

# **FOCUSED DESERT TORTOISE SURVEY**

## **LUCERNE VALLEY DESERT VIEW RANCH GENERATING FACILITY**

**APN 0435-083-39 & 0435-132-01**

**SAN BERNARDINO COUNTY, CALIFORNIA**  
(USGS Fifteemile Valley, CA Quad.; Township 4 North, Range 2 West, Sections 10 & 15)

*Owner/Applicant*

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**Report prepared by: Randall Arnold  
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**Project No: RCA#2011-20**

**October 7, 2011  
(Date report prepared.)**

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## EXECUTIVE SUMMARY

The project proponent is proposing to construct a solar photovoltaic generating facility on a 358-acre parcel located in the Lucerne Valley area of San Bernardino County. The site is located at the northwest corner and southwest corner of Desert View Road and Canyon View Road about 0.5-miles south of Highway 18 and one mile west of Joshua Road. The site supports a creosote bush community dominated by *Larrea tridentata* with co-dominants burrobrush (*Franseria dumosa*) and Joshua tree (*Yucca brevifolia*).

The property is located within the known distribution of the desert tortoise; therefore, focused/protocol surveys were performed for the species on September 21 through 25, 2011 from approximately 0630 to 1530 hours on each survey day. Surveys were also conducted in the zone of influence as per survey protocol. The surveys were performed by Randall Arnold and Patricia Moore using the standard survey protocol for the species (i.e., 10-meter belt transects) as required by California Department of Fish and Game (CDFG) and U.S. Fish and Wildlife Service (USFWS).

**Three tortoise carcasses were identified within the boundaries of the property, as well as three inactive/historic tortoise burrows. The carcasses consisted of pieces of the tortoises' shell and were not complete carcasses. The carcasses appeared to be several years old; however, the exact age of each carcass could not be determined.** Other tortoise sightings have been documented in the region with the nearest populations about three miles northeast of the site (CNDDDB, 2011). No tortoises or tortoise sign were observed along the zone of influence surveys; however, the species could potentially move on to the site in the future based on the proximity of tortoise populations in the region and the presence of carcasses within the boundaries of the property.

## 1.0 PROJECT AND PROPERTY DESCRIPTION

The property consists of vacant land and is about 358-acres in size (gross). It is located at the northwest corner and southwest corner of Desert View Road and Canyon View Road about 0.5-miles south of Highway 18 and one mile west of Joshua Road in San Bernardino County (Township 4 North, Range 2 West, Sections 10 & 15) (Figure 1). Elevations ranged from about 3,040 to 3,280 feet (MSL) and soils consisted of sandy loam to gravelly loam. The Fifteenmile Valley Quadrangle (1971) shows three blueline channels bisecting the site as depicted on Figure 1. The channel in the northern portion of the property within Section 15 is relatively well defined and may be utilized as a wildlife corridor. Weather conditions during the September 21 through 25, 2011 surveys consisted of winds of 0 to 10 mph, temperatures in the low 50's °F (AM) to the mid 90's °F (PM) with 0 to 10 percent cloud coverage.

The site is surrounded by vacant lands; although, there are a few single-family dwellings within about 0.25 miles of the site. The property supports a creosote bush community (*Larrea tridentata*) with burrobush (*Franseria dumosa*) and Joshua tree (*Yucca brevifolia*) co-dominants. Dominant annuals consisted of schismus (*Schismus barbatus*) and buckwheat (*Eriogonum brachyanthum*). A wide variety of other perennials and annuals were documented during the field investigations and are discussed further in Section 4.0. The USGS quadrangle map is provided in Figure 1 and site photographs are provided in Figure 2. No site plan was available at the time this document was prepared.

The proposed generating facility would have a generating capacity of approximately 40 megawatts alternating current (MW-AC) encompassing approximately 180-acres of the 358-acre site with the remaining 178-acres to remain as open space. No construction activities will occur within the blueline channels. The project will employ photovoltaic (PV) modules that convert sunlight directly into electrical energy without use of heat transfer fluid or cooling water. The facilities will deliver the electrical output of the project to the existing regional transmission system. The project will utilize a series of arrays of PV modules to convert solar energy directly to electrical power for export to the electrical grid. The PV modules convert the sunlight striking the modules directly into low-voltage direct current (DC) power, which is subsequently transformed to alternating current (AC) power through an inverter. The PV modules are made of a semiconductor material in which the process of converting light (photons) to electricity (voltage) allows the electrons to flow through the material to produce electricity (the PV effect).

