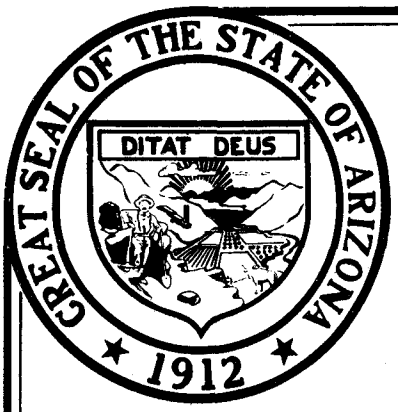

PERFORMANCE AUDIT

DEPARTMENT OF MINERAL RESOURCES

Report to the Arizona Legislature
By the Auditor General
June 1984
84-4

DOUGLAS R. NORTON, CPA
AUDITOR GENERAL

STATE OF ARIZONA
OFFICE OF THE
AUDITOR GENERAL

June 21, 1984

Members of the Arizona Legislature
The Honorable Bruce Babbitt, Governor
Mr. John H. Jett, Director
Department of Mineral Resources

Transmitted herewith is a report of the Auditor General, A Performance Audit of the Department of Mineral Resources. This report is in response to an April 27, 1983, resolution of the Joint Legislative Oversight Committee. The performance audit was conducted as a part of the Sunset Review set forth in A.R.S. §§41-2351 through 41-2379.

This performance audit report is submitted to the Arizona State Legislature for use in determining whether to continue the Department of Mineral Resources beyond its scheduled termination date of July 1, 1986. The report addresses the effectiveness of the Department in meeting its objectives, the adequacy of agency management, the condition of the Mineral Resources Building, and operational improvements needed in the Department's data gathering function.

My staff and I will be pleased to discuss or clarify items in the report.

Respectfully submitted,

Douglas R. Norton

Douglas R. Norton
Auditor General

Staff: William Thomson
Peter N. Francis
Brent L. Nelson
Kenneth Bauer
Kimberly S. Hildebrand

Enclosure

111 WEST MONROE • SUITE 600 • PHOENIX, ARIZONA 85003 • (602) 255-4385

SUMMARY

The Office of the Auditor General has conducted a performance audit of the Department of Mineral Resources in response to an April 27, 1983, resolution of the Joint Legislative Oversight Committee. This performance audit was conducted as part of the Sunset Review set forth in Arizona Revised Statutes §§41-2351 through 41-2379.

The Department of Mineral Resources was created in 1939 through efforts of the Arizona Small Mine Operators Association (ASMOA). ASMOA was concerned about the decreasing number of small mines in the state and felt an agency was needed to help the small mine operators define and overcome problems inhibiting mineral production. Currently, there are approximately 90 active, producing mines in Arizona.

The Department's stated purpose is to aid in the promotion, development and conservation of Arizona's mineral resources. The agency's activities include: 1) providing technical and other assistance to prospectors, mine operators and the general public, 2) maintaining information on past and present mining activities, 3) operating a mineral museum, 4) publishing directories, information circulars and other reports, and 5) conducting conferences and seminars. The Department has an authorized staff level of 11.5 full-time equivalent employees and receives its funding from the State General Fund.

The Department of Mineral Resources Has Not Provided an Effective Mineral Development Program Due to Poor Management (see page 9)

The Department's effectiveness in promoting the development of Arizona's mineral resources is questionable. The agency cannot demonstrate what impact, if any, it has had on mineral development. The Department was unable to provide us with information regarding the number of mining operations established or jobs created in the past 4 years as a result of its activities. In addition, the Department could not identify any mining operation listed in its Directory of Active Mines in Arizona that

began or increased mineral production due to Department assistance. DMR compiled six case histories for us that it believes represents effective mineral development assistance provided by the Department. However, upon verifying the cases, we found that none of the instances resulted in new mineral production within the state. The agency has also failed to adequately comply with several statutory mandates directly related to its purpose. These mandates include: 1) making mineral resource surveys, 2) serving as a bureau of mining information, and 3) cooperating with the State Land Department to encourage mining on state lands. Moreover, internally planned goals and activities that could have benefited mineral development have not been accomplished.

The agency has been ineffective and inefficient due to poor management. The agency has failed to adequately plan its activities and personnel have not been given sufficent direction. Moreover, the Department lacks proper reporting and control systems to ensure that agency goals are accomplished.

The Department Needs Better Physical Facilities (see page 25)

The Department's facilities - located at the Coliseum and State Fairgrounds since 1947 - are steadily deteriorating, posing potential safety problems and causing damage to the contents of the building. Among other things, the building's electrical system is a definite fire hazard, plumbing and cooling systems need replacement, and missing floor tile is a possible hazard to staff and visitors. Because little maintenance has been provided by either the Department or the Arizona Coliseum and Exposition Center Commission staff for the past 30 years, the cost to renovate current facilities has been estimated by the Facilities Planning Division of the Department of Administration to be $425,000. Therefore, it would appear to be more feasible to relocate the Department.

The Department could be relocated with or without its mineral museum. Either alternative would increase needed appropriations because the agency has paid no rent since 1950 on its 11,050-square-foot facilities. The mineral museum, which the Department inherited when it moved into the

Mineral Building, occupies most of this space. The mineral museum is not essential to the Department's main purpose. The Department's statutes do not authorize a mineral museum,* rather, the Board of Regents is specifically authorized to maintain such a museum, and the educational and tourist attraction role of the museum does not relate to the Department's scope or purpose. In addition, similar agencies in other states do not have mineral museums. Another state agency such as the Board of Regents or the Central Arizona Museum could administer the mineral museum.

Operational Improvements are Needed In the Department's Information Gathering Function (see page 37)

The Department has not developed an effective system for gathering and storing mining information. Although information on past mining activity and mineral occurrences within the state is a potentially valuable resource, Department files are incomplete and inconsistent. This condition has been caused by: 1) the lack of standard procedures for creating files and maintaining information, 2) unplanned and incomplete data gathering, and 3) lack of personnel resource committments. In addition, field visits to mining sites by Department staff to gain information are unorganized and unproductive. This results in inefficient use of resources with very little information being acquired during the visits. Moreover, the Department's books and maps have not been inventoried or cataloged and this reduces their potential reference and research value.

* Senate Bill 1048, passed after the end of our audit fieldwork, now authorizes the Department to maintain a mineral museum.

TABLE OF CONTENTS

TABLE OF CONTENTS (Concl'd)

LIST OF TABLES

INTRODUCTION AND BACKGROUND

The Office of the Auditor General has conducted a performance audit of the Department of Mineral Resources (DMR) in response to an April 27, 1983 resolution of the Joint Legislative Oversight Committee. This performance audit was conducted as part of the Sunset Review set forth in Arizona Revised Statutes (A.R.S.) §§41-2351 through 41-2379.

The Department was created in 1939 through efforts of the Arizona Small Mine Operators Association (ASMOA). ASMOA was concerned about the decreasing number of small mines in the state and felt an agency was needed to help the small mine operators define and overcome problems inhibiting mineral production.

Statutory Duties - The Department's enabling legislation established a number of statutory duties. Until the recent 1984 Legislative Session, its statutory duties have not changed since it was created.* These duties include the following:

1. aiding in the promotion and development of mineral resources in Arizona;
2. conducting studies related to the problems of small mining operations;
3. discovering sources of supply for mineral buyers;
4. listing and describing available mining properties;
5. making mineral resource surveys and conducting other investigations to interest investors in developing the state's mineral resources;
6. serving as a bureau of mining information; and
7. publishing and disseminating mining information.

* Following our audit, the Department's statutory duties were modified by Senate Bill 1048, which is included as Appendix I.

Currently, DMR accomplishes these duties by: 1) operating a mineral museum, 2) providing personal assistance to miners, 3) publishing directories, information circulars and other reports, 4) maintaining a data repository, and 5) conducting conferences and seminars.

Although the Department has emphasized providing assistance to small mine operators, the number of active, producing mines in Arizona has decreased dramatically since DMR was established. The state had 578 producing mines in 1933. An increase in gold prices caused the number of producing mines to rise to a peak of 2,101 in 1935. However, the number of active mines had decreased to 1,118 when the Department was established in 1939. The number of producing mines has decreased even more since then. Currently, there are approximately 90 producing mines in Arizona. This change in the number of producing mines can be attributed to changes in the mining industry, including prohibitive capital requirements and the absence of high grade ore that can profitably be mined by a small operation. Approximately 90 percent of Arizona's total mineral production comes from larger mines.

Mineral Museum - The DMR mineral museum is located with the Department's Phoenix office. The museum occupies most of the space in the Mineral Building and includes a large collection of Arizona minerals. The Department says the museum has 10,000 mineral specimens and only 3,000 are displayed at any one time. Mineral specimens and other display items have been donated to the collection by individuals, mining companies, earth science clubs and other organizations. The items on display include metal-bearing minerals, industrial minerals, petrified wood, and gemstone and lapidary exhibits. Miscellaneous displays include general rock types, a special turquoise exhibit, mine models, mining equipment and meteorites. The Department estimates the value of its collection to be between $750,000 and $3,000,000. In addition, the museum displays exhibits loaned by others.

Location, Staff and Budget - DMR's main office is located in the Mineral Building at the Arizona State Fairgrounds. Originally, DMR was located in downtown Phoenix. The Department moved to its present location in 1947.

Within 5 years of the Department's inception field offices were established in Globe, Kingman, Prescott, and Tucson. Today, only the Tucson field office remains open.

Department staff consists of 11 full-time employees and one half-time employee. They are the director, four mining engineers, four administrative and clerical employees, a mineral resource specialist, a museum curator, and a maintenance person. A five-person Board of Governors appointed by the Governor is charged with making policy decisions for the Department. The Board also appoints the Department director.

The Department's expenditures for fiscal years 1979-80 through 1983-84 are shown in Table 1. The agency is funded by appropriations from the State General Fund.

TABLE 1

DEPARTMENT EXPENDITURES (ACTUAL OR APPROVED)
FISCAL YEARS 1979-80 THROUGH 1983-84

	Actual 1979-80	Actual 1980-81	Actual 1981-82	Actual 1982-83	Approved 1983-84
Full-time employees	13	13	13	11.5	11.5
Expenditures:					
Personal services	$218,700	$247,400	$266,800	$255,500	$270,200
Employee-related	40,100	46,900	53,600	54,400	60,200
Professional services	0	0	0	5,000	0
Travel:					
In-state	11,000	11,000	10,400	7,600	6,800
Out-of-state	1,300	1,300	700	0	0
Other Operating	19,700	27,200	30,700	20,300	22,100
Equipment	5,400	3,400	1,800	0	0
Total Expenditures	$296,200	$337,200	$364,000	$342,800	$359,300

Scope of Audit

Our audit of the Department of Mineral Resources addressed issues set forth in the 11 Sunset Factors in A.R.S. §41-2354. Additional detailed work was conducted on the following issues:

- whether the Department is operating in an efficient and effective manner;
- whether the mineral museum is neccessary to fulfill the purposes of the Department;
- if the location and physical condition of the DMR's facilities are adequate;
- whether there is a need for the Department's data repository and if so, could the information-gathering function be more efficient and effective.

The Department's Board of Governors was not included within the scope of our review and we conducted no detailed audit work concerning the Board's activities.

SUNSET FACTORS

In accordance with Arizona Revised Statutes §41-2354, the Legislature should consider the following 11 factors in determining whether the Department of Mineral Resources (DMR) should be continued or terminated.

1. Objective and purpose in establishing the Agency

   According to the Department, its primary purpose is ". . . to aid in the promotion, development and conservation of the mineral resources of the state."

   To fulfill this purpose the Department currently performs the following activities:

   - provides technical and other assistance as requested from prospectors, mine operators and the general public;
   - collects information on past and present mining activities in the state and maintains a reference library of books and maps;
   - operates a mineral museum;
   - publishes directories, information circulars, booklets and reports; and
   - conducts conferences and seminars.

2. The effectiveness with which the Agency has met its objective and purpose and the efficiency with which the Agency has operated

   The Department has not operated effectively or efficiently. Its impact on the mineral industry cannot be demonstrated and it has failed to perform some statutory duties directly related to mineral development (see page 9). In addition, several significant, internally established goals and activities have not been completed (see page 16). The Department's resources have not been used efficiently because of inadequate planning and poor personnel management (see page 19). Moreover, the Department lacks effective

reporting and control systems to ensure that employees' time is spent efficiently and that agency goals and objectives are accomplished (see page 21).

The DMR has not developed an effective, efficient system for gathering and storing information. It does not adequately gather data for its mine files and does not store the information properly (see page 37). The present system for mine visits is unorganized and unproductive (see page 39). Finally, the maps and books in the Department's data repository are not inventoried or cataloged (see page 41).

3. The extent to which the Agency has operated within the public interest

If the function is performed effectively and efficiently, it is within the public interest to encourage prospecting, exploration, development and production of Arizona's mineral resources.

4. The extent to which rules and regulations promulgated by the Agency are consistent with the legislative mandate

The Department does not have authority to promulgate rules and regulations. The Department's Board of Governors is charged to adopt rules and regulations for government of the Department, but has not formally adopted any rules or regulations.

5. The extent to which the Agency has encouraged input from the public before promulgating its rules and regulations and the extent to which it has informed the public as to its actions and their expected impact on the public

Neither the Department nor its Board of Governors has promulgated any rules or regulations.

6. The extent to which the Agency has been able to investigate and resolve complaints which are within its jurisdiction

This factor does not apply, as the Department has no regulatory authority.

7. The extent to which the Attorney General or any other applicable agency of State Government has the authority to prosecute actions under enabling legislation

This factor does not apply, as the Department has no regulatory authority.

8. The extent to which the Agency has addressed deficiencies in the enabling statutes which prevent it from fulfilling its statutory mandate

The Department's original enabling statutes have remained unchanged until recently. During the 1984 regular Legislative Session the Department submitted proposed changes to its enabling legislation. After the end of our audit fieldwork these changes were passed as Senate Bill 1048, which includes the following:

- Changes the Department's name to the "Department of Mines and Mineral Resources."
- Deletes the two statutory duties to "assist in discovering sources of supply for persons desiring to buy minerals" and "list and describe available mining properties."
- Gives the DMR specific authority to:
  - maintain the mineral museum
  - participate in conferences and seminars
  - monitor mining and exploration activities
  - investigate properties of small mine operators to assist in development and problem solving.
- Creates a revolving fund to be used to publish and sell Department publications.

9. The extent to which changes are necessary in the laws of the Agency to adequately comply with the factors listed in the Sunset laws

We do not recommend any specific statutory changes as a result of our review.

10. The extent to which the termination of the Agency would significantly harm the public health, safety or welfare

Termination of the Department of Mineral Resources would not harm the public health or safety.

While the Department contends that its termination would have a negative impact on the public welfare, we are unable to verify any economic impact. The Department could not provide us with any information regarding the number of mining operations established or jobs created in Arizona in the past 4 years as a result of its promotional activities. In addition, the Department cannot identify any mining operation listed in its Directory of Active Mines in Arizona (September 1983) that either began mineral production or increased production due to assistance provided by the Department. The Department did provide us with six separate case histories in which assistance was provided. However, none of these cases has resulted in any new mineral production.

