STATE OIL AND GAS BOARD
AUGUST 1996

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August 26, 1996

The Honorable John S. Wilder
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The Honorable Joe Haynes, Chair
Senate Committee on Government Operations
The Honorable Mike Kernell, Chair
House Committee on Government Operations
and
Members of the General Assembly
State Capitol
Nashville, Tennessee 37243

Ladies and Gentlemen:

Transmitted herewith is the performance audit of the State Oil and Gas Board. This audit was conducted pursuant to the requirements of Section 4-29-111, *Tennessee Code Annotated*, the Tennessee Governmental Entity Review Law.

This report is intended to aid the Joint Government Operations Committee in its review to determine whether the board should be continued, abolished, or restructured.

Very truly yours,

W. R. Snodgrass
Comptroller of the Treasury

WRS/cr
96-021

State of Tennessee

Audit Highlights

Comptroller of the Treasury — Division of State Audit

Performance Audit
State Oil and Gas Board
August 1996

AUDIT OBJECTIVES

The objectives of the audit were to review the board's legislative mandate and the extent to which the board and the Department of Environment and Conservation have carried out that mandate efficiently and effectively, and to make recommendations that might result in more efficient and effective regulation of the oil and gas industry.

FINDINGS

The State Has Not Developed a Program to Deal with Abandoned Wells

Oil and gas wells that have been abandoned and not properly plugged are a potential source of underground water contamination. In 1986, Division of Geology staff reviewed its records on 9,916 wells and estimated that as many as 4,048 wells might have to be plugged. Staff also conducted a limited survey of oil and gas wells in four counties and presented that information (including recommendations for further study and possible funding sources) to the General Assembly in February 1988. Since that time, the state has not attempted to plug any of the abandoned wells. In addition, Oil and Gas Program staff have not completed or updated the original review of oil and gas wells to better determine the extent of the problem and the cost of plugging the wells (page 9).

Oil and Gas Program Staff Did Not Adequately Follow Up Citations

For ten of twenty citations issued between March 1992 and October 1995, the files contained no evidence that the operators had either paid the penalty or corrected the problem (in which case the penalty would not be assessed). Without proper follow-up (and documentation of that follow-up), the Oil and Gas Supervisor cannot tell whether the operator has corrected the problem within the specified period or whether the operator needs to pay the penalty. Correction of the problem is particularly important when an oil spill, with potential contamination of ground and/or surface water sources could result, e.g., if the operator's well pits or tanks are not adequate. Six of the ten citations were issued because the operator failed to provide adequate pits or tanks (page 11).

Submission of Required Well Data and Samples Is Not Adequately Monitored

A review of the files for 25 wells indicated that well operators should have received 40 citations for violations of the Oil and Gas Program rules and regulations on the filing of well data and reports. However, the files did not contain any evidence that a citation was sent to well operators for failure to submit the required reports and samples in a timely manner. Failure to monitor the submission of required information and to assess appropriate citations and penalties deprives program staff of information needed to regulate the oil and gas industry, weakens the regulatory process, and may result in lost income to the state (page 12).

The Board Lacks Formal Conflict-of-Interest Procedures

Representatives from the oil and gas and mineral industries and oil and gas property owners serve on the State Oil and Gas Board. Even though the board contains members from the regulated industry, the State Oil and Gas Board does not have formal procedures to ensure the board members' potential conflicts of interest are identified and resolved before those conflicts can affect decisions (page 15).

Oil and Gas Field Inspectors Do Not Submit Detailed Monthly Reports

Oil and gas program inspectors' monthly reports, overall, do not provide detailed information concerning well site-visits or inspections. More detailed and uniform information would aid the Oil and Gas Program Supervisor and board members in monitoring the oil and gas industry and evaluating inspectors' workloads. In addition, information detailing the field inspector's activity could be very useful when an operator challenges the inspector's method of inspecting the well and well site or when the operator is cited for a specific violation of the rules and regulations (page 16).

The Oil and Gas Program and the Division of Geology Appear to Duplicate Paper Work and Services

In July 1992, the Oil and Gas Program was transferred from the Division of Geology to the Division of Water Supply. However, the Division of Geology continues to perform services that are closely tied to the oil and gas industry (e.g., classifying wells, processing well drilling samples, and maintaining production records and geophysical logs). In addition, the division maintains a file on each permitted well—information that is also maintained in the Oil and Gas Program files (page 17).

OBSERVATIONS AND COMMENTS

The audit also discusses the following issues that affect the state's Oil and Gas Program and the citizens of Tennessee: (1) water sources at well sites are not monitored for possible contamination from the drilling process, and (2) the program's expenditures have exceeded appropriations in the last three fiscal years (page 7).

