

**BIOLOGICAL EVALUATION
PLOMOSA PLACER MINE, BLM MINING PERMIT**



**ARCHAEOLOGICAL CONSULTING SERVICES, LTD.
424 WEST BROADWAY ROAD
TEMPE, ARIZONA 85282
(480) 894-5477
(480) 894-5478 (FAX)
www.acstempe.com**

CULTURAL RESOURCE, ENVIRONMENTAL MANAGEMENT AND GIS SERVICES

Biological Evaluation
FOR
Plomosa Placer Mine, BLM Mining Permit

Prepared for:
Plomosa Placers
c/o Keith Jay
Allstate-Nevada Environmental Management, Inc.
5375 South Cameron Street, Suite D
Las Vegas, Nevada 89118

Prepared by:
Archaeological Consulting Services, Ltd.
424 West Broadway Road
Tempe, Arizona 85282
ACS Project No. 07-104-04

May 2008

TABLE OF CONTENTS

1. INTRODUCTION	1
2. PROJECT LOCATION	1
3. PROJECT DESCRIPTION	1
4. LOCATION DESCRIPTION	1
5. SPECIES IDENTIFICATION	4
6. SPECIES EVALUATIONS	7
<i>CALIFORNIA LEAF-NOSED BAT (MACROTUS CALIFORNICUS)</i>	7
<i>CAVE MYOTIS (MYOTIS VELIFER)</i>	8
<i>POCKETED FREE-TAILED BAT (NYCTINOMOPS FEMOROSACCUS)</i>	9
<i>SONORAN DESERT TORTOISE (GOPHERUS AGASSIZII)</i>	9
7. MITIGATION MEASURES	11
8. COORDINATION	11
9. LITERATURE CITED	11
10. ADDITIONAL INFORMATION	13
11. SIGNATURE PAGE	14

LIST OF FIGURES

FIGURE 1: STATE LOCATION AND VICINITY MAP.....	2
FIGURE 2: PROJECT AREA MAP.....	3

LIST OF TABLES

TABLE 1. FEDERALLY LISTED AND SPECIAL STATUS SPECIES INCLUDED IN THIS EVALUATION.....	4
TABLE 2. SPECIES EXCLUDED FROM EVALUATION, INCLUDING HABITAT REQUIREMENTS AND EXCLUSION JUSTIFICATION.	5

LIST OF APPENDICES

APPENDIX A. PROJECT AREA PHOTOGRAPHS.....	15
APPENDIX B: STATE SENSITIVE SPECIES.....	19

1. INTRODUCTION

The purpose of this Biological Evaluation (BE) is to evaluate the potential effects of project actions on federally listed and sensitive species which may occur in the project vicinity. This includes species protected under the Endangered Species Act of 1973, as amended (ESA) (16 US Code 1531-1544); bird species protected under the Migratory Bird Treaty Act of 1918 (16 US Code 703-712); species listed as sensitive by a federal land agency; and/or species listed as Wildlife of Special Concern by the Arizona Game and Fish Department (AGFD).

2. PROJECT LOCATION

The project is south of Interstate 10 (I-10) within the Plomosa Mountains east of Quartzsite in La Paz County, Arizona. The project is located on lands administered by the Bureau of Land Management (BLM) in Township 3 North, Range 18 West, Section 1 (refer to Figures 1 and 2).

