**UNITED STATES DEPARTMENT OF THE INTERIOR**
**BUREAU OF LAND MANAGEMENT**
**Minerals and Realty Management**
**Division of Fluid Minerals**

# 2011 Inspection and Enforcement

Internal Control Review
of
Documentation of Inspections and Review of Drilling, Environmental, and Production Inspections

| UNITED STATES<br>DEPARTMENT OF THE INTERIOR<br>BUREAU OF LAND MANAGEMENT | **Program Evaluated:**<br>**Documentation of Inspections and Review of Drilling, Environmental, and Production Inspections** |
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# Evaluation Report Approvals

| **Recommended By (Name and Title)** | **Signature** | **Date** |
|---|---|---|
| Michael Wade, Division of Fluid Minerals,<br>ICR Team Lead | | |
| **Concurrence By (Name and Title)** | **Signature** | **Date** |
| Steven Wells, Chief,<br>Division of Fluid Minerals | | |
| **Approved By (Name and Title)** | **Signature** | **Date** |
| Mike Nedd, Assistant Director,<br>Minerals and Realty Management | | |

By signing this report, the managers are approving the findings and recommendations contained herein. The Chief, Division of Fluid Minerals, is also committing to prepare a National Corrective Action Plan and report quarterly to the Assistant Director, Minerals and Realty Management, on the progress to address and close the recommendations.

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# Executive Summary

In Fiscal Year 2011, the BLM conducted an Internal Control Review (ICR) of the onshore oil and gas Inspection and Enforcement (I&E) program. Three attributes of the program were selected for review: documentation of inspections; review of technical and procedural proficiency in drilling, production, and environmental/reclamation responsibilities; and a records review. Ten field offices with major oil and gas responsibilities were reviewed and an audit closeout report was prepared for each office.

Generally, the field reviews found overall morale to be quite good especially, given the high level of activity and, in some cases, substantial overtaxing of personnel with more work than can be achieved under the current strategy. The host offices welcomed the review teams with a cooperative attitude from nearly all employees encountered and interviewed. Offices demonstrated genuine interest in learning from the review and being open-minded to suggested findings and improvements and have already begun implementing corrective actions to their I&E program as a result.

The national emphasis on training and certification of Petroleum Engineering Technicians (PETs) appears to be successful. The reviewers found overall technical proficiency as satisfactory. As judged by interviews and as measured by field proficiency reviews, the recently offered refresher training appears to be well-received and successful. Generally, inspection staff shared that they feel management supported enforcement decisions.

The oil and gas program is incredibly complex, requiring technical skills to meet the evolving challenges and industry innovations. Periodic internal and external reviews are necessary to cite additional considerations for program effectiveness. The I&E staff are the front lines to ensure entrusted mineral resources are appropriately managed. The onshore oil and gas royalties collected in FY2011 were over $2.7 billion with roughly $40 million spent directly to complete 33,000 inspections. The BLM must recognize this value and the return on investment for the importance to the Nation of this inspection work. Often inspections to achieve prudent and sound operations by the industry are what the public will gauge and measure as reaching success.

**Funding**

The teams did not formally review funding levels although the oil and gas program has struggled historically matching funding and staff to the latest boom cycles. The teams believe that at least five offices (Bakersfield, Vernal, White River, Dickinson, and Jackson) are underfunded to accomplish the workload that presently exists as well as the expected increased activity projected for their programs. In two offices (Bakersfield and White River), this has meant that little overtime is allowed and little field presence exists to witness any operations after mid-afternoon during the week and weekends. The offices may not have fully used alternative work schedules to address necessary inspection workload. Other offices are completing only about one-third of the strategy requirements because of this funding shortfall. For example, in at least one office (Vernal), they have not been able to inspect a number of drilled wells, and those wells have had no inspections from their inception. The review discovered examples of this and examples of where no inspections of some wells had occurred in 10 to 12 years.

**Documentation**
Some offices (Farmington, Carlsbad, and Jackson), have poor records/file management that has not caught up to the workload activity. Fundamental provisions for maintaining effective files are not in place, leading to situations where files are incomplete, misfiled, or even missing entirely. Those offices do not have established protocols in place to assure file integrity. In one office (Jackson), the review team and the hosting staff could not locate 22 of the 29 files randomly selected.

Documentation as required by policy for Automated Fluid Minerals Support System (AFMSS) and hardcopy files is incomplete in a number of offices. A number of offices struggled with the appropriate documentation and paperwork. Most reviews, however, found good technical proficiency in performing inspections. While training stresses that both aspects are required for a successful program, the documentation aspect often lags behind in many offices. Related to this, many offices (Vernal, Rawlins, Pinedale, Dickinson, Oklahoma, and Jackson) identified a need for and requested additional AFMSS training as part of improving program effectiveness.

Several offices (Vernal, White River, Pinedale, Farmington, Carlsbad, and Tulsa) frequently, and others occasionally, used undocumented verbal warnings outside of established policy. Offices provided various reasons including what was considered to be a workload coping necessity (i.e., not enough time to formally attempt to achieve compliance versus informal attempts via phone calls or one-on-one conversations). Other reasons reflected leniency as a matter of operating policy of the office or by the inspectors themselves, as well as misinterpretation of existing guidance.

Several offices (Bakersfield, Vernal, White River, Pinedale, Dickinson, and Carlsbad, likely due to triage with overall workload), conducted inspections that are incomplete and otherwise mislabeled as to the type of inspection performed. Mislabeled inspections generally indicate a more complete inspection had taken place than what was actually performed. Misinterpretation and confusion of related policy contributes to proper inspection labeling. Overall, additional guidance, training and continue dialog would assist offices in applying policy more consistently.

**Environmental Monitoring**
A number of offices have low-quality environmental inspections as they struggle to keep up with exploration and production activity. This finding is consistent when staff outside of the program are used to perform environmental/reclamation inspections, such as an office using PETs who are not trained sufficiently to do environmental compliance inspections.

**Structure and Policy Oversight**
Offices that maintained subordinate supervisory positions and leads exhibit far superior accomplishments, program quality, and mentoring than in those offices that lack those same positions. One office (Pinedale), with little subordinate supervision or lead-type positions, struggled in program effectiveness. The organization structure in place often directly affects the program leadership, program direction, mentoring, quality control, and morale of the offices.

Both the national office's and the respective state offices' ability to provide independent quality assurance contribute to limited formal program review and oversight. It appears the inspection

program has taken a major step backwards from what was in place in the 1980s and 1990s. Then, "quality assurance/quality assistance" reviews were a stronger emphasis of the national program. States report a limited ability to provide the requisite oversight.

The field does not understand well or widely accept the new 2011 Inspection and Enforcement Risk-based Strategy instructions built from audit recommendations. Many voiced complaints about the content, and there is much confusion as well. The field's reaction to the 2011 Strategy is in marked contrast to the accompanying questions regarding the 2010 Strategy, which for the most part was favorably received, understood, and followed similar guidance from preceding years. Every year, the Washington Office shares advance copies of the draft strategy for review and comment by the states prior to issuance. Improved communications at all levels will help alleviate future misunderstandings.

Safety and inspector remoteness of work is a concern; offices must ensure robust tracking of staff. Other program concerns are faced by those offices located in high cost-of-living areas and those offices located in particularly isolated locations that struggle with retention challenges. Significant impacts to the program exist where chronic turnover in personnel continues to be an ongoing issue exacerbated by strong industry activity with lucrative pay. Not all offices, staff and workload are equal, so the BLM inspection program will always face challenges to find the best approach that will maximize compliance effectiveness for onshore oil and gas.

# Background

The Federal Government requires proper production reporting, measurement, and accounting of oil and production to ensure the resulting collected royalties reflect that production. The Bureau of Land Management (BLM) is responsible for the management of onshore Federal oil and gas operations, a task previously performed by the United States Geological Survey (USGS). Historically, the inspection and enforcement program has had many challenges due to the complexity of the program, large volumes, and continuing competition with industry for trained staff. Since its inception, BLM improvements in the Inspection and Enforcement (I&E) program include additional training, updating Onshore Orders, and technical procedure reviews of the program to identity the successes, weaknesses, and areas for improvement. The BLM conducted the last major round of reviews in 1998-99 to evaluate the effectiveness and completeness of the inspections and enforcement, and identified documentation, consistency, and enforcement challenges. Recent audits by the Department of the Interior Office of Inspector General (OIG) and Government Accountability Office (GAO) further identified that the BLM needed to take a hard look at the I&E program and provide adjustments to improve effectiveness.

The Department of the Interior (DOI) oil and gas program has been designated a high-risk program by GAO. In a February 2011 report, the GAO designated Federal management of oil and gas resources, including production and revenue collection, as high risk because the DOI (1) does not have reasonable assurance that it is collecting its share of revenue from oil and gas produced on Federal lands; (2) continues to experience problems in hiring, training, and retaining sufficient staff to provide oversight and management of oil and gas operations on lands and waters; and (3) is currently engaged in a broad reorganization of both its offshore oil and gas management and revenue collection functions.

To respond to audit findings and better judge the health of the program, the Washington Office (WO) identified 10 field offices for documentation review, field inspections, and interviews with the staff. Figure #1 identifies the 10 field offices.

# Evaluation Objective and Scope

Objectives of the Internal Control Review:

The objectives of the I&E Internal Control Review (ICR) include:

1. Assess the adequacy of I&E practices in BLM field offices with major oil and gas responsibilities in the areas of drilling, environmental, and production inspections.
2. Ensure the field office documents I&E activities in the case files and tracks them in the Automated Fluid Minerals Support System (AFMSS).
3. Identify successful on-the-ground practices and share this information among the BLM's field offices and other Federal and state agencies through the Fluid Minerals website, brochure development, training courses, and conference presentations.
4. Engage with the local field office staff, supervisors, and managers in an open discussion of I&E policies, standards, and practices.

Scope of the ICR:

> The ICR evaluated I&E practices in 10 field offices with oil and gas programs out of the 33 BLM field offices that currently manage oil and gas operations on Federal and/or tribal minerals.

Appendix I lists program questions for the review. The ICR used performance standards taken from the *I&E Documentation and Strategy Development Handbook* (H-3160-5).

## Methodology

Review teams, headed by senior specialists from the field, visited 10 field offices with major oil and gas responsibilities in California, Colorado, Eastern States, Montana, New Mexico, Utah, and Wyoming. The WO selected the field offices based on a self-assessment on documentation of inspections conducted in Fiscal Year (FY) 2010. The procedure for each individual field office included a review of the drilling, production, and environmental portions in the inspection program including random samples for case file review, and a follow-up side-by-side field inspection review. The reviewers compared the documentation in the case file and the AFMSS database. The entrance and closeout discussions included, as available, the State Directors and Deputy State Directors.

