The Economic Impact of the Natural Gas Industry

in La Plata County, 2003-2004

La Plata County benefits from oil and gas with ***good jobs, tax support*** *and* ***wealth creation.***

With its long history of operations in La Plata County, the oil and gas industry has remained a quiet, but vital contributor to the continued prosperity and economic development of the residents and businesses here. The specifics of that contribution however have tended to be obscured by larger, noisier debates over commodity cycles, energy policy and environmental impacts. This study delves into the actual results seen and felt across the county over time from oil and gas development and production.

The study was conducted by a team of economists at Fort Lewis College, in Durango, under a commission from the La Plata County Energy Council. It employs widely accepted economic techniques to estimate with a high degree of confidence the actual number of jobs held here that are related to oil and gas operations, how many dollars those workers spend here, the positive impact money spent by the industry has on the rest of the local economy, and the tax dollars residents and businesses don't have to spend due to revenues generated by the industry.

Highlights:

- Every dollar spent by the industry generates $1.43 in additional economic activity
- The oil and gas industry brings in about 22 percent of all personal income in La Plata County
- The industry employs about 305 people and about 620 others on a contract basis; together that is about 4.2 percent of all jobs in the county
- Industry wages are on average about three times higher than those of other jobs in the county
- Local purchases by the industry, its workers and royalty recipients generate $6.2 million in sales tax revenue per year
- Without the tax revenues generated by industry, property taxes for residents and businesses would have to rise between 300 and 800 percent

As this study clearly shows, the quality of life, general prosperity and continued economic development are all positively impacted by the presence of the oil and gas industry in La Plata County.

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By

Deborah Walker, Ph.D.
Assistant Professor of Economics
Director, Office of Economic Analysis and Business Research

School of Business Administration
Fort Lewis College
Durango, CO 81301

and

Robert Sonora, Ph.D.
Assistant Professor of Economics
Office of Economic Analysis and Business Research

School of Business Administration
Fort Lewis College
Durango, CO 81301

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Table of Contents

List of Figures and Tables

Executive Summary

Along with providing a substantial number of high-paying jobs, natural gas production in La Plata County generates a large stream of tax revenue to state and local governments. The natural gas industry also has a substantial indirect impact on other La Plata County industries due to the quantity of goods and services purchased from firms within the county. This study was undertaken to document the economic impact of the direct spending, employment, and royalty payments by the oil and natural gas industry in La Plata County. The history of oil and gas production in La Plata County shows an obvious trend towards more natural gas production; which is now the predominant product extracted by the industry in La Plata County. Therefore, this analysis basically reports the economic impact of natural gas extraction in the county. Much of the analysis used data collected from the fiscal year 2003, however, when tax revenue information was available from 2004, that data was used.

Spending by the natural gas industry stimulates the economy directly by generating jobs and indirectly as the demand for goods and services created by the well extraction "ripples" through the economy. Economists term this “the multiplier effect.” In estimating this multiplier effect, our study revealed that natural gas industry activity in La Plata County has a significant economic impact with respect to sales (or output), earnings, as well as job growth.

Furthermore, the natural gas industry in La Plata County provides a substantial amount of tax revenue, providing the local community with many amenities that would not be possible if the natural gas industry did not produce as much as it does in the county. The following provides a brief overview of the findings of this study:

- Direct spending by the natural gas industry in La Plata County for the year 2003 was approximately $215.7 million.
- Each dollar spent by the natural gas industry in La Plata County generates approximately $1.43 in additional sales (or output), or an additional $308.4 million dollars spent on productivity in La Plata County in 2003. This represents over 22% of the total personal income (or output) of La Plata County.
- Direct earnings spent in La Plata County increased by $42.6 million in 2003 because of natural gas operations. Total household earnings that can be attributed to the natural gas industry in La Plata County in 2003 equaled $78.5 million.
- Direct employment by the natural gas industry in 2003 was about 305 jobs which generates an additional 623 related jobs in La Plata County. This is approximately 4.2% of the total employment in the County.
- In 2003 the natural gas industry paid average salary was approximately $84,000, as compared with the average annual wage in La Plata County in 2003 of over $28,000.
- In 2003/2004 the natural gas industry accounted for about 48%/62% of all La Plata tax revenues, if natural gas prices continue, this share should grow.
- In the absence of the natural gas industry in La Plata County, the average residential property taxes would have to increase from about $532 to over $1,000 in 2003 and from an average of about $465 to over $1,100 in 2004, an increase of 96% and 155% respectively, to raise the same amount of tax revenues.
- As with the case of residential property taxes over the same two years, commercial property taxes would need to increase from about $6,500 to over $21,000 in 2003 and from approximately $3,500 to just over $23,000 in 2004, or 221% and 609% respectively, to raise the same amount of tax revenues in the absence of the natural gas industry.
- The natural gas industry generated an additional $6.2 million in sales tax revenue for La Plata County in 2003 or about 62% of the total sales tax revenue.

Introduction and Industry Trends

The purpose of the study is threefold: (1) to determine the economic impact of the natural gas industry in La Plata County, including output, earnings and employment impacts (2) to compare local wages in the natural gas industry with average wages in La Plata County, and (3) to analyze the fiscal impact the natural gas industry has on La Plata County's budget, including a forecast of future tax revenues and a "what if" analysis (including the residential and/or commercial property tax rates that would be necessary in the absence of the natural gas revenue generated for the county.) The natural gas industry's presence in La Plata County mitigate downturns associated with declines in the tourist industry which result from unanticipated events such as fires, droughts, terrorist attacks, and so forth.

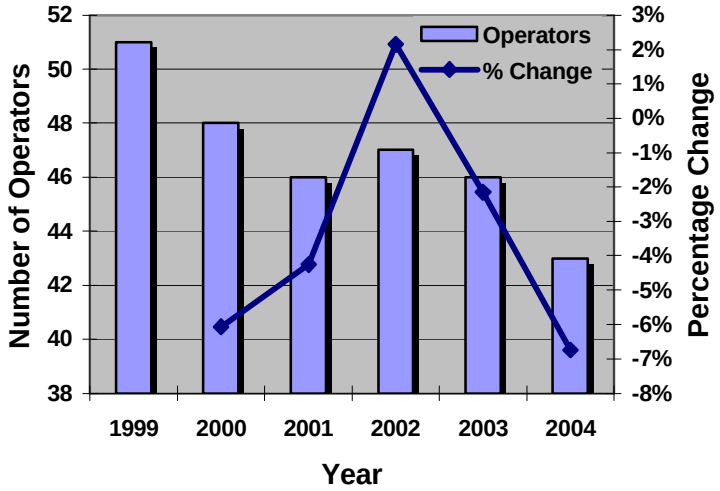
Early development of natural gas began in La Plata County in the 1920s and since the 1950s has played an increasingly larger role in the region's economy. In La Plata County, coalbed methane production began in the late 1970s. Traditional natural gas reserves have been, and continue to be, developed at a steady pace.[1] This section begins by examining production trends in La Plata County and also examines the role of natural gas workers in the local labor force, including trends in employment.