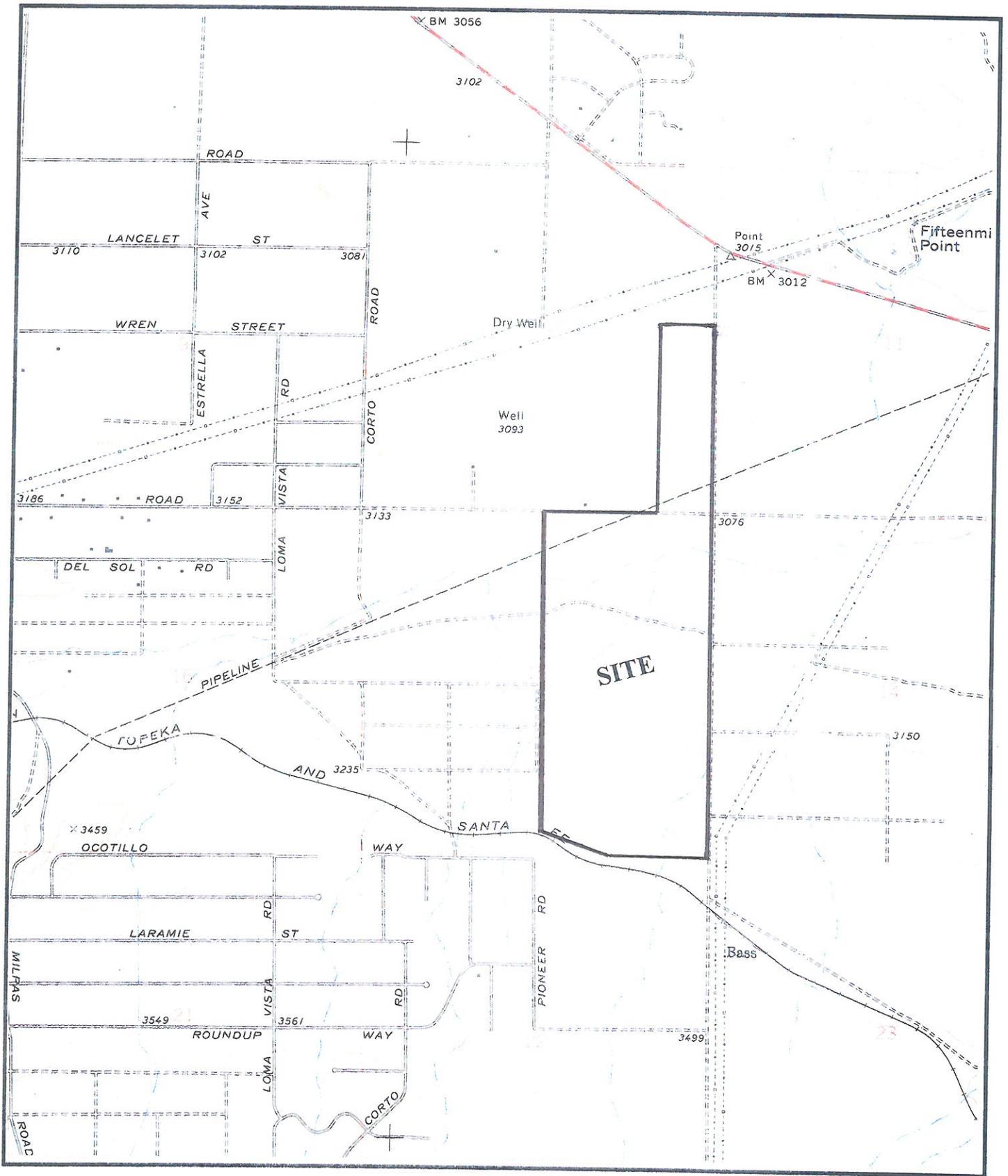


FIGURE 1

PROPERTY LOCATION  
 (Source: USGS Fifteenmile Valley, CA Quadrangle, 1971)  
 (Lucerne Valley Desert View Ranch Generating Facility)





PHOTO POINT #1 - LOOKING SOUTH

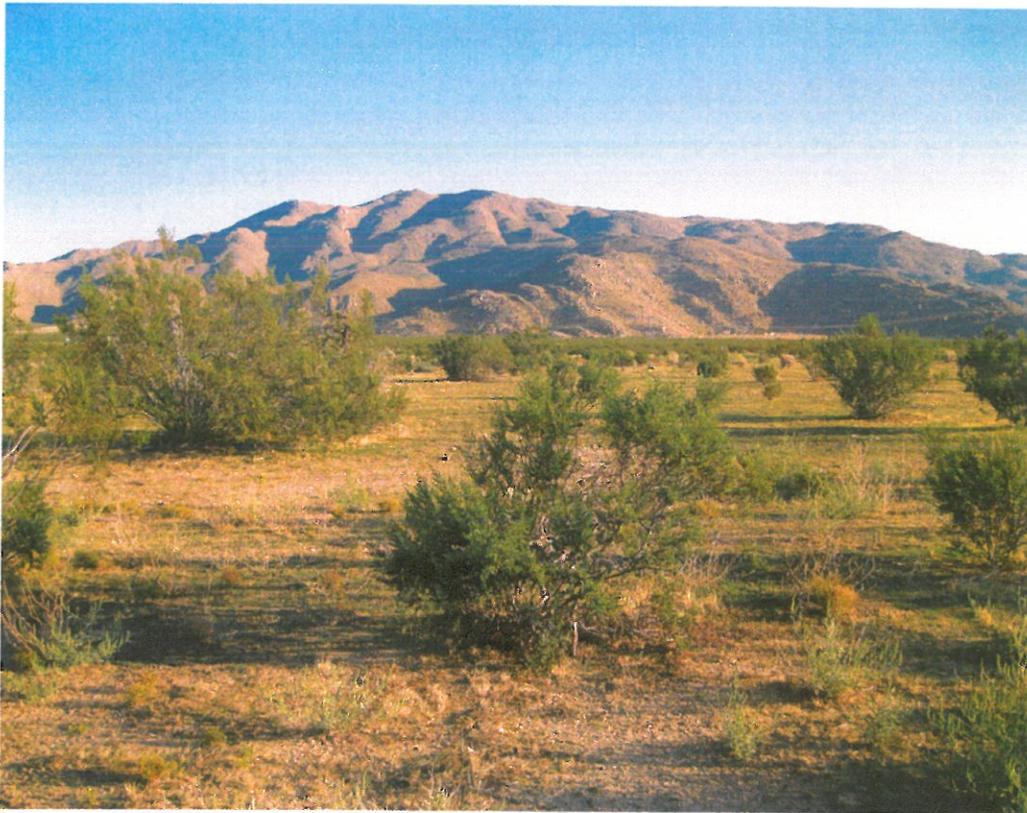


PHOTO POINT #2 - LOOKING NORTH

FIGURE 2  
LUCERNE VALLEY DESERT VIEW RANCH GENERATING FACILITY  
(APN 0435-083-39 & 0435-132-01)



PHOTO POINT #3 - LOOKING SOUTHEAST



PHOTO POINT #4 - LOOKING SOUTHWEST

FIGURE 2, cont.  
LUCERNE VALLEY DESERT VIEW RANCH GENERATING FACILITY  
(APN 0435-083-39 & 0435-132-01)



PHOTO POINT #5 - LOOKING NORTHWEST



PHOTO POINT #6 - LOOKING NORTHEAST

FIGURE 2, cont.  
LUCERNE VALLEY DESERT VIEW RANCH GENERATING FACILITY  
(APN 0435-083-39 & 0435-132-01)

## **2.0 LITERATURE/RECORDS REVIEW FOR DESERT TORTOISE**

As part of the environmental process, California Department of Fish and Game (CDFG) and U.S. Fish and Wildlife Service (USFWS) data sources were reviewed prior to initiation of field surveys to determine if the tortoises have been documented on the site or in the area surrounding the property. Based on the literature review and evaluation of the CNDDDB database for the Fifteenmile Valley quadrangle, it was determined that the site is located within the general distribution of the desert tortoise and focused/protocol surveys were deemed necessary. Populations of desert tortoises have been identified in the general region according to CNDDDB (2011) with the nearest populations about three miles northeast of the site (Occurrence # 20, CNDDDB, 2011). Tortoise population levels in the region are expected to be relatively low based on existing data from CNDDDB (2011) and BLM (1990).

