
**MOHAVE GROUND SQUIRREL SURVEY
AT THE SNOWLINE UNIFIED SCHOOL DISTRICT
SNOWLINE II SOLAR PV LUEON LANE PROJECT SITE,
APNS 3068-191-01, 3068-191-02
PINON HILLS, SAN BERNARDINO COUNTY, CALIFORNIA**

Prepared for

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5 August 2013

Certification: *I hereby certify that the statements furnished herein present data and information required for this Biological Survey to the best of my ability, and the facts, statements, and information presented are true and correct to the best of my knowledge and belief.*

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SUMMARY

The Snowline Unified School District proposes to install photovoltaic panels on 2 adjacent parcels (APNS 3068-191-01 and 3068-191-02) in Pinon Hills, San Bernardino County, California. Visual and trapping surveys were conducted on the proposed project site to determine the presence or absence of Mohave ground squirrels (*Xerospermophilus mohavensis*), a State-listed threatened species. One trapping grid was established at the site. No Mohave ground squirrels were seen during the visual survey or captured during the three trapping periods at the site. The negative result does not necessarily prove that Mohave ground squirrels do not exist on the site or that the site is not actual or potential habitat for the species. However, in the circumstance of such a negative result, the California Department of Fish and Wildlife will stipulate that the project site harbors no Mohave ground squirrels. This stipulation will expire one year from the ending date of the last trapping on the site, which was 5 July 2013.

This study was conducted under the authority of a Memorandum of Understanding between EREMICO Biological Services and the California Department of Fish and Wildlife, dated 28 August 2007.

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1. INTRODUCTION

1.1. PROJECT DESCRIPTION

The Snowline School District proposes to install photovoltaic (PV) panels on 2 parcels totaling 20.14 ac in Pinon Hills, San Bernardino County, California. The project is entitled Snowline II Solar PV Lueon Lane Project Site. The Assessor's Parcel Numbers are 3068-191-01 (10.07-ac) and 3068-191-02 (10.07-ac).

The proposed project site lies within the known range of Mohave ground squirrels (*Xerospermophilus mohavensis*) (Gustafson 1993, Leitner 2008), a State-listed threatened species (State of California 2013b). Since the construction of the photovoltaic panels at the site may negatively impact a State-listed species, surveys following standardized protocols (California Department of Fish and Game [CDFG] 2003) were initiated to determine the status of Mohave ground squirrels in the project area.

1.2. PROJECT SITE

The Lueon Lane project site is southeast of the intersection of Lueon Lane and Solano Road in Pinon Hills. It is located in the north half of the southwest quarter of the northeast quarter of Section 7, Township 4 North, Range 7 West, San Bernardino Meridian (Mescal Creek Quadrangle, U.S. Geological Survey 7.5-minute Series) (Figure 1a). The elevation ranges from approximately 3,825 to 3,840 ft above mean sea level. The project site consists of disturbed and natural habitats. Adjacent properties include vacant (open desert) and developed parcels (Figure 1b).

Figure 1a. Proposed Snowline II Solar PV Lueon Lane project site, Pinon Hills, California (USGS Mescal Creek Quadrangle, 7.5 minute Series).

