

**Mohave ground squirrel  
(*Xerospermophilus mohavensis*) Trapping Results  
Proposed 3 MW AC Photovoltaic Solar Array  
"Apple Valley East"**

**(23.4 Acres; APN #s 0438-212-01,-02)  
Apple Valley South 7.5 Minute Quadrangle,  
Section 14, Township 4 N, Range 3 W  
San Bernardino County, California**

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## **Table of Contents**

	<b>Page</b>
Executive Summary	3
Introduction & Purpose	4
Location	4
Habitat and Land Use	5
Mohave Ground Squirrel Natural History	6
Methodologies	6
Results	7
Bibliography	18
Certification	19
 <b>List of Tables</b>	
Table 1: Trap Dates	7
Table 2: Grid Location	8
Table 3: Trap Results	8
Table 4: List of Vertebrate Species Trapped	10
Table 5: List of Vascular Plants Detected On Site	15
Table 6: List of Vertebrate Species Aurally/Visually Detected	17
 <b>List of Figures</b>	
Figure 1: Vicinity Map for Apple Valley East MGS Grid	10
Figure 2: Topographic View of Project Site and Grid Location	11
Figure 3: Aerial View of the Project Site and Grid Location	12
Figure 4: CNDDDB MGS Database Search Results and MGS Boundary	9
Figure 5: Habitat Grid Corner Photos – Grid 1	14
 Appendix A: Mohave ground squirrel Survey and Trapping Form	20
Appendix B: Weather summary forms	21-23

**Executive Summary:**

At the request of Clean Focus Corporation (CFC), Phoenix Biological Consulting (Phoenix) conducted a Mohave ground squirrel (MGS; *Xerospermophilus mohavensis*) trapping survey for a project 24 acre project site "Apple Valley East" located southeast of Apple Valley, California during the 2013 survey period. The project proponent, Clean Focus, plans to develop the site into a 3.0-Megawatt photovoltaic (PV) solar energy generating facility. The principal investigator, Ryan Young, and independent field investigators Teresa Magart, performed the field work under the auspices of a Memorandum of Understanding (MOU) between the CDFW and Phoenix. The survey adhered to the Mohave Ground Squirrel Survey Guidelines (CDFG, 2003). The results of the visual survey and trapping sessions were negative for MGS. The results of the field work are good for up to one year from the final trap date.

## **Introduction & Purpose:**

The Apple Valley East project constitutes a project pursuant to the California Environmental Quality Act (CEQA) as it is located on private lands, administered by the San Bernardino County. Acting in its capacity as a lead agency under CEQA, the county would need to determine the potential for the project to result in significant impacts, consider mitigation measures and alternatives capable of avoiding significant impacts, and consider the environmental effects of the project as part of its decision-making process. Clean Focus proposes to construct and operate a 3.0 MW AC photovoltaic solar energy generation facility (the “Apple Valley East”) on approximately 21.6 of the 23.4-acre, multiple assessor parcel (APNs 0438-212-01, 02) located south east of Apple Valley. The “Apple Valley East”, herein referred to as “the site” will utilize PV modules mounted in rows, on racks with a fixed tilt angle of 20 degrees from horizontal and facing 195 degrees from magnetic north. The modules will be wired together and connected to inverters, which convert Direct Current (DC) into electrical Alternating Current (AC). The electricity will then be stepped up to 12kV and collected via underground lines that terminate at the northwest corner of the parcel, at the point of interconnection to the local electricity grid via the existing Southern California Edison (SCE) Tussing 12kV power line.

Due to the potential biological impacts associated with the development of the site, Clean Focus, retained Phoenix to conduct protocol Mohave ground squirrel trapping surveys within the site. The site is situated within the MGS range (Figure 4). The MGS was listed as a rare species in 1971 under the authority of the State Endangered Species Act of 1970. It was re-designated as a state threatened species under the California Endangered Species Act (CESA) in 1985 (Gustafson, 1993). Due to its sensitive status, presence/absence pre-project surveys are typically required to determine if MGS are present within the project boundaries. Alternatively, mitigation, through an incidental take permit, may be obtained, in lieu of trapping. Typically, protocol trapping, using the January 2003 Survey Guidelines, is implemented to satisfy the California Department of Fish and Game (CDFG) requirements. The principal investigator, Ryan Young, and independent field investigator Teresa Magart performed the field work under the auspices of a Memorandum of Understanding (MOU) between the CDFG and Phoenix. The visual survey was conducted on March 31st. The trapping dates are listed on Table 1. The trapping schedule consisted of three trapping sessions per grid, and took place during the months of April to July. One grid was required to sample the site (Figure 3). The results of the visual survey and trapping sessions were negative for MGS.

## **Location:**

The site is located in the Victor Valley of San Bernardino County, southeast of Apple Valley, just outside the city limits. The parcels are bordered to the west by Central Road and to

the north by Tussing Ranch Road. The south border is adjacent to an unimproved road paralleling a railroad line. The parcels are bordered to the west, east and south by vacant, undisturbed creosote scrub with low-medium density Joshua trees interspersed. To the north, the parcels are bordered by vacant land populated by a single residence. Spanning outward, more densely populated residences exist. The parcels are within the jurisdiction of the County of San Bernardino, are zoned Rural Living (RL) and are located on the Apple Valley South 7.5 minute quadrangle topographic map (Figure A). The legal description of the parcels is NW ¼, NW ¼ of Section 14, Township 4 N, Range 3 W (Figure F).