### **3.0 METHODOLOGY**

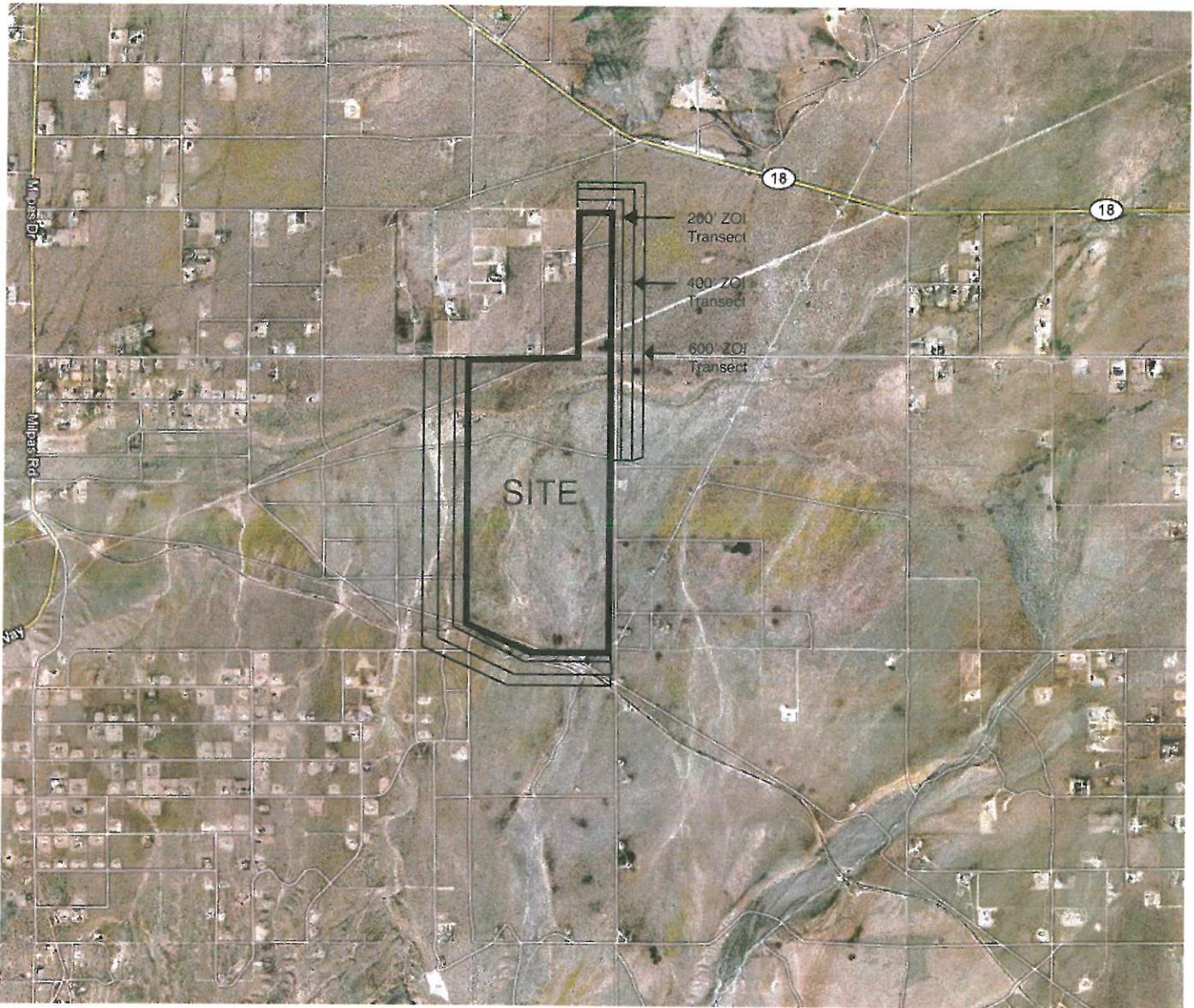
The site was surveyed for desert tortoises by Randall Arnold and Patricia Moore on September 21 through 25, 2011 and as required by the CDFG and USFWS survey protocol, 10 meter, parallel belt transects were walked in a north-south direction until the property had been checked for tortoises and/or tortoise sign (burrows, tracks, scats, etc.). Surveys in the zone of influence (ZOI) were also conducted in the surrounding area as per survey protocol and the location of the ZOI transects are shown in Figure 3. All transects were walked at a pace that allowed careful observations along the transect routes and in the immediate vicinity. Field notes were recorded regarding native plant assemblages, wildlife sign, and human affects in order to determine the presence or absence of suitable tortoise foraging habitat. Surveys were performed on the site and in the surrounding area from approximately 0630 to about 1530 hours on each survey day.

USFWS and CDFG specify when surveys for tortoises can be conducted (i.e., April through May and September through October); therefore, surveys were performed on September 21 through 25, 2011. Comprehensive surveys combined with identification of the habitat on the site and in the surrounding area will provide data on the potential presence or absence of tortoises. Temperatures during the September survey were in the low 50's °F (AM) to mid 90's °F (PM), wind speeds of about 0 to 10 mph (mainly from the south), and cloud coverage of about 0 to 10 percent. No precipitation was recorded during the survey.

#### **Limitations:**

(1) This report is valid for 12 months from the date of the survey as per CDFG and USFWS requirements. An updated report will be required if project activities do not occur within the next 12-month period as per CDFG and USFWS requirements.

(2) The results of this report do not constitute authorization for the "take" of the desert tortoise or any other listed or sensitive wildlife species. The authorization to impact the tortoise can only be granted by CDFG and USFWS. If desert tortoises are observed during future project activities, project activities should cease immediately and CDFG and USFWS should be contacted to discuss mitigation measures which may be required for the desert tortoise.



**FIGURE 3**  
**LUCERNE VALLEY DESERT VIEW RANCH GENERATING FACILITY**  
**(Location of Desert Tortoise ZOI Transects)**  
**(APN 0435-083-39 & 0435-132-01)**

#### 4.0 GENERAL BIOLOGICAL SURVEY RESULTS

The site supports a relatively undisturbed creosote bush community dominated by *Larrea tridentata* (Figure 4). Co-dominants included burrobrush (*Franseria dumosa*) and Joshua tree (*Yucca brevifolia*). A wide variety of other perennials were observed and some of the more common species included cholla (*Opuntia ramosissima* and *O. biglovia*), cheesebush (*Hymenoclea salsola*), paperbag plant (*Salazaria mexicana*), ephedra (*Ephedra nevadensis*), lycium (*Lycium cooperi*), Indian ricegrass (*Achnatherum hymenoides*), buckwheat (*Eriogonum fasciculatum*), spiny hop-sage (*Grayia spinosa*), and winterfat (*Kraschenokovia lanata*). Dominant annuals included schismus (*Schismus barbatus*), yellow buckwheat (*Eriogonum brachyanthum*), vinegar weed (*Lessingia germanorum ramulosissima*) and desert trumpet (*Eriogonum inflatum*). All of the perennials and annuals listed above were relatively common and were evenly distributed throughout the site. None of the above species were confined to any one specific area (Figures 3 and 4). Most of the perennial shrubs ranged in height from about two to six feet. Table 1 provides a compendium of all perennials and annuals observed on the property (Appendix A).

Wildlife species were identified during the field investigations conducted on September 21 through 25, 2011 from about 0630 to 1530 hours. Birds identified included sage sparrows (*Amphispiza belli*), morning doves (*Zenaida macroura*), ravens (*Corvus corax*), and western kingbirds (*Tyrannus verticalis*). A solitary northern harrier (*Circus cyaneus*), which is a California species of special concern, was also observed on the property on two separate occasions. A few side-blotched lizards (*Uta stansburiana*) and western whiptail lizards (*Cnemidophorus tigris*) were the only live reptiles observed during the field investigations; however, tortoise carcasses were also noted (See Section 5.0). Antelope ground squirrels (*Ammospermophilus leucurus*), desert cottontail rabbits (*Sylvilagus auduboni*), jackrabbits (*Lepus californicus*), and desert woodrats (*Neotoma lepida*) were the only mammals seen during the field investigations. However, Merriam's kangaroo rats (*Dipodomys merriami*) may also be present on the site given the presence of numerous small mammal burrows observed throughout the property.

