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SEVERANCE TAXES

JANUARY 2020

PERFORMANCE AUDIT

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DIANNE E. RAY, CPA

STATE AUDITOR

January 14, 2019

Members of the Legislative Audit Committee:

This report contains the results of a performance audit of severance taxes. The audit was conducted pursuant to Section 2-3-103, C.R.S., which authorizes the State Auditor to conduct audits of all departments, institutions, and agencies of state government, and Section 2-7-204(5), C.R.S., which requires the State Auditor to annually conduct performance audits of one or more specific programs or services in at least two departments for purposes of the SMART Government Act. The report presents our findings, conclusions, and recommendations, and the responses of the Departments of Natural Resources and Revenue, and the Colorado Oil and Gas Conservation Commission.

OFFICE OF THE STATE AUDITOR
1525 SHERMAN STREET
7TH FLOOR
DENVER, COLORADO
80203

303.869.2800

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REPORT HIGHLIGHTS

SEVERANCE TAXES
PERFORMANCE AUDIT, JANUARY 2020

DEPARTMENT OF NATURAL RESOURCES
DEPARTMENT OF REVENUE

CONCERN

The Departments of Natural Resources (Natural Resources) and Revenue (Revenue) could improve their processes to help ensure that the State has accurate information on the amount of natural resources being extracted and that taxpayers are accurately reporting production data and calculating their severance tax liabilities. Further, some of the statutory elements of Colorado's severance tax system do not align with principles of good tax policy and high-quality revenue systems, and make it difficult to determine if the State is receiving the severance taxes that it is due.

KEY FINDINGS

- The Colorado Oil and Gas Conservation Commission (Commission), within the Department of Natural Resources, does not collect some required oil and gas production information. Of the 420 operators actively producing during Calendar Years 2016 through 2018, 316 operators submitted 1,209 incomplete monthly well reports and/or failed to submit as many as 50,055 required monthly well reports. The Commission did not impose penalties on any of the operators for failing to report.
- Had the Commission imposed the maximum $200 per day, per well fine it has set in rules for 30 days, these 316 operators would have been subject to as much as $308 million in penalties for the violations.
- The Commission does not verify that oil and gas operators have conducted the proper maintenance and calibrations of measurement equipment to ensure the accuracy of oil and gas production reporting.
- Only eight of the 79 mine operators with active permits (10 percent) submitted production reports for Calendar Year 2017 and Natural Resources has not produced an annual mining report since 1981, both of which are required by statute.
- Eight of the 11 operators (73 percent) in our sample did not submit *Oil and Gas Withholding Statements,* which are used to identify interest owners who have not filed severance taxes, with their severance tax returns.
- Revenue does not always use complete production data when conducting oil and gas severance tax audits to verify production amounts reported on severance tax returns.
- We estimate that, after applying all applicable tax exemptions, credits, and deductions, Colorado's effective severance tax rate is 0.54 percent of gross revenue for oil and gas and 0.62 percent for coal.

BACKGROUND

- Severance taxes are intended to recapture a portion of the wealth that is lost when nonrenewable natural resources are removed from the earth and sold for private profit.
- Resources subject to severance tax include oil, gas, coal, metallic minerals, molybdenum, and oil shale. Tax rates vary based on the specific resource.
- Natural Resources is responsible for collecting data on the production of the resources listed above. Revenue is responsible for collecting severance taxes and assessing the accuracy of the taxes paid.
- The State collected $102.7 million in severance taxes for Fiscal Year 2018. Of this amount, 94 percent ($96.1 million) is attributable to oil and gas.

KEY RECOMMENDATIONS

- Ensure that oil and gas operators submit required monthly production reports by identifying and following up with operators that are in violation of reporting requirements.
- Implement processes to verify the accuracy of measurement equipment for oil and gas wells.
- Require mine operators to annually report on mining activities and issue an annual report on the mining industry, including production information.
- Determine if Revenue has the authority to require *Oil and Gas Withholding Statements*. If not, work with the General Assembly to obtain the authority and use the statements to identify unfiled severance tax returns.
- Work with the Commission to obtain data on missing or incomplete oil and gas well production reports for severance tax audits.

The Departments of Natural Resources and Revenue and the Commission agreed with these recommendations.

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CHAPTER 1

OVERVIEW OF SEVERANCE TAXES

Statute [Section 39-29-101, C.R.S.] defines Colorado's severance tax as an excise tax imposed upon nonrenewable natural resources that are removed from the earth. By statute, severance taxes are intended to recapture a portion of the wealth that is irretrievably lost when nonrenewable natural resources are removed and sold for private profit. The tax applies to minerals severed or removed from all lands in Colorado, whether the lands are privately or publicly owned.

Five types of minerals are subject to severance taxation in Colorado: (1) oil and gas, (2) coal, (3) metallic minerals (i.e., gold, silver, uranium, and lead), (4) molybdenum ore, and (5) oil shale. The way these minerals are taxed and who is responsible for paying the severance taxes varies depending on the mineral.

- **OIL, GAS, AND METALLIC MINERALS** are taxed based on the gross income earned from their sale. Gross income is defined as the net amount realized by the taxpayer, regardless of the point at which it is sold, less any costs for transportation or processing. Interest owners, who are the individuals or business entities that own the mineral, are responsible for paying severance taxes. Colorado ranks 7th in oil and gas production in the United States and oil and gas is the largest source of severance tax revenue for the State. Metallic mineral production is considerably smaller, with only nine actively producing hard rock mines in the state.

- **COAL AND MOLYBDENUM** are taxed based on the tonnage extracted. Operators, who are the individuals or business entities that extract the minerals, are responsible for paying severance taxes. Of the 26 states that produce coal, Colorado ranks 11th in the amount extracted. Colorado is home to the largest molybdenum mine in the country.

- **OIL SHALE** is taxed based on the gross proceeds earned from the sale. Gross proceeds is defined as the amount earned on the sale of the commodity after deducting the costs to sell it, including production, marketing, and transportation. Interest owners are responsible for paying severance taxes. Oil shale is not currently being produced in Colorado due to its high processing costs.

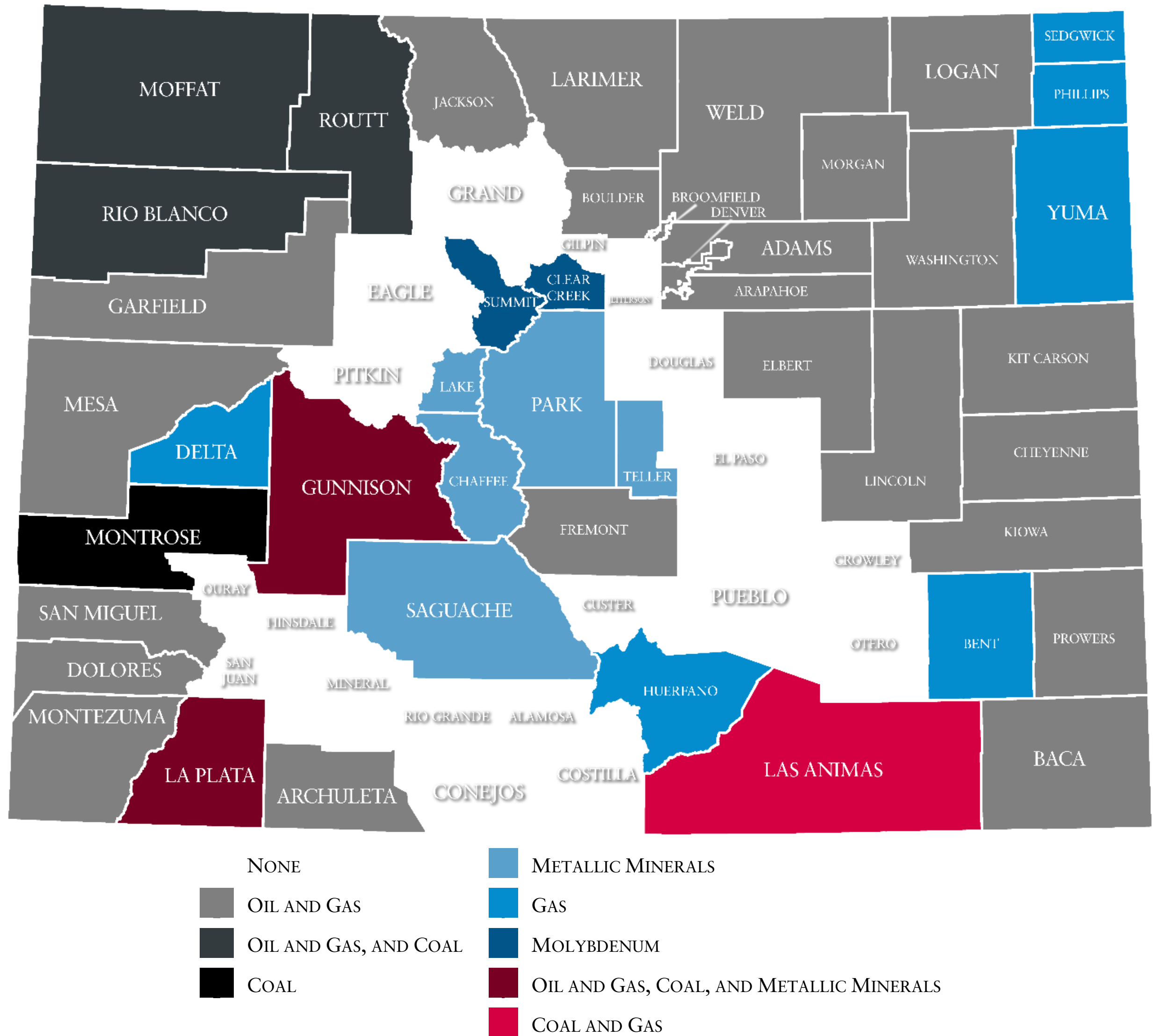
In addition to the base severance tax, there are tax expenditures, including exemptions, credits, and deductions that can be applied to offset severance tax liabilities. EXHIBIT 1.1 shows the tax rate and basis for each mineral, as well as the tax expenditures that can be applied to offset a portion of the tax liability.

EXHIBIT 1.1. SEVERANCE TAX RATES AND TAX EXPENDITURES FISCAL YEAR 2019			
MINERAL	TAX RATE	EXEMPTIONS	CREDITS/DEDUCTIONS
Oil and Gas	2% of gross income: $0–24,999 3% of gross income: $25,000–99,999 4% of gross income: $100,000—299,999 5% of gross income: $300,000 and up	Exemption for Stripper Wells—wells producing less than 15 barrels of oil or 90,000 cubic feet of gas per day	87.5% of ad valorem property taxes paid to the local taxing jurisdiction Deduction for transportation, manufacturing, and processing costs
Coal	$0.84 per ton[1]	Exemption for the first 300,000 tons produced quarterly	50% of tax for coal produced in underground mines or lignitic coal[2]
Metallic Minerals	2.25% of gross income	Exemption for the first $19 million in gross income	100% of ad valorem property taxes paid to the local taxing jurisdiction, not to exceed 50% of the severance tax liability
Molybdenum	$0.05 per ton	Exemption for the first 625,000 tons produced quarterly	N/A
Oil Shale	1–4% of gross proceeds depending on year of commercial production: 1%–1st year 2%–2nd year 3%–3rd year 4%–4th year and beyond	Exemption for the first 15,000 tons or 10,000 barrels produced per day, whichever is greater Exemption for the first 180 days of commercial production	N/A

SOURCE: Office of the State Auditor analysis of statutes: Sections 39-29-103 through 107, C.R.S.
[1] Adjusted 1 percent for every 1.5 percentage change in the index of producers' prices for all commodities. The Department of Revenue publishes the rate monthly.
[2] Lignitic coal is the lowest grade of coal that produces less energy than higher grades.

EXHIBIT 1.2 shows the types of minerals subject to severance tax that were produced in each county, as of Calendar Year 2018.

EXHIBIT 1.2. MINERAL PRODUCTION BY COUNTY
CALENDAR YEAR 2018



SOURCE: Colorado Oil and Gas Conservation Commission and Division of Reclamation, Mining, and Safety.

REVENUE

Severance tax collections in Colorado have declined over the last 4 fiscal years. In Fiscal Year 2018, the State collected \$102.7 million in severance taxes, a 65 percent reduction from the \$292.7 million collected in Fiscal Year 2015. In Fiscal Year 2017, the State collected no severance taxes and, in fact, had to refund \$7.2 million to taxpayers due to the significant amount of tax expenditures claimed by taxpayers. The amount of tax expenditures claimed in Fiscal Year 2017 increased

due to the ad valorem credit and adjustments resulting from changes to the allowable deductions for transportation and processing costs from previous years. EXHIBIT 1.3 shows severance tax collections for Fiscal Years 2015 through 2018.

