OIL AND GAS DEVELOPMENT

Actions Needed to Improve Oversight of the Inspection and Enforcement Program
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What GAO Found

Based on GAO’s analysis of Bureau of Land Management (BLM) data, the distribution of BLM’s oil and gas Inspection and Enforcement program’s workload and workforce showed an imbalance among BLM’s 33 field offices in fiscal years 2012 through 2016. GAO analyzed BLM data on the overall percentage of the workload and workforce distributed at each field office (i.e., activity level) and grouped similar activity level field offices together into highest, medium and lowest activity categories. GAO found that the program distributed the majority of its workload to 6 highest activity offices and distributed the majority of the workforce to 21 medium activity offices (see fig.). Based on GAO’s review of BLM documentation and interviews with agency officials, BLM took both short- and long-term actions in fiscal years 2012 through 2016 to address this imbalance, such as temporarily re-assigning inspectors from some medium activity offices to some of the highest activity offices.

Distribution of Workload and Workforce across the BLM Oil and Gas Inspection and Enforcement Program’s 33 Field Offices, Fiscal Years 2012 through 2016

<table>
<thead>
<tr>
<th>6 highest activity</th>
<th>21 medium activity</th>
<th>6 lowest activity</th>
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<tbody>
<tr>
<td>Percentage of BLM field offices</td>
<td>58%</td>
<td>40%</td>
</tr>
<tr>
<td>Percentage of BLM field offices</td>
<td>44%</td>
<td>52%</td>
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Source: GAO analysis of Bureau of Land Management (BLM) data |

BLM has not completed all required internal control reviews of its field offices. BLM’s July 2012 oversight policy instructs its state offices to periodically conduct internal control reviews of field offices, which are to, among other things, identify staffing needs. BLM state offices completed internal control reviews at 6 of 33 field offices from 2013 through 2017, and 5 more are scheduled from 2018 through 2020. Officials from BLM state offices told GAO that some human capital and workload challenges hindered their ability to complete reviews, including long-term vacancies in some state offices positions. However, a senior BLM official said that headquarters did not consistently track and monitor the extent to which state offices completed field office internal control reviews, and headquarters officials said they were not aware that so few reviews had been completed. Under federal standards for internal control, management should design control activities to achieve objectives and respond to risks, such as by comparing actual performance to expected results and analyzing significant differences. Identifying the reasons it did not complete internal control reviews, developing and implementing a plan to address those challenges, and monitoring state offices’ progress toward completing required reviews will better position BLM to ensure that its state offices are completing all required internal control reviews as called for by its July 2012 oversight policy.

What GAO Recommends

GAO is making three recommendations to BLM, including taking actions to increase monitoring of state offices’ progress toward completing internal control reviews. BLM concurred with all three recommendations.

View GAO-19-7. For more information, contact Frank Rusco at (202) 512-3841 or ruscof@gao.gov.
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Figure 4: BLM Internal Control Review Schedule Determined by the Number of Field Offices within State Office Administrative Boundaries

Abbreviations

BIA   Bureau of Indian Affairs
BLM   Bureau of Land Management
ONRR  Office of Natural Resources Revenue
PET   petroleum engineer technician

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February 14, 2019

The Honorable Raúl Grijalva
Chairman
Committee on Natural Resources
House of Representatives

Dear Mr. Chairman:

Production of oil and gas on federal and Indian lands is an important part of the nation’s energy portfolio and generates billions of dollars annually for the federal government, tribes, and individual Indian mineral owners. In fiscal year 2016, the Department of the Interior reported collecting more than $2 billion associated with onshore oil and gas development on federal and Indian lands, including royalty payments from operators for resources extracted. Interior’s Bureau of Land Management (BLM) has primary responsibility for managing and overseeing oil and gas development on federal lands.¹ BLM also plays a key role in managing oil and gas development on Indian lands.² Specifically, BLM’s Inspection and Enforcement program ensures production accountability (i.e., operators accurately measure and report production volume—their volumes are a key input into royalty payment calculations), environmental protection, and public safety.

Inspecting oil and gas development and production is a complicated process that requires BLM’s petroleum engineer technician (PET) inspectors to conduct a variety of technically challenging inspections in geographically remote areas to interact with hundreds of different operators in the oil and gas market. At 33 BLM field offices with ongoing

¹These lands include about 700 million sub-surface mineral acres held by BLM, the U.S. Forest Service, and other federal agencies and surface owners.

²With respect to oil and gas leasing and development on Indian trust and restricted lands, BLM generally reviews, approves, and issues documents required for development, such as drilling permits and revenue-sharing agreements, in consultation with and with concurrence from Interior’s Bureau of Indian Affairs (BIA), and conducts inspection and enforcement activities on such lands. Indian trust and restricted lands for these purposes mean those lands for which title is held in trust by the federal government for the beneficial interest of the tribe or a member and those lands for which title is held by the tribe or a member subject to restrictions on alienation. Such lands generally cannot be leased without approval of the Secretary of the Interior, who has generally delegated this authority to BIA.
oil and gas development activities, the Inspection and Enforcement program employs a workforce of PET inspectors who carry out a workload that includes a range of inspections that cover a well’s life cycle, from drilling and production to plugging. PET inspectors play a vital role in helping to ensure operators employ sound and prudent industrial practices at more than 140,000 oil and gas wells on federal and Indian lands. In addition, changes and innovations within the oil and gas industry can impact the bureau’s PET inspector workforce and its inspection workload. In this context, BLM oversight is essential to help ensure the bureau’s field offices have effective internal controls, which help BLM achieve its mission and respond to changing risks.

Past work by us, Interior’s Office of Inspector General, and others has highlighted the importance of BLM’s oversight of oil and gas development on federal and Indian lands and identified a number of weaknesses. BLM has taken some actions to address these weaknesses. For example:

- In March 2010, we found BLM was unable to consistently meet its goals for completing production inspections.\(^3\) We recommended that BLM consider an alternative inspection strategy to ensure it inspects all wells within a reasonable time frame, given available resources. BLM concurred with our recommendation. In response to our recommendation, in 2011, BLM developed its risk-based production inspection strategy, which classifies wells as either high-priority or low-priority for inspections based on multiple factors.

- In December 2010, the Interior Inspector General identified weaknesses with the quality of inspections conducted by Inspection and Enforcement program personnel and made a number of recommendations. In July 2012, BLM issued a program oversight policy that, among other things, requires state offices to conduct periodic internal control reviews of the Inspection and Enforcement program at BLM field offices with ongoing oil and gas activities.\(^4\)

- Since 2011, we have designated Interior’s management of federal oil and gas resources as a high-risk area vulnerable to fraud, waste,

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\(^3\)GAO, Oil and Gas Management: Interior’s Oil and Gas Production Verification Efforts Do Not Provide Reasonable Assurance of Accurate Measurement of Production Volumes, GAO-10-313 (Washington, D.C.: Mar. 15, 2010)

abuse, and mismanagement. In our February 2017 high-risk series update, we reported that Interior has taken some actions to address production verification and human capital challenges by, for example, using special, higher salary rates to hire and retain key oil and gas staff such as BLM inspectors. However, the agency’s management of federal oil and gas resources remains an area vulnerable to fraud, waste, abuse, and mismanagement.

- In our 2017 high-risk series update, we added a new high-risk area on improving management of federal programs that serve tribes and their members. We reported that, among other things, Interior’s Bureau of Indian Affairs mismanages Indian energy resources held in trust and thereby limits opportunities for tribes and their members to use those resources to create economic benefits and improve the well-being of their communities.

You asked us to examine BLM’s oil and gas Inspection and Enforcement program. This report (1) describes the distribution of oil and gas Inspection and Enforcement program workload and workforce among BLM’s field offices for the past 5 years and (2) examines the extent to which BLM conducted internal control reviews in accordance with its July 2012 oversight policy.

To describe the distribution of oil and gas inspection and enforcement workload and workforce among BLM’s 33 field offices with ongoing oil and gas activities, we focused on the workload completed by PET inspectors, as well as workforce data on PET inspectors. PET inspectors’ workload includes inspections of drilling, production, and well plugging operations, commonly referred to as “downhole” inspections according to

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the BLM Inspection and Enforcement Program Manager.\textsuperscript{7} We focused on these areas because (1) BLM planning documents consistently state that downhole inspections on high-priority drilling, high-priority well plugging, and high-priority production wells are the program’s top three work activities, and (2) the program allocates the majority of its total inspection work months to completing downhole inspections.\textsuperscript{8} We selected the past 5 years (fiscal years 2012 through 2016) for which such workload and workforce data were available during our review.

