

BIOLOGICAL SURVEY REPORT

**Pandora 2009 Project
Waste Rock Area Expansion
San Juan County, Utah**

Prepared for
Denison Mines (USA) Corp.
1050 17th Street, Suite 950
Denver, Colorado 80265

Prepared by
SWCA Environmental Consultants
130 Rock Point Drive, Suite A
Durango, Colorado 81301

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INTRODUCTION

This Biological Survey Report (BSR) evaluates the potential effects of expanding the waste rock pile associated with the Pandora Mine, known as the Pandora 2009 Project, Waste Rock Area Expansion (Proposed Action) proposed by Denison Mines (USA) Corp. (Denison), on federally threatened or endangered species listed under the Endangered Species Act of 1973, as amended et seq. (ESA), as well as other special management species designated by the Bureau of Land Management (BLM) for San Juan County, Utah. The BSR results will evaluate whether any such listed species or their critical habitats are likely to be affected by the Proposed Action. This report will also be used in determining whether formal consultation with the U.S. Fish and Wildlife Service (USFWS) is necessary, per 50 Code of Federal Regulations (CFR) 402.12.

Section 7 of the ESA requires federal agencies to ensure that actions authorized, funded, or carried out by federal agencies are not likely to jeopardize the continued existence of proposed, candidate, threatened, or endangered species or result in the destruction or adverse modification of their critical habitats. This process ensures that listed, proposed, and candidate species receive full consideration in the decision-making process prior to implementing the Proposed Action. This report is intended to provide the agencies with information to make determinations of effect on species with special conservation status.

PROJECT DESCRIPTION

Denison proposes to expand the existing waste rock area associated with the Pandora Mine. The existing rock pile currently occupies 8.90 acres on BLM land. The proposed expansion would include an additional 4.7 acres of new disturbance, also on BLM land in the northeastern portion of San Juan County, Utah (Appendix A, Figure 1). Pursuant to Denison's request, a total of 8.4 acres was surveyed for biological resources (Appendix A, Figure 2). The existing disturbance was not surveyed. The proposed project area (PPA) is located in Section 1, Township 29 South, Range 24 East, Salt Lake Base Meridian, San Juan County, Utah and can be found on the La Sal East, Utah (1987) U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map (Geo Community 2009). In general, the PPA would be accessed south of Utah State Highway 46 (Highway 46) from existing improved roads.

METHODOLOGY

Prior to fieldwork, SWCA Environmental Consultants (SWCA) compiled a list of federally listed and candidate species, and BLM-listed special management species with the potential to occur in San Juan County, Utah (USFWS 2009, United Conservation Data Center [UCDC] 2009).

SWCA conducted a biological survey of the PPA on June 17 and June 18, 2009. The biological survey consisted of walking the PPA to collect data for habitat characterizations and survey for raptors. A 0.5-mile radius around the PPA was visually inspected with binoculars and a spotting scope for nests, raptors, or past signs of raptor use. Weather conditions were warm, cloudy, and overcast with temperatures near 70 degrees Fahrenheit. Surveys noted vegetation and wildlife present in the PPA and vicinity. Digital photographs are included as examples of the existing condition at the PPA and the most common vegetative types present (Appendix B).

PROPOSED PROJECT AREA

Physical Description

The PPA is located south of Highway 46 and southwest of Pine Ridge Road. The topographic pattern of the general area is varied, consisting of defined ridges and deep, relatively incised valleys and canyons. Soil compositions found in the PPA include contents of loam, gravelly fine sandy loam, and very cobbly

sandy loam.

The most prevalent soil type in the PPA is the Barnum loam. The Barnum component makes up about 70% of the PPA and occurs at slopes from 0 to 3% on alluvial flats. The parent material consists of alluvium derived from sandstone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained and water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate and shrink-swell potential is also moderate. This soil is occasionally flooded, but not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2%.

The Ustic Torriorthents-Ustollic Haplargids complex makes up about 20% of the PPA. The Ustic Torriorthents component is found on landslides and escarpments with 10 to 60% slopes. The parent material consists of colluvium derived from sandstone and shale. Depth to a root restrictive layer is 20 to 79 inches. The natural drainage class is well drained and water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low as is the shrink-swell potential. This soil is not flooded or ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2%. The Ustollic Haplargids component is also found on landslides and escarpments. The parent material consists of colluvium derived from sandstone. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 79 inches. The natural drainage class is well drained and water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate and shrink-swell potential is also moderate. This soil is not flooded or ponded. There is no zone of water saturation within a depth of 72 inches and organic matter content in the surface horizon is about 2%.

