WYOMING 2007
MINERAL and ENERGY YEARBOOK

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The Wyoming Business Council
Business and Industry Division Energy Section

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INTRODUCTION

The minerals industry is by far the largest single contributor to the economy of the State of Wyoming. The 2007 valuation on minerals produced in 2006 was $14,586,380,458. This is 68% of the state's total valuation and places Wyoming among the top ten mineral producing states in the nation. Total mineral income to the state of Wyoming, not including real property taxes, in 2007 was $3,031,269,007.

This report outlines the distribution and status of the mineral industry in Wyoming during 2007. The primary mineral commodities produced in the state are reviewed individually and a section on historical mineral production is included in the Yearbook. This section enumerates yearly production figures for the state's primary mineral commodities: bentonite, coal, natural gas, petroleum, trona and uranium, from their first commercial development to the current year. The production projections for the next five years give an indication of predicted growth or decline of a particular mineral commodity in both the state and individual counties. Estimates beyond five years are not made because of increasing difficulty in making accurate predictions due to the changing economic factors, governmental regulations, decreasing reserves and international developments.

The narrative sections provide an overview of the minerals produced in the state and the status of each county's mineral industry.

The reader desiring more detailed information on the location of various projects or resources is referred to the Oil and Gas Map of Wyoming, the Mines and Minerals Map of Wyoming and the Construction Materials Map available from the Geological Survey of Wyoming.

Graphs of county mineral and state total valuation were prepared for those counties where minerals accounted for at least 25% of the total assessed valuation. In cases where county graphs are justified, current and previous five year information is provided for historical perspective.

Production figures in this Yearbook do not include federal or state royalty production because it is not included in the assessed valuation.

Data on energy production and consumption has been updated in this edition, and additional coverage is devoted to these topics in the form of graphs and analysis.

In keeping with the Information Revolution the State Department of Revenue now has county valuations and all mineral data, including their annual report, available on their web site: http://revenue.state.wy.us.

Thanks are extended to Ron Surdam and his staff of the Geological Survey of Wyoming for assistance in estimating future production levels and providing information and insight on many aspects of the Wyoming mineral industry. Thanks are due to Cindy Braden at the State Treasurer's Office and Val Lewkoski of the Public Lands Office for valuable assistance in determining Federal Royalty returns and state lands royalties and other fees paid to Wyoming.

This is the last Mineral and Energy Yearbook I will prepare. I am retiring in July, and Sherry Hughes of the Energy Office will be taking over the Yearbook. She has done yeoman work already this year stream lining and formatting this year's edition. Questions or comments may still be addressed to:

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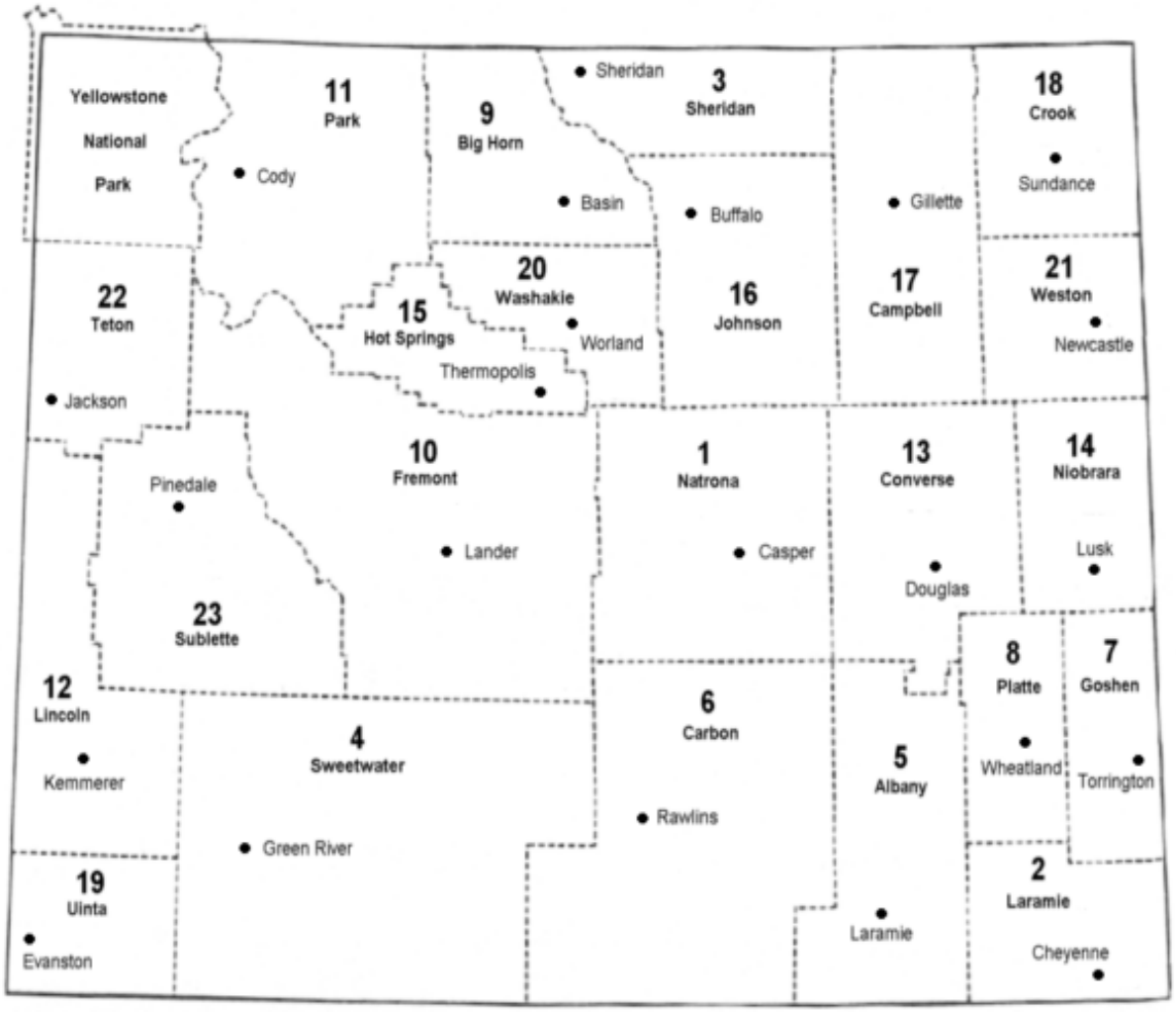
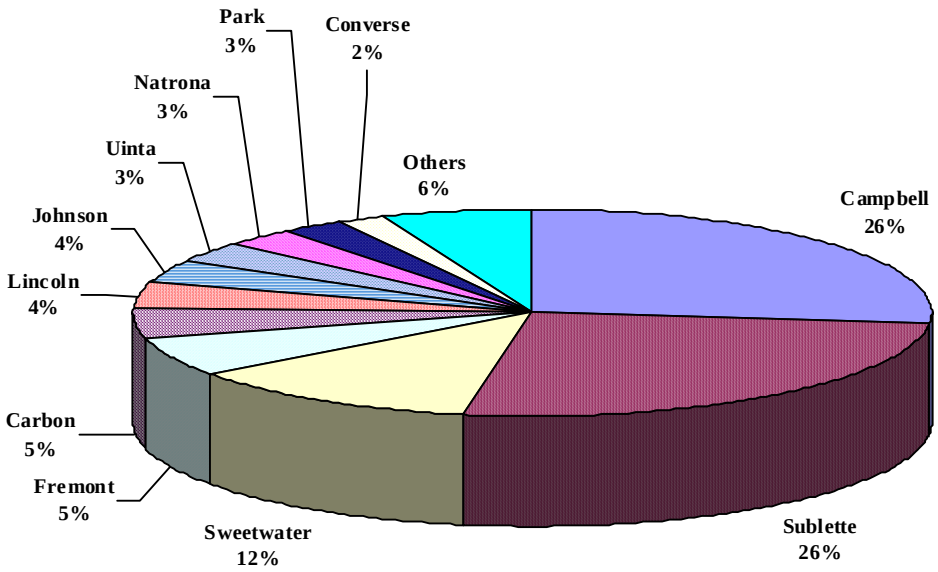
WYOMING MAP INDICATING COUNTIES & COUNTY SEATS



TOTAL STATE MINERAL VALUATION $14,586,380,458



WYOMING MINERAL INDUSTRY

TAX TABLES

The nine tables in this section illustrate the tax situation for the Wyoming minerals industry since 1969. The significance of 1969 is that it was the year the severance tax on minerals was initiated.

I. Assessed Valuation on Production, 1987-2007

II. Assessed Valuation Per Unit of Production, 1987-2007

III. Ad Valorem Tax Paid on Production, 1987-2007

IV. Severance Tax Collections, 1987-2007

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VIII. Government Royalty Returns – Fiscal Year

IX. Mineral Income to the State, 1987-2007

TABLE I

ASSESSED VALUATION ON PRODUCTION

(assessed valuation is always on the previous year's production)

(In dollars)

Year	Oil	Oil (Stripper)	Gas	Coal	Uranium	Trona	Others	Total
1987	1,440,262,656	Lumped with oil	889,888,628	1,111,486,981	18,019,557	105,566,325	16,324,082	3,581,548,229
1988	1,551,590,991	174,465,837	717,673,951	1,006,229,601	6,550,057	114,546,971	16,485,884	3,587,543,292
1989	1,386,610,392	Lumped with oil	719,589,653	1,154,653,129	19,519,851	116,918,544	41,102,402	3,438,393,971
1990	1,549,010,807	108,585,237	771,209,008	1,159,292,224	17,740,552	150,600,216	16,376,272	3,772,814,316
1991	1,734,742,528	208,569,533	802,742,792	1,128,751,476	13,603,730	179,369,884	26,365,541	4,095,145,484
1992	1,525,148,748	Lumped with oil	734,046,591	1,124,208,895	20,105,856	191,288,542	28,689,890	3,641,488,320
1993	1,221,059,283	171,724,773	866,037,624	1,124,159,350	13,332,394	195,116,349	28,320,700	3,619,750,473
1994	1,145,997,408	Lumped with oil	1,070,372,528	1,088,619,590	8,490,431	178,541,871	44,453,028	3,522,474,856
1995	976,428,678	Lumped with oil	982,669,079	1,134,941,050	10,361,733	174,696,366	32,765,239	3,316,362,145
1996	866,117,612	180,136,032	777,111,224	1,190,504,945	10,818,507	235,924,659	37,704,802	3,298,317,781
1997	1,052,534,929	208,863,325	1,079,831,210	1,217,201,878	15,402,159	258,344,864	42,950,861	3,876,129,226
1998	905,167,792	189,266,323	1,432,024,354	1,168,819,736	16,991,375	259,007,520	46,334,383	4,017,611,483
1999	503,425,981	114,084,800	1,306,590,501	1,204,528,349	15,696,834	242,352,415	49,031,078	3,435,709,958
2000	903,869,245	Lumped with oil	1,601,520,736	1,265,306,376	19,358,539	211,143,740	65,617,392	4,066,816,028
2001	1,438,975,976	Lumped with oil	3,365,840,728	1,336,115,591	13,025,190	206,218,970	46,883,790	6,407,060,245
2002	853,42,781	226,596,450	3,882,089,465	1,506,337,295	10,235,649	209,191,934	50,889,488	6,738,762,062
2003	855,147,203	228,408,127	2,512574,992	1,760,291,304	9,109,719	203,324,146	55457,462	5,624,312,953
2004	928,646,548	315,565,228	5,265,135,004	1,846,983,332	8,081,607	195,203,377	985,053,475	8,616,022,023
2005	1,247,193,373	386,874,487	7,039,152,884	2,039,556,051	9,334,158	198,943,291	62,963,644	10,984,017,888
2006	1,609,937,672	542,905,048	10,134,180,366	2,280,138,621	12,343,728	255,216,361	71,653,503	14,906,375,299
2007	1,929,837,705	603,312,259	8,770,228,320	2,884,925,775	17,018,989	299,227,941	81,829,469	14,586,380,458

Source: State of Wyoming Department of Revenue **February 2008**

TABLE II

ASSESSED VALUATION PER UNIT OF PRODUCTION
(In dollars)

Year	Oil	Oil (Stripper)	Gas	Coal	Uranium	Trona
1987	12.90	13.84	2.52	8.67	79.44	8.86
1988	15.29	Lumped with oil	1.76	7.58	26.83	9.22
1989	13.35	Lumped with oil	1.53	7.10	13.54	7.74
1990	15.33	16.27	1.16	6.77	11.52	9.29
1991	20.32	22.76	1.16	6.14	10.21	11.05
1992	17.33	Lumped with oil	1.06	5.87	9.87	11.83
1993	16.18	Lumped with oil	1.13	5.92	8.30	11.89
1994	13.26	Lumped with oil	1.32	5.17	7.67	11.14
1995	12.85	0	1.11	4.79	8.58	10.83
1996	14.61	0	.86	4.52	7.83	12.79
1997	18.17	0	1.19	4.37	8.06	13.93
1998	15.89	17.09	1.44	4.15	7.31	13.33
1999	9.56	9.94	1.29	3.83	6.74	13.02
2000	15.24	15.85	1.49	3.76	7.01	11.87
2001	24.47	26.61	2.60	3.74	6.28	11.56
2002	19.53	20.65	2.80	4.09	6.24	11.80
2003	20.4	21.87	1.63	4.76	5.97	11.75
2004	24.74	24.98	3.20	4.90	6.60	10.99
2005	32.82	33.19	4.02	5.15	7.36	10.62
2006	42.60	44.35	5.22	5.64	9.18	13.08
2007	49.70	53.49	4.34	6.48	8.32	15.44

TABLE III

AD VALOREM TAX PAID ON PRODUCTION
Taxes collected on previous year's production
(In dollars)

Year	Oil	Oil (Stripper)	Gas	Coal	Uranium	Trona	Others	Totals
1987	88,950,870	6,378,675	60,991,867	72,296,114	1,193,510	9,280,652	2,175,139	241,266,827
1988	100,915,478	11,347,258	48,430,791	63,353,498	436,646	8,915,878	1,075,954	234,475,503
1989	84,099,181	6,628,157	49,265,774	72,368,578	1,170,886	15,114,169	1,649,860	230,296,605
1990	101,886,186	7,142,194	52,161,492	72,999,336	1,180,066	11,080,863	1,242,406	247,692,543
1991	114,984,264	13,816,689	57,976,493	71,197,270	879,753	12,919,116	1,772,691	273,546,276
1992	91,968,733	12,349,916	52,552,523	70,726,549	1,315,204	13,801,622	1,862,622	244,577,169
1993	83,130,937	11,691,194	60,059,709	71,003,029	887,631	14,256,761	2,014,531	243,043,792
1994	68,921,310	10,228,457	74,195,013	67,887,561	547,412	13,140,503	2,309,612	237,229,868
1995	56,128,868	9,529,693	67,327,572	67,589,802	663,244	12,420,213	5,916,566	219,575,958
1996	60,986,806	12,513,870	54,741,269	75,178,751	666,831	17,076,227	2,719,807	223,883,561
1997	74,757,346	15,087,494	77,032,999	77,227,430	967,656	19,222,666	3,142,833	267,438,424
1998	61,390,290	12,782,858	95,294,061	71,413,577	999,127	18,186,472	3,204,776	263,271,161
1999	34,749,482	7,785,945	86,731,477	73,526,257	919,866	17,076,151	3,519,485	224,308,663
2000	52,638,392	12,821,090	115,320,687	84,122,629	1,742,881	15,031,534	8,497,593	290,174,806
2001	80,419,732	15,995,058	217,948,285	80,628,703	751,241	14,331,600	3,280,027	413,354,646
2002	55,579,093	15,352,589	243,449,712	90,191,946	14,531,727	14,531,727	3,516,860	437,153,654
2003	56,157,657	15,193,483	157,323,966	105,309,581	526,429	14,235,740	3,629,363	352,376,219
2004	60,001,780	21,594,292	325,594,233	109,519,807	466,376	12,525,615	3,656,431	533,358,534
2005	80,300,837	26,077,104	433,780,740	121,049,585	546,779	13,779,608	4,282,405	679,817,058
2006	103,716,508	36,158,552	627,646,799	135,448,194	768,287	17,355,478	4,865,004	925,958,822
2007	124,986,019	40,150,178	547,500,921	173,394,725	1,030,908	20,409,440	23,539,492	931,011,683

Source: State of Wyoming Department of Revenue Feb. 2008

TABLE IV

SEVERANCE TAX COLLECTIONS
(In dollars)

Year	Oil	Gas	Coal	Uranium	Trona	Others	Totals
1987	46,718,610	21,290,607	42,317,463	5,000	3,035,812	133,450	113,500,942
1988	40,650,600	28,045,898	43,251,305	129,905	2,878,861	3,216,270	118,172,839
1989	81,170,655	43,175,379	96,988,303	1,073,592	6,430,520	1,649,860	230,488,309
1990	97,284,057	46,272,540	97,582,590	709,622	8,283,012	367,526	250,499,347
1991	112,487,333	48,164,568	93,640,862	544,149	9,865,344	527,311	265,229,567
1992	87,897,786	45,242,795	93,208,003	0	10,520,859	533,797	237,403,240
1993	80,132,558	51,962,257	93,070,880	0	10,731,399	571,376	236,468,470
1994	65,835,924	64,222,352	74,566,313	See Rates 0	7,141,675	651,060	212,417,324
1995	52,974,215	57,367,513	77,316,383	0	6,987,855	745,704	195,391,670
1996	57,306,210	45,489,760	81,719,817	0	9,436,986	754,095	194,706,868
1997	69,293,838	63,393,651	83,246,679	103,184	10,333,795	859,019	227,230,166
1998	59,216,512	84,463,660	79,852,123	12,310	10,360,301	926,690	234,831,596
1999	32,880,460	76,610,627	82,790,144	0	9,694,097	980,622	202,955,950
2000	35,462,759	92,125,077	87,634,924	In others	8,445,750	925,177	224,593,687
2001	77,555,142	175,541,408	92,766,944	0	8,248,759	937,676	355,049,929
2002	57,609,868	209,540,528	105,443,611	0	8,367,677	1,017,017	381,978,701
2003	60,169,808	138,751,740	123,220,391	0	8,132,966	1,106,069	331,380,974
2004	69,514,143	301,619,284	129,288,833	0	7,808,135	1,128,139	509,358,534
2005	89,568,700	407,513,386	142,749,359	231,960	7,957,732	1,261,274	649,282,411
2006	119,050,807	592,066,775	159,518,200	493,749	10,208,654	1,432,850	882,771,035
2007	140,183,416	526,213,699	201,699,897	680,760	11,969,118	1,622,571	882,369,461

Severance taxes are collected on the previous year's production, but assessed on the current year since 1989.
Source: State of Wyoming Department of Revenue

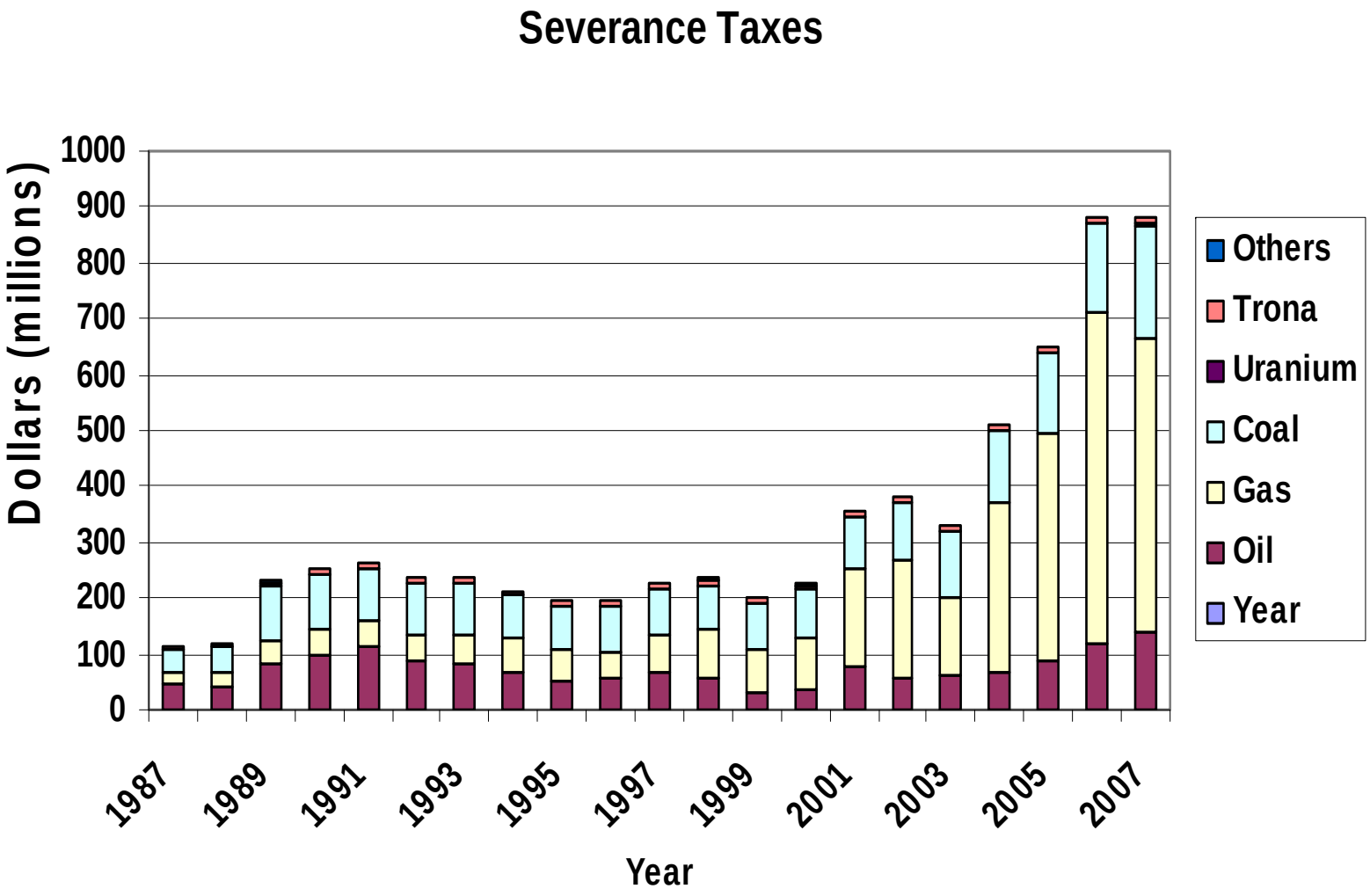

Severance Taxes
Dollars (millions)
1000
900
800
700
600
500
400
300
200
100
0
1987
1989
1991
1993
1995
1997
1999
2001
2003
2005
2007
Year
Others
Trona
Uranium
Coal
Gas
Oil
Year

