,500</b>	<b>\$100</b>

Source: ADOLWD, Primary Companies, and McDowell Group estimates.

\*Includes ADOLWD Oil and Gas Support Services Sectors 213111 and 213112.

\*\*Other Support Services includes construction, transportation services, engineering and other technical services, and a variety of other business and professional services provided under contract to Primary Companies.

The \$100 million attributed to the oil and gas industry equals roughly 28 percent of all NSB employment-related income. That number is conservative considering that 98 percent of local government revenue comes from oil and gas property taxes, which in turn generates a significant portion of local government jobs and spending throughout the borough.

## Oil and Gas Jobs in NSB by Place of Work and Place of Residence

The following table illustrates two different aspects of the oil and gas industry's employment impact on NSB: employment by place of work and employment by place of residence.

### North Slope Borough Employment and Payroll by Place of Work and Place of Residence, 2010

	North Slope Employment	North Slope Payroll (\$ millions)
<b>Place of Work</b>		
Primary Companies	1,959	\$231
Oil and Gas Support Services	6,427	\$619
<b>Total By Place of Work</b>	<b>8,386</b>	<b>\$850</b>
<b>Place of Employee Residence</b>		
Primary Companies	5	\$0.5
Oil and Gas Support Services	15	\$1.3
<b>Total by Place of Residence</b>	<b>20</b>	<b>\$1.8</b>

Source: ADOLWD, Primary Companies, and McDowell Group estimates.

## NSB's Largest Employers

All of the top ten private sector employers in NSB are oil and gas companies of one form or the other. The largest in the third quarter of 2010 was ASRC Energy Services with more than 1,000 jobs.

### Top 10 Private Sector Employers in NSB Ranked by 3<sup>rd</sup> Quarter 2010 Employment

	Employment
ASRC Energy Services	1,000+
CH2M Hill	1,000+
BP Exploration (Alaska)	1,000+
Udelhoven Oilfield Systems	500-749
Nabors Alaska Drilling	250-499
Schlumberger Technology	250-499
ConocoPhillips	250-499
Doyon Drilling	250-499
Halliburton Company	250-499
Norcon	250-499

Source: ADOLWD.

## Local Area Summary

The local area impacts described above capture most, but not all, of the employment and payroll impacts generated by the oil and gas industry in Alaska. Other regions of Alaska – Southeast, Southwest, rural Interior, and other areas of the state – are home for a significant number of North Slope workers. Oil industry workers reside in communities all across Alaska and draw money into their local economies.

There is also economic activity related to oil and gas industry spending in Alaska that is difficult to attribute to any particular community. For example, oil industry spending in Fairbanks (or oil industry worker spending in Fairbanks) is likely to eventually funnel through Anchorage, Alaska’s service and supply hub. The same is true for spending in Mat-Su and the Kenai Peninsula. Local level modeling conducted for this study does not capture this inter-regional effect and therefore understates local employment and payroll (especially in Anchorage).

The following table summarizes local-level employment and payroll impacts of the oil and gas industry. The “Unattributed” category is an accounting of jobs created in areas other than the six local areas considered in this study and captures all the jobs created by inter-regional flow of oil and gas industry related dollars.