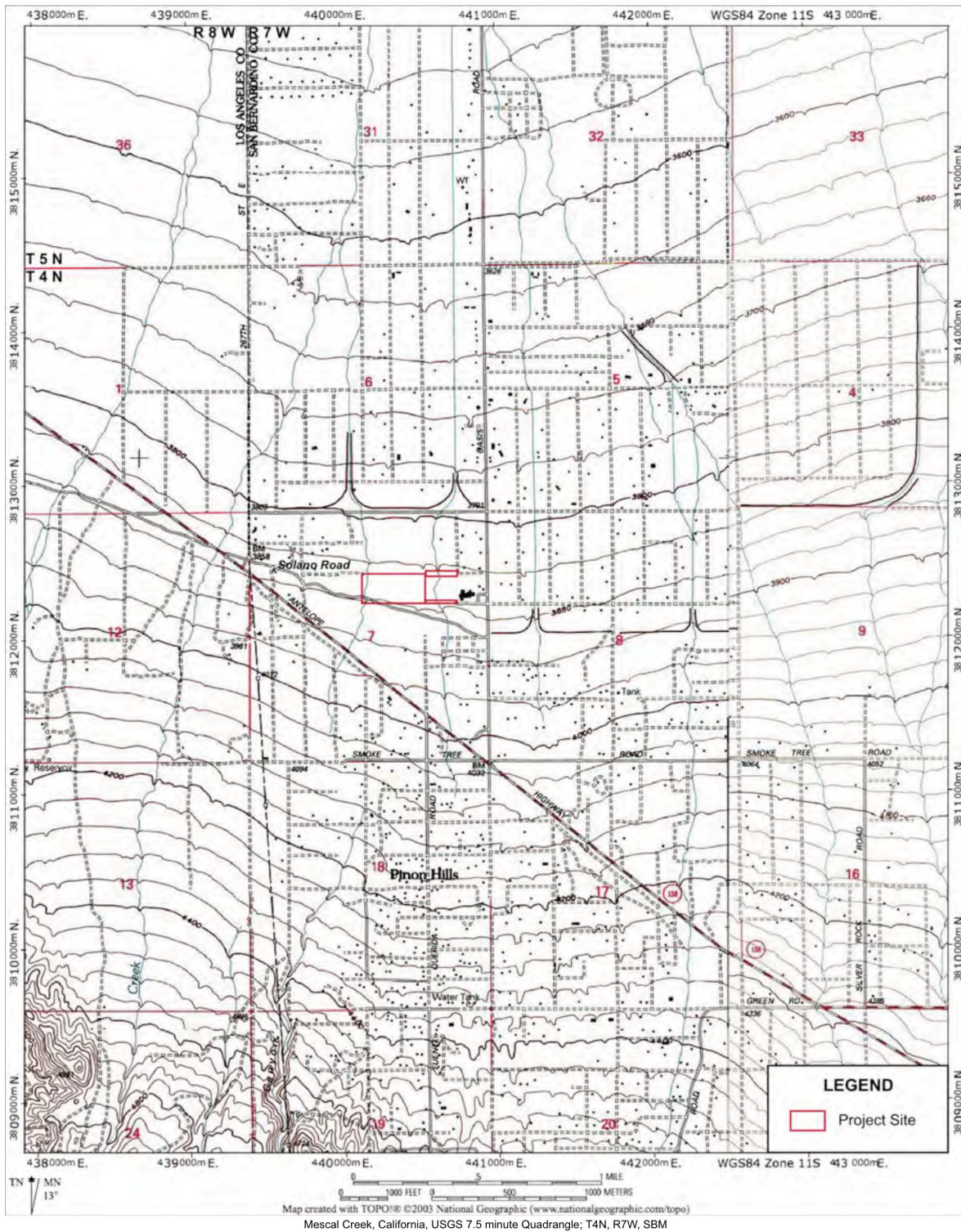
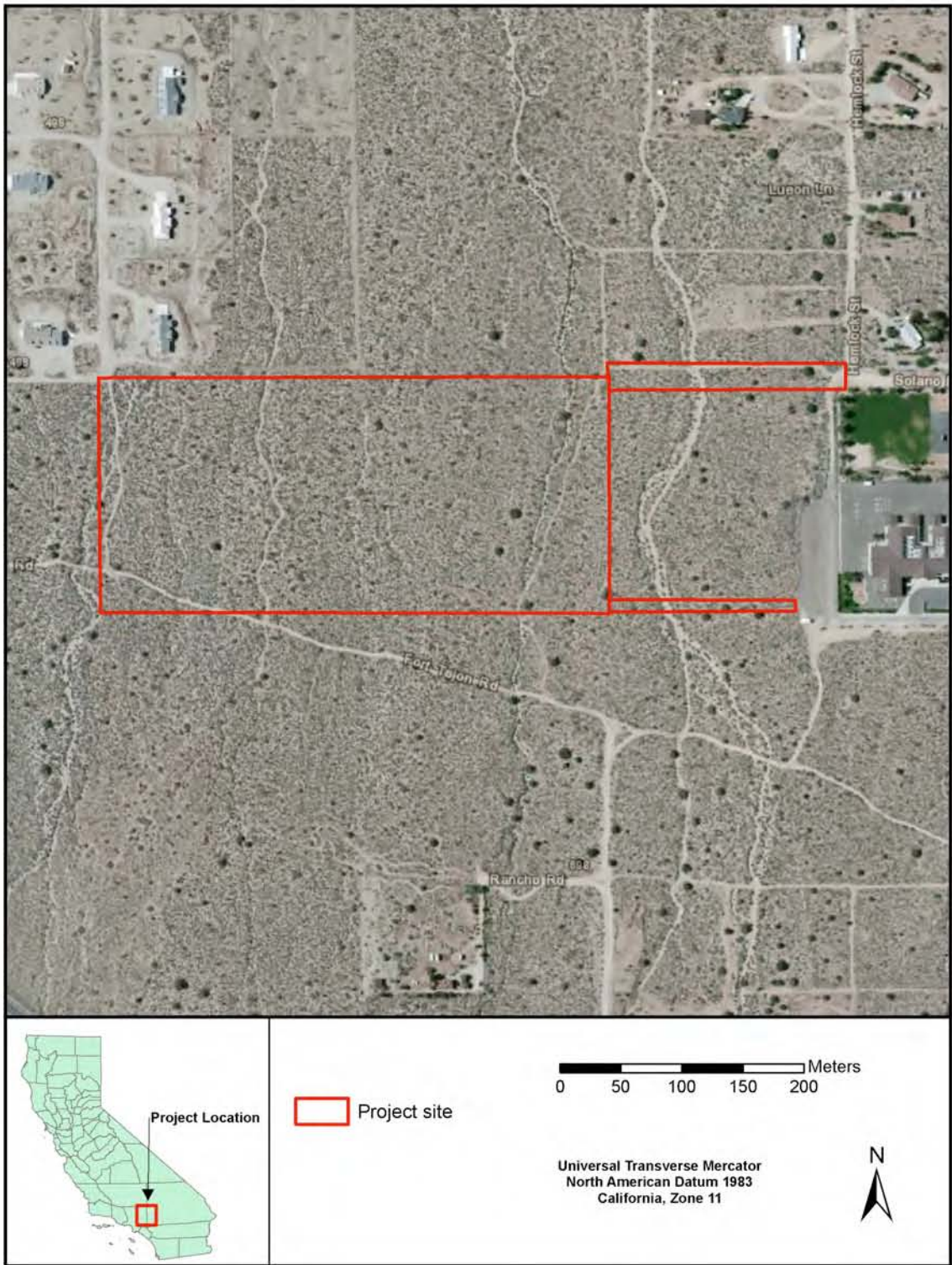


Figure 1b. Proposed Snowline II Solar PV Lueon Lane project site, Pinon Hills, California (aerial view).



2. METHODS

To determine presence of Mohave ground squirrels on the project site, a visual survey and then a trapping survey were conducted. The visual survey was conducted by walking a meandering transect through the project site. The purpose of this survey was to unobtrusively search for Mohave ground squirrels, to evaluate the habitat for its potential to support this squirrel, and to select the site for the trapping grid. The Mohave ground squirrel presence-or-absence trapping study was conducted using standardized survey guidelines (California Department of Fish and Game [CDFG] 2003). One grid is required per 80 acres of potential Mohave ground squirrel habitat on the project site (CDFG 2003). The Lueon Lane project site supports less than 80 acres of potential habitat. Therefore, one grid was established at the site.