"Audit Highlights" is a summary of the audit report. To obtain the complete audit report which contains all findings, recommendations, and management comments, please contact

Comptroller of the Treasury, Division of State Audit
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PERFORMANCE AUDIT

STATE OIL AND GAS BOARD

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STATE OIL AND GAS BOARD

INTRODUCTION

PURPOSE AND AUTHORITY FOR THE AUDIT

This performance audit of the State Oil and Gas Board was conducted pursuant to the Tennessee Governmental Entity Review Law, *Tennessee Code Annotated*, Title 4, Chapter 29. Under Section 4-29-218, the board is scheduled to terminate June 30, 1997. The Comptroller of the Treasury is authorized under Section 4-29-111 to conduct a limited program review audit of the board and to report to the Joint Government Operations Committee of the General Assembly. The performance audit is intended to aid the committee in determining whether the board should be abolished, continued, or restructured.

OBJECTIVES OF THE AUDIT

The objectives of the audit of the State Oil and Gas Board were

1. to determine the authority and responsibility mandated to the board by the legislature;

2. to determine the extent to which the board has fulfilled its legislative mandate and has complied with applicable laws and regulations;

3. to assess the efficiency and effectiveness of the Oil and Gas Program in regulating the oil and gas industry; and

4. to develop recommendations, as needed, for board and Department of Environment and Conservation action which might result in more efficient and/or more effective operation of the Oil and Gas Program.

SCOPE AND METHODOLOGY OF THE AUDIT

The board's and the Oil and Gas Program's activities and procedures were reviewed, focusing on procedures and conditions in effect at the time of the field audit work (September through November 1995). The audit was conducted in accordance with generally accepted government auditing standards and included

1. review of applicable legislation and rules and regulations;

2. examination of prior performance audit and financial and compliance audit reports;

3. examination of board meeting minutes, field inspector monthly reports, oil and gas well files, operator files, deposit slips for payments of penalties, citation files for 1992 to 1995, list of permits issued during 1990 to 1995, and the supervisor's records of permitted wells;

4. interviews with the supervisor of the Oil and Gas Program, field inspectors, board members, Division of Geology personnel, Division of Water Pollution Control personnel, Ground Water Management personnel and others in the Division of Water Supply, and the President of the Tennessee Oil and Gas Association;

5. review of information on State Oil and Gas Boards in Mississippi and Colorado; and

6. review of information concerning state fees and bonds from other Southeastern oil producing states.

ORGANIZATION AND STATUTORY DUTIES

Authority and Responsibility

The State Oil and Gas Board was created by Chapter 64 of the Public Acts of 1943 to regulate the production of oil and gas in the state. The board has jurisdiction and authority

- to make such inquiries as necessary to determine whether or not waste exists or is imminent;
- to collect data;
- to make investigations and inspections;
- to examine properties, leases, papers, books, and records including drilling records and logs;
- to examine, check, test, and gauge oil and gas wells, tanks, refineries, and modes of transportation;
- to hold hearings;
- to provide for the keeping of records and making of reports;
- to take such action as may be necessary to enforce the provisions of this statute; and
- to make rules, regulations, and orders to regulate the oil and gas industry in Tennessee.

Tennessee Code Annotated, Section 60-1-201, creates and establishes the state oil and gas board. The board consists of the Commissioner of Environment and Conservation or the

commissioner's designee, who acts as chair, the designee of the Commissioner of Economic and Community Development, the chair of the Conservation Commission, and three members who are appointed by the Governor and serve four-year terms—a representative of the oil and gas industry, an owner of oil or gas property, and a representative of the mineral industry.

Organization

The State Oil and Gas Board is attached administratively to the Department of Environment and Conservation, Bureau of Environment, Division of Water Supply. The board meets periodically to set policy, make rules, hear requests from landowners and operators (e.g., change of operators, pooling or unitization of wells), and hear complaints or appeals. The board met twice during calendar year 1995 and as of April 1996 had met once in 1996. The State Oil and Gas Supervisor, an administrative services assistant (provided by the Division of Water Supply), and three field inspectors oversee the daily activities and regulation of the industry.

OIL AND GAS INDUSTRY ACTIVITY

The board issued 514 drilling permits from 1991 to 1995 (see Exhibit 1). After a substantial increase (44%) in permitting activity between 1992 and 1993, drilling permits issued decreased by 22 percent between 1994 and 1995. Overton and Pickett Counties accounted for the largest percentage of drilling activity during 1994 (66%) and 1995 (63%).

According to the Department of Environment and Conservation report, *Oil and Gas Activity in Tennessee During 1995*, oil production totaled 384,244 barrels during 1995. This production level represented a decrease of nearly 8 percent from the 1994 production of 417,083 barrels and continued the decline from Tennessee's all-time high of more than one million barrels in 1982. The average price per barrel increased to $15.10 in 1995, resulting in a total value of $5.8 million, the same as in 1994, when the average price per barrel was $13.97. Eleven counties reported production in 1995 (see Exhibit 2). Cumulative oil production for the entire state now stands at more than 17 million barrels, with an estimated total value of nearly $328 million.