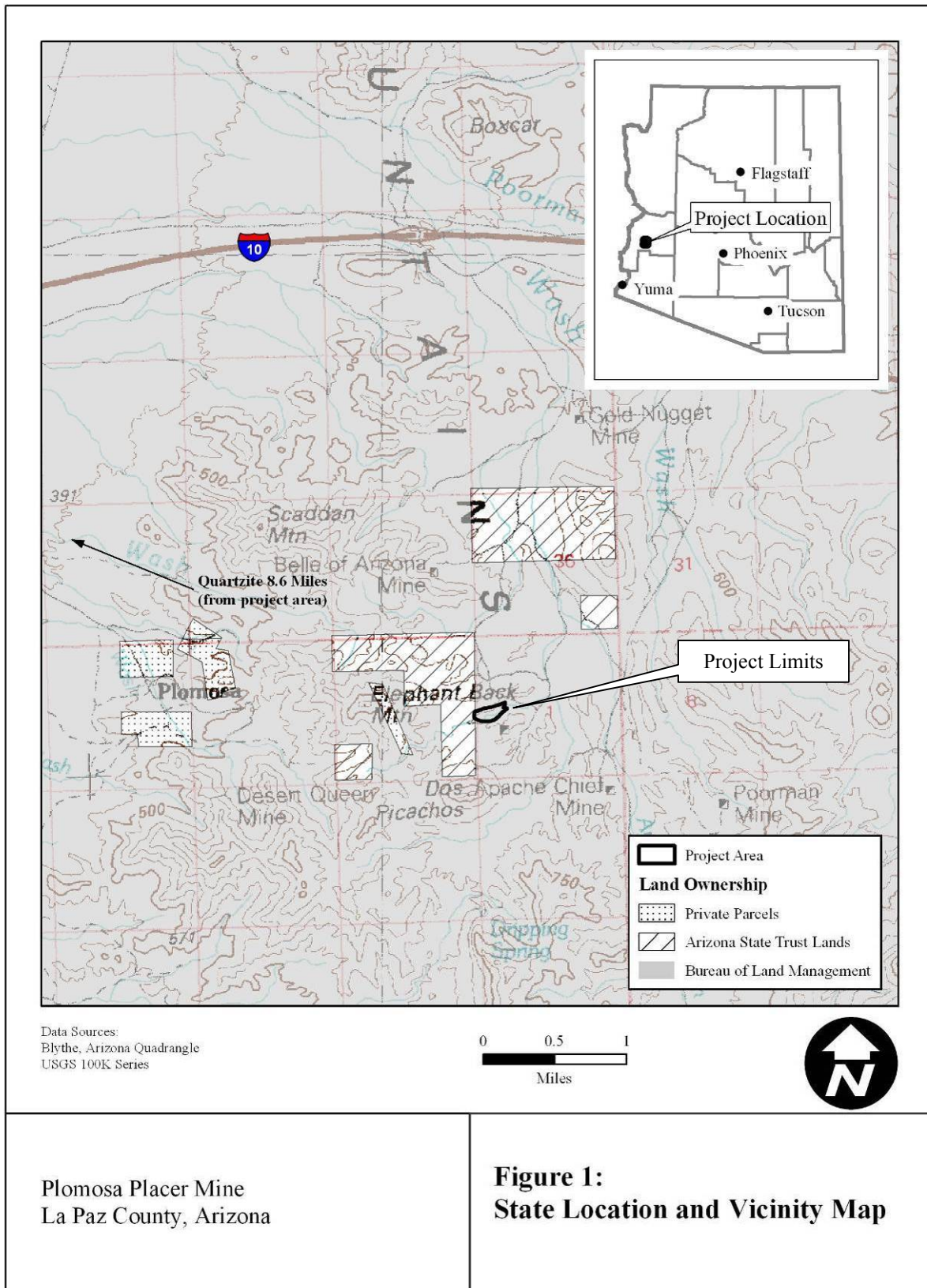
Throughout this BE, the term “project limits” is used to represent the construction footprint (area of disturbance), while the term “project area” also includes surrounding lands, outside but adjacent to the project limits. The term “project vicinity” is used to denote a more expansive landscape context.

3. PROJECT DESCRIPTION

Plomosa Placers proposes to mine up to 130,000 cubic yards of gravel dry wash bank materials from a Federal unpatented mining claim located near Quartzsite in La Paz County, Arizona. The material would be excavated from a five-acre area using a small backhoe. A backhoe with a small front-end loader would then be used to load the materials directly to a small gravity precious metal wet processing plant. Rejected gravels will continuously be replaced back into the mined area as on-going site reclamation. It will take approximately seven months to complete the planned mining operations, operating at a production rate of 100 tons per hour. Mobile equipment for the processing consists of a small rotating trommel screen, a wet processing shaker plant using only water, and associated conveyors. At present, there is an access road to the site, which is used by the public to gain access to the general area for hunting or other recreational purposes.

