

SUMMARY  
BIOLOGICAL OPINION FOR THE EXPANSION OF THE  
PAKOON AIRSTRIP, MOHAVE COUNTY, ARIZONA

**Date of Opinion:** June 18, 1996

**Action Agency:** Bureau of Land Management, Shivwits Resource Area, St. George, Utah

**Project:** Proposed widening of the existing Pakoon Airstrip; construction of a water pipeline and associated features from Wayne's Well to the airstrip; upgrading existing access routes and creation of one new access road; and construction of structures, water tanks, helipads, and other support facilities at or near the airstrip, located in the northern Pakoon Basin.

**Listed Species Affected:** Mojave population of the desert tortoise (*Gopherus agassizii*), a federally listed threatened species.

**Biological Opinion:** Non-jeopardy, no adverse modification or destruction of critical habitat

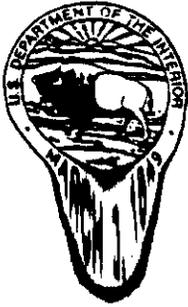
**Incidental Take Statement:**

Level of take anticipated: Anticipated take includes no more than one desert tortoise injured or killed as a result of project construction or maintenance, one tortoise per year as a result of animals crushed or killed by vehicles on new or upgraded roads, and no more than four desert tortoises through harassment associated with excavation of occupied burrows and movement of desert tortoises out of harm's way.

Reasonable and Prudent Measures: The biological opinion presents four measures for reducing incidental take. Implementation of these measures through the terms and conditions are mandatory.

Terms and Conditions: Sixteen mandatory terms and conditions are included to implement the reasonable and prudent measures. They include a variety of measures to reduce incidental take of desert tortoises, such as avoiding take of individual animals (but moving animals out of harm's way when necessary), education of project personnel, reducing the potential for predation on desert tortoises, monitoring and preconstruction surveys, and monitoring of take and habitat loss.

**Conservation Recommendations:** The Arizona Strip District should promptly complete an amendment of their Resource Management Plan to implement the Desert Tortoise Recovery Plan. The Bureau should also consider limiting use of the proposed new road, from the airstrip to the water tanks, to administrative use only.



United States Department of the Interior  
 Fish and Wildlife Service  
 Arizona Ecological Services Field Office



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In Reply Refer To:  
 AESQ/SE  
 2-21-96-F-132

June 18, 1996

MEMORANDUM

TO: Area Manager, Shivwits Resource Area, Bureau of Land Management, St. George, Utah

FROM: Field Supervisor

SUBJECT: Biological Opinion for Expansion of the Pakoon Airstrip

This biological opinion responds to your request for initiation of formal consultation with the Fish and Wildlife Service pursuant to section 7 of the Endangered Species Act of 1973 (16 U.S.C. 1531-1544), as amended (Act). Your request was dated May 8, 1996, and received by us on May 10, 1996. At issue are impacts that may result from proposed enhancement of the Bureau of Land Management's (Bureau) Pakoon Airstrip, Mohave County, Arizona. These impacts may affect the Mojave population of the desert tortoise (*Gopherus agassizii*), a federally listed threatened species, and critical habitat designated for the species.

This biological opinion was prepared using information from the following sources: your May 8, 1996, request for initiation of consultation and accompanying documentation, including a biological assessment (Bureau 1996a) and a draft environmental assessment for the project (EA AZ-010-96-05)(Bureau 1996b); informal consultation between our staffs; and our files. Literature cited in this biological opinion is not a complete bibliography of all literature available on the desert tortoise, nor is it a complete review of the effects of airstrip construction and use on the species. A complete administrative record of this consultation is on file in this office.

In this biological opinion the Service finds that the effects of proposed enhancements to the Pakoon Airstrip are not likely to jeopardize the continued existence of the desert tortoise nor are they likely to result in destruction or adverse modification of critical habitat designated for this species. Sixteen terms and conditions are described to reduce take associated with the proposed action.

**BIOLOGICAL OPINION**

DESCRIPTION OF PROPOSED ACTION

The Bureau proposes to develop new facilities and upgrade existing facilities at and near the proposed action.