EXHIBIT 1.3. SEVERANCE TAX REVENUE
FISCAL YEARS 2015 THROUGH 2018[1]
(IN MILLIONS)

	2015	2016	2017[2]	2018	PERCENTAGE CHANGE 2015-2018
Oil and Gas	$284.7	$79.0	($14.3)	$96.1	-66%
Other[3]	8.0	5.1	7.1	6.6	-18%
TOTAL	$292.7	$84.1	($7.2)	$102.7	-65%

SOURCE: Colorado Department of Revenue Fiscal Year 2018 Annual Report.
[1] Revenue reported is not limited to amounts from current year filings. Fiscal year data includes collections across multiple tax years due to amended, late, and/or corrected filings.
[2] In Fiscal Year 2017, refunds exceeded collections for oil and gas severance taxes due to tax expenditures.
[3] "Other" includes coal, molybdenum, and metallic minerals. Oil shale is not commercially produced in Colorado at this time, so there were no collections for this mineral.

STATE AGENCY OVERSIGHT

There are two state agencies with primary oversight of severance taxes in Colorado—the Department of Natural Resources and the Department of Revenue.

DEPARTMENT OF NATURAL RESOURCES

The Department of Natural Resources is responsible for encouraging the development of the State's natural resources, including its minerals. Two agencies organizationally located within the Department of Natural Resources—the Colorado Oil and Gas Conservation Commission (Commission) and the Division of Reclamation, Mining, and Safety (Division)—regulate the oil, gas, and mineral industries operating in Colorado. These agencies set rules and regulations governing resource extraction; issue permits; and inspect production sites for compliance with rules.

COLORADO OIL AND GAS CONSERVATION COMMISSION

The Commission consists of nine members, seven of whom are appointed by the Governor and approved by the Senate, and two of whom are the executive directors of the Department of Natural Resources and the Department of Public Health and Environment. The two executive directors are non-voting members. The Commission's mission is to regulate the development and production of oil and gas and to protect public safety and the environment. Among other things, the Commission is authorized to regulate the drilling and operation of wells to mitigate environmental impact, and to promulgate rules that protect the health, safety, and welfare of the people at the wells and the general public. The Commission is staffed by 106 full-time equivalent (FTE) staff who issue permits for the drilling and operation of oil and gas wells and inspect wells to ensure that they are meeting safety and environmental standards. Each month, operators are required to submit well-level oil and gas production data to the Commission and maintain calibration reports for the equipment used to measure production volume as a way of substantiating that they are in compliance with Commission rules.

DIVISION OF RECLAMATION, MINING, AND SAFETY

The Division is responsible for mineral and energy development, regulation, and planning in Colorado. The Division is staffed by 66 FTE who review and issue mining and mine reclamation permits; safeguard abandoned mine sites; and provide safety training for mine operators and employees. The Division maintains some monthly reports on coal production, but not on any other minerals.

DEPARTMENT OF REVENUE

The Department of Revenue is responsible for processing severance tax filings and ensuring their accuracy. The Taxpayer Services and Field Audit Divisions within the Department of Revenue administer the tax assessment and collection processes.

TAXPAYER SERVICES. The Taxpayer Services Division (Taxpayer Services) is responsible for reviewing and processing severance tax filings and associated payments and refunds. Approximately four FTE perform basic math verifications of amounts recorded on tax forms; ensure that information from paper filings is correctly translated electronically into GenTax, the Department of Revenue's tax processing system; and perform checks for non-filing taxpayers. Taxpayer Services receives and processes about 13,000 severance tax filings per year.

FIELD AUDIT. The Field Audit Division (Field Audit) is responsible for performing audits of severance tax filings. Field Audit has a Minerals Unit dedicated to auditing state severance tax payments. The Minerals Unit is also responsible for determining if severance taxpayers are in compliance with Colorado statutes and regulations concerning tax expenditures, such as the ad valorem tax credit and transportation and processing deduction. The Minerals Unit consists of three staff auditors who, in total, conduct about 10 severance tax audits per year.

AUDIT PURPOSE, SCOPE, AND METHODOLOGY

We conducted this performance audit pursuant to Section 2-3-103, C.R.S., which authorizes the State Auditor to conduct audits of all departments, institutions, and agencies of the state government, and Section 2-7-204(5), C.R.S., the State Measurement for Accountable, Responsive, and Transparent (SMART) Government Act. We conducted the audit in response to a legislative request, which expressed concerns with the State's activities related to accurately determining and

collecting all severance taxes owed to the State, including whether oil and gas production is accurately measured and severance taxes are accurately reported and collected. We performed audit work from March 2019 through December 2019. We appreciate the assistance provided by the management and staff of the Department of Revenue and the Department of Natural Resources during this audit.

We conducted this audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

The key objectives of the audit were to: (1) determine if the Department of Natural Resources has sufficient processes to ensure that the minerals subject to severance taxation are accurately measured and reported upon extraction, (2) determine if the Department of Revenue has sufficient processes to ensure that the amount of severance taxes assessed and collected is accurate, and (3) identify alternative ways to administer Colorado's severance tax system. The audit also reviewed how the Departments of Revenue and Natural Resources implemented recommendations from the *2006 Severance Tax* performance audit.

To accomplish our audit objectives, we performed the following audit work:

- Reviewed relevant statutes, rules, and agency policies and procedures related to mineral measurement, severance tax filings, and mineral audits.

- Interviewed staff from the Department of Revenue's Taxpayer Services and Field Audit Divisions, as well as staff from the Colorado Oil and Gas Conservation Commission and the Division of Reclamation, Mining, and Safety.

- Surveyed all 64 county assessors and received responses from 46 of them regarding their counties' role in mineral extraction measurement.

- Interviewed stakeholders within the mining industry.

- Analyzed available oil, gas, and coal production data for Calendar Years 2015 through 2018.

- Reviewed the files for the 31 mineral audits completed by the Department of Revenue between Calendar Years 2016 and 2018.

- Reviewed a sample of 25 oil and gas severance tax accounts and all of the 17 mined mineral severance tax accounts with the Department of Revenue that were active in Calendar Year 2017.

- Reviewed other states' severance tax statutes, rules, and production data, where available.

We relied on nonstatistical sampling techniques to support our audit work as follows:

We randomly selected 25 oil and gas operators who reported production data to the Commission in Calendar Year 2017. We then searched the Department of Revenue's GenTax database to determine if these operators had submitted all required tax documentation for that tax year. The results of our nonstatistical sample cannot be projected to the population. However, the sample results are valid for confirming the tax processing procedures implemented by the Department of Revenue and, along with the other audit work performed, provide sufficient, reliable evidence as the basis for our findings, conclusions, and recommendations.

We planned our audit work to assess the effectiveness of those internal controls that were significant to our audit objectives. Our conclusions on the effectiveness of those controls, as well as specific details about

the audit work supporting our findings, conclusions, and recommendations, are described in the remainder of this report.

A draft of this report was reviewed by the Departments of Revenue and Natural Resources, and the Commission. We have incorporated each of their comments into the report where relevant. The written responses to the recommendations and the related implementation dates are the sole responsibility of the Departments of Revenue and Natural Resources, and the Commission.

CHAPTER 2

MINERAL DATA AND SEVERANCE TAX COLLECTION

Oil and gas is the largest mineral extraction industry in Colorado that is subject to severance taxes. There are approximately 70,000 active oil wells in Colorado, run by about 400 operators. In Calendar Year 2018, operators produced 178 million barrels of oil and 2.3 billion MCFs (i.e., thousands of cubic feet) of natural gas. The second largest mineral subject to severance tax is coal. Colorado had six actively producing coal mines, which generated 14.3 tons of coal in Calendar Year 2018. Severance taxes paid on some minerals (most notably oil and gas) are not determined

directly by the amount of resources extracted, but on the income generated from them. However, the amount extracted provides the foundation for calculating the tax owed and thus, it is important to have processes in place to verify the accuracy of the amounts reported as being extracted, as well as the taxes being paid. Through our audit work, we identified several areas where the Department of Natural Resources and the Department of Revenue could improve their processes to help ensure that the State has accurate information on the amount of natural resources that are being extracted and that taxpayers are accurately reporting production data and calculating their severance tax liabilities.

OIL AND GAS REPORTING

The Colorado Oil and Gas Conservation Commission (Commission), within the Department of Natural Resources, was created in 1951 to monitor, regulate, and encourage the development, production, and utilization of Colorado's non-renewable oil and gas resources. With the passage of Senate Bill 19-181, the Commission was further directed to, "Regulate the development and production of...oil and gas...in a manner that protects public health, safety, and welfare, including protection of the environment and wildlife resources." The Commission is responsible for approving permits to drill for oil and gas and promulgating rules to regulate drilling. Commission staff inspect wells in the state, on average, every 1.7 years to ensure operators comply with Commission rules.

Oil and gas operators in Colorado use a variety of methods to extract oil and gas from the ground, process it to remove impurities, and transport it to the point of sale. Severance taxes on oil and gas are based on the gross income generated from the sale of these resources, and as such are dependent on the number of barrels of oil or cubic feet of natural gas sold, and by the price at which these resources are sold.

Statute [Section 34-60-106(1), C.R.S.] grants the Commission the authority to require, "The making and filing with the [C]ommission

copies of well logs, directional surveys, and reports on well location, drilling, and production, [and provides] that every person who produces, sells, purchases, acquires, stores, transports, refines, or processes oil or gas in this state shall keep and maintain...complete and accurate records of the quantities thereof." The Commission has promulgated rules that require monthly production reporting within 45 days after the month end [Commission Rule 309] and both statute and Commission rules contain provisions to penalize operators for failure to report.

WHAT AUDIT WORK WAS PERFORMED AND WHAT WAS THE PURPOSE?

We reviewed Commission data on delinquent well reports (i.e., well reports not submitted by operators within the required timeframe) for Calendar Years 2016 through 2018. In addition, we reviewed all of the Commission's available monthly and annual production summaries for the 420 actively producing oil and gas operators between Calendar Years 2016 and 2018. We also reviewed statutes and Commission regulations, policies, and procedures related to the monthly oil and gas production reports. Additionally, we interviewed staff at the Commission and the Department of Revenue regarding the collection, availability, and use of oil and gas reporting data. Finally, we compared production and sales data for one operator, as reported to the Commission and as found in the Department of Revenue's files for an audit it conducted of that operator in 2018.

The purpose of our audit work was to determine if the Commission ensures that oil and gas operators consistently report required information related to the amount of oil and gas produced and sold.

HOW WERE THE RESULTS OF THE AUDIT WORK MEASURED?

Commission rules [Section 309] require all oil and gas operators to submit a monthly production report by well, for all of their operations. Specifically, Rule 309 requires that "operators shall report all existing oil

and gas wells that are not plugged and abandoned on…Form 7, within 45 days after the end of each month." Production from each well *must* be reported every month from time of "completion" (i.e., the well is drilled and ready for production) until it has been reported as abandoned (i.e., production is no longer occurring at the well). This means that operators must report on all of their wells each month, even if a well does not produce any oil or gas in a particular month, unless a well has been reported as abandoned. Form 7 requires, among other things, the name and number of each well; the number of days the well was active; and the amount of oil and/or gas produced, sold, used, or flared (i.e., burned off after extraction) from the well. Rule 309 requires that all data fields be complete when operators submit monthly well reports.

The Commission uses the monthly well reports to prepare monthly and annual summary reports for each operator. Statute [Section 34-60-121 C.R.S.] authorizes the Commission to develop rules around violations of their rules, including the schedule of fines it may assess for those violations. The Commission's *Enforcement Guidance and Penalty Policy* established the fines for violations of Rule 309. It states that "[s]ubstantial and appropriate penalties, levied in appropriate circumstances, are a part of any strong enforcement program." With that policy, the Commission established a fine of $200 per day, per well for a violation of Rule 309. According to statute [Section 34-60-121(1)(c)(A), C.R.S.], reporting violations begin on the day the report should have been made and end when the required report is submitted. Statute [Section 34-60-115, C.R.S.] also requires that any steps the Commission takes to commence action against violators must be initiated within 1 year from the date of the alleged violation.

WHAT PROBLEMS DID THE AUDIT WORK IDENTIFY?

Overall, we found that the Commission does not ensure that oil and gas operators consistently report required information related to the amount of oil and gas produced and sold. Specifically:

MISSING WELL REPORTS. We found that up to 276 of the 420 operators (66 percent) actively producing oil and gas failed to submit as many as 50,055 required monthly well reports during Calendar Years 2016 through 2018. The number of missing well reports for each operator ranged from 1 up to 8,407, or an average of about 181 missing well reports per operator. EXHIBIT 2.1 shows the range for number of missing monthly well reports and number of operators.

