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**LETTER OF TRANSMITTAL**

**TO:** Docket Unit

**DATE:** November 12, 2009

**PROJECT:** SES Solar One

<b>DOCKET</b>	
<b>08-AFC-13</b>	
<b>DATE</b>	<u>NOV 12 2009</u>
<b>RECD.</b>	<u>NOV 13 2009</u>

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**Enclosed/Attached please find the following:**

- The Applicant's Responses to CURE Data Requests Set 3

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**For:**  Review and Comment  As Requested  
 Signature and Return  For Your Use  
 Appropriate Action

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**Remarks:**

The materials included in this submittal are listed below:

- 12 hard copies of the Applicant's Responses to CURE Data Requests Set 3
- 12 electronic copies of the Applicant's Responses to CURE Data Requests Set 3
- 1 original, signed Proof of Services

If you have any questions or need any further information, please feel free to call. Thank you!

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Kindly,

Corinne Lytle  
Assistant Project Manager

November 13, 2009

Mr. Christopher Meyer  
CEC Project Manager  
Attn: Docket No. 08-AFC-13  
California Energy Commission  
1516 Ninth Street  
Sacramento, CA 95814-5512

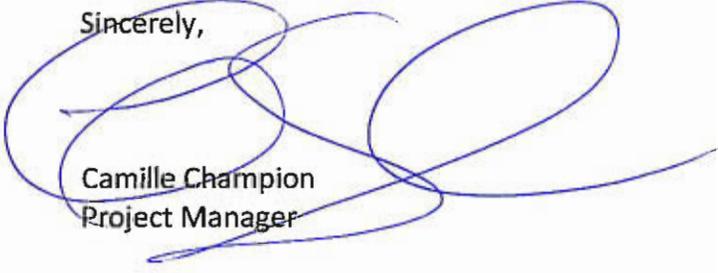
Mr. Jim Stobaugh  
BLM Project Manager  
Attn: Docket No. 08-AFC-13  
Bureau of Land Management  
P.O. Box 12000  
Reno, NV 89520

RE: SES Solar One Project  
Applicant's Responses to CURE Data Requests 276-380  
CURE Data Requests Set 3

Dear Mr. Meyer and Mr. Stobaugh:

Tessera Solar hereby submits the Applicant's responses to CURE Data Requests 276-380 (Data Requests Set 3). I certify under penalty of perjury that the foregoing is true, correct, and complete to the best of my knowledge.

Sincerely,



Camille Champion  
Project Manager

# SES SOLAR ONE

In Response to CURE Data Requests  
Set 3, Data Requests 276-380

Application for Certification (08-AFC-13)

November 2009

**Submitted to:**  
Bureau of Land Management  
2601 Barstow Road  
Barstow, CA 92311

**Submitted to:**  
California Energy Commission  
1516 9th Street, MS 15  
Sacramento, CA 95814-5504



Submitted by:  
SES Solar Three, LLC  
SES Solar Six, LLC

**SES**

Stirling Energy Systems  
4800 N. Scottsdale Road, Suite 5500  
Scottsdale, AZ 85251

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: HAZARDOUS MATERIAL HANDLING**

**Data Request 276:** Has the Applicant considered using helium or nitrogen gas instead of hydrogen gas as the working fluid in the Project's Stirling engines? If yes, why was hydrogen gas chosen over helium/nitrogen?

**Response:** Other gases have been considered for use in the SunCatcher's Stirling engine. Hydrogen was chosen as the most efficient gas at transferring energy inside a Stirling engine. This helps the SunCatcher use the least amount of materials to produce electricity.

Hydrogen also has environmental benefits over Helium. Helium is a rare non-renewable resource on Earth. It is a strategic material isolated from a small number of natural gas wells in the Great Plains. The world's largest helium reserves in Amarillo, Texas are expected to run out soon.

Hydrogen is one of the most abundant materials on earth. It is contained in all water. We will be using the SunCatcher's renewable electricity to split the Hydrogen from the water on-site.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: HAZARDOUS MATERIAL HANDLING**

**Data Request 277:**                   What are the technical impediments (if any) to using helium as the working fluid in the Project's Stirling engines instead of hydrogen gas?

**Response:**           Using Helium would require redesign of the entire Power Conversion Unit (PCU).

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: HAZARDOUS MATERIAL HANDLING**

**Data Request 278:** What are the benefits and/or drawbacks of using hydrogen gas as the working fluid in the Project's Stirling engines instead of the inherently safer helium?

**Response:** Benefits include the following:

- No fuel is needed to transport heavy steel cylinders containing Helium from the Great Plains.
- Using Hydrogen allows increased system efficiency so fewer SunCatchers are needed to generate the same electricity, minimizing the environmental impact and improving Project economics and therefore lowering price to the ultimate consumer, the ratepayer.
- Because Hydrogen is a plentiful renewable resource, the risk of commodity fluctuations and securing a consistent supply of a rare non-renewable resource is mitigated.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: HAZARDOUS MATERIAL HANDLING**

**Data Request 279:** Has the type of distribution system proposed for the Project that would be used to deliver hydrogen gas to the SunCatcher Power Conversion Units ("PCUs") been used before? If yes, have there been any reported accidents?

**Response:** The distribution system is similar to that used to convey natural gas to many homes in the US. It is well documented that accidents are extremely rare. There are many examples of piping systems that supply hydrogen to facilities such as refineries and power plants. Many power plants use hydrogen gas to cool their electrical generators.

SES has installed a hydrogen supply system at the Sandia Model Power Plant in New Mexico. There have been no reported accidents at Sandia.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: HAZARDOUS MATERIAL HANDLING**

**Data Request 280:** The Applicant indicated that each SunCatcher PCUs is estimated to lose about 200 standard cubic feet (“scf”) of hydrogen gas per year. Does this estimate include the loss of hydrogen gas from the distribution system? If not, how much loss of hydrogen gas is expected from the distribution system?

**Response:** The estimate includes leakage in the distribution system. Continuous lengths of tubing are used to minimize the number of fittings and the amount of leakage. No fittings will be used underground.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: HAZARDOUS MATERIAL HANDLING**

**Data Request 281:** How does the leak rate of hydrogen gas through the proposed distribution system compare with using compressed hydrogen gas bottles?

**Response:** Most of the hydrogen leakage is from the engine. The expected leakage from pressurized bottles or the hydrogen system is relatively small so the overall leakage will be the same for either bottles or the distribution system.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: HAZARDOUS MATERIAL HANDLING**

**Data Request 282:** Please provide any modeling and risk analysis studies that have been performed to evaluate the potential impacts of transporting hydrogen for the Project.

**Response:** No Hydrogen gas will be transported on the roads for this Project. The Hydrogen will be received at the electrolyzer in the form of water through the on-site water distribution system.



**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: PROJECT SAFETY DESIGN**

**Data Request 284:** Will the limited resources of the Harvard Fire Station meet the emergency response needs of this project? Will an onsite emergency response team be established?

**Response:** An EMT trained person will be on the Project site for first response.

The Harvard Station 46 is a County manned station on the northern part of Newberry Springs, along the I-15 at Harvard Road. They would be considered the first responder. However, there is mutual cooperation between that station, the Marine Corp Logistical Base and the Newberry Springs Community Services District Fire Station located at the Newberry Springs Community Center. Depending upon the emergency any of them could be sent to the Project site – and all of them could be sent if needed.

Harvard Station 46 has a full time captain at the station and four part time County fire fighters at the station all considered as well trained for light to heavy capability emergencies. Their equipment consists of one municipal engine, a type #1, a brush patrol, type #6 and a brush engine, a type #3. Their medical response would be with an Emergency Medical Technician.

The Newberry Springs CSD Fire has a staff of four personnel during the day and six to nine at night. All of the personnel are local, professionally trained and know the area very well. Their equipment consists of one municipal engine, type #1, two water tenders of 2,200 and 4,000 gallons and a brush patrol type #6. Recently the CSD approved the purchase of new 4000 gallon water tender. Their medical response would be with an Emergency Medical Technician. However they also have a Rescue Support Trailer and the equipment to respond to heavy capability emergencies.

Currently their response time to be on the Calico site for a light emergency would be only 23 minutes and for a heavy emergency would be 26 minutes – since the response would be only 14 miles away.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: PROJECT SAFETY DESIGN**

**Data Request 285:** Is the applicant considering any other emergency response service that would have a shorter response time?

**Response:** An EMT trained person will be on the Project site for first response. In addition to the Harvard Fire Station and the Newberry Springs Community Services District Fire, the Marine Corps Logistical Base has for the past eight years also responded to emergencies outside of their base. They have two fully equipped stations with the largest equipment and best trained personnel. Each station will have six to nine persons per shift at all times, 24 hours per day; 7 days per week; 365 days per year. The full staff is approximately 40 to 50 persons for both stations who are considered career emergency responders. Their equipment consists of two engines and a fully heavy rescue unit with the ability to respond to a situation in even confined spaces. Their pumper is equipped with an aerial unit. Each engine is staffed with a full paramedic and two emergency life support (ELS) personnel at all times. Their response time to Calico would be no more than 40 minutes.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: SOIL AND WATER RESOURCES**

**Data Request 286:** Have the soils on the Project site been tested for contamination from mining?

**Response:** As was discussed in the Applicant's response to CEC and BLM Data Request 90, based on visual observations of site conditions, the limited size of the former operation and the low likelihood of health and safety risk in the context of construction or site workers, no further action, including testing soils, is recommended at this time.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: SOIL AND WATER RESOURCES**

**Data Request 287:** Will protective measures be taken to ensure Project construction workers and operational employees will not be exposed to onsite soil contamination?

**Response:** The Project will comply with all laws, ordinances, and regulations. Section 5.17 of the AFC contains the Project's best management practices for worker safety.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: SOIL AND WATER RESOURCES**

**Data Request 288:** Has Tessera Solar entered into a contract to provide the primary water supply for the Solar One project? If so, please provide a copy of the contract.

**Response:** Tessera Solar has not done so to date.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: SOIL AND WATER RESOURCES**

**Data Request 289:** Is Tessera seeking to export water to outside of the Mojave Basin for use in the Solar One Project? If so, please explain how this complies with the Judgment of the Riverside County Superior Court.

**Response:** Tessera Solar may enter into a Third Party Agreement with BNSF which is the successor to the Atchison Topeka and Santa Fe Railroad Company and is a Stipulating Party to the Judgment After Trial. BNSF exported water from MWA boundary between 1986 and 1990, the base period for the Judgment and therefore has had the right of export, which per Mojave Water Agency continues.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: SOIL AND WATER RESOURCES**

**Data Request 290:** If BNSF water rights are transferred to Tessera, please explain:  
i. What was the previous use of the water by BNSF prior to the transfer?  
ii. What subregion the water will be transferred from?

**Response:**  
i. BNSF used the water for their industrial uses.  
ii. Tessera Solar would like to enter into a Third Party Agreement with BNSF Railway Company for their possible export from the Centro sub-region or the Baja sub-region.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: SOIL AND WATER RESOURCES**

**Data Request 291:** Please explain whether Tessera intends to seek approval of any water transfers outside of the basin from the Superior Court.

**Response:** Tessera Solar will adhere to the rulings of the Mojave Watermaster; and if Watermaster requests Superior Court approval, the Stipulating Party as directed will file the necessary petitions.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: SOIL AND WATER RESOURCES**

**Data Request 292:** Please provide any documents in Tessera's possession concerning Tessera's attempts to obtain recycled water from BNSF for the Solar One project.

**Response:** Please see attached letter from BNSF to Mojave Water Agency, provided as attachment SWR-1.



<b>BLAINE BILDERBACK</b>	<b>BNSF Railway Company</b>
<i>Corporate Real Estate Development</i>	P.O. Box 961050
<i>Director Acquisition &amp; Development</i>	Fort Worth, TX 76161-0050
	2500 Lou Menk Drive, AOB-3
	Fort Worth, TX 76131-2830
	Tel 817/352-6461
	Fax 817/352-7797
	Email blaine.bilderback@bnsf.com

October 12, 2009

Valerie Wiegenstein  
 Watermaster Services Manager  
 Mojave Basin Area Watermaster  
 c/o Mojave Water Agency  
 22450 Headquarters Drive  
 Apple Valley, CA 92307

Dear Watermaster;

BNSF Railway Company, as the successor to the Atchison Topeka and Santa Fe Railroad Company, is a Stipulating Party to the Judgment After Trial, January 10, 1996, Mojave Basin Area Adjudication, City of Barstow, et al v. City of Adelanto, et al, Riverside County Superior Court Case No. 208568 (the "Judgment"). Pursuant to the Judgment, BNSF was adjudicated 120 acre-feet of Base Annual Production ("BAP") in the Centro Subarea in connection with its Barstow rail yard.

Tessera Solar North America ("Tessera") has filed an application, being processed by the California Energy Commission, to permit an 850-megawatt solar generation project, Calico (Solar One), which will supply energy to Southern California Edison and will be located just outside the eastern boundary of the Mojave Basin Area near the area of Hector Road. A location map is attached for your ease of reference. According to Tessera, its solar technology power conversion process consumes no water, as is required by other solar thermal generating platforms, and the only water consumed during its operational phase is for washing the mirrors ("operational water"). Tessera has requested, for its private use, that BNSF supply up to 40 acre-feet of operational water to the Solar One project, on an annual basis, and 136 acre-feet of construction water annually in the first four years. BNSF has water available from its Centro Subarea Free Production Allowance which is currently set at 96 acre-feet per year. Since the Tessera facility will be located outside the boundary of the adjudicated basin, BNSF will be required to export the water outside the basin.

This letter constitutes a conditional notice to the Watermaster of the proposed change of use (export out of the Mojave Basin Area) as required by Section 15 of the Judgment. BNSF recognizes that the proposed export of water outside the basin will require Court approval pursuant to Section 17 of the Judgment. BNSF and Tessera are in the process of attempting to negotiate an



agreement. If and when an agreement is reached, BNSF will file its motion with the Court requesting approval for the export of the water.

As requested in the Watermaster memorandum dated September 23, 2009, the following is BNSF's current understanding of the proposed operational agreement with Tessler, based on our discussions to date:

1. BNSF, at its Barstow rail yard, will provide up to 40 acre-feet a year of operational water to Tessler by either pumping water from its Centro Subarea allocation, subject to the water's availability and BNSF's needs, or by recycling its grey water.
2. BNSF will, in coordination with Tessler and the Watermaster, attempt to facilitate the annual delivery of 136 acre-feet of construction water from the Centro Subarea, to Tessler, in the first four years of the project.
3. The water will be transported by truck or rail to Tessler's project site.
4. Tessler will use the operational water to wash its mirrors. Treatment, reuse or discharge of the water has not yet been determined.
5. As discussed in correspondence from Tessler to the Watermaster dated concurrent with this letter, Tessler Solar on behalf of SES Solar One LLC is offering, unrelated to any of BNSF's water interests in the Mojave Basin Area, to purchase permanent water rights in the Baja Subarea and subsequently offer that BAP (Base Annual Production) for permanent retirement to assist the Watermaster with the water level conditions in the Baja Subarea. Tessler Solar is willing to retire 400 acre-feet.

BNSF reiterates this is a conditional notice of a proposed change in use of all or a portion of BNSF's Centro Subarea allocation of water. The change in use is to be limited by the terms and to the duration of the contract currently being negotiated between BNSF and Tessler. This notice is conditioned upon the parties reaching a mutually satisfactory agreement with respect to, among other BNSF concerns, the amount of Centro Subarea water available during the contract term and the ability of BNSF to meet its own ongoing and evolving operational needs. The change in use will not be final unless and until the court approves the export of the water.

Thank you for time and consideration. Please feel free to contact me at 817-352-6461 with any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Blaine Bilderback".

Blaine Bilderback, BNSF

CC: Kirby Brill, Executive Officer, Mojave Watermaster

**Location Map for Tessera Solar Calico Project**





October 13, 2009

Valerie Wiegenstein, Watermaster Services Manager  
Mojave Basin Area Watermaster  
c/o Mojave Water Agency  
22450 Headquarters Drive  
Apple Valley, CA 92307

Dear Watermaster,

In March of 2009 SES Solar One LLC, a Delaware Limited Liability Company (a subsidiary of Tessera Solar North America, Inc.) filed a request with the Superior Court of the State of California for the County of Riverside to become a Stipulating Party to the Judgment After Trial, January 10, 1996, Mojave Basin Area Adjudication, City of Barstow, et al v. City of Adelanto, et al, Riverside County Superior Court Case No. 208568. As a future party to the Judgment, SES Solar One LLC is requesting consideration of the following in conjunction with the conditional notice from BNSF to the Watermaster of BNSF's proposed Change of Use. Please present this letter at the meeting scheduled for October 28, 2009.

Tessera Solar on behalf of SES Solar One LLC, is willing to purchase permanent water rights in the Baja Subarea, in the amount of 400 acre-feet, and subsequently offer that BAP (Base Annual Production) for permanent retirement to help the Watermaster with the water level conditions in the Baja Subarea and to offset any perceived impacts to the Baja Subarea. This offer for assistance to the Baja Subarea is made in conjunction with the Request for Change of Use proposed by BNSF Railway, which also provides sufficient mitigation to offset impacts to the Centro Subarea.

Tessera Solar project's technology and design are shown to offer a greatly reduced water usage over other types of concentrating solar power technology, while bringing as many as 500 onsite construction jobs for a period of three to five years and as many as 150 onsite permanent operations jobs for the life cycle of the project (estimated to be 30 years) to this economically challenged area. Please consider these facts when rendering a final decision for the small water supply requested.

Thank you for your consideration of the above alternatives. Please contact any of the participants from Tessera Solar for any additional information that is needed for this decision. A contact list is attached for your convenience.

Sincerely,

Felicia Bellows,  
Vice President of Development  
CC: Kirby Brill, General Manager, Mojave Water Agency

Tessera Solar:

Felicia Bellows      602-535-3576

Camille Champion    602-957-1818

Consultant:

Irene M. James      909-702-0673

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: SOIL AND WATER RESOURCES**

**Data Request 293:** Please describe the location and process that generates the BNSF recycled water.

**Response:** The recycled water is at the Barstow BNSF Rail yard at their Pre-Treatment Facility.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: SOIL AND WATER RESOURCES**

**Data Request 294:** If Tessera is still proposing to use BNSF recycled water, please describe whether this water has been tested and what the primary constituents of the water are. Please also describe the type of treatment the water would undergo before and after transport to the Solar One Project site.

**Response:** The BNSF Facility process is called "Primary Treatment". The water is not tested before the processing which cleans the water by filters and polishing. It is clear when done, but not drinkable. It is not sterilized or chlorinated and still has some particulates. The water is considered industrial waste water and when the primary treatment is completed it can be used for other industrial uses. The Solar One Project will have an onsite water treatment plant which will likely filter the water once more before it is used to clean the SunCatchers.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: SOIL AND WATER RESOURCES**

**Data Request 295:**                      What is the BNSF recycled water currently used for?

**Response:**            General industrial purposes as necessary for their maintenance facility and rail transport operations.

**SES Solar One**  
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**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: PROJECT RELIABILITY**

**Data Request 296:**                   What is the “mean time between failure” (MTBF) for the design that Felicia Bellows was discussing when she described 10 operating units?

**Response:**                   It takes a significant amount of time to determine a relevant MTBF. Because of the new design that was implemented, the MTBF for the improved SunCatchers are currently under evaluation to determine a baseline MTBF.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: PROJECT RELIABILITY**

**Data Request 297:**                      What will the MTBF be for the new units? What evidence is this based upon?

**Response:**                      The MTBF will be determined based on existing units in Sandia as well as data from the 1.5 MW Maricopa Solar plant in Peoria, Arizona. SES has set a target to exceed 80% confidence in the MTBF that is the industry benchmark for other engine applications.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: PROJECT RELIABILITY**

**Data Request 298:** Will the redesigned SunCatcher units be used at the Solar One Project site?

**Response:** The redesigned SunCatcher units will be used for the Solar One Project.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: PROJECT RELIABILITY**

**Data Request 299:** How many hours of field testing have the redesigned units undergone?

**Response:** The improved SunCatchers have been tied to the grid at Sandia for 4 months. In addition, several PCUs have been undergoing accelerated life testing at the McLaren engine test facility in Michigan.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: PROJECT RELIABILITY**

**Data Request 300:**                   What data does the applicant rely upon to validate that the SunCatcher technology is ready for commercial deployment at industrial scale?

**Response:**                   The SunCatcher has been developed, tested and improved over more than 25 years. SES has an extensive validation program which tests all parts of the SunCatcher system. Part of this validation program is the testing we perform on the 250 KW Model Power Plant at Sandia National Laboratories and on the 1.5 MW Maricopa Solar Plant in Peoria, AZ. The SunCatcher power plants are modular based on 1.5 MW units so this data is applicable to larger scale power plants.

In addition to these sites, several PCUs have been undergoing accelerated life testing at the McLaren engine test facility in Michigan.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: PROJECT RELIABILITY**

**Data Request 301:** How long will the applicant test the 1.5 MW demonstration units in Peoria, Arizona before being able to assess the SunCatcher grid-tied technology is reliable on a commercial scale?

**Response:** The reliability of the Maricopa Solar Plant will be assessed on a continual basis. SES believes that the technology is already reliable to achieve commercial deployment given the experience at Sandia National Labs.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: PROJECT RELIABILITY**

**Data Request 302:**                   What factors will the applicant use to evaluate whether the demonstration units in Peoria are successful?

**Response:**           The SunCatcher system is designed to provide economical, environmentally sensitive, utility scale solar power. We will evaluate the economics, the environmental impact, and the production of electric power (power curve) to measure its success in addition to the reliability and availability.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: PROJECT RELIABILITY**

**Data Request 303:** If the redesigned SunCatcher technology will potentially be installed on the Project site, please provide documentation of any accelerated life tests that are planned or underway.

**Response:** Accelerated life testing is being performed at subsystem manufacturers, at independent test laboratories, and at Sandia National Laboratories. Individual components complete SunCatchers, and entire fields of SunCatchers systems are tested under many accelerated test conditions.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
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**08-AFC-13**

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**TECHNICAL AREA: TRANSMISSION**

**Data Request 304:** Please clarify whether the Project will be delayed because 2015 is the earliest possible interconnection date. How will this impact the Project schedule for Phase 1 of the Project?

**Response:** Response: The plan is for SCE to install the generation interconnection at the Pisgah substation and minor upgrades which will allow 275 MW of power from SES Solar One to come online beginning sometime in 2012. SES Solar One will build up to 275 MW in 2012 and then will put construction on hold until SCE completes the full upgrade of the transmission system. SES Solar One estimates this to be in late 2013. Construction of Solar One would therefore start up again as soon as SCE completes the upgrades so that the Project can be completed by mid to late 2015.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: TRANSMISSION**

**Data Request 305:**                   How will the interconnect delay impact the Project schedule for Phase 2 of the Project?

**Response:**       See response above.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: TRANSMISSION**

**Data Request 306:** Is the Applicant prepared to provide funding for the \$389-421 million cost of the required interconnection upgrades?

**Response:** SES Solar One is in discussions with SCE on this point. While it is currently expected that SES Solar One will fund the generation interconnection and minor 275 MW upgrades and SCE will fund the remainder of the full upgrade to the transmission system, the final distribution of the costs will be determined by the California Public Utilities Commission in their proceeding on the transmission upgrade.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: TRANSMISSION**

**Data Request 307:** Is the Applicant prepared to fund any additional costs that may be part of subsequent interconnection cost estimates or actual costs?

**Response:** See response above.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: TRANSMISSION**

**Data Request 308:** Please provide a copy of the communication from SES to CAISO in response to the March 2, 2006 letter.

**Response:** The March 2, 2006 letter from CAISO concerns the transmission for the SES Solar Two Project with SDG&E.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: TRANSMISSION**

**Data Request 309:** Does the applicant intend to analyze and mitigate the environmental impacts associated with the transmission upgrades needed to mitigate the overload effects of the full SES One Project?

**Response:** The Applicant submitted an overall assessment of the environmental impacts associated with the transmission upgrade in Appendix EE of the AFC. A detailed assessment of the environmental impacts and requirements for mitigation associated with the transmission time upgrade is expected to be included in the CPCN application that will be submitted by SCE to the CPUC.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: LAND USE**

**Data Request 310:** Please describe how much land on the Solar One site is protected pursuant to the LWCF Act.

**Response:** The onsite acreages for the LWCF acquisitions within the Solar One Project area include a total of 1287.58 Acres broken into two zones as follows:

- CA Wilderness Catellus (CACA041319) 53.78 Ac
- CA Wilderness (CACA043419) 1123.8 Ac

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: LAND USE**

**Data Request 311:** Please describe whether Tessera Solar intends to convert these lands to non-recreation uses. If so, please elaborate on what steps Tessera has taken or plans to take to convert this land.

**Response:** Tessera Solar intends to convert these lands for use as a solar energy generation facility. This will involve the construction and operation of Suncatchers and ancillary facilities on portions of these lands. Site access will be controlled.

Tessera Solar has filed an AFC with the California Energy Commission and a ROW application with the BLM for the permission to convert these lands to generate renewable energy. The Project is currently in the discovery phase of the joint NEPA/CEQA process. As the Project moves through regulatory review, the Applicant will comply with agency requests pertaining to the conversion of these lands.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: LAND USE**

**Data Request 312:** Please describe any communications with government agencies concerning the conversion of the LWCF lands. Please enclose any such written communications.

**Response:** It is the Applicant's understanding that the conversion of LWCF lands will be analyzed as the Project moves through regulatory review. Please see attachment LU-1 for a compilation of communications with government agencies to date.



# United States Department of the Interior

BUREAU OF LAND MANAGEMENT  
California Desert District Office  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

May 6, 2009

In Reply Refer To:  
2140/2802 (P)  
CACA-049537  
(CA-610)

Camille Champion  
Project Manager  
Stirling Energy Systems – Solar One  
Biltmore Lakes Corporate Center  
2920 East Camelback Road, Suite 150  
Phoenix, AZ 85016

Dear Mr. Egan:

As part of our processing of your application (Stirling Energy System's Solar One, Phase One, CACA-49537) for a right-of-way grant for siting and developing a large-scale solar facility on public lands administered by the Bureau of Land Management, we have identified important information which affects a portion of your application.

Approximately 88 acres in Section 17, Township 8 North, Range 6 East (San Bernardino Meridian) (as shown on enclosed map) includes acquired land subject to a donation agreement subject to the following terms:

*"The United States, on behalf of itself and its successors, assigns and contractors, if any, will not allow or permit uses on the Fee Land that are not consistent with the terms of the California Desert Conservation Area Plan, and all laws applicable to the United States. The United States agrees that the fee land and all estates, rights, privileges, and interests that are part of or associated with the Fee Land shall be conserved and used for the conservation of the natural, cultural and aesthetic values associated with the Fee Land in a manner consistent with the California Desert Conservation Area Plan and all laws applicable to the United States"*

The BLM's right-of-way regulations (43 CFR 2801.2) state that BLM will grant right-of-way in a manner that "(A) Protects the natural resources associated with public lands and adjacent lands, whether private or administered by a government entity." Additionally, BLM's regulations (43 CFR 2804.26 [a][1]) provide guidance on the circumstances for possible denial of a right-of-way, including if the proposed use would not be consistent with the purposes for which the lands described in the application are managed.

Within 30 days of receipt of this letter, you are to provide, in accordance to 43 CFR 2804.25, additional information demonstrating that you can construct and operate your project in a manner consistent with the values of the lands donated for the required environmental review process. This information is necessary to fully evaluate your application.

If you have any questions, please contact Greg Miller (951-697-5216) in our Renewable Energy Coordinating Office.

Sincerely,

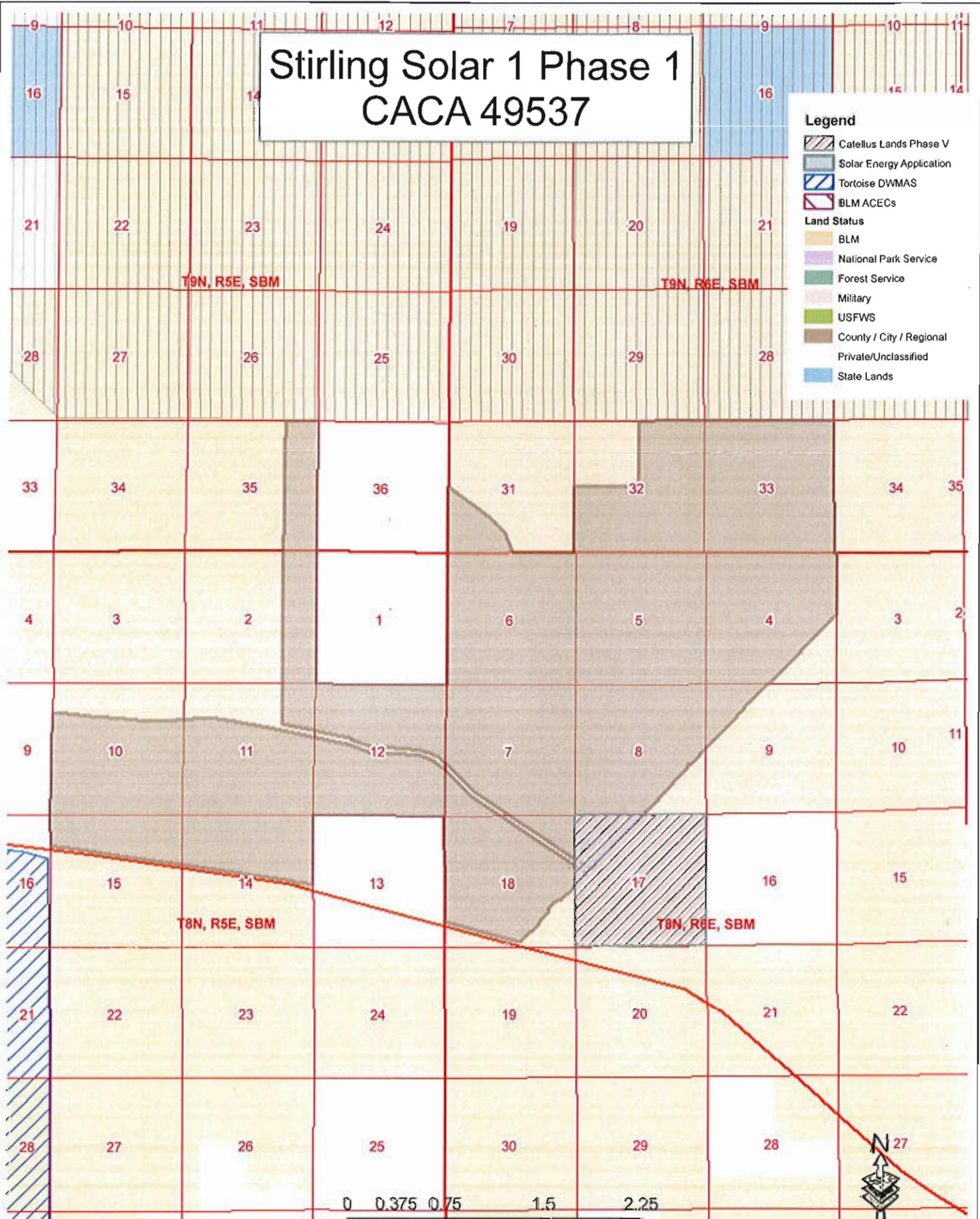
A handwritten signature in black ink, appearing to read "Steven J. Borchard". The signature is fluid and cursive, written over a white background.

Steven J. Borchard  
District Manager

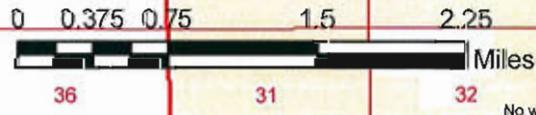
Enclosures: Map

# Stirling Solar 1 Phase 1 CACA 49537

- Legend**
- Catellus Lands Phase V
  - Solar Energy Application
  - Tortoise DWMAS
  - BLM ACECs
- Land Status**
- BLM
  - National Park Service
  - Forest Service
  - Military
  - USFWS
  - County / City / Regional
  - Private/Unclassified
  - State Lands




**US Department of the Interior**  
 Bureau of Land Management  
 California Desert District  
 Moreno Valley California  
 (951)697-5216  
 www.ca.blm.gov/cdd



No warranty is made by the Bureau of Land Management (BLM). The accuracy, reliability, or completeness of these data for individual use or aggregate use with other data is not guaranteed.



# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

California Desert District Office  
22835 Calle San Juan De Los Lagos  
Moreno Valley CA 92553-9046

May 21, 2009

In Reply Refer To:  
2140/2802 (P)  
CACA-049537  
CACA-049540  
(CA-610)

Camille Champion  
Project Manager  
SES Solar Three, LLC  
SES Solar Six, LLC  
Biltmore Lakes Corporate Center  
2920 East Camelback Road, Suite 150  
Phoenix, AZ 85016

Dear Ms. Champion:

As part of our processing of your applications (Stirling Energy System's Solar One, Phase One, CACA-49537 and Solar Six CACA-49540) for right-of-way grants for siting and developing large-scale solar facilities on public lands administered by the Bureau of Land Management, we have identified important information which affects a portion of your application.

Approximately 1,718 acres in Section 33, Township 9 North, Range 6 East; Sections 5 and 9, Township 8 North, Range 6 East (which includes a temporary access road); and, Sections 17 and 29, Township 8 North, Range 8 East (San Bernardino Meridian) (as shown on enclosed maps) includes acquired lands. The map for Solar One, Phase One indicates the serial number as CACA-047702. The correct serial number should be CACA-049537.

The BLM's right-of-way regulations (43 CFR 2801.2) state that BLM will grant right-of-way in a manner that "(A) Protects the natural resources associated with public lands and adjacent lands, whether private or administered by a government entity." Additionally, BLM's regulations (43 CFR 2804.26 [a][1]) provide guidance on the circumstances for possible denial of a right-of-way, including if the proposed use would not be consistent with the purposes for which the lands described in the application are managed.

Within 30 days of receipt of this letter, you are to provide, in accordance to 43 CFR 2804.25, additional information demonstrating that you can construct and operate your

project in a manner consistent with the values of the lands acquired for the required environmental review process. This information is necessary to fully evaluate your application.

If you have any questions, please contact Greg Miller (951-697-5216) in our Renewable Energy Coordinating Office.

Sincerely,

Steven J. Borchard  
District Manager

Enclosures: Map

June 3, 2009

Mr. Steven Borchard  
California Desert District Office  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553-9046

Dear Mr. Borchard

We are in receipt of your letter dated May 21, 2009 in which you explain that approximately 1,718 acres of the Stirling Energy Systems (SES) Solar One-Phase One Project includes acquired lands. You have requested that we provide additional information demonstrating that the project can be constructed and operated in a manner consistent with the values of the lands acquired as part of the environmental review process. We received a similar letter from Greg Miller of your office regarding an additional 88 acres, to which we responded on May 27, 2009 (attached).

We are pleased to offer the following response and look forward to working with you on this.

The Solar One Project Site is on approximately 8,230-acres, located approximately 37 miles east of Barstow. The project is adjacent to an interstate highway, a railroad, and several transmission lines. The SES Solar One project will generate clean, renewable, solar-powered electricity using a dish-stirling technology. This technology has numerous environmental advantages, including the lowest water use of any electric generating technology, minimal grading and trenching requirements, no excavation for foundations, and the highest sun-to-grid efficiency of any solar generating technology, which minimizes both cost and land use.