The site is located within the MGS range boundary. There are several California Natural Diversity Database (CNDDDB) records within the project vicinity (Figure 4). The three nearest occurrences are #33, #48 and #269. The first record, #33, is approximately 2.3 miles to the northeast. One female MGS was collected at this location in 1955. The second record, #48, is approximately 5.8 miles to the east. One female was collected from this location. The last record, #269, is approximately 6.5 miles to the west. One male was collected from this location in 1921.

Due to the suitable habitat on the project site and relatively proximity of known occurrences, protocol MGS trapping surveys were implemented.

### **Habitat and Land Use**

There are isolated piles of refuse dispersed throughout the site and disturbed ground within the site due to off-highway vehicle (OHV) activity. The 24 acre site is situated on relatively level terrain with an elevation of 3,100 feet and is composed of gravelly, loam soils which provide suitable consistency for fossorial reptiles and mammals to create burrows. The vegetation community within the site is comprised of creosote bush scrub (*Larrea tridentata* with Joshua tree (*Yucca brevifolia*) woodland interspersed. Dominant perennials include creosote (*Larrea tridentata*), Mohave yucca (*Yucca schidigera*) Cooper's goldenbush (*Ericameria cooperi*), rabbitbrush (*Chrysothamnus nauseosus*), and Mormon tea (*Ephedra nevadensis*). Six-Weeks Fescue (*Vulpia octoflora*), buckwheats (*Eriogonum sp.*), and cheatgrass (*Bromus tectorum*) were dominant annuals. The entire list of vascular plants detected can be found on Table 4.

Multiple two-track, unimproved paths traverse through the site. The northwest corner has been impacted with off road parking, off-highway vehicle (OHV) use and refuse piles. This scoured area can be seen in the aerial photo represented in Figure B. Refuse is scattered throughout the site, but is most substantial on the western border near Central road (and in the western portion of the site in general). This western disturbed border also supports a population of the non-native, noxious weed Russian thistle (*Salsola tragus*). The site is bordered by vacant, creosote scrub land on all sides, with the exception of a single residence on the north

border. This open territory provides habitat connectivity for species that may disperse or move through the area.

### **Mohave Ground Squirrel Natural History**

The Mohave ground squirrel is small, grayish, diurnal squirrel that is currently listed under the California Endangered Species Act as a threatened species. The California Department of Fish and Game is the responsible agency that provides oversight through the California Environmental Quality Act (CEQA) for project related activities.

MGS occur in the western half of the Mojave Desert. Its historical range encompasses an area between Antelope Valley and Lucerne Valley, in the south. However, MGS occurrences in the southern portion of its range are very rare. The northern limits of the range are near Owens Dry Lake bed, in the north, and through China Lake Naval Weapons Station and Fort Irwin Military base, in the east. The eastern limits extend to Barstow and south along the Mojave River. The western limits loosely follow highway 14 and the foothills of the southern Sierra Nevada escarpment. MGS are dormant in the fall and winter months. They emerge from hibernation in February and begin pair bonding and mating during March. If rainfall is adequate, MGS will reproduce. If rainfall levels do not provide sufficient rainfall to support significant annual plant growth then MGS will merely forage on herbaceous perennials and shrubs in order to gain enough body mass to survive another prolonged period of dormancy and will not reproduce in that year. The adult males can enter dormancy as early as late May. Juveniles will remain above-ground until August in order to gain sufficient fat reserves prior to entering dormancy.

Several other common squirrels occur within their range; antelope ground squirrel (AGS; *Ammospermophilus leucurus*), round-tailed ground squirrel (RTGS; *Xerospermophilus tereticaudus*) and the California ground squirrel (CGS; *Spermophilus beecheyi*). RTGS and CGS are commonly mistaken as MGS. AGS occur throughout the range of the MGS but are easily distinguished by a lateral white stripe on each side. RTGS occur along a contact zone that exists in the Barstow and Lucerne Valley area of the MGS range. Within the contact zone the range of RTGS and MGS overlap. RTGS also occur throughout the eastern Mojave Desert. CGS is typically found near human habitation with scattered populations throughout the MGS range but primarily in the southern portion of the range or in irrigated areas.

### **Methodologies:**

The visual survey was conducted on March 24<sup>th</sup>. All potential MGS habitat within the grid location was surveyed during this visit. A list of the plant and animal species detected during the initial visit and during the trapping sessions was compiled (Table 4-6). Phoenix's role

was to locate the grid locations and implement the live-trapping for one grid within the project site. Within the grid, one hundred (100) traps were deployed at thirty-five meter spacing over the suitable habitat (Table 2). The grid consisted of ten by ten grid array. The grid covered approximately twenty-five acres. Typically, a grid is required for every eighty acres of habitat. Grid placement was determined by suitable vegetation cover, proximity to surrounding habitat and availability of access roads.