11. The extent to which the level of regulation exercised by the Agency is appropriate and whether less or more stringent levels of regulation would be appropriate

This factor does not apply. The Department has no regulatory authority and our review did not disclose a need for any regulatory authority.

FINDING I

THE DEPARTMENT OF MINERAL RESOURCES HAS NOT PROVIDED AN EFFECTIVE MINERAL DEVELOPMENT PROGRAM DUE TO POOR MANAGEMENT

The Department of Mineral Resources (DMR) has not operated in an effective and efficient manner. Its impact on the mineral industry cannot be demonstrated and some statutory duties and internally developed directives have not been fulfilled. Department resources have not been efficiently used because of poor management, including lack of planning, organization, reporting and control.

Department Effectiveness Has Been Limited

The Department's effectiveness in promoting the mineral industry is questionable. The agency cannot demonstrate what impact, if any, it has had on mineral development. In addition, DMR has not completely met its statutory mandate, and internally established goals and activities have not been completed.

Effectiveness Cannot Be Demonstrated - The Department is unable to demonstrate its effect on the development of Arizona's mineral resources. Although the Department does accumulate service measurements, such as the number of office visitors, telephone calls, mine visits and use of file information by the public, it cannot show the economic benefits of such activity. The Department could not provide us with information regarding the number of mining operations established or jobs created in Arizona in the past 4 years as a result of the agency's promotional activities. In addition, the Department cannot identify any mining operation listed in its Directory of Active Mines in Arizona (September 1983) that began mineral production or increased production due to assistance provided by the Department.

The Department insists that it benefits the development of Arizona's mineral resources by providing technical assistance to various individuals. However, the Department could not provide us with a list of people assisted, the type of assistance provided, how the assistance helped create new mineral production, and why the assistance was not available through the private sector. During our audit, the Department stated that such information was not available. However, after reviewing our draft report, the agency provided one case example in which it felt its assistance had benefited mineral development. We asked for all such examples of assistance occurring within the past 3 years. The Department provided us with five additional cases. The director stated that numerous other cases could be provided but would be difficult to compile because of the time required to research and document the facts of each case. We contacted the parties assisted to verify the facts of each case provided. While assistance was provided by the Department in each case, none has resulted in any new mineral production. These six cases are summarized below:

Case 1: In August 1983 an Arizona insulation manufacturing company requested DMR's assistance to help locate a basalt deposit. DMR submitted several samples from various deposits for evaluation by the company. During this period DMR was working with an out-of-state individual and informed him of the company's desire for basalt. DMR then assisted this individual in obtaining samples from basalt deposits. These were submitted to the company for testing and resulted in a bulk sample from one deposit. The company found this sample very acceptable and wished to file a claim on the deposit property. It was told that the property had already been claimed (by the other individual with DMR's assistance). Because the company wished to have its own claim, it has not purchased the basalt from this individual and is still searching for a basalt deposit.

Case 2: In 1981 DMR contacted an out-of-state berylium producer and helped work out an arrangement for a local company to purchase beryl ore in small lots. The local company would then sell the ore to the out-of-state company in the minimum purchase size of ten tons. DMR's efforts included evaluating possible ore buyers, acting as consultant to the local company, providing news media coverage to announce the local buying station, providing information to Arizona prospectors, and sending ore samples to the out-of-state company for evaluation. The local company purchased less than 200 pounds of ore before it closed down. At present, there is no active buying station in Arizona. According to the out-of-state company, although DMR has expended considerable effort on the project, local prospectors have not shown enough interest for it to be successful.

Case 3: In April 1983 DMR was asked to assist a Canadian company that was evaluating an inactive Arizona gold mine property. DMR provided background information on the property and related mining district, and identified local contacts. DMR identified several drilling firms but the company did not use any of these drillers because their prices were too high. DMR also recommended other properties for consideration but the company turned them down after initial evaluation. The company found the original property to be undesirable and has abandoned exploration activities in Arizona.

Case 4: In 1983 DMR was asked to assist a German company that was evaluating an Arizona mica property. DMR provided the company with information on the property and mica mining in Arizona. Later DMR helped the company obtain mica samples from the property for evaluation. DMR also sent the company samples from three other sources for evaluation. The company has determined that none of the mica from Arizona is suitable for its purposes. The company is not currently considering any mica sources in Arizona, although it is willing to evaluate future samples.

Case 5: A Utah company exploring a placer gold property in Arizona requested assistance from DMR in November 1983. DMR has provided the company with information on applicable Arizona mining regulations. DMR has also helped the company make contact with other government agencies and local land surveyors. According to the company, DMR has not identified other potential properties, but the company has not asked for any. Depending on the results of future exploration work, the company hopes to put this property into production within 12 months.

Case 6: In 1979 a California man visited DMR and requested information on a particular old mine. The mine was in a national wilderness area not open to mining. DMR has redirected this man to investigate and obtain other promising mining properties. This man estimated he spends approximately $20,000 each year prospecting and evaluating potential mining properties in Arizona. DMR has helped him file mining claims, obtain ore samples and identify where to send his samples for assaying. None of his claims, however, have resulted in a productive mine. He plans to have a Nevada mining consultant evaluate one of his properties for potential production.

As shown by these six cases, the Department has provided assistance as requested. Those assisted in each case felt DMR expedited their efforts and provided valuable information. The Department believes these cases illustrate that it has been effective. However, notwithstanding DMR assistance, none of these cases has resulted in new mineral production.

Statutory Mandates Not Executed - The Department has also failed to comply with several statutory mandates. The Department's enabling legislation directs it to engage in specific activities.* Arizona Revised Statutes §27-102 directs the Department to:

"1. Aid in the promotion and development of the mineral resources of the state.
2. Conduct studies of the economic problems of prospectors and operators of small mines for the purpose of assisting in their solution.
3. Assist in discovering sources of supply for persons desiring to buy minerals.
4. List and describe available mining properties.
5. Make mineral resource surveys and conduct other investigations which may interest capital in the development of the state's mineral resources.
6. Serve as a bureau of mining information in conjunction with the bureau of geology and mineral technology.
7. Publish and disseminate information and data necessary or advisable to attain its objectives.
8. Cooperate with the state land department to encourage mining activity on state lands.
9. Cooperate with the corporation commission in its investigations and administration of laws relating to the sale of mining securities.
10. Cooperate with the bureau of geology and mineral technology, and deliver to the bureau problems which the field work of the division shows to be within the scope of the activities of the bureau.
11. Cooperate with federal and other agencies designed to develop mines and minerals.
12. Oppose congressional acts favoring reciprocal or duty free imports of foreign minerals.
13. Use its authority in other ways to assist in more extensive exploration and development of the mineral resources of the state." (emphasis added)

* After the end of our audit fieldwork Senate Bill 1048 (Appendix II) was passed, which modifies the Department's duties.

The Department has not acomplished the statutory mandates emphasized here. The Auditor General's staff reviewed DMR's performance of these particular duties because they relate most directly to the Department's main purpose and its ability to impact mineral development.

- Aid in promotion and development - The first statutory duty, to aid in the promotion and development of Arizona's mineral resources, is the Department's main purpose. All other mandates specify how this objective is to be accomplished. The Department cannot demonstrate its effectiveness in this role.

- Failure to conduct mineral resource surveys - The Department has not conducted mineral resource surveys. This information is essential for successful mineral development in the state. DMR has not used current available information to conduct the mineral resource surveys.

  The Department completed no mineral resource surveys during the 4-year period ending December 31, 1983. The Department published mineral information circulars for the minerals berylium, cobalt and titanium. However, in a written memo dated June 15, 1981, the Department director stated that those reports were not mineral reports and were to be written for the general public. The latter two reports concluded that development of cobalt and titanium in Arizona was not presently feasible. The Department has not prepared reports on minerals such as copper, gold and silver, which can feasibly be developed in the state. In addition, these mineral information circulars are inferior when compared with mineral resource surveys published by other states. The Department expended only the equivalent of one-tenth full-time employee to produce the reports.

  Mineral resource surveys have not been conducted, although they are essential for mineral development and the Department has the

preliminary information for the surveys. According to the Department director, a major field problem for the mineral industry is lack of information on mineral occurrences. Therefore, he sees the need for mineral resource surveys and would like to conduct them, but states that he lacks the staff, time and funds to do so.

Preliminary information to support mineral resource surveys already exists, although the Department has not used it for this purpose. In 1981, consultants hired with federal funding completed the Mineral Industry Locator System (MILS) for Arizona. This system has information on more than 10,000 mineral occurrences in the state. The MILS data provides information that the Department could use as a base for conducting mineral resource surveys on either a geographic or commodity basis to attract capital to the state's mineral industry.

- Serve as bureau of mining information - DMR does maintain a data repository of books, maps and mine files. However, the Department has not developed an effective system for gathering and storing information. This information is potentially important for the development of Arizona's mineral resources. (See Finding III, page 37 for our analysis of this function).

- No cooperation with State Land Department - The Department has not cooperated with the State Land Department to encourage mining activity on state lands. Such cooperation could benefit the state by providing revenue from land leases and royalties on mineral extraction. According to the State Land Department, the two agencies have not worked together on any joint projects to identify state lands with mineral potential. However, this is an area of possible cooperation. The Land Department is currently compiling a list of known mineral occurrences on state owned land with the intent to market these lands for their mineral potential.

In addition, although DMR has complained that Land Department requirements for mining state lands are too restrictive, it has not tried to work with the Land Department to modify these restrictions.

DMR's failure to comply with these statutory mandates weakens its ability to effectively impact development of the state's mineral resources.

Goals and Activities Not Completed - The Department has further weakened its effectiveness by not performing several activities and not achieving goals planned as a part of its employee performance appraisal system. Employee Performance Planning and Evaluation reports (PP&E) are the only written means the Department uses to specify goals and activities for its staff. There are no other planning documents that detail the Department's specific work activities. We reviewed planned goals and activities for the Department's five professional employees for the two and one-half year period ending January 1984. We found that several significant activities have not been completed by Department employees. These are summarized below:

- Three hundred twenty contacts and reports on exploration companies not performed - DMR had planned to have engineers contact and report on four exploration companies each month. Reports were to include the minerals the companies were interested in, areas of current exploration activity and suggestions on how the Department could help in their explorations. According to the director, this activity was not performed. While limited work was done, no written reports were prepared.

  The Department believes the exploration companies would not be willing to provide information on their activities. It plans to delete this objective from future consideration. However, we contacted several exploration companies and all stated they would be willing to provide DMR with such information.

Failure to complete this activity has deprived the Department of information that might help reduce duplicate exploration work among different companies. It has also decreased the Department's ability to aid these companies in the development of Arizona's mineral resources.

- Agency publications not prepared - The Department had planned to prepare and publish the following:
  - twenty information circulars (only six prepared)
  - eight mineral reports (none completed)
  - eight area or district reports on mining possibilities and recommendations (none completed).

Failure to complete these reports as planned has deprived the mineral industry of information that could increase mineral development in the state.

- Reports on mines and mineral properties not prepared - Engineers were to visit and write reports for agency files on 250 mines and mining properties. The actual extent of this activity cannot be substantiated because the Department does not keep records on which properties were visited and often does not prepare a written report for its files. According to Department counts, 212 mining properties were visited in fiscal year 1982-83. However, it reports that only 71 mine reports were written. The Department director said the other 141 mine visits were reported in employee's weekly reports. However, we reviewed these weekly reports and found them lacking in specific details regarding why the visits were made and what information was gained to benefit mineral development. Typical entries in the weekly reports are shown below:

  "Visited the Christmas Gift Mine in Sec. 34, T9s, R3E, Pinal County. No evidence of activity."

"Visited the Orizaba Mine, Pinal County. No recent activity in evidence."

"Visited the Jackrabbit Mine, Pinal County. No evidence of activity."

"Visited an old mill site and large dump in approximately NE 1/4, Sec. 5, T2s, R23W, cannot find it in MILS or on any map."

Failure to prepare informative mine visit reports deprives the mineral industry of information that could facilitate mineral development.

- Statistical studies/reports not completed - The Department planned to develop six reports on mineral activity. The Department director said the six reports were not completed, but he was unable to tell us how many were actually done.

- Six quarterly reports on ore buyer's policy not completed - (Ore buyer's policy refers to the conditions under which ore will be purchased, the type of ore being purchased and criteria ore must meet.) According to the Department director, only two such reports were prepared. However, he was unable to locate these reports for our review. He further stated that the Department obtains the ore buyers' policy by calling each ore buyer every 2 months. This information, however, is not written down and is shared by employees through word of mouth only. The PP&E calls for these reports to be written and distributed to small mine operators.

These activities were not performed, although they were to serve as the basis for evaluating employee performance. Further, although the PP&Es are the only written means used to specify goals and activities for the Department, the director has not completed performance appraisals annually

as required by Personnel Rule R2-5-102.E. Most employees were reviewed less frequently, with some intervals as long as 26 months.

Department Management Has Been Poor

The Department has not efficiently managed its resources. The Department contends that it has been unable to perform its statutory duties and accomplish its internally established goals because of the time required to provide individual technical assistance. However, this is not the reason for its ineffectiveness. Rather, the agency has failed to adequately plan its activities and properly manage its personnel. Moreover, the Department lacks adequate reporting and control systems.

Technical Assistance Accounts for Few Resources - The individual assistance function, which the Department claims limits its effectiveness, accounts for only 20 percent of the professional staff work load. According to the director, providing assistance to individuals who call or visit the Department is the agency's No. 1 priority. He further stated that providing this service takes employees away from other activities and makes it impossible to perform agency planning. However, we found that this activity consumes the equivalent of only one of five full-time professional positions and therefore, leaves DMR sufficient time and personnel to perform other duties. We conducted an intensive work study of technical assistance because DMR employees indicated that this was a Departmental priority and consumed the majority of work time.*

Inadequate Planning - DMR has not adequately planned its activities. The Department made only one effort 6 years ago to prepare a written plan. The agency prepared a 3-year master plan in 1978 to guide its operations during fiscal years 1978-79, 1979-80 and 1980-81.

* On forms provided by Auditor General staff, DMR employees recorded each instance the Department assisted individuals and the time taken to provide the assistance, for a 6-week period (December 15, 1983 through January 31, 1984). Results were analyzed to determine the amount of time spent on this activity and the type of assistance provided. The appendix shows the type of assistance provided by DMR during the study period.

The 3-year master plan, in addition to now being outdated, is incomplete and unrealistic. While the plan lists functions to be performed by the Department, it does not quantify them or establish time frames for completion of any project or activity. The plan does not indicate what was to be accomplished in any of the 3 years it was supposed to cover. The 3-year master plan is unrealistic because it was based upon a 78 percent staff increase and the opening of three field offices over a 2-year period. Also, the Department has not completed several activities of the 3-year plan, although it has been 6 years since the plan was created. Providing technical assistance on demand, a major activity of the Department, is not mentioned in the plan. Moreover, eight other activities identified as future activities have yet to be initiated.