We became aware in March of the Mother Road National Monument proposal (Monument Proposal). As indicated on the map that we reviewed at that time (marked version 7.1), the Solar One project was on the very edge of the Monument Proposal. The western boundary of the Monument Proposal ran through the eastern part of the Solar One project. Approximately five sections, roughly 3000 acres, of the Solar One proposal were within the boundary of the Monument Proposal at that time. Of those five sections, parts of four sections are former Catellus lands, totaling about 1,700 acres.

We have worked since March with Senator Feinstein's office and with the Wildlands Conservancy, the sponsors of the Monument Proposal and the donors of much of the funds used to acquire the lands in question, to modify the Monument Proposal to eliminate impacts on this Project. As a result of these efforts, we understand that the current version of the Monument Proposal has been modified, so that it does not encompass lands that are part of the Solar One project. In addition, the Executive Director of the Wildlands Conservancy has stated publicly

that his organization does not oppose the Solar One project, despite the presence of some Catellus lands within the project.

For the reasons set forth below, we believe that the Solar One project is consistent with the applicable values and regulations. In sum:

- The technology to be used for the Solar One project has numerous environmental advantages, including the lowest water use of any electric generating technology, minimal grading and trenching requirements, no excavation for foundations, and the highest sun-to-grid efficiency of any solar generating technology, which minimizes both cost and land use.
- Impacts of the project will be mitigated in a manner consistent with the CDCA Plan.
- Solar One is one of a handful of solar projects that have advanced into the environmental review process and can commence construction before the end of 2010. Energy from the project could be on-line as soon as 2011. Delivery of this energy will assist in protecting our natural resources by reducing the emissions of greenhouse gases used for electricity production.
- The Catellus lands within the Solar One project boundary are at the western edge of the acquired lands.
- SES worked closely with BLM to identify and select the Solar One site and has relied on that prior work in spending millions of dollars over the past four years to develop the project.
- The donors of the majority of the funds used to acquire the land have stated publicly that they do not oppose the Solar One project.

SES/Tessera has attempted to act responsibly in choosing the Solar One site. SES has proceeded in good faith and in reliance on both discussions with the BLM and on the available legal information, and has spent in excess of \$6 million to date to develop the Solar One project on a site that does not meet existing wilderness criteria and that has minimal environmental impacts in comparison to other lands in the vicinity. At no time prior to March 2009 did we obtain notice of potential restrictions on the availability of this land for development of renewable energy. A major change to the project at this point would threaten the ability of the project to provide clean, renewable energy to California and to help Southern California Edison (SCE) and the state of California meet the mandates of the California Renewable Portfolio Standard (RPS) Program and the California Global Warming Solutions Act, and to qualify for funding made available through the American Recovery and Reinvestment Act.

Solar One would have a nominal capacity of 850MW using concentrating solar power. The clean, renewable, solar-powered electricity generated by the Project will be delivered to SCE.

SCE and SES entered into a 20-year Power Purchase Agreement (PPA) for 500 megawatts (MW) with options to expand up to 850MW. The California Public Utilities Commission approved the PPA on October 24, 2005.

This power will be delivered into the SCE system at the SCE Pisgah Substation, which is located adjacent to the Solar One site. Much of the power from the Project will be generated at peak times, when the demand for electricity is greatest. The permitting process with the California Energy Commission and the Bureau of Land Management commenced in December 2008. Construction of Solar One is expected to begin in mid to late 2010 and will take approximately four years for completion of the full 850 megawatts. However, renewable power from the project will come online much earlier. Due to the modularity of the technology, renewable power can be supplied to the grid as the dishes are constructed. We currently expect to bring the power on-line in approximately 9 MW groups.

As described more fully in the appendix to this letter, SES worked closely with the Bureau of Land Management (BLM) to determine suitable sites for our solar projects. In the case of Solar One, these discussions go back to late 2004. Over the course of most of 2005, SES and its consultants selected potential sites and reviewed the potential sites with personnel from the BLM Barstow office. In response to concerns articulated by BLM staff, certain sites were discarded. In September 2005, SES met with BLM and CEC staff to review three new sites, including the site eventually chosen for Solar One. It was agreed that this site appeared to be the most promising for renewable energy development. Among the reasons for this conclusion was that it appeared to have a lower population of desert tortoises than other sites, it is classified by BLM as Limited/Moderate Use Class, and it avoided conflicts with desert user groups such as OHV users. BLM staff agreed to lead a walk-through of the site, which took place in late 2005. At no time during 2005 or since has BLM staff advised us that any of the lands within the Solar One project boundary were restricted from development.

In reliance on these discussions with BLM, SES has spent over four years, and very significant costs, developing the Solar One site. We have retained a full retinue of experts to prepare the environmental and engineering studies necessary to file the permit application with the CEC, including among others, biological and archaeological studies. The application itself consists of several thousand pages of detailed information and analysis. The cost of preparing and pursuing these studies and permitting activities to date exceed \$6 million.

Last fall the California Wilderness Coalition (CWC) was considering a proposal that would have expanded the existing Cady Mountains Wilderness Study Area to include the Solar One project area, and would have designated the entire area as wilderness. As a result, we engaged in a series of discussions with the CWC and James Peterson of Senator Feinstein's Los Angeles office. In part due to our reliance on the consultation with BLM described above, these discussions resulted in an agreement with CWC to drop the Solar One area from their wilderness proposal.

Finally, while we understand the position that the Catellus lands were acquired for the purpose of conservation, available land records in connection with the transaction do not reflect that intent.

June 3, 2009  
Mr. Steven Borchard  
Page 4

Our staff has researched the land records associated with the Catellus lands that are within the Solar One project boundary. A review of the deeds demonstrates that no legal restrictions were placed on these lands when the lands were transferred to the Department of the Interior. Thus, neither our lengthy consultation with the BLM staff nor a review of the land records themselves, provided any notice of potential restriction on development of the land within the Solar One boundary for development.

Thank you for the opportunity to provide this additional information to you. We hope to continue to work with your office, with Senator Feinstein, and with the Monument Proposal sponsors to reach a solution that strikes a balance between preserving appropriate desert lands for conservation and developing clean, peaking renewable energy to help meet California's RPS and greenhouse gas reduction goals.

Sincerely,



Sean Gallagher  
Vice President,  
Market Strategy & Regulatory Affairs  
Stirling Energy Systems & Tessera Solar

cc: Greg Miller  
Jim Stobaugh  
Jim Abbott  
Felicia Bellows  
Camille Champion

## APPENDIX – HISTORY OF CONSULTATION WITH BLM

In late 2004, SES retained EPG, a Phoenix-based environmental consulting company, to help us identify candidate sites to accommodate a solar farm of 34,000 or so dishes. About eight general locations (some with 2 or more alternative possible sites) were identified in the deserts of Southern California, essentially all on land principally under the administration of the BLM. We met with people from the BLM field office in Barstow to review the majority of these sites, which were managed by the Barstow office.

By August 1, 2005, we had narrowed the sites down to a handful, all in the Mojave Desert, and we met with members of the BLM staff and SCE to discuss these alternatives. There was concern raised about several of these sites because of potential biological issues (particularly desert tortoises) and, in one instance, siting over an existing Off-Highway Vehicle Recreation Area (Johnson Valley OHV Area, which is the largest OHV area in the United States).

We commissioned EPG to find other potential sites that might be more suitable and less problematic for siting our solar plant. EPG found three more sites, two north and one west of the earlier sites but in the same general part of the Mojave Desert.

We met again with the BLM Barstow office on September 29, 2005 to review these latest candidate sites. The three new sites included what was finally selected as the site now being developed for Solar One.

Attending that meeting were the following:

From BLM:

- Rich Rotte, real estate specialist
- Ken Schulte, geologist
- David Frink, biologist
- Roxie Trost, field manager
- Edy Seehafer, environmental coordinator
- Mike Ahrens, OHV coordinator

From the California Energy Commission:

- Roger Johnson (then) renewables project manager
- Eileen Allen, assistant renewables project manager

From SES or EPG:

- Garlyn Bergdale (President, EPG)
- Mickey Siegel, EPG
- Bob Liden

From SCE:

- Jack Horne

## **APPENDIX – HISTORY OF CONSULTATION WITH BLM**

Of the three new sites, the BLM staff rapidly dismissed one because of high tortoise density and the fact that the entire site is within the Ord-Rodman Desert Wildlife Management Area (DWMA). Of the other two, the site finally selected for Solar One was determined by the BLM team to be most promising. The EPG consultants had “walked the site” and concluded the desert tortoise population was relatively low; the site is classified by BLM as Limited/Moderate Use Class; there was a potential for cultural resources, although none were observed in the site visit; and there is reasonable access to the site via an existing 4-way exit/entrance from near-by Interstate 40 (Hector Road). Potential drawbacks included relatively high visibility from I-40 and possible view shed issues with historic Route 66; the need to deal with a railroad crossing; and (as with virtually all of Southern California) seismic issues.

It was agreed that the BLM should lead a site walk-through with SES; the CEC asked to be invited to this site visit as well.

Over the next two months, this walk-through did occur, led by Rich Rotte, and subsequent visits also included the California Fish and Game and U.S. Department of Forest and Wildlife. We applied for right-of-way access for this site in February 2006, and filed an initial Plan of Development in March 2007. Since that time, we have filed revised and expanded Plans of Development, and the site has been registered in the BLM’s LR 2000 database in our name.

May 27, 2009

Mr. Greg Miller  
Bureau of Land Management  
California Desert District Office  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

Dear Mr. Miller:

We are in receipt of your letter dated May 6, 2009 in which you explain that approximately 88 acres of our application for the Stirling Energy Systems (SES) Solar One-Phase One Project, includes acquired land subject to a donation agreement. These lands are located at Township 8 North, Range 6 East, Section 17, and (San Bernardino Meridian). You have requested that we provide you additional information demonstrating that we can construct and operate our project in a manner consistent with the values of the land donated for the required environmental review process.

We have reviewed the Bureau of Land Management California Desert Conservation Plan (CDCA)-West Mojave Resource Management Plan (RMP) Amendment. As part of the permitting process, we understand that the proposed project would be analyzed with the intention of an RMP amendment allowing for a solar thermal development on the proposed project site.

The proposed project will generate clean, renewable, solar-powered electricity using dish-stirling technology. This technology has numerous environmental advantages, including the lowest water usage of any electric generating technology, minimal grading requirements, no excavation for foundations, and the highest sun-to-grid efficiency of any solar generating technology. In addition, the fin-pipe foundation, the only component of the SunCatcher System that is placed into the ground, creates minimal disturbance to the environment, requiring no need for gradation. The foundation is preferred because it is hydraulically placed in the ground and requires no permanent fixture, such as concrete.

Per BLM regulations, we understand that by accepting a grant, we agree to comply with and be bound by terms and conditions (which would include stipulations and mitigation requirements) during construction, operation, maintenance and termination of the project.

We propose that the use of the proposed lands, identified as Catellus Lands, would be consistent with the terms of the California Desert Conservation Area Plan, and through required mitigation measures provided by the Federal, State, and local agencies, would protect the natural, cultural, and aesthetic values associated with the Fee Land in a manner consistent with the CDCA Plan.

If you need any additional information or would like to discuss this any further, please feel free to contact me at the above address or at 602-535-3620.

Sincerely,

Camille Champion  
Senior Project Manager  
Tessera Solar Inc.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 313:** If intensive surveys were conducted, please provide the results (including a map if available) of the intensive surveys conducted for the Project.

**Response:** Intensive surveys as defined in the USFWS Field Survey Protocol for a Non-federal Action, and as quoted in the background section for this DR were not performed. An adapted sub-sampling protocol was created and approved by the appropriate federal agencies, including USFWS. These surveys followed USFWS protocols of transects 10 meter (30 feet) apart through 100 percent of the surveyed areas (80 acre sub plots within larger 240 acre survey cells). This is the information contained in the AFC. The USFWS, BLM, and CDFG have approved the protocols used for these surveys, as described in the AFC.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 314:** If intensive surveys were not conducted, please provide a justification for why they were not conducted and describe how surveyor accuracy was evaluated.

**Response:** An adapted sub-sampling protocol was created and approved by the appropriate federal agencies, including the USFWS. These surveys followed the USFWS protocols of transects 10 meter (30 feet) apart through 100 percent of the surveyed areas (80 acre sub plots within larger 240 acre survey cells); these surveys were intensive. Surveyor accuracy is dependant on not only surveyor experience, but also the likelihood that desert tortoises are able to be detected. This latter factor is dependant on the previous winter's rainfall. Surveyor accuracy in general is estimated to be between 55 and 68 percent according to Nussear (2008). The USFWS Pre-Project Field Survey Protocol for Potential Desert Tortoise Habitats lists tortoise observer accuracy at approximately 63 percent of observed tortoise that were within five meters of the transect line (this equates to 10 meter transect, as were conducted for this Project). This number falls between the range of 55 to 68 percent listed by Nussear.

**References:**

Nussear, K.E., T.C. Esque, J.E. Heaton, M.E. CABLK, K.K. Drake, C. Valentin, J.L. Yee, P.A. Medica. 2008. Are Wildlife Detector Dogs Or People Better At Finding Desert Tortoises (*Gopherus agassizii*)? Herpetological Conservation and Biology 3(1): 103-115.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 315:** Please clarify whether belt (or line) transects were used to conduct desert tortoise surveys.

**Response:** Ten meter wide belt transects were used to conduct desert tortoise surveys, with the surveyor walking in the center of the transect, with five meters of area to survey on either side. These ten meter wide belt transects were completed within sample plots of 80 acres centered in 240 acre cells arranged over the entire survey area. Multiple, adjacent belt transects were surveyed to provide coverage of the 80-acre sample plots.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 316:**

If the answer is yes, please clarify whether closer transect spacing was implemented at any location(s) within the survey area and mark these locations on a map. Please also discuss how each transect was chosen either systematically or randomly, and provide the order in which transects were completed.

- A. If the answer is no, please discuss how each survey block was systematically searched and provide the order in which survey blocks were completed.

**Response:**

Closer transect spacing than ten meters was not deemed necessary because the open habitat composition did not require it. Ten meter wide transects were walked throughout the entire sample plot until the entire plot was 100 percent covered. Transects were arranged in a north-south orientation and began on either the west or east sides of the sample plot, progressing to the opposite direction until the other end of the plot was reached and the plot was surveyed 100 percent.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 317:** Please specify each person that had a minimum of 60 days prior field experience searching for desert tortoises and tortoise sign.

**Response:** The USFWS desert tortoise survey protocol implemented by the Applicant **recommends** surveyors have a minimum of 60 days field experience searching for desert tortoises and tortoise sign.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 318:** For surveyors without 60 days of prior field experience, provide a discussion of how surveyors were trained and any measures that were taken to ensure they obtained accurate survey results.

**Response:** As stated previously in the Applicant's response to CURE Data Request 10: Most of the URS staff were trained and had 60 days or more of previous tortoise survey experience. Less experienced staff with less than 60 days experience were paired with more experienced staffers. See resumes of field staff.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 319:** Please distinguish the personnel that surveyed independently from those that were paired with more experienced staff.

**Response:** No personnel conducted surveys independently.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 320:** Please clarify whether some of the desert tortoise signs detected in the field were recorded on the data sheets (i.e., the ones that were provided in the AFC), but were not recorded with a GPS unit and were not depicted on the occurrence map provided in the AFC.<sup>28</sup> If all desert tortoise signs were depicted on the map provided in the AFC, please explain why data depicted on the map are inconsistent with data on the data sheets.

**Response:** Some of the desert tortoise sign detected in the field was recorded on the data sheets (i.e., the ones that were provided in the AFC), but were not recorded with a GPS unit and were not depicted on the occurrence map provided in the AFC. Because data sheets were not required, but some were completed anyway (some during surveys, some incidentally), there is a discrepancy with the data depicted on maps and that recorded on data sheets.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 321:** Please clarify whether data on all “incidental observations” of desert tortoises and their sign were provided in the AFC, specifically, in Section 5.6.1.2 (*Existing Conditions*) and on Figure 5.6-4 (*Special Status Species Detected*). If the answer is yes, please discuss how data that were not recorded on data sheets were recorded such that they could be accurately applied to the desert tortoise abundance estimates provided in the AFC.29 If the answer is no, please justify the validity of the abundance estimates provided in the AFC given they did not account for all detections (of desert tortoise).

**Response:** Because incidental observations were not required to be noted, and were not recorded during focused desert tortoise surveys, they were “incidental” and not included in calculations of the desert tortoise population or density. Incidental observations may have occurred at any time during field efforts at the Project site and are likely to include double counts of the same tortoise. Inclusion of incidental observations in any type of abundance calculation will erroneously skew the estimate of population and density to the high side. Such inclusion of incidental observations to estimate population densities would not be appropriate.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 322:** Please clarify whether the applicant knows which data sheets are associated with the focused surveys and which ones are associated with incidental observations. If the answer is yes, please label the data sheets accordingly.

**Response:** The data sheets have been rearranged according to those completed during focused desert tortoise surveys and those completed incidentally. Please see attachment BIO-1.

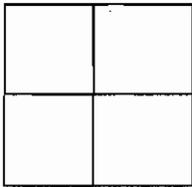
**Forms Completed During Focused Desert Tortoise Surveys**

Data Sheet for Live Desert Tortoises

Write on this side only

Do not abbreviate

Located by R. BAILEY  
 Processed by \_\_\_\_\_  
 Study site name \_\_\_\_\_  
 Township \_\_\_\_\_ Range \_\_\_\_\_  
 Section \_\_\_\_\_ Quadrat \_\_\_\_\_  
 Coordinates (Reference SW corner)  
 \_\_\_\_\_ meters North \_\_\_\_\_ meters East  
 UTM's 0553684 n 3853843 e  
 Elevation 2205 ft Accuracy ± 4 m  
 County \_\_\_\_\_ State \_\_\_\_\_  
 On Plot  Off Plot



Show location of tortoise in quadrat

Tortoise ID # \_\_\_\_\_  
 Year first marked \_\_\_\_\_  
 Verification of ID   
 Capture type \_\_\_\_\_ Sex M  
 Date (dd/mm/yy) 16 MAY 2007  
 Time (PST): Start 0916 End \_\_\_\_\_  
 Frequency \_\_\_\_\_ Transmitter # \_\_\_\_\_  
 Transmitter type \_\_\_\_\_  
 Transmitter attached \_\_\_\_\_  
 Transmitter to be replaced on \_\_\_\_\_  
 PIT # \_\_\_\_\_

Tortoise Location

Cover site type:  burrow  pallet  shrub  caliche cave  rock shelter  
 At cover site:  entering  exiting  on mound  inside  
 Not at cover site:  in open  other

Burrow Data

ID # \_\_\_\_\_  
 Orientation 2/A  
 Length \_\_\_\_\_ Height \_\_\_\_\_  
 Width \_\_\_\_\_ Soil cover \_\_\_\_\_  
 Location \_\_\_\_\_

Survey Type

Radio track  
 Burrow search  
 Coverage 1  
 Coverage 2  
 Incidental  
 Other

Tortoise Activity

resting  basking  walking  feeding  
 Interacting with other tortoise  
 Interacting with other animals  
 Describe interaction: \_\_\_\_\_

ID & sex of other tortoise \_\_\_\_\_  
 Species \_\_\_\_\_

Plants/items eaten (specific):  
 \_\_\_\_\_

Color (shell & skin) HV Hue Value Chroma Color

V1 (center)					
V4 (center)					
LC1,2&V2 (seam)					
LM5,6 & LC2 (seam)					
Foreleg					
Hindleg					

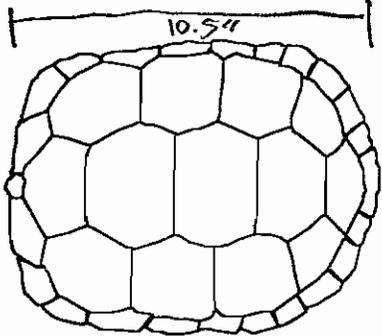
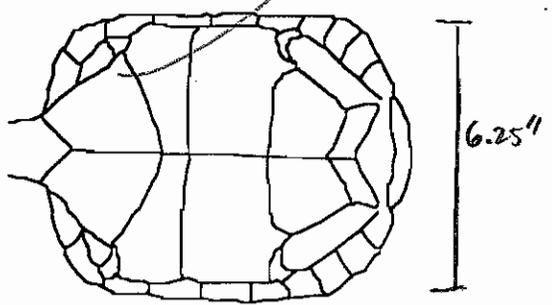
Are you color blind?  Yes  No  
 Type of blindness \_\_\_\_\_

Body Measurements

MCL (mm) \_\_\_\_\_  
 PLN (mm) \_\_\_\_\_  
 Weight (g) \_\_\_\_\_  
 Void (g) \_\_\_\_\_  
 Total wt (g) \_\_\_\_\_  
 New growth  present  absent  
 Epoxy #  present  legible

Behavior

\_\_\_\_\_



Other notes  
Appears in good health - no damage to carapace, no signs of respiratory disease  
G. HOISINGTON PHOTO #S 968, 969

Photos; roll \_\_\_\_\_ frames \_\_\_\_\_

Draw locations of notches (old and new), chips, and anomalies, etc. Describe anomalies in numbering of marginals and any identification problems.

Entered by \_\_\_\_\_ date \_\_\_\_\_ on computer \_\_\_\_\_

Modified by \_\_\_\_\_ on \_\_\_\_\_

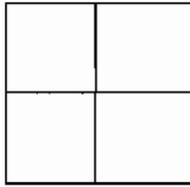
Do not abbreviate

# Data Sheet for Live Desert Tortoises

Write on this side only

Located by R. BAILEY / G. HOISINGTON  
Processed by \_\_\_\_\_  
Study site name SOLAR ARRAY

Tortoise ID # \_\_\_\_\_  
Year first marked \_\_\_\_\_  
Verification of ID



Show location of tortoise in quadrat

Capture type \_\_\_\_\_ Sex UNKNOWN  
Date (dd/mm/yy) 16 MAY 2007

Township \_\_\_\_\_ Range \_\_\_\_\_  
Section \_\_\_\_\_ Quadrat \_\_\_\_\_

Coordinates (Reference SW corner)  
\_\_\_\_\_ meters North \_\_\_\_\_ meters East

Time (PST): Start \_\_\_\_\_ End \_\_\_\_\_  
Frequency \_\_\_\_\_ Transmitter # \_\_\_\_\_

UTM's 38E3495 n 0552623 e  
Elevation \_\_\_\_\_ m Accuracy ± \_\_\_\_\_ m

Transmitter type \_\_\_\_\_  
Transmitter attached \_\_\_\_\_  
Transmitter to be replaced on \_\_\_\_\_

County \_\_\_\_\_ State \_\_\_\_\_

PIT # \_\_\_\_\_

On Plot  Off Plot

## Tortoise Location

Cover site type:  burrow  pallet  shrub  caliche cave  rock shelter  
At cover site:  entering  exiting  on mound  inside  
Not at cover site:  in open  other

## Burrow Data

ID # \_\_\_\_\_  
Orientation \_\_\_\_\_  
Length \_\_\_\_\_ Height \_\_\_\_\_  
Width \_\_\_\_\_ Soil cover \_\_\_\_\_  
Location \_\_\_\_\_

## Survey Type

Radio track  
 Burrow search  
 Coverage 1  
 Coverage 2  
 Incidental  
 Other

## Tortoise Activity

resting  basking  walking  feeding  
 Interacting with other tortoise  
 Interacting with other animals

ID & sex of other tortoise \_\_\_\_\_  
Species \_\_\_\_\_

Describe interaction:

BURROW LOCATED IN OPEN, RELATIVELY FLAT TERRAIN WITH LITTLE GRAVEL/COBBLE

Plants/items eaten (specific):

## Color (shell & skin) HV Hue Value Chroma Color

V1 (center)  
V4 (center)  
LC1,2&V2 (seam)  
LM5,6 & LC2 (seam)  
Foreleg  
Hindleg

Color	HV	Hue	Value	Chroma

Are you color blind?  Yes  No

Type of blindness \_\_\_\_\_

## Body Measurements

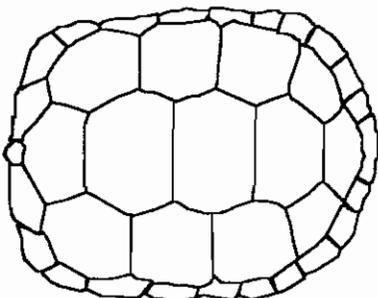
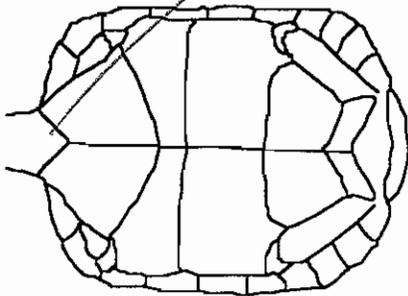
MCL (mm) \_\_\_\_\_  
PLN (mm) \_\_\_\_\_  
Weight (g) \_\_\_\_\_  
Void (g) \_\_\_\_\_  
Total wt (g) \_\_\_\_\_

## Behavior

New growth  
 present  absent  
Epoxy #  
 present  legible

## Other notes

TORTOISE LOCATED DEEP INSIDE BURROW (~4' deep)



Photos; roll \_\_\_\_\_ frames \_\_\_\_\_

Draw locations of notches (old and new), chips, and anomalies, etc.

Describe anomalies in numbering of marginals and any identification problems.

Entered by \_\_\_\_\_ date \_\_\_\_\_ on computer \_\_\_\_\_

Modified by \_\_\_\_\_ on \_\_\_\_\_

Do not abbreviate

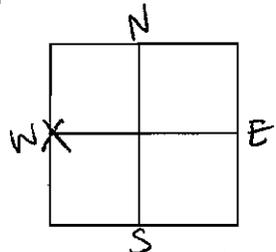
# Data Sheet for Live Desert Tortoises

Write on this side only

Located by Dallas Pugh & Corey Chan  
Processed by Dallas Pugh  
Study site name Solar I

Tortoise ID # \_\_\_\_\_  
Year first marked \_\_\_\_\_  
Verification of ID

Township \_\_\_\_\_ Range \_\_\_\_\_  
Section \_\_\_\_\_ Quadrat \_\_\_\_\_



Capture type \_\_\_\_\_ Sex \_\_\_\_\_  
Date (dd/mm/yy) May 16, 2007  
Time (PST): Start 1100 End \_\_\_\_\_

Coordinates (Reference SW corner)  
\_\_\_\_\_ meters North \_\_\_\_\_ meters East

Frequency \_\_\_\_\_ Transmitter # \_\_\_\_\_  
Transmitter type \_\_\_\_\_

UTM's 558092 n 3851950 e

Show location of tortoise in quadrat

Transmitter attached \_\_\_\_\_  
Transmitter to be replaced on \_\_\_\_\_

Elevation \_\_\_\_\_ m Accuracy ± \_\_\_\_\_ m  
County Riverside State CA

PIT # \_\_\_\_\_

On Plot  Off Plot

### Tortoise Location

Cover site type:  burrow  pallet  shrub  caliche cave  rock shelter  
At cover site:  entering  exiting  on mound  inside  
Not at cover site:  in open  other

### Burrow Data

ID # \_\_\_\_\_  
Orientation Facing NE  
Length 2.5 ft. Height 3.0 inch  
Width 1.0 ft. Soil cover \_\_\_\_\_  
Location \_\_\_\_\_

### Survey Type

- Radio track
- Burrow search
- Coverage 1
- Coverage 2
- Incidental
- Other

### Tortoise Activity

resting  basking  walking  feeding  
 Interacting with other tortoise  
 Interacting with other animals  
Describe interaction: \_\_\_\_\_

ID & sex of other tortoise \_\_\_\_\_  
Species \_\_\_\_\_

Focused surveys

Plants/items eaten (specific): \_\_\_\_\_

### Color (shell & skin) HV Hue Value Chroma Color

V1 (center)					
V4 (center)					
LC1,2&V2 (seam)					
LM5,6 & LC2 (seam)					
Foreleg					
Hindleg					

Are you color blind?  Yes  No,  
Type of blindness \_\_\_\_\_

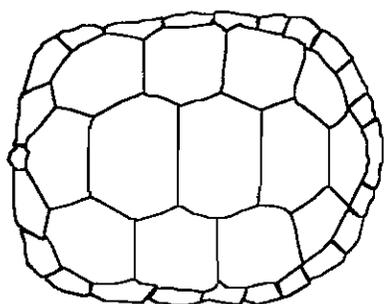
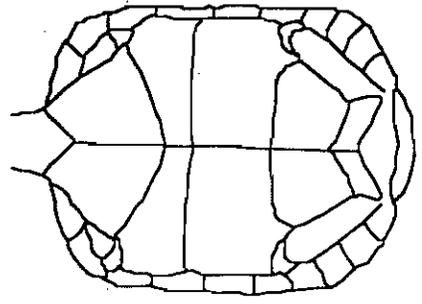
### Body Measurements

MCL (mm) \_\_\_\_\_  
PLN (mm) \_\_\_\_\_  
Weight (g) \_\_\_\_\_  
Void (g) \_\_\_\_\_  
Total wt (g) \_\_\_\_\_  
New growth  present  absent  
Epoxy #  present  legible

### Behavior

\_\_\_\_\_

Other notes  
\_\_\_\_\_



Photos; roll \_\_\_\_\_ frames \_\_\_\_\_

Draw locations of notches (old and new), chips, and anomalies, etc.  
Describe anomalies in numbering of marginals and any identification problems.

Entered by \_\_\_\_\_ date \_\_\_\_\_ on computer \_\_\_\_\_

Modified by \_\_\_\_\_ on \_\_\_\_\_

Do not abbreviate

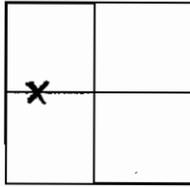
# Data Sheet for Live Desert Tortoises

Write on this side only

Located by Dallas Pugh & Corey Chan  
Processed by Dallas Pugh  
Study site name Solar #

Tortoise ID # \_\_\_\_\_  
Year first marked \_\_\_\_\_

Township \_\_\_\_\_ Range \_\_\_\_\_  
Section \_\_\_\_\_ Quadrat \_\_\_\_\_



Verification of ID

Capture type \_\_\_\_\_ Sex \_\_\_\_\_

Coordinates (Reference SW corner)  
\_\_\_\_\_ meters North \_\_\_\_\_ meters East

Date (dd/mm/yy) \_\_\_\_\_

Time (PST): Start \_\_\_\_\_ End \_\_\_\_\_

UTM's 559053 n 3052988 e

Frequency \_\_\_\_\_ Transmitter # \_\_\_\_\_

Transmitter type \_\_\_\_\_

Elevation \_\_\_\_\_ m Accuracy ± \_\_\_\_\_ m

Show location of tortoise in quadrat

Transmitter attached \_\_\_\_\_

County Riverside State CA

Transmitter to be replaced on \_\_\_\_\_

On Plot  Off Plot

PIT # \_\_\_\_\_

## Tortoise Location

Cover site type: At cover site: Not at cover site:  
 burrow  entering  in open  
 pallet  exiting  other  
 shrub  on mound  
 caliche cave  inside  
 rock shelter

## Burrow Data

ID # \_\_\_\_\_  
Orientation SW  
Length 4 feet Height 10 inches  
Width 1.5 feet Soil cover \_\_\_\_\_  
Location \_\_\_\_\_

## Survey Type

- Radio track
- Burrow search
- Coverage 1
- Coverage 2
- Incidental
- Other

## Tortoise Activity

resting  Interacting with other tortoise  
 basking  Interacting with other animals  
 walking  
 feeding

ID & sex of other tortoise \_\_\_\_\_  
Species \_\_\_\_\_

Describe interaction:

Focused Surveys

Plants/items eaten (specific):

Color (shell & skin) HV Hue Value Chroma Color

V1 (center)  
V4 (center)  
LC1,2&V2 (seam)  
LM5,6 & LC2 (seam)  
Foreleg  
Hindleg

Color	HV	Hue	Value	Chroma

Are you color blind?  Yes  No

Type of blindness \_\_\_\_\_

## Body Measurements

MCL (mm) \_\_\_\_\_  
PLN (mm) \_\_\_\_\_  
Weight (g) \_\_\_\_\_  
Void (g) \_\_\_\_\_  
Total wt (g) \_\_\_\_\_  
New growth  
 present  absent  
Epoxy #  
 present  legible

## Behavior

Other notes

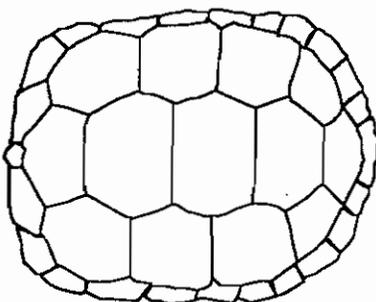
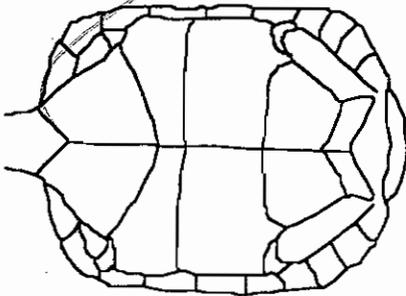
Photos; roll \_\_\_\_\_ frames \_\_\_\_\_

Draw locations of notches (old and new), chips, and anomalies, etc.

Describe anomalies in numbering of marginals and any identification problems.

Entered by \_\_\_\_\_ date \_\_\_\_\_ on computer \_\_\_\_\_

Modified by \_\_\_\_\_ on \_\_\_\_\_



Do not abbreviate

# Data Sheet for Live Desert Tortoises

Write on this side only

Located by Dallas High & Corey Chan  
 Processed by Dallas High  
 Study site name Solar I J

Tortoise ID # \_\_\_\_\_  
 Year first marked \_\_\_\_\_  
 Verification of ID   
 Capture type \_\_\_\_\_ Sex UNK  
 Date (dd/mm/yy) 17/05/07  
 Time (PST): Start 1110 End 1117  
 Frequency \_\_\_\_\_ Transmitter # \_\_\_\_\_  
 Transmitter type \_\_\_\_\_  
 Transmitter attached \_\_\_\_\_  
 Transmitter to be replaced on \_\_\_\_\_  
 PIT # \_\_\_\_\_

Township \_\_\_\_\_ Range \_\_\_\_\_  
 Section \_\_\_\_\_ Quadrat \_\_\_\_\_

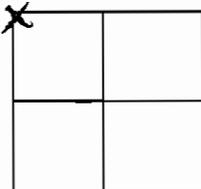
Coordinates (Reference SW corner)  
 \_\_\_\_\_ meters North \_\_\_\_\_ meters East

UTM's 558338 n 3853929 e

Elevation \_\_\_\_\_ m Accuracy ± \_\_\_\_\_ m

County Inverside State CA

On Plot  Off Plot



Show location of tortoise in quadrat

### Tortoise Location

Cover site type:  burrow  pallet  shrub  caliche cave  rock shelter  
 At cover site:  entering  exiting  on mound  inside  
 Not at cover site:  in open  other

### Burrow Data

ID # \_\_\_\_\_  
 Orientation East → NE  
 Length 3.0 feet Height 1.0 feet  
 Width 1.5 feet Soil cover Rocky  
 Location \_\_\_\_\_

### Survey Type

Radio track  
 Burrow search  
 Coverage 1  
 Coverage 2  
 Incidental  
 Other

### Tortoise Activity

resting  basking  walking  feeding  
 Interacting with other tortoise  
 Interacting with other animals

ID & sex of other tortoise \_\_\_\_\_  
 Species \_\_\_\_\_

Describe interaction:

Plants/items eaten (specific):

Focused survey

### Color (shell & skin)

HV Hue Value Chroma Color

V1 (center)  
 V4 (center)  
 LC1,2&V2 (seam)  
 LM5,6 & LC2 (seam)  
 Foreleg  
 Hindleg


Are you color blind?  Yes  No

Type of blindness \_\_\_\_\_

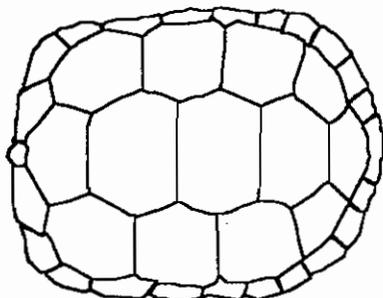
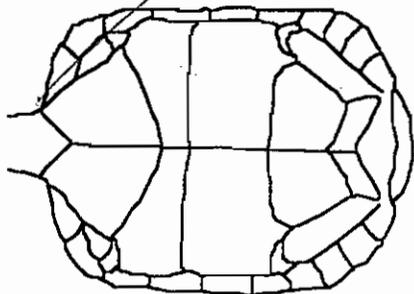
### Body Measurements

MCL (mm) \_\_\_\_\_  
 PLN (mm) \_\_\_\_\_  
 Weight (g) \_\_\_\_\_  
 Void (g) \_\_\_\_\_  
 Total wt (g) \_\_\_\_\_

### Behavior

New growth  present  absent  
 Epoxy #  present  legible

### Other notes



Photos; roll \_\_\_\_\_ frames \_\_\_\_\_

Draw locations of notches (old and new), chips, and anomalies, etc.  
 Describe anomalies in numbering of marginals and any identification problems.

