

SUBLETTE COUNTY – WYOMING

A BRIEF HISTORY OF DRILLING 1995-2005

THE SOCIOECONOMICS OF GAS



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Notice:

The intent of this document is to provide general information about natural gas drilling and production in Sublette County, WY 1995-2005. This document was last updated January, 2006.

Anyone who is knowledgeable in the oil and gas industry and feels inclined to update, expand, or dispute any portion of this document is welcome to do so, at the discretion of the Socioeconomic Analyst Advisory Committee (SAAC). Please feel free to contact the SAAC at www.sublette-se.org.

About the Data:

Unless otherwise noted, all drilling rig data was obtained from Drilling Records Inc; all completion and production data was obtained from the Wyoming Oil and Gas Conservation Commission; Opal spot price data was obtained from NW Pipeline, Opal, WY for dates between 1/1995 and 9/2002, and from Enerfax.com for 10/2002 and thereafter; the national wellhead price was obtained from the U.S. Department of Energy; all narrative and workforce requirement data was obtained through various Bureau of Land Management (BLM) Final Environmental Impact Statements (FIES), local operators, and multitude of personal communications with workers and local officials. Unless otherwise noted, seasonal fluctuations were calculated by comparing the average activity over June, July, and August with the average activity over the following January, February, and March. All percentages given in this document represent change from a base year of 1995, unless otherwise noted. Greater elaboration of sources and methodology gladly given upon request.

The datasets contained herein are available for download at www.sublette-se.org

On the Cover:

2001 aerial photo of a drilling rig in the Jonah Field, Sublette County Wyoming.

Photo by Peter Aengst and obtained from SkyTruth. www.skytruth.org.

Table of Contents:

1.0 Socioeconomic Overview - 5 -

Charts and Summaries - 9 -

2.0 The Price of Natural Gas - 9 -

3.0 Sublette County - 11 -

3.1 Drilling - 11 -

 3.1.1 Drilling Seasonal fluctuations - 11 -

3.2 Completion Activity - 13 -

 3.2.1 Seasonal Fluctuations..... - 13 -

3.3 Production..... - 14 -

 3.3.2 Production Composition - 14 -

4.0 The Pinedale Anticline Project Area - 16 -

4.1 Drilling..... - 17 -

 4.1.1 Seasonal Fluctuations..... - 17 -

 4.1.2 Drilling Percent of Totals - 18 -

4.2 Production..... - 18 -

 4.2.1 Activity..... - 18 -

 4.2.2 Percent of Total..... - 18 -

5.0 The Jonah Field..... - 19 -

5.1 Drilling..... - 20 -

 5.1.1 Seasonal Fluctuations..... - 20 -

 5.1.2 Percent of Total..... - 20 -

5.2 Production..... - 21 -

 5.2.1 Percent of Total..... - 21 -

6.0 “Non-Field” Areas..... - 22 -

6.1 Drilling..... - 23 -

 6.1.1 Seasonal Fluctuations..... - 23 -

 6.1.2 Percent of Total..... - 23 -

6.2 Production..... - 24 -

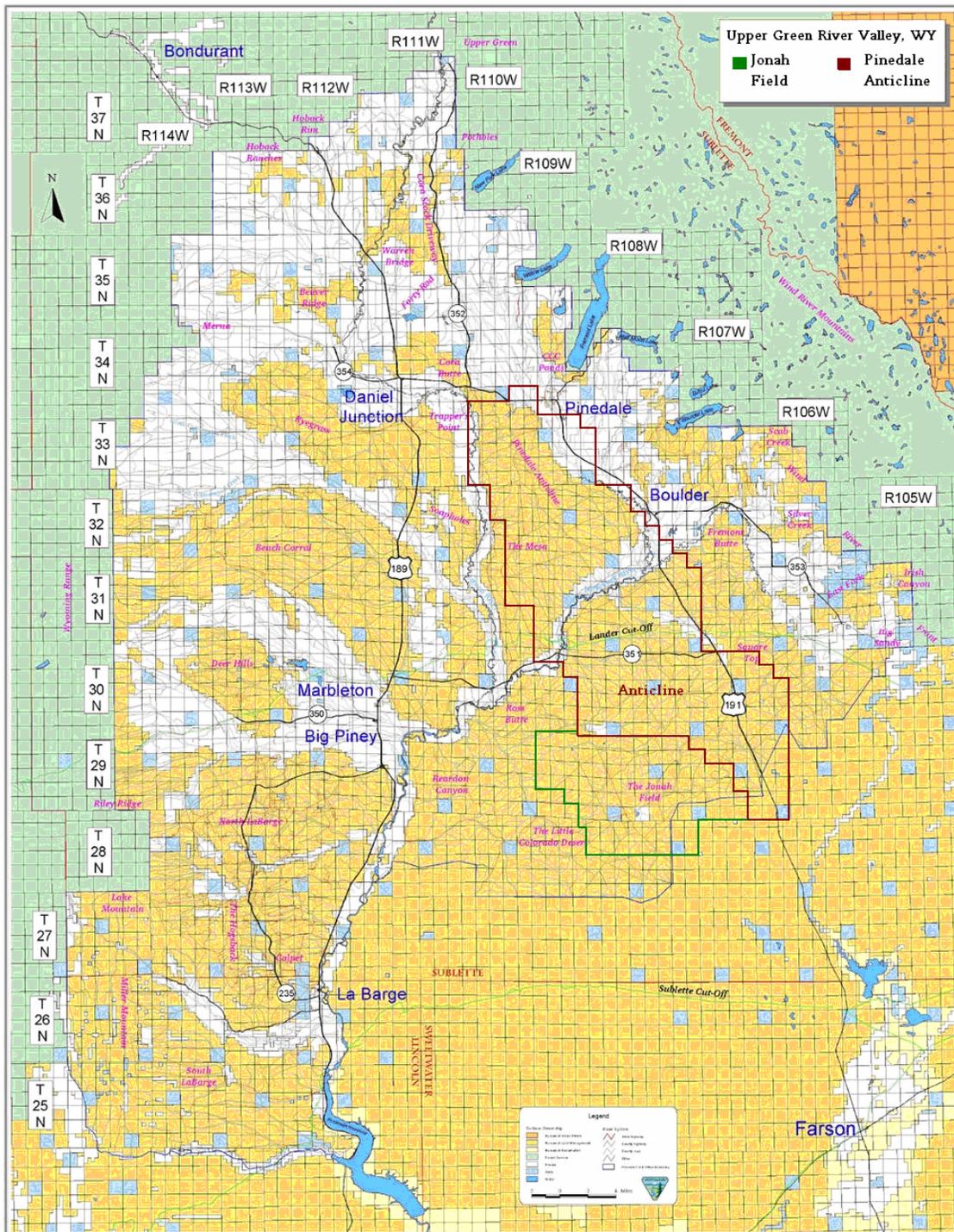
 6.2.1 Percent of Total..... - 24 -

The Data Tables..... - 25 -

Table of Tables and Figures:

<i>Figure 1: Location of the Jonah and Pinedale Anticline Fields</i>	4
<i>Figure 2: Aerial photo of a typical drilling rig in Sublette County</i>	5
<i>Figure 3: Photo of a roughnecks working on a rig</i>	6
<i>Table 1: Average Workforce Requirements Per Sublette County Well</i>	7
<i>Figure 4: Opal Spot Price 1995-2005</i>	9
<i>Figure 5: National Wellhead Price 1995-2005</i>	9
<i>Figure 6: Monthly Rig Activity in Sublette County 1995-2005</i>	11
<i>Figure 7: Seasonal Fluctuation in Sublette County Rig Activity 1995-2005</i>	11
<i>Figure 8: Sublette County Rig Activity by Field 1995-2005</i>	12
<i>Figure 9: Yearly Sublette County Rig Activity by Field 1995-2005</i>	12
<i>Figure 10: Yearly Drilling Activity as Percentage of Sublette County Total 1995-2004</i>	13
<i>Figure 11: Monthly Well Completions in Sublette County 1995-2005</i>	13
<i>Figure 12: Yearly Well Completions in Sublette County 1995-2005</i>	13
<i>Figure 13: Seasonal Fluctuations in Well Completions in Sublette County 1995-2005</i>	14
<i>Figure 14: Sublette County Monthly Gas Production 1995-2005</i>	14
<i>Figure 15: Gas Production by Field in Sublette County 1995-2005</i>	15
<i>Figure 16: Gas Production as a Percentage of Sublette County Total 1995-2005</i>	15
<i>Figure 17: Aerial view of wells in the Pinedale Anticline as of 2006</i>	16
<i>Figure 18: Monthly PAPA Rig Activity 1995-2005</i>	17
<i>Figure 19: Seasonal Fluctuations in PAPA Rig Activity 1995-2005</i>	17
<i>Figure 20: PAPA Rig Activity as a Percentage of Sublette County Total 1995-2005</i>	18
<i>Figure 21: PAPA Monthly Gas Production 1995-2005</i>	18
<i>Figure 22: PAPA Gas Production as a Percentage of Sublette County Total 1995-2005</i>	18
<i>Figure 23: Aerial view of wells in the Jonah Field as of 2006</i>	18
<i>Figure 24: Monthly Jonah Field Rig Activity 1995-2005</i>	20
<i>Figure 25: Seasonal Fluctuations in Jonah Field Rig Activity 1995-2005</i>	20
<i>Figure 26: Jonah Rig Activity as a Percentage of Sublette County Total 1995-2005</i>	21
<i>Figure 27: Jonah Monthly Gas Production 1995-2005</i>	21
<i>Figure 28: Jonah Gas Production as a Percentage of Sublette County Total 1995-2005</i>	21
<i>Figure 29: Aerial view of some of the wells in Southwestern Sublette County as of 2006</i>	22
<i>Figure 30: Monthly “Non-Field” Rig Activity 1995-2005</i>	23
<i>Figure 31: Seasonal Fluctuations in “Non-Field” Rig Activity 1995-2005</i>	23
<i>Figure 32: “Non-Field” Rig Activity as a Percentage of Sublette County Total 1995-2005</i>	23
<i>Figure 33: “Non-Field” Monthly Gas Production 1995-2005</i>	24
<i>Figure 34: “Non-Field” Gas Production as a Percentage of Sublette County Total 1995-2005</i>	24
<i>Table 2: Monthly Sublette County Rig Months by Area 1995-2005</i>	25
<i>Table 3: Yearly Sublette County Rig Months by Area 1995-2005</i>	26
<i>Table 4: Yearly Sublette County Gas Production by Area 1995-2005</i>	26
<i>Table 5: Monthly Sublette County Gas Production by Area 1995-2005</i>	27
<i>Table 6: Monthly Natural Gas Prices 1995-2005</i>	28
<i>Table 7: Sublette County Completions 1995-2005</i>	29

Figure 1: Location of Jonah and Pinedale Anticline Fields



Adapted By Jeffrey Jacquet from Bureau of Land Management "Place Names Index" & "Primary Lessees"

1.0 Socioeconomic Overview

Introduction:

The socioeconomic impacts of natural gas development are extremely complex in that the development process involves a large and diverse workforce comprised of both permanent residents and people living in the area on a temporary or rotational basis. The amount of drilling activity and the fluctuations in that activity can have direct and immediate effects on the size and type of workforce involved. This is especially true in extremely rural areas such as Sublette County, where the number of workers employed directly on the rigs alone at any given time has totaled over 1,000¹. – nearly all of which are non-residents. Given a permanent resident population of fewer than 7,000 for all of Sublette County², this amount of added residents can have a large relative effect.

In addition, it is important to note the cumulative effects of a rotational workforce. For example, the aforementioned 1000 rig workers (who comprise only a portion of the total gas field workforce in the area), work largely rotational schedules whereby both rotations can total up to 2000 separate persons working in the area in any given month.

Drilling

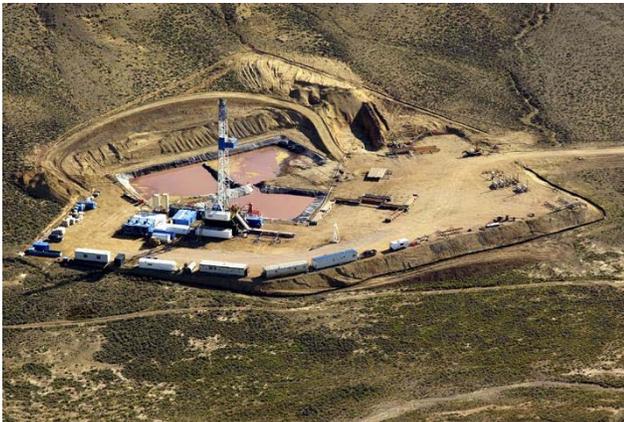


Figure 2: Aerial view of a typical drilling rig in Sublette County, WY. Photo by Jonathan Selkowitz

The monitoring of drilling activity is crucial for analyzing the socioeconomic impacts of the natural gas industry as the well drilling phase is the most labor intensive of the gas extraction process. A typical drilling rig in Sublette County will take about 30 days of 24hr-a-day operation to drill a well³.

The Roughnecks:

Typically, there are about 18-24 drilling rig workers or “roughnecks” dedicated to each rig. The workers are divided into two crews that work an alternating “week-on/week-off” schedule. During the “week-on”, these workers typically live off-site in employer-provided temporary housing. Therefore at any given time, there are about 9-12 roughnecks working on a rig. During the week-off, these workers typically travel to their permanent residence, which is often outside the county, state, or even region.

The Professionals:

¹ Based on 24 workers per rig at 44 rigs during summer 2005 (see below)

² As of 2004, according to U.S. Census Bureau population estimates.

³ Please See Table 1 Below

There are additionally about 8-10 supervisors, “tool-pushers”. engineers, consultants, and other technically well-educated workers that live directly on the drilling site 24hrs a day. These workers are employed by and represent the various companies that comprise the drilling activity and typically reside on-site in trailers similar to those pictured towards the bottom of figure 2 above. The actual amount of these workers will vary depending on the type of well being drilled and the companies involved. Some will rotate in/out on a weekly or biweekly basis, while others will stay at the drill site until drilling activity is finished, and then often follow the rig to the next well.

Drilling support:

In addition to the 34 or so workers dedicated to each rig, there are countless other workers employed by the various service companies that provide support and services to the rigs and rig workers. This support can include everything from selling the drilling supervisor new drill bits to servicing the portable toilets to providing fresh bottled water. These workers are not dedicated to a single rig, but will instead service multiple rigs within a field. It is not known at this time how many workers-per-well the support workforce averages out to, although some have estimated it to be about 10 workers per well. As the types of support are extremely varied, the living situation of this workforce can likewise vary considerably. Many are likely long-term local residents and small business owners, while others undoubtedly work in the area in a transient or temporary nature.



Figure 3: Roughnecks working on the floor of an unidentified drilling rig.

Completions

After the drilling is finished, the well then enters the “completion” stage, where the well undergoes a number of different processes needed to put the well on line. This stage is also very labor intensive but lasts for a much shorter time. The completion tasks include cementing the well, fracturing, perforation, logging, setting up the various apparatuses needed to collect and separate the gas, and the reclamation portions of the drilling site, among others. In addition, a number of “completion support” companies exist in a similar – albeit smaller scale – fashion to that of drilling rigs.