Standard, small-mammal, aluminum, foldable, ventilated 12" Sherman Traps were used. Cardboard boxes were used as shade covers for each trap. Traps and shade covers were placed on the north side of the nearest bush on a north-south axis to provide the greatest shade cover possible. The shade covers were covered with dirt on both sides and on the roof to provide better temperature insulation and to prevent the boxes from blowing away in the wind. Temperature readings were taken and recorded every hour at one foot and at ground level in the shade of a bush. Traps were checked every two to four hours depending on temperature and other influential factors such as potential pregnant or lactating females in traps, dogs on grids, ravens, cold weather, expected juveniles etc. Traps were open within one hour after sunrise and closed within one hour before sunset. Traps were closed when air temperature reached 90 °F, when temperature fell below 50 °F or during periods of rainy weather. The bait used consisted of crushed four-way grains with molasses and mixed with peanut butter and water.

**Table 1: Trap Dates**

Grid Name/#	First Session	Second Session	Third Session
<b>Grid 1</b> <b>(10 X 10 Array)</b>	04/19/2013 to 04/23/2013	05/23/2013 to 05/27/2013	7/6/2013 to 7/10/2013

### Results:

MGS were not seen nor heard during the visual survey. Furthermore, MGS were not trapped on the grid. A total of four species were trapped on the grid: Antelope ground squirrels (*Ammospermophilus leucurus*), California ground squirrel (*Spermophilus beecheyii*), desert spiny lizard (*Sceloporus magister*), western whiptails (*Cnemidophorus tigris*). All the above-named species are commonly occurring, non-listed species.

Total trap hours was 134. Total captures was 130. 107 of the 130 captures were AGS. Other captures included twelve California ground squirrels, eight whiptails and three desert spiny lizards. The results of the survey are good for up to one year from the final trap date.

Table 2: Grid Locations

Grid #	Grid Corners (Easting/Northing) WGS 83
Grid 1 (10 X 10 Array)	NW: 484155 E, 3811245 N NE: 484400 E, 3811245 N SW: 484155 E, 3810930 N SE: 484400 E, 3810930 N

Table 3: Trap Results

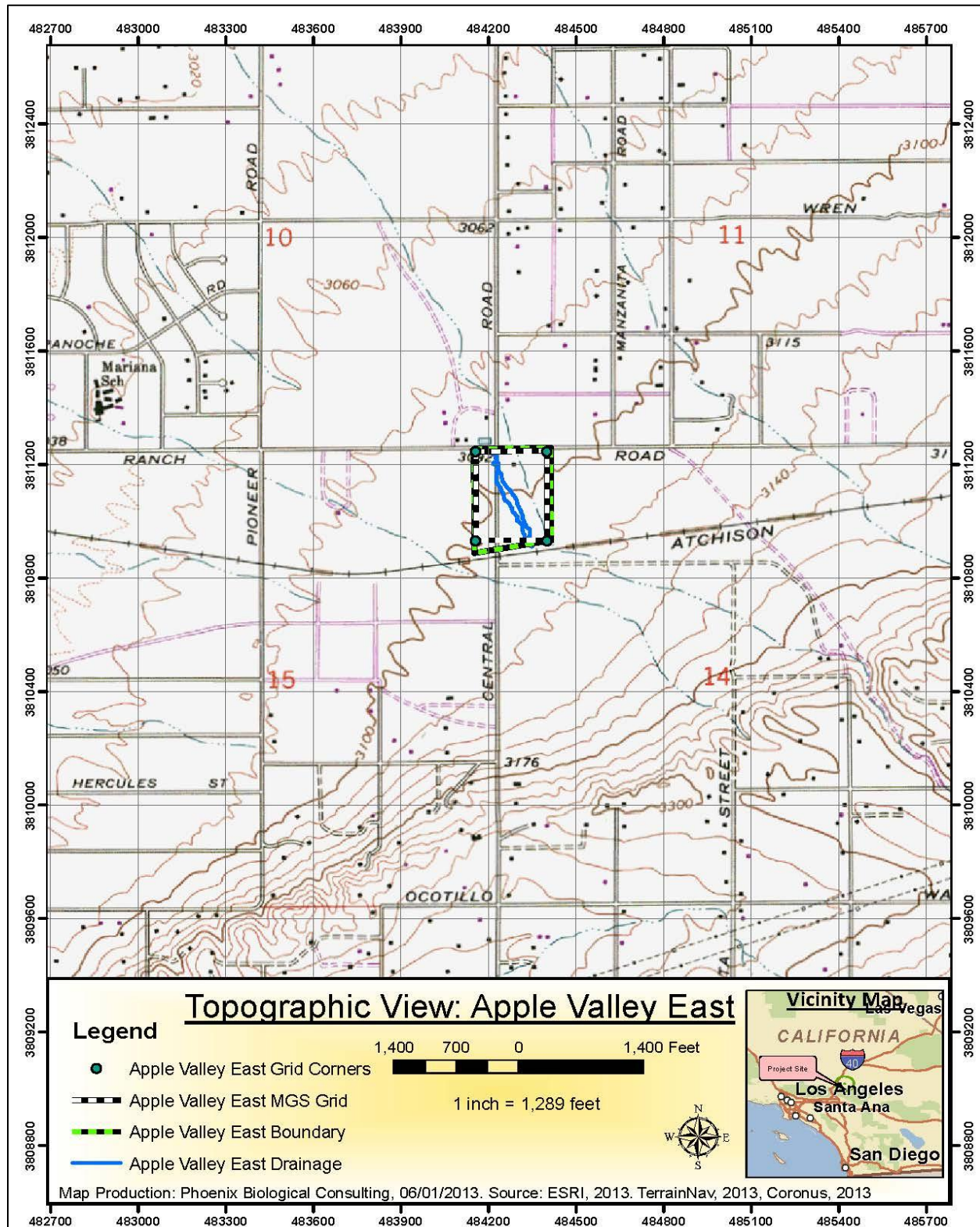
	Grid 1
Trap Hours Per Trap	134
Total Captures	130
Total AGS	107
Incidental captures (excluding AGS)	23
Number of species captured	4