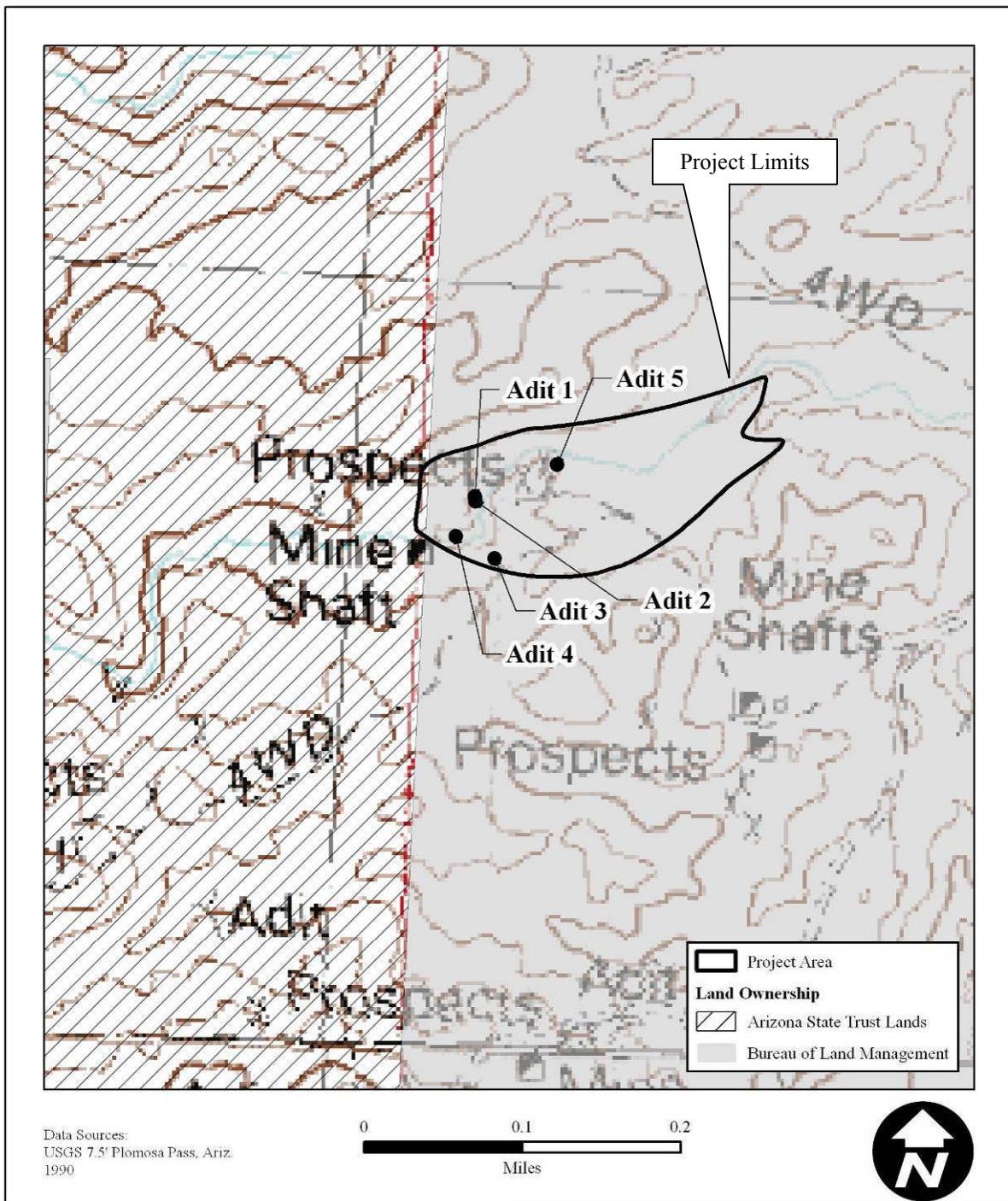
4. LOCATION DESCRIPTION

The project vicinity is located within the extensive Basin and Range physiographic province. This province is characterized by elongated northwest-southeast trending mountain ranges divided by broad alluvial valleys (Nations and Stump 1996). The project area is located within the Plomosa Mountains, approximately 10 miles east of Quartzsite, and just west of Italian Wash. Topography within the project



Plomosa Placer Mine
 La Paz County, Arizona

Figure 1:
State Location and Vicinity Map



Plomosa Placer Mine
La Paz County, Arizona

Figure 2: Project Area Map

limits is steep and rugged, sloping eastward, and is dissected by a single large unnamed wash running east-west and draining into Italian Wash. The predominant geology includes young alluvial gravel deposits within the large desert wash consisting of Middle or Early Proterozoic granite and Early Proterozoic metamorphic rocks from the surrounding mountains. Elevation within the project limits is approximately 1,960 ft above mean sea level (amsl).

The project vicinity falls within the Arizona upland subdivision of the Sonoran desertscrub biotic community (Brown 1994). There is a large, flat area within the middle of the project limits which has evidence of previous mining activities and is largely unvegetated. There is also evidence of previous mining within the large wash which transects the project limits, with five horizontal mine adits within the wash banks, and small tailings piles. However, the vegetation is mostly undisturbed within the wash and surrounding hills. Common vegetation within the project limits includes creosotebush (*Larrea tridentata*), yellow paloverde (*Parkinsonia microphylla*), white bursage (*Ambrosia dumosa*), ocotillo (*Fouquieria splendens*), brittlebush (*Encelia farinosa*), teddy-bear cholla (*Cylindropuntia bigelovii*), saguaro (*Carnegiea gigantea*), buckhorn cholla (*Cylindropuntia acanthocarpa*), barrel cactus (*Ferocactus* spp.), and globe mallow (*Sphaeralcea* spp.). Other species occurring rarely throughout the project area include, ironwood (*Olneya tesota*), and wolfberry (*Lycium* spp.).

Evidence of previous mining activity occurs throughout the project limits. There is a large, flat disturbed area at the end of the existing road into the site, which has large wooden and metal objects discarded by previous mining activities. Also, there are five short, exploratory, horizontal mine adits cut into the banks of the desert wash running through the project limits (see Figure 2). Three of the adits (Adit 1, 3 and 4) are less than 50 ft (15 m) long and exploratory in nature. Adit 5 is at least 100 ft (30 m) long, and Adit 4 is 64 ft (20 m) long. As part of the project design, a pre-closure bat survey will be conducted within these adits prior to construction, and exclusion gates placed on any adits occupied by bats (refer to Section 7). Project area photographs are included in Appendix A.

5. SPECIES IDENTIFICATION

The US Fish and Wildlife Service (USFWS) species list for La Paz County was reviewed by a qualified biologist to determine species potentially occurring in the project vicinity. In addition, the BLM list of sensitive species and the AGFD list of special status species were similarly reviewed. The following federally listed, BLM, and/or AGFD special status species have the potential to occur within the project area (Table 1).

TABLE 1. FEDERALLY LISTED AND SPECIAL STATUS SPECIES INCLUDED IN THIS EVALUATION.		
Common Name	Scientific Name	Status
SPECIAL STATUS SPECIES		
California leaf-nosed bat	<i>Macrotus californicus</i>	WC
Cave myotis	<i>Myotis velifer</i>	S
Pocketed free-tailed bat	<i>Nyctinomops femorosaccus</i>	S
Sonoran desert tortoise	<i>Gopherus agassizii</i>	WC

WC = Listed as a Wildlife of Special Concern by the AGFD; S = Listed as Sensitive by the BLM

Species included in the USFWS, BLM, and/or AGFD lists but that are excluded from further evaluation are addressed in Table 2. This project will have no effect on the species listed in this table. State-listed species are discussed further in Appendix B.

TABLE 2. SPECIES EXCLUDED FROM EVALUATION, INCLUDING HABITAT REQUIREMENTS AND EXCLUSION JUSTIFICATION.			
Common Name Scientific Name	Status	Habitat Requirements	Exclusion Justification
USFWS SPECIES			
Bald eagle <i>Haliaeetus leucocephalus</i>	T	Large trees or cliffs near water (reservoirs, rivers, and streams) with abundant prey. Elevation: Variable.	Suitable habitat does not occur within the project area. The nearest known breeding area is located at Alamo Lake, more than 40 miles to the northeast (Jacobson et al. 2006).
Bonytail chub <i>Gila elegans</i>	E	Warm, swift, turbid mainstem rivers of the Colorado River basin, and reservoirs in the lower basin. Elevation: < 4,000 ft.	Suitable habitat does not exist within the project area. The nearest potential habitat occurs along the Lower Colorado River, approximately 25 miles to the west.
California brown pelican <i>Pelecanus occidentalis californicus</i>	E	Coastal land and islands; species found around many Arizona lakes and rivers. Elevation: Variable.	Suitable habitat does not exist within the project area. The nearest potential habitat occurs along the Lower Colorado River, approximately 25 miles to the west.
Desert pupfish <i>Cyprinodon macularius</i>	E	Shallow springs, small streams, and marshes. Tolerates saline and warm water. Elevation: <5,000 ft.	Suitable habitat does not exist within the project area. No natural populations remain in Arizona. No reintroduced populations exist within the project vicinity (Voeltz and Bettaso 2003).
Gila topminnow <i>Poeciliopsis occidentalis occidentalis</i>	E	Small streams, springs, and cienegas with vegetated shallows. Elevation: <4,500 ft.	Suitable habitat does not exist within the project area. The nearest reintroduced population occurs in the Bill Williams River drainage, more than 50 miles to the northeast (Voeltz and Bettaso 2003).
Razorback sucker <i>Xyrauchen texanus</i>	E	Riverine and lacustrine areas, generally not in fast-moving water. May use backwaters. Elevation: <6,000 ft.	Suitable habitat does not exist within the project area. The nearest potential habitat occurs along the Lower Colorado River, approximately 25 miles to the west.
Southwestern willow flycatcher <i>Empidonax traillii extimus</i>	E	Cottonwood/willow and tamarisk vegetation communities along rivers and streams. Elevation: <6,500 ft.	Suitable habitat does not exist within the project area. The nearest known resident flycatchers occur in the vicinity of Ehrenberg along the occurs along the Lower Colorado River, approximately 25 miles to the west (Graber et al. 2007).
Yellow-billed cuckoo <i>Coccyzus americanus</i>	C	Large blocks of riparian woodlands (cottonwood, willow, or tamarisk galleries). Elevation: <6,500 ft.	Suitable habitat does not exist within the project area. The nearest potential habitat occurs along the Lower Colorado River, approximately 25 miles to the west.

TABLE 2 CONTINUED			
Yuma clapper rail <i>Rallus longirostris yumanensis</i>	E	Freshwater and brackish marshes. Elevation: <4,500 ft amsl.	Suitable habitat does not exist within the project area. The nearest potential habitat occurs along the Lower Colorado River, approximately 25 miles to the west.
SPECIAL STATUS SPECIES			
American peregrine falcon <i>Falco peregrinus anatum</i>	WC	Steep, sheer cliffs overlooking woodlands, riparian areas or other habitats with abundant avian prey species. Elevation: 400-9,000 ft (AGFD 2002a).	Suitable habitat does not occur within the project area. Although falcons may use the project while in transit, the nearest potential habitat occurs along the Lower Colorado River, approximately 25 miles to the west.
Chuckwalla <i>Sauromalus obesus</i>	S	Crevices in rocky habitats within Sonoran, Mohave and Great Basin desertscrub (Brennan and Holycross 2006). Elevation: <6,000 ft.	Suitable habitat does not occur within the project area. Species is more likely to occupy the mountain slopes surrounding the project area.
Desert rosy boa <i>Lichanura (Charina) trivirgata gracia</i>	S	Rocky or bouldery slopes in Sonoran desertscrub, Mohave desertscrub, or interior chaparral. Nocturnal (Brennan and Holycross 2006). Elevation: <5,000 ft.	Suitable habitat does not occur within the project area. Species is more likely to occupy the mountain slopes surrounding the project area.
Western burrowing owl <i>Athene cunicularia hypugaea</i>	S	Open, well-drained grasslands, deserts, and agricultural lands. Often associated with burrowing mammals (AGFD 2001c). Elevation: 650-6,140 ft.	Suitable habitat does not occur within the project area. Suitable foraging habitat is not available, nor does the project area contain flat terrain suitable for nesting.
Western red bat <i>Lasiurus blossevillii</i>	WC	Riparian and other wooded areas. Roosts usually in tree foliage, sometimes in leafy shrubs or herbs. Generally avoid caves and buildings during both summer/winter. Solitary (AGFD 2003c). Elevation: 1,900-7,200 ft.	Suitable habitat does not occur within the project area. Species does not roost in man-made structures such as mine adits. Project actions will not impact species' potential roost locations.
Western yellow bat <i>Lasiurus xanthinus</i>	WC	May be associated with Washington fan palm trees, other palms or other leafy vegetation such as sycamores, hackberries and cottonwoods (AGFD 2003d). Elevation: 550-6,500 ft.	Suitable habitat does not occur within the project area. Species does not roost in man-made structures such as mine adits. Project actions will not impact species' potential roost locations.

C = Candidate for federal listing under the ESA; E = Listed as Endangered under the ESA; HS = Listed as Highly Safeguarded by the Arizona Department of Agriculture; S = Listed as Sensitive by the BLM ; T = Listed as Threatened under the ESA; WC = Listed as a Wildlife of Special Concern by the AGFD

6. SPECIES EVALUATIONS

SPECIAL STATUS SPECIES

California Leaf-nosed Bat (Macrotus californicus)

Life History Information

The California leaf-nosed bat is the only *Macrotus* species occurring in Arizona (2001a). The species occurs in desertscrub areas of California, southern Nevada, Arizona, Baja California and Sonora, Mexico (Western Bat Working Group 2008). Within Arizona, the species is a year-round resident and occurs south of the Mogollon Rim and in western portions of Mohave County, primarily at elevations below 2,500 ft (AGFD 2001a; Hoffmeister 1986).

California leaf-nosed bats feed primarily on moths and other insects located by sight (Western Bat Working Group 2008). Foraging occurs an hour or two after sunset, and again shortly before sunrise. The species does not hibernate; therefore, foraging occurs year-round.

California leaf-nosed bats roost primarily in warm mines and caves with temperatures above 28°C. Within day roosts, individuals are typically found within 80 ft of the entrance. Preferred roost sites are characterized by large ceilings and open spaces for flight (AGFD 2001a). In addition, this species tends to leave guano deposits at the edges of open areas rather than in the center of caves and mines (AGFD 2003a), and roosts in less tightly-packed clusters than other bat species (AGFD 2001a). Females form large nursery colonies separate from most males in the spring (Western Bat Working Group 2008), and give birth in May and June (AGFD 2001a; Hoffmeister 1986).

Little information is available relative to local seasonal movements within the species. California leaf-nosed bats are prone to roost abandonment following human disturbance (AGFD 2001a). The species is listed as a Wildlife of Special Concern in Arizona.

Survey History

ACS personnel surveyed all the mine adits within the project limits on 22 February 2008. Although no bats were observed during this survey, evidence of bat use (small piles of guano and scattered wall stains) was detected in Adit 5 (Appendix A, Photograph 8). In addition, Keith Jay with Allstate-Nevada took a blurry photograph of a bat within Adit 5. Based on the ear size, the bat appeared to be either a California leaf-nosed or a Townsend's big-eared bat. Finally, the guano deposits within Adit 5 appear consistent with those from California leaf-nosed bats, as they were found on the edges of the adit near the walls, not under the middle of the ceiling, although this does not entirely rule out other species.

Habitat Evaluation and Suitability

Adit 5 is the most potentially suitable roost location for California leaf-nosed bats. The adit is suitably long with high ceilings, has a warm temperature regime, and shows evidence of bat use consistent with this species. In addition, the bat photograph taken in Adit 5 is likely of this species.

Analysis and Determination of Effects

The project area is located within the range for California leaf-nosed bats, and the species is likely to occur within the project vicinity and nearby mountains within similar habitat. In addition, suitable habitat for California leaf-nosed bats occurs within the project limits, particularly within Adit 5.

Evidence of bat use, most likely California leaf-nosed bats, was observed within the project limits. In order to alleviate potential impacts to bat species occurring within the project area, mitigation measures will be implemented (Section 7).

Therefore, this project may impact California leaf-nosed bat individuals, but is not likely to result in a trend toward federal listing or loss of viability.

Cave Myotis (Myotis velifer)

Life History Information

The cave myotis is one of 9 *Myotis* species occurring in Arizona. The range of the cave myotis reaches from Kansas and Oklahoma westward to southeastern California, and south to Honduras (AGFD 2002b; Western Bat Working Group 2008). In Arizona, this species occupies desertscrub habitats in the southern half of the state at elevations ranging from 300 to 5,800 ft (AGFD 2002b).