Fracturing:

The most labor intensive process is the fracturing, whereby the tight sand formation is fractured using high pressure injections to let more gas escape. There are typically 12-15 person crews working 24hrs a day for 5 to 7 days per well. It is difficult to calculate the entire labor force needed to perform completion activities or the per-well worker average. However, in terms of fracturing, if a little less than 40 wells are drilled per month in Sublette County (as were in the

summer of 2005) and it takes a little less than one week to fracture a well, then about 10 fracturing crews would be needed at a time – or an average of 3-4 workers per completion for that particular service.

Table 1: Average Workforce Requirements Per Sublette County Well¹			
Category	Avg. # of Days²	Avg. # of Workers	Avg. # of Worker Days
Construction:			
Well pad and access road construction	4	4	16
Rig Transportation/Setup	5	15	75
Drilling:			
Roughnecks	31.75	12	381
Tool-Pushers & Supervisors	31.75	9	285.75
Completion:			
Cementing	2	6	12
Stimulation	6	13	78
Perforating	3	5	15
Logging	1	3	3
Pipeline Construction:			
	4	6	24
Total Per Well:		73	889.75

¹ Does not include additional support/service industries and workforce. Based on Jonah Infill FEIS Socioeconomic Technical Support Document; PAPA FEIS; Operator Data

² Drilling Time = 22 days per well for Jonah Field Drilling; 35 days per well for PAPA Drilling. Formula: [(Jonah Drill TimexRigs in Jonah) + (PAPA Drill TimexRigs in PAPA)]/(Rigs in Jonah + Rigs in PAPA) or [(22x10)+(35x30)]/(10+30)

Production

Once the well begins producing gas the labor intensity drops considerably. However, most wells then continue to produce gas for a number of decades. Currently, most wells in Sublette County produce water and a “condensate” along with the natural gas product that is separated automatically at the well site. The gas is then transported away via pipeline while the water and condensate is stored in on-site tanks to be trucked away at regular intervals. A relatively small workforce of truck drivers is needed to transport the water and condensate off site on a regular schedule, while another, even smaller staff of people (“operators” or “pumpers”) is needed to monitor the separation equipment to insure gas is being produced properly. In addition a number of field service companies will continue to service the equipment or perform general tasks (“roustabouts”) at the well site.

While the tasks associated with production are varied and needed over long periods of time, the tasks themselves are relatively simple a small number of these workers can service a very large number of wells. The majority of workers associated with gas production are often long-term, permanent residents of the area, as the work is stable and long-term.

Pipelines:

The vast infrastructure of natural gas pipelines and compressor stations requires a number of workers to monitor and service the pipelines. When the pipelines and compressor stations are installed and upgraded during the initial phases of drilling, vast scores of additional construction workers are needed. However, once the wells are producing at a stable rate, the number of workers is much smaller.

Charts and Summaries

2.0 The Price of Natural Gas

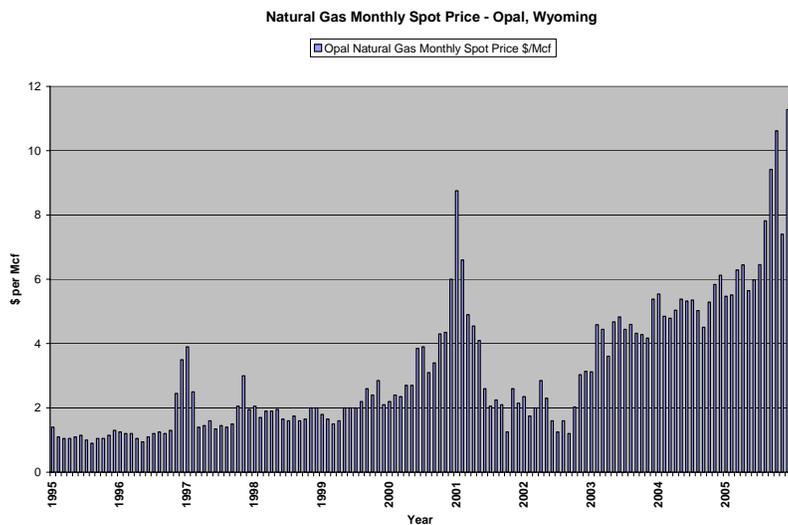


Figure 4

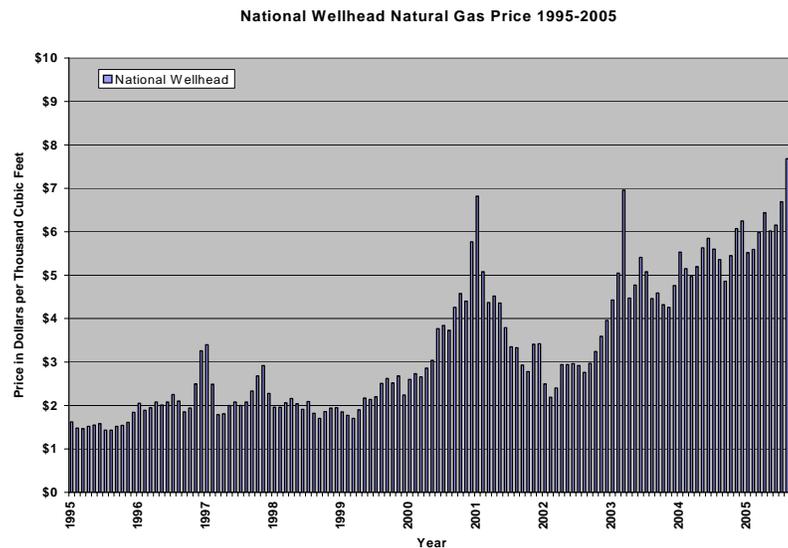


Figure 5

Opal Spot Price

Due to the unconventional nature of gas reserves in Sublette County, gas drilling in the area is highly dependent upon a price of natural gas that will ensure affordability. In as much, the price of gas has largely mirrored gas drilling activity in Sublette County, with both showing steady increases since 1995 and sharp gains since the late 1990's. The price of natural gas at the Opal, Wyoming pipeline hub – where almost all of Sublette County gas flows – ended the year 2005 with an all-time high of 10.6 dollars per thousand cubic feet (Mcf). This is a 658% increase in price from the start of 1995, when natural gas averaged 1.4 dollars per Mcf.

Wellhead Price

The national price of gas sold at the wellhead has shown a very similar upward trend, also registering an all-time high of \$9.5/Mcf in September 2005. The U.S. Energy Information Administration is however forecasting national wellhead prices to decrease in the future, from

an average of \$5.49/Mcf dollars per in 2004 to \$5.03/Mcf in 2010, and then to \$4.52/Mcf in 2015.⁴ While consumer demand for natural gas is forecasted to rise, the agency expects increases in natural gas imports and domestic production to keep prices ultimately lower. It is unlikely that this decrease in price will significantly alter drilling in Sublette

⁴ Energy Information Administration / Annual Energy Outlook 2006

County, as during various periods in the early 2000's the national wellhead price has averaged similar prices to those forecasted and drilling in Sublette County appears to have continued unabated.

3.0 Sublette County

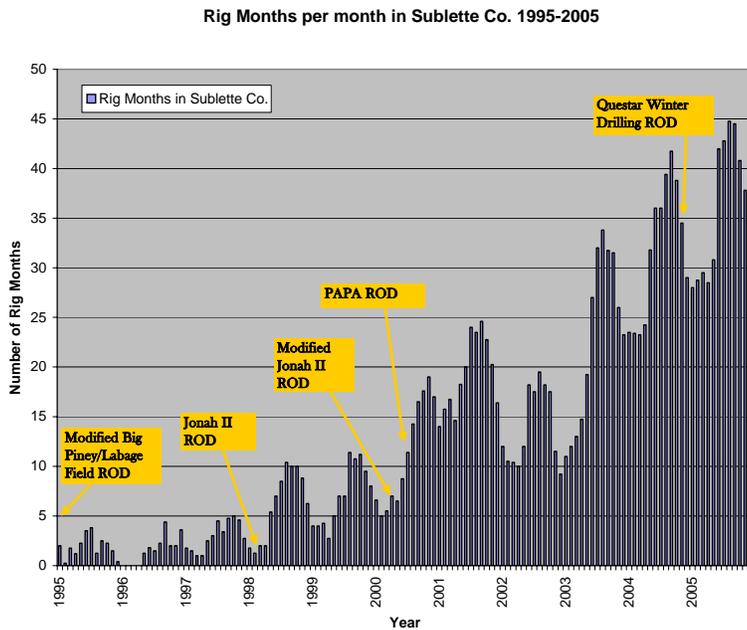


Figure 6

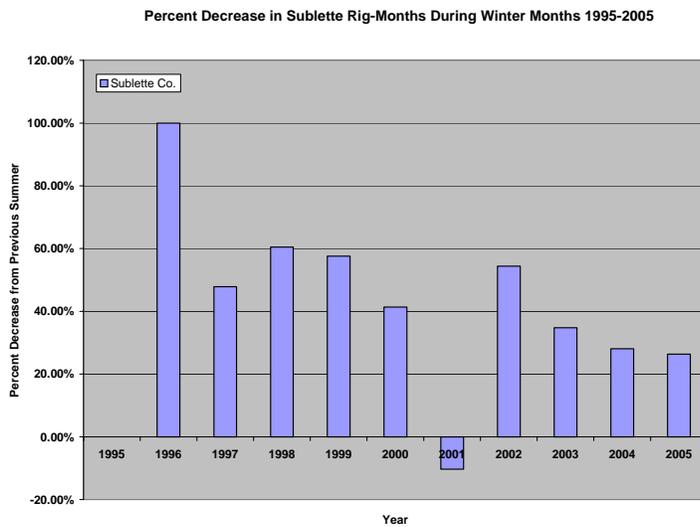


Figure 7

3.1 Drilling

The summer of 2005 saw a record number of gas drilling rigs operating in Sublette County, with an average of about 44 rigs at work during July, August and September. Rig activity has increased steadily since the mid and late 1990's, although by far the sharpest increases have taken place in the past two to three years. Figure 6 illustrates the substantial fluctuations in rig activity during the summer and winter months. However the winter of 2005 still saw more rigs working than any previous winter or even any summer prior to 2004 with an average of about 29 rigs in operation during January, February, and March.

3.1.1 Drilling Seasonal fluctuations

Seasonal Fluctuations in rig activity has lessened in recent years, as illustrated by figure 7, with the winter of 2005 showing about a 27% decrease in the number of rigs drilling from the summer before. By comparison, in 1999 the winter decrease was about 58% from the summer before, while during the winter of 2000 the decrease was about 41% from the year before. In the year 2001, the number of drilling rigs

actually increased during the winter months by about 10%. With winter drilling on the Pinedale Anticline gaining increased approval, it is likely the winter decreases will diminish in the future.

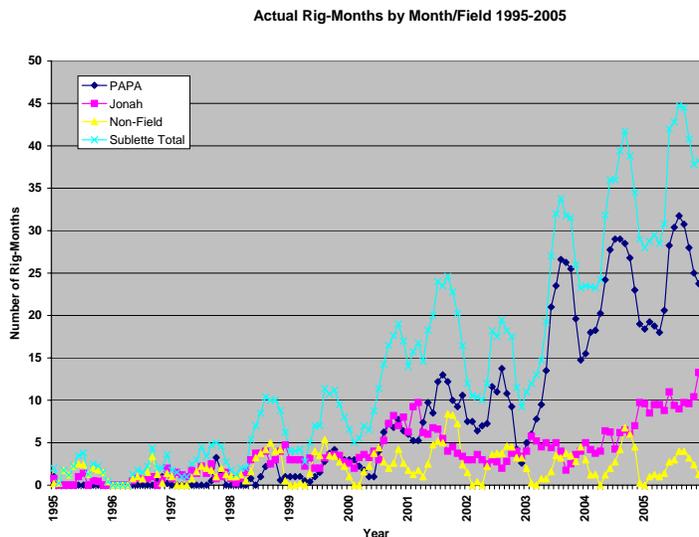


Figure 8

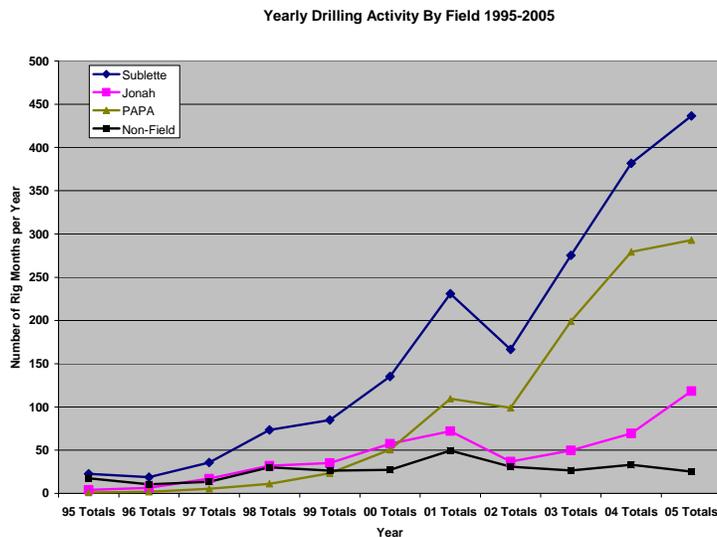


Figure 9

By percentages

Non-Field rig activity comprised the majority of rig activity from 1995 to mid 1999, at which point the Jonah Field comprised the majority until about 2002, whereby the PAPA has since comprised the vast majority of rig activity. The PAPA has consistently made up over 60% of the county’s rig activity since early 2003. As of October 2005, PAPA contained 28 rigs (68%) of the 41 rigs working in Sublette County, while Jonah had about 10 rigs (24%), and non-field areas contained about 3 (8%).

3.1.2 Sublette County Drilling Composition

By activity

From 1995 until late 2000, drilling activity has been largely balanced between the Pinedale Anticline Project Area(PAPA), the Jonah Field, and all other areas in Sublette County. Since late 2001, gas drilling activity on the PAPA has made up the majority of activity within Sublette County, and has largely driven the sharp increases in overall county drilling totals. While rigs working in the Jonah Field and other, “non-field” areas have shown seasonal fluctuations, change in Pinedale Anticline activity has driven the large fluctuations.

If the seasonal fluctuations are removed from the graph, as shown in Figure 9, the amount of drilling activity being driven by the PAPA becomes easily apparent. The “non-field” areas – which until about 1999 made up a substantial portion of drilling activity – have decreased since 2002. Activity on the Jonah Field has increased substantially – however the increase pales in comparison to that of the PAPA.