**Alaska Resident Employment and Payroll in the Oil and Gas Industry, by Local Area, 2010**

	Alaska	Anchorage	KPB	Mat-Su	Fairbanks	Valdez	North Slope	Unattributed
<b>Employment</b>								
Primary Companies	3,997	2,040	837	418	313	285	5	99
Reported Oil & Gas Industry Support Services*	7,670	2,143	1,911	2,148	747	89	15	617
<b>Sub Total</b>	<b>11,667</b>	<b>4,183</b>	<b>2,748</b>	<b>2,566</b>	<b>1,060</b>	<b>374</b>	<b>20</b>	<b>716</b>
Other Support Services**	7,100	5,800	400	100	400	50	150	200
All Other Indirect and Induced	26,033	15,417	1,552	934	1,540	276	1,330	4,984
<b>Grand Total</b>	<b>44,800</b>	<b>25,400</b>	<b>4,700</b>	<b>3,600</b>	<b>3,000</b>	<b>700</b>	<b>1,500</b>	<b>5,900</b>
<b>Payroll (millions)</b>								
Primary Companies	\$600	\$345	\$92	\$65	\$44	\$38	\$0.50	16
Reported Oil & Gas Industry Support Services*	\$641	\$254	\$147	\$156	\$43	\$6	\$1.30	34
<b>Sub Total</b>	<b>\$1,241</b>	<b>\$599</b>	<b>\$239</b>	<b>\$221</b>	<b>\$87</b>	<b>\$44</b>	<b>\$1.8</b>	<b>\$50</b>
Other Support Services**	\$541	\$442	\$28	\$7	\$30	\$4	\$12	\$18
All Other Indirect and Induced	\$866	\$521	\$53	\$40	\$51	\$9	\$86	\$106
<b>Grand Total (millions)</b>	<b>\$2,648</b>	<b>\$1,562</b>	<b>\$320</b>	<b>\$268</b>	<b>\$168</b>	<b>\$57</b>	<b>\$100</b>	<b>\$173</b>

Source: ADOLWD, Primary Companies, and McDowell Group estimates.

\* Includes ADOLWD Oil and Gas Support Services Sectors 213111 and 213112.

\*\* Other Support Services includes construction, transportation services, engineering and other technical services, and a variety of other business and professional services provided under contract to Primary Companies.

# Chapter 5. Trends in Government Statistics for the Alaska Oil and Gas Industry

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While understanding the full impact of the oil and gas industry on Alaska’s economy is critical, it is also useful to examine trends in the industry as it is narrowly defined in government statistics. In-depth economic impact studies are impractical to conduct every year, and even if such studies were conducted, comparable information from industry and other sources is not always available. As a result, the main sources of information on trends within the industry are from government statistical agencies, including ADOLWD, the Alaska Department of Revenue, the U.S. BEA, the U.S. Bureau of Labor Statistics, and others.

Published employment data indicates Alaska oil and gas industry employment – as defined and published by the U.S. Bureau of Labor Statistics and ADOLWD – peaked in late 2008 at 13,700 jobs, following five years of steady, significant growth. Between 2003 and 2008, the industry added 4,700 jobs in terms of annual average employment, a 58 percent increase from the 2003 level of 8,100 jobs. Following the 2008 peak, employment was down about 300 jobs through 2010.

## Alaska Oil & Gas Industry Employment, Published Data,\* 2001 to 2010

Year	Annual Average	Peak Month
2001	9,500	9,800
2002	8,900	9,200
2003	8,100	8,400
2004	8,200	8,500
2005	8,700	9,300
2006	10,100	10,700
2007	11,500	12,000
2008	12,800	13,700
2009	12,900	13,600
2010	12,800	13,400

Source: ADOLWD.

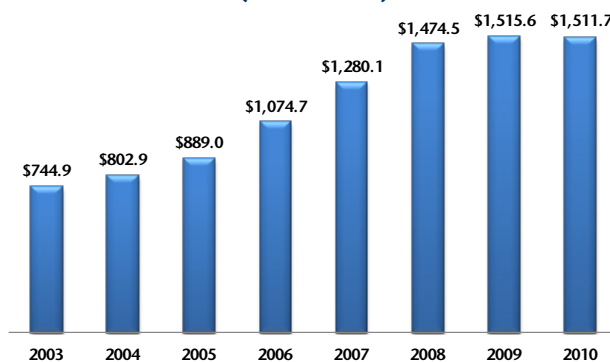
\*NAICS Sectors 211 (oil and gas extraction), 213111 (drilling oil and gas wells), and 213112 (support activities for oil and gas operations).

Published payroll data for the oil and gas industry shows essentially the same pattern of robust growth until 2008, followed by a leveling off in 2009 and then a slight decline in 2010.<sup>20</sup>

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<sup>20</sup> Payroll data for 2010 is estimated from three quarters of available published data.