Currently, the Department has no written plan to guide its activities. According to the director, planning is done orally on a daily, weekly and monthly basis among employees. In addition, he feels the 3-year plan, although it has not been updated since 1978, is still applicable and guides daily activities.

Poor Personnel Management - The Department director has inadequately managed personnel resources. Department activities have not been organized into programs, nor has responsibility been delegated. Employees have not been provided with sufficient direction to perform their duties.

The Department director has not organized the agency's activities into functional areas or assigned specific responsibility to employees. The director said this has not been done because he believes the Department has only one program - to promote development of mineral resources. Four of the five professonal staff have been assigned the same duties, while the duties of the fifth employee vary slightly. Consequently, no one has ultimate responsibility for the success of any specific Department activity.

Department employees have not been provided with sufficient direction to perform their duties. The Department has not developed a policy and

procedures manual to provide guidelines for its employees. Basically, the professional staff operate independently, controlling their own work and planning their own activities. While the director claims that some direction is provided through employee performance appraisals, the activities thus planned are not accomplished or reported on. The lack of adequate direction is further demonstrated by a policy communicated on July 10, 1980. The Department director stated in a memo:

> "I want to emphasize there are no assigned territories nor are there any commodities, processes or activities assigned to one engineer. Each engineer is free to go anywhere in the state. . . discuss any property, assist any prospector, discuss any processing method or other activity. The one exception to this is that Mineral Resource Conferences will be assigned for specific areas to specific engineers. . . . (emphasis added)

This policy is still in force. Lacking proper direction, employees may involve themselves in activities they enjoy, which may not be the most efficient application of time to accomplish agency goals and objectives.

Inadequate Reporting Inhibits Effective Control - The Department director has not required employees to report on their activities or time spent in various Department functions. Employees are not required to report on activities planned through the performace appraisal process. Employees are only required to submit weekly reports, which contain only information to be shared with other employees or to be added to mine files.

The lack of adequate reporting hampers management control. Without employee time reporting, it cannot be determined how much time employees are spending in each Department function. Such information would help the management determine if resources are properly allocated. Additionally, there is no assurance that employees are using their time efficiently and effectively to complete planned activities. Thus, management is unable to take corrective action to ensure that Department goals and objectives will be accomplished.

CONCLUSIONS

The Department of Mineral Resources has not operated in an effective and efficient manner. The Department's effect on statewide mineral development cannot be demonstrated and is questionable. The agency has not performed several statutory mandates nor accomplished internally established goals and objectives. The Department has failed to adequately plan its programs, manage its personnel, and institute effective reporting and control systems.

RECOMMENDATIONS

The Department of Mineral Resources should:

1. Perform all statutorily required duties directly related to effective mineral development including:
   - make mineral resource surveys and other investigations to interest investors in developing the state's mineral resources,
   - serve as a bureau of mining information (see Finding III recommendations on page 42),
   - cooperate with the State Land Department to encourage mining activity on state lands.

2. Develop an action plan to carry out its programs. The plan should include the following components:
   - objectives and specific goals,
   - activities necessary to achieve goals,
   - time frames for completing activities, and
   - quantifiable components of each activity to measure progress.

   This plan should be used to direct the agency's activities.

3. Organize its activities into functional areas and assign specific responsibility and accountability to Department employees.

4. Establish policies and procedures to provide clear direction for employees to follow when performing their duties.

5. Institute employee time reporting, project reporting (as appropriate) and reporting on activities to ensure that Department goals will be accomplished.

6. Develop ways to measure program results and collect the data necessary to determine the success of Department programs and activities.

FINDING II

THE DEPARTMENT OF MINERAL RESOURCES NEEDS BETTER FACILITIES

The Department of Mineral Resources (DMR) lacks adequate facilities. The building that houses the Department of Mineral Resources has been steadily deteriorating and currently has several potential safety problems resulting from poor maintenance. The Department could be relocated either with or without the mineral museum because the museum could be administered by others. The mineral museum is not essential to the Department's operation.

Mineral Museum Building is Deteriorating Because of Inadequate Maintenance

The Department of Mineral Resources' facilities are steadily deteriorating, posing potential safety problems and causing damage to the building contents. Stemming from a lack of adequate maintenance, these problems have now reached a state where renovation no longer appears feasible.

The Property Management Division of the Department of Administration and the State Fire Marshal conducted inspections of DMR's facilities at the request of the Auditor General. These inspections identified problems in several areas:

- The leaking roof has damaged the building and some of its contents, including various books, maps and mineral specimens.
- The electrical system is inadequate and does not meet the uniform electrical code. It poses a distinct fire hazard.
- The fire alarm system is inoperative.
- The plumbing is antiquated and needs to be replaced.
- Missing floor tile in the auditorium and office area is a hazard.
- The weight on the balcony floor is a potential problem. DMR has been cautioned against adding any more weight in certain areas.
- The cooling system is inadequate and needs to be replaced.

- The building does not have enough exits on the balcony (in violation of fire code).

Potential Safety Threat - These conditions threaten the health, safety and welfare of employees and visitors. Because the mineral museum attracts many visitors, there is a possibility that someone could trip and injure themselves because of missing floor tile. Of more significance is the possibility of someone being trapped on the balcony during a fire. Therefore, the potential for a lawsuit against the state exists.

Damage to Building Contents - In addition to the risk of loss from fire, these conditions are deleterious to the building and its contents.

Mineral specimens and data may be lost due to fire and the lack of an operative fire alarm. Some of the specimens and data are irreplaceable. Because the museum also displays specimens on loan, the state may be liable for damage to these displays.

The deteriorating condition of the building is harmful to its contents. The temperature and humidity at DMR are damaging the books and maps stored there. The Department's facilities are cooled by evaporation. According to Library and Archives, evaporative cooling creates one of the worst possible storage conditions for books and maps. Evaporative cooling causes wide fluctuations in temperature. Preferably, temperatures for the storage areas of books and maps should be stable. Also, the materials at DMR are subject to very humid and hot conditions in the summer. For every 10 degree increase in average temperature, the life expectancy of a book decreases by one-half. Thus, a book with a life expectancy of 150 years at 65 degrees, has a life expectancy of about 18.75 years at 95 degrees. In addition, the building's roof has leaked a number of times, saturating several books and destroying several maps.

Inadequate Maintenance - Many of the building's current problems have evolved from a lack of proper maintenance. Neither the Arizona Coliseum and Exposition Center Commission (Coliseum) staff nor the DMR have sufficiently maintained the building.

The Coliseum has not maintained the building since 1969. Although the Coliseum owns the building and therefore has the responsibility for maintaining it, there is no incentive for it to do so. The Coliseum does not use the building and DMR pays no rent. This situation has existed since 1950, when according to Board minutes, the Department and the Coliseum mutually agreed that DMR would cease paying rent (at that time $50 per month) and invest this same amount in monthly building repairs. However, we could find no lease agreement or any memo of understanding between the Coliseum and the Department to relieve the Coliseum of its responsibility to maintain the building. Presently, the Coliseum maintains the area around the building and provides water, sewage and outside lights. The Department attempts to maintain the building itself, inside and outside, and pays for all utilities.

The Department has not provided sufficient maintenance on the mineral building due to lack of funds. In DMR's budget for fiscal year 1983-84 the Department requested $20,000 to perform maintenance on the building. According to the Department, there has been no scheduled building maintenance for the last 30 years, and what maintenance is done is performed by the museum curator and office personnel. In addition, the Department requested $10,000 for an architectural study to determine if the existing building should be enlarged, remodeled, or condemned, or if new facilities would be more feasible. No funds were appropriated for either request.

Because the Department of Mineral Resources' building is owned by the Coliseum, it receives no maintenance assistance from the Property Management Division of the Department of Administration (DOA) that is responsible for performing maintenance on state buildings.

Renovation Not Feasible - Because of the lack of regular maintenance on the building, the cost of renovating it would be high. Facilities Planning, a section of the Property Management Division of DOA, estimated the cost at $425,000. Table 2 shows the items upon which the estimate is based.

TABLE 2

ESTIMATE OF COST TO RENOVATE THE MINERAL BUILDING

Item	Cost
Electrical upgrade to meet all codes	$ 80,000
Plumbing upgrade, including handicapped accessible restrooms	110,000
Sandblasting and painting exterior	30,000
Re-roof flat roof sections	5,000
Re-roof mission tile	20,000
Replace three double doors in front of building	20,000
Brick up openings and south end	5,000
Repair partitions on interior	50,000
Replace suspended ceiling in Lecture Room	4,500
Replace floor tile in Lecture Room	2,000
Install a sprinkler system	55,000
Replace ceiling and floor in office areas	8,500
Subtotal	390,000
Architectural and engineering fees	35,000
Total	$425,000

Source: Facilities planning section of the Property Management Division, Department of Administration

The cost of renovation is almost as much as Property Management's estimated cost of $460,000 to replace DMR's present square footage. In fact, when the Coliseum's executive director discovered the estimated cost of renovating the building, he indicated it would be better to level the building and start over rather than attempt to renovate it. The Department could never afford the expense of renovating the building unless a special appropriation were made. The Coliseum, on the other hand, would have to charge DMR rent that may be prohibitive in order to justify the investment to renovate the building.

Renovating the current building and remaining there may not be in the best interest of the Department. The Department has crowded office facilities in its present location. In addition, the Department believes that relocating closer to the Capitol would improve access for its patrons, improve access to the Legislature, and increase exposure for and use of

the mineral museum. Property Management supports a move to the Capitol area because of an intrastate governmental agreement to build up the Capitol area.

The Department Could Relocate With the Museum

Because the museum requires so much space, there are very few sites that could accomodate both DMR and the museum. One potential site is the Capitol Mall area. Other sites would require that the Department lease commercial space.

The mineral museum occupies approximately 85 percent of DMR's current facilities. The building covers 11,050 square feet, and approximately 9,500 square feet of this space is taken up by the mineral museum. The Department would like to more than double the size of the mineral museum. At present, DMR operates in crowded conditions (approximately 1,600 square feet of office space). The Department has requested 4,500 square feet for office facilities. Property Management personnel have indicated that the request is not unreasonable. In fact, this request is within state guidelines established to determine how much space to allot an agency.

Relocate to Carpenter's Local Building - The Carpenter's Local Building on 15th Avenue and Washington could house the Department offices in the future. The building is privately owned but the state is planning to purchase the entire block it sits on. It will be at least 2 years before this property is purchased. According to Property Management, it plans to allow DMR to relocate to this site. While the building would not be large enough to house the mineral museum, there is enough property adjacent to it to construct facilities for the museum. A new building would cost the state approximately $45 per square foot, plus architectural fees, utilities, etc. This would amount to approximately $450,000 for a 9,500 square foot building (the current size of the museum). However, the Department has indicated that it needs approximately 20,000 square feet to display all its mineral specimens and exhibits, which would increase the

cost to $950,000.* Therefore, if the state purchased the site and built the new facility the total building cost would be a one-time expense of approximately $450,000** for a 9,500-square-foot facility. DMR would pay yearly rent of $126,000 to the state. (This figure accounts for 4,500 square feet of office space and 9,500 square feet for a new museum, at $9 per square foot.)

Because the state could possibly enter into a lease/purchase agreement with the Carpenter's Union for the building, DMR could conceivably relocate its administrative offices as early as July. What the Carpenter's Union would charge for rent is unknown.

The museum is a tourist attraction drawing many out-of-state visitors. Relocating the museum to the Carpenter's Hall Building would increase its access to tourists visiting the Capitol area.

Relocate to Commercially Leased Office Space - The Department of Mineral Resources could lease commercial facilities as an alternative to the Carpenter's Hall Building. According to Property Management, rent on commercial space ranges between $14 and $20 per square foot for office facilities and between $9.50 and $10.75 per square foot for museum space. The museum rent would be at a reduced rate because of its size and limited requirements. Table 3 shows the estimated cost of leasing space comparable to what DMR currently occupies and the estimated cost of leasing the space it believes it needs. However, any square footage combination is possible.

* If a decision is made to construct new facilities for DMR the state could consider a lease/purchase agreement. Under proposed Senate Bill 1185 the state could allow someone else, for example a financial institution, to finance and build the facilities and then enter into a lease/purchase agreement. Currently this type of lease/purchase option is not specifically addressed as being legal. According to Property Management the lease/purchase option would be cheaper in the long run.

** excludes purchase price of land

TABLE 3

ESTIMATED LEASING COSTS FOR COMMERCIAL FACILITIES

DMR's Current Square Footage	Cost to Lease Per Year
1,600 square feet - office facilities	$ 22,400 - $ 32,000
9,500 square feet - museum	90,250 - 102,125
11,100 total square feet	$112,650 - $134,125
DMR's Desired Square Footage	**Cost to Lease Per Year**
4,500 square feet - office building	$ 63,000 - $ 90,000
20,000 square feet - museum	190,000 - 215,000
24,500 total square feet	$253,000 - $305,000

The Department Could Relocate Without the Museum

The Department of Mineral Resources could be relocated without the mineral museum. Because the museum is not essential to the operation of the Department, control of the museum could be transferred to another agency. This would facilitate the move and reduce the rent that the Department would pay.

History of the Museum - The Department of Mineral Resources acquired the mineral museum by default. The building that houses the mineral museum was constructed between 1917 and 1919, and was only to be open for exhibition during the State Fair. Early in 1947 DMR was given office space in the mineral building. At this time the Department opened the mineral museum to coincide with its office hours, whereas previously the museum was open only during the State Fair.

The mineral museum was supported by the mining industry until 1975. Six large copper companies provided funding for the museum between 1953 and 1969. The Arizona Mining Association, made up of 14 major copper producing companies in the state, funded the museum from 1969 to 1975. The Mining Association deeded its interest in the museum to the state in 1973, but continued to fund the museum for 2 years. The mineral museum has been funded by DMR since 1975.

Museum is Not Essential - The mineral museum is not essential to DMR's main purpose. Prior to enactment of Senate Bill 1048 toward the conclusion of our audit, the Department of Mineral Resources statutes did not authorize the Department to have a museum. The Department views its primary function as furnishing information to miners, exploration companies and prospectors. In a survey of similar departments in nine western states, only two stated that they had a mineral museum within their department. However, one of these museums consists of only three display cases and the other, while large, is under a Department housed within the university system. In addition, the main role of the museum appears to be educational in nature, and consequently, does not relate to DMR's scope or purpose. In fiscal years 1981-82 and 1982-83, 170 and 180 tours of the museum were given, respectively. Sixty-one tours have been given between July 1, 1983 and February 2, 1984. The vast majority of these tours are given to school groups. Approximately 2,400 people attended the 61 tours.

Transfer Museum to Another Agency - Other agencies with an educational or historical responsibility have been investigated to identify the possibility of transferring control of the museum to another agency. Auditor General staff have made inquiries of several state agencies to assess their interest in administering the mineral museum. If the museum is turned over to another agency, operating funds such as the curator's salary could be transferred with the museum.