Entered by \_\_\_\_\_ date \_\_\_\_\_ on computer \_\_\_\_\_

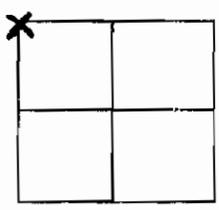
Modified by \_\_\_\_\_ on \_\_\_\_\_

Do not abbreviate

# Health Profile Form for Desert Tortoises

Write on this side only

Located by Dallas Pugh & Corey Chan  
 Processed by Dallas Pugh  
 Study site name Solar I  
 Township \_\_\_\_\_ Range \_\_\_\_\_  
 Section \_\_\_\_\_ Quadrat \_\_\_\_\_  
 Coordinates (Reference SW corner)  
 \_\_\_\_\_ meters North \_\_\_\_\_ meters East  
 UTM's 558338 n 3853929 e  
 County Riverside State CA  
 On Plot  Off Plot



Show location of tortoise in quadrat

Tortoise ID # \_\_\_\_\_  
 Year first marked \_\_\_\_\_  
 Verification of ID   
 Capture type \_\_\_\_\_ Sex UNK  
 Date (dd/mm/yy) 17/05/07  
 Time (PST): Start 1110 End 1117  
 Shell wear class \_\_\_\_\_  
 Process time \_\_\_\_\_ hours  
 Frequency \_\_\_\_\_  
 Transmitter # \_\_\_\_\_

### BEAK & NARES

Beak/nares wet  Yes  No  Unk  
 Beak/nose damp  Yes  No  Unk  
 Nasal exudate present  Yes  No  Unk  
 Exudate color  clear  
 cloudy  
 white  
 yellow  
 green  
 Bubble(s) from nares  Yes  No  Unk  
 One nare occluded  Yes  No  Unk  
 Both nares occluded  Yes  No  Unk  
 Dirt on nose/beak  Yes  No  Unk  
 Dirt in nares  Yes  No  Unk

### FORELEGS (adjacent to face)

Dried dirt on forelegs  Yes  No  Unk  
 Moisture on forelegs  Yes  No  Unk  
 Dried exud. on scales  Yes  No  Unk  
 Scales cracking  Yes  No  Unk

### BREATHING

Smooth  Yes  No  Unk  
 Wheezing  Yes  No  Unk  
 Rasping, clicking  Yes  No  Unk

### EYES, CHIN GLANDS Circle eyes or lids:

Eyes/lids whitened or discolored  Yes  No  Unk  
 Eyelids swollen  Yes  No  Unk  
 Eyes/lids wet  Yes  No  Unk  
 Discharge from eyes  Yes  No  Unk  
 Eyes sunken  Yes  No  Unk  
 Eyes clear, bright  Yes  No  Unk  
 Eyes dull, cloudy  Yes  No  Unk  
 Chin glands draining  Yes  No  Unk

### INTEGUMENT

Integument dull  Yes  No  Unk  
 Integument glossy  Yes  No  Unk  
 Normal elasticity  Yes  No  Unk  
 Abnormal skin peeling  Yes  No  Unk

### POSTURE/BEHAVIOR

Alert, responsive  Yes  No  Unk  
 Lethargic  Yes  No  Unk  
 Can withdraw tightly into shell  Yes  No  Unk  
 Limbs, head hanging loose  Yes  No  Unk

Other notes Tortoise far into burrow. Sex undetermined.

### ORAL

CAVITY Observed  Yes  No  Unk  
 Discharge present  Yes  No  Unk  
 Membranes pink  Yes  No  Unk  
 Membranes pale, white  Yes  No  Unk  
 Smells/mouth rot  Yes  No  Unk

### EVIDENCE OF SHELL DISEASE

Lesions present  Yes  No  Unk  
 Lesions active  Yes  No  Unk  
 Lesions healed  Yes  No  Unk  
 Scute laminae peeling  Yes  No  Unk  
 Scutes missing/peeling  Yes  No  Unk  
 Pitting  Yes  No  Unk  
 Scutes depressed/concave  Yes  No  Unk  
 Fungal areas  Yes  No  Unk

### EVIDENCE OF TRAUMA

Head  Yes  No  Unk  
 Gular  Yes  No  Unk  
 Forelimbs  Yes  No  Unk  
 Hindlimbs  Yes  No  Unk  
 Shell  Yes  No  Unk  
 Scute/bone replacement  Yes  No  Unk

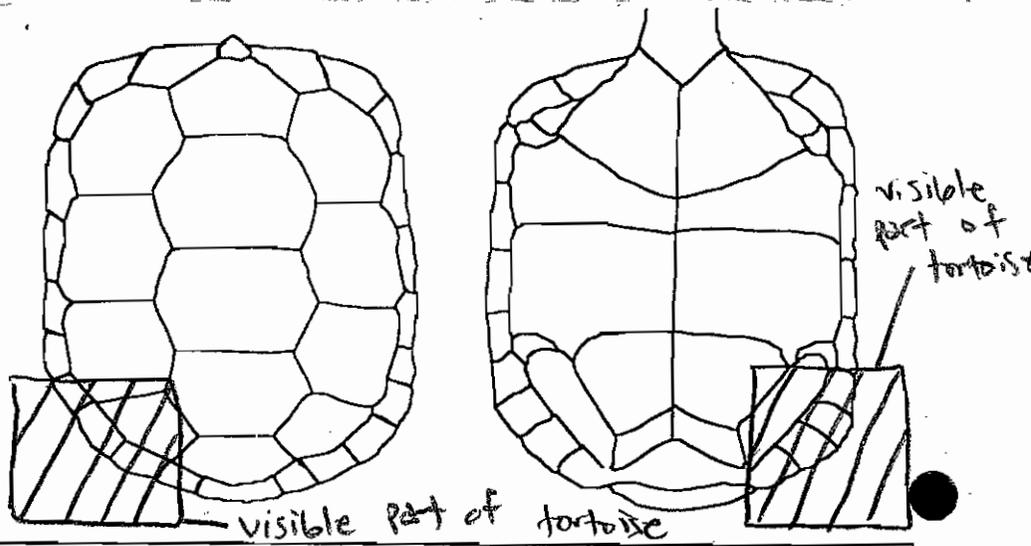
Describe: \_\_\_\_\_

Soil dryness:  wet  damp  dry  
 Last precipitation (dd/mm/yy) UNKNOWN

Urine (vol) N/A  
 Color \_\_\_\_\_  
 Viscosity \_\_\_\_\_  
 Particulates \_\_\_\_\_  
 Color \_\_\_\_\_  
 Nasal wash collected \_\_\_\_\_  
 Amt. blood/lymph taken (cc) \_\_\_\_\_  
 # of needle sticks \_\_\_\_\_  
 Time (min) of needle sticks \_\_\_\_\_  
 Location \_\_\_\_\_  
 PCV% \_\_\_\_\_  
 Other samples taken \_\_\_\_\_  
 Describe/draw parasites

No parasites observed.

**DRAW:** shape of gulars, location of notches; chips, chews, shell damage, lesions; shell disease; shell abnormalities; scute concavities. Make new drawing at least once per year (spring).



Do not abbreviate

# Data Sheet for Live Desert Tortoises

Write on this side only

Located by Ellen Howard, Claudia Solorzano

Processed by \_\_\_\_\_

Study site name Solar 1 quad 17 18 19 20

Township \_\_\_\_\_ Range \_\_\_\_\_

Section \_\_\_\_\_ Quadrat \_\_\_\_\_

Coordinates (Reference SW corner)

\_\_\_\_\_ meters North \_\_\_\_\_ meters East

UTM's 3852394 n 0558989 e

Elevation \_\_\_\_\_ m Accuracy  $\pm$  10 m

County San Bernardino State CA

On Plot  Off Plot

Tortoise ID # NYPT TORTOISE 1

Year first marked \_\_\_\_\_

Verification of ID

Capture type \_\_\_\_\_ Sex M

Date (dd/mm/yy) 17-05-07

Time (PST): Start 8:15 am End \_\_\_\_\_

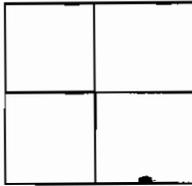
Frequency \_\_\_\_\_ Transmitter # \_\_\_\_\_

Transmitter type \_\_\_\_\_

Transmitter attached \_\_\_\_\_

Transmitter to be replaced on \_\_\_\_\_

PIT # \_\_\_\_\_



Show location of tortoise in quadrat

## Tortoise Location

Cover site type: At cover site: Not at cover site:

- burrow
- pallet
- shrub
- caliche cave
- rock shelter
- entering
- exiting
- on mound
- inside
- in open
- other

## Tortoise Activity

- resting
- basking
- walking
- feeding
- Interacting with other tortoise
- Interacting with other animals

Describe interaction:

Plants/items eaten (specific):

## Burrow Data

ID # \_\_\_\_\_

Orientation EAST

Length \_\_\_\_\_ Height \_\_\_\_\_

Width \_\_\_\_\_ Soil cover GRAVEL

Location \_\_\_\_\_

ID & sex of other tortoise \_\_\_\_\_

Species \_\_\_\_\_

## Survey Type

- Radio track
- Burrow search
- Coverage 1
- Coverage 2
- Incidental
- Other

Color (shell & skin) HV Hue Value Chroma Color

V1 (center)				
V4 (center)				
LC1,2&V2 (seam)				
LM5,6 & LC2 (seam)				
Foreleg				
Hindleg				

Are you color blind?  Yes  No

Type of blindness \_\_\_\_\_

## Body Measurements

MCL (mm) \_\_\_\_\_

PLN (mm) \_\_\_\_\_

Weight (g) \_\_\_\_\_

Void (g) \_\_\_\_\_

Total wt (g) \_\_\_\_\_

New growth

present  absent

Epoxy #

present  legible

Other notes

## Behavior

Photos; roll \_\_\_\_\_ frames \_\_\_\_\_

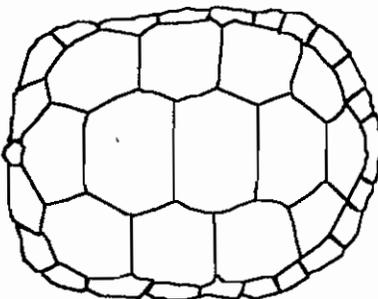
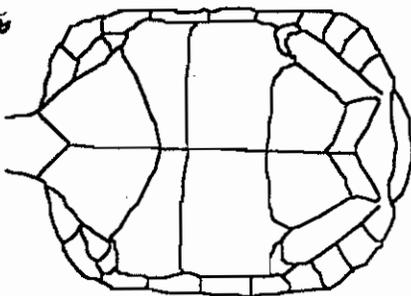
Draw locations of notches (old and new), chips, and anomalies, etc.

Describe anomalies in numbering of marginals and any identification problems.

Entered by \_\_\_\_\_ date \_\_\_\_\_ on computer \_\_\_\_\_

Modified by \_\_\_\_\_ on \_\_\_\_\_

OLIVE GREEN H46



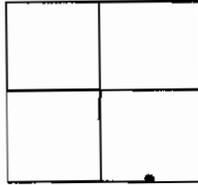
Do not abbreviate

# Health Profile Form for Desert Tortoises

Write on this side only

Located by ELLEN HOWARD, CLAUDIA SOLÓRZANO  
Processed by \_\_\_\_\_  
Study site name SOLAR 1 QUAD 17181920

Tortoise ID # WYPT TORTOISE 1  
Year first marked \_\_\_\_\_  
Verification of ID   
Capture type \_\_\_\_\_ Sex M  
Date (dd/mm/yy) 17-05-07  
Time (PST): Start 8:15am End \_\_\_\_\_  
Shell wear class \_\_\_\_\_  
Process time \_\_\_\_\_ hours  
Frequency \_\_\_\_\_  
Transmitter # \_\_\_\_\_



Show location of tortoise in quadrat

Township \_\_\_\_\_ Range \_\_\_\_\_  
Section \_\_\_\_\_ Quadrat \_\_\_\_\_

Coordinates (Reference SW corner)  
\_\_\_\_\_ meters North \_\_\_\_\_ meters East

UTM's 3852394 n 055 8189 e

County SAN BERNARDINO State CA

On Plot  Off Plot

### BEAK & NARES

- Beak/nares wet  Yes  No  Unk
- Beak/nose damp  Yes  No  Unk
- Nasal exudate present  Yes  No  Unk
- Exudate color  clear  cloudy  white  yellow  green
- Bubble(s) from nares  Yes  No  Unk
- One nare occluded  Yes  No  Unk
- Both nares occluded  Yes  No  Unk
- Dirt on nose/beak  Yes  No  Unk
- Dirt in nares  Yes  No  Unk

### FORELEGS (adjacent to face)

- Dried dirt on forelegs  Yes  No  Unk
- Moisture on forelegs  Yes  No  Unk
- Dried exud. on scales  Yes  No  Unk
- Scales cracking  Yes  No  Unk

### BREATHING

- Smooth  Yes  No  Unk
- Wheezing  Yes  No  Unk
- Rasping, clicking  Yes  No  Unk

### EYES, CHIN GLANDS Circle eyes or lids:

- Eyes/lids whitened or discolored  Yes  No  Unk
- Eyelids swollen  Yes  No  Unk
- Eyes/lids wet  Yes  No  Unk
- Discharge from eyes  Yes  No  Unk
- Eyes sunken  Yes  No  Unk
- Eyes clear, bright  Yes  No  Unk
- Eyes dull, cloudy  Yes  No  Unk
- Chin glands draining  Yes  No  Unk

### INTEGUMENT

- Integument dull  Yes  No  Unk
- Integument glossy  Yes  No  Unk
- Normal elasticity  Yes  No  Unk
- Abnormal skin peeling  Yes  No  Unk

### POSTURE/BEHAVIOR

- Alert, responsive  Yes  No  Unk
- Lethargic  Yes  No  Unk
- Can withdraw tightly into shell  Yes  No  Unk
- Limbs, head hanging loose  Yes  No  Unk

Other notes \_\_\_\_\_

### ORAL

- CAVITY Observed  Yes  No  Unk
- Discharge present  Yes  No  Unk
- Membranes pink  Yes  No  Unk
- Membranes pale, white  Yes  No  Unk
- Smells/mouth rot  Yes  No  Unk
- EVIDENCE OF SHELL DISEASE
- Lesions present  Yes  No  Unk
- Lesions active  Yes  No  Unk
- Lesions healed  Yes  No  Unk
- Scute laminae peeling  Yes  No  Unk
- Scutes missing/peeling  Yes  No  Unk
- Pitting  Yes  No  Unk
- Scutes depressed/concave  Yes  No  Unk
- Fungal areas  Yes  No  Unk

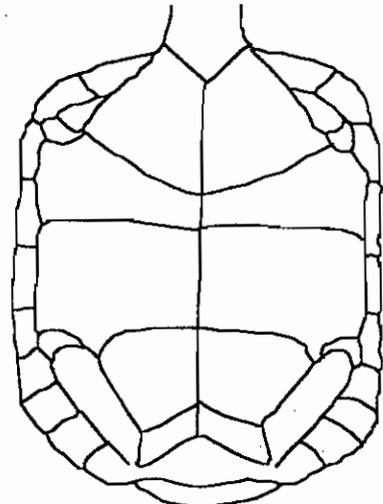
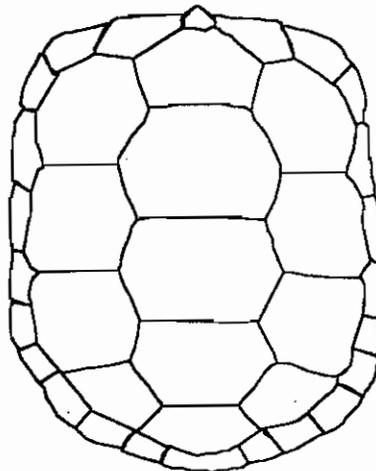
### EVIDENCE OF TRAUMA

- Head  Yes  No  Unk
- Gular  Yes  No  Unk
- Forelimbs  Yes  No  Unk
- Hindlimbs  Yes  No  Unk
- Shell  Yes  No  Unk
- Scute/bone replacement  Yes  No  Unk

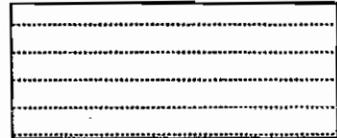
Describe: \_\_\_\_\_

Soil dryness:  wet  damp  dry

Last precipitation (dd/mm/yy) \_\_\_\_\_



- Urine (vol) \_\_\_\_\_
- Color \_\_\_\_\_
- Viscosity \_\_\_\_\_
- Particulates \_\_\_\_\_
- Color \_\_\_\_\_
- Nasal wash collected \_\_\_\_\_
- Amt. blood/lymph taken (cc) \_\_\_\_\_
- # of needle sticks \_\_\_\_\_
- Time (min) of needle sticks \_\_\_\_\_
- Location \_\_\_\_\_
- PCV% \_\_\_\_\_
- Other samples taken \_\_\_\_\_
- Describe/draw parasites



**DRAW:** shape of gulars, location of notches; chips, chews, shell damage, lesions; shell disease; shell abnormalities; scute concavities. Make new drawing at least once per year (spring).

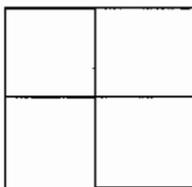
Do not abbreviate

# Data Sheet for Live Desert Tortoises

Write on this side only

Located by R. BAILEY / G. HOISINGTON  
Processed by \_\_\_\_\_  
Study site name SOLAR I ARRAY

Tortoise ID # \_\_\_\_\_  
Year first marked \_\_\_\_\_  
Verification of ID   
Capture type \_\_\_\_\_ Sex UNKNOWN  
Date (dd/mm/yy) 18 MAY 2007  
Time (PST): Start 0750 End \_\_\_\_\_  
Frequency \_\_\_\_\_ Transmitter # \_\_\_\_\_  
Transmitter type \_\_\_\_\_  
Transmitter attached \_\_\_\_\_  
Transmitter to be replaced on \_\_\_\_\_  
PIT # \_\_\_\_\_



Show location of tortoise in quadrat

Township \_\_\_\_\_ Range \_\_\_\_\_  
Section \_\_\_\_\_ Quadrat \_\_\_\_\_

Coordinates (Reference SW corner)  
\_\_\_\_\_ meters North \_\_\_\_\_ meters East

UTM's 38S2763 n 05516775 e  
Elevation 2293 ft Accuracy  $\pm$  3 m

County \_\_\_\_\_ State \_\_\_\_\_

On Plot  Off Plot

### Tortoise Location

Cover site type:  burrow  pallet  shrub  caliche cave  rock shelter  
At cover site:  entering  exiting  on mound  inside  
Not at cover site:  in open  other

### Burrow Data

ID # \_\_\_\_\_  
Orientation \_\_\_\_\_  
Length \_\_\_\_\_ Height \_\_\_\_\_  
Width \_\_\_\_\_ Soil cover \_\_\_\_\_  
Location \_\_\_\_\_

### Survey Type

Radio track  
 Burrow search  
 Coverage 1  
 Coverage 2  
 Incidental  
 Other

### Tortoise Activity

resting  basking  walking  feeding  
 Interacting with other tortoise  
 Interacting with other animals

Describe interaction:

ID & sex of other tortoise \_\_\_\_\_  
Species \_\_\_\_\_

Plants/items eaten (specific):

\_\_\_\_\_

BURROW LOCATED UNDER  
OPUNTIA RAMNOSISSIMA  
ALONG SMALL WASH BANK WITHIN  
AN EXPANSIVE ALLUVIAL FLOOD  
PLAIN; LARGE COBBLE/GRAVEL WITH FEW OPEN AREAS

Color (shell & skin) HV Hue Value Chroma Color

V1 (center)  
V4 (center)  
LC1,2&V2 (seam)  
LM5,6 & LC2 (seam)  
Foreleg  
Hindleg


Are you color blind?  Yes  No

Type of blindness \_\_\_\_\_

### Body Measurements

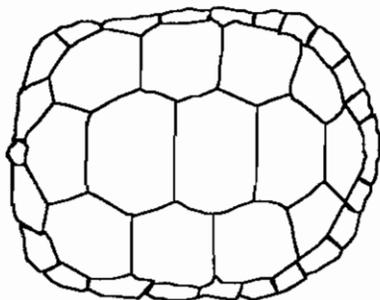
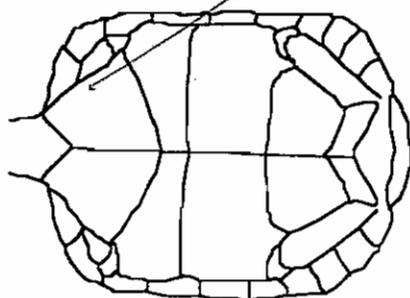
MCL (mm) \_\_\_\_\_  
PLN (mm) \_\_\_\_\_  
Weight (g) \_\_\_\_\_  
Void (g) \_\_\_\_\_  
Total wt (g) \_\_\_\_\_  
New growth  
 present  absent  
Epoxy #  
 present  legible

### Behavior

\_\_\_\_\_

Other notes

TORTOISE INSIDE BURROW



Photos; roll \_\_\_\_\_ frames \_\_\_\_\_

Draw locations of notches (old and new), chips, and anomalies, etc.

Describe anomalies in numbering of marginals and any identification problems.

Entered by \_\_\_\_\_ date \_\_\_\_\_ on computer \_\_\_\_\_

Modified by \_\_\_\_\_ on \_\_\_\_\_

Do not abbreviate

# Data Sheet for Live Desert Tortoises

Write on this side only

Located by Ellen Howard

Processed by \_\_\_\_\_

Study site name \_\_\_\_\_

Township \_\_\_\_\_ Range \_\_\_\_\_

Section \_\_\_\_\_ Quadrat \_\_\_\_\_

Coordinates (Reference SW corner)

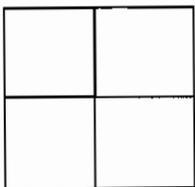
\_\_\_\_\_ meters North \_\_\_\_\_ meters East

UTM's 3053528 n 0556859 e

Elevation 2360 ft Accuracy  $\pm$  6 m

County \_\_\_\_\_ State \_\_\_\_\_

On Plot  Off Plot



Show location of tortoise in quadrat

Tortoise ID # \_\_\_\_\_

Year first marked \_\_\_\_\_

Verification of ID

Capture type \_\_\_\_\_ Sex UNKNOWN

Date (dd/mm/yy) 21 MAY 2007

Time (PST): Start 1136 End \_\_\_\_\_

Frequency \_\_\_\_\_ Transmitter # \_\_\_\_\_

Transmitter type \_\_\_\_\_

Transmitter attached \_\_\_\_\_

Transmitter to be replaced on \_\_\_\_\_

PIT # \_\_\_\_\_

## Tortoise Location

Cover site type:  burrow  pallet  shrub  caliche cave  rock shelter

At cover site:  entering  exiting  on mound  inside

Not at cover site:  in open  other

## Tortoise Activity

resting  basking  walking  feeding  Interacting with other tortoise  Interacting with other animals

Describe interaction:

Plants/items eaten (specific):

## Burrow Data

ID # \_\_\_\_\_

Orientation \_\_\_\_\_

Length \_\_\_\_\_ Height \_\_\_\_\_

Width \_\_\_\_\_ Soil cover \_\_\_\_\_

Location \_\_\_\_\_

ID & sex of other tortoise \_\_\_\_\_

Species \_\_\_\_\_

## Survey Type

- Radio track
- Burrow search
- Coverage 1
- Coverage 2
- Incidental
- Other

Color (shell & skin) HV Hue Value Chroma Color

V1 (center)					
V4 (center)					
LC1,2&V2 (seam)					
LM5,6 & LC2 (seam)					
Foreleg					
Hindleg					

Are you color blind?  Yes  No

Type of blindness \_\_\_\_\_

## Body Measurements

MCL (mm) \_\_\_\_\_

PLN (mm) \_\_\_\_\_

Weight (g) \_\_\_\_\_

Void (g) \_\_\_\_\_

Total wt (g) \_\_\_\_\_

New growth

present  absent

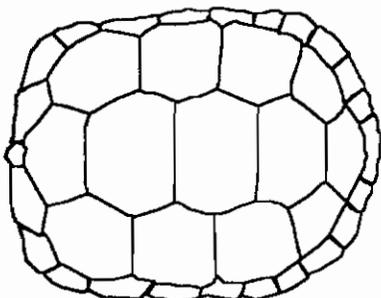
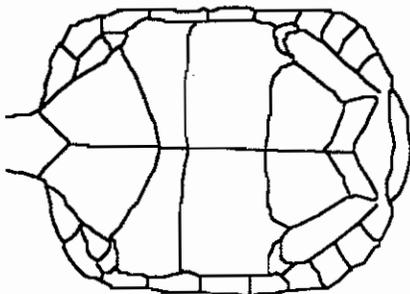
Epoxy #

present  legible

## Other notes

TORTOISE IN BURROW UNDER CREOSOTE IN OPEN BRAIDED GRASS FLOW NEAR ROAD IN WASH

## Behavior



Photos; roll \_\_\_\_\_ frames \_\_\_\_\_

Draw locations of notches (old and new), chips, and anomalies, etc.

Describe anomalies in numbering of marginals and any identification problems.

Entered by \_\_\_\_\_ date \_\_\_\_\_ on computer \_\_\_\_\_

Modified by \_\_\_\_\_ on \_\_\_\_\_

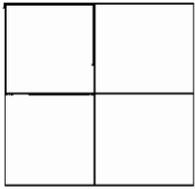
21 MAY 2007

Data Sheet for Live Desert Tortoises

Write on this side only

Do not abbreviate

Located by Ellen Howard  
 Processed by \_\_\_\_\_  
 Study site name \_\_\_\_\_  
 Township \_\_\_\_\_ Range \_\_\_\_\_  
 Section \_\_\_\_\_ Quadrat \_\_\_\_\_  
 Coordinates (Reference SW corner)  
 \_\_\_\_\_ meters North \_\_\_\_\_ meters East  
 UTM's 3854451 n 0656672 e  
 Elevation 2505 # Accuracy ± 15 ft m  
 County \_\_\_\_\_ State \_\_\_\_\_  
 On Plot  Off Plot



Show location of tortoise in quadrat

Tortoise ID # \_\_\_\_\_  
 Year first marked \_\_\_\_\_  
 Verification of ID   
 Capture type \_\_\_\_\_ Sex UNKNOWN  
 Date (dd/mm/yy) 21 MAY 2007  
 Time (PST): Start 0924 End \_\_\_\_\_  
 Frequency \_\_\_\_\_ Transmitter # \_\_\_\_\_  
 Transmitter type \_\_\_\_\_  
 Transmitter attached \_\_\_\_\_  
 Transmitter to be replaced on \_\_\_\_\_  
 PIT # \_\_\_\_\_

Tortoise Location

Cover site type:  burrow  pallet  shrub  caliche cave  rock shelter  
 At cover site:  entering  exiting  on mound  inside  
 Not at cover site:  in open  other

Burrow Data

ID # \_\_\_\_\_  
 Orientation \_\_\_\_\_  
 Length \_\_\_\_\_ Height \_\_\_\_\_  
 Width \_\_\_\_\_ Soil cover \_\_\_\_\_  
 Location \_\_\_\_\_

Survey Type

Radio track  
 Burrow search  
 Coverage 1  
 Coverage 2  
 Incidental  
 Other

Tortoise Activity

resting  basking  walking  feeding  
 Interacting with other tortoise  
 Interacting with other animals  
 Describe interaction: \_\_\_\_\_  
 ID & sex of other tortoise \_\_\_\_\_  
 Species \_\_\_\_\_

Color (shell & skin) HV Hue Value Chroma Color

V1 (center)				
V4 (center)				
LC1,2&V2 (seam)				
LM5,6 & LC2 (seam)				
Foreleg				
Hindleg				

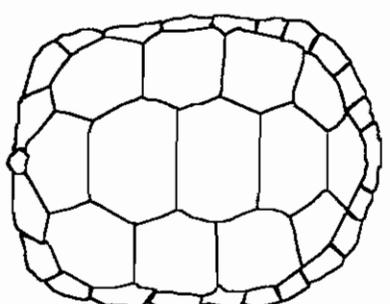
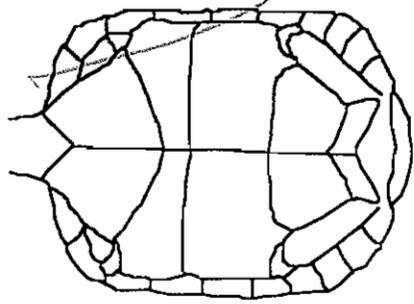
Are you color blind?  Yes  No  
 Type of blindness \_\_\_\_\_

Body Measurements

MCL (mm) \_\_\_\_\_  
 PLN (mm) \_\_\_\_\_  
 Weight (g) \_\_\_\_\_  
 Void (g) \_\_\_\_\_  
 Total wt (g) \_\_\_\_\_  
 New growth  present  absent  
 Epoxy #  present  legible

Behavior

\_\_\_\_\_



Other notes  
TORTOISE IN BURROW UNDER CREOSOTE BUSH ALONG BANK OF SMALL WASH

Photos; roll \_\_\_\_\_ frames \_\_\_\_\_  
 Draw locations of notches (old and new), chips, and anomalies, etc.  
 Describe anomalies in numbering of marginals and any identification problems.

Entered by \_\_\_\_\_ date \_\_\_\_\_ on computer \_\_\_\_\_  
 Modified by \_\_\_\_\_ on \_\_\_\_\_  
 © Berry 1997

22 MAY 2007

Do not abbreviate

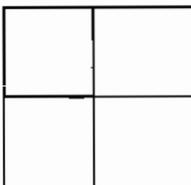
Data Sheet for Live Desert Tortoises

Write on this side only

Located by M. WARTMAN / G. HOISINGTON
Processed by
Study site name

Tortoise ID #
Year first marked
Verification of ID
Capture type
Date (dd/mm/yy) 22 MAY 2007
Time (PST): Start 1413 End
Frequency
Transmitter #
Transmitter type
Transmitter attached
Transmitter to be replaced on
PIT #

Township Range
Section Quadrat



Coordinates (Reference SW corner)
meters North meters East

UTM's 3854940 n 0554645 e
Elevation 2423 ft Accuracy +/- 6 m

County State
On Plot Off Plot

Tortoise Location

Cover site type: At cover site: Not at cover site:
burrow entering in open
pallet exiting other
shrub on mound
caliche cave inside
rock shelter

Burrow Data

ID #
Orientation
Length Height
Width Soil cover
Location

Survey Type

Radio track
Burrow search
Coverage 1
Coverage 2
Incidental
Other

Tortoise Activity

resting Interacting with other tortoise
basking Interacting with other animals
walking Describe interaction:
feeding

ID & sex of other tortoise
Species

Plants/items eaten (specific):

Color (shell & skin) HV Hue Value Chroma Color

V1 (center)
V4 (center)
LC1,2&V2 (seam)
LM5,6 & LC2 (seam)
Foreleg
Hindleg

Color chart table with columns for HV, Hue, Value, Chroma, and Color.

Are you color blind? Yes No
Type of blindness

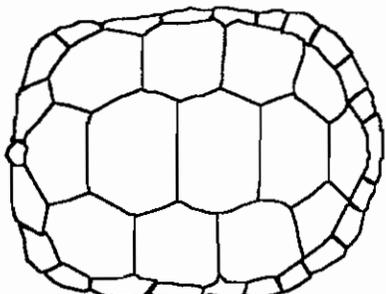
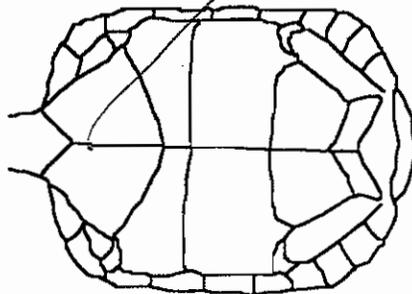
Body Measurements

MCL (mm)
PLN (mm)
Weight (g)
Void (g)
Total wt (g)
New growth present absent
Epoxy # present legible

Behavior

Other notes

IN BURROW ON BANK OF BRAIDED WASH LEADING TO A LARGE WASH FEATURE, W-FACING SLOPE WITH SUBSTANTIAL TOPOGRAPHY SURROUNDING THE SITE.



Photos; roll frames

Draw locations of notches (old and new), chips, and anomalies, etc.

Describe anomalies in numbering of marginals and any identification problems.