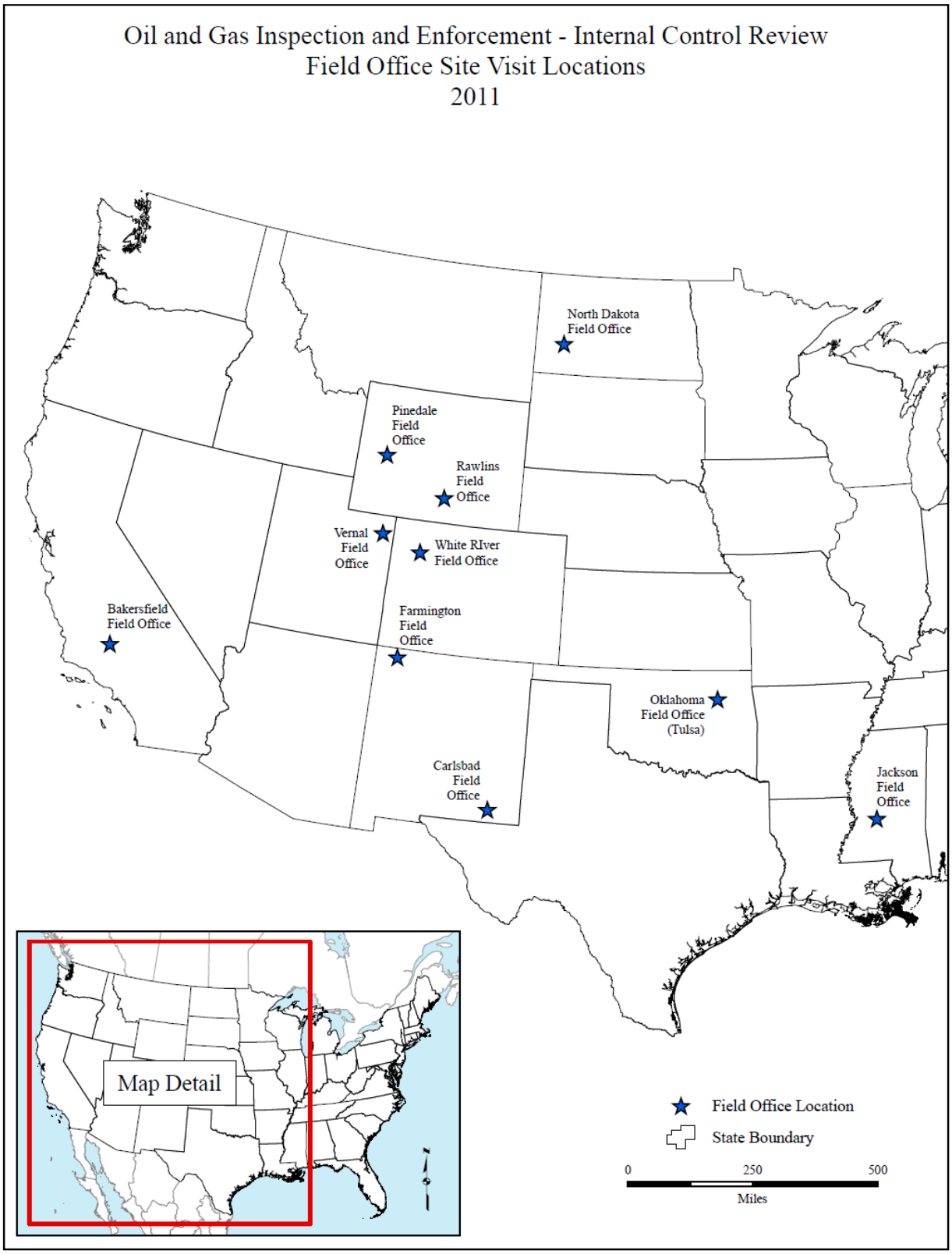
Oil and Gas Inspection and Enforcement - Internal Control Review
Field Office Site Visit Locations
2011
North Dakota Field Office
Pinedale Field Office
Rawlins Field Office
Vernal Field Office
White RIver Field Office
Bakersfield Field Office
Farmington Field Office
Oklahoma Field Office (Tulsa)
Carlsbad Field Office
Jackson Field Office
Map Detail
Field Office Location
State Boundary
0
250
500
Miles

Figure #1

## Areas of Positive Performance

General:

- The field office staffs have remarkably positive attitudes. The new employees hired are enthusiastic and willing to pursue professional development as was evidenced during discussions with field staff.

Specific:

- Bakersfield has outstanding remarks entered, consistent oversight, and a strong relationship to foster cooperation from industry.
- Carlsbad, Pinedale, Vernal, Dickinson, and Bakersfield have significant development activity and creatively tried to meet this workload.
- Jackson and Eastern States cover a broad area and depend on the local inspector to maintain cooperative relationships with the industry operations inspected.
- Farmington tracks and plans their inspections well, with thorough oversight; Bakersfield exhibits similarly strong inspection oversight.
- Dickinson and Carlsbad offices are able to use inspectors from other offices: states work well to match scarce skills staff to workload needs.

## Opportunities for Improvement

- Within each state, and across states, the inspection program needs continued maintenance of the workload and staffing, and adjusts by filling vacancies accordingly within the available budget; external audits suggest that an overall workload analysis could make the case to justify additional appropriations.

- Field office staff must ensure documentation, with periodic reviews by supervisors and managers; support the staff; and encourage continued vigilance and diligence.

- Oversight at all levels would strengthen the inspection emphasis, improve program continuity, and improve communication with sharing of information – especially critical criteria for a technical program.

- The program is overdue for automation with remote access by all specialists; improve workflow processes with less replication of data capture and entry. The AFMSS system needs to be enhanced to tighten the data fields, and provide one-time remote data entry, with immediate access to Oil and Gas Operations Report (OGOR) production data from the Office of Natural Resources Revenue (ONRR).

- The BLM needs to secure the Navajo records; records must be accessible and organized to support effective inspection and fiduciary efforts.

# Findings and Recommendations by Field Office

### Bakersfield Field Office ICR

On the whole, the Bakersfield Field Office (BFO) I&E program appears to be robust and vigorous. The Petroleum Engineering Technicians (PET) and Natural Resource Specialists (NRS) are all actively engaged in the program. The discrepancies found by the ICR were primarily minor in nature; the office does need to address securing appropriate overtime for field inspections to ensure production accountability and that the performance of priority inspections is completed. A lack of overtime funding restricts coverage for the operations in the field that would help provide compliance credibility from the operators. Simple procedural changes such as use of the proper form and account codes would resolve most of the inconsistencies. In some of the cases reviewed, there were more than a thousand wells associated with that case. The application of a 390 Categorical Exclusion (CX) seemed to indicate that six separate wells were being approved using the same CX. It also appears upon inspection that the NRS staff is doing virtually no Environmental Inspection (ES)/ Surface/Environmental - Producing (SP) inspection outside of onsite visits (which were improperly coded) and surface abandonments. None of the 13 inspections examined had very descriptive comments; the most explanatory had only a few sentences and no pictures. Often the remarks were limited to very short comments.

The Bakersfield table of organization shows five PETs (one certified PET, two PETs in Module 3, one Student Temporary Employment Program (STEP) PET, and one certified PET who is on Temporary Duty (TDY) in a Petroleum Engineer (PE) position), three NRSs (one with many years of experience and two with less than 5 months on the job), one Environmental Protection Specialist (EPS), two Physical Science Technicians (PST), one Supervisory PET, Supervisory Natural Resource Specialist (SNRS), Assistant Field Manager (AFM)-Minerals, and AFM-Resources.

**Drilling** – Due to funding constraints, there is limited overtime and they do not perform casing inspections. There are budget concerns so BFO provides overtime only for witnessing Blowout Prevention Equipment (BOPE) tests on 3,000 psi (3M) or greater systems. All PETs were concerned about the limited funding to do the required high priority work; the instruction is given to leave well locations by 3:00 p.m.

The drilling inspection process in Bakersfield is best summarized as a light review of drilling activity and, most importantly, exhibited a lack of proper documentation. Inspections reviewed had few or no comments in the AFMSS database. Supporting documentation, such as cement job reports, tally sheets, BOPE test results as well as charts of the test, were never included. Bakersfield is not performing casing or cementing inspections. The lack of experienced PETs in this office limits the ability to lead training for the new personnel. PETs do not enter their inspections into AFMSS individually; inspections are entered by a PST. This could lead to details lost on inspections that may be significant.

The inspector was knowledgeable in his field and maintains a good relationship with company representatives. This area has rigs running for 2 days per well on Federal properties, so the inspector is not allowed much time on an individual well. The inspector often visits multiple

wells in one day, sometimes as many as six or seven. Inspectors need to assess the quality and quantity of the casing and cementing details; these were lacking in the office documentation, as well as in the inspections in the field. The ability to cover priority inspections with the appropriate overtime and funding is necessary to ensure compliance of the operations.

**Production** - Overall, the filing system appeared to be organized well. Many cases are very large and Bakersfield performs multiple field visits over several weeks and/or months. Each week the PETs are required to submit the first two pages of the 3160-11s, *Inspection Record-Production*, for each case they worked on that week; this is for tracking and work review. We recommend independent volume calculations and comparisons to OGORs should be documented in the hardcopy and in AFMSS. It is strongly recommended that PETs use the Corporate Metadata Repository Hyperion Reports (BRIO) database when reviewing the OGORs. Management should determine if multiple personnel performed the same activity together, then review the times coded in AFMSS.

The technical procedures during the field inspection were in conformance with the H-3160-5. However, data entered into AFMSS should be more accurate. The Production Accountability Technician (PAT) felt additional oversight of the program is necessary.

The review noted for production: Adjustment Reason 42, where the ONRR Reported Handbook defines this code as "Differences/Adjustments" with very broad application; the BLM may want to request an explanation for these cases.

**Environmental** - It also appears upon inspection that the NRS staff is doing virtually no ES/SP inspection outside of onsite visits (which were improperly coded) and surface abandonments. None of the 13 inspections examined had very descriptive comments; the most explanatory had only a few sentences and no pictures. Often the remarks were limited to very short comments. ES inspections should only be conducted for "post-approval activities" and onsite visits are definitely pre-approval. This type of inspection seems to be the most common conducted by the NRS staff. It also appears that the BFO is using the 3160-11 form for <u>every</u> inspection type.

The EPS is a position on the Minerals staff whose duties include Hazardous Materials. When oil and gas (O&G) facilities are constructed and removed, an inspection is necessary because of the methods the operator must employ to handle sour gas. For facility removal, asbestos, lead paint, and the concentration of mercury in tank bottoms may occur.

**Findings** - Overall, the health of the program is very good. The BFO is made up of highly qualified, experienced, and knowledgeable employees versed in the unique O&G challenges presented in the field office. This energetic staff has a genuine care to accomplish the BLM's mission. Care must be given to consider the appropriate overtime to cover priority inspections and maintain the compliance visibility with the operators.

The Threaten and Endangered Species (T&E) conservation program is very well run given the scope of the O&G development. It was reported that the Field Office (FO) manages six T&E animals and four T&E plants where 5-10 percent of the land remains unaltered.

A positive finding for the BFO I&E program, "remarks" are always entered. The quality of some of the remarks could be improved. It is a step in the right direction to ensure that at least some remarks are entered. The review team noted that OGORs for all of the cases reviewed are current. The strong OGOR records are a testament that production reporting is a priority at BFO.

The technical aspect of the field work is of high quality. The field inspectors do a good job in spite of some unique challenges. They have a clear understanding of the regulations and Onshore Orders.

Positives include use of GIS maps, *Toughbook* laptops, forms, calculations, and exportable Portable Document Format (PDF) files for field input. The Supervisory PET position is devoted to oversight of the I&E program, providing valuable training to new employees. This oversight can be singled out as the most significant positive finding in the review.

Finally, the relationship that the BFO has with industry is exemplary. The lines of communication are open and active at all levels within the hierarchy. This is essential to an effective I&E program.

**Recommendations**

- Evaluate funding for overtime; Staffing needs must match industry 24/7 operations to achieve compliance. Additional funding needs should be communicated to ensure coverage or the use of Alternative work schedules.
- Areas to watch, require more detail in documenting the inspection process:
    - Casing details including witnessing.
    - Cement details including witnessing.
    - Retention of documentation on third-party services.
- There needs to be more emphasis in environmental inspections beyond the onsite.

## Vernal Field Office ICR

The review team was well-received and information was freely provided by all of the Vernal staff. The close-out included the District Manager, the AFM for Lands and Minerals, the Acting AFM for Lands and Minerals, the Supervisory NRS, the I&E Coordinator, and the State I&E Coordinator.

