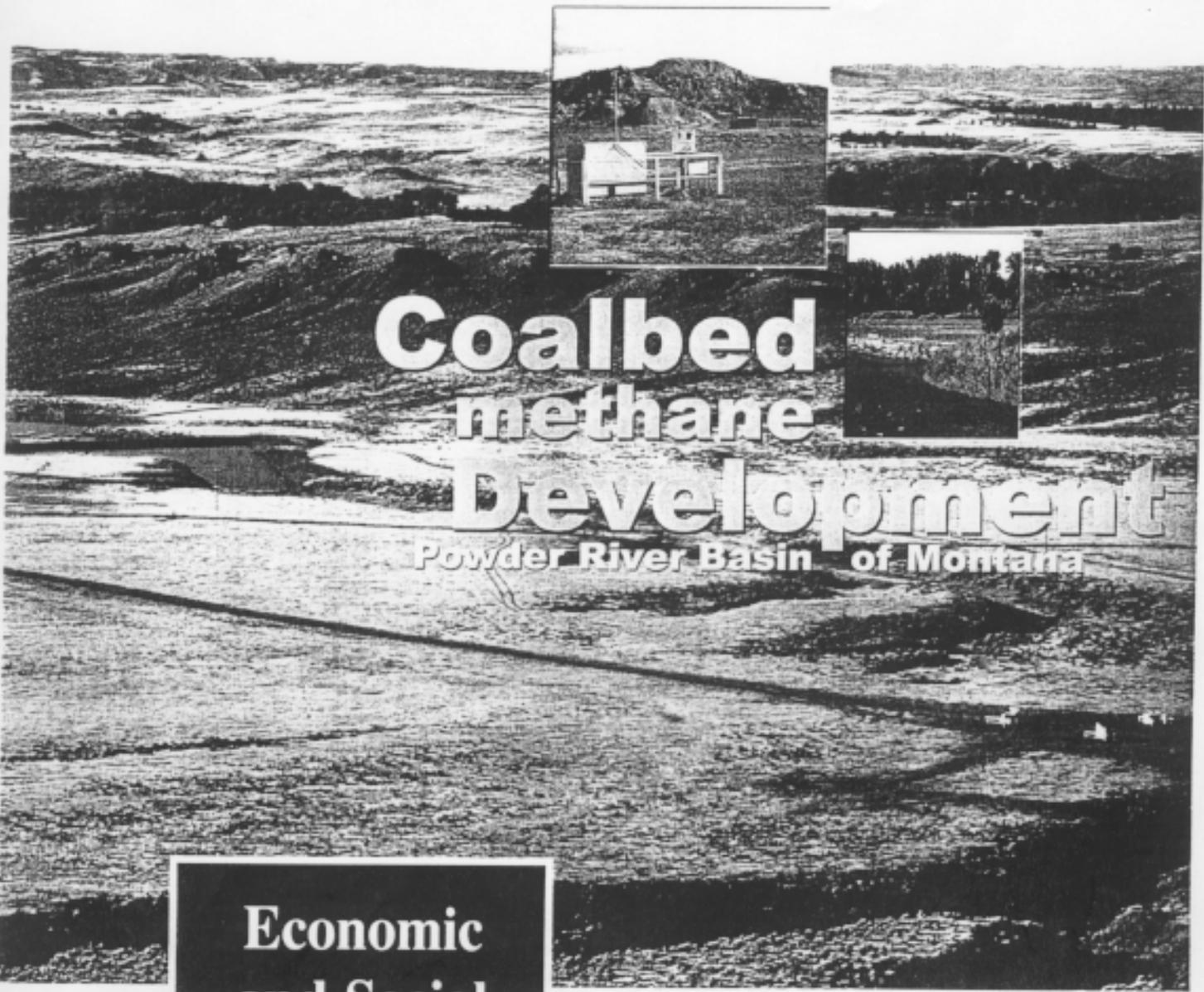


June 1, 2001



Coalbed methane Development

Powder River Basin of Montana

**Economic
and Social
Impacts of
Proposed
Development**

Anderson ZurMuehlen & Co., P.C.

TABLE OF CONTENTS

INTRODUCTION	1
EFFECTS ON AREA COMMUNITY - EMPLOYMENT OPPORTUNITIES AND WAGE LEVELS	3
Labor Market Information.....	3
Coalbed Methane Development Project Jobs	5
Coalbed Methane Development Project Jobs – Initial Development Phase	6
Coalbed Methane Development Project Jobs – Production Phase	7
Coalbed Methane Development Project Jobs – Abandonment Phase	7
Coalbed Methane Development Project Summary of Employment.....	8
Coalbed Methane Development Project Jobs – Secondary Jobs.....	9
Job Migration.....	9
EFFECTS ON STATE AND LOCAL ECONOMIES	11
Economic Impact of Purchasing	11
Ripple Effects to Local Economy	11
Effects on Infrastructure	12
EFFECTS ON THE FISCAL STATUS OF LOCAL/COUNTY/STATE GOVERNMENTS	12
Projected Contributions to the Tax Base.....	12
Production Tax	14
Business Equipment Tax.....	15
Royalties	16
State and Federal Corporation Taxes.....	16
State and Local Income Taxes Paid by Employees	17
Distribution of Royalties and Taxes	17
EFFECTS ON LOCAL SCHOOL/EDUCATION SYSTEMS	17
EFFECTS ON SOCIAL VALUES	17
Native American Indians.....	18
Benefits Provided by Opportunity	18
Benefits of Coalbed Methane Development to Local Communities through Contributions	18
EFFECTS ON HOUSING.....	19
EFFECTS ON EXISTING PUBLIC SERVICE SYSTEMS.....	19
EFFECTS ON ENVIRONMENT	19
SUMMARY OF ECONOMIC COSTS AND BENEFITS TO SOCIETY	20
ENDNOTES.....	21

COALBED METHANE DEVELOPMENT

ECONOMIC AND SOCIAL IMPACTS OF PROPOSED DEVELOPMENT IN THE POWDER RIVER BASIN OF MONTANA

INTRODUCTION

The purpose of this report is to address the economic and social effects of proposed development of coalbed methane gas wells in the Powder River Basin of Montana. This report addresses the costs and benefits to society of allowing the development.

The scope of this report is limited to the use of available literature and data that pertain to the proposed development. No user or opinion surveys were conducted. Sources for this report include data in reports released by WBI Production, Inc., CMS Oil and Gas and Powder River CBM Information Council to government agencies; proprietary reports; and publications of federal, state, county and local governmental agencies, as cited.

Economic growth and jobs are major issues of concern to Montana citizens. Economic growth is preferable to increases in taxes to support government services. Montana cities and towns vigorously compete for new industry. Good paying jobs are the target of Chambers of Commerce and local business people. Both on a state and a local basis, government officials recognize that economic growth is needed to fund government. Otherwise, taxes must increase, simply to cover inflation.

Development of coalbed methane gas wells in the Powder River Basin of Montana will result in expanded economic activity for the area. This expanded economic activity, in the form of capital investment and new jobs, will generate increased tax revenues for federal, state and local governments, as well as for schools. Additionally, the royalties and production taxes from the development will substantially increase income to both landowners and government entities.