Entered by date on computer

Modified by on

MAY 22 2007

Do not abbreviate

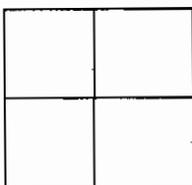
### Data Sheet for Live Desert Tortoises

Write on this side only

Located by HOLINGTON / WARTMAN  
Processed by \_\_\_\_\_  
Study site name \_\_\_\_\_

Tortoise ID # \_\_\_\_\_  
Year first marked \_\_\_\_\_

Township \_\_\_\_\_ Range \_\_\_\_\_  
Section \_\_\_\_\_ Quadrat \_\_\_\_\_



Verification of ID   
Capture type \_\_\_\_\_ Sex \_\_\_\_\_  
Date (dd/mm/yy) MAY 22 2007  
Time (PST): Start 1215 End \_\_\_\_\_

Coordinates (Reference SW corner)  
\_\_\_\_\_ meters North \_\_\_\_\_ meters East

UTM's 38S 4488 n 055360 e  
Elevation 2287 ft Accuracy ± 6 m

Show location of tortoise in quadrat

Frequency \_\_\_\_\_ Transmitter # \_\_\_\_\_  
Transmitter type \_\_\_\_\_  
Transmitter attached \_\_\_\_\_  
Transmitter to be replaced on \_\_\_\_\_  
PIT # \_\_\_\_\_

County \_\_\_\_\_ State \_\_\_\_\_

On Plot  Off Plot

#### Tortoise Location

Cover site type: At cover site: Not at cover site:  
 burrow  entering  in open  
 pallet  exiting  other  
 shrub  on mound  other  
 caliche cave  inside  
 rock shelter

#### Burrow Data

ID # \_\_\_\_\_  
Orientation \_\_\_\_\_  
Length \_\_\_\_\_ Height \_\_\_\_\_  
Width \_\_\_\_\_ Soil cover \_\_\_\_\_  
Location \_\_\_\_\_

#### Survey Type

Radio track  
 Burrow search  
 Coverage 1  
 Coverage 2  
 Incidental  
 Other

#### Tortoise Activity

resting  Interacting with other tortoise  
 basking  Interacting with other animals  
 walking  
 feeding

ID & sex of other tortoise \_\_\_\_\_  
Species \_\_\_\_\_

Describe interaction:

Plants/items eaten (specific):

#### Color (shell & skin) HV Hue Value Chroma Color

V1 (center)  
V4 (center)  
LC1,2&V2 (seam)  
LM5,6 & LC2 (seam)  
Foreleg  
Hindleg

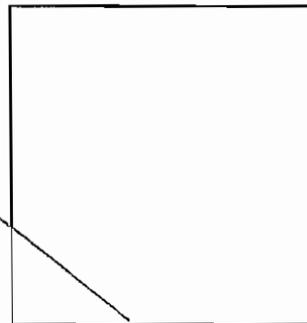

Are you color blind?  Yes  No

Type of blindness \_\_\_\_\_

#### Body Measurements

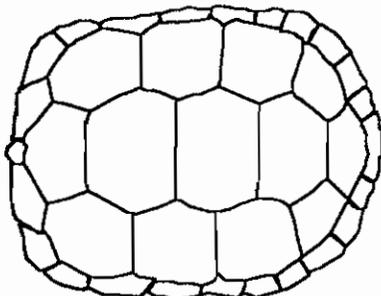
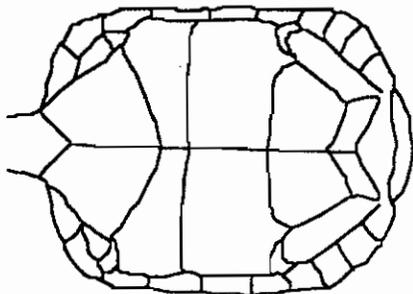
MCL (mm) \_\_\_\_\_  
PLN (mm) \_\_\_\_\_  
Weight (g) \_\_\_\_\_  
Void (g) \_\_\_\_\_  
Total wt (g) \_\_\_\_\_  
New growth  
 present  absent  
Epoxy #  
 present  legible

#### Behavior



#### Other notes

TORTOISE INSIDE BURROW, UNDER CREOSOTE  
NEXT TO ROAD/WASH ON SMALL BANK  
W/ FAIR AMOUNT OF COBBLE. BRAIDED  
WASH AREA ON ALLUVIAL FAN



Photos; roll \_\_\_\_\_ frames \_\_\_\_\_

Draw locations of notches (old and new), chips, and anomalies, etc.  
Describe anomalies in numbering of marginals and any identification problems.

Entered by \_\_\_\_\_ date \_\_\_\_\_ on computer \_\_\_\_\_

Modified by \_\_\_\_\_ on \_\_\_\_\_

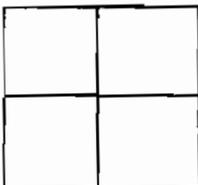
Do not abbreviate

# Health Profile Form for Desert Tortoises

Write on this side only

Located by KM, DP, SA  
Processed by Dale S. Pugh  
Study site name Solar I

x



Show location of tortoise in quadrat

Tortoise ID # \_\_\_\_\_  
Year first marked \_\_\_\_\_  
Verification of ID   
Capture type \_\_\_\_\_ Sex UNK  
Date (dd/mm/yy) 23/05/07  
Time (PST): Start \_\_\_\_\_ End \_\_\_\_\_  
Shell wear class \_\_\_\_\_  
Process time \_\_\_\_\_ hours  
Frequency \_\_\_\_\_  
Transmitter # \_\_\_\_\_

Township \_\_\_\_\_ Range \_\_\_\_\_  
Section \_\_\_\_\_ Quadrat \_\_\_\_\_

Coordinates (Reference SW corner)  
\_\_\_\_\_ meters North \_\_\_\_\_ meters East

UTM's 0548526 n 3855548 e

County Riverside State CA

On Plot  Off Plot

## BEAK & NARES

- Beak/nares wet  Yes  No  Unk
- Beak/nose damp  Yes  No  Unk
- Nasal exudate present  Yes  No  Unk
- Exudate color  clear  cloudy  white  yellow  green
- Bubble(s) from nares  Yes  No  Unk
- One nare occluded  Yes  No  Unk
- Both nares occluded  Yes  No  Unk
- Dirt on nose/beak  Yes  No  Unk
- Dirt in nares  Yes  No  Unk

## FORELEGS (adjacent to face)

- Dried dirt on forelegs  Yes  No  Unk
- Moisture on forelegs  Yes  No  Unk
- Dried exud. on scales  Yes  No  Unk
- Scales cracking  Yes  No  Unk

## BREATHING

- Smooth  Yes  No  Unk
- Wheezing  Yes  No  Unk
- Rasping, clicking  Yes  No  Unk

## EYES, CHIN GLANDS

- Circle eyes or lids:
- Eyes/lids whitened or discolored  Yes  No  Unk
  - Eyelids swollen  Yes  No  Unk
  - Eyes/lids wet  Yes  No  Unk
  - Discharge from eyes  Yes  No  Unk
  - Eyes sunken  Yes  No  Unk
  - Eyes clear, bright  Yes  No  Unk
  - Eyes dull, cloudy  Yes  No  Unk
  - Chin glands draining  Yes  No  Unk

## INTEGUMENT

- Integument dull  Yes  No  Unk
- Integument glossy  Yes  No  Unk
- Normal elasticity  Yes  No  Unk
- Abnormal skin peeling  Yes  No  Unk

## POSTURE/BEHAVIOR

- Alert, responsive  Yes  No  Unk
- Lethargic  Yes  No  Unk
- Can withdraw tightly into shell  Yes  No  Unk
- Limbs, head hanging loose  Yes  No  Unk

Other notes

Tortoise in burrow. Unable to sex tortoise due to plastron & gular obstruction.

## ORAL

- CAVITY Observed  Yes  No  Unk
- Discharge present  Yes  No  Unk
- Membranes pink  Yes  No  Unk
- Membranes pale, white  Yes  No  Unk
- Smells/mouth rot  Yes  No  Unk

## EVIDENCE OF SHELL DISEASE

- Lesions present  Yes  No  Unk
- Lesions active  Yes  No  Unk
- Lesions healed  Yes  No  Unk
- Scute laminae peeling  Yes  No  Unk
- Scutes missing/peeling  Yes  No  Unk
- Pitting  Yes  No  Unk
- Scutes depressed/concave  Yes  No  Unk
- Fungal areas  Yes  No  Unk

## EVIDENCE OF TRAUMA

- Head  Yes  No  Unk
- Gular  Yes  No  Unk
- Forelimbs  Yes  No  Unk
- Hindlimbs  Yes  No  Unk
- Shell  Yes  No  Unk
- Scute/bone replacement  Yes  No  Unk

Describe:

\_\_\_\_\_

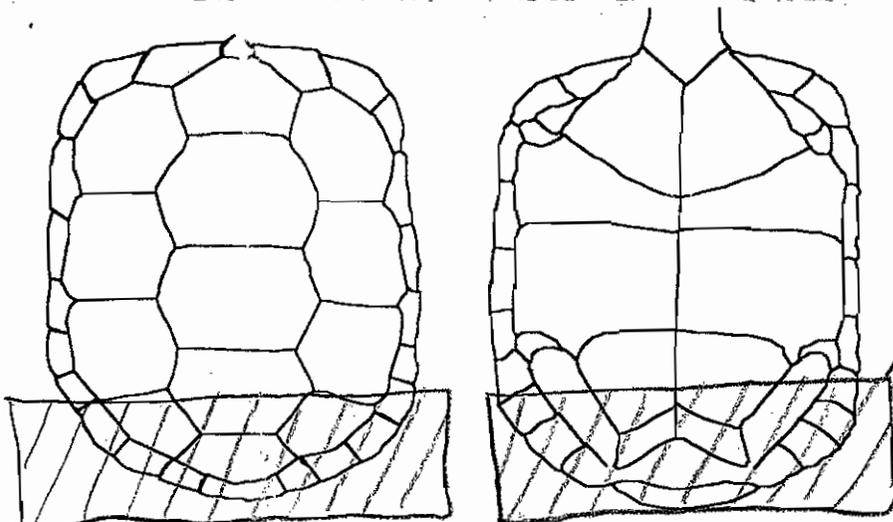
Soil dryness:  wet  damp  dry

Last precipitation (dd/mm/yy) UNKNOWN

Urine (vol) N/A  
Color \_\_\_\_\_  
Viscosity \_\_\_\_\_  
Particulates \_\_\_\_\_  
Color \_\_\_\_\_  
Nasal wash collected \_\_\_\_\_  
Amt. blood/lymph taken (cc) \_\_\_\_\_  
# of needle sticks \_\_\_\_\_  
Time (min) of needle sticks \_\_\_\_\_  
Location \_\_\_\_\_  
PCV% \_\_\_\_\_  
Other samples taken \_\_\_\_\_  
Describe/draw parasites

\_\_\_\_\_

DRAW: shape of gulars, location of notches; chips, chews, shell damage, lesions; shell disease; shell abnormalities; scute concavities. Make new drawing at least once per year (spring).



visible part of tortoise

Do not abbreviate

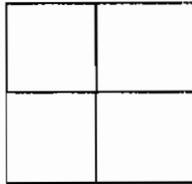
# Data Sheet for Live Desert Tortoises

Write on this side only

Located by K.M. DP, SA  
 Processed by Dallas Pugh  
 Study site name Sola II

Tortoise ID # \_\_\_\_\_  
 Year first marked \_\_\_\_\_  
 Verification of ID

Township \_\_\_\_\_ Range \_\_\_\_\_  
 Section \_\_\_\_\_ Quadrat \_\_\_\_\_



Capture type \_\_\_\_\_ Sex UNK  
 Date (dd/mm/yy) 23/05/07

Coordinates (Reference SW corner)  
 \_\_\_\_\_ meters North \_\_\_\_\_ meters East

Time (PST): Start \_\_\_\_\_ End \_\_\_\_\_

UTM's 0548526 n 3855548 e  
 Elevation \_\_\_\_\_ m Accuracy ± \_\_\_\_\_ m

Show location of tortoise in quadrat

Frequency \_\_\_\_\_ Transmitter # \_\_\_\_\_  
 Transmitter type \_\_\_\_\_

County Riverside State CA

Transmitter attached \_\_\_\_\_

On Plot  Off Plot

Transmitter to be replaced on \_\_\_\_\_

PIT # \_\_\_\_\_

### Tortoise Location

Cover site type:  burrow  pallet  shrub  caliche cave  rock shelter  
 At cover site:  entering  exiting  on mound  inside  
 Not at cover site:  in open  other

### Burrow Data

ID # \_\_\_\_\_  
 Orientation West  
 Length 3 feet Height 10 inches  
 Width 14 inches Soil cover sand  
 Location \_\_\_\_\_

### Survey Type

- Radio track
- Burrow search
- Coverage 1
- Coverage 2
- Incidental
- Other

### Tortoise Activity

resting  basking  walking  feeding  
 Interacting with other tortoise  
 Interacting with other animals  
 Describe interaction: \_\_\_\_\_

ID & sex of other tortoise \_\_\_\_\_  
 Species \_\_\_\_\_

**Focused Survey**

Plants/items eaten (specific): \_\_\_\_\_

Color (shell & skin) HV Hue Value Chroma Color

V1 (center)  
 V4 (center)  
 LC1,2&V2 (seam)  
 LM5,6 & LC2 (seam)  
 Foreleg  
 Hindleg

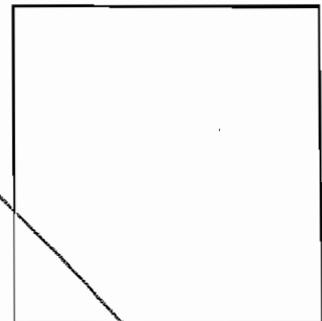

Are you color blind?  Yes  No

Type of blindness \_\_\_\_\_

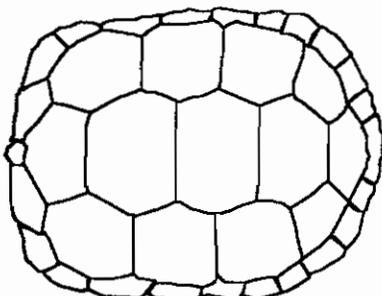
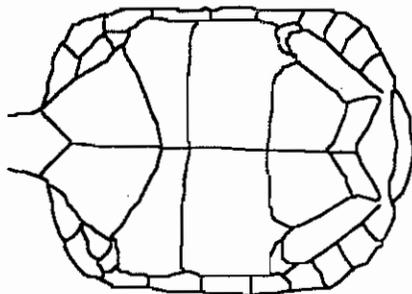
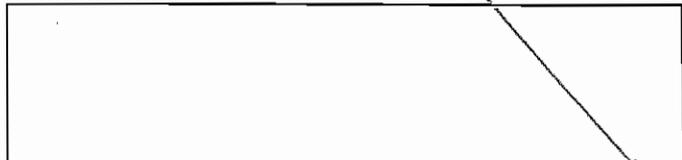
### Body Measurements

MCL (mm) \_\_\_\_\_  
 PLN (mm) \_\_\_\_\_  
 Weight (g) \_\_\_\_\_  
 Void (g) \_\_\_\_\_  
 Total wt (g) \_\_\_\_\_  
 New growth  
 present  absent  
 Epoxy #  
 present  legible

### Behavior



Other notes



Photos; roll \_\_\_\_\_ frames \_\_\_\_\_

Draw locations of notches (old and new), chips, and anomalies, etc.

Describe anomalies in numbering of marginals and any identification problems.

Entered by \_\_\_\_\_ date \_\_\_\_\_ on computer \_\_\_\_\_

Modified by \_\_\_\_\_ on \_\_\_\_\_

30 MAY 2007

Do not abbreviate

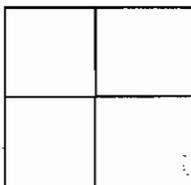
### Data Sheet for Live Desert Tortoises

Write on this side only

Located by M. HANER  
Processed by \_\_\_\_\_  
Study site name \_\_\_\_\_

Tortoise ID # \_\_\_\_\_  
Year first marked \_\_\_\_\_  
Verification of ID

Township \_\_\_\_\_ Range \_\_\_\_\_  
Section \_\_\_\_\_ Quadrat \_\_\_\_\_



Capture type \_\_\_\_\_ Sex \_\_\_\_\_  
Date (dd/mm/yy) 30 MAY 2007

Coordinates (Reference SW corner)  
\_\_\_\_\_ meters North \_\_\_\_\_ meters East

Time (PST): Start 1015 End \_\_\_\_\_

UTM's 3852357 n 0546149 e  
Elevation 1366 ft Accuracy ± \_\_\_\_\_ m

Frequency \_\_\_\_\_ Transmitter # \_\_\_\_\_  
Transmitter type \_\_\_\_\_

County \_\_\_\_\_ State \_\_\_\_\_

Transmitter attached \_\_\_\_\_

Transmitter to be replaced on \_\_\_\_\_

On Plot  Off Plot

PIT # \_\_\_\_\_

#### Tortoise Location

Cover site type: At cover site: Not at cover site:  
 burrow  entering  in open  
 pallet  exiting  other  
 shrub  on mound  
 caliche cave  inside  
 rock shelter

#### Burrow Data

ID # \_\_\_\_\_  
Orientation \_\_\_\_\_  
Length \_\_\_\_\_ Height \_\_\_\_\_  
Width \_\_\_\_\_ Soil cover \_\_\_\_\_  
Location \_\_\_\_\_

#### Survey Type

Radio track  
 Burrow search  
 Coverage 1  
 Coverage 2  
 Incidental  
 Other

#### Tortoise Activity

resting  Interacting with other tortoise  
 basking  Interacting with other animals  
 walking  
 feeding

ID & sex of other tortoise \_\_\_\_\_  
Species \_\_\_\_\_

Describe interaction:

FRESH TRACKS IN SAND OUTSIDE BURROW

Plants/items eaten (specific):

Color (shell & skin) HV Hue Value Chroma Color

V1 (center)  
V4 (center)  
LC1,2&V2 (seam)  
LM5,6 & LC2 (seam)  
Foreleg  
Hindleg


Are you color blind?  Yes  No

Type of blindness \_\_\_\_\_

#### Body Measurements

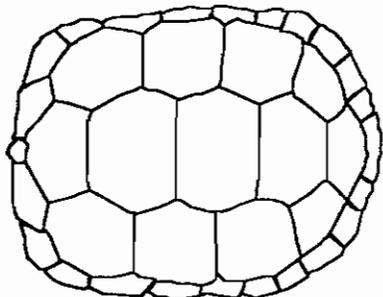
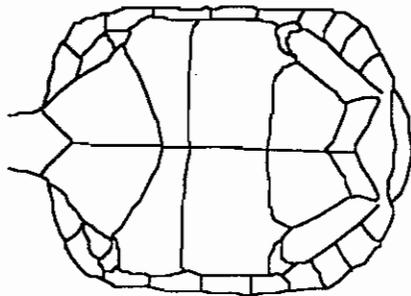
MCL (mm) \_\_\_\_\_  
PLN (mm) \_\_\_\_\_  
Weight (g) \_\_\_\_\_  
Void (g) \_\_\_\_\_  
Total wt (g) \_\_\_\_\_

#### Behavior

New growth  
 present  absent  
Epoxy #  
 present  legible

#### Other notes

WITHIN LARGE, SANDY WASH AREA/CANYON  
AMONG STEEP, ROCKY TERRAIN. NEAR  
RXR TRACKS AND MINE AREA



Photos; roll \_\_\_\_\_ frames \_\_\_\_\_

Draw locations of notches (old and new), chips, and anomalies, etc.

Describe anomalies in numbering of marginals and any identification problems.

Entered by \_\_\_\_\_ date \_\_\_\_\_ on computer \_\_\_\_\_

Modified by \_\_\_\_\_ on \_\_\_\_\_

January 1992

(place a 4 X 6 photograph showing the area where the transect was conducted)

This form should be completed for those transects that contain one or more desert tortoise sign. After the project site and Zone of Influence have been surveyed for tortoise sign, the results from the transect forms should be compiled on a summary form.

If no tortoise sign occurs on the project site or Zone of Influence, the summary form should be completed. Please fill in all sections on the top 2/3 of the page of the summary form.

photos: 6668, 6669

M/D/Y  
Date 4/1/08  
Transect No. \_\_\_\_\_  
State CA  
County San Bernardino  
City Redgton  
Recorder Glen Kinoshita  
Address \_\_\_\_\_  
Project Name Solar 1  
Type of Project \_\_\_\_\_

Quad Name \_\_\_\_\_  
Scale \_\_\_\_\_  
Site Name \_\_\_\_\_  
T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_  
1/4 Sec \_\_\_\_\_ 3/4 Sec \_\_\_\_\_  
UTM Zone \_\_\_\_\_  
Northing \_\_\_\_\_  
Easting \_\_\_\_\_  
Parcel No. 6-501, 6-502, 6-503, 6-504

DESERT TORTOISE HANDBOOK 1992:

FORM FOR PRESENCE-OR-ABSENCE AND CLEARANCE SURVEYS

Project Site  Zone of Influence | | \_\_\_\_\_ ft from Project Site  
Transect Length: \_\_\_\_\_ ft : Width: 20 ft Other \_\_\_\_\_ ft Time 9:51am 80 acres total  
Weather: Airtemp at: 5 cm 61.3 °F Surface 67.0 °F Cloud cover 0 %  
Rainfall 0 in Wind speed 2-4 mph Rainfall in last 30 days \_\_\_\_\_ in  
Land Form (e.g., mesa, bajada, wash) waking hills  
Slope: high \_\_\_\_\_ low X Aspect \_\_\_\_\_ Elevation 2423 ft  
Soils sandy w/ cobbles  
Vegetation: dominant perennials Larrea tridentata

area previously grazed

dominant annuals Amaranthus, Cryptantha

Adjacent Land Use: up to 1 mi house, old mine  
Soils sandy / cobbles  
Vegetation same

Corrected Sign		Live Tortoises Adult/Juv.		TOTAL NUMBER OF Shelter Sites Pallet/Burrow/Den Active/Inactive <sup>1</sup>		Scats <sup>2</sup> M= F=		Shell Remains <sup>3</sup> A= J= Unk=		
	A=		J=				M=	A=	J=	Unk=

Tracks	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma Middens w/sign	Middens w/o sign

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN							
Tire Tracks	Human Footprints	Dog Sign	Trash	Dump Sites	Shotgun/Rifle Shells	Blading	Ravens Other
N	Y	N	N	N	N	N	N



January 1992

(place a 4 X 6 photograph showing the area where the transect was conducted)

This form should be completed for those transects that contain one or more desert tortoise sign. After the project site and Zone of Influence have been surveyed for tortoise sign, the results from the transect forms should be compiled on a summary form.

If no tortoise sign occurs on the project site or Zone of Influence, the summary form should be completed. Please fill in all sections on the top 2/3 of the page of the summary form.

6752 - 6759

M/D/Y  
 Date 4/4/08  
 Transect No. \_\_\_\_\_  
 State CA  
 County San Bernardino  
 City Burton/Ludlow  
 Recorder Glenn Kinoshita  
 Address \_\_\_\_\_  
 Project Name Solar 6  
 Type of Project solar  
rare site  
 Quad Name \_\_\_\_\_  
 Scale \_\_\_\_\_  
 Site Name \_\_\_\_\_  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_  
 1/4 Sec \_\_\_\_\_ 3/4 Sec \_\_\_\_\_  
 UTM Zone \_\_\_\_\_  
 Northing \_\_\_\_\_  
 Easting \_\_\_\_\_  
 Parcel No. 6-523, 6-534, 6-535, 6-536

DESERT TORTOISE HANDBOOK 1992:

FORM FOR PRESENCE-OR-ABSENCE AND CLEARANCE SURVEYS

Project Site  Zone of Influence | | \_\_\_\_\_ ft from Project Site  
 Transect Length: \_\_\_\_\_ ft Width: 20 ft Other \_\_\_\_\_ ft Time 13:40 80 ACIA  
 Weather: Airtemp at: 5 cm 78.0°F Surface 80.5 °F Cloud cover \_\_\_\_\_ %  
 Rainfall \_\_\_\_\_ in Wind speed 4 mph Rainfall in last 30 days \_\_\_\_\_ in  
 Land Form (e.g., mesa, bajada, wash) rolling hills  
 % Slope: high \_\_\_\_\_ low X Aspect NW Elevation 2527 ft  
 Soils gravel w/ cobbles, pebbles  
 Vegetation: dominant perennials Larrea tridentata, Ambrosia dumosa  
 dominant annuals Amaranthus, Plantago, Schismus

Adjacent Land Use: up to 1 mi radio tower, under ground pipelines  
 Soils gravel  
 Vegetation gravel

Corrected Sign	Live Tortoises Adult/Juv.	TOTAL NUMBER OF		Scats <sup>2</sup>	Shell Remains <sup>3</sup>
		Shelter Sites Pallet/Burrow/Den Active/Inactive <sup>1</sup>			
A=	J=			M=	A=    J= Unk=

Tracks	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma Middens w/sign	Middens w/o sign
Y					:	

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN

Tire Tracks	Human Footprints	Dog Sign	Trash	Dump Sites	Shotgun/Rifle Shells	Blading	Ravens	Other
N	Y	N	Y	N	N	Y	N	

TRT 6 92704 3847185 ~ 10 cm length in burrow 6756 rocky hillside  
 TRT 7 56744 3847156 20 cm length 6746 rocky hillside male

January 1992

M/D/Y  
2/2/00  
-/GT, RK, KH, EK  
JJ

(place a 4 X 6 photograph showing the area where the transect was conducted)

Date 2/2/00  
Transect No. \_\_\_\_\_  
State CA  
County San Bernardino  
City Barstow/Ludlow  
Recorder Glen Kinoshita  
Address \_\_\_\_\_  
Project Name Solar 6  
Type of Project sol.  
Solar power site  
Quad Name \_\_\_\_\_  
Scale \_\_\_\_\_  
Site Name \_\_\_\_\_  
T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_  
1/4 Sec \_\_\_\_\_ 3/4 Sec \_\_\_\_\_  
UTM Zone \_\_\_\_\_  
Northing \_\_\_\_\_  
Easting \_\_\_\_\_  
Parcel No. 6-509, 6-510, 6-511, 6-512

This form should be completed for those transects that contain one or more desert tortoise sign. After the project site and Zone of Influence have been surveyed for tortoise sign, the results from the transect forms should be compiled on a summary form.

If no tortoise sign occurs on the project site or Zone of Influence, the summary form should be completed. Please fill in all sections on the top 2/3 of the page of the summary form.

6715-6717

DESERT TORTOISE HANDBOOK 1992:

FORM FOR PRESENCE-OR-ABSENCE AND CLEARANCE SURVEYS

Project Site X Zone of Influence \_\_\_\_\_ ft from Project Site  
Transect Length: \_\_\_\_\_ ft Width: 20 ft Other \_\_\_\_\_ ft Time 9:51am 80 acres  
Weather: Airtemp at: 5 cm 63.8 °F Surface 64.6 °F Cloud cover 0 %  
Rainfall 0 in Wind speed 10-15 mph Rainfall in last 30 days \_\_\_\_\_ in  
Land Form (e.g., mesa, bajada, wash) \_\_\_\_\_  
Slope: high \_\_\_\_\_ low X - 8% Aspect SW Elevation 2355 ft  
Soils Sandy w/ rocks, cobbles  
Vegetation: dominant perennials Larrea tridentata, A. microdon, Krameria sp.

dominant annuals Amaranthus, Solisum, Plantago

Adjacent Land Use: up to 1 mi radio tower, underground pipelines  
Soils same  
Vegetation same

Corrected Sign	Live Tortoises Adult/Juv.	TOTAL NUMBER OF		Scats <sup>2</sup>	Shell Remains <sup>3</sup>
		Shelter Sites Pallet/Burrow/Den Active/Inactive <sup>1</sup>			
A=	J=			M=	F=

Tracks	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma Middens w/sign	Middens w/o sign
					:	

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN

Tire Tracks	Human Footprints	Dog Sign	Trash	Dump Sites	Shotgun/Rifle Shells	Blading	Ravens	Other

total 5 tortoise

Tunnels: 10-12 cm dia TORT 1 561241 3846894 6721 (burrow at game site) (?)  
15 cm TORT 2 561371 3847022 6722 (burrow at game site) male  
18 cm TORT 3 561654 3846837 (in burrow, saw before going underground)  
unk TORT 4 561707 3846787 6723 (in burrow - appears to be juv) female(?)



January 1992

w/ER, KM, RK, JD

(place a 4 X 6 photograph showing the area where the transect was conducted)

This form should be completed for those transects that contain one or more desert tortoise sign. After the project site and Zone of Influence have been surveyed for tortoise sign, the results from the transect forms should be compiled on a summary form.

If no tortoise sign occurs on the project site or Zone of Influence, the summary form should be completed. Please fill in all sections on the top 2/3 of the page of the summary form.

67A-6703

M/D/Y  
 Date 2/2/00  
 Transect No. \_\_\_\_\_  
 State CA  
 County San Bernardino  
 City Bavston  
 Recorder Glen Kinnick  
 Address \_\_\_\_\_  
 Project Name Sidarb  
 Type of Project \_\_\_\_\_  
 Quad Name \_\_\_\_\_  
 Scale \_\_\_\_\_  
 Site Name \_\_\_\_\_  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_  
 1/4 Sec \_\_\_\_\_ 3/4 Sec \_\_\_\_\_  
 UTM Zone \_\_\_\_\_  
 Northing \_\_\_\_\_  
 Easting \_\_\_\_\_  
 Parcel No. 6427, 6471, 6475, 6476

DESERT TORTOISE HANDBOOK 1992:

FORM FOR PRESENCE-OR-ABSENCE AND CLEARANCE SURVEYS

Project Site X Zone of Influence \_\_\_\_\_ ft from Project Site  
 Transect Length: \_\_\_\_\_ ft Width: 30 ft Other \_\_\_\_\_ ft Time 13:00 80 acres  
 Weather: Airtemp at: 5 cm 81.2°F Surface 87.6°F Cloud cover 5 %  
 Rainfall 0 in Wind speed 5-10 mph Rainfall in last 30 days \_\_\_\_\_ in

Land Form (e.g., mesa, bajada, wash) \_\_\_\_\_  
 % Slope: high \_\_\_\_\_ low \_\_\_\_\_ Aspect \_\_\_\_\_ Elevation \_\_\_\_\_ ft

Soils Sandy w/ cobbles  
 Vegetation: dominant perennials Larrea tridentata, Phacelia rigida

dominant annuals Amsinckia, Cryptantha, Dentella

Adjacent Land Use: up to 1 mi house, old mine, area used for grazing

Soils sandy w/ cobbles  
 Vegetation same as site

Corrected Sign	Live Tortoises Adult/Juv.	TOTAL NUMBER OF		Scats <sup>2</sup>	Shell Remains <sup>3</sup>		
		Shelter Sites Pallet/Burrow/Den Active/Inactive <sup>1</sup>			A=	J=	Unk=

Tracks	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma w/sign	Middens :w/o sign

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN

Tire Tracks	Human Footprints	Dog Sign	Trash	Dump Sites	Shotgun/Rifle Shells	Blading	Ravens	Other
#Y	Y	N	N	N	N	N	Y	

January 1992

(place a 4 X 6 photograph showing the area where the transect was conducted)

This form should be completed for those transects that contain one or more desert tortoise sign. After the project site and Zone of Influence have been surveyed for tortoise sign, the results from the transect forms should be compiled on a summary form.

If no tortoise sign occurs on the project site or Zone of Influence, the summary form should be completed. Please fill in all sections on the top 2/3 of the page of the summary form.

6786

M/D/Y  
 Date 4/4/08  
 Transect No. \_\_\_\_\_  
 State CA  
 County Santa Bernardino  
 City Darwin  
 Recorder Ken Kindel  
 Address \_\_\_\_\_  
 Project Name Solar 6  
 Type of Project solar power site  
 Quad Name \_\_\_\_\_  
 Scale \_\_\_\_\_  
 Site Name \_\_\_\_\_  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_  
 1/4 Sec \_\_\_\_\_ 3/4 Sec \_\_\_\_\_  
 UTM Zone \_\_\_\_\_  
 Northing \_\_\_\_\_  
 Easting \_\_\_\_\_  
 Parcel No. 6-961, 6-962, 6-963, 6-964

DESERT TORTOISE HANDBOOK 1992:

FORM FOR PRESENCE-OR-ABSENCE AND CLEARANCE SURVEYS

Project Site  Zone of Influence | | \_\_\_\_\_ ft from Project Site 80 acres  
 Transect Length: \_\_\_\_\_ ft Width: 30 ft Other \_\_\_\_\_ ft Time 10:14  
 Weather: Airtemp at: 5 cm 70.6 °F Surface 73.1 °F Cloud cover 50 % (Thin, w/5/17)  
 Rainfall 0 in Wind speed 4-6 mph Rainfall in last 30 days \_\_\_\_\_ in  
 Land Form (e.g., mesa, bajada, wash) \_\_\_\_\_  
 Slope: high \_\_\_\_\_ low X Aspect N/A Elevation 2377 ft  
 Soils Sand w/ pebbles  
 Vegetation: dominant perennials Larrea tridentata, Phacelia rigida  
 dominant annuals Amsinckia

Adjacent Land Use: up to 1 mi old mine, transmission lines  
 Soils same  
 Vegetation same

Corrected Sign	Live Tortoises Adult/Juv.	TOTAL NUMBER OF		Scats <sup>2</sup>	Shell Remains <sup>3</sup>
		Shelter Sites Pallet/Burrow/Den Active/Inactive <sup>1</sup>			
A=	J=			M=	A= J= Unk=

Tracks	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma Middens w/sign	Middens w/o sign
					:	

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN

Tire Tracks	Human Footprints	Dog Sign	Trash Sites	Dump Sites	Shotgun/Rifle Shells	Blading	Ravens	Other

Fred 70291 560796, 7851212 20-22cm (L) 18cm (W) 6792 male



January 1992

w/ TT, RK  
KM, GK, EK

(place a 4 X 6 photograph showing the area where the transect was conducted)

This form should be completed for those transects that contain one or more desert tortoise sign. After the project site and Zone of Influence have been surveyed for tortoise sign, the results from the transect forms should be compiled on a summary form.

If no tortoise sign occurs on the project site or Zone of Influence, the summary form should be completed. Please fill in all sections on the top 2/3 of the page of the summary form.

6796

M/D/Y  
Date 2/4/00  
Transect No. \_\_\_\_\_  
State San Bernardino CA  
County San Bernardino  
City Rancho  
Recorder Glen Kinoshita  
Address \_\_\_\_\_  
Project Name Solar 6  
Type of Project Pat. solar power site  
Quad Name \_\_\_\_\_  
Scale \_\_\_\_\_  
Site Name \_\_\_\_\_  
T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_  
1/4 Sec \_\_\_\_\_ 3/4 Sec \_\_\_\_\_  
UTM Zone \_\_\_\_\_  
Northing \_\_\_\_\_  
Easting \_\_\_\_\_  
Parcel No. next to Pigeon station  
472 (NW corner)

DESERT TORTOISE HANDBOOK 1992:

FORM FOR PRESENCE-OR-ABSENCE AND CLEARANCE SURVEYS

Project Site X Zone of Influence | | \_\_\_\_\_ ft from Project Site ~ 20 acres  
Transect Length: \_\_\_\_\_ ft Width: 80 ft Other \_\_\_\_\_ ft Time 1:57  
Weather: Airtemp at: 5 cm 28.7 °C Surface 95.1 °C Cloud cover 50 % (thin, wispy)  
Rainfall \_\_\_\_\_ in Wind speed 2 mph Rainfall in last 30 days \_\_\_\_\_ in  
Land Form (e.g., mesa, bajada, wash) \_\_\_\_\_  
& Slope: high \_\_\_\_\_ low X Aspect N/A Elevation 2097 ft  
Soils sandy  
Vegetation: dominant perennials Larrea tridentata, Ambrosia dumosa

dominant annuals Comissonia, Amisulcia, Chamaecrista

Adjacent Land Use: up to 1 mi Transmission lines, dirt road, old mining

Soils sandy

Vegetation sandy

Corrected Sign	Live Tortoises Adult/Juv.	TOTAL NUMBER OF		Scats <sup>2</sup>	Shell Remains <sup>3</sup>		
		Shelter Sites Pallet/Burrow/Den Active/Inactive <sup>1</sup>			A=	J=	Unk=
			<u>    </u>		A=	J=	Unk=
				M=	F=		Unk=

Tracks	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma w/sign	Middens w/o sign
					:	

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN

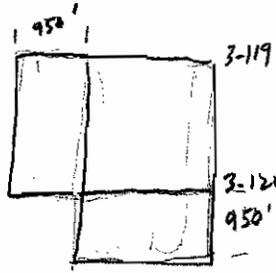
Tire Tracks	Human Footprints	Dog Sign	Trash	Dump Sites	Shotgun/Rifle Shells	Blading	Ravens	Other
<u>X</u>	<u>X</u>		<u>X</u>					

January 1992

(place a 4 X 6 photograph showing the area where the transect was conducted)

This form should be completed for those transects that contain one or more desert tortoise sign. After the project site and Zone of Influence have been surveyed for tortoise sign, the results from the transect forms should be compiled on a summary form.