Table V

SEVERANCE TAX Rates

Year	Oil	Gas	Surface Coal	Underground Coal	Uranium	Trona	Others
1982	6.0%	6.0%	10.5%	7.25%	5.0%	5.0%	2.0%
1983	6.0%	6.0%	10.5%	7.25%	5.0%	5.0%	2.0%
1984	6.0%	6.0%	10.5%	7.25%	5.0%	5.0%	2.0%
1985	6.0%	6.0%	10.5%	7.25% *	5.5%	5.5%	2.0%
1986	6.0%	6.0%	10.5%	7.25%	5.0%	5.0%	2.0%
1987	6.0%	6.0%	10.5%	7.25%	5.5%	5.5%	2.0%
1988	6.0%	6.0%	8.5%	5.45%	5.5%	5.5%	2.0%
1989	6.0%	6.0%	8.5%	5.25%	5.5%	5.0%	2.0%
1990	6.0%	6.0%	8.5%	5.25%	4.0%	5.5%	2.0%
1991	6.0%	6.0%	8.5%	5.25%	0.0% **	5.5%	2.0%
1992	6.0%	6.0%	8.5%	5.25%	0.0%	5.5%	2.0%
1993	6.0%	6.0%	7.0% ***	3.75% ***	0.0% **	4.0% ***	2.0%
1994	6.0%	6.0%	7.0%	3.75%	0.0%	4.0%	2.0%
1995	6.0%	6.0%	7.0% ***	3.75% ***	0.0% **	4.0% ***	2.0%
1996	6% (4% str.)	6.0%	7.0%	3.75%	0.0%	4.0%	2.0%
1997	6% (4% str.)	6.0%	7.0% ***	3.75% ***	0.0% **	4.0% ***	2.0%
1998	6% (4% str.)	6.0%	7.0% ***	3.75% ***	4.0% **	4.0% ***	2.0%
1999	6% (4% str.)	6.0%	7.0% ***	3.75% ***	4.0% **	4.0% ***	2.0%
2000	6% (4% str.)	6.0%	7.0% ***	3.75% ***	2.0% **	4.0% ***	2.0%

No Changes Since 2000 Legislature

***** **Changes made by 1984 Legislature**

****** **1991 Session Laws eliminates Severance Tax on Uranium when market price is below $17.00/lb**

******* **Tax decreased by 1.5% January 1, 1993, due to expiration of Capital Facilities Tax**

March 2008

TABLE VI

SEVERANCE TAX DISTRIBUTION

Proceeds to:	Coal*	Trona	Uranium**	Oil***	Gas	Other
Permanent Wyoming Mineral Trust Fund	1.50%	0.00%	0.00%	1.50%	1.50%	
General Fund	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Wyoming Water Development Account	1.50%			0.17%	0.17%	
Highway Fund	1.00%	0.00%	0.00%	0.67%	0.67%	
Counties				0.25%	0.25%	
Cities & Towns				0.75%	0.75%	
Budget Reserve Account	1.00%	2.00%	2.00%	0.66%	0.66%	
Total	**7.00%**	**4.00%**	**4.00%**	**6.00%**	**6.00%**	**2.00%**

*** Undergroung coal is 3.75%**

**** When eligible**

***** Stripper Oil is 4.00%**

February 2007

TABLE VII

SALES & USE TAX
FISCAL YEAR

	Oil & Natural Gas		Coal		Metal Mining	
Year	**Sales**	**Use**	**Sales**	**Use**	**Sales**	**Use**
1987	982,608	69,947	959,208	2,138,937	8,572	0
1988	6,210,534	1,287,855	1,519,090	3,602,674	566,683	268,296
1989	5,511,945	1,419,940	1,895,639	4,760,566	892,842	55,125
1990	6,990,322	2,509,583	1,938,520	6,730,806	569,540	74,368
1991	7,852,019	2,515,667	2,963,250	5,443,926	869,896	58,109
1992	7,950,516	2,362,240	4,048,395	6,176,281	1,019,680	77,897
1993	8,434,688	1,863,951	3,104,661	5,676,596	1,191,102	47,137
1994	13,846,071	3,242,825	4,230,607	7,802,064	1,138,722	75,753
1995	13,065,006	3,297,977	4,224,942	8,777,521	1,396,899	47,630
1996	10,205,320	2,347.672	5456,332	12,384,862	1,379,258	96,187
1997	Mining	Mining	Mining	Mining	Mining	Mining
1998	Mining	Mining	Mining	Mining	Mining	Mining
1999	Mining	Mining	Mining	Mining	Mining	Mining
2000	16,373,590	2,874,984	994,187	1,688,851	460,861	53,820
2001	Mining	Mining	Mining	Mining	Mining	Mining
2002	Mining	Mining	Mining	Mining	Mining	Mining
2003	Mining	Mining	Mining	Mining	Mining	Mining
2004	Mining	Mining	Mining	Mining	Mining	Mining
2005	Mining	Mining	Mining	Mining	Mining	Mining
2006	Mining	Mining	Mining	Mining	Mining	Mining
2007	Mining	Mining	Mining	Mining	Mining	Mining

	Other Mining		Totals		
Year	**Sales**	**Use**	**Sales**	**Use**	**Both**
1987	3,907	4	1,954,295	2,208,888	4,163,183
1988	0	7,029,472	8,296,307	12,320,095	20,616,689
1989	224,783	7,426,549	8,525,208	13,530,095	22,055,303
1990	179,846	1,444,916	9,678,228	10,759,673	20,437,901
1991	191,418	1,685,334	11,876,583	9,703,036	21,579,619
1992	271,309	1,997,731	13,289,900	10,614,149	23,904,049
1993	382,849	1,847,936	13,113,304	9,435,625	22,548,931
1994	616,986	1,129,902	19,832,386	12,250,544	32,082,930
1995	574,132	1,709,162	19,260,979	13,832,290	33,093,269
1996	301,666	2,092,218	17,342,576	16,920,939	34,263,515
1997	Mining	Mining	18,267,285	13,162,896	31,430,181
1998	Mining	Mining	23223,067	6452,689	29,675,756
1999	Mining	Mining	18,590,617	9,955,571	28,546,188
2000	275,796	1,162,795	18,104,434	5,780,450	23,884,884
2001	Mining	Mining	28,918,914	7,156,077	36,074,991
2002	Mining	Mining	39,230,217	9,122,981	48,353,198
2003	Mining	Mining			50,605,958
2004	Mining	Mining	46,802,235	9,427,522	56,229,757
2005	Mining	Mining	62,683,834	12,590,861	75,274,695
2006	Mining	Mining	91,586,201	18985,493	110,571,694
2007	Mining	Mining	124,986	40,150	165136,197

Mining = All numbers for that year are lumped together

TABLE VIII

GOVERNMENT ROYALTY RETURNS TO THE STATE
(In dollars)

Year	Amount
1987	139,042,386
1988	123,784,801
1989	180,905,912
1990	190,897,618
1991	204,673,620
1992	171,722,579
1993	194,028,701
1994	239,728,020
1995	209,243,728
1996	197,595,750
1997	237,124,031
1998	228,841,533
1999	231,029,084
2000	276,720,872
2001	408,473,072
2002	271,751,837
2003	476,269,633
2004	554,366,613
2005	845,774,343
2006	1,067,957,946
2007	927,155,177

Federal Mineral Royalties, after that the State received 50%

These funds are distributed by W.S. Section 9-4-601 as follows:	
Foundation Program	34.50%
Highway Commission Counties	26.25%
University of Wyoming	6.75%
Highway Commission for Districts	2.25%
Incorporated Cities & Towns	7.50%
Capital Construction	
(Cities, Towns & Special Districts)	7.50%
Capital Construction	
(Schools, Community Colleges & State)	15.25%

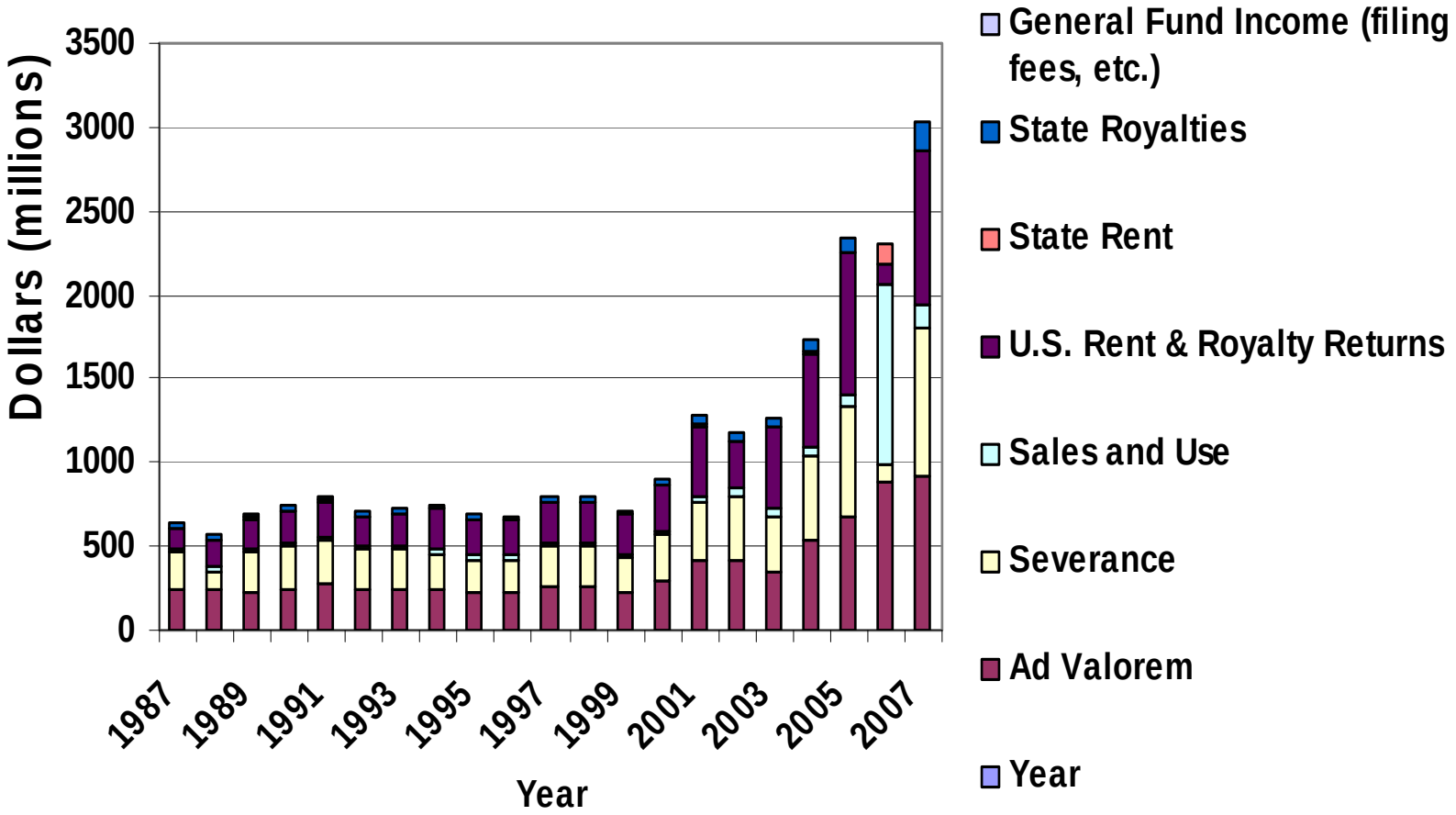
TABLE IX

MINERAL INCOME TO THE STATE OF WYOMING 1987-2007
(In dollars per calendar year)

Year	Ad Valorem	Severance	Sales and Use*	U.S. Rent & Royalty Returns	State Rent	State Royalties	General Fund Income (filing fees, etc.)	Total
1987	239,091,688	235,626,715	4,163,183	131,804,697	2,333,149	30,052,219	406,541	643,478,192
1988	234,475,503	118,092,536	20,616,689	160,262,662	2,101,286	36,107,357	147,753	571,803,786
1989	231,201,357	231,339,424	22,055,303	180,905,912	1,845,295	31,803,256	110,288	699,260,835
1990	247,692,543	250,499,347	20,438,901	190,897,618	1,868,973	33,257,548	76,704	744,731,634
1991	273,229,567	265,229,567	21,579,619	204,673,620	7,867,245	32,444,457	76,704	805,100,779
1992	244,577,001	237,403,240	23,904,049	171,722,579	3,681,099	25,829,910	842,387	707,960,265
1993	243,043,792	236,468,470	22,548,931	194,028,701	2,624,599	27,526,326	180,166	726,420,985
1994	237,229,868	212,417,324	32,082,930	239,728,020	3,908,837	24,686,894	112,984	750,166,857
1995	221,575,958	195,391,670	33,093,269	209,243,728	4,140,052	25,041,232	85,874	688,571,783
1996	223,883,561	194,706,868	34,263,515	197,595,750	2,883,023	26,385,982	106,070	679,824,769
1997	267,438,424	227,230,166	31,430,181	237,124,031	4,221,690	29,800,814	219,412	797,464,718
1998	263,271,161	234,831,596	29,675,756	228,840,533	5,718,728	28,961,816	349,326	791,648,916
1999	224,308,663	202,955,950	28,546,571	231,029,084	186,084	25,667,197	610,324	713,303,873
2000	290,174,806	275,143,604	23,884,884	276,720,872	7,555,237	26,098,717	863,338	900,441,458
2001	413,354,646	355,504,929	36,075,077	408,473,072	8,498,409	56,181,369	182,157	1,278,269,659
2002	423,636,794	381,978,701	48,353,198	271,751,837	211,059	56,181,370	216,163	1,182,329,122
2003	352,376,219	331,380,974	50,605,958	476,269,633	Lumped	57,932,753	Lumped	1,268,565,537
2004	533,543,060	509,358,534	56,229,757	554,366,613	5,036,720	78,543,804	1,471,621	1,738,550,109
2005	679,817,058	649,282,411	75,274,695	845,774,343	1,849,134	85,425,057	198,543	2,337,621,241
2006	882,771,035	110,571,694	1,067,957,946	123,168,741	114,375,650	8,551,972	116,911	2,307,513,949
2007	913,011,683	882,383,479	143,447,060	927,155,177	Lumped	165,271,608	Lumped	3,031,269,007

State Land Commission, State Treasurer and Dept. of Revenue Feb. 2008

MINERAL INCOME TO WYOMING



WYOMING MINERAL COMMODITIES REVIEW
2007

BENTONITE

Bentonite is a clay mineral, which is the result of the alteration of volcanic ash. Wyoming bentonite originated from volcanic ash ejected in western Wyoming and Idaho during the late Cretaceous period about 120 million years ago. Prevailing westerly winds blew the ash eastward and deposited it in the areas now occupied by bentonite deposits. Wyoming bentonite occurs in the Big Horn Basin, the southern Powder River Basin, and along the western edge of the Black Hills in the northeastern corner of the state.

Bentonite is a clay mineral composed of microscopic platelets consisting of layers of aluminum hydroxide held between layers of silicate atoms. These platelets are stacked one on top of the other. Water can penetrate between layers of platelets, causing the entire structure to swell. Wyoming bentonite has sodium atoms interspersed between these layers of platelets at intervals. Other types of bentonite have calcium between the platelet layers. Sodium bentonite has greatly increased swelling characteristics. Wyoming sodium bentonite increases its original volume as much as fifteen times when wet. Bentonite was used by area Indians as a bleaching clay and washing agent before the "white man" ventured into what is now Wyoming. Bentonite bogs, or "soap holes", caused the loss of some cattle to pioneers, but it was utilized as an emergency substitute for axle grease, as a curative pack for inflamed horses' hoofs and as waterproofing for the roofs of dwellings.

Bentonite was originally named taylorite for William Taylor of Rock Creek, who first made commercial shipments of the clay in 1888. In 1898 Dr. S. H. "Sam" Knight, State Geologist of Wyoming, renamed the clay bentonite when he learned that taylorite has previously been used in England as the name for another mineral. The term bentonite comes from the Fort Benton shale member of the Mowry formation, where the mineral occurs.

The first sales of Wyoming bentonite were to eastern plants for use in manufacturing of cosmetics. Production remained at a low level until the 1920's, when bentonite's usefulness as a binding agent in foundry sand and as an additive to oil well drilling mud was first discovered.

The U.S. Bureau of Mines economic mineral publications first separated bentonite from "other clays" in 1931. The Wyoming Ad Valorem Tax Division has maintained separate bentonite production statistics since 1927.

The first bentonite mill in Wyoming was constructed at Cheyenne in 1920. The bentonite used in this plant was mined near Medicine Bow. The first mills near the Black Hills, in the northeastern part of the state, were constructed at Newcastle, Osage and Upton in 1926. Production began in the northern Black

Hills near Belle Fourche in the late 1930's. Later, other high-grade deposits were discovered in the Big Horn Basin and the Kaycee area of the Powder River Basin.

Wyoming bentonite production has risen from 1,141 tons in 1927 to nearly 4.5 million tons in 2006. The accompanying table shows historical Wyoming bentonite production.

Estimates of remaining Wyoming bentonite reserves vary widely. A 1989 report of the American Institute of Mining Engineers gives a figure of 1.1 billion tons of in-place reserves, while the 1980 edition of the U.S. Bureau of Mines Minerals Facts and Problems lists reserves of 200 million tons.

Bentonite deposits either crop out at the surface or are buried shallow, so mining operations consist of removing any overburden present and loading the bentonite into trucks for transport to a mill. Due to shallow burial and the loose unconsolidated nature of the surrounding sediments, no underground mining of bentonite has been attempted. When bentonite arrives at the mill it is segregated into piles according to physical characteristics. Materials from these piles are blended to obtain a product with the desired characteristics.

In the mill, the bentonite is first broken into small chunks, screened and conveyed through a dryer. The temperature of the dryer is critical since temperatures that are too high can destroy the desired properties of the bentonite. Natural gas has been the fuel used in the dryers, but coal and some air-drying are now utilized in several operations.

Drying removes about 25% of the moisture in the bentonite. After drying the clay it is pulverized into a variety of sizes. After sizing bentonite it is either packed in 50, 75 or 100 pound bags or bulk shipped in covered railroad cars.

Currently the single largest market for bentonite is the oil and gas industry, which uses bentonite as a drilling mud additive. Around 50% of Wyoming bentonite is used in drilling muds. Bentonite's colloidal properties allow heavy well cuttings to be suspended, helps lubricate drilling equipment, cakes the sides of the drill hole to prevent caving and prevents seeping of ground water into the hold and drilling fluids out of it into surrounding rocks.

The foundry industry consumes 20% of the state's bentonite. Bentonite is used as a molding sand binder. The clay's superior binding properties allow the sand to be formed into shapes that will not fracture or disintegrate during molding operations.

Iron ore pelletizing has used 20% of the bentonite produced. However, it appears that an organic binder may take over this application.

The remaining 10% is used in a myriad of applications, a sampling of which are: animal feed, ceramics, water softening, cement manufacture, laxatives, crayons, paint, insecticide, reservoir liner and medicines. Long-range prospects are favorable and state bentonite production increased by over 400,000 tons in 2006.

New applications such as lining disposal ponds should improve the market but the bentonite industry will still basically trace the fortunes of the oil and gas drilling industry.

HISTORICAL BENTONITE PRODUCTION

Year	Net Tons	Year	Net Tons	Year	Net Tons
1921-1926	Lumped with "other clay"				
1927	1,141	**1956**	1,215,946	**1985**	2,588,229
1928	11,097	**1957**	1,073,119	**1986**	1,818,502
1929	23,369	**1958**	648,404	**1987**	2,159,077
1930	25,900	**1959**	1,146,001	**1988**	2,328,182
1931	14,307	**1960**	1,096,185	**1989**	2,211,252
1932	11,906	**1961**	1,008,756	**1990**	2,719,087
1933	21,652	**1962**	1,165,538	**1991**	2,365,742
1934	27,177	**1963**	1,398,106	**1992**	2,344,098
1935	40,154	**1964**	1,578,528	**1993**	2,811,207
1936	36,926	**1965**	1,923,319	**1994**	3,200,782
1937	61,686	**1966**	2,081,352	**1995**	3,338,537
1938	65,289	**1967**	1,801,966	**1996**	3,591,312
1939	77,481	**1968**	2,118,871	**1997**	3,936,858
1940	70,265	**1969**	2,373,253	**1998**	3,712,161
1941	182,719	**1970**	2,228,978	**1999**	3,207,583
1942	201,424	**1971**	1,813,066	**2000**	3,663,629
1943	273,095	**1972**	2,062,384	**2001**	3,772,530
1944	347,048	**1973**	2,614,779	**2002**	3,309,033
1945	535,675	**1974**	3,422,675	**2003**	3,629,010
1946	324,886	**1975**	2,760,871	**2004**	3,921,589
1947	617,940	**1976**	3,278,765	**2005**	4,019,755
1948	713,802	**1977**	3,315,783	**2006**	4,489,452
1949	607,767	**1978**	3,626,652		
1950	543,274	**1979**	4,479,242		
1951	926,850	**1980**	3,584,713		
1952	926,850	**1981**	4,805,005		
1953	949,566	**1982**	2,345,914		
1954	928,837	**1983**	2,183,865		
1955	886,092	**1984**	3,083,324		

Cumulative Total: 145,797,620

Source: Wyoming Department of Revenue and Taxation (net taxable tons)

COAL

Coal results from the burial and compression of large amounts of vegetation. Increasing depth of burial results in the addition of heat, which alters the original vegetation physically and chemically.