The office has an overwhelming workload. They have 4 ongoing oil and gas Environmental Impact Statements (EISs) and over 1,100 pending Applications for Permit to Drill (APD). The FY 2010 strategy indicated a shortfall for technical inspections of 81 workmonths; the FY 2011 strategy will make it even more difficult to meet the number of required inspections. For a very active pilot office, Vernal needs additional staff to provide program coverage; some wells have had little or no inspections. Staff turnover and shortage of the inspectors, engineers, and NRSs is a challenge. From the NRS turnovers, none of the NRSs has more than 4 years of experience; with the staff turnover the last few years, interim reclamation has not been a priority. Many wells have not been inspected within prescribed timeframes. The NRSs need more technical oversight; using a mentoring program helps, but the mentors are also inexperienced. The office established a reclamation team that reports directly to the Field Manager. The reclamation team is responsible for all reclamation within the field office including oil and gas operations. Vernal should consider integrating the reclamation team into the I&E program including the strategy and reporting of accomplishments. There have not been many reclamation inspections in the past, but there is an effort to improve.

Vernal completed all high priority drilling, abandonment, and production inspections plus the required one-third of Indian low priority production inspections. Vernal did not complete the required one-third of Federal low priority production inspections; Vernal completed 42 of the required 151. It is believed Vernal completed the required environmental inspections. However, because the reclamation team is conducting the Surface/Environmental - Interim Reclamation (IR) inspections, it is unclear how many IR inspections were completed. The Supervisory PET has a full inspection workload, leaving little time to conduct technical oversight. Vernal has a good mix of experience and staff rely on each other for technical assistance.

All Incidents of Non-compliance (INC) are tracked in AFMSS. Verbal INCs are commonly used for minor violations by all PETs and NRSs, and are being documented in AFMSS. Vernal has been very successful with using verbal INCs and feel they have a very good working relationship with operators. Many admitted that the remarks section in AFMSS is lacking. The need to put an inspection summary in the remarks section of AFMSS and in the file was emphasized at the recent Drilling Refresher training. Most felt they were doing a better job since the training.

**Drilling** - Appropriate documentation of BOPEs and accumulators were on the low side with good documentation on only about one third of the inspections reviewed relating to witnessing of BOPE testing. Calculations, when performed, were complete and accurate. However, this was only being done about 60 percent of the time. Correct forms were used to conduct the drilling inspections, with the exception of one inspector who is using an older form. The information on the forms was not always complete – such as not recording the number of centralizers used when witnessing cementing activities. Remarks were missing in 10 of the inspections and were

inadequate in the other 2 inspections. The documentation section of the H-3160-5, Section IV-3, B.16 requires: "A summary of the results of the inspection, any problems encountered and resolved, and all other pertinent information including notes that may aid future inspections included in both the hard copy file and the AFMSS database."

Additional documentation such as job logs, service company reports, or any other information, available from either the operator or its contractors, was missing for three of the inspections. Calculations contained in the files were complete and accurate. However, five of the inspections did not show any calculations. Two of the wells had two separate Drilling Well inspections (DW) entered in AFMSS; only one DW inspection should be entered in AFMSS regardless of the number of trips or activities performed. Both PETs inspecting in the field appeared to be technically and procedurally competent; inspections were conducted in accordance with guidance and policy, and filed inspection forms were properly completed. No external documentation such as work tickets or test charts was requested of the company to supplement the documentation. Self-generated documents and calculations were complete and accurate. Remarks entered into AFMSS were minimal and did not contain a summary of the inspection as required by H-3160-5.

**Production** - Some of the inspection files were very detailed, complete with proper documentation, and attached gas calibration reports, 2 percent gas error reports, run tickets, run ticket verification calculations, site facility diagrams, strapping tables, and correspondence concerning reporting issues with particular companies. Some of the inspection files had a good representative sample of wells, facilities, and measurement actions. Remarks in AFMSS were missing in 10 of the 12 inspections; summaries of the inspections were missing in the files of many of the inspections reviewed. Three of the inspections did not have sufficient measurement activities as required by policy - specifically, two cases produce oil, but there was no oil measurement activity. One case produces both oil and gas, but there were no oil or gas measurement activities.

One of the cases did not contain an OGOR Review (RR) as required by policy. Both PETs inspecting in the field appeared to be technically and procedurally competent. Inspections were conducted in accordance with guidance and policy; field inspection forms were properly completed. Violations were discovered and proper enforcement actions were taken.

One of the locations had a gas bypass that runs from downstream of the meter to the treater. There was no approval in AFMSS for the bypass for this well; however, this type of configuration has been approved in the past for other wells in the FO.

**Environmental** - One of the inspections was conducted by a Forest Service (FS) employee who is part of the pilot program. No documentation of this inspection was found in the file and there were no remarks in AFMSS. Following is a summary of the findings for the other 10 inspections:

Form 3160-27 was correctly used for all of the inspections (where forms were located); proper inspection codes were used. Two inspections indicated in AFMSS did not have the form or any indication of the inspection in the file. Remarks in AFMSS were missing in four of the

inspections; remarks for many of the other inspections do not include a sufficient summary as required by H-3160-5. Some of the inspections indicated problems and/or violations discovered during the inspection, but it is not clear what, if any, follow-up actions were taken. Both NRSs appeared to be technically and procedurally competent. Field inspection forms (WO-310's new inspection forms instead of the "official" AFMSS forms) were properly completed. Interim reclamation was not completed on two of the locations as required by the Application for Permit to Drill (APD). This was not identified by the NRS. Some violations were identified by the NRSs and were noted in the inspection file and in the remarks section of AFMSS. However, AFMSS did not show any INCs, written orders, or verbal orders had been issued.

**Findings** - Despite this workload, the staff has a very positive and upbeat attitude. Areas to focus upon:

- The documentation section of H-3160-5 (Section IV) requires a summary of the inspection to be placed in the case file and in AFMSS. This is missing or is not complete for many of the inspections. The reclamation team could be more effective; their work could be integrated into the oil and gas program. This includes planning for work and accomplishments in the I&E strategy, capturing all work in AFMSS and the well files, setting priorities in accordance with the I&E strategy, etc. Need to document credit for the work completed. Also, need to clarify the roles of the reclamation team NRSs with the minerals NRSs.
- Gas bypasses are a violation according to Onshore Orders No. 3 and No. 5, yet they appear to be prevalent.
- Environmental Inspections have been neglected in the past, but the changes made last year are positive.
- Laptops with air cards for the staff, especially the NRSs, add effectiveness if data entry is feasible from the field – seek more automated tools.
- More boots on the ground; recruit additional staff to ensure there is appropriate program coverage in a very active office – wells should not fall through the cracks and not be inspected for a number of years.

**Recommendations**

- Drilling Inspection program was lacking documentation(service company reports, independent caculations); consider refresher training and supervisory oversight.
- Address the gas bypasses per Onshore Orders.
- Ensure that enforcement actions and inspections are properly documented both in the official file and in AFMSS in accordance with H-3160-5.
- Need to continue and encourage progress with the additional environmental inspections to build on the progress in recent years.

## White River Field Office ICR

The ICR team was well-received and information was freely provided by all of the Meeker staff. The team found the White River Field Office (WRFO) staff to be very knowledgeable and appeared to be technically and procedurally competent in the performance of field inspections. The Field Manager was very receptive to the information presented at the closeout and asked for clarification when needed.

The team reviewed both the records (official files and AFMSS) for the three fundamental types of inspection: 1) Drilling, 2) Environmental, and 3) Production Inspections. In doing so, the ICR team looked at how the staff followed BLM policy in conducting and documenting these types of inspections. The ICR team found the inspection staff did a good job of actual conducting inspections.

**Drilling** - Four of the nine hardcopies of the drilling inspections could not be located. Four alternate drilling inspections were selected from AFMSS. Two of the hardcopies of these drilling inspections could not be located. Correct forms were used to conduct the drilling inspections; however, information on the forms was not always complete. In some cases, the remarks were minimal and did not meet the requirements of H-3160-5. Additional documentation such as job logs, service company reports, or any other information available from the operator or its contractors was missing for four of the inspections.

Two drilling inspections were conducted on active drilling operations with two different PETs. Both inspections were conducted in accordance with guidance, policy, forms were properly completed, and remarks entered into AFMSS contained a summary of the inspection. External documentation such as cementing tickets and test charts were requested of the company to supplement the documentation.

**Production** – The team reviewed 11 cases. Production Record reviews (PR) conducted by the PATs are thorough, complete, and well documented. The proper forms were not used for many of the inspections. Some of the PETs are instead using an internal, condensed version of the forms that does not contain all of the required information. Four of the cases reviewed produce oil, yet none of them had an oil measurement activity included with the inspection. Very few gas volume calculations were shown in conjunction with the gas chart/electronic flow meter (EFM) Verification (CV) activities, and it was not indicated that the meter uncertainty limits for electronic flow meters flowing more than 100 MCF/day were being determined as required. The PETs indicated that they are using programmable calculators to verify the gas volume. This is acceptable; however, the information used for the calculations and the volumes calculated need to be documented in the files. Due to weather issues, options were limited and only one production inspection was conducted. The case involved two oil wells with one oil tank. Inspection was conducted in accordance with guidance and policy. The inspection form was properly completed, and proper enforcement actions were taken on violations.

**Environmental** - AFMSS records indicate that IR inspections occurred on two of the wells from the nine cases reviewed; however, the wells are not yet drilled. It is unclear why an inspection

would be entered in AFMSS. No documentation was contained in the files for six of the inspections. H-3160-5 requires that all documentation be included in the hardcopy file.

Three environmental inspections (three wells) were conducted by two different NRSs. The Approved Application for Permit to Drill (AAPD) for two of the wells (drilled 1966 and 1978, respectively) did not contain specific surface use plans or conditions of approval specifying what, if any, degree of interim reclamation was required. Inspectors noted that interim reclamation was insufficient on the location drilled in 1966. The well drilled in 1978 has been recently incorporated into a larger facility that manages produced water. Ongoing surface disturbances, new facilities, and the snow cover made it difficult to discern what, if any, interim reclamation has occurred.

Interim reclamation at the third location (drilled in 2005) appeared inadequate or nonexistent. Snow cover precluded observations of details; however, it is apparent that no recontouring has occurred and much of the pad area is not currently used for active support of production.

The facility layouts were not good for effective interim reclamation. This was recognized as an issue by the inspectors; however, due to age of wells and approval documents, the layout was either approved as is or not addressed in the APD approval. It was beyond the scope of the review to look at new APD approvals to see if this issue is now being addressed in new APDs, either as approvals or conditions of approval (COA).

Other noncompliance issues identified by the NRSs included the lack of interim reclamation, invasive/noxious weeds, insufficient runoff controls and road/pad surfacing, and facilities not painted to match the surrounding landscape. These were noted in the inspection file and in the remarks section of AFMSS.

**Findings** - There appears to be confusion or a lack of communication regarding the availability of overtime funding for high priority drilling inspections. The PETs indicated that no overtime was available. The management stated that was not the case. The issue of available overtime needs to be clarified so that the high priority drilling inspections can be completed. There were 135 wells drilled in FY 2010; inspections were conducted on 53 wells. Of the 53, only 4 were BOPE tests and only 6 were cementing. The office needs to find a way to accomplish more of these BOPE and cementing activities.

The FY 2011 I&E strategy matrix is not complete, showing a zero in the environmental inspection items (Section 4) for both Drilling High and Low, and Producing High and Low. This section should reflect the correct number even if there are no adequate resources to conduct all of the High inspections. The matrix would then reflect a shortfall. Base on the changes made to the FY 2010 matrix, it appears there is still confusion on how the environmental section of the matrix is to be completed. The I&E strategy is not being followed for environmental inspections and no oversight of inspections is being conducted.

AFMSS remarks indicate that noncompliance issues were identified during many of the inspections; however, AFMSS does not include any INCs, written orders, or verbal orders associated with the noncompliance. The remarks in AFMSS do not indicate if any follow-up

actions were taken. Both the PETs and NRSs stated that they use Verbal Warnings, but tracking and follow-up may be lacking. According to H-3160-5, all actions including INCs, Written Orders, and Verbal Warnings must be recorded in AFMSS.