If no tortoise sign occurs on the project site or Zone of Influence, the summary form should be completed. Please fill in all sections on the top 2/3 of the page of the summary form.



Date 4/5/08 M/D/Y  
 Transect No. 3-119 & 3-120 E  
 State \_\_\_\_\_  
 County \_\_\_\_\_  
 City \_\_\_\_\_  
 Recorder TO/RK/PW  
 Address \_\_\_\_\_  
 Project Name Solar 3  
 Type of Project \_\_\_\_\_  
 Quad Name \_\_\_\_\_  
 Scale \_\_\_\_\_  
 Site Name \_\_\_\_\_  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_  
 1/4 Sec \_\_\_\_\_ 3/4 Sec \_\_\_\_\_  
 UTM Zone 11  
 Northing \_\_\_\_\_  
 Easting \_\_\_\_\_  
 Parcel No. \_\_\_\_\_

DESERT TORTOISE HANDBOOK 1992:

FORM FOR PRESENCE-OR-ABSENCE AND CLEARANCE SURVEYS

Project Site | | Zone of Influence | | \_\_\_\_\_ ft from Project Site  
 Transect Length: \_\_\_\_\_ ft Width: 30 ft Other \_\_\_\_\_ ft Time \_\_\_\_\_  
 Weather: Airtemp at: 5 cm \_\_\_\_\_ °C Surface \_\_\_\_\_ °C Cloud cover 10 %  
 Rainfall 0 in Wind speed 10-15 Rainfall in last 30 days 0 in  
 Land Form (e.g., mesa, bajada, wash) \_\_\_\_\_  
 % Slope: high 0 low \_\_\_\_\_ Aspect \_\_\_\_\_ Elevation 1819 ft  
 Soils \_\_\_\_\_  
 Vegetation: dominant perennials Larrea tridentata, Ambrosia dumosa  
 dominant annuals Chaenactis stevioides, Malacothrix glabrata

Adjacent Land Use: up to 1 mi  
 Soils Sandy to gravelly  
 Vegetation Crocodile bush scrub

Corrected Sign	Live Tortoises Adult/Juv.	TOTAL NUMBER OF		Scats <sup>2</sup>	Shell Remains <sup>3</sup>
		Shelter Sites Pallet/Burrow/Den Active/Inactive <sup>1</sup>	Other		
A=	J=			A=	J= Unk=
			M=	F=	Unk=

Tracks	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma Middens w/sign	Middens w/o sign
					:	

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN

Tire Tracks	Human Footprints	Dog Sign	Trash	Dump Sites	Shotgun/Rifle Shells	Blading	Ravens	Other
Yes								

*Glass Plastic bags and bottles*

January 1992

(place a 4 X 6 photograph showing the area where the transect was conducted)

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If no tortoise sign occurs on the project site or Zone of Influence, the summary form should be completed. Please fill in all sections on the top 2/3 of the page of the summary form.

M/D/Y  
 Date 4/5/09  
 Transect No. 3-147 3-149 E side  
 State CA  
 County San Bernardino  
 City E of Barstow  
 Recorder TB/RK/PW  
 Address \_\_\_\_\_  
 Project Name Solar 3  
 Type of Project Solar  
 Quad Name \_\_\_\_\_  
 Scale \_\_\_\_\_  
 Site Name \_\_\_\_\_  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_  
 1/4 Sec \_\_\_\_\_ 3/4 Sec \_\_\_\_\_  
 UTM Zone 11  
 Northing \_\_\_\_\_  
 Easting \_\_\_\_\_  
 Parcel No. \_\_\_\_\_

DESERT TORTOISE HANDBOOK 1992:

FORM FOR PRESENCE-OR-ABSENCE AND CLEARANCE SURVEYS

Project Site | | Zone of Influence | | \_\_\_\_\_ ft from Project Site  
 Transect Length: \_\_\_\_\_ ft : Width: 30 ft Other \_\_\_\_\_ ft Time \_\_\_\_\_  
 Weather: Airtemp at: 5 cm \_\_\_\_\_ °C Surface \_\_\_\_\_ °C Cloud cover 0 %  
 Rainfall 0 in Wind speed 15-25 Rainfall in last 30 days 0 in  
 Land Form (e.g., mesa, bajada, wash) \_\_\_\_\_  
 % Slope: high 0 low \_\_\_\_\_ Aspect \_\_\_\_\_ Elevation 1815 ft  
 Soils \_\_\_\_\_  
 Vegetation: dominant perennials Larrea tridentata, Ambrosia dumosa

dominant annuals Chaenactis stevioides, Malacothrix glabrata, Comissonia claviformis

Adjacent Land Use: up to 1 mi Railroad, I-40 Interstate  
 Soils Sandy to gravelly  
 Vegetation Croton bush scrub

Corrected Sign	Live Tortoises Adult/Juv.	TOTAL NUMBER OF		Scats <sup>2</sup>	Shell Remains <sup>3</sup>
		Shelter Sites Pallet/Burrow/Den Active/Inactive <sup>1</sup>			
A=	J=			M=	A= J= Unk=

Tracks	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma Middens w/sign	Middens w/o sign

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN

Tire Tracks	Human Footprints	Dog Sign	Trash	Dump Sites	Shotgun/Rifle Shells	Blading	Ravens	Other
Yes	Campsites		Glass Plastic bags and bottles					



January 1992

(place a 4 X 6 photograph showing the area where the transect was conducted)

This form should be completed for those transects that contain one or more desert tortoise sign. After the project site and Zone of Influence have been surveyed for tortoise sign, the results from the transect forms should be compiled on a summary form.

If no tortoise sign occurs on the project site or Zone of Influence, the summary form should be completed. Please fill in all sections on the top 2/3 of the page of the summary form.

M/D/Y  
 Date 4/8/2008  
 Transect No. 3-173 → 3-176  
 State CA  
 County San Bernardino  
 City Banston  
 Recorder Jeff Johnson  
 Address \_\_\_\_\_  
 Project Name SES  
 Type of Project solar power plant  
 Quad Name \_\_\_\_\_  
 Scale \_\_\_\_\_  
 Site Name \_\_\_\_\_  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_  
 1/4 Sec \_\_\_\_\_ 3/4 Sec \_\_\_\_\_  
 UTM Zone \_\_\_\_\_  
 Northing \_\_\_\_\_  
 Easting \_\_\_\_\_  
 Parcel No. \_\_\_\_\_

DESERT TORTOISE HANDBOOK 1992:

FORM FOR PRESENCE-OR-ABSENCE AND CLEARANCE SURVEYS

Project Site | | Zone of Influence | | \_\_\_\_\_ ft from Project Site  
 Transect Length: \_\_\_\_\_ ft Width: 30 ft Other \_\_\_\_\_ ft Time 11:37 AM  
 Weather: Airtemp at: 5 cm \_\_\_\_\_ °C Surface \_\_\_\_\_ °C Cloud cover 5%  
 Rainfall 0 in Wind speed 20-25 Rainfall in last 30 days \_\_\_\_\_ in  
 Land Form (e.g., mesa, bajada, wash) \_\_\_\_\_  
 % Slope: high \_\_\_\_\_ low X Aspect NA Elevation 1916 ft  
 Soils sandy w/ cobbles  
 Vegetation: dominant perennials Larrea tridentata, Ambrosia dumosa  
 dominant annuals Croton, Clematis  
 Adjacent Land Use: up to 1 mi I-40, BNSF Railroad  
 Soils sandy w/ cobbles  
 Vegetation Larrea, Ambrosia

Corrected Sign	TOTAL NUMBER OF		Shelter Sites Pallet/Burrow/Den Active/Inactive <sup>1</sup>	Scats <sup>2</sup>	Shell Remains <sup>3</sup>		
	Live Tortoises Adult/Juv.				A=	J=	Unk=
	A=	J=		M=	A=	J=	Unk=
			(2)				
Tracks	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma Middens w/sign	Middens w/o sign	
					:		

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN

Tire Tracks	Human Footprints	Dog Sign	Trash Sites	Dump Sites	Shotgun/Rifle Shells	Blading	Ravens	Other

by pipeline  
 Ro's  
 plates  
 cardboard  
 plastic  
 aluminum cans

January 1992

(place a 4 X 6 photograph showing the area where the transect was conducted)

This form should be completed for those transects that contain one or more desert tortoise sign. After the project site and Zone of Influence have been surveyed for tortoise sign, the results from the transect forms should be compiled on a summary form.

If no tortoise sign occurs on the project site or Zone of Influence, the summary form should be completed. Please fill in all sections on the top 2/3 of the page of the summary form.

M/D/Y  
 Date 1/5/92  
 Transect No. 3-197 to 3-200  
 State CA *Western half*  
 County San Bernardino  
 City Banartow  
 Recorder Jeff Johnson  
 Address \_\_\_\_\_  
 Project Name \_\_\_\_\_  
 Type of Project \_\_\_\_\_  
 Quad Name \_\_\_\_\_  
 Scale \_\_\_\_\_  
 Site Name \_\_\_\_\_  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_  
 1/4 Sec \_\_\_\_\_ 1/4 Sec \_\_\_\_\_  
 UTM Zone \_\_\_\_\_  
 Northing \_\_\_\_\_  
 Easting \_\_\_\_\_  
 Parcel No. \_\_\_\_\_

DESERT TORTOISE HANDBOOK 1992:

FORM FOR PRESENCE-OR-ABSENCE AND CLEARANCE SURVEYS

Project Site | | Zone of Influence | | \_\_\_\_\_ ft from Project Site  
 Transect Length: \_\_\_\_\_ ft Width: 30 ft Other \_\_\_\_\_ ft Time 2:15 pm  
 Weather: Airtemp at: 5 cm \_\_\_\_\_ °C Surface \_\_\_\_\_ °C Cloud cover 0 %  
 Rainfall 0 in Wind speed 5-10 Rainfall in last 30 days \_\_\_\_\_ in  
 Land Form (e.g., mesa, bajada, wash) \_\_\_\_\_  
 % Slope: high \_\_\_\_\_ low 0 Aspect NA Elevation 1889 ft  
 Soils Sandy with cobbles  
 Vegetation: dominant perennials Larrea tridentata, Ambrosia dumosa

dominant annuals Gerardia stenocephala, Cryptantha sp., Melaleuca glauca

Adjacent Land Use: up to 1 mi BNSF railroad, I-40  
 Soils Sandy w/ cobbles  
 Vegetation Larrea/Ambrosia

Corrected Sign	Live Tortoises Adult/Juv.	TOTAL NUMBER OF		Scats <sup>2</sup>	Shell Remains <sup>3</sup>
		Shelter Sites Pallet/Burrow/Den Active/Inactive <sup>1</sup>			
A=	J=		<u>    </u>	M=	A= J= Unk=
Tracks	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma Middens w/sign :w/o sign
					: /

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN

Tire Tracks	Human Footprints	Dog Sign	Trash	Dump Sites	Shotgun/Rifle Shells	Blading	Ravens	Other

- plastic bottle  
- cardboard  
- plastic grocery bag

January 1992

(place a 4 X 6 photograph showing the area where the transect was conducted)

This form should be completed for those transects that contain one or more desert tortoise sign. After the project site and Zone of Influence have been surveyed for tortoise sign, the results from the transect forms should be compiled on a summary form.

If no tortoise sign occurs on the project site or Zone of Influence, the summary form should be completed. Please fill in all sections on the top 2/3 of the page of the summary form.

M/D/Y  
Date 04/05/08  
Transect No. 3-199 to 3-200  
State California  
County \_\_\_\_\_  
City \_\_\_\_\_  
Recorder JR Charpentier  
Address \_\_\_\_\_  
Project Name Solar 3  
Type of Project \_\_\_\_\_  
Desert tortoise survey  
Quad Name \_\_\_\_\_  
Scale \_\_\_\_\_  
Site Name Solar 3  
T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_  
1/4 Sec \_\_\_\_\_ 3/4 Sec \_\_\_\_\_  
UTM Zone \_\_\_\_\_  
Northing \_\_\_\_\_  
Easting \_\_\_\_\_  
Parcel No. \_\_\_\_\_

DESERT TORTOISE HANDBOOK 1992:

FORM FOR PRESENCE-OR-ABSENCE AND CLEARANCE SURVEYS

Project Site | | Zone of Influence | | \_\_\_\_\_ ft from Project Site  
Transect Length: 1600 ft : Width: ~~30 ft~~ 80 ft Other 80 ft Time 1215 WST  
Weather: Airtemp at: 5 cm 85 °F Surface \_\_\_\_\_ °C Cloud cover 0 %  
Rainfall 0 in Wind speed 8-12 Rainfall in last 30 days 0 in  
Land Form (e.g., mesa, bajada, wash) bajada/valley  
% Slope: high \_\_\_\_\_ low \_\_\_\_\_ Aspect W Elevation \_\_\_\_\_ ft  
Soils \_\_\_\_\_  
Vegetation: dominant perennials creosote bush

dominant annuals \_\_\_\_\_

Adjacent Land Use: up to 1 mi natural open space

Soils \_\_\_\_\_

Vegetation \_\_\_\_\_

Corrected Sign	Live Tortoises Adult/Juv.	TOTAL NUMBER OF		Scats <sup>2</sup>	Shell Remains <sup>3</sup>		
		Shelter Sites Pallet/Burrow/Den Active/Inactive <sup>1</sup>			A=	J=	Unk=
	A=	J=		M=	F=	Unk=	

Tracks	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma Middens w/sign	Middens w/o sign
					:	

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN

Tire Tracks	Human Footprints	Dog Sign	Trash	Dump Sites	Shotgun/Rifle Shells	Blading	Ravens	Other
	\							

January 1992

(place a 4 X 6 photograph showing the area where the transect was conducted)

This form should be completed for those transects that contain one or more desert tortoise sign. After the project site and Zone of Influence have been surveyed for tortoise sign, the results from the transect forms should be compiled on a summary form.

If no tortoise sign occurs on the project site or Zone of Influence, the summary form should be completed. Please fill in all sections on the top 2/3 of the page of the summary form.

M/D/Y  
 Date 4/15/08  
 Transect No. 3-201 to 3-204  
 State Ca  
 County San Bernardino  
 City Bartow  
 Recorder Jeff Johnson  
 Address \_\_\_\_\_  
 Project Name SES  
 Type of Project Solar power plant  
 Quad Name \_\_\_\_\_  
 Scale \_\_\_\_\_  
 Site Name \_\_\_\_\_  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_  
 1/4 Sec \_\_\_\_\_ 3/4 Sec \_\_\_\_\_  
 UTM Zone \_\_\_\_\_  
 Northing \_\_\_\_\_  
 Easting \_\_\_\_\_  
 Parcel No. \_\_\_\_\_

DESERT TORTOISE HANDBOOK 1992:

FORM FOR PRESENCE-OR-ABSENCE AND CLEARANCE SURVEYS

Project Site | | Zone of Influence | | \_\_\_\_\_ ft from Project Site  
 Transect Length: \_\_\_\_\_ ft : Width: 30 ft Other \_\_\_\_\_ ft Time \_\_\_\_\_  
 Weather: Airtemp at: 5 cm \_\_\_\_\_ °C Surface \_\_\_\_\_ °C Cloud cover 0 %  
 Rainfall 0 in Wind speed 0-5 Rainfall in last 30 days \_\_\_\_\_ in  
 Land Form (e.g., mesa, bajada, wash) boarded gravel  
 % Slope: high \_\_\_\_\_ low X Aspect NA Elevation 1921 ft  
 Soils sand with cobbles  
 Vegetation: dominant perennials Larrea tridentata  
 dominant annuals Goussia, Chenopodium stenoides

Adjacent Land Use: up to 1 mi I-40  
 Soils sand w/ cobbles  
 Vegetation Larrea/Ambrosia

Corrected Sign		TOTAL NUMBER OF		Shell Remains <sup>3</sup>	
Live Tortoises Adult/Juv.	Shelter Sites Pallet/Burrow/Den Active/Inactive <sup>1</sup>	Scats <sup>2</sup>	A=	J=	Unk=
A=	J=	M=	F=	Unk=	Unk=

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN							
Tire Tracks	Human Footprints	Dog Sign	Trash	Dump Sites	Shotgun/Rifle Shells	Blading	Ravens Other

plastic  
 gray bag  
 Aluminum can



January 1992

(place a 4 X 6 photograph showing the area where the transect was conducted)

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If no tortoise sign occurs on the project site or Zone of Influence, the summary form should be completed. Please fill in all sections on the top 2/3 of the page of the summary form.

M/D/Y  
 Date 04/05/08  
 Transect No. 3-258 to 3-257  
 State California  
 County \_\_\_\_\_  
 City \_\_\_\_\_  
 Recorder JR Charpentier  
 Address \_\_\_\_\_  
 Project Name Solar 3  
 Type of Project \_\_\_\_\_  
Desert tortoise survey  
 Quad Name \_\_\_\_\_  
 Scale \_\_\_\_\_  
 Site Name Solar 3  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_  
 1/4 Sec \_\_\_\_\_ 3/4 Sec \_\_\_\_\_  
 UTM Zone \_\_\_\_\_  
 Northing \_\_\_\_\_  
 Easting \_\_\_\_\_  
 Parcel No. \_\_\_\_\_

DESERT TORTOISE HANDBOOK 1992:

FORM FOR PRESENCE-OR-ABSENCE AND CLEARANCE SURVEYS

Project Site | | Zone of Influence | | \_\_\_\_\_ ft from Project Site  
 Transect Length: 1620 ft : Width: 30 ft ~~25 ft~~ Other \_\_\_\_\_ ft Time 1500 LOST  
 Weather: Airtemp at: 5 cm 85 °F Surface \_\_\_\_\_ °C Cloud cover 0 %  
 Rainfall 0 in Wind speed 4-7 mph Rainfall in last 30 days 0 in  
 Land Form (e.g., mesa, bajada, wash) bajada valley  
 % Slope: high \_\_\_\_\_ low \_\_\_\_\_ Aspect \_\_\_\_\_ Elevation \_\_\_\_\_ ft  
 Soils \_\_\_\_\_  
 Vegetation: dominant perennials creosote bush  
 dominant annuals \_\_\_\_\_

Adjacent Land Use: up to 1 mi natural open space, substation  
 Soils \_\_\_\_\_  
 Vegetation \_\_\_\_\_

Corrected Sign	Live Tortoises Adult/Juv.	TOTAL NUMBER OF		Scats <sup>2</sup>	Shell Remains <sup>3</sup>		
		Shelter Sites Pallet/Burrow/Den Active	Inactive <sup>1</sup>		A=	J=	Unk=
	A=	J=		M=	F=	Unk=	

Tracks	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma w/sign	Middens w/o sign
					:	

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN

Tire Tracks	Human Footprints	Dog Sign	Trash	Dump Sites	Shotgun/Rifle Shells	Blading	Ravens	Other









January 1992

w/HU

(place a 4 X 6 photograph showing the area where the transect was conducted)

This form should be completed for those transects that contain one or more desert tortoise sign. After the project site and Zone of Influence have been surveyed for tortoise sign, the results from the transect forms should be compiled on a summary form.

If no tortoise sign occurs on the project site or Zone of Influence, the summary form should be completed. Please fill in all sections on the top 2/3 of the page of the summary form.

6839

M/D/Y  
 Date 4/6/08  
 Transect No. \_\_\_\_\_  
 State CA  
 County San Bernardino  
 City Bovston  
 Recorder Gina Kinoshita  
 Address \_\_\_\_\_  
 Project Name Solar 6  
 Type of Project Phot. Solar power site  
 Quad Name \_\_\_\_\_  
 Scale \_\_\_\_\_  
 Site Name \_\_\_\_\_  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_  
 1/4 Sec \_\_\_\_\_ 1/4 Sec \_\_\_\_\_  
 UTM Zone \_\_\_\_\_  
 Northing \_\_\_\_\_  
 Easting \_\_\_\_\_  
 Parcel No. 6-547, 6-548, 6-549, 6-550

DESERT TORTOISE HANDBOOK 1992:

FORM FOR PRESENCE-OR-ABSENCE AND CLEARANCE SURVEYS

Project Site  Zone of Influence \_\_\_\_\_ ft from Project Site  
 Transect Length: \_\_\_\_\_ ft Width: 30 ft Other \_\_\_\_\_ ft Time 13:00  
 Weather: Airtemp at: 5 cm 79.1 °F Surface 82.0 °F Cloud cover 5 %  
 Rainfall 0 in Wind speed 5-7 mph Rainfall in last 30 days \_\_\_\_\_ in  
 Land Form (e.g., mesa, bajada, wash) rolling hills  
 % Slope: high x low \_\_\_\_\_ Aspect 9 facing Elevation 2419 ft  
 Soils Gandy w/ pebbles  
 Vegetation: dominant perennials Lawsonia tridentata, Krameria, Ambrosia dumosa

80 a 205

dominant annuals Argemone, Hirschfeldia incana, Schismus

Adjacent Land Use: up to 1 mi radio tower, underground pipelines, freeway  
 Soils same  
 Vegetation same

Corrected Sign	Live Tortoises Adult/Juv.	TOTAL NUMBER OF		Scats <sup>2</sup>	Shell Remains <sup>3</sup>
		Shelter Sites Pallet/Burrow/Den Active/Inactive <sup>1</sup>			
A=	J=			M=	A=    J= Unk=

Tracks	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma Middens w/sign	Middens w/o sign
					:	

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN

Tire Tracks	Human Footprints	Dog Sign	Trash	Dump Sites	Shotgun/Rifle Shells	Blading	Ravens	Other

HC nest in this quad

January 1992

(place a 4 X 6 photograph showing the area where the transect was conducted)

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If no tortoise sign occurs on the project site or Zone of Influence, the summary form should be completed. Please fill in all sections on the top 2/3 of the page of the summary form.

Date M/D/Y 4/6/08  
 Transect No. \_\_\_\_\_  
 State NV  
 County \_\_\_\_\_  
 City \_\_\_\_\_  
 Recorder KAC  
 Address \_\_\_\_\_  
 Project Name Solar 6  
 Type of Project Desert Tortoise Survey  
 Quad Name \_\_\_\_\_  
 Scale \_\_\_\_\_  
 Site Name \_\_\_\_\_  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_  
 1/4 Sec \_\_\_\_\_ 3/4 Sec \_\_\_\_\_  
 UTM Zone \_\_\_\_\_  
 Northing \_\_\_\_\_  
 Easting \_\_\_\_\_  
 Parcel No. 6-397,398,399,400

DESERT TORTOISE HANDBOOK 1992:

FORM FOR PRESENCE-OR-ABSENCE AND CLEARANCE SURVEYS

Project Site | | Zone of Influence | | \_\_\_\_\_ ft from Project Site  
 Transect Length: \_\_\_\_\_ ft : Width: 30 ft Other \_\_\_\_\_ ft Time \_\_\_\_\_  
 Weather: Airtemp at: 5 cm \_\_\_\_\_ °C Surface \_\_\_\_\_ °C Cloud cover 0 %  
 Rainfall None Wind speed 15-25 Rainfall in last 30 days \_\_\_\_\_ in  
 Land Form (e.g., mesa, bajada, wash) \_\_\_\_\_  
 % Slope: high \_\_\_\_\_ low \_\_\_\_\_ Aspect \_\_\_\_\_ Elevation \_\_\_\_\_ ft  
 Soils \_\_\_\_\_  
 Vegetation: dominant perennials Croton, desert dandelion  
 dominant annuals \_\_\_\_\_

Adjacent Land Use: up to 1 mi Railroad power transmission lines  
 Soils Sandy small to medium boulders  
 Vegetation \_\_\_\_\_

Corrected Sign	Live Tortoises		TOTAL NUMBER OF Shelter Sites		Scats <sup>2</sup>	Shell Remains <sup>3</sup>		
	Adult	Juv.	Pallet/Burrow/Den	Active/Inactive <sup>1</sup>		A=	J=	Unk=
<u>Tracks</u>					<u>4</u>			
	A=	J=			M=	F=	Unk=	
Tracks	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma w/sign	Middens w/o sign		
<u>Burrow</u>								

① 250mm x 150mm x 1/4" tol  
 0558287 / 3850920  
 Photo # 300  
 W  
 ② 250mm x 150 x 1/4"  
 002  
 0558261 / 3850894  
 Photo # 299  
 3 scats  
 Tracks in burrow  
 ③ 203  
 0558189 / 3850806  
 L  
 230mm x 170mm  
 Photo 303  
 4 scats inside  
 1 outside

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN

Tire Tracks	Human Footprints	Dog Sign	Trash	Dump Sites	Shotgun/Rifle Shells	Blading	Ravens	Other
<u>0</u>	<u>6</u>	<u>0</u>	<u>CONC</u>	<u>2</u>	<u>0</u>			

Inactive Tortoise  
11

See reverse

January 1992

(place a 4 X 6 photograph showing the area where the transect was conducted)

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If no tortoise sign occurs on the project site or Zone of Influence, the summary form should be completed. Please fill in all sections on the top 2/3 of the page of the summary form.

M/D/Y  
 Date 04/06/08  
 Transect No. 6-409 to 6-412  
 State 6-373-6-376  
 County \_\_\_\_\_  
 City \_\_\_\_\_  
 Recorder JP Charpentier  
 Address \_\_\_\_\_  
 Project Name Solar 6  
 Type of Project Desert tortoise survey  
 Quad Name \_\_\_\_\_  
 Scale \_\_\_\_\_  
 Site Name \_\_\_\_\_  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_  
 1/4 Sec \_\_\_\_\_ 1/4 Sec \_\_\_\_\_  
 UTM Zone \_\_\_\_\_  
 Northing \_\_\_\_\_  
 Easting \_\_\_\_\_  
 Parcel No. \_\_\_\_\_

DESERT TORTOISE HANDBOOK 1992:

FORM FOR PRESENCE-OR-ABSENCE AND CLEARANCE SURVEYS

Project Site | | Zone of Influence | | \_\_\_\_\_ ft from Project Site  
 Transect Length: 1620 ft : Width: ~~30 ft~~ 304 Other \_\_\_\_\_ ft Time 0948-1051  
 Weather: Airtemp at: 5 cm 85°F Surface \_\_\_\_\_ °C Cloud cover 0 %  
 Rainfall 0 in Wind speed 9-12 mph Rainfall in last 30 days 0 in  
 Land Form (e.g., mesa, bajada, wash) bajada valley  
 % Slope: high \_\_\_\_\_ low \_\_\_\_\_ Aspect \_\_\_\_\_ Elevation \_\_\_\_\_ ft  
 Soils \_\_\_\_\_  
 Vegetation: dominant perennials Cresote bush  
 dominant annuals \_\_\_\_\_

Adjacent Land Use: up to 1 mi Interstate 40, underground gas line, electrical transmission line, railroad  
 Soils \_\_\_\_\_  
 Vegetation \_\_\_\_\_

Corrected Sign	Live Tortoises Adult/Juv.	TOTAL NUMBER OF		Scats <sup>2</sup>	Shell Remains <sup>3</sup>		
		Shelter Sites Pallet/Burrow/Den Active/Inactive <sup>1</sup>			A=	J=	Unk=
			<u>111</u>				
				M=	F=		Unk=

Tracks	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma Middens w/sign	Middens w/o sign

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN

Tire Tracks	Human Footprints	Dog Sign	Trash	Dump Sites	Shotgun/Rifle Shells	Blading	Ravens	Other
	<u>11</u>		<u>111</u>	<u>11</u>				

January 1992

(place a 4 X 6 photograph showing the area where the transect was conducted)



This form should be completed for those transects that contain one or more desert tortoise sign. After the project site and Zone of Influence have been surveyed for tortoise sign, the results from the transect forms should be compiled on a summary form.

If no tortoise sign occurs on the project site or Zone of Influence, the summary form should be completed. Please fill in all sections on the top 2/3 of the page of the summary form.

Date 4/6/08  
 Transect No. W of 6-477 to 6-480  
 State CA  
 County San Bernardino  
 City Barstow  
 Recorder Jeff Johnson  
 Address \_\_\_\_\_  
 Project Name SES  
 Type of Project Solar power  
 Quad Name \_\_\_\_\_  
 Scale \_\_\_\_\_  
 Site Name \_\_\_\_\_  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_  
 1/4 Sec \_\_\_\_\_ 3/4 Sec \_\_\_\_\_  
 UTM Zone \_\_\_\_\_  
 Northing \_\_\_\_\_  
 Easting \_\_\_\_\_  
 Parcel No. \_\_\_\_\_

DESERT TORTOISE HANDBOOK 1992:

FORM FOR PRESENCE-OR-ABSENCE AND CLEARANCE SURVEYS

Project Site | | Zone of Influence | | \_\_\_\_\_ ft from Project Site  
 Transect Length: \_\_\_\_\_ ft : Width: 30 ft Other \_\_\_\_\_ ft Time 12:10 pm  
 Weather: Airtemp at: 5 cm \_\_\_\_\_ °C Surface \_\_\_\_\_ °C Cloud cover 0 %  
 Rainfall 0 in Wind speed W 25 Rainfall in last 30 days \_\_\_\_\_ in  
 Land Form (e.g., mesa, bajada, wash) Flat  
 % Slope: high \_\_\_\_\_ low X Aspect NA Elevation 2222 ft  
 Soils Sandy w/ cobbles  
 Vegetation: dominant perennials Larrea tridentata, Ambrasia dumosa

dominant annuals Malacothrix glabrata, Schismus arabicus, Chenopodium Steuderi

Adjacent Land Use: up to 1 mi I-40, BNSF railroad  
 Soils Sandy w/ cobbles  
 Vegetation Larrea / Ambrasia

Corrected Sign	Live Tortoises Adult/Juv.	TOTAL NUMBER OF		Scats <sup>2</sup>	Shell Remains <sup>3</sup>	
		Shelter Sites Pallet/Burrow/Den Active/Inactive <sup>1</sup>				
	A=	J=		M=	F=	Unk=

Tracks	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma Middens w/sign	Middens w/o sign

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN

Tire Tracks	Human Footprints	Dog Sign	Trash	Dump Sites	Shotgun/Rifle Shells	Blading	Ravens	Other

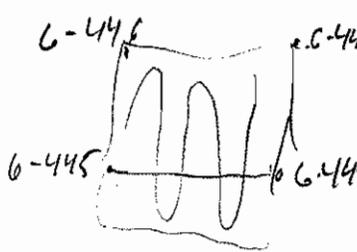
*Handwritten notes:* #1000 grocery bags, beer cans, bottles

January 1992

(place a 4 X 6 photograph showing the area where the transect was conducted)

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If no tortoise sign occurs on the project site or Zone of Influence, the summary form should be completed. Please fill in all sections on the top 2/3 of the page of the summary form.



M/D/Y  
 Date 4/6/08  
 Transect No. conting 6-445 to 6-448  
 State CA  
 County San Bernardino  
 City Burden  
 Recorder Jeff Johnson  
 Address \_\_\_\_\_  
 Project Name SES  
 Type of Project \_\_\_\_\_  
Solar Power  
 Quad Name \_\_\_\_\_  
 Scale \_\_\_\_\_  
 Site Name \_\_\_\_\_  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_  
 1/4 Sec \_\_\_\_\_ 3/4 Sec \_\_\_\_\_  
 UTM Zone \_\_\_\_\_  
 Northing \_\_\_\_\_  
 Easting \_\_\_\_\_  
 Parcel No. \_\_\_\_\_

DESERT TORTOISE HANDBOOK 1992:

FORM FOR PRESENCE-OR-ABSENCE AND CLEARANCE SURVEYS

Project Site | | Zone of Influence | | \_\_\_\_\_ ft from Project Site

Transect Length: \_\_\_\_\_ ft : Width: 30 ft Other \_\_\_\_\_ ft Time 9:30 am

Weather: Airtemp at: 5 cm \_\_\_\_\_ °C Surface \_\_\_\_\_ °C Cloud cover 0 %

Rainfall 0 in Wind speed 10-15 Rainfall in last 30 days \_\_\_\_\_ in

Land Form (e.g., mesa, bajada, wash) Flat

% Slope: high \_\_\_\_\_ low X Aspect NA Elevation 2258 ft

Soils Sandy w/ cobbles

Vegetation: dominant perennials Larrea tridentata / Pleurophis rigida

dominant annuals Mentzelia albicaulis / Amaranthus teresata  
Malacotheca glabrata

Adjacent Land Use: up to 1 mi Formerly grazed

Soils Sandy w/ cobbles

Vegetation Larrea / pleurophus

Corrected Sign	Live Tortoises Adult/Juv.	TOTAL NUMBER OF		Scats <sup>2</sup>	Shell Remains <sup>3</sup>
		Shelter Sites Pallet/Burrow/Den Active/Inactive <sup>1</sup>			
A=	J=	<u>NA</u>		M=	J= Unk=

Tracks	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma Middens w/sign	Middens w/o sign
					:	

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN

Tire Tracks	Human Footprints	Dog Sign	Trash	Dump Sites	Shotgun/Rifle Shells	Blading	Ravens	Other

Steel cables  
Mylar  
batteries  
plastic pail  
bag

January 1992

(place a 4 X 6 photograph showing the area where the transect was conducted)

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If no tortoise sign occurs on the project site or Zone of Influence, the summary form should be completed. Please fill in all sections on the top 2/3 of the page of the summary form.

M/D/Y  
 Date 4/6  
 Transect No. \_\_\_\_\_  
 State NV  
 County \_\_\_\_\_  
 City \_\_\_\_\_  
 Recorder Karen  
 Address \_\_\_\_\_  
 Project Name Sibula  
 Type of Project Desert Tortoise Survey  
 Quad Name \_\_\_\_\_  
 Scale \_\_\_\_\_  
 Site Name \_\_\_\_\_  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_  
 1/4 Sec \_\_\_\_\_ 1/4 Sec \_\_\_\_\_  
 UTM Zone \_\_\_\_\_  
 Northing \_\_\_\_\_  
 Easting \_\_\_\_\_  
 Parcel No. 10-369, 370, 371, 372

DESERT TORTOISE HANDBOOK 1992:

FORM FOR PRESENCE-OR-ABSENCE AND CLEARANCE SURVEYS

Project Site | | Zone of Influence | | \_\_\_\_\_ ft from Project Site  
 Transect Length: \_\_\_\_\_ ft : Width: 30 ft Other \_\_\_\_\_ ft Time \_\_\_\_\_  
 Weather: Airtemp at: 5 cm \_\_\_\_\_ °C Surface \_\_\_\_\_ °C Cloud cover 0 %  
 Rainfall 0 in Wind speed 15-16 Rainfall in last 30 days \_\_\_\_\_ in  
 Land Form (e.g., mesa, bajada, wash) \_\_\_\_\_  
 % Slope: high \_\_\_\_\_ low \_\_\_\_\_ Aspect \_\_\_\_\_ Elevation \_\_\_\_\_ ft  
 Soils Sandy small to med cobbles  
 Vegetation: dominant perennials Croton  
 dominant annuals \_\_\_\_\_

*Black Tail Jack Rabbit*

Adjacent Land Use: up to 1 mi Railroad, power transmission lines  
 Soils \_\_\_\_\_  
 Vegetation \_\_\_\_\_

Corrected Sign	Live Tortoises Adult/Juv.	TOTAL NUMBER OF		Scats <sup>2</sup>	Shell Remains <sup>3</sup>			
		Shelter Sites Pallet/Burrow/Den Active/Inactive <sup>1</sup>						
A=	J=			M=	F=	A=	J=	Unk=

*ACTIVE  
 Packer  
 Burrow  
 III III  
 III II*

Tracks	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma Middens w/sign	Middens :w/o sign
0	0					

*Fox Burrows  
 Burrow complexes  
 III*

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN

Tire Tracks	Human Footprints	Dog Sign	Trash	Dump Sites	Shotgun/Rifle Shells	Blading	Ravens	Other
0	0	0	CRS	0	0			

*Tortoise Burrows*

January 1992

(place a 4 X 6 photograph showing the area where the transect was conducted)

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If no tortoise sign occurs on the project site or Zone of Influence, the summary form should be completed. Please fill in all sections on the top 2/3 of the page of the summary form.