The large desert wash located in the northern portion of the site, which is relatively well defined and extends off-site to the east and west for several miles, may act as a wildlife corridor for both small and large mammals (Figure 1). No breeding activities were observed among any of the wildlife species during the September 2011 field investigations. Table 2 (Appendix A) provides a compendium of wildlife species observed on the site and other species known to occur in the region.



## 5.0 RESULTS – DESERT TORTOISE

During the protocol surveys conducted on the site, three partial tortoise carcasses were observed (See List of Figures at the end of the document for photographs of carcasses.). Two of the carcasses were located in the northern portion of the site and one carcass was located near the southeast corner. Figure 4 depicts the location of the three carcasses and GPS data is provided in the Location Table (See List of Tables at the end of the document.). In addition to the carcasses, three inactive/historic tortoise burrows were identified during the field investigations (Figure 4). Two of the burrows were observed near the boundary of the property and one burrow was located in the southeast portion of the site (Figure 4). The specific GPS data for the burrows is also provided in the Location Table (See List of Tables at end of document.). (See List of Tables for desert tortoise clearance survey reporting data sheets.). Given the presence of documented tortoise populations a few miles northeast of the site and the presence of tortoise sign within the boundaries of the property, tortoises could potentially occur on the site in the near future; however, no live tortoises were identified during the protocol surveys; consequently, the population levels may be very low in the area.

The desert tortoise is the largest reptile in the arid southwest United States, and it historically occupied a range that included a variety of desert communities in southeastern California, southern Nevada, western and southern Arizona, southwestern Utah, and through Sonora and northern Sinaloa, Mexico (Luckenbach, 1982). Today populations are largely fragmented and studies indicate a steady and dramatic decline over most of its former range (BLM, 1988). A highly contagious respiratory disease has infected tortoise populations over the last 20+ years, primarily in the western Mojave Desert region, which has had a very detrimental impact on population levels. Given the continued habitat loss and the rapid decline in numbers of tortoises brought about by the disease, the U.S. Fish and Wildlife Service exercised its emergency authority and determined tortoise populations north and west of the Colorado River to be an endangered species under the Endangered Species Act of 1973, as amended (USFWS, 1989). The emergency rule was published in the Federal Register on August 4, 1989, and remained in effect until April 1, 1990. On April 2, 1990, the U.S. Fish and Wildlife Service officially listed the desert tortoise as a threatened species under the Endangered Species Act of 1973, as amended. There are no USFWS designated critical habitats for the tortoise in the immediate area nor is there any proposed critical habitat in the area. The protocol survey results outlined in this report are valid for one year as per CDFG and USFWS requirements, and an additional survey may be required if the 12-month time limit is exceeded before site clearing activities are completed. However, regardless of the results of the tortoise survey, desert tortoises cannot be taken under State and Federal law. The survey report and any mitigation included do not constitute authorization for incidental take of the desert tortoise. Given the presence of tortoise sign on the property, USFWS and CDFG must be contacted to discuss the results of the protocol survey.

## 6.0 IMPACTS AND RECOMMENDATIONS

Construction of the proposed solar project will have a direct impact on habitat that has been inhabited by tortoises in the past; however the proposed project is not expected to impact any existing populations of live tortoises based on the results of the September 2011 protocol surveys. The absence of any live tortoises or active burrows indicates that population levels on the site, as well as in the immediate area, have been significantly reduced over the last few decades due to a variety of activities including human impacts (i.e., collection), habitat loss, and the presence of an upper respiratory disease which has spread throughout the Mojave Desert.

Current tentative plans call for developing about 180-acres of the 358-acre site with the remaining 178-acres to remain as open space. Consequently, the solar project is not expected to disrupt any continuity of any important wildlife habitat or habitat/wildlife corridors. Furthermore, all development activities will avoid impacting any of the existing blueline channels present on the site. No additional biological investigations are recommended at the present time; however, the survey results are only valid for 12-months and CDFG, USFWS, and the County may require additional surveys. In addition, CDFG and USFWS will require clearance surveys prior to the start of future construction activities as part of mitigation measures which will be required by the agencies due to the presence of tortoise sign (i.e., carcasses) on the site.

If the site is modified by grading or otherwise disturbed prior to project approval, which results in the loss of desert tortoises, CDFG, USFWS, and the County Building and Safety Department should be notified. Such action prior to project approval will violate State and Federal endangered species laws and may be considered grounds for denial of the project. Mitigation and restoration plans will be required under such actions.

## **7.0 PROPOSED MITIGATION MEASURES**

The site has been previously inhabited by tortoises as documented by the presence of three tortoise carcasses and three inactive/historic burrows; although, no live tortoises or active burrows were identified during the September 2011 protocol surveys. However, given the presence of tortoise sign CDFG and USFWS will be contacted to initiate consultations in order to determine what specific mitigation measures will be required prior to construction of the proposed solar project. CDFG and USFWS are the only agencies which can grant authorization for the “take” of the desert tortoise and who can approve appropriate mitigation for the species.

## 8.0 REFERENCES

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2011 Natural Diversity Data Base. Sacramento
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- Luckenbach, Roger A.  
1982 Ecology and Management of the Desert Tortoise (*Gopherus agassizii*) in California. In North American Tortoises: Conservation and Ecology. U.S. Department of Interior, Fish and Wildlife Service. Wildlife Research Report No. 12. pp. 1-36.
- U.S. Department of the Interior, Bureau of Land Management  
1988 Desert Tortoise Habitat Management on the Public Lands: A Rangeland Plan. BLM, Washington, D.C.
- 1988 Recommendations for Management of the Desert Tortoise in the California Desert Conservation Area. BLM, Riverside, CA.
- U.S. Department of the Interior, Fish and Wildlife Service.  
1989 The Desert Tortoise Emergency and Proposed Listing. Portland , OR.
- 1989 Endangered and Threatened Wildlife and Plants; Desert Tortoise; Proposed Rule. Federal Register 50 CFR Part 17:42270-42278.
- 1990 Desert Tortoise Density Category Designation Maps. Maps obtained from Ray Bransfield, U.S.F.W.S. biologist, Laguna Niguel office, Laguna Niguel, CA.

**LIST OF TABLES**

**Location Table: Desert Tortoise Carcasses and Burrows  
Desert Tortoise Clearance Survey Reporting Data Sheets  
Including ZOI Data Sheets**

**Location Table: Desert Tortoise Carcasses and Burrows**

<b>OBSERVATION</b>	<b>LOCATION</b>	<b>COMMENTS</b>
Tortoise carcass	N34°26.015' W117°04.189'	See Photo Point #7, Figure 4.
Tortoise carcass	N34°26.418' W117°04.402'	See Photo Point #8, Figure 4.
Tortoise carcass	N34°26.474' W117°04.287'	See Photo Point #9, Figure 4.
Inactive/historic tortoise burrow	N34°26.034' W117°04.151'	See Photo Point #10. Figure 4.
Inactive/historic tortoise burrow	No data available.	See Figure 4.
Inactive/historic tortoise burrow	No data available.	See Figure 4.

