OFFICE OF SURFACE MINING

RECLAMATION AND ENFORCEMENT

Annual Evaluation Summary Report

for the

Regulatory Program

Administered by the State

of

Utah

for

Evaluation Year 2002

(October 1, 2001, through September 30, 2002)

February 2003

UTAH REGULATORY PROGRAM
EVALUATION TEAM

EVALUATION YEAR 2002

Pictured left to right:

Front row: Howard Strand (Office of Surface Mining (OSM)); Tonya Buckmaster (OSM); Mary Ann Wright, team coach (Utah Division of Oil, Gas and Mining (DOGM)); Henry Austin (OSM); and Daron Haddock (DOGM).

Back row: Dennis Winterringer, team co-leader (OSM); Pamela Grubaugh-Littig, team co-leader (DOGM); Susan White (DOGM); James Fulton, team coach (OSM); and Peter Hess (DOGM).

Not pictured: Priscilla Burton (DOGM); Steven Demczak (DOGM); Robert Postle (OSM); and Wayne Western (DOGM).

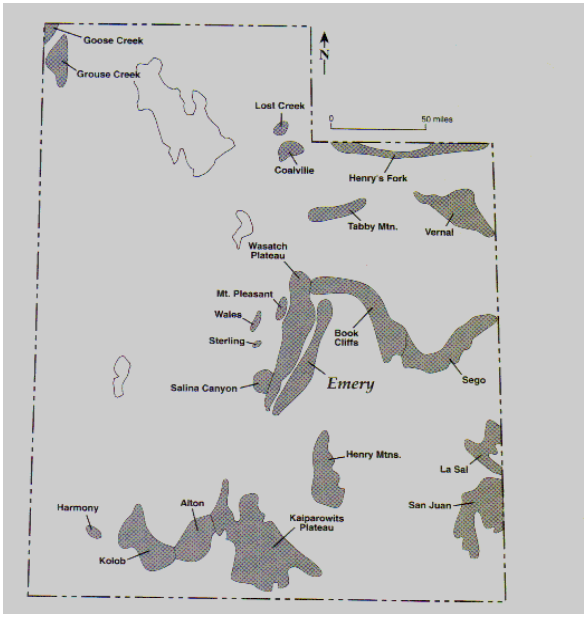
TABLE OF CONTENTS

I. Introduction

The Surface Mining Control and Reclamation Act of 1977 (SMCRA) created the Office of Surface Mining Reclamation and Enforcement (OSM) in the Department of the Interior. SMCRA provides authority to OSM to oversee the administration of and provide Federal funding for State regulatory programs that have been approved by OSM as meeting the minimum standards of SMCRA. This report contains summary information regarding the Utah program and the effectiveness of the Utah program in meeting the applicable purposes of SMCRA as specified in section 102. This report covers the period of October 1, 2001, through September 30, 2002. Detailed background information and comprehensive reports for the program elements evaluated during the period are available for review and copying at the OSM Denver Field Division office.

II. Overview of the Utah Coal Mining Industry

Coal is found beneath approximately 18 percent of the state of Utah, but only 4 percent is considered mineable at this time. The demonstrated coal reserve base is about 6.4 billion tons, which is 1.3 percent of the national reserve base. The State and Federal governments and Indian tribes hold most of Utah's coal resources.



Utah coal fields are shown on the figure to the left (Utah Geological Survey, "Survey Notes", September 1998). In 2002, only the Wasatch Plateau and Book Cliffs coal fields were being actively mined. In 2001, these coal fields respectively accounted for 81 and 19 percent of the total production (oral communication, Utah Department of Natural Resources, Utah Geological Survey).

Most of the coal is bituminous and is of Cretaceous age. The Btu value is high compared to most other western States. Sulfur content ranges from medium to low in the more important coal fields.

Coal production steadily increased from the early 1970's and peaked in 1996 at 28.9 million tons. Production in 2001 was 27.2 million tons (table 1). The majority of the coal production is produced by underground mining operations, which mostly mine seams exceeding 8 feet in thickness.

As of September 30, 2001, Utah had 27 permitted operations that had disturbed 2,367 acres (table 2). Utah considered each of these operations to be an inspectable unit. All of these operations were active or temporarily inactive; none were inactive or abandoned (table 2). Of the 27 operations, 11 were underground mines that use the longwall mining method, 10 were

underground mines that use the room-and-pillar mining method, 1 was a surface mining operation that extracts coal in the area of previous underground mining, 1 was a surface mining that extracts coal from an underground mine refuse pile, and 4 were coal preparation plants/loadout facilities.

Utah's coal mining industry has a direct, significant impact on the local economies where mining occurs. In 2001, the industry employed 1,564 miners (oral communication, Utah Department of Natural Resources, Utah Geological Survey). Coal mining currently occurs in Carbon, Emery, and Sevier Counties. In 2000, mining companies, including coal mining companies, respectively employed 828, 795, and 327 persons in Carbon, Emery, and Sevier Counties. In Emery County, a coal mining company was the largest employer. In Carbon County and Sevier County, a coal mining company was respectively one of the 7 and 12 largest employers (Governor's Office of Planning and Budget, October 2001; http://www.governor.state.ut.us/dea/Profiles/profiles.html).

The climate of the Wasatch Plateau and Book Cliffs coal fields is characterized by hot, dry summers and cold, relatively moist winters. Normal precipitation varies from 6 inches in the lower valleys to more than 40 inches on some high plateaus. The growing season ranges from 5 months in some valleys to only 2 1/2 months in mountainous regions.

III. Overview of the Public Participation Opportunities in the Evaluation Process and Utah Program

A. Evaluation Process

On February 6, 2002, the OSM and DOGM co-leaders of the OSM/Utah evaluation team sent a letter to 74 persons that work for various Federal, State, and county agencies; coal companies; and other organizations. In the letter, the team co-leaders identified the topics that the team planned to review in evaluation year 2002 (October 1, 2001, through September 30, 2002): vegetation succession on reclaimed lands, compliance with blasting notification procedures, construction of electrical lines to prevent electrocution of raptors, and offsite impacts caused by exploration operations and success in reclaiming exploration sites. The co-leaders requested suggestions in writing, by telephone, or by e-mail for any other review topics.

On the DOGM Internet site, the team also made a copy of the evaluation year 2001 report available for review and asked for suggestions on the same things. It provided an e-mail link to each of the team co-leaders.

The co-leaders received two responses.