Central Arizona Museum - The Central Arizona Museum of History, affiliated with the Arizona Historical Society, is prepared to discuss the possibility of including the mineral collection in its new Central

Arizona Museum facility. However, the question of the importance of the collection and the funds to maintain it are of initial concern in pursuing this matter.

Arizona Board of Regents - The Arizona Board of Regents is also considering the possibility of administering the museum. However, they are exploring many factors, including the utility of the exhibit to its teaching and research program, the costs involved, and whether additional state resources are available to fund attendant expenses.

The Board of Regents already has statutory authority for a state mineral museum. Arizona Revised Statutes §15-1631 states:

> "A. There shall be a state museum for the collection and preservation of the archaeological resources, specimens of the mineral wealth and the flora and fauna of this state.
>
> B. The Arizona board of regents shall direct and manage the museum and shall set apart sufficient space to accommodate it." (emphasis added)

According to the Board of Regents, a museum is housed at the University of Arizona.

Veteran's Memorial Coliseum - Administrative control of the museum could be transferred to the Coliseum. Coliseum personnel have indicated they would not object to this. However, the museum would only be open during the State Fair.

Distribute Exhibits and Specimens Among Several Agencies - The museum specimens could be distributed among several agencies, such as the Capitol Museum, Central Arizona Museum, Board of Regents, Veteran's Coliseum, DMR and any other interested agencies. Because only one-third of the collection is currently displayed, this option may provide better exposure for the specimens while minimizing the space problem. In addition, DMR may be able to retain some specimen samples to assist prospectors in identifying mineral finds.

Transferring the Museum away from DMR would decrease the amount of space needed by the Department and consequently, decrease the rent required.

Relocation Costs - If the Department is relocated without the museum, it could be located in either state-owned facilities or commercial space. In either instance, the reduced space requirements would result in reduced rental costs.

Property Management personnel have said it is probable that DMR could have administrative office space in the Capitol Mall by late November. In July, the price to rent state-owned facilities will be $9 per square foot. Therefore, yearly rent for DMR facilities would be $14,400 for 1,600 square feet (their current space) or $40,500 for 4,500 square feet (DMR's perceived space requirements).

The Department of Mineral Resources could lease commercial office space. Currently, the commercial leasing rate is between $14 and $20 per square foot based on a year's lease. Consequently, this alternative may be too costly. For example, if DMR were to lease 1,600 square feet, their current office space, the cost would be somewhere between $22,400 and $32,000 per year. However, if DMR were to lease 4,500 square feet, the amount they feel they need for adequate facilities, the cost would increase to between $63,000 and $90,000 per year.

CONCLUSIONS

The Department of Mineral Resources needs better facilities. Although alternative facilities are available in the near future, DMR's responsibility for the mineral museum complicates the matter. However, the DMR does not need to maintain the mineral museum to fulfill its statutory obligations.

RECOMMENDATIONS

The Legislature should determine if the mineral museum should be retained as a function of the Department of Mineral Resources.

1. If the mineral museum is not deemed to be a necessary function of DMR, then the museum should be transferred to another agency or distributed among several agencies. In addition, funds should be appropriated for relocating the Department to the Capitol Mall area and for rent.

2. If the museum is deemed necessary to the operation of the Department of Mineral Resources, then DMR and the mineral museum should be relocated to the Carpenter's Building site as soon as it becomes available. This will require the state to purchase the site and to build facilities for the museum. Funds will have to be appropriated to DMR for renting the facilities.

FINDING III

OPERATIONAL IMPROVEMENTS ARE NEEDED IN DEPARTMENT OF MINERAL RESOURCES' INFORMATION GATHERING FUNCTION

The Department of Mineral Resources (DMR) has not developed an effective system for gathering and storing information. DMR does not adequately gather and maintain information for its mine files. In addition, the present system for field visits is unorganized and unproductive. Finally, the maps and books in the data repository are not inventoried or cataloged.

The Department has accumulated a data repository that contains more than 5,000 books, 3,500 maps, 50,000 mine cards, 6,000 mine files, and other reference materials. The Department's mine cards have brief information on mineral occurrences throughout the state, and the mine files contain history and more detailed information on particular mines or mineral occurrences. The vast majority of these mines are inactive* - they never achieved production or the economically feasible ore has already been extracted. In general, the files may include information on ownership, commodities, past production, assay information and geologic information. The Department has been collecting this information since 1939.

DMR Does Not Properly Gather and Maintain Information For Mine Files

Although the mine files are a potentially valuable resource, the files are incomplete and inconsistent. Also, DMR has failed to properly gather and maintain information for these files.

Mine Files Important - The Department's mine files are a potentially valuable source of information. DMR considers the mine files and the expertise of its engineers to be the most valuable asset of the Department. Additionally, many members of the mining industry in Arizona believe this information is valuable.

* There are approximately 90 active, producing mines in Arizona.

The mine files can be used in a number of ways. For example, the files can help miners identify productive areas for exploration and rule out other areas. This information could also help miners explore a particular part of an underground mine.

Mine Files Inconsistent and Incomplete - Although the files are potentially very useful, the information is inconsistent and incomplete. All the files do not have similar information. For example, some files contain information on geologic formations and others have no references to geology. Some mine files include several DMR field visit reports and others do not have any reports. Because they are incomplete and inconsistent the files are not as useful as they should be.

There is no index listing the contents of the files. With the current system, users must search through an entire file to determine what information it contains. Furthermore, the Department has no way of knowing if all available sources of information for a particular file have been contacted. An index would alleviate these problems.

DMR Lacks Procedures for Creating and Maintaining Files - DMR does not have standard criteria for creating mine files or formal procedures governing what should be included in the files. The Department's engineers judge whether a given piece of information on a mineral occurrence warrants the creation of a mine file or should be included in an existing file. This procedure does not ensure that judgments will be consistent between engineers.

Because of the lack of standard procedures, all existing sources of information are not consulted. When the Department creates a mine file it includes only the information it has on hand. If DMR developed and used a standardized form with steps for checking information sources such as the owner of a mine, the Bureau of Land Management, the Mine Inspector's Office, the Bureau of Geology and Mineral Technology, and the United States Bureau of Mines, the files would be more complete and useful. According to DMR, it has not implemented these standard procedures because of a lack of time and funds.

DMR's process for gathering data is unplanned and incomplete. Engineers obtain information for the files only as it comes to their attention in the course of their regular activities. This information may be received from incoming phone calls, office visitors, field visits and professional literature. The information obtained by the engineers is communicated through their one-page weekly reports. No formal program or activity has been designed to gather data.

Thus, there is no control over the kind of information received and no assurances that information will be uniformly received for any of the mine files. All engineers are expected to gather information, but no one has ultimate responsibility. Because no systematic method is used to obtain mine file information, there is no assurance that employees will receive sufficient data.

Personnel resources have not been committed to the mine files. None of the staff are specifically assigned to review, update, or create mine files. The only work on the mine files is an extension of other Department activities. Specific employee resources should be assigned to the mine files to ensure that they are updated and in proper order, and that all available information is collected and entered. Such a commitment would improve the reference value of mine files.

Field Visits Are Unorganized and Unproductive

Field visits are unorganized and unproductive. The Department's policy in this area is ineffective. DMR gathers very little data on field visits.

A field visit is when an engineer visits either a mine or someone outside of the Department.* The Department considers these field visits an

* Three months of DMR's most recent field visits were examined. Thirty-eight of the visits were to mines. Seventeen of the visits were to individuals or companies.

important source of information. DMR said that it is sometimes necessary to visit a mine or a mine operator in the field to gather information, particularly when DMR assists with technical problems at mines. DMR personnel made 374 field visits during fiscal year 1982-83. Each field visit may last a few hours or several days.

Ineffective Policy For Field Visits - The Department's current policy on mine visits is sporadic and ineffective. The director explained the Department's policy in a memo dated July 10, 1980:

> "I want to emphasize there are no assigned territories nor are there any commodities, processes, or activities assigned to one engineer. Each engineer is free to go anywhere in the state (his budget permitting), discuss any property, assist any prospector, discuss any processing method or other activity." (emphasis added)

This memo shows that DMR's policy provides little direction regarding which mines the engineers should visit. The Department does not have any comprehensive plans for using the field visits to gather data. There is no predetermined schedule for field visits. Of 62 field visits we evaluated, only 21 (34 percent) were visited in relation to a Department project. Nine (15 percent) of the visits were made simply because the mine or person was "in the area or on the way." These figures do not compare favorably with Nevada's figures. According to the director of Nevada's Bureau of Mines and Geology, 99 percent of all their field trips are related to a specific Department program. All the field visits must be justified to the director. The director believes that without this control, some engineers are likely to go on field visits "just to get out in the field."

Little Data Gathered on Mine and Field Visits - DMR gathers little and sometimes no information on field visits. Table 4 shows data collected as a result of 55 field visits. The topics in the table are the Department's categories for information gathering during field visits.

TABLE 4

INFORMATION GATHERED ON
MINE AND FIELD VISITS

Type of Information Gathered	Percentage of Time Gathered
Ownership Information	27%
Geologic Information	7
Samples Taken	5
Plans of the Operator	13
Accessibility or Locational	22
Economic Feasibility	5
Type of Minerals Produced	18
Statistics on Production	15
General Information on Mine	11
Information on Mining Technique Used	5
No Information Acquired	5

As the table shows, none of the information types were gathered more than 27 percent of the time. Most types of information are gathered even less frequently. Much of the information could be gathered more efficiently without field visits. Better policy governing the field visits would improve the process.

Data Repository Is Poorly Managed

The books and maps in the data repository are poorly managed. The Department does not have a comprehensive inventory or catalog of its books and maps. Therefore, it cannot tell what materials are available or where they are stored.

The Department's system for locating books and maps is inadequate. Under the current system, DMR personnel locate the books and maps based on their experience in using these materials. Thus, if a book or map has been used a number of times before, some of the staff will probably have some idea of where the material is stored. According to Library and Archives, this system is poor for the following reasons. First, since DMR does not know exactly what materials it has, the materials can't be used to their fullest extent. Second, new personnel have no reliable way to locate

materials. Third, there is no way for a vistor to determine if materials that might be useful to him are available at DMR. The Department said it has not inventoried or cataloged these materials because of a lack of manpower.

A complete inventory and a cataloging system would solve these problems. Library and Archives notes two additional benefits. First, cataloging would help determine whether DMR has any rare or valuable items. Second, having a duplicate catalog at Library and Archives would help other potential users of DMR's information know what materials are available.

The task would require additional work. Library and Archives estimated that it would take one person a year to properly inventory and catalog the 5,000 books. If the Library and Archives' computer were used in the cataloging process, it could be completed within 6 months. Additionally, Library and Archives estimated that it would take one person between 6 and 9 months to completely inventory and catalog the 3,500 maps. Library and Archives should be able to assist DMR in the inventorying and cataloging process.

CONCLUSION

The Department of Mineral Resources has failed to develop an effective system for gathering and storing information. The procedures for gathering and maintaining information for the files are poor. The mine visits are unorganized and unproductive. The books and maps in the data repository are not inventoried or cataloged.

RECOMMENDATIONS

1. The Department should improve the information gathering function by:

   - Establishing standard criteria on establishing mine files.

   - Requiring employees to routinely contact certain sources of information when creating a mine file, to ensure that the file is as complete as possible.

- Determining what specific data should be included in a mine file and using this as a standard index form for each file.

- Establishing specific programs to gather information for the mine files.

- Assigning specific personnel resources to maintain and update the mine files.

2. The Department should develop policies and procedures to better organize, control and apply field visits.

3. The Department should inventory and catalog its books and maps. Library and Archives should be asked to assist in this effort.

OTHER PERTINENT INFORMATION

We developed other pertinent information regarding the possible consolidation of several state agencies related to mines and minerals.

Agencies With Related Functions

There are four state agencies in Arizona with activities related to mines and minerals. The Department of Mineral Resources promotes the development of the state's mineral resources and provides assistance and information to the mining industry. The Bureau of Geology and Mineral Technology (which is associated with the University of Arizona, College of Mines) performs geologic mapping, geology and mineral research and provides information to the public and mining industry. The State Mine Inspector inspects active mines for health and safety requirements. The Oil and Gas Conservation Commission regulates oil and gas wells, both in exploration and production.

Similar Purpose and Functions

Two of these four agencies have potentially overlapping responsibilities, and the other two agencies can provide valuable information to be used in mineral development.

The Department of Mineral Resources (DMR) and the Bureau of Geology and Mineral Technology (Bureau) have similar statutory responsibilities. Both are directed to be involved in mineral development and maintain information on Arizona's mineral resources. A comparison of both statutory mandates illustrates this relationship. In part the DMR is charged to:

> "Aid in the promotion and development of the mineral resources of the state."
>
> "Make mineral resource surveys and conduct other investigations which may interest capital in the development of the state's mineral resources."

"Use its authority in other ways to assist in more extensive exploration and development of the mineral resources of the state."

DMR's statutory duties can be compared to the Bureau's statutory objectives:

"The bureau shall have as its objectives:

1. To inform the public in matters concerning the geological environment and the development and use of the mineral resources of this state.

2. To encourage the wise use of the lands and mineral resources of this state toward its development.

3. To provide technical advice and assistance in geology and mineral technology to other state and local governmental agencies engaged in projects in which the geologic setting or the mineral resources of the state are involved.

4. To provide technical advice and assistance in geology and mineral technology to industry and other members of the public toward the wise development and use of the mineral and land resources of this state." (emphasis added)

According to both DMR and the Bureau, there is no duplication between the agencies because the Bureau is research and technical oriented while DMR is promotional in nature.

In addition, the Oil and Gas Conservation Commission was created because of a state policy to "encourage development of natural resources of oil and gas and their products." Oil and gas exploration companies are required to furnish to the Commission a log, core record, drilling history and samples of drill bit cuttings and cores for all wells. This information can be utilized by both the Department of Mineral Resources and the Bureau of Geology and Mineral Technology. While the State Mine Inspector has no charge regarding mineral development, it does rely on DMR for information and has the potential to provide DMR with information on proposed and actual mining activities.

Other States

In a survey of nine other western states* we found only one state (Nevada) that had an independent mineral department similar to DMR. The other eight states include their mining/geology related agency as part of a broader, larger department. Four states delegate the DMR function to a department of natural resources. Three states include their mining/mineral related functions within a university system and one state includes it within a geological survey agency. In surveying other western states we found that no department of natural resources performed the same functions as Arizona's DMR.

Table 5 shows agencies in other states that administer programs similar to Arizona's DMR, Bureau of Geology and Mineral Technology, Oil and Gas Conservation Commission and the State Mine Inspector.

* We surveyed Alaska, California, Colorado, Idaho, Montana, Nevada, New Mexico, Utah and Wyoming.