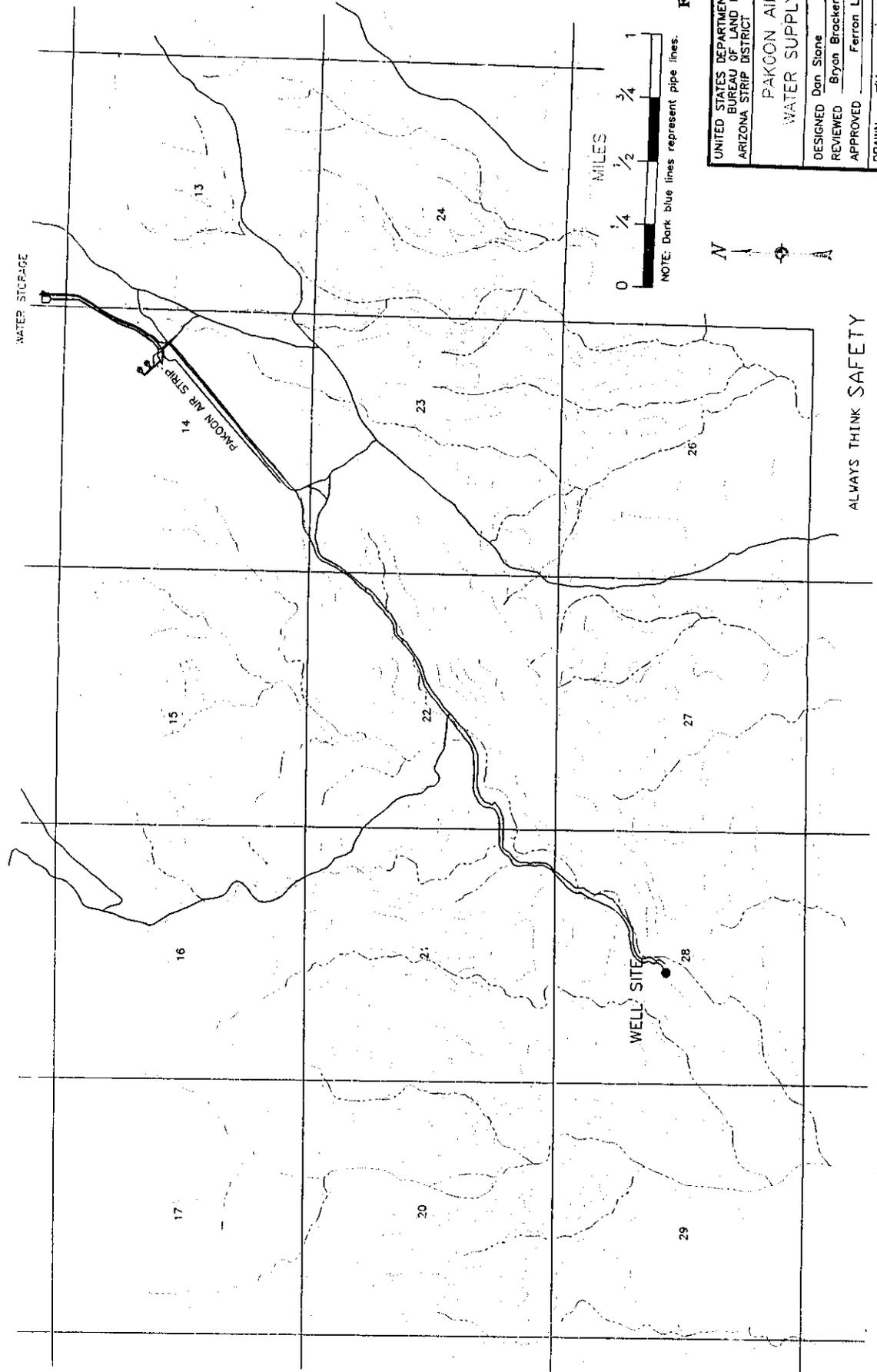


Figure 1

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT ARIZONA STRIP DISTRICT	
PAKCON AIRSTRIP WATER SUPPLY SYSTEM	
DESIGNED	Dan Stone
REVIEWED	Bryan Bracklen
APPROVED	Ferron Leavitt
DRAWN	JAC
DATE	3-13-96
SCALE 1" = 2000'	
DRAWING NO. AIRSTRIP	
SHEET 1 OF 2	

ALWAYS THINK SAFETY

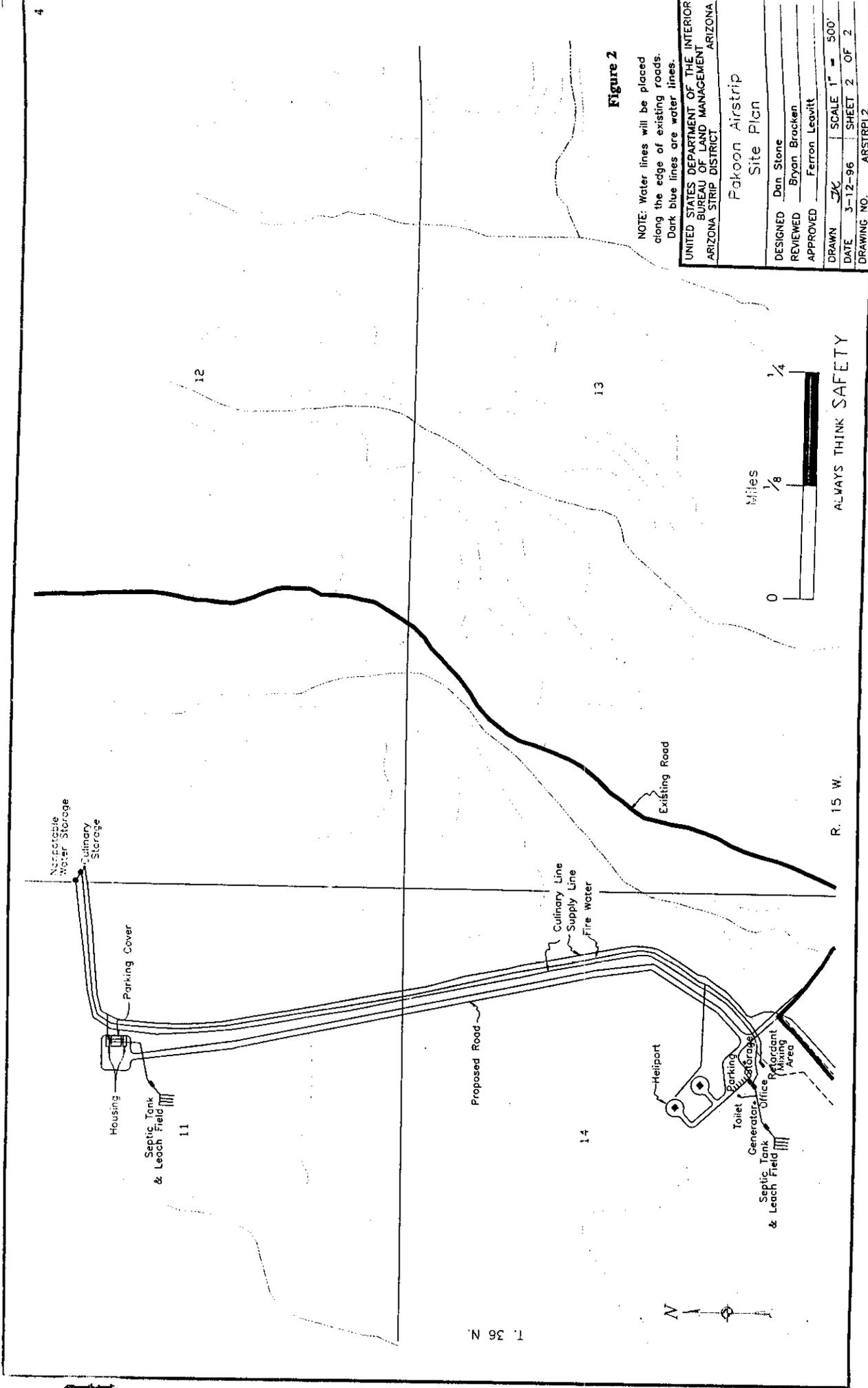


Figure 2

NOTE: Water lines will be placed along the edge of existing roads. Dark blue lines are water lines.