By letter dated February 15, 2002, the Emery County Public Lands Council, Water Subcommittee, suggested that the team evaluate water monitoring at the mines. By letter dated March 25, 2002, the DOGM team co-leader responded that the team had considered doing a customer service evaluation of the DOGM's water monitoring database in evaluation year 2002 but for a number of reasons had decided to delay it. The co-leader offered to involve the commenter when the evaluation is undertaken.

By letter dated May 2, 2002, the Utah Field Supervisor, U.S. Fish and Wildlife Service, agreed with the team's selection of the evaluation topics concerning vegetation succession on reclaimed lands, construction of electrical lines to prevent electrocution of raptors, and exploration operations. With respect to the raptor evaluation, the Supervisor referred the team to a useful technical publication on suggested practices for raptor protection on power lines.

B. Utah Program

As a part of the Utah Board of Oil, Gas and Mining (Board) hearing in Castle Dale, Utah, in July 2002, DOGM presented information on the cumulative hydrologic impact assessment process. The Board afforded hearing attendees the opportunity to comment on the process. Following the hearing, members of the Board, DOGM, and coal mining companies met and visited three minesites: the Lodestar Energy, Inc., White Oak Mine; the Canyon Fuel Company, LLC, Skyline Mine; and the Genwal Resources, Inc., Crandall Canyon Mine.

On September 12, 2002, DOGM representatives met with Emery County water user associations, which have a concern that mines may be diminishing and degrading surface water flows. Meeting attendees discussed cumulative hydrologic impact areas for the Emery County mines and DOGM's water monitoring data base and water replacement rules. The water users have water monitoring data that they will provide to DOGM. To further information exchange, DOGM and the water users agreed to meet semiannually.

IV. Accomplishments, Issues, and Innovations

A. Accomplishments

During the evaluation year, the OSM and DOGM evaluated the design and construction of electric power lines at two mines and two loadouts to determine whether they were an electrocution hazard to raptors. In preparation for the field visits, DOGM arranged for training from PacifiCorp and HawkWatch International. PacifiCorp, an electric power utility and coal mine permittee, has an interest in raptor protection due to its extensive network of 45,000 miles of power lines that have the potential, if unsafe, to electrocute raptors. HawkWatch International is a nonprofit organization whose mission is to monitor and protect hawks, eagles, other birds of prey and their environments through research, education and conservation. A total of 17 persons from OSM, DOGM, the U.S. Fish and Wildlife Service, Bureau of Land Management, and mining companies attended the training. The training session raised the awareness level of both the regulators and the mining companies.

To facilitate State and Federal agency coordination on coal mining permits, DOGM participates in monthly telephone conferences and quarterly meetings with OSM, the Bureau of Land Management (BLM), U.S. Forest Service (USFS), U.S. Fish and Wildlife Service (USFWS), Utah State Institutional Trust Lands Administration (SITLA), and Utah Division of Wildlife Resources (DWR). DOGM coordination with other State and Federal agencies on coal mining permits is important because most land in Carbon, Emery, and Sevier Counties where coal mining occurs is not privately owned. In these three counties, the Federal government owns 47.3, 79.8, and 77 percent of the land; the State of Utah owns 13.1, 11.9, and 3.7 percent

(Governor's Office of Planning and Budget, October 2001; http://www.governor.state.ut.us/dea/Profiles/profiles.html).

On November 14 and 15, 2001, DOGM hosted a meeting of the aforementioned agency coordinators for OSM, BLM, USFS, USFWS, SITLA, and DWR. The purpose of the meeting was to improve the effectiveness of this group. Toward that end, DOGM hired a team training consultant to facilitate the meeting. The group developed a roles and responsibilities chart that will facilitate the working relationship of these agencies. As the result of the meeting, communication amongst the agencies improved.

B. Issues

1. Application for Lila Canyon Extension, Horse Canyon Mine

On September 4, 2001, the Southern Utah Wilderness Alliance appealed to the Board DOGM's July 27, 2001, decision to approve the UtahAmerican Energy, Inc. (UEI) permit application for the Lila Canyon Extension of the Horse Canyon Mine. On December 14, 2001, the Board found that DOGM had contrary to Utah rules approved the permit without sufficient analyses of potentially acid- and toxic-forming materials, hydrologic baseline data, and a groundwater monitoring plan. The Board also found that DOGM had not adequately established an administrative record for its decision on the biological data in the permit application. On these bases, the Board remanded DOGM's approval of the permit application.

In response to the Board's decision, UEI on February 11 and 19, 2002, submitted a revised permit application. DOGM reevaluated the proposal and by letter dated July 22, 2002, sent its technical analysis to UEI. In this letter, DOGM notified UEI that the application was deficient and indicated that UEI should respond to the deficiencies by October 21, 2002. At UEI's request, DOGM granted an extension of time to December 6, 2002, for UEI to respond to the deficiencies. DOGM received UEI's response on December 6, 2002.

2. Water Impacts at the Skyline Mine

In March 1999, Canyon Fuel Company, LLC (CFC), began intercepting significant quantities of ground water at its Skyline underground mine. On August 16, 2001, CFC intercepted a fault that caused significant additional amounts of water to flow into the mine. Since that time about 13 million gallons of water per day have flowed into the mine.

To save the mine from flooding, CFC pumped the mine water into Eccle's Creek, which drains into Scofield Reservoir in Carbon County. To reduce the inflow of water, CFC drilled into the geologic formation from above and pumped water from the holes. It piped this water 3,500 feet to the Electric Lake reservoir in Emery County. Utah Power relies on the water from the reservoir for the operation of its 895-megawatt Huntington power plant in Emery County and for a blue-ribbon trout fishery downstream from the reservoir in Huntington Canyon. PacifiCorp, the parent company for Utah Power, took over from CFC the pumping of water from the aforementioned drill holes above the mine to the lake.

In September 2002, the Carbon County Municipal Building Authority received on behalf of Carbon, Emery, and Sanpete Counties a $594,000 emergency grant to study the feasibility of developing the intercepted ground water for drinking water or irrigation.

On May 1, 2002, DOGM renewed CFC's Skyline Mine permit for an additional 5 years. At that time, CFC had not yet updated the probable hydrologic consequences analysis for the DOGM mining permit. Subsequently, CFC updated the analysis, and on November 21, 2002, DOGM completed a cumulative hydrologic impact analysis. DOGM concluded that the mine had not materially damaged the hydrologic balance.