ON-SITE Clearance Results

USFWS 2010 DESERT TORTOISE CLEARANCE SURVEY REPORTING DATA SHEET

Date of survey: 21-25/9/2011 Survey biologist(s): R. Arnold, D. Moore RCAL23@aol.com BO#:           
 (day, month, year) (name, email, and phone number) (760) 956-9212  
 Project Name: Lucerne Valley Desert View Ranch Site description: 358-acre, Lucerne Valley, CA  
 (general location, size)  
 County: San Bern. Quad: E11E01N12W Location: T4N R2W Sec 10/15 Clearance #1  
 (UTM coordinates, lat-long, and/or TRS; datum) (is this tract part of the 1", 2", etc. clearance of project area?)  
Valley

Detection number	Date	GPS location Easting	GPS location Northing	MCL (mm)	Existing tag # and color, if present	Transmitter #	Animal visually healthy (Y/N)	Disposition (<5km or >5km move)	If <5km move, Release site location Easting	If <5km move, Northing	If >5km move, blood sample #
1 (photo #1)	9/21/2011	N 34° 26. 015'	1891'	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2 (photo #2)	9/22/2011	N 34° 26. 418'	4021'	"	"	"	"	"	"	"	"
3 (photo #3)	9/22/2011	N 34° 26. 474'	4021'	"	"	"	"	"	"	"	"
4 (photo #4)	9/22/2011	N 34° 26. 034'	2871'	"	"	"	"	"	"	"	"
5 Burrumb	9/22/2011	No data available	151'	"	"	"	"	"	"	"	"
Burrumb	9/23/2011	No data available		"	"	"	"	"	"	"	"
7											
8											
9											
10											
11											
12											
13											
14											

Zone of Influence

USFWS 2010 DESERT TORTOISE CLEARANCE SURVEY REPORTING DATA SHEET

Date of survey: 21-25/9/2011 Survey biologist(s): R. Arnold P. Moore BO#: —  
 (day, month, year) (name, email, and phone number) RAA123@aol.com (760) 956-9212  
 Project Name: Lucerne Valley Desert View Ranch Site description: 358-Acre, Lucerne Valley, CA  
 Generating facility (general location) 200' ZOI  
 County: San Bern. Quad: E47EWM15Z Zone: 3 Location: TYNRIW Section Clearance  
 (UTM coordinates, lat-long, and/or TRS; datum) (is this tripped part of the 1<sup>st</sup>, 2<sup>nd</sup>, etc. clearance of project area?)

Live Tortoises

Detection number	Date	GPS location Easting	GPS location Northing	MCL (mm)	Existing tag # and color, if present	Transmitter #	Animal visually healthy (Y/N)	Disposition <5km or >5km move	If <5km move, Release site location Easting	If <5km move, Release site location Northing	If >5km move, blood sample #
1											
2	No tortoises or										
3	tortoise sign observed										
4	Along										
5	ZOI. F RAN 50 FT										
6											
7											
8											
9											
10											
11											
12											
13											
14											

Zone of Influence

USFWS 2010 DESERT TORTOISE CLEARANCE SURVEY REPORTING DATA SHEET

Date of survey: 21-25/9/2011 Survey biologist(s): R. Arnold, P. Moore ACA123@ca02.com BO#:           
 (day, month, year) (name, email, and phone number) (760) 956-9212  
 Project Name: Lucerne Valley Desert View Ranch Site description: 358-Asas, Lucerne Valley, CA  
 (general location)  
 County: San Bern. Quad: F47EENM16Z Zone: 3 Location: T4N R21W Sec 10 1/2 Clearance 400' ZOI  
 (UTM coordinates, lat-long, and/or TRS; datum) (USFWS project part of the 1", 2", etc. clearance of project area?)

**Live Tortoises**

Detection number	Date	GPS location Easting	GPS location Northing	MCL (mm)	Existing tag # and color, if present	Transmitter #	Animal visually healthy (Y/N)	Disposition (<5km or >5km move)	If <5km move, Release site location Easting	If <5km move, Release site location Northing	If >5km move, blood sample #
1											
2	No tortoises										
3	tortoise sign observed										
4	along ZOI transect										
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											

Zone of Influence

USFWS 2010 DESERT TORTOISE CLEARANCE SURVEY REPORTING DATA SHEET

Date of survey: 21-25/9/2011 Survey biologist(s): R. Arnold, P. Moore RCA123@usfws.com BO#:           
 (day, month, year) (name, email, and phone number) (760) 956-9212  
 Project Name: Luceerne Valley Desert View Ranch Site description: 358-Away, Luceerne Valley, CA  
 (general location)  
 County: San Bern. Quad: E470001S Zone: 3 Location: T4NR2W Sec 10/11 Clearance 600' 20"  
 (UTM coordinates, latitude, and/or TRS; datum) (is the trisect part of the 1", 2", etc. clearance of project area?)  
 Valley

**Live Tortoises**

Detection number	Date	GPS location		MCL (mm)	Existing tag # and color, if present	Transmitter #	Animal visually healthy (Y/N)	Disposition (<5km or >5km move)	Release site location		If >5km move, blood sample #
		Easting	Northing						Easting	Northing	
1											
2	No										
3	sign										
4	observed										
5	along										
6	zone										
7											
8											
9											
10											
11											
12											
13											
14											