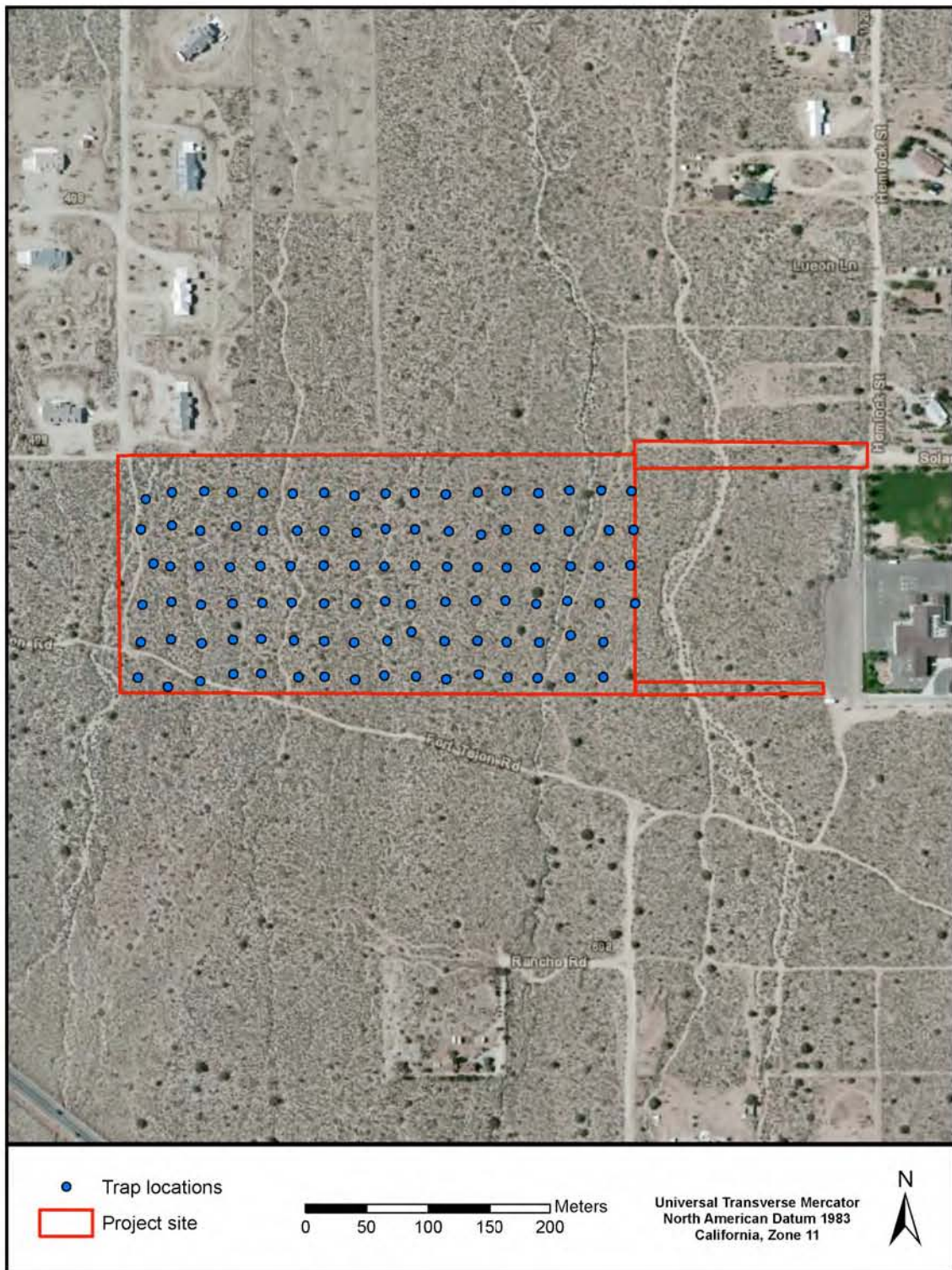
The trapping grid was configured to stay within the boundaries of the parcel (Figure 2). The grid consisted of 100 Sherman live traps (12-inch kangaroo rat model). The distance between traps was 82-100 ft. Each trap was placed in a 5 x 5 x 17-inch open-ended corrugated cardboard box. The boxes not only provided shade but also insulation to minimize thermal stress on captured animals. Traps and shelters were placed on the north-south axis and were baited with a mixture of sweet horse grain and a blend of peanut butter and rolled oats. The traps were opened by one hour after sunrise or when the air temperature at 1 ft above the ground reached 50°F. The ambient air temperature 1 ft above the ground and surface temperature, both in the shade, were recorded every hour during the trapping effort. Cloud cover and wind speed and direction were also recorded three times during trapping. If the air temperature exceeded 90°F, then the traps were closed until the temperature fell below 90°F. Traps were also closed during periods of rain and high wind. Traps were checked every 2-4 hours and closed by sunset.

The following data were recorded on all captured animals: capture time, trap number, species, sex, age (adult or juvenile), and reproductive condition. No animals were marked. After each animal was processed, it was released at the point of capture. A California Native Species Field Survey Form for Mohave ground squirrels was completed for the project site regardless of the outcome of trapping.

The grid was trapped for a maximum of three, 5-consecutive day periods. According to the trapping protocol (CDFG 2003) the first trapping session was to occur between 15 March and 30 April 2013. The second session was to occur at least two weeks after the end of the first trapping session and between 1 May and 31 May 2013. The third session was to occur at least two weeks after the end of the second trapping session and between 15 June and 15 July 2013. Trapping was to cease upon the capture of a Mohave ground squirrel. Hence, if a Mohave ground squirrel was captured during the first trapping period, then the second and third trapping sessions would not be necessary.

The Mohave ground squirrel survey was conducted under the authority of a Memorandum of Understanding between EREMICO Biological Services and the CDFW, dated 28 August 2007. Biologists Denise LaBerteaux and Bruce Garlinger conducted the visual survey, and Ms LaBerteaux conducted the trapping survey. Ms LaBerteaux is designated as principal investigator and Mr. Garlinger as field investigator on the Letter of Authorization under the MOU.

Figure 2. Mohave ground squirrel trapping grid at the proposed Snowline II Solar PV Lueon Lane project site, Pinon Hills, California.



During the course of the Mohave ground squirrel survey, the biologists recorded incidental observations of other wildlife species occurring in the project area.

3. RESULTS AND DISCUSSION

3.1. PHYSICAL ENVIRONMENT

All of the project sites are located in the southwestern Mojave Desert, at the base of the San Gabriel Mountains. It is on an alluvial fan with a 2% grade and draining towards the north. Several small washes bisect the site. The soils consist of granitic sand, cobble, and boulders. The site supports a *Yucca brevifolia* Woodland Alliance (Joshua tree woodland), as defined by Sawyer et al. (2009). The understory vegetation is quite diverse with over 20 shrub species (Appendix A). Annual plants were not common at the time of the survey due to below normal precipitation during the previous fall/winter (Appendix A).

Existing impacts at the Lueon Lane site include 4 interior dirt roads, off-highway vehicle tracks, and illegal dumping of large items (e.g., couches, tires) (Figure 1b). Photographs of the site are provided in Appendix B.

