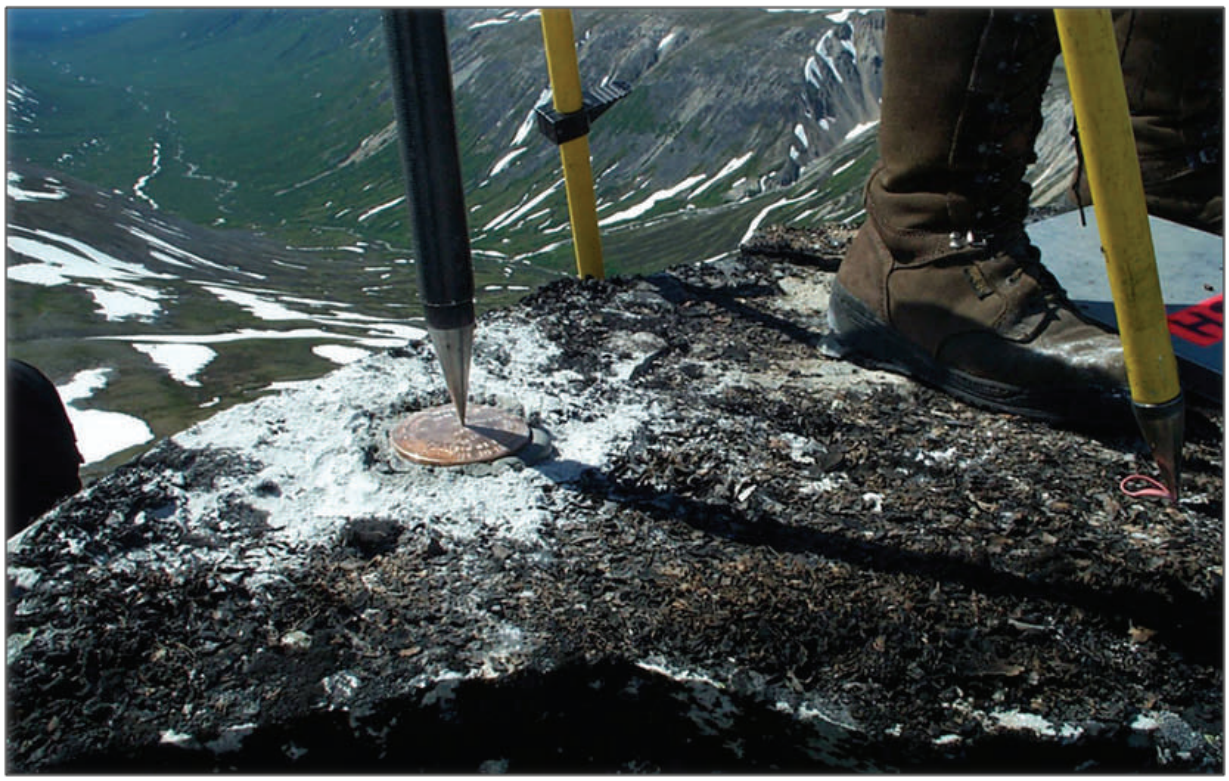
AUDIT

OFFICE OF
INSPECTOR GENERAL
U.S.DEPARTMENT OF THE INTERIOR

Department of the Interior's Management of Land Boundaries



Report No.: C-IN-MOA-0001-2009

July 2010

OFFICE OF
INSPECTOR GENERAL
U.S. DEPARTMENT OF THE INTERIOR

JUL 16 2010

Memorandum

To: Wilma Lewis, Assistant Secretary for Land and Minerals Management
Larry EchoHawk, Assistant Secretary for Indian Affairs

From: Mary L. Kendall
Acting Inspector General

Subject: Final Audit Report, "Department of the Interior's Management of Land Boundaries" (Audit No. C-IN-MOA-0001-2009)

This memorandum transmits the results of our audit of the Department's management of land boundaries. Our audit found that the Bureau of Land Management's Cadastral Survey program was missing the opportunity to identify and perform surveys on high risk lands where significant potential revenues could be collected by the Department or Indian tribes. Proper survey and management of high risk lands with antiquated surveys has the potential to generate hundreds of millions of dollars in revenue from lands with valuable resources.

Our report includes nine recommendations related to management of land boundaries. Based on management's response to the draft report, we consider:

- Recommendations 3, 4, 5, 6, 7, 8, and 9 resolved but not implemented.
- Recommendations 1 and 2 unresolved. While management generally agreed with the recommendations, additional information is needed before we can consider the recommendations resolved. (Pages 9 and 10 of the report describe the additional information needed.)

Please provide us a response to the report within 30 days. The response should provide information on actions taken or planned to address our findings and recommendations, target dates and titles of the officials responsible for implementation. Please address your responses to:

Ms. Kimberly Elmore
Assistant Inspector General for Audits, Inspections and Evaluations
U.S. Department of the Interior
Office of Inspector General
1849 C Street, NW, MS 4428
Washington, D.C. 20240

EXECUTIVE SUMMARY

The Bureau of Land Management (BLM) Cadastral Survey program has been missing the opportunity to identify and perform surveys on high risk lands where significant potential revenues could be collected by the Department or Indian tribes. The Department has outdated and unreliable survey information on more than 1 million boundary miles. This encompasses almost 90 percent of the 385 million acres of federal and Indian lands that DOI is responsible for in the western United States (excluding Alaska). Proper survey and management of high risk lands with antiquated surveys has the potential to generate hundreds of millions of dollars in revenue from lands with valuable surface and subsurface resources. This revenue could result from the collection of fees or royalties from identifying (a) unauthorized uses including rights-of-way violations and (b) the improper removal of oil, gas, timber, or other resources from federal or Indian lands. The Cadastral Survey program, however, has not developed an adequate system to identify high risk lands or attributes in need of survey. Although project prioritization systems for both the Bureau of Indian Affairs (BIA) and BLM exist, neither system is properly designed or utilized.