3. Inspection Frequencies for Bond Forfeiture Sites

On October 1, 1999, the Utah Board of Oil, Gas and Mining adopted and on April 24, 2001, OSM approved through the State program amendment process a revised rule concerning the inspection frequency for abandoned sites. In lieu of conducting four complete inspections per year on each abandoned site, which includes bond forfeiture sites, the revised rule allowed DOGM to inspect abandoned sites "on a set frequency commensurate with the public health and safety and environmental considerations present at each specific site" but in no case less than one complete inspection per calendar year. To set the inspection frequency at less than four complete inspections per year per abandoned site, DOGM would need to conduct a complete inspection, solicit public comment through a newspaper notice, and prepare a written finding justifying the new inspection frequency.

At the beginning of evaluation year 2002, DOGM stated its intention to follow the above-described process and, if appropriate, reduce the number of inspections on its five bond forfeiture sites. DOGM did not do so. Instead of conducting a total of 20 complete inspections on the five sites as it should have, it conducted only six complete inspections. Until DOGM follows the process and reduces the inspection frequency on these five sites, it should conduct a complete inspection on each site during each calendar quarter.

DOGM intends to develop a policy for terminating jurisdiction on bond forfeiture sites that have been successfully reclaimed.

4. Implementation of DOGM's and the Utah Department of Environmental Quality's (DEQ's) Memorandum of Understanding (MOU)

On September 1, 1999, DOGM and DEQ signed an MOU for the regulation of coal mines. Among other things, the MOU recognizes DEQ as the primary enforcement agency for Utah Pollutant Discharge Elimination System permits.

After an evaluation year 2001 review of DOGM's and DEQ's implementation of the MOU, DOGM met with DEQ, Division of Water Quality, to make sure that DOGM and DEQ would promptly notify each other in emergency spill and emergency water discharge situations.

In April 2002 during an informal conference at the Hiawatha Coal Company Hiawatha Mine, DOGM realized that not all DOGM and DEQ employees were aware of the need for this prompt

notification. In his order for the conference, the Director of DOGM required DOGM to "develop for internal use an electronic training protocol that summarizes the desired outcomes of the MOU." He further stated that appropriate DOGM staff were to take this training and that the Division of Water Quality were also encouraged to utilize this resource.

In response to the order, DOGM developed MOU training in the form of a quiz. DOGM requested that by July 23, 2002, each DOGM and DEQ employee read the MOU and take the quiz, which was accessible on DOGM's Internet home page. All appropriate DOGM staff took the quiz, and to the best of DOGM's knowledge, most Division of Water Quality employees also took it.

C. Innovations

For the seventh consecutive year, persons from OSM and DOGM continued to work as a team to evaluate and assist DOGM in the administration, implementation, and maintenance of the approved Utah regulatory program. During the evaluation year, the team consisted of 14 program and permitting specialists, scientists, and managers from OSM and DOGM.

V. Success in Achieving the Purposes of SMCRA As Determined By Measuring and Reporting End Results

To further the concept of reporting end results and measuring Utah's success in achieving the purposes of SMCRA, OSM and DOGM conducted evaluations and inspections whose purpose was to measure the number and extent of offsite impacts, the percentage of inspectable units free of offsite impacts, the number of acres that have been mined and reclaimed and meet the bond release requirements for the various phases of reclamation, and DOGM's effectiveness of customer service. Reports, which provide additional details on how OSM and DOGM conducted the evaluations and inspections and took the measurements, are available in the OSM Denver Field Division office.

A. Offsite Impacts

An "offsite impact" is anything resulting from a surface coal mining and reclamation activity or operation that causes a negative effect on resources (people, land, water, structures) outside the area authorized by the permit for conducting mining and reclamation activities.

Table 4 shows the number and type of offsite impacts that OSM and DOGM documented as having occurred during the evaluation year.

1. Sites Where DOGM Had Not Forfeited Reclamation Performance Bonds

OSM and DOGM assessed whether offsite impacts had occurred on each of the 27 permitted operations that existed at some time during the evaluation period and for which DOGM had not forfeited reclamation performance bonds. OSM and DOGM did so through the following 308 on-the-ground observations: 4 OSM and DOGM joint, complete inspections; 109 DOGM complete inspections; 181 DOGM partial inspections; team evaluations of coal exploration sites

covered by 7 notices of intent to conduct minor coal exploration; team evaluations of electric power lines at 4 mines to determine their potential for electrocuting raptors; and team evaluations of blasting operations at 3 mines.

OSM and DOGM found incidents where four mines caused five hydrology-related offsite impacts: one incident of a minor impact to land resources, two incidents of minor impacts to water resources, and one incident that caused minor impacts to both land and water resources (table 4, top half). Eighty-five percent of the permitted operations (23 of 27) were free of offsite impacts. In comparison, OSM and DOGM found 87, 82, 96, 96, and 93 percent of the mines free of offsite impacts in evaluation years 1997, 1998, 1999, 2000, and 2001.

As a part of the analysis of offsite impacts, OSM and DOGM conducted field evaluations (1) on mines and loadouts to determine whether power lines posed an electrocution hazard to raptors, (2) on coal exploration sites, and (3) on mines to determine whether blasting operations caused offsite impacts. For a discussion of these evaluations, see following section VII.

2. Sites Where DOGM Had Forfeited Reclamation Performance Bonds

Since 1981 when OSM approved the Utah permanent regulatory program, DOGM has forfeited reclamation performance bonds for five mines. In previous evaluation years, DOGM completed bond forfeiture reclamation on all five mines (table 6).

During evaluation year 2002, DOGM conducted six complete inspections on the five mines. It did not observe any offsite impacts. Table 4 (bottom half) shows that 100 percent of the bond forfeiture sites were free of offsite impacts. In comparison, OSM and DOGM found 80, 100, and 100 of these mines free of offsite impacts in evaluation years 1999, 2000, and 2001.

OSM and DOGM do not anticipate that offsite impacts from bond forfeiture sites will become an issue of concern in the foreseeable future. There are no ongoing administrative proceedings to forfeit bonds for additional mines. All five of the bond forfeiture minesites have been entirely reclaimed. Four of the five minesites have minimal surface disturbance (a total of 33.6 acres, an average of 8.4 acres per minesite), which reduces the possibilities for future offsite impacts there.

