

**Statement of Randy Bolles**  
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**Devon Energy Corporation**  
**to the**  
**House Committee on Natural Resources**  
**Subcommittee on Energy and Mineral Resources**  
**Oversight Hearing on**  
**"Impacts to Onshore Jobs, Revenue, and Energy: Review and Status of Sec. 390**  
**Categorical Exclusions of the Energy Policy Act of 2005."**  
**September 9, 2011**

Chairman Lamborn, Ranking Member Holt, and members of the Subcommittee, my name is Randy Bolles, and I am employed by Devon Energy Corporation. I am pleased to share my perspective on how Section 390 categorical exclusions can help preserve the environment while benefiting local, state and federal economies. More specifically, I will discuss how Devon has used categorical exclusions in the Washakie Basin of Wyoming and how Devon's drilling efforts there have been affected by the Bureau of Land Management's May 2010 guidance.

Devon Energy Corporation is an Oklahoma City-based independent energy company engaged in oil and natural gas exploration and production. Devon is a leading U.S.-based independent oil and gas producer and is included in the S&P 500 Index. I am responsible for regulatory affairs in Montana, Wyoming, Colorado, New Mexico, Utah and West Texas. My staff and I spend our time working with local, state and federal agencies to resolve issues related to regulation so that Devon may gain access to minerals on fee, state and federal lands. To the point of today's topic, I am part of the management team responsible for all aspects of the permitting process in the Washakie Basin.

Mr. Chairman, Devon works hard to be a good neighbor and maintain a strong relationship with all landowners. Because about 26 percent of Devon's leased minerals in the Western Division are on federal lands, Devon's relationship with the federal government is particularly important to us. As a result, Devon strives to comply with or exceed all environmental regulations and seek all necessary approvals to drill. To Devon, it is not just about complying with regulations. It's about taking meaningful environmental steps and assuring the communities where we work that Devon wants to partner in their growth.

As this Subcommittee knows, the 2005 Energy Policy Act (EPAAct) provided five specific exclusions from review under the National Environmental Policy Act. In 2010, the BLM provided guidance that virtually eliminated categorical exclusions Devon had used over 260 times prior to the regulatory action by BLM.

When categorical exclusions are utilized, each well is still subject to public notice and comment procedures and site-specific reviews to ensure other resources are adequately protected. The exclusions allow Devon to drill multiple wells from an existing pad, or to drill directionally in a field previously approved for vertical wells. This practice reduces surface disturbance. The categorical exclusion provides BLM with the ability to offer a practical environmental review while avoiding a lengthy, often duplicative NEPA effort that was previously completed. Simply put, it is a common-sense approach.

Let me provide an example of our activity and applications using categorical exclusions: In 2009 — before BLM restricted categorical exclusions — the BLM field office in Rawlins, Wyoming, authorized 75 applications for permits to drill submitted by Devon based on the section 390 categorical exclusions. Devon was able to obtain timely BLM approval of those applications because of the categorical exclusions.

If the exclusions had not existed in 2009, and BLM was required to prepare NEPA analyses on those 75 applications, the applications would have taken much more time. As a result, it would have taken Devon more than an additional year to develop the leases. Many of the applications simply involved drilling additional wellbores from existing well pads. In these cases, the delay would have been unreasonable and might have led Devon to consider dedicating its resources to more timely projects in other areas of the country.

When considering not only the 75 wells drilled in 2009, but the more than 260 wells Devon drilled since EPOA was approved in 2005, the economic impact is significant. A report released by SWCA Environmental Consultants this past March, when extrapolated to the more than 260 wells Devon drilled under section 390, translated to 6,838 jobs, \$598 million in employment earnings and, over the life of the well, \$35 million in annual government revenue. A copy of this study is attached to my prefiled written testimony.

While these numbers are significant, so is the toll that is taken when drilling comes to a standstill. Following the BLM guidance that restricted Devon's ability to use the Congressionally-approved categorical exclusions, Devon reassigned one of its two drilling rigs in the Washakie field to other areas where that rig could be used.

This is just one of the BLM restrictions that make it extremely difficult for Devon to drill, produce and maintain its wells. Burdensome wildlife stipulations and timing restrictions, when coupled with a prohibition on the use of categorical exclusions, make it almost impossible to develop the resources in an economic fashion. Devon believes in environmental stewardship and has been recognized for its efforts to protect and preserve habitat and wildlife. However, BLM should give consideration to the practical aspects of developing federal resources.

In conclusion, Mr. Chairman, Devon Energy Corporation works to do its part to preserve and protect the areas we operate. Moreover, Devon is an active part of the communities in which we operate, and we truly wish to see them grow. As I mentioned earlier, the jobs and revenue that occur with new well development can leave a significant hole in local economies if they are not considered in the regulatory process. Devon is dedicated to production on federal lands and will continue to produce on federal lands. However, the level of regulatory burden will determine not only our activity, but also the economic benefit received by federal, state and local governments.

Thank you very much for your time.

# **Economic Impacts of Oil and Gas Development on BLM Lands in Wyoming**

Prepared for  
Encana Oil and Gas (USA), Inc.