Transactions on lands with unreliable boundary surveys and high value resources were routinely processed and approved without the benefit of boundary evidence review by Cadastral Survey personnel. The importance of performing cadastral work[1] on these lands is not adequately understood by many BLM and BIA personnel. As a result, the Cadastral Survey program is not being properly utilized. While the cost of some cadastral work can be high, using proper risk management procedures, less expensive cadastral services, and other procedures can make this work very cost effective.

BLM estimated the cost to survey and perform the work necessary to modernize all boundary lands in the billions of dollars. We believe, however, that only a small fraction of antiquated boundaries will be a high priority for survey once a risk management system is developed and boundary risks are clearly established. Furthermore, if a portion of revenues recovered could be retained by BLM, those funds could be used to perform high priority surveys on the highest risk boundaries.

[1] Cadastral services are those performed to show or record property boundaries, subdivision lines, buildings, and related details.

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WHY WE DID THIS AUDIT

Information obtained during a previous audit[2] indicated a significant problem with outdated surveys and unreliable federal land boundaries. As a result, we were concerned about the potential for significant, uncollected revenues and initiated this audit to review both Bureau of Land Management (BLM) and other departmental agencies' management of land boundaries. (See *Appendix A* for complete audit scope and methodology. See *Appendix B* for a list of locations visited.)

BACKGROUND

Public lands in the U.S. have been surveyed into townships and sections since 1785. Each township is 6 miles by 6 miles square and subdivided into 1-mile square sections each containing 640 acres. The corners of each township and section are marked by small monuments. Monuments have evolved from stone markers and wood posts used prior to 1910, to iron posts with brass caps used prior to 1973, to the current stainless steel posts with brass caps. When a survey is conducted, a master title plat is created showing the land survey or boundary lines and their relation to the adjoining official surveys. As more modern official surveys or resurveys are conducted, land use information is added to plats including rights-of-way for utility companies and others, and other land uses including commercial leases for energy production and mineral extraction.

Brass Cap Boundary Monument

The Cadastral Survey program is a core mission of BLM, responsible for supporting field offices by supplying clearly defined boundaries and other land information for the protection and proper management of federal and Indian lands. The program performs surveys to establish, re-establish, and describe the boundaries of public lands in the United States. All bureaus and offices are required to coordinate their federal survey needs with BLM which either performs the requested survey work or oversees the cadastral surveying activities of others. BLM also administers, and makes all changes to, the Public Land Survey System which is the official system for storing public land boundary record information.

BLM reports it is responsible for cadastral survey on about 1.3 million miles of federal and Indian land boundaries on 385 million acres in the western U.S (excluding Alaska). According to BLM, federal surveys conducted since 1973 have highly reliable boundary data. These total about 150,000 miles, or only 12 percent, of the federal boundary miles in the west. Estimates for the remaining miles are:

[2] Department of the Interior, Office of Inspector General, Abandoned Mine Lands in the Department of the Interior (Report No. C-IN-MOA-0004-2007, Issued July 2008).

- boundaries with no federal survey, about 300,000 miles (23 percent);
- boundaries with poor reliability, about 350,000 miles (27 percent, conducted prior to 1910), and;
- boundaries with fair reliability, about 500,000 miles (38 percent, conducted between 1910 and 1972).

Needs for cadastral survey vary, but can include establishing accurate boundaries for transfer of land ownership, resolving ownership or land use disputes, and establishing accurate locations of proposed roads, pipelines, or utility lines. Conducting surveys requires extensive fieldwork and, if planned properly, can result in identifying unauthorized, or previously unknown, land uses or damages.

BLM and the Bureau of Indian Affairs (BIA) have identified thousands of unauthorized use cases and estimated the number of unknown, unauthorized use cases to be significantly higher than the number of known cases. Most cases represent obvious and immediately visible violations such as illegal dumping and occupancy. Some cases, however, are less obvious but have the potential for recovering millions of dollars in revenue from unauthorized rights-of-way and/or the unauthorized extraction of oil, gas, or other valuable minerals. Resolving complex unauthorized use cases can require extensive work and documentation including compiling evidence, conducting referrals, and seeking resolutions. Processing these cases can cost $100,000 or more.

RESULTS OF AUDIT

BLM and other departmental agencies could improve the management of land boundaries. Specifically, we found that BLM's Cadastral Survey program was missing the opportunity to identify and perform surveys on high risk lands where significant potential revenues could be collected by the Department and/or Indian tribes. Land transactions with unreliable boundary surveys and high value resources were routinely processed and approved without the benefit of boundary evidence review by Cadastral Survey personnel. Further, the Department does not have a business solution for land managers who face an increasingly complex environment of complicated transactions, legal challenges, and deteriorating and difficult to access records. Finally, we identified a promising practice which, if implemented department-wide, could improve the management of land boundaries.

Risk Management

The Cadastral Survey program was missing the opportunity to identify and perform surveys on high risk lands where significant potential revenues could be collected by the Department and/or Indian tribes. The following examples illustrate the potential opportunities that could be realized.

- The Yakama Indian Tribe and BLM conducted cadastral survey work which identified extensive unauthorized uses by electric, cable, and gas companies. The tribe invested

about $2 million to develop systems to manage this data and used it to negotiate settlements of about $25 million for the tribe. The tribe also negotiated to purchase an electric company's power distribution system enabling them to start a tribally operated utility company. The tribe expects to provide lower cost power to all residents on the reservation and to employ as many as 100 tribal members.

- The Southern Ute Indian Tribe and BLM invested about $2 million for extensive cadastral survey work and land management systems development. While the tribe's purpose for conducting the survey was not only to identify unauthorized uses, they estimate future, unauthorized use recoveries over 20 to 25 years to be in excess of $100 million.

- The Santa Fe Indian School requested BLM perform a cadastral resurvey to establish reliable boundaries after a utility company offered $100,000 for a 20-year renewal and expansion of an existing electric transmission line right-of-way. The resurvey information was used to negotiate a $4 million, 20-year right-of-way.

Aerial photo of the Santa Fe Indian School. The solid yellow line shows school land boundaries and the broken yellow line shows the location of a utility company's electric transmission lines.