**Table 4: List of vertebrate species trapped**

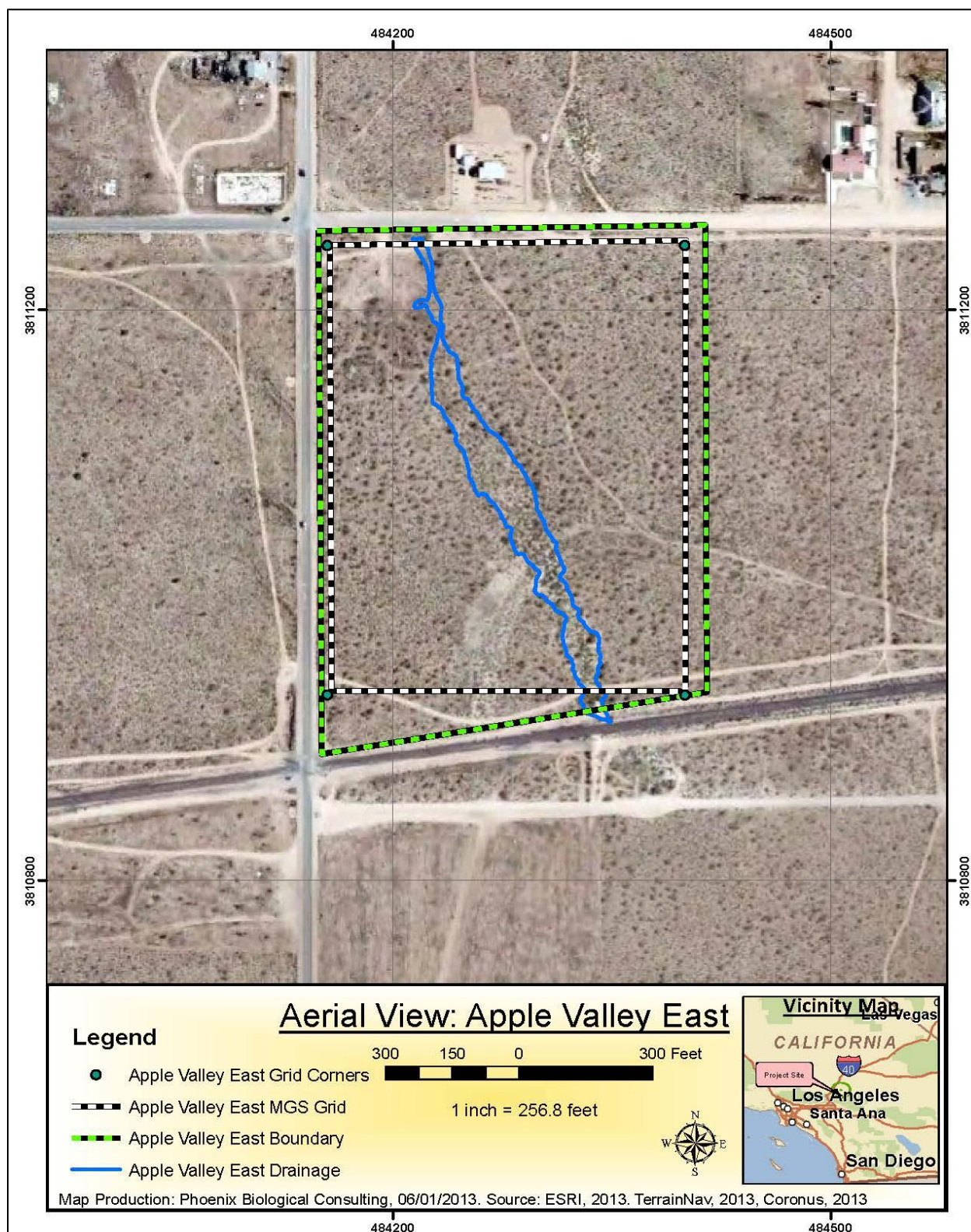
Species	Captures per grid
<b>Mammals</b>	<b>Grid 1</b>
Antelope ground squirrel ( <i>Ammospermophilus leucurus</i> )	107
California ground squirrel ( <i>Spermophilus beecheyi</i> )	12
<b>Reptiles</b>	
Desert spiny lizard ( <i>Sceloporus magister</i> )	3
Western whiptail ( <i>Cnemidophorus tigris</i> )	8
<b>Total animals trapped</b>	130