EXHIBIT 2.1. MISSING OIL AND GAS MONTHLY WELL PRODUCTION REPORTS PER OPERATOR CALENDAR YEARS 2016 THROUGH 2018

NUMBER OF MISSING MONTHLY WELL REPORTS	NUMBER OF OPERATORS
1–25	126
26–50	57
51–100	37
101–500	44
501–1,000	4
1,001–5,000	5
Over 5,000	3
TOTAL	276

SOURCE: Office of the State Auditor created from analysis of Colorado Oil and Gas Conservation Commission data.

According to Commission data, all of the operators included in EXHIBIT 2.1 had reported oil and/or gas production for those wells in the months before and after the months for which reports were missing. This indicates that the wells had not been abandoned, and therefore, the operators should have submitted production reports for them. Based on the monthly well reports these operators did submit, in total, they reported that they had produced and sold more than 182 million barrels of oil and almost 5 billion MCF of natural gas during Calendar Years 2016 through 2018. One operator that was missing up to 8,407 well reports—the most of any operator in our review period—reported that it had produced and sold 46 million barrels of oil and 187 million MCF of natural gas between Calendar Years 2016 and 2018 (based on the monthly well reports that were submitted) and is one of the 10 largest producers of oil and gas in the state.

INCOMPLETE MONTHLY WELL REPORTS. We found that an additional 40 of the 420 operators (10 percent) during Calendar Years 2016 through

2018 submitted monthly well reports with incomplete production and sales data. Specifically, these 40 operators submitted 1,209 reports that were missing the amount of oil and/or gas produced or sold in a given month.

WHY DID THIS PROBLEM OCCUR?

The Commission has not implemented sufficient controls to routinely identify and take action within 1 year when operators fail to submit monthly production reports. Although the Commission is able to run queries through its oil and gas database to identify required monthly well reports that appear to be missing, it does not routinely do so. The query that the Commission ran for us for Calendar Years 2016 through 2018 showed more than 51,000 missing or incomplete reports. However, according to the Commission, the only way to confirm that these reports are actually missing is to work with the operators to obtain additional information on the current status of their wells and determine if the operator has production data. The Commission reports that it currently has two staff assigned to review delinquent reporting, in addition to other responsibilities, and these staff are only able to review an average of 15 operators per year. In Calendar Years 2016 through 2018, the Commission elected to penalize 27 oil and gas operators that were out of compliance with the reporting requirements and 25 of these were penalized because they had other violations of rules/policies. The Commission fined the 27 operators and eight of them had submitted all missing reports as of September 2019.

Furthermore, the Commission has not implemented sufficient controls to proactively follow up on reports that are rejected by its database due to reporting errors or incompleteness. Operators electronically submit monthly production reports and they are uploaded into the Commission's database. The database will reject a report if it contains errors, such as a non-numeric values, and send an alert to notify the operator. However, the Commission does not currently have an automated mechanism to follow up with the operators to ensure that they submit the correct information. Although operators are aware that

the Commission can take action for missing, incomplete, or inaccurate reports, the Commission does not exercise available enforcement mechanisms frequently enough to emphasize to operators the importance of submitting complete information.

According to the Commission, it focuses its enforcement efforts on operator compliance with rules related to public health and safety and the welfare of the environment and wildlife resources. As a result, it does not routinely monitor monthly production reports to ensure that they have been submitted and are complete. However, the Commission could efficiently monitor reporting compliance without reducing its focus on health and welfare by routinely running database queries to identify missing reports and data, and then notifying operators to either submit missing reports or provide explanations for why reports do not need to be submitted. This would eliminate the need for Commission staff to conduct extensive research on well statuses, and would put the onus on the operators to provide missing reports and data or an explanation for why the information should not be submitted or risk further action by the Commission. It could also implement a process for staff to review at least some submitted reports, possibly targeting those from operators that have historically submitted incomplete reports, to help ensure that the Commission is obtaining all of the information required by Commission rule.

WHY DOES THIS PROBLEM MATTER?

Because the Commission does not ensure that oil and gas operators comply with all production reporting requirements, the State does not have complete production and sales data for all oil and gas operators in Colorado, which impacts the accuracy of the Department of Revenue's audits of severance taxes. The Department of Revenue relies on data from the Commission's annual summary reports to help verify that the production amounts operators report on severance tax returns are accurate. Since the monthly well reports are incomplete or missing, the Commission's annual summary reports are also not complete and the Department of Revenue does not have accurate data with which to

make this assessment. For instance, the operator with the most delinquent reports in our review period was audited for Calendar Years 2014 through 2016. To evaluate whether the operator paid the correct amount of severance taxes, the Department of Revenue compared recorded production and sales amounts from the Commission's annual summary reports to information reported in the operator's severance tax return. The Department of Revenue did not identify any issues with the production and sales amounts reported by this operator on its severance tax return. However, the Department of Revenue was not aware that the Commission's annual summary reports are based on incomplete information and that, for Calendar Year 2016 alone, the operator had failed to submit as many as 1,123 monthly well reports.

Using information from the monthly well reports this operator *did* submit, we estimated the amount of production that likely occurred during the months that were not reported in Calendar Year 2016 and concluded that the operator likely under-reported its production levels by more than 850,000 barrels of oil and 4 million MCF of gas, which could potentially equate to an additional $2.6 million in severance taxes that would have been owed before taking into account tax credits, exemptions, and deductions that the operator may have been able to claim.

By not routinely monitoring compliance with the oil and gas reporting requirements, the Commission renders itself powerless to take enforcement action. As of September 2019, the Commission had not commenced action against any of the 316 operators we identified as potentially being in violation of the reporting requirements. We estimated the amount of fines the Commission would have assessed if it had applied the $200 per day, per well fine that it has established in rule. We made the following assumptions in our estimation:

- That the Commission imposed the full $200 per day, per well fine for each for the 51,264 well reports that were delinquent. We used this assumption because the Commission's establishment of the $200 per day, per well fine appears to indicate that the Commission places

a high priority on compliance with the rules, and would take forceful action to bring operators into compliance.

- That the operators came into compliance by submitting delinquent reports 30 days after the fines began, meaning the fine for each delinquent well report was in place for 30 days. We used this assumption to recognize that the intent of the fines is to persuade operators to submit delinquent reports and based on the expectation that the fines would serve their purpose in a relatively timely way (i.e., 30 days).

Based on these assumptions, we estimate that operators would have been subject to about $308 million in penalties for delinquent reports for the 30-day period, none of which the Commission actually imposed. This amount would continue to increase if operators failed to come into compliance with reporting requirements at the end of the 30 days.

The Commission told us that it reserves the use of fines to those operators who routinely fail to report or remedy their violations, rather than imposing the fine each time a report is delinquent and it often negotiates the amount of fines imposed, frequently reducing them by as much 90 percent. Had the Commission taken action against only the three operators who had the highest number of delinquent reports, each missing over 5,000 reports, and had fined just 30 days on each, we calculated that these three non-compliant operators would have been subject to over $120 million in fines (or 39 percent of the total outstanding fines). However, the Commission did not impose any fines on any of these operators for failing to report, and as of September 2019, all of the missing well reports from our review period remained outstanding, and 76 percent had been outstanding for more than 1 year.

RECOMMENDATION 1

The Colorado Oil and Gas Conservation Commission (Commission) should ensure that all oil and gas operators submit required monthly production reports and that all reports are complete by:

A Using delinquent report information from its database to routinely identify operators that appear to be in violation of reporting requirements, notifying operators when a reporting violation appears to have occurred, and requiring operators to submit the information or an explanation of why the information does not need to be submitted. The Commission should commence enforcement action, taking into account statutory deadlines, by assessing penalties against those operators who fail to come into compliance after being notified of the missing reports.

B Implementing a process for identifying monthly well production reports that are missing required data fields, such as a report review process, notifying operators when a violation appears to have occurred, and requiring operators to submit the missing information or an explanation of why the information is missing. The Commission should commence enforcement action, taking into account statutory deadlines, by assessing penalties against those operators who fail to come into compliance after being notified of the missing information.

RESPONSE

COLORADO OIL AND GAS CONSERVATION COMMISSION

A AGREE. IMPLEMENTATION DATE: JANUARY 2020.

COGCC will automate the Production Record Delinquency Report that is currently run manually. The automated procedure will also notify the operator that a required production record is missing,

including a warning that the record is past due. Operators who fail to submit the production record after being given a warning will be subject to enforcement.

B AGREE. IMPLEMENTATION DATE: JANUARY 2020.

Changes made to comply with RECOMMENDATION 1A will also address RECOMMENDATION 1B.

OIL AND GAS PRODUCTION MEASUREMENT

Severance taxes for oil and gas are based on the gross income received from its sale. Gross income is calculated by applying the price at which the resource is sold to the amount of the resources extracted that is being sold. When oil and gas is extracted, operators have metering equipment at the well to measure the amount extracted. Operators must maintain and periodically calibrate this equipment to ensure accuracy. Calibration refers to the process of comparing a meter's measurements with accepted standards of measurement. Typically, calibrations are conducted by professional service companies and require onsite testing and adjustments.

WHAT AUDIT WORK WAS PERFORMED AND WHAT WAS THE PURPOSE?

We reviewed statutes and Commission regulations related to the measurement of oil and gas that is extracted and sold. We also interviewed staff at the Commission and Department of Revenue regarding inspections and certifications of the equipment used to measure oil and gas production and sales and how this information may be used.

The purpose of our audit work was to determine if the Commission is fulfilling its responsibility for ensuring the accuracy of oil and gas production reporting by operators.

HOW WERE THE RESULTS OF OUR AUDIT WORK MEASURED?

The Commission is responsible, under statute, for creating "rules to ensure the accuracy of oil and gas production reporting by establishing

standards for wellhead oil and gas measurement and reporting." Statute further states that the rules shall address meter certification and calibration [Section 34-60-106(11)(b)(II), C.R.S.]. The Commission has established three rules related to this statutory requirement. Rules 328 and 329 set the standard for oil and gas measurements, and Rule 205 provides authority for the Commission to access records and well sites for inspection and requires all operators to provide evidence of proper maintenance and calibrations of measurement equipment to the Commission upon request.

WHAT PROBLEM DID THE AUDIT WORK IDENTIFY AND WHY DID IT OCCUR?

We found that the Commission does not ensure the accuracy of oil and gas production reporting, as required by statute, because it does not verify that operators have conducted the proper maintenance and calibrations of measurement equipment. Although it has established standards for production reporting and measurement, according to the Commission, it has no processes in place to verify the accuracy of measurement equipment, which directly impacts the accuracy of reported production amounts, even when investigating complaints related to production measurement. First, the Commission told us that it has no records indicating it has requested that an operator provide evidence of proper maintenance and calibration of its measurement equipment, which is specifically authorized in its rules. According to the Commission, it saw no need to request such evidence even for the eight complaints it received from Calendar Years 2016 through 2018 from outside sources (e.g., the public, operator staff, interest owners) related to operators' production measurement. Second, the Commission stated that it does not check metering equipment or calibration reports during routine well inspections because it would be time-consuming, and could not be done with existing staff.

WHY DOES THIS PROBLEM MATTER?

Without processes to verify the accuracy of production reporting and

the equipment that oil and gas operators use to measure the amount extracted, the State has no assurance that the amount of severance taxes paid by operators is accurate. Accurately measuring the amount of oil and gas extracted is the first step necessary for determining and collecting the appropriate amount of severance taxes owed to the State. Because measurement equipment is exposed to outdoor conditions, dirt and grease may accumulate, which can affect its accuracy. Consequently, the volume of resources flowing through the meter may be miscalculated, resulting in under- or over-reporting. If the amount of resources extracted and sold is measured incorrectly, then the amount of severance taxes due will be calculated incorrectly, and the State may not receive the severance taxes that it is owed. Oil and gas production accounted for 94 percent of the State's total severance tax revenue for Fiscal Year 2018, or $96.1 million. Therefore, it is important that there are processes in place to verify the accuracy of the amount of oil and gas extracted, and thus, the amount of severance taxes paid.

The Commission implemented the requirement in Rule 205 that oil and gas operators maintain calibration reports and have them available upon request in response to a recommendation in our 2006 *Severance Tax Audit*. However, as implemented, the rule does not sufficiently address the issues raised in the 2006 audit, which are the same as the issues raised in this finding, because the Commission has not applied the rule by requesting such evidence. Further, although the requirement that operators maintain calibration reports helps the Department of Revenue since it reviews the reports for operators selected for a severance tax audit, the Department only completed audits of 15 of the 420 oil and gas operators (4 percent) that were actively producing during Calendar Years 2016 through 2018. Therefore, the Department of Revenue's review of the calibration reports provides assurance for only a small number of operators that they are complying with the requirement and that their production reporting and metering equipment are accurate. If the Commission requested calibration reports from oil and gas operators on a routine basis, it could share them with the Department of Revenue to help provide greater assurance that the amounts of oil and gas on which severance taxes are paid are being accurately measured.