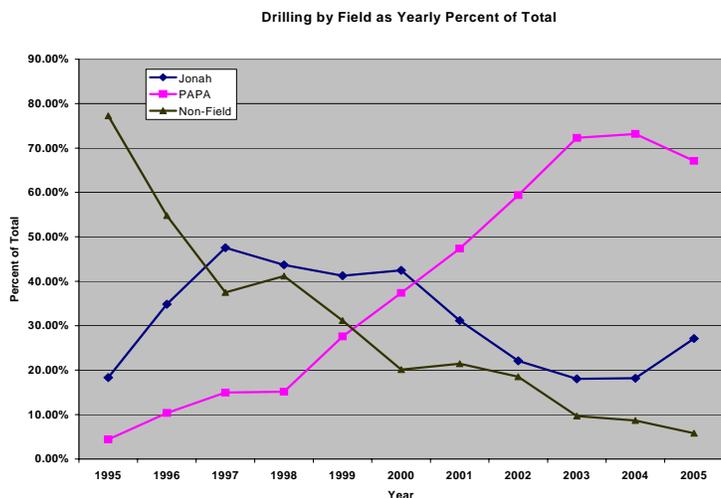


Figure 10

Well Completions in Sublette County 1995-2005

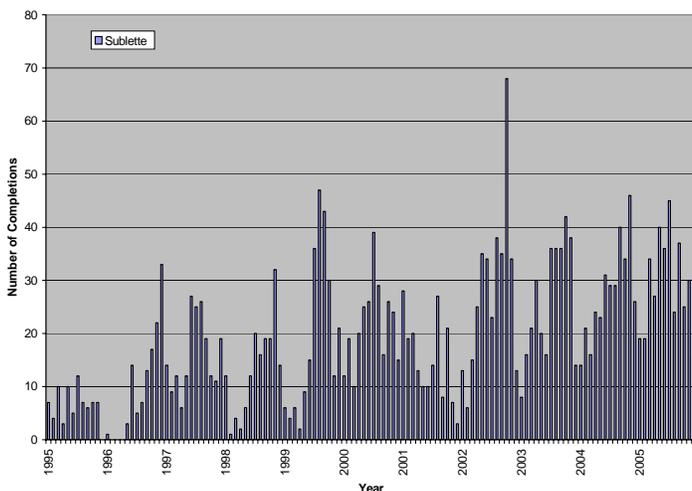


Figure 11

Completions in Sublette County Yearly Totals 1995 - Oct. 2005

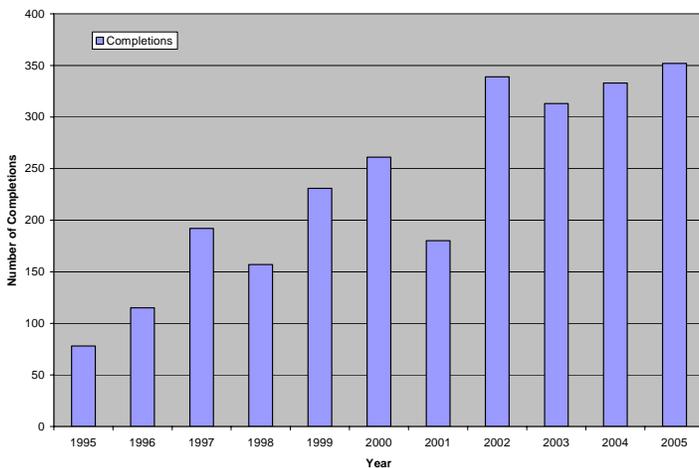


Figure 12

3.2 Completion Activity

According to the Wyoming Oil and Gas Conservation Commission, well completion activities have likewise increased at a rate similar to rig activity, although with larger degree of variation.

If the yearly totals are studied, the upward increase becomes apparent, with the exception of a relative drop in completions in 2001. The 2001 completions figures roughly correlate with drops in rig activity for the same year. 2005 registers a slight decrease as it does not include completions from November or December.

3.2.1 Seasonal Fluctuations

Well completions in Sublette County have shown greater fluctuations between summer and winter months than has drilling activity. In 7 of the 10 winters since 1995, completions decreased by over 50% during compared to the previous summer months. In the winter of 2005, completion activity decreased by 35% from the previous summer. The winter of 1997 saw an actual increase in winter completions over the previous summers, which generally corresponds with the beginning of activity on the Jonah Field.

Trends in the seasonal fluctuations appear to show that decreases in winter completions are on the decline. Recent winter completions permits will likely further reduce the discrepancy.

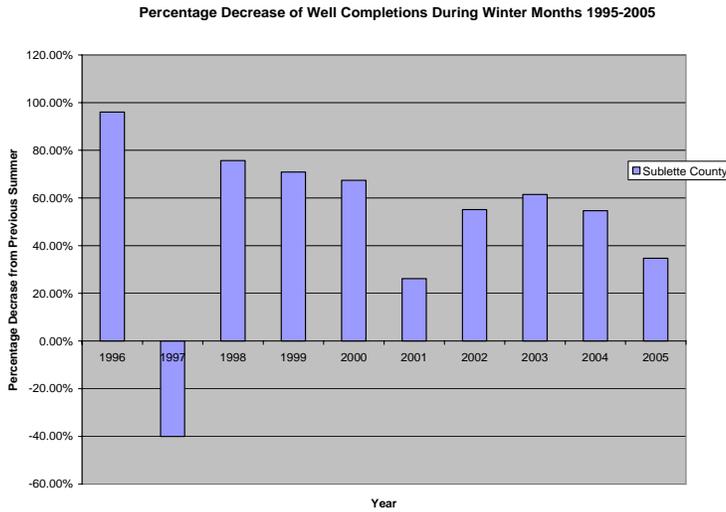


Figure 13

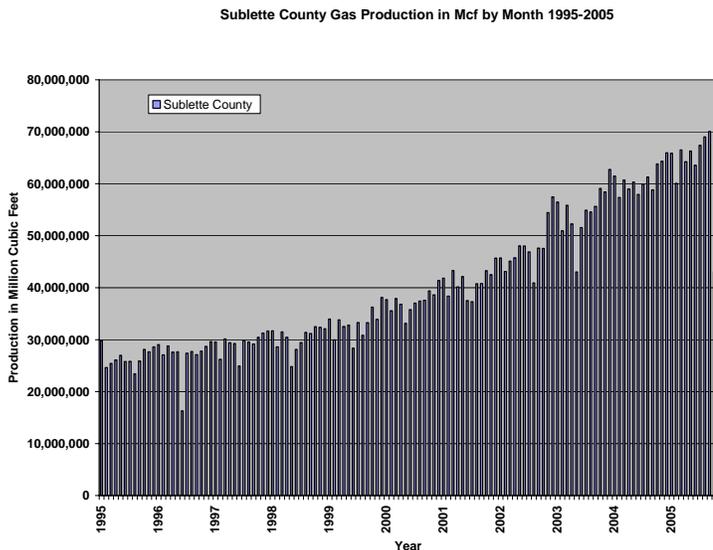


Figure 14

It is interesting to note that the least amount of completions took place during January, February, and March before 2001 – and subsequently shifted to December, January, and February after 2001. March of 2005 saw 35 well completions in Sublette County.

3.3 Production

Natural gas production has increased in an almost exponential fashion since the late 1990’s as new wells were put on line at an ever increasing rate. The County produced over 70 Bcf of natural gas during September of 2005, which is about a 135% increase over monthly production during the start of 1995. The year 2004 saw 730 Bcf produced in the County, an increase of about 130% over 1995 levels, mostly reflecting added production in Jonah and Anticline Fields. Based on an average household consumption of 6 Mcf per month, Sublette County is providing natural gas to over 11 million homes in September 2005.

3.3.2 Production Composition

3.3.2.1 Activity

Areas in Sublette County not considered part of the Jonah or Anticline field still produce the majority of natural gas in the county, although Jonah Field appears close to overtaking these “non-field” areas.

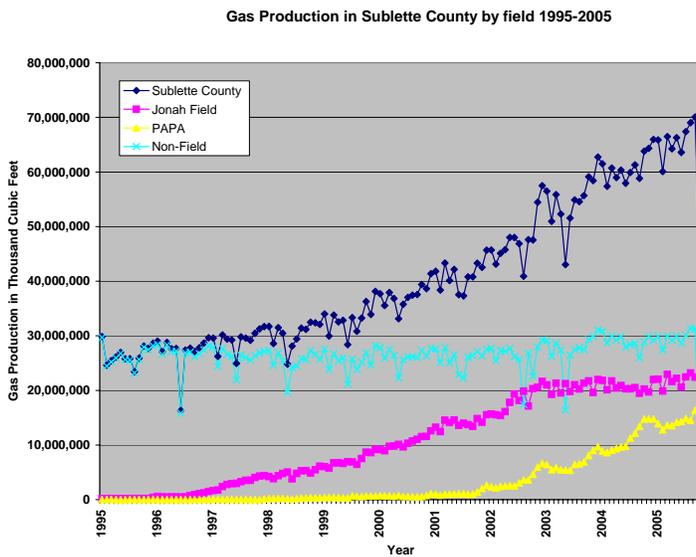


Figure 15

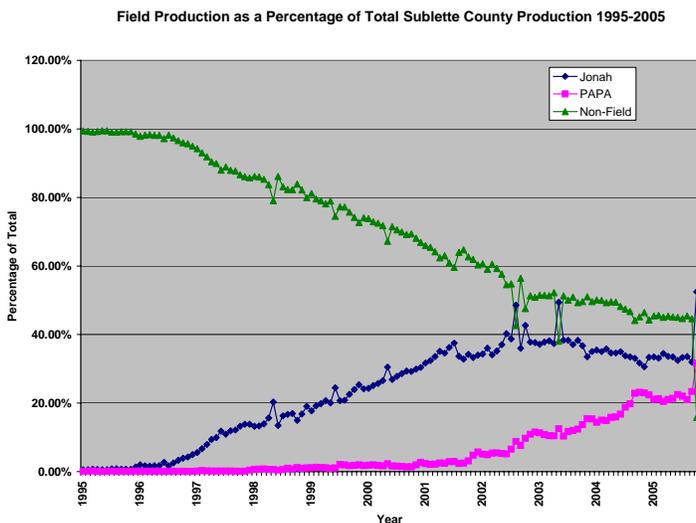


Figure 16

The principal non-field areas are the Forgery Creek, Tip-top, and Big Piney fields, which saw the majority off drilling activity during the late 1980’s and early 1990’s – although some drilling on these fields still occurs today. When compared to the production increases of the Jonah, PAPA, or Sublette County as a whole, the production in the “non-field” areas appears to remain stagnant.

3.3.2.2. Percentages

As is further illustrated in the adjacent chart, the percentage of overall total gas production produced by the “non-field” areas has been decreasing slightly from nearly 100% in the mid-nineties to less than 50% today. Production from the Jonah Field appears poised to overtake majority of production in Sublette County. In September 2005, the non-field areas represented about 45% of Sublette County gas production, the Jonah field represented about 32%, and PAPA represented about 23%.

4.0 The Pinedale Anticline Project Area

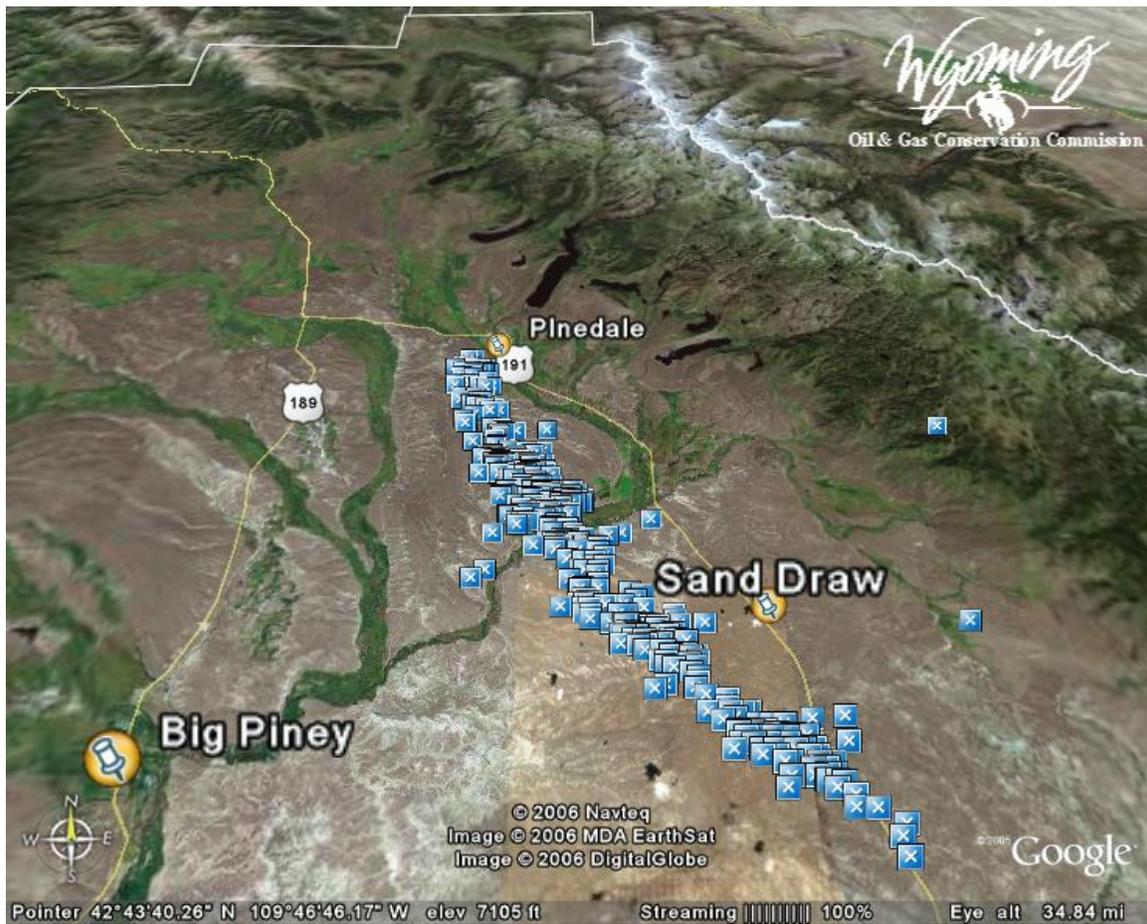


Figure 17: Wells in the Pinedale Anticline as of Jan. 2006. Wyoming Oil and Gas Commission via Google Earth

The Pinedale Anticline Project Area (PAPA) is located within Sublette County, WY on a narrow, diagonal swath of land that stretches from just outside the Pinedale town limits along U.S. Hwy 191 to about 70 miles north of Rock Springs. Exploration and Production in the PAPA began in earnest in late 2000 after new drilling and perforation techniques employed in the in the deep, tight sand reservoirs of the nearby Jonah Field proved successful. After the release of the BLM Record of Decision on drilling in the PAPA, the volume of drilling activity in the PAPA quickly surpassed the Jonah Field as the project area is larger than Jonah and thought to be ultimately more lucrative. The gas reserves are several thousand more feet deeper than Jonah and winter restrictions on drilling were put into place to protect wildlife habitat, however many of those restrictions are in the process of being lifted through various winter drilling proposals.