B. Reclamation Success

1. Sites Where DOGM Had Not Forfeited Reclamation Performance Bonds

For the operations where DOGM had not forfeited reclamation performance bonds, OSM and DOGM used as the measure of reclamation success the disturbed acreage that had received bond release. Historically, the amount of bond release acreage in Utah has been very low due to the following two factors.

- Most of the permitted operations are underground mines (table 2). Underground mining operations are long-lived, and the surface disturbances for them are relatively small (2,367 acres disturbed, 171,232 acres permitted) and remain active during the entire life of the

mining operations because of their continued use as surface facilities.

- The bond liability period is a minimum of 10 years.

Table 5 shows the acreage on active or inactive permits where DOGM partially released (phases I and II) or totally released (phase III) bonds during the evaluation year. For the 2,341 acres of total disturbance that had not yet received final (phase III) bond release at the beginning of the evaluation year, DOGM granted a phase I bond release of .02 acres and a phase II bond release of 61.65 acres. It did not grant any phase III bond releases.

In an effort to get a better understanding of how much acreage is reclaimed and may be eligible for bond release, OSM and DOGM compiled mine reclamation status information for all mines and facilities (coal loadouts and preparation plants) that DOGM has permitted under the Utah permanent regulatory program in the 21 years since OSM approved the program. Table 6 shows the detailed reclamation status of the active and inactive operations, the operations for which DOGM forfeited the reclamation performance bonds, and the operations for which DOGM released all phase III bonds. After reviewing the data in table 6, OSM and DOGM conclude that there is little disturbed acreage that has received reclamation work and that may be eligible for phase I, II, or III bond release.

In addition to the above analysis of bond release acreage, OSM and DOGM also assessed reclamation success in evaluations of coal exploration sites and plant succession on reclaimed minesites. For a discussion of these evaluations, see following section VII.

2. Sites Where DOGM Had Forfeited Reclamation Performance Bonds

As shown in table 5, DOGM has completed initial reclamation on all five bond forfeiture sites. Reclamation may be adequate on some of the sites for DOGM to terminate its jurisdiction on them, but it has not yet developed procedures and policy to do so.

C. Customer Service

DOGM conducted an evaluation of compliance with blasting plan requirements and procedures for notification of the public. This evaluation concerned procedural aspects of DOGM's program. In a broad sense, this evaluation concerned DOGM's effectiveness in serving its customers.

For a discussion of this evaluation, see following section VII.

VI. OSM Assistance

For the 1-year grant period starting July 1, 2002, OSM funded the Utah program in the amount of $1.76 million (table 9). Through a Federal lands cooperative agreement, OSM reimburses DOGM for permitting, inspection, and other activities that it performs for mines on Federal lands (table 8). Because most of the mines in Utah occur on Federal lands, the percentage of total program costs for which OSM provided funding was high (89 percent, table 9).

In evaluation year 2002, OSM continued to support DOGM's development of an electronic permitting system by providing $1,967 for a scanner and peripherals and $2,485 for a notebook computer. DOGM uses the scanner to convert slides and photographs to digital format. DOGM inspectors use the notebook computer to collect field information from global positioning system units, prepare inspection reports, and transfer data from mine operators.

Under its Technical Training and Technology Transfer Programs, OSM offers free of charge a variety of courses, workshops, and forums to State and Tribal employees. As described below, 13 DOGM employees participated in these activities during the evaluation year.

DOGM employees attended the following Technical Training Program courses and workshops: Effective Writing Workshop, Enforcement Procedures, Erosion and Sediment Control, Instructor Training Course, National Environmental Policy Act Procedures, Spoil Handling, Surface and Ground Water Hydrology, and Underground Mining Technology. Two employees assisted in the teaching of workshops: Permit Findings, and Administrative and Legal Aspects of Bonding (taught twice). Two DOGM employees assisted in the development of a training course: SMCRA and the Endangered Species Act - Implementation of the 1996 Biological Opinion.

Two DOGM employees attended and made presentations at OSM's interactive forum on Approaching Bond Release: Post Mining Land Use in the Arid and Semi-Arid West, which was held August 27 through 29, 2002, in Bismarck, North Dakota. In the presentation entitled "When a Postmining Land Use Fails," DOGM discussed a postmining land use that was not realized because of bond forfeiture. DOGM explained how it was able to successfully complete reclamation on the minesite through its use of innovative financing and partnerships. In its presentation entitled "Coal Bed Methane and Post Mining Land Use," DOGM described a successful coordinated effort by the coal-bed methane developer, DOGM, and the coal mine operator.

A member of the OSM Technical Information Processing System team assisted seven DOGM employees in the use of the EarthVision software. These employees created three dimensional images and maps of the hydrologic system at UtahAmerican Energy's proposed Lila Canyon Mine. DOGM discussed these images and maps at a meeting with the permit applicant and the Southern Utah Wilderness Alliance.

OSM's Bonding Specialist provided background data and technical assistance to DOGM on Frontier Insurance Company, an insolvent insurer that had provided reclamation bonds for Utah coal mining operations. After leaving OSM, the Bonding Specialist while under OSM contract also trained newly-hired DOGM staff on bonding procedures and with DOGM conducted a quality-control review of bond instruments.

In response to requests by DOGM staff, OSM's Office of Technology Transfer provided copies of three journal articles, seven publications, three video tapes, and five computer compact discs.

VII. Evaluation Topic Reviews

Each year OSM and DOGM evaluate topics to determine whether DOGM is effective in preventing offsite impacts, is ensuring reclamation success, and is serving its customers. Following are discussions of the evaluations that they conducted in the time period from October 1, 2001, through September 30, 2002. Written reports for these topics are available for review in the OSM Denver Field Division office.

A. Design and Construction of Electric Power Lines to Minimize Electrocution Hazards to Raptors

Utah's program requires mine operators to ensure that electric power lines and other transmission facilities used for, or incidental to, coal mining and reclamation operations on the permit area are designed and constructed to minimize electrocution hazards to raptors, except where DOGM determines that such requirements are unnecessary.

Prior to evaluating the design and construction of electric power lines in the field, OSM and DOGM attended training put on by PacifiCorp and HawkWatch International.

Raptors most susceptible to electrocution from power and transmission lines are those with large wingspans preferring open-country habitat such as Golden Eagles, Red-tailed Hawks, Ferruginous Hawks, and Great Horned Owls. Types of open-country habitats used by raptors are sage deserts, grasslands, agricultural areas, and pastures. If the habitat not only consists of open-country, but of a large prey base and few perching locations, raptors will use power poles for roost sites, nesting platforms, and hunting perches.