The remaining 10% of the PPA substrate is the Shalako-Anasazi-Rock outcrop complex, which consists of three components, two of which are described here (Rock outcrop is not considered a major soil component). The Shalako component contains slopes that range from 3 to 15%. This component is found on cuestas. The parent material consists of residuum weathered from sandstone. Depth to a root restrictive layer is lithic bedrock and is 10 to 20 inches. The natural drainage class is well drained and water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low as is the shrink-swell potential. This soil is not flooded or ponded. There is no zone of water saturation within a depth of 72 inches and organic matter content in the surface horizon is about 2%. The Anasazi component contains slopes that range from 3 to 15%. The parent material consists of eolian deposits derived from sandstone. Depth to a root restrictive layer consists of lithic bedrock and is 20 to 40 inches. The natural drainage class is well drained and water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low as is the shrink-swell potential. This soil is not flooded or ponded. There is no zone of water saturation within a depth of 72 inches and organic matter content in the surface horizon is about 2% (Natural Resources Conservation Service [NRCS] 2009).

Biological Description

There are two major vegetation communities that exist within the PPA: Colorado Plateau Piñon-Juniper Woodland and Inter-Mountain Basins Big Sagebrush Shrubland. Descriptions and locations of vegetation cover types were derived from the Southwest Regional Gap Analysis Program (USGS 2004).

Approximately 30% of the vegetation within the PPA is comprised of Colorado Plateau Piñon-Juniper Woodland. Twenty percent is developed with medium to high intensity, where impervious surface accounts for 50 to 100% of the total cover. The remaining 50% is Inter-Mountain Basins Big Sagebrush Shrubland. The understory consists of patches of big sagebrush (*Artemisia tridentata*), Gambel oak (*Quercus gambelii*), cliffrose (*Purshia stansburiana*), yellow rabbitbrush (*Chrysothamnus viscidiflorus*), rubber rabbitbrush (*Ericameria nauseosa*), snowberry (*Symphoricarpos sp.*), and mountain mahogany (*Cercocarpus montanus*) with sparse cacti, forbs, and graminoids. A list of vegetation observed at the proposed site by an SWCA biologist on June 17, 2009 is located in Appendix C.

Colorado Plateau Piñon-Juniper Woodland

This ecological system occurs in dry mountains and foothills of the Colorado Plateau region including the Western Slope of Colorado to the Wasatch Range, south to the Mogollon Rim and east into the

northwestern corner of New Mexico. It is typically found at lower elevations ranging from 4,900 to 8,000 feet (1,500 to 2,440 meters [m]). These woodlands occur on warm, dry sites on mountain slopes, mesas, plateaus, and ridges. Severe climatic events occurring during the growing season, such as frosts and drought, are thought to limit the distribution of piñon-juniper woodlands to relatively narrow altitudinal belts on mountainsides. Soils supporting this system vary in texture ranging from stony, cobbly, gravelly sandy loams to clay loam or clay. Piñon pine (*Pinus edulis*) and/or Utah juniper (*Juniperus osteosperma*) dominate the tree canopy. In the southern portion of the Colorado Plateau in northern Arizona and northwestern New Mexico, one-seed juniper (*Juniperus monosperma*) and hybrids of juniper may dominate or codominate the tree canopy. Rocky Mountain juniper (*Juniperus scopulorum*) may codominate or replace Utah juniper at higher elevations. Understory layers are variable and may be dominated by shrubs, graminoids, or be absent. Associated species include greenleaf manzanita (*Arctostaphylos patula*), big sagebrush (*Artemisia tridentata*), littleleaf mountain mahogany (*Cercocarpus intricatus*), mountain mahogany (*Cercocarpus montanus*), blackbrush (*Coleogyne ramosissima*), stansbury cliffrose (*Purshia stansburiana*), antelope bitterbrush (*Purshia tridentata*), Gambel oak (*Quercus gambelii*), blue gramma (*Bouteloua gracilis*), James' galleta (*Pleuraphis jamesii*), or mutton grass (*Poa fendleriana*). This system occurs at higher elevations than Great Basin Piñon-Juniper Woodland and Colorado Plateau shrubland systems where sympatric.