M/D/Y  
 Date 4/15/08  
 Transect No. \_\_\_\_\_  
 State CA  
 County San Bernardino  
 City Burton  
 Recorder \_\_\_\_\_  
 Address \_\_\_\_\_  
 Project Name Solar 1  
 Type of Project \_\_\_\_\_  
 Quad Name \_\_\_\_\_  
 Scale \_\_\_\_\_  
 Site Name \_\_\_\_\_  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_  
 1/4 Sec \_\_\_\_\_ 3/4 Sec \_\_\_\_\_  
 UTM Zone \_\_\_\_\_  
 Northing \_\_\_\_\_  
 Easting \_\_\_\_\_  
 Parcel No. 1-1, 1-2, 1-3, 1-4

*w/ Chris Fine Stone  
 + Rafael Avila*

DESERT TORTOISE HANDBOOK 1992:

FORM FOR PRESENCE-OR-ABSENCE AND CLEARANCE SURVEYS

Project Site  Zone of Influence \_\_\_\_\_ ft from Project Site  
 Transect Length: 1900 ft : Width: 30 ft Other \_\_\_\_\_ ft Time 10:00am  
 Weather: Airtemp at: 5 cm 69.7 °F Surface 69.7 °F Cloud cover 50 %  
 Rainfall 0 in Wind speed 15-25 mph Rainfall in last 30 days \_\_\_\_\_ in  
 Land Form (e.g., mesa, bajada, wash)  
 % Slope: high \_\_\_\_\_ low  Aspect S facing Elevation 2019 ft  
 Soils Gandy w/ rocks  
 Vegetation: dominant perennials Larrea tridentata, Ambrosia dumosa  
 dominant annuals Sida sp., Chacnactis

Adjacent Land Use: up to 1 mi roads, mac (3)  
 Soils same  
 Vegetation same

Corrected Sign	Live Tortoises Adult/Juv.	TOTAL NUMBER OF		Scats <sup>2</sup>	Shell Remains <sup>3</sup>		
		Shelter Sites Pallet/Burrow/Den Active/Inactive <sup>1</sup>			A=	J=	Unk=

Tracks	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma Middens w/sign	Middens w/o sign
						<u>none</u>

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN

Tire Tracks	Human Footprints	Dog Sign	Trash Sites	Dump Sites	Shotgun/Rifle Shells	Blading	Ravens	Other
<u>Y</u>	<u>N</u>	<u>N</u>	<u>N</u>	<u>N</u>	<u>N</u>	<u>N</u>	<u>N</u>	

noting horned larks ~ 4 pairs



January 1992

(place a 4 X 6 photograph showing the area where the transect was conducted)

Date 4/15/05  
 Transect No. \_\_\_\_\_  
 State CA  
 County SAN BENITO  
 City DUKSTO  
 Recorder Denise Tu  
 Address \_\_\_\_\_  
 Project Name \_\_\_\_\_  
 Type of Project Solar  
 Quad Name \_\_\_\_\_  
 Scale \_\_\_\_\_  
 Site Name \_\_\_\_\_  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_  
 1/4 Sec \_\_\_\_\_ 3/4 Sec \_\_\_\_\_  
 UTM Zone \_\_\_\_\_  
 Northing \_\_\_\_\_  
 Easting \_\_\_\_\_  
 Parcel No. 193, 94, 95, 96

This form should be completed for those transects that contain one or more desert tortoise sign. After the project site and Zone of Influence have been surveyed for tortoise sign, the results from the transect forms should be compiled on a summary form.

If no tortoise sign occurs on the project site or Zone of Influence, the summary form should be completed. Please fill in all sections on the top 2/3 of the page of the summary form.

Note:  
 no pics for burrows  
 shell remains - pics need to be taken.

DESERT TORTOISE HANDBOOK 1992:

FORM FOR PRESENCE-OR-ABSENCE AND CLEARANCE SURVEYS

Project Site  Zone of Influence | | \_\_\_\_\_ ft from Project Site  
 Transect Length: \_\_\_\_\_ ft Width: 30 ft Other \_\_\_\_\_ ft Time 11:57  
 Weather: Airtemp at: 5 cm \_\_\_\_\_ °C Surface \_\_\_\_\_ °C Cloud cover \_\_\_\_\_ %  
 Rainfall 0 in Wind speed 30 Rainfall in last 30 days \_\_\_\_\_ in  
 Land Form (e.g., mesa, bajada, wash) \_\_\_\_\_  
 % Slope: high \_\_\_\_\_ low  Aspect \_\_\_\_\_ Elevation \_\_\_\_\_ ft  
 Soils \_\_\_\_\_

Vegetation: dominant perennials \_\_\_\_\_  
 dominant annuals Crotalaria, ANOU, Cassia armata, HYSA, Ephedra sp., Schizanthus  
desert dandelion

Adjacent Land Use: up to 1 mi \_\_\_\_\_  
 Soils sandy loam  
 Vegetation \_\_\_\_\_

w/ Perry Wood, Denise Tu  
 Tim

Male Remains  
 MCL: 235 mm  
 WP91  
 0548805  
 3857133  
 sub adult  
 < 1 yr TSD

Corrected Sign	Live Tortoises Adult/Juv.	TOTAL NUMBER OF		2. Fresh scat Scats <sup>2</sup> Shell Remains <sup>3</sup>	1 - this yrs stand alone	1. WP 87 0548932 3856865	Male Remains MCL: 235 mm Adult size 201 < 1 yr TSD
		Shelter Sites Pallet/Burrow/Den Active/Inactive <sup>1</sup>	Scats <sup>2</sup> Shell Remains <sup>3</sup>				
	A = 1. Male 2. Live	1. Active 2. Active	2. Inactive scat, track inside 2 scat outside	A = J = Unk = M = F = Unk =	4 Active B3. Active B	7. Active	1. Active burrow WP88 0548911E 1 scat inside 3857298N 2. Active burrow WP 89 0548926 3857302
Tracks	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma w/sign	Middens :w/o sign	

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN

Tire Tracks	Human Footprints	Dog Sign	Trash	Dump Sites	Shotgun/Rifle Shells	Blading	Ravens	Other

4. Active burrow 3 scat, tracks inside WP. 092 0548941 3856923  
 5. Active burrow tracks inside WP 093 0548758 3857027  
 6. Active burrow scat inside WP 094 0548708 3857017  
 7 on back  
 LIVE  
 1. WP90 0548898 3857156 adult size 2 Male?

January 1992

(place a 4 X 6 photograph showing the area where the transect was conducted)

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If no tortoise sign occurs on the project site or Zone of Influence, the summary form should be completed. Please fill in all sections on the top 2/3 of the page of the summary form.



Date 4/16/08  
 Transect No. \_\_\_\_\_  
 State CA  
 County SAN BERNARDINO  
 City \_\_\_\_\_  
 Recorder \_\_\_\_\_  
 Address \_\_\_\_\_  
 Project Name \_\_\_\_\_  
 Type of Project \_\_\_\_\_  
 Quad Name \_\_\_\_\_  
 Scale \_\_\_\_\_  
 Site Name \_\_\_\_\_  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_  
 1/4 Sec \_\_\_\_\_ 1/4 Sec \_\_\_\_\_  
 UTM Zone \_\_\_\_\_  
 Northing \_\_\_\_\_  
 Easting \_\_\_\_\_  
 Parcel No. 1-125, 126, 127, 128

DESERT TORTOISE HANDBOOK 1992:

FORM FOR PRESENCE-OR-ABSENCE AND CLEARANCE SURVEYS

w/ Perry Wood, Denise Tu Jim

Project Site X Zone of Influence | | \_\_\_\_\_ ft from Project Site  
 Transect Length: 1900 ft : Width: 40 ft Other \_\_\_\_\_ ft Time 9:00 AM  
 Weather: Airtemp at: 5 cm \_\_\_\_\_ °C Surface \_\_\_\_\_ °C Cloud cover \_\_\_\_\_ %  
 Rainfall 0 in Wind speed 130 Rainfall in last 30 days \_\_\_\_\_ in

Land Form (e.g., mesa, bajada, wash) \_\_\_\_\_  
 % Slope: high \_\_\_\_\_ low X Aspect \_\_\_\_\_ Elevation \_\_\_\_\_ ft  
 Soils \_\_\_\_\_

Vegetation: dominant perennials \_\_\_\_\_  
creosote, AMDU, Cassia armata, HUSA, Ephedra spp.  
 dominant annuals Cryptantha spp., Pectocarya spp., Schismus  
desert dandelion

Adjacent Land Use: up to 1 mi \_\_\_\_\_  
 Soils sandy loam  
 Vegetation \_\_\_\_\_

Corrected Sign	Live Tortoises Adult/Juv.	TOTAL NUMBER OF		Scats <sup>2</sup>	Shell Remains <sup>3</sup>	Carcass
		Shelter Sites Pallet/Burrow/Den Active/Inactive <sup>1</sup>				
	A= J=	I:	A: *	M=	F=	Unk=
			Scat =			1. bone fragments > 4 TSC WP 084; 0549623 E (Denise) 3856055N

Tracks	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma w/sign	Middens :w/o sign
					:	

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN							
Tire Tracks	Human Footprints	Dog Sign	Trash	Dump Sites	Shotgun/Rifle Shells	Blading	Ravens Other

Active burrow  
 1. With 4 scat WP 85 0549639 E 3856094 N  
 2. w 1 scat WP 080 0549561 3856012



January 1992

(place a 4 X 6 photograph showing the area where the transect was conducted)

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0127

Date 4/16/08 M/D/Y  
 Transect No. \_\_\_\_\_  
 State CA  
 County San Bernardino  
 City Ludlow  
 Recorder Glen Kinoshita  
 Address \_\_\_\_\_  
 Project Name Solar 6  
 Type of Project sol. solar power etc  
 Quad Name \_\_\_\_\_  
 Scale \_\_\_\_\_  
 Site Name \_\_\_\_\_  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_  
 1/4 Sec \_\_\_\_\_ 3/4 Sec \_\_\_\_\_  
 UTM Zone \_\_\_\_\_  
 Northing \_\_\_\_\_  
 Easting \_\_\_\_\_  
 Parcel No. 6533, 534, 535, 536  
w/kinoshita

DESERT TORTOISE HANDBOOK 1992:

FORM FOR PRESENCE-OR-ABSENCE AND CLEARANCE SURVEYS

Project Site  Zone of Influence | | \_\_\_\_\_ ft from Project Site  
 Transect Length: 1900 ft Width: 80 ft Other \_\_\_\_\_ ft Time 12:45 pm  
 Weather: Airtemp at: 5 cm 94.7 °F Surface 99.2 °F Cloud cover 10 %  
 Rainfall 0 in Wind speed 11-14 mph Rainfall in last 30 days \_\_\_\_\_ in  
 Land Form (e.g., mesa, bajada, wash) bajada  
 % Slope: high \_\_\_\_\_ low x Aspect S facing Elevation 2510 ft  
 Soils sandy loam w/ rocks  
 Vegetation: dominant perennials Larrea tridentata, Ambrosia dumosa  
 dominant annuals Ambrosia, Plantago, Schizanthus

Adjacent Land Use: up to 1 mi radio tower, transmission lines, underground pipeline  
 Soils same  
 Vegetation same

Corrected Sign	Live Tortoises Adult/Juv.	TOTAL NUMBER OF		Scats <sup>2</sup>	Shell Remains <sup>3</sup>
		Shelter Sites Pallet/Burrow/Den Active/Inactive <sup>1</sup>			
A=	J=			M=	A=    J= Unk=

Tracks	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma Middens w/sign	Middens w/o sign
					:	:

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN							
Tire Tracks	Human Footprints	Dog Sign	Trash	Dump Sites	Shotgun/Rifle Shells	Blading	Ravens Other

TORT 1 562294 3847001 ~ 17" MCL 0131 in burrow  
 TORT 2 562275 3847110 ca burrow 0135







January 1992

(place a 4 X 6 photograph showing the area where the transect was conducted)

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If no tortoise sign occurs on the project site or Zone of Influence, the summary form should be completed. Please fill in all sections on the top 2/3 of the page of the summary form.

0104

M/D/Y  
 Date 4/17/00  
 Transect No. \_\_\_\_\_  
 State CA  
 County San Bernardino  
 City Ludlow  
 Recorder Alan Kinoshita  
 Address \_\_\_\_\_  
 Project Name Solar 6  
 Type of Project Phot. solar power site  
 Quad Name \_\_\_\_\_  
 Scale \_\_\_\_\_  
 Site Name \_\_\_\_\_  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_  
 1/4 Sec \_\_\_\_\_ 3/4 Sec \_\_\_\_\_  
 UTM Zone \_\_\_\_\_  
 Northing \_\_\_\_\_  
 Easting \_\_\_\_\_  
 Parcel No. 6-969,566,567,568

\* only 2 passes west + south sides along base of mtn.

DESERT TORTOISE HANDBOOK 1992:  
FORM FOR PRESENCE-OR-ABSENCE AND CLEARANCE SURVEYS

Project Site X | Zone of Influence | | \_\_\_\_\_ ft from Project Site  
 Transect Length: 1900 ft : Width: 30 ft Other \_\_\_\_\_ ft Time 09:00  
 Weather: Airtemp at: 5 cm 70.9 °F Surface 72.2 °F Cloud cover 0 %  
 Rainfall 0 in Wind speed 2-4 mph Rainfall in last 30 days \_\_\_\_\_ in  
 Land Form (e.g., mesa, bajada, wash) side of mountain  
 % Slope: high X low \_\_\_\_\_ Aspect S-facing Elevation 2607 ft  
 Soils sandy loam (base), volcanic rock (mountain)  
 Vegetation: dominant perennials Larrea tridentata  
 dominant annuals Ambrosia, Plantago, salsimas

Adjacent Land Use: up to 1 mi underground pipeline, transmission line  
 Soils sandy loam w/ rocks  
 Vegetation same

Corrected Sign	Live Tortoises Adult/Juv.	TOTAL NUMBER OF		Scats <sup>2</sup>	Shell Remains <sup>3</sup>
		Shelter Sites Pallet/Burrow/Den Active/Inactive <sup>1</sup>			
A=	J=			M=	A= J= Unk=

Tracks	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma Middens w/sign	Middens :w/o sign
					:	

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN

Tire Tracks	Human Footprints	Dog Sign	Trash	Dump Sites	Shotgun/Rifle Shells	Blading	Ravens	Other

w/ Denise Tu, Rachel Avila





6-429-6-433

January 1992

(place a 4 X 6 photograph showing the area where the transect was conducted)

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If no tortoise sign occurs on the project site or Zone of Influence, the summary form should be completed. Please fill in all sections on the top 2/3 of the page of the summary form.

M/D/Y  
Date 4/17/08  
Transect No.  
State CA  
County San Bernardino  
City Barstow  
Recorder BB  
Address  
Project Name Solar 6  
Type of Project presence/absence  
Quad Name  
Scale  
Site Name  
T R Sec  
1/4 Sec 1/4 Sec  
UTM Zone  
Northing  
Easting  
Parcel No.

w/ Peggy Wood

DESERT TORTOISE HANDBOOK 1992:

FORM FOR PRESENCE-OR-ABSENCE AND CLEARANCE SURVEYS

Project Site |X| Zone of Influence | | ft from Project Site  
Transect Length: 1700 ft Width: 30 ft Other ft Time 0955  
Weather: Airtemp at: 5 cm °C Surface °C Cloud cover 0 %  
Rainfall 0 in Wind speed Rainfall in last 30 days 0 in  
Land Form (e.g., mesa, bajada, wash)  
Slope: high low ✓ Aspect Elevation 2384 ft  
Soils sandy loam, sandy gravel & cobble  
Vegetation: dominant perennials LATR, AMDU, ENFR, Pencil cholla, Beavertail  
HYSA (cheese bush)  
dominant annuals Pectocarya spp., Lepidium, Amisimkia, Chaenactis  
Phacelia spp.  
Adjacent Land Use: up to 1 mi  
Soils sandy loam, gravel & cobble  
Vegetation

Corrected Sign	Live Tortoises Adult/Juv.	TOTAL NUMBER OF		Scats <sup>2</sup>	Shell Remains <sup>3</sup>	
		Shelter Sites Pallet/Burrow/Den Active/Inactive <sup>1</sup>				
A=	J=	1 (inactive) / (active)			A= J= Unk=	
Tracks	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma Middens w/sign :w/o sign	
					:	
SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN						
Tire Tracks	Human Footprints	Dog Sign	Trash	Dump Sites	Shotgun/Rifle Shells	Blading Ravens Other

#1 WP 002 (BB) 2 fresh scat (cat.) UTM-0559539 3852149  
#2 WP 003 (BB) 0559509 3852038 2 fresh scat cat. 1  
#3 WP 004 (BB) 0559383 3851929 2 fresh juv. scat

January 1992

(place a 4 X 6 photograph showing the area where the transect was conducted)

This form should be completed for those transects that contain one or more desert tortoise sign. After the project site and Zone of Influence have been surveyed for tortoise sign, the results from the transect forms should be compiled on a summary form.

If no tortoise sign occurs on the project site or Zone of Influence, the summary form should be completed. Please fill in all sections on the top 2/3 of the page of the summary form.

M/D/Y  
 Date 4/17/08  
 Transect No. 40-433, 434, 435, 436  
 State CA  
 County San Bernardino  
 City Barstow  
 Recorder BB  
 Address \_\_\_\_\_  
 Project Name S0147 6  
 Type of Project presence/absence  
 Quad Name \_\_\_\_\_  
 Scale \_\_\_\_\_  
 Site Name \_\_\_\_\_  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_  
 1/4 Sec \_\_\_\_\_ 3/4 Sec \_\_\_\_\_  
 UTM Zone \_\_\_\_\_  
 Northing \_\_\_\_\_  
 Easting \_\_\_\_\_  
 Parcel No. \_\_\_\_\_

\* Eastern  
 200m  
 not completed  
 - 4/18/08 8:42

DESERT TORTOISE HANDBOOK 1992

FORM FOR PRESENCE-OR-ABSENCE AND CLEARANCE SURVEYS

Project Site | | Zone of Influence | | \_\_\_\_\_ ft from Project Site  
 Transect Length: \_\_\_\_\_ ft Width: 30 ft Other \_\_\_\_\_ ft Time 1430  
 Weather: Airtemp at: 5 cm \_\_\_\_\_ °C Surface \_\_\_\_\_ °C Cloud cover \_\_\_\_\_ %  
 Rainfall \_\_\_\_\_ in Wind speed \_\_\_\_\_ Rainfall in last 30 days \_\_\_\_\_ in  
 Land Form (e.g., mesa, bajada, wash) \_\_\_\_\_  
 % Slope: high \_\_\_\_\_ low \_\_\_\_\_ Aspect \_\_\_\_\_ Elevation \_\_\_\_\_ ft  
 Soils sandy loam  
 Vegetation: Dominant perennials LAGR, AMDU (Ambrosia dumosa)  
 dominant annuals SZH ISMUS spp., cryptantha spp.

Adjacent Land Use: up to 1 mi \_\_\_\_\_  
 Soils \_\_\_\_\_  
 Vegetation \_\_\_\_\_

Corrected Sign	Live Tortoises Adult/Juv.	TOTAL NUMBER OF		Scats <sup>2</sup>	Shell Remains <sup>3</sup>
		Shelter Sites Pallet/Burrow/Den Active/Inactive <sup>1</sup>			
	A= J=	active inactive		M= F=	A= J= Unk=

inactive burrow - has scat inside

Tracks	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma Middens w/sign	Middens :w/o sign
					:	

active burrow WP 005 (BB) dozen pieces of scat in/out

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN							
Tire Tracks	Human Footprints	Dog Sign	Trash	Dump Sites	Shotgun/Rifle Shells	Blading	Ravens Other

0559442  
 3850682  
 active burrow 2 WP 006 (BB)  
 0559496  
 3851022  
 fresh tracks inside



January 1992

(place a 4 X 6 photograph showing the area where the transect was conducted)

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0115

M/D/Y  
 Date 4/12/08  
 Transect No. \_\_\_\_\_  
 State CH  
 County Santa Bernardino  
 City Ludlow  
 Recorder Glen Kinoshita  
 Address \_\_\_\_\_  
 Project Name Solar 6  
 Type of Project Hot solar panel site  
 Quad Name \_\_\_\_\_  
 Scale \_\_\_\_\_  
 Site Name \_\_\_\_\_  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_  
 1/4 Sec \_\_\_\_\_ 3/4 Sec \_\_\_\_\_  
 UTM Zone \_\_\_\_\_  
 Northing \_\_\_\_\_  
 Easting \_\_\_\_\_  
 Parcel No. 6-509-510, 511, 512  
w/ Denise Th

DESERT TORTOISE HANDBOOK 1992:

FORM FOR PRESENCE-OR-ABSENCE AND CLEARANCE SURVEYS

Project Site X | Zone of Influence | \_\_\_\_\_ ft from Project Site  
 Transect Length: 1900 ft : Width: 30 ft Other \_\_\_\_\_ ft Time 9:17am  
 Weather: Airtemp at: 5 cm 74.5 °F Surface 78.8 °F Cloud cover 0 %  
 Rainfall 0 in Wind speed 5 mph Rainfall in last 30 days \_\_\_\_\_ in  
 Land Form (e.g., mesa, bajada, wash) bajada  
 % Slope: high \_\_\_\_\_ low X Aspect S-facing Elevation 2396 ft  
 Soils Sandy loam w/ rocks  
 Vegetation: dominant perennials Larrea tridentata, Quercus, Atriplex, desert  
 dominant annuals Schismus, Plantago

Adjacent Land Use: up to 1 mi radio tower, water ground pipeline, transmission line  
 Soils Same  
 Vegetation Same

Corrected Sign	TOTAL NUMBER OF		Scats <sup>2</sup>	Shell Remains <sup>3</sup>	
	Live Tortoises Adult/Juv.	Shelter Sites Pallet/Burrow/Den Active/Inactive <sup>1</sup>		A=	J=
	A=	J=	M=	F=	Unk=

Tracks	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma Middens w/sign	Middens w/o sign
N	N	N	N			None

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN

Tire Tracks	Human Footprints	Dog Sign	Trash	Dump Sites	Shotgun/Rifle Shells	Blading	Ravens	Other
N	Y	Y	N	N	N	N	N	N



January 1992

(place a 4 X 6 photograph showing the area where the transect was conducted)

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If no tortoise sign occurs on the project site or Zone of Influence, the summary form should be completed. Please fill in all sections on the top 2/3 of the page of the summary form.

M/D/Y  
 Date 4/18/08  
 Transect No. \_\_\_\_\_  
 State CA  
 County San Bernardino  
 City \_\_\_\_\_  
 Recorder Rachel Anly  
 Address \_\_\_\_\_  
 Project Name Solar 6  
 Type of Project \_\_\_\_\_  
 Quad Name \_\_\_\_\_  
 Scale \_\_\_\_\_  
 Site Name \_\_\_\_\_  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_  
 1/4 Sec \_\_\_\_\_ 3/4 Sec \_\_\_\_\_  
 UTM Zone \_\_\_\_\_  
 Northing \_\_\_\_\_  
 Easting \_\_\_\_\_  
 Parcel No. G-401, 402, 403, 404

DESERT TORTOISE HANDBOOK 1992:

FORM FOR PRESENCE-OR-ABSENCE AND CLEARANCE SURVEYS

Project Site | | Zone of Influence | | \_\_\_\_\_ ft from Project Site  
 Transect Length: 1990 ft Width: 30 ft Other \_\_\_\_\_ ft Time 1:31  
 Weather: Airtemp at: 5 cm \_\_\_\_\_ °C Surface \_\_\_\_\_ °C Cloud cover 30 %  
 Rainfall \_\_\_\_\_ in Wind speed \_\_\_\_\_ Rainfall in last 30 days \_\_\_\_\_ in  
 Land Form (e.g., mesa, bajada, wash) \_\_\_\_\_  
 % Slope: high \_\_\_\_\_ low / Aspect \_\_\_\_\_ Elevation \_\_\_\_\_ ft  
 Soils \_\_\_\_\_  
 Vegetation: dominant perennials LATR, FA ANDU, AM, AMVI  
AMDU  
 dominant annuals Cryptantha, Schismus, AMSFMKIA  
SPP SPP SPP  
 Adjacent Land Use: up to 1 mi \_\_\_\_\_  
 Soils \_\_\_\_\_  
 Vegetation \_\_\_\_\_

Corrected Sign	Live Tortoises Adult/Juv.	TOTAL NUMBER OF		Scats <sup>2</sup>	Shell Remains <sup>3</sup>		
		Pallet/Burrow/Den Active/Inactive <sup>1</sup>	Shelter Sites		A=	J=	Unk=
				11			
				M=	F=		Unk=

Tracks	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma w/sign	Middens :w/o sign
					:	

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN

Tire Tracks	Human Footprints	Dog Sign	Trash	Dump Sites	Shotgun/Rifle Shells	Blading	Ravens	Other

1 active burrow with tracks  
 with 025  
 E 0558273  
 N 38350101

my point 024  
 Cat. 1 scatt  
 W 0558730  
 N 3849903

January 1992

(place a 4 X 6 photograph showing the area where the transect was conducted)

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If no tortoise sign occurs on the project site or Zone of Influence, the summary form should be completed. Please fill in all sections on the top 2/3 of the page of the summary form.

0277

M/D/Y  
 Date 5/5/08  
 Transect No. \_\_\_\_\_  
 State CA  
 County San Bernardino  
 City Ludlow  
 Recorder Glen Kinsler  
 Address \_\_\_\_\_  
 Project Name Solar 6  
 Type of Project power site  
 Quad Name \_\_\_\_\_  
 Scale \_\_\_\_\_  
 Site Name \_\_\_\_\_  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_  
 1/4 Sec \_\_\_\_\_ 3/4 Sec \_\_\_\_\_  
 UTM Zone \_\_\_\_\_  
 Northing \_\_\_\_\_  
 Easting \_\_\_\_\_  
 Parcel No. 6-525, 526, 527, 528

DESERT TORTOISE HANDBOOK 1992:

FORM FOR PRESENCE-OR-ABSENCE AND CLEARANCE SURVEYS

Project Site  Zone of Influence | | \_\_\_\_\_ ft from Project Site  
 Transect Length: 1900 ft : Width: 30 ft Other \_\_\_\_\_ ft Time 9:30 am  
 Weather: Airtemp at: 5 cm 70.0 °F Surface 69.8 °F Cloud cover 5 %  
 Rainfall 0 in Wind speed 4-8 mph Rainfall in last 30 days \_\_\_\_\_ in  
 Land Form (e.g., mesa, bajada, wash) \_\_\_\_\_  
 Slope: high \_\_\_\_\_ low  Aspect S Elevation 2484 ft  
 Soils Sandy loam w/ rocks  
 Vegetation: dominant perennials Larrea tridentata, Krameria grayi, Anemone deasonii  
 dominant annuals Amsinckia tessellata, Schismus

Adjacent Land Use: up to 1 mi transmission line, underground pipeline  
 Soils same  
 Vegetation same

Corrected Sign	Live Tortoises Adult/Juv.	TOTAL NUMBER OF		Scats <sup>2</sup>	Shell Remains <sup>3</sup>
		Shelter Sites Pallet/Burrow/Den Active/Inactive <sup>1</sup>			
A=	J=			M=	A= J= Unk=

Tracks	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma Middens w/sign	Middens w/o sign
					:	

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN

Tire Tracks	Human Footprints	Dog Sign	Trash	Dump Sites	Shotgun/Rifle Shells	Blading	Ravens	Other
Y	N	N	Y	N	N	N	N	

January 1992

(place a 4 X 6 photograph showing the area where the transect was conducted)

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If no tortoise sign occurs on the project site or Zone of Influence, the summary form should be completed. Please fill in all sections on the top 2/3 of the page of the summary form.

OLZ 8

M/D/Y  
 Date 5/5/08  
 Transect No. \_\_\_\_\_  
 State CA  
 County San Bernardino  
 City Ludlow  
 Recorder Glenn Kinoshita  
 Address \_\_\_\_\_  
 Project Name Solar 6  
 Type of Project Phot.  
Solar power site  
 Quad Name \_\_\_\_\_  
 Scale \_\_\_\_\_  
 Site Name \_\_\_\_\_  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_  
 1/4 Sec \_\_\_\_\_ 3/4 Sec \_\_\_\_\_  
 UTM Zone \_\_\_\_\_  
 Northing \_\_\_\_\_  
 Easting \_\_\_\_\_  
 Parcel No. 6-529, 530, 531, 532

DESERT TORTOISE HANDBOOK 1992:

FORM FOR PRESENCE-OR-ABSENCE AND CLEARANCE SURVEYS

Project Site  Zone of Influence | | \_\_\_\_\_ ft from Project Site  
 Transect Length: 1900 ft : Width: 30 ft Other \_\_\_\_\_ ft Time 1:15 pm  
 Weather: Airtemp at: 5 cm 80.8 °F Surface 84.5 °F Cloud cover \_\_\_\_\_ %  
 Rainfall 0 in Wind speed 1-7 Rainfall in last 30 days \_\_\_\_\_ in  
 Land Form (e.g., mesa, bajada, wash) \_\_\_\_\_  
 % Slope: high \_\_\_\_\_ low X Aspect S facing Elevation 2457 ft  
 Soils shaly loam w/ rocks  
 Vegetation: Dominant perennials Larrea tridentata, Ambrosia dumosa

dominant annuals Amsinckia bessada, Schizanthus

Adjacent Land Use: up to 1 mi underground pipeline, transmission line

Soils same

Vegetation same

Corrected Sign	Live Tortoises Adult/Juv.	TOTAL NUMBER OF		Scats <sup>2</sup>	Shell Remains <sup>3</sup>
		Shelter Sites Pallet/Burrow/Den Active/Inactive <sup>1</sup>			
	A=	J=		M=	A=   J= Unk=
Tracks	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma Middens w/sign :w/o sign

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN

Tire Tracks Human Footprints Dog Sign Trash Sites Dump Sites Shotgun/Rifle Shells Blading Ravens Other

January 1992

(place a 4 X 6 photograph showing the area where the transect was conducted)

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If no tortoise sign occurs on the project site or Zone of Influence, the summary form should be completed. Please fill in all sections on the top 2/3 of the page of the summary form.