The Avian Power Line International Committee in 1996 recommended a minimum of 60 inches between phases and/or neutral ground wires for safe perching of large raptors. Inadequate spacing between the energized parts of a power pole make it "unsafe" and a higher risk.

PacifiCorp and HawkWatch representatives stressed to OSM and DOGM the importance of performing a risk analysis to determine if there is a need to retrofit an existing power pole for raptor safety. HawkWatch's data collection sheet prompts the site evaluator to document habitat, prey base, use of power poles or presence of species, and the safety of each pole, with respect to raptors. Each of these factors is an element in determining whether or not a structure poses a high risk to raptors. Retrofitting of the power structure is necessary if a high risk is determined. If a power structure is not used by raptors, retrofitting the pole to eliminate the raptor electrocution hazard is not recommended.

OSM and DOGM visited two mines and two loadouts. Using HawkWatch's data collection sheet, they evaluated electrical transmission lines. They did not evaluate electrical substations.

One of the mines did not have any above-ground distribution lines, although it still had an above-ground power substation. By not having any above-ground distribution lines, it has reduced the electrocution risk to raptors.

Although numerous unsafe structures were present on the other mine and the two loadouts, the risk to raptors from electrocution was extremely low. There was no evidence of raptor use on

any of the power poles. While habitat surrounding the mine had the possibility for supporting raptors and their prey, the characteristics of a typical mine site did not encourage raptor use. With this negligible risk, OSM and DOGM do not recommend that the mines retrofit their existing power structures.

If the mines and loadouts were to enter into temporary cessation, the lack of disturbance from mine operations could create a habitat more desirable for raptors and their prey. DOGM should perform a raptor safety risk analysis when a operator notifies it that an operation will be going into temporary cessation. At the time of notification, DOGM should consider requiring operators to disengage legs of the electrical system that are not needed during the time of temporary cessation.

DOGM should make each mine inspector aware of the problems concerning raptor electrocution and for the need to watch for an increase in use of power structures by raptors for perching or nesting activities.

When cost-effective and practical, DOGM should recommend to operators that they bury new electrical lines and power structures. The burying of lines and structures would eliminate potential electrocution hazards to raptors.

B. Coal Exploration

Utah's program requires exploration operations that will remove 250 tons or less of coal and that will not disturb lands designated as unsuitable for mining to submit a notice of intention to conduct minor coal exploration. It requires exploration operations that will remove 250 tons of coal or that will disturb lands designated as unsuitable for mining to submit and receive approval of a permit application for major coal exploration.

According to procedures developed by DOGM on February 1, 1995, in cooperation with the Bureau of Land Management (BLM) and U.S. Forest Service, DOGM has the lead in reviewing minor coal exploration notices and major coal exploration applications where the coal is privately-owned or State-owned (including those instances where the surface is Federally-owned). The lands covered by these notices and applications were the focus of this evaluation. OSM and DOGM did not review those exploration operations where the coal is Federally-owned. BLM has the lead in reviewing exploration operations on these lands.

During evaluation years 1998 through 2002, DOGM received no permit applications for major coal exploration operations and 19 notices of intention to conduct minor coal exploration operations. OSM and DOGM visited six of the areas that had been disturbed by minor coal exploration operations. None of the operations were active at the time of the visits. The activity that operators conducted was core sample drilling. None of the operators opened small pits on the land surface for the purpose of extracting up to 250 tons of coal.

Disturbances in the immediate area around the holes were small, in all cases about 0.6 acres or less. In most instances, permittees used existing roads, which they sometimes improved so that heavy equipment could traverse them, but in at least two instances the operators did create new

roads.

DOGM inspects coal exploration operations when they are active, but it has not routinely visited sites following reclamation activities. DOGM should conduct follow-up visits to all exploration sites to ensure that they have been successfully reclaimed.

During the field visits, OSM and DOGM found that operators had graded all disturbed lands to approximate original contour with no remaining excavations, artificially flat areas, and embankments. Grading was very smooth in some instances, and chances for successful vegetation could be increased by leaving the regraded surface in a rougher condition. DOGM should encourage operators to do some surface roughening to increase the chances for revegetation success. There was no rilling and gullying on the reclaimed areas that needed to be repaired. All drill holes had been plugged. All facilities and equipment had been removed from the disturbed areas.

There were a few instances where surface water runoff from the disturbed areas had deposited insignificant amounts of sediment on adjacent undisturbed areas. None of this sediment adversely affected the vegetation on the adjacent areas.

With two exceptions, all disturbed areas had been seeded. On one drill-hole site, the operator had graded the disturbance but had not seeded it because the landowner wanted to build a cabin there. One of the exploration operations constructed 900 feet of new road to a drill-hole site. Although some vegetation had naturally established itself in the road bed, soil berms along the edge of the road and water diversions were indications that the operator had not reclaimed the road. The operator did not have records that confirmed reclamation had been done. DOGM should require the operator to reclaim the road.

Two disturbed areas that had been seeded did not have adequate vegetative cover. Seeds on one of the areas may not have germinated due to drought. If vegetation does not sprout by Fall 2003, DOGM will require the operator to reseed the area. On another area that had been seeded in 1998, there was almost no vegetation. After the field visit, the operator submitted an application to go back onto the site for the purposes of extracting coal methane gas in advance of the underground mine. If DOGM approves this application, the disturbance at this site will be subject to the reclamation requirements of Utah's coal mining rules rather than the coal exploration rules. If DOGM does not approve this application, DOGM should require the operator to reseed the disturbed area under the coal exploration rules.

Established vegetation was generally diverse on the reclaimed areas. For those sites that OSM and DOGM had an operator plan for reclaiming the disturbed areas (those on Federal surface), they found that the seeding mixture contained an adequate number of different species. DOGM vegetation specialists identified nonnative plants in the seed mixtures for Federal surface lands and observed some of these plants growing on the sites. Some of these species are more aggressive than native species and tend to dominate after a period of time. They also may not be as adaptable (i.e., permanent) as native plants. At one of the monthly interagency meetings, DOGM should suggest to the U.S. Forest Service that operators on Federal land surface not be

allowed to include nonnative vegetation species in seed mixes.

There were a few noxious weeds growing on the reclaimed areas, but they were not dense and widespread. All disturbed areas had been seeded to the same seasonal variety native to the areas disturbed.

