

## **OIL, GAS AND SOLUTION MINING PROGRAM**

The big news of 2002 continues to be the Trenton-Black River play in central New York. In 2002, 37 Trenton-Black River wells were drilled in 13 counties and industry wildcats have continued to expand the geographic boundaries of the play. The Lovell#1 API 31-101-22831 produced more than 4 bcf of gas for a second consecutive year. In addition, five other Trenton-Black River wells produced over 1 bcf in 2002.

Spurred on by these continued successes, New York's gas production rose 31% to reach a modern day high of over 36.8 bcf for 2002. Forty-six Trenton-Black River wells accounted for 68% of 2002 production, or 24.9 bcf. By the end of 2002, 14 Trenton-Black River Fields had been discovered in New York and we expect that ongoing exploration will continue to expand the number of these highly productive fields.

The Division held public meetings in 2002 to implement field-wide spacing rules and integrate interests for Quackenbush Hill, Pine Hill, Cutler Creek and Terry Hill South Fields. Many affected landowners and industry representatives attended the meetings. In 2002 Commissioner Crotty signed the Orders for Quackenbush Hill, Pine Hill and Cutler Creek Fields which established production units and authorized the release of royalties. Pennsylvania General Energy's payment of \$3 million in royalties is evidence of the great financial benefit that landowners receive from this play.

Sophisticated data collection methods, such as 2D and 3D seismic surveys, are now becoming commonplace in New York. Reports in 2002 of seismic crew activity in Niagara, Orleans, Genesee and Cattaraugus counties are a positive indication of industry's interest in New York's exploration potential. It is very likely that recently acquired seismic data will discover new undrilled exploration targets, such as reefs, stratigraphic traps and faulted anticlines.

An increasing number of New York operators are using horizontal drilling since it has become more economically feasible. Storage operators, such as Central New York Oil and Gas (CNYOG), are also using this technique to improve gas flow in and out of their storage facilities. When CNYOG began operation of Stagecoach Field in 2002, the combined maximum daily deliverability rate for New York's natural gas storage facilities jumped 35%.

New York's natural gas assets continue to provide opportunities for acquisition. Great Lakes Energy became the State's largest operator with 1,600 wells when the company bought 800 wells from Belden and Blake. Fortuna expanded their Trenton-Black River holdings by purchasing the New York assets of Fairman Drilling, East Resources and ABARTA Oil and Gas, including 18 deep wells.

The Division continued its efforts in 2002 to provide information to members of the public interested in oil and gas operations. Roughly 200 people attended a leasing seminar for central New York landowners sponsored by the Division and the Interstate Oil Gas Compact Commission. Regional Staff also held ten outreach meetings in various locations which drew a total of roughly 600 interested citizens. DMN also held a public meeting in Corning New York to provide information and to collect public comments on the proposed 2003 State lease sale.

The eastern part of the State saw its share of drilling activity also. In 2002 the Division received drilling permit applications for Trenton-Black River (Montgomery County), geothermal (New York City) and stratigraphic wells (New York City Water Tunnel). Central Office permitting activity is expected to increase as the exploration for deep gas targets moves eastward. "Green energy tax credits" offered for geothermal heat sources are also spurring new geothermal well drilling in the State.

## DRILLING PERMITS AND WELL COMPLETIONS

### Drilling Permits

Division staff issued 133 drilling permits in 2002: 89 gas, 8 gas storage, 22 oil, 9 brine, 1 geothermal and 4 stratigraphic wells (see Table 5 on page 20). The top three counties for permits were Cattaraugus (24), Chautauqua (17) and Erie (14) Counties. Interest in developing the Ordovician age carbonates of central New York remained strong during 2002 with 46 permits issued for the Trenton Black-River formation.