4.1 Drilling

PAPA Rig Months per Month 1995-2005

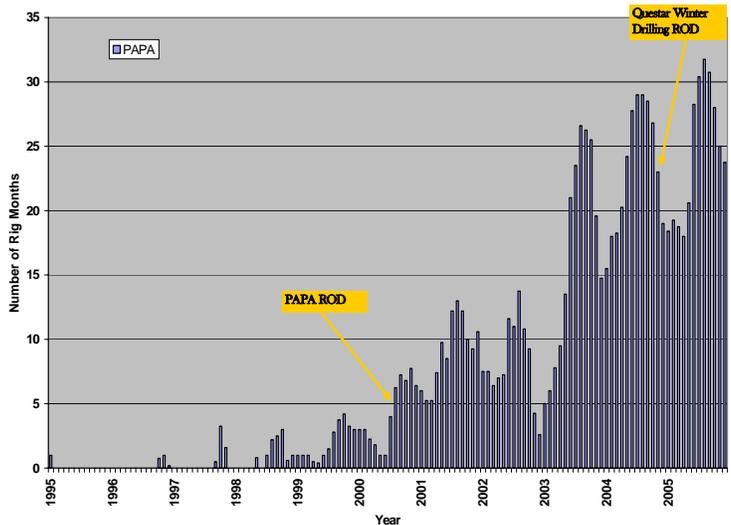


Figure 18

The number of rigs working in the Pinedale Anticline Project Area (PAPA) has increased almost exponentially since 2000, with the 2005 yearly rig-month total of 296 far surpassing the 2000 total of about 50 rig-months. In the summer months of 2005, PAPA averaged about 31 rigs working at a time – or about 70% of the rigs in Sublette County. The average drilling time in the PAPA is about 35 days, as the average depth of the wells is about 13,000 – 15,000 feet. In addition, a number of the wells are directionally drilled, also adding to the drilling time and ultimate workforce requirements.

Percent Decrease in PAPA Rig-Months During Winter Months 1995-2004

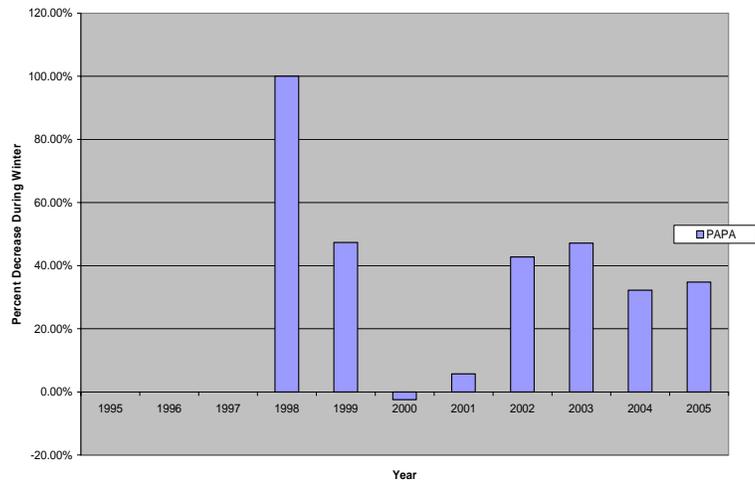


Figure 19

It is likely that drilling activity will increase in the PAPA in the near future as natural gas prices remain high. An anticipated Supplemental Environmental Impact Statement and Record of Decision in the coming year may further expedite drilling activity.

4.1.1 Seasonal Fluctuations

The Pinedale Anticline has shown on average bigger winter drops in rig activity as compared to the Jonah Field, although “non-field” areas have shown the biggest fluctuations. The extent of the seasonal fluctuations has changed from year to year, with the winters of 2000 and 2001 seeing little change from the preceding summer, while the winter of 2005 saw about a 35% decrease in rig-activity from the previous summer. With increased winter drilling expected in the coming years, it is anticipated the seasonal change shall decline.

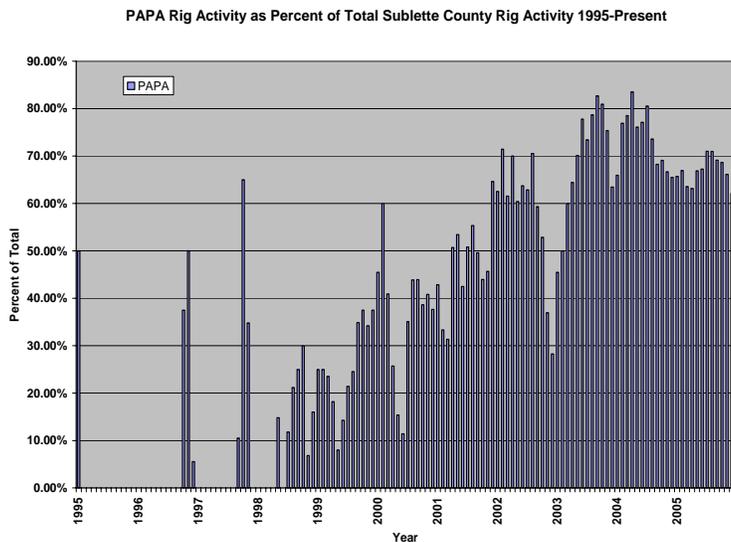


Figure 20

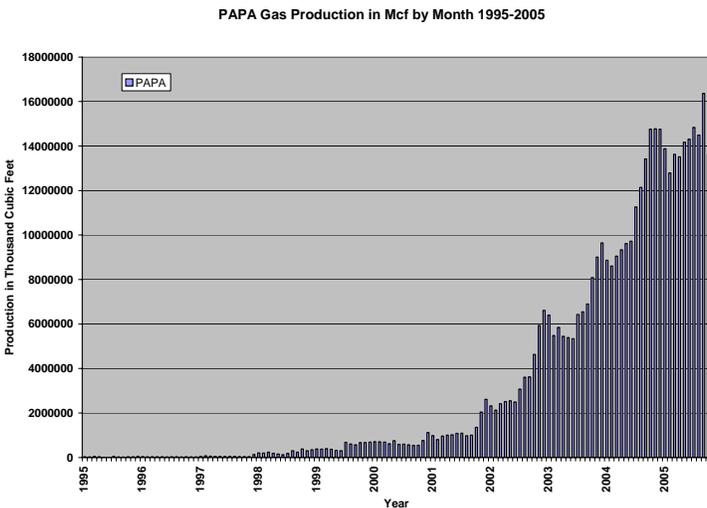


Figure 21

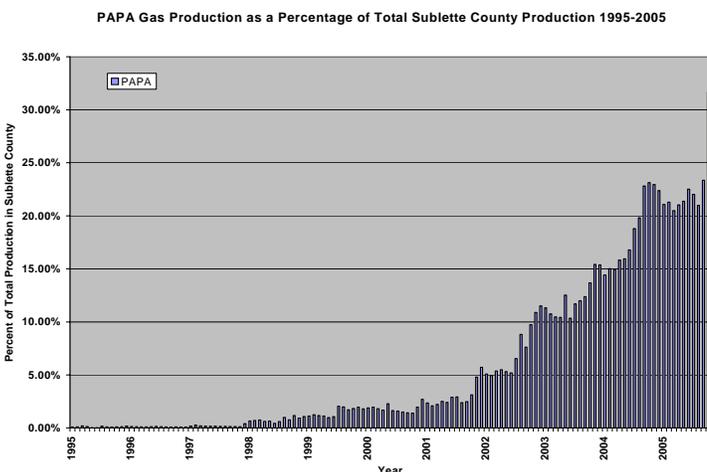


Figure 22

4.1.2 Drilling Percent of Totals

The Pinedale Anticline has accounted for the vast majority of Sublette County drilling activity in recent years, with the PAPA registering nearly 85% of the county’s rigs during the summers of 2003 and 2004. The summer of 2005 showed a slight decrease, with PAPA accounting for about 70% of the county’s rigs. The seasonal fluctuations in drilling activity on the PAPA also affect the percentage of the county’s rigs at work in the PAPA, although those changes appear to be lessening.

4.2 Production

4.2.1 Activity

Gas production in the PAPA has increased sharply and continuously since 2002, correlating closely to increases in rig activity. The 2004 PAPA yearly production total was over a 136 Bcf. In September 2005, the PAPA produced over 16 Bcf, and increase of about 22% over September 2004.

Based on a household average gas consumption of 6 Mcf per month, the PAPA is providing natural gas to nearly 2.6 million homes in September 2005.

4.2.2 Percent of Total

Likewise, the percent of overall gas production in Sublette county comprised by the PAPA has increased at a similar rate. In September 2005, the PAPA comprised about 23% of Sublette production, compared to almost 8% in September 2003.

5.0 The Jonah Field

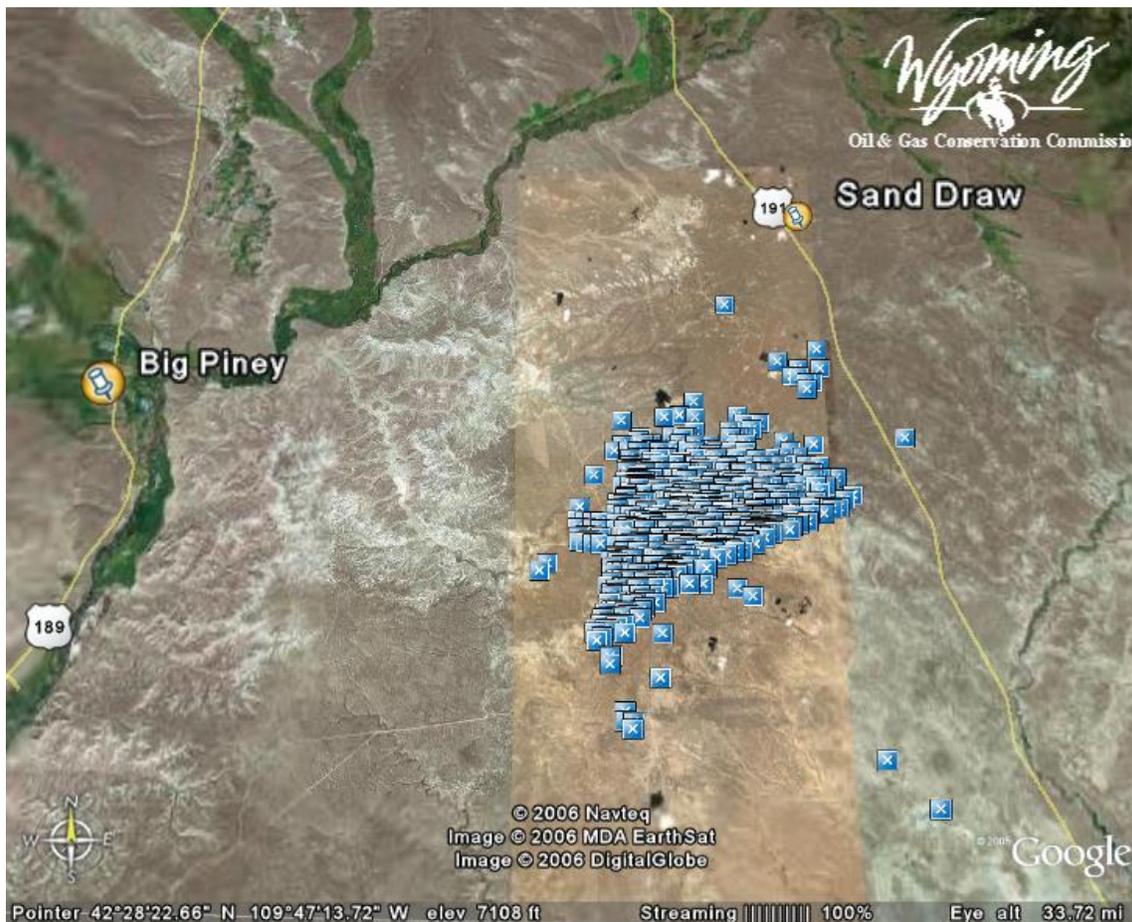


Figure 23: Wells in the Jonah Field as of January 2006. Wyoming Oil and Gas Commission via Google Earth

Jonah Field, located in southern Sublette County, WY about 35 miles south of Pinedale and about 70 miles north of Rock Springs, after being “rediscovered” in the early 1990’s was heralded as one of the most significant on-shore natural gas discoveries in the second half of the 20th century. Jonah represented a turning point in natural gas production as the gas contained in Jonah is trapped deep underground in extremely “tight” sand formations. New technologies and higher gas prices allowed companies to lucratively produce gas from an “unconventional” source. Due to the depth of the wells and complexity of the perforation techniques used to fracture the underground sand formations, drilling and production in Jonah requires substantially larger workforce requirements over a longer period of time than compared to conventional on-shore fields. The success of effective and lucrative gas extraction from the tight sand field led the way to future expansion of the nearby Pinedale Anticline field a few years later.

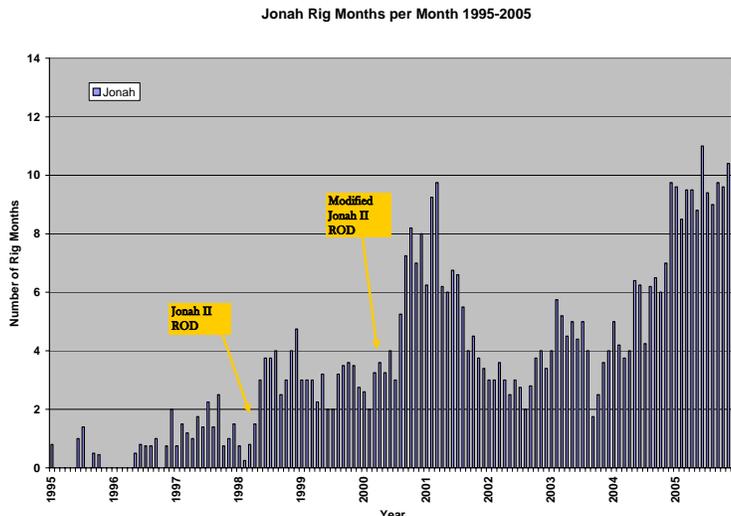


Figure 24

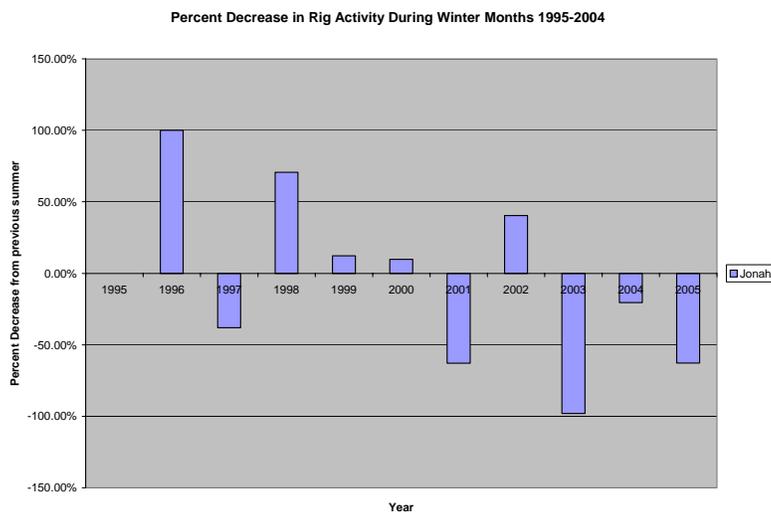


Figure 25

5.1 Drilling

Drilling in the Jonah Field began in earnest in mid 1999, after the initial BLM Jonah II Record of Decision was released. Recently, rig activity in the Jonah has more than doubled in the past year, after experiencing a decline during 2002-2004. In the summer of 2005, Jonah was averaging about 9 rigs in operation – slightly more than the peak during 2001 –and compared to about 6 rigs during the summer of 2004 and 4 rigs during the summer of 2003. The proposed action of the new Jonah Infill FEIS calls for up to an additional 3,100 wells over the next 13 years, or over 250 new wells a year. According to the Socioeconomic Technical Support Document of the EIS, it takes an average of 22 days to drill a well in Jonah with an average depth of 8,000 to 10,000 feet. 250 wells per year would require about 20 rigs working on the Jonah at any given time, over a 100% increase over much of 2005.