Wyoming's coal deposits accumulated during geologic periods, the later Cretaceous and early Tertiary times between 75 and 45 million years ago.

During late Cretaceous time, Wyoming was a low land area, periodically covered by a shallow sea, which advanced and retreated from east to west. When the sea retreated, low lying coastal swamps developed where extensive vegetation grew, died and accumulated on the swamp bottoms. When the sea re-advanced, silts and clays buried the plant material. This cycle was repeated many times, with the earlier deposited material being buried deeper and deeper and ultimately being converted into coal by heat and pressure. Wyoming's Cretaceous coals are commonly thin, seldom exceeding 10 feet in thickness.

Conditions were different in early Tertiary Time, when the other sequence of Wyoming coals developed. The sea had disappeared, and various ranges of the Rocky Mountains had risen. A number of basins developed between these ranges, and large amounts of vegetation accumulated in these basins. These Tertiary coals are typically much thicker then the earlier deposits, with beds of 30 to 100 feet common, and a maximum known thickness of over 200 feet. Additionally, these Tertiary intermontane basin coals have low sulfur content, while marine coals do not.

Coals are ranked according to composition and heating value. Peat, which consists of lightly compressed dried vegetation, is not considered a coal, although it is used as a fuel in Ireland and northern England. The ranks of coal are as follows:

Name	Amt. of Carbon	BTU Content	Volatiles	Moisture
Anthracite	86-98%	16,000-20,000	5%	0%
Bituminous	55-85%	11,000-16,000	25%	20%
Sub bituminous	30-55%	8,300-11,000	40%	30%
Lignite	10-30%	4,000-8,300	50%	40%

These ranks are divided into smaller categories in detailed classifications. Wyoming's coal is sub bituminous in grade. It contains more moisture and less sulfur than many equivalent coals from the east and Midwest.

Captain John C. Fremont, "The Pathfinder", made the first written account of coal in Wyoming in 1843. He referred to the appearance of coal in what was probably Cumberland Gap, near Kemmerer.

Captain John R. Stansbury, U. S. Army Corp of Engineers reported seeing large outcrops of coal near Rock Springs and at Point of Rocks, twenty-five miles east of Rock Springs in 1852.

The first use of Wyoming coal was made by the Army to heat winter quarters and in stage line forges in the mid-1800's.

The Union Pacific Railroad began prospecting for coal along its line in Wyoming in 1867, and the first coal mined by the railroad was 650 tons taken at the now abandoned Town of Carbon in 1868.

In 1908, forty years after the first production, coal mining was the leading industry in Wyoming with a production of over 6 million tons, one third of it from the Rock Springs area.

The Kemmerer Coal Company opened mines near Kemmerer about the turn of the century, and Kemmerer Coal is still operating at the present time, the longest continuous operation in the state.

Production increased up until 1947 when 8 million tons were produced in the state, mostly from mines in the Hanna, Rock Springs, and Sheridan areas.

It was at this point that the railroads began the change from steam to diesel locomotives and as demand for railroad coal decreased Wyoming production followed it downward. The bottom was reached in 1959 when the state produced less than 2 million tons.

Beginning in the mid-1960's, interest in Wyoming coal as a fuel for thermal electric generation plants began to increase. This interest was sparked primarily by two factors: physical properties of the coal and its cost. The physical property of Wyoming coal, which made it attractive to power plant operators, was its low sulfur content, which ranges between 0.5 and 1.5 percent sulfur. This contrasts with eastern coals that range from 5 to 9 percent sulfur. This difference in sulfur content is believed to be a consequence of the non-marine deposition of western coal as opposed to the marine conditions under which most eastern coals were laid down. The ability to burn Wyoming coal without installation of expensive exhaust gas scrubbers more than compensated for other detrimental properties, namely low heat value and high water content.

Because virtually all Wyoming coal is strip mined, its cost of production is much less than deep mined eastern coal. In addition, large machinery and the latest technology greatly increase worker productivity, which lowers the price further.

There are 20 active Wyoming coal mines, 19 surface and 1 underground operation. These mines are concentrated in only a few areas: the Hams Fork Coal Region in Lincoln County; the Green River Coal Region in Sweetwater County; and the Powder River Coal Region in Converse and Campbell Counties.

The Powder River Basin accounts for 97% of Wyoming's production and boasts three of the biggest surface coal mines in the nation: Rag Coal’s Belle Ayre Mine, Jacobs Ranch’s Jacobs Ranch Mine, and Thunder Basin Coal’s Black Thunder Mine.

Wyoming coal was used in 30 states in 2006. Texas imported the most, over 50 million tons, followed by Missouri, Illinois, Wisconsin and Oklahoma. Also, over 2.0 million tons were exported to electric utilities in Canada and Spain. Railroads transported over 95% of the coal exported in 2005, with the rest being moved by truck, barge, or by a combination.

Information on individual mines is available from the State Geological Survey or the Wyoming Mine Inspector.

Wyoming coal production has increased over 54 fold since 1970 under the impetus of power plant demand. Last years production of over 445 million taxable tons led the nation in coal production again. However, this continuous upward trend may not continue much longer. Several major Wyoming producers have indicated that given the continuing low coal prices, they plan to curtail production significantly. Given the trend to almost exclusive natural gas fueling of new power plant capacity, it seems unlikely that new markets for low-sulfur Wyoming coal will make up the difference.

The history of Wyoming coal production is given in the accompanying table.

HISTORICAL COAL PRODUCTION
1865 - 1951

Year	Tons	Year	Tons	Year	Tons
1865	800	**1894**	2,417,463	**1923**	5,990,984
1866	2,500	**1895**	2,246,911	**1924**	7,557,923
1867	5,000	**1896**	2,229,624	**1925**	6,758,379
1868	6,925	**1897**	2,744,960	**1926**	6,563,179
1869	58,186	**1898**	2,863,812	**1927**	6,513,534
1870	105,295	**1899**	3,837,392	**1928**	6,548,902
1871	147,328	**1900**	4,014,602	**1929**	6,666,162
1872	221,745	**1901**	4,485,374	**1930**	6,049,282
1873	259,700	**1902**	4,429,491	**1931**	4,992,138
1874	219,061	**1903**	4,635,293	**1932**	4,146,814
1875	300,808	**1904**	5,178,556	**1933**	3,979,387
1876	334,550	**1905**	5,602,021	**1934**	4,355,791
1877	342,853	**1906**	6,133,994	**1935**	5,184,215
1878	233,200	**1907**	6,252,990	**1936**	5,868,972
1879	400,991	**1908**	5,489,902	**1937**	5,903,825
1880	527,811	**1909**	6,393,109	**1938**	5,179,074
1881	628,181	**1910**	7,533,088	**1939**	5,387,621
1882	707,764	**1911**	6,744,864	**1940**	5,824,926
1883	779,689	**1912**	7,368,124	**1941**	6,664,748
1884	902,620	**1913**	7,393,066	**1942**	8,144,972
1885	807,328	**1914**	6,475,293	**1943**	9,202,155
1886	835,999	**1915**	6,554,028	**1944**	9,561,545
1887	1,170,318	**1916**	7,910,647	**1945**	9,879,857
1888	1,512,936	**1917**	8,575,619	**1946**	7,623,968
1889	1,388,947	**1918**	9,438,688	**1947**	8,038,648
1890	1,870,366	**1919**	7,219,738	**1948**	6,413,602
1891	2,327,841	**1920**	9,630,271	**1949**	5,981,958
1892	2,503,839	**1921**	9,666,298	**1950**	6,257,416
1893	2,439,311	**1922**	7,152,324	**1951**	6,310,824

HISTORICAL COAL PRODUCTION - CONTINUED
1952 - 2006

Year	Tons	Year	Tons
1952	6,088,338	**1979**	68,792,573
1953	5,247,442	**1980**	90,527,538
1954	2,832,636	**1981**	98,410,522
1955	2,921,607	**1982**	104,014,096
1956	2,555,456	**1983**	107,902,764
1957	2,918,508	**1984**	125,931,455
1958	1,627,063	**1985**	135,105,204
1959	1,977,404	**1987**	132,753,011
1960	2,006,788	**1988**	163,801,374
1961	2,487,803	**1989**	171,038,369
1962	2,575,531	**1990**	183,908,400
1963	3,099,521	**1991**	191,620,173
1964	3,117,921	**1992**	190,025,252
1965	3,260,815	**1993**	210,062,286
1966	3,670,704	**1994**	236,948,922
1967	3,587,742	**1995**	263,505,214
1968	3,683,281	**1996**	275,631,534
1969	4,398,572	**1997**	278,874,347
1970	7,039,980	**1998**	314,698,732
1971	7,743,347	**1999**	334,561,827
1972	10,043,161	**2000**	337,078,149
1973	14,272,350	**2001**	368,738,916
1974	19,957,726	**2002**	369,597,937
1975	23,141,105	**2003**	376,784,702
1976	30,298,432	**2004**	395,744,836
1977	44,577,218	**2005**	404,212,586
1978	56,456,133	**2006**	445,296,513
	Cummulative Total:		**6,780,584,600**

Sources: Bureau of Mines (1865 - 1921)

Wyoming Department of Revenue (1921 - 2006)

NATURAL GAS

Pure natural gas is composed of the simplest hydrocarbon; methane (CH_4). Natural gas, as it comes from the well, contains a number of different substances, including: ethane, propane, butane, and pentane (hydrocarbons), as well as carbon dioxide, helium, hydrogen, sulfide, and nitrogen.

Natural gas processing plants remove impurities in the gas and/or compress it to increase density in order to reach the heating standards of commercial gas. The materials removed from the gas by these plants are often valuable in themselves. Propane and butane are used as fuels, while ethane, pentane, and sulfur are utilized by the chemical industry. Hydrogen and helium are important industrial gases, while nitrogen, though often simply vented to the atmosphere, is being reinjected in secondary oil recovery in the Overthrust Belt. Carbon dioxide is also utilized in secondary oil recovery, as well as serving as an important refrigerant when in the liquid or solid form.

Natural gas occurs in three ways:

1. free natural gas unassociated with crude oil;
2. associated gas overlying and accompanying crude oil in the same reservoir; and
3. dissolved gas, which is gas in solution with oil under reservoir conditions.

Pipeline quality natural gas has a heating value of about 1,000 calories per cubic foot. It burns with a bright blue flame, and the products of its combustion are carbon dioxide and water vapor. The high BTU output, plus the beginning combustion products, makes natural gas an excellent domestic fuel.

Wyoming has produced natural gas since 1903, with early production coming from the Wind River and Big Horn Basins. Before 1918, Wyoming's natural gas production was included with Utah and Colorado, not allowing an individual state breakdown.

The Overthrust Belt leads Wyoming's geologic provinces in natural gas production followed by the Green River Basin, The Wind River Basin, and The Powder River Basin. With the Riley Ridge project on line the Overthrust production has continued to increase.

Wyoming currently ranks seventh in natural gas reserves in the United States. The three leading states are Texas, Louisiana and Alaska, which alone account for about three-fourths of the total reserves.

Wyoming is fifth in natural gas production behind Federal Offshore, Texas, Oklahoma and New Mexico in that order.

Industrial, commercial and domestic heating and a fuel for industrial processes have always been virtually the only markets for Wyoming natural gas.

Natural gas has become the fuel of choice in this country, with the primary impetus being clean air considerations. In 2006, Wyoming gas production rose by 76.7 million MCF, but an 88 cent per MCF price decrease resulted in a valuation decrease of over $1.4 billion, leaving natural gas still leading the state in mineral valuation. The accompanying table shows historical Wyoming natural gas production.

HISTORICAL NATURAL GAS PRODUCTION
1918 - 1975

Year	Gross MCF	Net Taxable MCF
1918*	4,338,840	
1919	6,014,000	
1920	10,312,000	
1921	15,608,000	5,729,963
1922	23,426,000	10,628,238
1923	35,523,000	25,370,247
1924	46,036,000	37,674,875
1925	45,539,000	35,432,436
1926	46,567,000	35,933,311
1927	43,581,000	36,205,467
1928	47,490,000	41,474,389
1929	44,648,000	38,253,618
1930	43,219,000	36,116,642
1981	39,770,000	34,943,043
1932	28,938,000	32,825,682
1933	25,830,000	27,716,094
1934	231,48,000	27,437,123
1935	26,643,000	29,856,668
1936	29,322,000	33,241,655
1937	31,023,000	33,418,463
1938	38,400,000	32,655,704
1939	44,700,000	28,828,909
1940	40,000,000	34,606,554
1941	43,409,000	37,242,979
1942	46,471,000	39,657,890
1943	52,000,000	40,233,211
1944	51,000,000	42,761,950
1945	52,000,000	44,571,599
1946	49,700,000	41,479,104
1947	57,740,000	47,748,881
1948	79,280,000	51,103,206
1949	87,450,000	53,948,462
1950	92,050,000	66,266,055
1951	95,600,000	73,136,179
1952	104,300,000	77,253,383
1953	104,900,000	77,982,000
1954	100,400,000	76,144,783
1955	100,000,000	81,458,597
1956	102,000,000	91,072,880
1957	159,000,000	113,937,978
1958	158,000,000	120,449,451
1959	194,000,000	151,611,826
1960	213,800,000	169,747,464
1961	226,800,000	185,585,937
1962	230,800,000	195,104,386
1963	240,500,000	193,637,934
1964	259,900,000	221,588,565
1965	258,900,000	218,565,497
1966	266,966,000	216,263,811
1967	257,965,000	209,582,267
1968	283,916,000	220,631,045
1969	342,998,000	243,825,419
1970	317,970,129	260,036,715
1971	310,113,187	282,320,781
1972	308,668,300	285,426,141
1973	321,134,758	287,818,223
1974	291,521,549	265,600,635
1975	273,076,164	248,528,881

HISTORICAL NATURAL GAS PRODUCTION - CONTINUED
1976 – 2006

Year	Gross MCF	Net Taxable MCF
1976	330,220,509	260,752,431
1977	298,535,92	272,300,637
1978	372,526,289	273,724,975
1979	390,493,988	333,322,180
1980	450,533,045	349,634,385
1981	437,014,500	353,076,052
1982	459,321,013	351,192,737
1983	539,774,090	395,656,547
1984	600,137,792	447,515,295
1985	597,896,090	412,026,614
1986	596,978,338	352,799,892
1987	733,210,238	407,862,822
1988	811,891,107	471,363,924
1989	655,698,542	621,502,138
1990	735,728,461	690,356,068
1991	755,538,523	711,799,645
1992	815,194,234	765,253,721
1993	*	808,157,126
1994		884,365,795
1995		899,139,137
1996		907,754,365
1997		997,424,673
1998		1,014,209,713
1999		1,092,184,015
2000		1,294,152.091
2001		1,384,515,513
2002		1,543,697,482
2003		1,646,021,746
2004		1,749,760,419
2005		1,943,093,879
2006		2,089,805,318
	Cumulative Total	**9,269,123,375**

*** Wyoming Oil and Gas Commission**

PETROLEUM

The first recorded reference to the occurrence of oil in Wyoming dates back to 1833, when Captain Bonneville visited the "Great Tar Spring" on the Popo Agie River near present day Lander.

The first commercial marketing of oil occurred in 1851 from an oil seep on Poison Spider Creek, west of present day Casper. Records indicate that Jim Bridger, Kit Carson, and others mixed the oil with flour and sold the product to settlers as axle grease.

Mike Murphy discovered the first oil field in 1884, when he drilled a 300-foot well near the "Great Tar Spring". This field, Dallas Dome, is still producing oil, 100 years after its discovery.

Pennsylvania Oil and Gas Company built the first small refinery in Wyoming at Casper in 1895. During the period 1900-1920, drilling revealed several of the state's largest fields, including Oregon Basin and Elk Basin in Park County, Garland in Big Horn County, and Lost Soldier in Sweetwater County.

The lack of nearby markets and the high cost of transporting oil by rail, resulted in low demand for Wyoming oil, and crude prices dropped to as low as $.10 per barrel in the 1930's. It was not until World War II that development moved into full swing. This expansion continued into the 1970's.

Oil is derived from the alteration of organic matter by heat and pressure. Petroleum originates in sedimentary rock environments, but may migrate to other locations, so that there are oil reservoirs known from volcanic and metamorphic rock sequences as well. Most oil is found in sedimentary rocks, in occurrences, which may be divided into structural or stratigraphic traps. A structural trap is one where the oil is maintained in place by mechanical means, such as, folding, faulting, or some combination of the two. Stratigraphic traps involve a change in rock type, from permeable to impermeable, with the oil held in the permeable portion. A stratigraphic unit that changes from a sandstone (permeable) to a shale (impermeable) is an example of a stratigraphic trap.

Most of the early discoveries in Wyoming were in large structural traps with obvious surface expression. Modern exploration is focused on deep, subtle structures using sophisticated seismic techniques to discover new reserves. Petroleum geologists base the delineation of stratigraphic traps on careful analysis of trends and rock types along with the application of interpretation and imagination.

Reservoir rocks in Wyoming range from Tertiary to Precambrian in age. In general, fields in stable interior basin areas are characterized by stratigraphic traps and produce from younger (Cretaceous and Tertiary) formations. Structural traps

usually characterize fields in more highly deformed basin margins, and production is from older rocks.

The largest oil producing regions in Wyoming, in order, are: the Powder River Basin, Green River Basin, Big Horn Basin, Overthrust Belt, and Wind River Basin.

Early oil production in Wyoming peaked in 1923, after discovery and development of large fields, such as: Salt Creek, Elk Basin, Oregon Basin, and Hamilton Dome. A long period of decline followed these early discoveries until World War II that led to a resurgence, which continued to 1970, when the maximum annual production of 155 million barrels was recorded. Since 1970, production has been steadily declining, due to the depletion of the old large fields, like Salt Creek. At present, over 50% of Wyoming's production comes from 10 large fields which average over 50 years in age. Newer discoveries in the state are concentrated primarily in Campbell County (Hilight, Raven Creek, Hartzog Draw fields) and the Overthrust Belt.

Wyoming ranks eighth in crude oil production, behind Texas, Alaska, Federal Offshore, California, Louisiana and Oklahoma, and is seventh in reserves, behind all of the above entities except Oklahoma. However, it dominates Rocky Mountain production, with 40% of the production from the area, along with 55% of the reserves. The state accounts for about 3% of U.S. production.

The dominant use of petroleum is as a fuel for internal combustion engines or industrial and residential heating. However, petroleum derivatives are used to manufacture many kinds of lubricating and hydraulic fluids, fibers, medicines, plastics and a number of other products, ranging from paints to synthetic rubber.

Although production has been slowly declining, valuation of oil production in Wyoming increased dramatically since the initiation of Organization of Petroleum Exporting Counties (OPEC) price increases in the early 1970's, and since decontrol of domestic oil prices in 1980. In 2004, oil valuation increased by about $390 million for the year, and this rise is due entirely to an increase in valuation.

Oil valuation has declined steadily since 1977 with the exception of 2003, and petroleum is currently the state's third most valuable mineral product behind natural gas and coal.

Currently, four refineries are operating in Wyoming with a total capacity of 140 thousand barrels per day. These refineries can process less than half of Wyoming's daily crude oil production, with the remainder being transported by pipeline to neighboring states.

The most recent estimate of discovered oil reserves in Wyoming, made by the Wyoming Geological Survey, reports a total state reserve of 3.10 billion

barrels. The advent of horizontal drilling techniques holds promise for rejuvenating Wyoming oil production, at least in the near term.

The jump in production seen since 1984 is due to liquids stripped in the Overthrust gas processing plants being included in oil production.

Given new exploration techniques, along with enhanced recovery methods, which are coming into increasing use, Wyoming will continue to lead the Rocky Mountain region in oil production for some time. If oil shale utilization ever reaches large-scale fruition, Wyoming will be a significant oil producer well into the next century.