Inter-Mountain Basins Big Sagebrush Shrubland

This ecological system occurs throughout much of the western U.S., typically in broad basins between mountain ranges, plains and foothills between 4,900 and 7,500 feet (1,500 and 2,300 m) elevation. Soils are typically deep, well-drained and non-saline. These shrublands are dominated by basin big sagebrush (*Artemisia tridentata* ssp. *tridentata*) and/or Wyoming big sagebrush (*Artemisia tridentata* ssp. *wyomingensis*). Scattered juniper (*Juniperus* spp.), greasewood (*Sarcobatus vermiculatus*), and saltbush (*Atriplex* spp.) may be present in some stands. Rubber rabbitbrush (*Ericameria nauseosa*), yellow rabbitbrush (*Chrysothamnus viscidiflorus*), antelope bitterbrush (*Purshia tridentata*), or mountain snowberry (*Symphoricarpos oreophilus*) may codominate disturbed stands. Perennial herbaceous components typically contribute less than 25% vegetative cover. Common graminoid species include Indian ricegrass (*Achnatherum hymenoides*), blue grama (*Bouteloua gracilis*), thickspike wheatgrass (*Elymus lanceolatus*), Idaho fescue (*Festuca idahoensis*), needle and thread grass (*Hesperostipa comata*), basin wildrye (*Leymus cinereus*), James' galleta (*Pleuraphis jamesii*), western wheatgrass (*Pascopyrum smithii*), Sandberg bluegrass (*Poa secunda*), or bluebunch wheatgrass (*Pseudoroegneria spicata*).

SURVEY RESULTS

Federally Listed Species

SWCA conducted research prior to fieldwork to identify threatened, endangered, and candidate species listed by the USFWS that are known to, or have the potential to, occur in San Juan County (Table 1). There are nine species listed as threatened or endangered and one species listed as a candidate. Species accounts with habitat requirements are provided immediately after Table 1. Field investigations evaluated habitat requirements for these species and in the professional opinion of SWCA, none of the 10 federally listed species have the potential to occur in the PPA.

Table 1. Federally Listed and Candidate Species that are Known to Occur or Have the Potential to Occur in San Juan County, Utah (USFWS 2009)

Common Name	Scientific Name	Federal Status	Potential to Occur in the PPA
Black-footed ferret	<i>Mustela nigripes</i>	Endangered ¹	No
Bonytail	<i>Gila elegans</i>	Endangered	No
California condor	<i>Gymnogys californianus</i>	Endangered ¹	No
Colorado pikeminnow	<i>Ptychocheilus lucius</i>	Endangered	No
Humpback chub	<i>Gila cypha</i>	Endangered	No
Mexican spotted owl	<i>Strix occidentalis lucida</i>	Threatened	No
Navajo sedge	<i>Carex specuicola</i>	Threatened	No
Razorback sucker	<i>Xyrauchen texanus</i>	Endangered	No
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	Endangered	No
Western Yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	Candidate	No

Data are from USFWS (2009).

¹ Experimental Population, Non-Essential

Black-footed ferret (*Mustela nigripes*)

The black-footed ferret is listed as endangered by the USFWS, with non-essential experimental status given to re-introduced populations (USFWS 2009). Black-footed ferrets are inhabitants of prairie dog towns. Individuals have been released at several sites in the western United States, including the Coyote Basin area of Uintah County, Utah in late 1999. In addition to this reintroduced population, unconfirmed sightings of naturally occurring ferrets persist throughout eastern Utah (UCDC 2009). No critical habitat for this species is designated in the PPA.

Bonytail (*Gila elegans*)

The bonytail is a rare fish originally native to the Colorado River system. The near extinction of the bonytail can be traced to flow regulation, habitat loss/alteration, and competition with/predation by exotic fishes. Bonytail are now federally listed as endangered, and efforts to re-establish the species are underway (UCDC 2009). No habitat for the bonytail exists within the PPA.