As these examples illustrate, proper survey and management of high risk lands with antiquated surveys has the potential to generate hundreds of millions of dollars in revenue. The Cadastral Survey program, however, has not developed an adequate system to identify high risk lands and attributes in need of survey. Although project prioritization systems for both BIA and BLM exist, neither system is properly designed or utilized. Specifically:

- BLM and BIA developed the Cadastral Automated Request System (CARS) for BIA to ensure the highest priority survey projects were identified and funded. The system relied on tribal and BIA input to assign a numerical score to survey projects based on boundary evidence risk. While the system was well intentioned, it lacked adequately defined risk attributes. Neither BLM nor BIA provided needed policies and procedures to ensure the data provided was consistent, accurate, and supported. We reviewed applications at three BIA offices and found little or no support for the data submitted.

- BLM began development of an inventory system in response to an Office of Management and Budget review. This involved field offices compiling an inventory of survey projects they considered high priority. These projects, however, were identified without the benefit of adequately defined high risk attributes, and were largely unfunded. BLM has funded a project to determine the information needed to identify high risk boundaries. The project matches the age (reliability) of official surveys with other boundary risk attributes including the land's status, energy and other resources present, current and potential land uses, and urban interface. The project is ongoing and boundary risk maps have been provided to BLM state offices. Although an inventory of projects and high risk boundaries have been identified, BLM has no formal plans to consolidate this information into a risk management system for identifying and prioritizing cadastral projects or for funding those projects.

In addition to not performing surveys on high risk lands, the program also did not take the opportunity to design requested cost reimbursable surveys to identify high risk attributes present. Because cost reimbursable surveys were funded by other programs, the requested work was generally narrowly focused. Expanding the design of these cost reimbursable surveys to identify what high risk attributes should be present, and clearly identifying any additional high risk attributes while performing the survey, would be a cost efficient way to begin clearly identifying unauthorized uses.

BLM estimated the cost to survey and perform the work necessary to modernize all federal and/or Indian land boundaries in the billions of dollars. We believe, however, that only a small fraction of antiquated boundaries would be high priority for survey once a risk management system is developed and boundary attributes are clearly established.

If a portion of revenues recovered as a result of survey work could be retained by BLM, the funds could be used to perform other high priority surveys on lands with the highest risk boundaries. Such retention to fund future recovery efforts is already used by the Department of Justice in both its Affirmative Civil Enforcement program and in *qui tam* cases. For example, the Affirmative Civil Enforcement program retains 3 percent of all dollars recovered to support future collection efforts. Performance of targeted high risk surveys by the Cadastral Survey program would likely result in significant revenue recoveries from identification of high value unauthorized use and/or environmental damages.

Program Coordination

Land transactions with unreliable boundary surveys and high value resources were routinely processed and approved without the benefit of boundary evidence review by Cadastral Survey personnel. This occurred because managers and Lands and Realty staff:

- believed cadastral expertise was not necessary to establish adequate boundary evidence.
- believed cadastral services cost too much and took too much time when making significant land management decisions.
- often did not receive adequate training in cadastral services, rights-of-way, and other land issues.
- did not completely understand the potential benefits of cadastral services.

Services provided by Cadastral Survey are essential for the proper processing of significant land transactions. Significant transactions processed by Lands and Realty cover a wide variety of public land uses including processing high value rights-of-way and for congressionally required land sales, disposals, and acquisitions. Although reviewing the adequacy of boundary evidence requires cadastral expertise, it can generally be accomplished with a simple review of existing documentation. Cadastral expertise may not be required for most transactions but is essential for high value or otherwise significant transactions.

During the audit, many BLM staff made comments demonstrating a lack of understanding or appreciation of Cadastral Survey's complex science. The location of original corner monuments, even when they deviate from the intended location, represent the legal boundary of the property. Many Land and Realty staff failed to understand that older surveyed land boundaries often do not correlate closely to the assumed location on maps or precise GPS locations. Actual survey land boundaries can be located as much as one mile from the location a GPS/GIS or non-survey map would identify. Some specific statements from BLM staff are as follows:

- *What you don't know (about boundary accuracy) won't hurt you. Let private landowners worry about shared boundaries. It's not BLM's responsibility to know where the boundary is.*
- *We can locate boundaries because we know how to use compass and GPS devices.*

The following examples illustrate the value of utilizing cadastral survey personnel to review the adequacy of boundary evidence on significant land transactions:

- BIA's Fort Hall Agency personnel approved a utility company's request for a right-of-way without review by a cadastral expert. Several years later a cadastral expert reviewed maps submitted by the company with its request and found survey errors. This subsequent review resulted in negotiations and payments to tribal members exceeding $4 million.

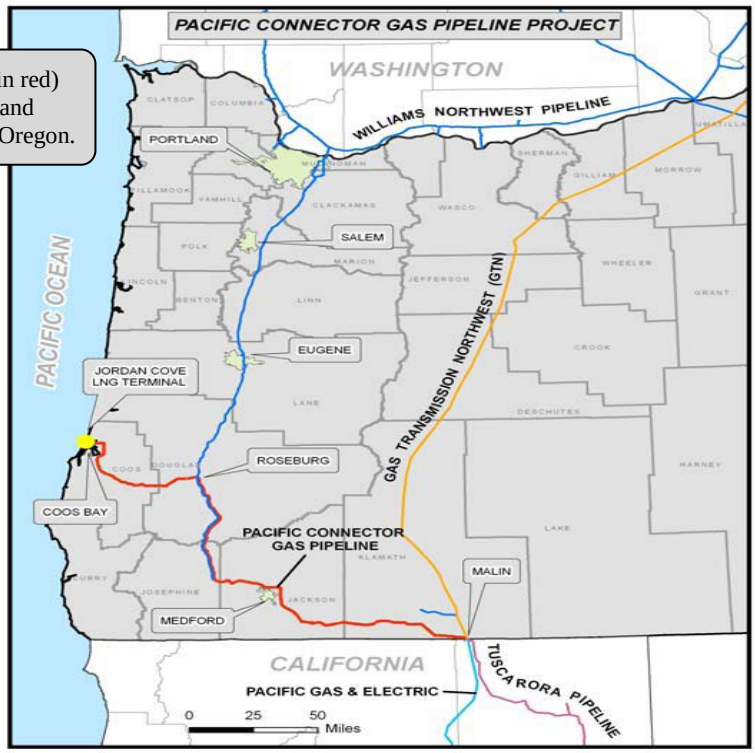
- The BLM Uncompahgre Field Office worked with a neighboring property owner to locate and install a cattle guard and a fence. Without a survey, BLM picked the location for the cattle guard by backing off the believed property line by approximately 300 feet. The neighbor then, in accordance with a verbal agreement, installed the fence in line with the cattle guard. The neighboring property owner, when building a house, assumed the fence was located on the property line. A subsequent BLM survey revealed the boundary actually went through the middle of the house. Because the land was part of Gunnison Gorge National Conservation Area, it required an act of Congress to execute a boundary modification to resolve the issue.