**Recommendations**

- Address the issue of allocation of funding, including overtime to ensure there is adequate inspection coverage in the field.
- Ensure that enforcement actions and inspections are properly documented in the official file and AFMSS in accordance with H-3160-5.
- Emphasize interim reclamation and consider outreach to encourage operators to proactively reduce disturbed areas. The permit approvals should also underscore the emphasis on reduced disturbance and fragmented areas.

## Rawlins Field Office ICR

The review team interviewed six inspectors (4 Certified and 2 soon to be certified), one acting Supervisory PET (SPET), one Supervisory NRS (SNRS), one NRS, and two Surface Compliance Technicians (SCT) at the Rawlins Field Office (RFO).

Suggestions from the staff included that more training needs to be conducted during the winter; ONRR's OGOR data needs to be maintained – too many "missing" reports. The following were singular comments: have clerk follow-up on requested operator information, enter live data into AFMSS via air cards; do not conduct training that is not applicable (i.e., National Environmental Policy Act of 1969 (NEPA)), and redundancy in documentation by having a hardcopy and AFMSS.

Other suggestions by the staff included: make ES courses NRS/SCT courses available locally; the PET- NTC modular training is outdated – need training on turbine, Coriolis, V-cone metering, new drilling technology, well control, fire retardant clothing; need American Petroleum Institute (API) and American Gas Association (AGA) manuals to implement the new Onshore Orders; need insulated coveralls, outage gauges, water and petroleum finding paste, safety nonprescription glasses, compass and thermometer, woodback thermometer, hydrometer; add computerized live data in the field.

**Drilling** - After a review of well files and AFMSS inspections on nine different Drilling Inspections, the overall review was very favorable. The files are well supplied with information pertinent to the specific well. The Form 3160-10 is filled out and complete. Cementing reports, pipe tallies, BOPE test reports, and any information regarding the drilling and testing of this well, are contained in the file.

The Rawlins PET staff has conducted 76 DW inspections in FY 2010. They witnessed 20 cementing jobs and 24 BOPE tests with the remainder being detailed or non-detailed drilling inspections. INCs were issued and corrected as necessary.

There has been a change in staffing during the FY; a new AFM arrived in November and a new acting supervisory lead PET in June. The staff seems receptive to learning strategy and following any guidelines that are in place. The SPET noted that the PETs have been given adequate overtime to accomplish their inspections. Other observations:

1. Define what was actually witnessed as opposed to just transferring information from the drilling records on to the 3160-10 form; document if witnessed in AFMSS remarks.
2. Better remarks and more defined explanations of what was inspected in individual activity codes.

**Production** - Eight cases were reviewed based on H-3160-5. The closing remarks in each case reviewed were good; not all remarks recorded in AFMSS matched with the hardcopy. INCs were issued, corrected, followed-up, and documented within the abatement period. Oil sales were witnessed, calculated, and documented in AFMSS. Tanks were gauged, the volume calculated, and results documented in the hardcopy, but not in AFMSS. Gas volumes were calculated and documented in hardcopy, but not in AFMSS. The field work and documentation

to the hardcopy is very good; these remarks need to be transferred into AFMSS for oversights by the Supervisor or Records Reviews by the PATs.

Overall production inspection was good; remarks entered in AFMSS captured the field and office inspection very well. The inspector was very knowledgeable and efficient in the field and office work.

**Environmental** - Wyoming State Office (WY-SO-IM-2009-224) requires approximately 400 Environmental Monitoring (MW) inspections to be performed each year. The FO does not use the standard forms in the case files; the new FO policy is to use the new national inspection form templates for inspections.

There is also a distinct lack of photos in the case files; however, photos are saved to a shared drive that is accessed by the Minerals staff. The decision to use this method rather than place photos in the case files was made in order to save space. At a minimum, reference to the photo locations within the share drive needs to be placed in the case file in the inspection record and in AFMSS remarks. However, because the photo is part of the administrative record, it should be included with the inspection report in the official file.

Open and Close dates of inspections in AFMSS are longer than necessary. The remarks entered in AFMSS also tended to be fairly short and vague. The remarks did not provide enough detail for someone from outside the office to understand or know what was inspected or what actions needed to be taken (by the FO or by the operator) without further information.

Overall, most records did a good job of describing information about the site safety and facilities that would impact the surface protection of the well location. Most records lacked information about the status of reclamation at the location. Many of the inspections occurred during the winter months. Although some records did follow-up with enforcement, there was an overall lack of enforcement of identified issues and/or non-compliant items in many records, many conditions of approval (COA) not being followed that were not identified in the inspections as being issues, and non-compliant items requiring action.

<u>Possible improvements could be made in the following areas:</u>

- Pay more attention to the Open/Close dates in AFMSS - should only include those dates that inspection activities occurred (i.e., an actual inspection).
- Pay attention to AFMSS data entry (i.e., typos, overwriting people's comments, etc.).
- Use template/formulated national forms for inspections so that a more "hard look" can be taken at the location.
- Reference photo share drive location in case file.
- Follow-through with enforcement on the issues and/or non-compliance identified.
- When appropriate, follow-through with notification to the operator that follow-up action is needed (that may or may not be enforcement actions).
- Be more comprehensive about the COAs enforced (i.e., reclamation standards) so that the companies/operators can be held more accountable, thereby improving BLM enforcement credibility.

    - Print the COAs to compare while in the field with to ensure the most comprehensive inspection/enforcement.

- Be more attentive to the timing of inspections so that reclamation standards can be assessed (i.e., quality over quantity of inspections).
- Delay performing IR inspections when interim reclamation should be implemented per APD COAs and/or Onshore Oil and Gas Order No. 1 requirements.

**Findings -** The Rawlins Field Office I&E Team is under a new SPET and AFM. The team seems to be working well together under new management and the management team is leading the team in the right direction.

Processing time of 2-3 months for an order to the operator is excessive; SPET and SNRS need to work together to develop the inspection strategy numbers. Best management practices mentioned include: NRS yearly outreach to operators including a PowerPoint presentation displaying before and after pictures to help explain what is expected; yearly 3-4 day training exercise for the NRS to do a side-by-side inspection then compare results; email scheduler as a tickler for due dates on written orders; and the unified support of the PETs with the new SPET and AFM.

To cut excessive processing of operator order letters, FMs should consider delegated signature authority to the AFM or to the Leads. AFMSS shows 12 environmental highs, 300 lows. But 700 environmental inspections were done; 100 environmental inspections completed by the PET. The office stated the reason was missed coordination between SPET and SNRS to coordinate inspection priorities when the strategy is developed; train the SNRS on the I&E Strategy for environmental inspections.

During a conversation with one of the PETs with the team, it was discovered that the PET had been instructed in the past that if gas and oil are being produced on a case, that only one product needs to be inspected. This is contrary to policy, which requires each measurement type and activity needs to be examined for production accountability.

**Recommendations**

- Streamline the process of issuing written orders in a timely fashion.
- Involve the SNRS directly in the development of the environmental inspection section of the I&E Strategy.
- Ensure that I&E Strategy goals, policies, and procedures are communicated to and understood by inspection staff.

## Pinedale Field Office ICR

The Pinedale Field Office currently consists of a FM, an AFM, an SPET, an SNRS, six PETs, a PAT, and five NRSs. Twelve production, 10 drilling, and 10 environmental cases were reviewed for AFMSS and hardcopy file completeness, consistency, and accuracy. Side-by-side inspections were conducted and differences noted on one drilling, one production, and two environmental cases.

**Drilling** - There are minimal or no remarks in eight cases reviewed for drilling. Some hardcopies are missing from well file. During this review period, violations were documented in the hardcopy, but no INCs were issued. On inspections that could be found, the field work and documentation to the hardcopy were minimal or contained no remarks. Also, the times (travel, inspection, office) do not match from hardcopy to AFMSS entry. Further training for the Onshore Orders and H-3160-5, plus AFMSS, would be beneficial.

**Production** - There are minimal or no remarks in 10 cases reviewed for production. Some hardcopies are missing from the well file. During this review period, violations were documented in the hardcopy, but no INCs were issued. Oil sales were witnessed, calculated, and documented on a hardcopy, but not in AFMSS; for Production Inspections, tanks were gauged, volume calculated, and the PI documented in the hardcopy, not in AFMSS. Gas volumes were calculated and documented in hardcopy, but not in AFMSS. On inspections that could be found, the field work and documentation to the hardcopy were minimal or contained no remarks. Two cases reviewed have a good example of a field inspection, with good general remarks in AFMSS.

- Witness vs. Inspected - In addition to inspecting all ongoing activities for Detail Drilling/Workover inspections (DI), Pinedale has an internal policy to gather information from the driller's log, input it into the 3160-10, and note that it was not witnessed.
- One operator requires people be equipped with a respirator when gauging tanks because benzene is a carcinogen. Some PETs noted a concern.
- Authorized officer - One inspector noted that he had been taught that inspectors can sign the order form. The SPET provided that the AFM signs all orders, be it letter or form format; compliant with policy.
- While PETs have general AFMSS training, technology improvements and the AFMSS program complexity warrant additional/advanced training. Incorporate best management practices (BMP) for AFMSS data entry and provide training; to limit expenses, an instructor or two should travel to the office.
- BMP - A PET is using verbal recordings of inspections rather than paper. The PET takes inspection notes in the field via a recorder and then inputs directly into AFMSS upon return to the office eliminating paper notes.

**Environmental** - Overall the NRS team seems to know the technical aspects of their job (i.e., how to perform inspections, what they should be looking for, how to follow-up with enforcement actions); the challenge is the documentation. Photos generally were not included as part of inspection record, but often kept in shared folder that should be referenced in the inspection. The

new SNRS seems very willing and able to take on the responsibility to provide the guidance needed with management support.

- ES AFMSS records seem to be technically complete, correct, and accurate for the most part. Only minor errors or misunderstandings occur and only occasionally.
- AFMSS remarks tend to be very complete and comprehensive. They include adequate detail to determine what the inspection entailed and any enforcement action that may have followed.
- Well files did not contain hardcopy inspection forms, often citing lack of time. In some cases the AFMSS remarks were printed out and placed in well files in lieu of the required forms; hardcopy documentation must be incorporated into the well files as these are considered the official BLM records. AFMSS electronic records are considered supplementary.
- During these field inspections, the inspectors demonstrated excellent knowledge of ES policy and procedures; all inspections were consistent with what was found by the field.
- Inspecting locations during the winter months (which diminishes the ability to inspect vegetation/reclamation/erosion) provides an increased presence on locations year-round and increases the operator's compliance, response to spills, and operator awareness of BLM presence in the field checking locations.
- Required environmental forms (Drilling/Construction, Production/Interim Reclamation, Final Reclamation) have not been completed as required by policy.
- BMP - Many times an operator says a location is ready, only to find out that it was not reclaimed. Rather than return to the field to assure compliance on an INC/order, some NRSs require the operator to provide a picture when they have completed the work on less sensitive issues. This is applied to the majority of INC/orders the NRSs issue, thus saving travel time to the field. This also could be applied to Final Abandonment Notices (FAN); have the operator send a picture with a FAN to see if a site is ready for a BLM inspection (this is a way for operators to self-certify).

**Findings -** A general theme in the Pinedale office is a high turnover of staff, including supervisory and non-supervisory. There have been a series of FMs in the past 5 years. The recent hires include FM, AFM, SPET, and acting SNRS. Of the six PETs onboard, the SPET has 7 years of experience and is certified, one PET has 3 years of experience and is certified, another has 2 years and is certified, and another has just been certified. The rest of the PETs are not certified. The turnover in management has led to NRS and PET staff without supervision and guidance, which was a major contributor to the findings. Most of the staff have an attitude that they will do what they are directed.

The I&E strategy needs to be conveyed and communicated. Encourage the SPET and SNRS to work together in developing the strategy by better integrating required or planned environmental inspections. Inspections mandated by the AFM/FM need to be accompanied by more specifics on what needs to be inspected.