5.1.1 Seasonal Fluctuations

Drilling in the Jonah field has shown the least amount of negative seasonal fluctuations, with

drilling activity actually increasing by large percentages during the winters of 1997, 2001, 2003-2005. In the winter of 2005, drilling activity increased by about 63% from the summer before. In the winter of 2004, drilling on the Jonah increased by about 20% from the previous summer. Due to seasonal restrictions on drilling in the nearby Pinedale Anticline, it appears that many Anticline rigs migrate to Jonah during the winter months.

5.1.2 Percent of Total

Drilling activity in the Jonah Field often accounted for the vast majority of activity in Sublette County during the late 1990s and early 2000's. Jonah's share of the county's rig population has since decreased while drilling on the PAPA has since increased dramatically, even though the actual amount of rigs in the Jonah Field has increased in the last few

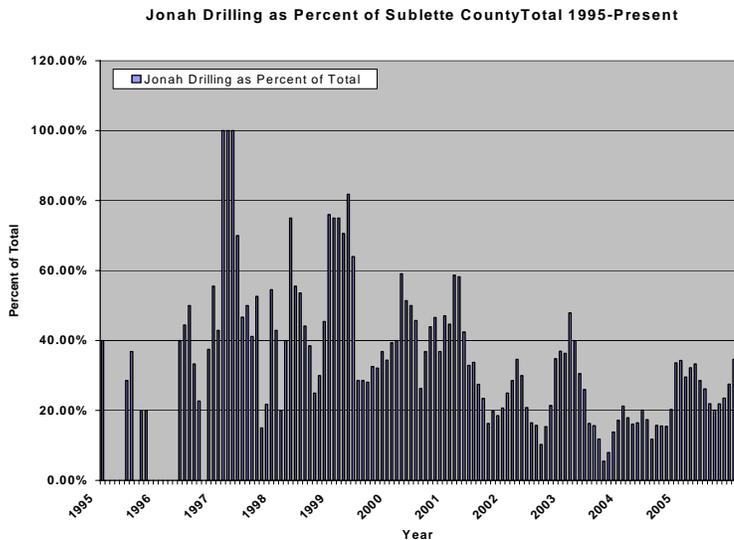


Figure 26

Jonah Gas Production in Mcf by Month 1995-2005

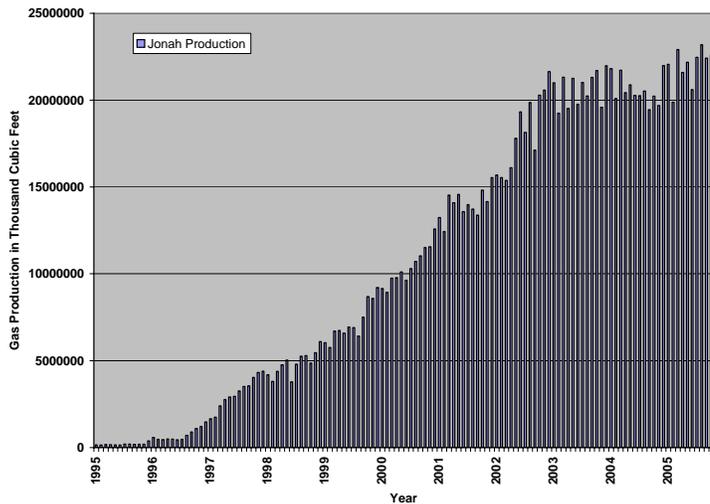


Figure 27

Jonah Production as a Percent of Total Sublette Production 1995-2005

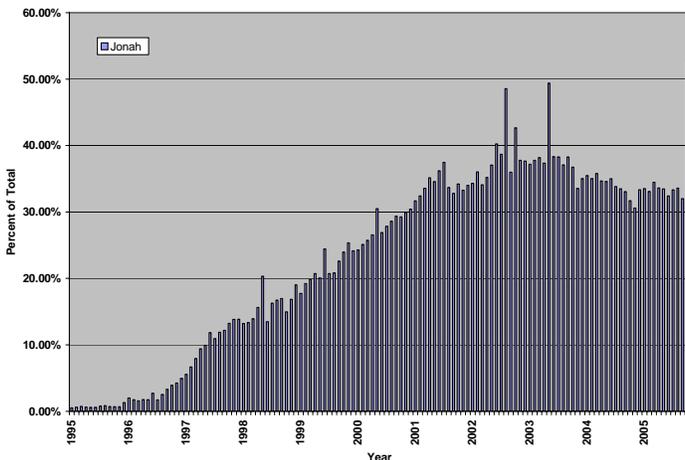


Figure 28

years. In the summer of 2005, drilling in the Jonah Field accounted for about 21% of the drilling in Sublette County, while the winter of 2005 saw about 32% of county’s rigs working in Jonah.

5.2 Production

Since the initial exploratory wells during 1993, Jonah wells have been known for their large production volumes. During the initial days of production some wells have been observed to produce more than 100 MMcf per day. Gas production in the Jonah Field has increased at an exponential rate since drilling activity began in earnest in 1997. Production increases have begun to taper-off somewhat since 2003. In September 2005, Jonah produced over 22.4 Bcf of natural gas. The total production for the year 2004 was over 247 Bcf, a slight decrease from 2003 totals. Based on an average household natural gas consumption of 6 Mcf per month, the Jonah Field supplied over 3.7 million homes with natural gas in September 2005.

5.2.1 Percent of Total

The percentage of Sublette County gas production comprised by the Jonah Field increased sharply from 1997-2002 and has since declined somewhat as the PAPA has begun to produce. In 2002, the Jonah comprised 38% of Sublette County gas production, while in late 2005 it comprised about 32%.

6.0 “Non-Field” Areas

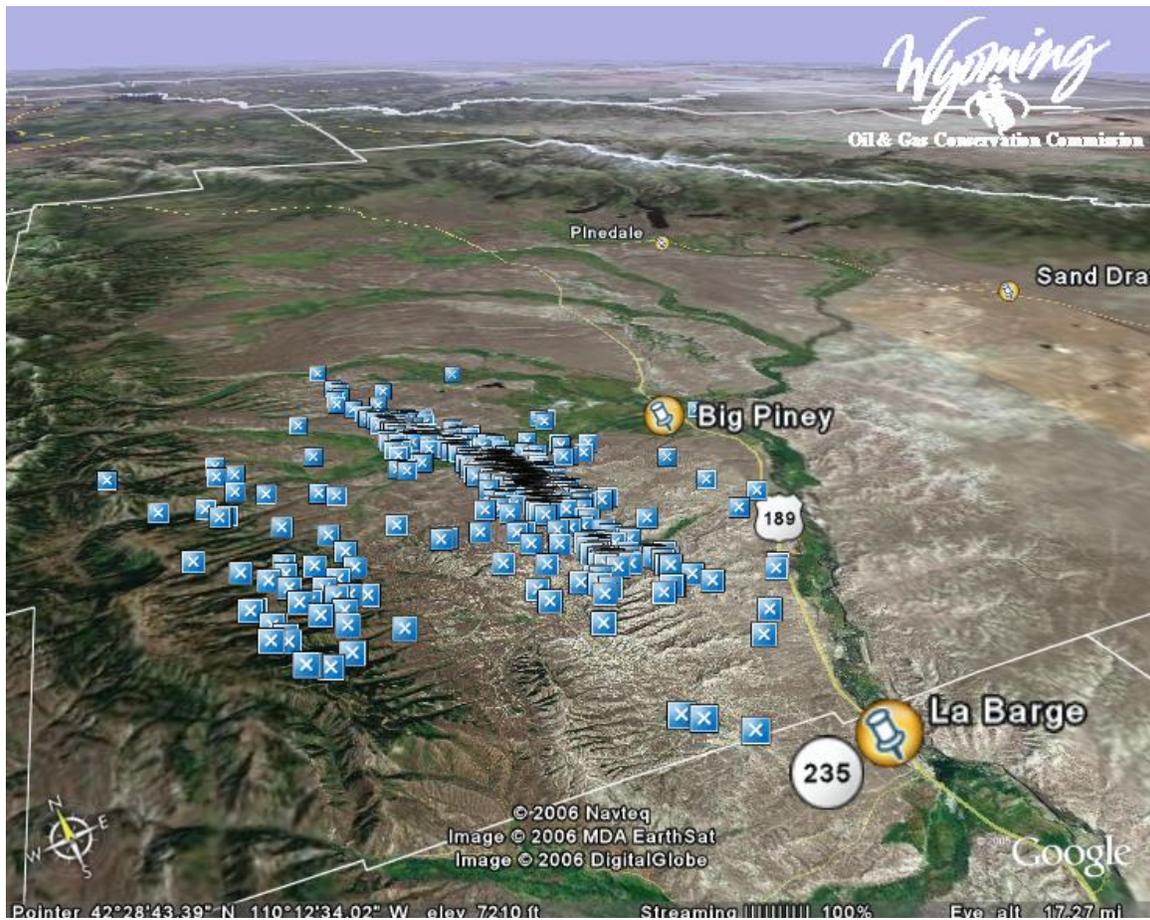


Figure 29: Some of the wells located in southwestern Sublette County, WY as of January, 2006. Wyoming Oil and Gas Conservation Commission via Google Earth.

Sublette County has a storied history of natural gas exploration and production that long predates activity in the Jonah or Pinedale Anticline fields. As displayed in Figure 28, a large number of wells have been developed in southwestern Sublette County in the Big Piney-La Barge, Riley Ridge, and Tip Top fields, among many others. The vast majority of these wells were explored and drilled before this study period of 1995-2004, largely taking place during the 1980's and early 1990's. However, a relatively small number of wells continue to be drilled in these areas, although the number has been steadily decreasing as the number of rigs in the nearby Jonah and Anticline fields increase. For the sake of simplicity, this activity taking place outside the Jonah and Anticline is identified as “non-field” in this document.

Rig Months in Non-Field areas of Sublette County by Month 1995-Present

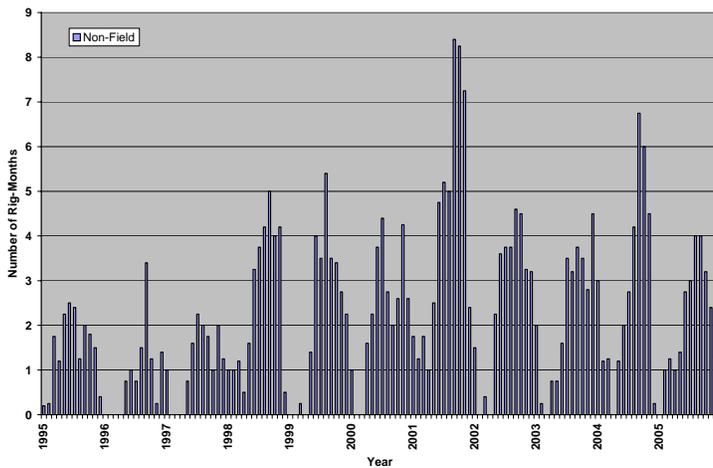


Figure 30

Percent Decrease in Non-Field Rig Activity During Winter Months 1995-Present

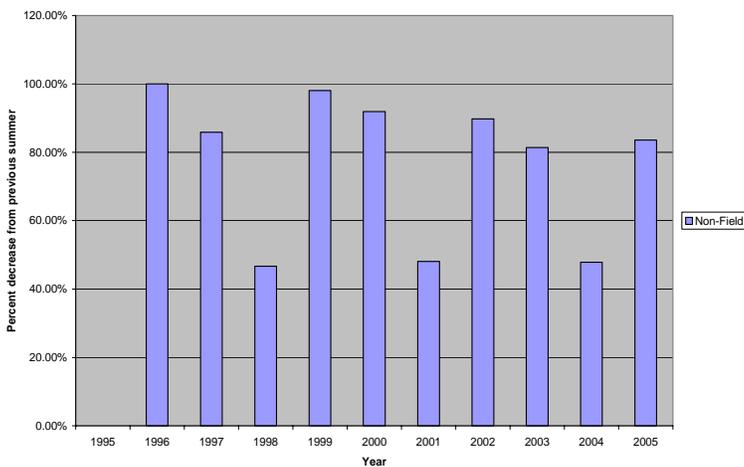


Figure 31

Non-Field Rig Activity as Percent of Sublette County Total 1995-Present

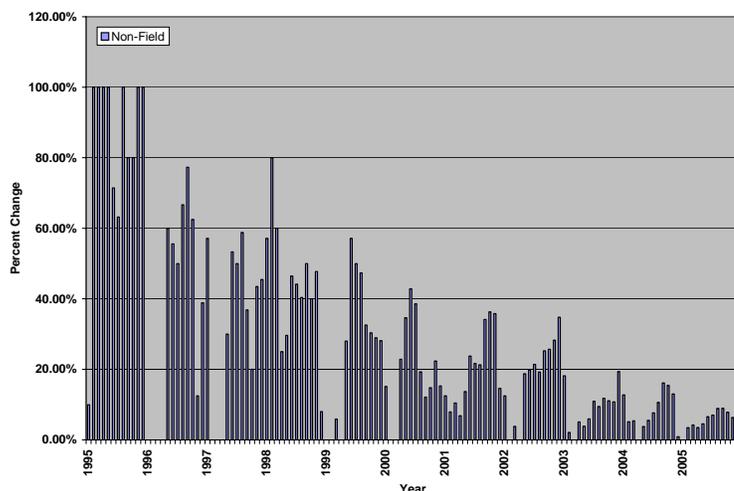


Figure 32

6.1 Drilling

The amount of gas drilling activity in Sublette County that did not occur in either the Jonah or the Anticline fields has remained relatively steady (although with big seasonal changes) since 1998, with big increases during the fall of 2001 and 2004. In the summer of 2005, there was an average of about 4 rigs working within Sublette County in neither the Jonah nor the PAPA fields. The drilling time varies considerably throughout the county, although wells are typically drilled to much shallower depth than the big Jonah and Anticline fields.

6.1.1 Seasonal Fluctuations

Drilling that has taken place in neither the Jonah Field nor the Anticline has undergone the biggest negative seasonal fluctuations. Drilling activity in these areas has decreased anywhere from 40% to 95% during winter months. In the winter of 2005, drilling in non-field areas decreased about 84% from the previous summer. As noted below, some of these large percentage drops are due to the relatively small number of wells being drilled.