**Figure 1: Topographic View of Project Site and Grid Location for  
Apple Valley East Energy Project**





**Figure 2: Aerial View of Project Site and MGS Grid Location for Apple Valley East Energy Project**



### Figure 3: Parcel Map for Apple Valley East





**Figure 4: CNDDDB Search Results and MGS Boundary for  
Apple Valley East Energy Project**

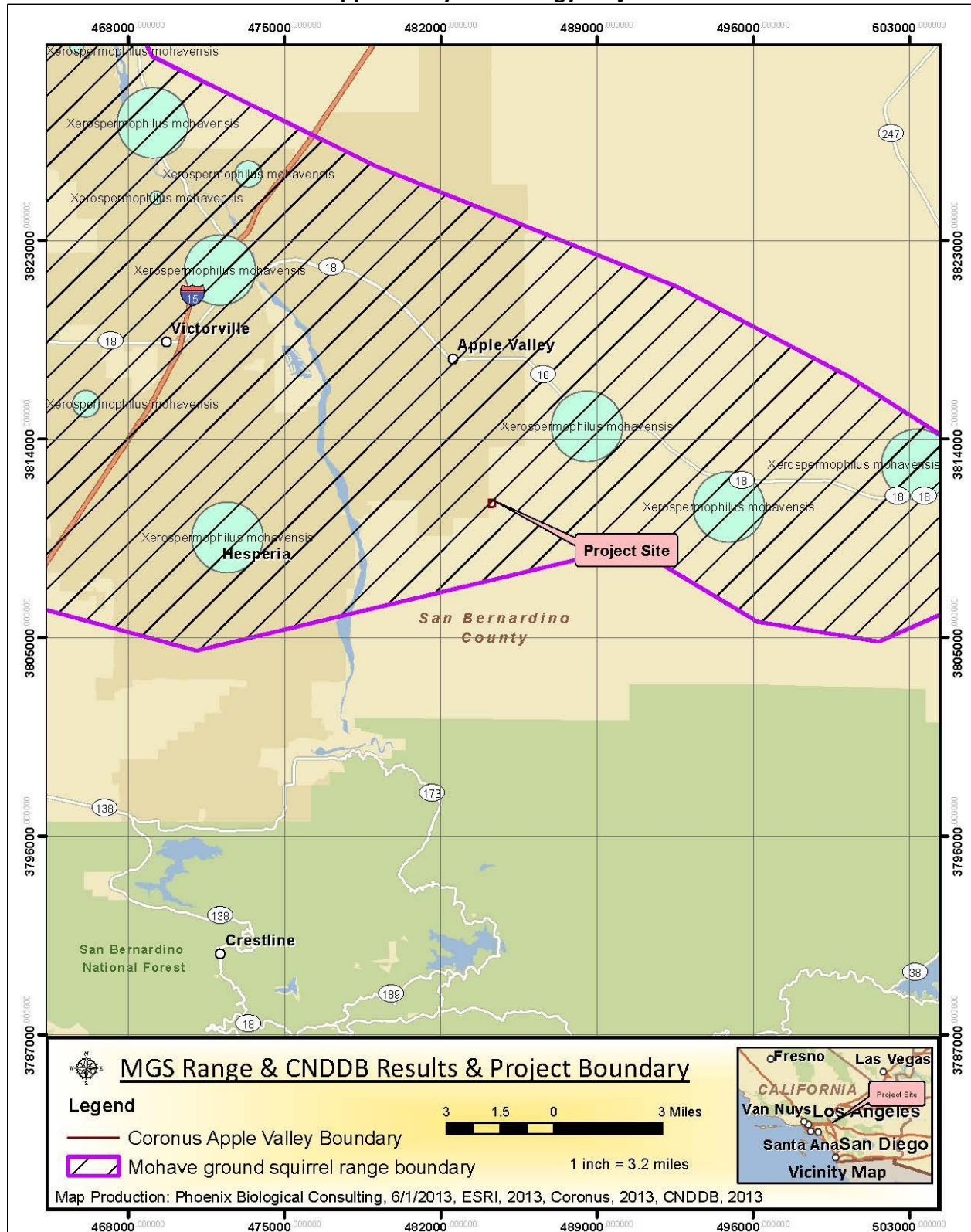


Figure 5: Habitat Photos. Grid 1 Corners



MGS NW Grid Corner (Facing SE)



MGS NE Grid Corner (Facing SW)



MGS SE Grid Corner (Facing NW)



MGS SW Grid Corner (Facing NE)