C. Blasting plan and public notification

Utah's program requires operators that will be conducting blasting operations (1) to have a blasting plan, (2) to notify all residents or owners of dwellings or other structures located within ½ mile of the permit area of how to request a preblasting survey, (3) to notify in writing residents within ½ mile of the blasting site and local governments of the proposed times and locations of blasting operations, and (4) to place blasting signs at all entrances or points of access to the mine that describe the audible blast warning and all-clear signals that are in use and which explain the marking of blasting areas.

Blasting is rare at Utah coal mines, because almost all of the mines are underground mines. OSM and DOGM reviewed the activities of the three mines that had blasted within the last 3 years to determine whether they had followed the requirements.

The three mines complied with the blasting plan and sign requirements. There were structures but no dwellings within ½ mile of the permit areas. Based upon a review of the blasting records, there was no indication that any offsite impacts had occurred to any of the structures within ½ mile of the permit areas.

Blasting records and the onsite evaluations indicated that all required parties were provided timely notifications, but evidence of the required written notifications for two of the minesites could not be produced during the onsite evaluations.

During the review of future permit applications that include blasting plans, DOGM should ensure that the plans include provisions for the permittee (1) to provide the required written public notifications and (2) to maintain copies of the written notifications at the minesites so that DOGM inspectors may review them.

D. Plant Succession and Native Plant Invasion on Reclaimed Mines

In evaluation year 2001, OSM and DOGM began an evaluation of plant succession and native plant invasion on reclaimed mines.

Most reclaimed mines in Utah are meeting vegetation cover, productivity, and diversity success standards, but it is not known, other than through casual observations, what successional changes occur over time in communities of reclaimed vegetation. The early focus of revegetation was to control erosion; so aggressive plant species were used in the revegetation seed mixture. It was thought that over time the surrounding native species would invade and eventually replace the seeded species.

Because most Utah operations are underground mines that have relatively small surface disturbances, reclaimed areas are small compared to those in many other States. They tend to have large border length/surface area ratios that should favor native species invasion.

OSM and DOGM are conducting this evaluation to determine to what extent vegetation composition changes over time and to determine whether species native to the surrounding vegetative community are invading the reclaimed sites. Depending upon the results of the evaluation, OSM and DOGM could make recommendations for changes in seeding rates.

OSM and DOGM continued this study in evaluation year 2002 by analyzing the data that they collected in evaluation year 2001. They intend to complete the analysis in evaluation year 2003.

Appendix. Tabular Summary of Core Data Characterizing the Utah Program

The following tables present data pertinent to mining operations and State and Federal regulatory activities within Utah. They also summarize Utah staffing and OSM funding. Unless otherwise specified, the reporting period for the data contained in all tables is October 1, 2001, through September 30, 2002.

TABLE 1

COAL PRODUCTION
(Millions of short tons)

Annual Evaluation Period	Surface mines	Underground mines	Total
Coal production[A] for entire State:			
1998	0.540	26.950	**27.490**
1999	0.490	26.080	**26.570**
2000	0.538	27.660	**28.198**
2001	0.503	26.667	**27.170**
Total	**2.071**	**107.357**	**109.428**

A Coal production as reported in this table is the gross tonnage which includes coal that is sold, used or transferred as reported to OSM by each mining company on form OSM-1 line 8(a). Gross tonnage does not provide for a moisture reduction. OSM verifies tonnage reported through routine auditing of mining companies. This production may vary from that reported by States or other sources due to varying methods of determining and reporting coal production.

TABLE 2

INSPECTABLE UNITS
As of September 30, 2002

Coal mines and related facilities	Number and status of permits								Insp. Units[D]	Disturbed acreage[A] (hundreds of acres)		
	Active or temporarily inactive		Inactive Phase II bond release		Abandoned		Totals					
	IP	PP	IP	PP	IP	PP	IP	PP		IP	PP	Total
STATE AND PRIVATE LANDS[B] REGULATORY AUTHORITY: UTAH												
Surface mines		1					0	1	1		2.02	2.02
Underground mines		2					0	2	2		0.24	0.24
Other facilities		2					0	2	2		5.14	5.14
Subtotals	0	5	0	0	0	0	0	5	5	0	7.4	7.4
FEDERAL LANDS[C] REGULATORY AUTHORITY: UTAH												
Surface mines		1					0	1	1		1.51	1.51
Underground mines		19					0	19	19		13.91	13.91
Other facilities		2					0	2	2		0.85	0.85
Subtotals	0	23	0	0	0	0	0	22	22	0	16.27	16.27
ALL LANDS												
Surface mines		2					0	2	2		3.53	3.53
Underground mines		21					0	21	21		14.15	14.15
Other facilities		4					0	4	4		5.99	5.99
Totals	0	27	0	0	0	0	0	27	27	0	23.67	23.67

Average number of permits per inspectable unit (excluding exploration sites): 1

Average number of acres per inspectable unit (excluding exploration sites, hundreds of acres): 0.877

Number of exploration permits on State and private lands: 0 On Federal lands[D]: 0

Number of exploration notices on State and private lands: 0 On Federal lands[D]: 4

IP: Initial regulatory program sites

PP: Permanent regulatory program sites

[A] Almost all of the operations are underground mines. This table shows disturbed, rather than permitted acreage. The permitted acreage was 171,232.16.

[B] Mines or facilities where entire disturbed area occurs on State and/or private lands.

[C] Mines or facilities where at least a portion of the disturbed area occurs on Federal lands.

[D] Includes only exploration activities regulated by Utah pursuant to the Federal lands cooperative agreement with OSM. Does not include exploration activities regulated by the Bureau of Land Management.

TABLE 3

STATE PERMITTING ACTIVITY
As of September 30, 2002

Type of Application	Surface mines			Underground mines			Other facilities			Totals		
	App. Rec.	Issued	Acres	App. Rec.	Issued	Acres[A]	App. Rec.	Issued	Acres	App. Rec.	Issued	Acres
New Permits	1		114							1	0	114
Renewals				7	7	683				7	7	683
Amendments[B]		1	151	6	5	25				6	6	176
Transfers, sales and assignments of permit rights										0	0	
Small operator assistance										0	0	
Exploration permits										0	0	
Exploration notices[C]					4						4	
Revisions (exclusive of incidental boundary revisions)					44			3			47	
Incidental boundary revisions					1						1	0
Totals	**1**	**1**	**265**	**13**	**61**	**708**	**0**	**3**	**0**	**14**	**65**	**973**

Number of midterm permit reviews completed that are not reported as revisions. 7

[A] Includes only the number of acres of proposed surface disturbance.