HISTORICAL PETROLEUM PRODUCTION
1894 -1967

Year	Gross Bbls.	Net Taxable Bbls.
1894	2,369	
1895	3,455	
1896	2,878	
1897	3,650	
1898	5,475	
1899	5,560	
1900	5,450	
1901	5,400	
1902	6,253	
1903	8,960	
1904	11,542	
1905	8,454	
1906	7,000	
1907	9,339	
1908	17,775	
1909	22,137	
1910	115,430	
1911	186,695	
1912	1,572,306	
1913	2,406,522	
1914	3,560,375	
1915	4,245,525	
1916	6,234,137	
1917	8,978,680	
1918	12,596,287	
1919	13,172,000	
1920	16,831,000	
1921	19,333,000	16,066,125
1922	26,715,000	16,926,406
1923	44,785,000	21,769,826
1924	39,498,000	35,714,747
1925	29,173,000	32,495,306
1926	25,776,000	24,753,727
1927	21,307,000	21,681,708
1928	21,461,000	18,508,699
1929	19,314,000	16,895,390
1930	17,868,000	15,639,170

Year	Gross Bbls.	Net Taxable Bbls.
1931	14,834,000	13,008,011
1932	13,418,000	11,353,006
1933	11,227,000	10,124,504
1934	12,556,000	11,108,115
1935	13,755,000	12,247,316
1936	14,582,000	13,062,296
1937	19,166,000	17,704,873
1938	19,022,000	17,781,813
1939	21,454,000	20,465,457
1940	25,711,000	24,242,112
1941	29,878,000	28,378,725
1942	32,812,000	30,259,013
1943	34,253,000	31,454,751
1944	33,356,000	30,554,213
1945	36,219,000	33,253,522
1946	38,977,000	35,847,249
1947	44,722,000	40,662,626
1948	55,032,000	49,978,630
1949	47,890,000	44,150,095
1950	61,631,000	56,411,712
1951	68,929,000	63,444,374
1952	68,074,000	67,723,252
1953	82,618,000	76,839,278
1954	93,533,000	85,005,784
1955	99,483,000	91,006,385
1956	104,830,000	96,278,109
1957	106,616,000	100,373,021
1958	109,584,000	103,483,116
1959	125,968,000	113,643,205
1960	133,910,000	121,097,650
1961	141,937,000	128,657,407
1962	135,847,000	123,381,779
1963	144,407,000	123,852,669
1964	138,752,000	125,376,557
1965	138,314,000	125,136,181
1966	134,470,000	121,638,887
1967	136,310,000	122,816,724

HISTORICAL PETROLEUM PRODUCTION - CONTINUED
1968 – 2006

Year	Gross MCF	Net Taxable MCF
1968	144,250,000	129,985,723
1969	154,945,000	140,522,875
1970	155,743,349	141,546,503
1971	146,261,295	132,588,059
1972	137,564,566	125,222,375
1973	139,054,568	126,943,274
1974	138,735,974	127,555,252
1975	132,237,026	120,629,951
1976	134,148,510	120,571,157
1977	135,994,695	124,328,857
1978	137,384,886	122,799,348
1979	126,669,861	115,678,022
1980	126,361,962	114,284,682
1981	118,844,000	111,912,600
1982	117,898,667	108,055,462
1983	120,979,721	110,420,981
1984	127,763,146	117,289,568
1985	130,984,917	123,172,534
1986	122,409,887	111,148,577
1987	115,922,003	112,981,314
1988	114,322,298	111,207,959
1989	107,740,581	100,354,382
1990	102,099,136	94,588,841
1991	94,926,995	88,022,304
1992	91,485,133	91,485,133
1993		86,399,855
1994		75,963,900
1995		71,594,121
1996		68,905,892
1997		68,057,025
1998		64,141,588
1999		59,150,174
2000		58,020,990
2001		54,664,200
2002		52,369,715
2003		50,167,571
2004		49,656,122
2005		50,032,004
2006		50,105,955
	Cumulative Total	**6,324,778,366**

Sources: Bureau of Mines (1864-1969)
Wyoming Department of Revenue (1970-2006)

TRONA

The world's largest deposit of trona is found in Wyoming's Green River Basin. From the deposit, the state produces about 95% of the nation's supply of natural soda ash. Several deposits of natural soda ash are known in the western United States, but only Wyoming and California have active mines. Deposits have also been identified in several other countries, but the only one currently producing is Kenya.

Trona is a water-bearing sodium bicarbonate compound with many uses. Trona originated as a precipitate from a large fresh-water lake, Lake Gosiute, which covered as much as 15,000 square miles of surface in southwestern Wyoming. The trona was precipitated when Lake Gosiute underwent a period of restricted circulation and developed a high salinity content at the same time as elevated temperatures resulted in increased evaporation.

More than 40 individual beds of trona underlie an area of about 1,300 square miles. It is estimated that some 50 billion tons of mineable trona, plus an additional 30 to 40 billion tons of marginal trona, are contained in these beds.

In 1938, Mountain Fuel Supply Company drilled an oil and gas test well northwest of Green River, Wyoming, and discovered a brine rich in trona. Exploration by the Union Pacific Railroad, in 1940-1942, indicated the presence of extensive reserves of trona. In 1946, Westvaco, the predecessor of FMC Corporation, sank a 1,500-foot shaft to the main trona deposit and constructed a pilot refinery at the surface. The first soda ash was produced by FMC in 1950, with Stouffer Chemical coming on line in 1962, Allied Chemical in 1968, Texas gulf in 1975, and Tenneco Oil Company in 1982. A sixth company, Wold Trona, is planning a mine and refining plant.

All Wyoming trona mining is currently done underground. Room and pillar methods and coal mining equipment, modified to withstand the harder ore, are used.

Both conventional and continuous mining techniques have been traditionally used, but recently long wall mining has been successfully employed.

In the past, the Solvay process primarily produced soda ash synthetically. This process combines salt (sodium chloride) and calcium carbonate (limestone) to make sodium carbonate (soda ash).

The last plant using the Solvay method in this country was shut down in 1987. The Solvay plant shutdowns were partly the result of high capital, labor, and energy requirements, but the greatest factor was the environmental considerations. For each ton of soda ash produced by the Solvay process, about 1.7 tons of waste is generated, which poses an enormous disposal problem.

Trona is refined by first subjecting the ore to a heat of 400° F to remove water of crystallization, combustible materials, and carbon dioxide. This crude soda residue is then taken into water solution and filtered to remove insoluble residues. The filtered material is then dried. The final product is pure soda ash.

Trona's primary use is in glass making, which takes around 55% of the United States' consumption. The chemical industry accounts for 23% of consumption, followed by soap and detergent at 5%, pulp and paper manufacturing at 4%, water treatment at 3%, and 10% in various applications including pharmaceuticals, photography, metallurgy, and petroleum refining.

Wyoming trona production has grown from 29,658 tons in 1950, to 19,375,595 tons in 2006. Valuation on 2006 production was $299,227,941. The short-term future of Wyoming trona appears good, based primarily on the industries aggressive marketing and discovery of new applications such as stack gas scrubbing. In the longer term, significant growth in Wyoming's trona market would seem to be likely to come from Europe, where most soda ash is currently produced by the Solvay process, with the same problems there are in this country.

China has abundant raw materials for Solvay extraction, and is currently building a large plant to utilize them using this process.

If Wyoming trona had been mined at the current rates since the year 1 AD only 33% of the known reserves would have been depleted, and if mining had proceeded at the same rate since the rise of the first dynasty in Egypt, 56% of the known reserves would still remain untouched.

An annual compilation of trona production in Wyoming is given in the following table.

HISTORICAL TRONA PRODUCTION
1950 - 2006

Year	Net Tons	Year	Net Tons
1950	29,658	**1991**	16,175,601
1951	76,769	**1992**	16,407,911
1952	56,733	**1993**	16,031,147
1953	262,001	**1994**	16,128,501
1954	465,851	**1995**	18,449,366
1955	525,311	**1996**	18,550,633
1956	541,456	**1997**	19,428,196
1957	633,917	**1998**	18,619,616
1958	564,474	**1999**	17,794,438
1959	747,164	**2000**	17,837,340
1960	862,879	**2001**	17,722,311
1961	809,762	**2002**	17,298,203
1962	1,082,119	**2003**	17,763,061
1963	1,200,525	**2004**	18,736,464
1964	1,480,746	**2005**	19,508,616
1965	1,782,745	**2006**	19,375,595
1966	2,147,390		
1967	2,323,475		
1968	2,793,325		
1969	3,708,657		
1970	4,022,304		
1971	4,203,677		
1972	4,783,946		
1973	6,029,984		
1974	7,070,617		
1975	7,379,792		
1976	8,800,607		
1977	10,215,602		
1978	9,974,237		
1979	11,771,985		
1980	12,159,241		
1981	11,787,731		
1982	10,073,690		
1983	10,542,417		
1984	10,971,209		
1985	10,776,304		
1986	11,919,530		
1987	12,422,255		
1988	15,114,169		
1989	16,212,715		
1990	16,231,527		
1991	16,175,601		
	Cumulative Total (net tons)		**502,153,768**

URANIUM

Uranium was discovered as an element in 1789 and isolated as a metal in 1842. A few minor uses for uranium salts and medical demand for radium created a small market in the 1920's and 1930's. So little was known about possible ore sources in the United States that the uranium ore used in the production of the two atomic bombs dropped on Japan came from the Belgian Congo. President Truman appointed the Atomic Energy Commission in 1946. In the late 1940's and early 1950's the public was encouraged to prospect for uranium and the first great uranium rush was on.

Uranium is a widespread, though uncommon, primary constituent of crystalline rocks of the earth's crust. As a result of weathering processes, it is often removed from these source rocks and redeposited in sediments. Uranium deposits are known from rocks as old as Precambrian, and as recent as Pleistocene, and all ages in-between.

The most important deposits of uranium in Wyoming occur in permeable sandstones of Tertiary age. The uranium was originally contained in the crystalline rocks, which form the cores of the state's mountain ranges. The uranium was leached from these rocks and precipitated in the much younger sandstones.

Uranium ore is recovered by open pit, underground, and solution mining methods. Open pit and underground mining is carried out in the usual manner, the only difference being that the material to be removed is determined by using a scintillation counter to delineate the radioactive ore.

In solution mining, a shaft is drilled into the ore body. Chemicals are introduced down this shaft, which dissolve the uranium out of the rock. The uranium-containing solution is removed through another well or wells drilled to the depth of the ore body. The solution on the surface is processed much as the solutions obtained by conventional milling methods to remove the dissolved uranium. Due to the toxic nature of the solutions used, great care must be exercised in solution mining operations to prevent ground water contamination.

Milling involves grinding and crushing the ore, after which it is treated with acid to take the uranium into solution. The leachate is treated with various chemicals to concentrate the uranium and simplify it chemically. The final concentrate is evaporated to yield "yellow cake". The yellow cake consists almost entirely of uranium 238 and a small percentage of uranium 235, the fissionable isotope. The uranium must be enriched to around 3.5% U 235 for power reactor use, while weapons grade material has a U 235 content of over 90%. The yellow cake is shipped to various conversion and enrichment facilities to be upgraded to the required level.

The primary uses of uranium are as fuel for nuclear reactors and national defense. Concerns over thermal power plant emissions have sparked renewed interest in nuclear powered electricity generation, which in turn has stimulated interest in uranium mining. Defense requirements are difficult to determine, but new weapon construction plus upgrading of existing stock piles (nuclear warheads deteriorate through time) has increased, though not enough to increase demand significantly. Other uses for uranium are in X-ray tubes, ultraviolet lamps, glass colorants, ceramics, and steel.

Wyoming's first production of uranium occurred in 1953, when 5,156 tons of ore was mined. The largest production of 5 million tons was attained in 1978. Wyoming ranks second to New Mexico in amount of reserves and was fourth in production in 2006. The history of Wyoming uranium production is given in the accompanying table.

Wyoming has two active in-situ operations, Power Resources Highland and Morton Ranch facilities in Converse County. In fact, there is only one other active uranium operation in the country, Crow Buttes in western Nebraska.

HISTORICAL URANIUM PRODUCTION
1953 – 2006

Year		Net Tons
1953		5,156
1954		10,443
1955		45,782
1956		116,463
1957		264,133
1958		559,053
1959		810,514
1960		1,307,919
1961		1,542,192
1962		1,394,704
1963		1,289,595
1964		1,126,827
1965		1,222,821
1966		916,415
1967		1,242,187
1968		1,977,258
1969		1,631,518
1970		2,042,074
1971		2,044,943
1972		2,390,100
1973		2,588,011
1974		2,287,697
1975		2,736,663
1976		3,302,422
1977		3,986,025
1978		5,517,070
1979		5,512,345
1980		5,352,337
1981		4,560,683
1982		3,895,510
1983		3,022,650
1984		1,634,262
1985		619,967
1986		226,821
1987		244,087
1988		1,442,123
1989		1,540,412
1990	*	1,331,935
1991		2,036,068
1992		1,606,438
1993		1,107,083
1994		1,207,421
1995		1,380,503
1996		1,911,514
1997		2,325,458
1998		2,329,381
1999		2,760,257
2000		2,073,138
2001		1,640,668
2002		1,526,336
2003		1,225,077
2004		1,268,429
2005		1,345,257
2006		2,045,008

Cumulative total (tons of ore)	**71,566,745**
Cumulative total (lbs of yellow cake	**27,788,036**

* In 1991 Uranium production reporting was changed from net tons of ore to pounds of yellow cake

Source: Wyoming Department of Revenue

MISCELLANEOUS MINERALS

CONSTRUCTION MATERIALS

The construction materials mined in Wyoming are crushed rock for cement, sand and gravel, railroad ballast, scoria, and limestone. The cement industry is the largest non-fuel minerals industry in the nation. Cement is vital to the construction and road-building industries and is literally the backbone of modern civilization. Wyoming has one cement plant in Albany County.

Sand and gravel is the only mineral commodity, which is produced in all 50 states, and also is the only one produced in all of Wyoming's 23 counties. Its primary uses are as aggregate for concrete and bituminous mixes, for road bases and coverings and as fill. Pure sand is used in glass manufacture, foundry molding, and metallurgical applications.

Limestone is utilized as a building and decorative stone, road metal, aggregate, and in sugar beet factories where pure limestone is used as a source of lime and carbon dioxide in the refining process.

Railroad ballast consists of crushed granitic rock and is utilized in the construction and maintenance of road beds.

Scoria is shale, which was baked during the spontaneous combustion of coal beds. It is used as road aggregate in the northeastern part of the state.

Construction material production shows large short-time fluctuations, and 2006 showed an increase of over 3.8 million tons produced.

The Geological Survey of Wyoming has a construction materials map of the state available.

COPPER

Copper was the first metal utilized by man over 6,000 years ago. Native uncombined copper was utilized for tools, weapons, and jewelry due to the ease with which it could be shaped.

Currently, over half of the copper produced is used in the electrical industry for wire, equipment and components. Next to silver, copper has the highest electrical conductivity of any metal. Other uses of copper are in plumbing, instruments, household utensils, decorative items and coinage.

Copper occurs as the native metal or combined in sulfides oxides and carbonates. These secondary compounds are the result of weathering and concentration of copper from its original source in low silica igneous rocks.

Copper mineralization occurs sporadically throughout every mountain range in Wyoming. Copper mineralization is most common in Precambrian rocks, but is found in younger rocks in places such as the northern Laramie Mountains and the Hartville uplift.

In the interval between 1899 and 1908, over 23.5 million pounds of copper was produced in Wyoming, mostly from the Encampment district, west of Laramie, and in this period Wyoming was one of the leading copper producing states in the nation. Copper production increased during World War I, mostly from the Hartville area, north of Wheatland. Since that time, Wyoming copper production has been insignificant.

DECORATIVE STONE

The Sunrise Stone Company continues to produce custom decorative blocks of black granite from its Raven quarry in Albany County west of Wheatland. The owners of Raven Quarries continue to produce a pink granitic rock called *Mirage*. Blocks of this material are shipped to Tijuana, Mexico for cutting and polishing into slab and tile. Some stone from this quarry is also processed into polished slab by Strid Marble and Granite in Cheyenne.

Feasibility studies for quarries and fabricating plants for the production of dimensional granite, marble and limestone in Wyoming are ongoing.

DIAMONDS

Diamond is composed of carbon, arranged in a crystal structure, which makes it the hardest natural substance known. Diamonds were first prized as gemstones centuries ago in India and Borneo. It was not until much later that the applications of diamond as an abrasive in grinding wheels and drill bits, and as wire drawing dies, were realized.

Diamonds are produced in South Africa, the U.S.S.R., Brazil, and the East Indies. Natural diamonds are produced in the United States in Colorado, but they are an insignificant amount when compared to the world market. Also, the General Electric Company has produced synthetic diamonds of industrial grade since 1955.

The primary source of diamonds is the mineral kimberlite, a greenish gray crystalline rock that is the solidified lava conduit of an ancient volcano and a rock type called lamproite, both of which occur in Wyoming, kimberlite in the Stateline District and lamproite in the Leucite Hills. Diamonds are produced naturally in the high pressures and temperatures found in pockets of molten rock deep beneath the

surface. Exposure of these kimberlite pipes results in weathering of diamonds from the rock and their concentration in stream gravels. About 50% of the diamonds recovered are taken by placer mining of old stream channels.

Kimberlite pipes occur along the eastern Wyoming-Colorado border. A number of small (less than 2 mm) diamonds have been extracted from these rocks. The Wyoming Geological Survey has an on-going program to identify heavy-mineral anomalies in the state, which may be indicators of Kimberlite occurrences. Thus far, some 300 such anomalies have been identified, in the Laramie, Medicine Bow, and Seminoe mountains. In addition, micro diamonds have been reported in a coal seam near Gillette, two turned up in a gold placer in the Medicine Bow mountains, a diamond was found in a gold placer in the Wind Rivers, and a 7 to 9 carat blue white specimen was uncovered in a prospect pit in the Gros Ventre Range.

GOLD

Gold has been treasured since ancient times due to its beauty, permanence and the ease with which it can be worked. In the latter half of the 20th century, it has become a valuable industrial material, with applications in computers, shielding, high performance welding and other uses. Gold's most widespread use remains as a monetary standard. Nearly half of the gold that has ever been mined is in government vaults.

Gold is one of the "noble" metals. It does not combine chemically with other elements. Gold is found in a wide variety of geologic environments associated with various rocks and minerals. Due to its weight and lack of impurities, it is concentrated by stream action into placer deposits where it is recovered by dredging and washing sediments.

Gold has been found in all of the mountain ranges of Wyoming. Past significant mining operations were located in the Wind River Mountains, the Medicine Bow Mountains, and the Sierra Madre Mountains. No mines in these districts were exploited below 400 feet, and many were abandoned while still in the ore body.

Approximately 325 thousand ounces of gold have been produced from Wyoming. No operations are currently active, although current gold prices have stimulated renewed interest. Exploration and leasing of properties considered to have potential continues.

GYPSUM

Gypsum has been used since ancient times for carving and decoration. The Greeks used it to manufacture plaster, which remains the principle use for the mineral. In the late 1800's a method to retard the setting of gypsum plaster was developed, and this revolutionized the industry by permitting the use of plaster in construction. The development of prefabricated wallboard revolutionized the industry again in the 1960's. Approximately two-thirds of the gypsum currently marketed is in the form of prefabricated products.

Gypsum is precipitated primarily from seawater, but may be deposited in saline lakes or hot springs. It often occurs as a product of volcanic activity and may occur in metallic mineral veins.

Gypsum in Wyoming primarily occurs in layers in Permian, Triassic, and Jurassic red beds at various localities within the state. Some gypsum has been mined in Wyoming since the 1890's, but current production comes from mines in Big Horn, Crook and Park Counties. All of Wyoming's gypsum output from the Big Horn Basin is utilized in the manufacture of wallboard, while the Albany County mine's production is used in the manufacturing of cement.

Wyoming Gypsum production in 2006 was over 2.6 million tons.

JADE

Jade has been a prized gemstone in China and the Far East for a long time. It is valued for its toughness, ability to take a high polish, and the ease with which it can be carved.

The term jade is applied to two different minerals, which have roughly similar properties. The mineral jadeite is a sodium aluminum silicate. It is hard and tough, and varies from white to greenish-white to emerald green. It has been found in Burma, Southern China, Tibet, Mexico, and South America. No jadeite has been found in Wyoming. The second variety of jade is the mineral nephrite, a calcium-magnesium-aluminum silicate. It is not quite so hard or tough as jadeite. Its color varies from olive-green through dark green to black. Light "apple-green" jade is the most valued. It has been found in China, Turkestan, Siberia, New Zealand and Alaska, as well as Wyoming.

Jadeite occurs in metamorphic rocks in veins and masses. Nephrite occurs as veins in metamorphic rocks. Wyoming jade occurs as veins in Precambrian metamorphic rocks in the southern Wind River Mountains. Boulders and pebbles of jade occur around the southern end of the Wind River Mountains and on the north end of the Laramie Mountains to the east. Most Wyoming jade comes from

these isolated chunks, and not from the mining of veins. Wyoming Jade is well known to gemologists and rock hounds, and is one of the best-known Wyoming mineral products worldwide.

ZEOLITES

Zeolites are sodium and/or calcium-aluminum silicate minerals that occur in bedded clay deposits or in vesicles in volcanic rocks. Their current use is in water softening due to their ability to exchange ions with solutions they contact. It is projected that they will be used on a large scale for extraction of radioactive products from nuclear reactor wastes.

The Beaver Rim area of Fremont County contains layered zeolites bedded with clays exposed over a considerable area; however, there is no commercial production at this time. The United States has put its Zeolite deposit located in the Washakie Basin in Sweetwater County up for sale. Other potentially commercial zeolite deposits are located in the Beaver Divide area of Fremont County and on Lysite Mountain in Fremont and Hot Springs Counties.

WYOMING ENERGY CONSUMPTION
2007

WYOMING ENERGY CONSUMPTION

Wyoming is a net exporter of all energy forms it produces. The state exports much larger quantities of liquid fuels, natural gas, coal, and electricity than it consumes. This section is offered to reflect Wyoming's small energy consumption, relative to its contribution to the Nation's energy pool.

Department of Energy tabulations consistently rank Wyoming as the highest per capita energy consuming state in the nation. Three factors contribute to that high per capita consumption:

1. Wyoming is a large state with great distances between communities. As a consequence, travel in the state requires larger amounts of gasoline.
2. Wyoming winter temperatures can drop below zero and remain there for days at a time. Low temperatures coupled with winter winds make the Wyoming climate a rigorous one. Such a climate requires high consumption of fuels.
3. Most important, the Department of Energy uses statistics that reflect the energy produced in a state. Wyoming produces large amounts of coal, petroleum, natural gas and electricity, which are energy intensive industries. As a consequence, Wyoming residents appear as energy gluttons, when in fact much of the consumption attributed to them is exported and utilized elsewhere.

The remainder of this section is devoted to an analysis of energy produced and consumed in Wyoming, and provides comparisons of energy production to energy consumption by county wherever data is available.

GASOLINE AND DIESEL

Wyoming's refineries have an annual capacity of 2.0 billion gallons of crude oil per year. Estimated capacity during 2006 was about 80%, resulting in a through-put of 1.6 billion barrels. Approximately 50% of a refinery's output is gasoline, resulting in an approximate 2006 gasoline production in Wyoming of slightly over .80 million gallons of gasoline. Wyoming consumption is about 35% of that amount.

An analysis of users of diesel fuel in Wyoming fall into several categories:

1. Agriculture;
2. The trucking industry (a significant transient component is involved here);
3. Railroads (again a transient component is significant); and

4. Public transportation. Diesel powered private automobiles are not a significant factor.

GASOLINE

Gasoline consumption in Wyoming displays a strongly seasonal aspect, with peak consumption during the summer months, as seen in the accompanying graph. The actual amount consumed by Wyoming residents cannot be separated out of the fuel used by tourists or transient motorists that is purchased in the state. Energy Information Administration (E.I.A.) numbers indicate that Wyoming consumed over 7.8 million gallons of gasoline in 2006.