3.2. MOHAVE GROUND SQUIRRELS

The Mohave ground squirrel's range is limited to the western Mojave Desert, generally from Lucerne Valley in San Bernardino County to Cartago in Inyo County. Within its range it has a patchy distribution but occupies a variety of habitats, including desert saltbush scrub, creosote bush scrub, Joshua tree woodland, shadscale scrub, blackbrush scrub, and sagebrush scrub. It occurs at elevations up to at least 5,600 feet. Mohave ground squirrels eat mainly leaves of forbs, shrubs, and grasses; fruit and flowers of forbs; seeds of forbs, grasses, shrubs, and Joshua trees; fungi; and anthropods (Gustafson 1993). Under drought conditions, saltbush (*Atriplex* spp.), winter fat (*Krascheninnikovia lanata*), spiny hop-sage (*Grayia spinosa*), and box-thorn (*Lycium* spp.) are probably the most important food plants, helping to sustain viable populations of Mohave ground squirrels throughout their range (Leitner and Leitner 1998).

Reasons for decline and extirpation of local populations include persistent drought, habitat destruction, degradation and fragmentation; use of pesticides for rodent control; domestic cat predation; and, possibly, shooting and vehicle strike (Gustafson 1993).

Despite the extensive trapping effort over the last 10 years in the southern portion of its range, the only recent records of a Mohave ground squirrel occur in Victorville, 14 miles east of the project site, and Adelanto, 15 miles towards the northeast. There are no records in the immediate vicinity of the project sites (State of California 2013a).

3.2.1. Visual Survey

Visual surveys were conducted on 7 April 2013 between 1250 and 1410 hours. No Mohave ground squirrels were observed during the visual surveys; therefore, the trapping survey was initiated.

3.2.1. Trapping Survey

The first trapping period occurred from 8-12 April 2013 and consisted of 4,050 trap-hours. Prevailing weather conditions during trapping are provided in Appendix C. Results of the trapping effort during the first period are summarized in Table 1. Captured animals included 39 white-tailed antelope squirrels (*Ammospermophilus leucurus*), 2 desert cottontails (*Sylvilagus auduboni*), 1 Cactus Wren (*Campylorhynchus brunneicapillus*), and 1 desert spiny lizard (*Sceloporus magister*). No Mohave ground squirrels were trapped or observed during this period.

The second trapping period occurred from 13-17 May 2013. The effort totaled 4,400 trap-hours. Prevailing weather conditions during trapping are provided in Appendix C. Results of the trapping effort during the second period are summarized in Table 1. Captured animals included 17 white-tailed antelope squirrels, 2 desert cottontails, 1 Cactus Wren, and 2 Gilbert's Skinks (*Plestiodon gilberti*). As in the first period, no Mohave ground squirrels were trapped.

The third trapping period occurred from 1-5 July 2013. Prevailing weather conditions are provided in Appendix C. Temperatures exceeded 90°F on all 5 days of trapping; hence, trap closures were necessary, and the trapping effort totaled only 1,875 trap-hours. Results of the trapping effort during the third period are summarized in Table 1. Captures included 27 white-tailed antelope squirrels. No other animals were captured, including Mohave ground squirrels.

A standardized form, included in the survey guidelines (CDFG 2003), summarizing the Mohave ground squirrel survey and trapping effort at the site is provided in Appendix C. A completed California Native Species Field Survey Form that documents the negative trapping result is provided in Appendix D.

3.3. OTHER WILDLIFE

Other wildlife species that were incidentally observed during the Mohave ground squirrel survey are listed in Appendix E and include 4 reptiles, 39 birds, and 4 mammals. Most of these species are commonly found in the Mojave Desert and the foothills of the San Gabriel Mountains. Five of the birds have special status (State of California 2011, Shuford and Gardali 2008) and are identified in Appendix E. Of these five species, only Costa's Hummingbirds and Loggerhead Shrikes potentially breed on the project site.

Table 1. Results of the Mohave ground squirrel trapping effort at the proposed Snowline II Solar PV Lueon Lane project site, Pinon Hills, California.

PERIOD	DATE	TRAP-HOURS	SPECIES	Ad. M	Ad. F	Juv. M	Juv. F	Unk.	TOTAL CAPTURES
1	8 April 2013	500	White-tailed Antelope Squirrel	2	7				9
	9 April 2013	800	White-tailed Antelope Squirrel	2	3			1	6
	10 April 2013	1000	White-tailed Antelope Squirrel	5	5				10
			Desert Cottontail					1	1
	11 April 2013	1050	White-tailed Antelope Squirrel	6	4				10
			Cactus Wren					1	1
			Desert Spiny Lizard					1	1
	12 April 2013	700	White-tailed Antelope Squirrel	1	3				4
Desert Cottontail							1	1	
2	13 May 2013	500	White-tailed Antelope Squirrel	1	1				2
	14 May 2013	1050	White-tailed Antelope Squirrel		6	1			7
			Desert Cottontail					1	1
			Gilbert's Skink					1	1
	15 May 2013	1050	White-tailed Antelope Squirrel	1		1	1		3
			Desert Cottontail					1	1
			Cactus Wren	1					1
	16 May 2013	1050	White-tailed Antelope Squirrel		1		1		2
Gilbert's Skink							1	1	
17 May 2013	750	White-tailed Antelope Squirrel		1	1	1		3	
3	1 July 2013	350	White-tailed Antelope Squirrel	7	1	4	1		13
	2 July 2013	400	White-tailed Antelope Squirrel	1		6	4		11
	3 July 2013	350	White-tailed Antelope Squirrel	1					1
	4 July 2013	375	White-tailed Antelope Squirrel				1		1
	5 July 2013	400	White-tailed Antelope Squirrel	1					1

CONCLUSION

Surveys were conducted from early April through mid early 2013 to determine the presence or absence of Mohave ground squirrels at the proposed Snowline II Solar PV project site in Pinon Hills, San Bernardino County, California following standardized survey guidelines (CDFG 2003). No Mohave ground squirrels were captured or otherwise detected at any site during the surveys. The negative result does not necessarily prove that Mohave ground squirrels do not exist on the site or that the site is not actual or potential habitat for the species. However, the California Department of Fish and Wildlife will stipulate that the project site currently does not harbor Mohave ground squirrels. This stipulation will expire one year from the last day of trapping. Therefore, the results of this study will expire on 5 July 2014.