However, due to data reliability issues associated with priority rankings (high or low) during fiscal years 2012 through 2016 for drilling, production, and plugging inspections as well as issues with the number of completed inspections—the most direct measure of workload—we determined that

\textsuperscript{7}We excluded from our scope other types of inspections performed by PET inspectors that represent a small percentage of BLM’s inspection workload, such as idle well inspections. We also excluded inspections conducted primarily by production accountability technicians—staff responsible for ensuring that production of oil and gas is accurately reported—such as production records verification inspections because these also represent a small percentage of the inspection workload. Finally, we excluded inspections conducted by environmental protection and natural resource specialists intended to verify operators’ compliance with certain lease and permit requirements related to surface environment, due to recent GAO work on the subject. See \textit{Oil and Gas Development: BLM Needs Better Data to Track Permit Processing Times and Prioritize Inspections}, GAO-13-572 (Washington, D.C.: Aug. 23, 2013) and \textit{Oil and Gas Development: Improved Collection and Use of Data Could Enhance BLM’s Ability to Assess and Mitigate Environmental Impacts}, GAO-17-307 (Washington, D.C.: Apr. 25, 2017).

\textsuperscript{8}According to BLM officials, a work month is about 172 hours and is calculated by dividing 2,080 (i.e., the total number of hours generally worked by a full-time employee in a year) by 12 months.
these inspection data were not sufficiently reliable for our purposes. Instead, we identified seven alternate workload measures for drilling, production, and plugging inspections, which BLM officials said would provide a representation of the size and scope of its inspection workload. In addition, we identified two workforce measures for a total of nine measures that covered fiscal years 2012 through 2016. The workload measures are:

- the number of wells drilled on federal and Indian lands;
- the number of production cases on federal and Indian lands (a case is either a lease or an agreement, can have from 1 to more than 1,000 wells, and is the unit of analysis for BLM’s production inspection workload);
- the number of high-priority production cases on federal and Indian lands;
- the number of low-priority production cases on federal and Indian lands;
- the number of planned work months for plugging inspections on federal and Indian lands.  

9In December 2010, the Interior Inspector General reported that BLM cannot completely verify which wells have been inspected due to data integrity weaknesses with its corporate oil and gas database. U.S. Department of the Interior, Office of the Inspector General, Bureau of Land Management’s Oil and Gas Inspection and Enforcement Program, CR-EV-BLM-0001-2009, (Washington, D.C.: December 2010). To address this issue, BLM planned to develop a revised inspection record system by September 30, 2016. According to BLM documentation, the revised inspection record system would provide data entry controls and automate some data entry, which would increase the reliability of inspection data. As of August 2018, BLM had not deployed the revised inspection record system, and agency officials said they had a deployment goal of deploying the system during the second quarter of fiscal year 2019. BLM officials said that data related to the number of high-priority drilling inspections completed during fiscal years 2012, 2013, and 2014 would not be reliable because BLM did not properly record the inspection priority level (high or low) for a large number of drilling inspections. BLM took action in fiscal year 2015 to conduct more frequent and detailed reviews of these data. Also, with respect to high-priority plugging inspections, we found that BLM’s corporate oil and gas database did not have the ability to record and track a plugging inspection as either high or low priority. BLM officials said that this capability will be included in the revised inspection record system.

10We did not analyze the extent to which the actual number of work months BLM spent on plugging inspections for these years matched or differed from the number of planned plugging inspection work months recorded in BLM’s planning documents.
• the number of enforcement actions issued for all inspections on federal and Indian lands;\textsuperscript{11} and

• the number of major and continued noncompliance enforcement actions—major incidents of noncompliance, monetary assessments, civil penalties, and operation shutdown—issued for all inspections on federal and Indian lands. These types of actions generally identify (1) immediate, substantial, and adverse effects to public health and safety, the environment, production accountability, or royalty income; or (2) an operator’s failure to correct an identified problem or violation by the abatement date. For example, BLM can issue monetary assessments up to $5,000 to operators who drill on federal and Indian lands without approval.

With respect to workforce, the measures are:

• the number of PET inspectors “on board” at each field office at the start of each fiscal year,\textsuperscript{12} and

• the number of PET inspection work months in each fiscal year.

For each of the workforce and workload measures, we calculated the percentage of the nationwide total (i.e., federal plus Indian) for each field office during fiscal years 2012 through 2016. Our calculations, in general, demonstrated a pattern that showed natural break points in the data for field office activity level. Based on these natural break points, we developed and applied decision rules. Based on these rules, we

\textsuperscript{11}According to BLM officials, the bureau’s corporate oil and gas database does not link enforcement actions to the specific inspection that identified the violation. It is not possible to analyze enforcement action data issued as a result of downhole inspections alone. As such, the enforcement actions data include all such actions issued during all types of inspections (i.e., downhole, environmental, and records verification inspections).

\textsuperscript{12}We focused on the number of PET inspectors “on board” at the start of each fiscal year because BLM uses such data as the planning basis for the number and types of inspections to be completed during the fiscal year. The total number of authorized PET inspector positions at each field office is calculated by adding onboard personnel and vacant positions. We did not assess BLM efforts to fill vacant positions due to recent work on this subject. Specifically, we previously reported that Interior experiences difficulties with filling vacancies for key oil and gas personnel, including PET inspectors. See \textit{Oil and Gas: Interior Has Begun to Address Hiring and Retention Challenges but Needs To Do More}, GAO-14-205, (Washington, D.C.: Jan. 31, 2014). We also previously reported that BLM had taken steps to resolve its hiring challenges, including the use of special salary rates, incentive payments, and student loan repayments. See \textit{Oil and Gas Oversight: Interior Has Taken Steps to Address Staff Hiring, Retention and Training Needs but Needs a More Evaluative and Collaborative Approach}, GAO-16-742 (Washington, D.C.: Sep. 29, 2016).
categorized each field office, based on specific workload and workforce measures, as “high activity” if it represented 4 percent or more of the nationwide total, “medium activity” if a field office represented from 3.9 percent to 1 percent of the nationwide total, and “low activity” if a field office represented 1 percent or less of the nationwide total. BLM agreed with this approach for categorizing the 33 field offices based on their workload and workforce activity levels, and said it was representative of the workload and workforce. For example, we categorized the Rawlins, Wyoming, field office as medium activity for the number of wells drilled because the office was responsible for 1.8 percent of all wells drilled on federal and Indian lands from fiscal years 2012 through 2016. However, we categorized the Rawlins field office as high activity based on the number of planned work months for plugging inspections because the office represented 5.7 percent of planned work months for plugging inspections on federal and Indian lands in fiscal years 2012 through 2016.

We then compared the distribution of field offices across the workload and workforce measures to identify the offices that most consistently fell into the high-activity, medium-activity, or low-activity category. Once again, our analysis demonstrated a pattern that showed natural break points for the data, which allowed us to develop certain decision rules. Based on these rules, we categorized a field office as an overall highest activity office if it was rated high activity in at least six of the nine workload and workforce measures and an overall lowest activity office if it was rated low activity in at least six of the nine measures. Overall medium-activity offices were those that did not fall into the overall high and overall low categories. For example, we categorized the Rawlins field office as an overall medium-activity office because it was rated as high activity for three measures and medium activity for six measures. BLM agreed with this approach for grouping the field offices into three categories based on activity.

We obtained our workload and workforce data primarily from the annual inspection work plan BLM develops at the start of each fiscal year. The annual work plan provided data for production cases, planned work

\[13\]In some instances, it did not make sense to use an exact cutoff percentage because such a cutoff would skew the distribution. For example and for the “number of major and continued noncompliance enforcement actions” workload measure, an exact 1 percent cut off would have put 16 field offices (or almost half of all field offices) into the lowest activity category. Instead, we used 0.7 percent as the cut off, which put 11 field offices (or one-third of all field offices) into the lowest activity category.
months for plugging inspections, number of onboard PET inspectors, and number of PET inspection work months. In addition, we obtained records-level data from the bureau’s corporate oil and gas database for the wells drilled and enforcement actions data. We assessed the reliability of the work plan and records-level data by reviewing related documentation, interviewing knowledgeable agency officials, and conducting electronic and manual testing of the data to identify missing data or obvious errors. We found that the data related to our seven workload and two workforce measures were reliable for the purposes of our review.

To determine the extent to which BLM conducted internal control reviews of the Inspection and Enforcement program from fiscal years 2013 through 2018 in accordance with its July 2012 oversight policy, we reviewed the oversight policy and compared its requirements to (1) the field office internal control reviews completed by state office officials and (2) federal standards for internal control, specifically the control activities standard that requires management to design control activities to achieve objectives and respond to risks.14 We selected this time period as it was the most recent period for which data were available.

For both objectives and to obtain possible reasons or explanations for the data, we reviewed key BLM policy and guidance documents, including the Inspection and Enforcement Handbook and the annually issued Inspection and Enforcement Strategy and Goals. We interviewed BLM headquarters officials, BLM officials at 7 state offices, and PET inspectors at 13 BLM field offices. We selected this nongeneralizable sample to provide a range of resource development, such as the primary type of resource developed (i.e., oil or gas or both), the presence of Indian lands, and geographic variation. We also conducted site visits to six BLM field offices in New Mexico, Wyoming, and North Dakota; we selected these field offices as they have historical or current high levels of resource development activity. During those site visits, we accompanied PET inspectors on drilling, production, and plugging inspections.