This species hibernates over the winter months in wet mine shafts in extreme southern Arizona where roost temperatures range from 8 to 11°C (AGFD 2002b; Western Bat Working Group 2008). Summer roosts are primarily crevices and recesses of caves, as well as mine shafts and other man-made structures. The species has also been documented roosting in barn swallow nests (Western Bat Working Group 2008). According to Hoffmeister (1986), cave myotis inhabiting mine shafts or tunnels are often found within 100 ft of the entrance. Females establish nursery colonies in Arizona in May, with young being born in approximately mid-June (AGFD 2002b).

Little information is available relative to population trends and basic life history. Threats to this species include general threats applicable to most bat species, such as disturbance to foraging areas roost sites (AGFD 2002b). The cave myotis is listed as a sensitive species by the Bureau of Land Management and the US Forest Service.

Survey History

ACS personnel surveyed all the mine adits within the project limits on 22 February 2008. Although no bats were observed during this survey, evidence of bat use (small piles of guano and scattered wall stains) was detected in Adit 5 (Appendix A, Photograph 8).

Habitat Evaluation and Suitability

Although no bats were observed during a survey of the project limits, suitable habitat, particularly summer roosting habitat, for cave myotis occurs within the project limits. In addition, evidence of bat use exists within Adit 5.

Analysis and Determination of Effects

The project area is located within the range for cave myotis, and the species is likely to occur within the project vicinity and nearby mountains within similar habitat. In addition, potential habitat for cave myotis occurs within the project limits and evidence of bat use was observed within the project limits. In order to alleviate potential impacts to bat species occurring within the project area, mitigation measures will be implemented (Section 7).

Therefore, this project may impact cave myotis individuals, but is not likely to result in a trend toward federal listing or loss of viability.

Pocketed Free-tailed Bat (Nyctinomops femorosaccus)Life History Information

The pocketed free-tailed bat ranges from southern California to western Texas, and south into central Mexico including Baja California (AGFD 2003b). The species is found from near sea level to above 7,000 ft in elevation (Western Bat Working Group 2008). The pocketed free-tailed bat occurs throughout southern and central Arizona. The northernmost extent of the species' range is located near the Bill Williams River in western Arizona, and Roosevelt Lake in central Arizona (Hoffmeister 1986).

Pocketed free-tailed bats use roost sites located in crevices in rocky cliffs and slopes in desertscrub through pine-oak habitats; man-made structures are sometimes also used as roost sites (AGFD 2003b; Hoffmeister 1986). The species forms maternity colonies, with young being born in June and July (Western Bat Working Group 2008). The species is insectivorous, feeding primarily on moths shortly after dusk and before dawn (AGFD 2003b).

Little information is available relative to roosting and foraging ecology, distribution of breeding colonies, and seasonal movements. Threats to this species include general threats applicable to most bat species, such as disturbance to foraging areas roost sites (AGFD 2003b). The pocketed free-tailed bat is listed as a sensitive species by the Bureau of Land Management.

Survey History

ACS personnel surveyed all the mine adits within the project limits on 22 February 2008. Although no bats were observed during this survey, evidence of bat use (small piles of guano and scattered wall stains) was detected in Adit 5 (Appendix A, Photograph 8).

Habitat Evaluation and Suitability

Although no bats were observed during a survey of the project limits, potential habitat for pocketed free-tailed bats occurs within the project limits. Although this species roosts predominantly in rock crevices, some man-made structures such as mine adits may also be use. In addition, evidence of bat use exists within Adit 5.

Analysis and Determination of Effects

The project area is located within the range for pocketed free-tailed bats, although the species is more likely to occur in suitable habitat in rocky areas of the nearby mountains. In addition, potential habitat for pocketed free-tailed bats occurs within the project limits and evidence of bat use was observed within the project limits. In order to alleviate potential impacts to bat species occurring within the project area, mitigation measures will be implemented (Section 7).

Therefore, this project may impact pocketed free-tailed bat individuals, but is not likely to result in a trend toward federal listing or loss of viability.

Sonoran Desert Tortoise (Gopherus agassizii)Life History Information

The genus *Gopherus* is comprised of four species that occur throughout the southern US and Mexico. The desert tortoise (*G. agassizii*) is a resident of southwestern low deserts, mainly the Mojave and

Sonoran deserts. It occurs from southeastern California, southern Nevada, extreme southwestern Utah, western Arizona, southward through Sonora and into northern Sinaloa, Mexico (AGFD 2001b). In the US, tortoises west and north of the Colorado River are considered a distinct population (Mojave Population). Tortoises east and south of the Colorado River are included in the Sonoran Population. These two populations are not distinct taxa, although they differ genetically and morphologically and are treated separately under the ESA (AGFD 2001b).

The desert tortoise inhabits well-drained sandy loam soils in plains, alluvial fans and bajadas, although they occasionally occur in dunes, edges of basaltic flow and other rock outcrops, and in well-drained and vegetated alkali flats (Morafka and Hammerson 2005). However, since the hot, dry, low valleys of the lower Sonoran Desert typically have extremely low annual precipitation; tortoises may be less likely to occur in these flats (Fritts and Jennings 1994). Sonoran desert tortoises are found predominantly on rocky slopes and in bajadas within the Sonoran desertscrub biotic community, particularly in caliche cut banks of washes (AGFD 2001b).