Table 5: List of vascular plants encountered on site

<b>FAMILY Species</b>	<b>Common Name</b>	<b>Habit</b>
<b>ASTERACEAE</b>		
<i>Ambrosia acanthocarpa</i>	Annual bur-sage	Annual
<i>Ambrosia dumosa</i>	Burrobush	Shrub
<i>Chrysothamnus nauseosus</i>	Rubber rabbitbrush	Shrub
<i>Ericameria cooperi</i>	Cooper's goldenbush	Shrub
<i>Gutierrezia microcephala</i>	Snakeweed	perennial
<i>Hymenoclea salsola</i>	Cheesebush	Shrub
<i>Tetradymia sp.</i>	Horsebrush	Shrub
<b>CACTACEAE</b>		
<i>Opuntia acanthocarpa</i>	Buckhorn cholla	perennial
<i>Opuntia ramosissima</i>	Pencil cholla	perennial
<b>CHENOPODIACEAE</b>		
<i>Salsola tragus</i>	Russian thistle/tumbleweed	Annual
<b>EPHEDRACEAE</b>		
<i>Ephedra nevadensis</i>	Mormon tea	Shrub
<b>EUPHORBIACEAE</b>		
<i>Chamaesyce albomarginata</i>	Rattlesnake weed	Annual
<b>FABACEAE</b>		
<i>Senna armata</i>	Desert Senna	Shrub
<b>LILIACEAE</b>		
<i>Calochortus kennedyi</i>	Mariposa lily	Annual
<i>Yucca brevifolia</i>	Joshua tree	perennial
<i>Yucca shidigera</i>	Mojave yucca	perennial
<b>MALVACEAE</b>		
<i>Sphaeralcea ambigua</i>	Apricot mallow	perennial
<b>POACEAE</b>		
<i>Achnatherum speciosum</i>	Desert needle grass	perennial bunchgrass
<i>Bromus rubens</i>	Red brome	annual
<i>Bromus tectorum</i>	Cheatgrass	annual
<i>Vulpia octoflora</i>	Six-weeks fescue	annual
<b>POLYGONACEAE</b>		
<i>Eriogonum fasciculatum</i>	California buckwheat	shrub
<i>Eriogonum sp.</i>		Annual
<b>SOLANACEAE</b>		
<i>Lycium andersonii</i>	Anderson's boxthorn	shrub
<i>Lycium cooperii</i>	Cooper's boxthorn	Shrub

ZYGOPHYLLACEAE		
<i>Larrea tridentata</i>	Creosote	shrub



**Table 6: List of vertebrate species visual/aurally detected on site**

<b>Mammals</b>	<b>Present on Grid</b>
Antelope Squirrel ( <i>Ammospermophilus leucurus</i> )	Yes
Black tailed jack rabbit ( <i>Lepus californicus</i> )	Yes
California ground squirrel ( <i>Spermophilus beecheyii</i> )	Yes
Coyote ( <i>Canis latrans</i> )-scat and burrows.	Yes
Desert cottontail ( <i>Sylvilagus audubonii</i> )	Yes
<b>Birds</b>	
Ash throated flycatcher ( <i>Myiarchus cinerascens</i> )	Yes
Black-throated sparrow ( <i>Amphispiza bilineata</i> )	Yes
Common nighthawk ( <i>Chordeiles minor</i> )-flying overhead	Yes
Common Raven ( <i>Corvus corax</i> )	Yes
Eurasian collared dove ( <i>Streptopelia decaocto</i> )	On site
European starling ( <i>Sturnus vulgaris</i> )	On site
Greater roadrunner ( <i>Geococcyx californianus</i> )	Yes
Horned lark ( <i>Eremophila alpestris</i> )	Yes
House finch ( <i>Carpodacus mexicanus</i> )	Yes
House sparrow ( <i>Passer domesticus</i> )	On site
Mourning dove ( <i>Zenaida macroura</i> )	On site
Northern mockingbird ( <i>Mimus polyglottos</i> )	Yes
Red-tailed Hawk ( <i>Buteo jamacensis</i> )	On site
Sage sparrow ( <i>Amphispiza belli</i> )	Yes
Say's phoebe ( <i>Sayornis saya</i> )	Yes
Turkey vulture ( <i>Cathartes aura</i> )-flying overhead	On site
Violet-green swallow ( <i>Tachycineta thalassina</i> )-flying overhead	On site
White crowned sparrow ( <i>Zonotrichia leucophrys</i> )-migrant	Yes
<b>Reptiles</b>	
Coachwhip ( <i>Masticophis flagellum</i> )	On site
Desert spiny lizard ( <i>Sceloporus magister</i> )	Yes
Gopher snake ( <i>Pituophis catenifer</i> )	On site
Racer ( <i>Coluber constrictor</i> )	Yes
Side blotched lizard ( <i>Uta stansburiana</i> )	Yes
Western Whiptail ( <i>Cnemidophorus tigris</i> )	Yes

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- Bureau of Land Management. January 2005. Final Environmental Impact Report and Statement for the West Mojave Plan. Vol. 1A.
- California Department of Fish and Game. Mohave Ground Squirrel Survey Guidelines. January 2003.
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- Gustafson, John. A Status Review of the Mojave Ground Squirrel (*Spermophilus mohavensis*). Department of Fish and Game. Wildlife Management Division. March 1993.
- Leitner, P., Leitner, B.M. Coso Grazing Exclosure Monitoring Study. Mohave Ground Squirrel Study. Coso Known Geothermal Resource Area. Major Findings 1988-1996. Final Report. May 1998.