Strategy shows that Pinedale needs eight full performance PETs. Pinedale has three certified PETs, three newer, uncertified PETs, and two open positions; the SPET has little time to perform technical oversight.

Pinedale has limited time available for oversight and mentoring; they conduct oversight inspections and provide new hires with a mentor for the oversight inspection. The "mentor" is usually an inexperienced PET, and the oversight inspections take time away from accomplishing inspection goals.

Retention and recruitment issues - Pinedale has a hard time retaining qualified staff. The office noted that Personnel does not honor field experience in determining grade. Consider relocation and retention incentives and superior in-grade pay. Housing is expensive and scarce. The BLM is unable to offer fully qualified oilfield personnel full-performance grade and BLM salary is not competitive. The BLM is not using hiring incentives and retention bonuses. Creative measures should be taken to secure specialized staff.

**Recommendations**

- Directly involved the SNRS in the development of the environmental inspection section of the I&E Strategy.
- Assure that enforcement actions and inspections are properly documented both in the official file and in AFMSS in accordance with H-3160-5.
- Work with personnel to find solutions to local recruitment and retention issues.
- Because of the lack of tenure, the Pinedale office should consider drawing upon expertise from other offices in the area, such as Buffalo, for peer review of work and mentorship for the newer staff and consulting the SO for guidance
- Consider centralizing these functions in an adjacent office that could support and cover the Pinedale activities.

## Dickinson Field Office ICR

The North Dakota Field Office (NDFO) table of organization shows six PETs including a SPET, one PAT, three PEs including one supervisor, two NRSs, one PST (of the 3 environmental positions, one NRS is filled and the other two are currently vacant), and four adjudicative and support staff.

**Drilling** - The inspectors are filling out the entire drilling form (3160-10). They are using a WORD document to record their finding and attaching that information to the 3160-10 and its continued use is recommended. It appears as though inspectors were not attaching all the service company reports that might have been available for the inspection. If available, these service company records should be included in the inspection record. Coding of "activities" was found to be different between inspectors; coding of activities should be consistent between all inspectors and follow the policy requirements in H-3160-5.

In review of the drilling inspection files, no documentation was found indicating any problems or violations had been found. Only the inspector would know if any enforcement actions were necessary as part of the inspection. The complete lack of documentation of violations or problems (of any kind) from drilling inspections raises questions. The NDFO responded that any problems are addressed with the operator prior to drilling out the casing shoe.

During the field inspection of an active drilling operation, the inspector was very knowledgeable and did a good job of conducting the drilling inspection. The inspector took photographs of the operation and used them in his Inspection Summary Document. This "inspection summary document" was created in Microsoft WORD.

**Production** - There is concise documentation of production inspections. The NDFO has a good balance of witnessing a variety of measurement activities. The ICR found that PETs are not conducting the required (IM 2009-186(revalidated)) check of BTU values during the RR activity. Of the nine cases reviewed, six had potential issues with BTU values that were not addressed. The production inspection chosen for review was a new well that had not been inspected prior to the ICR. During the inspection of this well, the PET was competent and thorough in performing the inspection.

**Environmental -** There are many wells that have no documentation of a true surface inspection either in AFMSS or in the hardcopy files. This is primarily because the ES (Environmental Surface) inspection type is being used for hydrogen sulfide ($H_2S$) compliance checks by the PETs. Many wells have not had any surface/environmental inspection recorded ever. This fact is not easily detected because the $H_2S$ /PET compliance inspections are recorded under the ES type. This approach, of PETs coding the $H_2S$ inspection under the ES type, was discussed with the NDFO staff. Staff indicated this was done to avoid doing Production Inspections (PI) (the only other legitimate "Type" of inspection an $H_2S$ can be coded to). If the Health and Safety Inspection (HS) activity was coded under the PI, the inspectors would have to also conduct all other required activities to complete the PI. Doing it in this manner (PI/HS) would cause a significantly higher amount of time and effort than using the ES-type inspection. Inspection of

the $H_2S$ wells and facilities is critical for purposes of safety. In 2010 this (ES/HS) approach, using PETs, accounted for 64 percent of the ES inspections conducted in the NDFO.

Not all of the required inspections are being performed due to the demand from the ongoing permitting workload for drilling. AFMSS entries and hardcopy filing for ESs are backlogged. ESs performed by personnel from other offices lacked remarks in AFMSS; it may have been documented in the case file. Files and documentation are found to be very good overall. The ES documentation is not as current and organized as the PET inspections because there is not a dedicated staff for these entries and filing. It is difficult for the NRS to catch up on filing at this point considering the spill response workload and NEPA/APD and inspection backlog. Many wells are not getting environmental surface inspections due to current workload and immediate response necessary for spills and leaks. This office is understaffed in surface protections for Oil and Gas.

WO's Production & Interim Reclamation forms are used for documentation; compliance is effectively achieved by means that do not always follow policy. This approach creates a lack of standard documentation for historical purposes. Without this type of documentation, enforcement actions or future appeals are not supported by the administrative record.

Consider using temporary details in order to provide additional staffing from other offices until permanent staff is brought on. When considering what positions are needed to address this expanding workload make sure to evaluate what other specialists are needed as well Legal Instruments Examiner (LIE), Land Law Examiner (LLE), and etc. Not only does the inspection work load increase with more activity but all the ancillary functions as well. The NRS works well with the Bureau of Indian Affairs counterpart and operators to reach compliance.

**Findings -** Overall the staff is knowledgeable, worked well, and documented and filed inspection findings. It was noted that prior to the onset of the Bakken development, this office had:

- Adequate inspection resources needed to meet the Strategy goals.
- A stable and knowledgeable staff of inspectors.
- Good oversight and quality control of the inspection work.
- Good compliance from industry.

During the review, several oil and gas locations were visited, and it was clear there was a culture of good operator compliance which had been created by the NDFO prior to the Bakken play. However, additional staffing is needed to meet the increasing workload demands. There are backlogs in adjudicative actions and processing of permits (e.g., operators changes, formation of communitization agreements, APD and Sundry reviews) are creating ever increasing problems with conducting effective inspections and gaining compliance. The ability to hire staff timely is critical for offices experiencing this type of "boom" and the program in general.

Some of the NDFO practices (i.e., informal compliance, data entry by one position, help from other offices with inspections) are being done as: 1) triage to try and just keep up with the work load as best as possible, or 2) a method to try to gain efficiencies, such as the data entry. The NDFO's approach, in using a single data entry person, appears to work well for this office. However, this practice may actually be creating inefficiency as the PETs could be directly

entering data into AFMSS instead of writing it down and having another person enter it into AFMSS.

NDFO relies on the assistance of another nearby office that absorbs the activity boom. However, as with any other outside assistance, there are some training needs to understand the procedures of the local office. Some findings:

- Staffing has not kept up with the pace of development. Additionally, the former Montana State Director's informal policy, not in writing and still enforced, requires 100 percent of all Indian cases to be inspected annually. Since much of the new development is currently focused on tribal minerals, it is creating a significant new workload for the NDFO. Current national policy is to prioritize tribal minerals using the same criteria as Federal.
- There is concern over ongoing stress and loss of staff to potential burnout and job offers.
- NDFO needs more NRS positions, as this is one of the most critical shortfalls.
- The staff requires AFMSS training.
- Many mentioned the need for cell phone boosters due to bad cell coverage in the area.
- Additional staff (LIE, LLE etc.) also needs to be considered when evaluating the operating needs of the NDFO and how the BLM can effectively respond to this activity level.
- Cooperatively develop a system for Environmental documentation and filing that is similar to the PET routine.
- Allow for the assistance of other program staff to enter AFMSS records to eliminate backlog.
- Evaluate the $H_2S$ compliance completed and determine which wells are deficient for surface inspection.
- Ensure these cases are identified and tracked for prioritization and future inspection.

**Recommendations**

- Discontinue the informal policy of inspecting 100 percent of all Indian cases and follow the I&E Strategy to determine the Indian cases to be inspected.
- Ensure that enforcement actions and inspections are properly documented both in the official file and in AFMSS in accordance with H-3160-5.
- Eliminate the backlog of AFMSS entry and filing of ES inspections.

## Farmington Field Office ICR

The team reviewed the Farmington Field Office (FFO) official hardcopy files and electronic AFMSS records for the three fundamental types of inspections: 1) Drilling, 2) Environmental, and 3) Production Inspections. In so doing, the ICR team looked at how the staff followed BLM policy in conducting and documenting these types of inspections.

**Drilling** - The records reviewed were generally good, with the 3160-10 inspection form checklist complete and proper field notes written and documented in AFMSS. One minor issue was noted relative to where (activity code) travel and office time were coded. Two of the hardcopy inspections could not be located; the hard/file copy is the official document, not AFMSS. Without the hard/file copy, the field office has no official file. Hard/file copies must be maintained and kept in the file system.

During the field inspection of an active drilling operation, the FFO inspector demonstrated good knowledge of the drilling operation and was comfortable with conducting the inspection. All of the inspectors interviewed had a good understanding of what is required of them for drilling rig inspections.

**Production** - The Federal records that were reviewed were generally good, easy to follow, with proper field notes written and well documented in AFMSS. Required BLM forms were not used as described in H-3160-5; in-house forms replaced them.

Remarks in AFMSS were mostly copy-and-paste from a site that all inspectors used. Therefore, the remarks were very generic unless specific problems were found when inspected.

The FFO inspector had a systematic process in inspecting the location and used their in-house forms except when witnessing tank sales (3160-16) or meter calibration (3160-15). The 3160-15 or 3160-16 forms are placed in the well file. There was some discussion of what enforcement instrument should be used; because of the rapport between the BLM and the operator, the host inspector issued a Verbal Warning.

**Environmental** - ES records were found to be inadequate in detail, not in accordance with H-3160-5, and not documented in AFMSS. It does not appear that Written Orders or INCs are issued for environmental issues or violations. Since inspection notes were not entered in AFMSS, electronic records could not be reviewed to provide a record of surface event history. Management direction and/or office policy is to telephone and *ask* an operator to comply with surface standards, without documenting the call in AFMSS as a Verbal Warning. As a result, incomplete AFMSS reports depicted a falsely positive picture of the environmental health of the field.

During the environmental field inspection, it was noted by both the FFO and ICR inspectors that slash and topsoil had not been redistributed at the pad, and that the pad size should have been reduced. Vehicle tracks crisscrossed the entire pad surface. Erosion was occurring around the stored (1982) soil and slash and across a not re-vegetated fill slope along a pad edge, illustrating a need for further rehab and storm water management. The most recent environmental document

in the file for the inspected well was 2002, when a production tank leak had necessitated "soil to be land-farmed onsite." No inspections or other awareness of conditions were documented between 2002 and 2011. The ICR noted that no ES inspections are conducted after interim reclamation (IR) is completed at producing wells. The next ES inspection following IR at a producing well would occur at the time of plugging, per FFO policy. Per national strategy, an Environmental Specialist should continue surface inspections to ensure that IR is successful.

The ICR team was specifically directed to answer the question of whether BLM is "cutting operators slack where we should not be," and, if so, to note why we thought it was happening. Based on field observation and 11 interviews with FFO field staff, it appears FFO has such a challenge. EPS staff reported being discouraged from providing any written direction to operators. Multiple EPS staff reported that their work was micro-managed or second-guessed and that operators routinely bypass EPS compliance direction, appealing to managers who then undermine their own staff in response. Such challenges may be left over from previous upper management, but staff feels new management is not paying enough attention to concerns and that some entrenched seasoned staff are continuing to follow previous management choices. To illustrate this issue, the EPS team mentioned that they set up a meeting with the new management at which they provided them with Oil and Gas guidance (Gold Book) and I&E authority for enforcement (regulations and the new FFO Resource Management Plan). They also scheduled a field trip with new managers to bring surface awareness and concerns to light (the field coordination is a great way to see on the ground issues). This trip was cancelled, and has not yet been rescheduled.