The Mojave Population of desert tortoises was listed under the ESA in April 1990 as a threatened species (USFWS 1990). The Mojave Population has most likely declined in many locations due to direct loss of individuals and habitat degradation and fragmentation. Individual losses were associated with collection for pets, poaching, vehicular impacts, military activities, livestock trampling, disease, and increased predation by ravens (USFWS 1991). Urban sprawl and livestock grazing are considered the main causes of tortoise habitat loss (USFWS 1991). However, in a similar petition to list the Sonoran Population of the desert tortoise, the USFWS determined that the Sonoran Population was relatively stable and did not warrant listing under the ESA (USFWS 1991). Any tortoises occurring in the project area would belong to the Sonoran Population.

Survey History

Survey history is not available for this species. Species occurrence data is taken primarily from the AGFD Heritage Database Management System (HDMS) Online Environmental Review Tool (attached). No tortoises or tortoise sign were observed during the field visit to the site.

Habitat Evaluation and Suitability

Sonoran desert tortoises are known to occur throughout the rocky canyons and hillsides within the Plomosa Mountains. The majority of habitat within the project area is suitable for desert tortoises. Large boulders and rocky slopes which may provide suitable shelter for burrow sites are common throughout the majority of the project area; however, no tortoises or tortoise sign were observed during the field visit to the project area.

Analysis and Determination of Effects

Suitable habitat for Sonoran desert tortoises occurs throughout the project area. In addition, Sonoran desert tortoises are known to occur within the project vicinity; and are likely to occur within the project limits and surrounding mountains. However, no tortoises or tortoise sign were observed during a field visit to the project area. In order to alleviate potential impacts to Sonoran desert tortoises occurring in the project area, mitigation measures will be implemented (Section 7).

Therefore, this project may impact Sonoran desert tortoise individuals, but is not likely to result in a trend toward federal listing or loss of viability.

7. MITIGATION MEASURES

- Plomosa Placers will avoid desert tortoises wherever possible.
- If desert tortoises are encountered, Plomosa Placers will contact the BLM Yuma Field Office (928-317-3200).
- Plomosa Placers will adhere to the protocol set forth in the attached *Arizona Game and Fish Department Guidelines for Handling Desert Tortoises Encountered on Development Projects* (1997).
- Plomosa Placers will contract a qualified biologist to conduct a pre-construction mine closure survey to determine whether bats are occupying the mine adits within the project limits.
- If bats are observed during the pre-construction mine closure survey, Plomosa Placers will contact the BLM (Jeff Young) to determine the importance of the site to bats. Further mitigation will be determined at that time.
- If needed and approved by the BLM, Plomosa Placers install bat exclusion gates at the entrance to any occupied mine adit at least three days prior to construction. Upon removal of the gates, the entrance to the adit will be immediately sealed with a backhoe or similar equipment.

8. COORDINATION

In preparation for this BE, the following were contacted by telephone:

Angela McIntire
Bat Management Coordinator
AGFD

Jeff Young
Wildlife Biologist
BLM, Yuma Field Office

Ms. Angela McIntire was contacted regarding survey protocol and planning for bat species potentially occurring within the project limits. Ms. McIntire made recommendations relative to conducting a pre-closure survey for bats, and the use of exclusion gates. Ms. McIntire was not sent a project scoping letter and has not reviewed this report.

Mr. Jeff Young indicated concerns relative to bat species occupying the mine adits within the project limits. These species have been evaluated in Section 6, and mitigation measures are discussed in Section 7. In addition, Mr. Young has reviewed this BE.

All agency correspondence is attached to this document.

9. LITERATURE CITED

Arizona Game and Fish Department. 2001a. California leaf-nosed bat (*Macrotus californicus*). Unpublished abstract compiled and edited by the Heritage Data Management System. Arizona Game and Fish Department, Phoenix, AZ. 6 pp.