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APPENDIX A

VASCULAR PLANT LIST

Vascular plants recorded at the Snowline II Solar PV Lueon Lane project site during the trapping effort.

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABIT
CUPRESSACEAE			
	<i>Juniperus californica</i>	California juniper	shrub, tree
EPHEDRACEAE			
	<i>Ephedra nevadensis</i>	Nevada ephedra	shrub
ASTERACEAE			
	<i>Acamptopappus sphaerocephalus</i> var. <i>hirtellus</i>	goldenhead	shrub
	<i>Ambrosia salsola</i>	cheesebush	shrub
	<i>Encelia actoni</i>	bush sunflower	shrub
	<i>Ericameria cooperi</i> var. <i>cooperi</i>	Cooper goldenbush	shrub
	<i>Gutierrezia microcephala</i>	sticky snakeweed	subshrub
	<i>Layia glandulosa</i>	white layia	annual forb
	<i>Lessingia glandulifera</i> var. <i>glandulifera</i>	lessingia	annual forb
	<i>Tetradymia axillaris</i> var. <i>longispina</i>	cottonthorn	shrub
	<i>Tetradymia stenolepis</i>	Mojave horsebrush	shrub
BORAGINACEAE			
	<i>Amsinckia tessellata</i> var. <i>tessellata</i>	fiddleneck	annual forb
	<i>Nama demissum</i> var. <i>demissum</i>	purple mat	annual forb
CACTACEAE			
	<i>Cylindropuntia echinocarpa</i>	golden cholla	stem succulent
CARYOPHYLLACEAE			
	<i>Achyronychia cooperi</i>	frost-mat	annual forb
CHENOPODIACEAE			
	<i>Atriplex canescens</i> var. <i>canescens</i>	four-winged saltbush	shrub
	<i>Grayia spinosa</i>	spiny hop-sage	shrub
	<i>Krascheninnikovia lanata</i>	winter fat	shrub
GERANIACEAE			
	<i>Erodium cicutarium</i> *	red-stemmed filaree	annual forb
LAMIACEAE			
	<i>Salvia dorrii</i> var. <i>dorrii</i>	blue sage	shrub
	<i>Scutellaria mexicana</i>	bladder sage	shrub
LOASACEAE			
	<i>Mentzelia</i> sp.	blazing star	annual forb
NYCTAGINACEAE			
	<i>Mirabilis laevis</i>	wishbone bush	perennial forb
PHRYMACEAE			
	<i>Mimulus</i> sp.	monkeyflower	annual forb
POLYGONACEAE			
	<i>Centrostegia thurberi</i>	red triangles	annual forb
	<i>Eriogonum fasciculatum</i> var. <i>polifolium</i>	California buckwheat	shrub
	<i>Eriogonum plumatella</i>	yucca wild buckwheat	shrub
SOLANACEAE			
	<i>Lycium andersonii</i>	desert tomato	shrub
	<i>Lycium cooperi</i>	peach-thorn	shrub
VISCACEAE			
	<i>Phoradendron juniperinum</i>	juniper mistletoe	perennial parasite
ZYGOPHYLLACEAE			
	<i>Larrea tridentata</i>	creosote bush	shrub
	<i>Yucca brevifolia</i>	Joshua tree	tree-like

* non-native species

Vascular plants recorded at the Snowline II Solar PV Lueon Lane project site during the trapping effort (continued).

FAMILY		
SCIENTIFIC NAME	COMMON NAME	HABIT
AGAVACEAE		
<i>Hesperoyucca whipplei</i>	chaparral yucca	shrub-like
POACEAE		
<i>Bromus madritensis</i> ssp. <i>rubens</i> *	red brome	annual grass
<i>Bromus tectorum</i> *	cheat grass	annual grass
<i>Schismus</i> sp.*	schismus	annual grass
<i>Stipa speciosa</i>	desert needlegrass	perennial grass

* non-native species

APPENDIX B

PHOTOGRAPHS

Trapping Site, Lueon Lane Project Site, Pinon Hills, California

View from southeast corner of trapping grid towards west-northwest



View from northwest corner of trapping grid towards east-southeast



Trapping Site, Lueon Lane Project Site, Pinon Hills, California

View from northeast corner of trapping grid towards west-southwest



View from southwest corner of trapping grid towards east-northeast



APPENDIX C

**MOHAVE GROUND SQUIRREL SURVEY
AND TRAPPING SUMMARY FORMS**

MOHAVE GROUND SQUIRREL (MGS) SURVEY AND TRAPPING FORM

PART 1 – PROJECT INFORMATION

Project Name: Snowline II Solar PV, Lueon Lane, Pinon Hills **Project Owner:** Snowline Unified School District

Location (Township, Range, Section): a portion of the north half of the southwest quarter of the northeast quarter of Section 7, Township 4 North, Range 7 West, San Bernardino Meridian, in Pinon Hills, San Bernardino County

Quad Map/Series: Mescal Creek, 7.5 Minute Series

UTM Coordinates of Trapping Grid Corners: (NAD 83, Zone 11) NW Corner 440155E, 3812385N; NE Corner 440550E, 3812391N; SE Corner 440528E, 3812240N; SW Corner 440149E, 3812240N

Acreage of Project Site: 20.14 acres **Acreage of Potential MGS Habitat on Site:** 20.14 acres

Total Acreage Visually Surveyed on Project Site: 20.14 acres **Date(s) of Visual Survey:** 7 April 2013

Visual Survey Conducted By: Denise LaBerteaux, Bruce Garlinger

Total Acres Trapped: 20.14 acres **Number of Sampling Grids:** 1

Trapping Conducted By: Denise LaBerteaux

Dates of Sampling Term(s): **FIRST** 8-12 Apr 2013; **SECOND** 13-17 May 2013; **THIRD** 1-5 July 2013

PART II – GENERAL HABITAT DESCRIPTION

Vegetation Type: *Yucca brevifolia* Woodland Alliance (Joshua tree woodland)

Dominant Perennials: Joshua tree (*Yucca brevifolia*), peach-thorn (*Lycium cooperi*), California buckwheat (*Eriogonum fasciculatum* var. *polifolium*).

