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**Thomas P. DiNapoli  
COMPTROLLER**



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**OFFICE OF THE  
NEW YORK STATE COMPTROLLER**

**DIVISION OF STATE  
GOVERNMENT ACCOUNTABILITY**

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**DEPARTMENT OF  
ENVIRONMENTAL  
CONSERVATION**

**LEASE OF STATE LAND  
FOR GAS AND OIL  
EXPLORATION AND  
PRODUCTION**

**Report 2005-S-54**

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## AUDIT OBJECTIVES

Our objectives were to determine whether the Department of Environmental Conservation maximized the revenue from leases of State land for gas and oil exploration and production, and effectively exercised its regulatory responsibility over gas and oil wells.

## AUDIT RESULTS - SUMMARY

The Department of Environmental Conservation (Department) is authorized by State law to lease State lands for oil and gas exploration and production. At the time of our audit, the Department had 71 such leases covering 64,502 acres of State land. The leases are generally awarded through a public, competitive bid process. During the six years ended December 31, 2005, the Department received about \$9.8 million in revenue from these leases.

We examined the Department's leasing process and found that it generally complied with guidelines that are intended to promote open competition. We also determined that the leases were consistently awarded to the highest bidder, and the number of companies submitting bids increased significantly since 1990. As a result of the competitiveness of the leasing process, there is some assurance State revenue from the leases is being maximized.

However, we also identified certain actions that could be taken by the Department to provide additional assurance lease revenue is being maximized. In particular, we recommend the Department periodically review the land lease terms in other states to

determine whether any of those terms would be appropriate for New York, analyze the potential benefits of certain leasing practices (such as progressive royalty rates) that could result in increased revenue, and obtain independent corroboration of the information used in calculating the leaseholders' royalty payments to the State. The Department relies on the leaseholders to self-report this information accurately and completely, but we believe some independent corroboration is needed.

The Department is also responsible for monitoring gas and oil well operations on both public and private lands. Specifically, the Department issues permits authorizing the operations and performs inspections of the operations. The purpose of the inspections is to ensure that the operators comply with their permit terms. These terms are intended to protect public safety, guard against environmental damage, and address other public concerns. Well inspections on State land have an additional purpose of checking for compliance with State lease terms.

We found the Department appears to be exercising its regulatory responsibilities in a generally effective manner, but we could not make a conclusive determination because of certain weaknesses in the Department's administrative oversight and recordkeeping practices. For example, inspection practices varied in different regions of the State, required documents were not always present in Department files, and the inspections themselves were not always documented. We recommend certain improvements be made in the Department's administrative oversight and recordkeeping practices.

This report, dated September 13, 2007, is available on our website at: <http://www.osc.state.ny.us>. Add or update your mailing list address by contacting us at: (518) 474-3271 or  
Office of the State Comptroller  
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## BACKGROUND

The Department of Environmental Conservation (Department) is authorized by the New York State Environmental Conservation Law (Article 23, Title 11) to lease State lands for oil and gas exploration and development and for underground gas storage. As of August 25, 2005, the Department had 85 such leases, 71 of which were for oil or gas exploration and development and 14 of which were for underground gas storage. The Department is not authorized to lease State park lands, including the Adirondack and Catskill Forest Preserves, or lands under the waters of Lake Ontario. The Department is not authorized to lease lands under the waters of Lake Erie for oil development.

Most of the land leases are awarded through a public, competitive bid process. Tracts of land may be nominated for lease by the Department, oil and gas industry representatives (the nominations by industry representatives must be approved by the Department) or other interested parties. The nominated tracts are assessed by the Department to ensure that they are environmentally suitable for leasing and to develop special lease conditions for protecting public safety and guarding sensitive areas against environmental damage. The public is then given an opportunity to comment on the possible leases.

If the Department decides to proceed with a lease transaction, the lease sale is publicly advertised, bids are received and evaluated, and a lease is awarded to the highest responsible bidder. In addition, in certain circumstances, a non-competitive leasing process may be used by the Department. For example, small tracts of land may be leased non-competitively in order to consolidate drilling and production units. If the land to be leased is owned by a State agency other than the Department, the approval of that agency must be obtained before the lease transaction can proceed.

At the time of our audit, the two most recent lease sales were held in 1999 and 2003. In 1999, 11 tracts of land covering about 13,000 acres were put up for bid, and in 2003, 21 tracts of land covering about 26,000 acres were put up for bid.

Leases for oil and gas exploration and development are generally awarded for an initial term of five years to give the leaseholder time to complete the exploration process and begin production. If oil or gas production is not initiated within five years, the lease generally expires. If production is initiated, the lease lasts as long as production continues.

In exploration and development leases, the Department receives (1) an initial up-front payment (called a bonus payment), which consists of the winning bidder's bid price per acre times the number of acres being leased; (2) annual "delay" rental payments during the exploration period (these payments, which are specified in the lease, are typically \$3 to \$5 per acre per year); and (3) royalty payments during the production period (specified in the lease as 12.5 percent of gross production revenue). The Department also collects drilling permit fees, which vary in accordance with the depth of the well.

During the six years ended December 31, 2005, the Department received over \$10.4 million in lease revenue. About \$9.8 million came from exploration and development leases, while the remainder came from underground storage leases, as follows:

- \$4.6 million (44 percent) came from bonus payments on exploration and development leases awarded in 2003,
- about \$468,000 (5 percent) came from annual “delay” rentals,
- \$4.7 million (45 percent) came from production royalties, and
- about \$613,000 (6 percent) came from underground storage rentals.

If the revenues generated by leases are from leases on Wildlife Management Areas, the revenues are deposited in the Conservation Fund to be used for certain programs. Lease monies generated from reforestation areas and multiple use areas are deposited directly into the general fund, based on the classification of the land. If the leased land belongs to another State agency, the lease revenue is to be transferred to that agency.

The Department is also responsible for overseeing oil and gas well operations (e.g., drilling, production and well plugging) on both public and private lands. Specifically, the Department issues permits authorizing the operations and performs inspections of the operations. The Department also requires well operators to maintain financial security such as performance bonds to provide assurance the wells will be plugged when the operations are completed.

As of January 26, 2006, a total of 35,839 wells were being monitored by the Department. About 1 percent of these wells

(353) were on or associated with State land. Most of the wells on or associated with State land were gas wells (266). A total of 211 of these gas wells were active, while only three oil wells were active.