6.1.2 Percent of Total

While the amount of drilling in non-field areas has remained relatively constant over the course of the last decade, drilling in the Jonah and Pinedale fields has quickly overtaken the vast majority of drilling in the county.

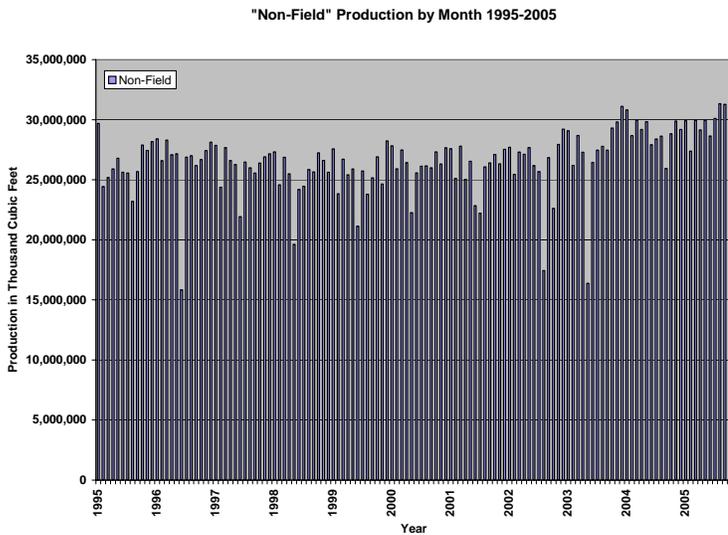


Figure 33

During 1995, drilling in “non-field” areas comprised nearly 100% of Sublette County drilling. Since 2003, drilling in “non-field” areas has comprised less than 10% of county drilling and continuing to decrease further.

6.2 Production

Production in places other than Jonah and the Pinedale Anticline has increased slightly over the past decade, with monthly production increasing about 5 Bcfs a month from 1995 to an average of over 30 Bcf in late 2005. In 2004, these areas produced a total of over 347 Bcf of natural gas. Based on an average household gas consumption of 6 Mcf per month, these “non-field” areas are providing 5 million homes with natural gas in September 2005.

6.2.1 Percent of Total

Although production in “non-field” areas has increased slightly in the past decade, production as percent of Sublette County totals has decreased sharply since the late 1990s with the subsequent increases in the Jonah and PAPA fields. Production in “non-field” areas still comprises the majority of production in Sublette County, although both Jonah and PAPA appear poised to overtake the “non-field” areas in coming months. In 2004, the “non-field” areas comprised about 44.6% of the county total, compared to 49.9% in 2003, and 70.2 % in 2000.

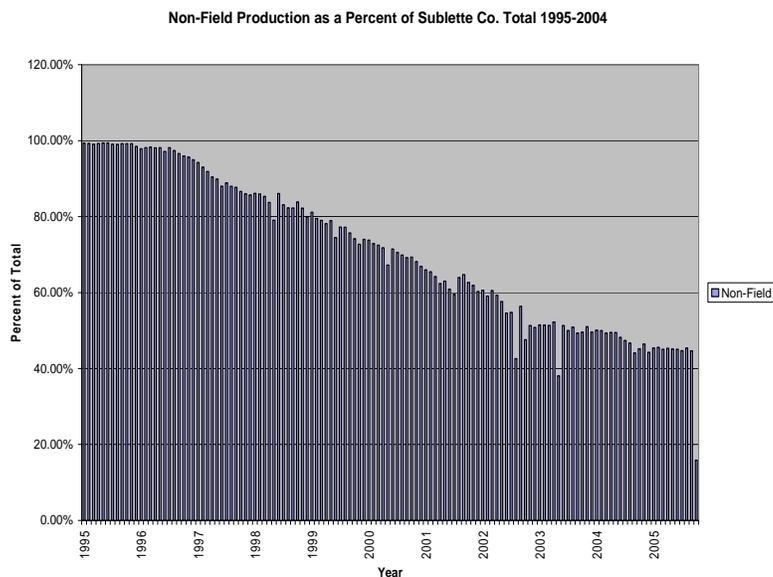


Figure 34

The Data Tables

Table 2: Sublette County Rig Months By Area -- 1995 to 2005 Data Courtesy of Drilling Records Inc.

Month	Jonah			Anticline			Non-Field			Sublette			Month	Jonah			Anticline			Non-Field			Sublette		
	% Change	Rig Months	% of Total	% Change	Rig Months	% of Total	% Change	Rig Months	% of Total	% Change	Rig Months	% of Total		% Change	Rig Months	% of Total	% Change	Rig Months	% of Total	% Change	Rig Months	% of Total	% Change	Rig Months	% of Total
1/95 Avg.	0.00%	0	0.00%	0.00%	1	50.00%	0.00%	0	0.00%	0.00%	0	0.00%	2	1/01 Avg.	681.25%	6.25	44.64%	500.00%	6	42.86%	775.00%	1.25	12.50%	600.00%	14
2/95 Avg.	-100.00%	0	0.00%	-100.00%	0	0.00%	25.00%	0.25	100.00%	-87.50%	0.25	2/01 Avg.	1056.25%	9.25	58.73%	425.00%	5.25	33.33%	525.00%	1.25	7.94%	687.50%	15.75		
3/95 Avg.	-100.00%	0	0.00%	-100.00%	0	0.00%	775.00%	1.75	100.00%	-12.50%	1.75	3/01 Avg.	1118.75%	9.75	58.21%	425.00%	5.25	31.34%	775.00%	1.75	10.45%	1037.50%	16.75		
4/95 Avg.	-100.00%	0	0.00%	-100.00%	0	0.00%	500.00%	1.2	100.00%	-12.50%	1.2	4/01 Avg.	675.00%	6.2	42.47%	640.00%	7.4	50.68%	400.00%	1	8.85%	630.00%	14.6		
5/95 Avg.	-100.00%	0	0.00%	-100.00%	0	0.00%	1025.00%	2.25	100.00%	-12.50%	2.25	5/01 Avg.	650.00%	6	32.86%	875.00%	9.75	53.42%	1150.00%	2.5	13.70%	812.50%	18.25		
6/95 Avg.	25.00%	1	28.57%	-100.00%	0	0.00%	1150.00%	2.5	71.43%	75.00%	3.5	6/01 Avg.	743.75%	6.75	33.75%	750.00%	8.5	42.50%	2275.00%	4.75	23.75%	900.00%	20		
7/95 Avg.	75.00%	1.4	36.84%	-100.00%	0	0.00%	1100.00%	2.4	63.16%	90.00%	3.8	7/01 Avg.	725.00%	6.6	27.50%	1120.00%	12.2	50.83%	2500.00%	5.2	21.67%	1100.00%	24		
8/95 Avg.	-100.00%	0	0.00%	-100.00%	0	0.00%	525.00%	1.25	100.00%	-37.50%	1.25	8/01 Avg.	587.50%	5.5	23.40%	1200.00%	13	55.32%	2400.00%	5	21.28%	1075.00%	23.5		
9/95 Avg.	-37.50%	0.5	20.00%	-100.00%	0	0.00%	900.00%	2	80.00%	25.00%	2.5	9/01 Avg.	400.00%	4	16.26%	1120.00%	12.2	49.59%	4100.00%	8.4	34.15%	1130.00%	24.6		
10/95 Avg.	-43.75%	0.45	20.00%	-100.00%	0	0.00%	800.00%	1.8	80.00%	12.50%	2.25	10/01 Avg.	462.50%	4.5	19.78%	900.00%	10	43.96%	4025.00%	8.25	36.26%	1037.50%	22.75		
11/95 Avg.	-100.00%	0	0.00%	-100.00%	0	0.00%	650.00%	1.5	100.00%	-25.00%	1.5	11/01 Avg.	368.75%	3.75	18.52%	825.00%	9.25	45.68%	3525.00%	7.25	35.80%	912.50%	20.25		
12/95 Avg.	-100.00%	0	0.00%	-100.00%	0	0.00%	100.00%	0.4	100.00%	-80.00%	0.4	12/01 Avg.	325.00%	3.4	20.73%	960.00%	10.6	64.63%	1100.00%	2.4	14.63%	720.00%	16.4		
1/96 Avg.	-100.00%	0	0.00%	-100.00%	0	0.00%	-100.00%	0	0.00%	-100.00%	0	1/02 Avg.	275.00%	3	25.00%	650.00%	7.5	62.50%	650.00%	1.5	12.50%	500.00%	12		
2/96 Avg.	-100.00%	0	0.00%	-100.00%	0	0.00%	-100.00%	0	0.00%	-100.00%	0	2/02 Avg.	275.00%	3	28.57%	650.00%	7.5	71.43%	-100.00%	0	0.00%	425.00%	10.5		
3/96 Avg.	-100.00%	0	0.00%	-100.00%	0	0.00%	-100.00%	0	0.00%	-100.00%	0	3/02 Avg.	350.00%	3.6	34.62%	540.00%	6.4	61.54%	100.00%	0.4	3.85%	420.00%	10.4		
4/96 Avg.	-100.00%	0	0.00%	-100.00%	0	0.00%	-100.00%	0	0.00%	-100.00%	0	4/02 Avg.	275.00%	3	30.00%	600.00%	7	70.00%	-100.00%	0	0.00%	400.00%	10		
5/96 Avg.	-37.50%	0.5	40.00%	-100.00%	0	0.00%	275.00%	0.75	60.00%	-37.50%	1.25	5/02 Avg.	212.50%	2.5	20.83%	625.00%	7.25	60.42%	1025.00%	2.25	18.75%	500.00%	12		
6/96 Avg.	0.00%	0.8	44.44%	-100.00%	0	0.00%	400.00%	1	55.56%	-10.00%	1.8	6/02 Avg.	275.00%	3	16.48%	1060.00%	11.8	63.74%	1700.00%	3.8	19.78%	810.00%	18.2		
7/96 Avg.	-6.25%	0.75	50.00%	-100.00%	0	0.00%	275.00%	0.75	50.00%	-25.00%	1.5	7/02 Avg.	243.75%	2.75	15.71%	1000.00%	11	62.86%	1775.00%	3.75	21.43%	775.00%	17.5		
8/96 Avg.	-6.25%	0.75	33.33%	-100.00%	0	0.00%	650.00%	1.5	66.67%	12.50%	2.25	8/02 Avg.	150.00%	2	10.26%	1275.00%	13.75	70.51%	1775.00%	3.75	19.23%	875.00%	19.5		
9/96 Avg.	25.00%	1	22.73%	-100.00%	0	0.00%	1600.00%	3.4	77.27%	120.00%	4.4	9/02 Avg.	250.00%	2.8	15.38%	980.00%	10.8	59.34%	2200.00%	4.6	25.27%	810.00%	18.2		
10/96 Avg.	-100.00%	0	0.00%	-25.00%	0.75	37.50%	525.00%	1.25	62.50%	0.00%	2	10/02 Avg.	368.75%	3.75	21.43%	825.00%	9.25	52.86%	2150.00%	4.5	25.71%	775.00%	17.5		
11/96 Avg.	-6.25%	0.75	37.50%	0.00%	1	50.00%	25.00%	0.25	12.50%	0.00%	2	11/02 Avg.	400.00%	4	34.78%	325.00%	4.25	36.96%	1525.00%	3.25	26.26%	475.00%	11.5		
12/96 Avg.	150.00%	2	55.56%	-80.00%	0.2	5.56%	800.00%	1.4	38.89%	80.00%	3.6	12/02 Avg.	325.00%	3.4	36.96%	160.00%	2.6	26.26%	1500.00%	3.2	34.78%	360.00%	9.2		
1/97 Avg.	-6.25%	0.75	42.86%	-100.00%	0	0.00%	400.00%	1	57.14%	-12.50%	1.75	1/03 Avg.	400.00%	4	36.36%	400.00%	5	45.45%	900.00%	2	18.18%	450.00%	11		
2/97 Avg.	87.50%	1.5	100.00%	-100.00%	0	0.00%	-100.00%	0	0.00%	-25.00%	1.5	2/03 Avg.	618.75%	5.75	47.92%	500.00%	6	50.00%	25.00%	0.25	2.08%	500.00%	12		
3/97 Avg.	50.00%	1.2	100.00%	-100.00%	0	0.00%	-100.00%	0	0.00%	-50.00%	1	3/03 Avg.	550.00%	5.2	40.00%	880.00%	7.8	80.00%	-100.00%	0	0.00%	550.00%	13		
4/97 Avg.	25.00%	1	100.00%	-100.00%	0	0.00%	-100.00%	0	0.00%	-50.00%	1	4/03 Avg.	462.50%	4.5	30.51%	850.00%	9.5	64.41%	275.00%	0.75	5.08%	637.50%	14.75		
5/97 Avg.	118.75%	1.75	70.00%	-100.00%	0	0.00%	275.00%	0.75	30.00%	25.00%	2.5	5/03 Avg.	525.00%	5	25.97%	1250.00%	13.5	70.13%	275.00%	0.75	3.90%	862.50%	19.25		
6/97 Avg.	75.00%	1.4	46.67%	-100.00%	0	0.00%	700.00%	1.6	53.33%	50.00%	3	6/03 Avg.	450.00%	4.4	16.30%	2000.00%	21	77.78%	700.00%	1.5	5.93%	1250.00%	27		
7/97 Avg.	181.25%	2.25	50.00%	-100.00%	0	0.00%	1025.00%	2.25	50.00%	125.00%	4.5	7/03 Avg.	525.00%	5	15.63%	2250.00%	23.5	73.44%	1650.00%	3.5	10.94%	1500.00%	32		
8/97 Avg.	75.00%	1.4	41.18%	-100.00%	0	0.00%	900.00%	2	58.82%	70.00%	3.4	8/03 Avg.	400.00%	4	11.83%	2560.00%	26.6	78.70%	1500.00%	3.2	9.47%	1590.00%	33.8		
9/97 Avg.	212.50%	2.5	52.63%	-50.00%	0.5	10.53%	775.00%	1.75	36.84%	137.50%	4.75	9/03 Avg.	118.75%	1.75	5.51%	2525.00%	26.25	82.68%	1775.00%	3.75	11.81%	1487.50%	31.75		
10/97 Avg.	-6.25%	0.75	15.00%	225.00%	3.25	65.00%	400.00%	1	20.00%	150.00%	5	10/03 Avg.	212.50%	2.5	7.94%	2450.00%	25.5	80.95%	1650.00%	3.5	11.11%	1475.00%	31.5		
11/97 Avg.	25.00%	1	21.74%	60.00%	1.6	34.78%	900.00%	2	43.48%	130.00%	4.6	11/03 Avg.	350.00%	3.6	13.85%	1860.00%	19.6	75.38%	1300.00%	2.8	10.77%	1200.00%	26		
12/97 Avg.	87.50%	1.5	54.55%	-100.00%	0	0.00%	525.00%	1.25	45.45%	37.50%	2.75	12/03 Avg.	400.00%	4	17.20%	1375.00%	14.75	63.44%	2150.00%	4.5	19.35%	1062.50%	23.25		
1/98 Avg.	-6.25%	0.75	42.86%	-100.00%	0	0.00%	400.00%	1	57.14%	-12.50%	1.75	1/04 Avg.	525.00%	5	21.28%	1450.00%	15.5	65.96%	1400.00%	3	12.77%	1075.00%	23.5		
2/98 Avg.	-68.75%	0.25	20.00%	-100.00%	0	0.00%	400.00%	1	80.00%	-37.50%	1.25	2/04 Avg.	425.00%	4.2	17.95%	1700.00%	18	76.92%	500.00%	1.2	5.13%	1070.00%	23.4		
3/98 Avg.	0.00%	0.8	40.00%	-100.00%	0	0.00%	500.00%	1.2	60.00%	0.00%	2	3/04 Avg.	368.75%	3.75	16.13%	1725.00%	18.25	78.49%	525.00%	1.25	5.38%	1062.50%	23.25		
4/98 Avg.	87.50%	1.5	75.00%	-100.00%	0	0.00%	150.00%	0.5	25.00%	0.00%	2	4/04 Avg.	400.00%	4	16.49%	1925.00%	20.25	83.51%	-100.00%	0	0.00%	1112.50%	24.25		
5/98 Avg.	275.00%	3	55.56%	-20.00%	0.8	14.81%	700.00%	1.6	29.63%	170.00%	5.4	5/04 Avg.	700.00%	6.4	20.13%	2320.00%	24.2	76.10%	500.00%	1.2	3.77%	1490.00%	31.8		
6/98 Avg.	368.75%	3.75	53.57%	-100.00%	0	0.00%	1525.00%	3.25	46.43%	250.00%	7	6/04 Avg.	681.25%	6.25	17.36%	2675.00%	27.75	77.08%	900.00%	2	5.56%	1700.00%	27		
7/98 Avg.	368.75%	3.75	44.12%	0.00%	1	11.76%	1775.00%	3.75	44.12%	325.00%	8.5	7/04 Avg.	431.25%	4.25	11.81%	2800.00%	29	80.56%	1275.00%	2.75	7.64%	1700.00%	36		
8/98 Avg.	400.00%	4	38.46%	120.00%	2.2	21.15%	2000.00%	4.2	40.38%	420.00%	10.4	8/04 Avg.	675.00%	6.2	15.74%	2800.00%	29	73.60%	2000.00%	4.2	10.66%	1870.00%	39.4		
9/98 Avg.	212.50%	2.5	25.00%	150.00%	2.5	25.00%	2400.00%	5	50.00%	400.00%	10	9/04 Avg.	712.50%	6.5	15.57%	2750.00%	28.5	68.26%	3275.00%	6.75	16.17%	1987.50%	41.75		
10/98 Avg.	275.00%	3	30.00%	200.00%	3	30.00%	1900.00%	4	40.00%	400.00%	10	10/04 Avg.	650.00%	6	15.46%	2580.00%	26.8	69.07%	2900.00%	6	15.46%	1840.00%	38.8		
11/98 Avg.	400.00%	4	45.45%	-40.00%	0.6	6.82%	2000.00%	4.2	47.73%	340.00%	8.8	11/04 Avg.	775.00%	7	20.29%	2200.00%	23	66.67%	2150.00%	4.5	13.04%	1625.00%	34.5		
12/98 Avg.	493.75%	4.75	76.00%	0.00%	1	16.00%	150.00%	0.5	8.00%	212.50%	6.25	12/04 Avg.	1118.75%	9.75	33.62%	1800.00%	19	65.52%	25.00%	0.25	0.86%	1350.00%	29		
1/99 Avg.	275.00%	3	75.00%	0.00%	1	25.00%	-100.00%	0	0.00%	100.00%	4	1/05 Avg.	1100.00%	9.6	34.29%	1740.00%	18.4	65.71%	-100.00%	0	0.00%	1300.00%	28		
2/99 Avg.	275.00%	3	75.00%	0.00%	1	25.00%	-100.00%	0	0.00%	100.00%	4	2/05 Avg.	962.50%	8.5	29.57%	1825.00%	19.25	66.96%	400.00%	1	3.48%	1337.50%	28.75		
3/99 Avg.	275.00%	3	70.59%	0.00%	1	23.53%	25.00%	0.25	5.88%	112.50%	4.25	3/05 Avg.	1087.50%	9.5	3										