TABLE 5

AGENCIES IN OTHER STATES ADMINISTERING PROGRAMS
SIMILAR TO FOUR INDEPENDENT ARIZONA AGENCIES

State	DMR	BUREAU	OIL AND GAS	MINE INSPECTOR
	Agency in Other State Administering Similar Program			
Alaska	Department of Natural Resources	———	———	———
California	Department of Conservation	———	———	———
Colorado	Department of Natural Resources	———	———	———
Idaho	State University	———	Department of Lands	None
Montana	State University	———	Department of Natural Resources	Department of Labor and Industry
Nevada	Independent Agency	State University	Department of Conservation and Natural Resources	Department of Industrial Relations
New Mexico	State University	———	Department of Energy and Minerals	———
Utah	Department of Natural Resources	———	———	———
Wyoming	Geological Survey of Wyoming	———	Independent Agency	Independent Agency

AREAS FOR FURTHER AUDIT WORK

During the course of the audit, we identified potential areas for further audit work that we could not pursue due to time constraints. These areas, which were outside the scope of our audit (see page 3), include these concerns:

- Does the Department have adequate inventory controls and security over the museum specimens? (The Department estimates the value of its mineral collection to be between $750,000 and $3,000,000.)

- Could an automated system analyze and provide mineral occurrence and inactive mine information to prospectors and exploration companies more efficiently?

- Has the Department made full use of available federal dollars for project funding?

AUDITOR GENERAL COMMENT

Because of the nature and tone of the response of the Department of Mineral resources, we offer the following two comments.

First, the agency's response contains several misleading and inaccurate statements. We have reviewed the agency's response in detail and are prepared to address any specific points it raised.

Second, during the course of the audit we made every effort to collect, analyze and report all pertinent information on the agency's efficiency and effectiveness in meeting its main objectives. We were impaired in this endeavor by a number of factors.

In some cases important documentary evidence was not available. In other cases, however, available evidence was not provided on a timely basis, and sometimes was not provided at all until late in the audit. In several other instances we were told information existed, but our attempts to obtain the information led to repeated changes in the Department's position on the information. In addition, verbal statements about agency procedures and operations were freqently changed when we attempted to confirm the information in writing.

STATE OF ARIZONA
DEPARTMENT OF MINES AND MINERAL RESOURCES

Mineral Building, Fairgrounds, Phoenix, Arizona 85007 • (602) 255-3791

June 19, 1984

William Thomson, Director
Performance Audit Division
111 West Monroe, Suite 600
Phoenix, Arizona 85003

Dear Mr. Thomson:

Enclosed is the department's response to the revised preliminary report draft of the performance audit dated June 8, 1984. Please contact us if there are any questions. We would appreciate knowing the date and to whom the report is to be released. We assume all members of the Board of Governors will receive a copy.

Very truly yours,

John H. Jett

John H. Jett
Director

JHJ:db

cc: Board of Governors

STATE OF ARIZONA
DEPARTMENT OF MINES AND MINERAL RESOURCES
Mineral Building, Fairgrounds, Phoenix, Arizona 85007 • (602) 255-3791

June 19, 1984

The recommendations resulting from a seven month long study of the department are somewhat mediocre, particularly when related to the lengthy time interval involved. A majority of the recommendations resulted from the department not having written "guidelines" for its various activities and not keeping records of the financial activities of the members of the public which we have assisted.

The recommendations in Finding Three are quite minor and easily complied with. It is interesting to note that the major part of these findings are based on activities not found in the department statutory duties, but on activities that the department has created in an effort to obtain data effectively and make that data easily retrievable. There is no problem in putting down on paper what the department is presently doing. However, unless the priorities of the department are changed, with direct assistance to the public becoming secondary, additional staff will be required to comply with the recommendation. We want to emphasize that it is the public who spends the monies in Arizona on Arizona minerals, not the mine files themselves. It is the engineers that the public wants to talk to first and last, with the mine files only an intermediate step.

The department is a small agency and over 60% of the staff is technical. Being small, with 11.5 total employees, management keeps control of the day-to-day operations. This method has worked satisfactorally, apparently, for the last 40 years. It has not been necessary to waste staff time and create an internal mountain of paperwork that must be changed in order to keep up with changing conditions. Management hopes that it does not need to get so wrapped up in planning activities that it does not have time to do its work.

It is unfortunate that the Auditor General's Performance Audit Report had to rely on errors, omissions and supression of all positive factors. Apparently, the criteria used to determine the effectiveness of the agency were established without knowledge of the function of the agency, the needs of those interested in Arizona minerals or of the mineral industry. Nowhere in the report is there an indication of any survey the auditors made of how members of the mineral industry perceive the values and effectiveness of the operation of the department. There is one mention made that the "mining industry" in Arizona believes our mine files are useful.

Although the primary duty of the technical staff is to respond to requests of assistance by the public, the purpose of the agency is also carried out through projects and duties initiated by the director and the staff internally. It is the duty of the staff to maintain an awareness of the overall economic mineral climate and mineral industry operations on a world-wide scope. The staff continually considers the relationship of Arizona's mineral resources potential and the world economy. As a result, the staff often initiates contact with a potential developer, or possibly prepares a lecture series to educate the State's prospectors or evaluates specific mineral occurrences to update files of properties which might again be of interest. Among others, these are continuous activities of the staff, often limited by responding to the needs and requests of the public. At no time is the agency just sitting and waiting for the public to make requests.

-continued-

STATE OF ARIZONA
DEPARTMENT OF MINES AND MINERAL RESOURCES
Mineral Building, Fairgrounds, Phoenix, Arizona 85007 • (602) 255-3791

The audit team apparently worked hard to try to find negative factors. Good examples of this are their interpretation of the six case histories of activities printed in their report. In each case, the positive aspects of the activities, including the financial gain to the State and the valuable new mineral related data gained, all were carefully omitted. In fact, a member of the audit team met, on several occasions, the people involved in some of the case histories. Evidently the interview reports were too positive to be included in the original report.

The small staff of the department is technically oriented. The director of the agency, by statute, must be a registered mining engineer. As such, the management relies on the professionalism of the engineers to do their job. Since there is no way to pre-determine how many people will require assistance, the degree of assistance (from a few minutes to intermittent assistance over a period of months), changing economic climate for minerals, variety of minerals involved, changing statutes or Federal regulations affecting minerals, plus many other variable conditions, it is almost impossible to establish fixed guidelines, including time frames, for specific activities and have them remain fixed and viable for any length of time. There is nothing fixed about the staff's duties that can relate to a time scale and be realistically maintained.

THE DEPARTMENT HAS TO WORK DIRECTLY WITH THE PUBLIC IN ORDER TO FULFILL ITS STATUATORY OBLIGATIONS. IT IS THE PUBLIC (THE CAPITALISTS) THAT "START-UP" MINES. THE DEPARTMENT ONLY AIDS AND ASSISTS.

SUMMARY

The first statuatory duty listed for the department, ARS 27-102-1, is as follows: "Aid in the promotion and development of the mineral resources of the state." There is nothing in this duty, nor in the other 12 duties that states the department shall start up mines nor is there any time table or regulations that require a mine to start operations after we have assisted a prospector, small miner, explorationist or others. A start up of a mine is the function of the capitalist.

The department's duty is to provide what information we have, plus the engineer's technical expertise to the prospector/developer or interested party. The prospector/developer integrates this data and technical expertise with other information he has collected and then decides how to proceed further. He may decide to drop all interest or continue to develop the property via one of several possible avenues. Whatever the outcome, the department has assisted or aided the developer in making a decision, which is the department's objective.

It is interesting to point out that many of the major exploration companies believe at least 1,000 properties must be investigated before one property can be put into production. In the May 25, 1984 issue of the North American Gold Mining Industry News, an Englewood, Colorado company was quoted on this subject. Goldsil Mining and Milling Inc., told as follows, "In all, over 1,000 prospective areas were originally visited by Goldsil prospecting teams, and by further geologic evaluation and library and literature searches, the original prospects were reduced to the 33 ERG properties. The entire exploration program lasted five years." A geologist with the company told the department that possibly five of the 33 propertries may become producers. One of these properties is in Arizona, 6 miles north of Sun City. Shaft sinking and mill acquisition have started on this property and production is expected by the end of 1984.

To sum up, the greatest opportunity for the modern prospector is to follow development of new concepts, techniques, mineral demand and pricing structures that will allow him to re-evaluate areas previously prospected by the old timers. Years ago there was no market for many of todays usable minerals, transportation was inadequate, mechanized equipment and technology for development and treatment of ores was lacking. With changes in technology and new interpretations, prospected areas and targets rejected in one period can now be reconsidered.

Today, prospecting is incremental. One person or exploration activity produces information on a property. But that data may not be sufficiently encouraging to continue. We encourage development work on a claim or prospect, and recommend filing of data with the department. This maintains a continuity of information and assists our engineers in developing recommended prospects for further work. Later a second individual or company may then take a look at the claim or prospect. His interest is encouraged by new interpretations of existing data or perhaps changing economic conditions. He does additional

-continued-

work. Most often many separate investigations and considerable work occur on the same property over a period of years before sufficient data is accumulated to justify a hundred thousand, million dollar, or greater expenditure. It is the data collected from "incremental prospecting" coupled with expertise of education, training and experience, of our engineers that provides encouragement and assistance to the prospector and explorationist. We often do not know if our assistance is an initiating, encouraging or final determination of the prospecting or development stage.

The director of the department, by statute, must provide the Board of Governors with a quarterly report. This report must contain a comprehensive survey of the activities of the department including a complete financial statement and shall contain other matters the board requires. These reports reflect, substantiated by statistics, how busy the department employees were and how extensive their knowledge of many subjects must be. In addition, they indicate the large number of people coming in from out of state to spend money on Arizona mineral resources and Arizona's mineral resource potential.

As an example, the quarterly reports provide the following accumulated yearly statistics: 3,904 office visitors came in requiring assistance. It was specifically noted that there were 318 visitors representing 93 states (accumulations) other than Arizona (many more were not noted), 94 reports were written, the technical staff discussed 902 different mineral properties with prospectors, 2,445 mine files were studied and researched by the public, 700 people were provided with specific field trip information on rock hounding, 696 mineral identifications were made, 162 field conferences were held with prospector-small miners and others, and engineers made 212 mine visits. Apparently none of these positive activites were taken into consideration during this audit. These activities have been increasing substantially the last several years. This increasingly demanding work load has been reflected in our budget request by asking for additional resources in order to keep some semblence of order in our daily activities. We have had to continue to operate with such limited resources, spread more and more over increasing demands for services. The end result was the establishing of priorities and permitting output to be reduced in certain activities in order to continue to serve the public. Of course, the end result was not being able to accomplish all work originally planned.

One of the major flaws of the audit appears to be the almost complete lack of contact with the Board of Governors. The Board of Governors, by statute, formulates the program and policies of the department. The senior member of our board volunteered to meet with the audit team in order to help educate the team on the agency, its operations and how the agency is able to get so much done with such limited resources. He also offered to educate the audit team on functions and needs of the mineral industry. This member spent over 45 years in the business. This particular board member resides a 4-5 hour drive from Phoenix and never submits his travel or per diem when traveling on business related to the department. All board members offered their assistance to the audit team but there was no response from the audit group to their offers. This in our opinion, was a serious oversight.

-continued-

INTRODUCTION AND BACKGROUND

Relating to statuatory duties and the footnote on Page 1, we want to point out that work began on reviewing the agency's statuatory duties in early 1982, almost two years before the audit began. The proposed bill was written and accepted for sponsorship by legislators before there was any knowledge of the audit beginning. The audit had nothing to do with this legislation in anyway and in no way was the audit or notice thereof, any part of the reason for changing the enabling legislation.

Item No. 1 under Statuatory Duties, is in error. It should read "aid in the promotion and development of the mineral resources of the state." With reference to Item 2, there were 21,050 new mining claims located in 1983 with assessment work being recorded on an additional 147,607 mining claims, resulting in 168,657 total active claims in Arizona. There is no way, with our limited resources, we could monitor this large number. If minimum assessment work is done for these claims in 1984, it will require the expenditure of $16,865,700 just to keep possession of the claims.

On Page 2, first paragraph, Item 2, we provide technical assistance not personal assistance. In the second paragraph, the comments on the change in the number of producing mines should include other problems of the small miner such as absence of custom smelters, high freight rates and penalties applied to small shipments with too much moisture, alumina content and other specific minerals regarded as contaminants. These are some of the problems we are constantly monitoring. Additionally, however, they also reflect a change in criteria used to count producing mines. Intermittent and pilot operations even if they have some production are rarely included now in counting producing or active mines.

The department does provide assistance to small mine operators but the emphasis on them is the auditor's not ours. We also assist the prospector and explorationist. If one were to examine the membership of the small mine operator associations then and now, one would find that many were and are prospectors and explorers not mine operators.

Under Mineral Museum, third paragraph, Page 2, the last sentence is backward. We loan to other museums for display. We do not display exhibits from other museums. We also loan to schools, libraries and other groups.

On Page 3, first paragraph, mention is made of field offices. Lack of funding has prevented reopening the field offices after WWII. Mineral promotion should operate just like agriculture, through extension services out in the pertinent areas.

The comments on the Board of Governors in the second paragraph of Page 3 should include that the board establishes field offices it deems necessary, prescribes the number of field and office assistants, formulates the programs and policies plus numerous other functions.

On Page 4, last paragraph, we consider the lack of contact with the Board to be a serious flaw in the audit.

-continued-

SUNSET FACTORS

On Page 5, Item 2, it is stated the department has failed to perform some statuatory duties. This is true. There are 13 statuatory duties. No's 4, 10, and 12 are not being fulfilled. No. 4 is to list and describe mining properties. With 168,657 active claims in 1983, this has become an impossible job with no or very limited resources. No. 10 is to send problems to the Bureau of Mineral Technology which department field work shows to be within the scope of the activities of the Bureau. Since the Bureau has not been staffed for this function for several years, the department engineers have had to broaden and expand their range of expertise in order to serve those requiring metallurgical assistance. Item 12 is to oppose Congressional acts favoring reciprocal or duty-free imports of foreign materials.

On Page 6, second paragraph, mention is made of mine files and mine visits. We gather every bit of information we can find and record it for filing in a mine file. Mine visits are productive. There has never been a mine visit made without some information brought back that somehow or someday will be of value. There is nothing in our statuatory duties that state we will develop and maintain mine files. However, they are a very valuable tool and the activity is maintained at all times.

On Page 7, No. 8, relating to the changes in the department's enabling legislation, one of the main objects was to provide the department with a definite objective and spell out procedures to achieve its objective. It made official many of the activities the department is directly doing, including mine files, an official technical library, underground mine map repository, plus other duties. At the bottom of the page the statement "investigate problems of small mine operators to assist in development and problem solving" is not quite correct. It should read "conduct studies of the economic problems of prospectors and operators of small mines for the purpose of assisting in their solutions and investigate properties to assist in development."

Nothing in the new legislation provides this department with the duty of starting up mines or increasing employment.