Reclamation staff feels that multiple reclamation failures across FFO area are based in the lack of response to site-specific soil conditions that call for better seedbed prep techniques and seed mixes tailored to sites. The FFO generally uses a single seed mix across the area and disks smooth on the contour before drill seeding. Cuba Field Station reports great reclamation success using very site-specific techniques based on soil types and specific seed mixes. These successes have been presented at the State level. Another FFO staff member reports success with use of three different species of four-wing saltbush; each is observed to do well in native soils with specific characteristics (e.g., salty, erosive, clayey or sandy). Such pro-active work is commendable.

**Findings** - The Farmington office has an incredible responsibility, a pilot office, Indian fiduciary, and historically a very active gas play with one of the largest prolific basins in the U.S. Some BMPs of note include the records were well-organized and easy to find, and the production clerk was extremely helpful. FFO has developed: standard remarks for drilling inspections, with the understanding that the PET can change those remarks in order to customize them; oversight and tracking of inspections (spreadsheets) above and beyond standard documentation requirements; deployment of infrared cameras for detecting gas leaks at facility tanks (great tool); and the process the Weatherford Co. developed to capture gas after drilling and while fracturing a well. The new management expressed their commitment to improving the effectiveness of the program.

New approaches and efforts to manage surface disturbances is an effective way to strike the balance between exploration and development with the established fields and still manage the

other natural resources. Some management is reportedly coming onboard with new ideas, but is resistant to other changes when operators push back.

Of concern was that the Navajo Nation appears to have little support from the FFO. The files for which they are responsible are kept in no order and filed in boxes in a location where they are not secured or organized. FFO is responsible for the Navajo Nation's documentation and is the custodian of the files. The FFO should secure, organize, and retain the files in their office. More concern should be taken in this case. The ICR team was under the impression that the Navajo Nation has taken a secondary role in the FFO responsibilities. Little is done to ensure that proper handling of well and inspection files. More support is needed from the I&E program for the Navajo Nation.

**Recommendations**

- Move the Navajo files to an appropriate location and file in a logical manner that is consistent with BLM filing standards.
- Take a more active role in the oversight of Navajo inspections to ensure the inspections are conducted and enforcement actions are documented both in the official file and in AFMSS in accordance with H-3160-5.
- Train line managers on the management of Oil and Gas operations and I&E regulations and policy.
- Follow H-3160-5 in documenting all inspections both in the paper file and AFMSS.

## Carlsbad Field Office ICR

The ICR team reviewed Carlsbad Field Office (CFO) official hardcopy record files and electronic AFMSS records for the three fundamental types of inspection: 1) Drilling, 2) Environmental, and 3) Production Inspections. In so doing, the ICR team looked at how the staff followed BLM policy in conducting and documenting these types of inspections.

**Drilling** - The drilling inspections reviewed had more detailed remarks in AFMSS than in the hard/file copy. The checklist on inspection Form 3160-11 was complete, with little to no field notes, but good remarks in AFMSS. The field notes and/or AFMSS notes in some cases did not reveal what actual inspection was performed. By looking at the PET field notes, AFMSS, and cement company logs, it was still very questionable as to what part of the inspection was witnessed. Existing policy guidance directs that AFMSS notes need only be a brief summary of the inspection that was performed. Reviewing the hard/file copy, it was evident that CFO and/or New Mexico State Office need to give more guidance as to the differences between Detail Drilling/Workover Inspection (DI) and Nondetailed Drilling/Workover Inspection (NI). A DI should include all aspects of the drilling operation (i.e., BOPE, review of BOPE test, flare lines, all casings run, mud program). A NI is an inspection more focused on a certain aspect of the drilling operation (looking at the records of a BOPE test or cementing of casing and/or looking at the actual BOPE or mud program etc.).

During the field inspection, inspectors discovered: flare lines were beyond the choke manifold that were not straight or with targeted tees; item 53 of the Form 3160-10 was checked off as being inspected with no violation; and OO #2, III, C, 7 covers straight lines and/or targeted tees were on flare lines. The CFO Inspector stated that CFO and State Office guidance was to end their inspections behind the choke manifold (activity coding and items 22, 23, 24 (casing), and 53 (flare systems)). The PET coded to a DI, Surface/Environmental - Drilling (SD), HS, and a Blowout Prevention Equipment Inspection (BO), when it should have been recorded as a DI, SD, and HS. The PET stated that the CFO has a policy that, if you look at the BOPE, the PET is to code that time to a BO inspection. AFMSS states that the activity code BO is for the witnessing of the BOPE Test.

**Production** – The ICR team attempted to review several cases, but most were not found in files. It was very difficult finding a well file. The filing system is somewhat confusing. The Lead I&E Specialist and the Lead PET attempted to find one case file and 3 hours later there was no file found.

There was no file for the well the ICR team planned to inspect; a new well file had to be established. The well had been drilled in 2006. The ICR team reviewed two case files and found them inconsistent within the CFO. In one file an INC for an improper seal was issued, but it left many questions, such as the tank number, the gauge of the tank, and whether it was in production or sales phase. The gravity of the violations was in question, and the ICR team felt that this is where management direction is needed. Some PETs made very detailed and lengthy remarks in AFMSS and printed them for the well file. Others had brief remarks in AFMSS and a very detailed set in the well file. Some written orders and INCs had multiple violations written on one INC form. The inspector provided ample documentation for the operator to follow in aiding with

the correction of the violation. The photos were clear and highlighted the violations. The violations were cited correctly according to the regulations. Some PETs seemed to be comfortable working with AFMSS while others were very intimidated and struggled with the program.

The field inspection was done independently by both a CFO and an ICR inspector. Because of the limited size of the pad, the ICR team member was able to witness the thoroughness of the CFO inspector and systematic inspection process. The CFO has some unique forms with which the ICR team was not familiar. Several violations were noted by both the CFO and ICR inspectors; although, the CFO Inspector did not find an important one until the next day (critical EFM data: specific gravity, PSIA or PSIG, range, etc.). The violations that were written had office policy in the INC wording and should have reflected national BLM policy.

**Environmental** - Of the files reviewed, not one had an original inspection form (completed in field) in a well file. Such original files might have provided much more complete information about inspected sites. Most Carlsbad inspection staff chose not to use the official forms provided to surface specialists, taking whatever form of notes works best for them. Some draw site diagrams; some take photos.

The CFO EPS came to the field well-prepared with all three wellheader printouts from AFMSS, as well as aerial photographs to compare with current site conditions. The EPS inspector was complete, took photos, and drew site diagrams with good notes on equipment placement, spill outlines, and pad configuration. Both the CFO EPS and the ICR NRS had similar inspection results and agreed that pad needed housekeeping for trash and contaminated soils. Both also agreed on success of the interim reclamation in rocky inhospitable soils/location. The CFO EPS thought the BLM could not require contractor-owned equipment (long-term compressors, fuel tanks, propane storage, etc.) to be painted.

Differences in training between EPS (surface inspection) and NRS (permit processing) staff result in failures to design and install production facilities in a way that maximizes the area available for interim reclamation. The EPS staff and their supervisor do not understand that there is a need to design/install the site/facilities as the NRS/APD may have required it. For example, a typical COA for such site/facility design might read: "Production facilities will be located and arranged to facilitate safety and minimize long-term surface disturbance. Facilities are typically clustered at the access end of the pad with tanks in cut." Instead, the ICR NRS observed pads that were impossible to downsize at the time of interim reclamation since production equipment was located at widely scattered locations across most of the pad. At the time the ICR and CFO inspectors talked about it in the field, this strategy of facility design strategy was clearly a great new idea to the CFO inspector. No doubt the NRS who wrote the permit knew of it, but it did not translate out to the operator and the EPS into the field. Carlsbad NRS staff goes to the field for onsites, but does not inspect after that. In a case like that above, neither the NRS nor the EPS has any idea that the pad configuration is not what it should be. NRS APD workload makes pre-construction onsites difficult.

**Findings** - Staff are allowed to solve their own problems and move forward. The ICR team was shown a problem site to inspect. The ICR team greatly appreciated the candor and willingness

CFO staff exhibited towards the review. The office is high-producing, its large permitting activity surging, even after identified as a pilot office.

It was evident during multiple staff interviews with Carlsbad inspectors, including CFO NRS in field exercise, that inspectors are actively discouraged from writing Written Orders or INCs. FO policy is to telephone and *ask* the operator to comply, but the call was not documented in AFMSS as a Verbal Warning. In one case, the ICR NRS was told that since one of the operators did not want to install secondary containment around the tank battery, CFO BLM was allowing the operator to prove that s/he did not need it. If the CFO inspector "started seeing a bunch of spills" at that location, then s/he would require tank berms. In the meantime, since "regulations don't require 100 percent secondary containment" (Gold Book "strongly suggests" it for produced water), s/he feels it is an optional BMP and that it is inappropriate for the BLM to order it. CFO EPS does not require/enforce objectives like stormwater BMPs and spill containment that might be required by other agencies, even if they support the BLM's desired outcomes and could be ordered under 43 CFR 3161.2 or 3162.1a.

**Recommendations**

- Ensure the inspections are conducted and enforcement actions are documented both in the official file and in AFMSS in accordance with H-3160-5.
- Provide additional training and guidance to EPS staff on applying and enforcing COAs, using BMPs.
- The CFO needs to follow H-3160-5 in documenting all inspections both in the paper file and AFMSS.

## Oklahoma Field Office/Moore Field Station ICR

The ICR team found that both management and staff were open and helpful during our review of the Oklahoma Field Office (Tulsa)/Moore Field Station (MFS). The team found the MFS staff to be overall very knowledgeable and dedicated to doing good inspection work. The team acknowledges that many of the management positions for the OFO and the MFS are new and not intimately familiar with the I&E program. The ICR team found these new managers were committed to identifying issues in the program and resolving them as best they could within their limitations. The ICR interviews found management was concerned with position management, staff organization, and where to place inspection resources. While the focus of the ICR was not intended to address many of these concerns, the team agrees that resolution of these issues are critical to an effective I&E program.

The team reviewed both the records (official files and AFMSS) for the three fundamental types of inspection: 1) Drilling, 2) Environmental, and 3) Production Inspections. In doing so, the ICR team looked at how the staff followed BLM policy in conducting and documenting these types of inspections. The ICR team found the inspection staff did a good job of actual conducting inspections.

**Drilling -** About 60 percent of the inspectors completed the entire Form 3160-10 including attachment of service company reports/summaries. Documentation in the inspection files indicate no violations were being issued. It is recommended that newer inspectors need more training with completing the 3160-10 inspection form and remind all inspectors to ask for service company reports/summaries to complete their inspection.

Concerns were expressed about the difficulty of communicating with the engineering staff over technical drilling issues. The engineering staff and inspection staff are not located in the same office, and this separation appears to have impaired drilling inspections and the ability to address technical issues effectively. A petroleum engineer could be located at the MFS to facilitate and address inspection and operational drilling issues as soon as they arise. "In Person" discussions of technical inspection issues are critical to a clear understanding and resolution of the concerns and a more effective program.

During the field inspection of drilling operation, the inspector used a summary sheet to collect data during the inspection. This is a good practice and we commend its use. The inspector had a good knowledge of drilling operations. An environmental inspection activity SD was not conducted during the drilling inspection. An SD activity is required during drilling inspections. Inspectors and EPSs should be working together to make sure surface concerns are remedied.

**Production** - Of the files reviewed there were some issues with finding information. This may be because the files are in two different office locations. Explore opportunities to ensure that all information concerning inspections is located in the official file in Tulsa as well as the working files in Moore. A review of the 4$^{th}$ quarter report for FY 2010 indicates there were a high number of chart verification (CV) activities compared to meter calibration (MC) activities. Look for opportunities to balance CV activities with MC activities. Gas meter calibration is a critical component of the production accountability inspection process.

This production inspection was a first inspection for this particular well. The PET was extremely competent and thorough in performing the inspection. There were no significant discrepancies noted during the production inspection. The time to perform the field activities for this PI was 3 hours and 18 minutes. This was for a one well lease with two oil tanks, one water tank, one T-pack, and a gas meter. The time seems excessive because of the level of documentation required by the supervisor.

The PET is required to complete a significant amount of documentation above and beyond the documentation requirements in H-3160-5. Many of these documents require similar information. It seems quite redundant and appears to impeded efficiency of inspections. The current documentation process needs to be reviewed and options explored to mitigate current MFS documentation standards to improve inspection efficiency and minimize redundancy.

The practice of taking a single spot tank gauge (TG) activity yields little useful information for production accountability. It would be more effective to perform a second TG to determine a production rate or to "back gauge" after sales and compare with run ticket bottom gauge. Witnessing of actual tank sales have also proven effective.

**Environmental** - ES records were found to be: 1) inadequate in detail, 2) not in accordance with H-3160-5 and documented in AFMSS, 3) missing field notes in the official record, 4) missing ES inspections in the hardcopy files, in some instances, and 5) not using WO-recommended field inspection forms. Management, supervisors, and staff should review and implement H-3160-5 for procedures and requirements outlined regarding hardcopy files. Management should explore the possibility of administrative staff (LLE, LEE, or file clerk) to be the local expert for filing procedures. This would help to ensure consistency and reliability for filing.

Physical field inspection activities appear to be effective, technically complete, and accurate (excluding documentation). The inspector walked the area of disturbance, looked beyond for offsite impacts, and inspected equipment and ancillary items for problems. Some environmental issues were noted by the ICR reviewer but not by the EPS. The reviewer was concerned with the lack of environmental protection measures. Unfenced open reserve pits with liquids after drilling operations, erosion of pit berms without sediment traps, or general pad containment with straw wattles etc. and no topsoil bermed or stockpiled. The EPS did not appear to be aware of the problems. EPSs are not reviewing and verifying file information, such as past inspection problems or the COAs. Without this type of review, protection of environmental resources may be missed and/or not enforced. Management, supervisors, and staff should review the BLM Gold Book standards to become informed of the recommendations (e.g. built pits on cut, fence pits to exclude wildlife and livestock). Provide additional training to the EPS on surface protection BMPs, AFMSS, inspection and enforcement procedures, and NEPA.

**Findings** - The management is taking serious measures to improve program effectiveness and use of specialized skills while looking at the distance between staff and the necessary program coverage in the office and the field. Of serious concern was the FO approach/policy to how compliance is handled. The review found a systemic failure to follow H-3160-5 required procedures once problems or violations were identified. While no formal/written policy was

provided to the ICR team, both supervisors and staff acknowledged Verbal Warnings are issued instead of INCs as required. Some of the Verbal Warnings were not documented in AFMSS. Ensure that the Verbal Warnings are appropriately used in accordance with H-3160-5 and documented in AFMSS.

Managers and supervisors brought up concerns about location and organization of inspection and support staff. This split, in the operational oil and gas program staff, has created: 1) a void in the communication needed for the program to function properly, 2) mistrust between staffs, inhibiting successful teamwork, and 3) an inability to complete inspections due to adjudicative functions not being resolved, such as operator changes. Concerns were expressed about the difficulty of communicating with the engineering staff over technical drilling issues. This separation appears to have impaired drilling inspections and the ability to address technical issues effectively.

A major concern was raised by management about the number of Indian and Allottee wells that are drilled without prior approval. Because of the complicated trust responsibility that exists, those wells are sometimes not discovered until production already exists. Wells are allowed to continue (either drill/produce) as approvals are processed as opposed to the issuance of a shut-in order until the necessary permitting can be finalized.

**Recommendations**

- Ensure the inspections are conducted and enforcement actions are documented both in the official file and in AFMSS in accordance with H-3160-5.
- In addition to immediate assessments for drilling without approval, management should consider issuing shut-in orders to stop all operations on the location, including but not limited to production, and truck and rig traffic except that which is necessary to secure the well bore and provide for physical security until the necessary permit is issued.

## Jackson Field Office ICR

Three PETs (operating in satellite offices in Louisiana, Kentucky, and Arkansas), one SPET, one AFM, one NRS, and one PAT were interviewed. The Jackson Field Office was very open and helpful in all aspects of this review. In the office, it was an open house and full of support. The employees in this office interact well and seem to be eager to help one another. Doubling up on some inspections and learning by example could be an excellent way to improve skills. Sometimes habits or small things one inspector uses may help another. One universal complaint seemed to be a lack of training available. Trips to the field office seem to be few for the PETs due to their remote locations spanning several states. Safety for these inspectors came to the forefront in discussion many times due to remote locations from the field office where they do their work. Adverse conditions as well as possible threat from criminal elements in some areas contribute to a hazardous work environment. Good levels of communication as well as tracking of inspectors should be implemented.

The filing system in this office, or the process by which documents are filed, seems to be a major issue for the entire office. Of the initial inspections picked to be reviewed, only one was actually found and reviewed, the other files were never located. What were reviewed were the most recent inspections that could be found of which spanned several previous years. A process needs to be established for filing. A suggestion was the use of flow charts to assist in the process.

**Drilling** - Overall impressions of the Drilling inspection process in Jackson are most importantly a lack of complete documentation. While one inspector in the office is excellent in his reporting and documentation in the field, all four individuals reviewed had few or no comments in the AFMSS database. A summary is required per H-3160-5, IV, B, 16 in AFMSS as well as on the H-3160-10. All other inspectors had very little or no comments on either. They were limited to one-line comments of a small portion of an activity and no overall summary; there should be some comments provided by the company representative; the contractor involved; or other such pertinent information per H-3160-5IV, B, 3 and 7. Supporting documentation such as cement job reports, tally sheets, BOPE test results as well as charts of test were never included from three of the four PETs. This is also required per H-3160-5, IV, B, 13.

Reports were entered and time was tracked but many activities that were obviously completed were not entered into the inspection. It is difficult to determine if time has been appropriately tracked due to the extent of travel for some of these PETs. Travel of up to 700 miles was required in some cases to complete a single inspection; good time tracking is essential to establish workload especially if there are multiple trips to a remote location and possible overnight stays. Some activities were not entered or claimed on the inspection; although, the checklist showed that they were performed. This could also affect time tracking.

The field inspection showed the inspector's good observation and deductive ability; good relationship with company representative; and overall visualization of a job in progress (is hard to mirror). The inspector was much more familiar with the requirements of the local area and the equipment s/he was working with; this area has very few rigs running on Federal properties so the inspector is allowed more time to an individual well. The inspector provided excellent documentation as well as comments; the AFMSS entry was not reviewed.

**Production** - Of the 12 records reviewed, 5 hardcopies of the inspection form 3160-11 (with the supporting documentation) were located in the file room; 5 files were located with the PET at his satellite office; and 2 could not be located at all. Documentation needs to be improved. The Jackson Field Office I&E staff should use BRIO when reviewing the OGOR and the official measurement forms when conducting PIs. Volume comparisons need to follow through for a more thorough review of the OGOR.

**Environmental** - Failure to document does not seem to be limited to any particular inspector, but is common to all of the PETs covering ES inspections while the physical scientist was on deployment with the U.S. Army. The 11 inspections were spread across 7 cases and generally contained very little information. Only 2 of the 11 ES inspections had hardcopies filed in the well file. Both of these hardcopy inspections were incompletely filled out. The two forms had missing information and some of the dates were not the same as the AFMSS record. Six additional ES inspections had no comments at all. Three had good comments in that they provided more information, but again no inspections forms in the well file.

In the 13 lease files examined, there were approximately 108 ES inspections conducted in FY 2010. Of these, 86 had no comments or remarks or were limited to a simple comment. Only 22 of the FY 2010 inspections had hardcopy forms filed in the lease or inspection folder. Of these, 18 had very short comments ("Well pad OK"). Section IV-3, B. 16 of H-3160-5 states: "A summary of the results of the inspection, any problems encountered and resolved, and all other pertinent information including notes that may aid future inspections included in *both the hardcopy file and the AFMSS database*" (emphasis added).

The inspections normally completed by the physical scientist were beautifully written up with many photos. The folder had copies of letters sent to the operators as well as corrective action completion forms. The entire documentation painted an excellent picture of the well site conditions and the actions that were taken to correct the problems. The only problem with the inspections were that they were conducted as MW inspections which cannot be entered into AFMSS (as directed by local management); the PET unfamiliarity with the environmental side of the I&E program compiled with the additional workload probably contributed to the deficiencies. Since AFMSS is not set up to track MW site visits, each field office should set up an independent tracking method. The IM provides a sample Excel spreadsheet to accomplish this. Establishing such a database would help in tracking MW accomplishments as well as completing ES inspections.

Sample of the wells that are currently in AAPD or drilling well (DRG) status had no data entry; this may be due to the fact that the FS is supposed to complete that portion. Even if that is the case, then at a minimum the FS should be noted as the Surface Management Entity, even if they do not complete their portion of AFMSS. If there was any data, it was limited to onsite date, review start and complete dates, and NEPA number. IM No. 2005-046 (revalidated) contains excellent guidance and instruction on the completion of these fields in AFMSS. The information placed in these forms is especially important in the case of split estate APDs since the approvals are inherently more complicated when multiple parties are involved. Careful tracking of the

surface approval information can often prove useful when resolving conflicts between surface owners and mineral lease holders.

**Findings** - Overall, the AFMSS database is being maintained. Updating facilities and wells is one area that sometimes slips through the cracks. However, the Jackson Field Office I&E staff do a good job of keeping it updated. The technical aspect of the field work is of high quality. The field inspectors do a very good job in spite of some unique challenges. They have a clear understanding of the regulations and Onshore Orders. Finally, the morale in the Jackson Field Office appears to be very high. The I&E staff actively look for opportunities for improvement, work very well together, and all are willing to lend a helping hand. This is essential to an effective I&E program. The entire office has a mission to cover everyone's back; a true team concept deserving praise.

BMP practices include the NRS adding information to the NEPA log about High ES criteria.

Completed inspections are not filed and/or not filed properly: of the 6 FY 2010 drilling inspections requested, none were in the files; of the 11 FY 2010 environmental inspections, only 2 were in the files; of the 12 FY 2010 production inspections, only 5 were in the files. Consider the following measures:

- Develop and implement a process to ensure inspections are properly filed.
- Reinforce H-3160-5 requirements for documentation.
- Instruct the PETs on the use of BRIO to complete PI inspections.
- Implement an oversight program.
- Develop a training plan, especially for the AFM and NRS.
- Put into action a Check-in/Check-out policy (see below).

Inspector safety is a concern. The PET in Kentucky explained that he needs to remove the government plates from his truck and install normal civilian plates when inspecting certain wells. There have been, apparently, times when the PET was threatened while driving to wells in an area of private land in Kentucky and West Virginia. There are known areas of marijuana cultivation, strongly defended by private individuals. Law Enforcement is aware of this, but this is still a major concern for the safety of the PETs. Additionally, a formal check-in/check-out policy was not implemented in the FO. With PETs covering 11 states and with no two-way radios, there is a concern about their location during any given day. While this review focused on other aspects of the program, it is worth noting that official policy should be provided to ensure the outlying PETs are tracked to ensure their safe return at the end of the day.

**Recommendations**

- Ensure the inspections are conducted and enforcement actions are documented both in the official file and in AFMSS in accordance with H-3160-5.
- Establish a filing system to improve the effectiveness of file location, retrieval, and access to the records.
- Management, in consultation with inspection staff, needs to develop a formal check-in/check-out policy or consider using a technology similar to the in vehicle "On-Star" system.

## CONCLUSIONS

The I&E program on BLM-managed lands has never reached optimal effectiveness. This is unchanged from historical reviews including those conducted when onshore Federal minerals were under the USGS Conservation Division. The I&E program is highly visible but continues with challenges in regard to staffing, funding, oversight, and policy development to achieve all its objectives.