This development project will provide jobs paying well above the average Montana wage and will create additional economic activity through the purchase of goods and services in Montana. Throughout the 22-year life of the development, employment is expected to range anywhere from 27 to 736 people.

The project's contribution to the revenue base over its expected 22-year life will be significant on a local, county and statewide basis:

- Production tax paid to Montana for the benefit of schools, state and local governments and other agencies - \$982 million
- Royalties to Montana for the state general fund - \$426 million
- Royalties to Montana for the benefit of Montana schools - \$253.5 million

- Employee state income taxes – \$18.5 million
- Business equipment taxes – \$4.9 million

The development could also generate significant income to Montana in the form of bonus and rent payments for federal and state lands. In fiscal year 2000, Montana received revenues totaling \$890,000 from bonuses and rents related to federal land leases in the Big Horn, Powder River and Rosebud county area.

The development creates additional economic activity as it purchases goods and services in Montana. It is estimated that purchases of goods and services directly related to development will total over \$1.3 billion for the life of the project. Those purchases will be made in Montana to the extent possible.

The following pages illustrate in greater detail the economic impact of the development of coalbed methane gas in the Powder River Basin in Montana.

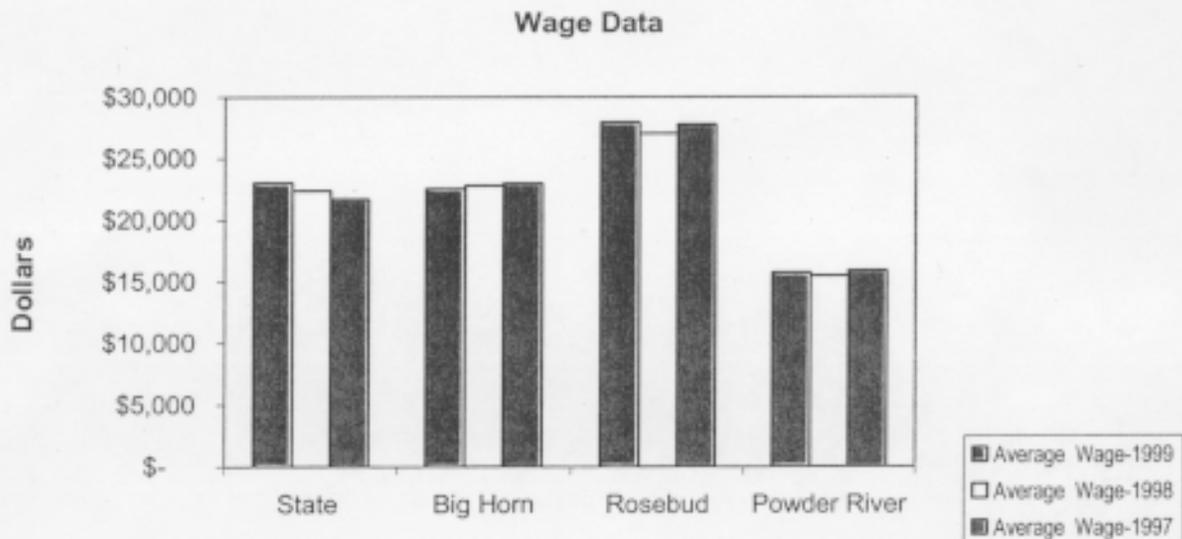
EFFECTS ON AREA COMMUNITY - EMPLOYMENT OPPORTUNITIES AND WAGE LEVELS

LABOR MARKET INFORMATION

The Coalbed methane project encompasses a three county region in Southeastern Montana. Big Horn County is the most populous with 12,573 residents. Rosebud has 9,869 residents and Powder River has 1,777 residents.ⁱ Hardin is the county seat of Big Horn County and has 3,385 residents and Lodge Grass, also in Big Horn County, has 573 residents. Forsyth is the county seat of Rosebud and has 2,008 residents. Broadus is the county seat of Powder River and has 501 residents. Big Horn is comprised of ten towns and Rosebud has fourteen towns.ⁱⁱ Powder River has eight towns.

The three county region has a combined population of 24,219 representing 2.7% of the State's population. The rural agricultural and energy development land uses and the absence of any sizable communities results in a low population density. The combined land area is 13,338 square miles, which is 9.1% of the State land area. This translates to a population density of 1.7 persons per square mile compared to 6.1 for the State.ⁱⁱⁱ

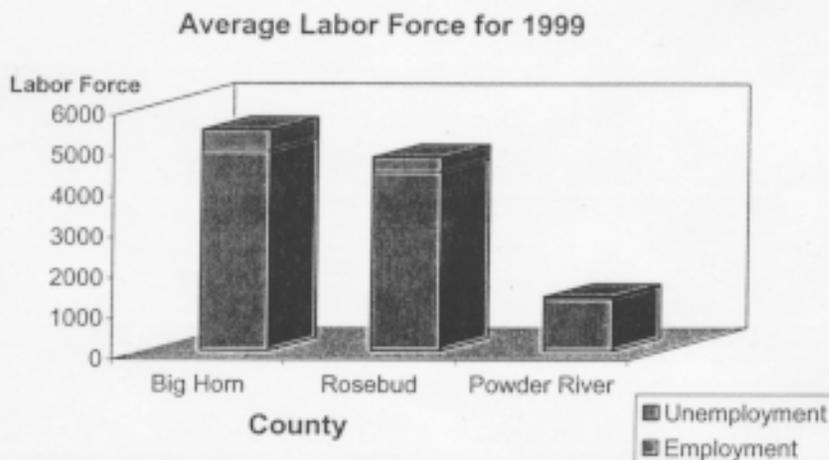
The average wage in 1999 for the region was \$22,085 compared to \$23,037 for the State. Average wages varied considerably between counties as illustrated below. The average wage in Rosebud County exceeded the State average at \$27,955, however Big Horn and Powder River trailed the State average at \$22,553 and \$15,746, respectively. The trend was down in Big Horn County and flat in Powder River and Rosebud Counties indicating a stagnant economy.



US Bureau of Economic Analysis

The combined civilian labor force is 11,518 employees and the unemployment rate for the region is 8.0% compared to 5.2% for the State. The higher unemployment is a

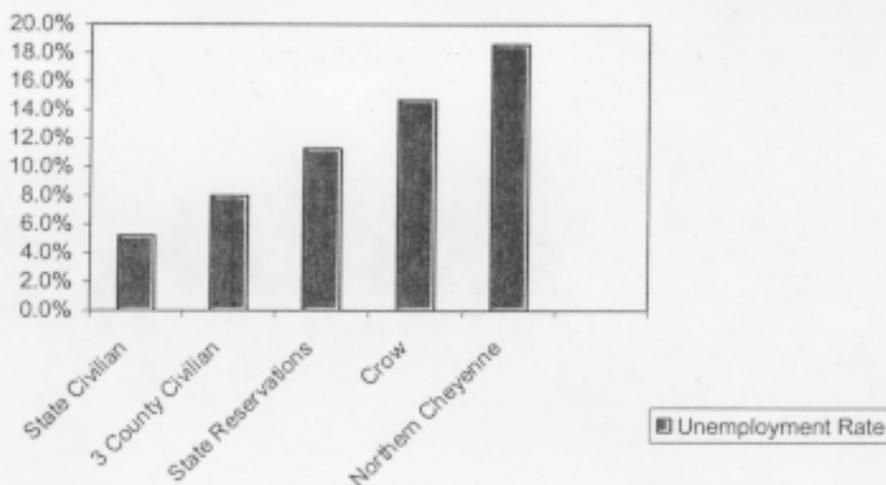
further indication of a slowing economy in the region. The following graph illustrates the employment by county.^{iv}