We conducted this performance audit from December 2016 to February 2019 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.

**Background**

This section provides information on BLM's mission and organizational structure, the process for overseeing the development of federal and Indian oil and gas resources, and key aspects of the Inspection and Enforcement program.

**BLM Mission and Organizational Structure**

BLM’s mission is to maintain the health, diversity, and productivity of public lands for present and future generations. As part of this mission, BLM manages federal lands for multiple uses, including recreation; grazing; timber; minerals; watershed; wildlife and fish; natural scenic, scientific, and historical preservation; and the sustained yield of renewable resources. BLM manages these responsibilities through its headquarters office in Washington, D.C.; state offices; district offices; and field offices. Each level’s general responsibilities include the following:

- BLM’s headquarters office develops guidance and regulations.
- State and field offices manage and implement the bureau’s programs. In addition to implementing programs, BLM state offices oversee field office operations. Field offices lead BLM’s oversight of oil and gas development. They are located primarily in the Mountain West, where much of oil and gas development on federal and Indian lands takes place.
- Within field offices, BLM supervisory and staff PET inspectors and tribal PET inspectors (who are contracted by BLM to inspect some wells on Indian lands in accordance with BLM policies and procedures) have primary responsibility for implementing the Inspection and Enforcement Program with assistance from state office program coordinators, according to the Inspection and Enforcement Program Manager. Among other things, state office program coordinators help field offices plan and prioritize their inspection workloads in accordance with BLM policy and comply with BLM guidance and federal regulations when conducting and documenting inspections, according to BLM officials.
Development of oil and gas resources on federal and Indian lands is a multi-stage process. First, Interior holds auctions through which entities may secure the right to federal and Indian leases that allow them to drill for oil and gas after meeting certain conditions. Once an operator plans to drill a well on leased land, it must first secure a permit from Interior. After drilling a well, an operator installs production equipment, such as pump jacks, storage tanks, and metering equipment. This production phase continues until the well becomes inactive, and the operator may decide to plug the well, usually because the well is either depleted or no longer economically viable. After plugging the well, the operator is required to remove all production equipment and reshape and revegetate the land around the well.

To ensure compliance with applicable laws, regulations, and other requirements, BLM’s Inspection and Enforcement program verifies that the operator complies with all requirements at a well or lease site during the drilling, production, and plugging phases.\(^{15}\) Three BLM onshore orders, issued pursuant to regulation, specify requirements that operators are to follow on federal and Indian leases.\(^{16}\) Inspectors use these orders to verify compliance during inspections. Onshore Oil and Gas Order Number 3 specified requirements for the minimum standards for site security by ensuring that oil and gas produced from federal and Indian leases are properly handled to prevent theft and loss and enable accurate measurement. Onshore Oil and Gas Order Number 4 specified requirements for measurement of oil produced under the terms of federal and Indian leases or received by federal and Indian lessees as shares of oil produced on state or private lands. Onshore Oil and Gas Order Number 5 specified requirements for measurement of gas produced

\(^{15}\)The Federal Oil and Gas Royalty Management Act of 1982, as amended, Pub. L. No. 97–451, 96 Stat. 2447 (1983), codified at 30 U.S.C. §§ 1701, et seq., directs the Secretary of the Interior to develop guidelines that specify the coverage and frequency of inspections and authorizes the Secretary to enter any leases to make inspections, see 30 U.S.C. §§ 1711(a), 1718. Interior has delegated responsibilities for implementing the act to BLM for onshore leases.

\(^{16}\)These three orders were first effective from March 27, 1989, through February 26, 1990, and in effect during the entire time period (i.e., fiscal years 2012 through 2016) covered in our audit. In November 2016, BLM issued new regulations that covered site security, oil measurement and gas measurement, which replaced these three onshore orders. See 43 C.F.R. subpart 3173, 43 C.F.R. subpart 3174, and 43 C.F.R. subpart 3175. These new regulations became effective on January 17, 2017, and, among other things, incorporated the latest industry standards.
under the terms of federal and Indian leases or received by federal and Indian lessees as shares of gas produced on state or private lands.

Figure 1 shows key inspection activities that occur during the drilling, production, and plugging stages of a well’s life cycle.

Figure 1: Key BLM Inspection Activities at Different Stages in the Life Cycle of a Well

Stage 1: Drilling

During this stage, BLM inspectors ensure that operations are in accordance with the approved drilling permit. For example, inspectors confirm that blowout preventer tests were conducted and recorded properly. In addition, inspectors witness the operator pouring cement down the wellbore (called casing and cementing) to ensure the well is properly sealed and groundwater will not be affected.

Stage 2: Production

During this phase, BLM inspectors conduct four key activities: (1) review 6 months of production records to look for any anomalies, (2) assess the physical conditions of the production area by looking for refuse or any leaking equipment, (3) verify that the operator-submitted diagram of the facility reflects what is actually at the site, and (4) examine a sample of both oil and gas measurement operations.

Stage 3: Plugging

During this stage, BLM inspectors witness critical activities, such as when the operator places a cement plug across a water zone to ensure groundwater protection, and verify that the proper amount of cement is in the wellbore to ensure methane does not leak.

Sources: GAO analysis of Bureau of Land Management (BLM) documents and statements by BLM officials; GAO (left-hand and right-hand photos); BLM (center photo). | GAO-19-7

Note: During any stage, BLM inspectors can issue an enforcement action if an operator is found to not be in compliance with a requirement. Based on multiple factors, such as the severity of the violation, BLM enforcement actions can range from issuing a written order to correct the violation by a certain date, issuing a monetary assessment, or shutting down operations.
In fiscal years 2012 through 2016, the distribution of the oil and gas Inspection and Enforcement program’s workload and the workforce among the 33 BLM field offices with ongoing oil and gas development activities showed an imbalance, based on our analysis of BLM data. BLM took both short- and long-term actions in fiscal years 2012 through 2016 to address this imbalance, such as temporarily re-assigning inspectors from some medium activity offices to some of the highest activity offices.17

Based on our review of BLM documentation and interviews with agency officials, two key factors affected the distribution of the program’s workload: (1) energy market changes (e.g., price fluctuations) and (2) BLM actions to plan and prioritize inspection workload (e.g., changing risk classification for production inspections and decreasing the number of work months for plugging inspections).

From fiscal years 2012 through 2016, the distribution of the workload and workforce of BLM’s oil and gas Inspection and Enforcement Program was out of balance across the 33 BLM field offices with ongoing oil and gas development activities, based on our analysis of BLM data. The majority of the workload, about 58 percent, was located at the 6 highest-activity field offices, which had 44 percent of the workforce.18 In contrast, the majority of the workforce, 56 percent, was located in the remaining 27 medium and lowest activity offices, which had about 42 percent of the workload. Figure 2 shows the distribution of workload and workforce across the 33 field offices. In addition, figure 3 shows a map of our categorization of BLM’s 33 field offices by their workload and workforce activity level.

17Short-term actions were intended to provide immediate but temporary assistance to field offices in need of help, such as temporarily reassigning staff to those offices. Long-term actions were intended to provide long-lasting solutions to address the workload and workforce imbalance, such as permanently hiring additional staff.

18These six highest activity offices are Buffalo, Wyoming; Carlsbad, New Mexico; Dickinson, North Dakota; Farmington, New Mexico; Hobbs, New Mexico; and Tulsa, Oklahoma.
Figure 2: Distribution of Workload and Workforce across the BLM Oil and Gas Inspection and Enforcement Program’s 33 Field Offices, Fiscal Years 2012 through 2016

Percentage of inspection and enforcement workload

- 58% for 6 highest activity BLM field offices
- 40% for 21 medium activity BLM field offices
- 2% for 5 lowest activity BLM field offices

Percentage of inspection and enforcement workforce

- 44% for 6 highest activity BLM field offices
- 52% for 21 medium activity BLM field offices
- 4% for 5 lowest activity BLM field offices

Source: GAO analysis of Bureau of Land Management (BLM) data | GAO-19-7
From fiscal years 2012 through 2016, based on our review of BLM documentation and interviews with agency officials, BLM took both short and long-term actions to address this imbalance, such as temporarily re-assigning inspectors from some medium activity field offices to some highest activity offices. A specific example of how BLM addressed this workload and workforce imbalance on a short term basis for this period concerns two of the highest activity offices (Hobbs and Dickinson). These
offices had fewer PET inspectors on board and fewer PET inspection work months than three medium-activity offices (Pinedale, Rawlins, and Vernal). To address this imbalance, BLM sent short-term “strike teams” of PET inspectors to Hobbs and Dickinson on multiple occasions to help complete inspections. For example, officials from the Hobbs field office told us that in fiscal years 2012 and 2013, PET inspectors from the Farmington field office helped complete drilling and plugging inspections at Hobbs. In addition, officials from the Dickinson field office said that during fiscal years 2012, 2013, and 2014, more than 20 PET inspectors from five different states helped them inspect drilling, production, and plugging operations.