Prepared by  
SWCA Environmental Consultants

March 2011

**Economic Impacts of Oil and Gas Development on  
BLM Lands in Wyoming**

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## **INTRODUCTION**

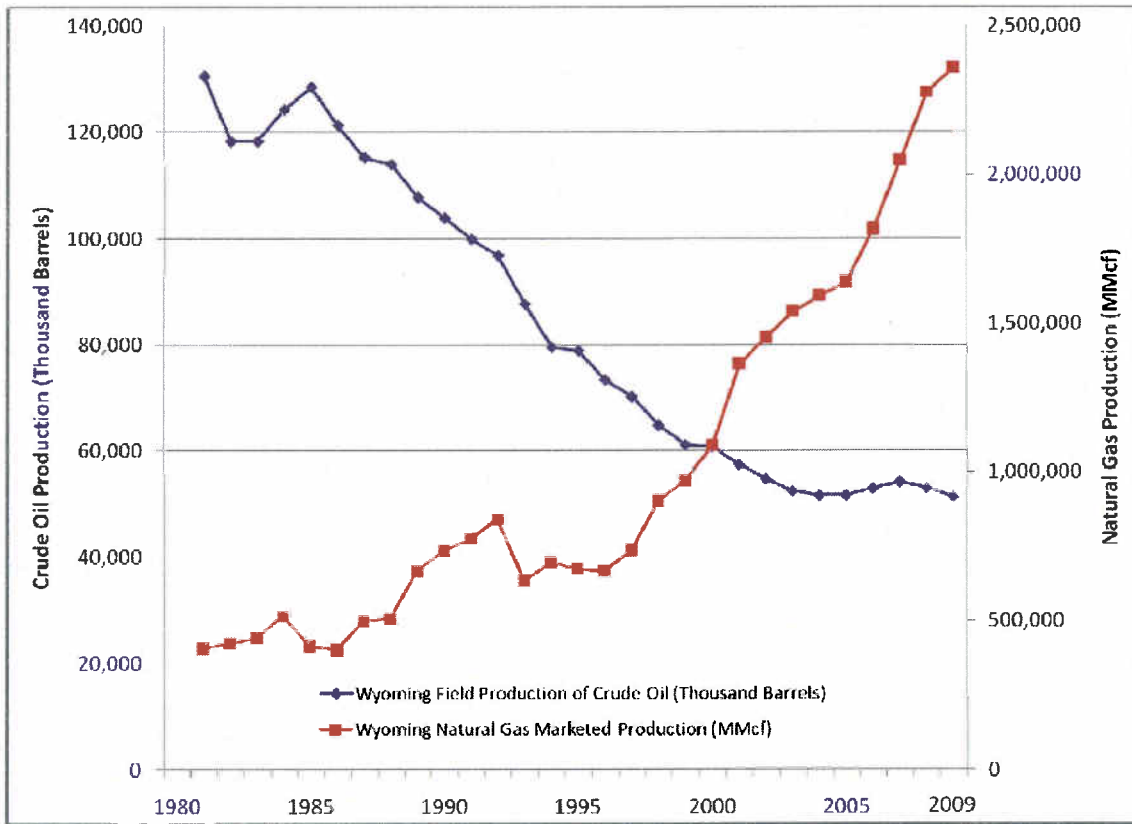
The oil and gas industry has a significant impact on Wyoming's economy, and has the potential to be a continued economic driver for the state. This document has been prepared to provide an overview of the economic contribution of the oil and gas industry to the state of Wyoming in terms of employment, income, gross revenues, and taxes. An evaluation of the economic contributions of currently proposed oil and gas development projects on Bureau of Land Management (BLM)-administered land in Wyoming has also been included for better understanding of the impact project delays could have on the state's economy. Existing data pertaining to oil and gas production in Wyoming were used to provide information on current oil and gas-related trends and the proposed oil and gas projects on BLM-administered land. Recently completed economic impact analyses were used to provide baseline data required to estimate the employment and revenues postponed as a result of the project delays. Potential impacts due to project delays include deferred or lost jobs, deferred or lost earnings, and deferred or lost tax revenue for the state.

## **TRENDS OF OIL AND GAS DEVELOPMENT IN WYOMING**

The geologic basins in Wyoming contain vast amounts of fossil fuel deposits. Wyoming currently has more than one dozen of the largest oil and gas fields in the United States. In 2010, Wyoming ranked second in the nation in terms of total energy production. The state also ranked second in the nation in terms of natural gas production in 2010 (2,274,850 million cubic feet [MMcf]) and eighth in the nation for crude oil production (4.5 million barrels) in August 2010 (U.S. Energy Information Administration [EIA] 2010a).

Natural gas development in Wyoming has increased rapidly in the past decade. In 2000, the state produced 1,088,328 MMcf of natural gas (EIA 2010b). By 2009, production increased 53 percent to 2,359,248 MMcf. Wyoming's oil production peaked in the mid 1980s with 128.5 million barrels and has decreased consistently through 2009 to 51.3 million barrels (EIA 2010c). Figure 1 reflects Wyoming's oil and gas production trends in recent decades.

Over half of all oil and gas production in Wyoming is from lands administered by the BLM. The BLM administers over 18,097 federal oil and gas leases that cover approximately 12.94 million acres of public land (BLM 2009). In 2009, production of crude oil on BLM land totaled 28.2 million barrels and accounted for 55 percent of the total 51.3 million barrels produced in the state. Natural gas production on BLM land totaled 1,261,552 MMcf, approximately 53 percent of the total 2,359,248 MMcf (EIA 2010a; BLM 2009).