FINDING I

Page 9 The department has met all of the statuatory duties except three. They are as follows:

> No. 4. List and describe mining properties. With 168,657 active claims in 1983, this has become an impossible job with no or very limited resources.
>
> No. 10. To send to the Bureau of Mineral Technology, problems which department field work shows to be within the scope of the activities of the Bureau. Since the bureau has not been staffed for this function for several years, the department engineers have had to broaden and expand their range of expertise in order to serve those requiring metallurgical assistance.
>
> Item 12. To oppose Congressional acts favoring reciprocal or duty-free imports of foreign material.

Second paragraph. Internally established goals and activities were set based on certain levels of demands for the department's services determined by past requests. When requests began to more than double, with no increase in resources available, internally directed priorities had to be established in order to be most productive with the least amount of resources. This resulted in having to either eliminate or greatly reduce the output expected from some activities. However, there would be a corresponding increase in the output from other activities. This was all internally directed and in the interest of best productivity and serving the maximum numbers of the public interested in Arizona's mineral resources.

The economic benefits of the activities of the department can be demonstrated by the known expenditures of some prospectors requiring assistance from the department. Hundreds of thousands of dollars were spent on motels, restaurants, car rentals, truck sales, mining equipment leased or purchased, operating supplies, consultants hired, drilling, trucking and mining contractors hired, assessment work done on claims and other miscellaneous requirements, personal and recreational.

Page 10 The original request for case histories was for five or six more. The 3 years just showed up at the last minute when time did not permit the gathering of data. However, the data was always available in the files, open to anyone including the general public and the audit team.

We do want to call attention to the error in case 1 about the department assisting an individual locate claims. this is **NOT** true. We will teach how but not assist anyone in doing claim location work. The company can have basalt claims of their own if they so desire. We located a deposit for them and took them to the site to do their own location work whenever they so want. We thought it had been done.

The audit team's interpretation of the case studies is an excellent example of trying to bias an opinion by omission of positive facts. These eliminated positive facts are the confirmed indications of the economic benefit, in dollars,

-continued-

Finding 1 Cont.

to the state of Arizona. In addition, considerable new data was obtained on one of the state's natural resources. This is of prime importance.

In Case 1, the dollar expenditures went to motels ($5\frac{1}{2}$ weeks in Holiday Inn), $5\frac{1}{2}$ weeks of truck/car rental, restaurants, mining consultants in Scottsdale hired to locate 14 mining claims, consultant then puton a retainer to supervise mining test load of basalt (3,000,000 lb),mining contractor hired to drill and blast, trucking contractor hired to load and haul, contractor hired to crush material with final product being paid for. It is interesting to note that the prospector-developer lived in West Virginia. He telephoned the Department office and talked to an engineer. He was encouraged to come to Arizona and prospect for minerals.

In Case 3, Page 11, $175,000 was spent on the project, located in Santa Cruz County. Three local laborers, a local geologist, local aerial photographic services company and a drilling contractor were all used. Proven reserves were developed. Accoring to the company, the proven reserves were too small for their corporate objectives. They do believe it is of sufficient size that it could make a very good small mine. This increase in knowledge of Arizona's mineral resources is very valuable and should result in a small mine start-up in the future.

Case 5, page 12 resulted in an expenditure of over $50,000 mostly spent in the area. An additional $1.6 million will be spent to get into production.

Page 12 The last sentence is not that applicable. Hundreds of thousands of dollars have been spent promoting or developing **mineral resources** of Arizona. Our charge is to aid in the activity, not start up mines. We all hope the end product is eventually an active mine.

Page 14 We believe the department has demonstrated its effectiveness in its first statuatory duty, "To aid in the promotion and development of the mineral resources of the state." We believe the audit group is confusing aid in the promotion with the actual start-up of mines, which of course, is not the duty of the department nor is it funded for that activity.

What is a true "mineral resource survey"? A good productive survey requires geologists, geologic survey, drilling, mapping, sampling, plus people and resources for research and travel. Again, priorities were established to provide what we believed was the most needed. Programs developed for certain seminars resulted from a survey of resource data needs even though they were not put in report form. Our conclusion on cobalt and titanium was based on existing knowledge. Prospecting and exploration is an incremental activity. As time passes, more knowledge is gained, more reports written, economic conditions change, so it is possible any decision today could easily be wrong a few years from now. One of the most important surveys we could make right now would be on silver. However, this would take at least one man year of work. It would require investigation of various types of ores such as silver, silver-lead, silver-zinc, silver-copper, silver-copper-lead-zinc. plus others. Perhaps more than 1500 occurrences would have to be investigated - we need sufficient resources of staff and funds.

-continued-

Finding 1 Cont.

It is quite likely that an information circular can be of more help when prospecting for certain minerals than a very large mineral report could be. The thickness or outside appearance does not necessarily mean quality. The budget of agencies in other states should be investigated before comparisons are made between our publications or activities and other states.

As an example, the 1982-1983 budget for the California Division of Mines and Geology is $2,910,000 and it employs 53 people. The New Mexico Bureau of Mines has a budget of over $1,500,000. The Nevada Bureau of Mines has over 21 fulltime plus three part-time employes plus central office printing. Their budget is $780,000.

We have for many years been extremely short of funds for printing. In fact, we were limited to a few hundred dollars for paper. This resulted in our typing stencils, mimeographing and collating our publications in-house. What a large waste of our employees time when there are many private sector printing shops available. Even though we sold the publications we were not permitted to keep the funds and purchase additional paper. These two facts tended to place lower priority on projects that were time consuming and costly in relationship to our appropriation, personnel and providing other services.

Our records indicate the following publications sold: 1980 - 2,084; 1981 - 2,291; 1982 - 1,141; 1983 - 627, and 1,585 for the first nine months of 1984. We are disseminating our publications. The decrease was due to lack of printing funds. This has picked up again this year. In addition, we were doing an excellent job disseminating mineral data through seminars and conferences.

A number of publicaitons are provided at no charge to certain organizations and educational institutions. Some are provided for good will. In the late 1982-1983 era when we were out of a publication, private industry printed (with our permission) our major publication and sold it until we were able to re-print it ourselves. We publish and disseminate - agreed not enough - but as much as our limited resources will permit.

Page 15 The Mineral Industry Location System (MILS) was a project initiated by the department and completed with Federal funds. Rather than employ additional help which would cause problems when Federal funds were spent, the department employed contract labor. The end result was basic data for over 10,000 mine files with perhaps as many as 5,000 being duplicates of those already established. The project was to research and obtain data on all mineral occurrences we could locate within the time frame and grant funds. Attempts were made to obtain, for each occurrence, name of operation, commodities involved, current status, type of operation, latitude, longitude, Public Land Survey description, elevation, name of USGS quadrangle map, available domain, river basin, sources of information, MSHA identification number, name and date of last owner if known, plus other data. All this data was coded for input to the U.S. Bureau of Mines computer in Denver. We obtained computer printouts of each occurrence. At this time we have not had the staff or time to completely integrate the system into the existing mine file system. Each of the computer printouts is a mine file, to be expanded as more data develops.

-continued-

Finding I Cont.

It would be helpful to have the Auditor General's definition of "serve as a Bureau of Mining Information". The department provides public speakers, media information (written and elecronic), seminars, programs and lectures for organizations, mineral identification, response to "Answer Line", and public library requests and provides data on state mining activity to state and national legislators and the rest of the public. Perhaps he is confusing prospecting and exploration with mining. In the past two or three years we have added over 1200 mine files to our library plus over 300 books.

According to the acting director of the Minerals Division of the State Land Department, his list of known mineral occurrences on state land total six (6). He took them from one book. He stated they are trying to obtain computer terminals in their offices. When they do they will use a computer list of the MILS occurrences. The Department of Mineral Resources obtained a microfilm print of all the MILS data for the State Land Department at no cost to the state. We discuss minerals on state lands with prospectors and developers. We add data to the mine files on state lands and we publish the laws on regulations regarding mineral rights on state lands separate from State Land Department total regulations. We do this as a service to the Minerals Division of the State Land Department (since they are not permitted to do this.) A check with recently retired members of that division would reveal a cooperation and a use of our files for their work.

Page 16 In 1981 the department's Directory of Exploration Companies listed 51 companies with full-time offices in Arizona, 39 of which were in Tucson. Our 1983 Directory reflected the effect of the recession in base metal activity. There were only 31 companies listed with 22 of them located in Tucson. This is a good example of how the department had to re-establish its priorities. Admittedly there was a failure to immediately re-write one of the standards on some engineer's PP&E's. However, the activity was controlled by the director and was completely aware of the changes at the time of evaluation.

We will welcome the audit group's providing us with the names of the exploration companies willing to provide the department with specific information on their exploration program. We obtain general information all the time. It is not a problem but we will require specific proprietary data. Perhaps the audit team misinterpreted the amount, value and type of data companies are willing to supply.

Page 17 There were 212 properties visited in 1982-1983 fiscal year; seventy-one (71) specific mine reports written (plus numerous additions of data for the files); 123 new mine files made; 3,964 office visitors; 15,217 telephone contacts. Engineers discussed 889 claims or minerals occurrences (or mine files) with an additional 2,392 studies by an unidentified number of the public. These figures came from the quarterly report to the Board of Governors.

In 1982-82, statistics show there were 270 properties visited and 244 reports written. New mine files totaled 104.

-continued-

Finding I Cont.

Pages 17 & 18 The examples shown as "typical entries in the weekly reports" are in no way typical. This part of the auditor's report is a classic example of trying to convey a negative conclusion based on omission of facts. The auditor overlooked the main purpose of the field visit from which the first three items were taken. The main purpose was to visit the Vekol Mine which was preparing to go into production. A "Mine Report" on the Vekol Mine was made as a result of this visit. The mine report included ownership, lessor-operator, mill equipment, metallurgical process to pelletize and avoid channeling of leach solution, capacities, manpower and plans for both open pit and underground operation.

The three entries mentioned as being typical were as follows:

1. "Visited the Christmas Gift mine ... no evidence of activity."
2. "Visited the Orizaba mine ... no recent activity in evidence."
3. "Visited the Jackrabbit mine ... no evidence of activity."

Also included in the same report, so carefully overlooked, in addition to the full mine report, was operational data on the North Star mine, ownership changes on Goodwin mine plus metallurgical testing (some gold recovery) of ores, drilling, geophysical plans, plus a reported change of ownership on Banner mine with some metalurgical data, plus information about the proposal to purchase the Spar mill at Punkin Center. This mill could function as a much needed custom mill.

The fourth item mentioned - "visited an old mill site and large dump ... cannot find it in MILS or on any map." This came from a weekly report over one page long. The purpose of this field trip that week was to visit some large proposed gold operations near Yuma and some placer mine operations in La Paz County. Three mines were visited that resulted in 3 mine reports. In addition to three mine reports, other data in the weekly report was put into the mine files directly without a separate report being written. Data on trommel and sluice operation recovering gold nuggets (they were wanting buyers); Gold Dome mine closed three offices; status report on Clip mill being erected and availability of the Gold Nugget Claim. This is the weekly report the audit states as being lacking in detail and reason for visits. The one 2-line quote taken from a one and one third page report that included an additional three mine reports cannot be considered typical.

To the layman it may appear frivolous to state that a property was visited and that there was "no evidence of recent activity" but to the exploration geologist or land-man such information for a particular date can be of great value. We are frequently asked what has been happening at a property and if we can go to the file and find the comment that as of a certain date nothing was happening my answer is much more valuable than "I don't know, we have no information since 1946." We strongly feel that it would be a disservice to the taxpayers and a dereliction of our duties to adopt tunnel vision when going to a property and ignore everything else around us.

-continued-

Finding I continued

Page 18 Contact with established ore buyers and potential ore buyers is maintained on a continuing basis. Contact by telephone or personal visit is made based on four criteria: (1) change in economic condition of the particular commodity (2) change or reported change in the operating status of a particular buyer or processor (3) request for specific marketing help from a producer or potential producer (4) recognition of the need for marketing data updates by the department engineers related to the state's potential to produce a particular commodity under current conditions.

Frequent contact is maintained with two major in-state buyers of copper-gold-silver siliceous fluxing ore and copper concentrates. Contact on an annual basis is made with out-of-state buyer-brokers of industrial minerals. Buyer contact intervals are determined by levels of activity of specific minerals. During the uranium boom of the 1970's contact with Energy Fuels buying station was monthly, Nuexco quarterly. With little current uranium interest such frequent contact is not needed. All contacts are either written in engineer's weekly reports (and therefore abstracted into pertinent files) or the subject of a specific report or memorandum and discussed with all the engineers. Significant changes in buying programs are disseminated at miners-prospector's meetings, by news releases, copies of memos and personal communication with individuals. The need for written reports on a schedule was determined to be unnecessary and eliminated from future PP&E's.

Every engineer that works for the department except one, has had a performance appraisal at least once during every calendar year since they have been employed. The one exception is the senior engineer who did not have a review in 1982, but did in 1981 and 1983 and is due in August of 1984.

Page 19 The department does not contend that it is unable to perform all of its statuatory duties. It is a question of degree. There are three duties we are not reacting to. We have reduced activity on other duties due to establishing priorities. The three we do not react to are No's 4, 10 and 12. No. 4 is to list and describe mining properties. With 168,657 active claims in 1983, this has become an impossible job with no, or very limited, resources. No. 10 is to send to the Bureau of Mineral Technology, problems which the department field work shows to be within the scope of the activities of the Bureau. Since the Bureau has not been staffed for this function for several years, the department engineers have had to broaden and expand their range of expertise in order to serve those requiring metallurgical assistance. Item 12 is to oppose Congressional acts favoring reciprocal or duty-free imports of foreign materials.

The survey conducted by the audit group was for contact time only. It did not require listing of preparation time, research time and follow-up time requirements. We question its effectiveness and feel it is not sufficiently complete to draw conclusions.

-continued-

Finding I continued

Below is the result of a time study conducted during a previous year.

ENGINEER'S TIME BREAKDOWN

Estimated - does not include engineer working for OEPAD

Activity	1st qtr.	2nd qtr.
Office Visitors	32%	36%
Mineral Reports	4	2
Field Work	23	19
Mail - Administrative	19	5
Research	9	24
Reports	1	2
Miscellaneous	10	9
Meetings	2	3

Any additional studies probably would differ due to changing types of work required.

Page 20 Conclusions on the Master Plan are a matter or interpretation. Certainly any plan constantly needs updating, particularly with funding uncertainties and limitations. The Master Plan was developed to keep current with increasing demands on the department's time. Field offices were to be established to be able to deliver services in the areas of most needs. The establishment of field offices is one of the powers and duties of the Board of Governors under ARS 27-105.

We suggest the employee's be questioned about their being provided with sufficient direction to perform their duties. The senior auditor spent less than four days in our office and has been additionally handicapped by a 100% turnover in his staff in the seven month period of the audit.