California condor (*Gymnogys californianus*)

The California condor is a federally listed species, with non-essential experimental status given to re-introduced populations (USFWS 2009). In Utah, sightings were historically rare, noted only twice by pioneers in the 1800s, but sightings of birds that were released in northern Arizona have been made almost statewide in the late 1990s (UCDC 2009). Condors are extending the length of time they spend in areas away from the release site, and are ever more proficient in finding carrion. A number of birds traveled in summer 2006 to Utah to reside in the hills just outside Zion National Park. Condors prefer mountains, gorges, and hillsides, which create updrafts, thus providing favorable soaring conditions (UCDC 2009). No habitat for the California condor exists within the PPA.

Colorado pikeminnow (*Ptychocheilus lucius*) and razorback sucker (*Xyrauchen texanus*)

The Colorado pikeminnow and razorback sucker are endemic fish species that once thrived in the Colorado River system. Dam installation and the introduction of non-native fish changed the river environment and put these fish at risk (Upper Colorado River Endangered Fish Recovery Program [UCREFRP] 2006). Critical habitat has been designated for these Colorado River fish species. No habitat for the Colorado pikeminnow and razorback sucker exists within the PPA.

Humpback chub (*Gila cypha*)

The humpback chub is listed as endangered by the USFWS (USFWS 2009). It lives primarily in canyons with swift currents and white water. Historically, it inhabited canyons of the Colorado River and four of its tributaries: the Green, Yampa, White and Little Colorado rivers. Now, there are two populations near the Colorado/Utah border—one at Westwater Canyon in Utah and one in an area called Black Rocks, in Colorado (UCREFRP 2006). Flow alterations within historical habitat have changed the turbidity,

temperature, and flow, which has negatively impacted the species. No habitat for the humpback chub exists within the PPA.

Mexican spotted owl (*Strix occidentalis lucida*)

The Mexican spotted owl is listed as threatened by the USFWS and is protected under the Migratory Bird Treaty Act of 1918 (MBTA), as amended (USFWS 2009; MBTA 1918). Mexican spotted owls are rare residents of southern and eastern Utah, residing in steep-walled canyons of the Colorado Plateau ecoregions and adjacent portions of the Utah Mountains ecoregion (Howe 1998). Primary Mexican spotted owl habitat consists of mixed conifer dominated by Douglas-fir (*Pseudotsuga menziesii*), pine, or true fir (*Abies*) and pine-oak forests. Secondarily selected habitats include such features as steep, narrow canyons with cliffs and a perennial water source. Contiguous forests comprised of old-growth forests or forests that have a more complex structure than surrounding forests are strongly selected for (Gutierrez et al. 1995). No critical habitat for this species is designated in the PPA.

Navajo sedge (*Carex specuicola*)

The Navajo sedge is a federally listed threatened plant that occurs in the canyons of Kane County and San Juan County, Utah, and in immediately adjacent Coconino County, Arizona (USFWS 2009). A member of the sedge family, this species is a loosely tufted perennial, 10 to 16 inches (25–40 cm) tall, with grass-like leaves that droop downward. Its flowers, seen in late June and July, are arranged in spikes, two to four spikes per stem. Navajo sedge is restricted to seep, spring, and hanging garden habitats in Navajo Sandstone, at elevations ranging from 3,800 to 6,000 feet (1,150–1,823 m). Sheep grazing and groundwater pumping are the major threats to the species. No suitable habitat for the Navajo sedge exists within the PPA.

Southwestern willow flycatcher (*Empidonax traillii eximius*)

The Southwestern willow flycatcher is listed as endangered by the USFWS and is also protected under the MBTA (USFWS 2009, MBTA 1918). The species is rare in southern Utah, with the Virgin River supporting most of the breeding flycatchers within the state (Sogge et al. 2003). The Southwestern willow flycatcher breeds in riparian habitats along rivers, streams, and other wetlands. These habitats are typically dominated by cottonwoods (*Populus* spp.), often with an understory of small trees or tall shrubs and surface water nearby. No critical habitat for this species is designated in the PPA.

Yellow-billed cuckoo (*Coccyzus americanus occidentalis*)

The Western yellow-billed cuckoo is listed as a candidate species by the USFWS and is protected under the MBTA (USFWS 2009; MBTA 1918). This species breeds in riparian woodlands and similar habitats at lower (2,800 to 5,500 feet) to middle (5,000 to 7,500 feet) elevations (Hubbard 1978). Historically, cuckoos were probably common to uncommon summer residents in Utah. The current distribution of yellow-billed cuckoos in Utah is poorly understood, though they appear to be an extremely rare breeder in lowland riparian habitats statewide (Parrish et al. 1999, UCDC 2009). The greatest factors affecting the yellow-billed cuckoo have been the invasion of exotic woody plants into southwest riparian systems, and clearing of riparian woodlands for agriculture, fuel, development, and attempts at water conservation (Howe 1986). There are no dense riparian thickets in or adjacent to the PPA to support this species.