Natural Gas Production in La Plata County

Forty-six operators were engaged in natural gas production and drilling in La Plata County in 2003, ranging in size from one-employee operations to diversified multinational firms.[2] The number of natural gas operators has *declined* by approximately 21.5% over the last 7 years. Figure One shows the number of natural gas operators and the percentage change in La Plata County from 1999 to 2004.

Figure 1

Number of Natural Gas Operators in La Plata County, 1999-2004



Source: Natural Gas Conservation Commission, http://www.oil-gas.state.co.us. Note: These numbers include oil, gas and water well operators. However, there are no operators that produce only water. Not all operators produced output every year. A decline in operators can occur when companies sell their producing properties to other operators. This does not necessarily reflect a decline in production, as is evident in Figure Three.

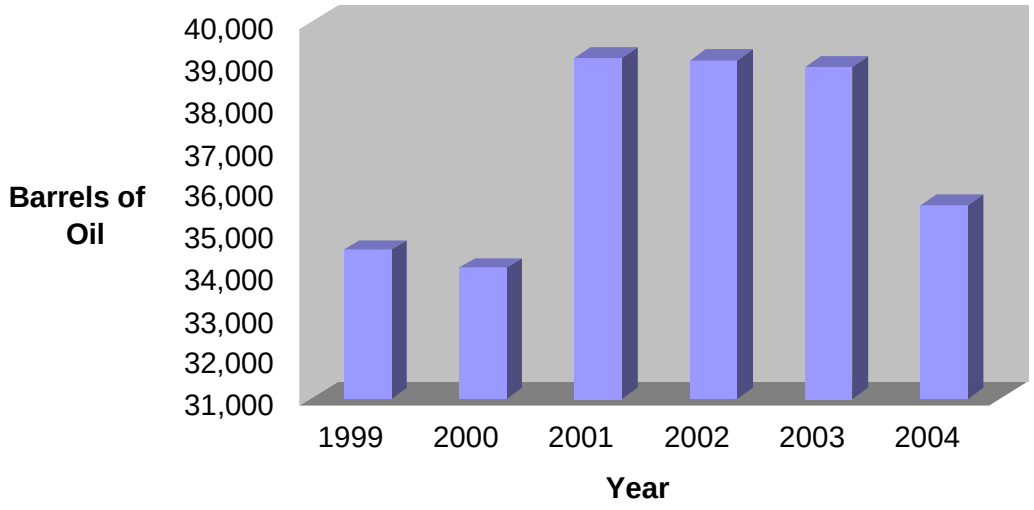
[1] La Plata County Energy Council, http://www.energycouncil.org/gasfacts/natgasdev.htm.

[2] An operator is a person, natural or artificial (e.g. corporate) engaged in the business of drilling wells for oil and gas.

Figures Two and Three below show the changes in natural gas production from 1999 to 2004. Figure Four shows that the number of wells in La Plata County increased by 20% from 1999 (2,205 wells) to 2004 (2,659 wells). Oil production remained fairly constant from 2001 to 2003 and then decreased in 2004. Gas production increased between 1999 and 2003, and then dropped off beginning in 2002, (although still remaining substantially higher than in 1999), as can be seen by considering the percentage change in the number of wells in Figure Four.

Figure 2

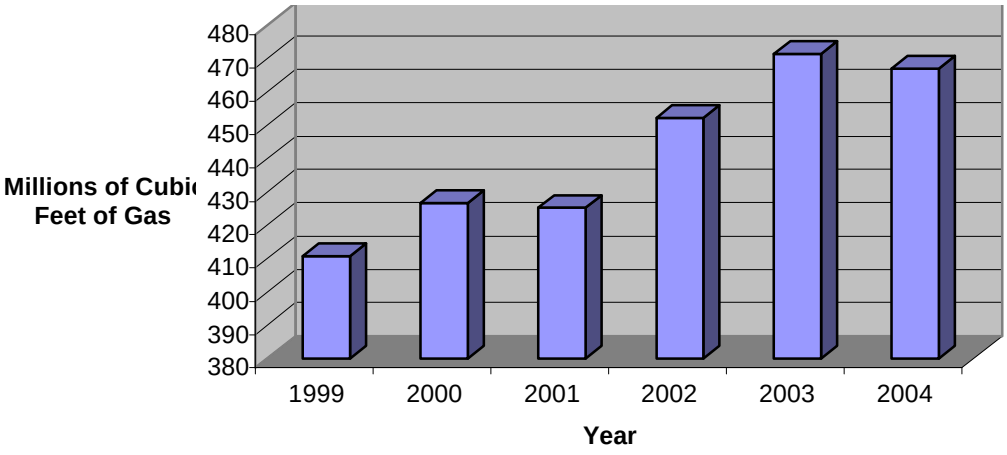
Oil Production in La Plata County, 1999-2004



Source: Oil and Gas Conservation Commission, http://www.oil-gas.state.co.us.

Figure 3

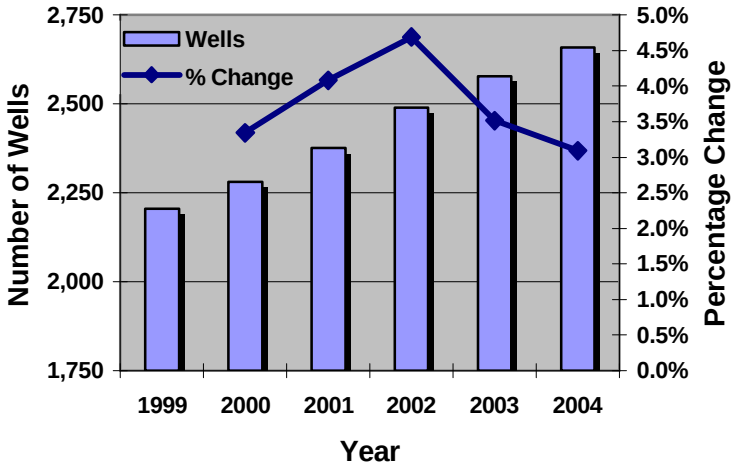
Natural Gas Production in La Plata County, 1999-2004



Source: Oil and Gas Conservation Commission, http://www.oil-gas.state.co.us.