M/D/Y  
 Date 5/12/92  
 Transect No. \_\_\_\_\_  
 State CA  
 County Santa Barbara  
 City Paso Robles/Ludlow  
 Recorder Glenn Kinoshita  
 Address \_\_\_\_\_  
 Project Name Solar  
 Type of Project sol. solar  
parrow gnat  
 Quad Name \_\_\_\_\_  
 Scale \_\_\_\_\_  
 Site Name \_\_\_\_\_  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_  
 1/4 Sec \_\_\_\_\_ 3/4 Sec \_\_\_\_\_  
 UTM Zone \_\_\_\_\_  
 Northing \_\_\_\_\_  
 Easting \_\_\_\_\_  
 Parcel No. 6405, 406, 407, 408  
w/ Jett Johnson, Denise Ty

DESERT TORTOISE HANDBOOK 1992:

FORM FOR PRESENCE-OR-ABSENCE AND CLEARANCE SURVEYS

Project Site  Zone of Influence \_\_\_\_\_ ft from Project Site  
 Transect Length: 1900 ft : Width: 10 ft Other \_\_\_\_\_ ft Time 2:00 PM  
 Weather: Airtemp at: 5 cm 74.5 °F Surface 102.0 °F Cloud cover 5 %  
 Rainfall 0 in Wind speed 7-10 mph Rainfall in last 30 days 0 in  
 Land Form (e.g., mesa, patjada wash) \_\_\_\_\_  
 % Slope: high \_\_\_\_\_ low X Aspect \_\_\_\_\_ Elevation 2150 ft  
 Soils Sandy loam w/ rocks  
 Vegetation: dominant perennials Larrea tridentata, Ambrosia maritima, Hillaria nuda  
 dominant annuals Amaranthus, Malacothrix, S. chrysanthum  
 Adjacent Land Use: up to 1 mi Transmission lines, underground pipeline, house  
 Soils Sand  
 Vegetation Sage

Corrected Sign	TOTAL NUMBER OF		Scats <sup>2</sup>	Shell Remains <sup>3</sup>		
	Live Tortoises Adult/Juv.	Shelter Sites Pallet/Burrow/Den Active/Inactive <sup>1</sup>		A=	J=	Unk=
	A=	J=	M=	A=	J=	Unk=

Tracks	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma Middens w/sign	Middens w/o sign

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN

Tire Tracks	Human Footprints	Dog Sign	Trash	Dump Sites	Shotgun/Rifle Shells	Blading	Ravens	Other
			Y	N				

January 1992

(place a 4 X 6 photograph showing the area where the transect was conducted)

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0317

M/D/Y  
 Date 6/1/88  
 Transect No. \_\_\_\_\_  
 State CA  
 County San Bernardino  
 City Burton/Ludlow  
 Recorder Glen Kuestlein  
 Address \_\_\_\_\_  
 Project Name Galack  
 Type of Project Ref. Study  
your site  
 Quad Name \_\_\_\_\_  
 Scale \_\_\_\_\_  
 Site Name \_\_\_\_\_  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_  
 1/4 Sec \_\_\_\_\_ 3/4 Sec \_\_\_\_\_  
 UTM Zone \_\_\_\_\_  
 Northing \_\_\_\_\_  
 Easting \_\_\_\_\_  
 Parcel No. 6-41, 42, 43, 44

DESERT TORTOISE HANDBOOK 1992:

FORM FOR PRESENCE-OR-ABSENCE AND CLEARANCE SURVEYS

Project Site  Zone of Influence \_\_\_\_\_ ft from Project Site  
 Transect Length: \_\_\_\_\_ ft : Width 30 ft Other \_\_\_\_\_ ft Time 11:45  
 Weather: Airtemp at: 5 cm 92 °F Surface 96.3 °F Cloud cover 0 %  
 Rainfall 0 in Wind speed 6-8 mph Rainfall in last 30 days \_\_\_\_\_ in  
 Land Form (e.g., mesa, bajada, wash) \_\_\_\_\_  
 % Slope: high \_\_\_\_\_ low X Aspect \_\_\_\_\_ Elevation 2205 ft  
 Soils sandy loam w/ rocks  
 Vegetation: dominant perennials Larrea tridentata, Hilaria rigida

dominant annuals Penstemon deltoideus, Malva cathartica, Cryptantha, Schismus

Adjacent Land Use: up to 1 mi house, transmission lines  
 Soils same  
 Vegetation same

Corrected Sign	Live Tortoises Adult/Juv.	TOTAL NUMBER OF		Scats <sup>2</sup>	Shell Remains <sup>3</sup>		
		Shelter Sites Pallet/Burrow/Den Active/Inactive <sup>1</sup>			A=	J=	Unk=
					A=	J=	Unk=

Tracks	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma w/sign	Middens :w/o sign

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN

Tire Tracks	Human Footprints	Dog Sign	Trash	Dump Sites	Shotgun/Rifle Shells	Blading	Ravens	Other
Y	Y	N	Y	Y	N	N	X	

Approx 40% of site is disturbed by residence - lots of trash

January 1992

(place a 4 X 6 photograph showing the area where the transect was conducted)

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0315

M/D/Y  
 Date 5/6/08  
 Transect No. \_\_\_\_\_  
 State CA  
 County San Bernardino  
 City Barstow  
 Recorder Glen Kinedick  
 Address \_\_\_\_\_  
 Project Name Solar 6  
 Type of Project Power site  
 Quad Name \_\_\_\_\_  
 Scale \_\_\_\_\_  
 Site Name \_\_\_\_\_  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_  
 1/4 Sec \_\_\_\_\_ 3/4 Sec \_\_\_\_\_  
 UTM Zone \_\_\_\_\_  
 Northing \_\_\_\_\_  
 Easting \_\_\_\_\_  
 Parcel No. 6-925, 466, 467, 468

DESERT TORTOISE HANDBOOK 1992:

FORM FOR PRESENCE-OR-ABSENCE AND CLEARANCE SURVEYS

Project Site  Zone of Influence \_\_\_\_\_ ft from Project Site  
 Transect Length: 1900 ft Width: 30 ft Other \_\_\_\_\_ ft Time 9:30am  
 Weather: Airtemp at: 5 cm 76.8 °F surface 75.0 °F Cloud cover 0 %  
 Rainfall 0 in Wind speed 6 mph Rainfall in last 30 days 0 in  
 Land Form (e.g., mesa, bajada, wash) \_\_\_\_\_  
 % Slope: high \_\_\_\_\_ low X Aspect \_\_\_\_\_ Elevation 2297 ft  
 Soils \_\_\_\_\_  
 Vegetation: dominant perennials ~~Amorpha~~ ~~Grass~~ ~~Leuca~~  
 dominant annuals Amorpha, Sclerites  
 Adjacent Land Use: up to 1 mi from transmission line  
 Soils 99MC  
 Vegetation 99MC

Corrected Sign	Live Tortoises Adult/Juv.	TOTAL NUMBER OF		Scats <sup>2</sup>	Shell Remains <sup>3</sup>
		Shelter Sites Pallet/Burrow/Den Active/Inactive <sup>1</sup>			
	A= J=			M= F=	A= J= Unk=
Tracks	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma Middens w/sign :w/o sign

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN

Tire Tracks Human Footprints Dog Sign Trash Dump Sites Shotgun/Rifle Shells Blading Ravens Other



**Forms Completed Incidentally During Other Field Efforts**

Do not abbreviate

# Data Sheet for Live Desert Tortoises

Write on this side only

Located by MICHAEL HONER + KRISTIN MARSH

Processed by \_\_\_\_\_

Study site name "SOLAR 6"

Township \_\_\_\_\_ Range \_\_\_\_\_

Section \_\_\_\_\_ Quadrat \_\_\_\_\_

Coordinates (Reference SW corner)

\_\_\_\_\_ meters North \_\_\_\_\_ meters East

UTM's 0555205 n 3853502 e

Elevation 321 m 2248 FT Accuracy ± \_\_\_\_\_ m

County S. BERNARDINO State CA

On Plot  Off Plot

Tortoise ID # Slc-LNE DT 1

Year first marked \_\_\_\_\_

Verification of ID

Capture type \_\_\_\_\_ Sex \_\_\_\_\_

Date (dd/mm/yy) 14 Mar 2008

Time (PST): Start 3:35 PM End \_\_\_\_\_

Frequency \_\_\_\_\_ Transmitter # \_\_\_\_\_

Transmitter type \_\_\_\_\_

Transmitter attached \_\_\_\_\_

Transmitter to be replaced on \_\_\_\_\_

PIT # \_\_\_\_\_



Show location of tortoise in quadrat

## Tortoise Location

Cover site type:  burrow  pallet  shrub  caliche cave  rock shelter

At cover site:  entering  exiting  on mound  inside

Not at cover site:  in open  other

2 m. from ACTIVE BURROW

## Tortoise Activity

- resting
- basking
- walking
- feeding
- Interacting with other tortoise
- Interacting with other animals

Describe interaction: \_\_\_\_\_

Plants/items eaten (specific):

## Burrow Data

ID # \_\_\_\_\_

Orientation SW facing

Length \_\_\_\_\_ Height 5"

Width 12" Soil cover sand, gravel

Location \_\_\_\_\_

ID & sex of other tortoise probably MALE  
Species GOPHERUS AGIZ.

## Survey Type

- Radio track
- Burrow search
- Coverage 1
- Coverage 2
- Incidental
- Other

RARE PLANT

Color (shell & skin) HV Hue Value Chroma Color

V1 (center)					
V4 (center)					
LC1,2&V2 (seam)					
LM5,6 & LC2 (seam)					
Foreleg					
Hindleg					

Are you color blind?  Yes  No

Type of blindness \_\_\_\_\_

## Body Measurements

- MCL (mm) \_\_\_\_\_
- PLN (mm) \_\_\_\_\_
- Weight (g) \_\_\_\_\_
- Void (g) \_\_\_\_\_
- Total wt (g) \_\_\_\_\_

- New growth  present  absent
- Epoxy #  present  legible

## Other notes

APPX 13" Long by 8-9" WIDE  
5-6" Tall

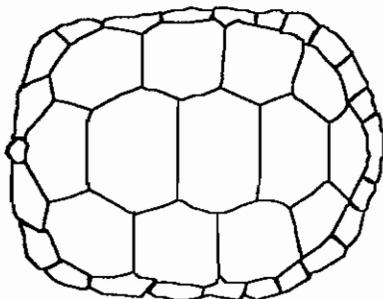
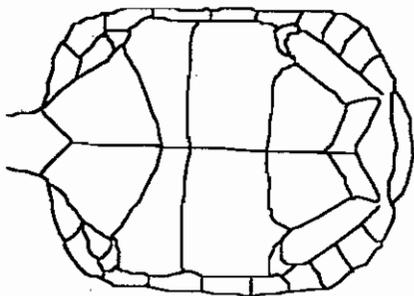
Photos; roll \_\_\_\_\_ frames Yes

Draw locations of notches (old and new), chips, and anomalies, etc.

Describe anomalies in numbering of marginals and any identification problems.

Entered by M. Honer date \_\_\_\_\_ on computer \_\_\_\_\_

Modified by \_\_\_\_\_ on \_\_\_\_\_



Do not abbreviate

# Data Sheet for Live Desert Tortoises

Write on this side only

Located by M. Haner & K. Marsh

Processed by \_\_\_\_\_

Study site name Solar One site Solar 3 site

Township \_\_\_\_\_ Range \_\_\_\_\_  
Section \_\_\_\_\_ Quadrat \_\_\_\_\_

Coordinates (Reference SW corner)

\_\_\_\_\_ meters North \_\_\_\_\_ meters East

UTM's 11S 05522760 n 3853587 e

Elevation 2159.4 m Accuracy  $\pm$  10 ft, m

County \_\_\_\_\_ State \_\_\_\_\_

On Plot  Off Plot

Tortoise ID # Desertort Live 2  $\neq$  GPS marker S3\_LineDT1

Year first marked \_\_\_\_\_

Verification of ID

Capture type \_\_\_\_\_ Sex \_\_\_\_\_

Date (dd/mm/yy) 03/17/08

Time (PST): Start 11:22 AM End \_\_\_\_\_

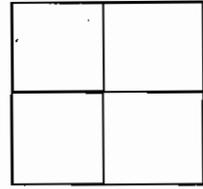
Frequency \_\_\_\_\_ Transmitter # \_\_\_\_\_

Transmitter type \_\_\_\_\_

Transmitter attached \_\_\_\_\_

Transmitter to be replaced on \_\_\_\_\_

PIT # \_\_\_\_\_



Show location of tortoise in quadrat

## Tortoise Location

Cover site type:  At cover site:  Not at cover site:

- burrow Mouth of  entering  in open
- paler  exiting  other
- shrub  on mound
- caliche cave  inside
- rock shelter

## Tortoise Activity

- resting  Interacting with other tortoise
- basking  Interacting with other animals
- walking
- feeding

Plants/items eaten (specific):

## Burrow Data

ID # \_\_\_\_\_

Orientation \_\_\_\_\_

Length unk Height 6 in.

Width 10 in. Soil cover sandy gravel

Location east-facing bank of wash

ID & sex of other tortoise pass

Species \_\_\_\_\_

## Survey Type

- Radio track
- Burrow search
- Coverage 1
- Coverage 2
- Incidental
- Other

## Color (shell & skin) HV Hue Value Chroma Color

V1 (center)					
V4 (center)					
LC1,2&V2 (seam)					
LM5,6 & LC2 (seam)					
Foreleg					
Hindleg					

Are you color blind?  Yes  No

Type of blindness \_\_\_\_\_

## Body Measurements

Length 12 in.

MCL (mm) \_\_\_\_\_

PLN (mm) \_\_\_\_\_

Weight (g) \_\_\_\_\_

Void (g) \_\_\_\_\_

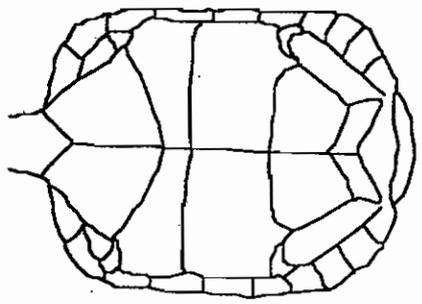
Total wt (g) \_\_\_\_\_

New growth  present  absent

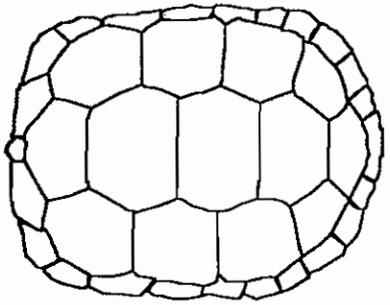
Epoxy #  present  legible

## Behavior

Other notes



width: 9 in.  
height: 6 in.



Photos; roll \_\_\_\_\_ frames \_\_\_\_\_

Draw locations of notches (old and new), chips, and anomalies, etc.  
Describe anomalies in numbering of marginals and any identification problems.

Entered by \_\_\_\_\_ date \_\_\_\_\_ on computer \_\_\_\_\_

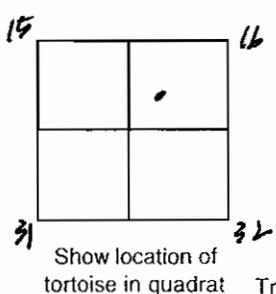
Modified by \_\_\_\_\_ on \_\_\_\_\_

Do not abbreviate

# Data Sheet for Live Desert Tortoises

Write on this side only

Located by Glen Kinoshita  
 Processed by \_\_\_\_\_  
 Study site name \_\_\_\_\_  
 Township \_\_\_\_\_ Range \_\_\_\_\_  
 Section \_\_\_\_\_ Quadrat \_\_\_\_\_  
 Coordinates (Reference SW corner)  
 \_\_\_\_\_ meters North \_\_\_\_\_ meters East  
 UTM's 546004 n 3855236 e  
 Elevation 1963 ft m Accuracy  $\pm$  6 ft m  
 County San Bernardino State CA  
 On Plot  Off Plot



Tortoise ID # \_\_\_\_\_  
 Year first marked \_\_\_\_\_  
 Verification of ID   
 Capture type \_\_\_\_\_ Sex \_\_\_\_\_  
 Date (dd/mm/yy) 20/07/2008  
 Time (PST): Start \_\_\_\_\_ End \_\_\_\_\_  
 Frequency \_\_\_\_\_ Transmitter # \_\_\_\_\_  
 Transmitter type \_\_\_\_\_  
 Transmitter attached \_\_\_\_\_  
 Transmitter to be replaced on \_\_\_\_\_  
 PIT # \_\_\_\_\_

### Tortoise Location

Cover site type:  burrow  pallet  shrub  caliche cave  rock shelter  
 At cover site:  entering  exiting  on mound  inside  
 Not at cover site:  in open  other

### Burrow Data

ID # \_\_\_\_\_  
 Orientation \_\_\_\_\_  
 Length \_\_\_\_\_ Height \_\_\_\_\_  
 Width \_\_\_\_\_ Soil cover \_\_\_\_\_  
 Location \_\_\_\_\_

### Survey Type

- Radio track
- Burrow search
- Coverage 1
- Coverage 2
- Incidental
- Other

### Tortoise Activity

resting  basking  walking  feeding  
 Interacting with other tortoise  
 Interacting with other animals  
 Describe interaction: \_\_\_\_\_

ID & sex of other tortoise \_\_\_\_\_  
 Species \_\_\_\_\_

*have plant survey*

Plants/items eaten (specific):

### Color (shell & skin)

	HV	Hue	Value	Chroma	Color
V1 (center)					
V4 (center)					
LC1,2&V2 (seam)					
LM5,6 & LC2 (seam)					
Foreleg					
Hindleg					

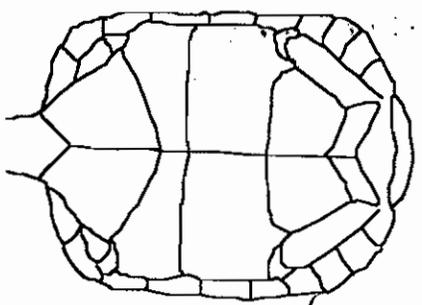
Are you color blind?  Yes  No  
 Type of blindness \_\_\_\_\_

### Body Measurements

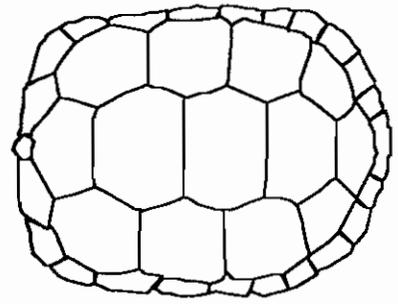
MCL (mm) \_\_\_\_\_  
 PLN (mm) \_\_\_\_\_  
 Weight (g) \_\_\_\_\_  
 Void (g) \_\_\_\_\_  
 Total wt (g) \_\_\_\_\_  
 New growth  present  absent  
 Epoxy #  present  legible

### Behavior

*walking, froze when encountered and withdrew into shell*



*no marks or damage*



Photos; roll \_\_\_\_\_ frames \_\_\_\_\_  
 Draw locations of notches (old and new), chips, and anomalies, etc.  
 Describe anomalies in numbering of marginals and any identification problems.

Entered by \_\_\_\_\_ date \_\_\_\_\_ on computer \_\_\_\_\_

Modified by \_\_\_\_\_ on \_\_\_\_\_ © Berry 1997

Do not abbreviate

# Data Sheet for Live Desert Tortoises

Write on this side only

Located by K. Marsh, T. Dntl, F. Klein

Processed by \_\_\_\_\_

Study site name Solar Le project

Township \_\_\_\_\_ Range \_\_\_\_\_

Section \_\_\_\_\_ Quadrat \_\_\_\_\_

Coordinates (Reference SW corner)

\_\_\_\_\_ meters North \_\_\_\_\_ meters East

UTM's 15 0562078 n 3847059 e 2480 ft elevation

Elevation \_\_\_\_\_ m Accuracy ± \_\_\_\_\_ m

County \_\_\_\_\_ State \_\_\_\_\_

On Plot  Off Plot

Tortoise ID # Desert Live 561

Year first marked \_\_\_\_\_

Verification of ID

Capture type \_\_\_\_\_ Sex M

Date (dd/mm/yy) 3/30/08

Time (PST): Start 11:51 End \_\_\_\_\_

Frequency \_\_\_\_\_ Transmitter # \_\_\_\_\_

Transmitter type \_\_\_\_\_

Transmitter attached \_\_\_\_\_

Transmitter to be replaced on \_\_\_\_\_

PIT # \_\_\_\_\_



Show location of tortoise in quadrat

## Tortoise Location

Cover site type:  burrow  pallet  shrub  caliche cave  rock shelter

At cover site:  entering  exiting  on mound  inside

Not at cover site:  in open  other

on road

## Burrow Data

ID # \_\_\_\_\_

Orientation \_\_\_\_\_

Length \_\_\_\_\_ Height \_\_\_\_\_

Width \_\_\_\_\_ Soil cover \_\_\_\_\_

Location \_\_\_\_\_

## Survey Type

Radio track

Burrow search

Coverage 1

Coverage 2

Incidental

Other

## Tortoise Activity

resting

basking

walking

feeding

Interacting with other tortoise

Interacting with other animals

Describe interaction: \_\_\_\_\_

ID & sex of other tortoise Desert Live 562

Species \_\_\_\_\_

Plants/items eaten (specific):

\_\_\_\_\_

\_\_\_\_\_

Color (shell & skin) HV Hue Value Chroma Color

V1 (center)

V4 (center)

LC1,2&V2 (seam)

LM5,6 & LC2 (seam)

Foreleg

Hindleg


Are you color blind?  Yes  No

Type of blindness \_\_\_\_\_

15 in long

12 in wide

## Body Measurements

MCL (mm) \_\_\_\_\_

PLN (mm) \_\_\_\_\_

Weight (g) \_\_\_\_\_

Void (g) \_\_\_\_\_

Total wt (g) \_\_\_\_\_

New growth

present  absent

Epoxy #

present  legible

## Behavior

8 in tall

walking on road

## Other notes

\_\_\_\_\_

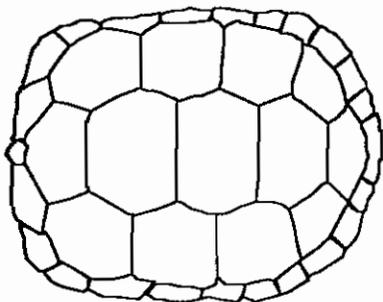
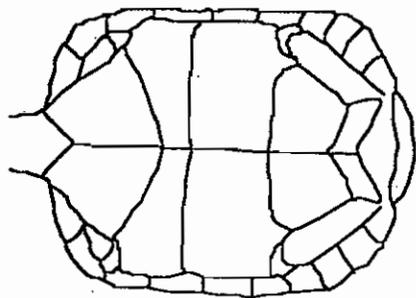
Photos; roll \_\_\_\_\_ frames \_\_\_\_\_

Draw locations of notches (old and new), chips, and anomalies, etc.

Describe anomalies in numbering of marginals and any identification problems.

Entered by \_\_\_\_\_ date \_\_\_\_\_ on computer \_\_\_\_\_

Modified by \_\_\_\_\_ on \_\_\_\_\_



Do not abbreviate

# Data Sheet for Live Desert Tortoises

Write on this side only

Located by K. Marsh, T. ontl, E. Klein

Processed by \_\_\_\_\_

Study site name Solar Le Project

Township \_\_\_\_\_ Range \_\_\_\_\_

Section \_\_\_\_\_ Quadrat \_\_\_\_\_

Coordinates (Reference SW corner)

\_\_\_\_\_ meters North \_\_\_\_\_ meters East

UTM's 11S 0562095 n 3847050 e 24769 elev.

Elevation \_\_\_\_\_ m Accuracy ± \_\_\_\_\_ m

County \_\_\_\_\_ State \_\_\_\_\_

On Plot  Off Plot

Tortoise ID # Deston Live 2

Year first marked \_\_\_\_\_

Verification of ID

Capture type \_\_\_\_\_ Sex M

Date (dd/mm/yy) 3/30/08

Time (PST): Start 12:00 End \_\_\_\_\_

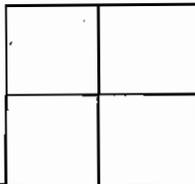
Frequency \_\_\_\_\_ Transmitter # \_\_\_\_\_

Transmitter type \_\_\_\_\_

Transmitter attached \_\_\_\_\_

Transmitter to be replaced on \_\_\_\_\_

PIT # \_\_\_\_\_



Show location of tortoise in quadrat

## Tortoise Location

Cover site type:  At cover site:  Not at cover site:

- burrow
- pallet
- shrub
- caliche cave
- rock shelter
- entering
- exiting
- on mound
- inside
- in open
- other

## Tortoise Activity

- resting
- basking
- walking
- feeding
- interacting with other tortoise
- interacting with other animals

Plants/items eaten (specific):

Plantago ovata

## Burrow Data

ID # \_\_\_\_\_

Orientation \_\_\_\_\_

Length \_\_\_\_\_ Height \_\_\_\_\_

Width \_\_\_\_\_ Soil cover \_\_\_\_\_

Location \_\_\_\_\_

ID & sex of other tortoise Deston Live 1

Species \_\_\_\_\_

Describe interaction: \_\_\_\_\_

## Survey Type

- Radio track
- Burrow search
- Coverage 1
- Coverage 2
- Incidental
- Other

\_\_\_\_\_

Color (shell & skin) HV Hue Value Chroma Color

V1 (center)					
V4 (center)					
LC1,2&V2 (seam)					
LM5,6 & LC2 (seam)					
Foreleg					
Hindleg					

Are you color blind?  Yes  No

Type of blindness \_\_\_\_\_

## Body Measurements

MCL (mm) \_\_\_\_\_

PLN (mm) \_\_\_\_\_

Weight (g) \_\_\_\_\_

Void (g) \_\_\_\_\_

Total wt (g) \_\_\_\_\_

New growth

present  absent

Epoxy #

present  legible

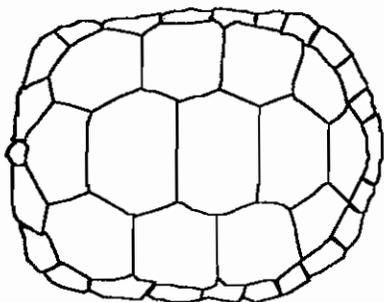
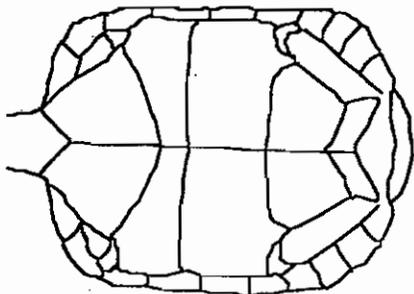
## Other notes

\_\_\_\_\_

## Behavior

7 in long  
5 in wide  
4 in tall

\_\_\_\_\_



Photos; roll \_\_\_\_\_ frames \_\_\_\_\_

Draw locations of notches (old and new), chips, and anomalies, etc. Describe anomalies in numbering of marginals and any identification problems.

Entered by \_\_\_\_\_ date \_\_\_\_\_ on computer \_\_\_\_\_

Modified by \_\_\_\_\_ on \_\_\_\_\_

January 1992

Place a 4 X 6 photograph showing the area where the transect was conducted)

This form should be completed for those transects that contain one or more desert tortoise sign. After the project site and zone of influence have been surveyed for tortoise sign, the results from the transect forms should be compiled on a summary form.

If no tortoise sign occurs on the project site zone of influence, the summary form should be completed. Please fill in all sections on top 2/3 of the page of the summary form.

M/D/Y  
 Date 2 APRIL 2007  
 Transect No. \_\_\_\_\_  
 State CA  
 County San Bernardino  
 City Barstow  
 Recorder G. Hoisington / M. Honer  
 Address JRS  
 Project Name SOLAR 1  
 Type of Project \_\_\_\_\_  
 Quad Name \_\_\_\_\_  
 Scale \_\_\_\_\_  
 Site Name \_\_\_\_\_  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_  
 1/4 Sec \_\_\_\_\_ 3/4 Sec \_\_\_\_\_  
 UTM Zone 11S WGS 84  
 Northing 0549955  
 Easting 3841902  
 Parcel No. \_\_\_\_\_

MAP 35

DESERT TORTOISE HANDBOOK 1992:

FORM FOR PRESENCE-OR-ABSENCE AND CLEARANCE SURVEYS

Project Site  Zone of Influence | | \_\_\_\_\_ ft from Project Site  
 Insect Length: \_\_\_\_\_ ft Width: 30 ft Other \_\_\_\_\_ ft Time \_\_\_\_\_  
 Other: Airtemp at: 5 cm 80 °F Surface 85 °F Cloud cover 50 %  
 Rainfall 0 in Wind speed 12 mph Rainfall in last 30 days < 0.1 in  
 Land Form (e.g., mesa, bajada, wash) Gently sloping alluvial fan  
 % Slope: high \_\_\_\_\_ low 5° NE Aspect \_\_\_\_\_ Elevation 2904 ft  
 Soils cobble  
 Vegetation: dominant perennials Creosote burrowbush scrub  
 dominant annuals \_\_\_\_\_

Adjacent Land Use: up to 1 mi marine base  
 Soils cobble  
 Vegetation Creosote burrowbush scrub

Corrected Sign	Live Tortoises Adult/Juv.	TOTAL NUMBER OF		Scats <sup>2</sup>	Shell Remains <sup>3</sup>
		Shelter Sites Pallet/Burrow/Den Active/Inactive <sup>1</sup>			
A=	J=			M=	F=
					A= 12" J= Unk=

Tracks	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma Middens w/sign	Middens w/o sign

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN

Tire tracks	Human Footprints	Dog Sign	Trash	Dump Sites	Shotgun/Rifle Shells	Blading	Ravens	Other

transmission line

January 1992

place a 4 X 6 photograph showing the area where the transect was conducted)

This form should be completed for those transects that contain one or more desert tortoise sign. After the project site and one of Influence have been surveyed for tortoise sign, the results from the transect forms should be compiled on a summary form.

If no tortoise sign occurs on the project site or Zone of Influence, the summary form should be completed. Please fill in all sections on the top 2/3 of the page of the summary form.

M/D/Y  
Date 2 APRIL 2007  
Transect No. \_\_\_\_\_  
State CA  
County San Bernardino  
City Barstow  
Recorder G. Moisington / M. Honer  
Address URS  
Project Name SOLAR 1  
Type of Project \_\_\_\_\_  
Quad Name \_\_\_\_\_  
Scale \_\_\_\_\_  
Site Name \_\_\_\_\_  
T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_  
1/4 Sec \_\_\_\_\_ 3/4 Sec \_\_\_\_\_  
UTM Zone 11S WGS84  
Northing 0549955  
Easting 3841902  
Parcel No. \_\_\_\_\_

MAP 35

DESERT TORTOISE HANDBOOK 1992:

FORM FOR PRESENCE-OR-ABSENCE AND CLEARANCE SURVEYS

Project Site  Zone of Influence | | \_\_\_\_\_ ft from Project Site  
Transect Length: \_\_\_\_\_ ft Width: 30 ft Other \_\_\_\_\_ ft Time \_\_\_\_\_  
Weather: Airtemp at: 5 cm  $\approx$  80 °F Surface  $\approx$  85 °F Cloud cover 50 %  
Rainfall 0 in Wind speed  $\approx$  12 mph Rainfall in last 30 days  $<$  0.1 in  
Land Form (e.g., mesa, bajada, wash) Gently sloping alluvial fan  
Slope: high \_\_\_\_\_ low 5° NE Aspect \_\_\_\_\_ Elevation 2904 ft  
Soils Cobble  
Vegetation: dominant perennials Creosote burrowbush scrub

dominant annuals \_\_\_\_\_

Adjacent Land Use: up to 1 mi Marine base  
Soils Cobble  
Vegetation Creosote burrowbush scrub

TOTAL NUMBER OF  
Corrected Sign Live Tortoises Adult/Juv. Shelter Sites Pallet/Burrow/Den Active/Inactive 1 Scats 2 Shell Remains 3 12" diameter Males

A= J= M= F= Unk=

Tracks Eggshell Fragments Drinking Sites Courtship Rings Other Neotoma Middens w/sign :w/o sign

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN

Tire Tracks Human Footprints Dog Sign Trash Dump Sites Shotgun/ Rifle Shells Blading Ravens Other

transmission line

Do not abbreviate

# Data Sheet for Live Desert Tortoises

HOISINGTON / HOWER 2 APRIL 2007

Write on this side only

Located by M. Hoyer  
Processed by G. HOISINGTON  
Study site name Solar 1

Tortoise ID # N/A

Year first marked \_\_\_\_\_

Verification of ID

Capture type \_\_\_\_\_ Sex ?

Date (dd/mm/yy) 2 APRIL (2007)

Time (PST): Start \_\_\_\_\_ End \_\_\_\_\_

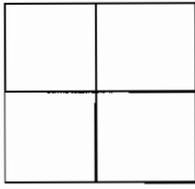
Frequency \_\_\_\_\_ Transmitter # \_\_\_\_\_

Transmitter type \_\_\_\_\_

Transmitter attached \_\_\_\_\_

Transmitter to be replaced on \_\_\_\_\_

PIT # \_\_\_\_\_



Show location of tortoise in quadrat

Township \_\_\_\_\_ Range \_\_\_\_\_  
Section \_\_\_\_\_ Quadrat \_\_\_\_\_

Coordinates (Reference SW corner)  
\_\_\_\_\_ meters North \_\_\_\_\_ meters East

WGS 84 UTM's 0548795 n 3841026 e

Elevation 2657 ft Accuracy  $\pm$  15 ft

County San Bernardino State CA

On Plot  Off Plot photo # 428

### Tortoise Location

- Cover site type:  burrow  
 pallet  
 shrub  
 caliche cave  
 rock shelter
- At cover site:  entering  
 exiting  
 on mound  
 inside
- Not at cover site:  in open  
 other

### Burrow Data

ID # N/A  
Orientation \_\_\_\_\_  
Length unknown Height 5"  
Width 8" Soil cover decomposed granite  
Location \_\_\_\_\_

### Survey Type

- Radio track  
 Burrow search  
 Coverage 1  
 Coverage 2  
 Incidental  
 Other

### Tortoise Activity

- resting  
 basking  
 walking  
 feeding
- Interacting with other tortoise  
 Interacting with other animals
- Describe interaction: \_\_\_\_\_

ID & sex of other tortoise \_\_\_\_\_  
Species \_\_\_\_\_

Plants/items eaten (specific):  
\_\_\_\_\_

### Color (shell & skin) HV Hue Value Chroma Color

V1 (center)				
V4 (center)				
LC1,2&V2 (seam)				
LM5,6 & LC2 (seam)				
Foreleg				
Hindleg				

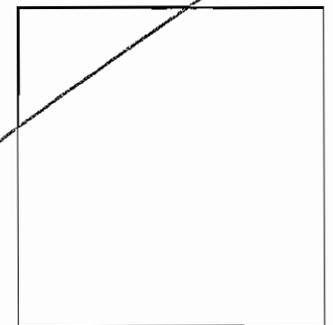
Are you color blind?  Yes  No

Type of blindness \_\_\_\_\_

### Body Measurements

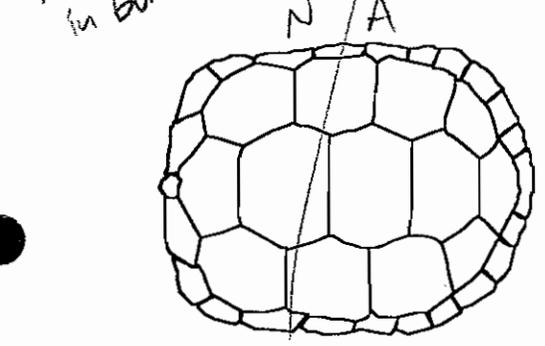
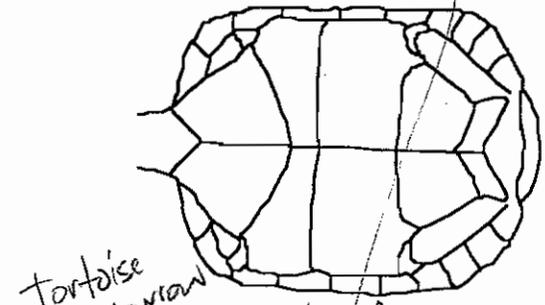
- MCL (mm) \_\_\_\_\_  
 PLN (mm) \_\_\_\_\_  
 Weight (g) \_\_\_\_\_  
 Void (g) \_\_\_\_\_  
 Total wt (g) \_\_\_\_\_
- New growth  
 present  absent
- Epoxy #  
 present  legible

### Behavior



### Other notes

\_\_\_\_\_



Photos; roll \_\_\_\_\_ frames \_\_\_\_\_

Draw locations of notches (old and new), chips, and anomalies, etc.  
Describe anomalies in numbering of marginals and any identification problems.

Entered by \_\_\_\_\_ date \_\_\_\_\_ on computer \_\_\_\_\_

Modified by \_\_\_\_\_ on \_\_\_\_\_

Do not abbreviate

### Data Sheet for Live Desert Tortoises

Write on this side only

Located by M. Honer  
Processed by O. Holsington  
Study site name SOLAR 1

Township \_\_\_\_\_ Range \_\_\_\_\_  
Section \_\_\_\_\_ Quadrat \_\_\_\_\_

Coordinates (Reference SW corner)  
\_\_\_\_\_ meters North \_\_\_\_\_ meters East

UTM's 0547964 n 3840192 e  
Elevation 2876 ft Accuracy  $\pm$  13 ft

County SAN BERNARDINO State CA

On Plot  Off Plot WAYPOINT 202 / Photo 448

Tortoise ID # \_\_\_\_\_  
Year first marked \_\_\_\_\_  
Verification of ID

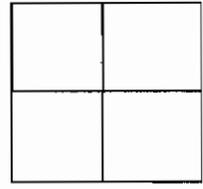
Capture type \_\_\_\_\_ Sex UNKNOWN  
Date (dd/mm/yy) 3 APR 2007

Time (PST): Start 1046 End \_\_\_\_\_

Frequency \_\_\_\_\_ Transmitter # \_\_\_\_\_  
Transmitter type \_\_\_\_\_

Transmitter attached \_\_\_\_\_  
Transmitter to be replaced on \_\_\_\_\_

PIT # \_\_\_\_\_



Show location of tortoise in quadrat

#### Tortoise Location

Cover site type: At cover site: Not at cover site:  
 burrow  entering  in open  
 pallet  exiting  other  
 shrub  on mound  
 caliche cave  inside  
 rock shelter

#### Tortoise Activity

resting  interacting with other tortoise  
 basking  interacting with other animals  
 walking Describe interaction:  
 feeding

Plants/items eaten (specific):  
\_\_\_\_\_

#### Burrow Data

ID # \_\_\_\_\_  
Orientation \_\_\_\_\_  
Length \_\_\_\_\_ Height 5"  
Width 12" Soil cover Decomposed granite  
Location = 2' deep burrow

#### Survey Type

Radio track  
 Burrow search  
 Coverage 1  
 Coverage 2  
 Incidental  
 Other

#### Color (shell & skin) HV Hue Value Chroma Color

V1 (center)					
V4 (center)					
LC1,2&V2 (seam)					
LM5,6 & LC2 (seam)					
Foreleg					
Hindleg					

Are you color blind?  Yes  No  
Type of blindness \_\_\_\_\_

#### Body Measurements

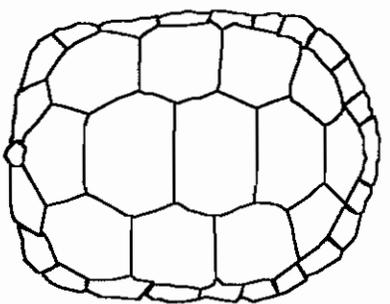
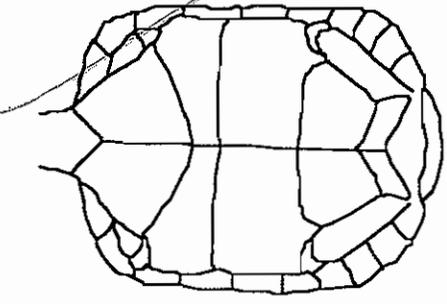
MCL (mm) \_\_\_\_\_  
PLN (mm) \_\_\_\_\_  
Weight (g) \_\_\_\_\_  
Void (g) \_\_\_\_\_  
Total wt (g) \_\_\_\_\_  
New growth  present  absent  
Epoxy #  present  legible

#### Behavior

\_\_\_\_\_

#### Other notes

\_\_\_\_\_



Photos; roll \_\_\_\_\_ frames \_\_\_\_\_

Draw locations of notches (old and new), chips, and anomalies, etc.  
Describe anomalies in numbering of marginals and any identification problems.