NATURAL GAS

Natural gas is the predominant home heating fuel in Wyoming. About 75% of the homes in Wyoming are currently heated with natural gas. Its utilization in the state is widespread, as pipelines provide delivery. Consumption varies with population, reflecting use in space heating. only two counties where natural gas is not generally available are Sublette and For comparative purposes, natural gas contains 1 million BTU's per MCF. E.I.A. figures indicate that Wyoming consumed over 100 million MCF of natural gas in 2006, with about 20% used in residences, 18% in the commercial sector, 57% by industrial customers, and about 5% by utilities. A very small amount was used as vehicle fuel, and this is lumped with industrial consumption.

The residential price for Wyoming natural gas in 2006 averaged $5.85 per MCF at the wellhead, $5.25 at the City Gate and $8.38 for residential customers.

COAL

Wyoming mines produced over 445 million net tons of coal in 2006. The amount consumed within the state totaled 27.8 million tons, or 7.0% of the total.

Electrical generation within the state accounted for 26.4 million tons, 93.6 % of the in-state total. The remaining tonnage was utilized in trona refining, coke manufacture, sugar refining, institutional and domestic space heating. Campbell County is the leading coal producing County in Wyoming and the nation with 411.1 million tons in 2006. Converse County is second in the state with 19.85 million tons, followed by Sweetwater at 9.7 million tons and Lincoln at 4.6 million tons.

ELECTRICITY

The capacity of electrical generating facilities is measured in kilowatts. Electrical production is measured in hours of delivery; kilowatt-hours or megawatt hours. Wyoming exported over 30.6 billion kilowatts of electricity in 2006, 71% of the amount produced in the state.

The Jim Bridger plant of PacifiCorp in Sweetwater County led state generating plants in kilowatt hours produced, followed by the Laramie River Station owned and operated by six cooperatives in Platte County, PacifiCorp's Dave Johnston station in Converse County, Utah Power & Lights' Eva Naughton Plant in Lincoln County and Black Hills Power and Light Company's three stations in Campbell and Weston Counties.

E.I.A. reports indicate Wyoming used 14.2 billion kilowatts of electricity in 2006. Industry used 8.0 megawatts of Wyoming electricity, residential users used 2.4 megawatts, and non-utilities used 3.8 megawatts.

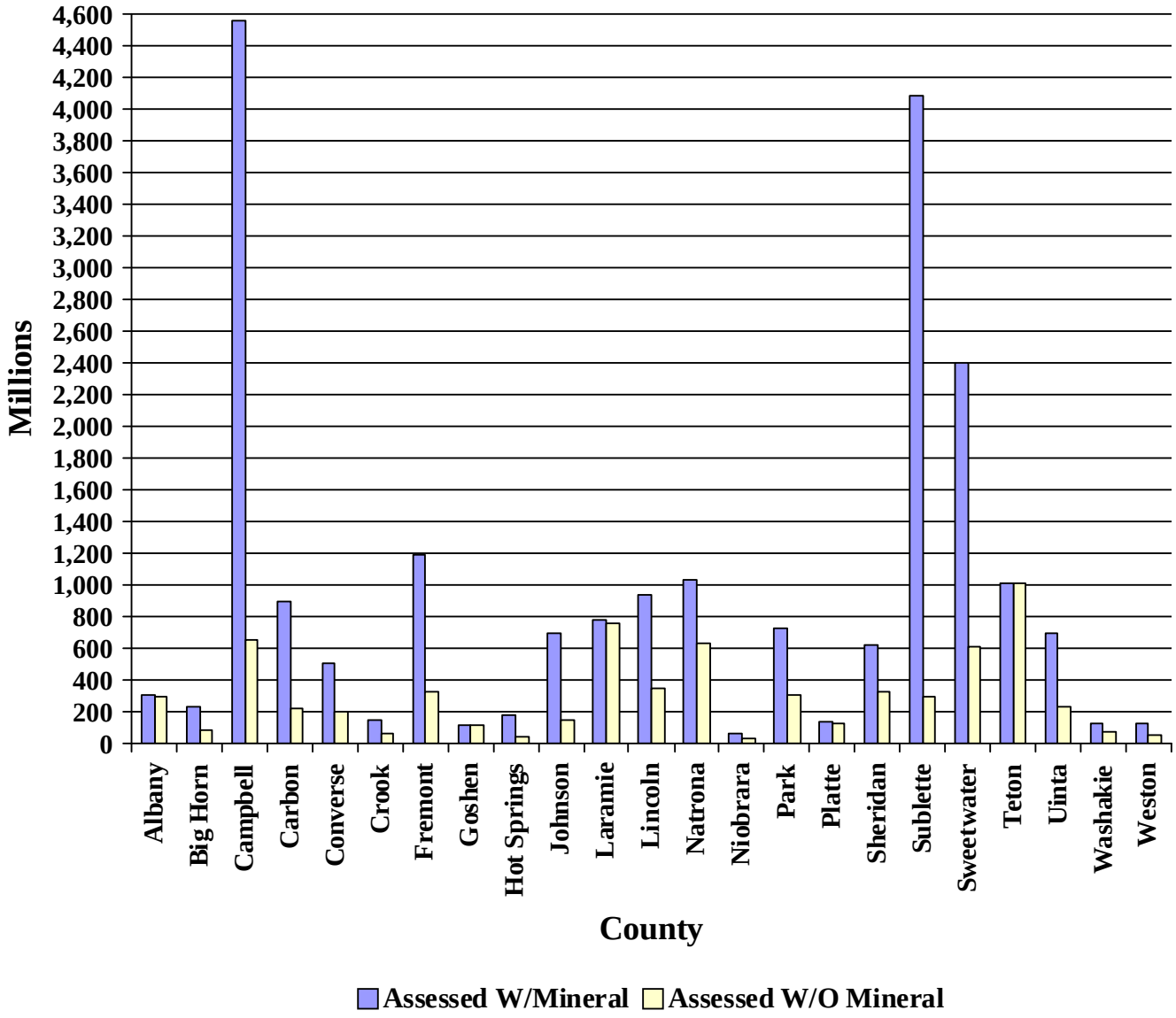
National utility generation was 49.7% coal, 18.7% gas, 19.3% nuclear, 6.6% hydro and 3.0% petroleum. “Renewables” accounted for about 2.7% of U.S. electricity produced, with over two-thirds of that being biomass, primarily co-generation at eastern paper pulp mills. The Clean Air Act Amendment of 1990 set standards for the emission of both sulfur dioxide and nitrogen oxide from power plants. Phase I of the sulfur dioxide standards took effect in 1995, while the nitrogen oxide standards took effect in the year 2000. Based on increased demand for Powder River Basin (P.R.B.) Coal, it appears that more utilities switched to P.R.B. coal than scrubbed for Phase I compliance. In the case of Phase II nitrogen oxide standards, P.R.B. coal may not be enough to bring many plants into compliance, even though P.R.B. coal has lower nitrogen oxide levels than most eastern coals. Therefore, some utilities will have to consider redesigning their

boilers and/or modifying firing techniques to meet the new standards. Both “clean coal” and liquid fuels production have focused attention on Wyoming’s abundant coal reserves, and research into possible applications of the state’s coal are ongoing.

The graph on the following page and the maps on the next two pages show historical electric utility capacity margins (reserve generation capacity), Wyoming electrical generating plants with transmission lines and Wyoming natural gas pipelines, respectively.

WYOMING MINERAL PRODUCTION AND VALUATION
2003 vs. 2007

COUNTY ASSESSED VALUATIONS
2007



ALBANY COUNTY

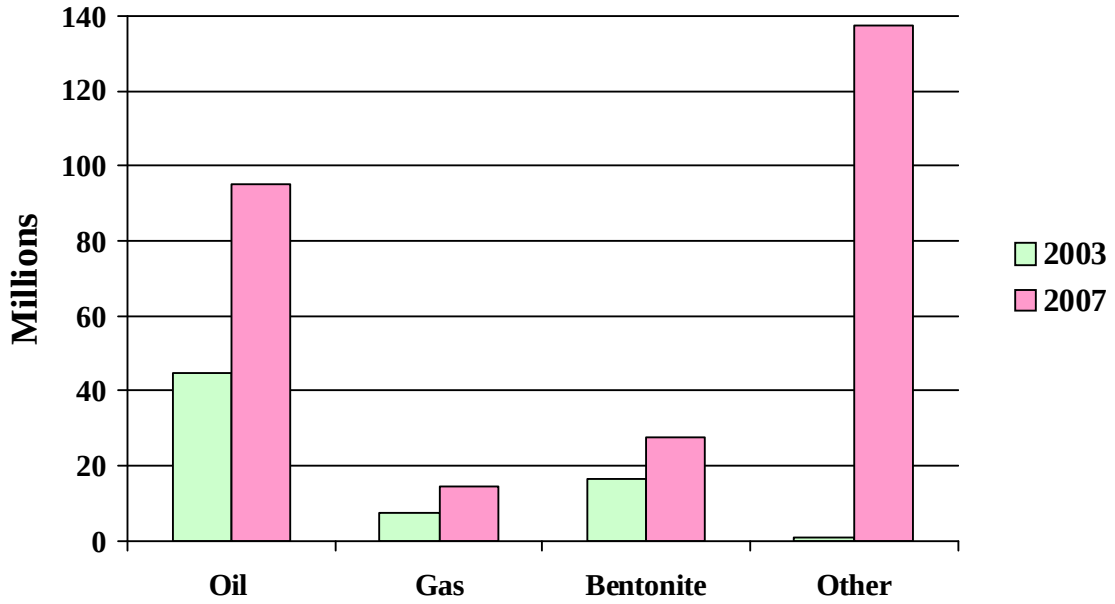
In 2007, 69% of Albany County's mineral valuation was on crude oil, with limestone, cement rock, and construction materials making up the remainder.

Oil production fell by 4.3 thousand barrels in 2006, but 2007 valuation per barrel rose by $8.88. Total 2007 mineral valuation in the county is about $277 million above the year 2006. Mineral valuation is less than 25% of total county valuation; therefore, no graph is included for this county.

BIG HORN COUNTY

Big Horn County's dominant mineral product is crude oil, accounting for 69% of the county's mineral valuation in 2007. In 2006 production was slightly less than 2005, but a $7.86 per barrel increase in unit value resulted in a valuation increase of over 16 million dollars. The production of natural gas decreased by 788 million MCF in 2006, and bentonite production rose by 308 thousand tons. Gypsum production fell by 39 thousand tons. A modest amount of sand and gravel was also produced in the county.

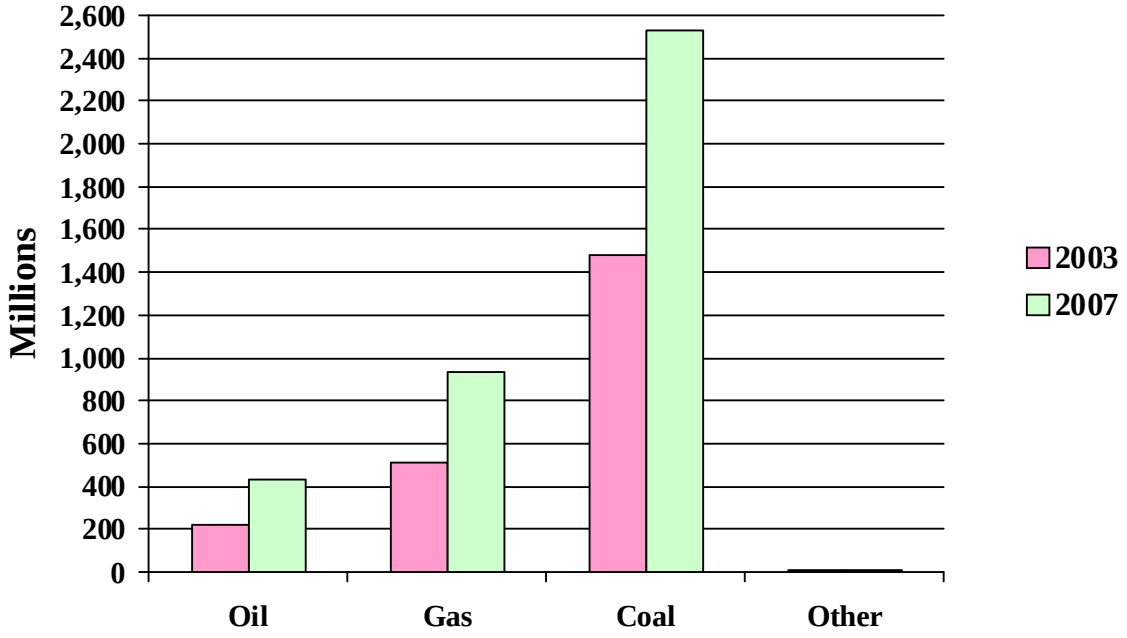
Big Horn County '03 vs. '07 Valuations



CAMPBELL COUNTY

Campbell County leads Wyoming in oil and coal production, and is second in natural gas production, and as coal bed methane development continues, the county's natural gas valuation continues to climb. Oil production rose over 168 thousand barrels in 2006, and a unit valuation increase of $12.14 resulted in a valuation rise of about $59 million. Coal production rose by over 36.2 million tons in 2006, and the county remained the largest coal producing county in the nation. The 2006 figure of 411.1 million tons represents 92% of Wyoming's total production. Valuation on coal rose by $537 million, even though unit value decreased $.70 per ton. Gas production fell over 82 million MCF, and with a unit valuation decrease of six cents, valuation fell over $372 million.

Campbell County '03 vs '07 Valuation



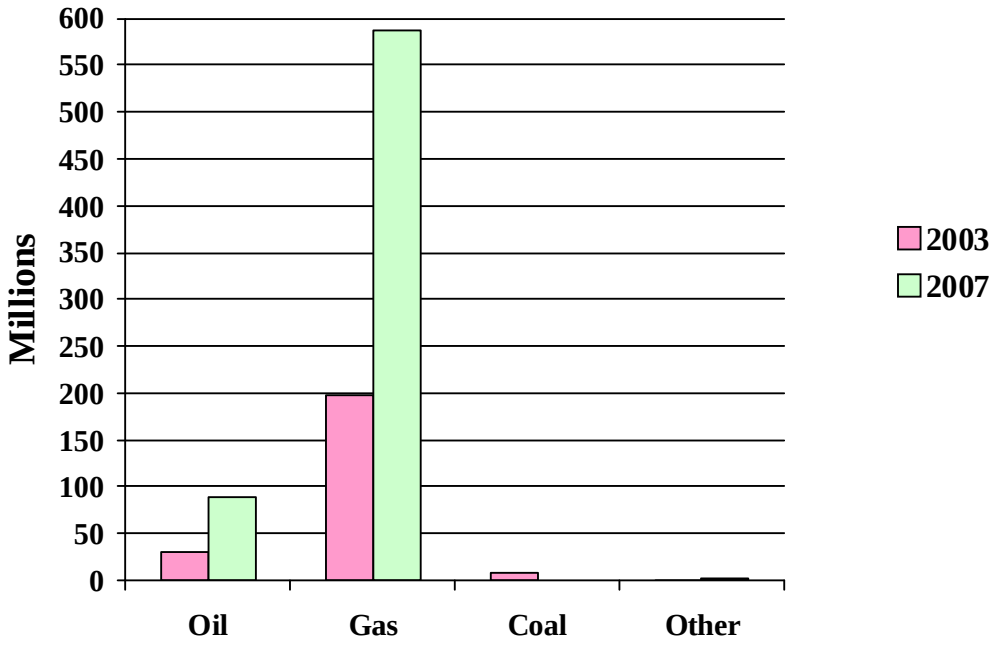
CARBON COUNTY

Natural gas was the most valuable county mineral commodity in Carbon County in 2006, with a total worth of over $586 million.

Carbon County produced no coal in 2006. High mining costs in Carbon County have resulted in cessation of all mining operations.

Oil production was 1.5 million barrels, a small 123 thousand barrel increase.

Carbon County '03 vs '07 Valuation



CONVERSE COUNTY

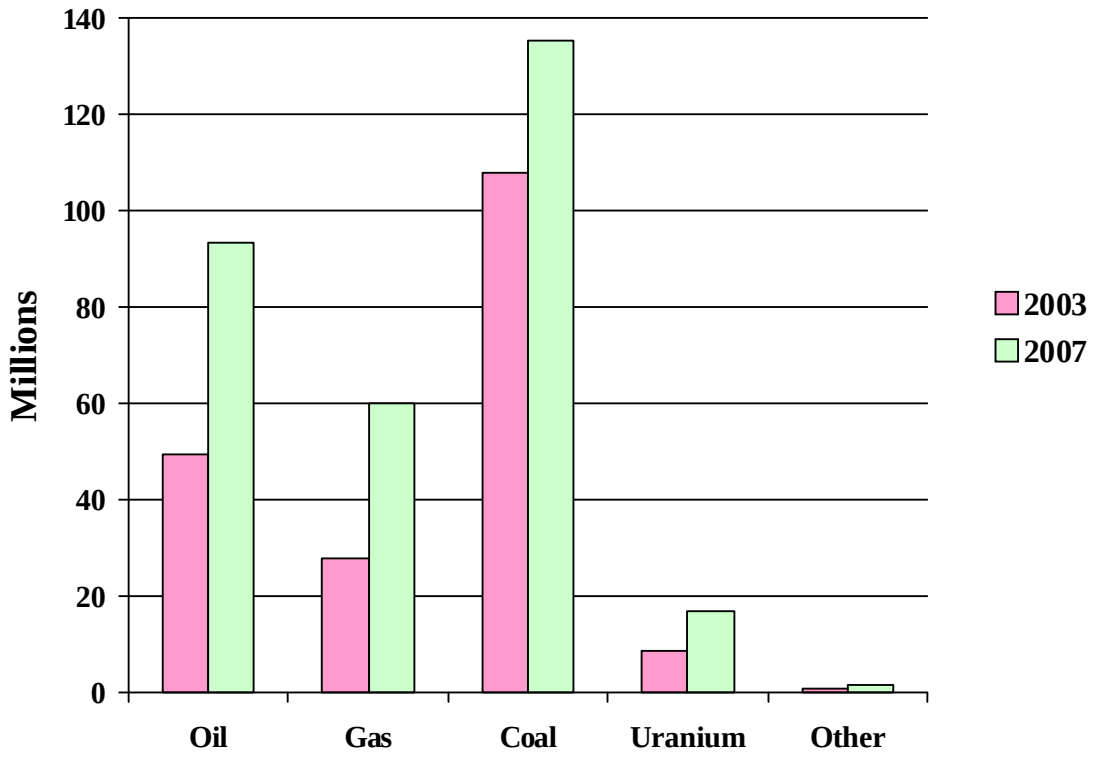
Oil production fell by over 38 thousand barrels in Converse County in 2006, but a valuation increase of $20.40 million resulted from a unit value increase of $13.38.

Natural gas production fell by 4.82 million MCF in 2006, but a unit valuation increase of $1.87 per MCF resulted in a valuation increase of $4.46 million.

Coal production in the county decreased by about 6.15 million tons in 2006.

The County has virtually all of the states uranium production, some 2 million pounds of U3O8, all of it in-situ.

Converse County '03 vs '07 Valuation

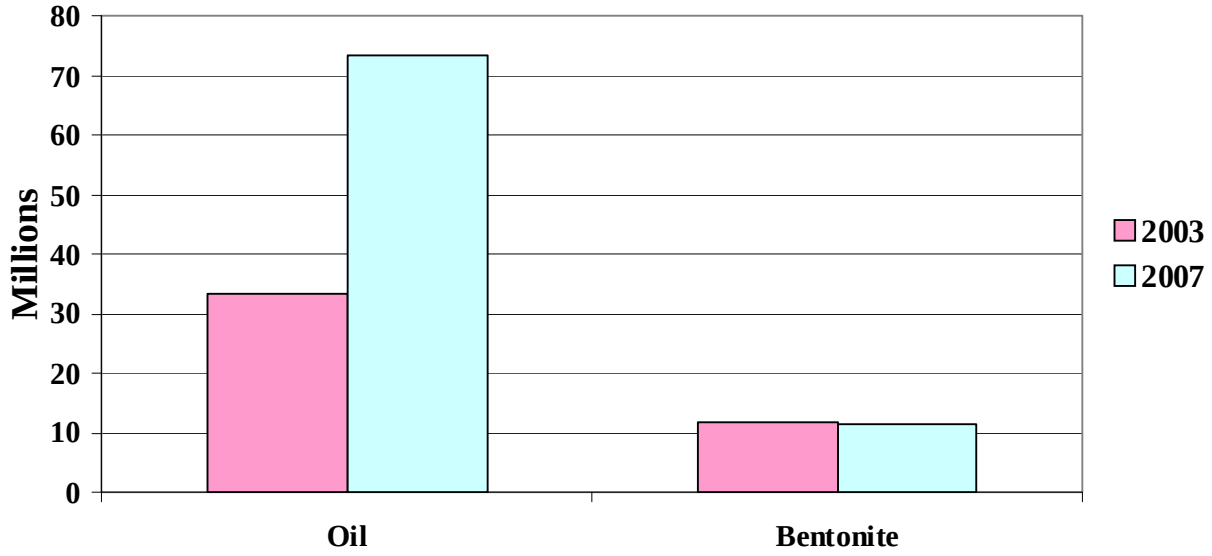


CROOK COUNTY

Oil production in Crook County fell by 62,000 barrels in 2006. Unit valuation rose by $4.37 per barrel, and this resulted in an oil valuation increase of $8.01 million. Oil accounts for 86% of the county's mineral valuation. The county had 13,586 MCF of natural gas production in 2006.