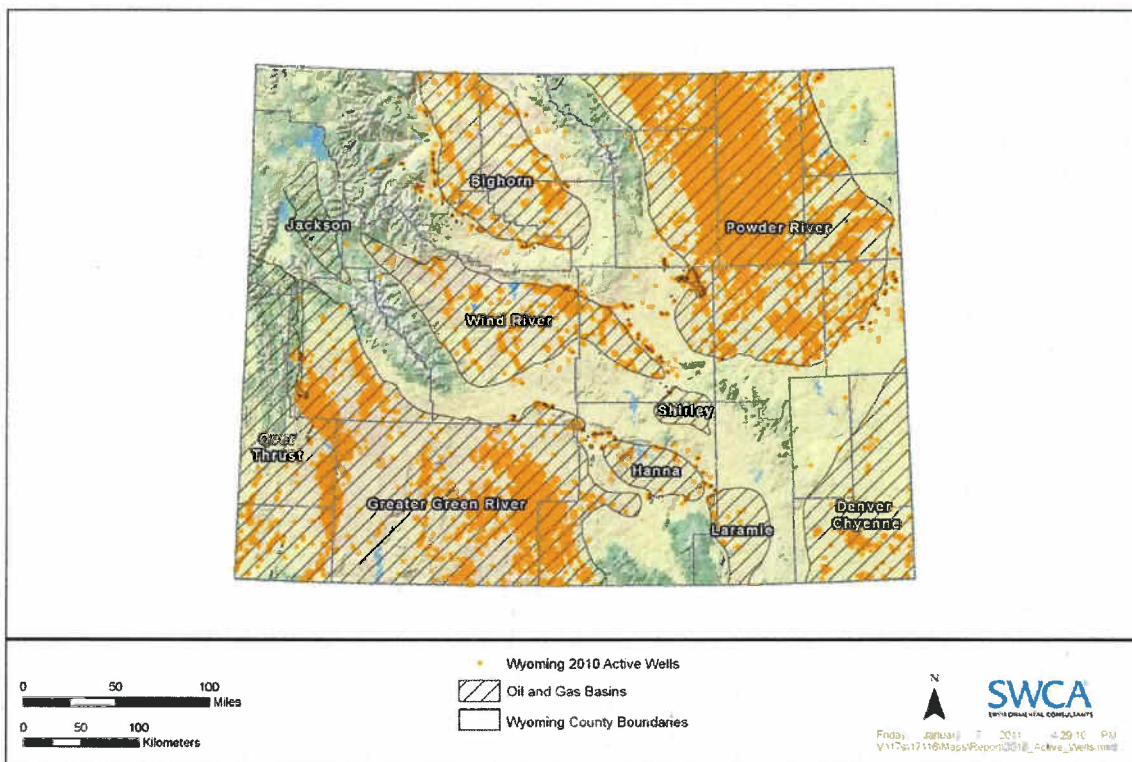


Source: EIA 2010b, 2010c

**Figure 1. Trends in Oil and Gas Production in Wyoming 1980–2009.**

## WELLS

According to the Wyoming Oil and Gas Conservation Commission (WYOCC), there were approximately 39,570 producing wells in Wyoming in 2009 (WYOCC 2010). These wells produced 51.3 million barrels of crude oil and 2,359,248 MMcf of natural gas (EIA 2010a). Wyoming oil and gas development occurs primarily in seven geologic basins: Big Horn Basin, Denver-Cheyenne, Greater Green River, Laramie, Overthrust Belt, Powder River Basin, and Wind River Basin (Wyoming Heritage Foundation 2008). The largest percentage of oil and gas development occurs in the Powder River Basin (primarily in Campbell County) and the Greater Green River Basin (primarily in Sublette and Sweetwater counties) where the Pinedale and Jonah natural gas fields are located. The distribution of producing oil and gas wells in Wyoming is illustrated in Figure 2.



**Figure 2. Producing Wells in Wyoming in 2010.**

Twenty of the state's 23 counties produce crude oil and natural gas. In 2009, Campbell County was the largest producing county with 13,470 producing wells and 7.5 million barrels of oil (14.6 percent of the state total) and 142,183 MMcf of natural gas (5.6 percent of the state total). Sublette County was the second largest producing county with 4,209 producing wells and 7.9 million barrels of oil (15.5 percent of the state total) and 1,194,249 MMcf of natural gas (47.0 percent of the state total) (WYOCC 2010).

### **ECONOMIC CONTRIBUTIONS AND JOBS**

Two primary activities are associated with the oil and gas industry: development and production. Development activities consist of drilling, completing, and recompleting wells. The drilling and completion processes generally take a few months. Recompletion activities involve stimulating or reactivating wells after they have been producing for a period of time. The act of removing the oil and/or gas from geologic formations is called extraction or production (Wyoming Heritage Foundation 2008).

The development of a single well in Wyoming requires an initial expenditure by the operator and employees to drill and complete the well. It was estimated that operators in the Pinedale Anticline natural gas field spend approximately \$5.5 million (inflated to 2010 \$s) for each well developed (BLM 2008). In the Pinedale Anticline Environmental Impact Statement (EIS), the IMPLAN economic model was used to estimate the economic impact of the operators' spending. It was estimated that direct expenditures on well development generate



approximately \$975,100 in secondary spending, thus the total economic impact per well in southwest Wyoming was estimated to be \$6.5 million (BLM 2008).