BLM officials said there were pros and cons to the strike team approach. They said strike teams generally allow a field office to complete high-priority inspections and can provide additional training to inspectors at that office. However, agency officials said that, at times, the inspection documentation from strike team PET inspectors may not fully align with the policies and practices of the office they are assisting, which can create uncertainty about what inspection activities were completed and what the inspection found. We previously reported that strike teams increase costs and are not a sustainable solution.19

To address the workload and workforce imbalance on a long term basis, BLM allocated additional funding in fiscal years 2015 and 2016 to hire PET inspectors. The Inspection and Enforcement program manager said that these hires were targeted to address workforce needs at certain field offices. According to agency documentation, BLM allocated additional funding to hire about 20 inspectors in fiscal year 2015 and 40 inspectors in fiscal year 2016. Approximately 75 percent of these inspector positions were in three state offices: Montana (which includes the Dickinson, North Dakota field office), New Mexico (which includes the Tulsa, Oklahoma field office), and Wyoming. All six of BLM’s highest activity field offices are located in these three states.

With this additional funding in fiscal years 2015 and 2016, multiple officials from BLM field offices reported that they were generally able to hire inspectors and, as a result, the number of onboard inspectors increased. For example, the number of onboard PET inspectors in the Dickinson field office increased from 8 in fiscal year 2015 to 17 in fiscal

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year 2017. In the Buffalo field office, the number of onboard PET inspectors increased from 16 in fiscal year 2015 to 23 in fiscal year 2017. These officials generally cited two key reasons for being able to hire inspectors. First, BLM increased the compensation for PET inspectors through the use of special salary rates, incentive payments, and student loan repayments. We have previously reported that BLM faces challenges hiring PET inspectors because BLM competes with industry for employees, and industry offers higher salaries. Second, and as described below, industry reduced development activity (i.e., wells drilled) in fiscal years 2015 and 2016 as commodity prices decreased. Multiple BLM field office officials also told us that it is easier to hire PET inspectors when oil and gas prices are low because industry is not hiring and applicants look to BLM for job security.

Two Key Factors Affected the Distribution of the Oil and Gas Inspection and Enforcement Program’s Workload

Consistently Lower Gas Prices, Volatile Oil Prices, and Increased Development of Shale Plays Led to a Decrease in Wells Drilled, but Not Uniformly Across BLM Field Offices

The number of wells drilled on federal and Indian lands from fiscal years 2012 through 2016 declined, according to BLM data. The decline was primarily the result of consistently lower gas prices and oil prices that dropped significantly in fiscal years 2015 and 2016 combined with technological advancements that increased the development of resources located in shale and other tight rock formations—which are generally not found on federal and Indian lands. Multiple BLM officials told us that commodity prices are a key factor that impacts the number of wells drilled on federal and Indian lands. These officials told us that, in general, when commodity prices are higher, industry will drill more wells, whereas when prices are lower, fewer wells are drilled. In addition, we previously reported that the highs and lows in prices and the number of oil and gas

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wells drilled largely overlapped, strongly suggesting that development activities reacted quickly and proportionally to changes in the prices of oil and gas.\textsuperscript{21} Table 1 shows the number of wells drilled on federal and Indian lands and average monthly prices for natural gas and crude oil for the period. While there may have been some year-to-year variability between the number of wells drilled and commodity prices (see the fiscal year 2013 to 2015 prices for natural gas in table 1), operators drilled fewer wells in fiscal years 2015 and 2016, which were years of both consistently low gas prices and significant decreases in oil prices.

Table 1: Number of Wells Drilled on Federal and Indian Lands and Average Monthly Prices for U.S. Benchmark Natural Gas and Crude Oil, Fiscal Years 2012 through 2016

<table>
<thead>
<tr>
<th>Fiscal year</th>
<th>Number of oil and gas wells drilled on federal and Indian lands</th>
<th>Henry Hub natural gas average monthly price per million British thermal unit\textsuperscript{a} (in dollars)</th>
<th>West Texas Intermediate crude oil average monthly price per barrel\textsuperscript{b} (in dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>3,521</td>
<td>2.73</td>
<td>95.25</td>
</tr>
<tr>
<td>2013</td>
<td>3,002</td>
<td>3.61</td>
<td>95.77</td>
</tr>
<tr>
<td>2014</td>
<td>3,180</td>
<td>4.40</td>
<td>98.71</td>
</tr>
<tr>
<td>2015</td>
<td>1,966</td>
<td>3.04</td>
<td>56.23</td>
</tr>
<tr>
<td>2016</td>
<td>998</td>
<td>2.28</td>
<td>41.20</td>
</tr>
</tbody>
</table>

Source: GAO analysis of Bureau of Land Management (BLM) data. \textsuperscript{21}GAO, Onshore Oil and Gas: BLM’s Management of Public Protests to Its Lease Sales Needs Improvement, GAO-10-670 (Washington, D.C.: July 30, 2010).

With regard to natural gas prices, a Purdue University study from March 2017 found that (1) the period of consistently lower natural gas prices (i.e., the Henry Hub average monthly price per million British thermal unit was generally from $2 to $4) began around 2009, which corresponds with increased development of natural gas from shale resources, and (2) the price increase in fiscal year 2014 was related to an extreme winter cold spell.\textsuperscript{22} With regard to oil prices, a World Bank report from January 2018 identified multiple factors contributing to the significant price decrease that

\textsuperscript{21}GAO, Onshore Oil and Gas: BLM’s Management of Public Protests to Its Lease Sales Needs Improvement, GAO-10-670 (Washington, D.C.: July 30, 2010).

\textsuperscript{22}Purdue University State Utility Forecasting Group, “Natural Gas Price Report Update,” March 2017 (West Lafayette, Indiana).
occurred in fiscal years 2015 and 2016. These factors included increased oil production from U.S. shale plays—sedimentary rock formations containing significant amounts of oil and natural gas—contributing to oversupply as well as lower production costs that allowed shale oil wells to be profitable at lower prices.

From 2009 to 2016, there was also an increase in the development of oil and gas plays located in shale and other tight rock formations, brought about by advances in production technologies such as horizontal drilling and hydraulic fracturing. According to Energy Information Administration data, shale plays represented more than 90 percent of the growth in oil and gas development from 2011 to 2016. As stated above, most shale plays are not located on federal and Indian lands. However, the few BLM field offices located in shale plays where operators focus on oil development saw a smaller decrease in the number of wells drilled compared to field offices located outside of shale plays. For example, the Dickinson field office—located in the Bakken shale play—experienced a 15 percent decrease in the number of wells drilled from about 400 in fiscal year 2012 to about 330 in fiscal year 2016. Similarly, the Hobbs field office—located in the Permian shale play—experienced a 27 percent decrease from about 160 in fiscal year 2012 to about 120 in fiscal year 2016. According to BLM data, almost all producing wells in the Dickinson and Hobbs field offices are oil wells. In contrast, two field offices located outside of shale plays experienced a more significant decrease.


24According to the Energy Information Administration, a play is a set of known or postulated oil and gas accumulations sharing similar geologic, geographic, and temporal properties, such as source rock, migration pathway, and hydrocarbon type. Oil and natural gas are found in a variety of geologic formations distributed across the country, such as shale or tight sandstone formations—also referred to as “tight oil” or “shale gas.” Shale is a sedimentary rock that is predominantly composed of consolidated clay-sized particles.

25Hydraulic fracturing (also known as fracking) is commonly defined as an oil or gas well completion process that directs pressurized fluids to penetrate tight rock formations, such as shale formations, in order to stimulate and extract the oil or gas in the formation. The fluids typically contain a combination of water, proppant (a material that keeps an induced hydraulic fracture open), and added chemicals.

26Specifically, we have previously reported that in 2016 about 15 percent of the major tight oil and shale gas plays in the contiguous United States overlapped federal lands, according to our analysis of Energy Information Administration and the U.S. Geological Survey data. GAO, Oil, Gas, and Coal Royalties: Raising Federal Rates Could Decrease Production on Federal Lands but Increase Federal Revenue. GAO-17-540 (Washington, D.C.: June 20, 2017).
number of wells drilled in the Bakersfield field office (located in California) declined 90 percent from 285 wells drilled in fiscal year 2012 to 30 wells drilled in fiscal year 2016. According to BLM data, almost all of the Bakersfield field office’s producing wells are oil wells. The number of wells drilled in the Vernal, field office (located in Utah) declined 95 percent from 725 wells drilled in fiscal year 2012 to 35 wells drilled in fiscal year 2016. According to BLM data, about 40 percent of the Vernal field office’s producing wells are oil wells, and the remaining 60 percent are natural gas wells.