Figure 4

Number of Wells in La Plata County, 1999-2004



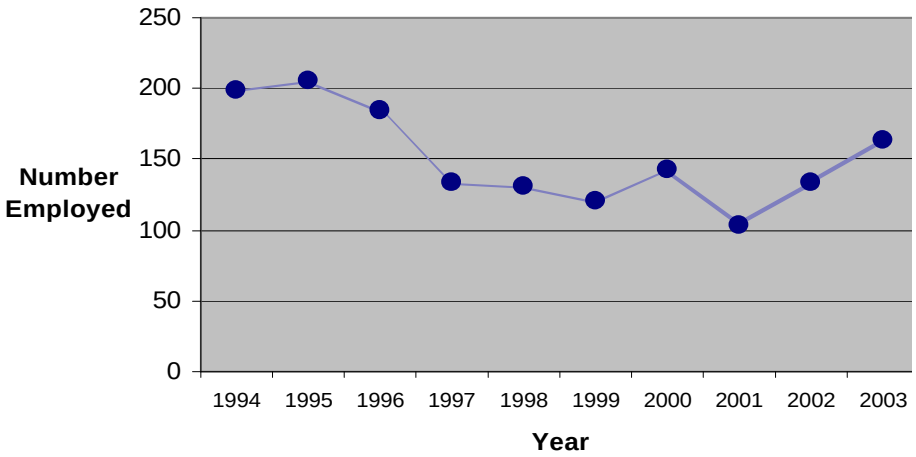
Source: Oil and Gas Conservation Commission, http://www.oil-gas.state.co.us.

Natural Gas Employment in La Plata County

The Colorado Department of Labor and Employment estimates the number of employees and the wages they earn in different industries in La Plata County. This study found that these numbers are underestimated (perhaps due to how the Department of Labor classifies industries). The following graphs reflect the numbers from the Department of Labor, not the data obtained directly from natural gas operators for this study. Figure Five shows the number employed in the "Natural Gas Extraction" industry over a ten year period from 1994 to 2003. The most recent trend in the industry shows an increase in the number of natural gas employees in La Plata County.

Figure 5

Employment in Natural Gas Extraction in La Plata County, 1994-2003

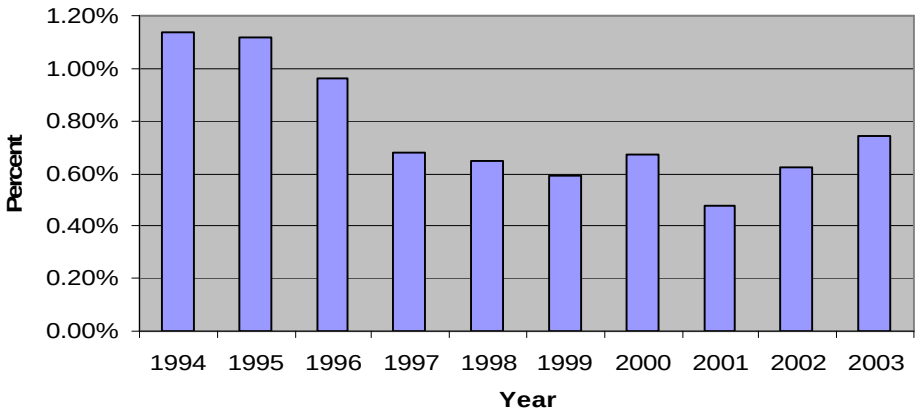


Source: Colorado Department of Labor and Employment, http://www.coworkforce.com.
Note: the number for 2003 is an estimate.

Figure Six shows the number of people employed in natural gas extraction as a percent of the total number of people employed in La Plata County. Again, the most recent trend is upward. According to the Colorado Department of Labor and Employment, there were 163 people employed in "Natural Gas Extraction" in La Plata County in 2003. As will be discussed later, this current study indicates direct employment generated by the existence of natural gas in La Plata County was approximately 305 employees in 2003. Therefore, this study estimates that the numbers provided by the Colorado Department of Labor and Employment are very low estimates. Employment generated in 2003 due to the natural gas industry's multiplier effect (contract work, service industries, etc.) totaled 928 jobs.

Figure 6

Percent of Total Employment in Natural Gas Extraction in La Plata County, 1994-2003



Source: Colorado Department of Labor and Employment, http://www.coworkforce.com.
Note: the number for 2002 is an estimate.

How We Measure Impact

Sources of Data

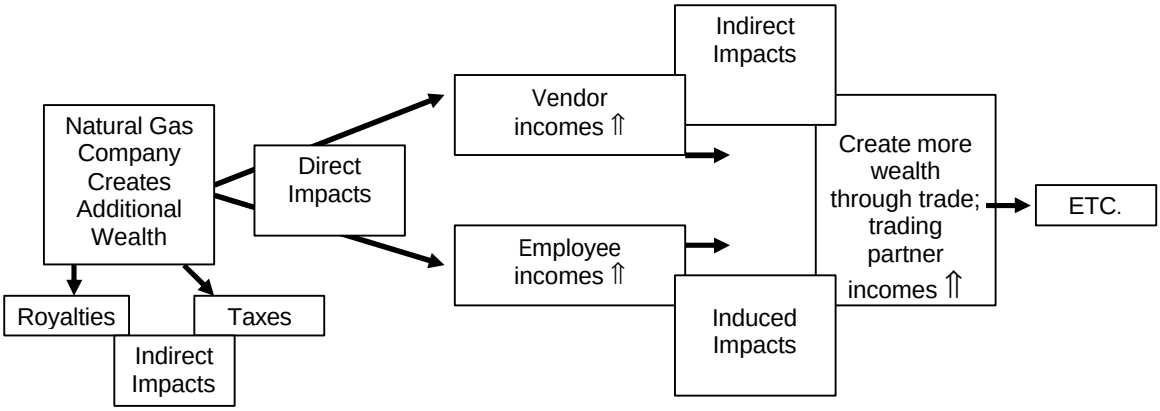
Information about county expenditures was gathered directly from the primary producers (the major producers of natural gas in La Plata County in 2003). These primary producers provided operating expenditure information (purchases from La Plata County based vendors and contractors), payroll totals, wage information, and royalty payments made in La Plata County. This data, along with natural gas production information from the Colorado Oil and Gas Conservation Commission, were used to determine the economic impact of the natural gas industry on the La Plata County economy. Tax revenue information was obtained from La Plata County's Assessor's Office in order to determine the natural gas industry's impact on local government tax revenues in 2004, as well as in future years.

Multiplier Effects

Multiplier effects are used to capture the secondary effects of natural gas spending in a region. There are two basic kinds of secondary effects:

Indirect effects are the changes in sales or output, income or earnings, and jobs within backward-linked industries in the region, i.e., businesses that supply goods and services to the natural gas industry. For example, a natural gas provider buys supplies and equipment from a local store. Each business that provides goods and services locally benefits indirectly from natural gas spending.