Page 21 The memo quoted was written to make a specific point, mainly that an engineer will respond to any inquiry even though another engineer made the last field visit in the area in question. The engineers do work together and refer visitors to the engineer who is most familiar with/or last visited certain areas. To insure time spent in the field is productive, trips are planned an coordinated as follows:

1. The engineer who is planning field work or who has been assigned out-of town presentations, posts his plans for the trip on a large calendar.
2. The engineer planning the trip discusses the proposed trip with the director.
3. The director either approves, delays, modifies or DISAPPROVES the trip.
4. The other engineers discuss the planned trip with the engineer planning the trip. In this way the entire technical staff is involved in the details of any field trip so that visits to sites of importance to any one engineer's work can be made by another engineer who is planning to be in a particular area.

-continued-

Finding I continued

Finally, control is exerted by the limitations of travel funds and budgetary limitations which should obviously remove any concern by the auditor about "activities they enjoy." Results of activities are reported in mine, special and weekly reports. These reports plus constant personal monitoring of employee activities provide control.

The engineer writes a report on his "finding" in one or more of the following ways: (1) through a weekly report (2) special report (3) a mine report. The statement that engineers may "involve themselves in activities they enjoy" is inappropriate. These are the engineers that over a period of time will average 45-50 hours per week without extra pay or time off. In addition, 80% have taken leave without pay in order for the department to have some extra funds for operating expenses, books, supplies and travel.

Page 22 We cannot agree with the auditor's conclusion for the reasons outlined in this response:

Recommendations

1. We are basically doing these now in various forms, somewhat limited by lack of sufficient resources. A review will be made to see if priorities should be changed.
2. We will work towards an action plan. However, it must have built-in flexibility so we can respond to the changing mineral activities.
3. The Board of Governors will undertake a review of the department's activities with the recommendations in mind.
4. The board will review the policies and procedures of the department as they relate to providing direction for the employees to follow when performing their duties.
5. We object to employee direct time reporting. As it is, the technical staff works considerable overtime on a flexible schedule. Extra pay or comp-time is not allowed. We will lose these added cost-free contributions if we get too rigid in rules. They do report on activities now. In addition sign-out sheets are used for absences away from the office.
6. The board will study this recommendation.

FINDING II

Page 28 Gemstones and lapidary material are a multi-million dollar activity in Arizona. They are part of Arizona's mineral resources. They are a part of the department's responsibility.

The Mineral Museum is used for seminars and conference meetings. Studies of the minerals are made during the meetings in order to teach prospecting. There is no substitute for seeing the various minerals as they occur out in the field and having a lecture on these minerals at the same time. Many prospectors teach themselves by using the displays, then verifying or correcting their conclusions by checking with our engineers.

The U.S. Bureau of Mines published figures that indicate Arizona is the largest gem producing state in the United States. The gemstones are minerals and are mined often, just as other minerals are mined. There are 70 earth science clubs in Arizona most of which are involved in prospecting for, locating, then selling or doing lapidary work on the minerals, resulting in a multi-million dollar industry. The department's museum and the department's files are of great value in this particular facet of the minerals industry. We object to the suggestion that the "curator's salary could be transferred with the Museum." The curator is an integral part of the department's technical staff. His expertise is used in many ways including mineral identification and classification; sample preparation; prospector, small miner and general public assistance; letter answering; field trips and other duties that could occupy all of his time if it were available. The department needs the technical assistance of the curator with or without the museum.

The Legislature has passed legislation to make the department's mineral museum an official activity of the department. Governor Babbitt has signed the bill into law.

The Mineral Museum is an extremely valuable tool to help the department promote the mineral resources of Arizona. Before the department had its funds reduced, which resulted in closing on weekends and night time during the State Fair and which reduced time available for school groups, visitors through the Museum numbered over 40,000 annually. Currently it is 30,000 plus.

Surveys of gem materials have been made by the museum personnel with maps of locations. However, due to lack of funds they have not been printed. The museum curator teaches the recreational prospectors, which assists the engineers; performs mineral identification (almost 3,000 the last three years) and in many instances is our public contact in obtaining donations and contributions to the department. The curator has prepared a book on gemstones in Arizona which is ready for printing.

FINDING III

Page 37 In addition to developing approximately 300 new mine files during the past three years, the department has been able to obtain additional data from outside consultants on more than 1200 mines. In addition the department has obtained basic data for over 10,000 mines. We have this data as complete as was possible to make it at the time. It is ready to integrate into our present mine file system. This is currently being done at the slow rate of perhaps one to two-hundred per year. Lack of personnel prevents accomplishing this faster. It should be noted that approximately half of these will be added to existing files while the other half will require new files, cards, and folders.

This was a systematic gathering of mineral resource data. A guideline worksheet required specific data for all occurrences. Included in the guidelines were: name of occurrence or operation, commodities involved, current status, type of operation, latitude and longitude, Public Land Survey description, elevation, USGS topographic sheet, domain, river basin, source of reference information, MSHA identification number, and the name and date of last known owner. Of course all of this data could not be obtained for every occurrence. More than 15 areas of information were researched including county courthouse records, federal agency records and others. All data was coded for computer input.

The department would like to be funded to continue this project and then have all the data put in a department computer for use in both offices.

The department has failed to gather data only when they were not aware of its availability. We constantly seek additional data and/or develop new data for the mine files.

The mine files will never be complete. Prospecting and exploration is incremental and it takes a continuing build-up of inforamtion. Geology is an inexact science. Five separate geologic reports on one property can result in five different conclusions.

We do not have a good inventory of our books nor are they cataloged in the most efficient manner. We would like to correct this.

Page 38 The mine files are useful not "potentially very useful." In the last three fiscal years, records were kept which showed 10,247 mine file examinations by the public. We are sure there were additional uses not recorded. The files are often "incomplete" because there is no data obtainable or it is proprietary. Here again, funding is inadequate to generate much detailed data or properly seek out existing data.

The fact that the user must search through the files because there is no index of its contents is somewhat intentional. Although an index would be of some benefit, most file users want to read the file in its entirety. Examining all available data is mandatory in this profession. We often get mail and/or telephone requests to have a complete file duplicated without it first being examined.

-continued-

Finding III continued

To "create" a mine file requires information that is not always available. Some of the U.S. Bureau of Mines data is confidential, however, we do have many of their assessment reports. We do get start-up information from the State Mine Inspector. We also obtain operating plans from the Bureau of Land Management and data gathering is a continuing function in the day-to-day activities of the engineer. The engineers' data is often used to write a mine report. The lack of uniformity in information received is due more to the owner or possessors of the data rather than the data gatherers. A mine file will never be completed.

Field trips are not unproductive. Field trips can be taken for reasons other than straight data gathering. As a result of field trips, 338 reports were written in the last two years. Engineers' weekly reports are not always one page. Sometimes however, they are only one page because separate mine reports are being written for files from the data generated by field trips. There is no need to duplicate the writing.

Page 39 The statement that ADMR gathers very little data on a field trip is completely false. A considerable part of our file data results from field trips and contacts made on the visits.

Page 40 It is true the engineers establish their own priority of field visits, but they are always tempered with a discussion with the director. The determination is **NOT** made solely by the motives and interests of an individual. Field visits are planned and based on requests and requriements of individual explorationists, writing publications, prospector-small miner activity, mineral demand, assay offices for procedures and reliability checks, U.S. Forest Service and BLM offices for changing regulations and obtaining copies of mining plans, other state agency requests and general good of the department plus other miscellaneous requirements all subject to approval of the director.

We have probably 2,000 files that have not been investigated in 20-30 years, many perhaps longer. We try to update file knowledge in an efficient, maximum resource use way. If we can visit two, three or four of these properties while on another mission, this is highly desirable. We do not believe we should pass up the opportunity to be more productive at no additional cost if the opportunity presents itself or should we bypass "since it was not the object of a specific requirement?" The Director of Nevada's Bureau of Mines and Geology may have trouble with his engineers making trips to "just get out in the field". This is not a problem with this agency and we have never been accused of this. Remember that the budget of the Nevada Bureau is $780,000 and they have a staff $2\frac{1}{2}$ times larger than ADMR. They are of sufficient size they can assign personnel to projects and not have to constantly take them off projects to perform other duties. We would welcome the opportunity to function as Nevada Bureau of Mines and Geology does.

Page 41 We would welcome the audit group to demonstrate to us how we can gather the information more efficiently without field trips. We never make field trips without bringing back some information. We are often asked if a mine is operating or how long has it been since it operated. So the "no information" such as mine closed, no recent activity, equipment removed and other data the audit lists as no information is very important. Also, it

-continued-

Finding III continued

is usually gathered in conjunction with other activities on the same trip.

We are aware of the deficiency in inventory and cataloging of our books and maps. It can be improved, but everything can be found. Proper storage facilities would also help this problem and sufficient staff to catalog.

We do know what data we have. A new employee may learn in part by the use of data but the older employees do know and do teach the new employees by working with them.

Page 42 If a visitor will let us know his needs we can tell him (and locate) what we have in our files that may assist him. There are certain files, part of the library and map depository we do not want the public to "browse through." Much of the data is fragile and completely irreplaceable and there is also a security problem. A complete inventory and cataloging system for our library and mine files is something very desirable. We certainly would encourage it. We have no computer of our own nor do we have access to one. We would need terminals for our Tucson office also so they would have access to the information. What activity would we give up if we started a cataloging project?

Recommendations

There is nothing objectionable with the recommendations. Other than not having written criteria or guidelines (rather than verbal or in memo's) we are, in effect, complying.

We want all the data we can obtain on a property. A mine file is never completed. A lot of data gathering for a mine file depends on the generosity of the public. They too often consider reports and production records as proprietary.

It is easy to determine what data we want in a mine file. We want every bit of data we can locate, find, develop, abstract, collect or obtain. Perhaps the meaning is to establish priorities on data we put in a file.

To assign specific personnel to maintain mine files may necessitate giving up other necessary activities. This will consume detailed work at the sacrifice of something else.

When all field trips are taken only with specific approval of the director of the agency, and the agency is small and has very limited travel funds, there is very tight control on field trips. There are known policies and procedures which guide the staff and director. They can be put on paper.

OTHER PERTINENT DATA

Page 45 This page includes another example of confusing "to aid in the promotion and development of the state's mineral resources" with "mining industry." One important item overlooked is "Can an agency successfully promote and regulate at the same time?" It was tried for years by the U.S. Bureau of Mines, but the regulatory functions were eventually taken away and put in a new agency in a different department.

The Bureau states that it is "research and scientifically oriented" not technical. Department of Mineral Resources is promotional and technical. We suggest a comparison be made of the actual activities of the two agencies.

We are aware of the core and drill cuttings from oil well exploration drilling. We have, on a very few occasions, referred people to the Oil and Gas Commission for use of the data. However, perhaps as much as 95% of the data developed is not useful in the promotion of non-energy (except uranium) mineral resources.

A look at the director's quarterly report to the Board of Governors will show that the department lists official start-ups of new operations every quarter. The director's reports are not confidential.

Page 49 The department does have adequate inventory control and security control to minimize losses. This is evidenced by the small number of claims that have been submitted to Risk Management. However, both inventory control and security can be improved. Risk Management has agreed to make a total survey of the museum operations for security.

An automated system could provide mineral occurrence data to prospectors and exploration companies. We would like to see such a system funded. However, this type of system cannot provide detailed analysis, the questioning of geologic theories, field investigations or the educational activities relating to specific problems.

APPENDIX I

RECENT CHANGES TO DEPARTMENT'S ENABLING LEGISLATION MADE BY SENATE BILL 1048

ISSUED BY
ROSE MOFFORD
SECRETARY OF STATE

State of Arizona
Senate
Thirty-sixth Legislature
Second Regular Session
1984

CHAPTER 334

SENATE BILL 1048

AN ACT

RELATING TO MINERALS, OIL AND GAS; DEFINING THE TERM "MINERALS"; PRESCRIBING SCOPE, OBJECTIVES AND DUTIES OF DEPARTMENT OF MINES AND MINERAL RESOURCES; PROVIDING FOR FEES FOR PUBLICATIONS; PROVIDING FOR CONTINUATION IN OFFICE OF MEMBERS OF BOARD OF GOVERNORS; PRESCRIBING LOCATION OF BOARD OFFICE; PRESCRIBING DATE OF ANNUAL REPORTS; PRESCRIBING QUALIFICATIONS OF DIRECTOR; PRESCRIBING DISPOSITION OF DEPARTMENT MONIES; CORRECTING 1983 LEGISLATIVE DISPOSITIONS OF STATUTORY TEXT; MAKING CONFORMING CHANGES; CHANGING THE HEADING OF TITLE 27, CHAPTER 1, ARTICLE 1, ARIZONA REVISED STATUTES, TO "DEPARTMENT OF MINES AND MINERAL RESOURCES"; AMENDING TITLE 27, CHAPTER 1, ARTICLE 1, ARIZONA REVISED STATUTES, BY ADDING SECTION 27-101.01; AMENDING SECTIONS 27-101, 27-102, 27-103, 27-104, 27-105, 27-107 AND 37-904, ARIZONA REVISED STATUTES; AMENDING SECTION 27-106, ARIZONA REVISED STATUTES, AS AMENDED BY LAWS 1984, CHAPTER 61, SECTION 13; AMENDING SECTION 27-111, ARIZONA REVISED STATUTES, AS AMENDED BY LAWS 1984, CHAPTER 61, SECTION 14; AMENDING SECTION 41-2364, ARIZONA REVISED STATUTES, AS AMENDED BY LAWS 1984, CHAPTER 6, SECTION 38, AND AMENDING SECTION 41-2372, ARIZONA REVISED STATUTES, AS AMENDED BY LAWS 1984, CHAPTER 6, SECTION 40.

Be it enacted by the Legislature of the State of Arizona:

Section 1. Section 27-101, Arizona Revised Statutes, is amended to read:

27-101. Definitions

In this article, unless the context otherwise requires:

1. "Board" means the board of governors of the department.

2. "Department" means the department of MINES AND mineral resources.

3. "Director" means the director of the department.

4. "Minerals" includes metals and METALLIC AND NONMETALLIC minerals, ~~exclusive of hydrocarbons~~ EXCEPT OIL AND GAS.

Sec. 2. Title 27, chapter 1, article 1, Arizona Revised Statutes, is amended by adding section 27-101.01, to read:

27-101.01. Department of mines and mineral resources; objectives

A. A DEPARTMENT OF MINES AND MINERAL RESOURCES IS ESTABLISHED.

B. THE OBJECTIVES OF THE DEPARTMENT ARE TO PROMOTE THE DEVELOPMENT OF THE MINERAL RESOURCES OF THIS STATE THROUGH TECHNICAL AND EDUCATIONAL

PROCESSES INCLUDING FIELD INVESTIGATIONS, PUBLIC SEMINARS, PUBLICATIONS, CONFERENCES, MINERAL DISPLAYS AND BY PROVIDING MINING, METALLURGICAL AND OTHER TECHNICAL INFORMATION AND ASSISTANCE TO PROSPECTORS, OPERATORS OF SMALL MINES, THE MINERAL INDUSTRY AND TO ALL OTHERS INTERESTED IN THE MINERAL RESOURCES OF THIS STATE.