## Annual Oil and Gas Industry Payroll, Published Data (\$ millions)



Source: ADOLWD and McDowell Group estimates.  
This data excludes some indirect employment and all induced employment associated with the oil and gas industry in Alaska.

### Trends in Oil and Gas Industry Workforce Residency

The Alaska Department of Labor also publishes data on the residency of the Alaska's oil and gas industry workforce, again using a narrower description for the industry that excludes the refineries, pipeline transportation companies, and the large number of businesses that provide services directly to oil and gas producers, including construction companies, transportation providers, camp support services firms, engineering firms, and others.

The data on nonresident and resident employment are slightly different than the employment numbers in that they are a count of individual workers who worked in the industry at any point during the year, rather than an average number of jobs in the industry over a year. In this context, the difference is mostly relevant in explaining why the total number of workers in the chart below does not match the annual average employment totals in the chart above.

In the last decade, the number of Alaskans employed in the oil and gas industry hit a low point in 2003 at just over 8,000 workers. The low point for nonresident employment was also in 2003 at about 2,900. Over the next five years, Alaskan employment increased steadily to a peak of 11,887 in 2008. Nonresident employment followed a similar path, peaking in 2008 at just over 5,000 workers. In fact, in every year that the number of nonresident workers increased, the number of Alaska resident workers also increased.

**Alaska Oil & Gas Industry Workforce Residency, 2001 – 2009**  
**Oil and Gas Extraction and Support Services Combined**

Year	Alaska Resident Employment	Nonresident Employment	Total	Nonresident Percent of Total
2001	10,480	4,068	14,548	28%
2002	9,315	3,200	12,515	26
2003	8,056	2,914	10,970	27
2004	8,126	3,167	11,293	28
2005	8,186	3,442	11,628	30
2006	10,102	4,495	14,597	31
2007	10,941	4,531	15,472	29
2008	11,887	5,043	16,930	30
2009	11,841	4,627	16,468	28

Source: ADOLWD.

The share of nonresidents in Alaska’s oil and gas industry workforce has been fairly steady at between 26 percent and 31 percent over the decade, although in 2009 (the most recent available data), the nonresident share of the work force was at a five-year low.

ADOLWD’s methodology for calculating workforce residence is based on Permanent Fund Dividend (PFD) applications, which produces a conservative estimate of “resident” employment. A new resident to Alaska must reside in the state for a full calendar year before he or she is eligible to apply for a PFD. A new Alaska resident who arrived in the state in March of 2010, for example, would not be eligible to apply for a PFD until the 2012 application period. As a result, this person would actually reside in Alaska for nearly two years before being recorded as an Alaska resident.

ADOLWD research confirms a portion of workers originally classified as nonresidents in the data were in fact residents who had not yet been identified as such. For instance, in the Oil and Gas Extraction sector (NAICS 211), 13.5 percent of workers who were originally classified as nonresidents in 2008 were subsequently classified as residents in 2009. For all practical purposes, they were residents for all of 2008 (or they would not have been eligible for a 2009 PFD), but the administrative tools were not yet available to identify them as residents.

On that same theme, ADOLWD occasionally publishes data on “new hires” by industry. In one recent report<sup>21</sup>, the percentage of new hires in the oil and gas industry during the third quarter of 2010 (typically the quarter with the highest seasonal employment) was cited as being 47.7 percent resident hire. To put that number in context, however, only 72 percent of new hires by state government were classified as residents and only 62 percent of all new hires were classified as residents.

<sup>21</sup> Alaska Economic Trends, April 2011.



It is hard to know for certain why those percentages are so much lower than the total resident worker percentages published in ADOLWD’s annual report, but one likely explanation is a portion of those new hires are being initially classified as nonresidents and will later be correctly identified as residents. While PFD applications are a consistent overall indicator of residency – and one not available to other states – there are also other sources of data on the question of resident and nonresident employment.