"Backed Off" location of the cattle guard, fence and BLM land boundary sign erected without the benefit of a survey. The house in the background was subsequently constructed, on what the new landowner assumed was their property, but which actually trespassed onto federal land. A BLM survey revealed the boundary went through the middle of the house.

- BLM's Las Vegas Field Office requested a 1-year survey project estimated to cost $142,000. State Office Cadastral Survey staff determined that a survey was not needed and, subsequently, provided a less expensive product that took less than 2 months to complete at a cost of about only $3,000. According to State Office Cadastral Survey personnel, cheaper alternatives to a survey are often available if Cadastral Survey's staff is consulted. Often, however, field offices choose to use the services of a non-BLM surveyor rather than first consulting with Cadastral Survey about possible alternatives.

- BLM's Oregon State Office is working with a pipeline company that is proposing the construction of a 230-mile, natural gas pipeline in Southwest Oregon. The pipeline would cost approximately $900 million to construct and could carry up to 1 billion cubic feet of natural gas per day. The proposed pipeline crosses numerous parcels of BLM lands, which are intermingled with private lands. The project will require the identification of many miles of federal land boundaries to accurately describe the right-of-way authorization area. Accurate property line identification is critical for the sale of high value timber located on BLM lands and the avoidance of trespass. BLM's Lands and Realty program does not have adequate funds for BLM surveyors to perform the required surveys and the company has proposed the use of state-licensed and federally certified surveyors. The Cadastral Survey staff believed, however, that on a project of this size and complexity, agency oversight should be performed. Oversight could require a full-time surveyor at a cost of about $100,000 annually until the necessary surveys are completed and approved. The cost of BLM survey oversight could be recovered from the pipeline company through the BLM cost recovery right-of-way regulations. Cadastral survey oversight would help ensure the pipeline's proper location and accurate assessment of significant right-of-way rental fees and timber values.

The proposed pipeline (in red) crosses 230 miles of land including Federal land in Oregon.



During our audit, BLM and BIA staff told us that many BIA realty staff cannot adequately interpret or prepare key realty documents. For example, some realty staff can not accurately read or write legal land descriptions. This is a basic, critical function for realty staff. BIA does not offer standardized lands or realty training which is essential to managing and protecting Indian lands. Recognizing this need, some BLM employees have provided 1 to 2 day basic land description courses to BIA and tribal employees. Several BIA realty staff have also met with staff from the National Indian Programs Training Center to discuss designing a realty course for BIA staff.

BLM's National Training Center offers a Beginning Lands and Realty course to its Lands and Realty employees. The course is offered two times per year, 11 weeks per session. Although the course is not mandatory, many BLM Lands and Realty employees attend. The course is designed to educate Lands and Realty staff on a range of topics, including basic training in the laws and regulations applicable to Lands and Realty. These include Cadastral Survey's functions and services, processes for issuing leases and rights-of-way, reading and writing legal land descriptions, and understanding basic Lands and Realty principles such as describing and interpreting land status and boundaries.

Automated Systems

The Department does not have a business solution for land managers who face an increasingly complex environment of complicated transactions, legal challenges, and deteriorating difficult to access land records. The National Integrated Land System (NILS) was to be such a solution. Over the past 10 years, BLM spent $27 million attempting to modernize antiquated land information systems and to bring NILS online. BLM internal reviews identified several contract irregularities and concluded that NILS was not adequately integrated or automated and, therefore, did not meet business requirements. (See *Appendix C* for monetary impact.) In September 2009, BLM discontinued system development. As a result, we stopped work and referred the matter to our Office of Investigations.

Promising Practices

Cadastral surveying costs vary, but average about $6,000 per mile. For many land transactions, low-risk alternative methods of verifying boundaries are sufficient. As part of implementing the Department's Fiduciary Trust Model, BLM and BIA designed and implemented four less costly and time-consuming cadastral services documented in the Departmental Manual chapter "Standards for Indian Trust Lands Boundary Evidence." These services included land description reviews, certificate of inspection and possession, chain of surveys reviews, and boundary assurance certifications. These reviews can be completed at substantially less cost than an Official Survey, thus providing additional resources for boundary management. BLM staff stated these standards should be available for use by other bureaus in addition to BIA.

Fiduciary Trust Model

The Department is responsible for establishing and supporting a fiduciary trust relationship with Native Americans. These responsibilities include the improvement and protection of 56 million acres of land and natural resources in trust. The American Indian Trust Fund Management Reform Act of 1994 directed the Department to reform the Indian Fiduciary Trust. The Office of the Special Trustee for American Indians was created by the Act to oversee and coordinate the reforms.

RECOMMENDATIONS

The Director of BLM should:

1. Develop and implement a plan to identify, prioritize, and conduct surveys on those lands, both federal and Indian, with the highest risk boundaries. This plan should include, at a minimum:
    a. the use of standardized, high-risk, boundary attributes such as those identified in BLM's current project on risk identification.
    b. how high value issues identified while performing surveys will be resolved.

    BLM Response:

    BLM concurred with this recommendation and stated: An existing pilot program will be broadened to effectively identify lands with high-risk attributes. The Cadastral Survey Program will further refine and prioritize surveys that are high risk by working with other BLM program staff such as those from the oil and gas, right-of-way, and timber programs. The pilot program results will be used to establish a BLM-wide approach for prioritization and could serve as a model for other federal agencies in the Department.