Sec. 3. Section 27-102, Arizona Revised Statutes, is amended to read:

27-102. Duties

The department ~~of mineral resources~~ shall:

~~1. Aid in the promotion and development of the mineral resources of the state.~~

1. PROMOTE THE DEVELOPMENT OF THE MINERAL RESOURCES AND INDUSTRY OF THIS STATE BY PARTICIPATING IN CONFERENCES, SEMINARS, FORUMS, SPEAKING ENGAGEMENTS, PUBLIC NEWS MEDIA AND OTHER FUNCTIONS NECESSARY TO ACHIEVE ITS OBJECTIVES.

2. Conduct studies of the economic problems of prospectors and operators of small mines for the purpose of assisting in their solution AND INVESTIGATE THEIR PROPERTIES TO ASSIST IN DEVELOPMENT.

~~3. Assist in discovering sources of supply for persons desiring to buy minerals.~~

~~4. List and describe available mining properties.~~

3. MAINTAIN:

(a) AN INFORMATION BANK AND LIBRARY OF MINERAL AND MINING INFORMATION, INCLUDING BOOKS, PERIODICALS, FILMS, VIDEO TAPES AND INDIVIDUAL MINE FILES.

(b) UNDERGROUND MINE MAP REPOSITORY FILES, MINING DISTRICT DATA AND AN ARCHIVE OF MINE DATA.

(c) A MINERAL MUSEUM AS THE STATE DEPOSITORY FOR COLLECTING, CATALOGING AND DISPLAYING MINERAL SPECIMENS OF VARIOUS ORES, GEMSTONES, LAPIDARY MATERIAL AND OTHER VALUABLE MINERAL SPECIMENS.

4. PROVIDE QUALITY MINING DATA, EVALUATION AND ASSISTANCE RELATING TO MINERAL DEVELOPMENT TO THE LEGISLATURE AND OTHER STATE AND COUNTY AGENCIES.

5. Make SURVEYS OF POTENTIAL ECONOMIC mineral ~~resource surveys~~ RESOURCES and conduct FIELD AND other investigations which may interest capital in the development of the state's mineral resources.

6. Serve as ~~a bureau of~~ A CENTER OF mining information ~~in conjunction with the bureau of geology and mineral technology~~ FOR THIS STATE IN MATTERS RELATING TO ITS MINERAL RESOURCES AND MONITOR CURRENT MINING AND EXPLORATION ACTIVITIES.

7. Publish and disseminate information and data necessary or advisable to attain its objectives. THE DIRECTOR MAY ESTABLISH REASONABLE FEES FOR PUBLICATIONS.

8. Cooperate with the state land department to encourage mining activity on state lands.

9. Cooperate with the corporation commission in its investigations and administration of laws relating to the sale of mining securities.

10. Cooperate with the bureau of geology and mineral technology, and deliver to the bureau problems which the field work of the ~~division~~ DEPARTMENT shows to be within the scope of the activities of the bureau.

11. Cooperate with federal and other agencies ~~designed to develop mines and minerals~~ IN MATTERS RELATED TO DEVELOPING MINERAL RESOURCES IN THIS STATE.

12. Oppose congressional acts favoring reciprocal or duty free imports of foreign minerals.

13. Use its authority in other ways to assist in more extensive exploration and development of the mineral resources of the state.

Sec. 4. Section 27-103, Arizona Revised Statutes, is amended to read:

27-103. Board of governors; membership; appointment; terms; compensation

A. The board of governors of the department ~~of mineral resources~~ shall consist of five members who shall be appointed by the governor.

B. The term of each member shall be five years, one term to expire January 31 each year. Upon expiration of the term of a member a successor shall be appointed for a full term of five years. A MEMBER MAY CONTINUE TO SERVE UNTIL A SUCCESSOR IS APPOINTED AND QUALIFIED. Appointment to fill a vacancy resulting other than from expiration of term shall be for the unexpired portion of the term only.

C. Members of the board shall receive no compensation for their services.

Sec. 5. Section 27-104, Arizona Revised Statutes, is amended to read:

27-104. Board organization; office location; meetings

A. The officers of the board shall be a chairman, vice-chairman, and secretary who shall be selected and appointed by the board.

B. The office of the board shall be maintained ~~at the state capital~~ WITH THE DEPARTMENT'S MAIN OFFICE.

C. Regular meetings of the board shall be held quarterly, and special meetings may be called by the chairman or a majority of the members.

Sec. 6. Section 27-105, Arizona Revised Statutes, is amended to read:

27-105. Powers and duties of board of governors

The board shall:

1. Establish field offices it deems necessary.
2. Prescribe the number of field and office assistants.
3. Formulate the program and policies of the ~~division~~ DEPARTMENT.
4. Adopt rules and regulations for government of the ~~division~~ DEPARTMENT.
5. Purchase necessary office equipment and rent or lease necessary office space.
6. Accept gifts, bequests or legacies of real or personal property, or any other contribution, financial or otherwise, for use in accordance with the direction of the donor, or, in the absence of an express direction, to be disposed of for the best interests of the state.

7. Accept from the federal government or its agencies ~~funds~~ MONIES made available to the state for the purposes of this article.

8. Enter into cooperative agreements with the federal government and its agencies or with any mining agency created by the law of any state for the purpose of carrying out this article.

Sec. 7. Section 27-106, Arizona Revised Statutes, as amended by Laws 1984, chapter 61, section 13, is amended to read:

27-106. Annual report of board of governors

A. The board shall transmit to the governor, not later than ~~July~~ AUGUST 15 each year, an annual report of the activities of the department during the preceding fiscal year, which shall include the quarterly reports of the director and a complete financial statement. ~~on a form prescribed by the director of the department of administration.~~

B. The report shall be printed and made available to each member or member-elect of the legislature and to the public.

Sec. 8. Section 27-107, Arizona Revised Statutes, is amended to read:

27-107. Director of department; compensation

A. The director of the department shall be appointed by the board. The person appointed shall be a mining, METALLURGICAL OR GEOLOGICAL engineer graduated from an accredited school ~~of mines~~, qualified by education and experience IN THE MINERALS INDUSTRY and shall possess a certificate of registration as ~~a mining~~ AN engineer, issued by the state board of technical registration.

B. The director ~~shall~~ IS ENTITLED TO receive compensation as determined pursuant to section 38-611.

Sec. 9. Section 27-111, Arizona Revised Statutes, as amended by Laws 1984, chapter 61, section 14, is amended to read:

27-111. Financial provisions

A. Monies received from any source by the department shall be promptly ~~paid~~ DEPOSITED by the director ~~to~~ WITH the state treasurer through the department of administration. ~~and shall be deposited in the general fund to the credit of the department.~~ MONIES RECEIVED PURSUANT TO SECTION 27-105, PARAGRAPHS 6 AND 7 SHALL BE CREDITED TO A SPECIAL FUND, DESIGNATED AS THE DEPARTMENT OF MINES AND MINERAL RESOURCES FUND, TO BE USED BY THE DEPARTMENT IN ACCORDANCE WITH THE PROVISIONS OF SECTION 27-105, PARAGRAPH 6 OR 7, AS APPROPRIATE. MONIES OBTAINED FROM THE SALE OF PUBLICATIONS UNDER SECTION 27-102, PARAGRAPH 7 SHALL BE CREDITED TO THE DEPARTMENT'S PRINTING REVOLVING FUND FOR PRINTING FURTHER PUBLICATIONS. MONIES IN THE DEPARTMENT'S PRINTING REVOLVING FUND THAT AT ANY TIME ARE IN EXCESS OF FIVE THOUSAND DOLLARS SHALL IMMEDIATELY REVERT TO THE STATE GENERAL FUND.

B. MONIES IN THE PRINTING REVOLVING FUND UP TO AN AMOUNT OF FIVE THOUSAND DOLLARS AND MONIES IN THE DEPARTMENT OF MINES AND MINERAL RESOURCES FUND ARE EXEMPT FROM SECTION 35-190, RELATING TO THE LAPSING OF APPROPRIATIONS.

~~B.~~ C. Claims for expenses shall be approved by the director.

Sec. 10. Section 37-904, Arizona Revised Statutes, is amended to read:

37-904. Public lands board of review; members; powers and duties; staff and officers; service of process

A. There is established a public lands board of review consisting of the following members:

1. State land commissioner.
2. Director of the department of health services division of air and water quality.
3. Director of the department of MINES AND mineral resources.
4. Director of the Arizona state parks board.
5. Director of the department of transportation.
6. Deputy state forester.
7. Director of water resources.
8. Director of the Arizona game and fish department.
9. As provided in subsection F, the chairman of the board of supervisors of a county in which public lands are located.
10. One county supervisor, appointed by the governor to serve at the pleasure of the governor.

B. The board shall elect one of its members to serve as chairman. The chairman shall call meetings of the board and prescribe the time and place of each meeting.

C. Members of the board are not eligible to receive compensation but are eligible for reimbursement of expenses pursuant to title 38, chapter 4, article 2.

D. The board:

1. Shall review and approve or disapprove all rules and regulations proposed by the commissioner under this chapter.
2. May review any decision of the commissioner relating to public lands under this chapter and affirm, modify or reverse the decision.

E. The state land department shall provide the administrative staff and offices needed by the board, and the state land commissioner shall be deemed the clerk of the board upon which notices of appeal and other process shall be served.

F. The chairman of the county board of supervisors of a county in which public lands are located and which are the subject of the board action shall serve as a member of the board for the purposes of the action.

Sec. 11. Section 41-2364, Arizona Revised Statutes, as amended by Laws 1984, chapter 6, section 38, is amended to read:

41-2364. Schedule for termination July 1, 1986

The following agencies shall terminate on July 1, 1986:

1. The Arizona commission of Indian affairs.
2. The industrial commission.
3. The Arizona state justice planning agency.
4. The law enforcement merit system council.
5. The livestock board.
6. The occupational safety and health advisory committee.
7. The department of MINES AND mineral resources.
8. The oil and gas conservation commission.

9. The Arizona outdoor recreation coordinating commission.
10. The radiation regulatory agency.
11. The radiation regulatory board.
12. The state agricultural laboratory.
13. The boiler advisory board.
14. The Arizona employment advisory council.
15. The occupational safety and health review board.
16. The state veterinarian.
17. The tax advisory council.
18. The department of revenue.
19. The state bar of Arizona.
20. The board of homeopathic medical examiners.
21. The economic planning and development advisory board.
22. The office of manufactured housing and the manufactured housing board.
23. The state board of technical registration.
24. The Arizona racing commission and the Arizona department of racing.
25. The residential utility consumer office and the residential utility consumer board.

Sec. 12. Section 41-2372, Arizona Revised Statutes, as amended by Laws 1984, chapter 6, section 40, is amended to read:

41-2372. Schedule for termination of statutes
January 1, 1987

The following statutes are repealed on January 1, 1987:

1. Title 41, chapter 3, article 4, Arizona Revised Statutes, relating to the Arizona commission of Indian affairs.
2. Title 23, chapter 1, Arizona Revised Statutes, relating to the industrial commission.
3. Title 41, chapter 18, Arizona Revised Statutes, relating to the Arizona state justice planning agency.
4. Title 28, chapter 2, article 2, Arizona Revised Statutes, relating to the law enforcement merit system council.
5. Title 24, chapter 1, article 1, Arizona Revised Statutes, relating to the livestock board.
6. Title 23, chapter 2, article 10, Arizona Revised Statutes, relating to the occupational safety and health advisory committee.
7. Title 27, chapter 1, article 1, Arizona Revised Statutes, relating to the department of MINES AND mineral resources.
8. Title 27, chapter 4, article 1, Arizona Revised Statutes, relating to the oil and gas conservation commission.
9. Title 41, chapter 3, article 1.2, Arizona Revised Statutes, relating to the Arizona outdoor recreation coordinating commission.
10. Title 30, chapter 4, Arizona Revised Statutes, relating to the radiation regulatory agency and the radiation regulatory board.
11. Title 3, chapter 1, article 4, Arizona Revised Statutes, relating to the state agricultural laboratory.
12. Title 23, chapter 2, article 11, Arizona Revised Statutes, relating to the boiler advisory board.

13. Title 23, chapter 3, article 2, Arizona Revised Statutes, relating to the Arizona employment advisory council.

14. Title 23, chapter 2, article 10, Arizona Revised Statutes, relating to the occupational safety and health review board.

15. Title 24, chapter 1, article 3, Arizona Revised Statutes, relating to the state veterinarian.

16. Title 42, chapter 1, article 1.1, Arizona Revised Statutes, relating to the tax advisory council.

17. Titles 42 and 43, Arizona Revised Statutes, relating to the department of revenue.

18. Title 32, chapter 2, article 1, Arizona Revised Statutes, relating to the state bar of Arizona.

19. Title 32, chapter 29, Arizona Revised Statutes, relating to the board of homeopathic medical examiners.

20. Section 41-502, Arizona Revised Statutes, relating to the economic planning and development advisory board.

21. Title 32, chapter 10.1, Arizona Revised Statutes, relating to the office of manufactured housing and the manufactured housing board.

22. Title 32, chapter 1, Arizona Revised Statutes, relating to architects, engineers and surveyors.

23. Title 5, chapter 1, Arizona Revised Statutes, relating to horse and dog racing.

24. Title 40, chapter 2, article 11, Arizona Revised Statutes, relating to the residential utility consumer office and the residential utility consumer board.

Sec. 13. Heading change

The heading of title 27, chapter 1, article 1, Arizona Revised Statutes, is changed from "Department of Mineral Resources" to "Department of Mines and Mineral Resources".

Approved by the Governor - May 2, 1984

Filed in the Office of the Secretary of State - May 2, 1984

APPENDIX II

ASSISTANCE PROVIDED BY DEPARTMENT DURING A 6-WEEK PERIOD

ASSISTANCE PROVIDED BY DEPARTMENT
DURING A 6-WEEK PERIOD*

Type of Assistance	Percent of Total Assistance
Researching mining claims or providing historical information on mining properties	15.94%
Assisting person to research information from agency files or referring person to files or publication	12.15
Identifying likely prospecting areas or educating on mineral occurrences	6.78
Listening to miners' explanation of past/present activity	6.00
Field visit to examine specific mining property	5.92
Providing quasi-legal advice	5.12
Educating on various mining topics	3.96
Answering general questions	3.84
Assisting mining equipment and supply companies	3.79
Taking ore samples in the field	3.77
Instructing on how to file a claim	3.70
Assisting mining investors	3.00
Providing statistical information	2.30
Identifying sources of potential mineral supply	2.07
Providing ore-processing assistance (in office or field)	2.04
Identifying markets for mineral commodities	2.04
Referrals to other agencies or consultants	1.84
Explaining how to sample ore	1.69
Explaining prospecting methods and techniques	1.67
Assisting person to obtain mining equipment or supplies	1.54
Instructing on how to process ore	1.42
Finding prospective investors	1.40
Mineral identification	1.37
Helping to file claim	.99
Identifying available mining properties	.97
Other various assistance	4.69
Total	100.00%

* December 15, 1983, to January 31, 1984