Other Perennials: California juniper (*Juniperus californica*), Nevada ephedra (*Ephedra nevadensis*), goldenhead (*Acamptopappus sphaerocephalus* var. *hirtellus*), cheesebush (*Ambrosia salsola*), Cooper goldenbush (*Ericameria cooperi* var. *cooperi*), showy goldenbush (*Ericameria linearifolia*), sticky snakeweed (*Gutierrezia microcephala*), cottonthorn (*Tetradymia axillaris* var. *longispina*), Mojave horsebrush (*Tetradymia stenolepis*), four-winged saltbush (*Atriplex canescens* var. *canescens*), spiny hop-sage (*Grayia spinosa*), winter fat (*Krascheninnikovia lanata*), blue sage (*Salvia dorrii*), bladder sage (*Scutellaria mexicana*), desert tomato (*Lycium andersonii*), creosote bush (*Larrea tridentata*), and desert needlegrass (*Stipa speciosa*).

Dominant Annuals: cheat grass (*Bromus tectorum*), red-stemmed filaree (*Erodium cicutarium*), lessingia (*Lessingia glandulifera* var. *glandulifera*)

Other Annuals: Low production this year – white layia (*Layia glandulosa*), frost-mat (*Achyronychia cooperi*), blazing star (*Mentzelia* sp.), monkeyflower (*Mimulus* sp.), red triangles (*Centrostegia thurberi*), buckwheat (*Eriogonum* sp.), red brome (*Bromus madritensis* ssp. *rubens*), schismus (*Schismus* sp.).

Land Form: alluvial fan

Soils Description: sand, cobble, boulders

Elevation: 3,825 to 3,840 ft

Slope Aspect: north

Percent Slope: 2%

PART III – WEATHER

Project Name: Snowline II Solar PV, Lueon Lane, Pinon Hills

Property Owner: Snowline Unified School District

Year: 2013 (Trapping Period 1)

Grid Number: 1

WEATHER (temperature = °C; cloud cover = %; wind speed = km/h)

DATE: 7 April 2013 **ACTIVITY:** visual survey

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	21.3	1250
AIR TEMPERATURE, MAX.	23.0	1410
SOIL TEMPERATURE, MIN.	25.9	1250
SOIL TEMPERATURE, MAX.	28.0	1410
CLOUD COVER, AM		
CLOUD COVER, PM	10	1250
WIND SPEED, AM		
WIND SPEED, PM	11.5	1410

DATE: 8 April 2013 **ACTIVITY:** trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	5.5	0900
AIR TEMPERATURE, MAX.	11.5	1300
SOIL TEMPERATURE, MIN.	5.5	0900
SOIL TEMPERATURE, MAX.	11.5	1400
CLOUD COVER, AM	20	0800
CLOUD COVER, PM	20	1600
WIND SPEED, AM	13.5	0800
WIND SPEED, PM	19.0	1600

DATE: 9 April 2013 **ACTIVITY:** trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	7	0800
AIR TEMPERATURE, MAX.	17	1600
SOIL TEMPERATURE, MIN.	5	0800
SOIL TEMPERATURE, MAX.	17	1500
CLOUD COVER, AM	1	0800
CLOUD COVER, PM	0	1600
WIND SPEED, AM	6.7	0800
WIND SPEED, PM	5.1	1600

DATE: 10 April 2013 **ACTIVITY:** trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	8.5	0700
AIR TEMPERATURE, MAX.	21.1	1700
SOIL TEMPERATURE, MIN.	5.5	0700
SOIL TEMPERATURE, MAX.	22	1600
CLOUD COVER, AM	0	0800
CLOUD COVER, PM	0	1600
WIND SPEED, AM	1	0800
WIND SPEED, PM	3.4	1600

DATE: 11 April 2013 **ACTIVITY:** trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	15.5	0700
AIR TEMPERATURE, MAX.	23.5	1500
SOIL TEMPERATURE, MIN.	13	0700
SOIL TEMPERATURE, MAX.	22.5	1500
CLOUD COVER, AM	45	0800
CLOUD COVER, PM	25	1600
WIND SPEED, AM	11.7	0800
WIND SPEED, PM	8.4	1600

DATE: 12 April 2013 **ACTIVITY:** trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	11.5	0700
AIR TEMPERATURE, MAX.	26.5	1400
SOIL TEMPERATURE, MIN.	9.0	0700
SOIL TEMPERATURE, MAX.	25	1400
CLOUD COVER, AM	2	0800
CLOUD COVER, PM	5	1200
WIND SPEED, AM	4.0	0800
WIND SPEED, PM	1.8	1200

Project Name: Snowline II Solar PV, Lueon Lane, Pinon Hills

Property Owner: Snowline Unified School District

Year: 2013 (Trapping Period 2)

Grid Number: 1

WEATHER (temperature = °C; cloud cover = %; wind speed = km/h)

DATE: 13 May 2013 **ACTIVITY:** trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	19	0630
AIR TEMPERATURE, MAX.	32.5	1300
SOIL TEMPERATURE, MIN.	17	0630
SOIL TEMPERATURE, MAX.	34	1300
CLOUD COVER, AM	0	0800
CLOUD COVER, PM	15	1200
WIND SPEED, AM	4.1	0800
WIND SPEED, PM	5.6	1200

DATE: 14 May 2013 **ACTIVITY:** trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	23	0630
AIR TEMPERATURE, MAX.	30.5	1100
SOIL TEMPERATURE, MIN.	19	0630
SOIL TEMPERATURE, MAX.	31	1100
CLOUD COVER, AM	20	0800
CLOUD COVER, PM	15	1600
WIND SPEED, AM	6.9	0800
WIND SPEED, PM	17	1600

DATE: 15 May 2013 **ACTIVITY:** trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	18	0630
AIR TEMPERATURE, MAX.	28.5	1500
SOIL TEMPERATURE, MIN.	17	0630
SOIL TEMPERATURE, MAX.	30	1300
CLOUD COVER, AM	0	0800
CLOUD COVER, PM	5	1600
WIND SPEED, AM	9.0	0800
WIND SPEED, PM	11.3	1600

DATE: 16 May 2013 **ACTIVITY:** trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	13	0630
AIR TEMPERATURE, MAX.	26	1400
SOIL TEMPERATURE, MIN.	12	0630
SOIL TEMPERATURE, MAX.	26.5	1500
CLOUD COVER, AM	15	0800
CLOUD COVER, PM	35	1600
WIND SPEED, AM	5.4	0800
WIND SPEED, PM	10.8	1600