Montana Department of Labor & Industry

Big Horn County is home to the Crow Indian Reservation, Montana's largest reservation. Rosebud County is home to the Northern Cheyenne Indian Reservation, which borders the Crow Indian Reservation. The employment data for the Indian Reservations is illustrated below. The combined unemployment rate for the two reservations is 16.1%. This is double the rate in the three county region and almost triple the State unemployment rate.^v

Unemployment Rate Comparison for 1999



Montana Department of Labor & Industry

The largest employers in Big Horn and Rosebud according to the Montana Department of Labor and Industry as of the first quarter of 1999 unemployment insurance information are:^{vi}

Big Horn

Crow Tribal Council
Crow Tribe Head Start
Crow Tribe Housing Authority
Decker Coal Company
Heritage Acres Nursing Home
Little Big Horn Casino
Little Big Horn College
Morrison Knudsen Corporation
Spring Creek Coal
Stevenson's IGA

Rosebud

Big Sky Coal Company
Dull Knife Memorial College
Montana Power
Northern Cheyenne Housing Authority
Northern Cheyenne Pine Company
Northern Cheyenne Tribe
Pondera Butte Public Golf Course
Rosebud Healthcare Hospital
St. Labre Indian School Education Assoc.
Western Energy

These lists are in alphabetical order. Only employers subject to unemployment insurance are included which excludes railroads and government agencies (including public schools). No employer information for Powder River was available.

COALBED METHANE DEVELOPMENT PROJECT JOBS

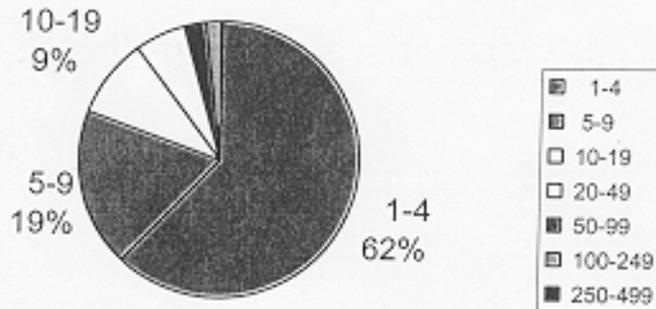
Coal mining and the oil and gas industry are currently, and historically have been, important to the local economy and employment. Wages and salaries to be paid to the Coalbed Methane development project employees would contribute to the total personal income in the county where the employee resides. The circulation and recirculation of direct dollars paid would generate additional personal income throughout the three county region.

The Coalbed Methane Development Project has three phases that require different workforce levels. While the phase is distinct for each well, phases will very often run concurrently. The three phases are:

- Initial Development Phase
- Production Phase
- Abandonment Phase

Montana and the counties of Big Horn, Rosebud, and Powder River have relatively few large employers. For the region, 62% of the employers have four or fewer employees. Ninety percent of the employers have fewer than twenty employees. The following chart illustrates the number of establishments by employment size. In today's environment, the CBM project would be an important employer in the region, ranking in the top ten percentile of major employers.^{vii}

**Establishments by Employment Size
Three County Region**



US Bureau of Census, 7/00 for 1998

COALBED METHANE DEVELOPMENT PROJECT JOBS – INITIAL DEVELOPMENT PHASE

The primary activities in the initial development phase are site selection, well drilling and completion and construction of associated facilities including roads and pipelines. Land professionals for land lease acquisitions, title opinions, access and damage agreement negotiations are used extensively during this phase. Geologist and surveyor services are used for selecting and marking the well drilling sites. Well drilling firms and pipeline contractors are engaged to drill the wells and construct the pipelines and metering facilities.

During the development phase, personnel required range from supervisors and geologists to well drilling operators and pipeline installers. Additionally suppliers and service providers employ a number of workers. Truck drivers and material handlers that move steel casing, piping, pumps, and compressors are examples of personnel providing indirect support. The following chart illustrates the types of jobs and the estimated dollar impact for approximately 160 wells during phase one. The total annual impact will vary according to the actual wells drilled annually.^{viii}

#	Description	Annual Wage per 160 wells	Total per 160 wells
1	Field supervisor	\$ 65,000	\$ 65,000
4	Direct supervisor	40,000	160,000
1	Geologist	100,000	100,000
1	Surveyor	40,000	40,000
20	Well drillers	See Purchasing Impact	
10	Pipeline installers to Meter Station	See Purchasing Impact	
12	Pipeline installers beyond Meter	See Purchasing Impact	
49	Total		\$365,000

The projection of \$365,000 for direct jobs does not include the payroll impact of the well drillers and pipeline installers. These services are contracted and discussed in the Purchasing Impact section. The labor component of the project directly impacts the

disposable personal income circulating in the three counties. Employee fringe benefits are estimated to cost an additional \$90,000 per 160 wells for a combined impact of \$455,000.^{ix}

COALBED METHANE DEVELOPMENT PROJECT JOBS - PRODUCTION PHASE

Once wells are successfully developed, the estimated production life is for a period of five to fifteen years. Personnel are required during this phase to monitor and maintain the production capability. From time to time, wells require more than routine maintenance. These "workovers" can include repairs to the well bore equipment, the wellhead or the production formation.

Average employment for 160 wells during this phase is estimated to be 9 workers. Most of the fieldworkers should be hired locally. The following chart illustrates the types of jobs required.^x

#	Description	Annual Wage per 160 wells	Total per 160 wells
1	Field Supervisor	\$ 65,000	\$ 65,000
4	Routine Maintenance	40,000	160,000
4	Major Repair Worker	30,000	120,000
9	Total		\$345,000

Employee fringe benefits are estimated to cost an additional \$80,000 for a combined impact of \$425,000 for the nine directly employed positions.

COALBED METHANE DEVELOPMENT PROJECT JOBS - ABANDONMENT PHASE

In the abandonment phase, personnel are required to dismantle and remove the aboveground facilities, plug wells, and perform reclamation activities. This phase does not only occur at the end of the project. It occurs as wells are drilled that are non producing or cease production. This phase differs from most mine operations in that the reclamation process is ongoing.