DUPLICATE PHOTO

**LIST OF FIGURES**

**Figure 5 - Vicinity Map**

**Figure 6 - Fifteenmile Valley, CA USGS Quadrangle**

**Figure 7 - Tortoise Carcasses and Burrow**

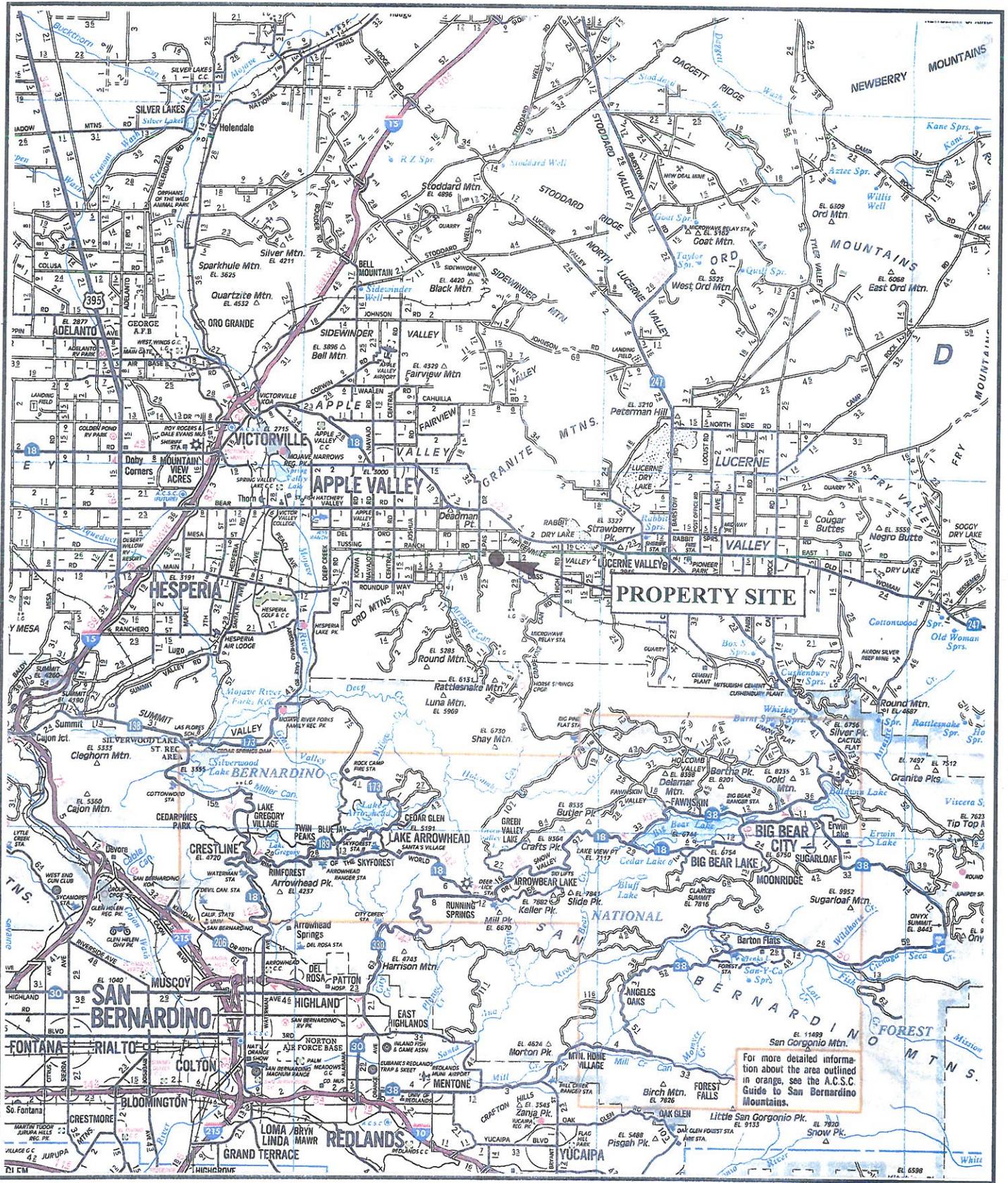


FIGURE 5

VICINITY MAP

(Source: ACSC Map Source4e, 2011)

(Lucerne Valley Desert View Ranch Generating Facility)



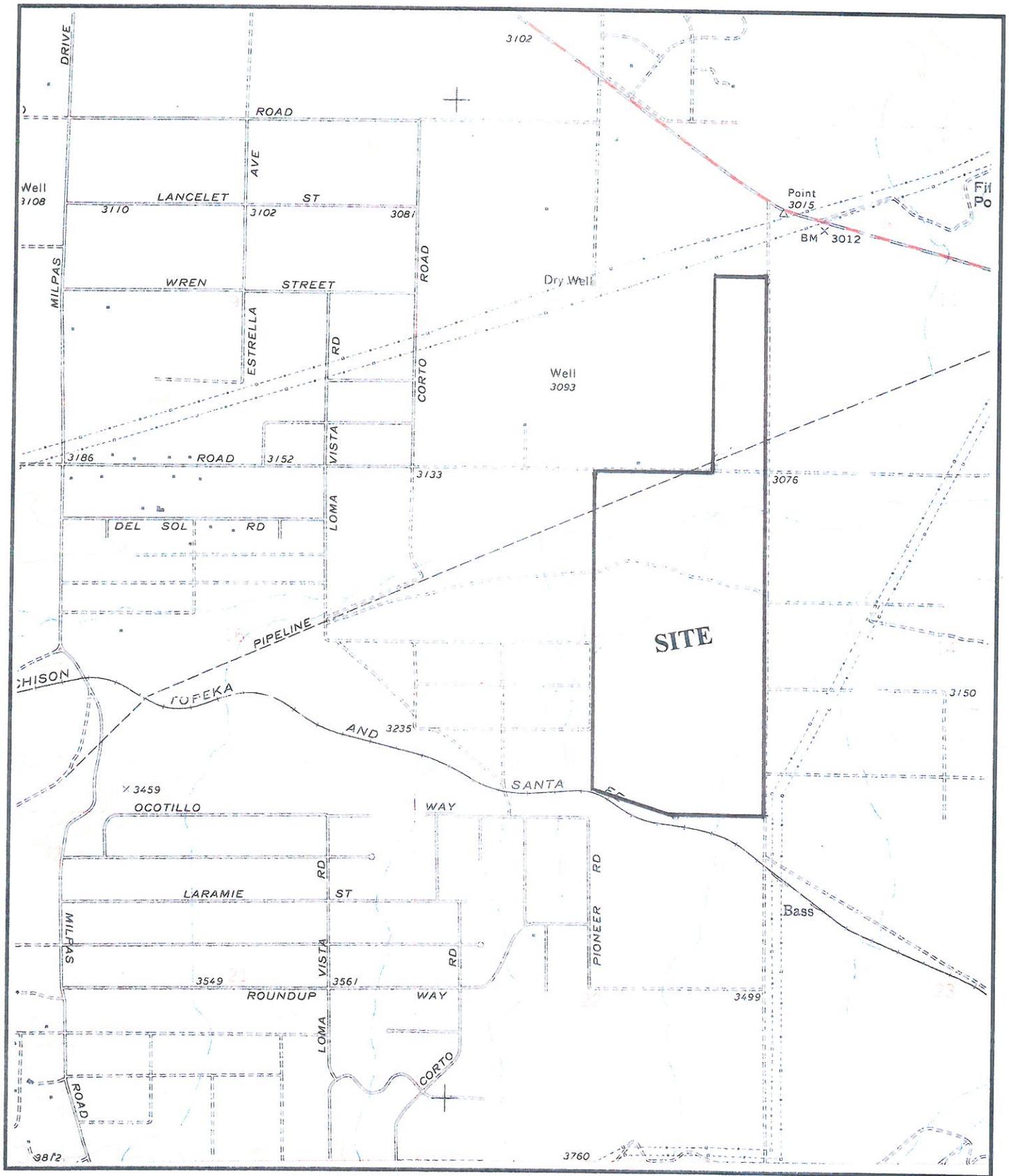


FIGURE 6

FIFTEENMILE VALLEY, CA QUADRANGLE (1971)  
 (Lucerne Valley Desert View Ranch Generating Facility)





PHOTO POINT #7 - TORTOISE CARCASS  
NEAR SOUTHEAST CORNER



PHOTO POINT #8 - TORTOISE CARCASS  
IN NORTHERN PORTION OF SITE

FIGURE 7  
LUCERNE VALLEY DESERT VIEW RANCH GENERATING FACILITY  
(APN 0435-083-39 & 0435-132-01)



PHOTO POINT #9 - TORTOISE CARCASS  
IN NORTHERN PORTION OF SITE

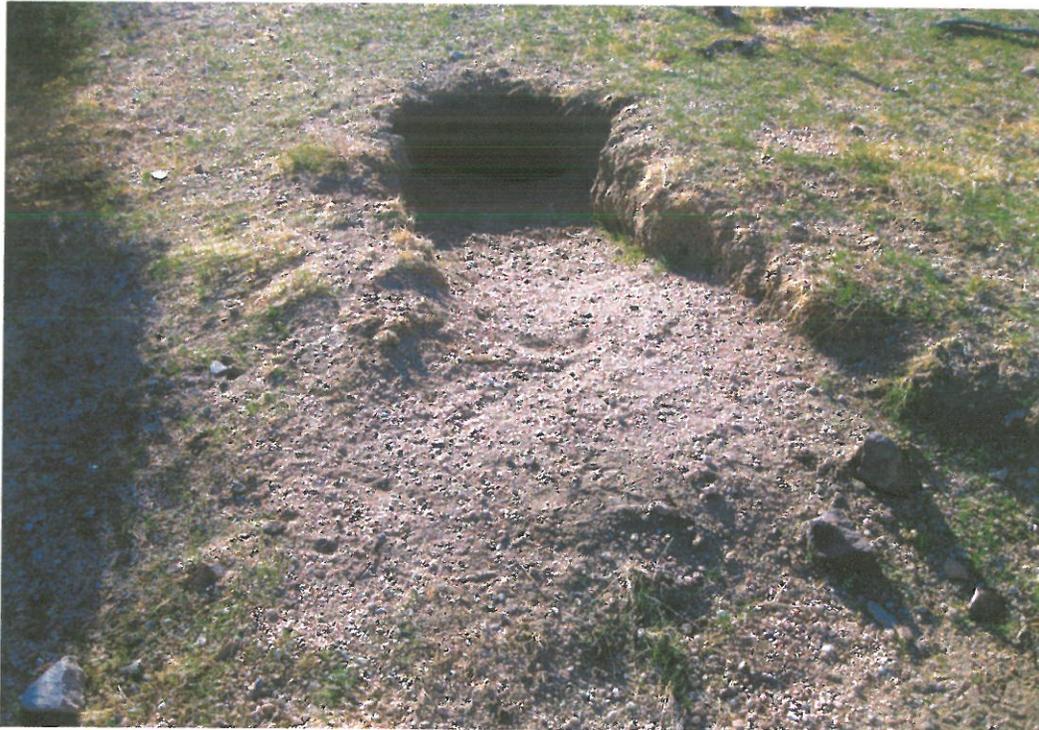
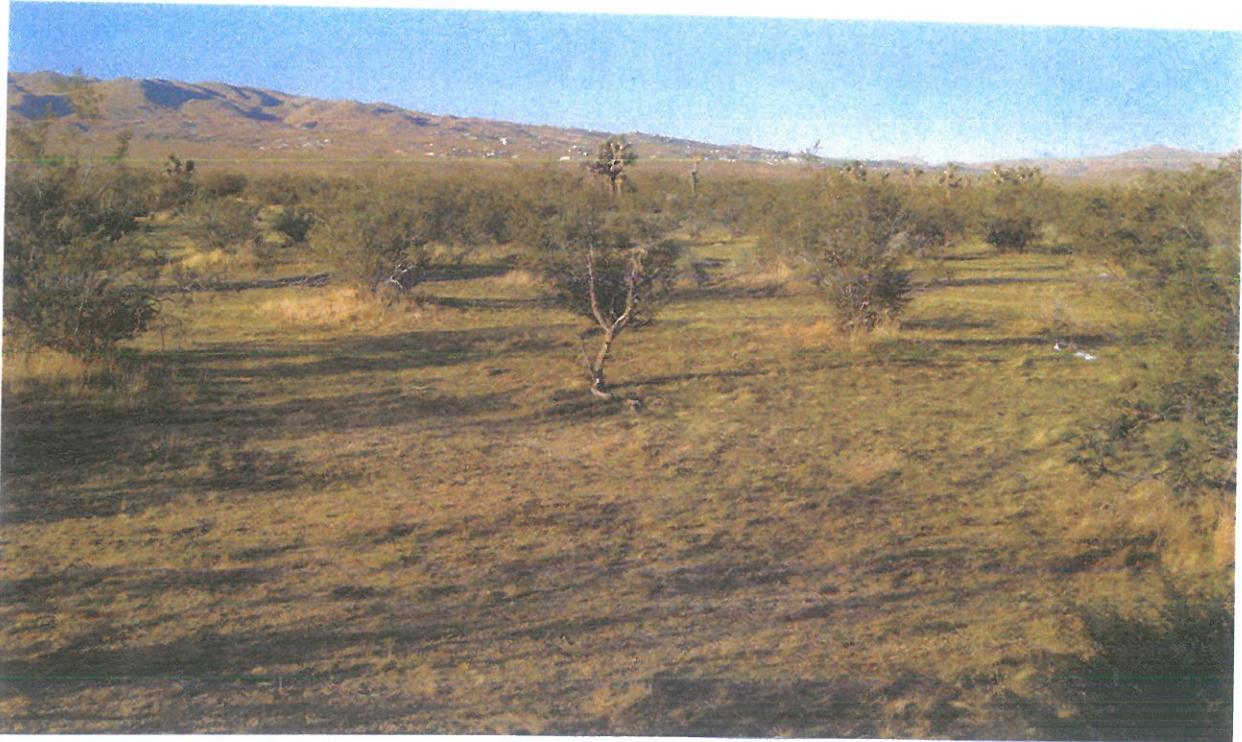