[B] Under the Utah program, "significant permit revisions" are made when there is an increase in the approved permit size of the surface or subsurface disturbed area in the amount of 15 percent or greater. "Amendments" shown in this table are the "significant permit revisions" that Utah processed.

[C] State approval not required. Involves removal of less than 250 tons of coal and does not affect lands designated unsuitable for mining.

TABLE 4

OFFSITE IMPACTS[A]

OFFSITE IMPACTS ON SITES WHERE BONDS HAVE NOT BEEN FORFEITED

DEGREE OF IMPACT		RESOURCES AFFECTED												
		People			Land			Water			Structures			Total
		minor	moderate	major	minor	moderate	major	minor	moderate	major	minor	moderate	major	
TYPE OF IMPACT	Blasting													**0**
	Land Stability													**0**
	Hydrology				2			3						**5**
	Encroachment													**0**
	Other													**0**
	Total	0	0	0	2	0	0	3	0	0	0	0	0	**5**

Total number of inspectable units: 27

Inspectable units free of offsite impacts: 23[B]

OFFSITE IMPACTS ON SITES WHERE BONDS HAVE BEEN FORFEITED

DEGREE OF IMPACT		RESOURCES AFFECTED												
		People			Land			Water			Structures			Total
		minor	moderate	major	minor	moderate	major	minor	moderate	major	minor	moderate	major	
TYPE OF IMPACT	Blasting													**0**
	Land Stability													**0**
	Hydrology													**0**
	Encroachment													**0**
	Other													**0**
	Total	0	0	0	0	0	0	0	0	0	0	0	0	**0**

Total number of inspectable units: 5

Inspectable units free of offsite impacts: 5

[A]Refer to the report narrative for an explanation and evaluation of the information in this table.

[B]One incident at a mine caused a minor, hydrology impact to both land and water resources. Therefore, although the table shows five incidents of offsite impacts, only four mines had offsite impacts.

TABLE 5

ANNUAL STATE MINING AND RECLAMATION RESULTS

Bond release phase	Applicable performance standard	Acreage released during this evaluation period
Phase I	- Approximate original contour restored - Topsoil or approved alternative replaced	0.02
Phase II	- Surface stability - Establishment of vegetation	61.65
Phase III	- Post-mining land use/productivity restored - Successful permanent vegetation - Groundwater recharge, quality and quantity restored - Surface water quality and quantity restored	0[A]

	Bonded Acreage Status	Acres
Total number of bonded acres at end of last evaluation year (September 30, 2001)[B]		2,340.78
Total number of bonded acres at end of this evaluation year (September 30, 2002)[B]		2,367.40
Number of acres at end of this evaluation period that are bonded for remining		0.00
Number of acres where bond was forfeited during this evaluation year		0.00

[A] Throughout the history of the Utah permanent regulatory program, the acreage receiving bond release is low owing to (1) most of the operations being long-lived underground mines with relatively small surface disturbances that remain active during the entire life of the mining operations and (2) a 10-year miniumum bond liability period.

[B] Bonded acreage in this category is disturbed acreage that has not received phase III bond release. (Utah maintains jurisdiction). However, Utah bonds are for the entire permit area, 171,232.16 acres.

TABLE 6

RECLAMATION STATUS OF ALL AREAS DISTURBED UNDER THE UTAH PERMANENT REGULATORY PROGRAM [a]
Acres Disturbed As of September 30, 2002

	Mine type		Disturbed area				Areas backfilled and graded		Areas where Utah has released phase I bond		Areas soiled and seeded / planted		Areas where Utah has released phase II bond		Areas final seeded / planted for 10 years		Areas where Utah has released phase III bond	
Permittee, mine name, and permit number	Surface	Under- ground	EY 2002	Total (all years)	Long-term mining or reclamation facilities [b]	Active mining areas (pits and areas in advance of the pits stripped of topsoil) and areas not yet backfilled and graded	EY 2002	Total (all years)	EY 2002	Total (all years)	EY 2002	Total (all years)	EY 2002	Total (all years)	EY 2002	Total (all years)	EY 2002	Total (all years)
Active, temporarily inactive, inactive, and abandoned sites.																		
Lodestar Energy, Inc. White Oak #1 and #2/ Loadout C/007/001	X (and loadout)	X		151.1	151.1													
Castle Gate Holding Company Castle Gate Mine C/007/004		X		62		6.1		56.9	56.9	56.9		56.9						
Canyon Fuel Company, LLC Skyline Mine C/007/005		X		79.12	79.12													
Plateau Mining Corporation Star Point Mine C/007/006		X		220	146		74	74										
Hiawatha Coal Company Hiawatha Mine C/007/011		X		298	298													
Nevada Electric Investment Company Wellington Preparation Plant C/007/012	(prepara- tion plant)			392	392													
Utah American Energy, Inc. Horse Canyon Mine C/007/013		X		87 [c]	25.35			61.65		61.65		61.65	61.65	61.65				
Mountain Coal Company Gordon Creek #2, #7, and #8 C/007/016		X		17.58				17.58										
Canyon Fuel Company, LLC Soldier Canyon Mine C/007/018		X		24.32	24.32													
Andalex Resources, Inc. Centennial Mine C/007/019		X		35.27	35.27													
Lodestar Energy, Inc. Horizon Mine C/007/020		X		9.5	9.5													
Savage Industries, Inc. Savage Coal Terminal C/007/022	(prepara- tion plant and loadout)			122	122													
Andalex Resources, Inc. Wildcat Loadout C/007/033	(prepara- tion plant and loadout)			63.7	63.7													
Canyon Fuel Company, LLC Banning Loadout C/007/034	(prepara- tion plant and loadout)			21.6	21.6													
Sunnyside Cogeneration Associates (SCA) SCA C/007/035	X			202	196.5			5.5		5.5								
Plateau Mining Corporation Willow Creek Mine C/007/038		X		161.55	161.55													
Canyon Fuel Company, LLC Dugout Mine C/007/039		X		22.65	22.65													
West Ridge Resources, Inc. West Ridge Mine C/007/041		X		29	29													
Consolidation Coal Company Hidden Valley Mine C/015/007		X		6.7				6.7		6.7		6.7						
PacifiCorp Trail Mountain Mine C/015/009		X		10.69	10.69													
Consolidation Coal Company Emery Deep Mine C/015/015		X		62.5	62.5													
PacifiCorp Des-Bee-Dove Mine C/015/017		X		23.88 [d]	23.88													
PacifiCorp Deer Creek Mine C/015/018		X		95.8	95.8													
PacifiCorp Cottonwood/Wilberg Mine C/015/019		X		101.74	101.74			0.02		0.02		0.02						0.01 [e]
Co-Op Mining Company Bear Canyon Mine C/015/025		X	12.64	36.64	36.64													
Genwal Resources, Inc. Crandall Canyon C/015/032		X		10.7	10.7													
Canyon Fuel Company, LLC SUFCO Mine C/041/002		X		27.36 [f]	27.36													
Subtotal	6	22	12.64	2367.4	2138.97	6.1	74	222.38	56.9	138.77		125.27	61.65	61.65				0.01
Sites receiving full release of reclamation performance bonds. [g]																		
Blackhawk Coal Company Willow Creek Mine C/007/002		X		4.2						[h]				[h]				4.2 [h]
Co-Op Mining Company Trail Canyon Mine C/015/021		X		10				10		10		10		10		10	10	10
Mountain Coal Company Gordon Creek #5 and #6 C/007/017		X		17.3				17.3		17.3		17.3		17.3		17.3		17.3
Mountain Coal Company Huntington #4 Mine C/015/004		X		12.5				12.5		12.5		12.5		12.5		12.5		12.5
Western States Minerals Corporation J.B. King Mine C/015/002		X		28				28		28		28		[h]		28		28
Subtotal		5		72				67.8		67.8		67.8		39.8		67.8	10	72
Bond forfeiture sites.																		
Sunnyside Coal Company FOR/007/007		X		207.4				207.4				207.4 [i]						
North American Equities Blazon Mine FOR/007/021		X		4.65				4.65				4.65 [j]						
Summit Minerals Summit #1 FOR/043/001		X		19				19				19 [k]						
Summit Coal Company Boyer Mine FOR/043/008		X		7				7				7 [l]						
Subtotal		4		318.05				318.05				318.05						
Total	6	31	12.64	2767.46	2138.97	6.1	74	608.2	56.9	198.57	0	511.12	61.65	101.45	0	67.8	10	72.01