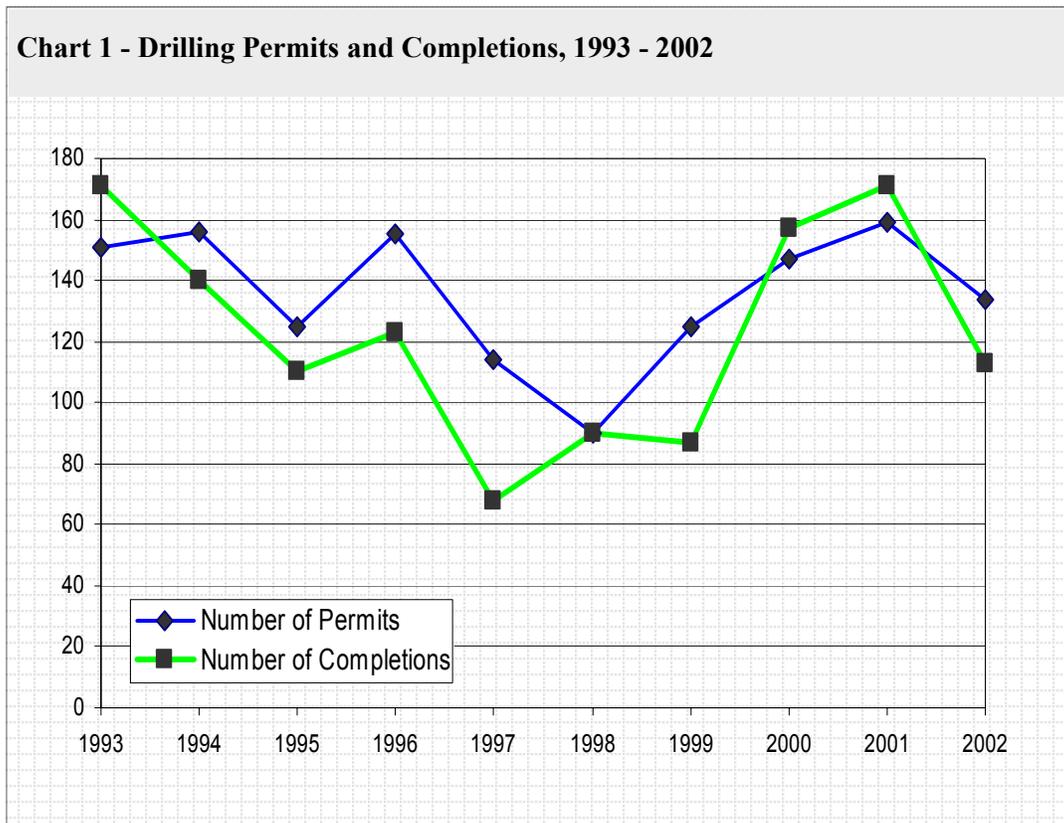
A complete list of drilling permits issued in 2002 can be found on page 59. A ten-year comparison of drilling permits issued versus completions is shown in Chart 1 below.

### Well Completions

There were 119 gas, oil, gas storage, brine, stratigraphic and geothermal wells completed during 2002. Completed wells are listed in the table starting on page 63. Well type codes are listed on page 55.

In 2002 wells were completed in 19 of the State's 62 counties: Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Erie, Genesee, New York, Onondaga, Ontario, Orange, Schuyler, Seneca, Steuben, Tioga, Tompkins, Wyoming and Yates.

The top three counties for completions were Cattaraugus (19), Steuben (18) and Tioga (10).



## OIL & GAS WILDCATS AND FIELD EXTENSIONS

### Wildcats

In 2002, 40 wildcats were drilled in 14 counties from Montgomery County on the east to Cattaraugus and Erie Counties on the west. Thirty-two of the wildcats targeted the Trenton-Black River formations which contributed over 68% of New York's gas production. In 2002 the deepest wildcat, Manwaring 624470, was drilled by Columbia Natural Resources in Tioga County to a true vertical depth of 11,552 feet.

### Field Extensions

In 2002, five field extensions targeting the Trenton-Black River formation were drilled in Chemung and Steuben Counties. The wells were drilled in County Line, Quackenbush Hill, and Wilson Hollow fields. The latter two fields have been the most productive Trenton-Black River fields in the State.

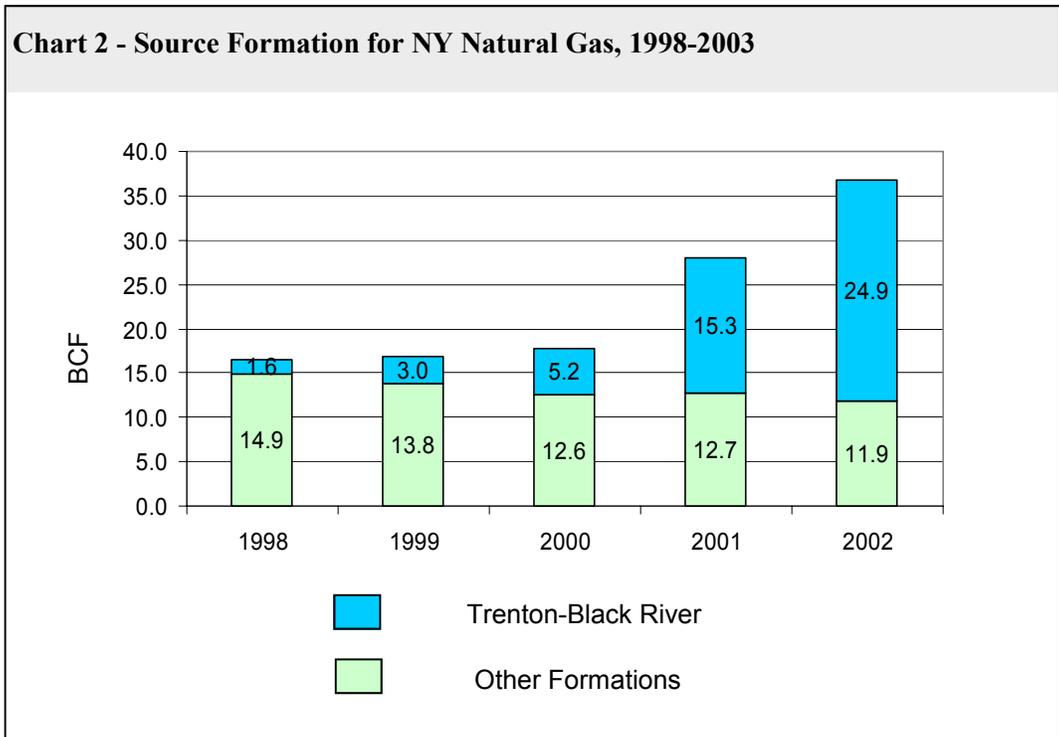
### Trends

The number of wildcats rose 166% from 15 in 2001 to 40 in 2002. The number of field extensions, however, dropped significantly from 15 in 2001 to 5 in 2002.

Wildcat wells were drilled in 14 counties in 2002, compared to 10 counties in 2001 and activity expanded eastward. The Beagell 2A discovery well in Broome County was over 42 miles east of the nearest Trenton-Black River production.

**Codes for Tables 1 & 2  
Pages 12-15**

GW Gas Wildcat (proposed)  
GE Gas Extension (proposed)



**Table 1 - Wildcats Drilled to True Vertical Depth (TVD) in 2002**

County/ Town	Company	API Number	Well Name	TVD	TD Date	Well Type	Field	Objective Formation
<b>Broome</b>								
Colesville	Belden & Blake Corp.	31007229840000	Merrill 1	9,874	12/7/02	GW	Unnamed	Black River
Colesville	Belden & Blake Corp.	31007229840100	Merrill 1-A	9,876	12/14/02	GW	Unnamed	Black River
Kirkwood	Belden & Blake Corp.	31007229950000	Beagell 2	10,260	10/13/02	GW	Unnamed	Black River
Kirkwood	Columbia Natural Resources	31007229950100	Beagell 2-A	10,126	10/29/02	GW	Ballyhack Ck	Black River
<b>Cattaraugus</b>								
Otto	Belden & Blake Corp.	31009108670001	McCracken, Harvey #1A	3,100	9/6/02	GW	Unnamed	Onondaga
Perrysburg	Seneca Resources Corp.	31009234800000	White #37549	1,455	7/18/02	GW	Unnamed	Upper Dev. Sh.
Perrysburg	Seneca Resources Corp.	31009234800100	White #37549a	1,232	7/20/02	GW	Unnamed	Upper Dev. Sh.
Perrysburg	Seneca Resources Corp.	31009234850000	Petyk #37548	1,439	7/26/02	GW	Unnamed	Upper Dev. Sh.
Yorkshire	Pennsylvania General Energy	31009234560000	Braymiller-Rauch #1454	6,565	1/26/02	GW	Unnamed	Trenton
Yorkshire	Pennsylvania General Energy	31009234560100	Braymiller-Rauch #1454a	6,578	2/1/02	GW	Unnamed	Trenton
<b>Chemung</b>								
Erin	Pennsylvania General Energy	31015229790000	Strope 1516	9,745	8/20/02	GW	Unnamed	Black River
<b>Erie</b>								
Collins	Seneca Resources Corp.	31029234900000	Skuse #37545	1,648	8/7/02	GW	Unnamed	Upper Dev. Sh.
Collins	Seneca Resources Corp.	31029234900100	Skuse #37545-A	1,601	8/10/02	GW	Unnamed	Upper Dev. Sh.
Collins	Seneca Resources Corp.	31029234910000	Ross #37547	1,613	8/19/02	GW	Unnamed	Upper Dev. Sh.

**Table 1 - Wildcats 2002, Continued**

<b>County/ Town</b>	<b>Company</b>	<b>API Number</b>	<b>Well Name</b>	<b>TVD</b>	<b>TD Date</b>	<b>Well Type</b>	<b>Field</b>	<b>Objective Formation</b>
<b>Livingston</b>								
York	Lenape Resources, Inc.	31051230030000	Simpson 3	4,986	12/16/02	GW	Unnamed	Black River
<b>Montgomery</b>								
Root	Millennium Natural Resource	31057210330000	Montanye, L. MNRD 1-A	1,863	7/26/02	GW	Unnamed	Black River
<b>Onondaga</b>								
Marcellus	Triana Energy, Inc.	31067229650000	Leubner 1	5,300	4/20/02	GW	Unnamed	Black River
Marcellus	Triana Energy, Inc.	31067229650100	Leubner 1-A	5,277	12/5/02	GW	Unnamed	Black River
Marcellus	Triana Energy, Inc.	31067229710000	Short 1	5,145	5/8/02	GW	Unnamed	Black River
Marcellus	Triana Energy, Inc.	31067229710100	Short 1-A	5,370	5/20/02	GW	Unnamed	Black River
Marcellus	Triana Energy, Inc.	31067229710200	Short 1-B	3,695	5/12/02	GW	Unnamed	Black River
<b>Ontario</b>								
Gorham	Belden & Blake Corp.	31069229850000	Bay 1	5,796	7/19/02	GW	Unnamed	Black River
Gorham	Belden & Blake Corp.	31069229850100	Bay 1-A	5,279	7/26/02	GW	Unnamed	Black River
Hopewell	Columbia Natural Resources	31069229430000	Stoddard 624633	4,965	1/3/02	GW	Unnamed	Black River
<b>Schuyler</b>								
Catharine	Fortuna Energy, Inc.	31097229350000	Wonderview Farms 1	8,762	1/18/02	GW	Unnamed	Black River
Catharine	Fortuna Energy, Inc.	31097229350100	Wonderview Farms 1-A	8,877	2/3/02	GW	Unnamed	Black River

**Table 1 - Wildcats 2002, Continued**

County/Town	Company	API Number	Well Name	TVD	TD Date	Well Type	Field	Objective Formation
<b>Seneca</b>								
Covert	Eastern American Energy Corp.	31099229500100	Ziefle 1-A	7,468	6/26/02	GW	Unnamed	Black River
<b>Steuben</b>								
Canisteo	Texas Keystone, Inc.	31101229380000	Burrow 1 NY-Ste	4,293	7/10/02	GW	Unnamed	Queenston
Caton	East Resources, Inc.	31101229630000	Maxwell 1	11,679	4/21/02	GW	Unnamed	Black River
Caton	East Resources, Inc.	31101229630100	Maxwell 1-A	11,502	11/1/02	GW	Unnamed	Black River
Coming City	Pennsylvania General Energy	31101229580000	Pace 1460	10,141	3/4/02	GW	Riverside	Black River
Prattsburg	Columbia Natural Resources	31101229490000	Gray 624468	8,330	6/4/02	GW	Unnamed	Black River
West Union	Fortuna (U.S.) Inc.	31101229780000	Ballymoney 1	10,660	10/1/02	GW	Unnamed	Black River
<b>Tioga</b>								
Tioga	Columbia Natural Resources	31107229340000	Manwaring 624470	11,552	1/3/02	GW	Unnamed	Black River
Tioga	Columbia Natural Resources	31107229340100	Manwaring 624470-A	11,123	1/16/02	GW	Unnamed	Black River
<b>Tompkins</b>								
Enfield	Phillips Production Co.	31109229980000	Stevenson 1	8,097	12/8/02	GW	Unnamed	Black River
Enfield	Phillips Production Co.	31109229980100	Stevenson 1-A	8,011	12/28/02	GW	Unnamed	Black River
Newfield	Phillips Production Co.	31109229970000	Albanese 1	8,940	11/2/02	GW	Unnamed	Black River

**Table 1 - Wildcats 2002, Continued**

County/Town	Company	API Number	Well Name	TVD	TD Date	Well Type	Field	Objective Formation
Yates								
Italy	Belden & Blake Corp.	31123228580000	Mulligan 1	6,102	1/27/02	GW	Unnamed	Black River
Italy	Belden & Blake Corp.	31123228580100	Mulligan 1-A	6,013	2/5/02	GW	Unnamed	Black River

**Table 2 - Field Extensions Drilled to True Vertical Depth (TVD) in 2002**

County/Town	Company	API Number	Well Name	TVD	TD Date	Well Type	Field	Objective Formation
<b>Chemung</b>								
Catlin	Pennsylvania General Energy	31015229180100	Gregory 1446-A	9,765	1/8/02	GE	Quackenbush Hill	Black River
Catlin	Pennsylvania General Energy	31015229600000	Chemung SRA.1 Parcel A	9,815	4/12/02	GE	Wilson Hollow	Black River
Catlin	Pennsylvania General Energy	31015229750000	Root 1514	9,608	7/13/02	GE	Wilson Hollow	Black River
<b>Steuben</b>								
Corning City	Pennsylvania General Energy	31101228710100	Henkel 1359-A	9,975	12/2/02	GE	Quackenbush Hill	Black River
Hornby	Pennsylvania General Energy	31101229760000	Youmans #1511	10,382	6/6/02	GE	County Line	Black River

## PRODUCTION OF OIL & GAS

New York's reported natural gas production jumped to 36.8 bcf, a 31% increase from 2001. Over 24.9 bcf of gas came from just 46 producing Trenton-Black River wells. One well produced over 4 bcf.

Chemung County led in natural gas production for the first time, followed by Steuben County. Nearly all of Chemung County's production came from just 17 Trenton-Black River wells. Former long-time production leader Chautauqua County remained at third.

In 2002 New York's production of oil decreased roughly two percent to 179,266 barrels (bbl) from 183,094 in the prior year.

Table 3 lists the top ten gas producing counties, while Table 4 gives the top ten gas and oil producing companies, respectively. Map 2 on page 18 shows natural gas production by town. Chart 3 on page 17 shows the State's total oil and gas production for the past ten years. Well counts and gas production volumes are based on re-

ports submitted by well owners. For an explanation of the units of volume measurement, see the box on page 19.

**Table 3**

### Top Ten Gas Producing Counties, 2002

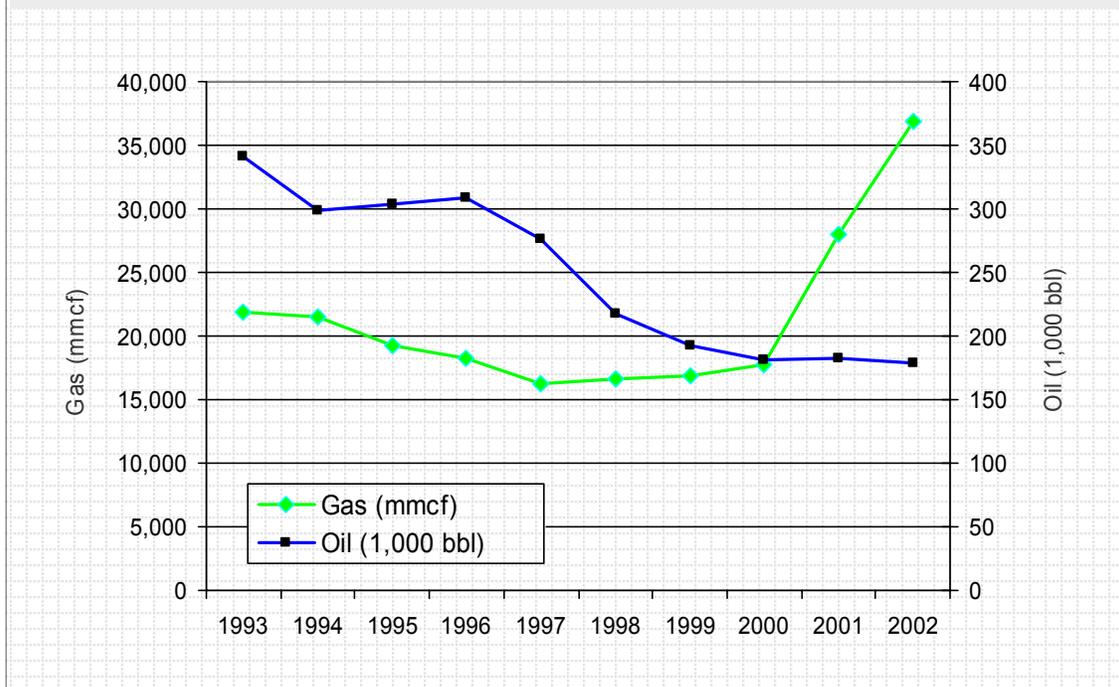
County	Gas (mcf)	Active Gas Wells	Average mcf/Well
Chemung	15,399,075	23	669,525
Steuben	9,269,280	44	210,665
Chautauqua	6,069,428	2,922	2,077
Erie	1,165,662	875	1,332
Cattaraugus	1,000,074	426	2,348
Cayuga	979,717	304	3,223
Genesee	781,793	492	1,589
Seneca	674,134	152	4,435
Schuyler	387,500	2	193,750
Wyoming	331,327	262	1,265

**Table 4**

### Top Ten Gas and Oil Producing Companies, 2002

Company	Gas (mcf)	Company	Oil (bbl)
Pennsylvania General Energy	18,434,177	Richardson Petroleum Corp.	20,736
Columbia Natural Resources	3,911,367	East Resources, Inc.	10,235
Fortuna Energy, Inc.	3,861,292	Woods Oil Company, Inc.	9,414
Great Lakes Energy Partners	1,692,712	A. J. Lease Account	7,151
Belden & Blake Corp.	1,589,706	Otis Eastern Service, Inc.	4,683
Nornew, Inc.	1,030,705	REI-NY, Inc.	4,169
Seneca Resources Corp.	682,024	T.M. Quaintance Crude Oil	3,510
United States Gypsum Co.	612,023	Resource America, Inc.	3,073
Kastle Resources Enterprises	607,762	Great Lakes Energy Partners	1,958
Stedman Energy, Inc..	519,226	Belden & Blake Corporation	1,698

**Chart 3 - New York State Oil and Gas Production, 1993 - 2002**



### Natural Gas

Natural gas is an important energy source for New York homeowners. Based on 2001 data, 5.4 million households use natural gas for home heat, cooking, heating water or other uses. For gas-fired heat, the average usage in New York is 69 mcf per year<sup>1</sup>. The 36.8 bcf of natural gas produced in New York in 2002 was enough to heat roughly 533,000 homes.

### Crude Oil

The first commercial oil well was drilled in New York in 1865. New York's crude oil is particularly high in paraffin, and is a preferred lubricant feedstock

<sup>1</sup> US DOE/EIA 2001 Residential Energy Consumption Survey

### Landowner Wells

A large number of New York's gas well owners have just one or two wells. These wells, known as "landowner wells", are usually no longer productive enough for commercial purposes, but may produce enough gas to heat a house. The Division has prepared a brochure entitled "Do You Own or Intend to Buy a Natural Gas or Oil Well: Tips for Landowners". The brochure includes information on:

- how to identify an old well on land you own or might buy,
- your legal responsibilities when you own an unplugged well, and
- safety tips concerning gas hookups and signs of gas contamination in household water supplies.

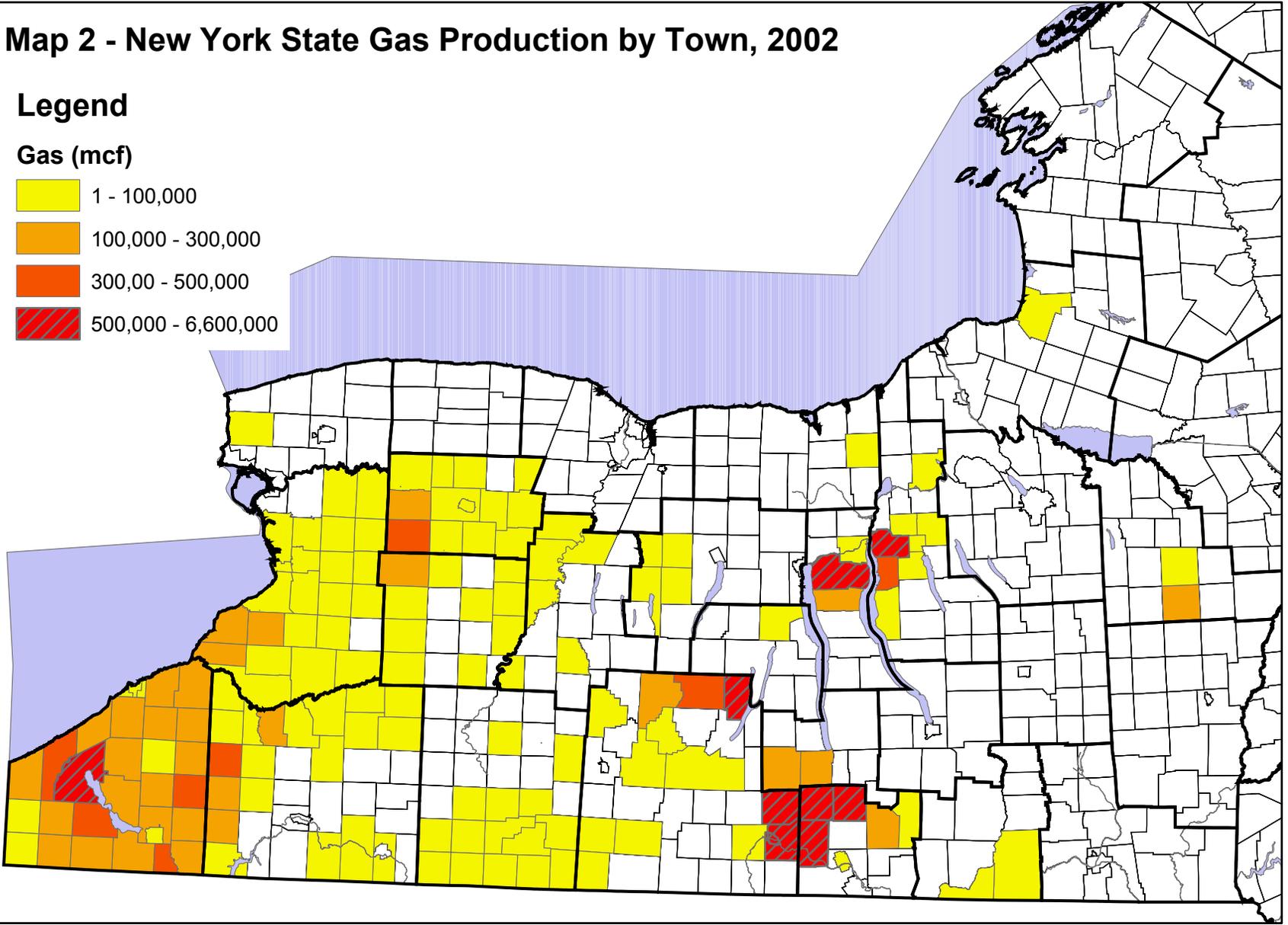
For more information visit our website at [www.dec.state.ny.us/website/dmn](http://www.dec.state.ny.us/website/dmn).