For purposes of this study, several Primary Companies provided detailed payroll data by place of employee residence, as indicated on the mailing address on W-2 tax forms. In its 2009 report, “Nonresidents Working in Alaska,” ADOLWD reported nonresident percentages for specific employers (see chart below) that were higher by several percentage points than the percentage of W-2 tax forms sent to out-of-state addresses.

### Alaska Residents in the Oil & Gas Industry Workforce, 2009

	Resident Workers	Nonresident Workers	Nonresident % of Total	Resident Wages (\$millions)	Nonresident Wages (\$millions)	Nonresident % of Total
Oil & Gas Extraction	3,125	920	22.7%	\$462.2	\$157.9	25.5%
Support Services	8,716	3,707	29.8	\$651.9	\$279.4	30.0
Refineries	685	41	5.6	\$55.9	\$1.2	2.1
Pipeline	854	69	7.5	\$105.7	\$8.2	7.2
<b>Alaska Private Sector</b>	<b>252,423</b>	<b>71,712</b>	<b>22.1%</b>	<b>\$9,129.1</b>	<b>\$1,723.3</b>	<b>15.9%</b>

Source: ADOLWD.

Note: Data based on worker counts rather than annual average employment.

A more complete picture of resident participation in Alaska’s oil and gas industry should also include those businesses that provide goods and services directly to oil and gas producers, but are not included in government statistics’ definition of the industry. Based on vendor lists provided by the Primary Companies, McDowell Group submitted a list to ADOLWD of an additional 82 oil and gas industry vendors not classified as part of the oil and gas industry for resident-nonresident employment and wage analysis. The results are presented in the following table. Vendors providing construction services have a somewhat higher level of nonresident participation (36 percent) than the oil and gas industry average. Vendors in all other sectors have lower nonresident participation.

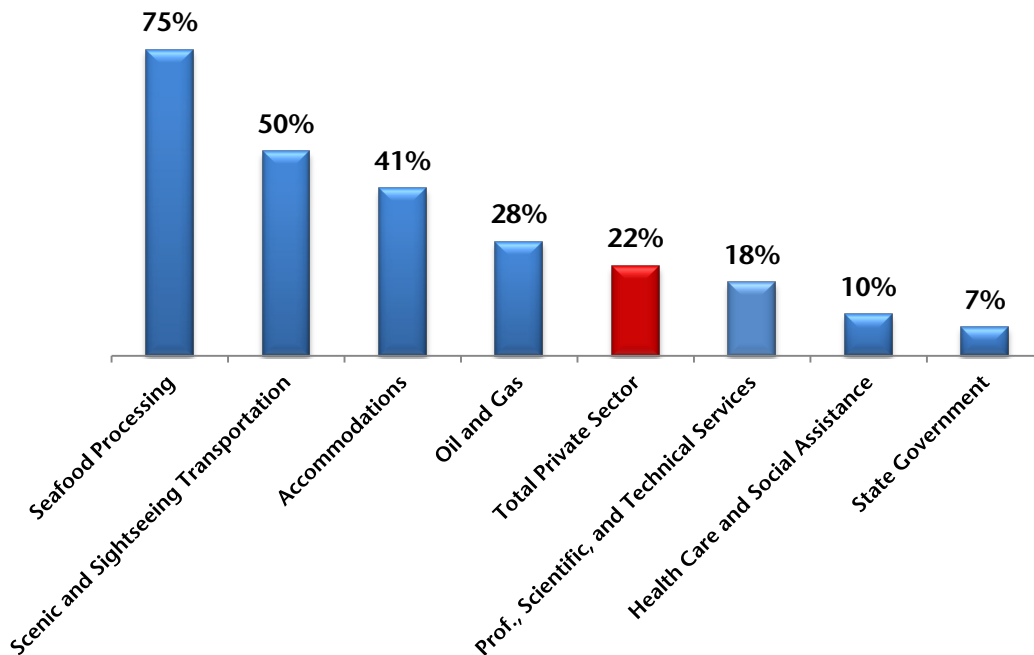
### Alaska Residents Employed with Oil & Gas Industry Related Vendors, 2009