Induced effects are the changes in sales or output, income or earnings, and jobs in the region resulting from household spending of income earned either directly or indirectly from natural gas spending. Employees working for natural gas firms, residents receiving royalty checks and backward linked industries spend their income in the local region, creating additional sales and economic activity. See the diagram below.



When determining a multiplier to use, a study should account for the amount of purchases that are made by the natural gas industry inside of the region being studied. Since La Plata County is a relatively rural area, some of the spending by natural gas firms for materials and capital equipment will take place outside of the County. A large amount of direct spending by natural gas firms in La Plata County will be spending on their labor force – which in turn becomes earnings for the employees of these firms. However, it is often assumed that local household spending increases directly with income. But higher incomes usually lead to more saving and investment as well as different kinds of purchases such as travel and luxury items that may not accrue to the local area. This study has attempted to take all of these factors into account.

The multipliers used in this study were obtained from the Bureau of Economic Analysis and were calculated for the Southwest Colorado Region.[3] Three separate multipliers were used:

The Output Multiplier: 1.43
The Earnings Multiplier: 1.84
The Employment Multiplier: 3.04

Natural Gas Impacts on Output in La Plata County

Each dollar spent on non-capital operations by the natural gas industry in La Plata County generates $1.43 in additional sales (or output). **This means that approximately $279.5 million additional dollars were spent on productivity in La Plata County in 2003 due to the natural gas industry (see Table 1 below). This represents just over 20% of the total output generated in La Plata County in 2003 (see Figure Seven).**[4] This number was generated by assuming that employees and royalty recipients of the natural gas industry spend 50% of their

[3] The United States Department of Commerce, Bureau of Economic Analysis, RIMS II Multipliers, Southwest Colorado Region, 2005. Multipliers are based on the 1997 Benchmark Input-Output Table for the nation and 2001 regional accounts data. The multipliers used for the output impact is a final demand multiplier. Since industry earnings (payroll and royalty payments) and employment information was made available by surveying the firms in the industry, direct impact multipliers were used for the earnings and employment impacts.

[4] The government's measure of GDP or output can also be viewed as a measure of personal income. This is because the government measures output by the market value of final goods and services bought in a region. This, in turn, is a measure of the income generated when the goods and services are sold. The Bureau of Economic Analysis provides personal income data for counties. The total personal income for La Plata County in 2003 was $1.3 billion (http://bea.gov/bea/regional/reis/default.cfm#a).

discretionary[5] industry earnings in La Plata County. This is a conservative estimate. The third column in Table 1 below estimates the impact from the natural gas industry assuming that 100% of the discretionary industry earnings were spent in La Plata County. The real impact probably lies somewhere in between these two numbers. Furthermore, these expenditures do not include spending on capital, such as would take place to drill and construct a new well. Although many of the capital expenditures a company would undertake would be outside of La Plata County, there would still be some impact on the local economy. Therefore, these estimates understate the total impact from the natural gas industry.

The additional sales dollars are generated from direct spending by the natural gas industry as well as by the indirect and induced spending that follow from it. For example, when a natural gas company contracts with a local engineer, this is direct spending. Some of this spending then becomes income for the engineer – who in turn spends some or all of it elsewhere in the County. Furthermore, employees working for a natural gas company and local residents who receive royalties[6] from the productivity of the natural gas industry spend their earnings at local restaurants, shops, gas stations, and so on.

Table 1

County-wide Results of the Economic Impact Study, Natural Gas Industry

Category	Assuming 50% of Discretionary Income Spent in La Plata County	Assuming 100% of Discretionary Income Spent in La Plata County
Non-Capital Expenditures by Primary Natural Gas Producers in La Plata County (excluding payroll)[7]	**$173 million**	**$173 million**
Natural Gas employee expenditures in La Plata County (assuming 50%/100% of disposable payroll was spent in La Plata County)[8]	**$8.9 million**	**$17.8 million**
Local royalty expenditures (assuming that 50%/100% of the royalty payments made to recipients was spent in La Plata County)[9]	**$33.8 million**	**$67.6 million**
Direct and Induced Economic Impact	**$215.7 million**	**$258.4 million**
Multiplier	**1.43**	**1.43**
Total Estimated Economic Impact	**$308.4 million**	**$369.5 million**
Total Existing Natural Gas Jobs in the County	**305**	**305**
Jobs Attributable to the Natural Gas Industry	**623**	**623**
Total Job Opportunities Created by Natural Gas	**928**	**928**

Source: Survey data from primary natural gas producers in La Plata County.

[5] Discretionary earnings is equal to total earnings minus taxes and other payroll deductions.

[6] The data collected for the study included royalty payments made to residents of La Plata County. However, not all of the royalties received will be spent in La Plata County, especially because the region is considered rural. We estimate that 50% of the royalty dollars received by La Plata County residents will be spent in the County.

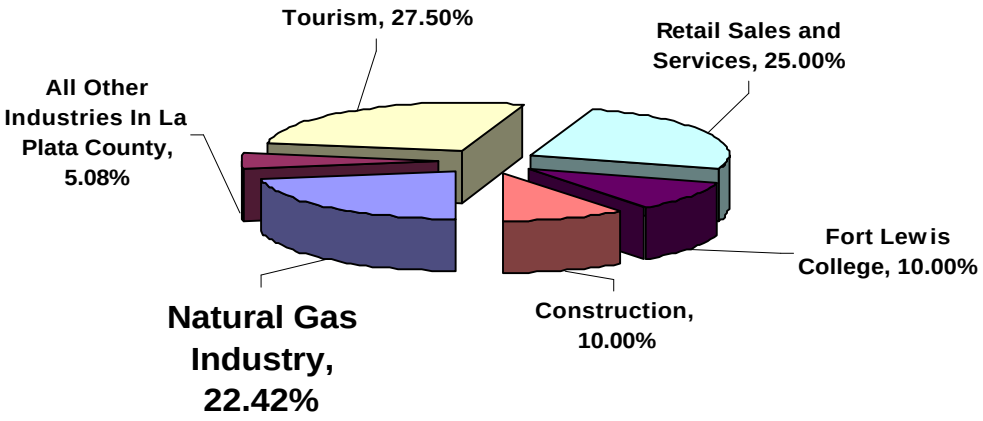
[7] This number was derived by determining the average non-capital expenditure (for 2003) of natural gas companies per well in the county ($67,104.70), then multiplying this number by the operating wells in 2003 (2,578). Average non-capital expenditures per well were determined by taking the total expenditures provided by the companies providing data for the study and dividing by the number of wells these companies operated in 2003. The assumption being that this average number is a good representation of expenditures for all operating wells.