In recent years, oil and gas exploration and production in New York State has grown due to the development of deep natural gas resources in the Trenton-Black River Formation in Central New York and the Southern Tier. The location of the Trenton-Black River Formation is shown on the map in Exhibit A.

## **AUDIT FINDINGS AND RECOMMENDATIONS**

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### *Maximizing Lease Revenue*

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We found that exploration and development leases have been awarded to the highest bidder. We also found that the number of companies submitting bids has increased since 1990. As a result, there is some assurance State revenue from the leases is being maximized. However, we also identified certain actions that could be taken by the Department to provide additional assurance lease revenue is being maximized.

### **Competitiveness of the Leasing Process**

To determine whether the Department’s leasing process was competitive, we reviewed the six most recent sales of exploration and development leases. These sales were conducted in 2003, 1999, 1998, 1997, 1995 and 1990. We did not review any underground gas storage leases, since these leases account for only a small portion of the Department’s total lease revenue. We found that the exploration and development leases were awarded to the highest bidders.

We also examined documentation relating to the leasing process to determine whether the Department complied with its requirements for nominating land tracts for lease, performing an environmental assessment of the tracts, obtaining public comments on the proposed leases, publicly advertising the lease sales, evaluating bid packages, and establishing lease terms. The documentation we reviewed indicated that the Department did comply with these guidelines. However, some of the documentation from the 1999 lease sale was not available for review. A Department staff member believes the missing documents were lost during the Department's move to its new headquarters.

We also reviewed the 1999 and 2003 lease sales to ascertain the level of competition in the sales. The number of bids received for each of the 32 leases offered for sale in those two years is shown in Table 1.

Number of Bids	Leases			
	1999	2003	Total	Percent
1		7	7	22
2	11	7	18	56
3		2	2	6
4		4	4	13
5		1	1	3
Total	11	21	32	100

As is shown in Table 1, only 1 bid was received for 22 percent of the leases offered for sale, 2 bids were received for 56 percent of the leases offered for sale, and 3 or more bids were received for 22 percent of the leases offered for sale. It thus appears that there was some competition, though the level of competition was not always high. We also noted that, in 1999, bids were submitted by three different companies; however, in 2003, bids were submitted by ten different

companies. Consequently, the leasing process appeared to be more competitive in 2003.

When we compared the two most recent lease sales (in 1999 and 2003) to the four prior lease sales (in 1990, 1995, 1997 and 1998), we found that the two most recent sales were much more competitive. For example, during the four prior lease sales, a total of 31 leases were offered. In 13 of these offerings, no bids were received; in 17 of the offerings, only one bid was received; and in the remaining offering, two bids were received. We also determined that, in three of the four prior lease sales (1995, 1997 and 1998), bids were submitted by only one company (a different company each year).

Department officials attribute the increased competition in 1999 and 2003 to the discovery of productive wells in the Trenton-Black River Formation and to rising natural gas prices, which offset the financial risk of exploration. As interest in the leases increased, the amounts bid (bonus payment) for individual tracts also increased, to over \$2.1 million in one instance.

### Lease Terms

To determine whether the terms and conditions of the Department's oil and gas leases appear to maximize the State's revenue under the leases, we compared New York's leases to the leases used by other states for this purpose. We contacted nine states and received responses from five of the states (four of the states - Georgia, Kentucky, Virginia and West Virginia - either do not lease state land for oil and gas exploration or did not respond). Of the five states that did respond (Alabama, Ohio, Pennsylvania and Tennessee) are located in the Appalachian Basin, and thus have the potential for Trenton-Black River gas and oil fields.

Our comparison of lease terms focused on the three types of revenue that are generated under the leases: up-front bonus payments based on bids, delay annual rental payments until production begins, and royalty payments from oil or gas production. Table 2 summarizes the lease terms in these areas for New York and the five states that responded to our survey.

State	Bonus Payment	Delay Annual Rental Payment	Royalty Rate	
			Oil	Gas
Alabama	Yes	\$10	N/A	25%
Michigan	Yes	\$2	16.7%	16.7%
Ohio	No	No	11.1%	12.5%
Pennsylvania	Yes	\$10	12.5%	12.5%
Tennessee	Revenue Terms Not Standardized			
New York	Yes	\$3 - \$5	12.5%	12.5%

We conclude that New York’s lease terms are generally comparable to the lease terms of the other five states. However, most lease revenue is generated by bonus payments and royalty payments, and New York’s royalty rate (12.5 percent) is lower than the rate used by Alabama (25 percent) and Michigan (16.7 percent).

Department officials told us that leasing terms and conditions depend on many factors, such as industry interest, volume of production, development versus exploration drilling activity, pipeline infrastructure, and government regulations on the industry. They also noted that some of the states we contacted may not be comparable to New York, because New York’s gas and oil production industry is in an earlier stage of development than the other states’ industries, and is much smaller in terms of its production. They noted that Michigan’s

royalty rate was 12.5 percent (the same as in New York) until about ten years ago, and was raised to 16.7 percent after 40 years of exploration and development activities. They also noted that, in 2004, Alabama and Michigan had more than six times as much gas production and more than 30 times as much oil production as New York. The officials further noted that Alabama’s 25 percent royalty rate may not be comparable because its gas wells are not part of the Trenton-Black River Formation.

We acknowledge the small size and early stage of New York’s gas and oil production industry, and agree that the Department may not be able, at the present time, to adopt some of the more favorable leasing terms used in states with larger and more mature industries. However, we believe Department officials should periodically review the leasing practices of other states and determine whether some of these practices can be adopted in New York as its gas and oil industry matures. For example, in a recent lease offering in a known oil field, Pennsylvania did not ask for bonus payment bids; instead, it asked for royalty bids.

Department officials acknowledged it may be appropriate to formally review other states’ lease terms should New York’s oil and gas drilling move to the next level of maturity and reach a development phase rather than a wildcat/exploration phase.

We also reviewed the terms of federal oil and gas leases. We found that the royalty rate in these leases is generally 12.5 percent (the same rate that is used by the Department). However, the federal government also allows sliding royalty rates and scaled royalty rates, in which the royalty rates are higher when the production level increases. For example, the royalty rate would be 12.5 percent up to

certain production level, and increase to 16.66 percent for higher production levels.