BLM Special Management Species

The BLM Moab Field Office has identified 24 species with special management status. Of these, two have the potential to occur in the PPA and surrounding area, fringed myotis (*Myotis thysanodes*), and Townsend's big-eared bat (*Corynorhinus townsendii*) (Table 2).

Table 2. BLM Special Management Species

Species	Habitat Associations	Potential to Occur in the PPA
Allen's big-eared bat (<i>Idionycteris phyllotis</i>)	Occurs primarily in forested mountain areas.	No. Suitable habitat for this species can be found near the PPA. However, the species appears to be out of range based on the Utah Division of Wildlife Resources projected range map.
American white pelican (<i>Pelecanus erythrorhynchos</i>)	Lacustrine areas.	No. Suitable habitat for this species does not occur in the PPA.
Arizona toad (<i>Bufo microscaphus</i>)	Lowland riparian habitat.	No. Suitable habitat for this species does not occur in the PPA.
Big free-tailed bat (<i>Nyctinomops macrotis</i>)	Inhabits rugged, rocky terrain and typically roosts in rock crevices.	No. Rocky terrain and cliffs occur throughout the PPA. However, there are no significant rock outcroppings suitable for roosting sites. Additionally, the species appears to be out of range based on the Utah Division of Wildlife Resources projected range map.
Bobolink (<i>Dolichonyx oryzivorus</i>)	Restricted to wet meadow and flooded pasture habitats.	No. Suitable habitat for this species does not occur in the PPA.
Burrowing owl (<i>Athene cunicularia hypugaea</i>)	Lives in dry, open areas with no trees and short grass, often in association with prairie dog towns.	No. There are no prairie dog towns in the vicinity of the PPA.
California floater (<i>Anodonta californiensis</i>)	Lake and pond habitats.	No. Suitable habitat for this species does not occur in the PPA.
Common chuckwalla (<i>Sauromalus ater</i>)	Occurs in desert communities of blackbrush and salt desert scrub with large rocks and boulders.	No. Desert vegetation and rocky hillsides occur in the PPA to suit this species. However, this species is not known to occur in San Juan County.
Desert night lizard (<i>Xantusia vigilis</i>)	Found in arid and semiarid rocky areas.	No. Suitable habitat for this species does not exist in the PPA.
Ferruginous hawk (<i>Buteo regalis</i>)	Relies on grassland or shrub-steppe terrain and, in many parts of Utah, nests on the ecotone between these habitats and piñon-juniper woodlands.	No. There are no open areas within the PPA that could provide foraging habitat. Piñon-juniper woodlands occur in the PPA, but there is no foraging habitat in close proximity.
Fringed myotis (<i>Myotis thysanodes</i>)	Commonly roosts in mine tunnels, caves, and buildings.	Yes. Suitable woodland habitat occurs within the PPA. However, the preferred roosting sites of caves, mines, and buildings were not observed in the PPA.
Greater sage-grouse (<i>Centrocercus urophasianus</i>)	Uses sagebrush-grassland habitats and nests on the ground.	No. Suitable habitat for this species does not occur in the PPA.
Gunnison's prairie dog (<i>Cynomys gunnisoni</i>)	Inhabits grasslands, semidesert and montane shrublands.	No. Suitable habitat for this species does not occur in the PPA.
Kit fox (<i>Vulpes macrotis</i>)	A desert-adapted fox, it is found exclusively in arid and semi-arid landscapes with soils suitable for denning.	No. Suitable habitat for this species does not occur in the PPA.
Lewis' woodpecker (<i>Melanerpes lewis</i>)	Habitat includes ponderosa pine and open riparian areas.	No. Suitable habitat for this species does not occur in the PPA.
Long-billed curlew (<i>Numenius americanus</i>)	Nests in dry grasslands where sufficient cover and abundant prey exists.	No. Suitable habitat for this species does not occur in the PPA.
Mogollon vole (<i>Microtus mogollonensis</i>)	Inhabits thickets of <i>Ceanothus</i> , <i>Rosa</i> , <i>Symphoricarpos</i> , and <i>Arctostaphylos</i> shrubs, as they require thick stands of brush.	No. Suitable habitat for this species does not occur in the PPA.
Short-eared owl (<i>Asio flammeus</i>)	Prefers open country and is a ground-nesting species that occupies grasslands and tundra.	No. Suitable habitat for this species does not occur in the PPA.
Silky pocket mouse (<i>Perognathus flavus</i>)	Inhabits semidesert arid grasslands with rocky or loamy soils.	No. Suitable habitat for this species does not occur in the PPA.