DATE: 17 May 2013 **ACTIVITY:** trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	11.5	0630
AIR TEMPERATURE, MAX.	22	1400
SOIL TEMPERATURE, MIN.	12	0630
SOIL TEMPERATURE, MAX.	23	1400
CLOUD COVER, AM	50	0800
CLOUD COVER, PM	10	1200
WIND SPEED, AM	7.5	0800
WIND SPEED, PM	12.3	1200

Project Name: Snowline II Solar PV, Lueon Lane, Pinon Hills

Property Owner: Snowline Unified School District

Year: 2013 (Trapping Period 3)

Grid Number: 1

WEATHER (temperature = °C; cloud cover = %; wind speed = km/h)

DATE: 1 July 2013 **ACTIVITY:** trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	24.5	0530
AIR TEMPERATURE, MAX.	32.5	1000
SOIL TEMPERATURE, MIN.	23.5	0530
SOIL TEMPERATURE, MAX.	33.5	1000
CLOUD COVER, AM	95	0800
CLOUD COVER, PM		
WIND SPEED, AM	1.7	0800
WIND SPEED, PM		

DATE: 2 July 2013 **ACTIVITY:** trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	22	0530
AIR TEMPERATURE, MAX.	33	1030
SOIL TEMPERATURE, MIN.	20	0530
SOIL TEMPERATURE, MAX.	32.5	1030
CLOUD COVER, AM	80	0800
CLOUD COVER, PM		
WIND SPEED, AM	2.1	0800
WIND SPEED, PM		

DATE: 3 July 2013 **ACTIVITY:** trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	23.5	0530
AIR TEMPERATURE, MAX.	33	1000
SOIL TEMPERATURE, MIN.	22.5	0530
SOIL TEMPERATURE, MAX.	34	1000
CLOUD COVER, AM	70	0800
CLOUD COVER, PM		
WIND SPEED, AM	6.5	0800
WIND SPEED, PM		

DATE: 4 July 2013 **ACTIVITY:** trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	22.5	0530
AIR TEMPERATURE, MAX.	33.5	1000
SOIL TEMPERATURE, MIN.	21	0530
SOIL TEMPERATURE, MAX.	33.5	1000
CLOUD COVER, AM	25	0800
CLOUD COVER, PM		
WIND SPEED, AM	4.8	0800
WIND SPEED, PM		

DATE: 5 July 2013 **ACTIVITY:** trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	21.5	0530
AIR TEMPERATURE, MAX.	33	1030
SOIL TEMPERATURE, MIN.	19.5	0530
SOIL TEMPERATURE, MAX.	33	1030
CLOUD COVER, AM	60	0800
CLOUD COVER, PM		
WIND SPEED, AM	0.8	0800
WIND SPEED, PM		

APPENDIX D

CALIFORNIA NATIVE SPECIES FIELD FORMS

Mail to:
 California Natural Diversity Database
 Department of Fish and Game
 1807 13th Street, Suite 202
 Sacramento, CA 95814
 Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov

For Office Use Only

Source Code _____ Quad Code _____
 Elm Code _____ Occ. No. _____
 EO Index No. _____ Map Index No. _____

Date of Field Work mm/dd/yyyy: 07/05/2013

California Native Species Field Survey Form

Scientific Name: *Xerospermophilus mohavensis*

Common Name: Mohave Ground Squirrel

Species Found? Yes No _____
 If not, why? _____

Total No. Individuals 0 Subsequent Visit? yes no
 Is this an existing NDDDB occurrence? no unk.
 Yes, Occ. # _____

Collection? If yes: _____
 Number _____ Museum / Herbarium _____

Reporter: Denise L. LaBerteaux
 Address: 211 Snow Street
Weldon, CA 93283
 E-mail Address: eremico@aol.com
 Phone: (760) 378-3021

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

adults # juveniles # larvae # egg masses # unknown
 breeding wintering burrow site rookery nesting other

Location Description (please attach map AND/OR fill out your choice of coordinates, below)
Pinon Hills, southeast of the intersection of Lueon Lane and Solano Road

County: San Bernardino Landowner / Mgr.: Snowline Unified School District
 Quad Name: Mescal Creek Elevation: 3830 ft
 T 4N R 7W Sec 7, SW ¼ of NE ¼, Meridian: H M S Source of Coordinates (GPS, topo. map & type): GPS
 T _____ R _____ Sec _____, _____ ¼ of _____ ¼, Meridian: H M S GPS Make & Model GARMIN 76CS
 Datum: NAD27 NAD83 WGS84 Horizontal Accuracy 3 meters meters/feet
 Coordinate System: UTM Zone 10 UTM Zone 11 OR Geographic (Latitude & Longitude)
 Coordinates: Easting/Longitude 440346 Northing/Latitude 3812314

Habitat Description (plant communities, dominants, associates, substrates/soils, aspects/slope):
Alluvial fan. Yucca brevifolia Woodland Alliance with California juniper (Juniperus californica), Ephedra nevadensis, Acamptopappus sphaerocephalus var. hirtellus, Ambrosia salsola, Ericameria cooperi var. cooperi, Ericameria linearifolia, Gutierrezia microcephala, Tetradymia axillaris var. longispina, Tetradymia stenolepis, Atriplex canescens var. canescens, Grayia spinosa, Krascheninnikovia lanata, Salvia dorrii, Scutellaria mexicana, Lycium andersonii, Lycium cooperi, Larrea tridentata, and Stipa speciosa. Soils: sand, cobble, boulders. Aspect: north. Slope: 2%.

Other rare taxa seen at THIS site on THIS date: _____

Site Information Overall site quality: Excellent Good Fair Poor
 Current / surrounding land use: open desert; low density rural residences; elementary school
 Visible disturbances: dirt roads, OHV tracks/trails, illegal dumping
 Threats: proposed PV Solar
 Comments: One grid trapped on 8-12 Apr, 13-17 May, 1-5 July 2013 on 20.14 ac. Trapping grid corners: NW Corner 440155E, 3812385N; NE Corner 440550E, 3812391N; SE Corner 440528E, 3812240N; SW Corner 440149E, 3812240N. No Mohave G.S. observed. Trapping was conducted by Denise LaBerteaux

Determination: (check one or more, and fill in blanks)

Keyed (cite reference): _____
 Compared with specimen housed at: _____
 Compared with photo / drawing in: _____
 By another person (name): _____
 Other: _____

Photographs: (check one or more) Slide Print Digital
 Plant / animal
 Habitat
 Diagnostic feature

May we obtain duplicates at our expense? yes no

FG/WHDAB/1747 Rev.10/2003

APPENDIX E

WILDLIFE LIST

Vertebrate species (or their sign) recorded at the Snowline II Solar PV Lueon Lane project site during the trapping effort.