    OIG Analysis of BLM Response:

    Based on BLM's response, we consider this recommendation unresolved. While we believe it was not intentional, BLM's proposed action does not address two aspects of the recommendation: (1) The response does not specifically identify a plan for BLM's pilot project when complete to be implemented for Indian Lands and (2) The proposed action does not address part b of the recommendation to include in the plan how high value issues identified while performing surveys will be resolved. We believe resolution of these issues will require a plan and the dedication of resources outside of the Cadastral Survey program. Therefore, we consider this recommendation unresolved until both issues are sufficiently addressed.

2. Develop and implement a plan to increase the scope of cost reimbursable cadastral surveys to include evaluating significant boundary risk attributes.

    BLM Response:

    BLM concurred with this recommendation and stated: BLM will issue an Instruction Memorandum to expand the scope of cost reimbursable cadastral surveys to include a provision for evaluating significant boundary risk attributes for high valued resources. The Instruction Memorandum will require offices evaluate land status features in greater detail during survey planning. Where other

federal land managers are reluctant to pay for this scope expansion BLM could provide assistance to identify potential revenue opportunities.

OIG Analysis of BLM Response:

Based on BLM's response, we consider this recommendation unresolved. BLM's proposed action requires clarification on whether BLM will fund the expanded scope of surveys with significant boundary risk attributes performed for the benefit of BLM programs. While we believe this is BLM's intent (and is necessary to resolve the issue), BLM's response was not clear on this fact. We concur with BLM's proposed offer of assistance to non BLM federal land managers unwilling to fund survey scope expansion. Therefore, we consider this recommendation unresolved until the funding for the benefit of BLM programs is addressed.

3. Explore with Congress the potential to retain a portion of any revenues recovered as a result of surveys performed. If approved, use the additional funding to cover the cost of performing self-initiated cadastral surveys on lands with high risk boundaries.

BLM Response:

BLM concurred with this recommendation and stated: BLM will pursue discussions with the Department's Office of Congressional and Legislative Affairs on drafting and submitting an Administrative Legislative proposal for such statutory change to Congress.

OIG Analysis of BLM Response:

Based on BLM's response we consider this recommendation resolved, but not implemented.

4. Develop and implement a plan to ensure Cadastral Survey reviews the adequacy of boundary evidence prior to the approval of significant land and resource transactions.

BLM Response:

BLM concurred with this recommendation and stated: BLM will develop an Instruction Memorandum requiring Cadastral Survey program certification of all legal descriptions, the adequacy of boundary infrastructure, and the records of survey for all high valued land and resource transactions.

OIG Analysis of BLM Response:

Based on BLM's response we consider this recommendation resolved, but not implemented.

5. Develop and implement a plan to ensure that project manager's coordinate with Cadastral Survey on all significant commercial projects to evaluate boundary risks.

BLM Response:

BLM did not concur with our original recommendation and stated: While agreeing the Cadastral Survey program should play a more central role with respect to significant commercial projects, BLM prefers project managers perform oversight, but coordinate with the Cadastral Survey program on all significant projects to evaluate boundary risks. To ensure this occurs BLM proposes to develop an Instruction Memorandum that will require Cadastral Survey evaluate the boundary risks of all significant commercial projects and develop plans to mitigate high risk boundary attributes.

OIG Analysis of BLM Response:

We concur with BLM's alternate approach and believe it will correct the issue identified. Therefore, we revised our draft report recommendation to require that project managers coordinate with Cadastral Survey on all significant commercial projects. Based on BLM's response, we consider this recommendation resolved, but not implemented.

6. Require that costs for oversight of significant commercial projects be recovered from the commercial entities.

BLM Response:

BLM concurred with this recommendation and stated: BLM will develop an Instruction Memorandum establishing a policy for cost recovery of Cadastral Survey services on commercial projects. BLM will utilize existing cost recovery authority and pursue additional authority where needed.

OIG Analysis of BLM Response:

Based on BLM's response we consider this recommendation resolved, but not implemented.

7. Develop and implement a department-wide cadastral survey outreach program to educate end users and promote the range of available services and the potential benefits of those services including the opportunities to maximize:
    a. collection of significant revenues from high value unauthorized use;
    b. protection of federal lands from environmental and other damages;
    c. identification of accurate land boundaries management of rights-of-way, land withdrawals, land exchanges, and land disposals; and
    d. identification of land features including roads, trails, and hazardous sites.

BLM Response:

BLM concurred with this recommendation and stated: BLM will develop an outreach program to address the report's findings. BLM's response detailed specific steps to be included in the outreach program.

OIG Analysis of BLM Response:

Based on BLM's response we consider this recommendation resolved, but not implemented.

8. Expand the procedures for boundary evidence models found in the Departmental Manual chapter "Standards for Indian Trust Lands Boundary Evidence" (303 DM 7.9) to include conducting less costly boundary resolutions or assurances to all bureaus department-wide.

BLM Response:

BLM concurred with this recommendation and will consult with appropriate officials within the office of the Assistant Secretary of Policy, Management and Budget on how to proceed with this recommendation.

OIG Analysis of BLM Response:

Based on BLM's response we consider this recommendation resolved, but not implemented.

The Director of BIA should:

9. Establish an agreement with BLM so that BIA and tribal employees receive comparable training to that provided to BLM employees at the National Training Center.

BIA Response:

BIA concurred with this recommendation and will work to establish an agreement with BLM so that BIA and tribal employees receive comparable training to that received by BLM employees at the National Training Center.

OIG Analysis of BIA Response:

Based on BIA's response we consider this recommendation resolved, but not implemented.

OBJECTIVE, SCOPE, AND METHODOLOGY

Objective

The objective of our audit was to review both BLM and other departmental agencies' management of land boundaries.

Scope

The scope of our audit covered boundary management practices including (a) land surveying and other boundary verification methods, and (b) realty activities involving land use and ownership. We conducted fieldwork from May through August 2009.