Industry	Resident Workers	Nonresident Workers	Nonresident % of Total	Resident Wages (\$millions)	Nonresident Wages (\$millions)	Nonresident % of Total
Construction	1,032	576	35.8%	\$38.3	\$14.2	27.0%
Transportation & Warehousing	3,217	578	15.2	\$200.3	\$29.6	12.9
Professional, Scientific & Tech. Services	1,085	213	16.4	\$72.4	\$13.1	15.3
Admin. Support*	3,977	633	13.7	\$127.5	\$22.7	15.1
All Others	6,275	542	8.0	\$283.0	\$15.6	5.2
<b>Total</b>	<b>15,586</b>	<b>2,542</b>	<b>14.0%</b>	<b>\$721.5</b>	<b>\$95.2</b>	<b>11.7%</b>

Source: ADOLWD. \*Full sector title is Administrative Support/Waste Management and Remediation. Note: Vendors included in this analysis may also be engaged in activities unrelated to the oil and gas industry. This residency analysis captures all workers employed by these firms, not just those serving the oil and gas industry.

Regardless of the measure used, it is important to note Alaska’s economy overall is reliant on nonresidents to fill its workforce needs. Statewide, 22 percent of the private workforce was defined as nonresident in 2009. Sectors with higher nonresident participation than the oil and gas industry include seafood processing (75 percent nonresident), Scenic and Sightseeing Transportation (50 percent), Accommodations (41 percent), and metal mining. Even state government is listed as having 7 percent nonresident workers, reinforcing the point there is a lag between the time a person actually becomes a resident and the time when the data recognizes them as a resident.

### Percent Nonresident Workers in Alaska, by Sector, 2009



Source: ADOLWD.

Commercial fishing, one of Alaska’s largest industries in terms of participation, also has a relatively high nonresident labor component. According to Commercial Fisheries Entry Commission data, nonresidents accounted for 27 percent of all commercial fisheries permit holders and 58 percent of all earnings in 2009. In the longer term, industries in which nonresidents hold a higher than average percentage of jobs highlight opportunities for Alaska workforce training efforts and Alaska-hire incentives. In the short term, nonresident hire is part of what allows the Alaska economy to grow, which in turn generates greater opportunity for Alaska residents.

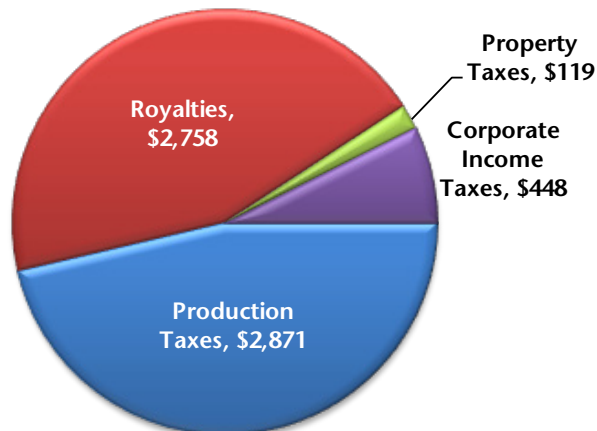
# Chapter 6. Local and State Government Revenue Impacts

## State Government Revenue

Oil is the reason Alaska is the only state in the nation that does not have either a state sales tax or a personal income tax. As a direct result of oil tax revenue and the long-term prospect for a great deal more, Alaska repealed its personal income tax in 1980. There was some discussion in the early part of the 2000s about reinstating it when oil tax revenue was low and the state's rainy-day accounts had dwindled. But then world market conditions changed, oil prices rose, and Alaska has been one of very few states in recent years with budget surpluses and growing rainy-day accounts.

In fiscal year (FY) 2010, Alaska received \$6.2 billion in oil and gas revenue from a combination of four sources: oil and gas production taxes, oil and gas property taxes, royalties, and corporate income taxes.