The direct expenditures and secondary spending generate employment within an oil and/or natural gas field to develop wells (direct effects). Outside of the project area, employment results from expenditures by operators on goods and services used to drill wells (indirect effects) and expenditures by operator employees on items such as food, clothing, and fuel (induced effects).

A study completed on behalf of the Wyoming Heritage Foundation in 2008 reported that the total oil and gas industry-related employment (direct, indirect, and induced impacts) resulted in 73,229 jobs in 2007 (20 percent of the total employment in Wyoming). Drilling, completion, and recompletion of wells accounted for 26,701 jobs (36 percent of the total jobs). Extraction operations resulted in 11,765 jobs (17 percent) and indirect and induced employment resulted in 34,763 jobs (47 percent) (Wyoming Heritage Foundation 2008). It is assumed that current oil and gas-related employment numbers are quite similar to 2007 employment numbers, if not slightly increased, as the amount of wells producing in the state has increased 6 percent from 37,350 in 2007 to 39,570 in 2009. Total oil and gas production volumes were also similar in 2009 when compared to 2007 (a 4 percent increase in natural gas production from 2007 and a 5 percent decrease in oil production).

The oil and gas-related jobs generate labor earnings for the state and local economies. In 2007, the total labor earnings that resulted from the 73,229 jobs totaled \$3.9 billion (25 percent of the total Wyoming labor earnings). Jobs directly related to the oil and gas industry generate higher wages than jobs in other employment sectors. In 2007, the average wage for oil and gas-related employment was \$53,457 per year and the average wage in Wyoming was \$41,907 (Wyoming Heritage Foundation 2008).

## **TAXES AND ROYALTIES**

The taxes and royalties that are received by federal, state, and local governments as a result of oil and gas extraction are based on the total annual production volumes. As indicated above, the 2009 production volumes according to the EIA (2010a) were determined to be:

- Oil – 51,333,707 barrels
- Natural Gas – 2,359,248 MMcf

In order to estimate the dollar value of the oil and gas extracted in 2009, the quantities were converted to dollar amounts using the 2009 Wyoming production prices from the EIA. In December 2009, the Wyoming domestic crude oil first purchase price was \$64.17 per barrel (bbl) and the natural gas price at the wellhead was \$3.40 per thousand cubic feet (Mcf) (EIA 2010a). To determine the value of the oil and gas produced, the 2009 prices were multiplied by the production volumes to estimate the total industry output for oil and gas extraction in Wyoming. In 2009, the total industry output was estimated to be:

- Oil – \$3,294,083,978
- Natural Gas – \$8,021,443,200
- **Total – \$11,315,527,178**

In order to estimate the economic benefits of oil and gas development in Wyoming to federal, state, and local governments, we have compiled the government revenues generated from the oil and gas extraction in 2009 (Table 1). The government revenues come in the form of royalties, severance taxes, and ad valorem taxes. Royalties are paid on net revenues (gross revenues minus operating expenses). The royalty rate on federally leased Wyoming land is 12.5 percent of production revenues (after operating costs). The 2009 estimate from the Office of Natural Resource Revenue (ONRR) (formerly Minerals Management Service) indicates that the royalty revenues generated from oil and gas development on public land in 2009 totaled approximately \$1.1 billion<sup>1</sup> (ONRR 2010a). Of the total royalties generated in Wyoming in 2009, \$849 million (75 percent) were generated on BLM lands (BLM 2009).

**Table 1. Summary of Total Estimated Contribution of Oil and Gas Activities in Wyoming 2009.**

Impact	2009
Total producing wells	39,570
Total economic output	\$11,315,527,178
Total employment*	73,229
Labor earnings	\$3,914,633,314
Federal mineral royalties	\$1,139,840,538
Severance tax	\$460,013,007
Ad valorem tax	\$479,306,925

\* Employment and labor estimates are from 2007.

Source: WOCC 2010; ONRR 2010a; Wyoming Heritage Foundation 2008

The federal government returns 48 percent of the total royalties to the state of Wyoming. In 2009, the ONRR disbursed \$957 million back to the state of Wyoming<sup>2</sup> (ONRR 2010b). It should be noted that the total amount of royalties disbursed to the state include royalties derived from coal, sodium, and other minerals and approximately half of the \$957 million in royalties is related to oil and gas production. The royalties are distributed by the state of Wyoming to cities and towns, the University of Wyoming, and highway and construction fund projects. Over half of the federal royalties (51.2 percent) received by the state of Wyoming are allocated to the Budget Reserve Account. The Foundation Fund received 35.5 percent of the royalties (BLM 2008).

State severance taxes and ad valorem taxes are paid after royalties are deducted. A severance tax is a tax that is imposed on the present and continuing privilege to remove, extract, or produce any mineral in Wyoming. In 2009 the severance tax rate for oil and gas extraction was 6 percent. Severance taxes totaled \$460 million (\$351 million for natural gas and \$108 million for oil) in 2009 (WYOCC 2010). The largest percentage (40.7) of severance tax in Wyoming is allocated to the Permanent Mineral Trust Fund. The state General Fund and the Budget Reserve Account each receive approximately 25 percent of the levied tax.

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<sup>1</sup> The 2009 estimate from the Office of Natural Resource Revenue includes federal royalties from carbon dioxide, coalbed methane, condensate, gas plant products, oil, processed and unprocessed gas, and royalties associated with rents, bonuses, and other revenues.

<sup>2</sup> The total amount disbursed to Wyoming includes royalties from coal, salt, and other minerals.

Ad valorem taxes (i.e., property taxes associated with oil and gas operations) generate revenues for the state of Wyoming and the county where the extraction occurred. A 6.2 percent ad valorem tax is levied on the total value assessed by the county for mineral production. The majority of ad valorem tax revenue goes to fund public schools (75 percent). Approximately 20 percent goes to the county of origin's General Fund, and the remainder goes to Special Districts within the county of origin (BLM 2008). The estimated ad valorem tax levied for oil and natural gas development in 2009 was \$479 million (\$364 million for natural gas and \$115 million for oil) (WYOCC 2010). Ad valorem tax assessed in the counties with the largest number of producing wells in 2009, Campbell and Sublette, totaled \$243 million and \$186 million, respectively.

To consider the annual royalties and tax revenue from a typical natural gas well in Wyoming, the estimated dollar amount from a well in the Pinedale Anticline Project Area (PAPA) was inflated to 2010 \$ (BLM 2008). While it should be noted that a producing well can produce more or less than the typical well in a given year, Table 2 highlights the royalty and revenues for a single natural gas well.

**Table 2. Annual Royalties and Tax Revenue for a Typical Wyoming Natural Gas Well.**

<b>Tax and Royalty Revenues</b>	<b>\$/MMcf Gas</b>	<b>\$/bbl Oil</b>	<b>\$/Well/Year</b>
Federal mineral royalties – Wyoming Share *	\$338.00	\$2.91.00	\$44,967.00
Severance tax – State of Wyoming	\$329.00	\$2.80	\$43,783.00
Ad valorem tax – Sublette County	\$347.00	\$2.97	\$46,015.00
<b>Total</b>	<b>\$1,015.00</b>	<b>\$8.68</b>	<b>\$134,669.00</b>

\* Note: The Wyoming federal mineral royalties share is half of the total federal mineral royalty rate (minus 1 percent administrative fee). A typical well in the PAPA generated \$677 per MMcf in federal mineral royalties in 2006.

Source: BLM 2008

## NEPA IN WYOMING

Over half of all oil and gas development that occurs in Wyoming takes place on lands administered by the BLM. Proposed actions with a federal nexus (i.e., a federal action, proposed on federal lands, using federal funds, or needing federal approval/permitting) are required to undergo analysis under the National Environmental Policy Act (NEPA). There are three levels of analysis that a federal agency may undertake to comply with the law depending on the level of anticipated impacts. These three levels include 1) preparation of a Categorical Exclusion (CE); 2) preparation of an Environmental Assessment (EA) and Finding of No Significant Impact (FONSI); or 3) preparation of an EIS. If the lead federal agency expects the impacts of the proposed action to be significant, then an EIS is prepared. An EIS discloses all potential impacts to the human environment using the best available science and guides the agency in choosing among alternatives to the proposed action. The EIS process differs from

the EA process in that it requires additional public involvement, alternatives development, and often contains a more rigorous impacts analysis. The EIS process also allows for considerable involvement by stakeholders and cooperating agencies in impact analysis and the alternatives development process.

Two recently completed EISs have allowed for further natural resource extraction on public lands in Wyoming. These projects are the Pinedale Anticline Oil and Gas Exploration and Development Project (Record of Decision [ROD] issued September 2008) and the Jonah Infill Drilling Project (ROD issued March 2006). The Pinedale Anticline and Jonah Infill oil and natural gas fields are two of the top 10 largest in the nation (EIA 2010a). There are currently six oil and gas development projects in Wyoming undergoing NEPA analysis in the form of an EIS. These are the Moxa Arch Area (MAA) Infill Gas Development Project, the Hiawatha Regional Energy Development Project, the Gun Barrel, Madden Deep, Iron Horse (GMI) Natural Gas Project, the LaBarge Platform Exploration and Development Project, the Continental Divide-Creston (CDC) Natural Gas Project, and the Beaver Creek Coal Bed Natural Gas (CBNG) Project. The status of these projects and their estimated economic contribution are discussed in the following sections.

#### **PAST NEPA PROJECTS**

Expansions to the Pinedale Anticline and Jonah Infill projects have resulted in increased economic revenues to the state of Wyoming. The Final Supplemental Environmental Impact Statement (FSEIS) of the Pinedale Anticline Oil and Gas Exploration and Development Project in Sublette County, Wyoming, was completed in 2008. The FSEIS ROD authorizes exploration and development of 4,399 wells on 198,037 acres of federal, state, and private land. Of the total land in the PAPA, 158,415 surface acres (80 percent) are administered by the BLM Pinedale Field Office. In 2008 there were 642 producing wells in the PAPA. The new wells authorized by the FSEIS within the PAPA are estimated to have a 40-year production life and the project would conclude in 2065.

The total jobs, earnings, and revenues anticipated for the life of the project were analyzed in the FSEIS. The development phase of the project is anticipated to occur from 2008 to 2025. Development-related jobs and earnings were anticipated to have peaked in 2009. Production jobs and associated earnings are anticipated from 2007 through 2065. Production jobs and earnings would peak in 2017 (BLM 2008). According to the FSFEIS, the federal mineral royalties, severance, and ad valorem taxes would peak around 2018 and continue through 2065. See Table 3 for estimated employment and earnings during the life of the project. The total estimated government revenue for the Pinedale Anticline project is estimated to be \$27.5 billion through 2065. With 48 percent of the federal mineral royalties disbursed to the state of Wyoming and all severance and ad valorem tax revenues remaining within the state, \$20.6 billion (75 percent of the total revenues) would be received throughout the life of the project. See Table 4 for estimated total tax and royalty revenues (in 2006 \$s) resulting from the PAPA.