The initial audit survey included BLM, BIA, the U.S. Fish and Wildlife Service (FWS) and the National Park Service (NPS). While FWS and NPS had similar percentages of unreliable survey boundaries, we eliminated them from audit fieldwork in order to focus on BLM and BIA. These agencies manage the majority of high value rights-of-way and resource leases, both of which are highly dependent on accurate surveys.

Methodology

To accomplish the audit objective, we:

- gathered general, administrative, and background information to provide a working knowledge of Cadastral Survey and the Lands and Realty Management Program.

- identified and reviewed policies and procedures related to Cadastral Survey and the Lands and Realty Management Program.

- conducted site visits to interview Cadastral Survey and Lands and Realty personnel about the work they performed on land transactions.

- visited BLM, BIA, and tribal locations to identify geographic information systems developed to discover accurate property boundaries and the benefits derived from these efforts.

- conducted site visits to evaluate automated systems used to track land boundary information.

- visited BLM and BIA sites to gather data about processes and systems in place to:
    - identify and track land boundary status.
    - determine when, and what type of, boundary verification work is necessary.
    - establish survey priorities.

- determine the level of surveyor certification and expertise required.
- identify, track, and resolve cases of unauthorized use which included a review of select case files.

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

LOCATIONS VISITED

Bureau of Land Management

Washington Office	Washington, D.C.
Arizona State Office	Phoenix, AZ
Phoenix District Office	Phoenix, AZ
Tucson Field Office	Tucson, AZ
California State Office	Sacramento, CA
Bakersfield Field Office	Bakersfield, CA
Mother Lode Field Office	Folsom, CA
Colorado State Office	Lakewood, CO
Uncompahgre Field Office	Montrose, CO
New Mexico State Office	Santa Fe, NM
Farmington Field Office	Farmington, NM
Oregon State Office	Portland, OR
Prineville District Office	Prineville, OR

Bureau of Indian Affairs

Washington Office	Washington, D.C.
Pacific Regional Office	Sacramento, CA
Central California Agency	Sacramento, CA
Palm Springs Agency	Palm Springs, CA
Navajo Regional Office	Gallup, NM
Southwest Regional Office	Albuquerque, NM
Southern Pueblos Agency	Albuquerque, NM
Western Regional Office	Phoenix, AZ
Fort Hall Agency	Fort Hall, ID
Land Titles and Records Office	Sacramento, CA

Indian Tribes

Yakama Indian Nation	Toppenish, WA
Swinomish Indian Tribal Community	La Conner, WA
Southern Ute Indian Tribe	Ignacio, CO
Agua Caliente Band of Cahuilla Indians	Palm Springs, CA

Training Centers

BLM National Training Center	Phoenix, AZ
National Indian Programs Training Center	Albuquerque, NM

SCHEDULE OF MONETARY IMPACT

Issue	**Questioned Costs**
Cost Incurred Attempting to Design and Implement the National Integrated Land System (NILS)	$27 Million
TOTAL	**$27 Million**

STATUS OF RECOMMENDATIONS

Recommendations	Status	Action Required
1, 2	Unresolved Management concurred; additional information needed	Please provide additional information on actions taken or planned.
3, 4, 5, 6, 7, 8, 9	Resolved Not Implemented	No further response to OIG is required for these recommendations. We will refer these to the Assistant Secretary for Policy, Management and Budget for tracking of implementation.

BUREAU OF LAND MANAGEMENT'S RESPONSE

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Washington, DC 20240
http://www.blm.gov

In Reply Refer:
1245 (830)

APR 02 2010

Memorandum

To: Kimberly Elmore
Assistant Inspector General for Audits, Inspections and Evaluations

Through: Wilma A. Lewis
Assistant Secretary – Land and Minerals Management

From: Robert V. Abbey
Director

Subject: Office of Inspector General Draft Audit Report, Department of the Interior's Management of Land Boundaries (Audit No. C-IN-MOA-0001-2009)

On February 18, 2010, the Office of Inspector General (OIG) issued its draft audit report, "Department of the Interior's Management of Land Boundaries" (Audit No. C-IN-MOA-0001-2009). The report explains the results of the OIG's audit of the Department's management of land boundaries and contains eight recommendations for the Bureau of Land Management (BLM) and one recommendation for the Bureau of Indian Affairs (BIA), which the OIG believes will improve the efficiency of the program. As requested, the BLM's responses to the findings and recommendations are set forth in Attachment 1, and its technical comments are provided in Attachment 2. Attachment 1 also provides a summary of actions taken or planned by the BLM to comply with the recommendations, including the responsible officials and the target dates of implementation. In sum, he BLM concurs with seven of the eight recommendations (Recommendations 1, 2, 3, 4, 6, 7 and 8), and does not concur with Recommendation 5. We understand that the BIA will submit a separate response to the audit and Recommendation 9.

The Cadastral Survey program is a core mission of the BLM and plays an important role in providing cadastral survey needs for all Federal agencies as well as serving as a repository for public lands boundary information. The OIG notes that the BLM is responsible for 1.3 million miles of Federal and Indian land boundaries on 385 million acres in the western U.S (excluding Alaska). In addition, the Cadastral Survey program plays an integral role in the State of Alaska, including supporting the Alaska Lands Conveyance Program.

In 2009, the Cadastral Survey program base budget for the western U.S. (excluding Alaska) was $12.9 million, in 2010, it was funded at $12.5 million, and the President's 2011 budget proposes funding at $12.3 million. Furthermore, the President's 2011 budget proposes $22 million for the Alaska Lands Conveyance Program, a reduction of approximately $13 million (38 percent) from the FY 2010 budget. This will reduce funds for the Cadastral Survey program in Alaska.

In addition to the base budget, the BLM also collects cost-recovery dollars for specific projects. While the cost recovery funding enhances the BLM's ability to conduct project specific cadastral survey work, it is difficult to use such funds to sustain or expand its professional cadastral survey workforce. Because the cost recovery dollars received from other offices, bureaus, and programs is not predictable or consistent, those funds are not a reliable source for long term planning or for maintaining a viable workforce. At current funding levels, the BLM is able to fund 87 employees full time.