For this analysis, the time period is estimated to last up to eighteen months for 160 wells while the actual time period may be longer. A field supervisor and two field workers are required during this phase. Nine additional workers will be employed by well drilling and pipeline companies. The annual projection for 160 wells is \$415,000 in direct wages and an additional \$100,000 in employee benefits. The following chart details the annual employment requirements for 160 wells during the abandonment phase.^{xi}

#	Description	Abandonment Phase Wage per 160 wells	Total per 160 wells
1	Field Supervisor	\$ 65,000	\$ 65,000
2	Field Workers	40,000	80,000
9	Support Workers	30,000	270,000
12	Total		\$415,000

COALBED METHANE DEVELOPMENT PROJECT SUMMARY OF EMPLOYMENT FOR ALL PHASES

The drilling schedule provided by the industry to the Coalbed Methane Coordination Group is for a total of 9,551 wells over a period of ten years. The wells are anticipated to produce between five and fifteen years or, on average, ten years. The abandonment phase is anticipated to last approximately eighteen months. Based on these assumptions the entire life of the project is twenty two years. The direct labor impact stated in current dollars over the life of the project is approximately \$265 million dollars as summarized below. Employee fringe benefits are estimated to be an additional \$60 million over the life of the project. These projections are based on the well drilling schedule for producing wells prepared by the Coalbed Methane Coordination Group. The abandonment phase will actually begin earlier than year twelve due to non producing wells and wells ceasing production earlier than the average estimated production life.

Year	Summary of Employment for All Phases (1)									
	Drilling Schedule	Development		Production		Abandonment		Total		
		Jobs	\$	Jobs	\$	Jobs	\$	Jobs	\$	
One	206	63	\$ 469,938	6	\$ 222,094			69	\$ 692,031	
Two	533	163	1,215,906	27	1,018,828			190	\$ 2,234,734	
Three	1,402	429	3,198,313	81	3,105,000			510	\$ 6,303,313	
Four	1,600	490	3,650,000	165	6,341,531			655	\$ 9,991,531	
Five	1,485	455	3,387,656	252	9,667,547			707	\$ 13,055,203	
Six	1,115	341	2,543,594	326	12,470,672			667	\$ 15,014,266	
Seven	1,065	326	2,429,531	387	14,820,984			713	\$ 17,250,516	
Eight	715	219	1,631,094	437	16,740,047			656	\$ 18,371,141	
Nine	715	219	1,631,094	477	18,281,766			696	\$ 19,912,859	
Ten	715	219	1,631,094	517	19,823,484			736	\$ 21,454,578	
Eleven				531	20,372,250	15	534,313	546	\$ 20,906,563	
Twelve				510	19,575,516	47	1,649,625	557	\$ 21,225,141	
Thirteen				455	17,489,344	125	4,327,672	580	\$ 21,817,016	
Fourteen				371	14,252,813	173	5,968,219	544	\$ 20,221,031	
Fifteen				285	10,926,797	171	5,926,719	456	\$ 16,853,516	
Sixteen				212	8,123,672	140	4,817,891	352	\$ 12,941,563	
Seventeen				150	5,773,359	122	4,208,359	272	\$ 9,981,719	
Eighteen				100	3,854,297	94	3,235,703	194	\$ 7,090,000	
Nineteen				60	2,312,578	81	2,781,797	141	\$ 5,094,375	
Twenty				20	770,859	81	2,781,797	101	\$ 3,552,656	
Twenty-one						27	927,266	27	\$ 927,266	
Total	9,551	2,925	21,788,219	5,369	205,943,438	1,076	37,159,359	9,370	\$ 264,891,016	
									Estimated Fringe Benefits	60,000,000
									Estimated Total Impact	\$ 324,891,016

(1) Based on well drilling schedule prepared by the Coal Bed Methane Coordination Group.

The average annual wage paid in the three county region in 1999 was \$22,085 for an average hourly rate of \$10.62. The jobs resulting from the CBM project will not only be among the best paying in the region but are also projected to continue for an extended duration.

The per capita income in the region is 75% of the State average for 1998. Twenty-two percent (22%) of the families in the three county region had income below the poverty level, compared to 15.5% for the State as a whole. Considering the employment in all three phases, the CBM project will positively impact employment opportunities in the three county region.

COALBED METHANE DEVELOPMENT PROJECT JOBS - SECONDARY JOBS

Based on the employment multiplier of 2.4 used for similar projects in Northeastern Wyoming, additional purchases and expenditures made by secondary employment opportunities can be estimated. These indirect jobs are available in support industries as a direct result of project activities^{xi}. Examples are truckers, material suppliers, warehousemen, inspectors, hydrologists and scientists. A related assumption is that local hiring for secondary employment opportunities will be 25 percent. Socioeconomic impact assessors generally assume that secondary jobs do not trigger much new immigration.

The actual wage paid will vary depending on the position and training required but as a minimum should meet or exceed the current region average of \$22,085.^{xii} Based on these projections, the impact locally, with benefits, is shown below. The total annual impact shown of \$450,534 is based on 160 wells with all phases occurring concurrently within the region.

Phase	Primary Jobs	Indirect Jobs (1)	Indirect Jobs Impact per 160 wells (2)
Development	49	12	\$318,024
Production	9	2	53,004
Abandonment	12	3	79,506
Total	70	17	\$450,534

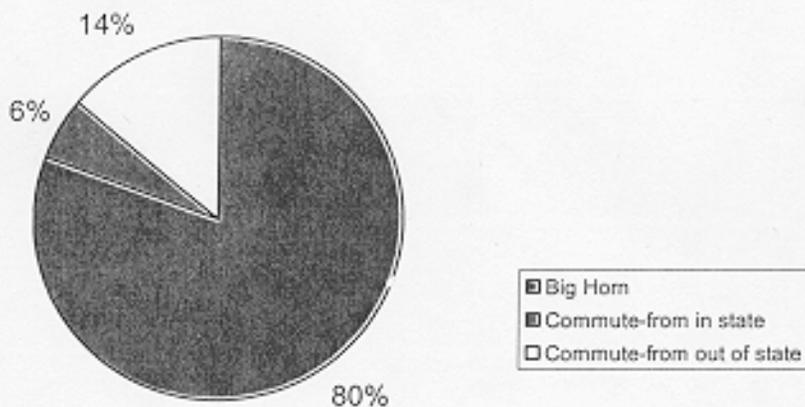
(1) Rounded to nearest whole unit.

(2) Benefits estimated @ 20%.

JOB MIGRATION

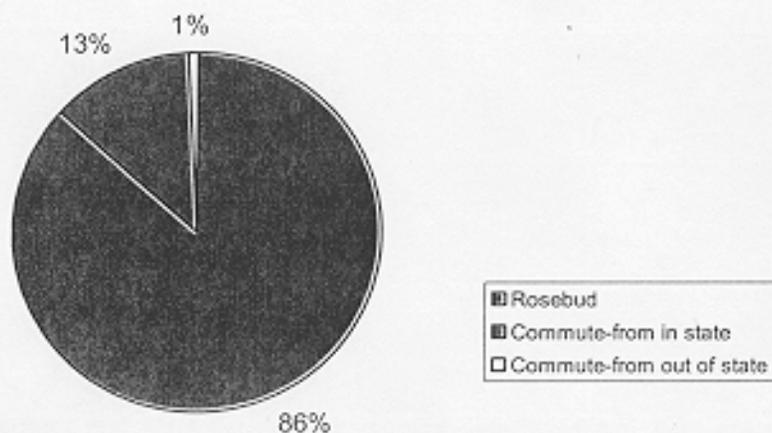
Currently most jobs in the respective counties are held by individuals living in the county. Considering the type of jobs and the nature of the development, the trend of hiring locally should be as strong as the current pattern. The following charts illustrate the current trend for Big Horn and Rosebud counties. No data is available for Powder River County.