**State Oil Revenue by Type, FY 2010**  
(\$ millions)



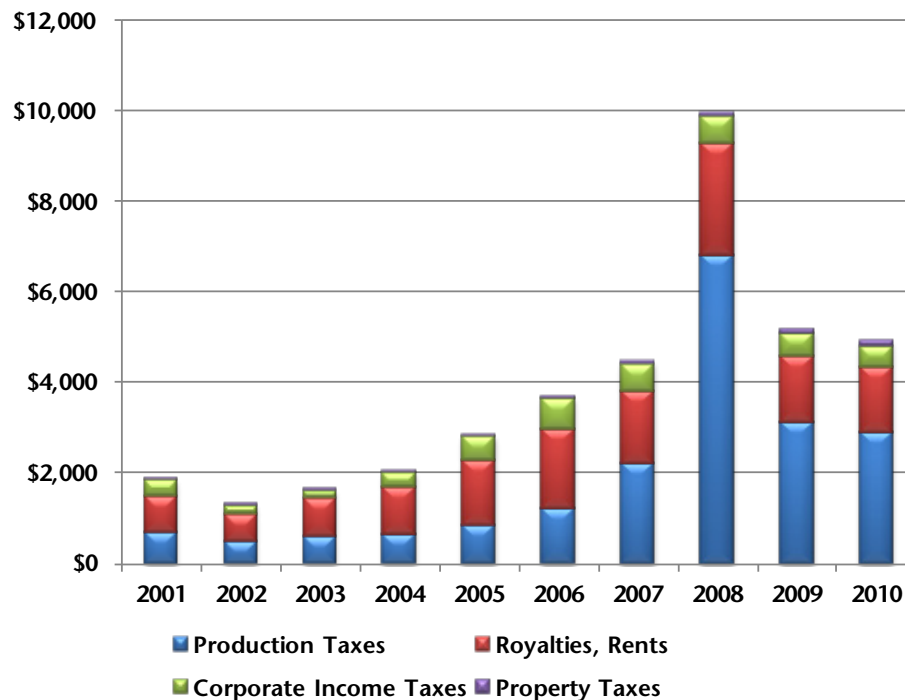
Source: Alaska Department of Revenue.

Nearly 80 percent of oil revenue (\$4.9 billion) was unrestricted, which means it is available to be appropriated by the state legislature (subject to the governor's veto). The remaining \$1.3 billion was restricted in how it could be spent and went primarily to the Alaska Permanent Fund, school funds, and the Constitutional Budget Reserve (the state's main rainy-day fund).

The \$4.9 billion in 2010 oil revenue represented 89 percent of all unrestricted state revenue (funds available for appropriation by the state legislature, subject to the governor’s veto), a percentage that reveals the critical role the industry plays in financing state government. No other state is so dependent on a single industry for tax revenue. From 1959 to 2010, oil revenues have totaled \$157 billion in 2010 dollars, which equals 98 percent of all state revenue from natural resources.<sup>22</sup>

Over the last decade, oil revenue has fluctuated significantly as a result of volatile prices and changes in tax structure. In 2002, total oil revenue was just \$1.3 billion and production taxes were below \$500 million. At the other extreme, 2008 total oil revenue reached \$9.9 billion and production taxes that year were 14 times higher at \$6.8 billion. When oil prices fell, state oil revenue also fell back to around \$5 billion in 2009 and 2010.

**State Government Oil Revenue by Type, FY 2001-2010**  
(\$ millions)



Source: Alaska Department of Revenue.