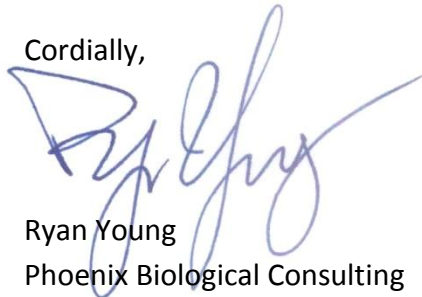
**Certification:**

I hereby certify that the statements furnished above and in the attached exhibits present the data and information presented are true and correct to the best of my knowledge and belief. Field work conducted for this report was performed by me or under my direct supervision. I certify that I have not signed a non-disclosure or consultant confidentiality agreement with the project applicant or applicant's representative and that I have no financial interest in the project.

Date: December 23, 2013Signed: \_\_\_\_\_

Report Author

Cordially,



Ryan Young  
Phoenix Biological Consulting  
PO Box 720949  
Pinon Hills, CA 92372-0949

## Appendix A: Mohave ground squirrel survey form

Mohave Ground Squirrel Survey Guidelines  
January 2003

Page 5 of 5

### Mohave Ground Squirrel (MGS) Survey and Trapping Form (photocopy as needed)

#### **PART I - PROJECT INFORMATION** (use a separate form for each sampling grid)

Project name: Apple Valley East Property owner: Coronus Energy

Location: Township 3 W; Range 4 N; Section 14; ¼ Section NW

Quad map/series: Apple Valley East UTM coordinates: 484288 N 3811078 N  
GPS coordinates of trapping-grid corners

Acreage of Project Site: 24 Acres Acreage of potential MGS habitat on site: 24 Acres

Total acreage visually surveyed on project site: 24 acres Date(s): 03/24/2013  
visual surveys

Visual surveys conducted by: Ryan Young  
names of all persons by date (use back of form, if needed)

Total acres trapped: 24 Number of sampling grids: One

Trapping conducted by: Ryan Young & Teresa Magart  
names of all persons by sampling term and sampling grid (use back of form, if needed)

Dates of sampling term(s): FIRST: 04/19/13-04/23/13 SECOND: 05/23/13to05/27/13 THIRD: 07/6/13to7/10/13  
if required if required

#### **PART II - GENERAL HABITAT DESCRIPTION** (use back of form, if needed)

Vegetation: dominant perennials:

other perennials:

dominant annuals: Creosote, Joshua Tree, Bursage, Mormon tea

other annuals: cheesbush, red brome

Land forms (mesa, bajada, wash): Level, No slope

Soils description: Sandy Loam

Elevation: 3,100 Ft Slope: 0%

#### **PART III - WEATHER** (report measurements in the following categories for each day of visual survey and each day of trapping; using 24-hour clock, indicate time of day that each measurement was made; use a separate blank sheet for each day)

Temperature: AIR minimum and maximum; SOIL minimum and maximum; Cloud Cover: % in AM and % in PM; Wind Speed: in AM and in PM

## Appendix B: Weather Data Example, Grid 1, Session 1

### Apple Valley East Solar Project

#### PART III – WEATHER

Project Name: Apple Valley East

Property Owner: Coronus Energy

Year: 2013 (Trapping Period 1)

Grid Number: 1 of 1

WEATHER (temperature = °C; cloud cover = %; wind speed = mph)

DATE: April 19, 2013 ACTIVITY: trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	10	0700
AIR TEMPERATURE, MAX.	27	1500
SOIL TEMPERATURE, MIN.	11	0700
SOIL TEMPERATURE, MAX.	28	1500
CLOUD COVER, AM	0	0700
CLOUD COVER, PM	0	1500
WIND SPEED, AM	0	0700
WIND SPEED, PM	2	1500

DATE: April 20, 2013 ACTIVITY: trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	13	0700
AIR TEMPERATURE, MAX.	27	1500
SOIL TEMPERATURE, MIN.	12	0700
SOIL TEMPERATURE, MAX.	33	1500
CLOUD COVER, AM	0	0700
CLOUD COVER, PM	0	1500
WIND SPEED, AM	0	0700
WIND SPEED, PM	2	1500

DATE: April 21, 2013 ACTIVITY: trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	13	0830
AIR TEMPERATURE, MAX.	27	1500
SOIL TEMPERATURE, MIN.	13	0830
SOIL TEMPERATURE, MAX.	36	1500
CLOUD COVER, AM	0	0830
CLOUD COVER, PM	0	1500
WIND SPEED, AM	0	0830
WIND SPEED, PM	4	1500

DATE: April 22, 2013 ACTIVITY: trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	16	0830
AIR TEMPERATURE, MAX.	32	1500
SOIL TEMPERATURE, MIN.	15	0830
SOIL TEMPERATURE, MAX.	40	1500
CLOUD COVER, AM	0	0830
CLOUD COVER, PM	0	1500
WIND SPEED, AM	1	0830
WIND SPEED, PM	3	1500