Entered by \_\_\_\_\_ date \_\_\_\_\_ on computer \_\_\_\_\_

Modified by \_\_\_\_\_ on \_\_\_\_\_

Do not abbreviate

# Data Sheet for Live Desert Tortoises

Write on this side only

Located by WV/BC

Processed by \_\_\_\_\_

Study site name \_\_\_\_\_

Township \_\_\_\_\_ Range \_\_\_\_\_

Section \_\_\_\_\_ Quadrat \_\_\_\_\_

Coordinates (Reference SW corner)

\_\_\_\_\_ meters North \_\_\_\_\_ meters East

UTM's 557126 n 385143 e

Elevation \_\_\_\_\_ m Accuracy ± \_\_\_\_\_ m

County \_\_\_\_\_ State \_\_\_\_\_

On Plot  Off Plot

Tortoise ID # \_\_\_\_\_

Year first marked \_\_\_\_\_

Verification of ID

Capture type \_\_\_\_\_ Sex \_\_\_\_\_

Date (dd/mm/yy) 04/10/2007

Time (PST): Start \_\_\_\_\_ End \_\_\_\_\_

Frequency \_\_\_\_\_ Transmitter # \_\_\_\_\_

Transmitter type \_\_\_\_\_

Transmitter attached \_\_\_\_\_

Transmitter to be replaced on \_\_\_\_\_

PIT # \_\_\_\_\_



Show location of tortoise in quadrat

## Tortoise Location

Cover site type:  burrow  pallet  shrub  caliche cave  rock shelter

At cover site:  entering  exiting  on mound  inside

Not at cover site:  in open  other

## Tortoise Activity

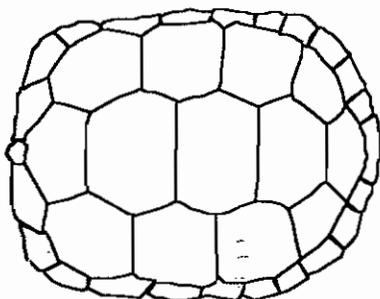
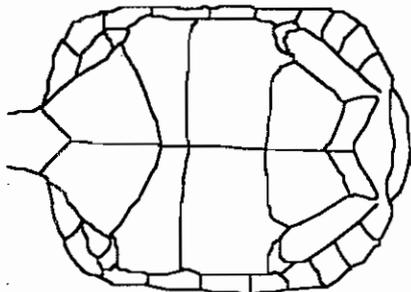
- resting
- basking
- walking
- feeding
- Interacting with other tortoise
- Interacting with other animals

Describe interaction:

Plants/items eaten (specific):

Color (shell & skin) HV Hue Value Chroma Color

- V1 (center)
- V4 (center)
- LC1,2&V2 (seam)
- LM5,6 & LC2 (seam)
- Foreleg
- Hindleg

## Burrow Data

ID # \_\_\_\_\_  
 Orientation OPEN TO 145°  
 Length 18" + Height 5"  
 Width 10" Soil cover \_\_\_\_\_  
 Location 2 MI NE PISGAH CRTR

ID & sex of other tortoise \_\_\_\_\_  
 Species Gopherus agassizii

## Survey Type

- Radio track
- Burrow search
- Coverage 1
- Coverage 2
- Incidental
- Other

Are you color blind?  Yes  No

Type of blindness \_\_\_\_\_

## Body Measurements

MCL (mm) \_\_\_\_\_  
 PLN (mm) \_\_\_\_\_  
 Weight (g) \_\_\_\_\_  
 Void (g) \_\_\_\_\_  
 Total wt (g) \_\_\_\_\_

New growth  
 present  absent  
 Epoxy #  
 present  legible

## Behavior

## Other notes

Large empty box for other notes.

Photos; roll \_\_\_\_\_ frames \_\_\_\_\_

Draw locations of notches (old and new), chips, and anomalies, etc.

Describe anomalies in numbering of marginals and any identification problems.

Entered by \_\_\_\_\_ date \_\_\_\_\_ on computer \_\_\_\_\_

Modified by \_\_\_\_\_ on \_\_\_\_\_

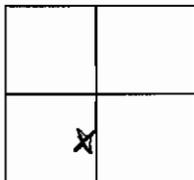
Do not abbreviate

### Data Sheet for Live Desert Tortoises

Write on this side only

Located by MICHAEL HONER, KELLY SLEETH  
Processed by M. HONER  
Study site name SOLAR-ONE - CADY MINS AREA

Tortoise ID # \_\_\_\_\_  
Year first marked 2007  
Verification of ID   
Capture type \_\_\_\_\_ Sex ♂  
Date (dd/mm/yy) 10 / 04 / 2007  
Time (PST): Start 1:50pm End \_\_\_\_\_  
Frequency \_\_\_\_\_ Transmitter # \_\_\_\_\_  
Transmitter type \_\_\_\_\_  
Transmitter attached \_\_\_\_\_  
Transmitter to be replaced on \_\_\_\_\_  
PIT # \_\_\_\_\_



Show location of tortoise in quadrat

Township \_\_\_\_\_ Range \_\_\_\_\_  
Section 31 Quadrat SE

Coordinates (Reference SW corner)  
\_\_\_\_\_ meters North \_\_\_\_\_ meters East

UTM's 3853517 n 0556039 e

Elevation 700 m Accuracy ± 10' m

County SAN BERNARDINO State CA

On Plot  Off Plot

#### Tortoise Location

Cover site type: At cover site: Not at cover site:

- burrow
- pallet
- shrub
- caliche cave
- rock shelter
- entering
- exiting
- on mound
- inside
- in open
- other

#### Tortoise Activity

- resting
- basking
- walking
- feeding
- Interacting with other tortoise
- Interacting with other animals

Describe interaction:

Plants/items eaten (specific):

#### Burrow Data

ID # \_\_\_\_\_  
Orientation Facing 300°  
Length appx 5' Height 6"  
Width 14" Soil cover SANDY  
Location CONSOLIDATED SANDY BERM AT BASE OF VOLCANIC HILL. WINDBLOWN SAND, SMALL COBBLES  
ID & sex of other tortoise M  
Species \_\_\_\_\_

#### Survey Type

- Radio track
- Burrow search
- Coverage 1
- Coverage 2
- Incidental
- Other

Color (shell & skin) HV Hue Value Chroma Color

V1 (center)  
V4 (center)  
LC1,2&V2 (seam)  
LM5,6 & LC2 (seam)  
Foreleg  
Hindleg

					<u>TAN-GREY</u>

Are you color blind?  Yes  No

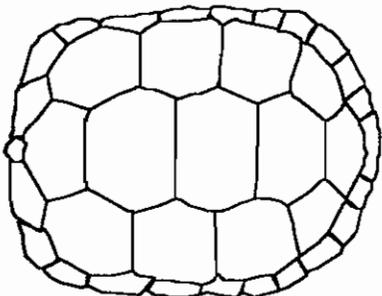
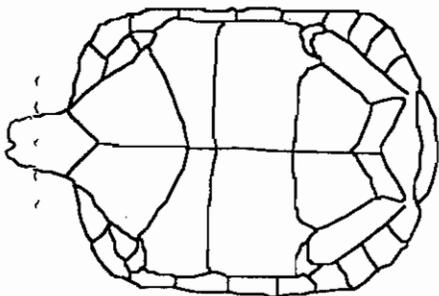
Type of blindness \_\_\_\_\_

#### Body Measurements

- MCL (mm) \_\_\_\_\_
- PLN (mm) \_\_\_\_\_
- Weight (g) \_\_\_\_\_
- Void (g) \_\_\_\_\_
- Total wt (g) \_\_\_\_\_
- New growth  present  absent
- Epoxy #  present  legible

#### Behavior

RESTING OUTSIDE BURROW, FACING WEST



#### Other notes

MAPLE

Photos; roll YES frames \_\_\_\_\_

Draw locations of notches (old and new), chips, and anomalies, etc.

Describe anomalies in numbering of marginals and any identification problems.

Entered by \_\_\_\_\_ date \_\_\_\_\_ on computer \_\_\_\_\_

Modified by \_\_\_\_\_ on \_\_\_\_\_

Do not abbreviate

# Data Sheet for Live Desert Tortoises

Write on this side only

Located by G. HOISINGTON / J. LOVE

Processed by G. HOISINGTON

Study site name SOLAR I ARRAY SITE

Township AERIAL MAP # 8 / GPS POINT # 69

Section \_\_\_\_\_ Quadrat \_\_\_\_\_

Coordinates (Reference SW corner)  
\_\_\_\_\_ meters North \_\_\_\_\_ meters East

UTM's 05E7545 n 3853108 e

Elevation ~ 2500 ft Accuracy ± 15 ft

County SAN BERNARDINO State CA

On Plot  Off Plot

Tortoise ID # \_\_\_\_\_

Year first marked \_\_\_\_\_

Verification of ID

Capture type \_\_\_\_\_ Sex M

Date (dd/mm/yy) 10 APR 2007

Time (PST): Start \_\_\_\_\_ End \_\_\_\_\_

Frequency \_\_\_\_\_ Transmitter # \_\_\_\_\_

Transmitter type N/A

Transmitter attached \_\_\_\_\_

Transmitter to be replaced on \_\_\_\_\_

PIT # \_\_\_\_\_



Show location of tortoise in quadrat

### Tortoise Location

Cover site type:  At cover site:  Not at cover site:

- burrow
- pallet
- shrub
- caliche cave
- rock shelter
- entering
- exiting
- on mound
- inside
- in open
- other



### Burrow Data

ID # NO BURROW

Orientation \_\_\_\_\_

Length \_\_\_\_\_ Height \_\_\_\_\_

Width \_\_\_\_\_ Soil cover \_\_\_\_\_

Location \_\_\_\_\_

### Survey Type

- Radio track
- Burrow search
- Coverage 1
- Coverage 2
- Incidental
- Other

### Tortoise Activity

- resting
- basking
- walking
- feeding
- Interacting with other tortoise
- Interacting with other animals

Describe interaction:

ID & sex of other tortoise \_\_\_\_\_  
Species \_\_\_\_\_

TORTOISE RESTING IN SHADE OF  
OPUNTIA RAMOSISSIMA

Plants/items eaten (specific):

No FORAGING ACTIVITY OBSERVED

Color (shell & skin) HV Hue Value Chroma Color

V1 (center)					
V4 (center)					
LC1,2&V2 (seam)					
LM5,6 & LC2 (seam)					
Foreleg					
Hindleg					

Are you color blind?  Yes  No

Type of blindness \_\_\_\_\_

### Body Measurements

MCL (mm) 11.5 in

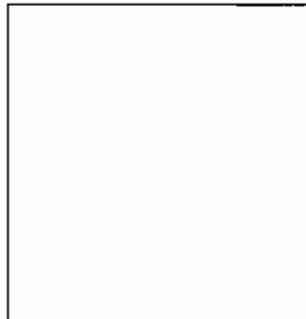
PLN (mm) \_\_\_\_\_

Weight (g) \_\_\_\_\_

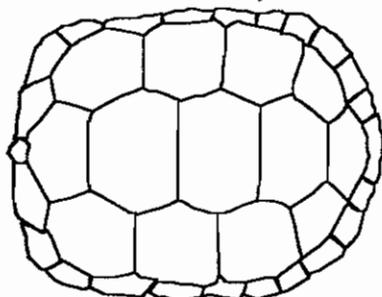
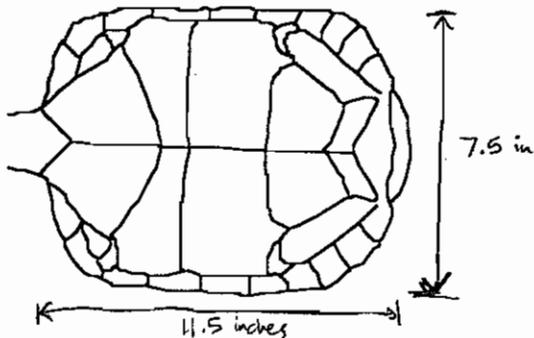
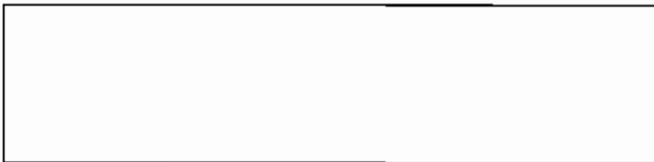
Void (g) \_\_\_\_\_

Total wt (g) \_\_\_\_\_

### Behavior



### Other notes



Photos; roll \_\_\_\_\_ frames \_\_\_\_\_

Draw locations of notches (old and new), chips, and anomalies, etc.

Describe anomalies in numbering of marginals and any identification problems.

Entered by \_\_\_\_\_ date \_\_\_\_\_ on computer \_\_\_\_\_

Modified by \_\_\_\_\_ on \_\_\_\_\_

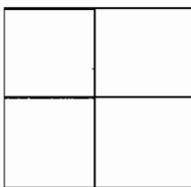
Do not abbreviate

### Data Sheet for Live Desert Tortoises

Write on this side only

Located by MICHAEL HUNER / BRIDGET CANTY  
Processed by M.H.  
Study site name SOLAR ONE - CADY MOUNTAINS

Tortoise ID # \_\_\_\_\_  
Year first marked \_\_\_\_\_  
Verification of ID   
Capture type \_\_\_\_\_ Sex ~~♂~~  
Date (dd/mm/yy) 13/04/07  
Time (PST): Start 9:30am End \_\_\_\_\_  
Frequency \_\_\_\_\_ Transmitter # \_\_\_\_\_  
Transmitter type \_\_\_\_\_  
Transmitter attached \_\_\_\_\_  
Transmitter to be replaced on \_\_\_\_\_  
PIT # \_\_\_\_\_



Show location of tortoise in quadrat

Township \_\_\_\_\_ Range \_\_\_\_\_  
Section \_\_\_\_\_ Quadrat \_\_\_\_\_

Coordinates (Reference SW corner)  
\_\_\_\_\_ meters North \_\_\_\_\_ meters East

UTM's 3854999 n 0550394 e

Elevation 700 m Accuracy ± \_\_\_\_\_ m

County San Bernardino State CA

On Plot  Off Plot

#### Tortoise Location

Cover site type:  burrow  pallet  shrub  caliche cave  rock shelter

At cover site:  entering  exiting  on mound  inside

Not at cover site:  in open  other

#### Tortoise Activity

resting  basking  walking  feeding  interacting with other tortoise  interacting with other animals

Describe interaction:

Plants/items eaten (specific):

#### Burrow Data

ID # \_\_\_\_\_  
Orientation \_\_\_\_\_  
Length 3' Height 5"  
Width 12" Soil cover sand/wave  
Location open flat top of dune

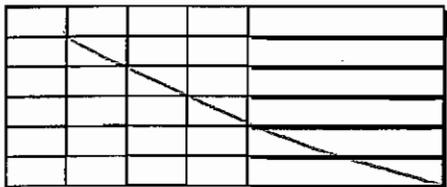
#### Survey Type

Radio track  
 Burrow search  
 Coverage 1  
 Coverage 2  
 Incidental  
 Other

ID & sex of other tortoise \_\_\_\_\_  
Species \_\_\_\_\_

Color (shell & skin) HV Hue Value Chroma Color

V1 (center)  
V4 (center)  
LC1,2&V2 (seam)  
LM5,6 & LC2 (seam)  
Foreleg  
Hindleg



Are you color blind?  Yes  No

Type of blindness \_\_\_\_\_

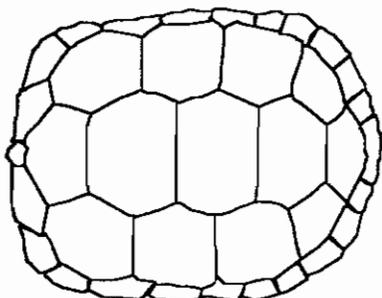
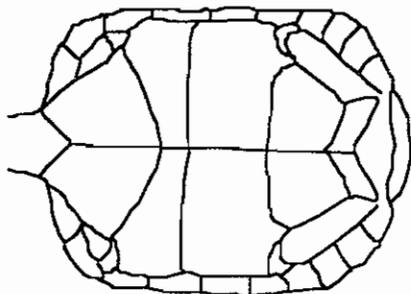
#### Body Measurements

MCL (mm) \_\_\_\_\_  
PLN (mm) \_\_\_\_\_  
Weight (g) \_\_\_\_\_  
Void (g) \_\_\_\_\_  
Total wt (g) \_\_\_\_\_  
New growth  present  absent  
Epoxy #  present  legible

#### Behavior

#### Other notes

2' inside burrow



Photos; roll \_\_\_\_\_ frames \_\_\_\_\_

Draw locations of notches (old and new), chips, and anomalies, etc.  
Describe anomalies in numbering of marginals and any identification problems.

Entered by \_\_\_\_\_ date \_\_\_\_\_ on computer \_\_\_\_\_

Modified by \_\_\_\_\_ on \_\_\_\_\_

Do not abbreviate

# Data Sheet for Live Desert Tortoises

Write on this side only

Located by G. Holsinger - J.C. Solarzano  
Processed by G. Holsinger  
Study site name SOLAR I ARRAY SITE

Township \_\_\_\_\_ Range \_\_\_\_\_  
Section \_\_\_\_\_ Quadrat \_\_\_\_\_

Coordinates (Reference SW corner)  
\_\_\_\_\_ meters North \_\_\_\_\_ meters East

UTM's 0551339 n 3053495 e

Elevation ~ 2100 ft Accuracy  $\pm$  15 ft

County SAN BERNARDINO State CA

On Plot  Off Plot

Tortoise ID # \_\_\_\_\_  
Year first marked \_\_\_\_\_  
Verification of ID   
Capture type \_\_\_\_\_ Sex UNKNOWN  
Date (dd/mm/yy) 13 APRIL 2007  
Time (PST): Start 0840 End \_\_\_\_\_  
Frequency \_\_\_\_\_ Transmitter # \_\_\_\_\_  
Transmitter type \_\_\_\_\_  
Transmitter attached \_\_\_\_\_  
Transmitter to be replaced on \_\_\_\_\_  
PIT # \_\_\_\_\_



Show location of tortoise in quadrat

## Tortoise Location

Cover site type: At cover site: Not at cover site:

- burrow
- pallet
- shrub
- caliche cave
- rock shelter
- entering
- exiting
- on mound
- inside
- in open
- other



## Burrow Data

ID # \_\_\_\_\_  
Orientation \_\_\_\_\_  
Length \_\_\_\_\_ Height \_\_\_\_\_  
Width \_\_\_\_\_ Soil cover \_\_\_\_\_  
Location \_\_\_\_\_

## Survey Type

- Radio track
- Burrow search
- Coverage 1
- Coverage 2
- Incidental
- Other

## Tortoise Activity

- resting
- basking
- walking
- feeding
- Interacting with other tortoise
- Interacting with other animals

ID & sex of other tortoise \_\_\_\_\_  
Species \_\_\_\_\_

Describe interaction:



Plants/items eaten (specific):

NOT FORAGING

Color (shell & skin) HV Hue Value Chroma Color

V1 (center)  
V4 (center)  
LC1,2&V2 (seam)  
LM5,6 & LC2 (seam)  
Foreleg  
Hindleg


Are you color blind?  Yes  No

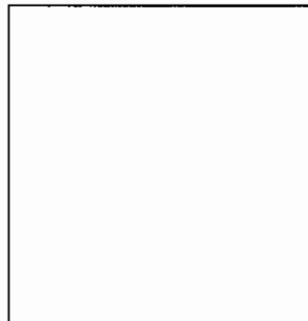
Type of blindness \_\_\_\_\_

## Body Measurements

MCL (mm) 10"  
PLN (mm) \_\_\_\_\_  
Weight (g) \_\_\_\_\_  
Void (g) \_\_\_\_\_  
Total wt (g) \_\_\_\_\_

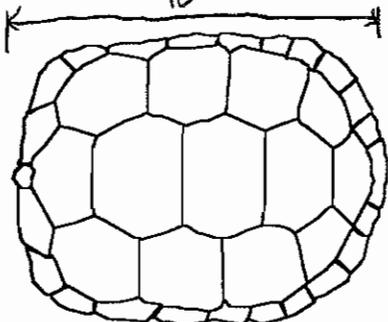
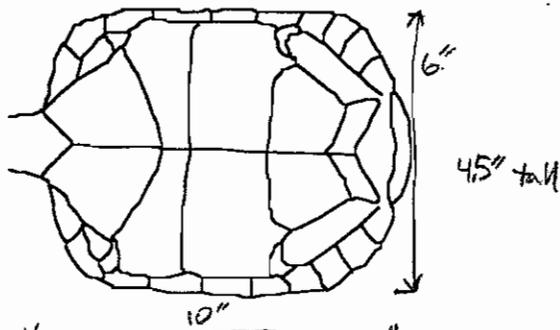
New growth  
 present  absent  
Epoxy #  
 present  legible

## Behavior



Other notes

TORTOISE LOCATED UNDER CREOSOTE BUSH NEAR ACTIVE BURROW SITE



Photos; roll \_\_\_\_\_ frames \_\_\_\_\_

Draw locations of notches (old and new), chips, and anomalies, etc.

Describe anomalies in numbering of marginals and any identification problems.

Entered by \_\_\_\_\_ date \_\_\_\_\_ on computer \_\_\_\_\_

Modified by \_\_\_\_\_ on \_\_\_\_\_

Do not abbreviate

# Data Sheet for Live Desert Tortoises

Write on this side only

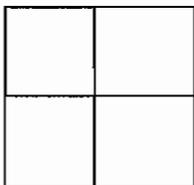
Located by Wayne Vogler, Kelly Sleeth  
 Processed by \_\_\_\_\_  
 Study site name Solar 1  
 Township Solar 1 Aerial map 2 Range \_\_\_\_\_  
 Section \_\_\_\_\_ Quadrat \_\_\_\_\_

Coordinates (Reference SW corner)  
 \_\_\_\_\_ meters North \_\_\_\_\_ meters East  
 UTM's 0548523 n 3855926 e US  
 Elevation 1987 ft Accuracy ± \_\_\_\_\_ m

County \_\_\_\_\_ State \_\_\_\_\_

On Plot  Off Plot

Tortoise ID # \_\_\_\_\_  
 Year first marked \_\_\_\_\_  
 Verification of ID   
 Capture type \_\_\_\_\_ Sex \_\_\_\_\_  
 Date (dd/mm/yy) 4/13/09  
 Time (PST): Start \_\_\_\_\_ End \_\_\_\_\_  
 Frequency \_\_\_\_\_ Transmitter # \_\_\_\_\_  
 Transmitter type \_\_\_\_\_  
 Transmitter attached \_\_\_\_\_  
 Transmitter to be replaced on \_\_\_\_\_  
 PIT # \_\_\_\_\_



Show location of tortoise in quadrat

### Tortoise Location

Cover site type:  burrow  entering  in open  
 pallet  exiting  other  
 shrub  on mound  resting under shrub & annual grasses  
 caliche cave  inside  
 rock shelter

### Burrow Data

ID # \_\_\_\_\_  
 Orientation \_\_\_\_\_  
 Length \_\_\_\_\_ Height \_\_\_\_\_  
 Width \_\_\_\_\_ Soil cover \_\_\_\_\_  
 Location \_\_\_\_\_

### Survey Type

Radio track  
 Burrow search  
 Coverage 1  
 Coverage 2  
 Incidental  
 Other

### Tortoise Activity

resting  Interacting with other tortoise  
 basking  Interacting with other animals  
 walking  
 feeding

ID & sex of other tortoise \_\_\_\_\_  
 Species \_\_\_\_\_

Describe interaction:

Plants/items eaten (specific):

Color (shell & skin) HV Hue Value Chroma Color

V1 (center)  
 V4 (center)  
 LC1,2&V2 (seam)  
 LM5,6 & LC2 (seam)  
 Foreleg  
 Hindleg


Are you color blind?  Yes  No

Type of blindness \_\_\_\_\_

### Body Measurements

MCL (mm) 10 in - 254  
 PLN (mm) 145  
 Weight (g) \_\_\_\_\_  
 Void (g) \_\_\_\_\_  
 Total wt (g) \_\_\_\_\_

### Behavior

resting, limbs drawn up, fresh scrapings/burrowing around individual

New growth  
 present  absent  
 Epoxy #  
 present  legible

Other notes

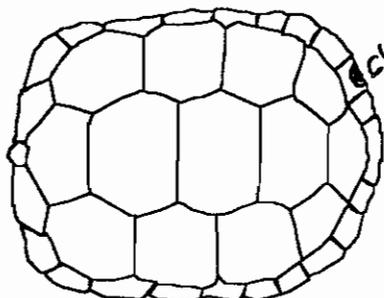
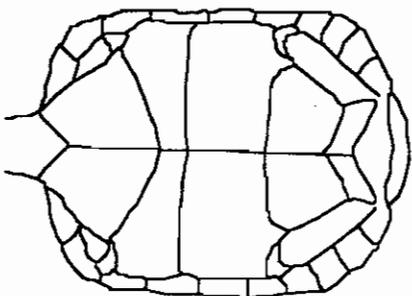
Photos; roll \_\_\_\_\_ frames \_\_\_\_\_

Draw locations of notches (old and new), chips, and anomalies, etc.

Describe anomalies in numbering of marginals and any identification problems.

Entered by \_\_\_\_\_ date \_\_\_\_\_ on computer \_\_\_\_\_

Modified by \_\_\_\_\_ on \_\_\_\_\_



**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 323:** Please specify the agencies that have accepted the desert tortoise surveys as being valid and that have stated no additional survey effort is necessary. In your response, please cite the individuals that have made these determinations.

**Response:** The following agencies and individuals have accepted the desert tortoise surveys are valid and that no additional survey effort is necessary:

- United States Fish and Wildlife Service – Ashleigh Blackford and Ray Bransfield
- Bureau of Land Management – Chris Otahal and Larry LePre
- California Department of Fish and Game – Becky Jones

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 324:** Please provide any documentation in the applicant's possession that demonstrates that no additional survey efforts are needed.

**Response:** Survey protocols were accepted by the USFWS, BLM, and CDFG via personal communication and as acknowledged by the agencies during the CEC workshop held on October 8, 2009 in Barstow, CA.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 325:** Please clarify the acreage value that will be used to determine desert tortoise habitat compensation.

**Response:** The entire approximately 8,230-acre Project site will be used to determine desert tortoise habitat compensation.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 326:** If portions of the Project site and temporary access road will be impacted but not included in habitat compensation calculations, please discuss how these portions of the Project were deemed unsuitable for desert tortoise.

**Response:** The entire approximately 8,230-acre Project site will be used to determine desert tortoise habitat compensation.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 327:** Please clarify whether the applicant's mitigation for proposed maintenance activities outside of the perimeter fence hinges solely on the requirements of the resource agencies, or whether the applicant continues to propose the mitigation measures outlined in the AFC. If the latter, please discuss how occupied desert tortoise habitat will be identified in areas requiring maintenance activities.

**Response:** A biological monitor will be present during maintenance activities that occur in desert tortoise habitat outside the perimeter fence. Native creosote bush scrub habitat outside the perimeter fence will be considered desert tortoise habitat and treated as if it is occupied during such maintenance.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 328:** Please indicate the season of the year pre-construction burrowing owl surveys will be conducted.

**Response:** Pre-construction owl surveys may be conducted any time of the year. They will be conducted 30 days prior to site disturbance for the proposed Project.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 329:** Please discuss how the applicant intends to determine owl residency status, and thus the significance of Project impacts on burrowing owls.

**Response:** Residency status of owls can only be determined during pre-construction surveys for active burrows. Project impacts on burrowing owl are assumed and mitigation land purchased for desert tortoise will also include a burrowing owl component to offset impacts to burrowing owl.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 330:**

Please clarify the applicant's statement that focused surveys were conducted for the burrowing owl by:

- a. Discussing any focused survey efforts (i.e., non-incident) that were devoted to locating owls and owl sign. Please include the dates these efforts were conducted and the personnel that were involved.
- b. Indicating whether burrowing owl surveys were conducted during the hours around sunrise and sunset, as outlined in the survey protocol.<sup>42</sup>
- c. Indicating whether burrows were mapped in accordance with the survey protocol.<sup>43</sup> If the answer is yes, please provide a map showing burrow concentrations.
- d. Indicating the techniques that were used to determine whether burrows were being used (or had been used) by an owl.
- e. Specifying whether all burrows were examined for signs of owl use.
- f. Indicating whether potential owl burrows were monitored to determine owl use. If the answer is yes, please provide the dates, times, and locations of the monitoring efforts.
- g. Indicating how much of the Project area and surrounding buffer were surveyed for burrowing owls (i.e., did surveys provide 100% coverage or did they represent a sample).
- h. Indicating whether burrowing owl surveys were conducted outside of the Project boundary, including along the proposed transmission line extension route and around the Pisgah Substation.

**Response:** No burrowing owl focused surveys were conducted.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 331:** Please clarify how the proposed pre-construction surveys will follow the Burrowing Owl Consortium protocol by discussing the specific components of the protocol that will be followed.

**Response:** Proposed pre-construction surveys will follow the Burrowing Owl Consortium Protocol Phase II burrow surveys. Particularly the date and time of visits including weather and visibility conditions. Survey methods including transect spacing (10 meters). Results of survey transects including a map showing the location of concentrations of burrow(s) (natural or artificial) and owl(s), if present.

The entire site will require desert tortoise clearance surveys, this will entail a thorough search of every suitable burrow on-site, while walking 10 meter transects. This level of effort will encompass the burrowing owl pre-construction survey proposed for the site, as each burrow encountered will be inspected for owl sign and use in addition to tortoise occupancy. Each burrow will additionally be scoped (checked with a fiber-optic scope) to ensure no desert tortoise or burrowing owl are present. Any information collected pertaining to the presence of burrowing owls or burrowing owl burrows will be recorded.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 332:** Please provide documentation of any correspondence with CDFG on the need to conduct protocol surveys for the burrowing owl.

**Response:** CDFG is aware that the site is occupied by owls, therefore protocol presence/absence surveys are not required. Pre-construction surveys will ensure there are no take of burrowing owl.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 333:**

Please provide the sampling scheme used to survey for rare plants. Specifically,

- a. Provide the sampling design that was used (e.g., simple random, systematic, stratified random, etc.).
- b. Provide the amount of area inside and outside of the Project site that was included in the sample (i.e., the sample size, or the area that was physically inspected for rare plants).
- c. Provide the sampling methods that were used in the field to ensure systematic and thorough coverage of potential impact areas.
  - i. Were line transects used? If yes, please provide information on the locations of the lines, the length of lines, the spacing between lines, and the number of biologists that walked each line.
  - ii. Were sampling plots used? If yes, please provide information on how plots were established (e.g., random), the size of plots, the total number of plots, their locations, and the number of biologists that inspected each plot.

**Response:**

- a. The entire site was encompassed by a grid of 240-acre squares. Two biologists walked in a meandering path through belt transects approximately 40 meters apart throughout the entire 240-acre cell, with special attention being paid to areas where sensitive species were expected to occur (i.e., drainages and washes).
- b. The entire approximately 8,230-acre Project site and an additional 1,000-foot buffer encompassing an additional 2,660 acres was surveyed for rare plants.
- c. Meandering transects spaced 40 meters apart were used to cover the entire site. Regionally significant populations, if present, would have been detected using this method. The site was covered systematically as each 240-acre cell was surveyed. The length of each transect was the length of one side of a 240-acre cell or approximately 3,230 feet. Each transect was walked by one biologist. The transects were walked such that the biologist walked back and forth across the transect centerline to maximize coverage and potential observance of special status plant species. Additionally, extra time was spent in areas most likely to support the target special status species likely to occur on-site, such as drainage and wash features.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 334:** The CEC siting regulation presented in Appendix B (g) (13) (B) (i) requires detailed maps that show where biological resource surveys were conducted.<sup>56</sup> Please clarify whether this regulation applies to the Project. If so, please provide the maps.

**Response:** The CEC siting regulation presented in Appendix B (g) (13) (B) applies to the Project. The regulation states that “Detailed maps at a scale of 1:6,000 or color aerial photographs taken at a recommended scale of 1 inch equals 500 feet (1:6,000) with a 30 percent overlap that show the proposed Project site and related facilities, biological resources including, but not limited to, those found during Project-related field surveys and in records from the California Natural Diversity Database, and the associated areas where biological surveys were conducted. Label the biological resources and survey areas as well as the Project facilities.” Maps were provided at an appropriate scale to represent the resources onsite. See Figures 5.6-1 to 5.6-6 in the AFC.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 335:** CEC siting regulations require the applicant to conduct biological resources surveys using appropriate field survey protocols during the appropriate season(s), and that State and federal agencies with jurisdiction be consulted for field survey protocol guidance prior to surveys if a protocol exists.<sup>57</sup> Please clarify whether this regulation applies to the Project.

**Response:** Natural resource agencies involved with the Project were consulted prior to conducting surveys for this Project. No special status plant species with the potential to occur on site have species-specific protocol surveys that are or were required by these agencies. The BLM and CEC deem the survey methods used acceptable and the surveys are in compliance with the applicable CEC siting regulations.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 336:** The West Mojave Plan requires botanical surveys that conform to CDFG protocol survey guidelines.<sup>58</sup> Please clarify whether the Project is required to meet the conditions set forth in the West Mojave Plan.

**Response:** The Project is required to meet the conditions set forth in the West Mojave Plan. We have also looked in the West Mojave Plan and do not find the section that stipulates that CDFG protocol survey guidelines must be followed for botanical surveys. We searched the cited reference (footnote 58): Bureau of Land Management. Final Environmental Impact Report and Statement for the West Mojave Plan: a habitat conservation plan and California desert conservation area plan amendment. Moreno Valley (CA): U.S. Dept. of the Interior, Bureau of Land Management, California Desert District.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 337:** Please justify the abundance numbers the AFC provided for the four rare plant species detected on the site given the site was sampled, not censused.

**Response:** The numbers of the four rare plant species reported in the AFC found during surveys are simply the results of the surveys performed using methods approved by the relevant agencies, as previously described. The level of effort was appropriate to identify regionally significant populations of rare plants and the results are not meant to be extrapolated to estimate an overall population density.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 338:** