

## PRODUCTION OF OIL & GAS

New York's reported natural gas production for 2003 was 36.0 bcf, a slight drop of 2% from 2002. Over 24.5 bcf of gas came from just 50 producing Trenton-Black River wells. One well produced over 3.5 bcf.

Chemung County led in natural gas production for the second year, 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 2003 New York's production of oil decreased roughly 12% percent to 157,313 barrels (bbl) from 179,266 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 17 shows natural gas production by town. Chart 3 on page 16 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 18.

**Table 3**

### Top Ten Gas Producing Counties, 2003

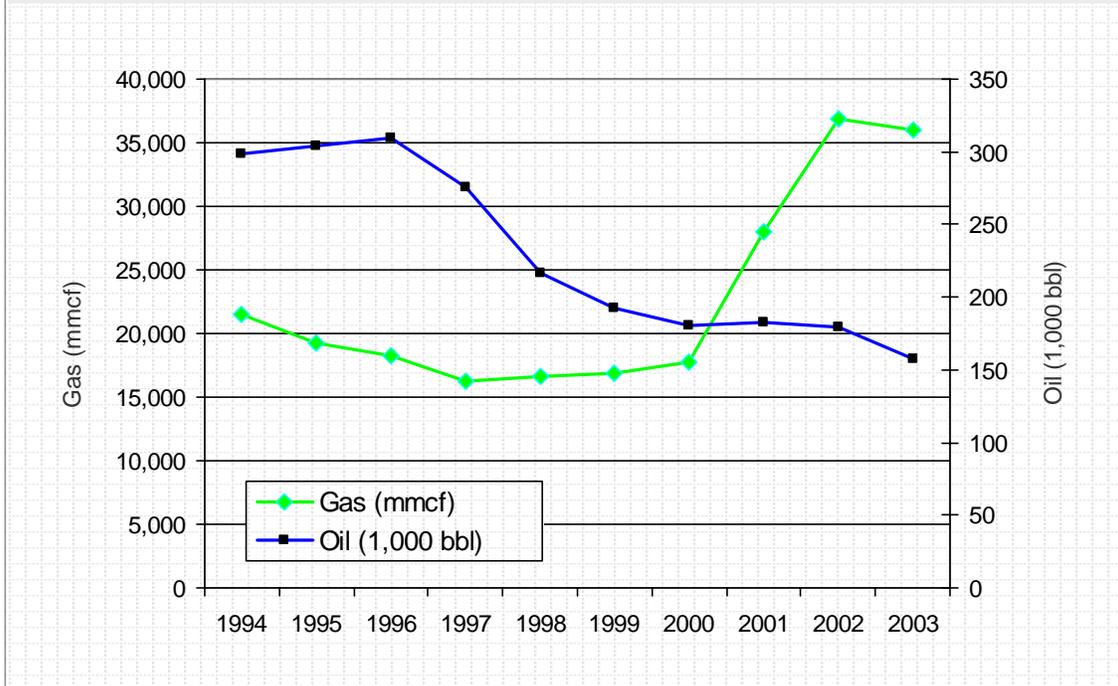
| County      | Gas (mcf)  | Active Gas Wells | Average mcf/Well |
|-------------|------------|------------------|------------------|
| Chemung     | 13,245,420 | 23               | 575,888          |
| Steuben     | 10,090,405 | 47               | 214,689          |
| Chautauqua  | 5,670,734  | 3,049            | 1,860            |
| Erie        | 1,144,382  | 884              | 1,295            |
| Cattaraugus | 1,051,107  | 421              | 2,497            |
| Schuyler    | 985,175    | 2                | 492,588          |
| Cayuga      | 855,067    | 306              | 2,794            |
| Genesee     | 700,124    | 497              | 1,409            |
| Seneca      | 606,464    | 154              | 3,938            |
| Allegany    | 544,588    | 58               | 9,389            |

**Table 4**

### Top Ten Gas and Oil Producing Companies, 2003

| Company                      | Gas (mcf)  | Company                     | Oil (bbl) |
|------------------------------|------------|-----------------------------|-----------|
| Fortuna Energy, Inc.         | 22,126,992 | Richardson Petroleum Corp.  | 23,991    |
| Columbia Natural Resources   | 3,218,738  | McCracken, Carl A. III      | 11,122    |
| Great Lakes Energy Partners  | 2,783,259  | English, Lawrence E. Jr.    | 10,841    |
| Nornew, Inc.                 | 918,877    | East Resources, Inc.        | 10,592    |
| Seneca Resources Corp.       | 659,128    | R & C Oil Co.               | 9,614     |
| Kastle Resources Enterprises | 566,032    | Synergy Oil and Gas, Inc.   | 6,905     |
| United States Gypsum Co.     | 545,986    | REI-NY, Inc.                | 6,136     |
| Stedman Energy, Inc.         | 519,570    | Woods Oil Company, Inc.     | 5,955     |
| National Fuel Gas Supply     | 419,152    | Otis Eastern Services, Inc. | 4,965     |
| Lenape Resources, Inc.       | 405,207    | Plants and Goodwin, Inc.    | 3,882     |

**Chart 3 - New York State Oil and Gas Production, 1994 - 2003**



**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 36.0 bcf of natural gas produced in New York in 2003 was enough to heat roughly 521,000 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.

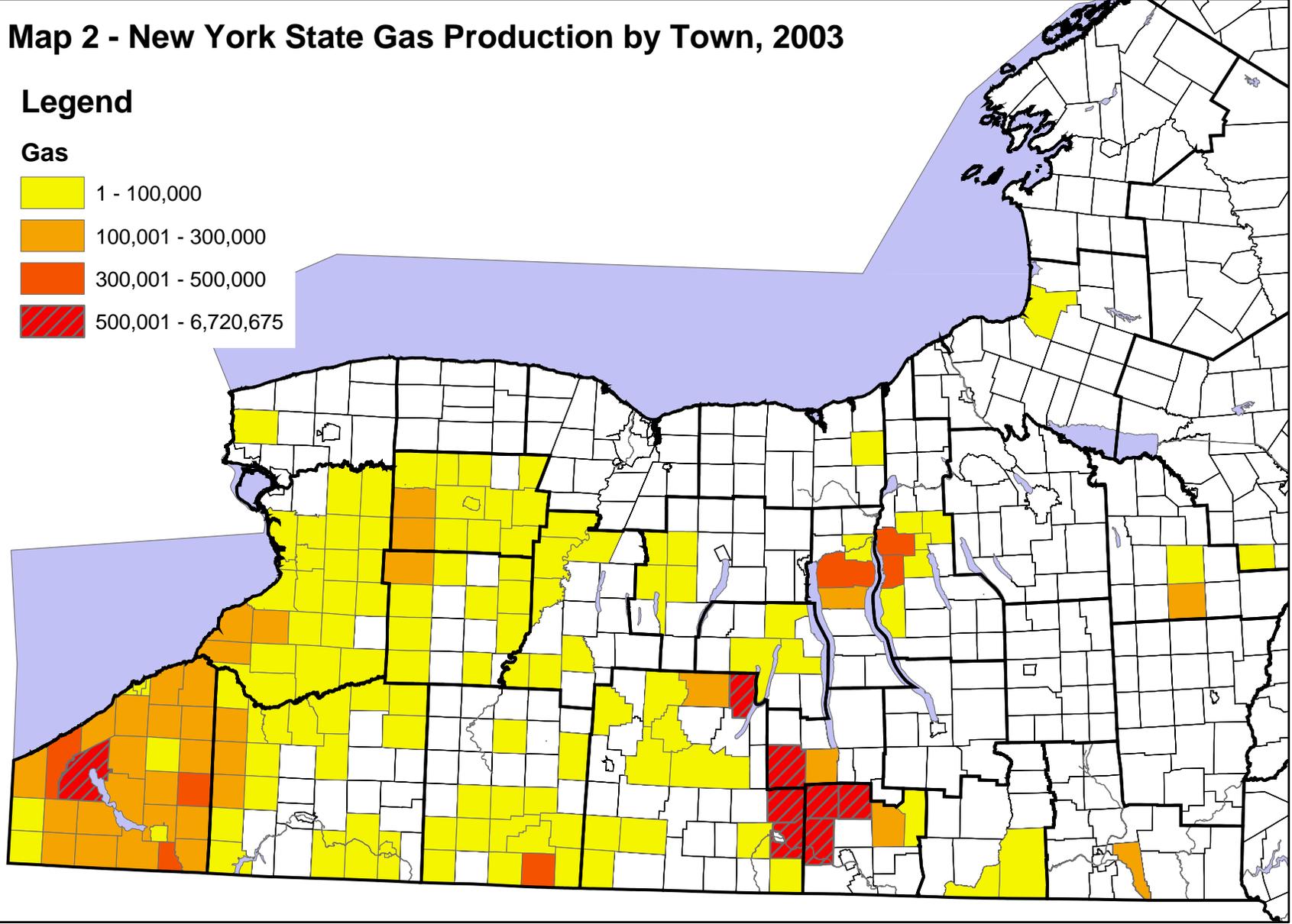
For more information visit our website at [www.dec.state.ny.us/website/dmn](http://www.dec.state.ny.us/website/dmn).

### Map 2 - New York State Gas Production by Town, 2003

#### Legend

##### Gas

-  1 - 100,000
-  100,001 - 300,000
-  300,001 - 500,000
-  500,001 - 6,720,675



## MARKET VALUE AND ECONOMIC BENEFITS

### Market Value

The total market value of New York's oil and gas production increased from \$116 million in 2002 to over \$212 million in 2003. Much of this increase was due to the near doubling of the market value of the State's gas in spite of a slight decrease in the gas production level to 36.0 bcf. The market value of the reported 157,313 barrels of oil produced was roughly \$4.6 million, up 2% from 2002.

### State Lease Oil and Gas Prices

The average wellhead natural gas price of \$5.78 per mcf in 2003 was up over 90% from the \$3.03 price of 2002. The average price of oil in 2003 of \$29.47 per bbl was up over 18% from \$24.95 in 2002. These average 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 \$26.6 million in royalties from 2003 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 2003 natural gas and oil production were roughly \$6.4 million (gas \$6.25 million and oil \$139,000). To dampen the impact of fluctuating 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) |
|-----|----------------------------|

**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 2003 total oil and gas revenues were \$5,673,243. Fines and penalties were \$141,551, permit depth fees were \$189,965, oil and gas account fees were \$14,800, storage permit fees were \$0 and the remaining leasing revenues of \$5,326,927 are discussed in further detail on page 20.

Each drilling permit application must include a depth-based fee of \$190 for the first 500 feet plus \$190 for each additional 500 feet. In addition, each application must include a \$100 fee which is deposited in the Oil and Gas Account to plug abandoned wells.

Storage facility fees are \$10,000 for a new permit and \$5,000 for a modification permit.

**Table 5 - Permitted Well Types, 2003**

| County      | Gas Well | Oil Well | Storage Well | Brine Well | Strati-graphic | Geo-thermal | Total |
|-------------|----------|----------|--------------|------------|----------------|-------------|-------|
| Allegany    | 1        | 14       |              |            |                |             | 15    |
| Broome      | 6        |          |              |            |                |             | 6     |
| Cattaraugus | 2        | 9        |              |            |                |             | 11    |
| Chautauqua  | 5        |          |              |            |                |             | 5     |
| Chemung     | 5        |          |              |            |                |             | 5     |
| Chenango    | 2        |          |              |            |                |             | 2     |
| Cortland    | 3        |          |              |            |                |             | 3     |
| Delaware    | 1        |          |              |            |                |             | 1     |
| Erie        | 2        |          |              |            |                |             | 2     |
| Genesee     | 4        |          |              |            |                |             | 4     |
| Madison     | 7        |          |              |            |                |             | 7     |
| New York    |          |          |              |            | 19             | 7           | 26    |
| Ontario     | 1        |          |              |            |                |             | 1     |
| Oswego      | 3        |          |              |            |                |             | 3     |
| Otsego      |          |          |              |            | 1              |             | 1     |
| Schuyler    | 8        |          |              | 3          |                |             | 11    |
| Seneca      | 12       |          |              |            |                |             | 12    |
| Steuben     | 11       | 15       |              |            |                |             | 26    |
| Tompkins    | 1        |          |              |            |                | 2           | 3     |
| Wayne       | 7        |          |              |            |                |             | 7     |
| Wyoming     |          |          |              | 9          |                |             | 9     |
| Total       | 81       | 38       | 0            | 12         | 20             | 9           | 160   |

## STATE LAND LEASING

At the end of 2003 the Division managed 100 leases covering approximately 81,000 acres of State land. This significant increase of 22,000 acres from the previous year resulted from the most successful competitive oil and gas lease sale New York State ever held.

At year-end 2003 the State was earning royalties from 99 productive oil and gas wells physically located on State lands and another 83 producing wells on adjacent and/or unitized lands. The wells were held under 43 leases.

New York collected royalties from these 182 wells which produced 4.7 bcf of natural gas and 295 barrels of oil. The average prices paid were \$5.78 per mcf for gas and \$29.47 per barrel of oil.

In 2003 the State received the record amount of \$5,326,927 in leasing revenues:

- **Lease Sale Revenue** - The State collected \$4.5 million in bonus bids for 26,000 acres in Steuben and Schuyler Counties. Approximately \$3.93 million was deposited in the State's General Fund. The remaining \$644,000 was credited to the Conservation Fund for leasing the Erwin Wildlife Management Area.
- **Royalties** - This category of revenue rose 531% from 2002 due largely to the escrow release of royalties from Fortuna's Trenton-Black River wells. Statewide the Division collected \$609,821 in royalties, but roughly 47% of that total came from just five Trenton-Black River wells.
- **Delay Rentals** - Operators submitted a total of \$16,486 in delay rentals, down 79% from 2002. This was due to expiration of two leases and termination of four others.
- **Storage Leases** - Fourteen storage leases added \$117,381, up 59% from 2002's total of \$73,617.

**Table 6 - State Land Acreage Under Lease By County, 2003**

| County      | Leased Acreage |
|-------------|----------------|
| Allegany    | 11,627         |
| Broome      | 315            |
| Cattaraugus | 10,042         |
| Cayuga      | 62             |
| Chautauqua  | 15,913         |
| Chemung     | 609            |
| Erie        | 264            |
| Madison     | 53             |
| Ontario     | 55             |
| Schuyler    | 14,427         |
| Seneca      | 17             |
| Steuben     | 27,782         |

**Table 7 - Total Leasing Revenues, 1996 - 2003**

|      |             |
|------|-------------|
| 1996 | \$143,592   |
| 1997 | \$168,029   |
| 1998 | \$279,523   |
| 1999 | \$3,206,406 |
| 2000 | \$181,876   |
| 2001 | \$379,845   |
| 2002 | \$249,685   |
| 2003 | \$5,326,927 |

### 2003 Lease Sale

In New York's March 2003 lease sale (see Map 3 next page), the State collected a record-setting total of \$4.5 million in bonus bid payments.

This is more than one-third of the total revenue collected by the Division over the entire history of the State land leasing program. Another notable event was the availability of free copies of the bid packages on the Division's website. CD-ROMs and the traditional paper copies of bid packages were also available, but 99% of the potential bidders took advantage of their new ability to download the information.

Industry interest in the sale area was strongly influenced by the recent Trenton-Black River activity. These wells have production rates and total reserves one hundred times higher than the typical Medina gas well, the former mainstay of New York's gas industry.

Prior to the lease sale DEC held open-house meetings in Corning. The Division presented information on leasing policies for State lands and the regulations and other requirements that apply to well drilling, production and abandonment. Attendees had ample opportunity to discuss the lease sale process with a DEC representative and to have their questions answered.

The public input received at the meetings and through other channels resulted in a change in lease terms for Schuyler State Reforestation Area # 3. The lease was offered on a no-surface entry basis to avoid impacting a unique bog in the area.

DEC awarded 21 leases to four companies, with Fortuna Energy submitting the high bid on 16 of the leases. The company's bid of \$587 per acre for Steuben SRA #14 (Erwin Hollow State Forest) set a new record for a State lease sale.

**Table 8 - Lease Type by County, 2003**

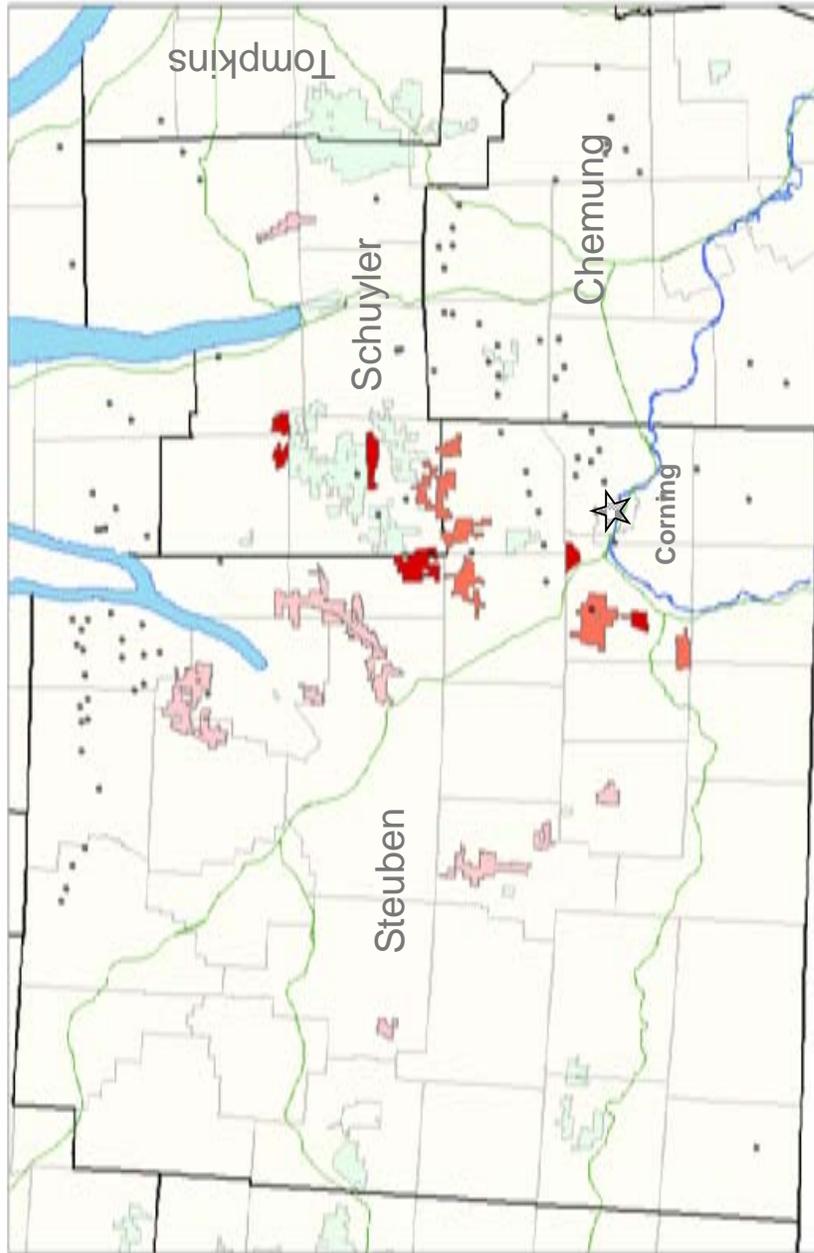
| County      | Acres                      |                             |                             |              | Leases                     |                             |                             |              |
|-------------|----------------------------|-----------------------------|-----------------------------|--------------|----------------------------|-----------------------------|-----------------------------|--------------|
|             | <u>Rental</u> <sup>1</sup> | <u>Royalty</u> <sup>2</sup> | <u>Storage</u> <sup>3</sup> | <u>Total</u> | <u>Rental</u> <sup>1</sup> | <u>Royalty</u> <sup>2</sup> | <u>Storage</u> <sup>3</sup> | <u>Total</u> |
| Allegany    | 11,502                     | 126                         |                             | 11,627       | 9                          | 1                           |                             | 10           |
| Broome      | 315                        |                             |                             | 315          | 1                          |                             |                             | 1            |
| Cattaraugus |                            | 62                          | 9,981                       | 10,042       |                            | 2                           | 8                           | 10           |
| Cayuga      |                            | 62                          |                             | 62           |                            | 4                           |                             | 4            |
| Chautauqua  |                            | 15,913                      |                             | 15,913       |                            | 29                          |                             | 29           |
| Chemung     | 121                        | 488                         |                             | 609          | 1                          | 2                           |                             | 3            |
| Erie        |                            | 10                          | 255                         | 264          |                            | 2                           | 2                           | 4            |
| Madison     | 53                         |                             |                             | 53           | 1                          |                             |                             | 1            |
| Ontario     |                            |                             | 55                          | 55           |                            |                             | 1                           | 1            |
| Schuyler    | 14,426                     |                             | 1                           | 14,427       | 9                          |                             | 1                           | 10           |
| Seneca      |                            | 17                          |                             | 17           |                            | 1                           |                             | 1            |
| Steuben     | 25,937                     | 225                         | 1,620                       | 27,782       | 22                         | 2                           | 2                           | 26           |
| Total       | 52,352                     | 16,902                      | 11,911                      | 81,165       | 43                         | 43                          | 14                          | 100          |

1 Rental status means no wells drilled yet under lease, so delay rental paid on per acre basis.

2 Royalty status means there are producing wells on the lease and the State is receiving royalties.

3 Storage means it is a lease for an underground storage facility.

**Map 3 - 2003 State Land Lease Sale High Bids**



## COMPUTERIZED SERVICES

### Web Site Statistics

As one of the Division's primary tools for distributing information, the website includes extensive information on both the Oil and Gas and the Mined Land Reclamation Programs. Public use of the Division's website increased dramatically from the previous year. The number of page views in 2003 rose by over 100% and the number of unique visitors rose by 50% compared to 2002. In addition, the average number of user sessions rose 30% to 362 sessions per day in 2003. The length of the average user session increased 41% from 16 minutes in 2002 to 22.5 minutes in 2003.



The Division has further improvements planned for the website to increase its usefulness to the public, industry and local governments.

### Electronic Reporting and Annual Reports

Approximately 14,500 wells need to be reported annually and the reports are due on March 31 for the preceding calendar year. The steadily increasing menu of electronic reporting options continues to make the process easier. In January the Division mailed 971 well owners a pre-printed form showing all of their registered wells. For the past four years, well owners have also been able to file their reports using electronic options such as database and spreadsheet files. In 2003 well owners submitted electronic reports covering 4,881 wells or 31% of the State's reported wells. However, those filings represented 91% of the State's total gas production. Reports on an additional 1,284 storage and solution salt mining wells were filed electronically. Electronic filing is easier for many well

owners and also reduces the chance of data entry errors. The Division intends to expand the electronic reporting system to make this option more attractive to owners with a small number of wells.

### 2003 Highlights

In addition to steady improvements in the Division's website and electronic reporting efforts, the Division's computer staff made significant improvements to the leasing process. As mentioned on page 21, costly and cumbersome paper bid packages were replaced by electronic copies that could be downloaded for free.

In 2003 the Division completed another important computerization project that had long been stymied by security requirements imposed on interagency data sharing. In late 2003 the Division started providing oil and gas data to both the New York State Geological Survey (NYSGS) and the Office of Real Property Services (ORPS) in formats tailored to their needs. Previously only selected staff at the two agencies had access to the Division's database.

ORPS's use of the new improved electronic data package has eliminated the need to transfer paper records between agencies. It has also given OPRs staff more timely access to the data they need to manage local government taxation of oil and gas production.

NYSGS's Reservoir Characterization Group used the new tailored data packages to develop an on-line mapping program that combines our data on mines and oil and gas wells with other pertinent geologic information (<http://www.nysm.nysed.gov/esogis/>). The new data sharing arrangement has already proven its value to the oil and gas exploration community.

<http://www.dec.state.ny.us/website/dmn>

## WELL PLUGGING, SITE RECLAMATION AND SITE INSPECTIONS



Rig crew plugging and abandoning a well.

**Wells Plugged, 2003**  
**142**

- 91 Oil Wells
- 36 Gas Wells
- 15 Other Wells

Belligerent rooster attacks State truck on well access road during inspection.



**Well Site Inspections, 2003**  
(All Phases of Activity)  
**2,486**

**Staff Miles Traveled, 2003**  
**120,456**



Reclaimed access road to a Cabot Oil and Gas well site in Broome County. All access roads must be reclaimed unless the landowner wants the road to remain for their future use.

**Financial Security**  
**\$12.6 Million**

In 2003 the Division held \$12,616,805 to guarantee that wells are properly plugged and abandoned at the end of their productive life. Each well must be plugged with cement, equipment removed, land recontoured and the wellsite and access road revegetated.

## ABANDONED WELLS

The Division estimates that over 75,000 oil and gas wells have been drilled in New York State since the 1820s. Most of the wells were drilled before New York established a regulatory program and many were never properly plugged and abandoned.

Abandoned wells can leak oil, gas and/or brine. These substances can contaminate ground and surface water, kill vegetation and cause safety and health problems. Underground leaks may go undetected for years before they are noticed.

Historically, abandoned wells have been discovered at playgrounds and parking lots, inside buildings, in wetlands, underwater in creeks and ponds, in wooded areas and in residential yards. Every year DEC staff discover additional abandoned wells while investigating complaints or conducting scheduled inspections. Many abandoned well issues take several years to resolve as the Division pursues legal action against the responsible parties.

### 2003 Abandoned Well Highlights

During 2003 Division staff coordinated with the U.S. Environmental Protection Agency on the extensive preliminary work required for a large abandoned well plugging project in the Town of West Union, Steuben County. The wells, owned by Allegro Oil and Gas, had been the subject of numerous DEC enforcement actions since the mid-1980s. The lease contained over 200 unplugged abandoned wells in a variety of settings ranging from woodland to residential.

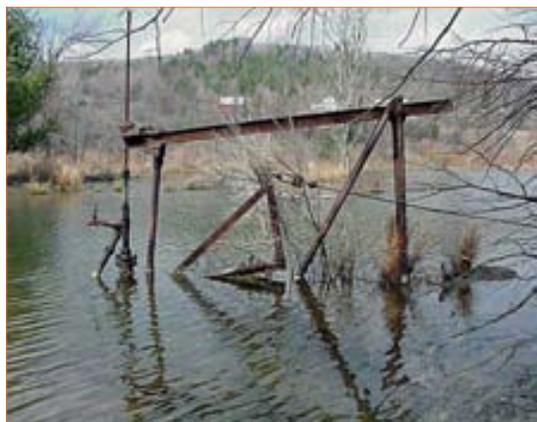
Using \$100,000 in fees from a legal settlement, the Division awarded a contract to plug 43 of the wells on the lease. For the remaining 182 unplugged wells on the lease, the Division continues to litigate the issue of plugging liability with successors in interest for the lease.

During 2003 four gas wells were discovered on State Lands in Steuben Reforestation Area #10

and Steuben-Schuyler Reforestation Area #1. The original owners of these wells could not be located and the Division of Mineral Resources arranged for the wells to be plugged by the Division of Operations. This work was paid for by funds set aside to remediate violations found during environmental audits of State lands. Currently all known abandoned wells on DEC lands are plugged.



Moore Lease abandoned well near creek leaking crude oil to water.



Old abandoned oil well under water in Town of Bolivar, Allegany County.



The 200+ abandoned wells on the Moore Producing Company Lease occur in a variety of settings including homeowners' front yards. Such oil wells are potential conduits for contamination of drinking water supplies. DEC plugged the wells pictured above in 2003.

### 2003 Landowner Abandoned Well Problems

In 2003 a landowner in Allegany County reported that a leaking well was causing an oil scum on their pond. The party responsible for the wells is an inactive company that has been the subject of pending DEC legal action for over 12 years. This is just one of the company's hundreds of long-abandoned wells.



Oil scum on homeowner's pond.

Another landowner in Cattaraugus County complained that a small oil leak in their yard was keeping away potential buyers for their house.

An old map shows the well to be part of a long-abandoned lease, but the Department does not know who the responsible party is. In both these cases, the wells were added to the Department's 600-plus problem wells on the Priority Plugging List to be plugged as funds become available.

Also in 2003, four 90-year old abandoned wells in Cattaraugus County posed problems for a planned housing development on 50 acres in the Town of Allegany. The developer obtained plugging permits from the Department and hired a contractor to do the work.



Oil spill on homeowner's lawn.