DATE: April 23, 2013 ACTIVITY: trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	15	0745
AIR TEMPERATURE, MAX.	30	1500
SOIL TEMPERATURE, MIN.	14	0745
SOIL TEMPERATURE, MAX.	39	1500
CLOUD COVER, AM	0	0745
CLOUD COVER, PM	2	1500
WIND SPEED, AM	2	0700
WIND SPEED, PM	6	1500

## Appendix B: Weather Data Example, Grid 1, Session 2

### Apple Valley East Solar Project

Project Name: Apple Valley East  
 Property Owner: Coronus Energy  
 Year: 2013 (Trapping Period 2)

Grid Number: 1 OF 1

WEATHER (temperature = °C; cloud cover = %; wind speed = kph)

DATE: 23 MAY 2013 ACTIVITY: trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	10	0600
AIR TEMPERATURE, MAX.	25	1500
SOIL TEMPERATURE, MIN.	10	0600
SOIL TEMPERATURE, MAX.	29	1500
CLOUD COVER, AM	5	0600
CLOUD COVER, PM	0	1500
WIND SPEED, AM	3	0600
WIND SPEED, PM	4	1500

DATE: 24 MAY 2013 ACTIVITY: trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	10	0600
AIR TEMPERATURE, MAX.	26	1500
SOIL TEMPERATURE, MIN.	10	0600
SOIL TEMPERATURE, MAX.	29	1500
CLOUD COVER, AM	0	0600
CLOUD COVER, PM	0	1500
WIND SPEED, AM	0	0600
WIND SPEED, PM	4	1500

DATE: 25 MAY 2013 ACTIVITY: trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	12	0600
AIR TEMPERATURE, MAX.	27	1500
SOIL TEMPERATURE, MIN.	13	0600
SOIL TEMPERATURE, MAX.	35	1500
CLOUD COVER, AM	0	0600
CLOUD COVER, PM	0	1500
WIND SPEED, AM	3	0600
WIND SPEED, PM	4	1500

DATE: 26 MAY 2013 ACTIVITY: trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	12	0600
AIR TEMPERATURE, MAX.	26	1500
SOIL TEMPERATURE, MIN.	13	0600
SOIL TEMPERATURE, MAX.	35	1500
CLOUD COVER, AM	0	0600
CLOUD COVER, PM	0	1500
WIND SPEED, AM	2	0600
WIND SPEED, PM	5	1500

DATE: 27 MAY 2013 ACTIVITY: trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	15	0600
AIR TEMPERATURE, MAX.	30	1500
SOIL TEMPERATURE, MIN.	15	0600
SOIL TEMPERATURE, MAX.	40	1500
CLOUD COVER, AM	0	0600
CLOUD COVER, PM	10	1500
WIND SPEED, AM	0	0600
WIND SPEED, PM	3	1500

## Appendix B: Weather Data Example, Grid 1, Sessions 3

### Apple Valley East Solar Project

Project Name: Apple Valley East  
 Property Owner: Coronus Energy  
 Year: 2013 (Trapping Period 3)

Grid Number: 1 of 1

WEATHER (temperature = °C; cloud cover = %; wind speed = kph)

DATE: 6 July 2013      ACTIVITY: trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	21	0600
AIR TEMPERATURE, MAX.	32	0915
SOIL TEMPERATURE, MIN.	21	0600
SOIL TEMPERATURE, MAX.	35	0915
CLOUD COVER, AM	65	0600
CLOUD COVER, PM	40	0915
WIND SPEED, AM	0	0600
WIND SPEED, PM	1	0915

DATE: 7 July 2013      ACTIVITY: trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	18	0600
AIR TEMPERATURE, MAX.	32	0915
SOIL TEMPERATURE, MIN.	18	0600
SOIL TEMPERATURE, MAX.	37	0915
CLOUD COVER, AM	15	0600
CLOUD COVER, PM	20	0915
WIND SPEED, AM	0	0600
WIND SPEED, PM	2	0915

DATE: 8 July 2013      ACTIVITY: trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	18	0600
AIR TEMPERATURE, MAX.	32	0915
SOIL TEMPERATURE, MIN.	18	0600
SOIL TEMPERATURE, MAX.	37	0915
CLOUD COVER, AM	0	0600
CLOUD COVER, PM	15	0915
WIND SPEED, AM	0	0600
WIND SPEED, PM	3	0915

DATE: 9 July 2013      ACTIVITY: trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	18	0600
AIR TEMPERATURE, MAX.	32	0915
SOIL TEMPERATURE, MIN.	18	0600
SOIL TEMPERATURE, MAX.	37	0915
CLOUD COVER, AM	0	0600
CLOUD COVER, PM	2	0915
WIND SPEED, AM	0	0600
WIND SPEED, PM	2	0915

DATE: 10 July 2013      ACTIVITY: trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	18	0600
AIR TEMPERATURE, MAX.	32	0915
SOIL TEMPERATURE, MIN.	18	0600
SOIL TEMPERATURE, MAX.	38	0915
CLOUD COVER, AM	5	0600
CLOUD COVER, PM	25	0915
WIND SPEED, AM	0	0600
WIND SPEED, PM	2	0915