Smooth greensnake (<i>Opheodrys vernalis</i>)	Habitat in Utah includes meadows and stream margins.	No. Suitable habitat for this species does not occur in the PPA.
Spotted bat (<i>Euderma maculatum</i>)	Found in dry, rough, desert terrain. Roosts are typically in rock crevices or under loose rocks or boulders.	No. Suitable habitat for this species occurs throughout the PPA. However, no substantial cliff faces or crevices were observed in the PPA.
Three-toed woodpecker (<i>Picoides tridactylus</i>)	Coniferous forests with a significant percentage of dead trees.	No. Suitable habitat for this species does not occur in the PPA.
Townsend's big-eared bat (<i>Corynorhinus townsendii</i>)	Roosts in abandoned mines and natural caverns.	Yes. Suitable woodland and forested areas occur within the PPA. However, the preferred roosting sites of caves, mines, or abandoned buildings were not observed in the PPA.
Yavapai mountainsnail (<i>Oreohelix yavapai</i>)	Found in aspens and in rocky habitat in the vicinity of Navajo Mountain and the Abajo Mountains.	No. Suitable habitat for this species does not occur in the PPA.

CERTIFICATION

Within the limitations of schedule, budget, and scope of work, SWCA warrants that this study was conducted in accordance with accepted environmental science practices, including the technical guidelines, evaluation criteria, and species' listing statuses in effect at the time this evaluation was performed. The results and conclusions of this report represent the best professional judgment of SWCA scientists, and are based on information provided by the project proponent and that obtained from agencies and other sources during the course of the study.

In the professional opinion of SWCA, the Proposed Action would not violate any provisions of the ESA.

Signature



Amanda Kuenzi
SWCA Environmental Consultants
130 Rock Point Drive, Suite A
Durango, Colorado 81301
970.385.8566

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Appendix A Project Maps

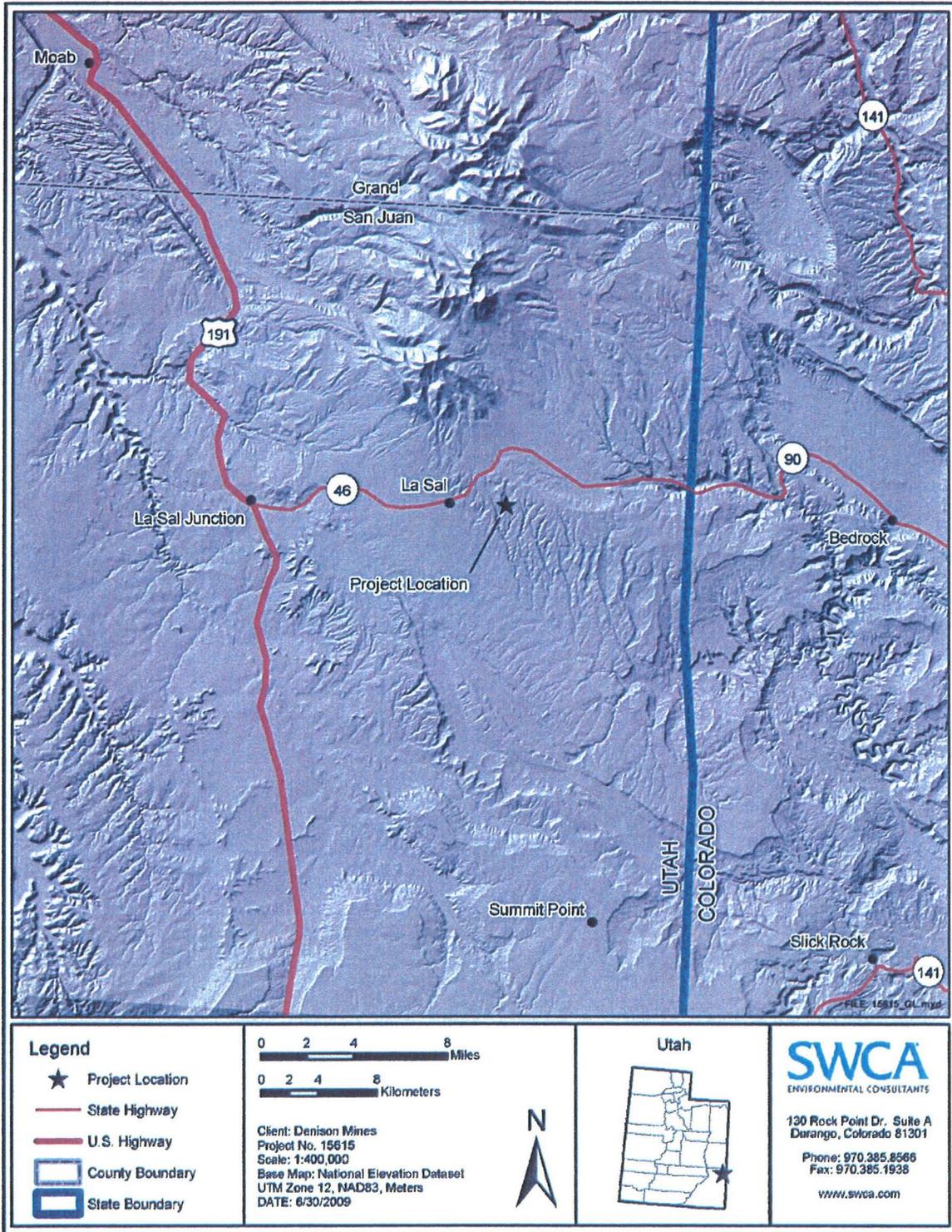


Figure 1. General location map.