Moreover, as the OIG noted, the BLM estimates the cost to survey and perform the work necessary to modernize all Federal and/or Indian land boundaries to be billions of dollars. These funding limitations have a direct and significant impact on the BLM's ability to conduct cadastral survey work that we concede is still needed. However, as explained in more detail in the attached response, we agree that improvements can be made to increase efficiency and have concurred with most of the OIG's recommendations in this regard.

If you have any questions or concerns regarding this response, please contact Donald Buhler, Branch Chief of Cadastral Survey, at 202-912-7353, or LaVanna Stevenson-Harris, BLM Audit Liaison Officer, at 202-912-7077.

Attachment 1

Response to the Recommendations included in the Office of Inspector General Report, Department of the Interior's Management of Land Boundaries (Audit No. C-IN-MOA-0001-2009)

Recommendation 1: Develop and implement a plan to identify, prioritize, and conduct surveys on targeted lands, both Federal and Indian, that have the highest risk boundaries. This plan should include, at a minimum:

a. the use of standardized, high-risk, boundary attributes such as those identified in BLM's current project on risk identification; and

b. how high value issues identified while performing surveys will be resolved.

Response: The BLM concurs with the recommendation to identify, prioritize, and conduct surveys on the highest risk boundaries. The OIG found "that the BLM's Cadastral Survey program was missing the opportunity to identify and perform surveys on high risk lands where significant potential revenues could be collected by the Department and/or Indian tribes." The OIG is correct that under the current program, the BLM does not systematically identify and initiate surveys on high risk lands where significant potential revenues could be collected. Instead, the Cadastral Survey program functions as a service organization, responding to survey requests as boundary issues are identified by BLM or other Federal land managers. The survey requests are undertaken as requests are received and as funding is provided. The majority of the requests are funded by the office, agency, or program that identifies a critical need.

The BLM initiated an internal pilot program that will be used to develop a broader process to effectively identify lands with high risk attributes. The pilot program involves a systematic effort by States offices to prioritize surveys with these attributes. The Cadastral Survey program will work with program staff, such as those from the National Landscape Conservation System, the oil and gas program, rights-of-way program, or the timber program to further refine and prioritize surveys that are high risk, some of which may also involve high revenue potential. A high risk boundary is one that is on lands containing high valued resources and likely to be based on outdated or inaccurate data, such as those involving a pre-1910 survey (when a policy was implemented that required corner markers be iron posts with brass caps) or those that have never been surveyed. The BLM will then use the results of the pilot program to establish a BLM-wide approach for prioritization. This could serve as a model for other Federal agencies within the Department as they prioritize their requests for surveys.

In addition, the BLM will work with other agencies in the Department to apply the best practices identified in 303 DM 7, Standards for Indian Trust Lands and Boundary Evidence, to all Federal lands within the Department. This portion of the manual outlines four processes to evaluate boundary evidence without the cost of a complete cadastral survey. These cost-effective processes include land description reviews, physical land inspections, chain of surveys reviews, and boundary assurance certifications. The Cadastral Survey or realty specialist, as appropriate, provides certificates as part of the process. For example, in the BIA Northwest Region, the BLM

is processing over 216 legal description reviews. Nationally, the BLM processes over 800 boundary evidence products per year for the BIA.

Target Date: The pilot project has been completed. An agency-wide system will be implemented 12 months from issuance of a final report.

Responsible Official: Michael D. Nedd, Assistant Director, Minerals and Realty Management

Recommendation 2: Develop and implement a plan to increase the scope of cost reimbursable cadastral surveys to include evaluating significant boundary risk attributes.

Response: The BLM concurs with the recommendation. The OIG states that the Cadastral Survey program did not take the opportunity to design requested reimbursable surveys to identify high risk attributes and that the program should expand the design of these surveys. The BLM will issue an Instruction Memorandum (IM) to expand the scope of cost reimbursable cadastral surveys to include a provision for evaluating significant boundary risk attributes for high valued resources. After the highest risk boundaries have been identified and survey projects for them have been funded, the BLM will seek cost reimbursement for other survey projects where significant boundary risk attributes are identified during the project planning stage. The plan will require that offices evaluate land status features such as land ownership, rights-of-way, leases, permitted uses, withdrawals, and the potential impacts on the resources in greater detail during survey planning. The Cadastral Survey program functions as a service organization, responding to survey requests as boundary issues are identified by BLM or other Federal land managers. As a result, a Federal agency requesting and paying for the survey may be reluctant to pay for the expansion of scope. However, the BLM could provide assistance in identifying opportunities where high valued resources may provide potential revenue opportunities to the agencies, as described by the OIG.

Target Date: Six months from issuance of a final report.

Responsible Official: Michael D. Nedd, Assistant Director, Minerals and Realty Management

Recommendation 3: Explore with Congress the potential to retain a portion of any revenues recovered as a result of surveys performed. If approved, use the additional funding to cover the cost of performing self-initiated cadastral surveys on lands with high risk boundaries.

Response: The BLM concurs with the recommendation. The OIG notes that if a portion of the revenues as a result of survey work could be retained by the BLM, the funds could be used to perform other high priority surveys. The BLM will pursue discussions with the Department's Office of Congressional and Legislative Affairs on drafting and submitting an Administrative Legislative Proposal for such a statutory change to Congress.

Target Date: Two months from when the final report is issued.

Responsible Official: Michael D. Nedd, Assistant Director, Minerals and Realty Management

Recommendation 4: Develop and implement a plan to ensure Cadastral Survey review over the adequacy of boundary evidence prior to the approval of significant land and resource transactions.

Response: The BLM concurs with the recommendation. The OIG states that land transactions with unreliable boundary surveys were routinely processed and approved without the benefit of boundary evidence review by Cadastral Survey personnel. The OIG states that this occurs because managers and lands and realty staff do not understand the potential benefits of cadastral surveys. Although the BLM makes great efforts to properly train and inform its staff, we recognize that this may be true in some instances. Accordingly, the BLM will develop an IM requiring Cadastral Survey program certification of all legal descriptions, the adequacy of boundary infrastructure, and the records of survey for all high valued land and resource transactions. Some examples of transactions with high valued attributes include the boundary management of sites proposed for renewable energy leases involving significant investment and capital improvements, the disposal of high valued resources such as timber and minerals, and the management of high resource (but non-market) value treasured landscapes. This policy will apply to actions over a yet-to-be-determined dollar threshold or a defined, nonmarket environmental value. As noted above, the BLM intends to apply the best practices described in 303 DM 7, the "Standards for Indian Trust Lands Boundary Evidence" to all Federal agencies within the Department of the Interior.