Gas production in 1995 was 1.82 Bcf (billion cubic feet), representing an 8.5 percent decrease over 1994's production of 1.99 Bcf. The average price also decreased, from $2.17 per Mcf (thousand cubic feet) in 1994 to $1.58 per Mcf in 1995. The combination of decreased production and decreased price resulted in a decrease in total value from $4.3 million in 1994 to $2.8 million in 1995. Production came from seven counties, the same counties as in 1994 (see Exhibit 3). Cumulative gas production in Tennessee is now more than 92 Bcf, with an estimated total value of more than $91 million.

Tennessee assesses a severance tax on oil and gas production in the state. For the period 1990 to 1995, the state generated the highest revenues from oil and gas production in Tennessee in fiscal year 1991 ($403,873) and the lowest amount, in fiscal year 1995 ($296,114). Exhibit 4 compares the oil and gas severance tax revenue from 1990 to 1995.

EXHIBIT 1
DRILLING PERMITS ISSUED BY COUNTY
1991 TO 1995

County	1991	1992	1993	1994	1994 Percentage	1995	1995 Percentage	Total
Overton	43	38	34	35	29%	41	44%	191
Pickett	11	14	26	44	37%	18	19%	113
Morgan	8	16	4	3	3%	1	1%	32
Fentress	12	3	9	2	2%	12	13%	38
Campbell	3	3	18	9	8%	5	5%	38
Clay	4	4	14	5	4%	2	2%	29
Claiborne	4	2	6	16	13%	0	0%	28
Scott	8	0	6	4	3%	5	5%	23
Anderson	0	5	1	0	0%	1	1%	7
Hawkins	0	0	4	0	0%	2	2%	6
Putnam	0	0	0	0	0%	4	4%	4
Obion	1	0	0	0	0%	0	0%	1
Grundy	0	0	0	1	1%	0	0%	1
Gibson	1	0	0	0	0%	0	0%	1
Hancock	0	0	0	0	0%	1	1%	1
Jackson	0	0	0	0	0%	1	1%	1
Total	95	85	122	119	100%	93	*100%	514

* Percentages may not add to 100% because of rounding.

EXHIBIT 2
COUNTY OIL PRODUCTION (BARRELS)
1991 TO 1995

County	1991	1992	1993	1994	1995	Total
Morgan	117,890	108,359	92,258	82,243	75,778	476,528
Scott	107,693	105,837	87,168	78,482	69,808	448,988
Claiborne	82,463	75,273	79,077	91,536	96,165	424,514
Overton	71,739	117,096	71,050	69,592	67,035	396,512
Fentress	54,787	45,854	43,342	40,774	35,940	220,697
Pickett	29,663	29,562	29,363	38,522	26,485	153,595
Campbell	10,222	9,895	6,361	8,455	7,950	42,883
Anderson	5,566	4,126	3,873	3,475	2,112	19,152
Clay	3,348	3,190	4,431	3,008	2,315	16,292
Cumberland	1,734	1,390	1,289	916	580	5,909
Robertson	155	83	183	80	-	501
Putnam	-	-	-	-	-	-
Hancock	-	-	137	-	-	137
Rhea	57	-	-	-	76	133
White	-	-	-	-	-	-
Total	485,317	500,665	418,532	417,083	384,244	2,205,841

Source: Oil and Gas Program, Department of Environment and Conservation.

EXHIBIT 3
COUNTY GAS PRODUCTION (Mcf)
1991 TO 1995

County	1991*	1992	1993	1994	1995	Total
Scott	NA	582,798	522,641	497,352	381,136	1,983,927
Morgan	NA	423,717	475,783	386,347	337,021	1,622,868
Claiborne	NA	400,919	309,988	677,077	779,242	2,167,226
Fentress	NA	155,624	134,759	115,455	85,913	491,751
Anderson	NA	139,544	156,651	140,309	65,652	502,156
Campbell	NA	62,577	61,194	56,108	168,241	348,120
Overton	NA	3,583	56,756	118,845	5,081	184,265
Pickett	NA	-	-	-	-	-
Total	1,860,000	1,768,762	1,717,772	1,991,493	1,822,286	9,160,313*

Mcf = Thousand cubic feet

* Gas production figures by county were not available for 1991, but total production was estimated at 1,860,000 Mcf. The four-year total (9,160,313 Mcf) includes the 1991 estimate; individual county totals do not.

Source: Oil and Gas Program, Department of Environment and Conservation.

OBSERVATIONS AND COMMENTS

The issues discussed below did not warrant findings, but were included in this report because of their importance to the state's Oil and Gas Program and the citizens of Tennessee.