On multiple occasions from fiscal year 2012 through fiscal year 2016, based on our review of agency documentation, BLM changed its methodology to identify and classify risk, which led to fluctuations in the number of high-priority production inspection cases in a given fiscal year. In our review, we focused on high priority production cases because, according to agency documents, inspecting such cases is one of the program’s top three work priorities. Based on our review of agency documentation, BLM’s risk-based strategy went through several iterations from fiscal years 2011 through 2016, and agency officials said that it was difficult to identify the specific reasons for year-to-year changes in the number of their high-priority production cases. This strategy used multiple weighted factors to develop a composite risk score to identify high- and low-priority cases. In fiscal year 2011, BLM based the composite risk score on seven weighted factors: four factors based on BLM data, and three factors based on data from Interior’s Office of Natural Resources Revenue (ONRR). However, BLM officials stated that they had challenges importing ONRR data in a format compatible with the bureau’s information technology system and have since stopped using the data. From fiscal year 2013 through fiscal year 2016, BLM based the composite risk score on the following four BLM-identified risk factors: (1) average monthly production, (2) number of missing oil and gas operations reports, (3) number of incidents of noncompliance, and (4) number of years since last inspection. With regard to composite risk scores, in fiscal year 2011, BLM determined that a composite risk score of 4 would be considered high risk, meaning that cases with a score of 4 or more required an inspection. For fiscal year 2013, BLM increased the composite risk score

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27As stated above, a case is either a lease or a unit agreement, can have from 1 to more than 1,000 wells, and is the unit of analysis for BLM’s production inspection workload.

28ONRR is responsible for compiling data on the volume and value of leasable minerals produced from all federal lands and Indian lands where there is a trust responsibility, and collecting the appropriate payments.
needed to be considered high risk and required an inspection with a score of 5, a change intended to reduce the number of required inspections because agency documentation stated that the workload in the preceding years was too high for some field offices. For fiscal years 2014, 2015 and 2016, BLM lowered the composite risk score to 4 again.

BLM averaged about 2,150 high priority production cases in fiscal years 2012 through 2016, and in each of those fiscal years, the number ranged from about 1,700 to about 2,500. In addition, over 60 percent of such cases were located in the 6 highest-activity field offices we identified. Since such cases are concentrated in six field offices, seemingly minor fluctuations in the overall number of high priority production cases can have greater impacts to an individual field office’s workload. For example, in fiscal year 2013, BLM identified about 2,500 high priority production cases. The Farmington field office in that year had about 170 such cases (or about 7 percent of the total) and estimated that PET inspectors needed about 12 work months to complete these inspections. In fiscal year 2015, BLM identified about 1,700 high priority production cases. The Farmington field office had about 90 such cases (or about 5 percent of the total) and estimated that PET inspectors needed about 6 work months to complete these inspections. In general, BLM officials told us that a single PET inspector is assigned about 6 inspection work months in a fiscal year once other demands on an inspector’s time (i.e., sick leave, vacation, training, and the completion of other assigned non-inspection duties such as administering various safety programs) are considered. Therefore, in fiscal year 2013 the Farmington field office would have had to dedicate 2 PET inspectors (or about 10 percent of its total PET workforce) to complete only high priority production inspections, and in fiscal year 2015 the field office would have needed 1 PET inspector (or about 5 percent of its total PET workforce) to complete such inspections.

Since BLM’s risk-based strategy has gone through multiple iterations since fiscal year 2012, several BLM officials said that it was difficult to identify the specific reasons for year-to-year changes in the number of their high-priority production cases. Officials, however, said that their ability to complete more high-priority production inspections increases during times of reduced industry drilling activity. Specifically, if industry is drilling fewer new wells, BLM can apply additional resources toward inspecting currently producing wells because PET inspectors who would normally conduct drilling inspections can now be deployed to high-priority production inspections. For example, as described above, the number of wells drilled decreased during the time frame covered in our review, with the Vernal and Bakersfield field offices experiencing substantial
decreases in the number of wells drilled from fiscal year 2012 to fiscal year 2016. Officials in both offices told us that when drilling activity was low, BLM redirected resources originally planned for drilling inspections to complete high-priority production inspections.

According to agency data, BLM reduced the estimated number of plugging inspection work months from about 200 in fiscal year 2012 to about 155 in fiscal year 2016, or about 23 percent. Multiple agency officials told us that due to low or falling commodity prices operators plugged fewer wells from fiscal year 2012 through fiscal year 2016. As discussed above, natural gas prices were consistently low during fiscal years 2012 through 2016, while oil prices decreased significantly in fiscal years 2015 and 2016. According to multiple BLM officials, operators generally plug fewer wells during times of low or falling commodity prices because operators prefer to (1) maintain the income generated from even marginally producing wells or (2) limit the expenditures required to plug wells. In May 2018, we reported that low oil and gas prices placed financial stress on operators, increasing bankruptcies and the risk that operators would not permanently plug wells, and that BLM’s actual costs and potential liabilities for reclaiming oil and gas wells likely increased for fiscal years 2010 through 2017. In addition, we reported that BLM faced challenges identifying and managing shut-in wells. For example, BLM does not have time limits for how long operators can have a well in shut-in status, which may limit the agency’s ability to ensure that operators permanently plug such wells before they become orphaned.

However, since BLM estimates the number of plugging inspection work months at the start of each fiscal year, there can be instances where actual industry activity is different than estimated. For example, BLM officials at four field offices told us that during the time frame of our

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29At the start of each fiscal year, BLM estimates the number of work months it will need for all oil and gas activities that require inspections (e.g., drilling and well plugging). A work month is about 172 hours.


31A shut-in well is an inactive well that is not permanently plugged and that is physically and mechanically capable of producing oil or gas in paying quantities or capable of service use. For example, an operator may put a well in shut-in status if it has not been connected to a sales line or the line is too far away and it is not economical to connect to at this time.

32An orphan well is a well that generally has no responsible or liable party.
Operators in their region plugged more wells than estimated. According to agency officials, these operators plugged more wells than BLM estimated because the operators were either looking to reduce their financial liability—sometimes in anticipation of selling assets—or looking for work to keep crews busy. In these instances, agency officials told us that, in general, BLM re-allocated inspection work months from low-priority production inspections to these plugging inspections. According to agency officials and documentation, plugging inspections are a higher priority than production inspections for multiple reasons. First, a plugging inspection is time sensitive because it is the final stage in a well’s lifecycle. In contrast, a production inspection is an ongoing operation that can be conducted at almost any time. Second, properly plugging a well is essential for long-term environmental protection. For example, wells that are not properly plugged can leak methane and contaminate surface and groundwater. As such, multiple BLM officials told us that plugging inspections are their field office’s highest priority work task and they will re-allocate resources, if necessary, to complete such inspections.

Based on our analysis of BLM data, two key market changes created an imbalance of the program’s enforcement workload: (1) increased drilling activity at two field offices located in shale formations during times of higher oil prices, and (2) bankruptcies of coalbed methane operators in one field office as gas prices decreased. Combined, the Buffalo, Carlsbad, and Dickinson field offices issued about 45 percent of all enforcement actions, 75 percent of all monetary assessments, and about 85 percent of all civil penalties (see table 2). For purposes of this review, we focused on the number and amount of monetary assessments and civil penalties because, according to agency officials and BLM documentation, these two enforcement actions are the key tools used by BLM to address instances of serious or continued operator noncompliance.33

33 Federal regulations also allow BLM to use other enforcement actions—such as bond forfeiture and lease cancellation—to address continued noncompliance issues. However, agency officials told us that these are rarely used for a variety of reasons, such as the lengthy administrative and judicial process required before a lease can be canceled.
<table>
<thead>
<tr>
<th>Field office</th>
<th>Number of written notices</th>
<th>Number of monetary assessments</th>
<th>Number of civil penalties</th>
<th>Number of shutdown of operations</th>
<th>Total number of enforcement actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buffalo, WY</td>
<td>12,648</td>
<td>711</td>
<td>370</td>
<td>223</td>
<td>13,952</td>
</tr>
<tr>
<td>Carlsbad, NM</td>
<td>5,167</td>
<td>271</td>
<td>26</td>
<td>1</td>
<td>5,465</td>
</tr>
<tr>
<td>Dickinson, ND</td>
<td>2,134</td>
<td>70</td>
<td>0</td>
<td>3</td>
<td>2,207</td>
</tr>
<tr>
<td>Remaining 30 field offices</td>
<td>26,797</td>
<td>349</td>
<td>79</td>
<td>60</td>
<td>27,285</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>46,746</strong></td>
<td><strong>1,401</strong></td>
<td><strong>475</strong></td>
<td><strong>287</strong></td>
<td><strong>48,909</strong></td>
</tr>
</tbody>
</table>

Source: GAO analysis of Bureau of Land Management (BLM) data.