**Table 3. Employment and Earnings Associated with Development and Production in the PAPA (2006 \$s).**

Year	Development		Production	
	Total AJE	Total Earnings	Total AJE	Total Earnings
2007	12,698	\$651,287,865	939	\$49,072,344
2014	13,598	\$607,461,258	3,041	\$158,868,849
2021	8,386	\$430,141,612	2,411	\$125,968,128
2028	N/A	N/A	379	\$19,819,464
2039–2065	N/A	N/A	<10/year	<\$500,000/year

Note: Annual Job Equivalents (AJE) represents 12 months of employment and makes no distinction between full- and part-time jobs. One AJE could represent one job for 12 months or two jobs for 6 months or three jobs for 4 months.

Source: BLM 2008

**Table 4. Total Royalty and Tax Revenue Associated with the Pinedale Anticline Project 2007–2065 (2006 \$s).**

Source of Revenue	Estimated \$ Amount
Total federal mineral royalties (\$640 per MMcf)	\$13,738,403,517
Federal mineral royalties-Wyoming (\$312 per MMcf)	\$6,869,201,758
Severance tax (\$305 per MMcf)	\$6,708,480,051
Ad valorem production (\$320 per MMcf)	\$7,045,335,138
<b>Total</b>	<b>\$27,492,218,706</b>

MMcf= million cubic feet

Source: BLM 2008

The Jonah Infill Drilling Project (JIDP) Final Environmental Impact Statement (FEIS) was completed in 2006 and authorized the drilling of approximately 3,100 oil and gas wells in Sublette County, Wyoming. The project is located within the BLM's Pinedale Field Office and includes 30,500 acres of federal (94 percent), private (2 percent), and state (4 percent) managed land (BLM 2006). Prior to the authorization of the JIDP, there were more than 500 producing shut-in natural gas wells and production-related infrastructure. The economic impacts from the JIDP, although factored differently in each of the EIS socioeconomic analyses, would be similar to the impacts from the PAPA. Table 5 highlights the total economic impacts of the JIDP.

**Table 5. Total Estimated Economic Activity Associated with the JIDP.**

Type of Impact	Estimated \$ Amount <sup>a</sup>
Average wage range	\$31,881–\$47,173
Value of development	\$6,631,800,000
Value of production	\$17,963,800,000
Taxes and royalties	\$3,474,700,000
<b>Total</b>	<b>\$28,066,900,000</b>

<sup>a</sup> Based on 85,715.7 average job equivalents

Source: BLM 2006

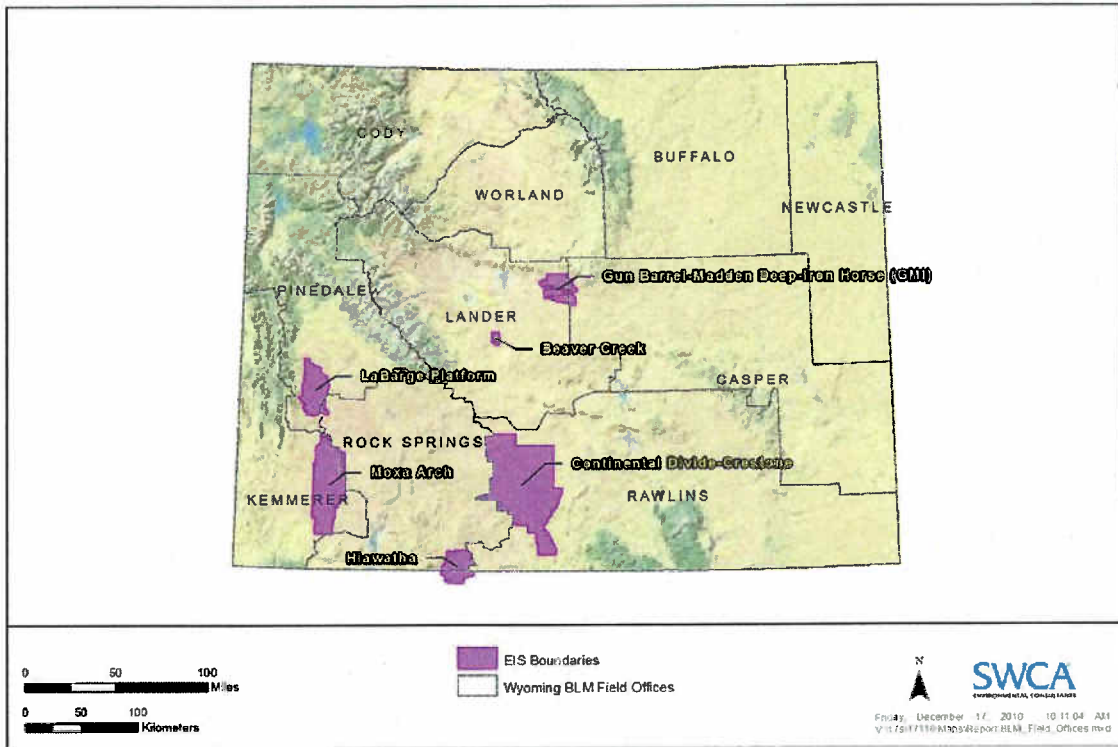
## CURRENTLY PROPOSED NEPA PROJECTS

Currently, there are six oil and gas projects proposed on lands managed by five Wyoming BLM field offices. EISs are being prepared for each of the six projects. The NEPA planning processes (and ROD that follows the completion of the EIS) for each of the projects are currently experiencing delays. On average the planning process for each EIS was originally estimated to take two to three years. However, due to a range of issues that have arisen with each project, the RODs have been delayed one to five years. Table 6 highlights the six EISs currently under development with the Wyoming BLM. Figure 3 shows the location of the proposed projects.