- . 2001b. Desert tortoise (*Gopherus agassizii*). Unpublished abstract compiled and edited by the Heritage Data Management System. Arizona Game and Fish Department, Phoenix, AZ. 11 pp.
- . 2001c. Western burrowing owl (*Athene cunicularia hypugaea*). Unpublished abstract compiled and edited by the Heritage Data Management System. Arizona Game and Fish Department, Phoenix, AZ. 6 pp.
- . 2002a. American peregrine falcon (*Falco peregrinus anatum*). Unpublished abstract compiled and edited by the Heritage Data Management System. Arizona Game and Fish Department, Phoenix, AZ. 6 pp.
- . 2002b. Cave myotis (*Myotis velifer*). Unpublished abstract compiled and edited by the Heritage Data Management System. Arizona Game and Fish Department, Phoenix, AZ. 7 pp.
- . 2003a. Pale Townsend's big-eared bat (*Corynorhinus townsendii pallescens*). Unpublished abstract compiled and edited by the Heritage Data Management System. Arizona Game and Fish Department, Phoenix, AZ. 6 pp.
- . 2003b. Pocketed free-tailed bat (*Nyctinomops femorosaccus*). Unpublished abstract compiled and edited by the Heritage Data Management System. Arizona Game and Fish Department, Phoenix, AZ. 4 pp.
- . 2003c. Western red bat (*Lasiurus blossevillii*). Unpublished abstract compiled and edited by the Heritage Data Management System. Arizona Game and Fish Department, Phoenix, AZ. 7 pp.
- . 2003d. Western yellow bat (*Lasiurus xanthinus*). Unpublished abstract compiled and edited by the Heritage Data Management System. Arizona Game and Fish Department, Phoenix, AZ. 6 pp.
- Brennan, T. C., and A. T. Holycross. 2006. A Field Guide to Amphibians and Reptiles in Arizona. Arizona Game and Fish Department, Phoenix, AZ.
- Brown, D. E. 1994. Biotic Communities: Southwestern United States and Northwestern Mexico. University of Utah Press, Salt Lake City, UT.
- Fritts, T. H., and R. D. Jennings. 1994. Distribution, habitat use, and status of the desert tortoise in Mexico *in* R. B. Bury, and D. J. Germano, eds. Biology of North American Tortoises, National Biological Survey, Fish and Wildlife Research 13.
- Graber, A. E., D. M. Weddle, H. C. English, S. D. Stump, H. E. Telle, and L. A. Ellis. 2007. Southwestern willow flycatcher 2006 survey and nest monitoring report. Arizona Game and Fish Department, Phoenix, AZ. Nongame and Endangered Wildlife Program Technical Report 249.
- Hoffmeister, D. F. 1986. Mammals of Arizona. University of Arizona Press.
- Jacobson, K. V., K. M. McCarty, and J. T. Driscoll. 2006. Arizona bald eagle management program 2006 summary report. Arizona Game and Fish Department, Phoenix, AZ. Nongame and Endangered Wildlife Program Technical Report 239.
- Morafka, D. J., and G. Hammerson. 2005. Comprehensive Report Species - *Gopherus agassizii* [Online]. NatureServe. <URL: http://www.natureserve.org/explorer/servlet/NatureServe?sourceTemplate=species_RptImages.wmt&loadTemplate=species_RptComprehensive.wmt&paging=&elKey=106323&save=false&page=1>. [Accessed 23 November 2005].
- Nations, D., and E. Stump. 1996. Geology of Arizona, 2nd ed. Kendall Hunt Publishing, Dubuque, IA.
- US Fish and Wildlife Service. 1990. Endangered and threatened wildlife and plants; Determination of threatened status for the Mojave population of the desert tortoise. Federal Register 55:12178-12191.
- . 1991. Endangered and threatened wildlife and plants; finding on a petition to list the Sonoran desert tortoise as threatened or endangered. Federal Register 56:29453-29455.

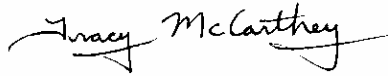
Voeltz, J. B., and R. H. Bettaso. 2003. 2003 Status of the Gila Topminnow and Desert Pupfish in Arizona. Arizona Game and Fish Department, Phoenix, AZ. Nongame and Endangered Wildlife Program Technical Report 226.

Western Bat Working Group. 2008. Western Bat Working Group [Online]. <URL: <http://wbwg.org/>>. [Accessed 1 April 2008].

10. ADDITIONAL INFORMATION

Any field notes, photographs, etc., are in the project file at Archaeological Consulting Services, Ltd.

11. SIGNATURE PAGE



Prepared by:

Tracy McCarthy
Environmental Manager/Senior Biologist
Archaeological Consulting Services, Ltd.

Date: 05/6/2008

Appendix A. Project Area Photographs



Photograph 1. View of the large disturbed area at the end of the road into the west side of the site, looking east. Photograph date: 22 February 2008.



Photograph 2. View overlooking the desert wash (at the end of the access road, west side of the project limits) near the entrance to Adits 1 and 2, looking west. Photograph date: 22 February 2008.



Photograph 3. View at the entrance of Adit 1, looking west. Note the short height of the adit and shallow depth. Photograph date: 22 February 2008.



Photograph 4. View of the entrance to Adit 2, looking west. Note the height of the adit relative to the wash bank. Photograph date: 22 February 2008.



Photograph 5. View of the entrance to Adit 3, looking south. Note the very short entrance relative to the shrub size. Photograph date: 22 February 2008.



Photograph 6. View of the entrance to Adit 4, looking north. Photograph date: 22 February 2008.



Photograph 7. View of the entrance to Adit 5, looking south. Note the short height at the entrance to the adit. Photograph date: 22 February 2008.



Photograph 8. Possible bat urine staining and guano high on the wall within Adit 5. Photograph date: 22 February 2008.

Appendix B: State Sensitive Species

In preparation for this BE, a database search was conducted using the AGFD HDMS Online Environmental Review Tool. The following special status species were identified by the AGFD as potentially occurring within the project vicinity:

- Desert rosy boa (*Lichanura [Charina] trivirgata gracia*)
- Sonoran desert tortoise (*Gopherus agassizii*)

Desert rosy boa is discussed in Table 2. Sonoran desert tortoise is evaluated in Section 6, and mitigation measures are included in Section 7.