[8] This number was derived by determining the average net payroll per well in the county, excluding benefits, etc. ($6,865.74), then multiplying this number by the operating wells in 2003 (2,578), then multiplying this number by .50 (a conservative estimate). According to the Bureau of Economic Analysis, 85% of payroll earnings in 2003 can be considered consumer expenditures (payroll minus taxes for example).

[9] This number was derived by determining the average royalty payment paid out by the companies who provided information for this study. The total amount of royalty payments were divided by the number of wells operated by the companies that provided their royalty payment information. This was then multiplied by the total number of operating wells in 2003 (2,578) to determine total royalty payments by the industry in La Plata County. This number was then multiplied by .50 (due to the assumption that 50% of these payments would be spent outside of the county).

Figure 7

The Natural Gas Industry's Percent of Personal Income or Output in La Plata County in 2003



Source: Survey data from primary natural gas producers in La Plata County and The Econometer Index, Office of Economic Analysis and Business Research, School of Business Administration, Fort Lewis College.

Natural Gas Impacts on Earnings for La Plata County

Those who receive dollars directly from the natural gas industry (employees and royalty recipients) then in turn spend these dollars in the local economy.[10] This spending then generated additional earnings for those who receive the additional sales. Total expenditures by employees and royalty recipients of the natural gas industry in La Plata County in 2003 were $42.6 million. For each of these dollars spent, another .84 cents of additional earnings are generated in the economy. **Therefore, the natural gas industry in La Plata County added nearly $78.5 million to household earnings in 2003**.[11]

Natural Gas Impacts on Employment for La Plata County

From the data gathered from the natural gas companies in La Plata County, we estimate that direct employment in the industry in 2003 was approximately 305 workers. This is approximately 1.4% of the total employment in the County. This is above the .74% estimate by the Colorado Department of Labor and Employment. Due to the multiplier effect of the industry, we estimate that 928 jobs were created in La Plata County in 2003 because of the natural gas industry. This translates into a little over 4% of the total employment in the County (see Figure Eight).[12]

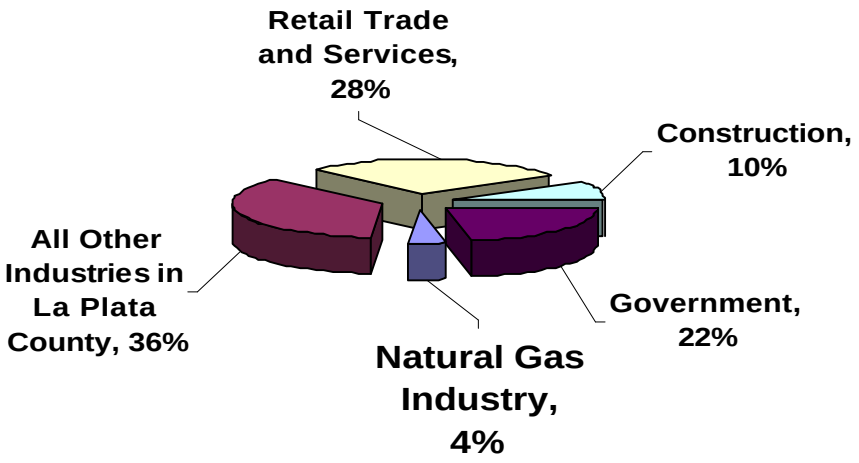
[10] According to the Bureau of Economic Analysis, 85% of payroll earnings in 2003 can be considered consumer expenditures (payroll minus taxes for example). We then estimated that 50% of consumer expenditures made by employees and royalty recipients of the natural Gas industry would be made in La Plata County. This is a conservative estimate.

[11] This number was calculated by multiplying the additional earnings generated by the natural gas industry spent in La Plata County (through payroll and royalty payments) times the earnings multiplier provided by the Bureau of Economic Analysis (1.838).

[12] The employment multiplier can fluctuate significantly. We estimate that this number is conservative.

Figure 8

The Natural Gas Industry's Percent of Employment in La Plata County in 2003



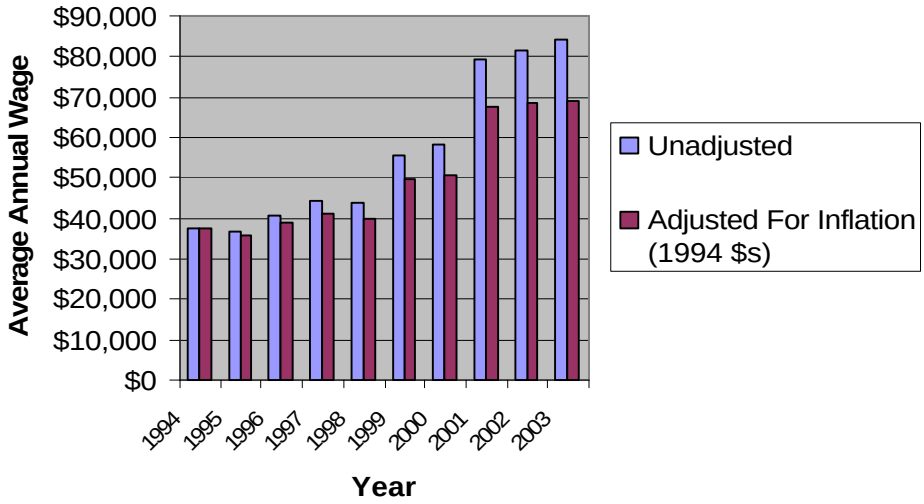
Source: Colorado Department of Labor and Employment, http://www.coworkforce.com and primary operators in the natural gas industry in La Plata County.

Natural Gas Wages in La Plata County

The natural gas industry pays higher wages than are found in most other industries in La Plata County because of the relatively high level of education and skills required and, hence, greater productivity of these jobs; and because of national and international competition for workers in this industry. Figure Nine shows the average annual wage paid by natural gas extractors in La Plata County from 1994 to 2003 (both unadjusted and adjusted for inflation). Even with adjusting for inflation, the average annual wage in the natural gas industry has increased 84.7% over the ten – year period in La Plata County (from $37,445 in 1994 to $69,165 in 2003).