**Table 6. The Six Oil and Gas EISs Underway in Wyoming BLM Field Offices.**

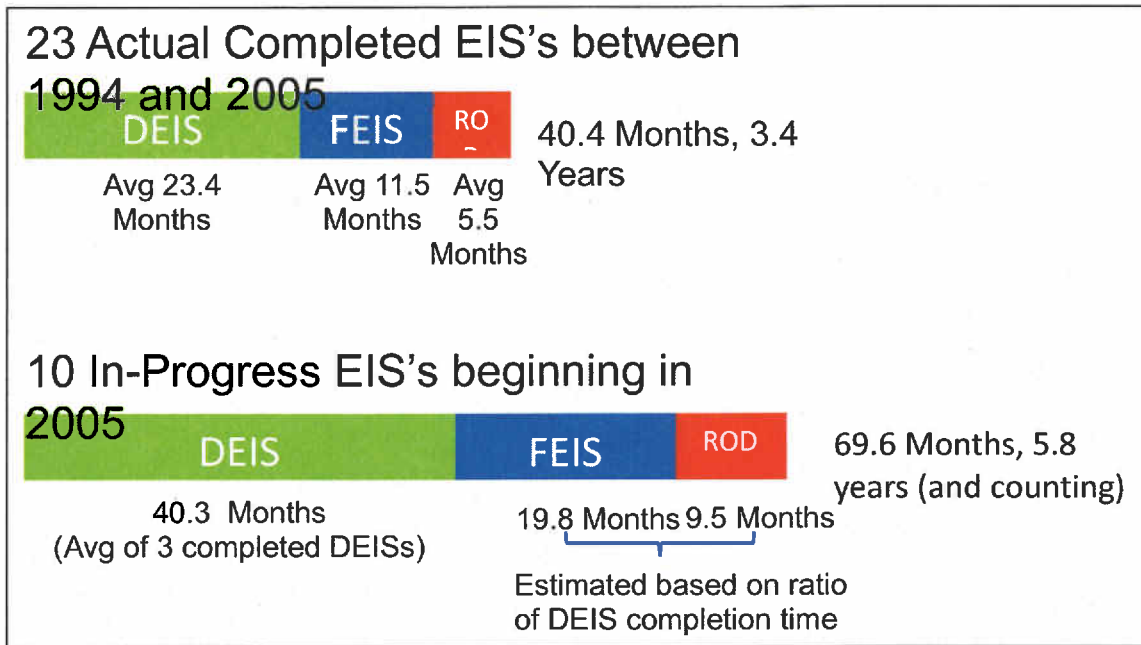
Pending EIS	BLM Field Office	ROD Delay*	Total Wells	Wells Developed Annually
Beaver Creek	Lander	11 months	228	23–46
Continental Divide – Crestone	Rawlins	49 months	8,950	600
Gun Barrel, Madden Deep, Iron Horse	Lander	27 months	1,400	130
Hiawatha	Rock Springs	49 months	4,208	140–210
LaBarge Platform	Pinedale	Unknown	838	60
Moxa Arch	Kemmerer	53 months	1,861	186
			<b>Total 17,485</b>	<b>Average 1,166/year</b>

\*ROD delay was determined through interviews with project proponents and based on the estimated completion date compared to the original EIS schedule.



**Figure 3. Oil and Gas EISs Currently Underway within Wyoming BLM Field Offices.**

Figure 4 shows the average oil and gas EIS cycle time for EISs that have been completed in the Rocky Mountain Region (Colorado, Utah, and Wyoming) since 1993 compared to the current estimated EIS cycle for projects currently undergoing NEPA analysis. The average EIS completion time for EISs between 1994 and 2005 was 38 months. For projects with pending RODs, the average duration of the EIS cycle is 43 months as of March 2011. Note that the majority of these projects (listed in Table 6) have not released a DEIS and therefore, the EIS cycle time will increase as the NEPA process continues.



**Figure 4. Actual & Estimated EIS Cycle Times in the Rocky Mountain Region.**

It should be noted that there are smaller-scale oil and gas projects going through the NEPA planning process within Wyoming BLM field offices that may or may not be experiencing delays similar to the six large-scale EISs. In addition, there are other large oil and gas projects that are just beginning the NEPA planning process. The Normally-Pressured Lance (NPL) Natural Gas Development Project and EIS is within the Pinedale and Rock Springs Field Offices and proposes up to 3,500 wells drilled over a 10-year period. This project is in the initial public comment gathering phase and economic and environmental impacts assessments have yet to be completed.