RECOMMENDATION 2

The Colorado Oil and Gas Conservation Commission should fulfill its statutory charge to ensure accurate reporting of oil and gas production by implementing processes for reviewing calibration reports to verify the accuracy of measurement equipment for oil and gas wells. This could include requiring operators to provide calibration reports annually, routinely requesting and reviewing calibration reports on a sample basis, and/or reviewing calibration reports as part of routine well inspections.

RESPONSE

COLORADO OIL AND GAS CONSERVATION COMMISSION

AGREE. IMPLEMENTATION DATE: AUGUST 2020.

Colorado Oil and Gas Conservation Commission rules (328/329) currently require operators to maintain calibration information related to measurement equipment. Some inspectors check the calibration of equipment during routine inspections, however, the results of the calibration review are not currently documented in a systematic way. By August 2020, COGCC will develop the documentation process for inspectors to use. The time to implement will enable COGCC to review Bureau of Land Management's processes to see if they can serve as a model for our program.

Alternatively, a new rule may be adopted by the Commission requiring operators to report the calibration, which will require three to six months before the new rule would become effective.

MINING REPORTING

The Division of Reclamation, Mining, and Safety (Division) within the Department of Natural Resources is responsible for monitoring and regulating the mining industry in Colorado to ensure that mining is conducted in an environmentally sound manner that protects natural resources. The Division is also responsible for being the repository for information on the minerals produced in the state. As part of these responsibilities, the Division reviews and approves permit applications from mine owners/operators to mine minerals such as coal, molybdenum, and metallic minerals. Before a mine operator can begin mining operations, they must apply for and receive an active permit from the Division. Having an active permit indicates that an operator is either extracting and producing minerals that are subject to taxation or reclaiming the land from a previously active mining operation, but no longer extracting minerals. Mine operators extract minerals from the ground and process them to remove impurities such as rock and dirt, and to separate out any other saleable minerals. After processing, operators weigh resources to measure production amounts, and then weigh them again at the point of sale.

According to statute [Sections 39-29-103, 104, and 106, C.R.S.], metallic minerals mined in Colorado—such as gold, lead, silver, uranium, vanadium, and zinc—are subject to state severance taxes based on the gross income generated from their sale. Coal and molybdenum are subject to severance taxes based on the number of tons extracted. Severance taxes are reported and paid to the Department of Revenue.

WHAT AUDIT WORK WAS PERFORMED AND WHAT WAS THE PURPOSE?

We reviewed statutes, Department of Natural Resources and Division regulations and policies and procedures related to reporting mining production at the state level, and Department of Revenue policies and procedures related to severance tax filings. We interviewed staff at the Division and the Department of Revenue regarding the collection,

availability, and use of mineral reporting data. We also compared information in the eight coal production reports that coal mine operators submitted to the Division with information they submitted in their severance tax filings to the Department of Revenue related to their Calendar Year 2017 production amounts. In addition, we surveyed all 64 Colorado counties, receiving 46 responses, regarding their responsibilities for gathering and reporting on mining operations at the local level.

The purpose of our audit work was to determine if the Division complies with, and ensures that mining operators comply with, state reporting requirements related to mines and the minerals extracted from those mines.

HOW WERE THE RESULTS OF THE AUDIT WORK MEASURED?

Statutes include the following requirements specific to the reporting of mining production information:

- Section 34-24-101, C.R.S., requires that every mine owner or operator make a report each January on their mining activities for the previous calendar year. Statute specifies what information the reports should include, such as the name and address of the operator, the location of the mine, the mineral resource being produced, and the total tons mined.

- Section 34-21-101, C.R.S., requires that the Division be a "repository for mine information and maps, to collect mine data and records" and to "prepare an annual report on the mining industry in Colorado providing information on production, employment, safety, ownership, processing and distribution, location, type, and any other information necessary to guide and promote mining in the state."

WHAT PROBLEMS DID THE AUDIT WORK IDENTIFY AND WHY DID THEY OCCUR?

Overall, we found that the Division does not comply with, and does not ensure that mining operators comply with, state reporting requirements related to mines and the minerals extracted from those mines. Specifically, we found:

- **MOST MINE OPERATORS DID NOT SUBMIT REQUIRED REPORTS.** We found that only eight of the 79 operators with active mine permits (10 percent) submitted an annual report to the Division for Calendar Year 2017 on their mining operations; all eight were coal mine operators. EXHIBIT 2.2 shows the total number of active permits for each type of mining mineral for Calendar Year 2017; the number of mines that are actively producing, as reported by the Division; and the number of annual production reports submitted by operators.

EXHIBIT 2.2. COAL, MOLYBDENUM, AND METALLIC MINERAL PERMITS AND PRODUCTION REPORTS FOR CALENDAR YEAR 2017 PRODUCTION

MINERAL	NUMBER OF ACTIVE PERMITS	NUMBER OF ACTIVELY PRODUCING MINES[1]	NUMBER OF ANNUAL PRODUCTION REPORTS RECEIVED	PERCENTAGE
Coal	17	7	8[2]	47%
Molybdenum	2	2	0	0%
Metallic Minerals	60	9	0	0%
TOTAL	79	18	8	10%

SOURCE: Division of Reclamation, Mining, and Safety.

[1] These numbers were reported by the Division of Reclamation, Mining, and Safety staff; however, the Division's system does not differentiate between permits production activity vs. reclamation activity.

[2] Eight coal mining operations submitted reports. However, one of the coal mines reported no production, but appears to be capable of production.

- **THE DIVISION HAS NOT PRODUCED THE REQUIRED ANNUAL REPORT.** The Division has not prepared an annual report on the mining industry, as required by statute, since 1981.

According to the Division, it has not required mine operators to submit annual production reports and it has not prepared annual mining

reports since 1981 because it believes the General Assembly did not require such reporting given the Division's new mission that was established at that time. The Division reports that, when the General Assembly created the Division of Reclamation, Mining, and Safety to replace the Division of Mines, it changed the agency's purpose from being primarily regulatory, to focusing on environmental and safety concerns. The Division told us that the annual reporting requirements should have been repealed when the law was changed in 1981, such that collecting and reporting information on mining production would no longer be the Division's responsibility.

However, the mining reporting requirements were not repealed as part of the 1981 legislation, and the Division has not taken any steps over the last 38 years to remove those requirements or to clarify whether the General Assembly intended to discontinue the reporting requirements. Furthermore, since the Division does not require mining owners or operators to report information on their mining operations, it does not have the information needed to prepare an annual report.

WHY DOES THIS PROBLEM MATTER?

Without complete information on the amount of mined minerals that are being extracted, the State cannot ensure the accuracy of severance tax filings. The information owners/operators are required to report to the Division could be used to help the Department of Revenue ensure that it is collecting all severance taxes owed the State. However, because the Division does not enforce the reporting requirement, the State does not have a complete source of readily available data on mining production to check against severance tax filings. There is no other source of mining production data for the state. Although the Division reports that collecting and reporting mining production information is no longer its responsibility, as the state agency with responsibilities over the mining industry and the agency that already has established relationships with mining owners/operators, it seems reasonable that the Division would collect and report this information.

With the limited mining data that is available from the coal mines that

have continued to voluntarily report production data, we found evidence of under-reporting of production to the Department of Revenue. First, we found that one of the eight coal mine operators that had submitted a production report to the Division for Calendar Year 2017 did not file a severance tax return for the year. Second, we found that four of the seven coal mine operators that filed a severance tax return with the Department of Revenue reported lower production amounts on their severance tax returns than in their reports to the Division.

EXHIBIT 2.3 shows the amounts of coal extracted by these five operators, as reported to the Division and as reported to the Department of Revenue on their severance tax returns. The exhibit also shows that, according to the production reports, these five operators extracted about 460,000 more tons of coal than they reported to the Department of Revenue for tax purposes and that an additional $190,000 in severance taxes may be owed to the State.

EXHIBIT 2.3. COAL PRODUCTION REPORTED TO THE DIVISION OF RECLAMATION, MINING, AND SAFETY AND DEPARTMENT OF REVENUE CALENDAR YEAR 2017

TONS OF COAL EXTRACTED	OPERATORS					TOTAL
	#1	#2	#3	#4	#5	
Reported by the Division	2,011,058	2,319,003	4,860,780	1,576,619	31,299	10,798,759
Reported on Severance Tax Return	1,716,851	2,222,135	4,830,577	1,572,508	N/A	10,342,071
Amount Under-reported on Severance Tax Return	294,207	96,868	30,203	4,111	31,299	456,688
Additional Severance Tax Owed [1]	$94,766	$80,157	$12,478	$2,836	$0	$190,237

SOURCE: Office of the State Auditor created from analysis of Division of Reclamation, Mining, and Safety production data and Department of Revenue severance tax returns.

[1] The amount of additional severance tax owed takes into account the exemption on the first 300,000 tons of coal extracted each quarter claimed by each producer that filed, and the 50 percent tax credit for underground mines.

Furthermore, there is no way to verify that all mine operators that should file severance tax returns with the Department of Revenue and pay severance taxes are doing so because there is no centralized record of actively producing mines. The Department of Revenue reports that it uses the coal production data that operators voluntarily provide and that is available on the Department's website to compare to severance tax returns as a part of their audit process and they would use this information for audits of other mined minerals if it were available. In addition, the Department of Revenue would be able to use this

information to verify that all operators that are actively extracting mined minerals are filing severance tax returns. Finally, counties reported that they rely on what limited data is available from the Division to assess if mine owners and operators are paying the appropriate amount of property taxes to the county.

RECOMMENDATION 3

The Department of Natural Resources should ensure that the Division of Reclamation, Mining, and Safety (Division) complies with statute and that the State has complete data on the amount of mined minerals produced and sold in Colorado by:

A Requiring mine operators to report annually the information required by statute on their mining activity for the preceding year.

B Producing and issuing an annual report on the mining industry in Colorado that includes statutorily-required information, including specific production and processing data for individual mines and posting the annual report to the Division's website.

RESPONSE

DEPARTMENT OF NATURAL RESOURCES

A AGREE. IMPLEMENTATION DATE: JANUARY 2021.

The Division will inform operators of this requirement through direct notification and through the trade organizations Colorado Mining Association and Colorado Stone, Sand, and Gravel Association. The Division will require this information by January 31 of each year. The required report will contain the name and address of the operator, the location of the mine, the capacity of the mine, the mineral resource being produced, the total tons mined, the mining methods employed, the number of employees, the safety statistics, the location of the processing facility, and the percentage distribution of the mine product in-state and out of state.

B AGREE. IMPLEMENTATION DATE: JUNE 2021.

The Division will prepare this annual report each year by the end of the fiscal year, which is June 30. To provide some context, this document was prepared prior to the Division's reorganization in

1981. After that, the task was performed by the Colorado Geologic Survey and the Division's FTE shifted toward regulating mining operations by staff with expertise in geology, hydrology, engineering, plant and reclamation specialists, etc. and less toward economics and commodities markets. With that history and context noted, the Division will commence preparation of this annual report on the mining industry in Colorado providing information on production, employment, safety, ownership, processing and distribution, location, and type. The Division will prepare the first report in 2021 and will continue to provide the information and post it on the Division's website each year forward.

TAX PROCESSING AND AUDIT

The Department of Revenue's Taxpayer Services and Field Audit Divisions have primary responsibility for overseeing the severance tax assessment and collection processes for the State. Specifically, the Taxpayer Services Division (Taxpayer Services) reviews severance tax-related filings to ensure that the required forms and documentation have been provided and that calculations on the severance tax returns are accurate. In addition, Taxpayer Services conducts work to identify interest owners who are liable for severance taxes but have not filed a return. The Field Audit Division (Field Audit) is responsible for auditing severance tax returns and supporting documentation to verify that severance tax liabilities have been calculated correctly. This includes, among other things, examining income statements, production amounts, payments to interest owners, and the calculation of exemptions, credits, and taxes owed.

WHAT AUDIT WORK WAS PERFORMED AND WHAT WAS THE PURPOSE

We interviewed staff at Taxpayer Services and Field Audit regarding their processing and auditing of severance tax returns. We also reviewed statutes, regulations, and Department of Revenue guidance documents related to severance tax assessment and collection. In addition, we reviewed the severance tax return documentation submitted to the Department of Revenue for Calendar Year 2017 for a sample of 25 oil and gas operators and all of the 17 mined mineral operators. We also reviewed Field Audit files for the 15 oil and gas severance tax audits and three coal severance tax audits completed during Calendar Years 2016 through 2018. Finally, we examined all of the monthly production reports submitted to the Commission during this same time period and compared this information with data provided by the Commission on delinquent reports.