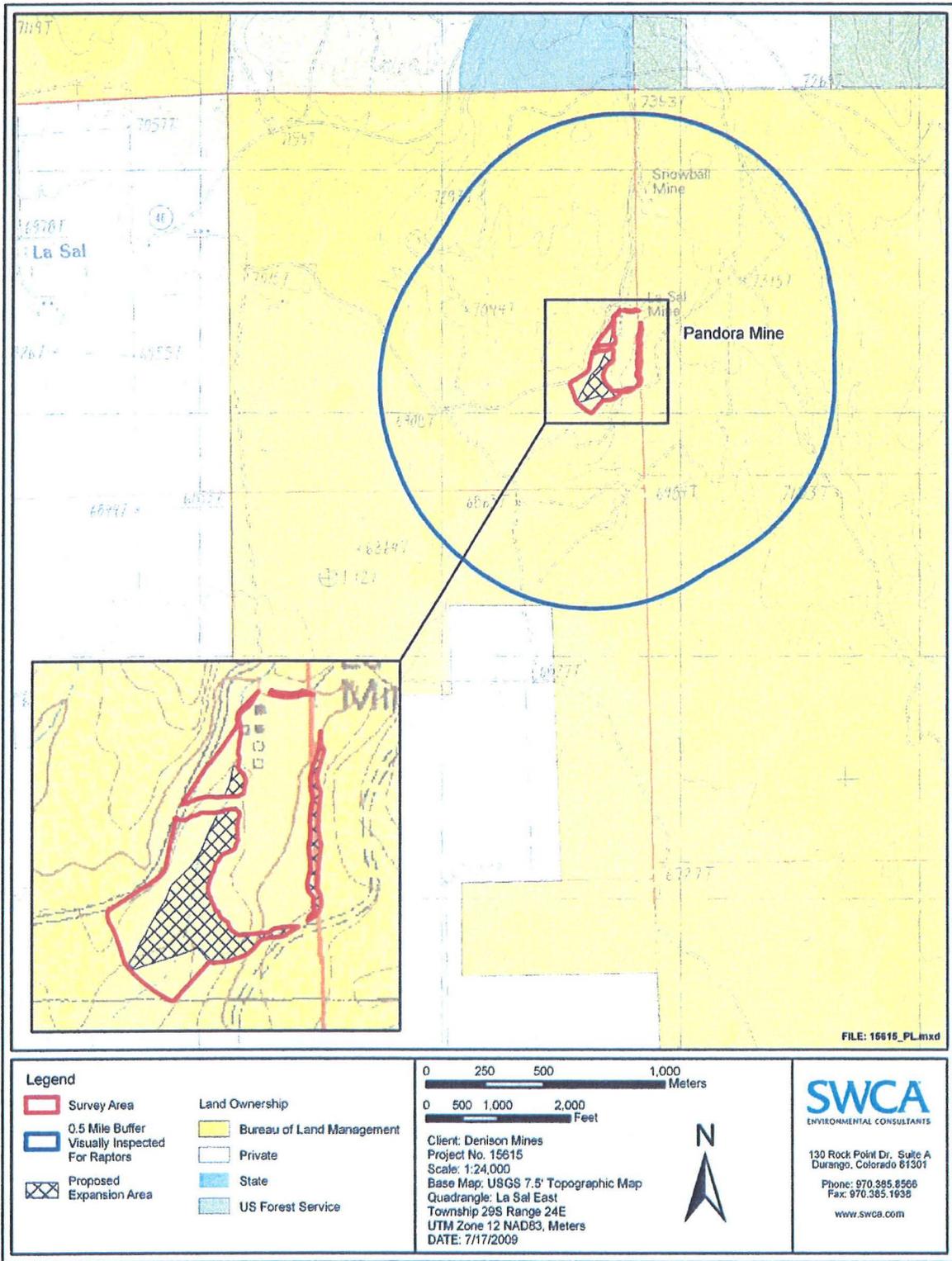


Figure 2. Project location map showing proposed expansion.

Appendix B

Photographs of Survey Area



Photograph 1. View of existing waste rock pile, and existing vegetation in PPA, looking northeast, 50 degrees.



Photograph 2. Overview of PPA, from the easternmost parcel, looking northwest (310°).



Photograph 3. Typical vegetation of the PPA, including big sagebrush (*Artemisia tridentata*), fourwing saltbush (*Atriplex canescens*), and a grass-dominated understory.

Appendix C
Plants and Wildlife Observed in the Survey Area

This list includes common plant species observed during the site visit. This does not represent a comprehensive summary of all species that may occur in the PPA.

Common Name	Scientific Name
Big sagebrush	<i>Artemisia tridentata</i>
Buckwheat	<i>Eriogonum</i> spp.
Cheatgrass*	<i>Bromus tectorum</i>
Crested wheatgrass	<i>Agropyron cristatum</i>
Dandelion	<i>Taraxacum officinale</i>
Fleabane	<i>Erigeron</i> sp.
Fourwing saltbush	<i>Atriplex canescens</i>
Foxtail barley	<i>Hordeum jubatum</i>
Gambel oak	<i>Quercus gambelii</i>
Hairy false goldenaster	<i>Heterotheca villosa</i>
Indian ricegrass	<i>Achnatherum hymenoides</i>
Jointfir	<i>Ephedra</i> sp.
Lupine	<i>Lupinus</i> sp.
Milkvetch	<i>Astragalus</i> sp.
Piñon pine	<i>Pinus edulis</i>
Rabbitbrush	<i>Chrysothamnus</i> sp., <i>Ericameria</i> sp.
Scarlett globemallow	<i>Sphaeralcea coccinea</i>
Utah juniper	<i>Juniperus osteosperma</i>
Yellow sweetclover	<i>Mellilotus officinalis</i>

*Indicates a non-native species.

This list includes those wildlife species detected directly (i.e., by sight) or indirectly (i.e., through sound or sign) during the site visit. This list does not represent a comprehensive summary of all species that may occur in the PPA.

Common Name	Scientific Name
Birds*	
White-throated swift	<i>Aeronautes saxatalis</i>
Juniper titmouse	<i>Baeolophus ridgwayi</i>
Blue-gray gnatcatcher	<i>Poliophtila caerulea</i>
Western bluebird	<i>Sialia mexicana</i>
Yellow-rumped warbler	<i>Dendroica coronata</i>
Chipping sparrow	<i>Spizella passerina</i>
Mammals	
Cow	<i>Bos taurus</i>
Deer (scat)	<i>Odocoileus sp.</i>
Mountain Cottontail (scat)	<i>Sylvilagus nuttallii</i>

*Birds are listed in American Ornithologists' Union order