These kinds of royalty rates might be appropriate when wells are expected to be high producers. The rate would start out lower to enable the operator to recover its costs earlier, and increase thereafter. New York's Trenton-Black River area has shown some very high producing wells in its short history; we therefore recommend the Department analyze the potential benefits of these kinds of royalty rates for leases in this area.

We also recommend the Department assess the potential benefits of leasing various strata beneath the land separately, as is sometimes done in Alberta, Canada. Currently, leases on State-owned land give the leaseholder the right to drill to any depth. However, alternative lease terms could potentially be more beneficial to New York State.

### **Lease and Well Ownership**

As of December 21, 2005, a total of 26 companies held exploration and development leases in New York State. As is shown in Table 3, we determined that 3 companies held about 77 percent of the leased acreage, with 1 company holding about 47 percent.

Company	Acres Leased	Percent
A	30,584	47.4%
B	10,692	16.6%
C	8,451	13.1%
Remaining 23	14,775	22.9%
Total	64,502	100%

Of the remaining 23 companies, 6 held between 1 and 6.5 percent each of the leased acreage, and 17 held less than 1 percent each.

We note that the company holding the most acreage purchased several competitors in recent years and thus acquired their holdings.

If the Department is to maximize the revenue from its exploration and development leases, the market for the leases must be competitive. However, the competitiveness of the market could be undermined if most of the leased areas are held by a small number of companies. The Department does not have a limit on the number of acres that any one company can hold, but we question whether such a limit might become necessary to protect the State's economic interests.

Department officials stated that companies sometimes acquire several leases in an area to protect their discoveries from competitors and for future pipelines if necessary. The officials also noted that most of the available land in New York is privately held; consequently, it is difficult for a company to restrict competition through leases on State land. The officials also stated that a limit on leased acreage could reduce competition by excluding some companies from the bidding. The officials further stated that they have monitored the results of recent lease sales and found no indication competition has been undermined by a few companies' large holdings (they noted that, in a lease sale held in 2006 subsequent to our audit fieldwork, record high bids were submitted).

We acknowledge the competitiveness of the current leasing environment, but note that this environment may not remain competitive if the current trend continues and an even larger percentage of the State's natural gas resources is controlled by a small number of companies. In addition, the value of State land due to price increases for gas and oil has changed the need to monitor holdings of companies in State land. We therefore recommend the

Department monitor the situation and take corrective action if necessary.

### **Estimation of Potential Gas and Oil Resources Under State Lands**

As part of our review, we determined whether the Department, any of the five other states we surveyed, or the federal government (the Bureau of Land Management in the Department of the Interior) estimates possible oil and gas resources under the lands they offer for lease. Such estimates could potentially aid in judging the reasonableness of the bids submitted for the leases.

We found estimates of this kind are not performed because they are costly and risky. We were told that such estimates would require seismic tests or geological surveys to identify the types of subsurface rocks and geologic formations that could result in natural gas traps. However, such activities are costly, as they require specially trained staff and special equipment. They are also risky, as they may indicate that there is little or no oil or gas present.

We were told that the only way to determine the value of the leased land is to drill. It is thus believed best to let the marketplace estimate this value through open, competitive bidding, particularly in areas without a long history of exploration and production.

### **Accountability for Royalty Revenues**

Good internal controls require that the Department implement procedures to ensure that it collects all royalty revenues it is owed. However, the Department does not have a system to determine whether well operators accurately report all oil and gas production and submit all royalties that are due to the Department. As a result, the Department may

not be collecting all the royalty revenues it is owed.

All well operators are required to have meters to record the volume of gas production. As part of its well inspection procedures, the Department checks whether these meters are operational. However, the Department's inspectors are not trained to read the output reports from the meters. As a result, the inspectors cannot verify the output reported by the operators. Department officials told us that reading meter charts is time-consuming, and hiring someone to do so would reduce staff resources devoted to other tasks because they do not have funds to hire additional staff.

Meters are initially calibrated by their manufacturers. However, we found the Department has not established any lease terms requiring operators to periodically test or reset meter calibration or to provide reports confirming such tests have been performed. The Department also does not perform any tests of the companies' meters; nor does the Department or any other State agency check or regulate the meter calibration. Department officials told us that they used to have a device to prove meters, but they can no longer do so from a safety standpoint, because of the high pressure of Trenton-Black River gas wells. Additionally, they told us that they do not have a disposal facility to accept the brine and other waste fluids that would result from the use of a meter testing device.

Once the gas is metered at the wellhead, it flows into a common gathering pipeline and is transported to the purchaser. According to New York Codes of Rules and Regulations (Title 6 Part 551) and the Environmental Conservation Law, operators are required to maintain, for Department examination, records on oil/gas production, sales purchases and transportation. Department officials stated that the best way to determine the

volume of gas sold (and thus, revenues received) would be to audit the operators' records.

The Department is allowed by its standard lease to perform such audits, but Department officials told us such audits have not been performed for several years. As a result, the Department has placed full reliance on well operators to accurately self-report their production and to pay all royalties due the Department. In our opinion, a reliance on self-reporting is not sufficient without some form of independent corroboration. We therefore conclude Department officials cannot reasonably be assured all owed royalties are being paid. We recommend the Department take steps to obtain independent corroboration of the sales and production information reported by the operators.

We note that such steps are routinely taken in other states. For example, in Alaska, state inspectors are required to observe gas meter calibrations at major custody transfer points every six months and at minor transfer points once per year. In Texas, lease terms address meter calibration, the verification of sales, and the maintenance of oil and gas measurement records. For example, gas meters must be calibrated to a certain degree of accuracy at least once every six months and the state must be notified so that it can have a representative present during the procedure. Also, certain specified records must be submitted to the state. The Department has not instituted similar monitoring controls in its leases.

Department officials noted that the gas and oil industry in New York is substantially smaller than the industries in Alaska and Texas. For example, in 2004, Alaska had 6,897 wells on public land and produced 1,600 times as much oil, and nine times as much natural gas, as New York. They also noted that the major

custody transfer points in New York are located on private lands, and the Department cannot require meter calibration tests at these points unless certain changes are made in State law (also, Department staff would not be able to evaluate the adequacy of these tests unless they were trained in calibration procedures).

We acknowledge the differences between states like New York and states like Alaska and Texas. However, the Department needs to initiate a process for establishing adequate accountability over royalty revenues, and we believe the practices in states such as Alaska and Texas can serve as a guide for this process. We also believe that, as New York's oil and gas industry grows, the Department needs to keep abreast of industry practices so that it can implement those that are appropriate under the changing circumstances.