The purpose of our audit work was to determine if the Department of Revenue has sufficient processes to ensure that the amount of severance taxes assessed and collected is accurate.

HOW WERE THE RESULTS OF THE AUDIT WORK MEASURED?

Statute requires "every person subject to [severance] taxation" to "make an annual return to the [D]epartment of [R]evenue, separate and apart from other returns…upon a form to be prescribed by the executive director" [Section 39-29-112(1), C.R.S.]. According to statute, the Department of Revenue has the following responsibilities related to severance taxes:

- Through Taxpayer Services, collecting severance taxes, which includes administering and enforcing severance tax provisions [Section 24-35-101, C.R.S.]. Statute authorizes the Department of Revenue to issue penalties and interest to anyone who fails to pay severance tax or fails to file the required severance tax return [Section 39-29-115, C.R.S.].

- Through Field Audit's Mineral Section, developing reasonable assurance that all mineral revenues due to the State are received [Section 24-35-115, C.R.S.].

Pursuant to its statutory authority to administer severance tax provisions, the Department of Revenue has established guidance and forms related to severance tax filings in its *FYI Withholding 4: Colorado Oil and Gas Severance Tax Withholding Requirements*. This guidance provides that oil and gas operators must annually submit all of the *Oil and Gas Withholding Statements* that the operator issued to interest owners during the prior year. These statements inform the interest owner of how much the operator has withheld relative to their tax liability for the year. With these statements, the Department of Revenue is able to identify all of the interest owners that should file severance tax returns and how much income the operator has withheld from interest owners to be applied to their severance tax liability, as required by statute.

In addition, Field Audit has established an audit program that provides guidance on the work that should be completed by staff during a severance tax audit, including work to verify that the amount of resources extracted and/or sold, as reported on severance tax returns, is accurate. Best practices in the audit field, including government auditing standards issued by the Government Accountability Office, provide that auditors should ensure that data used to support findings and conclusions are valid and reliable.

WHAT PROBLEMS DID THE WORK IDENTIFY AND WHY DID THEY OCCUR?

We identified the following areas that could be improved in the Department of Revenue's processes for ensuring that the amount of severance taxes assessed and collected is accurate.

TAXPAYER SERVICES

We found that Taxpayer Services does not always collect and use *Oil and Gas Withholding Statements* to identify operators and interest owners who should be filing severance tax returns and paying severance taxes. Of the 25 severance tax filings in our sample, 11 oil and gas operators had active withholding accounts with the Department of Revenue and were required to file *Oil and Gas Withholding Statements*. However, we found that eight of the 11 operators (73 percent) did not include copies of the statements, which identify their interest owners and the amount of income withheld from each, with their severance tax returns.

According to the Department of Revenue, it does not have clear statutory authority to require that taxpayers submit *Oil and Gas Withholding Statements* and take enforcement action when they do not due to a lack of specificity in severance tax law. The Department of Revenue reported that statute provides it with this enforcement authority in other areas of tax law. For example, statute [Section 39-22-604(6)(a), C.R.S.] requires that an employer must submit a copy of each individual employees' wage withholding to the Department of

Revenue, and that failure to do so "shall subject the employer to a penalty." However, severance tax law states that a copy of each interest owners' withholding be submitted to the Department of Revenue upon written request. While statute [Section 39-29-115 (1.5), C.R.S.] imposes a penalty for failing to follow Department rules, the Department questions whether it can require the filing of withholding statements through rule. Additionally, the Department of Revenue stated that its standard interpretation of statute is to not apply authority under one type of tax law (e.g., income tax) to other types of tax law (e.g., severance tax). However, the Department of Revenue has not confirmed with the Attorney General's Office that it does not have the authority to require the *Oil and Gas Withholding Statements* and apply penalties if they are not submitted.

Additionally, Taxpayer Services stated that even though the *Oil and Gas Withholding Statements* are recommended to be submitted, taking the time to follow up with taxpayers who fail to submit them would not be an efficient use of resources, given the time it takes to contact operators and correct the filings, and what they believe to be the "low risk" that operators are inaccurately reporting and that doing so would significantly delay the processing and posting of payments or refunds. However, this form is generally the only source of information available to Taxpayer Services that lists interest owners who should be filing severance tax returns. According to Taxpayer Services, it uses the form when it is submitted to verify that all interest owners who received oil and gas income have filed a severance tax return.

FIELD AUDIT

We found that Field Audit does not always use complete production data when conducting oil and gas severance tax audits to verify the accuracy of production amounts reported on severance tax returns. For example, we found that the information that Field Audit used to verify the accuracy of production amounts reported on the severance tax returns for two oil and gas operators audited for Calendar Year 2016 did not include 1,219 monthly well reports that we identified in our

review of monthly production reports submitted to the Commission. These missing reports equated to about 8 percent of the operators' total monthly well reports. However, Field Audit did not identify any findings related to the accuracy of production amounts reported on these operators' severance tax returns.

Field Audit does not have sufficient controls to ensure that it uses complete and reliable production data during its severance tax audits. Specifically, Field Audit compares production data reported on a taxpayer's severance tax return to production data reported to the Commission to see if the same amounts are reported for both. However, the Commission's production data is not always complete. Of the 420 operators actively producing during Calendar Years 2016 through 2018, 316 (75 percent) submitted incomplete or failed to submit over 51,000 monthly well reports to the Commission (see RECOMMENDATION 1). According to Field Audit, it was not aware that the Commission's production data was incomplete because it does not routinely discuss data and any of its limitations with the Commission. Had Field Audit been aware of the missing data, it could have implemented procedures to follow up with operators during the audit to obtain complete production data.

Field Audit reported that it does request production data from operators for a sample of wells so that it can conduct specific testing on that data. However, Field Audit does not request production data for all of an operator's operations to compare with their overall severance tax liability.

WHY DO THESE PROBLEMS MATTER?

When Taxpayer Services does not receive the *Oil and Gas Withholding Statements*, it does not have sufficient information to verify that all interest owners who are required to file severance tax returns have done so or to verify the accuracy of tax filings. When it receives these statements, Taxpayer Services compares the information from the forms with the information submitted by interest owners to check for accuracy in tax filings and to identify any interest owners who received income,

but did not file a return. If operators do not submit their copies of the withholding statements, Taxpayer Services cannot perform this check.

In addition, when Field Audit does not use complete production data during its severance tax audits, it cannot determine if taxpayers' severance tax returns are accurate. Field Audit reaches a conclusion at the end of the audit as to whether the amount paid by the taxpayer is accurate, or if additional taxes are owed or a refund is due. If Field Audit reaches its conclusion based on incomplete production data, its conclusion may not be accurate. For the two operators that were audited for Calendar Year 2016 and that had failed to submit complete production data to the Commission, based on their average monthly production amounts, we estimate that they would have produced an additional 857,000 barrels of oil and 4.2 million MCF of natural gas from the wells that were not reported. Based on severance tax rates for oil and gas, we estimate that these operators may have potentially been liable for an additional $2.7 million in severance taxes, excluding any tax exemptions, credits, or deductions the operators may have been able to claim. We did not have the data necessary to account for any of these reductions. Field Audit concluded that neither of these operators owed additional severance taxes for the year, but this conclusion was based on incomplete data and may not have been accurate. For the severance tax audits completed during Calendar Years 2016 through 2018, Field Audit concluded that some audited taxpayers should receive refunds totaling $27.1 million, while other audited taxpayers owed additional severance taxes totaling $8.1 million. Field Audit's conclusions on how much severance tax is owed by taxpayers directly impacts the amount of severance tax revenue collected by the State.

RECOMMENDATION 4

The Department of Revenue (Department) should improve its processes for ensuring that the amount of severance taxes assessed and collected is accurate by requesting an Attorney General's opinion on the Department's authority to require *Oil and Gas Withholding Statements* and assess penalties against taxpayers for failure to comply. If the Attorney General determines that the Department has this authority, the Department should require the statements and assess penalties, as necessary, against taxpayers who fail to comply. If the Attorney General determines that the Department does not have the authority, the Department should work with the General Assembly to pursue statutory changes to give the Department this authority. The Department should then use the information in the statements to help verify that all interest owners who are required to file severance tax returns and pay their severance tax liability have done so.

RESPONSE

DEPARTMENT OF REVENUE

AGREE. IMPLEMENTATION DATE: DECEMBER 2020.

As a result of the Office of the State Auditor's recommendation, the Department has obtained an opinion that clarifies its authority for assessing penalties for oil and gas withholding statements. On the basis of this opinion, the Department believes that the statutory structure, specifically Section 39-29-115, C.R.S., does not need to change. Thus the Department does not need to engage the General Assembly regarding statutory changes. Statute provides the Department with broad rule-making authority, and we will use that authority to clarify requirements for filing oil and gas withholding statements and their associated deadlines. Doing so will make taxpayers' responsibilities clear, and strengthen the Department's authority to impose penalties for the non-filer population.

Once rule making is complete, the Department will update its work procedures and GenTax to impose the penalties. We believe that implementing changes in our rules and the corresponding GenTax changes at the beginning of a new tax year is the fairest way to administer the severance tax for the affected taxpayers.

RECOMMENDATION 5

The Department of Revenue (Department) should work with the Colorado Oil and Gas Conservation Commission (Commission) to obtain Commission data on missing or incomplete well production reports to help ensure that the Department has complete production information, or knowledge of missing production reports, when conducting audits to verify that the production amounts reported to the Commission are consistent with the income reported on severance tax returns. If production information is missing, the Department should follow up with taxpayers to obtain the missing information during an audit.

RESPONSE

DEPARTMENT OF REVENUE

AGREE. IMPLEMENTATION DATE: FEBRUARY 2020.

The Field Audit section, as part of its audit program, requests production data for a sample of wells directly from the operators during audits in addition to comparing production data reported to the Commission. We agree that working with the Commission to ensure that the Department has complete production information or knowledge of missing production reports would help ensure a proper assessment of the taxpayer's overall severance tax liability. We will work with the Commission to establish a process for receiving reports of missing production data on a continued basis. If determined that production data is missing, we will follow up with the taxpayer being audited to obtain the missing information.

COLORADO OIL AND GAS CONSERVATION COMMISSION

AGREE. IMPLEMENTATION DATE: FEBRUARY 2020.

The Colorado Oil and Gas Conservation Commission will work with the Department of Revenue to generate a report of operators with missing production records for a specific time period identified by the Department as needed by the Department.

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CHAPTER 3
COLORADO'S SEVERANCE TAX SYSTEM

The primary purpose of this audit was to determine if the State has sufficient controls to ensure that it is collecting the amount of severance taxes that it is due, and in CHAPTER 2, we discuss our findings and recommendations for improving its controls. However, our audit also included a review of the statutory structure of Colorado's severance tax system and whether it is consistent with what the General Assembly intended to achieve when it first imposed a severance tax—to recapture a portion of the wealth that the State loses when nonrenewable resources are removed from the earth and sold for private profit.

In reviewing the structure of Colorado's severance tax system, we considered four statutory elements: (1) what entity is responsible for filing and paying severance taxes, (2) the basis on which severance taxes are calculated, (3) what tax credits and exemptions are available to reduce taxpayers' tax liabilities to the State, and (4) what tax filing methods are available. We evaluated how these elements align with principles of good tax policy, as defined by the American Institute of Certified Public Accountants (AICPA), and the principles of a high-quality revenue system, as defined by the National Conference of State Legislatures (NCSL). In many cases, these principles overlap, and include:

- **EFFICIENT AND EFFECTIVE ADMINISTRATION**—which generally means a tax system that is easy to administer, thus reducing the likelihood of errors and increasing the efficiency of revenue collections since a smaller proportion of revenue is used to pay for tax administration.

- **STABILITY**—which means the tax system has appropriate levels of predictability, stability, and reliability to enable the government to determine the timing and amount of tax collections.

- **COMPLIMENTARY NATURE**—which means the tax system considers the effect that changes in the state system have on tax revenue to both the state and local governments, as well as the effect that changes in local government tax systems have on state revenue.

- **CERTAINTY**—which means that there are clear statutes and understandable administrative guidance, which helps improve compliance and increases respect for the system.

- **SIMPLICITY**—which means the rules are straightforward, enabling taxpayers to understand and comply with them correctly and in a cost-efficient manner. Complex rules lead to errors and can reduce compliance. Simplicity is closely related to certainty.

Where information was available, we also compared Colorado's system with other states' severance tax systems. In general, we used Kansas, Montana, New Mexico, North Dakota, Oklahoma, Texas, Utah, and Wyoming as peer states to Colorado because these states produce

similar types of mineral resources to Colorado, are located in the western section of the country, and have been used in previous severance tax analyses conducted by other state agencies. In some instances, we compared Colorado's practices to those in all other states imposing a severance tax.