Monitoring Water Sources for Contamination

The water sources (underground and surface) at the well sites are not monitored for possible contamination resulting from the drilling process. According to staff in the department's Ground Water Management section, the ground water sources should be monitored prior to drilling, during the drilling process, and after the well is in production. The monitoring of ground water sources is particularly important if the oil or gas well is close to the location of existing water wells used by the community or individual residents. To reduce the possibility of problems, the State Oil and Gas Board's rules and regulations state that oil and gas wells cannot be drilled within 200 feet of any water well that is in active use or within 100 feet of any stream, lake, or other body of water.

The Oil and Gas Program Supervisor said that new wells (wells placed in production after 1986) are less of a problem than older wells because of the changes in the rules and regulations in 1986. According to Ground Water Management staff, the Oil and Gas Program's efforts to reduce the potential contamination of ground water at the well sites include controls such as proper well construction and cementing the well shaft to minimize communication of drill fluids (e.g., oil, gas, salt water) with the penetrated water zones. The inspectors also must approve the construction of the containment pits before the board will issue a drilling permit.

The Oil and Gas Program Supervisor suggested that the solution to the potential problem of contaminated water sources would be to develop a program to locate and plug abandoned wells (see Finding 1). He stated that resources (funding and personnel) are needed to conduct an abandoned well inventory to locate abandoned wells and identify those responsible for the wells. In addition, older wells still in production may also have potential problems because of inadequate containment pits or failure to maintain other pollution control devices.

Oil and Gas Program Revenues and Expenditures

During the three years the Oil and Gas Program has been a component of the Division of Water Supply (fiscal years 1993 through 1995), the program has operated with expenditures in excess of budgeted appropriations. The program's budgeted appropriation during this period has been $132,600 annually, and the program's expenditures have exceeded appropriations by $6,850, $23,100, and $28,400 (see Exhibit 5). The Division of Water Supply is responsible for funding the Oil and Gas Program's excess expenditures.

The Oil and Gas Program generated revenues of $28,375 during the year ended June 30, 1995. Revenues included $19,050 for permit fees, $3,500 for penalties, and $5,825 for amendments of permits and changes in well operators. *Tennessee Code Annotated,* Sections 60-1-103(a)(5) and 60-1-505(d), requires that collected fees be deposited into the State Treasury. Oil and gas penalties are designated for the State Oil and Gas Board Reclamation Fund, which is maintained as a separate account.

EXHIBIT 5
OIL AND GAS PROGRAM APPROPRIATIONS AND EXPENDITURES
FISCAL YEARS 1993 THROUGH 1995

	FY 1993	FY 1994	FY 1995
Annual Appropriations	$132,600	$132,600	$132,600
Actual Expenditures			
Salary	$100,200	$106,300	$108,000
Longevity	4,000	4,400	5,000
Benefits	17,750	25,600	25,500
Travel	10,000	11,000	12,500
Communications	1,500	1,700	2,000
Supplies	1,500	1,700	2,000
Vehicles	4,500	5,000	6,000
Total Expenditures	$139,450	$155,700	$161,000
Expenditures in Excess of Appropriations	($6,850)	($23,100)	($28,400)

Fiscal Years 1993 through 1995

Total Positions Funded from Budget: 4*
1 Geologist 4
3 Oil and Gas Field Inspectors

* This does not include one Administrative Services Assistant 2 who works full time for the Oil and Gas Program (salary and benefits total $26,000). This position is funded from other areas of the Water Supply program budget.

Source: Division of Water Supply, Department of Environment and Conservation.

FINDINGS AND RECOMMENDATIONS

THE STATE HAS NOT DEVELOPED A PROGRAM TO DEAL WITH ABANDONED WELLS

1. FINDING:

Oil and gas wells that have been abandoned and not properly plugged are a potential source of underground water contamination. In 1986, Division of Geology staff reviewed its records on 9,916 wells and estimated that as many as 4,048 wells might have to be plugged. (The 4,048 included wells that were already dry and abandoned and wells that were still producing but might eventually need plugging because of bankruptcies, forfeitures, etc.) Pursuant to Chapter 257, *Public Acts of 1987*, Oil and Gas Program staff conducted a limited survey of oil and gas wells in four counties (Clay, Morgan, Scott, and Fentress) as of August 1986. This survey, which included on-site inspections of 191 wells, found 41 wells that were open and needed to be plugged, at an estimated cost of $62,000. This information (including recommendations for further study and possible funding sources) was presented to the General Assembly in February 1988. Since that time, the state has not attempted to plug any of the abandoned (orphan) wells. In addition, Oil and Gas Program staff have not completed or updated the original review of oil and gas wells to better determine the extent of the problem and the cost of plugging the wells.

The primary concern with the abandoned wells relates to contamination of underground water sources as a result of drilling through the water zones. Since operators of pre-1968 wells were not required to plug wells, it was not uncommon for the well casings to be pulled, allowing the open well to provide a conduit through which underground water sources might be contaminated. According to Ground Water Management staff, the well openings will continue to be a potential source of ground water contamination until the wells are properly plugged.