Figure 9

Average Annual Wage of the Natural Gas Industry in La Plata County, 1994-2003

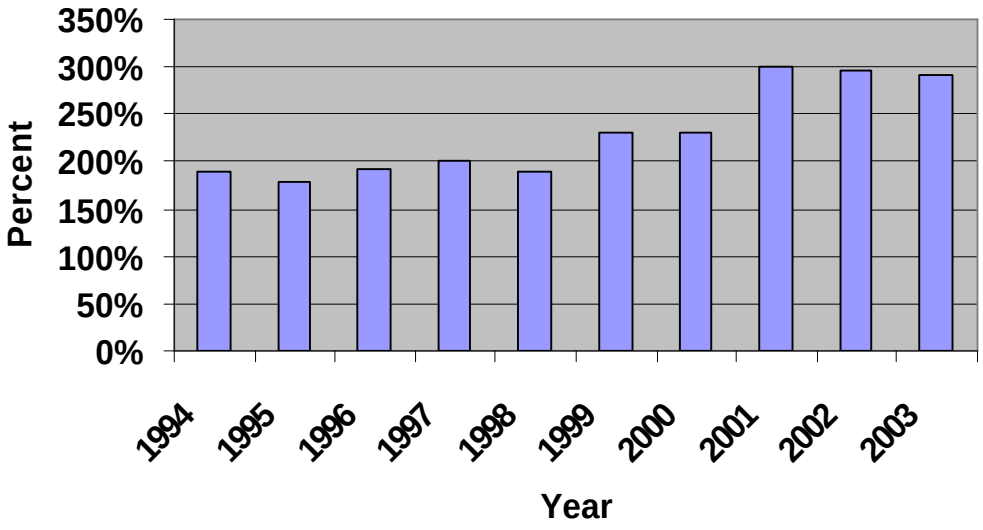


Source: Colorado Department of Labor and Employment, http://www.coworkforce.com.
Note: the numbers for 2002 are estimates.

Not only did the natural gas industry directly employ over 300 people in 2003, these are, on average, relatively high paying jobs. According to the Colorado Department of Labor and Employment, the average annual wage for La Plata County workers in 2003 was $28,917. This compares to the average annual wage in the natural gas industry in the County of about $84,000 and is one of the highest paying industries in La Plata County, as can be seen in Figures Ten and Eleven. In 1994, the natural gas industry paid average annual wages that were almost double the average annual wage for the county (190.7% higher), while in 2003, the natural gas industry paid average annual wages that were almost triple that paid in the county (290.6% higher).

Figure 10

Average Annual Wage of the Natural Gas Industry as a Percent of Average Annual Wage of All Industries in La Plata County, 1994-2003



Source: Colorado Department of Labor and Employment, http://www.coworkforce.com.
Note: the number for 2002 is an estimate

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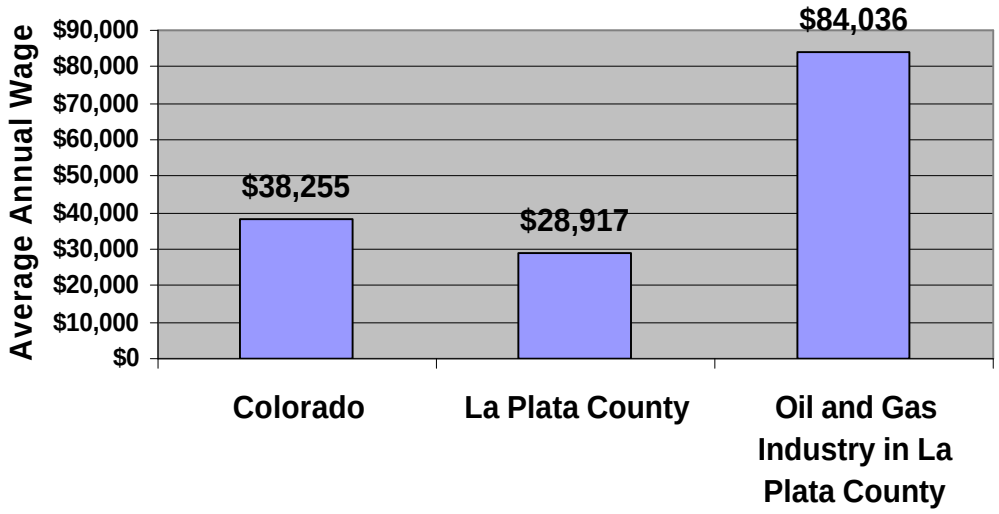
Figure 11

Comparison of Average Annual Wages in 2003, Colorado, La Plata County, and the Natural Gas Industry in La Plata County



Source: Colorado Department of Labor and Employment, *http://www.coworkforce.com*.

Fiscal Impact of the Natural Gas Industry In La Plata County

In 2003 and 2004 the natural gas industry contributed the majority of the total tax revenue generated by La Plata County. The industry pays property taxes on the production value of the natural gas and property tax on the physical property it owns. Furthermore, a percentage of the state taxes paid by natural gas firms in the county return to the local economy in the form of Energy and Mineral Impact Assistance Grants which is used for schools, road improvements, and for other specific projects for county and city governments, e.g. fire, libraries, schools, etc.

The production value presented by the county in their 2003 Abstract accounted for by natural gas totaled $728.4 million.[13] The composition of the tax base has dramatically changed. As recently as 1993, the residential assessed valuation in La Plata County exceeded that of the natural gas industry. However, since then the industry's valuation increased more than six-fold as a result of growing production volumes and increasing natural gas prices. On the other hand, residential development (growth) has not even doubled, despite significant new construction and strong appreciation in county housing prices.

Benefits to Local Taxpayers

The benefits of tax revenues generated by natural gas producers to local taxpayers are three fold: First, local home owners see benefits because of lower property taxes; second, local businesses also gain from lower taxes; and third, all residents of La Plata County benefit from improvements to local schools and other government services.

The industry's support of local school districts, as well as many other local public service providers is important to acknowledge. In the 12-years covering 1990 through 2001, the industry's aggregate property tax payments are estimated in excess of $88.9 million to support local school operations (the total increases if debt service is included) and $38.3 million to La Plata County. In addition to the property taxes paid, the industry, its subcontractors, suppliers and local households directly and indirectly supported by the natural gas industry generate substantial sales and other tax revenues and fees to support local government and public service providers.

Those taxes have gone to support increasing demand for public facilities and services for the local population of about 44,000 residents and the over 1 million tourists per year. The growing demands for services from expanding resident population and the continued promotion of tourism have fueled increases in public spending that are largely unrelated to the natural gas industry, yet consume an increasing share of the available resources.

In addition to augmenting services through tax revenues the natural gas industry also provides assistance to local governments in the form of Energy and Mineral Impact Assistance Grants which are used for education, road maintenance and improvements, and services (recreation, fire and police). Table 2 provides Energy and Mineral Impact Assistance Grant information for the year 2003 and 2004.[14] As can be seen from the table, the natural gas industries provided about $3.3 million each year, with the county receiving most of the grant money, followed by the city of Durango and local schools. For the ten year period ending in 2004 natural gas has contributed almost $27 million in grant money to La Plata County.

[13] This number does not include production value from certain tribal properties located within La Plata County.

[14] More details about how the grants are allocated are available on request from the authors or Energy and Mineral Impact Assistance Fund, Colorado Department of Local Affairs

Table 2

Summary of Energy and Mineral Impact Assistance Grant Awards, 2003-2004

Recipient	2003	2004
La Plata County	$1,500,000	2,450,000
City of Durango	$600,000	600,000
Town of Bayfield	–	$154,865
Durango School District 9-R	$600,000	–
Bayfield School District	$100,000	$70,000
Ignacio School District 11-JT	–	$100,000
Los Pinos	$307,320	–
Upper Pine River	$300,000	–
Total	**$3,407,320**	**$3,374,865**

Source: Energy and Mineral Impact Assistance Fund, Colorado Department of Local Affairs, 2005

The importance of these grants to the county is further highlighted given that according to the La Plata County Comprehensive Traffic Study (conducted by Bechtolt Engineering in 1999), it is estimated that between 2001 and 2020 La Plata County will require about $251 million in road improvements alone.

There are also costs associated with the oil and gas industry. Often cited are the impacts of drilling and mining facilities on real estate values. In a study completed in 2001 for La Plata County, BBC Research of Denver found that coal bed methane wells on a property reduce the value of real estate by about $17 thousand.[15] On the other hand, the report finds, proximity to an existing well, though not located on the property, adds value to real estate - a market signal that no future development in the area will occur. A second impact is environmental damage, which could potentially undermine tourism in the region. Though, the majority in mining in La Plata County occurs in the southeast corner, removed from most of the tourist attractions.

A final concern is the effect of large trucks on local and regional highways, as they do more damage than passenger vehicles. This is of particular concern for county roads, where the bulk of responsibility for road maintenance is from county revenues, augmented by state gas and user tax revenue, property taxes, energy impact grants, among others. State and US highway maintenance is financed by state and federal tax revenues.

Assessment of County Taxes

Property taxes are imposed on the assessed value of property in the County. In La Plata County the assessment ratios (AR) are set by the Gallager Amendment – which fixes the amount of taxes residential property owners pay as property values rise. Thus, as property value increases, the assessment ratio decreases. This ratio is updated about every two years. For residential property the AR fell from 12.34% in 1993-94 to 7.96% in 2003-04. For commercial properties the AR has remained the same at 29% and for natural gas companies the AR is 87.5%.

Taxes are calculated by multiplying the assessed value of the property by the mill levy which, is set by the La Plata County Tax Assessors Office. Mill levies vary by city, school, sanitation, fire, water, library, cemetery, etc. districts across the county. The La Plata County district mill levy varies across districts from about 17 mills to just over 76. For this analysis, we

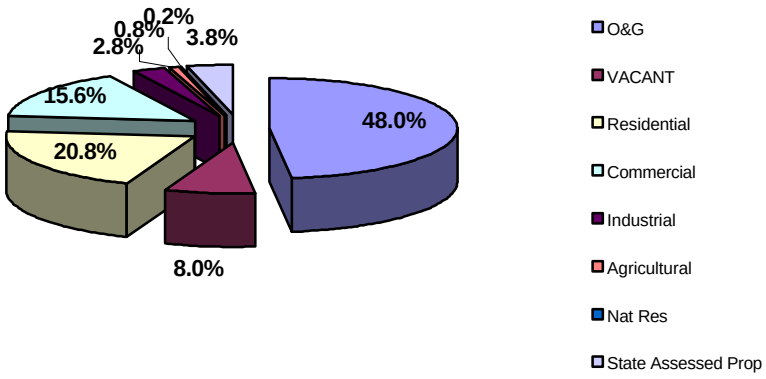
[15] BBC Research & Consulting (2001). "Measuring the Impact of Coalbed Methane Wells on Property Values", Working Paper, November 2001, Denver, CO.

assume the mill levies are the same across districts and equal across sectors – and use the mean mill levy equal to 35.2 in 2003 and 29.4 in 2004, which were calculated from data provided by the county tax assessor's office.

As mentioned above, the growth of the natural gas industry has been dramatic over the past ten years or so. Figures Twelve and Thirteen show the percentage of taxes generated by various groups: vacant land, residential, commercial, industrial, agricultural, natural resources, natural gas and state assessed properties. As can be clearly seen, a considerable portion of tax revenues raised in La Plata County are provided by the natural gas industry, and this percentage is growing. Figure 14 shows the growth of La Plata County Tax Revenues generated by natural gas. As the figure shows, the percentage of tax revenues generated from natural gas has grown by about 81% over the fourteen-year period.

Figure 12

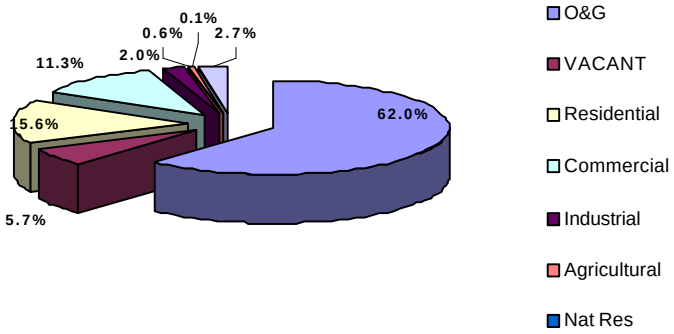
Sources of Tax Revenues in 2003



Source: La Plata County Abstract of Assessment and Summary of Taxes, 2003

Figure 13

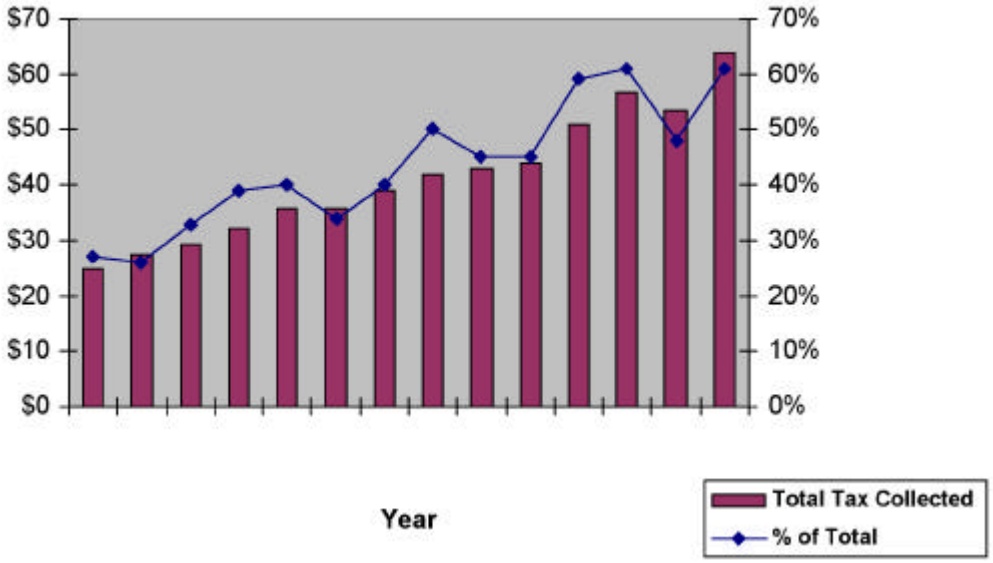
Sources of Tax Revenues in 2004



Source: La Plata County Abstract of Assessment and Summary of Taxes, 2004

Figure 14

Natural Gas Industry Tax Revenues, 1991-2004



Source: La Plata County Abstract of Assessment and Summary of Taxes, 1991-2004

Analysis of the Effects on Residential and Commercial Taxes without Natural Gas Tax Revenues