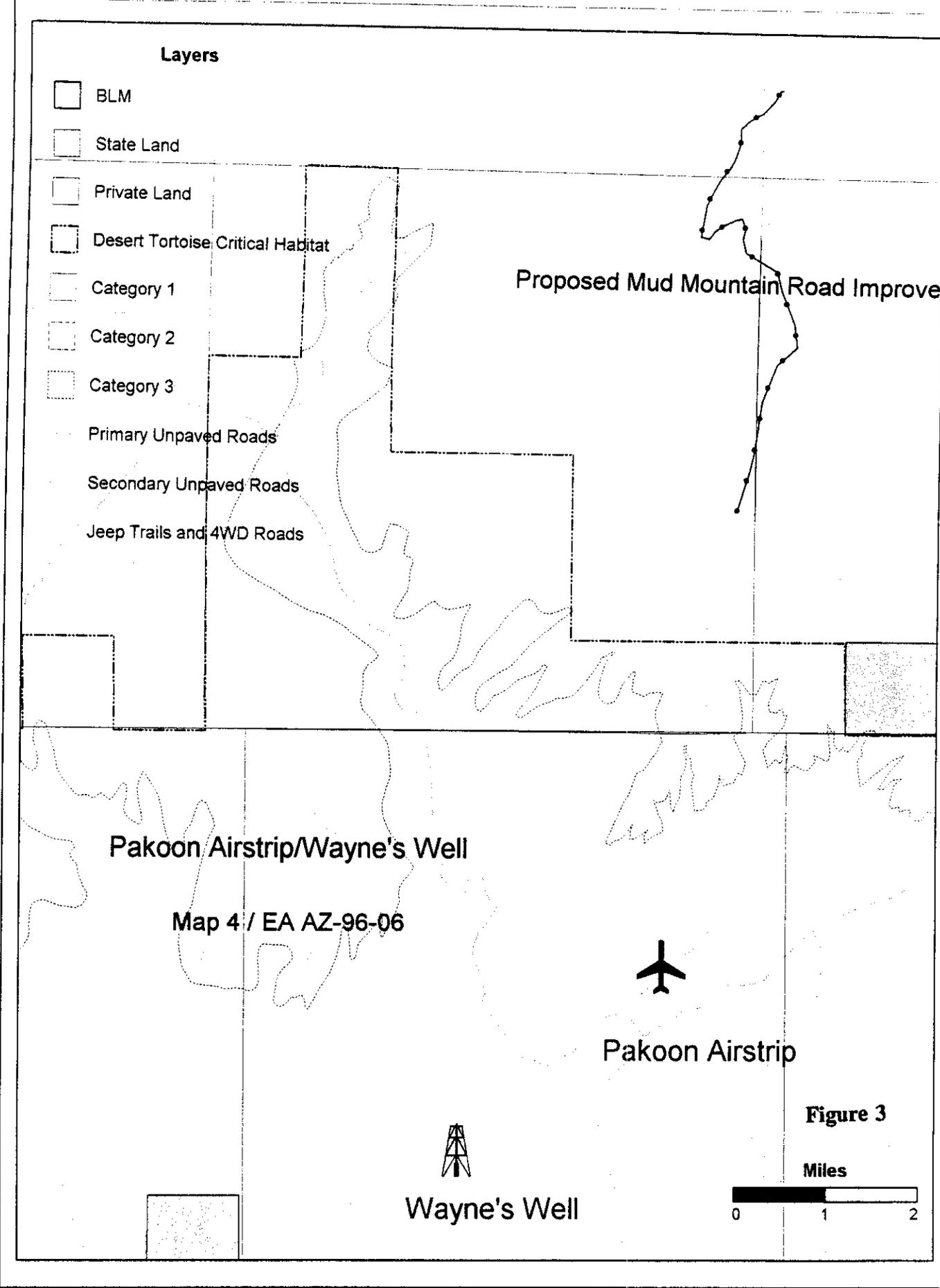
UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
ARIZONA STRIP DISTRICT

Pakoon Airstrip	
Site Plan	
DESIGNED	Dan Stone
REVIEWED	Bryan Bracken
APPROVED	Ferron Leavitt
DRAWN	JK
DATE	3-12-96
DRAWING NO.	ARSTRPL2
SCALE	1" = 500'
SHEET	2 OF 2

ALWAYS THINK SAFETY

R. 15 W.

T. 36 N.



occur in 1996. The second phase, construction of the fueling/retardant facility and helispots; and phase three, construction of the administrative site and associated facilities, are planned to be completed within five years.

The proposed action includes maintenance for the life of the project, anticipated at more than 20 years. Maintenance would include repairs or replacement of equipment and structures, and road and airstrip maintenance.

### **Proposed Mitigation Measures**

The Bureau (1996a&b) proposes the following measures to reduce the possibility of take of desert tortoises and destruction of tortoise habitat as a result of the proposed action.

1. A pre-construction survey for desert tortoises in the project area would be conducted.
2. A qualified biologist or project monitor would be on site during all construction activities that occur between March 15 and October 15 to ensure that no tortoises are harmed and that all terms and conditions are adhered to.
3. All trash would be contained and disposed of in an appropriate facility.
4. The work areas would be flagged and all construction activities confined to the flagged areas.
5. A worker education program would be mandatory for all those involved in the project. This program would describe tortoises and other important resources, the measures designed to protect those resources, and procedures for compliance.

### **STATUS OF THE SPECIES**

On August 4, 1989, the Service published an emergency rule listing the Mojave population of the desert tortoise as endangered. In a final rule dated April 2, 1990, the Service determined the Mojave population of the desert tortoise to be threatened. The desert tortoise is a large, herbivorous reptile found in portions of the California, Arizona, Nevada, and Utah deserts, and in Sonora and northern Sinaloa, Mexico. The threatened Mojave population is found in California, Nevada, and north of the Colorado River in Arizona and southwestern Utah. In Arizona, desert tortoises of the Mojave population are most active during the spring and early summer when annual plants are most common. Additional activity occurs during warmer fall months and after infrequent summer monsoons. Desert tortoises spend the remainder of the year in burrows, escaping the extreme weather conditions of the desert.