Table 3: Sublette County Rig Months By Area Per Year -- 1995 to October 2005
 Data Courtesy of Drilling Records Inc.

Year	Jonah			Anticline			Nonfield			Sublette	
	Rig Months	% Change from 95	% of Total	Rig Months	% Change from 95	% of Total	Rig Months	% Change from 95	% of Total	Rig Months	% Change from 95
95 Totals	4.15	0.00%	18.32%	1	0.00%	4.42%	17.5	0.00%	77.26%	22.65	0.00%
96 Totals	6.55	57.83%	34.84%	1.95	95.00%	10.37%	10.3	-41.14%	54.79%	18.8	-17.00%
97 Totals	17	309.64%	47.55%	5.35	435.00%	14.97%	13.4	-23.43%	37.48%	35.75	57.84%
98 Totals	32.05	672.29%	43.69%	11.1	1010.00%	15.13%	30.2	72.57%	41.17%	73.35	223.84%
99 Totals	35	743.37%	41.25%	23.4	2240.00%	27.58%	26.45	51.14%	31.17%	84.85	274.61%
00 Totals	57.4	1283.13%	42.49%	50.5	4950.00%	37.38%	27.2	55.43%	20.13%	135.1	496.47%
01 Totals	71.95	1633.73%	31.17%	109.4	10840.00%	47.39%	49.5	182.86%	21.44%	230.85	919.21%
02 Totals	36.8	786.75%	22.10%	98.9	9790.00%	59.40%	30.8	76.00%	18.50%	166.5	635.10%
03 Totals	49.7	1097.59%	18.05%	199	19800.00%	72.28%	26.6	52.00%	9.66%	275.3	1115.45%
04 Totals	69.3	1569.88%	18.16%	279.25	27825.00%	73.17%	33.1	89.14%	8.67%	381.65	1584.99%
05 Totals	118.3	2750.60%	27.11%	292.9	29190.00%	67.11%	25.25	44.29%	5.79%	436.45	1826.93%

Table 4: Sublette County Yearly Gas Production by Area January 1995 to October 2005 . Source Wyoming Oil and Gas Conservation Commission

	Sublette		Jonah			Pinedale			Non Field		
	Production in Mcf	% Change	Production in Mcf	% Change	% of Total	Production in Mcf	% Change	% of Total	Production in Mcf	% Change	% of Total
1995	318209819	0.00%	2310259	0.00%	0.73%	351958	0.00%	0.11%	315547602	0.00%	99.16%
1996	324788668	2.07%	8761406	279.24%	2.70%	365576	3.87%	0.11%	315661686	0.04%	97.19%
1997	351329647	10.41%	37480941	1522.37%	10.67%	667807	89.74%	0.19%	313180899	-0.75%	89.14%
1998	364089958	14.42%	57720555	2398.45%	15.85%	2875812	717.09%	0.79%	303493591	-3.82%	83.36%
1999	397124554	24.80%	86070618	3625.58%	21.67%	6038224	1615.61%	1.52%	305015712	-3.34%	76.81%
2000	448281668	40.88%	125035294	5312.18%	27.89%	8195121	2228.44%	1.83%	315051253	-0.16%	70.28%
2001	493566445	55.11%	168039467	7173.62%	34.05%	14946294	4146.61%	3.03%	310580684	-1.57%	62.93%
2002	570515144	79.29%	217432479	9311.61%	38.11%	41909699	11807.59%	7.35%	311172966	-1.39%	54.54%
2003	655446557	105.98%	247937681	10632.03%	37.83%	80504011	22773.19%	12.28%	327004865	3.63%	49.89%
2004	730874286	129.68%	247340024	10606.16%	33.84%	136329573	38634.61%	18.65%	347204689	10.03%	47.51%
2005	636004354	99.87%	219884841	9417.76%	34.57%	141626487	40139.60%	22.27%	6602320920	1992.34%	1038.09%

Table 5: Sublette County Gas Production by Area – January 1995 to October 2005
Source: Wyoming Oil and Gas Conservation Commission

	Sublette			Jonah			Pinedale			Non Field				Sublette			Jonah			Pinedale			Non Field		
	Production in Mcf	% Change	% of Total	Production in Mcf	% Change	% of Total	Production in Mcf	% Change	% of Total	Production in Mcf	% Change	% of Total		Production in Mcf	% Change	% of Total	Production in Mcf	% Change	% of Total	Production in Mcf	% Change	% of Total	Production in Mcf	% Change	% of Total
Jan-95	29,871,100	0.00%	157,228	0.00%	0.53%	26215	0.00%	0.09%	29,685,667	0.00%	99.38%	Jan-01	41,803,238	39.93%	13240966	8321.51%	31.67%	962497	3362.18%	2.36%	27,579,775	-7.09%	65.98%		
Feb-95	24,600,900	-17.64%	146537	-6.80%	0.60%	25487	-9.67%	0.10%	24,428,876	-17.71%	99.30%	Feb-01	38,351,579	28.39%	12433716	7808.08%	32.42%	804360	2750.89%	2.10%	25,113,483	-15.40%	65.48%		
Mar-95	25,416,849	-14.91%	183535	16.73%	0.72%	49154	74.21%	0.19%	25,184,160	-15.16%	99.08%	Mar-01	43,298,704	44.95%	14538574	9146.81%	33.68%	964430	3318.15%	2.23%	27,795,700	-6.37%	64.20%		
Apr-95	26,106,161	-12.60%	167170	6.32%	0.64%	33792	19.77%	0.13%	25,907,199	-12.73%	99.23%	Apr-01	40,120,993	34.31%	14093019	8863.43%	35.13%	1007483	3470.74%	2.51%	25,020,491	-15.72%	62.36%		
May-95	26,952,479	-9.77%	166524	-0.45%	0.58%	5548	-80.34%	0.02%	26,790,407	-9.75%	99.40%	May-01	42,132,206	41.05%	14569188	9166.28%	34.58%	1022655	3524.51%	2.43%	26,540,363	-10.60%	62.99%		
Jun-95	25,773,081	-13.72%	151116	-3.89%	0.59%	3487	-87.64%	0.01%	25,618,478	-13.70%	99.40%	Jun-01	37,509,229	25.57%	13579645	8536.91%	36.20%	1086014	3749.07%	2.90%	22,843,570	-23.05%	60.90%		
Jul-95	25,600,636	-13.63%	200188	27.32%	0.78%	43678	54.80%	0.17%	25,556,770	-13.91%	99.05%	Jul-01	37,297,660	24.86%	13978811	8790.79%	37.48%	1090786	3765.98%	2.92%	22,227,963	-25.12%	59.60%		
Aug-95	23,423,266	-21.59%	199679	27.00%	0.85%	26328	-6.69%	0.11%	23,197,249	-21.86%	99.04%	Aug-01	40,780,808	36.52%	13728607	9671.66%	33.66%	973908	3351.74%	2.39%	26,078,293	-12.15%	63.95%		
Sep-95	25,879,827	-13.36%	183899	16.94%	0.71%	21021	-25.50%	0.08%	25,674,947	-13.51%	99.21%	Sep-01	40,789,429	36.55%	13380212	8410.07%	32.80%	1008507	3474.36%	2.47%	26,400,710	-11.07%	64.72%		
Oct-95	26,119,559	-5.86%	195389	24.27%	0.69%	30793	9.14%	0.11%	27,893,377	-6.04%	99.20%	Oct-01	43,273,682	44.87%	14809525	9319.14%	34.22%	1351634	4690.48%	3.12%	27,112,523	-8.67%	62.65%		
Nov-95	27,656,754	-7.41%	190116	20.92%	0.69%	32688	15.85%	0.12%	27,433,960	-7.59%	99.19%	Nov-01	42,520,366	42.35%	14151829	9800.83%	33.28%	2041401	7135.16%	4.80%	26,327,136	-11.31%	61.92%		
Dec-95	28,607,217	-4.23%	378918	141.00%	1.32%	51767	83.47%	0.18%	28,176,532	-5.08%	98.49%	Dec-01	45,688,651	52.95%	15535375	10760.79%	34.00%	2612599	9159.61%	5.72%	27,540,677	-7.23%	60.28%		
Jan-96	29,015,741	-2.86%	581504	269.85%	2.00%	39723	40.79%	0.14%	28,394,514	-4.35%	97.86%	Jan-02	45,711,158	53.03%	15681700	9873.86%	34.31%	2325218	8141.07%	5.09%	27,704,240	-6.67%	60.61%		
Feb-96	27,082,417	-9.34%	467976	197.64%	1.73%	33445	18.54%	0.12%	26,580,996	-10.46%	98.15%	Feb-02	43,124,383	44.37%	15536668	9780.98%	36.03%	2131907	7455.93%	4.94%	25,456,808	-14.25%	59.03%		
Mar-96	28,788,083	-3.63%	451349	187.07%	1.57%	31973	13.32%	0.11%	28,304,761	-4.65%	98.32%	Mar-02	45,093,891	50.96%	15370386	9617.64%	34.09%	2420664	8479.29%	5.37%	27,302,858	-8.03%	60.55%		
Apr-96	27,605,247	-7.59%	4708831	209.47%	1.76%	30245	7.19%	0.11%	27,088,431	-8.75%	98.13%	Apr-02	45,749,056	53.15%	16112162	10147.64%	35.22%	2511364	8000.78%	5.49%	27,125,562	-8.62%	59.29%		
May-96	27,677,537	-7.34%	482171	206.67%	1.74%	33002	16.97%	0.12%	27,162,364	-8.50%	98.14%	May-02	48,026,638	60.78%	17978814	11217.20%	37.05%	2550989	8941.25%	5.31%	27,681,835	-6.75%	57.64%		
Jun-96	16,299,925	-45.43%	442343	181.34%	2.71%	23790	-15.68%	0.15%	15,833,792	-46.66%	97.14%	Jun-02	47,995,362	60.78%	19321906	112189.10%	40.26%	2491844	8731.63%	5.19%	26,181,612	-11.80%	54.55%		
Jul-96	27,382,659	-8.33%	468821	198.19%	1.71%	32715	15.95%	0.12%	26,881,123	-9.45%	98.17%	Jul-02	46,876,546	56.93%	18137214	11435.61%	38.69%	3066323	10767.71%	6.54%	25,673,011	-13.52%	54.77%		
Aug-96	27,734,016	-7.15%	701065	345.89%	2.53%	29626	5.00%	0.11%	27,003,225	-9.04%	97.37%	Aug-02	40,901,223	36.93%	19858633	12530.47%	48.55%	3609486	12692.79%	8.82%	17,433,104	-41.27%	42.62%		
Sep-96	27,104,885	-9.26%	698742	471.62%	3.32%	26717	-5.31%	0.10%	26,179,426	-11.81%	96.59%	Sep-02	47,596,375	59.34%	17125206	10791.96%	35.96%	3628849	12761.42%	7.62%	26,842,320	-9.58%	56.40%		
Oct-96	27,805,834	-6.91%	1094212	595.94%	3.94%	29650	5.09%	0.12%	26,881,972	-10.12%	95.96%	Oct-02	47,532,516	59.13%	20263284	12800.55%	42.67%	4628754	16305.30%	9.74%	22,620,478	-23.80%	47.59%		
Nov-96	28,669,021	-8.02%	1219232	675.45%	4.25%	27504	2.52%	0.10%	27,422,285	7.62%	95.65%	Nov-02	54,435,810	82.23%	20572528	12984.52%	37.79%	5931438	20922.29%	10.90%	27,931,224	5.91%	51.31%		
Dec-96	29,623,303	-0.83%	1467420	833.31%	4.95%	27186	-3.65%	0.08%	28,126,997	-5.24%	94.95%	Dec-02	57,472,804	92.40%	21639978	13663.44%	37.65%	6612890	23337.50%	11.51%	29,219,936	-1.57%	50.84%		
Jan-97	29,561,751	-1.04%	1648617	949.19%	5.58%	52332	85.48%	0.19%	27,859,802	-6.15%	94.24%	Jan-03	55,469,240	89.04%	20994611	13252.97%	37.18%	6395617	22667.44%	11.33%	29,079,012	-2.04%	51.50%		
Feb-97	26,209,134	-12.26%	1749978	1013.02%	6.68%	74061	162.49%	0.28%	24,385,095	-17.86%	93.04%	Feb-03	50,928,762	70.50%	19249612	12143.12%	37.80%	5479179	19319.36%	10.76%	26,199,971	-11.74%	51.44%		
Mar-97	30,136,842	0.89%	2393708	1422.44%	7.94%	59714	111.64%	0.20%	27,883,420	-6.74%	91.86%	Mar-03	55,880,362	86.97%	21320289	13460.11%	38.17%	5847399	20624.43%	10.47%	26,882,675	-3.38%	51.36%		
Apr-97	29,406,444	-1.56%	2762664	1657.11%	9.39%	52146	84.82%	0.18%	26,591,634	-10.42%	90.43%	Apr-03	52,270,860	74.99%	19523235	12317.15%	37.35%	5450629	19218.90%	10.43%	27,296,786	-8.05%	52.22%		
May-97	29,221,646	-2.17%	2905919	1748.22%	9.94%	49514	75.49%	0.17%	26,266,213	-11.52%	89.89%	May-03	43,028,622	44.05%	21252087	13416.73%	49.39%	5393781	19016.71%	12.54%	16,362,654	-44.81%	38.07%		
Jun-97	24,928,928	-16.54%	2949621	1776.14%	11.83%	43920	55.66%	0.18%	21,935,187	-26.11%	87.99%	Jun-03	51,540,136	72.54%	19759530	12467.44%	38.34%	5356811	18814.80%	10.35%	26,443,795	-10.92%	51.31%		
Jul-97	29,775,732	-0.32%	3257264	1971.68%	10.94%	44266	56.89%	0.15%	26,474,202	-10.82%	88.91%	Jul-03	54,901,980	83.80%	21019906	13269.06%	38.29%	6425783	22674.35%	11.70%	27,456,291	-7.51%	50.01%		
Aug-97	29,549,042	-1.08%	3517716	2137.33%	11.90%	44134	56.42%	0.15%	25,987,192	-12.46%	87.95%	Aug-03	54,561,636	82.66%	20233316	12768.77%	37.08%	6546422	23095.54%	11.99%	27,783,698	-6.41%	50.92%		
Sep-97	29,144,908	-2.43%	3546042	2155.35%	12.17%	39689	40.67%	0.14%	25,559,172	-13.90%	87.70%	Sep-03	55,661,436	86.34%	21306430	13462.57%	38.28%	6895115	24337.76%	12.39%	27,457,891	-7.50%	49.33%		
Oct-97	30,460,212	1.97%	4032893	2464.87%	13.24%	39667	40.69%	0.13%	26,387,852	-11.11%	86.63%	Oct-03	59,093,613	97.83%	21706765	13705.92%	36.73%	8082540	28646.25%	13.68%	29,304,208	-1.28%	49.59%		
Nov-97	31,257,913	4.64%	4323566	2649.86%	13.83%	36366	28.89%	0.12%	26,897,991	-9.39%	86.05%	Nov-03	58,412,693	95.55%	19593551	12361.87%	33.54%	9004175	31812.72%	15.41%	29,814,967	0.44%	51.04%		
Dec-97	31,677,995	6.05%	4391958	2693.37%	13.86%	31998	367.83%	0.42%	27,153,139	-8.53%	85.72%	Dec-03	62,727,427	109.99%	21976350	13877.36%	35.03%	9648160	34095.14%	15.38%	31,102,917	4.77%	49.58%		
Jan-98	31,718,112	6.18%	4194713	2567.92%	13.22%	208961	633.51%	0.65%	27,316,438	-7.98%	86.12%	Jan-04	61,496,833	105.87%	21814589	13774.49%	35.47%	8866928	31322.75%	14.42%	30,816,316	3.81%	50.11%		
Feb-98	28,587,741	-4.30%	3811458	2324.16%	13.33%	200928	612.13%	0.70%	24,575,356	-17.21%	85.96%	Feb-04	57,373,467	92.07%	20097933	12682.67%	35.03%	8612386	30424.14%	15.01%	28,663,148	-3.44%	49.96%		
Mar-98	31,479,728	5.39%	4383864	2688.22%	13.93%	236949	739.80%	0.75%	26,858,915	-9.52%	85.32%	Mar-04	60,571,287	103.26%	21724685	13717.31%	35.78%	9047722	31967.06%	14.90%	29,942,880	0.87%	49.32%		
Apr-98	30,440,060	1.90%	4760451	2927.74%	15.64%	189417	571.33%	0.62%	25,490,182	-14.13%	83.74%	Apr-04	58,965,038	97.40%	20436203	12897.81%	34.66%	9337098	32992.67%	15.83%	29,191,737	-1.66%	49.51%		
May-98	24,813,276	-16.93%	5038888	3104.81%	20.31%	159705	466.03%	0.64%	19,614,713	-33.93%	79.05%	May-04	60,328,999	101.96%	20874852	13176.80%	34.60%	9618286	33989.26%	15.94%	29,835,861	0.51%	49.46%		
Jun-98	28,114,129	-5.88%	3786779	2308.46%	13.47%	124594	341.59%	0.44%	24,202,756	-18.47%	86.09%	Jun-04	57,917,243	93.89%	20275295	12795.47%	35.01%	9728805	34380.97%	16.80%	27,913,143	-5.97%	48.19%		
Jul-98	29,432,380	-1.47%	4794662	2949.50%	16.29%	124594	532.70%	0.61%	178615	-17.61%	83.10%	Jul-04	59,907,786	100.55%	20254991	12783.56%	33.81%	11261489	39813.34%	18.80%	28,391,306	-4.36%	47.39%		
Aug-98	31,398,451	5.11%	5250038	3239.12%	16.72%	308133	992.09%	0.98%	25,840,280	-12.95%	82.30%	Aug-04	61,288,												