**POTENTIAL IMPACTS FROM DELAYS**

Delaying a federal decision on the six proposed projects consequently delays oil and gas companies from beginning the approved development and production phases of these large-scale projects. As indicated in the sections above, the development and production of oil and gas wells bring substantial economic contributions to the state of Wyoming. Therefore, delays in a BLM decision result in deferral of project development, employment, and government revenues.

The economic activity potentially affected by the delays of the six projects is estimated in the following analysis. Full approval of the six projects proposed would result in the development and production of approximately 17,485 wells. Based on the assumptions that all projects start in the same year, and all wells will be drilled within each projects' first 15 years, approximately 1,166 wells will be drilled annually. It is also assumed that the average well in



Wyoming has a 40-year productive life and during that time it would produce 5.0 billion cubic feet of natural gas and 35,000 barrels of oil condensate; a typical well can be expected to produce 125 Mcf of natural gas and 875 barrels of oil annually. The annual averages do not imply that a single well would produce at this level each year. Rather, production rates are typically highest when a well is first drilled then decline rapidly and finally level off after about 10 years of production (BLM 2008). Using the dollar amounts (inflated to 2010 \$s) and workforce estimates applied to the economic impacts analysis in the Pinedale Anticline EIS (completed in 2008), a rough annual estimate of the economic impacts of delaying the six projects is presented below.

### Development

Assuming an average total economic impact of \$3.7 million per well<sup>3</sup>, \$4.3 billion dollars would be spent annually in Wyoming as a result of drilling 1,166 wells. This spending would generate direct, indirect, and induced employment. Based on the assumptions that 26.3 jobs<sup>4</sup> and \$2.3 million<sup>5</sup> in labor earnings are created with the development of each well, approximately 30,666 average job equivalents (AJEs) and \$2.6 billion in earnings would not be realized annually within the state of Wyoming. That is to say that, each year that the six oil and gas projects are postponed, the state of Wyoming does not receive the benefit of over 30,666 AJEs and over \$2.6 billion in employment earnings resulting from drilling 1,166 wells annually. As the delays continue, the jobs and employment earnings are not realized until project initiation. The postponement of jobs and earnings related to development are estimated over a 5- and 10-year timeframe and presented in Table 7.

**Table 7. Economic Impacts of Oil and Gas Project Delays on Well Development.**

Impact	Project Delay		
	1-year	5-year	10-year
Deferred development AJE	30,666	153,330	306,660
Deferred development earnings	\$2,682,612,702	\$13,413,063,510	\$26,826,127,020

AJE = average job equivalent

### Production

The long-term production of a single well requires many fewer AJEs than the development of a single well. Based on the assumption that 0.251 AJE (0.1255 direct, 0.06275 indirect, and 0.06275 induced) would be required per well (BLM 2008), approximately 4,389 AJEs would

<sup>3</sup> The average economic impact of a single well includes the direct, indirect and induces costs of drilling and completing a single well in the Pinedale (\$5.5 million), Jonah (\$2.9 million), GMI (\$3.5 million), Hiawatha (\$4.6 million) and Moxa (\$1.8 million) project areas. All total costs in 2010 dollars..

<sup>4</sup> The average AJE per well includes the direct, indirect and induced jobs per well in the Pinedale (47.4 AJE), Jonah (16.7 AJE does not include direct project-related jobs), Hiawatha (28.7 AJE) and Moxa (12.4 AJE) project areas.

<sup>5</sup> The average labor earnings include the direct, indirect and induced earnings per well for Pinedale (\$2,628,535) and Hiawatha (\$1,972,859) project areas, in 2010 dollars.

not be required until the projects get underway (assumes all 17,485 wells would be producing simultaneously). With a 5-year delay approximately 21,945 AJEs would not be realized, and with a 10-year delay approximately 43,890 AJEs would not be realized.

Continuing delays of the six oil and gas projects would result in the delay of federal, state, and local government revenue. Using the annual royalties and tax revenue rates from the Pinedale Anticline EIS (inflated to 2010 \$s) shown in Table 4, the total government revenues generated from one well in the PAPA totaled \$134,669. Applying this total annual amount to the 1,166 wells projected to be producing annually as a result of the six proposed projects, approximately \$157 million in annual revenues are not being obtained by the state of Wyoming each year. Estimates are provided in Table 8 that highlight the amount of federal revenue not realized by the state of Wyoming should the six projects fail to progress in the next 5 to 10 years.

**Table 8. Total Annual Estimated Tax and Royalty Revenue for Wells from the Six EISs (17,485 wells).**

Revenue	Project Delay		
	1-year	5-year	10-year
Royalty and Tax Revenues	\$157,024,054	\$785,120,270	\$1,570,240,540

In 2009 there were 39,570 producing wells in Wyoming. The six large-scale proposed oil and gas projects would result in approximately 17,485 additional wells (or 1,166 wells developed annually over a 10-year period). The implementation of the six proposed projects would result in a 44 percent increase in the total amount of producing wells in Wyoming. The annual development (and subsequent production) of 1,166 wells would result in an annual 3 percent increase in the amount of wells producing in the state over a 10-year period. The estimated economic activities resulting from development and production of the wells currently proposed in the six large-scale projects would be delayed until federal approval is given and the projects commence. In addition, other NEPA projects just getting underway (such as the NPL EIS) could be subject to similar delays which would result in further postponement of oil and gas-related revenue and employment to the state of Wyoming.

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