The desert tortoise is threatened by numerous factors, most of which are human-caused. These factors include destruction, degradation, and fragmentation of desert tortoise habitat

resulting from habitat conversion to urban or agricultural development, construction of roads, mining, sheep and cattle grazing, and other activities; direct mortality or removal of animals from populations due to collecting, road kills, etc.; and mortality due to an upper respiratory tract disease (URTD), particularly in the western Mojave Desert (Service 1994). Fire is an increasingly important threat to desert tortoise habitat. Over 500,000 acres of desert lands burned in the Mojave Desert in the 1980s. Fires in Mojave Desert scrub degrade or eliminate habitat for desert tortoises (Appendix D of Service 1994).

The recovery plan for the Mojave population of the desert tortoise (Service 1994) proposes the establishment of 14 Desert Wildlife Management Areas (DWMAs) in six recovery units. Land management in DWMAs would target the reduction or elimination of those factors that have caused declines in desert tortoise populations. The boundaries of proposed DWMAs are not precisely defined in the recovery plan, but would be established by the Bureau and other land management agencies in coordination with the Service, State wildlife agencies, and others. The proposed enhancement of the Pakoan Airstrip and associated features are in an area not likely to be included in a DWMA.

The Service designated critical habitat for the Mojave population of the desert tortoise in a Federal Register notice dated February 8, 1994 (59 FR 5820-5846, also see corrections at 59 FR 9032-9036). All project features, with the exception of the Mud Mountain Road, are located in critical habitat.

Further information on the range, biology, and ecology of the desert tortoise can be found in Luckenbach (1982), Turner et al. (1984), Weinstein et al. (1987), various papers by J.R. Spotila and others in Herpetological Monographs published June 30, 1994, various papers in Bury and Germano (eds.)(1994), and Service (1994).

ENVIRONMENTAL BASELINE

**General Vegetation Communities and Habitat Condition:**

The proposed action would occur in the northern Pakoan Basin within a vegetation community referred to as the creosote series of Mohave desertscrub (Turner 1982). The dominant perennial plant species include creosote, *Larrea tridentata*; white bursage, *Ambrosia dumosa*; blackbrush, *Coleogyne ramosissima*; and Joshua tree, *Yucca brevifolia*. Vegetation communities in this portion of the Pakoan have been much altered by fire, which have been fueled primarily by non-native exotic grasses and ignited by lightning strikes (Bureau 1996a, Bureau 1995). Desert scrub adjacent to the airstrip has burned repeatedly. Fire has reduced shrub and Joshua tree densities and is changing the landscape from a scrub community to an annual grass community (Bureau 1996a). The desert scrub near Wayne's Well is unusual for this portion of the Pakoan, in that it apparently has not burned in recent times and supports a relatively rich assemblage of shrub species.

Other than fire, few human activities occur in the northern Pakoon Basin that affect tortoises or their habitat. Grazing of cattle occurs in the project area, which is part of the Pakoon Springs Allotment. Wayne's Well is a base water for the allotment.

#### Status of the Desert Tortoise in the Project Area:

The project area is in a portion of the Pakoon Basin that was surveyed extensively in the early 1980s for desert tortoises by way of triangular, 1.5 mile by 10-yard, line transects (Bureau 1991). Data from transects located within approximately one mile of project features are presented in Table 1. These data provide distributional information and rough estimates of relative tortoise density. Areas of the Arizona Strip with relatively dense tortoise populations may yield 10 to 40 corrected sign per transect. Approximately 10 percent of all transects conducted on the Arizona Strip through 1990 yielded 10 or more corrected sign. Approximately 12 percent of all transects yielded one or more live tortoises (Bureau 1991). During 14 transects conducted at or within one mile of project features, a total of 12 corrected sign and no live tortoises were observed. No more than three corrected sign were found on any one transect. A transect in T36N, R15W, section 14, the section in which the airstrip lies and the greatest number of project features are proposed, yielded no corrected sign and no live tortoises (Bureau 1991). In addition, during preliminary, preconstruction surveys of the

**Table 1: Results of triangular line transects within one mile of project features<sup>1</sup>**

Section Surveyed	Nearest Project Feature	Year Surveyed	Total Corrected Sign	Number of Live Tortoises
T37N R15W, S25	Mud Mtn Rd	1989	0	0
T37N R14W, S19	Mud Mtn Rd	1989	0	0
T36N R15W, S1	H <sub>2</sub> O Tanks	1989	0	0
T36N R15W, S10	Airstrip	1982	2	0
T36N R15W, S12	H <sub>2</sub> O Tanks	1989	0	0
T36N R15W, S13	Road, pipeline	1982	1	0
T36N R15W, S14	Airstrip	1982	0	0
T36N R15W, S23	Pipeline	1982	2	0
T36N R15W, S25	Pipeline	1982	0	0
T36N R15W, S26	Pipeline	1982	3	0
T36N R15W, S27	Pipeline	1982	2	0
T36N R15W, S28	Pipeline	1982	1	0
T36N R15W, S29	Pipeline	1982	0	0
T36N R15W, S34	Pipeline	1982	1	0

<sup>1</sup>From Appendix 2 of Bureau 1991

project areas, no tortoises or sheltersites were found (Bureau 1996a). No sign nor desert tortoises have been found near the proposed Mud Mountain Road improvement. The airstrip, Wayne's Well pipeline, the administrative site, and other project features near the airstrip are in habitat classified as category 3 desert tortoise habitat. Category 3 habitats support low to medium density populations of desert tortoise (Spang et al. 1988). The proposed Mud Mountain Road improvement is located outside of categorized desert tortoise habitat.

Taken together, these data suggest that desert tortoises are probably present in low densities near the airstrip, Wayne's Well, and the pipeline; but probably do not occur in the vicinity of the Mud Mountain Road. Tortoises appear to be absent or occur at very low densities in areas of the Pakoon Basin that have burned repeatedly (Tim Duck, Bureau of Land Management, St. George, Utah, pers. comm. 1995), thus the area near Wayne's Well, with a diverse vegetation community, may support greater densities of tortoises than near the airstrip, which has burned more than once.

## EFFECTS OF THE PROPOSED ACTION

The effects of the proposed action can be segregated into three categories: 1) construction and maintenance effects to desert tortoise habitat, 2) direct effects of construction, operation, and maintenance on individual tortoises, 3) interrelated and interdependent effects, and 4) cumulative effects.