The analysis covers the years 2003 and 2004. The total value of residential property in La Plata County was about $3.9 billion and $4.2 billion in 2003 and 2004 respectively, or an average market home price of about $190 thousand and $195 thousand.[16] The total *assessed* value (not necessarily the same as the *market* value) of residences were $316.5 million and $333.4 million for each year. Using the mill values discussed above, this generated about $11.1 million and $9.9 million, or an average of $532 and $465, in residential property taxes for La Plata County, see the second column of Table 3, below.

For commercial enterprises – defined as retail, lodging, offices, recreation, special purpose, warehousing, multi-use, and partially exempt – the total market value of commercial property was approximately $815 million and $829 million for 2003 and 2004, for an average of $644 thousand and $633 thousand. The total assessed value of commercial enterprises were just under $240 million and just over $240 million over the two year periods. In the years 2003 and 2004 commercial property contributed about $8.3 million and $4.4 million on county taxes, or an average of about $6,500 and $3,400 per year. Table Three, column 3 highlights these figures.

We ask the question: What would happen to residential and commercial property taxes if the natural gas industry extraction taxes *and* the energy impact grants were to fall to zero? Put another way, what are the effects of including the natural gas industry to the tax burdens of residences and local business in La Plata County and assuming the county wants to maintain its tax base, which was, including energy impact grants about $48 million/$56 million in 2003/2004. The analysis is done under the assumption that the burden will not follow equally upon residents and businesses, the Gallagher amendment stipulates that in the absence of mineral tax revenues, the tax structure should be such that 45% of the new burden will fall on residents and 55% on businesses. As discussed above, do the analysis using an *average* county-wide mill value of 35.2 and 29.4 for each year.

[16] These prices may sound low for the Durango MSA, but are reasonable for the county as a whole.

The total amount of taxes raised from residential, commercial and natural gas property taxes *plus* the impact grants was about $48 million/$57 million in 2003/2004. Under the 45%/55% distributional requirements of the Gallagher Amendment that means that residential taxes would have to be $21.8 million and $25.5 million; while commercial taxes must increase to approximately $26.7 million and $31.1 million in 2003/2004, considerably higher than the revenues discussed above. For residences they would see an average increase in their taxes of about +96% and +155% over the two years; while for businesses the shift in the burden would be even more dramatic: +221% and +609% respectively.

To generate this level of tax revenue, the average residence would see an increase in the AR from 7.96% to 15.6% for 2003 and to 20.7% in 2004. Alternatively, the average county mill rate would have to increase from 35.2 to 68.9 in 2003 and from 29.4 to 76.4 (almost as high as the *highest* mill rate in the county, district 2206 had a mill levy of 76) in 2004. Alternatively, the mill levy and AR changes would be some combination of the two.

The analyses for businesses yields similar, but more dramatic results. The AR for commercial properties would have needed to rise to 92.8% and 127.7%, from 29%; the mill levy increased to 928.3 and 1,277.2; or some combination of the two, for 2003 and 2004 respectively, to cover commercial property's 55% portion of tax revenues.

Notice this analysis assumes that in the face of rising tax burdens, the value of residential properties would remain constant, that is there is no impact on the average residence price with an increase in the residential tax burden. However, this is not the case. Statistical analysis suggests that an increase in the AR by 1 point, e.g. from 7.96% to 8.96%, would reduce the value of a home by about $7.50 per square foot. Given that the average per square foot price of a house was $144 and $119 for new homes sold in 2003 and 2004, this is fairly dramatic. Put another way, if the AR increases by 1%, the price per square foot will fall about 0.75%. Hypothetically speaking, if the AR were to increase from its 2003/2004 value of 7.96% to 9.15% (the AR in 2001/2002) the sale price of the average sized home would fall almost 12%.

Table 3 presents the highlights of the above analysis. Note the figures tabulated represent the true tax revenues as the analysis assumes a single county-wide mill rate and that the burden is shifted to *only* residential or commercial properties rather than the two sectors sharing the tax responsibility. In addition, we show the per capita tax burden, that is the total taxes divided by the population of La Plata County.

Table 3

Average Impact of Natural Gas Development and Production of Taxes Paid by Other La Plata County Taxpayers

	Single Family Residential	Commercial
	2003	
Average Value	$190,222	$644,299
Taxes **with** natural Gas	$532.99	$6,564.57
Per capita tax burden	$240.96	$180.06
Taxes **without** natural gas	$1,043.08	$21,052.62
Per capita tax burden	$472.47	$577.46
Percentage change in tax burden	96%	221%
	2004	
Average Value	$195,315	$633,116
Taxes **with** natural gas	$465.17	$3,350.95
Per capita tax burden	$214.67	$94.47
Taxes **without** natural gas	$1,188.25	$23,773.53
Per capita tax burden	$548.35	$670.21
Percentage change in tax burden	155%	609%

Notes: These figures assume the La Plata County average mill rate of 35.2/29.4 in 2003/2004 discussed above.

La Plata County Sales Tax Revenue Estimates

The additional spending that the natural gas industry generates in La Plata County creates sales tax revenues for the county. In 2003 total expenditures in La Plata County with ties to the natural gas industry were approximately $308 million locally. With a 2.0% county sales tax rate, this resulted in an estimated $6.2 million in sales tax revenue for La Plata County. This represents just under 62% of the total sales tax revenue generated by La Plata County in 2003.

Table 4

La Plata County Sales Tax Approximations

2003 La Plata County Natural gas industry expenditures	Sales Tax Rate	Estimated Sales Tax Revenue Generated
$308.4 million	**2.0%**	**$6.2 million**

Conclusion

It is clear that during the period covered in this report, oil and gas operations have had a direct, meaningful impact on the economic development of La Plata County. In the past ten months, operators have begun to make public their plans for infill development within the county that will help maintain natural gas production, which in turn will sustain jobs and assure revenues to local government.