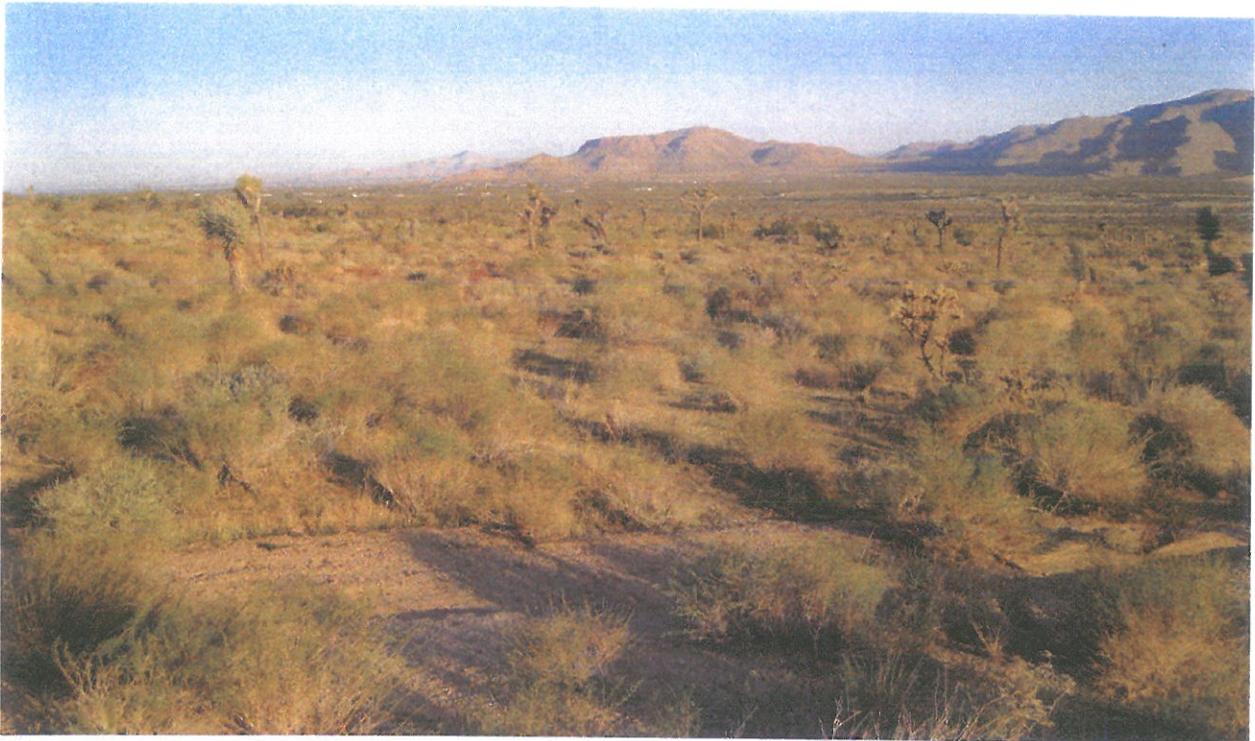
PHOTO POINT #10 - INACTIVE TORTOISE BURROW  
NEAR SOUTHEAST CORNER

FIGURE 7, cont.  
LUCERNE VALLEY DESERT VIEW RANCH GENERATING FACILITY  
(APN 0435-083-39 & 0435-132-01)

**LIST OF SITE PHOTOGRAPHS**



**VIEW FROM NORTHEAST CORNER LOOKING SOUTHWEST**



**VIEW FROM SOUTHEAST CORNER LOOKING NORTHWEST**

**PHOTOGRAPHS OF SITE  
(Lucerne Valley Desert View Ranch Generating Facility)**



**VIEW FROM NORTHWEST CORNER LOOKING SOUTHEAST**



**VIEW FROM SOUTHWEST CORNER LOOKING NORTHEAST**

**PHOTOGRAPHS OF SITE  
(Lucerne Valley Desert View Ranch Generating Facility)**

**APPENDIX A**

**Flora and Fauna Compendia**

**Table 1 - Plants observed on the site.**

<b>Common Name</b>	<b>Scientific Name</b>	<b>Location</b>
Creosote bush	<i>Larrea tridentata</i>	On-site and off-site
Joshua tree	<i>Yucca brevifolia</i>	“
Burrobush	<i>Franseria dumosa</i>	“
Cottonthorn	<i>Tertadymia spinosa</i>	“
Cholla	<i>Opuntia biglovia</i>	“
Pencil cholla	<i>Opuntia ramosissima</i>	“
Calico cactus	<i>Echonocereus Englemannii</i>	“
Spanish dagger	<i>Yucca schidigera</i>	“
Whipple Yucca	<i>Yucca whipplei</i>	“
Cheesebush	<i>Hymenoclea salsola</i>	“
Ephedra	<i>Ephedra nevadensis</i>	“
Paperbag plant	<i>Salazaria mexicana</i>	“
Spiny hop-sage	<i>Grayia spinosa</i>	“
Winterfat	<i>Kraschenokovia lanata</i>	“
Desert sage	<i>Salvia dorii</i>	“
Lycium	<i>Lycium andersonii</i>	“
Fremont thornbush	<i>Lycium fremontii</i>	“
Fiddleneck	<i>Amsinckia tessellate</i>	“
Indian bunchgrass	<i>Achnatherum hymenoides</i>	“
Rubberbrush	<i>Chrysothamnus teretifolius</i>	“
Saltbush	<i>Atriplex canescens</i>	“
Buckwheat	<i>E. fasciculatum</i>	“
Desert almond	<i>Prunus fasciculata</i>	“
Flat-top buckwheat	<i>Eriogonum plumatella</i>	“
Desert straw	<i>Stephanomeria pauciflora</i>	“
Sandpaper plant	<i>Petalonyx thurberi</i>	“
Desert aster	<i>Aster abatus</i>	“
Acton encelia	<i>Encelia actoni</i>	“
Spiked tristetum	<i>Trisetum spicatum</i>	“
Fringed amaranthus	<i>Amaranthus fimbriatus</i>	“
Desert gilia	<i>Gilia eremica</i>	“
Desert trumpet	<i>Eriogonum inflatum</i>	“
Vinegar weed	<i>Lessingia germanorum</i>	“
Burweed	<i>Franseria acanthicarpa</i>	“
Thistle sage	<i>Salvia carduacea</i>	“
Brittle spineflower	<i>Chrorizante brevicornu</i>	“
Yellow buckwheat	<i>Eriogonum brachyamthum</i>	“
Sonoran sandmat	<i>Euphorbia micromera</i>	“
Jimpson weed	<i>Datura meloides</i>	“

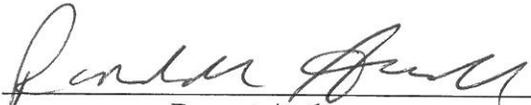
**Table 2 - Wildlife observed on the site and those species expected to occur in surrounding area.**

<b>Common Name</b>	<b>Scientific Name</b>	<b>Location</b>
Common raven	<i>Corvus corax</i>	Observed on-site
Sage sparrow	<i>Amphispiza belli</i>	“
Morning dove	<i>Zenaida macroura</i>	“
Western kingbird	<i>Tyrannus verticalis</i>	“
Northern harrier	<i>Circus cyaneus</i>	“ (Note: This bird species is a CA Species of special concern.)
Western whiptail lizard	<i>Cnemidophorus tigris</i>	“
Side-blotched lizard	<i>Uta stansburiana</i>	“
Antelope ground squirrel	<i>Ammospermophilus leucurus</i>	“
Desert cottontail rabbit	<i>Sylvilagus audubonii</i>	“
Jackrabbit	<i>Lepus californicus</i>	“
Desert woodrat	<i>Neotoma lepida</i>	“
Coyote	<i>Canis latrans</i>	“ (scats observed”
Desert spiny lizard	<i>Sceloporus magister</i>	Known to occur in area.
California ground squirrel	<i>Spermophilus beecheyi</i>	“
Merriam’s kangaroo rat	<i>Dipodomys mohavensis</i>	“

Note: The above Tables are not comprehensive lists of every plant or animal species which may occur in the area, but are a list of those common species which have been identified on the site or in the region by biologists from RCA Associates, LLC, or which are common species in the region.

## CERTIFICATION FOR DESERT TORTOISE SURVEY

I hereby certify that the statements furnished above and in the attached exhibits, present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief. Fieldwork conducted for this assessment was performed by myself and biologists under my direction. 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: 10-7-2011 Signed:   
Report Author

Field Work Performed By: Randall Arnold  
Senior Biologist

Field Work Performed By: Patricia Moore  
Senior Biologist