## Local Government Revenue

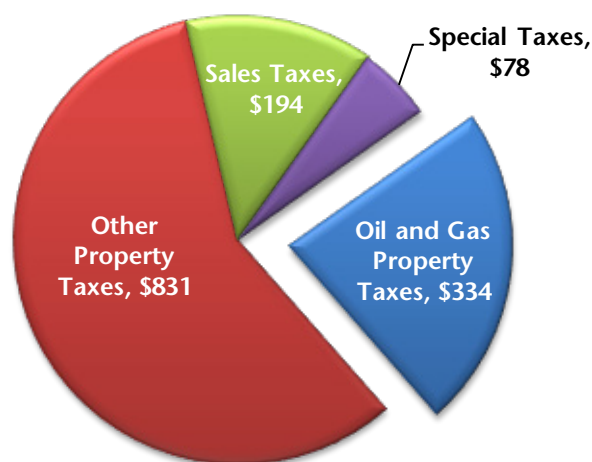
### Oil and Gas Property Taxes

Oil and gas property is assessed and taxed by the state and then distributed to the local government entities in which the property is located. These taxes totaled \$334 million in FY 2010 and made up 23 percent of all local tax revenue collected in Alaska.

<sup>22</sup> Alaska Department of Revenue data compiled and inflation-adjusted by Scott Goldsmith in UA Research Summary No. 17, February 2011; Institute of Social and Economic Research, University of Alaska Anchorage.

Oil and gas property tax revenue was up 15 percent from FY 2009, in contrast to a decline of 7 percent in sales tax revenue and 9 percent in special tax revenue. Special taxes include such things as motor fuel, raw fish, bed, and alcohol and tobacco taxes, among others.

### Local Government Tax Revenue by Major Category, FY 2010 (\$ millions)



Source: Alaska Department of Commerce, Community and Economic Development.

As one would expect, most of the assessed full value of oil and gas property was in NSB. High assessed values in Fairbanks and Valdez were tied to TAPS and marine terminal facilities.

### State Taxable Oil and Gas Property, Full Value (\$ millions), 2007 – 2010

	2007	2008	2009	2010
<b>Borough or Municipality</b>				
Anchorage	\$264.9	\$92.3	\$235.9	\$229.0
Fairbanks	\$369.5	\$508.8	\$694.1	\$763.4
Kenai	\$607.1	\$635.3	\$703.1	\$714.0
Mat-Su	\$2.7	\$7.2	\$6.0	\$7.7
North Slope	\$11,415.7	\$12,713.0	\$14,638.0	\$16,113.5
<b>Cities in Unorganized Boroughs</b>				
Cordova	\$4.4	\$5.9	\$9.0	\$10.1
Valdez	\$992.9	\$1,327.1	\$1,978.6	\$2,151.2
Whittier	\$0.7	\$0.9	\$1.5	\$1.7
<b>Subtotal</b>	<b>\$13,657.8</b>	<b>\$15,290.4</b>	<b>\$18,268.0</b>	<b>\$19,990.5</b>
<b>Outside Taxing Jurisdictions (state and federal)</b>	<b>\$1,957.5</b>	<b>\$2,634.0</b>	<b>\$3,813.2</b>	<b>\$4,045.6</b>
<b>State Oil &amp; Gas Full Value Assessment</b>	<b>\$15,615.3</b>	<b>\$17,924.4</b>	<b>\$22,082.1</b>	<b>\$24,036.1</b>

Source: Alaska Department of Commerce, Community and Economic Development.

North Slope oil and gas property tax revenues were \$271 million in 2010, an amount that was 98 percent of all tax revenue collected by NSB. Oil and gas property taxes also made up the lion's share of total tax revenue in Valdez (89 percent) and significant percentages in the Fairbanks North Star Borough (9.2 percent) and the Kenai Peninsula Borough (8.5 percent). Total oil and gas property taxes to local governments increased by nearly \$100 million from 2007 to 2010.