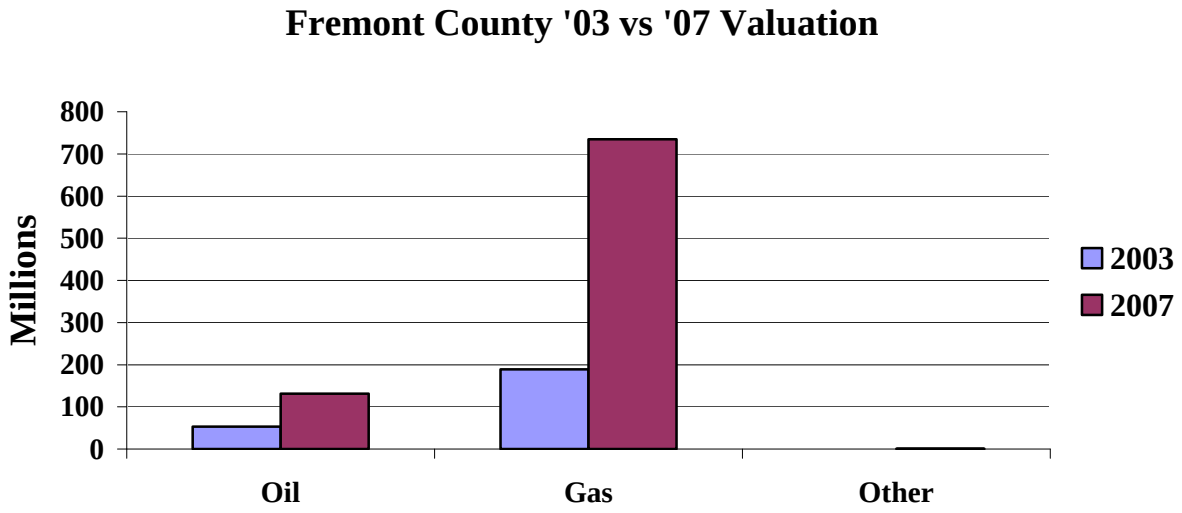
Bentonite production rose in 2006 by 186 thousand tons.

Crook County '03 vs '07 Valuation



FREMONT COUNTY

Oil production in Fremont County in 2006 was virtually identical to 2005, showing a 1,723 barrel increase. But unit valuation rose by $6.23, resulting in a valuation increase of over $18.8 million. Gas production rose by 17.18 million MCF, but a unit valuation fall of $1.90 per MCF decreased gas valuation by $243 million.



GOSHEN

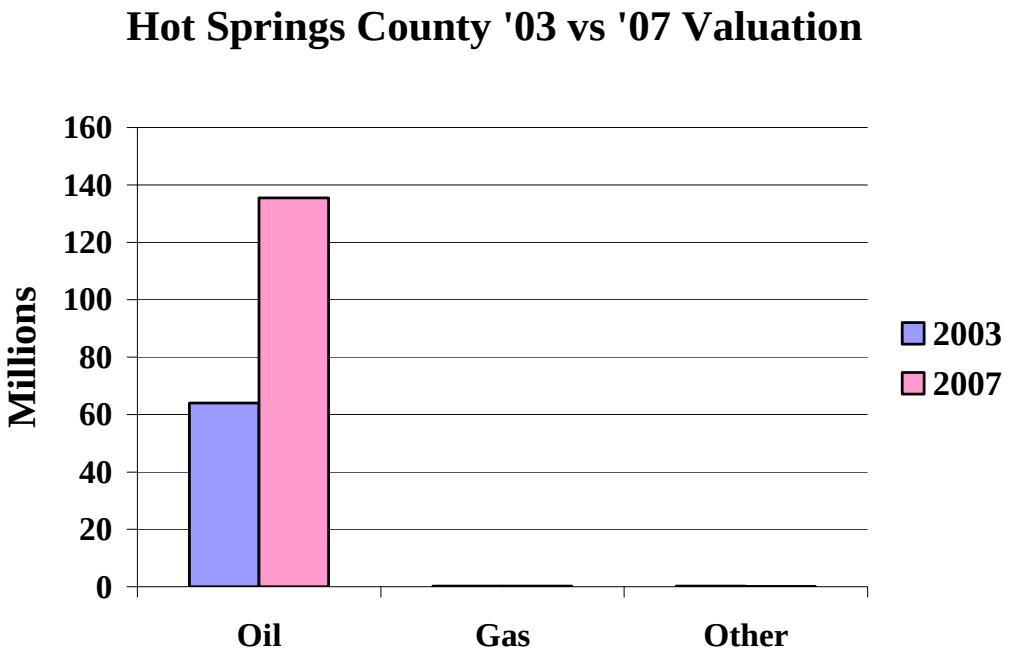
Goshen County's 2007 mineral valuation of $72,521 is the smallest in the state, and is the only county with a total county mineral valuation in 2007 of less than 1 million. The counties mineral valuation is from sand and gravel production.

Mineral valuation is less than 25% of total county valuation; therefore, no graph is included for this county.

HOT SPRINGS

Oil accounts for over 99% of Hot Springs County mineral valuation. In 2006 production decreased by 55 thousand barrels, but a $7.08 per barrel increase in unit value resulted in a valuation increase of over $21.2 million dollars.

Natural gas production in the county decreased by 113.7 thousand MCF.

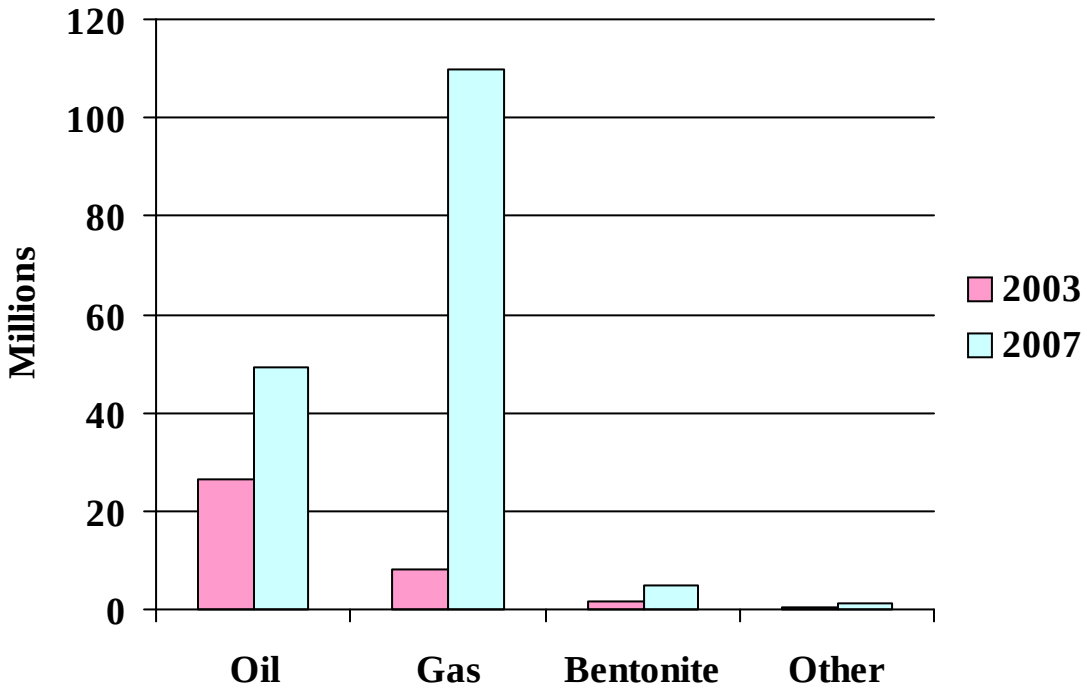


JOHNSON COUNTY

Oil accounted for 10% of Johnson County's mineral valuation in 2006. Production decreased by 17.7 thousand barrels, but valuation increased by over $3.9 million, as unit valuation rose by $3.39 per barrel.

Other mineral products of the county were 103.9 million MCF of gas, and 443 thousand tons of bentonite.

Johnson County '03 vs '07 Valuations



LARAMIE

In 2007 oil production accounted for 66% of Laramie County's mineral valuation, with construction materials and a small quantity of natural gas accounting for the rest.

Oil production in the county fell by 27 thousand barrels. Unit valuation increased by $3.50 per barrel, but valuation decreased by over $470 million.

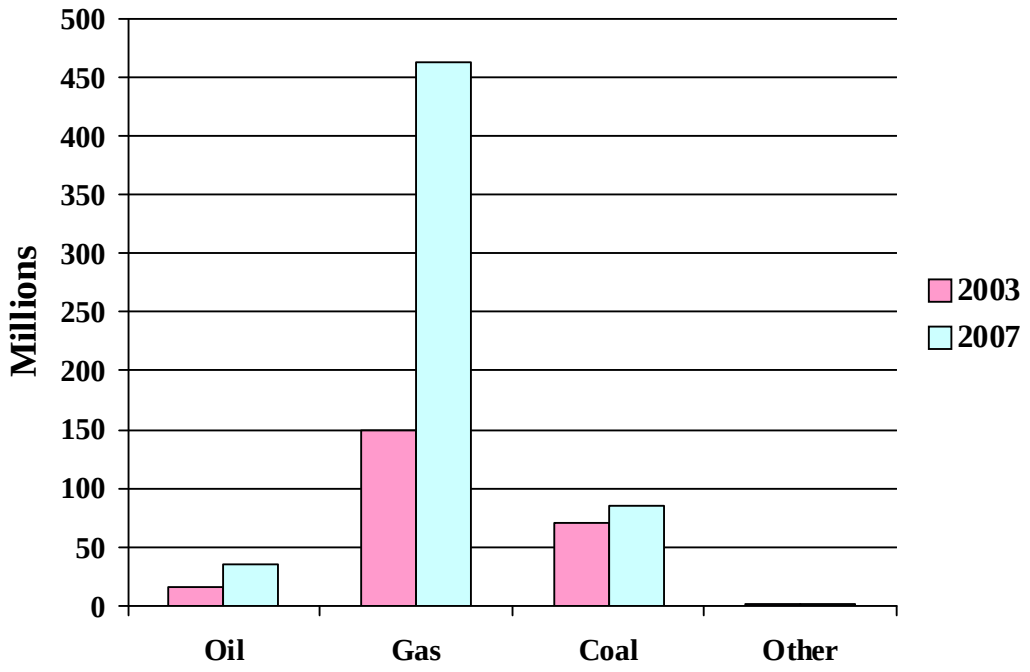
The county valuation of over $1.17 million for construction materials continues to be one of the larger totals in the state. Mineral valuation is less than 25% of total county valuation; therefore, no graph is included for this county.

LINCOLN COUNTY

Lincoln County has been a coal producer for over 120 years. In 2006, there were 4.56 million tons mined, a slight decrease of 51 thousand tons over 2005. Additional production from the FMC Skull Point Mine and possibly a Rocky Mountain Energy operation may raise this total in the near term, but geology will halt operations at Elkol-Sorenson in the not-too-distant future, as the coalbeds dip of 29° will make surface mining prohibitively expensive.

Natural gas accounted for 79% of Lincoln County's $5849.99 million mineral valuation in 2006. The county's location on the eastern edge of the Overthrust Belt, along with the Exxon LaBarge Project, accounts for its continuing large gas production, 84.4 million MCF in 2006. County oil production in 2006 was 13 thousand barrels above the 2005 total.

Lincoln County '03 vs '07 Valuation

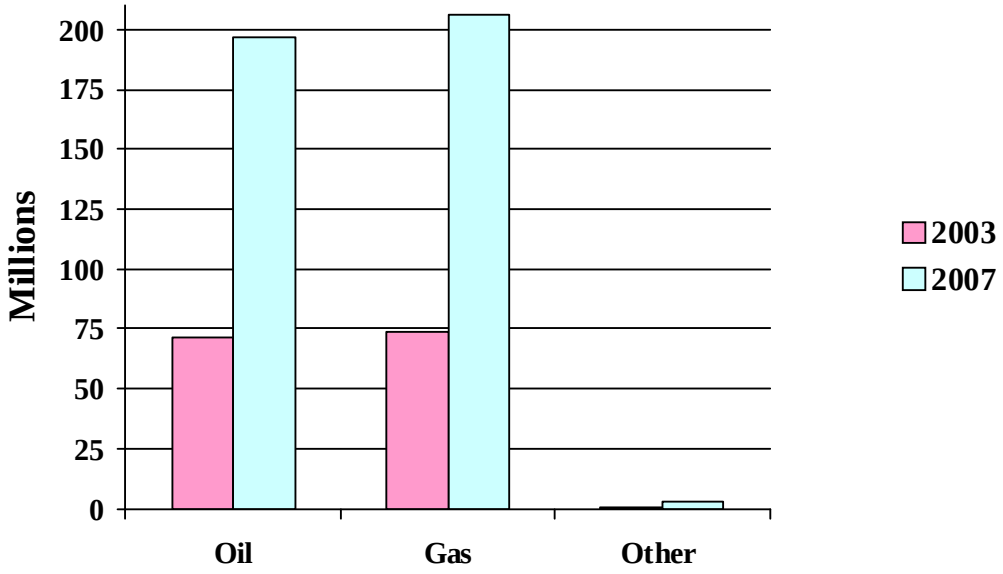


NATRONA COUNTY

Oil production in Natrona County increased by 187.6 thousand barrels in 2006. A rise in unit valuation of $3.82 resulted in a valuation increase of $23.31 million. Natural gas production rose by 1.29 million MCF in 2006, but a unit valuation decrease of 51 cents caused valuation to fall by $ 54.7 million.

Other county mineral products are bentonite, sodium sulfate, feldspar and construction materials.

Natrona County '03 vs '07 Valuation



NIOBRARA COUNTY

Niobrara County's most important mineral commodity is crude oil. Crude oil accounted for 94% of the county's 2007 mineral valuation. Production rose by a little more than 81,000 barrels. A unit value increase of $8.75 resulted in a valuation increase of $7.31 million.

Natural gas production rose by 1.46 million MCF, but even such a large percentage increase for the county cannot reliably indicate any trends.

Mineral valuation is less than 25% of total county valuation; therefore, no graph is included for this county.

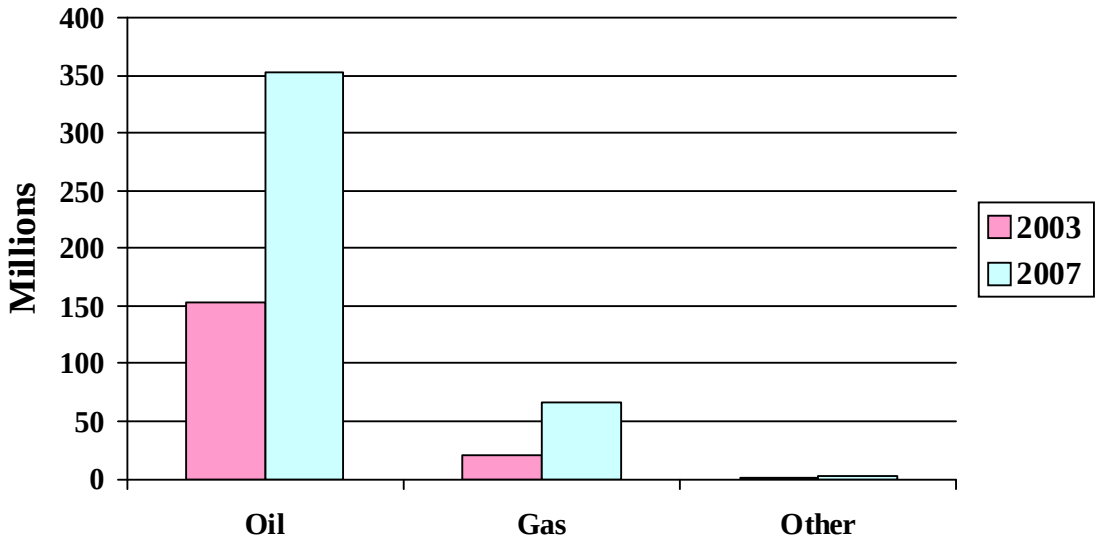
PARK COUNTY

Park County was behind only Campbell County in 2006 with an output of 8.21 million barrels of oil. This was an increase of 88 thousand barrels compared to 2005. Production will decline over time as old giant fields like Oregon Basin continue to be depleted, regardless of market conditions. Oil production accounted for 83.7% of the county's 2007 mineral valuation. Unit valuation rose by $7.69 per barrel in 2006, which resulted in a valuation increase of almost $66 million.

Gas production fell by 194.2 thousand MCF.

Gypsum production increased to 1.56 million tons.

Park County '03 vs '07 Valuation



PLATTE COUNTY

The county's 2007 mineral valuation of $1,526,011 comes from various sand and gravel operations and a small amount of limestone. Mineral valuation is less than 25% of county valuation; therefore, no graph is included for this county.

SHERIDAN COUNTY

Sheridan County had no coal production in 2007.

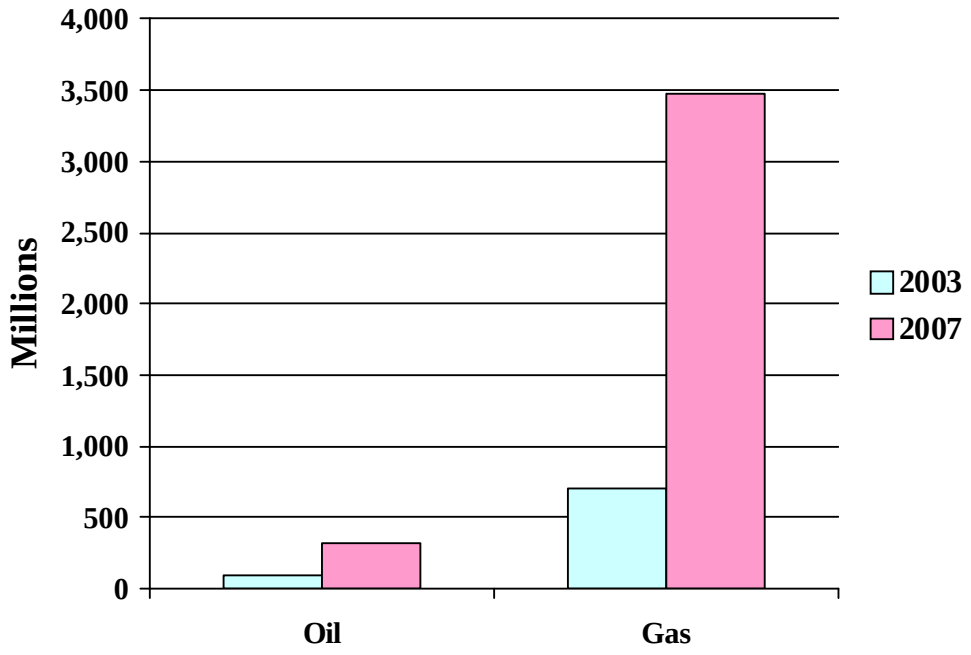
Sheridan County's small oil production decreased by 8,823 barrels in 2006. Natural gas accounted for 99% of the counties 2007 total mineral valuation of $290.1 million. Mineral valuation is less than 25% of total county valuation; therefore, no graph is included for this county.

SUBLETTE COUNTY

Natural gas was Sublette County's most important mineral product in 2006, with over 888 million MCF produced, the largest single county production in the state, by far, with a valuation of just under $3.5 billion. A 35 cent drop in unit valuation resulted in a valuation loss of $ 445.3 million, a decrease which cost Sublette County to drop from first place to second behind Campbell County in total mineral valuation. Due to the counties almost total reliance on natural gas revenue's, it was hit hard by the drop in gas prices.

Oil production rose significantly in 2006, showing an increase of over 586 thousand barrels. Liquids stripped at the processing plants, plus the possibility of new Overthrust discoveries should continue to fuel a continuing upward trend in production.

Sublette County '03 vs '07 Valuation



SWEETWATER COUNTY

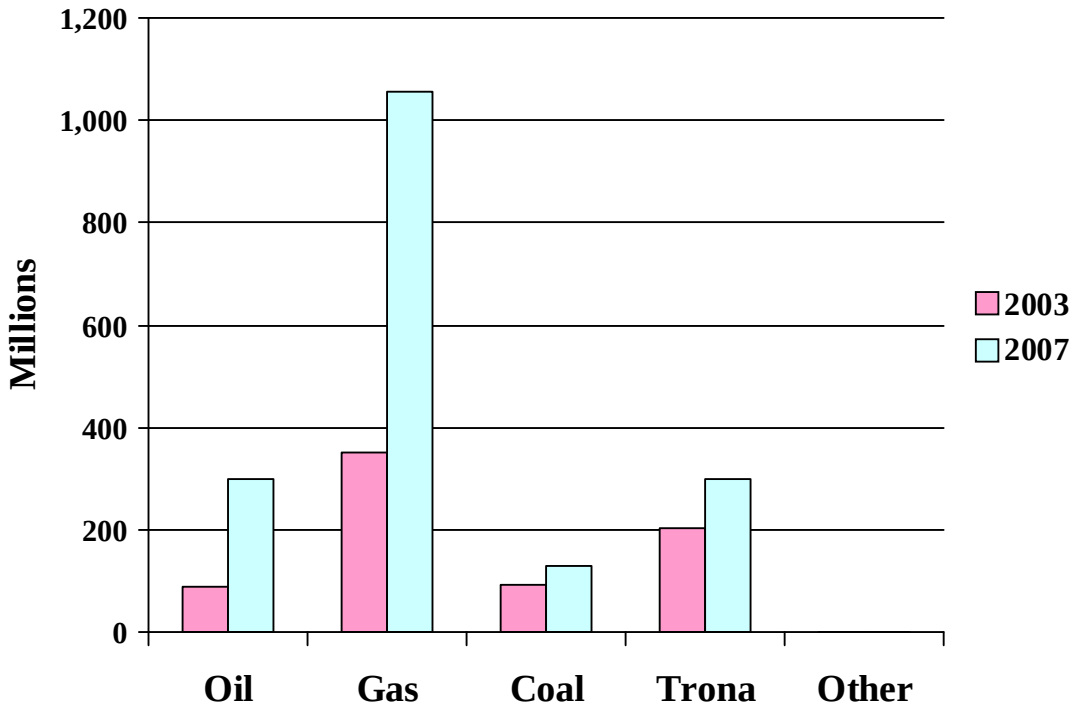
Sweetwater County has significant production of oil, gas, coal and trona, plus sand and gravel for a total valuation on production in 2007 of over $1.78 billion. This is the third highest valuation in the state behind Campbell and Sublette Counties.