[a] Blanks in the table denote zeros.

[b] Long-term mining or reclamation facilities include haul and access roads; temporary dams and impoundments; diversion and collector ditches; water and air monitoring sites; topsoil stockpiles; overburden stockpiles; repair, storage, and construction areas; coal stockpile, loading, and processing areas; railroads; coal conveyors; refuse piles and coal mine waste impoundments; head-of-hollow fills; valley fills; ventilation shafts and entryways; and noncoal waste disposal areas (garbage dumps and coal combustion by-products disposal areas).

[c] Does not include 35.49 acres proposed for disturbance as a part of the Lila Canyon facilities. DOGM originally approved the application for the disturbance on July 27, 2001. However, the Utah Board of Oil, Gas and Mining remanded the approval on December 14, 2001. DOGM reevaluated the application and on July 19, 2002, notified the permit applicant of deficiencies.

[d] Not included in this disturbed acreage total are 93.18 disturbed acres in an access road that was removed from the permit area through the bond release process.

[e] Channel Canyon portal breakout reclamation; no phase I and II bond release prior to phase III bond release.

[f] Additional 18.67 acres approved for disturbance. However, not yet disturbed.

[g] Not shown is the New-Tech Mine Corporation, New-Tech Mine, which disturbed 3 acres. DOGM permitted the site for exploration but never permitted it for active mining under the Utah permanent regulatory program.

[h] No phase I and II bond release prior to phase III bond release.

[i] Utah forfeited the bond on November 22, 1996. A Utah-hired contractor completed reclamation in July 1999.

[j] Utah forfeited the bond on May 24, 1991. A Utah-hired contractor completed reclamation on October 4, 2000.

[k] Utah forfeited the bond on January 26, 1989. A Utah-hired contractor completed reclamation on November 20, 1997.

[l] Utah forfeited the bond on June 23, 1989. A Utah-hired contractor completed reclamation on April 17, 1997.

TABLE 7

STATE BOND FORFEITURE ACTIVITY
(Permanent Program Permits)

Bond Forfeiture Reclamation Activity by SRA	Number of Sites	Acres
Sites with bonds forfeited and collected that were unreclaimed as of September 30, 2001 (end of previous evaluation year)[A]	0	0.00
Sites with bonds forfeited and collected during Evaluation Year 2002 (current year)	0	0.00
Sites with bonds forfeited and collected that were re-permitted during Evaluation Year 2002 (current year)	0	0.00
Sites with bonds forfeited and collected that were reclaimed during Evaluation Year 2002 (current year)	0	0.00
Sites with bonds forfeited and collected that were unreclaimed as of September 30, 2002 (end of current year)[A]	0	0.00
Sites with bonds forfeited but uncollected as of September 30, 2002 (end of current year)	0	0.00
Surety/Other Reclamation (In Lieu of Forfeiture)		
Sites being reclaimed by surety/other party as of September 30, 2001 (end of previous evaluation year)[B]	0	0.00
Sites where surety/other party agreed to do reclamation during Evaluation Year 2002 (current year)	0	0.00
Sites being reclaimed by surety/other party that were re-permitted during Evaluation Year 2002 (current year)	0	0.00
Sites with reclamation completed by surety/other party during Evaluation Year 2002 (current year)[C]	0	0.00
Sites being reclaimed by surety/other party as of September 30, 2002 (current evaluation year) [B]	0	0.00

[A] Includes data only for those forfeiture sites not fully reclaimed as of this date.

[B] Includes all sites where surety or other party has agreed to complete reclamation and site is not fully reclaimed as of this date.

[C] This number is also reported in Table 5 because phase III bond release has been granted on these sites.

TABLE 8

UTAH STAFFING (Full-time equivalents at the end of evaluation year)	
Function	**EY 2002**
Regulatory Program	
Permit review	15.5
Inspection	3.00
Other (administrative, fiscal, personnel, etc.)	4.50
Total	**23.00**

TABLE 9

FUNDS GRANTED TO UTAH BY OSM

(Millions of dollars)

EY 2002

Type of Grant	Federal Funds Awarded	Federal Funding as a Percentage of Total Program Costs
Administration and Enforcement	$1.76	89
Small Operator Assistance	$0.00	0
Totals	**$1.76**	