### Map 2 - New York State Gas Production by Town, 2002

#### Legend

##### Gas (mcf)

-  1 - 100,000
-  100,000 - 300,000
-  300,000 - 500,000
-  500,000 - 6,600,000



## MARKET VALUE AND ECONOMIC BENEFITS

### Market Value

While New York experienced a significant increase in gas production in 2002, the State's total market value for oil and gas of \$116 million represented a 17 % fall from 2001, due mostly to lower gas prices. The market value of the reported 36.8 bcf of gas produced was over \$111.7 million. The market value of the reported 179,266 barrels of oil produced was roughly \$4.5 million, up 7% from 2000.

### State Lease Oil and Gas Prices

The 2002 average gas price of \$3.03 per mcf was down 38% from \$4.85 per mcf in 2001. However, the oil price increased over 9% to \$24.92 per barrel in 2002. The average well-head prices were obtained from royalty payments made to the State for leases on State lands.

### Royalties to Landowners

The majority of landowners with producing oil and gas leases receive a royalty. Based on an average royalty of one-eighth of the production value, landowners in New York received roughly \$14.5 million in royalties from 2002 oil and gas production.

### Tax Revenues to Local Governments

Communities in oil and gas producing areas also benefit from the industry's activity. DEC estimates that real property taxes on 2002 natural gas and oil production were roughly \$3.5 million (gas \$3.35 million and oil \$134,000). To dampen the impact of gyrating oil and gas prices, local governments assess their taxes each year based on a unit of production value determined by the NY State Division of Equalization and Assessment using a five-year average.

### Volume Measurements Used in Report

Throughout this report, you'll find the following units of volume measurement used for production.

#### Natural Gas

mcf	thousand cubic feet
mmcf	million cubic feet
bcf	billion cubic feet

#### Crude Oil

bbl	barrel of oil (42 gallons)
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## PERMIT FEES AND FINES

The Division of Mineral Resources collects revenues from oil and gas activity under the Oil, Gas and Solution Mining Law. In 2002 total oil and gas revenues were \$429,685: fines and penalties were \$21,000, permit depth fees were \$134,600, oil and gas account fees were \$14,400, storage permit fees were \$10,000, and the remaining leasing revenues of \$249,685, are discussed in further detail on page 21.

Each drilling permit application must include a depth-based fee of \$125 for the first 500 feet plus \$125 for each additional 500 feet up to a maximum of \$2,625 for wells over 10,000 feet deep. In addition, each application must include a \$100 fee which is deposited in the oil and gas account to plug abandoned wells. Storage facility permit fees are \$10,000 for a new permit and \$5,000 for a modification permit.

**Table 5 - Permitted Well Types, 2002**

County	Gas Well	Oil Well	Storage Well	Brine Well	Stratigraphic	Geothermal	Total
Allegany		4	1				5
Broome	5						5
Cattaraugus	16	8					24
Cayuga	3						3
Chautauqua	8	9					17
Chemung	7						7
Chenango					2		2
Erie	13		1				14
Genesee	4						4
Livingston	1						1
Montgomery	4						4
New York						1	1
Onondaga	6						6
Ontario	2		1				3
Orange					2		2
Schuyler	2			4			6
Seneca	2						2
Steuben	6	1					7
Tioga	2		5				7
Tompkins	6						6
Wyoming				5			5
Yates	2						2
<b>Total</b>	<b>89</b>	<b>22</b>	<b>8</b>	<b>9</b>	<b>4</b>	<b>1</b>	<b>133</b>