The cost of plugging a well varies because some wells may be accessible and others may require some site preparation to make them accessible. Prior to implementation of the present rules and regulations, operators were allowed to place an unlimited number of wells under a $10,000 blanket bond (some operators had as many as 40 wells under one $10,000 blanket bond). The Oil and Gas Program Supervisor said that the state could file for forfeiture on some of these bonds; however, such an action could make the state liable for wells that cannot be plugged for the $10,000 the state would recover.

Monetary penalties assessed by the board are deposited into the Oil and Gas Board Reclamation Fund to provide for plugging dry or abandoned wells. As of October 1995,

the fund had a balance of $20,800. In contrast, a 1995 Tennessee Non-Point Source Management Program report from the Tennessee Department of Agriculture, Division of Agricultural Resources, estimated (based on the results of the February 1988 report to the General Assembly) that $8 million would be necessary to plug these wells. An additional $8.2 million is needed to reclaim oil and gas drill sites and oil tank batteries/transfer sites. (See Below.)

Description	Number/Acreage Sites	Estimated Cost Per Site/Acre	Estimated Total Cost
Abandoned oil & gas wells (1)	4,000 wells	$2,000	$8,000,000
Abandoned oil & gas drill sites (2)	6,800 acres	$1,000	$6,800,000
Abandoned oil tank batteries/transfer sites (3)	1,400 acres	$1,000	$1,400,000

(1) Estimated number of wells drilled in search of oil and gas which require plugging.

(2) Estimated area which requires reclamation and revegetation (calculated as estimated number of sites multiplied by estimated site size of 2 acres).

(3) Estimated area of petroleum tank batteries/transfer sites which requires reclamation and revegetation (calculated as estimated number of sites multiplied by estimated site size of 1 acre).

The Resource Extraction Working Group (which includes representatives from the U. S. Office of Surface Mining, the Tennessee Wildlife Resources Agency, and several divisions in the Department of Environment and Conservation) has developed a four-year plan to address nonpoint source pollution resulting from resource extraction. The four-year plan for petroleum activities includes refining the preliminary study of abandoned wells, developing "best management practices" for abandoned oil and gas wells, seeking funding to plug abandoned wells, and seeking funding to reclaim abandoned drill sites and tank batteries. Also the Tennessee Oil and Gas Association, an association of independent oil producers, has indicated a willingness to work with the Oil and Gas Program Supervisor in locating and plugging abandoned wells.

Since 1986, the Oil and Gas Board has revised its rules and regulations to limit the state's expenses for plugging abandoned wells and to minimize underground water contamination, pollution of surface water sources, and erosion. The rules and regulations require inspection of well sites prior to approving a drilling permit, inspection of the well casings that will minimize or prevent the communication of well fluids with underground water zones, inspection of wells that are being abandoned and plugged, the regulation of

the spacing of wells (including location to property lines and water wells), a $1,500 bond to cover the cost of well site reclamation, and a limit of only ten wells under a $10,000 blanket bond.

RECOMMENDATION:

The State Oil and Gas Board should work with the Resource Extraction Working Group to implement the four-year plan (which addresses nonpoint source pollution resulting from resource extraction) and seek funding to plug abandoned wells and reclaim well and tank battery sites. The board should coordinate efforts between the Ground Water Management section, the Oil and Gas Program, and other organizations, such as the Tennessee Oil and Gas Association, to locate and plug abandoned oil and gas wells in Tennessee. The board should continue to enforce the rules and regulations to help prevent the problem of abandoned wells from recurring.

MANAGEMENT'S COMMENT:

We concur. The present staff of one geologist and three field inspectors does not provide sufficient staff to work on locating and plugging abandoned wells.

The state will review the Oil and Gas Board Reclamation Fund for plugging dry or abandoned wells to determine how best to use available funds to plug the worst of the abandoned wells.

The division also will work with the Tennessee Oil and Gas Association to seek a solution to the abandoned well problem.

OIL AND GAS PROGRAM STAFF DID NOT ADEQUATELY FOLLOW UP CITATIONS

2. FINDING:

Program staff have not followed up all citations requiring well operators either to correct the violation within a specified period or to pay a penalty. Twenty citations were issued between March 1992 and October 1995. Program files contained evidence of penalty payments for eight of these citations. No penalty payment had been received for the remaining 12 citations, issued from March 1992 to June 1994. The citations stated that the penalty would not be assessed if the operator corrected the problem noted. However, for ten citations (84%), the files contained no evidence (e.g., documentation

provided by operators or through follow-up visits by program inspectors) that the problem had been corrected. There also was not any evidence, such as a deposit slip, that the penalty had been paid.