### Recommendations

1. Periodically perform a formal review of other states' lease terms to determine whether any of these terms can be adopted in New York.
2. Analyze the potential benefits of (a) sliding royalty rates and scaled royalty rates, and (b) leases in which various strata beneath the land are included in separate leases rather than in the same lease.
3. Monitor lease acreage holdings by company to determine whether competition is being undermined by a concentration of holdings among a few companies, and if so, take appropriate corrective action.
4. Obtain independent corroboration of the sales and production information

reported by leaseholders through some combination of the following or other comparable practices:

- Establish lease terms requiring leaseholders to periodically test or reset meter calibration or provide reports confirming that such tests have been performed.
- Periodically verify that meters are accurately calibrated.
- Periodically take meter readings and verify the readings against the reported production.
- Periodically audit leaseholder records.

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#### *Monitoring of Lease and Well Activities*

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The Department is responsible for monitoring oil and gas well operations on both public and private lands. Generally, it monitors the operators' activities before they drill, while they drill, and after they drill. The purpose of the monitoring is to ensure that the operators comply with permit terms. These terms are intended to protect public safety, the environment, and address other public concerns. Well inspections on State land have an additional purpose of checking for compliance with State lease terms.

For example, before an operator can begin its pre-drilling activities on State land, it must be issued a Temporary Revocable Permit, which stipulates what can be disturbed on the leased tract of land. These stipulations are identified in a meeting called a pre-site work conference, which is held by the various Department staff who are responsible for surveying and assessing the site. After the Temporary Revocable Permit is issued,

Department staff visit the site to determine whether the stipulations are being followed. Operators are also required to submit a performance bond, which is not returned unless all provisions in the Temporary Revocable Permit are met.

Department staff also monitor the operator's compliance with State lease terms, including the special stipulations identified during the Department's initial environmental assessment of the site before the lease was offered for sale. Such stipulations may relate to endangered species, archeological areas, wetlands, water bodies, or other environmental concerns. The Department does not monitor or enforce the provisions of oil and gas leases on private lands.

After drilling is completed and production has ended, the operator is required to plug the well and restore the site in accordance with certain specifications. A performance bond is required for this part of the process, and the bond is not returned until the well is appropriately plugged and the site is appropriately restored.

The Department divides the State into nine regions for administrative purposes. Well monitoring activities in regions 1 through 5 are overseen by the Department's Central Office. Well monitoring activities in regions 6 through 8 (Central and Northwestern New York) are overseen by the Region 8 Office, while the activities in region 9 (Western New York) are overseen by the Region 9 Office.

To determine whether the Department's regulatory responsibilities for oil and gas well operations were being effectively exercised, we interviewed staff and reviewed records in the three Offices. We found that the Department appeared to be exercising its regulatory responsibilities in a generally effective manner, but we could not make a

conclusive determination because of certain weaknesses in the Department's administrative oversight and recordkeeping practices.

For example, there are no comprehensive written statewide procedures describing all the inspections and other monitoring activities that must be performed over the life of a lease. Similarly, there are no comprehensive written statewide procedures describing the various documents and inspection reports that must be maintained in the Department's well monitoring files. As a result, there is less assurance pre-drilling, drilling and post-drilling activities are being monitored as thoroughly as intended and monitoring activities are consistent in different regions of the State.

We identified inconsistencies in practices at the three administrative offices we visited. For example, the Central Office requires inspections in regions 1 through 5 to be documented on certain standard forms that indicate when the inspections should be performed. The Central Office also requires that a standard checklist be used to evaluate applications for drilling permits in those regions. This checklist includes various detailed steps that must be completed before the drilling permit is issued.

However, the inspection forms and the drilling permit checklist are not required by the Region 8 and Region 9 Offices, and are not used in regions 6 through 9. Instead, Region 9 uses its administrative manual, which is a collection of memos, guidelines and forms that have been accumulated over the years (this manual was not used by any other region), and the Region 8 Office has no administrative manual at all. Officials in the Region 8 Office told us that the staff in regions 6 through 8 are very experienced and knowledgeable of the necessary steps that

must be followed when a drilling permit application is received and do not need a checklist.

We visited the Region 8 and Region 9 Offices to determine whether the various well monitoring activities were adequately documented in the Office's files. We focused on wells associated with leases sold in 1999 and 2003. Using the Central Office checklist and information obtained in interviews with Central Office staff, we identified 17 types of documentation that should be maintained (e.g., various applications and permits, environmental assessment forms, conference minutes, evidence of site reclamation, and various inspection reports) and checked for this documentation in the files of the two administrative offices. At the Region 8 Office, we reviewed the files for a total of 16 wells. At the Region 9 Office, we reviewed the files for 15 wells.

We found that the majority of the documents were present. However, the following documents were not in the files:

- the minutes for 5 of 14 pre-site work conferences;
- 3 of 23 pre-drilling site inspection reports;
- flare permits or documentation that flaring did not exceed 72 hours for 4 of 9 wells;
- 7 of 23 post-drilling site inspection reports (some of them were found after we left the Office); and
- 6 of 23 environmental assessment forms.

Officials told us that the files are accessible to the public and some documents could have been misfiled (a missing Temporary

Revocable Permit was later found in another file). We recommend officials review the files periodically to ensure all required forms are present and all required actions are being taken.

We also identified other recordkeeping weaknesses, as post-drilling site inspection notes were sometimes added to drilling inspection reports rather than being recorded separately, as required. Also, the Region 8 Office generally did not receive inspection reports in a timely manner, as inspectors would wait until they visited the Office to file the reports.

In addition, when we visited the Region 8 Office, we also checked for certain documents relating to Temporary Revocable Permits. We found that most of the required documents were in the files, but some documents were missing. In particular, inspection reports were not present for 21 of the 23 Temporary Revocable Permits. The purpose of these inspections is to determine whether operators are in compliance with the terms and conditions in the Temporary Revocable Permits. Without inspection reports, there is no evidence that operators are in compliance. We note that there is no standard form for documenting this type of inspection. We recommend such a form be developed.

In response to our audit, Department officials told us that they have provided guidance to Central Office and regional staff on procedures and are preparing a standard statewide administrative manual. They also told us that inspection reports are now being sent to the Region 8 Office on a weekly basis and are being documented on standard inspection forms.

### Recommendations

5. Develop comprehensive written procedures describing (a) all the inspections and other monitoring activities that must be performed over the life of a lease and (b) the various documents and inspection reports that must be maintained in the Department's well monitoring files. In conjunction with these written procedures, develop a checklist that can be used to determine whether all required actions have been performed and documented, and require completed checklists to be maintained in the files.
6. Periodically review well files to ensure that all required documents are present.
7. Instruct inspectors in regions 6 through 8 to email their inspections reports to the Region 8 Office as soon as the reports are completed.
8. Create a standard form for documenting inspections of operators' compliance with Temporary Revocable Permit requirements, and ensure that the inspections are documented on the form.

### AUDIT SCOPE AND METHODOLOGY

We audited the practices used by the Department in leasing State land for oil and gas exploration, and in regulating oil and gas well operations on public and private lands. Our audit covered the period January 1, 2000 through December 31, 2005, except for lease sales. Our examination of the Department's lease sales covered the period March 14, 1990 through December 31, 2005. We did not examine any of the Department's leases for underground gas storage.

We conducted our performance audit in accordance with generally accepted government auditing standards. To accomplish our objectives, we interviewed Department officials and employees; observed wells in various stages of development; reviewed applicable regulations, policies and procedures; reviewed the Department's automated well tracking system; made site visits to regions 8 and 9; and tested relevant documents at the Central Office and the regions we visited. We also contacted officials in nine other states and at the U.S. Bureau of Land Management to identify oil and gas land leasing practices in their jurisdictions. In addition, we researched oil and gas land leasing practices on the internet.

In addition to being the State Auditor, the Comptroller performs certain other constitutionally and statutorily mandated duties as the chief fiscal officer of New York State. These include operating the State's accounting system; preparing the State's financial statements; and approving State contracts, refunds, and other payments. In addition, the Comptroller appoints members to certain boards, commissions and public authorities, some of whom have minority voting rights. These duties may be considered management functions for purposes of evaluating organizational independence under generally accepted government auditing standards. In our opinion, these functions do not affect our ability to conduct independent audits of program performance.

## **AUTHORITY**

The audit was performed pursuant to the State Comptroller's authority as set forth in Article V, Section 1 of the State Constitution and Article II, Section 8 of the State Finance Law.

## **REPORTING REQUIREMENTS**

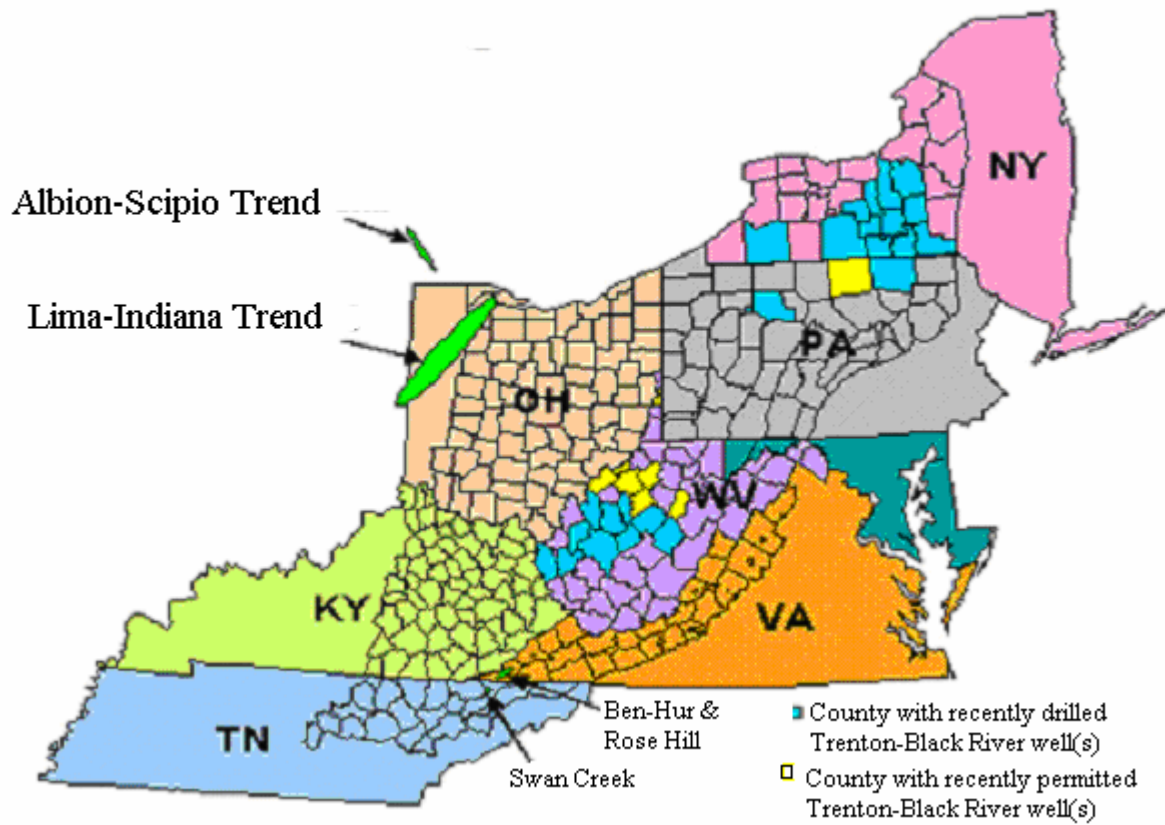
We provided a draft copy of this report to Department officials for their review and comment. We considered their comments in preparing this final report. The Department agreed with most of our recommendations. However, the Department disagreed with our recommendations related to alternative leasing methods and royalty rates, as well as monitoring lease acreage holdings by company. A complete copy of the Department's response is included as Appendix A. Appendix B contains State Comptroller's Comments which address the matters of disagreement contained in the Department's response.

Within 90 days of the final release of this report, as required by Section 170 of the Executive Law, the Commissioner of the Department of Environmental Conservation shall report to the Governor, the State Comptroller, and the leaders of the Legislature and fiscal committees, advising what steps were taken to implement the recommendations contained herein, and where recommendations were not implemented, the reasons therefor.

## **CONTRIBUTORS TO THE REPORT**

Major contributors to this report include Carmen Maldonado, Gerald Tysiak, Stephen Goss, Marianne Boyer, Gayle Clas, Amanda Strait, Nisha Thomas and Dana Newhouse.

### Trenton Black River Regional Setting



This illustration is taken from the U.S. Department of Energy's National Energy Technology Laboratory.

**APPENDIX A - AUDITEE RESPONSE**



**ELIOT SPITZER**  
GOVERNOR

**STATE OF NEW YORK**  
**DEPARTMENT OF ENVIRONMENTAL CONSERVATION**  
ALBANY, NEW YORK 12233-1010

**FEB 12 2007**

Ms. Carmen Maldonado  
Audit Director  
Office of the State Comptroller  
Division State Services  
State Audit Bureau  
123 Williams Street - 21<sup>st</sup> Floor  
New York, New York 10038

Dear Ms. Maldonado:

The New York State Department of Environmental Conservation (Department) has reviewed the Office of the State Comptroller's (OSC) draft report 2005-S-54 entitled "Lease Of State Land For Gas And Oil Exploration And Production" dated December 29, 2006. Enclosed please find the Department's response to the draft report.

Thank you for the opportunity to respond to the draft report. If have any questions regarding the Department's response, please contact Brian D. Jackson of the Department's Office of Internal Audit at (518) 402-9147.

Sincerely,

A handwritten signature in black ink, appearing to read "Carl Johnson". The signature is written in a cursive style with a long horizontal stroke at the end.

Carl Johnson  
Acting Executive Deputy Commissioner

Enclosure

**Department of Environmental Conservation  
Response to Comptrollers Draft Audit Report  
Lease Of State Land For Gas And Oil Exploration And Production (2005-S-54)**

The Department's response to the OSC draft report entitled "Lease Of State Land For Gas And Oil Exploration And Production," report number 2005-S-54 submitted on December 29, 2006, is presented below and contains two sections as follows:

- Comments on Described Conditions and Findings
- Response to Recommendations

The Department's state land leasing program seeks to develop State-owned, non-renewable oil and gas natural resources to maximize revenues to the state. This is accomplished using the most efficient processes and procedures possible and by taking into account the great expense and risk associated with deep well drilling and production. An added benefit is the increased production of clean-burning indigenous natural gas.

The Department has reviewed the findings and recommendations presented in the report. In the following sections, we have noted the portions of the report where we take exception to findings and recommendations.

**Comments on Described Conditions**

The following are specific comments the Department has regarding selected wording contained in the draft report.

**Page 2, Audit Results – Summary, Column 2, Paragraph 2, 3<sup>rd</sup> sentence:** "The purpose of the inspections is to ensure that the operators comply with their lease and permit terms."

*Department Response:* The sentence needs to be clarified, as it groups wells on private lands and State lands together as one. This is an important distinction. The Department treats all wells alike regarding compliance with environmental, public safety and technical requirements. However, when inspecting wells on private lands, the Department *does not* look for, nor may it seek, compliance with lease terms for those contracts; it can and *does* look for compliance with State lease terms where a well is being drilled on State land.

* Comment 1
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**Page 2, Audit Results – Summary, Column 2, Paragraph 3, last sentence:** "We recommend certain improvements be made in the Department's administrative oversight and recordkeeping practices."

*Department Response:* The Department has already implemented improvements in administrative oversight and record-keeping practices in the areas of mail handling, check processing, receipt writing, inspection practices and file review for required documents.

*Lease Of State Land For Gas And Oil Exploration And Production (2005-S-54)* 1

\* See State Comptroller's Comments, page 24

Specific examples include the development and implementation of a checklist for permit processing statewide, mail handling protocols and written directions to staff regarding the transmittal of inspection results.

**Page 3, Background, Column 1, Paragraph 1, last sentence:** “The Department is not authorized to lease state park lands, including the Adirondack and Catskill Forest Preserves, and is not authorized to lease for oil and gas development lands under the waters of Lake Ontario and Lake Erie.”

**Department Response:** Clarification. The Department is not authorized to lease state park lands, including the Adirondack and Catskill Forest Preserves, or lands under the waters of Lake Ontario. State law does allow leasing for natural gas but not leasing for oil under the waters of Lake Erie. However, the Federal Energy Policy Act of 2005 prohibits oil or gas leasing under the Great Lakes.

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Comment  
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**Page 3, Background Column 1, Paragraph 2, 2nd sentence:** “Tracts of land may be nominated for lease by the Department or oil and gas industry representatives.”

**Department Response:** Tracts of land may be nominated by the Department, the oil and gas industry, or any other interested party including private citizens.

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**Page 3, Background Column 1, Paragraph 3, 1st sentence:** “If the department decides to proceed with a lease transaction, the lease sale is publicly advertised, bids are received and evaluated...”

**Department Response:** The bids received are sealed bids.

**Page 3, Background Column 2, Paragraph 3, last sentence:** “The Department may also collect drilling permit fees ...”

**Department Response:** The collection of drilling permit fees is required, not discretionary. As a result, this sentence should read “The Department also collects drilling permit fees ...”

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**Page 4, Background, Column 1, Paragraph 1, 1<sup>st</sup> bullet:** “\$4.6 million (44 percent) came from bonus payments on exploration and development leases sold in 2003,”

**Department Response:** The Department does not sell leases; the Department awards leases.

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\* See State Comptroller’s Comments, page 24

Page 4, Background, Column 1, Paragraph 1, 1<sup>st</sup> sentence: “If the lease land belongs to the department, the lease revenue is to be used for reforestation, wildlife management, and other Department purposes.”

**Department Response:** This sentence is inaccurate. Revenues generated by leases on Wildlife Management Areas are credited to the Conservation Fund to support its programs. Lease monies generated from reforestation areas and multiple use areas are deposited directly into the general fund of the State; they are not used directly to support reforestation area programs or used for other Department purposes.

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Page 4, Background, Column 1, Paragraph 2, 3<sup>rd</sup> sentence: “The Department also requires the operators to post performance bonds...”

**Department Response:** Bonds are only one type of acceptable financial security. This sentence should read “The Department also requires well operators to maintain financial security in the form of bonds, letters of credit, certificates of deposit or other acceptable instruments.”

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Page 4, Background, Column 1, Paragraph 3, 2<sup>nd</sup> and 3<sup>rd</sup> sentences: “About 1 percent of these wells (353) were associated with state land.”

**Department Response:** Many of the wells cited are not actually on State land but are on production units that include State land. Both sentences should be worded “*on or* associated with state land...”

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Comment  
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Page 4, Audit Findings and Recommendations, Column 2, Paragraph 1, 3<sup>rd</sup> sentence: “As a result, there is some assurance ...”.

**Department Response:** The Department awards leases to the highest bidder. Therefore, the Department believes there is assurance that revenue from leases is maximized. The Department believes the word “some” should be removed from this sentence.

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Page 4, Audit Findings and Recommendations, Column 2, Paragraph 3, last sentence continuing onto page 5 and subsequent sentence: “However, some of the documentation from the 1999 lease sale was not available for review.”

**Department Response:** The missing documents were parcel nomination letters from operators which add or detract nothing from OSC’s intended purpose of the audit.

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The documentation associated with the bid guarantee monies submitted is complete. These sentences should be deleted.

**Page 5, Audit Findings and Recommendations, Column 2, Paragraph 2, last sentence:**  
“Four of the five states that did respond (Alabama, Ohio, Pennsylvania and Tennessee) are located in the Appalachian Basin...”

*Department Response:* Alabama is not in the Appalachian Basin, therefore, the Department does not believe Alabama provides a valid comparison to New York with respect to its oil and gas industry, applicable lease terms or potential production from the Trenton/Black River formation. OSC’s own Exhibit A on page 14 of the report and first referenced on page 4, does not include Alabama.

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**Page 6, Audit Findings and Recommendations, Column 1, Paragraph 1, 2<sup>nd</sup> sentence:**  
“... and New York’s royalty rate (12.5 percent) is lower than the rate used by Alabama (25 percent) and Michigan (16.7 percent).”

*Department Response:* The Department does not believe that oil and gas leasing and drilling production activities in Alabama are comparable to those in New York. Alabama is not a neighbor of New York, has a very different level of oil and gas activity and is not in the Appalachian Basin.

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Comment  
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**Page 6, Audit Findings and Recommendations, Column 2, Paragraph 1, 1st sentence:**  
“We acknowledge the small size and early stage of New York’s gas and oil production industry, and agree that the Department may not be able, at the present time, to adopt some of the more favorable leasing terms used in states with larger and more mature industries.”

*Department Response:* The Department’s current lease terms reflect the nature of the exploration industry and seek to encourage development of the resource in order to maximize revenue with the least risk to the State.

**Page 6, Audit Findings and Recommendations, Column 2, Paragraph 1, 3<sup>rd</sup> sentence:**  
“For example, in a recent lease offering, in a known oil field, Pennsylvania did not ask for bonus payment bids; instead, it asked for royalty bids.”

*Department Response:* The Department was aware of the cited Pennsylvania lease sale, which involved a state parcel surrounded by producing oil wells on private lands. Therefore, the risk of finding and producing oil was very low thus warranting a higher royalty bid. A similar situation has not occurred in New York, and this sale consequently is not an applicable model for New York sales at this time.

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\* See State Comptroller’s Comments, page 24

Page 6, Audit Findings and Recommendations, Column 2, Paragraph 3, 3<sup>rd</sup> sentence:  
“However, the federal government also allows sliding royalty rates and scaled royalty rates...”

**Department Response:** The Department contacted the U.S. Minerals Management Service regarding the use of sliding scale royalty rate leases. They last used a sliding scale royalty rate on an experimental basis in the early 1980s. Therefore, this does not appear to be an appropriate methodology to use in New York.

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Page 7, Audit Findings and Recommendations, Column 1, Paragraph 1, entire paragraph:  
“We also recommend the Department assess the potential benefits of leasing various strata beneath the land separately...”

**Department Response:** Separate leasing of individual strata is ill advised, as development of such leases would lead to unacceptable levels of surface disturbance via installation of well pads, access roads and pipelines by multiple operators. This would work in direct opposition to the Department’s mission of environmental protection. The Department believes this paragraph should be removed from the report.

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Page 9, Audit Findings and Recommendations, Column 1, Paragraph 2: “We note that such steps are routinely taken in other states...”

**Department Response:** Department staff contacted the State of Texas regarding meter calibration test requirements and frequency. Although Texas state leases require meter calibration tests, in reality only approximately 20 % of the required meter calibration tests are witnessed (according to the Team Leader of inspectors - Texas General Land Office). The Texas Rail Road Commission also reported to the Department that their inspectors currently witness only a small portion of meter calibration tests due to staff constraints.

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Page 10, Audit Findings and Recommendations, Column 1, Paragraph 1, 3<sup>rd</sup> sentence:  
“The purpose of the monitoring is to ensure that the operators comply with lease and permit terms.”

**Department Response:** The sentence needs to be clarified, as it groups wells on private lands and state lands together as one. This is an important distinction. The Department treats all wells alike regarding compliance with environmental, public safety and technical requirements. However, when inspecting wells on private lands, the Department does not look for, nor may it seek compliance with lease terms for those

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\* See State Comptroller’s Comments, pages 24-25

contracts; it can and does look for compliance with state lease terms where a well is being drilled on state land.

Page 10, Audit Findings and Recommendations, Column 1, Paragraph 2, 1<sup>st</sup> sentence:  
“For example, before an operator can begin its pre-drilling activities, it must be issued a Temporary Revocable Permit...”

*Department Response:* This sentence is inaccurate. Temporary Revocable Permits are only issued for activities on State lands.

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Page 10, Audit Findings and Recommendations, Column 1, Paragraph 3, 1<sup>st</sup> sentence:  
“Department staff also monitor the operator’s compliance with lease terms...”

*Department Response:* This sentence is misleading. The Department does not monitor or enforce the provisions of oil and gas leases on private lands.

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Comment  
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### Response to Recommendations

The following presents the Department’s response to each recommendation contained in the draft audit report.

**Recommendation 1:** Periodically perform a formal review of other states’ lease terms to determine whether any of these terms can be adopted in New York.

*Response to Recommendations 1:* The Department does review lease language employed by other states, adopting new lease conditions where appropriate, in order to keep our contracts up-to-date and to maximize benefit to the state. This practice has been employed for as long as the Department has been awarding oil and gas leases for state lands and will be continued.

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**Recommendation 2:** Analyze the potential benefits of (a) sliding royalty rates and scaled royalty rates, and (b) leases in which various strata beneath the land are included in separate leases rather than in the same lease.

*Response to Recommendations 2:* The Department does not believe that it would be appropriate to use a leasing system (sliding scale royalty) which has not been used by the federal government since the early 1980s. The Department also believes it would not be prudent to separately lease various strata at this time due to conflicts with the Department’s environmental protection mandates and management goals.

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\* See State Comptroller’s Comments, pages 24-25

**Recommendation 3:** Monitor lease acreage holdings by company to determine whether competition is being undermined by a concentration of holdings among a few companies, and if so, take appropriate corrective action.

**Response to Recommendation 3:** The Department's experience, as evidenced by the results of the 2006 State lease sale, is that competition for State acreage is not being undermined, and, as OSC has noted, actually increased in the 2006 lease sale. The lessee with the largest State acreage position lost 10 of the 16 leases that received multiple bids in the 2006 sale (pending final approval of the apparent high bidder). In addition, OSC fails to provide an explanation for why limiting the number of acres that any one company can hold might become necessary to "protect the State's economic interests."

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**Recommendation 4:** Obtain independent corroboration of the sales production information reported by leaseholders through some combination of the following or other comparable practices:

- Establish lease terms requiring leaseholders to periodically test or reset meter calibration or provide reports confirming that such tests have been performed.
- Periodically verify that meters are accurately calibrated.
- Periodically take meter readings and verify the readings against the reported production.
- Periodically audit leaseholder records.

**Response to Recommendation 4:** The Department will consider establishing lease terms to require lessees to test meter calibration or provide reports confirming that such tests have been performed. Department staff are not trained or qualified to verify that meters are accurately calibrated nor can they interpret the meter charts to verify gas volumes sold. Most gas meter charts cannot simply be read to determine production volumes, but must be 'integrated' at an office after being removed from a meter. Safety concerns regarding gas meter testing at high wellhead pressures must be identified and addressed prior to sending Department staff to witness calibration tests. The Department will also have to dedicate funds for gas meter calibration inspector training and/or contractors in order to properly evaluate calibration tests.

The Department agrees that audits of lessee lease payments are appropriate. If the Department decides to undertake an audit program, the Department may request the assistance of the OSC, as provided for in Article 9 of the state lease contract.

**Recommendation 5:** Develop comprehensive written procedures describing (a) all the inspections and other monitoring activities that must be performed over the life of a lease and (b) the various documents and inspection reports that must be maintained in the Department's well monitoring files. In conjunction with these written procedures, develop a checklist that can be

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\* See State Comptroller's Comments, page 25

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used to determine whether all required actions have been performed actions have been performed and documented, and require completed checklists to be maintained in the files.

***Response to Recommendation 5:*** The Department has developed a checklist and the checklist is currently in use by both Regional Offices and the central office.

**Recommendation 6:** Periodically review well files to ensure that all required documents are present.

***Response to Recommendation 6:*** The Department will conduct periodic reviews of well files for the presence of required documents.

**Recommendation 7:** Instruct inspectors in regions 6 through 8 to email their inspection reports to the Region 8 Office as soon as the reports are completed.

***Response to Recommendation 7:*** The inspectors in Regions 6, 7, and 8 were sent an email on March 15, 2006 instructing them to begin sending their inspection reports to the Region 8 office. This new procedure was immediately implemented.

**Recommendation 8:** Create a standard form for documenting inspections of operators' compliance with *Temporary Revocable Permit requirements*, and ensure that the inspections are documented on the form.

***Response to Recommendation 8:*** The Department will create a standard form for documenting inspections of, and compliance with, Temporary Revocable Permit conditions associated with disturbance activities associated with oil and gas leases on state lands.

## APPENDIX B - STATE COMPTROLLER'S COMMENTS ON AUDITEE RESPONSE

1. We have revised the report to reflect information provided in the Department's response.
2. Maximizing revenue from State leases depends on more than just awards to the highest bidder. We believe that the level of revenue derived by the State is also affected by factors such as royalty rates, controls to assure that royalties are based on actual production levels, and the decision to lease all strata together or independently.
3. The missing documentation also included receipts for nomination fees, which while a minor exception, nevertheless falls within the scope of our audit.
4. According to the representative who responded to our survey, Alabama is in the Appalachian Basin. In addition, several references on the website show that Alabama is in the Appalachian Basin and its production is reported as part of this basin. As noted by Department officials, Exhibit A does not include Alabama; however the map serves the intended purpose which is to illustrate the general location of the Trenton-Black River formation. Furthermore, the information points out that some other states have terms that are similar to or better than New York, and that New York may be able to obtain more favorable terms in the future as its oil and gas production industry matures.
5. Our report acknowledges that New York's oil and gas production industry is smaller and less mature than other states. Our intention is to point out practices in other states and the federal government that Department officials may be able to apply in the future as New York's gas exploration and production industry matures.
6. Department officials comment that the U.S. Minerals Management Service (USMMS) has not used a sliding royalty rate since the early 1980s, when it was used on an experimental basis. However, officials do not report the reasons why the USMMS discontinued its use, or whether those reasons apply to gas exploration and production in New York. Department officials would be in a better position to assess the sliding royalty rate if they performed a formal analysis of the methodology or used it on a trial basis.
7. The Department dismisses leases of individual strata because they assert such action would create an unacceptable level of surface disturbance. No information is provided as to what an acceptable or unacceptable level of disturbance is. In its role as overseer of certain State lands, the Department balances the potential gain the State may realize from leasing lands for oil and gas exploration and production versus the disturbance to the land from these activities. We note that drilling by strata has been used by other experts in the fields, and, as such the Department should assess/evaluate the use of this method. As part of the process an environmental assessment is done which includes minimizing disturbance of soils and terrains, vegetation, aquatic resources and restoring them at the completion of the drilling.
8. Department officials point out that a relatively small portion of meter calibration tests are witnessed by the Texas General Land Office and the Texas Rail Road Commission. However, witnessing calibration tests is a sound

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control that provides increased assurance that production levels are accurately reported and result in an appropriate amount of royalty payments. Such a control serves to deter misreporting, even if done on a sample basis rather than for all calibration tests. As our report notes, the Department does not currently check meter calibration at all.

9. We specified a formal review because the Department's analysis is not documented. We acknowledge that verbal explanations are given for why certain terms and conditions are used or are not used.

10. Although the Department did experience increased competition in the most recent lease sale, we believe that it still needs to monitor lease holdings by company to avoid concentration of gas exploration and production in a small number of firms. Competition can be decreased by one or a small group of larger companies buying out smaller competitors and their lease holdings. This could ultimately lead to a relatively small number of firms developing gas wells on leased State land.