### **Effects of the Proposed Action on Desert Tortoise Habitat:**

Adverse effects to desert tortoise habitat would result primarily from construction activities that disturb the surface or vegetation. Effects of pipeline and fence construction are expected to be temporary; however, other effects will likely be permanent. Based on the dimensions of proposed features, the Service estimates the following feature-specific disturbance or loss of desert tortoise habitat (in acres):

Airstrip: 5.47	Helipads: 0.04
Pipelines: 5.45	Refueling/retardant mixing pad: 0.86
Road from airstrip to water storage tanks: 0.85	Office building, generator, pit toilets dumpsters, windsocks, wire fence: 0.5
Parking lots, housing structures, water storage tanks, antennae: 1.0	

Total habitat disturbed by proposed activities would be 14.17 acres, all of which is designated critical habitat. Approximately 8.67 acres would be lost, perhaps permanently, as desert tortoise habitat. Approximately 5.5 acres would be expected to slowly recover from disturbance. Vasek et al. (1975) found that creosote scrub communities in the Mojave desert have a long-term potential, probably measured in centuries, for recovery from pipeline construction.

### **Direct Effects of Project Construction and Maintenance on Individual Desert Tortoises:**

During construction, desert tortoises could be killed or injured during grading of the airstrip; trenching for the pipeline; or by clearing for the water storage tanks, office and housing structures, parking lots, and other features. Tortoises could also be crushed by vehicles travelling on roadways to and from construction sites. Tortoises could fall into the pipeline trench and become entrapped. Entrapped animals could die of exposure or be buried with the pipeline. If a tortoise is in a burrow at a construction site, it could be crushed in its burrow by heavy equipment, or the entrance to its burrow could be blocked, trapping the tortoise. Tortoises could also be collected by construction workers.

A lesser potential exists for tortoises to be killed or injured during maintenance activities, but many of the same risks are associated with maintenance activities. Tortoises could be killed or injured by vehicles, during road or airstrip grading, and other activities that require surface disturbance.

The effects of road construction on tortoises extend beyond the boundaries of the road itself. Desert tortoises have home ranges of approximately 12 to 120 acres (O'Connor et al. 1994) and are known to make long-distance movements of up 9.6 miles (Sazaki et al. 1994). Thus, desert tortoises residing at considerable distances from potential mortality sources could be affected. Roads act as mortality sinks for tortoises and other animals (Rosen and Lowe 1994, Service 1994). Tortoise populations are depleted up to a mile or more on either side of roads when average daily traffic exceeds 180 vehicles per day (Nicholson 1978 a&b); however, even dirt roads with relatively little can contribute to depressed tortoise populations (Berry et al. 1986). The level of vehicle use is likely correlated to the probability that animals would be affected. Use of the proposed road from the northern end of the airstrip to the water tanks is expected to be infrequent, except during fires. Because the road would end at the water tanks, the public is not likely to use it frequently. Thus, the effects of the road should not extend as far as roads studied by Nicholson (1978 a&b). Tortoises on either side of the road would be affected, but the distance from the roads at which populations may be depressed is unknown. The low density of tortoises in the area and anticipated infrequent use of the road makes the likelihood of a mortality relatively low.

The access provided by new or improved roads may facilitate other activities that could adversely affect tortoises or their habitat. Areas adjacent to the road may be used for unauthorized off-highway vehicle activity, camping, and shooting. Campfires or driving off-road could also result in the ignition of fires that could further impact tortoises and tortoise habitat.

### **Interrelated and Interdependent Effects:**

The effects of the proposed action, in regard to formal consultation, include the "direct and indirect effects of an action together with the effects of other activities that are interrelated and interdependent with that action." "Interrelated actions are those that are part of a larger

action and depend upon the larger action for their justification" (50 CFR 402.02). Enhancements of the Pakoon Airstrip are part of the fire suppression activities on the Arizona Strip District and are dependent on that larger action for their justification. The effects of this larger action were addressed in a recent biological opinion (Service 1996), and are included here by reference. The opinion found that although individual tortoises and specific areas of habitat could be adversely affected, the net effect of fire suppression activities benefitted the tortoise because it stemmed the loss of habitat and tortoises resulting from fire. The finding in that biological opinion was that emergency fire suppression in 1995, and proposed fire suppression activities during calendar year 1996, would not likely jeopardize the continued existence of the desert tortoise, and would not likely cause destruction or adverse modification of critical habitat.

#### **Effects to Critical Habitat:**

This opinion must determine whether the proposed action may result in destruction or adverse modification of critical habitat. "Destruction or adverse modification' means a direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of the species. Such alterations include, but are not limited to, alterations adversely modifying any of those physical or biological features that were the basis for determining the habitat to be critical." (50 CFR 402.02). The proposed action would result directly in the loss of 14.17 acres of critical habitat. As discussed in Service (1996), additional loss of critical habitat, that is interrelated to the proposed action, is also likely. However, fire suppression activities, of which the proposed action is a part, are expected to slow the loss of desert tortoise habitat due to fire. Although the proposed action and other interrelated fire suppression activities may result in some direct loss of critical habitat, the long-term net impact should be beneficial to critical habitat and the recovery potential of the desert tortoise.

#### **Cumulative Effects:**

Cumulative effects are those adverse effects of future non-Federal (State, local government, and private) actions that are reasonably certain to occur in the project area. Future Federal actions would be subject to the consultation requirements established in section 7 of the Act and, therefore, are not considered cumulative to the proposed project. Effects of past Federal and private actions are considered in the Environmental Baseline. Due to the extent of the lands in this area of the Mojave Desert administered by the Bureau, most of the actions that are reasonably expected to occur in the general area of the project (Pakoon Basin) would be subject to section 7 consultations. The Service is not aware of any non-Federal actions planned for the limited private lands in the Pakoon Basin that might adversely affect the desert tortoise or its habitat. Any non-Federal actions that may result in a take of desert tortoises require a section 10(a)(1)(B) permit from the Service. Cumulative impacts of future State and private projects will be addressed through the section 10(a)(1)(B) permit process.

### **Effectiveness of Proposed Mitigation**

The Bureau has proposed a number of actions that would act to limit or mitigate many of the adverse effects described above. Briefing personnel on the desert tortoise, presence of a monitor if activities are conducted during the tortoise active season, flagging construction areas and limiting activities to within those areas, and other measures as described in Bureau (1996a&b) and summarized in the "Proposed Mitigation Measures" herein, should all contribute to reduced incidence of mortality or injury of desert tortoises and lessen habitat damage attributable to the proposed action.