To ensure that the BLM continues to improve, the BLM should strengthen the coordination and communication between the WO program leads and the corresponding leads for I&E in each state. This will provide improved communication, continuity, consistency, completeness, and program effectiveness of the overall program and the component parts as well. It is important to connect offices from top to bottom, and across all states, especially with so many oil and gas offices, often with remote inspectors, or in working in isolated areas. This effort requires continued vigilance and emphasis because so much is at stake, with 39 million acres under lease and $2.5 billion in annual royalties from over 100,000 wells existing on Federal onshore minerals. The GAO has identified the DOI oil and gas program as high-risk, largely due to production accountability and human capital challenges.

This review is the first large-scale effort to review multiple offices for I&E documentation with a focus on drilling, production, and environmental inspections in several years. Few surprises were discovered, and mostly followed similar program findings from the 21 offices reviewed during the last mass review during 1998-1999. Field office reviews are necessary regular maintenance for the inspection program.

The inspection program identifies and defines inspection priorities each year with the Annual Strategy Matrix. In response to audits and other recommendations, the BLM shifted to a risk-based approach in 2010 so that factors could be weighted based on priority and importance. This Matrix revision to risk-based was the first major change in the past 20 years. Further, the BLM relies heavily on the AFMSS database to build the Strategy Matrix and track all well operations, including the inspection activity. At this writing, the AFMSS database has not been automated effectively to support the new risk-based strategy, or to tighten the data entry quality and completeness.

Standard automation to enhance production accountability is not developed, such as wireless remote direct access to the database by the field specialist, and there is no direct access to OGOR production data from ONRR. The WO must emphasize progress, improve the effectiveness of the AFMSS database, and implement more automation to provide additional tools for the specialists and inspectors to meet production accountability objectives and overcome the weaknesses identified by the GAO.

The WO should establish periodic reviews in each of the states. The state offices should in turn actively review all field offices on a rotational basis annually to ensure compliance. Findings would be documented and shared to improve the overall effectiveness of the I&E program. The Corrective Action Plan from the 10 offices reviewed will be applied as a program guide for the

objectives that all offices must attain. Offices not yet reviewed will use this guide, address the Corrective Action Plan, and implement any office-specific recommendations.

Recommendations include that documentation must be complete and accurate. Managers and supervisors, on a regular basis, must be engaged and understand the level of completeness in the recordation. Orders and INCs need to be documented and completed with follow-up. The State I&E Leads will participate actively in the program, and even across state lines to provide a cadre of needed expertise, program leadership, and support. There will be regular meetings, at least monthly teleconference calls to assess enforcement progress, identify emerging needs, address challenges, and provide remedies by generating guidance. Production and production accountability must remain a priority for inspection and expanded in emphasis. The safety of the staff while in the field is paramount, just as is the proper training to maintain technical proficiency across all disciplines. Offices may need to adjust staffing and funding on a periodic basis, including sharing resources where it makes good business sense.

Appendix 1– Site Visit Questions

Questions for AFM and lead PET:

The questions listed below should be used. Additional questions, clarifications, and related discussions should supplement this list and be included in the report as appropriate.

1. Was your office aware of the 2010 and 2011 I & E Strategy?

2. Does your office use the I&E Documentation and Strategy Development Handbook and the related Fiscal Year 2010 Oil and Gas I&E Strategy Matrices instruction and Strategy Goals?

3. Is the guidance clear and understandable?

4. Were you able to make the requirements clear to your staff?

5. Was your office able to meet the required National I&E Strategy for 2010?

6. How do you convey the requirements of the Handbook and Strategy document to your staff?

7. If not, what are the reasons why you couldn't?

8. What additional resources are needed for success in accomplishing the above?

9. How did you document the results of your work this year? How did your office document their inspection/work for the year?

10. What additional inspections do you wish could be conducted? Why is your office unable to do these additional inspections?

11. Does your office have sufficient resources and the ability to provide technical oversight to the PETs/Inspectors? Follow-up question: Is your office able to provide mentoring and on the job training for less experienced PETs/Inspectors.

12. How does your office assure quality in the I&E program? For example: Oversight of inspections, rotating inspection areas, record reviews, AFMSS reviews, etc.

13. Do you feel you have the support of your supervisors/management in doing your job, including the issuance of INCs?

14. What does your office do to assure that for all INCs issued, that they are consistently applied, appropriately followed up upon, and resolved? As a follow-up to this question, do you think your office has come upon some procedures in this regard that would warrant consideration by other offices to use as well? In other words, are there some best management practices that we can learn from what each office is doing in this regard?

15. What related inspection training have you attended?

16. How would you recommend that national environmental inspection policy, forms, and training be improved?

17. Is there anything the team should be aware of as they proceed with the review?

Questions for the PETs/PATs and/or Surface Protections Specialists

The questions listed below should be used. Additional questions, clarifications, and related discussions should supplement this list and be included in the report as appropriate.

1. Is the guidance you received from your leadership clear and understandable?

2. Are there any reasons you do not follow the guidance in performing your job? If not, Why?

3. Do you feel you have the support of your supervisors/management in doing your job including the issuance of INCs?

4. Do you feel like you have to spend too much time on administrative duties rather than performing inspections?

   If the answer is yes, please give specific examples, and also make suggestions as to how this could be remedied.

   If you answered no, please explain what your office has done so that this is NOT the case.

5. Are you able to complete critical environmental inspections regardless the number of drilling applications your office is dealing with?

6. How do you document the results of your inspections?

7. What inspection training have you attended? (Referring to SPCs)
    a. Surface Management of Fluid Minerals?
    b. Construction and Reclamation for Fluid Minerals?
    c. State office training?
    d. Field office training?
    e. Other?

8. Do you think you have satisfactory training to perform the inspections you are asked to do?

9. If not, what training do you specifically feel you lack?

10. Besides training, is there anything else you need to successfully accomplish your job?

11. How would you recommend that national environmental inspection policy, forms, and training be improved?

12. Is there anything that the team should be aware of as it proceeds with the review of the files and then performs the field inspections?

Appendix II – ICR Team Members

| ICR TEAM MEMBERS | |
|---|---|
| Howard Lemm, ICR Team Lead | Petroleum Engineer, Project Coordinator<br>Division of Fluid Minerals (WO-310)<br>Washington Office |
| Carol Larson, AFMSS Support | Bureau AFMSS Technician |
| Pinedale & Rawlins Reviewers | |
| Pat Gallagher, Field Team Lead | Petroleum Engineer/I&E Coordinator<br>Colorado State Office (CO-920) |
| Steve Caffey, PET | Supervisory PET<br>Hobbs Field Office (NM-521) |
| Herman Lujan, PET | Supervisory PET<br>Farmington Field Office (NM-211) |
| Briana Potts, NRS | NRS<br>Ukiah Field Office (CA-052) |
| Gordon Williams, PET | PET<br>Buffalo Field Office (WY-070) |
| Meeker & Vernal Reviewers | |
| Will Lambert, Field Team Lead | Petroleum Engineer/I&E Coordinator<br>Montana State Office (MT-922) |
| John Mesrobian, PET | Lead PET<br>Casper Field Office (WY-060) |
| Tim Zebulske, NRS | NRS<br>Pinedale Field Office (WY-100) |
| Charlie Boyd, PET | PET<br>Jackson Field Office (ES-025) |
| Bakersfield & Jackson Reviewers | |
| Don Judice, Field Team Lead | Field Manager<br>Great Falls Field Office (MT-040) |
| Nate Packer, NRS | NRS<br>Vernal Field Office (UT-083) |
| Jerry Blakley, PET | PET<br>Carlsbad Field Office (NM-522) |
| Lisa-Marie Whiteman, PET | PET<br>Great Falls Field Office (MT-040) |
| Dickinson and Tulsa Reviewers | |
| John Shufflebarger, Field Team Lead | PET/I&E Coordinator<br>Wyoming State Office (WY-921) |
| Jim Hutchinson, PET | PET<br>Newcastle Field Office (WY-080) |
| Catherine Ventling, NRS | NRS<br>Grand Junction Field Office (CO-140) |

| | |
|---|---|
| Chuck Swick, PET | PET<br>Worland Field Office (WY-010) |
| Carlsbad and Farmington Reviewers | |
| George Garcia, Field Team Lead | Supervisory PET<br>Bakersfield Field Office (CA-060) |
| Julia Christiansen, NRS | NRS<br>Grand Junction Field Office (CO-140) |
| Randy Knight, PET | PET/I&E Coordinator<br>Utah State Office (UT-922) |
| Mike Kolling, PET | PET<br>Dickinson Field Office (MT-030) |

## Appendix III – Abbreviations

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|---|---|
| 3M | Rating of BOPE to 3,000 psi |
| AAPD | Approved Application for Permit to Drill |
| AGA | American Gas Association |
| AFM | Assistant Field Manager |
| AFMSS | Automated Fluid Minerals Support System |
| APD | Application for Permit to Drill |
| API | American Petroleum Institute |
| BFO | Bakersfield Field Office |
| BLM | Bureau of Land Management |
| BMP | Best Management Practices |
| BO | Blowout Prevention Equipment Inspection |
| BOPE | Blowout Prevention Equipment |
| BRIO | Corporate Metadata Repository Hyperion Reports |
| CAP | Corrective Action Plan |
| CFO | Carlsbad Field Office |
| COA | Condition of Approval |
| CV | Gas Chart/EFM Verification Activity |
| CX | Categorical Exclusion |
| DI | Detail Drilling/Workover Inspection |
| DOI | Department of the Interior |
| DRG | Drilling Well |
| DW | Drilling Well Inspection |
| EFM | Electronic Flow Meter |
| EIS | Environmental Impact Statement |
| EPS | Environmental Protection Specialist |
| ES | Environmental Inspection |
| FAN | Final Abandonment Notice |
| FFO | Farmington Field Office |
| FO | Field Office |
| FY | Fiscal Year |
| GAO | United States Government Accountability Office |
| $H_2S$ | Hydrogen Sulfide |
| H-3160-5 | I&E Documentation and Strategy Development Handbook |
| HS | Health and Safety Inspection |
| I&E | Inspection and Enforcement |
| ICR | Internal Control Review |
| IM | Instruction Memorandum |
| INC | Incident of Non-compliance |
| IR | Surface/Environmental - Interim Reclamation |
| LIE | Legal Instruments Examiner |
| LLE | Land Law Examiner |
| MC | Meter Calibration activity |
| MFS | Moore Field Station |
| MW | Environmental Monitoring |

| | |
|---|---|
| NDFO | North Dakota Field Office |
| NEPA | National Environmental Policy Act of 1969 |
| NI | Nondetailed Drilling/Workover Inspection |
| NRS | Natural Resource Specialist |
| O&G | Oil and Gas |
| OGOR | Oil and Gas Operations Report |
| OIG | Department of Interior Office of Inspector General |
| OO | Onshore Oil and Gas Order |
| ONRR | Office of Natural Resources Revenue |
| PAT | Production Accountability Technician |
| PDF | Portable Document Format |
| PE | Petroleum Engineer |
| PET | Petroleum Engineering Technician |
| PI | Production Inspections |
| PR | Production Record Reviews |
| PST | Physical Science Technician |
| RR | OGOR Review |
| SCT | Surface Compliance Technician |
| SD | Surface/Environmental - Drilling |
| SNRS | Supervisory Natural Resource Specialist |
| SP | Surface/Environmental – Producing Inspection |
| SPET | Supervisory Petroleum Engineering Technician |
| STEP PET | Student Temporary Employment Program Petroleum Engineering Technician |
| T&E | Threatened and Endangered Species as defined under the Endangered Species Act |
| TDY | Temporary Duty |
| TG | Tank Gauge Activity |
| USGS | United States Geological Survey |
| USFS | United States Forest Service |
| WO | Washington Office |
| WRFO | White River Field Office |
| WYSO | Wyoming State Office |