Trona is produced only in Sweetwater County, and accounted for 17% of the county mineral valuation. There was a $44.0 million increase in 2007 valuation. Natural gas is the most valuable mineral commodity in the county, accounting for over $1.06 billion of mineral valuation.

Coal is third in valuation, with a 2007 value of $131.3 million.

Sweetwater County is the fourth largest oil producer in the state. Production of 4.920 million barrels was responsible for 17% of the 2007 county mineral valuation.

Sweetwater County '03 vs '07 Valuation



TETON COUNTY

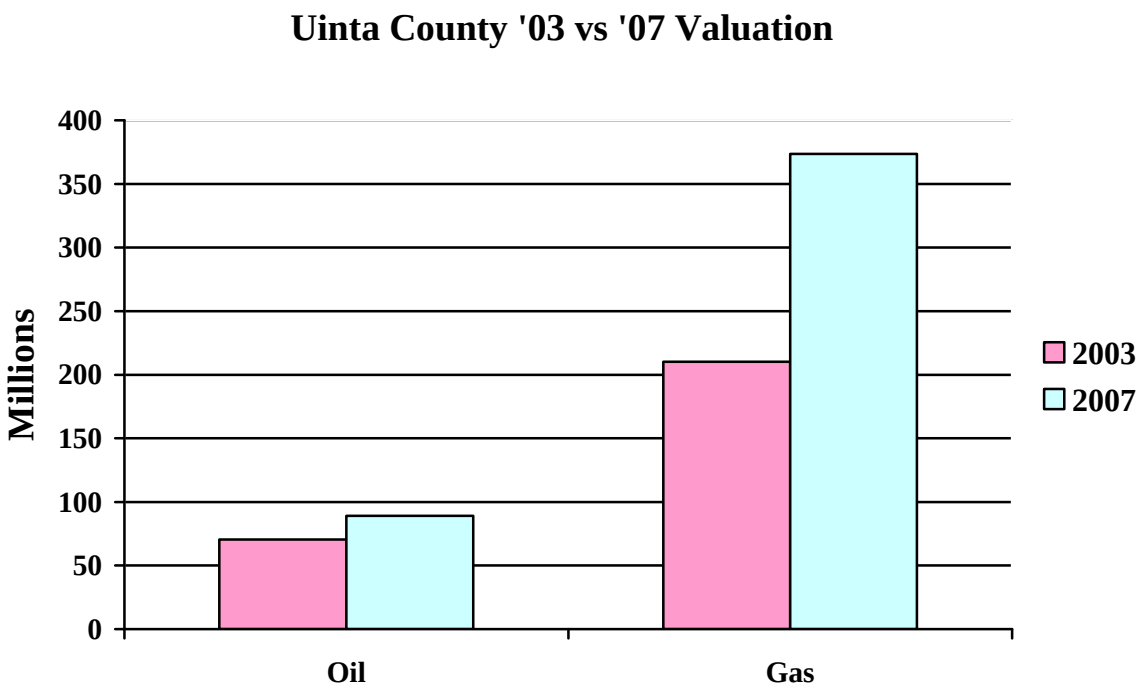
Teton County is one of three counties in Wyoming that had no oil or gas production in 2006. Several exploration leases and permits have been let in the county, and several wells have been drilled in the past, but whether any production will result from this activity remains to be seen.

The only mineral production in Teton County in 2006 was $2.37 million worth of sand and gravel. Mineral valuation is less than 25% of county valuation; therefore, no graph is included for this county.

UINTA COUNTY

Uinta County has been the main beneficiary of the Overthrust Belt oil and gas activity. In 2006 the county produced 1.45 million barrels of oil.

Gas valuation on production was over $373.6 million in 2007, 81% of the total county mineral valuation.



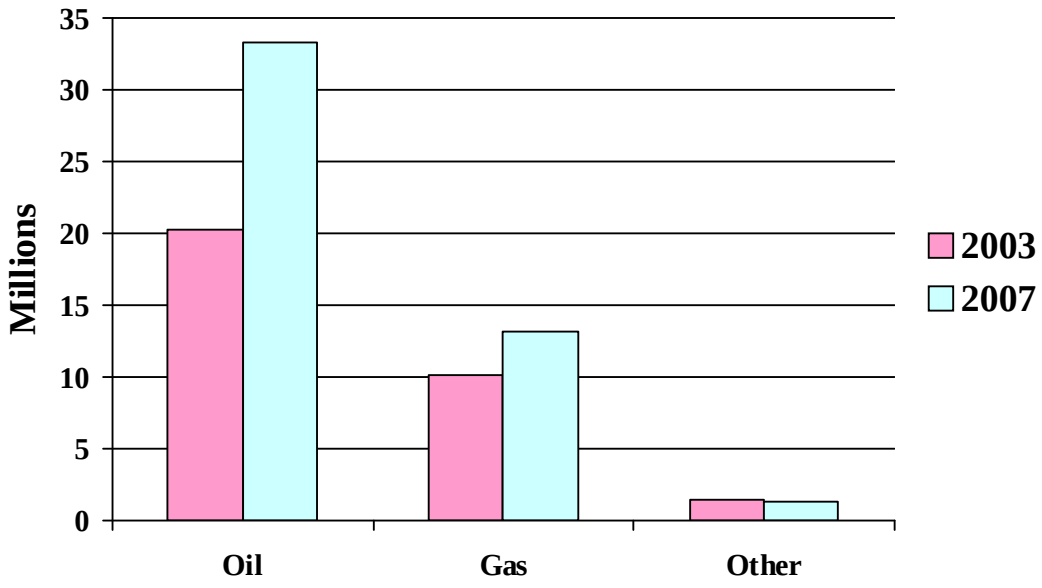
WASHAKIE COUNTY

Oil production in the county showed a slight increase of 11.1 thousand barrels in 2006. Natural gas production fell by over 312 thousand MCF.

The bentonite production in the county increased by 27.9 thousand tons.

Overall mineral valuation decreased by $3.3 million.

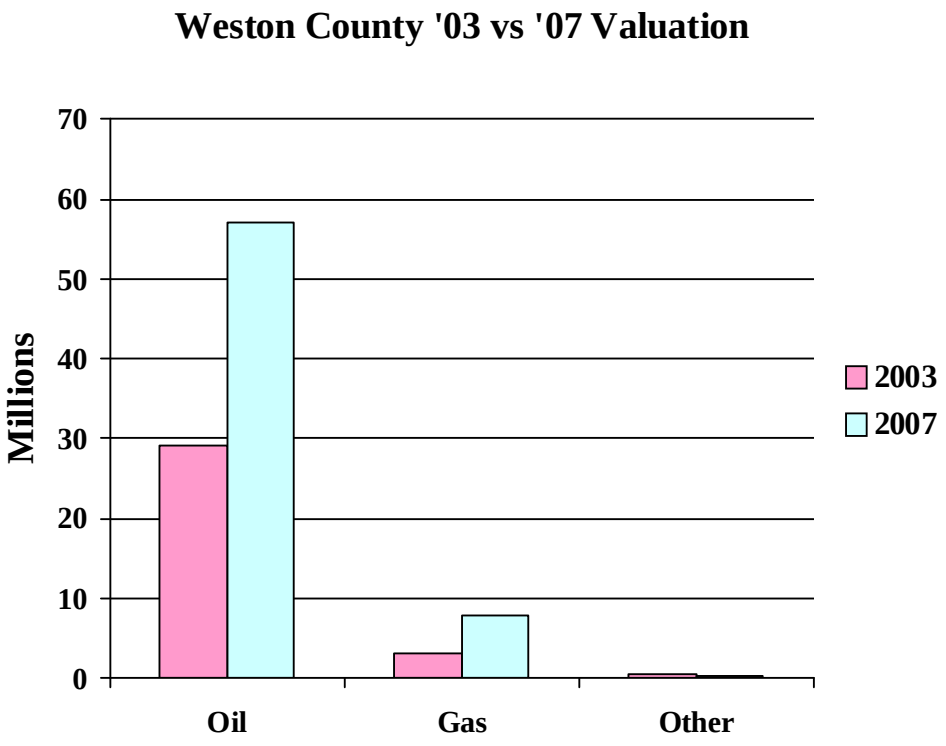
Washakie County '07 vs '06 Valuation



WESTON COUNTY

Oil production in the county decreased by 26.3 thousand barrels in 2006, a continuing trend, considering the age of Weston County's oil fields. Natural gas production fell by 25.7 thousand MCF. A unit valuation increase of 7 cents caused a valuation rise of about $683.4 thousand..

There again was no reported bentonite production in the county.



WYOMING MINERAL PRODUCTION AND VALUATION
2001 – 2007

2001 PRODUCTION

County	Oil (Bbls)	Gas (MCF)	Coal (Tons)	Uranium (Lbs)	Bentonite (Tons)	Trona (Tons)	Gypsum (Tons)
Albany	72,317						117,928
Big Horn	2,327,815	4,261,870			2,000,371		278,052
Campbell	11,348,229	253,524,685	329,328,478	10,558			
Carbon	1,196,059	96,224,202	702,148				
Converse	2,331,314	15,098,587	24,616,520	1,602,678			
Crook	2,040,903	60,910			1,151,170		
Fremont	3,281,060	121,790,670					
Goshen							
Hot Springs	3,587,841	215,693			3,397		
Johnson	1,356,420	1,104,879		27,432	298,553		
Laramie	316,520	19,193					
Lincoln	687,562	110,788,776	4,495,264				
Natrona	3,606,860	49,371,377			101,777		
Niobrara	450,333	187,296					
Park	8,486,803	14,151,504					193,811
Platte							
Sheridan	19,467	17,394,514					
Sublette	3,609,541	335,670,667					
Sweetwater	4,166,166	173,639,159	9,596,506			17,722,311	
Teton							
Uinta	3,400,884	184,684,341					
Washakie	1,179,130	4,792,229			169,852		
Weston	1,198,976	1,534,961			47,430		
TOTALS	**43,689, 089**	**1,384,515,513**	**368,738,916**	**1,640,668**	**3,772,530**	**17,722,311**	**589,791**

2002 VALUATION ON 2001 PRODUCTION

(In dollars)

County	Oil	Gas	Coal	Uranium	Bentonite	Trona	Misc.	Total
Albany	1,429,116						1,841,692	3,270,808
Big Horn	38,899,097	13,547,195			15,211,648	67,657,940	849,049	68,506,989
Campbell	230,123,151	645,075,746	1,228,879,992	37,505			3,111,354	2,107,227,748
Carbon	26,301,185	338,472,292	10,276,614				505,496	375,555,587
Converse	65,037,045	53,667,507	83,284,924	10,100,698			1,256,415	213,346,589
Crook	35,010,485	7,717			7,970,359		298,846	43,287,407
Fremont	52,275,971	355,644,694					335,309	408,255,974
Goshen	0	0					24,611	24,611
Hot Springs	63,059,090	397,884			33,885		11,267	63,502,126
Johnson	28,159,067	2,005,196		97,446	1,453,692		332,849	32,048,250
Laramie	7,492,463	17,960					7,596,753	15,107,176
Lincoln	16,130,536	306,356,856	73,444,077				328,355	396,259,824
Natrona	73,539,257	171,379,720			495,635	245,414,612	854,969	246,269,681
Niobrara	9,677,626	455,320					11,385	10,144,331
Park	128,930,090	30,179,688					1,734,300	160,843,978
Platte	0	0					715,700	715,700
Sheridan	453,906	34,956,684					440,966	35,851,556
Sublette	82,918,541	888,651,595					435,504	972,005,640
Sweetwater	89,538,393	577,598,770	110,451,688			209,191,934	871,574	987,652,359
Teton	0	0					1,816,747	1,816,747
Uinta	82,551,847	448,027,306					658,219	531,237,372
Washakie	20,026,960	11,513,423			1,108,678		55,654	32,704,715
Weston	28,464,405	4,133,912			255,710		236,872	33,090,899
TOTAL	**1,080,018,231**	**3,882,089,465**	**1,506,337,295**	**10,235,649**	**26,529,607**	**209,191,934**	**24,323,886**	**6,738,726,067**

2002 UNIT VALUATIONS

	Oil	Gas	Coal	Uranium	Bentonite	Trona	Gypsum
County	**$/Bl**	**$/MCF**	**$/Ton**	**$/Lb.**	**$/Ton**	**$/Ton**	**$/Ton**
Albany	19.76						1.99
Big Horn	16.71	3.18			7.60		2.99
Campbell	20.28	2.54	3.73	3.55			
Carbon	21.99	3.52	14.64				
Converse	27.90	4.31	3.38	6.30			
Crook	17.15	0.13			6.92		
Fremont	15.93	2.92					
Goshen							
Hot Springs	17.58	1.84			9.97		
Johnson	20.76	1.81		3.55	4.87		
Laramie	23.67	0.93					
Lincoln	23.46	0.15	16.34				
Natrona	20.39	3.47			4.87		
Niobrara	21.49	2.43					
Park	15.19	9.11					8.00
Platte							
Sheridan	23.32	2.01					
Sublette	22.97	2.65					
Sweetwater	21.49	3.33	11.51			11.80	
Teton							
Uinta	24.27	2.43					
Washakie	16.98	2.40			6.53		
Weston	23.74	2.69			5.39		
State Average	**24.72**	**2.80**	**4.09**	**6.24**	**7.03**	**11.80**	**4.44**
Plus or Minus 2001 Average	+.08	+.20	+.13	-.04	+.72	-.07	-.13

2002 PRODUCTION

County	Oil (Bbls)	Gas (MCF)	Coal (Tons)	Uranium (Lbs)	Bentonite (Tons)	Trona (Tons)	Gypsum (Tons)
Albany	75,933						
Big Horn	2,276,644	4,868,737			1,712,485		233
Campbell	10,485,666	290,202,386	329,468,658	17,578			
Carbon	1,365,575	93,953,719	582,674				
Converse	2,165,575	14,520,344	26,801,625	1,493,052			
Crook	1,832,138	75,950			1,080,015		
Fremont	3,281,060	129,705,282					
Goshen	553						
Hot Springs	3,463,657	145,095			2,137		
Johnson	1,238,744	4,934,606		15,706	287,216		
Laramie	366,328	13,464					
Lincoln	626,490	104,466,550	4,242,456				
Natrona	3,179,819	39,668,066			51,291		
Niobrara	449,084	205,883					
Park	8,358,746	12,400,289					169,637
Platte							
Sheridan	21,487	39,108,000					
Sublette	4,228,834	421,361,317					
Sweetwater	3,999,991	182,167,035	8,502,524			17,298,203	
Teton							
Uinta	2,881,319	199,828,185					
Washakie	1,046,858	4,495,402			175,889		
Weston	1,224,691	1,577,172					
TOTALS	**52,369,755**	**1,543,697,482**	**369,597,937**	**1,526,336**	**3,309,033**	**17,298,203**	**402,682**

2003 VALUATION ON 2002 PRODUCTION

(In dollars)

County	Oil	Gas	Coal	Uranium	Bentonite	Trona	Misc.
Albany	1,489,921						1,201,954
Big Horn	44,574,052	7,402,702			16,508,522		901,541
Campbell	214,987,542	508,260,796	1,480,406,834	82,599			2,471,435
Carbon	30,522,140	198,973,451	9,052,231				213,401
Converse	49,500,314	28,189,856	108,151,284	8,953,317			821,218
Crook	33,381,110	8,537			11,911,236		11,455,926
Fremont	52,847,209	188,720,936					231,229
Goshen							117,781
Hot Springs	64,035,288	223,223			20,911		244,134
Johnson	26,327,198	7,987,521		73,802	1,749,396		523,026
Laramie	8,725,710	9,170					7,269,067
Lincoln	16,002,951	149,124,322	70,140,487				1,157,791
Natrona	71,689,712	73,518,289			312,380		561,644
Niobrara	9,729,694	383,852					96,818
Park	153,778,404	20,605,270					1,164,137
Platte							2,194,056
Sheridan	483,627	56,088,880					434,932
Sublette	96,521,338	699,588,667					114,579
Sweetwater	90,593,819	350,084,737	92,540,468			203,324,146	866,789
Teton							2,248,902
Uinta	70,414,303	210,105,990					609,277
Washakie	20,280,238	10,115,378			1,422,382		6,623
Weston	29,063,389	3,183,415					383,230
TOTAL	**1,083,555,330**	**2,512,574,992**	**1,760,291,304**	**9,109,718**	**31,924,827**	**203,324,146**	**23,452,176**
% of Total	19.3%	44.6%	31.3%	0.16%	0.6%	4.0%	0.4%

2003 UNIT VALUTAIONS

	Oil	Gas	Coal	Uranium	Bentonite	Trona	Gypsum
County	**$/Bl**	**$/MCF**	**$/Ton**	**$/Lb.**	**$/Ton**	**$/Ton**	**$/Ton**
Albany	19.62						
Big Horn	19.58	1.52			9.64		3.82
Campbell	20.50	1.75	4.49	4.70			
Carbon	22.35	2.12	15.54				
Converse	22.86	1.94	4.04	6.00			
Crook	18.22	0.11			11.03		
Fremont	17.16	1.45					
Goshen							
Hot Springs	18.49	1.54			9.79		
Johnson	21.25	1.62			6.09		
Laramie	23.82	0.68					
Lincoln	25.55	1.43					
Natrona	22.55	1.85			6.09		
Niobrara	21.67	1.86					
Park	18.40	1.66					5.54
Platte							
Sheridan	22.51	1.43					
Sublette	22.82	1.66					
Sweetwater	22.65	1.92	10.88			11.75	
Teton							
Uinta	24.44	1.05					
Washakie	19.37	2.25					
Weston	23.73	2.02			8.09		
State Average	**20.69**	**1.63**	**4.76**	**5.97**	**9.65**	**11.75**	**4.54**
Plus or Minus	-4.03	-1.17	+.67	- .27		- .05	+ .24

2003 PRODUCTION

County	Oil (Bbls)	Gas (MCF)	Coal (Tons)	Uranium (Lbs)	Bentonite (Tons)	Trona (Tons)	Gypsum (Tons)
Albany	84,299						
Big Horn	2,127,320	4,765,037			2,035,652		259,130
Campbell	9,823,000	351,568,136	336,724,545	22,061			
Carbon	1,334,688	87,084,607	465,308				
Converse	1,863,333	20,683,423	26,982,654	1,201,376			
Crook	2,544,860	68,017			1,021,640		
Fremont	2,993,838	128,791,932					
Goshen							
Hot Springs	3,319,473	108,792			5,656		
Johnson	1,171,934	13,008,605		1,640	393,289		
Laramie	304,560	73,223					
Lincoln	575,529	76,642,596	4,067,346				
Natrona	2,920,191	36,246,542			38,429		
Niobrara	423,475	158,717					
Park	8,397,047	13,164,078					163,072
Platte							
Sheridan	18,406	43,469,470					
Sublette	4,488,555	512,010,402					
Sweetwater	4,136,362	185,776,895	8,544,849			17,763,061	
Teton							
Uinta	2,245,473	167,414,911					
Washakie	972,426	3,481,987			134,344		
Weston	1,194,776	1,504,376					
TOTALS	**50,167,574**	**1,646,021,746**	**376,784,702**	**1,225,077**	**3,629,010**	**17,763,061**	**422,202**

2004 VALUATION ON 2003 PRODUCTION

(In dollars)

County	Oil	Gas	Coal	Uranium	Bentonite	Trona	Misc.	Total
Albany	1,989,910						1,042,814	3,032,734
Big Horn	48,490,989	15,371,620			19,803,085			84,555,922
Campbell	245,971,692	948,142,152	1,561,154,338	121,930			27,582,580	2,758,258,949
Carbon	35,740,481	366,142,219	7,142,514				307,513	409,332,727
Converse	45,518,658	75,039,216	119,392,227	7,950,613			6,941,507	254,842,221
Crook	40,728,325	8,250			9,997,251		493,023	51,226,849
Fremont	63,069,100	382,367,469					401,210	445,837,779
Goshen							21,651	21,651
Hot Springs	74,181,518	266,645			51,295		352,743	74,534,261
Johnson	29,885,917	37,830,250		9,064	2,326,263		266,429	70,317,923
Laramie	8,765,892	85,382					6,021,842	14,873,116
Lincoln	16,147,687	281,584,452	64,120,925				189,501	362,042,565
Natrona	77,931,469	137,762,248			227,414		774,590	216,685,721
Niobrara	11,163,412	457,736					107,362	11,728,510
Park	181,665,668	42,812,571					1,604,909	226,083,148
Platte								
Sheridan	512,074	152,397,838					651,584	153,561,496
Sublette	121,548,006	1,758,636,617					203,847	1,880,388,470
Sweetwater	112,742,873	722,708,526	95,173,328			195,203,377	991,884	1,126,819,988
Teton							1,858,909	1,858,909
Uinta	65,781,475	328,147,513					564,377	394,493,365
Washakie	22,098,860	10,530,714			1,010,286		47,364	33,687,224
Weston	34,277,770	4,879,586					153,147	39,310,503
TOTAL	**1,244,211,776**	**5,265,135,004**	**1,846,983,332**	**8,081,607**	**33,415,594**	**195,203,377**	**50,578,786**	**8,616,022,023**
% of Total	14.4%	61.1%	21.4%	0.1%	0.4%	2.3%	0.3%	