The Oil and Gas Supervisor stated that an informal follow-up was done in some cases. However, without proper follow-up (and documentation of that follow-up), the supervisor cannot tell whether the operator has corrected the problem in the specified period or whether the operator needs to pay the penalty. Correction of the problem is particularly important when an oil spill, with potential contamination of ground and/or surface water sources could result, e.g., if the operator's well pits or tanks are not adequate. Six of the ten citations discussed above were issued because the operator failed to provide adequate pits or tanks.

RECOMMENDATION:

Oil and Gas Program staff should follow up citations to ensure that the problems cited have been corrected within the specified time or the penalties paid. Operators who receive citations should be required to provide documentation of the corrective action taken. Program inspectors should also follow up at the end of the abatement period to confirm that the problem has been corrected. This follow-up should be documented in the files. If the well operator does not correct the problem within the specified time, the supervisor should demand payment of the penalty and seek an injunction against the operator.

MANAGEMENT'S COMMENT:

We concur. Field inspectors will be required to inspect all facilities issued a citation and provide a detailed written report following the inspection. Inspections will be scheduled to occur after the compliance date contained in the citation.

SUBMISSION OF REQUIRED WELL DATA AND SAMPLES IS NOT ADEQUATELY MONITORED

3. FINDING:

Oil and Gas Program staff do not routinely monitor whether the oil and gas well operators are submitting the well reports and drilling samples required by the board's rules and regulations. The Oil and Gas Program Supervisor has the authority to issue a citation to any operator who violates the statutes and/or the rules and regulations. The citation

requires the well operator either to correct the violation within a specified time (abatement of the citation) or to pay a predetermined penalty (the amount based on the type of violation). A review of the files for 25 wells, randomly selected from the 569 wells permitted during 1990 to 1995, indicated that well operators should have received 40 citations for violations of the Oil and Gas Program rules and regulations on the filing of well data and reports (see Exhibit 6). However, the files did not contain any evidence that a citation was sent to well operators for failure to submit the required reports and samples in a timely manner. Failure to monitor the submission of required information and to assess appropriate citations and penalties deprives program staff of information needed to regulate the oil and gas industry, weakens the regulatory process, and may result in lost income to the state.

The operator is required (by board rules) to file a *Well History, Work Summary, and Completion or Recompletion Report* within 30 days after reaching total depth. The rules do, however, allow for a 90-day extension. For 16 (64%) of the 25 files reviewed, the report was either missing or overdue. Four (25%) of the 16 files did not contain the report even though the wells were permitted between October 1990 and September 1994. The remaining 12 files contained the report, but the report had been submitted from 11 to 1,253 days late. For two (8%) of the 25 files, the report was not available (apparently misfiled) or was not dated so compliance could not be determined.

The State Oil and Gas Board's rules and regulations also require operators to send in well drilling samples within 30 days after drilling to total depth. The samples are required at ten-foot intervals from the top of bedrock to total depth of each well and must be submitted to the Tennessee Division of Geology office in Nashville. When the sample is delivered to the Division of Geology, a Well Sample Data Sheet is completed and the Supervisor of the Oil and Gas Program receives a copy to update his information. For 19 (76%) of the 25 files reviewed, operators either were late or failed to send well samples to the Division of Geology (seven samples were late and 12 were missing).

In five other situations, the well operator was in violation of the rules and regulations: two insurance companies canceled the operator's bond, one operator was late submitting a well plugging report, and two *Well History, Work Summary, and Completion or Recompletion Reports* did not contain the required well drilling logs.

According to the Oil and Gas Program Supervisor, the *Well History, Work Summary, and Completion or Recompletion Report* is the most important information the board requires. The report contains information about well location, drilling start date and completion date, type of well when completed, depth of the well, drilling logs, status of the well, well casing record, and well tests performed. The supervisor stated that he is now requiring well operators to submit all overdue reports and samples before issuing additional permits. However, because of time constraints, he has been unable to routinely review well information to determine if all the required information has been received. In the past, the well information was recorded in a manual system. The supervisor now has some of the well information computerized. When the project is completed, he will be

able to generate quickly a list of overdue reports and drilling samples and send well operators citations.

EXHIBIT 6

NOTICES OF NONCOMPLIANCE THAT OPERATORS SHOULD HAVE RECEIVED

Well Number	Missing/Overdue Well History Reports	Late/ Missing Well Samples	Insurance Canceled Bond	Overdue Plugging Report	Missing Drilling Logs	Total
1	Late	Late				2
2	Late	Missing				2
3						
4						
5						
6	Missing	Missing	Yes			3
7	No Dates	Missing				1
8	Late	Missing				2
9	Late	Late			Yes	3
10	Late					1
11	Late					1
12						
13	Late	Missing				2
14		Late				1
15	Late	Late	Yes			3
16	Missing	Missing				2
17	Misfiled	Missing				1
18		Late				1
19	Late	Late		Yes		3
20		Late			Yes	2
21	Missing	Missing				2
22	Late	Missing				2
23	Late	Missing				2
24	Late	Missing				2
25	Missing	Missing				2
	16	19	2	1	2	40

Source: Review of well and operator files in the Divisions of Geology and Water Supply, Department of Environment and Conservation.