Notes: In general, BLM can issue enforcement actions of increasing severity—from written notices, to monetary assessments, to civil penalties, to shutdown of operations—to obtain operator compliance with federal requirements. Written notices are letters to operators that identify a violation, specify corrective action, and provide a compliance timeframe.

Almost all of the monetary assessments that the Carlsbad and Dickinson field offices issued were for drilling violations—either drilling without approval or failure to install a blowout preventer or other well control equipment—and occurred in fiscal years 2012 through 2014, based on our review of BLM enforcement data. Federal regulations generally provide for higher monetary assessment amounts for drilling violations compared to other types of violations. Specifically, drilling violations are subject to assessments of $500 per day (up to $5,000), whereas a violation for failure to comply with a previously issued written notice for a minor violation is $250. As such, even though the Carlsbad and Dickinson field offices issued 24 percent of the number of monetary assessments, they issued about 60 percent (about $710,000) of the total amount assessed by all BLM field offices from fiscal years 2012 through 2016. In contrast, even though the Buffalo field office issued more than half of the monetary assessments, these actions accounted for 18 percent (about $220,000) of the total amount assessed because almost all of these assessments were minor violations for failure to comply (see table 3).
From fiscal years 2012 through 2016, the Carlsbad and Dickinson field offices were responsible for about 30 percent of all wells drilled on federal and Indian lands, according to BLM data. These offices are located, respectively, in the Permian and Bakken shale plays, where almost all wells are oil wells. During fiscal years 2012 through 2014, for each of these field offices, operators drilled about 435 wells each year, and the price of oil ranged from $87 to $107 per barrel. In contrast, during fiscal years 2015 and 2016, operators drilled about 275 wells each year while the price of oil ranged from $45 to $86 per barrel. According to agency officials, during fiscal years 2012 through 2014 operators attempted to drill wells as quickly as possible in the Carlsbad and Dickinson field offices to increase production during a time of higher oil prices.

BLM field office officials told us that when oil prices are higher, some operators have less financial incentive to follow federal requirements. In the Dickinson field office, for example, almost all monetary assessments were related to drilling without approval. Officials from that field office told us that, in general, these violations were related to operators who applied to BLM for a drilling permit, but the bureau did not approve the permit before the operator started drilling. In these instances, operators decided that the benefit of increased production at higher prices outweighed the cost of a monetary assessment, according to agency officials. BLM officials told us that for both types of drilling violations—drilling without approval and failure to install well control equipment—BLM issues

34As discussed earlier in this report, these prices are for West Texas Intermediate crude, the most common benchmark in the United States.
monetary assessments immediately upon discovery due to the potential serious harmful impacts to resource development and environmental health and suspends drilling operations until the operator corrects the violation and pays the assessment. The officials said operators almost always pay these assessments in a timely manner because they wanted to complete drilling operations and start production.

In contrast to the monetary assessments issued during times of high oil prices, the Buffalo field office issued hundreds of civil penalties totaling millions of dollars during times of lower natural gas prices as some coalbed methane operators declared bankruptcy and did not complete required reclamation activities.\(^{35}\) Specifically, the Buffalo field office issued over 75 percent of the number of civil penalties and almost the entire amount penalized during fiscal years 2012 through 2016 (see table 4).

<table>
<thead>
<tr>
<th>Field office</th>
<th>Number of civil penalties</th>
<th>Percentage of penalties issued</th>
<th>Amount of civil penalties (in dollars)</th>
<th>Percentage of amount penalized</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buffalo, WY</td>
<td>370</td>
<td>78</td>
<td>16,273,931</td>
<td>97</td>
</tr>
<tr>
<td>Remaining 32 field offices</td>
<td>105</td>
<td>22</td>
<td>457,882</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>475</td>
<td>100</td>
<td>16,731,813</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: GAO analysis of Bureau of Land Management (BLM) data. | GAO-19-7

As we reported in May 2018, low natural gas prices placed financial stress on operators of thousands of coalbed methane wells (natural gas extracted from coal beds).\(^{36}\) In that May 2018 report, we also found that coalbed methane was economical to produce when natural gas prices

\(^{35}\)In general, reclamation activities include the removal of all production equipment, permanent plugging of the well and restoring lands to as close to their natural state as reasonably possible.

\(^{36}\)GAO-18-250. In coalbed methane formations, gas is extracted through a process to reduce pressure called dewatering. As water is pumped out of the coal seams, reservoir pressure decreases, allowing the natural gas to release (desorb) from the surface of the coal and flow through natural fracture networks into the well. The separation of the gas from the water as well as the disposal of the water may be costly, making this process relatively expensive compared to natural gas production from formations containing less water.
were higher, and thousands of coalbed methane wells were drilled on federal lands. However, coalbed methane production has declined because the production of shale gas has kept natural gas prices low. Officials from the Buffalo field office told us that (1) low natural gas prices contributed to an increasing number of bankruptcies among coalbed methane operators, and (2) in general, these bankrupt operators stopped production activities, shut-in the wells instead of permanently plugging them, and stopped communicating with BLM.

For these cases, Buffalo field office documentation outlines a 20-step process to identify a responsible party—that is, the operator or the person(s) to whom BLM issued the lease (the lessee)—to either permanently plug these wells or bring them back into production. Officials said that they repeated this 20-step process for each operator or lessee, as needed. Since one lease can have multiple lessees, the repetition of this process resulted in a very large number of enforcement actions, according to Buffalo field office officials. Under this process, BLM initially issued thousands of written notices requiring the responsible party to either “plug or produce.” When the responsible party did not take the specified corrective action outlined in the written notices, the field office then issued hundreds of monetary assessments for failure to comply with the written notice and again instructed the operators to “plug or produce.” When the responsible party failed to comply with the monetary assessments, Buffalo issued hundreds of civil penalties.

Buffalo field office officials told us that they do not know whether the government has collected any of the issued penalties because the

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37 GAO-18-250.

38 A shut-in well is an inactive well that is not permanently plugged and that is physically and mechanically capable of producing oil or gas in paying quantities or capable of service use. If an operator plans to place a well into shut-in status for more than 30 days, BLM must approve the status change.

39 In general, BLM oil and gas operations regulations authorize a fixed penalty amount or specify the maximum penalty amount (i.e., “up to”) when BLM issues a civil penalty. According to agency documentation and the Inspection and Enforcement Program Manager, BLM’s standard practice is to issue civil penalties at the maximum amount allowed by regulation. This practice provides consistency across BLM’s 33 field office and does not put individual PET inspectors in the position to determine penalty amounts, according to the program manager. Federal regulations allow any operator who is issued a civil penalty to request an administrative review before the appropriate BLM State Director, who may reduce the amount assessed or penalized. Multiple BLM officials told us that these reviews rarely occur.
responsible parties did not pay the penalties to BLM in a timely manner. As such, BLM turned these outstanding penalties over to the Treasury Department for collection, a process that can take up to 2 years, according to agency documentation. Since market conditions have remained unfavorable for coalbed methane production, BLM has taken actions to permanently plug some wells. For example, according to agency officials and documents, the agency has (1) worked with some non-bankrupt lessees, including at least one major oil and gas corporation, to plug wells, (2) re-directed funding from other BLM programs to pay to plug wells and (3) contributed funding to the state of Wyoming’s well plugging program. We recently reported on BLM’s actual costs and potential liabilities for reclaiming oil and gas wells and have ongoing work reviewing BLM’s bonding requirements, which is the primary mechanism to ensure that operators complete required reclamation activities.\(^{40}\)

\(^{40}\)GAO-18-250.
BLM Has Not Completed All Required Internal Control Reviews of Its Field Offices and Does Not Employ a Risk-Informed Oversight Strategy

BLM state offices did not complete internal control reviews at 27 of 33 field offices—including 5 of the 6 highest activity offices we identified. According to the July 2012 oversight policy, state offices are to periodically conduct internal control reviews of their field offices to, among other things, (1) review whether inspections and enforcement actions are accurate, complete, and conducted in accordance with policy, (2) review staffing and training needs, and (3) identify areas where program guidance can be improved. The July 2012 oversight policy also says that BLM state offices are responsible for overall programmatic oversight of field office operations. For those field offices with Inspection and Enforcement program functions, this means that state offices are responsible for ensuring that the field offices are able to meet the goals stated in the program’s handbook, which include production accountability (i.e., the accurate measuring and reporting of production volumes), environmental safety, and public safety. BLM state offices completed internal control reviews at 6 of the 33 field offices from 2013 through 2017 and scheduled reviews for 5 others from 2018 through 2020, as shown in table 5.