Target Date: Six months from when the final report is issued.

Responsible Official: Michael D. Nedd, Assistant Director, Minerals and Realty Management

Recommendation 5: Develop and implement a plan to ensure that Cadastral Survey has oversight of all significant commercial projects.

Response: The BLM does not concur with the recommendation as written. The OIG asks the BLM to ensure that Cadastral Survey has oversight of all significant commercial projects. While the BLM agrees that the Cadastral Survey program should play a more central role in significant commercial projects, we do not believe that Cadastral Survey should assume an oversight role. By ensuring that the BLM project manager coordinates with Cadastral Survey on all significant commercial projects to evaluate boundary risks, we can gain the benefits of these evaluations without encumbering the process with an additional layer of oversight. While Cadastral Survey has expertise in the land boundary component and should serve that critical role, that is only one aspect of a significant commercial project. For that reason, oversight should remain with the BLM project manager to ensure that the necessary elements of these transactions are coordinated and completed, while at the same time requiring that the Cadastral Survey component is a mandatory part of the process. Accordingly, the BLM proposes that Recommendation 5 be modified as follows: ""Develop and implement a plan to ensure that the BLM is required to first obtain a Cadastral Survey evaluation of the boundary risk attributes of all significant commercial projects." The BLM will develop an IM to institute this new policy on Cadastral Survey involvement in commercial projects. This IM will require that Cadastral Survey evaluate the boundary risk attributes of all significant commercial projects and develop plans to mitigate the risks associated with any high risk boundary attributes.

Target Date: Six months from issuance of a final report.

Responsible Official: Michael D. Nedd, Assistant Director, Minerals and Realty Management

Recommendation 6: Require that costs for oversight of significant commercial projects be recovered from the commercial entities.

Response: The BLM concurs with the recommendation. The BLM will develop an IM to establish the policy for cost recovery of Cadastral Survey services in commercial projects. This cost recovery will use existing regulatory authority to the extent possible or the BLM will pursue additional authority where needed.

Target Date: Nine months from issuance of a final report.

Responsible Official: Michael D. Nedd, Assistant Director, Minerals and Realty Management

Recommendation 7: Develop and implement a Department-wide cadastral survey outreach program to educate end users and promote the range of available services and the potential benefits of those services including the opportunities to maximize:

a. collection of significant revenues from high value unauthorized use;

b. protection of Federal lands from environmental and other damages;

c. identification of accurate land boundaries management of rights-of-way, land withdrawals, land exchanges, and land disposals; and

d. identification of land features including roads, trails, and hazardous sites.

Response: The BLM concurs with this recommendation. .

The BLM will develop and implement an outreach program to address the findings of this report. The outreach program will include DOI meetings and functions concerning Cadastral Survey. A discussion of the new boundary standard products, new policies, enhancement of training curriculums, publication on websites of best practices, lessons learned, fact sheets, and presentations at BLM's State Office conferences and workshops will be part of the outreach.

The OIG stated that the BLM and the BIA staff would benefit from additional training. The BLM's Land Academy provides basic training on cadastral surveying, legal descriptions, and land status. The BLM has offered to assist the BIA in the development of similar training at the BIA training center in Albuquerque. The BLM provides legal description review at the BIA realty conferences on an as-needed basis. The BLM has also developed the Certified Federal Surveyor training modules for the professional surveyor who is working on or adjacent to Federal and Indian lands.

Target Date: Twelve months from issuance of a final report.

Responsible Official: Michael D. Nedd, Assistant Director, Minerals and Realty Management

Recommendation 8: Expand the procedures for boundary evidence models found in the Departmental Manual "Standards for Indian Trust Lands Boundary Evidence" (303 DM 7[sic]) to include conducting less costly boundary resolutions or assurances to all bureaus Department-wide.

Response: The BLM concurs with this recommendation. As explained above, the BLM recognizes the value in the processes set forth in 303 DM 7 and supports the expansion of the scope to other Federal agencies in the Department of the Interior, as appropriate. The BLM will consult with appropriate officials within the office of the Assistant Secretary of Policy, Management and Budget on how to proceed with this recommendation.

Target Date: Three months from issuance of a final report.

Responsible Official: Michael D. Nedd, Assistant Director, Minerals and Realty Management

BUREAU OF INDIAN AFFAIRS' RESPONSE

United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
Washington, D.C. 20240

IN REPLY REFER TO:

MAY 03 2010

Memorandum

To: Kimberly Elmore
Assistant Inspector General for Audits, Inspections and Evaluations

Through: for Larry Echo Hawk
Assistant Secretary - Indian Affairs

From: Michael Black
Acting Director, Bureau of Indian Affairs

Subject: Office of Inspector General Draft Audit Report, Department of the Interior's Management of Land Boundaries (Audit No. C-IN-MOA-0001-2009)

This responds to the memorandum dated February 18, 2010, from the Office of Inspector General (OIG) draft audit report, Department of the Interior's Management of Land Boundaries (Audit No. C-IN-MOA-0001-2009). The report contains one recommendation for the Bureau of Indian Affairs (BIA) and eight recommendations for the Bureau of Land Management (BLM).

The BIA concurs with recommendation 9. The BIA will work to establish an agreement with BLM so that BIA and tribal employees receive comparable training to that provided to BLM employees at the National Training Center. We anticipate a target date of December 31, 2010, to work with BLM to develop and establish the agreement. The responsible official for this effort is Vicki Forrest, Deputy Bureau Director, Trust Services, Bureau of Indian Affairs.

If you have any questions or concerns regarding this response, please contact Vicki Forrest at (202) 208-5831.

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