We found that some of the statutory elements of Colorado's severance tax system do not align with the AICPA's and NCSL's principles of good tax policy and a high-quality revenue system. Further, some of these elements make it difficult to determine if the State is receiving the severance taxes that it is due.

ENTITY RESPONSIBLE FOR FILING AND PAYING TAXES

We found that the statutory requirements for which entity is responsible for filing and paying severance taxes do not align with the principles of efficient and effective administration or certainty and simplicity, as described in this section.

INTEREST OWNERS VERSUS OPERATORS

For oil and gas, Colorado statutes make the interest owners of the wells liable for severance taxes based on their ownership percentages. Often, a well will have multiple interest owners, each of whom may receive a percentage of the income derived from the well. Interest owners are responsible for reporting the names and gross income they earn from each operator to the Department of Revenue (Department). Operators only pay severance taxes if they are also interest owners.

Taxing at the interest owner rather than the operator level makes Colorado's severance tax system difficult to administer and determine if everyone who should be paying severance taxes has actually done so, which does not align with the principle of efficient and effective administration. First, taxing at the interest owner level significantly increases the number of taxpayers required to submit a severance tax return and thus, the number of returns that must be processed by the

Department each year. Currently, the Department receives severance tax filings from about 13,000 taxpayers each year. We estimate that if Colorado made operators responsible for paying severance taxes, only about 500 individuals would be required to file returns with the Department each year, which would likely reduce the Department's administrative costs.

Second, as discussed in CHAPTER 2, the Department does not always collect the *Oil and Gas Withholding Statements* from operators, which identify the interest owners who should be filing severance tax returns and the amount of gross income they received, because the Department believes it does not have clear statutory authority to require that taxpayers submit these statements. Without the information on the statements, however, the Department does not have a way to determine who the interest owners are and verify that all interest owners who should have submitted a severance tax return, actually did so.

We found that there is no consistency in who the responsible parties are for oil and gas in the eight peer states, as follows:

- North Dakota and Wyoming tax and collect from both the interest owner and the operator.
- Oklahoma and Texas tax both the operator and the interest owner, but only collect from the operator; the operator pays the tax on behalf of the interest owner and then withholds the tax from the revenue paid to the interest owner.
- Kansas and Montana tax and collect from the operator only.
- New Mexico and Utah tax and collect from the interest owner only, similar to Colorado.

With regard to mined minerals, including coal, metallic minerals, and molybdenum, Colorado's severance tax system taxes the operators. As a result, there are fewer than 20 mined mineral operators who are required to submit severance tax returns each year. Among the eight peer states,

we found that they are fairly evenly split between taxing both operators and interest owners, or like Colorado, taxing only operators.

CORPORATIONS, LIMITED LIABILITY COMPANIES, AND PARTNERSHIPS

The statutory requirements [Sections 39-29-114, C.R.S.] and rule [1-CCR 201-10] for who is legally responsible for paying severance taxes when oil and gas wells are owned by controlled groups (i.e., a chain of corporations connected through stock ownership with a parent organization) are complex, leading to a lack of certainty and simplicity for the Department of Revenue. For example, members of a "controlled group" may file as one taxpayer, meaning that chains of corporations connected through stock ownership can file as one taxpayer, but the members may also file individually. According to Department guidance, limited liability companies (LLCs) must file at the entity level and general partnerships must file at the individual partner level.

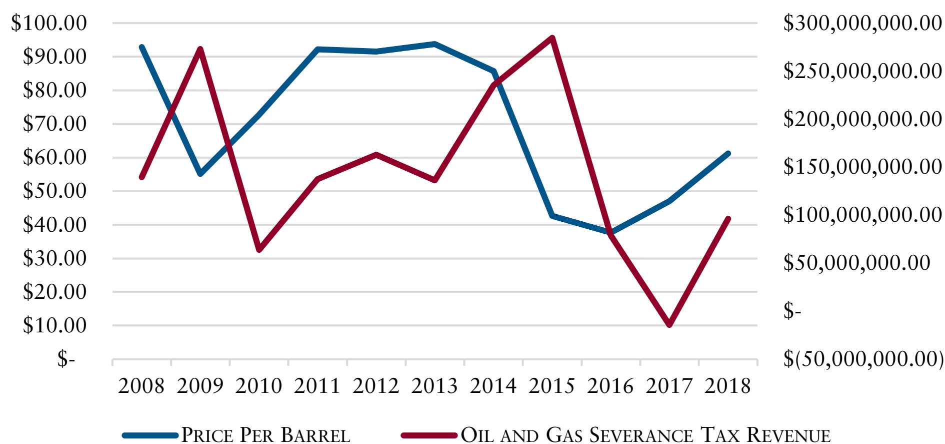
The lack of certainty and simplicity appears to create confusion for some taxpayers. For example, one of the Department's Calendar Year 2018 audits found that a taxpayer incorrectly made payments under an affiliated company. In another instance, the Department had originally planned to perform one audit, but had to perform an additional audit after learning about the ownership relationship between two entities. Taxpayers are not required to disclose their affiliations with other entities in the severance tax filings that the Department of Revenue receives. If taxpayers or the Department are uncertain about who should be filing, there is an increased risk of filing errors and increased administrative costs for the Department to identify, research, and correct these errors.

BASIS ON WHICH TAXES ARE CALCULATED

We found that the statutory requirement for the basis of Colorado's oil and gas taxation does not align with the principle of stability. Oil and gas are taxed on the gross income received from sales and because sale

prices fluctuate frequently, this structure makes it difficult for the State to predict the severance tax revenue that will be generated. The market price of oil fluctuated greatly over the past 10 years, from a low of $38 per barrel to a high of nearly $94 per barrel, leading to an unstable revenue stream for the State, as shown in EXHIBIT 3.1.

EXHIBIT 3.1. OIL PRICES BY THE BARREL COMPARED TO COLORADO OIL AND GAS SEVERANCE TAX REVENUE CALENDAR YEARS 2008 THROUGH 2018



SOURCE: Office of the State Auditor analysis of the U.S. Energy Information Administration on crude oil prices for Calendar Years 2008 through 2018 and Department of Revenue data on severance tax revenues for 2008 through 2018.

We also found that Colorado's approach to oil and gas severance taxes is unusual; only four other oil and gas producing states assess severance taxes on the gross income received by oil and gas interest owners. Compared to these four other states, Colorado produces significantly more oil and gas. In 2017, Colorado produced over 2 billion MCFs of natural gas and nearly 133 million barrels of oil. The other four states combined produced 124 million MCFs of natural gas and 9 million barrels of oil.

According to a report on severance taxes issued by the National Conference of State Legislatures and as shown in Exhibit 3.2, most states assess severance taxes based on the market value of oil and gas produced.

EXHIBIT 3.2. SEVERANCE TAX APPLICATION BY STATE		
SEVERANCE TAX APPLIED TO:		
VALUE OF OIL AND GAS PRODUCED	VOLUME OF OIL AND GAS PRODUCED	GROSS INCOME ON SALES
Alabama	California	Colorado
Alaska	Florida (natural gas)[1]	Idaho
Arizona	Georgia	Illinois
Arkansas	Indiana	Tennessee
Florida (oil)[1]	Louisiana(natural gas)[1]	Virginia
Kansas	Nevada	
Kentucky (natural gas)[2]	New York	
Louisiana (oil)[1]	North Dakota (natural gas)[1]	
Michigan	Ohio	
Mississippi		
Montana		
Nebraska		
New Hampshire (oil)[2]		
New Mexico		
North Dakota (oil)[1]		
Oklahoma		
Oregon		
Pennsylvania (natural gas)[2]		
South Dakota		
Texas		
Utah		
West Virginia		
Wisconsin		
Wyoming		

SOURCE: Office of the State Auditor created from analysis of the National Conference of State Legislatures reporting on state oil and gas severance taxes.

[1] These states apply severance taxes differently to oil versus natural gas.

[2] Kentucky, New Hampshire, and Pennsylvania only impose taxes on either oil or natural gas, but not both.

EXHIBIT 3.3 compares the estimated severance tax revenue Colorado may have received for the oil and gas extracted under the three different taxing systems. It is important to note that these estimates do not account for any tax exemptions, credits, or deductions, which could make the revenue actually collected under each of the three different approaches significantly lower.

EXHIBIT 3.3. HYPOTHETICAL COMPARISON OF OIL AND GAS SEVERANCE TAX REVENUE UNDER THREE SEVERANCE TAX STRUCTURES

	Severance Tax Applied to:					
	Market Value of Volume Produced		Volume Produced		Reported Gross Income on Sales	
	Oil Produced (Barrels)	Natural Gas Produced (MCF)	Oil Produced (Barrels)	Natural Gas Produced (MCF)	Oil Sold (Barrels)	Natural Gas Sold (MCF)
Volume (Millions)	123.4[1]	2,100[1]	123.4[1]	2,100[1]	123.2[2]	2,048.6[2]
Market Value or Income (Millions)	$9,162.0		N/A		$5,607.5	
Severance Tax Rate	4.85%		$.21/barrel[3]	$ 0.07/MCF[3]	4.85%	
Gross Severance Tax Revenue (Millions)[4]	$ 444.7		$ 166.1		$ 272.2	

SOURCE: Office of the State Auditor analysis of Department of Revenue data for 2016, Colorado Oil and Gas Conservation Commission data for 2016, the Rocky Mountain Oil Journal's gas and crude oil prices; and the National Conference of State Legislatures' analysis of state severance taxes to generate the average severance tax applied per volume.
[1] Actual amounts produced.
[2] Actual amounts sold as producers do not always sell the amount produced in a given year.
[3] The tax rates by unit are based on analysis conducted by the National Conference of State Legislatures.
[4] Gross Severance Tax Revenue does not take into account exemptions, credits, and deductions that may be available and taxpayers may claim.

As the exhibit shows, the most tax revenue would be generated under the most commonly used system of assessing severance taxes, which is based on the market value of the oil and gas produced. Like Colorado's system, taxing on market value of production is greatly influenced by fluctuations in the market value of oil and gas, which makes it difficult to predict revenue streams, but it does not require the State to have information about sale prices that differ from the market price (e.g., through prices negotiated through contracts) or resources that are extracted in one month or year but sold in another. Assessing severance taxes based on the volume of oil and gas produced resulted in the least amount of estimated revenue, but has the least volatility, and would therefore be the most predictable. In establishing or modifying a severance taxing system, policymakers must weigh certainty around the amount of severance tax revenue the State will collect against the potential to earn higher severance tax revenues.

TAX EXPENDITURES

We found that the statutory requirements around some severance tax expenditures do not align with the principles of complementary nature, stability, certainty, or simplicity. Tax expenditures (e.g., tax exemptions,

credits, and deductions) are a key component of Colorado's severance tax system that have a direct impact on the amount of severance taxes collected by the State.

For each of the minerals subject to severance tax in Colorado, some portion of the initial amount of the minerals extracted, or limited production amounts, are exempted from severance tax, as established in statute. In addition, operators and interest owners are able to receive credits, which reduce their severance tax liability, and/or deductions, which reduce their taxable income, for expenses they incur associated with the extraction of the minerals. We summarize each of the severance tax expenditures available in Colorado below.

AD VALOREM TAX CREDIT

Statute [Section 39-29-105(2), C.R.S.] provides for an ad valorem tax credit that offsets taxpayers' severance tax liability for oil and gas extractions. This credit allows taxpayers to claim a credit for 87.5 percent of the ad valorem property taxes paid to a local government for oil and gas extracted. The tax is based on the property tax rate established by the local government and the assessed value of the oil and gas. The ad valorem property tax and associated credit are calculated separately for each individual oil and gas well and take into account a multitude of factors, including the production amount of a well, the mill levy set by the local government, and the gross income from the sale of the resource. A mill levy is the tax rate that is applied to the assessed value of property. Across Colorado's counties and other tax districts, there are thousands of mill levy rates, and oil and gas leases can be subject to several different mill levy rates because the wells associated with each lease can be located in or extend into more than one county or tax district.

According to the Department of Natural Resources, the ad valorem tax credit is the primary driver of severance tax instability. We identified two primary factors related to the ad valorem tax credit that the do not align with the principle of stability. First, there is a 2-year lag between when taxpayers pay the ad valorem property tax and when they claim the credit. Taxpayers pay severance taxes on the sale of oil and gas that occurred in

the year immediately preceding the filing year, while ad valorem property tax assessments are based on sale valuation from the year immediately prior to the year the tax is paid. For example, 2018 ad valorem property taxes are based on 2017 oil and gas sales. The ad valorem property tax bills would be paid in the first half of 2018. However, the taxpayer could not take the ad valorem tax credit until the 2019 tax year. This means that the ad valorem tax credit that a taxpayer takes in 2019 is based upon a taxpayer's 2017 ad valorem property tax assessment, which in turn, is related to the value of the oil and gas in that year.