41See U.S. Department of the Interior, Bureau of Land Management, Oversight of the Oil and Gas Inspection and Enforcement Program, Instruction Memorandum No. 2012-161 (Washington, D.C.: July 27, 2012). The July 2012 oversight policy also requires supervisors to conduct at least one oversight inspection on each inspector each fiscal year. Oversight inspections verify results of previous inspections and gauge inspection effectiveness, accuracy, and conformance to standards. From fiscal years 2013 through 2016, BLM conducted about 4,200 such oversight inspections, of which about 2,600 (62 percent) were conducted at the Farmington field office. Due to a large amount of missing required data—about 75 percent of all oversight inspections are missing the name of the inspector whose work was being reviewed—we could not confirm if each inspector received at least one oversight inspection each fiscal year, as required by the July 2012 oversight policy. BLM officials told us that this documentation issue should be addressed with enhanced data entry controls planned for its revised inspection record system, which agency officials said has a deployment goal of the second quarter of fiscal year 2019.
<table>
<thead>
<tr>
<th>BLM state office</th>
<th>BLM field office</th>
<th>Reviews completed (Year)</th>
<th>Reviews scheduled (Year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alaska</td>
<td>Anchorage</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>California</td>
<td>Bakersfield</td>
<td>-</td>
<td>2019</td>
</tr>
<tr>
<td>Colorado</td>
<td>Canon City</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Craig</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Durango</td>
<td>2016</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Glenwood Springs</td>
<td>2013; 2017</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Grand Junction</td>
<td>2015</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>White River/Meeker</td>
<td>2016</td>
<td>-</td>
</tr>
<tr>
<td>Eastern States</td>
<td>Jackson (MS)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Milwaukee (WI)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Montana-Dakotas*</td>
<td>Dickinson (ND)</td>
<td>-</td>
<td>2019</td>
</tr>
<tr>
<td></td>
<td>Great Falls</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Miles City</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Nevada</td>
<td>Reno</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>New Mexico</td>
<td>Albuquerque</td>
<td>-</td>
<td>2020</td>
</tr>
<tr>
<td></td>
<td>Carlsbad*</td>
<td>-</td>
<td>2018</td>
</tr>
<tr>
<td></td>
<td>Farmington</td>
<td>-</td>
<td>2019</td>
</tr>
<tr>
<td></td>
<td>Hobbs</td>
<td>2017</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Roswell</td>
<td>2016</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Tulsa* (OK)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Utah</td>
<td>Moab</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Price</td>
<td>-</td>
<td>-</td>
</tr>
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Officials from BLM state offices who completed internal control reviews said the benefits of these reviews included obtaining data to justify additional training or resources and providing a formal opportunity to examine key program management practices and correct identified deficiencies. For example, in September 2017, the Colorado state office completed an internal control review of a field office. Prior to this review, officials from that state office told us that they thought the field office might be understaffed based on a variety of factors, including longer than expected inspection times. BLM data showed that in fiscal year 2016 this field office estimated about 60 hours to complete a production inspection, while the other 5 Colorado field offices’ average estimate was about 14 hours. The September 2017 Colorado state review identified unofficial management policies at this field office that resulted in the underutilization of PET inspectors and inflated inspection times, creating a perception of understaffing. For example, one of the field office’s unofficial policies
required that PET inspectors drive at least 1,000 miles a month in order to keep their government vehicle, which resulted in some inspectors taking longer routes and driving to locations beyond those required for the job. This policy contributed to artificially inflating inspection times. According to the Colorado state review, the accurate tracking of inspection times is vital for workload planning and staffing purposes. In response to these findings, the field office manager terminated the unofficial policy, and officials from the Colorado state office said they will check on the implementation of their recommendations by reviewing the inspection data. Officials from that state office are also no longer considering hiring additional PET inspectors. To ensure that the field office sustains these corrective actions, Colorado state officials told us that they perform periodic reviews of production inspection records and continue to hold progress report meetings with the field office’s management team.

Although BLM state offices completed internal control reviews at 6 of 33 field offices, the state offices did not complete reviews at 27 field offices, including 5 of the 6 highest-activity field offices we identified. Officials from BLM state offices identified some key human capital and workload reasons that hindered their ability to complete reviews, including:

- long-term vacancies in multiple state offices’ inspection and enforcement coordinator positions, which BLM filled on a temporary basis with other agency employees;
- competing priorities from upper management (e.g., preparing for lease sales); and
- hiring and training new PET inspectors.

For example, according to one state office inspection and enforcement coordinator, the coordinator position was filled on a temporary basis by four different BLM employees from about November 2013 to November 2015 as the agency tried to find a permanent hire. This official said that as a result of the personnel changes, the state office did not conduct field office internal control reviews as initially scheduled. In addition, another state office inspection and enforcement coordinator said that she spends a lot of her time providing instruction and on-the-job training to newly hired PET inspectors in multiple field offices that do not have a supervisory PET inspector, which limits her ability to perform field office internal control reviews.
We also identified two shortcomings with BLM’s control activities that may have limited the agency’s ability to compete internal control reviews as required by the July 2012 oversight policy. First, BLM headquarters did not design appropriate types of control activities to help management fulfill its responsibilities. Specifically, the Inspection and Enforcement program manager said that BLM headquarters did not consistently track and monitor the extent to which state offices completed field office internal control reviews. This official said that headquarters tends to rely on state offices to track and monitor such reviews and that headquarters focused on higher priority work tasks, such as developing and implementing new regulations that were issued in January 2017. Within the first 3 years following the issuance of the July 2012 policy, the agency completed one internal control review each during fiscal years 2013 and 2015, although at least 12 reviews were to be completed. BLM headquarters officials we spoke with were not aware that so few reviews had been completed in fiscal years 2013 and 2015.

Federal standards for internal control state that management should design control activities to achieve objectives and respond to risks, such as by comparing actual performance to planned or expected results and analyzing significant differences. Because it did not consistently monitor and track state office performance, BLM headquarters (1) did not know that state offices were not conducting field office internal control reviews in accordance with the July 2012 oversight policy and (2) could not analyze the reasons why actual performance did not meet expected results. Identifying the reasons it did not complete internal control reviews (e.g., human capital and workforce challenges), developing and implementing a plan to address those challenges, and monitoring state offices’ progress toward completing required reviews will better position BLM to ensure that its state offices complete all required internal control reviews as called for by its July 2012 oversight policy.

Second, the July 2012 oversight policy identifies specific areas (e.g., the accuracy and completeness of inspections and staffing and training needs) that the reviews should assess, but according to a BLM headquarters official, the agency did not provide state offices with implementation guidance or procedures. This official said that BLM did not provide guidance or procedures so that state offices would have flexibility in how they conducted such reviews. However, multiple BLM state officials told us that such guidance or procedures would provide a helpful framework for conducting these reviews. One state office inspection and enforcement coordinator told us that since she had no
prior training or experience designing and implementing internal control reviews, guidance or procedures would be especially beneficial.

Because they did not have documented implementation guidance or procedures to follow, the two state offices that completed internal control reviews developed their own procedures, which varied in design, methodology, and resources based on our review of the six completed internal control reviews as well as interviews with BLM state officials. Specifically:

- One state office (1) developed its own review procedures based, in part, on existing program documentation, (2) assigned a single individual to conduct reviews because the state did not have the resources available to provide additional staff support, and (3) reviewed inspection and enforcement data contained in BLM’s corporate oil and gas database as well as hard copy files, and interviewed field office PET inspectors.

- Another state office (1) developed its review procedures based on those employed during a 2011 review of the entire Inspection and Enforcement program at the suggestion of the Deputy State Director;⁴² (2) assigned review teams consisting of multiple BLM officials with different areas of expertise; and (3) reviewed database and hard copy records, interviewed both field office PET inspectors and field office management, and observed field office PET inspectors as they conducted inspection activities.

Federal standards for internal control state that management should design control activities to achieve objectives and respond to risks, such as by clearly documenting internal control responsibilities in management directives, administrative policies, or operating manuals.⁴³ BLM has a documented policy, but this policy does not clearly specify what procedures state office officials are to follow to conduct internal control reviews. Without developing and documenting procedures for implementing internal control reviews under the July 2012 oversight

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policy, BLM does not have assurance that state offices will review all specific areas identified in the July 2012 oversight policy in a consistent manner.

In addition, although BLM did not have documented procedures for conducting periodic internal control reviews, the July 2012 oversight policy specified a schedule for conducting such reviews (see fig. 4). The schedule states the following:

- For state offices with four or fewer oil and gas field offices, the state office is to complete an internal control review of each field office at least once every 3 years. The state offices in this category are Alaska, California, Eastern States, Montana, Nevada, and Utah.