### **SUMMARY OF EFFECTS**

The Service believes the effects described above are neither likely to jeopardize the continued existence of the desert tortoise nor result in adverse modification or destruction of desert tortoise critical habitat. We present this conclusion for the following reasons:

1. The proponent's project description includes features to minimize take of desert tortoises and mitigate the direct and indirect impacts of the proposed action on the tortoise.
2. Desert tortoise habitat that would be disturbed by the project is limited in size and poor in quality. Although 14.17 acres of critical habitat would be lost or disturbed, the affected area is of poor quality, and the net, long-term effect of this and other interrelated actions are likely to reduce the loss of critical habitat by reducing the extent of destructive fires.
3. Survey data at and near the proposed project sites indicate that tortoise densities are very low. Thus, the probability of a tortoise being taken as a result of this action is low.

### **CONCLUSION**

After reviewing the current status of the Mojave population of the desert tortoise, the environmental baseline for the action area, and the anticipated effects of the proposed enhancements to the Pakoan Airstrip and its cumulative effects, it is the Service's biological opinion that the proposed action is not likely to jeopardize the continued existence of the desert tortoise and is not likely to destroy or adversely modify desert tortoise critical habitat.

### **INCIDENTAL TAKE STATEMENT**

Section 9 of the Act prohibits the take of listed species without special exemption. Taking is defined as harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, collecting, or attempting to engage in any such conduct. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering (50 CFR 17.3). Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns that

include, but are not limited to, breeding, feeding, or sheltering. Incidental take is any take of a listed animal species that results from, but is not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or the applicant. Under the terms of sections 7(b)(4) and 7(o)(2) of the Act, taking that is incidental to and not intended as part of the agency action is not considered to be prohibited under the Act provided that such taking is in compliance with this incidental take statement.

The measures described below are non-discretionary, and must be implemented by the agency so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, in order for the exemption in section 7(o)(2) to apply. The Bureau has a continuing duty to regulate the activity covered by this incidental take statement. If the Bureau (1) fails to require any applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

#### AMOUNT OR EXTENT OF TAKE

The Service anticipates the following forms of take as a result of the proposed action: [Note - the take estimated here does not include take that may result from interrelated actions. That take is addressed in Service (1996)].

- 1) One desert tortoise in the form of direct mortality or injury resulting from project construction or maintenance.
- 2) One desert tortoise every two years in the form of direct mortality or injury resulting from animals being killed or crushed by passing vehicles on proposed new or improved roads.
- 3) Four desert tortoises through harassment associated with excavation of occupied burrows and movement of desert tortoises out of harm's way during construction activities.

Take anticipated as a result of operation of the Pakoon Airstrip and associated features is addressed in Service (1996). This biological opinion does not authorize any form of take not incidental to construction and maintenance of proposed enhancements to the Pakoon Airstrip, Mohave County, Arizona. If the incidental take authorized by this opinion is met, the Bureau shall immediately notify the Service in writing. If the incidental take authorized by this opinion is exceeded, the Bureau must immediately reinstate consultation with the Service to avoid a violation of section 9 of the Act. In the interim, the Bureau must cease the activity resulting in the take if it is determined that the impact of additional taking will cause an irreversible and adverse impact on the species, as required by 50 CFR 402.14(i). The Bureau should provide to this office an explanation of the cause of the taking.

## EFFECT OF THE TAKE

In this biological opinion, the Service finds that this level of anticipated take is not likely to result in jeopardy to the species.

## REASONABLE AND PRUDENT MEASURES

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize the incidental take authorized by this biological opinion:

1. Personnel education programs, defined construction areas, and well-defined operational procedures shall be implemented.
2. Activities that may result in a take of desert tortoise shall be closely monitored to ensure compliance with the terms and conditions of this biological opinion. To the extent practicable, project activities shall avoid desert tortoise habitat. Where adverse effects to an individual tortoise cannot be avoided, the animal shall be moved from harm's way.
3. Attraction of common ravens and other potential desert tortoise predators to the project area shall be reduced to the maximum extent possible.
4. The Bureau shall monitor incidental take resulting from the proposed action and report to the Service the findings of that monitoring.

## TERMS AND CONDITIONS

In order to be exempt from the prohibitions of section 9 of the Act, the Bureau must comply with the following terms and conditions in regards to construction and maintenance of the proposed enhancements of the Pakoon Airstrip. These terms and conditions implement the reasonable and prudent measures described above. Terms and conditions are nondiscretionary. Terms and conditions 1.b., 1.c., 2.a., 2.b., and 3.a. are adapted from Bureau (1996a&b).

1. The following terms and conditions implement reasonable and prudent measure number one:
  - a. If, during construction, a desert tortoise wanders onto the project site, all activity shall cease until the tortoise wanders out of harm's way on its own or until an authorized biologist (a biologist authorized by the Service - see term and condition 2.d.) can move it out of harm's way.
  - b. All work areas shall be flagged or marked on the ground prior to construction. All construction workers shall strictly limit their activities and vehicles to areas that have been marked. Construction personnel shall be trained to recognize markers and understand the equipment movement restrictions involved.