RECOMMENDATION**:**

The Oil and Gas Program Supervisor should complete the project to automate well information and use the database to routinely monitor whether well operators are submitting well reports and well drilling samples within the required time. Well operators who have not submitted this information should receive notices of noncompliance. Operators who do not comply promptly should be assessed monetary penalties.

MANAGEMENT'S COMMENT:

We concur. Current staff will review the files and determine which operators have failed to submit the required information. Deadlines and citations will be issued for submission of the required information. Program staff will work to establish an in-house database for tracking this information on future permits.

THE BOARD LACKS FORMAL CONFLICT-OF-INTEREST PROCEDURES

4. FINDING:

Representatives from the oil and gas and mineral industries and oil and gas property owners serve on the State Oil and Gas Board. Even though the board contains members from the regulated industry, the State Oil and Gas Board does not have formal procedures to ensure the board members' potential conflicts of interest are identified and resolved before those conflicts can affect decisions.

On at least one occasion, a board member voluntarily excused himself from voting on an item before the board because of personal interest. However, Oil and Gas Board rules and regulations do not contain any written procedures requiring board members to complete and periodically update forms disclosing personal and professional interests such as financial interests, partnerships, prior employment, and other matters that have the potential to influence their decisions.

No statute requires written disclosure, and nothing came to the auditor's attention during this audit to indicate that board members were influenced by personal or professional conflicts of interest. However, without a means of identifying potential conflicts of interest and discussing and resolving them before they have an impact on decisions, board members could be subject to questions concerning impartiality and independence.

RECOMMENDATION:

The board should adopt a formal, written policy for determining whether a board member has a conflict of interest and for documenting that determination. The policy should address direct or indirect interests in businesses that the board regulates, ownership interest in a corporation or firm that the board regulates, prior or current employment of the individual or an immediate family member, and other matters that may influence or appear to influence a board member's decisions.

The board should adopt procedures for discussing and resolving potential conflicts. Board members should complete disclosure statements at the beginning of their terms and should update disclosure statements regularly as part of the public record.

MANAGEMENT'S COMMENT:

We concur. Staff will research this issue and prepare a conflict-of-interest procedure for the board's review and consideration.

OIL AND GAS FIELD INSPECTORS DO NOT SUBMIT DETAILED MONTHLY REPORTS

5. FINDING:

Oil and gas program inspectors' monthly reports, overall, do not provide detailed information concerning well site-visits or inspections. The reports submitted by two of the three inspectors usually indicated which sites were visited but did not provide any details concerning problems observed and/or inspections conducted. More detailed and uniform information, similar to that provided by the third inspector, would aid the Oil and Gas Program Supervisor and board members in monitoring the oil and gas industry and evaluating inspectors' workloads. In addition, information detailing the field inspector's activity could be very useful when an operator challenges the inspector's method of inspecting the well and well site or when the operator is cited for a specific violation of the rules and regulations.

The review of the field inspectors' monthly reports indicated that the three inspectors uniformly perform the following activities: inspect pits and locations prior to issuing drilling permits, inspect the cementing of surface casings, inspect plugging of wells being abandoned, inspect oil spill sites and conduct follow-up inspections, check on well locations, and respond to requests for help (e.g., domestic gas wells, problems with water wells). However, one of the field inspector's reports contained a better description of his

daily activities than the other two inspectors' monthly reports. The field inspector provided detailed information concerning the cementing of well casings and the plugging of wells and mineral test holes; observations concerning inspections of water sources for evidence of oil; and responses to individual requests concerning possible oil and/or gas in water wells. According to the Oil and Gas Supervisor, the field inspectors are allowed to use discretion concerning the amount of detailed information to include on the standard reporting form. There is a "Well Inspection Form" which would provide more uniform and detailed information, but the field inspectors are not currently required to use the form. The Oil and Gas Program Supervisor indicated that as new field inspectors are hired, he will require them to use this form.

RECOMMENDATION:

The Oil and Gas Supervisor should require inspectors to provide more uniform and detailed information in their monthly reports. The supervisor should also initiate the use of the "Well Inspection Form" as soon as possible so that the inspectors have some type of guideline to document well site-visits and inspections.

MANAGEMENT'S COMMENT:

We concur that all the oil and gas field inspectors do not submit detailed monthly inspection reports. Field inspectors will be required to complete a detailed monthly report and an individual report on each inspection or complaint visit. Each month the staff geologist will review these reports to ensure their adequacy.