- For state offices with five or more oil and gas field offices, the state office is to complete an internal control review of each field office at least once every 6 years. The state offices in this category are Colorado, New Mexico, and Wyoming.
According to the Inspection and Enforcement program manager, this schedule was based on discussions with state office inspection and enforcement coordinators to balance officials’ availability to conduct internal control reviews and other responsibilities. The program manager said that BLM did not identify or consider risk when developing the schedule because the agency’s primary focus was to balance the new requirement to conduct field office internal control reviews with the state office coordinators’ existing workload. However, the review schedule in the July 2012 oversight policy generally requires more frequent internal control reviews of low-activity offices and less frequent reviews of high activity offices. In particular, five of the six highest activity field offices we identified in our review are in states in which there are more than five field offices. According to the policy, these highest activity offices would therefore receive an internal control review at least once every 6 years. In contrast, five of the six lowest activity field offices are in states in which...
the policy requires that reviews be conducted at least once every 3 years. Such a review schedule may not ensure that BLM has properly established and implemented internal control reviews at the highest activity field offices—whose workforce must complete a majority of the program’s workload—which may inherently pose a greater risk to the program’s goals of production accountability, environmental protection, and personnel safety. For example, if the six highest activity field offices have an inadequate number of PET inspectors, then there is an increased risk to BLM’s production accountability goal. Specifically, if these offices do not have the human resources needed to fully inspect high-priority production cases, BLM has less assurance that operators are properly measuring and reporting production volumes, which increases the risks to the accurate collection of royalty payments. Furthermore, those field offices that experienced greater levels of drilling workload may present a higher risk to BLM’s environmental protection goal. Specifically, if the six highest activity offices do not conduct accurate and complete drilling inspections, BLM has less assurance that operators are properly conducting drilling operations, which increases the risks of environmental problems, such as contamination of fresh water aquifers.

Federal internal control standards call for entities to identify, analyze, and respond to risks related to achieving the defined objectives, such as by estimating the significance of identified risks to assess their effect on achieving defined objectives. Management estimates the significance of a risk by considering the magnitude of impact, which refers to the likely magnitude of deficiency that could result from the risk and is affected by factors such as the size of a risk’s impact. Without employing a risk-informed approach to scheduling and conducting internal control reviews that takes into account the risks to the Inspection and Enforcement program, such as those inherent in field offices’ workload and workforce, BLM will not have reasonable assurance that it has adequate controls in place to address the effect of the field offices that pose the greatest risk to the program. BLM officials said that assessing risk, including field offices’ workload activity levels, could provide a useful metric to inform how BLM conducts and prioritizes field office internal control reviews.

44GAO-14-704G.
Conclusions

On federal and Indian lands, BLM’s Inspection and Enforcement program is intended to ensure that operators developing oil and gas resources do so in a manner that protects public safety, environmental health, and royalty income. This is a complex undertaking that occurs within the oil and gas market and requires BLM’s PET inspectors to conduct technically challenging drilling, production, and plugging inspections. In this context, BLM’s July 2012 oversight policy calls for its state offices to conduct periodic internal control reviews of field offices. While BLM state offices completed internal control reviews at 6 field offices, they did not complete reviews at 27 field offices, including 5 of the 6 highest activity field offices we identified. In addition, because it did not consistently monitor and track state office performance, BLM headquarters (1) did not know that state offices were not conducting field office internal control reviews in accordance with the July 2012 oversight policy and (2) could not analyze the reasons why actual performance did not meet expected results. Identifying the reasons it did not complete internal control reviews (e.g., human capital and workload), developing and implementing a plan to address those challenges, and monitoring state offices’ progress toward completing required reviews will better position BLM to ensure that its state offices are completing all required internal control reviews as called for by its July 2012 oversight policy.

Additionally, although BLM’s July 2012 oversight policy does identify the specific areas that internal control reviews should assess, BLM did not provide state offices with implementation guidance or procedures. Because they did not have documented implementation guidance or procedures to follow, the two state offices that completed internal control reviews developed their own procedures, which varied in design, methodology, and resources. Without developing and documenting procedures for implementing internal control reviews under the July 2012 oversight policy, BLM does not have assurance that state offices will review all specific areas identified in the July 2012 oversight policy in a consistent manner.

Furthermore, and inconsistent with federal internal control standards, BLM’s July 2012 oversight policy established a review schedule without identifying or considering risk. Without employing a risk-informed approach to scheduling and conducting internal control reviews that takes into account the risks to the Inspection and Enforcement program, such as those inherent in field offices’ workload and workforce, BLM will not have reasonable assurance that it has adequate controls in place to address the effect of the field offices that pose the greatest risk to the program.
Recommendations for Executive Action

We are making the following three recommendations to BLM:

The Director of BLM should identify the reasons internal control reviews were not completed (e.g., human capital and workforce), develop and implement a plan to address those reasons, and monitor state offices’ progress toward completing required reviews. (Recommendation 1)

The Director of BLM should develop and document procedures for implementing internal control reviews under the July 2012 oversight policy. (Recommendation 2)

The Director of BLM should implement a risk-informed approach to scheduling and conducting internal control reviews that takes into account the risks to BLM’s mission, such as those inherent in field offices’ workload and workforce. (Recommendation 3)

Agency Comments

We provided a draft of this product to the Department of Interior for comment. In its comments, reproduced in appendix I, Interior concurred with our three recommendations and outlined planned actions to implement them. For example, BLM plans to issue updated guidance and procedures for conducting internal control reviews to help ensure that such reviews are completed in a timely manner using a consistent risk-based approach.

As agreed with your office, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the report date. At that time, we will send copies to the appropriate congressional committees, the Secretary of the Interior, and other interested parties. In addition, the report will be available at no charge on the GAO website at http://www.gao.gov.
If you or your staff have any questions about this report, please contact me at (202) 512-3841 or ruscof@gaog.ov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix II.

Sincerely yours,

[Signature]

Frank Rusco
Director, Natural Resources and Environment
Appendix I: Comments from the Department of the Interior

United States Department of the Interior
OFFICE OF THE SECRETARY
Washington, DC 20240

FEB 1 2019

Mr. Frank Rusco
Director, Natural Resources and Environment
U.S. Government Accountability Office
441 G Street NW
Washington, DC 20548

Dear Mr. Rusco:

Thank you for giving the Department of the Interior (Department) the opportunity to review and comment on the draft Government Accountability Office (GAO) report entitled, Oil and Gas Development – Actions Needed to Improve Oversight of the Inspection and Enforcement Program (GAO-19-7).

The GAO issued the Department’s Bureau of Land Management (BLM) three recommendations in response to its overall findings. The Department agrees with the underlying findings leading to the three recommendations but proposes an alternative approach to resolve the GAO’s findings.

The Department is committed to improving the oversight of BLM’s oil and gas inspection and enforcement program. Additionally, the Department has identified the completion of 100% of the high priority fluid mineral case inspections during the year as an annual Strategic Plan goal in the new Fiscal Year (FY) 2018-2022 Strategic Plan.

The following is a summary of the BLM’s planned actions to implement the report’s recommendations:

Recommendation 1: The Director of BLM should identify the reasons internal control reviews were not completed (e.g. human capital and workforce), develop and implement a plan to address those reasons, and monitor state offices’ progress toward completing required reviews.

Response: Concur. The BLM is aware that because of human capital (e.g., long-term vacancies in multiple state offices’ inspection and enforcement coordinator positions) and competing priority challenges, some individual state-based internal control reviews were not completed. The BLM will implement an alternative solution by issuing updated guidance and procedures for conducting oversight reviews of the oil and gas inspection and enforcement program, including quality assurance. The guidance will ensure reviews are completed in a timely manner using a consistent risk-based approach.
Appendix I: Comments from the Department of the Interior

Recommendation 2: The Director of BLM should develop and document procedures for implementing internal control reviews under the July 2012 oversight policy.

Response: Concur. The July 2012 oversight policy (IM-2012-161) required state offices to conduct internal control reviews with existing staff. This policy, which expired on September 30, 2013, should not have been allowed to lapse. Given the importance of internal control reviews, the BLM will issue updated guidance and procedures for conducting oversight reviews of the oil and gas inspection and enforcement program, including quality assurance.

Recommendation 3: The Director of BLM should implement a risk-informed approach to scheduling and conducting internal control reviews that takes into account the risks to BLM’s mission, such as those inherent in field offices’ workload and workforce.

Response: Concur. The BLM will issue updated guidance and procedures for conducting oversight reviews of the oil and gas inspection and enforcement program, including quality assurance. The guidance will ensure reviews are completed in a timely manner using a consistent risk-based approach.

If you have any questions about this response, or need additional information, please contact Michael D. Nedd, Assistant Director - Energy, Minerals and Realty Management at (202) 208-4201 or Tiya Samuels, Chief - Division for Evaluation and Management Services at (202) 912-7090.

Sincerely,

[Signature]
Joseph R. Balduf
Assistant Secretary
Land and Minerals Management
Appendix II: GAO Contact and Staff

Acknowledgments

Contact:
Frank Rusco, (202) 512-3841 or ruscof@gao.gov

Staff
Acknowledgments:
In addition to the contact named above, Christine Kehr (Assistant Director), Patrick Bernard (Analyst-in-Charge), Tara Congdon, William Gerard, Cindy Gilbert, Jessica Lewis, Dan Royer, Kiki Theodoropoulos, Karen Villafana, and Jack Wang made key contributions to this report.