- c. A qualified biologist approved by the Bureau shall be responsible for informing all employees working on this project about tortoises (including information provided by the Service and the Bureau on the life history of the tortoise, its status, protocols for dealing with tortoises if and when they are encountered, and the definition of take).
- d. During any activities conducted between March 15 and October 15 that may result in a take of desert tortoise, the following shall be implemented. Prior to moving a vehicle, personnel shall inspect under the vehicle for tortoises. If a tortoise is found under the vehicle, it shall be allowed to move away from the vehicle on its own accord, if possible. Otherwise, an authorized biologist shall move the tortoise to a safe locality in accordance with term and condition 2.d. and 2.e.
- e. To the extent possible, construction shall occur in previously disturbed areas and disturbance shall be minimized. Pipeline construction shall avoid, to the extent possible, disturbance to perennial shrubs. All project-related vehicle traffic, including personal vehicles, shall be restricted to established roads and previously disturbed areas to the extent possible. No off-road vehicular activity shall occur unless the area has been cleared by a qualified biologist pursuant to term and condition 2.a.
- f. The Bureau shall designate a field contact representative (FCR) who will be responsible for overseeing compliance with these terms and conditions and for coordination on compliance with the Service. The FCR, authorized biologist(s) (see term and condition 2.d.), and any qualified biologists shall have the authority and the responsibility to halt all project activities that are in violation of these terms and conditions. These individuals shall have a copy of the terms and conditions of this biological opinion while on the work site.
- g. Because of apparent low densities of tortoises in the project area and anticipated infrequent or occasional use of the airstrip and associated facilities, the Service does not believe that a desert tortoise-proof perimeter fence is currently necessary. However, if the habitat and tortoise populations in the vicinity of the airstrip recover, and encounters between fire crews and tortoises increase, or a tortoise is incidentally taken during operation of the airstrip and associated facilities, then a tortoise-proof barrier fence shall be constructed on the perimeter of the airstrip and facilities at its northern end, and a second barrier fence shall be constructed around the administrative site. The barrier fence shall consist of hardware cloth with a maximum mesh size of 1-inch (horizontal) by 2-inches (vertical) fastened securely to posts. The hardware cloth shall extend at least 18 inches above the ground and 12 inches below the surface of the ground. Where burial of the wire mesh is not possible, the lower 12 inches shall be folded outward and fastened to the ground so as to prevent desert tortoise entry. Where roads cross the barrier fence, a tortoise-proof gate, cattleguard, or other tortoise-proof structure shall be installed to prevent tortoise entry. Gates shall be kept closed.

2. The following terms and conditions implement reasonable and prudent measure number 2:
  - a. A 100-percent preconstruction survey shall be conducted in all areas to be disturbed by construction and in all areas within 300 feet of areas to be disturbed. The surveys shall be conducted by a qualified biologist (a biologist approved by the Bureau). If any desert tortoises or their burrows are located in areas to be disturbed by construction activities, the biologist shall work with the construction foreman to modify project boundaries to avoid adverse effects to the tortoise or its burrow. In making changes to project boundaries, the biologist and the foreman should consider that burrows may be up to 40 feet in length. If disturbance of a desert tortoise burrow is unavoidable, it shall be examined for occupancy by tortoises. Occupied burrows shall be excavated by an authorized biologist and the tortoise(s) relocated according to terms and conditions 2.d. and 2.e. If a tortoise is found above ground on a project site, activities that may result in a take shall cease until the tortoise moves out of harm's way, or is moved out of harm's way in accordance with terms and conditions 2.d. and 2.e. After modifications have been made to the project boundaries and any tortoises have been relocated, project construction may proceed, pursuant to term and condition 2.b.
  - b. A qualified biologist shall be on site during all construction activities that occur between March 15 and October 15 to ensure that no tortoises are harmed and that all terms and conditions are adhered to.
  - c. Between March 15 and October 15, the pipeline trench from the airstrip to the water tanks and any other open trenches or holes into which tortoises may fall shall be inspected by the qualified biologists for entrapped tortoises a minimum of three times per day, including inspection prior to onset of construction, inspection during the middle of the day, and again immediately prior to the end of each working day. An additional final inspection shall also be made immediately before filling these excavations. Any tortoises discovered shall either be allowed to escape before activities resume or carefully removed from the excavation and moved a short distance to undisturbed habitat (see terms and conditions 2.d. and 2.e).
  - d. Only biologists authorized by the Service shall handle desert tortoises. The Service authorizes Tim Duck and Dustin Haines to handle desert tortoises pursuant to these terms and conditions. If other personnel are to be authorized for handling desert tortoises, the Bureau shall submit the name(s) of the proposed authorized biologist(s) to the Service for review and approval at least 15 days prior to the onset of activities that could result in a take.
  - e. If a desert tortoise is found on the project site, and project activities cannot be modified so as to avoid disturbance to it, the tortoise shall be relocated by an authorized biologist into the closest suitable habitat within two miles of the collection site that will ensure the animal is reasonably safe from death, injury, or collection associated with the project or other activities. The authorized biologist shall be allowed some discretion to

ensure that survival of each relocated tortoise is likely. Desert tortoises shall not be placed on lands outside the administration of the Federal government without the written permission of the landowner. Handling procedures for tortoises shall adhere to protocols outlined in Desert Tortoise Council (1994 with 1996 revisions).

f. The authorized biologist shall maintain a record of all desert tortoises encountered during project activities. This information shall include for each desert tortoise:

- The locations and dates of observation
- General condition and health, including injuries and state of healing and whether animals voided their bladders
- Location moved from and location moved to
- Diagnostic markings (i.e. identification numbers of marked lateral scutes)

No notching of scutes or replacement of fluids with a syringe is authorized.

3. The following term and condition implements reasonable and prudent measure number 3:

All trash and food items shall be promptly contained within closed, raven-proof containers. The containers shall be regularly emptied and/or removed from the project site to reduce attractiveness of the area to ravens and other desert tortoise predators.

4. The following terms and conditions implement reasonable and prudent measure number 4:

a. Within 90 days after completion of construction, the Bureau shall submit a monitoring report to the Arizona Ecological Services Field Office. The report shall briefly document the effectiveness of the desert tortoise mitigation measures, actual acreage of desert tortoise habitat disturbed, the number of desert tortoises excavated from burrows, the number of desert tortoises moved from construction sites, and information on individual desert tortoise encounters as stipulated in term and condition 2.f. The report shall make recommendations for modifying or refining these terms and conditions to enhance desert tortoise protection and reduce needless hardship on the Bureau.

b. Anticipated take limits that would require reinitiation are addressed in "AMOUNT OR EXTENT OF TAKE" and are based on implementation of the proposed action without these terms and conditions. With implementation of terms and conditions the Service believes that no more than one desert tortoise per year in the form of direct mortality or injury on new or improved roads and four desert tortoises in the form of harassment associated with moving animals out of harm's way will be taken as a result of the proposed action. If, during the course of the proposed action, this minimized level of incidental take is exceeded, such incidental take would represent new information requiring review of the reasonable and prudent measures. The Bureau must

immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

### **DISPOSITION OF DEAD, INJURED, OR SICK DESERT TORTOISES**

Upon locating a dead, injured, or sick desert tortoise, initial notification must be made to the Service's Law Enforcement Office, Federal Building, Room 8, 26 North McDonald, Mesa, Arizona, (Telephone: 602/261-6443) within three working days of its finding. Written notification must be made within five calendar days and include the date, time, and location of the animal, a photograph, and any other pertinent information. The notification shall be sent to the Law Enforcement Office with a copy to the Phoenix Office. Care must be taken in handling sick or injured animals to ensure effective treatment and care, and in handling dead specimens to preserve biological material in the best possible state. If possible, the remains of intact desert tortoises shall be placed with educational or research institutions holding appropriate State and Federal permits. If such institutions are not available, the information noted above shall be obtained and the carcass left in place.