This lag, in conjunction with the effect of fluctuations in market prices on the amount of severance taxes due, compounds the lack of stability in being able to predict how much revenue the State can expect. Specifically, the fluctuations from year-to-year in the assessed value of oil and gas for ad valorem property tax purposes has a direct impact on the amount of ad valorem tax credit that a taxpayer can take. That is, in years when the market value is higher, the ad valorem property tax assessment will also be higher. This means, however, that the ad valorem tax credit amount that the taxpayer can claim 2 years later will also be higher. If the market value is lower in the year that the credit can be claimed, then the taxpayer's severance tax liability will be lower and the credit will offset a larger proportion of that liability than it would in a year when the market value is higher. The reverse can also happen—that is, when market values are lower, property tax assessments will also be lower and result in a smaller ad valorem tax credit.

EXHIBIT 3.4 provides examples of how the ad valorem tax credit would be calculated for a hypothetical taxpayer under three different scenarios that differ based on the taxpayer's gross income, which is impacted by fluctuations in the market price of oil and gas at the time it is sold. These calculations do not account for every factor that is considered in the ad valorem calculation, but is meant to provide a general picture of how the same calculation of an ad valorem tax contributes to differing severance tax liabilities in future years.

EXHIBIT 3.4. AD VALOREM TAX CREDIT SCENARIOS

	SCENARIO 1	SCENARIO 2	SCENARIO 3
2017 Property Value	$50,000	$50,000	$50,000
2017 Estimated Property Tax [1]	$1,875	$1,875	$1,875
2019 Gross Income	$25,000	$50,000	$100,000
2019 Severance Tax on Income	$500	$1,250	$2,750
Ad Valorem Credit (87.5%)	$1,641	$1,641	$1,641
2019 Severance Tax Liability	$(1,141)	$(391)	$1,109

SOURCE: Office of the State Auditor created.

[1] Calculating the ad valorem credit includes gross sale values, a production assessment rate, and mill levies. We calculated the above ad valorem using a $50,000 gross sale, multiplied by a 0.75 production rate, multiplied by a mill levy of 50.

As shown, when the value of oil and gas fluctuates between the year when property taxes are paid and the year severance taxes are paid, the ad valorem credit can have a significant impact on severance tax liabilities and thus, revenue for the State.

Second, the filing status of taxpayers affects when they can claim the ad valorem tax credit, which conflicts with the principle of simplicity. According to statute [Section 39-29-105, C.R.S.], taxpayers filing on an accrual basis can claim the credit the year the ad valorem property taxes are *assessed*, the year after production. However, taxpayers filing on a cash basis can only claim the credit the year the ad valorem property taxes are *paid*, effectively 2 years after the production occurred. According to the Department, under current requirements, taxpayers who use accrual accounting are able to claim the credit before they have to actually pay the ad valorem property tax. Additionally, this nuance in filing, reporting, and qualifying for the ad valorem tax credit complicates filings and can result in audit adjustments that make predicting the severance tax revenues challenging.

We also found that the ad valorem tax credit does not align with the principle of a complimentary nature because the ad valorem tax rate set by each local government has a direct negative correlation to state severance tax revenues. The ad valorem tax keeps more revenue at the county level where the extraction is occurring, meaning higher producing counties generate more tax revenue through ad valorem property taxes. However, the more that operators pay in local property taxes, the more they can claim under the ad valorem tax credit to offset their state severance tax liability, thereby reducing the State's tax revenue. Overall,

this credit benefits counties with the most production rather than distributing revenue across the state. The ad valorem tax credit has a significant impact on state severance tax revenue and can significantly change Colorado's effective severance tax rate (discussed later).

According to the Department of Revenue, the ad valorem tax credit is one of the most complicated aspects of Colorado's severance tax system for taxpayers. This is because the credit is applied to individual wells and the amount of the credit is dependent on the location of the well and the tax rate within that jurisdiction. However, taxpayers report the total amount of the ad valorem tax credit claimed on their severance tax return; they do not have to split out the credit on a per well basis or provide documentation to support the amount claimed for the return. As a result, the Department of Revenue does not have any information to verify the accuracy of the credit shown on the severance tax return at the time of processing, and only requests the documentation for a well-by-well breakdown of property taxes assessed and paid during an audit, and only for a sample of wells. The Department of Revenue reports that the application of the ad valorem tax credit is the most problematic aspect of severance tax returns and frequently contributes to taxpayer noncompliance. The Department of Revenue found that taxpayers misapplied the credit in 11 of the 13 oil and gas severance tax audits that it completed during Calendar Years 2016 through 2018 where the taxpayers had claimed the credit.

The only other oil and gas producing states in the country that allow for the ad valorem tax credit are Kansas and Oregon. Kansas has a limit on the credit amount, allowing a credit for 3.67 percent of the gross value of oil or gas extracted, while Oregon, which has a much smaller severance tax base than Colorado, allows taxpayers to deduct the full amount of the ad valorem tax as a credit against severance taxes.

OIL AND GAS TRANSPORTATION AND PROCESSING DEDUCTIONS

Oil and gas interest owners are allowed to take a deduction for the costs

incurred by the operator for the transportation and processing of their product. While oil and gas companies have historically been allowed deductions for transportation and processing costs, a 2016 Colorado Supreme Court ruling [*BP Am. Prod. v. Colo. Dept. of Rev.*, 2016 CO 23, 369 P.3d 281] significantly expanded the deductions allowed to oil and gas operators and could result in different interpretations of what deductions may be taken. First, two of the more significant deductions that are now allowed as a result of the Supreme Court's ruling include those for cost of capital (i.e., the amount of money that an investor could have earned on a different investment of similar risk) and saltwater disposal activities. Second, when the Supreme Court ruled that *any* transportation and processing costs can be deducted, it left room for taxpayers and the Department to have different interpretations of such costs. For example, it is unclear if maintenance costs for a road leading in and out of a site should be included in the transportation deduction. This lack of clarity does not align with the principle of certainty. The Supreme Court's ruling also allowed taxpayers to amend filings for the three previous tax years to claim deductions disallowed by the Department prior to the ruling. This in turn, required the Department to provide credits or issue refunds for amended filings.

The Department does not collect data on the amount claimed by taxpayers for the transportation and processing deduction. For the three Tax Year 2017 severance tax returns that we reviewed that included such deductions, deduction amounts ranged from 0 percent to 37 percent of severance tax applied to gross income.

Deductions for transportation and processing costs are common in other states. Among Colorado's eight peer states, only Kansas does not have an allowance for transportation and processing costs. Montana, New Mexico, North Dakota, and Oklahoma have allowances for transportation costs. Texas, Utah, and Wyoming allow for both transportation and processing costs.

OIL AND GAS STRIPPER WELL EXEMPTION

There is a statutory exemption available for oil and gas wells that are

considered marginal with respect to production amounts; these wells are known as "stripper" wells [Section 39-29-105(1)(b), C.R.S.]. In Colorado, the definition of a stripper well is one that produces 15 barrels or less of oil or 90 MCF or less of natural gas per day, for the average of all producing days during the taxable year. There is no limit on the number of stripper wells for which an operator can claim the exemption. A stripper well producing an average of 15 barrels of oil per day would generate over $332,000 in gross income per year, based on the average market price in 2018 of $61 per barrel. Without the exemption and at a rate of 4.79 percent tax, this could equate to as much as $15,932 in severance taxes per stripper well, prior to any other deductions or credits that may be applicable.

According to 2016 data prepared by the Colorado Legislative Council, over 70 percent of Colorado's 70,000 wells at that time (roughly 50,000 wells) met the statutory definition of a stripper well and therefore, were exempt from severance taxation. The Department of Revenue does not track data on the amount of oil and gas produced from stripper wells, but using data from the Colorado Oil and Gas Conservation Commission (Commission), we estimate that approximately 8.2 million barrels of oil and 370 million MCF of natural gas would have been exempt from severance taxes in 2016 due to the stripper well exemption. Applying the average price for oil and natural gas at this time, we estimate that the stripper well exemption reduced state severance tax revenue by up to $55 million in 2016, prior to any other deductions or credits that may have been applicable.

Although other states often allow some sort of exemption for low-producing, or marginal, oil and gas wells, Colorado's stripper well exemption appears to be more generous than that of most other states. Specifically, of the 34 states that have enacted severance fees or taxes on oil and gas operators, only Colorado, Kansas, North Dakota, Utah, and West Virginia exempt all of the oil and/or gas produced from stripper wells from severance taxes. However, all four of these other states have definitions of a stripper well that are much more restrictive than Colorado's for either oil or gas production. Kansas exempts wells

having an average daily gross production value of $87 or less; North Dakota does not allow an exemption for natural gas stripper wells; Utah defines a natural gas stripper well as one that produces less than 60 MCF of gas per day; and West Virginia defines a stripper well as one that produces less than 0.5 barrels of oil per day.

In addition, nine states have established reduced tax rates for stripper wells, including Alabama, Arkansas, Illinois, Louisiana, Michigan, Montana, Nebraska, New Mexico, and Wyoming. The 20 remaining states do not offer an exemption or reduced severance tax rate for stripper wells.

NATURAL GAS FLARING EXEMPTION

Federal regulations [43 CFR 3179.6] require that when natural gas cannot be stored or used that it be burned, a process known as flaring. Flaring is intended to prevent the gas from being vented or released, which can cause more harm to the environment than the byproduct of flaring. The process of flaring converts natural gas into carbon dioxide—a less dangerous toxin—as it is released into the air. Flaring is frequently used when natural gas is produced as a byproduct of drilling for oil, but the operator does not have sufficient technology or infrastructure to capture the gas. The need for flaring is a common result of the fracking process.

Since natural gas that is flared is never sold, and the severance tax on natural gas is based on gross income, natural gas that is flared is exempt from state severance tax. Therefore, even though the gas is extracted from the earth and lost as a natural resource, the State does not receive any severance tax revenue for it. Commission rules require that operators submit an application requesting approval to flare and the estimated quantity of natural gas they intend to flare. While Commission rules [Section 2 CCR 404-1, 912] state that flaring cannot be "excessive or unreasonable," the Commission has not defined these terms, so there is currently no limit on the amount of natural gas that can be flared. Furthermore, the Commission approved all completed applications to flare that it received during Calendar Years 2016 through 2018,

including applications that did not identify an amount to be flared, as well as applications that requested to flare large amounts of gas; one application requested to flare up to 900 million MCF of natural gas. According to Commission data, 80 operators reported flaring of over 12 million MCF of natural gas between Calendar Years 2016 and 2018.

Overall, there has been an increase in flaring in Colorado from Calendar Years 2010 through 2018, from over 900,000 MCFs in 2010 to over 5 million MCFs in 2018. Although flaring seems to be a common practice allowed by other states and is required by the federal government if the gas cannot be stored or used, it does result in the State losing a non-renewable natural resource without receiving any compensation for it and the Commission has not evaluated its impact on state revenues or established limits on the amount that can be flared. EXHIBIT 3.5 shows the amount of natural gas flared per year and the corresponding amount of severance taxes that could have been collected if the gas had been sold or used for Calendar Years 2010 to 2018, prior to any other deductions or credits that may be applicable.

EXHIBIT 3.5. AMOUNTS OF NATURAL GAS FLARED AND FORGONE SEVERANCE TAX REVENUE TAX YEARS 2010 THROUGH 2018

YEAR[1]	AMOUNT FLARED PER YEAR (MCFS)	FORGONE SEVERANCE TAX REVENUE[2]
2010	905,000	$ 163,000
2011	3,652,000	$ 679,000
2012	6,634,000	$ 835,000
2013	7,762,000	$ 1,376,000
2014	5,373,000	$ 1,120,000
2015	4,169,000	$ 499,000
2016	2,640,000	$ 292,000
2017	4,338,000	$ 482,000
2018	5,341,000	$ 582,000
TOTAL	40,814,000	$ 6,028,000

SOURCE: Office of the State Auditor analysis of Colorado Oil and Gas Conservation Commission data and Rocky Mountain Oil Journal Gas and Crude Oil prices.
[1] Natural gas prices were not available at the wellhead for 2017 and 2018, and so the forgone severance tax revenue estimate assumed the same price as was listed for 2016.
[2] Forgone severance tax revenue estimates are calculated based on the average applied severance tax rates in 2010 through 2018, which ranged from a low of 4.84 percent in 2010 to a high of 4.89 percent in 2014.