THE OIL AND GAS PROGRAM AND THE DIVISION OF GEOLOGY APPEAR TO DUPLICATE PAPER WORK AND SERVICES

6. FINDING:

The Division of Geology and the Oil and Gas Program seem to duplicate paperwork by keeping well information in two separate locations. The Division of Geology also continues to perform services that are closely tied to the oil and gas industry.

In July 1992, the Oil and Gas Program was transferred from the Division of Geology to the Division of Water Supply as a result of the reorganization of the Department of Environment and Conservation. It was determined that all the regulatory functions within the Bureau of Environment and Department of Conservation should be

consolidated into one division, so that the collection of permit fees, the tracking of bonds, enforcement, and so forth could be centralized.

However, the Division of Geology is still intimately associated with the oil and gas production process. The division maintains production records and geophysical logs and receives well drilling samples for processing and maintenance of a data file on the samples. The division is also responsible for the classification of wells.

The Division of Geology maintains a file on each permitted well. The well files include the well history report, plug/abandonment report, gas test reports, geological logs, request for change of operators, request to amend a well permit, and a copy of the well site plat. This information is also maintained in the Oil and Gas Program files. The Division of Geology does not maintain an operator file and does not include information concerning citations issued for violations at a particular well (this information is maintained by the Supervisor of the Oil and Gas Program).

It appears that the state and the oil and gas industry might be better served by placing the Oil and Gas Program back under the administration of the Division of Geology. Presently, the Oil and Gas Program has one supervisor and a staff member on loan from the Division of Water Supply in the main office. Placing the Oil and Gas Program in the Division of Geology would eliminate the need to maintain two filing systems and also provide more staff who are knowledgeable of the oil and gas industry.

RECOMMENDATION:

The Department of Environment and Conservation should analyze the department's organizational structure as it relates to the Oil and Gas Program. The review should consider whether the efficiency and effectiveness of the Oil and Gas Program could be improved by placing the program under the administrative authority of the Division of Geology rather than the Division of Water Supply.

MANAGEMENT'S COMMENT:

We concur there is duplication of several files between the Division of Water Supply and Division of Geology. The Division of Geology believes it valuable to have certain information pertaining to the Oil and Gas Program. It is better to share this information with the Division of Geology than have the industry duplicate its submittal.

The department will review the organizational structure as it relates to the Oil and Gas Board to determine the most efficient location for the program in order to carry out the responsibilities of TCA 60-1-101 et seq.

RECOMMENDATIONS

ADMINISTRATIVE

The State Oil and Gas Board and the Department of Environment and Conservation should address the following areas to improve the efficiency and effectiveness of the Oil and Gas Program.

1. The State Oil and Gas Board should work with the Resource Extraction Working Group to implement the four-year plan (which addresses nonpoint source pollution resulting from resource extraction) and seek funding to plug abandoned wells and reclaim well and tank battery sites. The board should coordinate efforts between the Ground Water Management section, the Oil and Gas Program, and other organizations, such as the Tennessee Oil and Gas Association, to locate and plug abandoned oil and gas wells in Tennessee. The board should continue to enforce the rules and regulations to help prevent the problem of abandoned wells from recurring.

2. Oil and Gas Program staff should follow up citations to ensure that the problems cited have been corrected within the specified time or the penalties paid. Operators who receive citations should be required to provide documentation of the corrective action taken. Program inspectors should also follow up at the end of the abatement period to confirm that the problem has been corrected. This follow-up should be documented in the files. If the well operator does not correct the problem within the specified time, the supervisor should demand payment of the penalty and seek an injunction against the operator.

3. The Oil and Gas Program Supervisor should complete the project to automate well information and use the database to routinely monitor whether well operators are submitting well reports and well drilling samples within the required time period. Well operators who have not submitted this information should receive notices of noncompliance. Operators who do not comply promptly should be assessed monetary penalties.

4. The board should adopt a formal, written policy for determining whether a board member has a conflict of interest and for documenting that determination. The policy should address direct or indirect interests in businesses that the board regulates, ownership interest in a corporation or firm that the board regulates, prior or current employment of the individual or an immediate family member, and other matters that may influence or appear to influence a board member's decisions.

5. The board should adopt procedures for discussing and resolving potential conflicts. Board members should complete disclosure statements at the beginning of their terms and should update disclosure statements regularly as part of the public record.

6. The Oil and Gas Supervisor should require inspectors to provide more uniform and detailed information in their monthly reports. The supervisor should also initiate the use of the "Well Inspection Form" as soon as possible so that the inspectors have some type of guideline to document well site-visits and inspections.

7. The Department of Environment and Conservation should analyze the department's organizational structure as it relates to the Oil and Gas Program. The review should consider whether the efficiency and effectiveness of the Oil and Gas Program could be improved by placing the program under the administrative authority of the Division of Geology rather than the Division of Water Supply.