2004 UNIT VALUATIONS

County	Oil $/Bl	Gas $/MCF	Coal $/Ton	Uranium $/Lb.	Bentonite $/Ton	Trona $/Ton	Gypsum $/Ton
Albany	23.60						
Big Horn	22.79	3.23			9.73		3.33
Campbell	22.79	2.70	4.64	5.53			
Carbon	26.78	4.20	15.35				
Converse	24.43	3.63	4.43	6.62			
Crook	16.00	0.12			9.79		
Fremont	21.07	2.97					
Goshen							
Hot Springs	22.35	2.45			9.07		
Johnson	25.50	2.91		5.53	5.91		
Laramie	28.78	1.17					
Lincoln	28.06	3.67	15.76				
Natrona	26.69	3.80			5.92		
Niobrara	26.36	2.88					
Park	21.63	3.25					8.10
Platte							
Sheridan	27.82	3.51					
Sublette	27.08	3.43					
Sweetwater	27.26	3.89	11.14			10.99	
Teton							
Uinta	29.30	1.96					
Washakie	22.73	3.02			7.52		
Weston	28.69	3.24					
State Average	24.80	3.20	4.90	6.60	9.20	10.99	5.17
Plus or Minus 2003 Average	+4.11	+1.57		-.75	+19	-60	-.34

2004 PRODUCTION

County	Oil (Bbls)	Gas (MCF)	Coal (Tons)	Uranium (Lbs)	Bentonite (Tons)	Trona (Tons)	Gypsum (Tons)
Albany	77,837						4,140
Big Horn	2,159,368	3,554,407			2,101,241		309,806
Campbell	9,152,595	337,011,602	360,149,115	25,441			
Carbon	1,692,744	84,414,585	206,189				
Converse	1,951,437	18,558,317	21,452,900	1,224,356			
Crook	1,771,353	28,922			1,159,004		
Fremont	2,895,573	156,287,719					
Goshen							
Hot Springs	3,417,913	177,196					
Johnson	920,610	25,867,117		1,238	411,540		
Laramie	265,755	61,799					
Lincoln	553,701	80,869,539	4,489,703				
Natrona	2,919,988	40,207,573			47,230		
Niobrara	429,601	151,912					
Park	8,427,576	13,800,823					188,320
Platte							
Sheridan		41,661,901					
Sublette	4,655,819	603,172,194					
Sweetwater	4,290,980	183,722,115	9,402,755	17,394		18,736,464	
Teton							
Uinta	2,027,465	155,532,470					
Washakie	849,528	3,094,070			202,574		
Weston	2,028,889	1,586,158					
TOTALS	**49,656,122**	**1,749,760,419**	**395,700,662**	**1,268,429**	**3,921,589**	**18,736,464**	**502,266**

2005 VALUATION ON 2004 PRODUCTION

(In dollars)

County	Oil	Gas	Coal	Uranium	Bentonite	Trona	Misc.	Total
Albany	2,578,604						1,573,294	4,152,528
Big Horn	61,690,492	13,178,290			22,442,260		982,194	98,293,236
Campbell	306,086,485	1,082,662,929	1,739,291,552	226,698			2,659,122	3,128,267,664
Carbon	61,475,195	447,125,250	3,051,584				486,072	512,138,101
Converse	71,075,324	81,999,747	103,750,043	8,976,517			1,341,101	267,142,732
Crook	54,147,502	3,939			11,955,026		555,173	66,661,640
Fremont	84,709,338	638,396,484					525,918	723,631,740
Goshen							20,347	20,347
Hot Springs	95,525,342	424,641					63,385	96,103,368
Johnson	31,415,841	82,687,180		11,032	2,099,255		958,997	117,172,305
Laramie	10,119,759	149,020					5,996,023	16,264,802
Lincoln	21,306,262	394,143,297	76,804,344				1,474,044	492,727,947
Natrona	109,952,300	219,575,851			240,984		878,703	330,647,838
Niobrara	15,058,487	574,502					8,585	15,641,574
Park	231,675,167	55,263,877					1,716,259	288,655,303
Platte							1,963,119	1,963,119
Sheridan	615,819	182,195,217					792,729	792,729
Sublette	170,447,231	2,564,144,305					390,766	2,734,982,302
Sweetwater	159,200,662	879,077,282	116,658,528	119,911		198,943,291	1,074,897	1,355,074,571
Teton							1,858,651	1,858,651
Uinta	77,996,554	383,793,549					403,380	462,193,483
Washakie	24,785,084	7,249,806			1,413,128		96,423	33,544,441
Weston	44,206,412	6,407,718					93,179	50,707,309
TOTAL	**1,634,067,860**	**7,039,052,884**	**2,039,556,051**	**9,334,158**	**38,150,653**	**198,943,291**	**25,912,361**	**10,984,017,888**
% of Total	15.0%	64.0%	18.5%	8.0%	0.4%	1.8%	0.3%	

2005 UNIT VALUATIONS

	Oil	Gas	Coal	Uranium	Bentonite	Trona	Gypsum
County	**$/Bl**	**$/MCF**	**$/Ton**	**$/Lb.**	**$/Ton**	**$/Ton**	**$/Ton**
Albany	33.13						64.57
Big Horn	28.57	3.71			10.68		3.12
Campbell	33.44	3.21	4.83	8.91			
Carbon	36.32	5.30	14.80				
Converse	36.42	4.42	4.83	7.33			
Crook	30.57	0.14			10.31		
Fremont	29.25	4.08					
Goshen							
Hot Springs	27.95	2.40					
Johnson	40.64	3.20		8.91	5.10		
Laramie	38.08	2.41					
Lincoln	38.45	4.87	17.11				
Natrona	37.66	5.46			5.10		
Niobrara	35.05	3.78					
Park	27.49	4.00					7.55
Platte							
Sheridan		4.37					
Sublette	36.61	4.25					
Sweetwater	37.10	4.78	12.41			10.62	
Teton							
Uinta	38.47	2.47					
Washakie	29.18	2.34			6.98		
Weston	21.79	4.09					
State Average	**32.91**	**4.02**	**5.15**	**7.36**	**9.73**	**10.62**	**5.21**
Plus or Minus 2004 Average	+8.11	+.82	+.25	+.76	+.53	+.37	+.04

2005 PRODUCTION

County	Oil (Bbls)	Gas (MCF)	Coal (Tons)	Uranium (Lbs)	Bentonite (Tons)	Trona (Tons)	Gypsum (Tons)
Albany	71,319						113,953
Big Horn	2,204,180	3,238,364			2,409,414		352,178
Campbell	8,983,976	290,744,756	374,877,362	3,104			
Carbon	1,421,253	90,329,750					
Converse	19,135,525	13,739,870	15,299,503	1,342,153			
Crook	1,728,762	15,256			936,709		
Fremont	3,026,653	164,924,379					
Goshen							
Hot Springs	3,314,208	160,050	6,206		6,176		
Johnson	1,128,322	61,128,492			441,259		
Laramie	297,616	54,166					
Lincoln	594,986	81,332,318	4,616,597				
Natrona	3,413,255	37,613,818			51,109		
Niobrara	510,717	159,508					
Park	8,119,274	13,157,231					1,315,056
Platte							
Sheridan	11,759	45,692,430					
Sublette	5,144,424	808,530,579					
Sweetwater	4,537,736	187,801,960	9,412,918			19,508,616	
Teton							
Uinta	1,737,789	139,699,597					
Washakie	761,978	3,241,506			175,088		
Weston	1,110,271	1,529,849					
TOTALS	**50,032,004**	**1,943,093,879**	**404,212,586**	**1,345,257**	**4,019,755**	**19,508,616**	**649,258**

2006 VALUATION ON 2005 PRODUCTION

(In dollars)

County	Oil	Gas	Coal	Uranium	Bentonite	Trona	Misc.	Total
Albany	2,910,986						1,512,491	4,423,477
Big Horn	79,822,281	18,995,576			27,692,884		1,256,568	127,767,309
Campbell	374,223,766	1,324,906,068	1,995,307,606	29,437			3,338,070	3,697,804,946
Carbon	71,674,063	657,795,481					988,489	730,458,033
Converse	91,471,546	86,462,685	84,208,985	12,314,291			1,438,807	275,896,314
Crook	65,356,508	20,826			10,145,799		659,641	76,182,774
Fremont	112,413,096	978,034,182					579,434	1,091,026,712
Goshen							21,800	21,800
Hot Springs	114,206,691	556,466	94,919		53,695		162,563	115,074,334
Johnson	49,064,151	281,403,418			3,265,330		949,961	334,682,860
Laramie	15,472,260	317,933					6,284,102	22,074,295
Lincoln	30,485,735	533,975,354	84,164,067				883,742	649,508,898
Natrona	173,656,983	261,215,961			378,109		1,515,869	436,769,082
Niobrara	22,370,985	1,426,273					9,697	23,806,955
Park	286,103,926	77,615,228					1,727,065	365,446,219
Platte							899,991	899,991
Sheridan	546,515	281,543,339					772,813	282,862,667
Sublette	250,566,079	3,915,189,492					942,034	4,166,708,605
Sweetwater	235,689,352	1,232,340,154	116,363,044			255,216,361	1,784,966	1,841,393,877
Teton							1,862,712	1,862,712
Uinta	92,819,594	453,844,901					609,955	547,274,450
Washakie	29,547,398	19,903,330			1,762,032		80,828	51,257,588
Weston	54,440,804	8,633,699					96,898	63,171,401
TOTAL	**$2,152,842,719**	**$10,134,180,366**	**$2,280,138,621**	**$12,343,728**	**$43,297,849**	**$255,216,361**	**$28,378,496**	**$14,906,375,299**
% of Total	14.4%	68.0%	15.3%	0.1%	0.3%	1.7%	0.2%	100.0%

2006 UNIT VALUATIONS

	Oil	Gas	Coal	Uranium	Bentonite	Trona	Gypsum
County	**$/Bl**	**$/MCF**	**$/Ton**	**$/Lb.**	**$/Ton**	**$/Ton**	**$/Ton**
Albany	40.82						2.47
Big Horn	36.21	5.87			11.49		3.39
Campbell	41.65	4.56	6.86	9.48			
Carbon	50.43	7.82					
Converse	47.80	6.29	5.50	9.18			
Crook	37.81	1.37			10.83		
Fremont	37.14	5.93					
Goshen							
Hot Springs	34.46	3.48	15.29		8.69		
Johnson	43.84	4.60			7.40		
Laramie	51.99	5.87					
Lincoln	51.24	6.57	18.23				
Natrona	50.88	6.94			7.40		
Niobrara	43.80	8.94					
Park	35.24	5.90					7.18
Platte							
Sheridan	46.48	6.16					
Sublette	48.71	4.84					
Sweetwater	51.92	6.56	12.36			13.08	
Teton							
Uinta	53.41	3.25					
Washakie	38.78	6.14			9.86		
Weston	49.03	5.64					
State Average	**43.03**	**5.22**	**5.64**	**9.18**	**10.76**	**13.08**	**4.30**
Plus or Minus 2005 Average	+10.12	+1.10	+.49	+1.82	+1.03	+1.23	-.91

2006 PRODUCTION

County	Oil (Bbls)	Gas (MCF)	Coal (Tons)	Uranium (Lbs)	Bentonite (Tons)	Trona (Tons)	Gypsum (Tons)
Albany	67,027						
Big Horn	2,158,147	2,992,452			2,669,452		269,681
Campbell	8,193,959	932,389,840	411,147,664				
Carbon	1,544,959	96,944,830					
Converse	1,874,506	11,652,837	19,849,341	2,043,876			
Crook	1,666,395	13,586			1,123,583		13,610
Fremont	3,028,376	182,100,779					
Goshen							
Hot Springs	3,259,735	46,484	1,087		2,258		
Johnson	1,110,590	103,933,049			433,571		
Laramie	270,363	54,996					
Lincoln	608,018	84,423,042	4,565,158				
Natrona	3,600,892	38,907,442			57,616		
Niobrara	534,047	1,619,726					
Park	8,207,572	12,963,040					157,610
Platte							
Sheridan	20,582	56,473,039					
Sublette	5,731,150	888,533,277					
Sweetwater	4,919,785	193,633,107	9,186,982	1,132		19,375,595	
Teton							
Uinta	1,452,830	134,260,914					
Washakie	773,068	2,929,087			202,972		
Weston	1,083,954	1,504,153					
TOTALS	**50,105,955**	**2,019,805,318**	**445,296,513**	**2,045,008**	**4,489,452**	**19,375,595**	**440,901**

2007 VALUATION ON 2006 PRODUCTION

Gas	Coal	Uranium	Bentonite	Trona	Misc.	Total
					$1,469,544	$4,800,959
$14,288,665			$26,852,577		$830,208	$137,256,514
$207,839,477	$2,552,604,861				$4,829,626	$3,903,447,011
$586,480,586					$1,352,635	$676,413,047
$60,209,546	$135,444,876	$17,011,830			$1,870,676	$308,161,966
$27,180			$11,465,046		$1,440,827	$86,306,486
$734,956,882					691,992	$866,915,401
					$42,251	$42,521
$285,344	$85,545,464		$20,949		$89,857	$135,790,266
$486,511,952			$4,840,357		$1,200,761	$545,557,471
$290,179					$7,298,018	$22,590,320
$463,311,716					$691,992	$584,992,496
$206,527,241			$643,119		2,478,517	406,617,408
$7,358,695					321,791	32,219,507
$66,581,898					$2,037,302	$420,968,136
					1,526,011	$1,526,011
$289,276,413					$1,016,128	$291,275,286
$3,469,877,790					$1,682,453	$3,792,898,647
$1,057,183,588	$123,773,336	$7,159		$299,227,941	$2,089,443	$1,789,510,897
					$2,371,760	$2,371,760
$373,553,222					$707,874	$463,430,005
$13,217,239			$1,346,491		$43,458	$47,934,030
$7,950,344					$246,909	$65,354,313
$8,770,228,320	**$2,884,925,775**	**$17,018,989**	**$45,168,539**	**$299,227,941**		**$14,586,380,458**

2007 UNIT VALUATIONS

County	Oil $/Bl	Gas $/MCF	Coal $/Ton	Uranium $/Lb.	Bentonite $/Ton	Trona $/Ton	Gypsum $/Ton
Albany	49.70						
Big Horn	44.08	4.77			10.06		3.01
Campbell	52.92	4.49	6.16				
Carbon	57.33	6.05					
Converse	49.95	5.17	6.82	8.32			
Crook	44.03	2.00			10.20		18.60
Fremont	43.25	4.04					
Goshen							
Hot Springs	41.54	5.06	19.92		9.28		
Johnson	16.26	4.68			11.16		
Laramie	55.49	5.28					
Lincoln	58.02	5.49	18.74				
Natrona	54.70	5.31			11.16		
Niobrara	45.95	4.54					
Park	42.30	5.14					9.90
Platte							
Sheridan	47.75	5.12					
Sublette	56.07	3.91					
Sweetwater	60.92	5.46	13.47	6.32		15.44	
Teton							
Uinta	61.38	2.80					
Washakie	43.11	4.51			6.63		
Weston	52.73	5.29					
State Average	**50.56**	**4.34**	**6.48**	**8.32**	**10.06**	**15.44**	**5.95**
Plus or Minus 2006 Average	+7.53	-.88		-.86	-.70	+2.36	+1.65

WYOMING MINERAL PRODUCTION ESTIMATES
2007– 2011

2007 PRODUCTION ESTIMATES

County	Oil (Bbls)	Gas (MCF)	Coal (Tons)	Uranium (Lbs)	Bentonite (Tons)	Trona (Tons)	Gypsum (Tons)
Albany	60,000						30,000
Big Horn	2,835,000	6,000,000			1,400,000		400,000
Campbell	6,049,000	350,000,000	314,000,000	350,000			
Carbon	1,000,000	95,000,000	5,000,000				
Converse	3,000,000	136,000,000	30,950,000	1,500,000			
Crook	2,000,000	350,000			2,200,000		
Fremont	2,000,000	163,000,000					
Goshen	1,000						
Hot Springs	2,000,000	8,000,000			150,000		
Johnson	1,000,000	3,000,000		150,000	250,000		
Laramie	1,155,000	900,000					
Lincoln	700,000	150,000,000					
Natrona	3,000,000	33,000,000					
Niobrara	500,000	500,000					
Park	4,000,000	120,000,000					270,000
Platte							
Sheridan	50,000	50,000	50,000				
Sublette	850,000	400,000,000					
Sweetwater	3,600,000	330,000 000	30,000,000			18,500,000	
Teton							
Uinta	4,600,000	320,000,000					
Washakie	1,700,000	7,000,000					
Weston	1,000,000	10,000,000					
TOTALS	**43,100,000**	**1,802,800,000**	**380,000,000**	**2,000, 000**	**4,000,000**	**18,500,000**	**700,000**

2008 PRODUCTION ESTIMATES

County	Oil (Bbls)	Gas (MCF)	Coal (Tons)	Uranium (Lbs)	Bentonite (Tons)	Trona (Tons)	Gypsum (Tons)
Albany	60,000						30,000
Big Horn	2,250,000	3,000,000			1,400,000		400,000
Campbell	6,049,000	354,000,000	314,000,000	300,000			
Carbon	1,000,000	95,000,000	7,000,000				
Converse	3,000,000	33,000,000	36,000,000	1,600,000			
Crook	2,000,000	20,000			2,100,000		
Fremont	2,000,000	154,800,000					
Goshen	1,000						
Hot Springs	2,400,000	2,500,000			200,000		
Johnson	2,000,000	2,500,000		150,000	300,000		
Laramie	1,500,000	200,000					
Lincoln	700,000	145,000,000					
Natrona	3,000,000	15,000,000					
Niobrara	500,000	500,000					
Park	3,300,000	21,000,000					270,000
Platte							
Sheridan	35,000		50,000				
Sublette	850,000	385,000,000					
Sweetwater	3,700,000	300,000,000	23,000,000			18,350,000	
Teton							
Uinta	4,100,000	285,000,000					
Washakie	1,700,000	6,000,000					
Weston	1,000,000	3,000,000					
TOTALS	**41,145,000**	**1,805,520,000**	**380,050,000**	**2,050,000**	**4,000,000**	**18,350,000**	**700,000**

2009 PRODUCTION ESTIMATES

County	Oil (Bbls)	Gas (MCF)	Coal (Tons)	Uranium (Lbs)	Bentonite (Tons)	Trona (Tons)	Gypsum (Tons)
Albany	60,000						50,000
Big Horn	2,000,000	3,000,000			1,400,000		400,000
Campbell	10,149,000	74,480,000	325,000,000	200,000			
Carbon	1,000,000	96,000,000	7,000,000				
Converse	3,350,000	33,000,000	40,000,000	1,100,000			
Crook	2,300,000	20,000			2,100,000		
Fremont	2,500,000	175,000,000					
Goshen	1,000						
Hot Springs	4,200,000	2,500,000			200,000		
Johnson	2,000,000	2,500,000		100,000	300,000		
Laramie	2,155,000	200,000					
Lincoln	700,000	200,000,000					
Natrona	3,000,000	15,000,000					
Niobrara	500,000	500,000					
Park	5,700,000	16,000,000					300,000
Platte							
Sheridan	35,000						
Sublette	850,000	500,000,000					
Sweetwater	4,000,000	270,000,000	23,000,000			18,500,000	
Teton							
Uinta	4,800,000	400,000,000					
Washakie	1,700,000	6,000,000					
Weston	1,000,000	6,000,000					
TOTALS	**54,145,000**	**1,800,000,000**	**395,000,000**	**1,400,000**	**4,000,000**	**18,500,000**	**750,000**

2010 PRODUCTION ESTIMATES

County	Oil (Bbls)	Gas (MCF)	Coal (Tons)	Uranium (Lbs)	Bentonite (Tons)	Trona (Tons)	Gypsum (Tons)
Albany	60,000						30,000
Big Horn	1,000,000	6,000,000			1,200,000		450,000
Campbell	7,351,000	60,000,000	297,000,000	400,000			
Carbon	1,000,000	95,000,000	6,050,000				
Converse	4,900,000	50,000,000	37,000,000	1,100,000			
Crook	1,000,000	50,000			2,100,000		
Fremont	1,600,000	157,000,000					
Goshen	1,000						
Hot Springs	4,000,000	6,000,000			200,000		
Johnson	2,000,000	3,000,000		200,000	200,000		
Laramie	2,155,000	900,000					
Lincoln	700,000	150,000,000					
Natrona	3,000,000	20,000,000					
Niobrara	500,000	500,000					
Park	5,898,000	60,000,000					300,000
Platte							
Sheridan	35,000		50,000				
Sublette	850,000	250,000,000					
Sweetwater	4,100,000	300,000,000	24,900,000			21,200,000	
Teton							
Uinta	3,300,000	290,000,000					
Washakie	1,700,000	7,000,000					
Weston	1,000,000	3,000,000					
TOTALS	**46,150,000**	**1,458,450,000**	**365,000,000**	**1,700,000**	**3,700,000**	**21,200,000**	**780,000**

2011 PRODUCTION ESTIMATES

County	Oil (Bbls)	Gas (MCF)	Coal (Tons)	Uranium (Lbs)	Bentonite (Tons)	Trona (Tons)	Gypsum (Tons)
Albany	60,000						40,000
Big Horn	1,000,000	9,000,000			1,500,000		450,000
Campbell	7,750,000	95,000,000	295,050,000	500,000			
Carbon	1,000,000	115,000,000	3,000,000				
Converse	4,900,000	65,000,000	36,000,000	2,000,000			
Crook	1,000,000	50,000			2,000,000		
Fremont	1,600,000	175,000,000					
Goshen	1,000						
Hot Springs	4,000,000	6,000,000			300,000		
Johnson	2,000,000	3,000,000		250,000	300,000		
Laramie	2,155,000	900,000					
Lincoln	700,000	180,000,000					
Natrona	3,000,000	27,000,000					
Niobrara	500,000	500,000					
Park	5,598,000	39,898,000					300,000
Platte							
Sheridan	35,000						
Sublette	850,000	295,000,000					
Sweetwater	4,100,000	306,000,000	22,800,000			18,500,000	
Teton							
Uinta	4,000,000	236,000,000					
Washakie	1,700,000	7,000,000					
Weston	1,000,000	3,000,000					
TOTALS	**46,949,000**	**1,563,348,000**	**356,850,000**	**2,750,000**	**4,100,000**	**18,500,000**	**790,000**

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