Arrangements regarding proper disposition of potential museum specimens shall be made with the institution prior to implementation of the action. Injured animals should be transported to a qualified veterinarian by an authorized biologist. Should any treated desert tortoise survive, the Service should be contacted regarding the final disposition of the animal.

### **CONSERVATION RECOMMENDATIONS**

Sections 2(c) and 7(a)(1) of the Act direct Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of listed species. Conservation recommendations are discretionary agency activities to minimize or avoid effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information on listed species. The recommendations provided here do not necessarily represent complete fulfillment of the agency's section 2(c) or 7(a)(1) responsibilities for the desert tortoise. In furtherance of the purposes of the Act, we recommend implementing the following actions:

1. The Bureau should promptly complete an amendment process to the Arizona Strip District Resource Management Plan to implement the Desert Tortoise (Mojave Population) Recovery Plan (Service 1994).
2. The Bureau should limit use of the proposed new road from the airstrip to the water tanks to administrative use only to reduce possible road mortality and injury of tortoises.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitat, the Service requests notification of the implementation of any conservation recommendations.

## CLOSING STATEMENT

This concludes formal consultation on the proposed enhancements of the Pakoon Airstrip. As provided in 50 CFR 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: 1) the amount or extent of incidental take (from page 13) is exceeded; 2) new information reveals effects of the agency action that may adversely affect listed species or critical habitat in a manner or to an extent not considered in this opinion; 3) the agency action is subsequently modified in a manner that causes an effect to a listed species or critical habitat that was not considered in this opinion; or 4) a new species is listed or critical habitat designated that may be affected by this action. In instances where the amount or extent of incidental take (page 13) is exceeded, any operations causing such take must cease pending reinitiation. Any questions or comments should be directed to Jim Rorabaugh or Ted Cordery of my staff.



Sam F. Spiller

cc: Regional Director, Fish and Wildlife Service, Albuquerque, NM (AES)  
State Director, Bureau of Land Management, Phoenix, AZ

Director, Arizona Game and Fish Department, Phoenix, AZ

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DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
ARIZONA STRIP FIELD OFFICE

IN REPLY REFER TO:  
1793 (010)

April 25, 1997

Memorandum

To: Supervisor, Arizona Ecological Services, U.S. Fish and Wildlife Service

From: Manager, Arizona Strip Field Office

Subject: Modification to the Pakoon Airstrip Project (2-21-96-F-132)

On June 18, 1996, your office issued a biological opinion to the Arizona Strip District for the Pakoon Airstrip (consultation number 2-21-96-F-132). The purpose of this memo is to amend the proposed action upon which we consulted and to keep the Service informed on changes to the project.

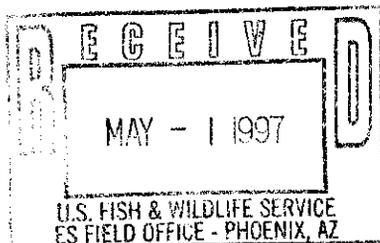
The proposed action for the Pakoon Airstrip included a pipeline from an existing well (Wayne's Well) to the airstrip. The privately-owned well is not functional, however, and the Bureau has decided to drill our own well at the airstrip. This will eliminate the need for the pipeline (and associated surface disturbance) from Wayne's Well to the airstrip.

The proposed location for the new well is adjacent to the east end of the airstrip, within an existing disturbed area. There will be a reduction in habitat disturbance and a decrease in the likelihood of take of any listed species as a result of this change.

The remainder of the project remains as planned. BLM intends to install the pipeline from the airstrip to the storage tanks as described in our environmental assessment. Due to funding and staffing concerns, the project is still in the design stage. BLM hopes to begin work in FY97, but we expect that this will be a long-term project.

Thank you for your attention to this matter. If you have any comments or questions, please contact Tim Duck at (801) 628-4491 ext. 238.

  
Roger G. Taylor





United States Department of the Interior

Fish and Wildlife Service

Arizona Ecological Services Field Office

2321 W. Royal Palm Road, Suite 103

Phoenix, Arizona 85021-4951

(602) 640-2720 Fax (602) 640-2730



In Reply Refer To:

AESO/SE

2-21-96-F-~~132~~ 443

April 1, 1998

MEMORANDUM

TO: Field Office Manager, Arizona Strip Field Office, Bureau of Land Management,  
St. George, Utah

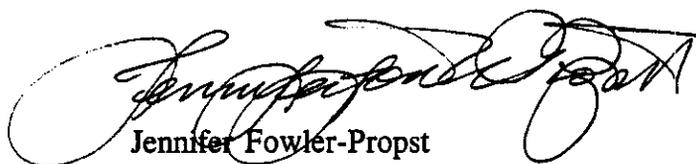
FROM: Acting Field Supervisor

SUBJECT: Authorized Biologists: Biological Opinion for Expansion of the Pakoon Airstrip

Term and condition 2.d. of the biological opinion for the Pakoon Airstrip (2-21-96-F-132) authorizes Tim Duck and Dustin Haines to handle desert tortoises pursuant to the incidental take statement in the opinion. The term and condition also states: "If other personnel are to be authorized for handling desert tortoises, the Bureau shall submit the name(s) of the proposed authorized biologist(s) to the Service for review and approval at least 15 days prior to the onset of activities that could result in take."

In a telephone call with Jim Rorabaugh of my staff, Mr. Tim Duck of your office requested that Brian Boch be approved by the Service as an "authorized biologist" for the Pakoon Airstrip project. Mr. Boch has been trained in tortoise handling by Tim Duck, and Tim vouches for his ability to properly handle desert tortoises. The Service approves Mr. Boch as an authorized biologist for the subject project.

If we can be of further assistance in this matter, please contact Jim Rorabaugh or Ted Cordery of my staff.



Jennifer Fowler-Propst

cc: Regional Director, Fish and Wildlife Service, Albuquerque, NM (ES)