SCIENTIFIC NAME	COMMON NAME
CLASS	CLASS
FAMILY	FAMILY
Species	Species
REPTILIA	REPTILES
PHRYNOSOMATIDAE	SPINY LIZARDS AND RELATIVES
<i>Sceloporus magister</i>	Desert Spiny Lizard
<i>Uta stansburiana</i>	Common Side-blotched Lizard
SCINCIDAE	SKINKS
<i>Plestiodon gilberti</i>	Gilbert's Skink
TEIIDAE	WHIPTAILS
<i>Aspidoscelis tigris</i>	Tiger Whiptail
AVES	BIRDS
CATHARTIDAE	NEW WORLD VULTURES
<i>Cathartes aura</i>	Turkey Vulture
ACCIPITRIDAE	KITES, EAGLES, HAWKS
<i>Accipiter striatus</i> †	Sharp-shinned Hawk†
<i>Buteo jamaicensis</i>	Red-tailed Hawk
FALCONIDAE	FALCONS
<i>Falco sparverius</i>	American Kestrel
SCOLOPACIDAE	SANDPIPERS, PHALAROPES
<i>Gallinago delicata</i>	Wilson's Snipe
ODONTOPHORIDAE	NEW WORLD QUAIL
<i>Callipepla californica</i>	California Quail
COLUMBIDAE	PIGEONS, DOVES
<i>Zenaida macroura</i>	Mourning Dove
CUCULIDAE	CUCKOOS, ROADRUNNERS
<i>Geococcyx californianus</i>	Greater Roadrunner
TROCHILIDAE	HUMMINGBIRDS
<i>Calypte anna</i>	Anna's Hummingbird
<i>Calypte costae</i> †	Costa's Hummingbird†
PICIDAE	WOODPECKERS
<i>Picoides scalaris</i>	Ladder-backed Woodpecker
TYRANNIDAE	TYRANT FLYCATCHERS
<i>Sayornis saya</i>	Say's Phoebe
<i>Myiarchus cinerascens</i>	Ash-throated Flycatcher
<i>Tyrannus verticalis</i>	Western Kingbird
LANIIDAE	SHRIKES
<i>Lanius ludovicianus</i> †	Loggerhead Shrike†
CORVIDAE	JAYS, MAGPIES, CROWS
<i>Corvus corax</i>	Common Raven
<i>Aphelocoma californica</i>	Western Scrub-Jay

†special status species

Vertebrate species (or their sign) recorded at the Snowline II Solar PV Lueon Lane project site during the trapping effort (continued).

SCIENTIFIC NAME	COMMON NAME
CLASS	CLASS
FAMILY	FAMILY
Species	Species
AVES (continued)	BIRDS
HIRUNDINIDAE	SWALLOWS
<i>Petrochelidon pyrrhonota</i>	Cliff Swallow
<i>Hirundo rustica</i>	Barn Swallow
REMIZIDAE	VERDINS
<i>Auriparus flaviceps</i>	Verdin
TROGLODYTIDAE	WRENS
<i>Campylorhynchus brunneicapillus</i>	Cactus Wren
<i>Thryomanes bewickii</i>	Bewick's Wren
REGULIDAE	KINGLETS
<i>Regulus calendula</i>	Ruby-crowned Kinglet
MUSCICAPIDAE	MUSCICAPIDS
<i>Sialia mexicana</i>	Western Bluebird
MIMIDAE	MOCKINGBIRDS, THRASHERS
<i>Mimus polyglottos</i>	Northern Mockingbird
PTILOGONATIDAE	SILKY-FLYCATCHERS
<i>Phainopepla nitens</i>	Phainopepla
PARULIDAE	WOOD-WARBLEDERS
<i>Setophaga petechia</i> †	Yellow Warbler†
<i>Setophaga coronata</i>	Yellow-rumped Warbler
THRAUPIDAE	TANAGERS
<i>Piranga ludoviciana</i>	Western Tanager
EMBERIZIDAE	TOWHEES, SPARROWS
<i>Melospiza crissalis</i>	California Towhee
<i>Spizella breweri</i> †	Brewer's Sparrow†
<i>Amphispiza bilineata</i>	Black-throated Sparrow
<i>Zonotrichia leucophrys</i>	White-crowned Sparrow
<i>Junco hyemalis</i>	Dark-eyed Junco
ICTERIDAE	BLACKBIRDS, ORIOLES
<i>Euphagus cyanocephalus</i>	Brewer's Blackbird
<i>Icterus bullockii</i>	Bullock's Oriole
<i>Icterus parisorum</i>	Scott's Oriole
FRINGILLIDAE	FINCHES
<i>Carpodacus mexicanus</i>	House Finch
<i>Spinus psaltria</i>	Lesser Goldfinch

†special status species

Vertebrate species (or their sign) recorded at the Snowline II Solar PV Lueon Lane project site during the trapping effort (continued).

<p style="text-align: center;">SCIENTIFIC NAME</p> <p>CLASS</p> <p>FAMILY</p> <p>Species</p>	<p style="text-align: center;">COMMON NAME</p> <p>CLASS</p> <p>FAMILY</p> <p>Species</p>
<p>MAMMALIA</p> <p>LEPORIDAE</p> <p><i>Lepus californicus</i></p> <p><i>Sylvilagus auduboni</i></p> <p>SCIURIDAE</p> <p><i>Ammospermophilus leucurus</i></p> <p><i>Spermophilus beecheyi</i></p>	<p>MAMMALS</p> <p>HARES AND RABBITS</p> <p>Black-tailed Jackrabbit</p> <p>Desert Cottontail</p> <p>SQUIRRELS, CHIPMUNKS</p> <p>White-tailed Antelope Squirrel</p> <p>California Ground Squirrel</p>

†special status species