Big Horn Commuter Data - 1990



US Department of Labor, Bureau of Labor Statistics

Rosebud Commuter Data - 1990



US Department of Labor, Bureau of Labor Statistics

EFFECTS ON STATE AND LOCAL ECONOMIES

ECONOMIC IMPACT OF PURCHASING

The Coalbed Methane Development Project will purchase goods, materials and services throughout the life of the project. To the extent possible, the CBM group intends to purchase locally and in Montana. The estimate of annual goods and services purchased will vary according to the project phase and level of activity. The highest degree of activity will be in the development phase and can best be described by identifying typical costs associated with a single well. A minimum of twelve million dollars will be spent for goods and services for every 160 wells.^{xv}

<i>Single Well Purchases</i>	
<u>Goods and Services</u>	<u>Estimated Costs</u>
Well Drilling	\$70,000
Pipeline Contractors to Meter Station	Included in Well Drilling Cost
Pipeline Contractors after Meter Station	Estimate \$1.5 million per 160 wells
Pump Equipment and pipe lines	Included in Well Drilling Cost
Steel Casing and Drilling Supplies	Included in Well Drilling Cost
Electrical Equipment	Included in Well Drilling Cost
Metering and Compression Equipment	\$200,000 to \$250,000
Road Contractors	Data not available

During the production phase, the primary goods and services purchased are for ongoing maintenance and repair of the facilities and the wells. For approximately every 160 wells, an average of 42 individuals working for the well drilling and pipeline contractors will be on location each day. This equates to an estimated annual impact of \$1.5 million.^{xv}

The Montana Coalbed Natural Gas Alliance (an industry group of five companies) intends to purchase goods and services from qualified Montana vendors to the extent possible. Montana firms such as drilling companies and pipeline contractors willing to service the Powder River Basin area are invited to qualify as suppliers. From office supplies to consulting services, the Montana Coalbed Natural Gas Alliance management wishes to support the local economy through local purchasing.^{xvi}

RIPPLE EFFECTS TO LOCAL ECONOMY

The economic multiplier, also known as the multiplier effect, is a measure of how much economic activity can be generated in a community by different combinations of purchasing and investment. For example, a \$1.00 purchase of ordinary consumer goods in a local store that generates \$2.00 of economic activity has a multiplier effect of 2. This occurs as the dollar is re-spent; the store pays its employees, who purchase more goods, all with the same original dollar. These local jobs are typically filled from the base population (spouses, young people, and the elderly) or from among the families of in-migrating construction or permanent workers.

The economic multiplier helps the local economy by generating more economic activity. This strengthens the local economy. A higher economic multiplier leads to greater economic vitality because business activity is encouraged, and jobs are created and

sustained. From the perspective of local government, a policy approach that recognizes this rippling effect leads to growth in the local tax base and a healthier fiscal picture.

Not recognizing the ripple effect is to understate economic impact. Individuals who receive wages or payment for goods and services spend money with people who in turn spend money. The ripple effect has been estimated as high as 5 times in some local economies. Our estimate of the multiplier effect from the CBM project is two times based on the relative remoteness from services and the project duration.

EFFECTS ON INFRASTRUCTURE

The majority of the project workforce is expected to be hired locally based on qualification. As a result, no dramatic employment or population shifts are anticipated. There would be limited increased demand for additional housing within the three county region. If some employees are hired from outside the area, it is anticipated that the existing housing will be sufficient given the out-migration to Western Montana. The exodus of residents from the rural farming plains of Eastern Montana continued in the 1990's according to recently released US Census data.

No discernable negative impact is expected on local community or government services because no significant increase in population is expected. To the extent that the increase in per-capita income for the three counties is circulated and recirculated in the local communities, providers of services should be positively impacted.

EFFECTS ON FISCAL STATUS OF LOCAL/COUNTY/STATE GOVERNMENTS

PROJECTED CONTRIBUTION TO THE TAX BASE

Tax benefits and royalties paid to governmental entities and private landowners over the 22 years of well operations total an estimated \$2.5 billion. Actual taxes paid depend upon a number of variables such as mill levies, the price of methane gas, the number of employees and their salaries.

To estimate the taxes to be paid, the following assumptions were made:

- There will be a total of 9,550 producing wells^{xvii}
- The average production over the life of a well is 300,000 Mcf^{xviii}
- The price of natural gas will average \$4.00 per Mcf
- The total salaries and wages paid in Montana will be \$264,891,000 over the 22 years of the development
- The expected cost of equipment per well will be as follows^{xix}:

From the \$70,000 total cost per well	\$ 5,000
0 psi to 100 psi compressors (\$250,000 per 34 wells)	7,353
100 psi to 1,200 psi compressors (\$850,000 per 30 wells)	28,333
Flow lines (\$8 million per 250 wells)	<u>32,000</u>
Total	\$ <u>72,686</u>
- Business equipment taxes will be 3% from 2001 to 2003, 2% in 2004 and 1% in 2005. The business equipment tax is expected to be eliminated in 2006.^{xx}
- Big Horn, Rosebud and Powder River Counties have a total of approximately 30 different school districts each with their own mill levy amounts. To simplify the estimate of property taxes to be paid for the CBM development project we assumed

that the mill levies for the tri-county area and for their various school districts would average as follows.^{xxi}

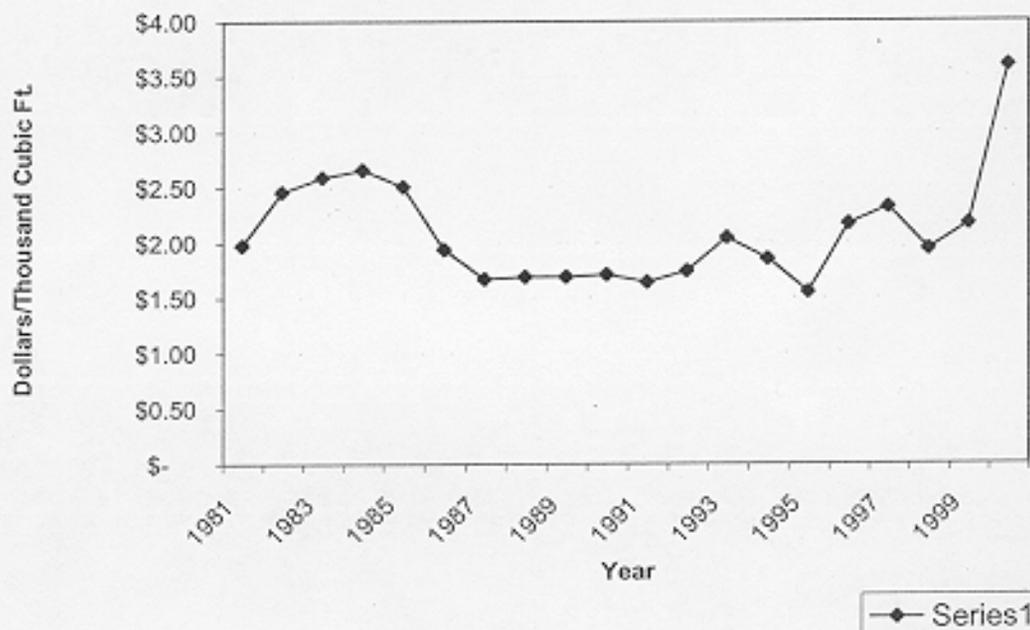
Montana University System	6.00
County Governments	94.87
Schools	<u>203.77</u>
Total County Base Mill Levy	<u>304.64</u>

This estimate was based on what we considered a reasonable average for all of the districts in the area.

The taxable value of business equipment is multiplied by the total mills to arrive at the property tax amount. For example, the \$72,686 estimated value of equipment per well would first be multiplied by the 3% business equipment tax to arrive at a taxable value of \$2,181. The taxable value would then be multiplied by the total mills of 304.64 (.30464) for a property tax amount of \$664.42.

The average wellhead price for natural gas for 2000 was estimated to be \$3.60 per Mcf.^{xxii} It is expected that the price will continue to increase. As of February 21, 2001 futures for the years 2002 to 2004 were trading at \$5.151 per Mcf.^{xxiii} Generally the wellhead price is \$1.50 to \$1.75 less than the futures price. This would indicate a future wellhead price of \$3.40 to \$3.65 per Mcf. The graph below indicates that during the period 1981 - 1999 the average wellhead prices for natural gas ranged between a low of \$1.55 and a high of \$3.60.^{xxiv}

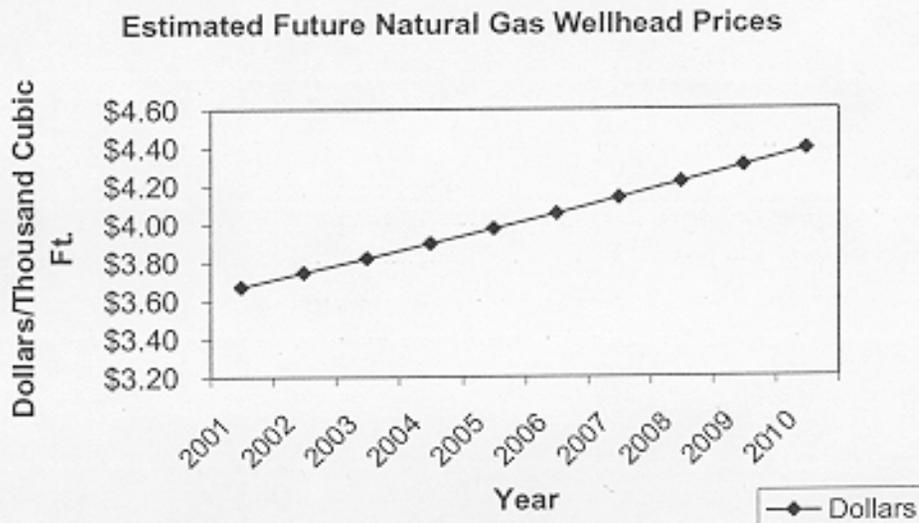
Natural Gas Wellhead Prices



Wellhead prices for natural gas are projected to increase on average by 2 percent per year. The increases reflect the rising demand projected for natural gas and its expected impact on the natural progression of the discovery process from larger and more

profitable fields to smaller, less economical ones. The projected price increases also reflect more production expected from higher cost sources, such as unconventional gas recovery. Although natural gas consumption is projected to rise by as much as 30% over the next ten years, the price increases are expected to be tempered by the beneficial impacts of technological progress on both the discovery process and production operations.^{xxv}

The chart below graphs the anticipated natural gas prices to 2010. The average price over that time period is approximately \$4.00 per Mcf. Based on this projection, utilizing an average price of \$4.00 per Mcf over the life of the project is considered reasonable.



Total anticipated revenues over the 25-year life of the project are:

<u>Location</u>	<u>Number Of Wells</u>	<u>Production Per Well</u>	<u>Total Production</u>	<u>Price</u>	<u>Total Revenues</u>
Private land	2,180	300,000 Mcf	654,000,000	\$4.00/Mcf	\$ 2,616,000,000
Montana land	1,690	300,000 Mcf	507,000,000	\$4.00/Mcf	\$ 2,028,000,000
Federal land	<u>5,680</u>	300,000 Mcf	<u>1,704,000,000</u>	\$4.00/Mcf	<u>\$ 6,816,000,000</u>
Total	<u>9,550</u>		<u>2,865,000,000</u>		<u>\$ 11,460,000,000</u>

PRODUCTION TAX

The Oil and Gas Production Tax is a quarterly tax on the gross taxable value of oil and natural gas production in Montana. There are various rates based on the type of well, type of production, working or non-working interest and the date when production began. The tax rate for post-1999 natural gas wells that have been in production for more than 12 months is 9 percent for working interests and 14.8 percent for non-working

interests.^{xxvi} Currently, there is also an additional .3% tax on both working and non-working interests to fund the Board of Oil and Gas Conservation (BOGC).

Based on the current production tax rates, producers would pay 9.3% tax on the revenues from their working interests and private land owners would pay 15.1% tax on the royalties they received from the producers. Using the assumptions discussed previously, the total production tax paid over the 22 years of well operations would be:

	<u>Total</u> <u>Revenues</u>	<u>Tax</u> <u>Percentage</u>	
Private land (paid by producers)	\$ 2,289,000,000	9.30%	\$ 212,877,000
Private land royalty (paid by land owners)	\$ 327,000,000	15.10%	\$ 49,377,000
Montana State land	\$ 1,774,500,000	9.30%	\$ 165,028,500
Montana State royalty	\$ 253,500,000	0.00%	\$ 0
Federal land	\$ 5,964,000,000	9.30%	\$ 554,652,000
Federal royalty	\$ 852,000,000	0.00%	\$ 0
Total	\$ 11,460,000,000		\$ 981,934,500

Revenues received by the State from the production tax are distributed in part to the counties and school districts where the wells are located and in part to the State General Fund and other agencies. Any amounts of the county and school allocation not used at the local level are distributed to the state school equalization fund. The initial distribution of the production taxes paid would be as follows:

	<u>Counties</u> <u>and Schools</u>	<u>State</u> <u>General Fund</u>	<u>State Resource</u> <u>Indemnity Trust</u>	<u>BOGC</u>	<u>Total</u>
From private land	\$ 225,538,440	\$ 28,197,550	\$ 5,323,756	\$ 3,194,254	\$ 262,254,000
From State land	\$ 141,924,510	\$ 17,743,864	\$ 3,350,079	\$ 2,010,047	\$ 165,028,500
From Federal land		\$ 554,652,000			\$ 554,652,000
	<u>\$ 367,462,950</u>	<u>\$ 600,593,414</u>	<u>\$ 8,673,835</u>	<u>\$ 5,204,301</u>	<u>\$ 981,934,500</u>

BUSINESS EQUIPMENT TAX

The business equipment tax in Montana is expected to decrease by 1% per year beginning in 2004. For 2001 - 2003 the tax is 3% of the value of the business equipment. Based on the value of business equipment currently used in the Tongue River Project, we have estimated the business equipment taxes paid to be:

<u>Wells In</u> <u>Production</u>	<u>Taxable Equipment</u> <u>Per Well</u>	<u>Total Business</u> <u>Equipment</u>	<u>Tax</u> <u>Percentage</u>	<u>Business</u> <u>Equipment</u> <u>Taxable Value</u>	<u>Average</u> <u>Mills</u>	<u>Taxes</u>
206	\$ 72,686	\$ 14,973,373	3%	\$ 449,201	304.64	\$ 136,845
739	72,686	53,715,157	3%	1,611,455	304.64	490,914
2,141	72,686	155,621,314	3%	4,668,639	304.64	1,422,254
3,741	72,686	271,919,353	2%	5,438,387	304.64	1,656,750
5,226	72,686	379,857,036	1%	3,798,570	304.64	<u>1,157,196</u>
						<u>\$ 4,863,959</u>

The distribution of the business equipment taxes based on the assumed county mill levy distribution would be as follows:

<i>Montana University System</i>	<i>Local Counties</i>	<i>Local Schools</i>	<i>Total</i>
\$ 95,816	\$ 1,514,638	\$ 3,253,505	\$ 4,863,959

ROYALTIES

Approximately 5,680 of the proposed 9,550 wells would be on federal property, 2,180 would be on private land and 1,690 would be on state owned land.^{xxvii} It is estimated that royalties of 12.5% of the wellhead sales proceeds from each producing well would be paid to the landowner. The landowner would then pay a 15.1% production tax on this royalty income. Half of the royalties paid for the wells on federal property would be retained by the federal government. The remaining half would be distributed to the State of Montana General Fund and used for general government expenditures.

The total pre-tax royalties paid is estimated as follows:

	<i>Total Revenues</i>	<i>Royalty Percentage</i>	<i>Royalty Revenue</i>
Private land	\$ 2,616,000,000	12.50%	\$ 327,000,000
Montana land	\$ 2,028,000,000	12.50%	\$ 253,500,000
Federal land	\$ 6,816,000,000	12.50%	\$ 852,000,000
Total	\$ 11,460,000,000		\$ 1,432,500,000

The distribution of the royalties paid would be as follows:

	<i>Permanent School Trust</i>	<i>State General Fund</i>	<i>Federal Government</i>	<i>Private Landowners</i>	<i>Total</i>
From private land				\$ 327,000,000	\$ 327,000,000
From State land	\$ 253,500,000				\$ 253,500,000
From Federal land		\$ 426,000,000	\$ 426,000,000		\$ 852,000,000
	\$ 253,500,000	\$ 426,000,000	\$ 426,000,000	\$ 327,000,000	\$ 1,432,500,000

STATE AND FEDERAL CORPORATION TAXES

The calculation of state and federal corporation income taxes involves too many variables to attempt to meaningfully estimate the corporation tax contribution from the proposed coalbed methane development.

DISTRIBUTION OF ROYALTIES AND TAXES

	<i>Pre-tax Royalties</i>	<i>Production Tax</i>	<i>Business Equipment Tax</i>	<i>Total</i>
Revenue to the State of Montana General Fund	\$ 426,000,000	\$ 600,593,414		\$ 1,026,593,414
Revenue to Permanent School Trust	253,500,000			253,500,000
Revenue to Montana University System			95,816	95,816
Revenue to schools and local governments		367,462,950	4,768,143	372,231,093
Revenue to federal government	426,000,000			426,000,000
Revenue to other agencies		13,878,136		13,878,136
Revenue to private landowners:	327,000,000			327,000,000
Total	<u>\$1,432,500,000</u>	<u>\$ 981,934,500</u>	<u>\$ 4,863,959</u>	<u>\$ 2,419,298,459</u>

STATE AND LOCAL INCOME TAXES PAID BY EMPLOYEES

Assuming that the total salaries and wages paid in Montana for the 22 years of the development is \$264,891,000, the federal income taxes at an average rate of 20% would be \$52,978,200. Montana income taxes at an average rate of 7% would be \$18,542,370. The total of federal and state individual income taxes would be \$71,520,570.

EFFECTS ON LOCAL SCHOOL/EDUCATION SYSTEMS

No significant population changes are anticipated as a direct result of the coalbed methane development in the Powder River Basin. A substantial portion of the project workforce is expected to be hired locally. No discernable impact is expected on the local school systems. Substantial mineral development has been occurring in the affected counties over an extended period of time. The counties are accustomed to absorbing fluctuations in mineral development activities, which cause cycles of minor increases and decreases in demands on education systems. Coalbed methane development is not as labor-intensive as coal mining or conventional oil and gas development.^{xvii}

EFFECTS ON SOCIAL VALUES

This section focuses on the activities of the coalbed methane development that contribute to the surrounding community beyond basic socioeconomic issues, such as jobs and fiscal impact, which are discussed elsewhere in this report.

Natural resources in the area are an important element of local residents' lifestyles, recreational activities, and an important element in the foundation of the local economy. Residents value the peaceful country living, natural environment, wildlife, outdoor recreational opportunities and lack of overcrowding in the area.

Perceived negative attributes are inadequate selection of goods and services due to the remoteness to larger metropolitan areas and the necessity for the younger people to leave the region for satisfactory employment opportunities.

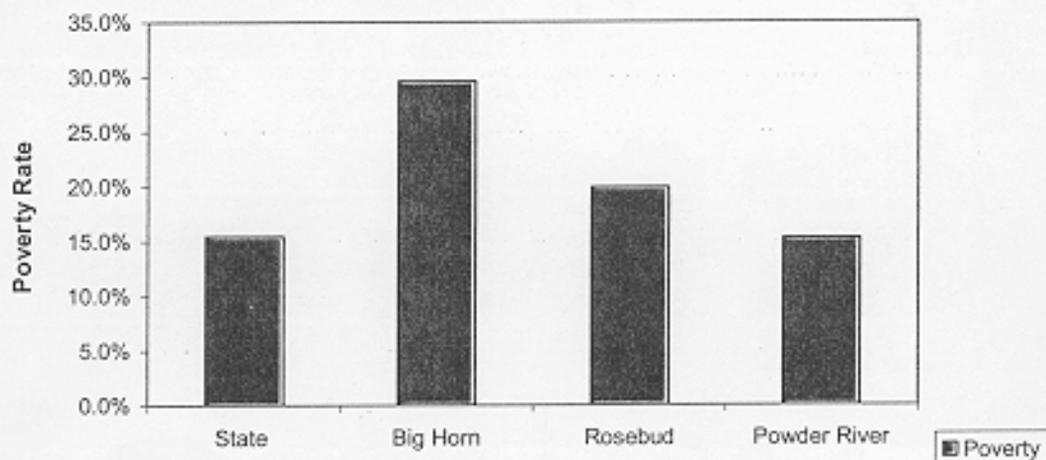
NATIVE AMERICAN INDIANS

The Native American Indian communities are important and distinct culture groups in the region. Most of the Big Horn County population is American Indian, who primarily occupy the Crow Indian Reservation and the Northern Cheyenne Indian Reservation. Both reservations are identified as having limited capacity to absorb change, resulting in the potential disruption of major resource development. Societal economic impacts from coal development are the primary concern of the Tribes. They believe that most tribal members have not benefited from coal development jobs. Tribal members have also expressed environmental concerns related to the land, air, water and wildlife. Tribes, however, differ in their openness to the coalbed project.

BENEFITS PROVIDED BY OPPORTUNITY

The three county region experiences a higher than average poverty rate. The additional job opportunities, both direct and indirect, and the circulation of increased disposable income would benefit the region. The following chart illustrates the county poverty rates in comparison to the state poverty level.

Poverty Comparison 1997



US Bureau of Census released November 2000

BENEFITS OF COALBED METHANE DEVELOPMENT TO LOCAL COMMUNITIES THROUGH CONTRIBUTIONS

Coalbed gas companies are active supporters of the communities of the Powder River Basin in Wyoming where they currently operate. Individual companies have donated to volunteer fire departments, youth academic and athletic programs and local charitable organizations. One company has established two annual scholarships to assist graduating high school seniors in pursuing degrees in fields related to the oil and gas industry. Another operator has established a habitat for the rehabilitation of injured birds.^{xxx} The MDU Resources Foundation has donated over \$180,000 to various Montana charities over the past five years.^{xxx}

EFFECTS ON HOUSING

According to the 1990 census, which is the latest available data, vacancy rates ranged between 20% and 27% for the three county region. The impact on housing for this project is considered to be minimal in that most jobs will be filled locally. The following table illustrates the housing availability.^{xxxii}

<i>Housing Units</i>			
<u>County</u>	<u>Units</u>	<u>Vacant</u>	<u>%</u>
Big Horn	4,304	909	21.1%
Rosebud	4,251	772	18.2%
Powder River	1,096	291	26.6%
3 County Average	3,217	657	20.4%

EFFECTS ON EXISTING PUBLIC SERVICE SYSTEMS

As discussed earlier in this report, no major population changes are anticipated as a direct result of the coalbed methane development in the Powder River Basin of Montana. There is expected to be no discernable impact on local government or community services. However, the additional economic activity generated by the development should have a positive impact on financing improvements to existing community infrastructures.^{xxxiii}

The increased tax revenues and increased personal income resulting from coalbed methane development should better position existing purveyors of public services. The demand for additional services should not occur yet additional revenues should be available for service delivery.

Law enforcement services within the unincorporated areas of the region are provided by the sheriff's office of each county and the Montana State High Patrol. Fire protection is provided by local volunteer fire departments.^{xxxiii}

Memorial Hospital of Sheridan County Wyoming is the largest medical facility near the development area. Several other clinics and nursing homes in neighboring communities provide medical services for the region.^{xxxiv}

EFFECTS ON ENVIRONMENT

The environmental impacts of the development are currently under evaluation. Any impacts identified would require mitigation. The cost of mitigation would be the responsibility of the producers.

**SUMMARY OF ESTIMATED ECONOMIC COSTS AND BENEFITS TO SOCIETY
FOR THE LIFE OF THE PROJECT**

<u>DESCRIPTION OF IMPACT</u>	<u>COST</u>	<u>BENEFIT</u>
• Estimated total wages		\$ 264,891,000
• Estimated employee benefit payments		\$ 61,000,000
• Estimated total purchases of goods and services		\$1,314,900,000
• Impact on infrastructure	none identified	
• Estimated royalties and taxes to be paid developers		
• Production tax		\$ 981,934,500
• Business equipment tax		4,863,959
• Royalties to Montana		679,500,000
• Royalties to Federal Government		426,000,000
• Royalties to private landowners		327,000,000
• State and Federal Corporation taxes		<u>unknown</u>
• Subtotal		\$2,419,298,459
• Estimated taxes to be paid by employees		
• Federal income taxes		\$ 52,978,200
• State income taxes		\$ 18,542,370
• Impact on schools/education systems	none identified	
• Impact on local communities through contributions		unknown
• Impact on housing	none identified	
• Impact on public service systems	none identified	
<hr/>		
TOTALS	<u>\$0</u>	<u>\$4,131,610,029</u>

ENDNOTES

- ⁱ US Census Bureau; July 1, 1999 estimate released October 20, 2000.
- ⁱⁱ Research and Analysis Bureau for the State of Montana.
- ⁱⁱⁱ Montana Department of Commerce, 1990.
- ^{iv} Montana Department of Labor and Industry, 1999 Annual Average Labor Force.
- ^v Montana Department of Labor and Industry, 1999 Annual Average Labor Force.
- ^{vi} Research and Analysis Bureau for the State of Montana.
- ^{vii} US Census Bureau 1998 NAICS Comparison.
- ^{viii} Based on interview with Bruce Williams, Production Manager for WBI, February 28, 2001.
- ^{ix} Based on interview with Bruce Williams, Production Manager for WBI, February 28, 2001.
- ^x Based on interview with Bruce Williams, Production Manager for WBI, February 28, 2001.
- ^{xi} Based on interview with Bruce Williams, Production Manager for WBI, February 28, 2001.
- ^{xii} "Tongue River CBM Environmental Assessment," May 2000, C.4, pp. 4-65.
- ^{xiii} Montana Department of Commerce, Census and Economic Information Center, January 3, 2001.
- ^{xiv} Based on interview with Bruce Williams, Production Manager for WBI, February 28, 2001.
- ^{xv} Based on interview with Bruce Williams, Production Manager for WBI, February 28, 2001.
- ^{xvi} Based on interview with Bruce Williams, Production Manager for WBI, February 28, 2001.
- ^{xvii} Coalbed Methane Coordination Group, Power Point presentation, October 18, 2000.
- ^{xviii} Coalbed Methane Coordination Group, Power Point presentation, October 18, 2000.
- ^{xix} Based on interview with Bruce Williams, Production Manager for WBI, February 28, 2001.
- ^{xx} Guide to Taxes 2001, Compiled by Tax Policy and Research – Montana Department of Revenue.
- ^{xxi} Mill levy information obtained from Big Horn, Powder River and Rosebud counties for 2000-2001.
- ^{xxii} Energy Information Administration/Natural Gas Monthly January 2001, Table 4. Selected National Average Natural Gas Prices, 1994-2000.
- ^{xxiii} Enron North America, Energy Commodities Update, February 12, 2001.
- ^{xxiv} Energy Information Administration/Annual Energy Review 1999, Table 6.8 Natural Gas Wellhead, City Gate, and Imports Prices, 1949-1999.
- ^{xxv} Energy Information Administration/Annual Energy Outlook 2001.

^{xxvi} Title 15 of the Montana Tax Code, Section 15-36-304 (2).

^{xxvii} Coalbed Methane Coordination Group, Power Point presentation, October 18, 2000.

^{xxviii} "Tongue River CBM Environmental Assessment," May 2000, C.3.12, p. 3-69.

^{xxix} "Coalbed Methane Development Information," Powder River Information Council, p.32.

^{xxx} "The Plain Facts, MDU Resources Group, Inc. and the Coalbed Natural Gas Story," WBI Holdings, Inc., May 15, 2000.

^{xxxi} State of Montana Department of Commerce, Basis Demographic Trend Report.

^{xxxii} "Tongue River CBM Environmental Assessment," May 2000, C.3.12, pp. 3-64 – 3-70.

^{xxxiii} Tongue River CBM Environmental Assessment," May 2000, C.3.12, pp. 3-69.

^{xxxiv} Tongue River CBM Environmental Assessment," May 2000, C.3.12, pp. 3-70.