### Oil & Gas Local Property Tax Revenues, 2007 - 2010

	2007	2008	2009	2010	Property Taxes 2010 % of Total	Taxes 2010 % of Total
<b>City, Borough, or Municipality</b>						
Anchorage	\$4.2	\$3.5	\$1.4	\$3.5	0.7%	0.7%
Fairbanks North Star Borough	\$5.7	\$5.3	\$6.9	\$9.3	9.6	9.2
Also taxed by City of Fairbanks	\$0.0	\$0.0	\$0.0	\$0.2	1.3	1.1
Kenai Peninsula Borough	\$7.0	\$6.7	\$6.6	\$6.8	12.5	8.5
Also taxed by City of Kenai	\$0.1	\$0.1	\$0.1	\$0.1	3.4	1.3
Mat-Su	\$0.0	\$0.1	\$0.1	\$0.1	0.1	0.1
North Slope	\$199.1	\$211.5	\$235.2	\$270.8	98.2	98.2
Valdez	\$19.9	\$26.5	\$39.6	\$43.0	89.9	89.0
All Other (Cordova/Whittier)	<\$0.1	<\$0.1	<\$0.1	\$0.1	5.9	2.3
<b>Total Oil &amp; Gas Property Tax Revenues</b>	<b>\$236.0</b>	<b>\$253.7</b>	<b>\$289.9</b>	<b>\$333.9</b>	<b>28.6%</b>	<b>23.0%</b>

Source: Alaska Department of Commerce, Community and Economic Development.

## Other Impacts

In quantifying the economic impact of the oil and gas industry in Alaska, this study limits its focus to the current impacts of the industry's business and payroll spending, including the indirect and induced effects of that spending. Though not quantified here, legacies of the industry are also significant economic contributors to the state. The most notably legacy of the oil industry activity in Alaska is the Alaska Permanent Fund, although others include a technically skilled workforce and retirement income from the former industry workers who have made Alaska their home.

### The Alaska Permanent Fund and the Permanent Fund Dividend

Perhaps the most recognizable impact the oil industry has had on the average Alaska resident is the Alaska PFD. Each fall, every Alaska resident – adults and children alike – receive a PFD check in an amount that has ranged from about \$400 to over \$2,000.

The initial legislation creating the dividend in 1980 was invalidated by the U.S. Supreme Court because it premised the size of the payment on years of residency in the state. After adjustments were made to the legislation to authorize equal dividend payments to all residents, the first dividend of \$1,000 was paid in 1982. A person who has been a resident of Alaska from 1982 through 2010 – and filed his or her yearly applications for the dividend – has received over \$32,000 in PFDs. In all, the Alaska Permanent Fund has paid about \$18 billion in dividends to Alaskans over its nearly 30-year history.

Although the jobs created by the additional income Alaskans receive from PFDs is not part of the core analysis of this study, the Alaska Permanent Fund exists because of Alaska's oil and gas resources and the oil and gas industry's ability to profitably extract those resources.

## **Employment Impact of State and Local Oil Revenue and Permanent Fund Dividends**

As noted above, this study does not attempt to quantify the employment and other indirect impacts that are generated by taxes and other payments the industry makes to state government, though oil revenue undoubtedly substantially expands the industry's economic influence. That revenue creates jobs in state government, and jobs in the private sector from state capital spending and non-payroll operational budget spending. The state's 2011 capital budget alone will eventually pour about \$3 billion into Alaska's economy, about \$2 billion of that coming from state funds.

Property taxes paid to local governments perform a similar role at that level and additional economic benefit comes from state revenue sharing with local governments and state educational funding at the local level that would otherwise have to be paid for by local taxes. The choice for both state and local governments if they did not have the oil-related revenue would be to provide fewer services and spend less on capital projects, raise more taxes from businesses and households, or most likely some combination of both.

ISER economist Scott Goldsmith has estimated government spending made possible by oil revenue creates about 16,000 state government jobs, 15,000 local government jobs, and 18,000 private sector jobs for a total of 50,000 jobs.<sup>23</sup> Goldsmith estimates if the impact of the PFD is also considered, the total number of jobs created comes closer to 60,000.<sup>24</sup>

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<sup>23</sup> *Alaska's Petroleum Industry: Transformative, But is it Sustainable?* Scott Goldsmith presentation sponsored by Northrim Bank, April 2011.

<sup>24</sup> These jobs are entirely separate from the jobs created directly by oil and gas industry spending and payroll, and indirectly as that spending and those payroll dollars circulate through the state's economy.