Of the 31 other states (excluding Colorado) that extract oil and natural

gas and allow for flaring, only 12 have operations that conduct significant flaring. These 12 states include all of the states we identified as peer states (i.e., Kansas, Montana, New Mexico, North Dakota, Oklahoma, Texas, Utah, and Wyoming), as well as Alaska, Louisiana, Pennsylvania, and West Virginia. In recent years, some states, such as Texas and North Dakota, have conducted studies to determine if operators are accurately reporting the amount of natural gas they are flaring. For example, Texas, as a result of satellite imaging and atmospheric studies, found that operators flared 104 million MCF of natural gas, while reporting to the state that 55 million MCF was flared. Similarly, North Dakota's review of satellite imaging found that record amounts of natural gas were flared in 2018 and that the industry is likely underreporting the amounts by as much as 50 percent.

Like Colorado, both Texas and North Dakota require operators to submit an application for approval to flare natural gas. However, North Dakota requires that after the first year of operations, an operator must pay taxes on the gross amount of all natural gas produced, regardless of whether it is flared or sold. Therefore, in North Dakota operators would have an incentive to under-report the amount of natural gas that is flared. Colorado has not conducted any similar studies on flaring to determine if operators are accurately reporting the amount of natural gas they are flaring.

COAL AND MOLYBDENUM

Statutes exempt a portion of the amount of coal and molybdenum mined from state severance taxes, as follows:

- **COAL**—According to statute, no severance tax shall be imposed on the first 300,000 tons of coal produced in each quarter of the taxable year, per operator [Section 39-29-106(2)(b), C.R.S.]. This means that a total annual production of 1.2 million tons of coal per operator, per year is not subject to severance taxation. The 1.2 million tons could equate to as much as $970,000 per operator in foregone severance tax revenue. Based on Department of Natural Resources coal production data, we estimate that a total of 6.5 million tons of

coal were exempted from taxation in Calendar Year 2017, representing $5.2 million in forgone severance tax revenue based on the coal severance tax rate, which ranged from $0.796 to $0.821 per ton per quarter. Two of the eight coal mines operating in Colorado during this period did not incur any severance tax liability as a result of this exemption.

- **MOLYBDENUM**—According to statute, no severance tax shall be imposed on the first 625,000 tons of molybdenum produced in each quarter of the taxable year, per operator [Section 39-29-104(1), C.R.S.]. This means that a total annual production of 2.5 million tons of molybdenum per operator, per year is not subject to severance taxation. Based on information from the Department of Natural Resources and public data, we estimate that a total of 2.5 million tons of molybdenum were exempted from taxation in Calendar Year 2017, representing $125,000 in forgone severance tax revenue based on the molybdenum tax rate of $0.05 per ton.

For both coal and molybdenum, company affiliations and ownerships can potentially expand the impact of both exemption provisions when subsidiaries of a parent company file their severance taxes separately. For example, we found that one parent company owned three of the eight coal operations in Colorado in Calendar Year 2017. Two of the three operators filed individually for severance taxes, while the third operator did not submit a severance tax filing because its production levels were minimal and fell under the 300,000 ton exemption threshold. As a result, two of the operators were able to claim an exemption on 300,000 tons of coal produced in each quarter (1.2 million tons of coal for the year) and the third on 31,300 tons for the year. This resulted in a total exemption on 2.4 million tons of coal, which represents $1.9 million in forgone severance tax revenue based on the coal severance tax rate, which ranged from $0.796 to $0.817 per ton, per quarter in Calendar Year 2017. Had the parent company filed rather than its subsidiaries, it would have only been able to exempt 1.2 million tons of coal, and the amount of severance taxes owed by the three companies would have increased by over $930,000.

Of the 28 states that apply a severance tax to coal, only Montana has a production exemption similar to Colorado's; however, Montana's exemption is not as generous. If an operator produces less than 50,000 tons per year, Montana allows an exemption for the full amount produced, or up to 50,000 tons. However, if an operator produces more than 50,000 tons per year, only the first 20,000 tons produced annually are exempt. This compares to Colorado's exemption for the first 300,000 tons per quarter, or 1.2 million tons per year.

In addition, statute [Section 39-29-106, C.R.S.] provides an exemption for 50 percent of the taxes due for coal that is mined underground and lignitic coal production. Lignitic coal is a low-grade coal that generates less energy than higher grade coal. In Calendar Year 2016, the Department reported about $1.8 million was claimed for the underground coal production credit and $0 was claimed for the lignitic coal credit.

METALLIC MINERALS

According to statute, the first $19 million in annual gross income generated from the sale of mined metallic minerals is exempt from severance taxation [Section 39-29-103(1), C.R.S.]. Based on the severance tax rate of 2.25 percent of sales on metallic minerals, that $19 million in gross income could represent as much as $428,000 in forgone severance tax revenue per operator.

Of five peer states that apply a severance tax to mined minerals other than coal, only Utah and Montana have an income exemption similar to Colorado's; however, these states' exemptions are not as generous. Utah exempts the first $50,000 in gross value while Montana exempts the first $250,000 in gross value from severance taxation, as compared with Colorado's $19 million exemption.

REVENUE IMPACT OF TAX EXPENDITURES

EXHIBIT 3.7 shows the revenue impact for those severance tax expenditures for which the Department maintains data, which includes

the ad valorem tax credit for oil and gas, the coal tonnage exemption, the underground coal credit, the molybdenum tonnage exemption, and the metallic minerals exemption for Tax Years 2015 and 2016, the most recent years that data are available. Per statute [Section 39-21-113(4)(a) and (5), C.R.S.], the Department cannot release data on the molybdenum and metallic minerals exemptions to protect the privacy of the small number of taxpayers. The Department does not collect data on the amount claimed for the remaining expenditures. For the oil and gas stripper well and flaring exemptions, we estimated the potential impact through analysis of additional data that was available.

EXHIBIT 3.7. SEVERANCE TAX EXPENDITURES CLAIMED
TAX YEARS 2015 AND 2016

	2015	2016	TOTAL
OIL AND GAS			
Ad Valorem Credit	$364,455,000	$271,824,000	$636,279,000
Transportation and Processing Deduction	Data not available	Data not available	Data not available
Stripper Well Exemption[1]	$57,646,000	$55,045,000	$112,691,000
Flaring Exemption[1]	$499,000	$292,000	$791,000
MINED MINERALS			
Coal Exemption	$5,345,000	$3,626,000	$8,971,000
Underground Coal Credit	$3,436,000	$1,819,000	$5,255,000
Molybdenum Exemption	Data not releasable[2]	Data not releasable[2]	Data not releasable[2]
Metallic Minerals Exemption	Data not releasable[2]	Data not releasable[2]	Data not releasable[2]
Ad Valorem Credit	Data not releasable[2]	Data not releasable[2]	Data not releasable[2]
TOTAL	$431,381,000	$332,606,000	$763,987,000

SOURCE: Office of the State Auditor analysis of Department of Revenue's 2018 *Tax Profile & Expenditure Report*; and Colorado Oil and Gas Conservation Commission data.
[1] Auditor generated estimation based on the average applied tax rate of 4.85 percent of gross revenue.
[2] The data is not releasable, per statute [Section 39-21-113(4)(a) and (5), C.R.S.] due to the small number of taxpayers claiming the expenditure.

For each resource, taxpayers may also claim an "impact assistance" credit for allowable contributions they have made to benefit the local government where the well or mine is located. It is unclear how often this credit is used or its impact on state revenue, as there are so few applicants for the credit that the Department of Revenue cannot report on it due to taxpayer confidentiality.

EFFECTIVE TAX RATES

The effective tax rate is the rate of tax paid when taking into account

all of the severance tax expenditures (i.e., exemptions, credits, and deductions) that are allowed and taken by taxpayers. One way to calculate the effective tax rate is to compare the amount of resources extracted with the amount of severance taxes actually collected by the State. This allows for comparisons across states that have different methods of taxation (i.e., tax extraction amounts versus gross income). EXHIBITS 3.8 and 3.9 compare Colorado's effective severance tax rates with the effective rates in each of Colorado's eight peer states for oil and gas, and the four peer states with coal data available. As shown, Colorado's effective severance tax rates for all three minerals is significantly lower than in most other states.

EXHIBIT 3.8. EFFECTIVE OIL AND GAS SEVERANCE TAX RATES IN PEER STATES THREE YEAR AVERAGE 2016-2018[1]

State	Average Barrels of Oil (Millions)	Average MCF of Natural Gas (Millions)	Average Market Value (Millions)[2]	Average Tax Revenue (Millions)	Average Effective Severance Tax Rate
Colorado	124.81	2,139.01	$9,946.97	$53.61	0.54%
Kansas	39.74	247.82	$2,149.15	$49.41	2.30%
Montana	24.15	48.46	$1,064.30	$101.62	9.55%
New Mexico	155.16	1,255.94	$9,093.62	$369.47	4.06%
North Dakota	399.84	532.47	$17,048.79	$1,673.31	9.81%
Oklahoma	162.8	2,493.94	$12,275.08	$483.67	3.94%
Texas	1,230.92	7,417.14	$66,118.11	$4,015.1	6.07%
Utah	33.96	365.67	$2,204.43	$15.83	0.72%
Wyoming	78.21	1,685.64	$7,043.88	$348.32	4.95%

SOURCE: The U.S. Energy Information Administration's data on energy production by state, and the Colorado Oil and Gas Conservation Commission data on oil and gas production in Colorado, the Rocky Mountain Oil Journal, various state department websites.

[1] Calendar year production is compared to fiscal year tax revenue due to data reporting limitations.

[2] Market value estimates are based on Colorado's average market value for oil for Calendar Years 2015 through 2017, and natural gas for 2015 and 2016. Note that price for natural gas at the wellhead was not reported in 2017, so 2016 price at the wellhead was used for 2017 estimates.

EXHIBIT 3.9. EFFECTIVE COAL SEVERANCE TAX RATES IN PEER STATES THREE YEAR AVERAGE 2016-2018[1]				
STATE	AVERAGE TONS OF COAL (MILLIONS)	AVERAGE MARKET VALUE[2] (MILLIONS)	AVERAGE TAX REVENUE (MILLIONS)	AVERAGE EFFECTIVE SEVERANCE TAX RATE
Colorado	15.57	$622.26	$3.83	0.62%
Montana	36.48	$673.22	$59.75	8.88%
New Mexico	15.62	$553.57	$14.23	2.57%
North Dakota	28.57	$509.29	$11.22	2.20%
Wyoming	329.82	$4,507.79	$224.53	4.98%

SOURCE: The U.S. Energy Information Administration's and Division of Reclamation, Mining, and Safety data on energy production and valuation by state, and various state department websites.
[1] Calendar year production is compared to fiscal year tax revenue due to data reporting limitations.
[2] Each state has a different average sale price per ton which is based on information from the U.S. Energy Information Administration.

SEVERANCE TAX FILING SYSTEM

We found that Colorado's severance tax filing system does not align with the principle of efficient and effective administration. In Colorado, molybdenum is the only mineral for which the Department has an electronic filing system. All other severance tax filings are on paper, making the overall severance tax system cumbersome to administer. The Department reports that, in a given year, it receives approximately 13,000 severance tax filings, some of which can include up to 300 pages of forms and documents. These filings come from approximately 12,500 oil and gas interest owners, 500 oil and gas operators, eight coal operators, two metallic mineral operators, and one molybdenum operator.

The Department scans all of the paper severance tax filings it receives into GenTax, its tax processing system, where most of the documents are stored as scanned images. The Department electronically translates only the limited information necessary to process a severance tax return. Additionally, Department staff must reconcile the information on the paper tax forms with the electronically translated data in the GenTax system to verify its accuracy.

Because a majority of severance tax filings are only stored as scanned

images, there is no way to electronically search or query GenTax to obtain comprehensive data from filings. For example, oil and gas operators can submit a form with their severance tax return that details the transportation and processing cost deductions they claimed when calculating gross income. However, the Department does not electronically translate any of the information from this form and therefore, cannot aggregate these deductions for all taxpayers without manually reviewing every individual form. As a result, Colorado has limited comprehensive data available on its severance tax system.

House Bill 19-1256 authorized the Department to mandate electronic filing for all severance taxes. However, the change to electronic filing would require programming changes to GenTax, which the Department estimated in 2018 would cost nearly $490,000 for development, testing, and ongoing maintenance. As of November 2019, the Department had not requested or received an appropriation to transition to electronic filing for all severance tax returns.

Outside of severance tax filings, the State does not currently collect severance tax data from other sources, even though these data are available. For example, the Department does not have consolidated, statewide data on oil and gas production and related tax expenditures to analyze the severance taxes paid and deductions taken across Colorado. Oil and gas operators are required to submit production and tax expenditure information to counties for ad valorem property tax purposes, but the information is not forwarded to the Department, nor is it maintained collectively at any level. While statute authorizes the Department to request oil and gas operators submit the same information to it, the Department generally only does so on a case-by-case basis when conducting a severance tax audit.

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