Table 6: Monthly Natural Gas Prices 1995-2005. Opal Spot Price: NW Pipeline, for dates between 1/1995 and 9/2002, and from Enerfax.com for 10/2002 and thereafter. National Wellhead Price: U.S. Department of Energy

Opal Spot Price		Natl. Wellhead Price		Opal Spot Price		Natl. Wellhead Price	
Date	\$/MCF % Change	\$/MCF % Change	Date	\$/MCF % Change	\$/MCF % Change		
Jan-95	1.4 0.00%	1.62 0.00%	Jan-01	8.75 525.00%	6.82 320.99%		
Feb-95	1.1 -21.43%	1.48 -8.64%	Feb-01	6.6 371.43%	5.08 213.58%		
Mar-95	1.05 -25.00%	1.47 -9.26%	Mar-01	4.9 250.00%	4.37 169.75%		
Apr-95	1.05 -25.00%	1.52 -6.17%	Apr-01	4.55 225.00%	4.52 179.01%		
May-95	1.1 -21.43%	1.55 -4.32%	May-01	4.1 192.86%	4.36 169.14%		
Jun-95	1.15 -17.86%	1.58 -2.47%	Jun-01	2.6 85.71%	3.79 133.95%		
Jul-95	1 -28.57%	1.43 -11.73%	Jul-01	2.05 46.43%	3.35 106.79%		
Aug-95	0.9 -35.71%	1.43 -11.73%	Aug-01	2.25 60.71%	3.33 105.56%		
Sep-95	1.05 -25.00%	1.52 -6.17%	Sep-01	2.1 50.00%	2.93 80.86%		
Oct-95	1.05 -25.00%	1.54 -4.94%	Oct-01	1.25 -10.71%	2.78 71.60%		
Nov-95	1.15 -17.86%	1.61 -0.62%	Nov-01	2.6 85.71%	3.41 110.49%		
Dec-95	1.3 -7.14%	1.84 13.58%	Dec-01	2.15 53.57%	3.42 111.11%		
Jan-96	1.25 -10.71%	2.05 26.54%	Jan-02	2.35 67.86%	2.5 54.32%		
Feb-96	1.2 -14.29%	1.89 16.67%	Feb-02	1.75 25.00%	2.19 35.19%		
Mar-96	1.2 -14.29%	1.95 20.37%	Mar-02	2 42.86%	2.4 48.15%		
Apr-96	1.05 -25.00%	2.08 28.40%	Apr-02	2.85 103.57%	2.94 81.48%		
May-96	0.95 -32.14%	2.01 24.07%	May-02	2.3 64.29%	2.94 81.48%		
Jun-96	1.1 -21.43%	2.08 28.40%	Jun-02	1.6 14.29%	2.96 82.72%		
Jul-96	1.2 -14.29%	2.25 38.89%	Jul-02	1.25 -10.71%	2.92 80.25%		
Aug-96	1.25 -10.71%	2.1 29.63%	Aug-02	1.6 14.29%	2.76 70.37%		
Sep-96	1.2 -14.29%	1.85 14.20%	Sep-02	1.2 -14.29%	2.97 83.33%		
Oct-96	1.3 -7.14%	1.94 19.75%	Oct-02	2.03 45.00%	3.24 100.00%		
Nov-96	2.45 75.00%	2.5 54.32%	Nov-02	3.03 116.43%	3.59 121.60%		
Dec-96	3.5 150.00%	3.26 101.23%	Dec-02	3.14 124.29%	3.96 144.44%		
Jan-97	3.9 178.57%	3.4 109.88%	Jan-03	3.12 122.86%	4.43 173.46%		
Feb-97	2.5 78.57%	2.49 53.70%	Feb-03	4.59 227.86%	5.05 211.73%		
Mar-97	1.4 0.00%	1.79 10.49%	Mar-03	4.44 217.14%	6.96 329.63%		
Apr-97	1.45 3.57%	1.81 11.73%	Apr-03	3.61 157.86%	4.47 175.93%		
May-97	1.6 14.29%	2 23.46%	May-03	4.68 234.29%	4.77 194.44%		
Jun-97	1.35 -3.57%	2.08 28.40%	Jun-03	4.83 245.00%	5.41 233.95%		
Jul-97	1.45 3.57%	2 23.46%	Jul-03	4.44 217.14%	5.08 213.58%		
Aug-97	1.4 0.00%	2.08 28.40%	Aug-03	4.6 228.57%	4.46 175.31%		
Sep-97	1.5 7.14%	2.33 43.83%	Sep-03	4.32 208.57%	4.59 183.33%		
Oct-97	2.05 46.43%	2.68 65.43%	Oct-03	4.28 205.71%	4.32 166.67%		
Nov-97	3 114.29%	2.92 80.25%	Nov-03	4.17 197.86%	4.26 162.96%		
Dec-97	1.95 39.29%	2.28 40.74%	Dec-03	5.38 284.29%	4.76 193.83%		
Jan-98	2.05 46.43%	1.96 20.99%	Jan-04	5.54 295.71%	5.53 241.36%		
Feb-98	1.7 21.43%	1.96 20.99%	Feb-04	4.85 246.43%	5.15 217.90%		
Mar-98	1.9 35.71%	2.06 27.16%	Mar-04	4.79 242.14%	4.97 206.79%		
Apr-98	1.9 35.71%	2.16 33.33%	Apr-04	5.04 260.00%	5.2 220.99%		
May-98	1.95 39.29%	2.04 25.93%	May-04	5.385 284.64%	5.63 247.53%		
Jun-98	1.65 17.86%	1.91 17.90%	Jun-04	5.324 280.29%	5.85 261.11%		
Jul-98	1.6 14.29%	2.09 29.01%	Jul-04	5.355 282.50%	5.6 245.68%		
Aug-98	1.75 25.00%	1.82 12.35%	Aug-04	5.029 259.21%	5.36 230.86%		
Sep-98	1.6 14.29%	1.7 4.94%	Sep-04	4.51 222.14%	4.86 200.00%		
Oct-98	1.65 17.86%	1.86 14.81%	Oct-04	5.289 277.79%	5.45 236.42%		
Nov-98	2 42.86%	1.94 19.75%	Nov-04	5.841 317.21%	6.07 274.69%		
Dec-98	2 42.86%	1.95 20.37%	Dec-04	6.124 337.43%	6.25 285.80%		
Jan-99	1.8 28.57%	1.85 14.20%	Jan-05	5.475 291.07%	5.52 240.74%		
Feb-99	1.65 17.86%	1.77 9.26%	Feb-05	5.51 293.57%	5.59 245.06%		
Mar-99	1.5 7.14%	1.7 4.94%	Mar-05	6.289091 349.22%	5.98 269.14%		
Apr-99	1.6 14.29%	1.9 17.28%	Apr-05	6.4465 360.46%	6.44 297.53%		
May-99	2 42.86%	2.17 33.95%	May-05	5.648 303.43%	6.02 271.60%		
Jun-99	2 42.86%	2.14 32.10%	Jun-05	5.98 327.14%	6.15 279.63%		
Jul-99	2 42.86%	2.2 35.80%	Jul-05	6.455 361.07%	6.69 312.96%		
Aug-99	2.2 57.14%	2.51 54.94%	Aug-05	7.82 458.57%	7.68 374.07%		
Sep-99	2.6 85.71%	2.62 61.73%	Sep-05	9.42 572.86%	9.5 486.42%		
Oct-99	2.4 71.43%	2.52 55.56%	Oct-05	10.62 658.57%			
Nov-99	2.85 103.57%	2.68 65.43%	Nov-05	7.4 428.57%			
Dec-99	2.1 50.00%	2.24 38.27%	Dec-05	11.273 705.18%			
Jan-00	2.2 57.14%	2.6 60.49%					
Feb-00	2.4 71.43%	2.73 68.52%					
Mar-00	2.35 67.86%	2.66 64.20%					
Apr-00	2.7 92.86%	2.86 76.54%					
May-00	2.7 92.86%	3.04 87.65%					
Jun-00	3.85 175.00%	3.77 132.72%					
Jul-00	3.9 178.57%	3.84 137.04%					
Aug-00	3.1 121.43%	3.73 130.25%					
Sep-00	3.4 142.86%	4.26 162.96%					
Oct-00	4.3 207.14%	4.58 182.72%					
Nov-00	4.35 210.71%	4.4 171.60%					
Dec-00	6 328.57%	5.77 256.17%					

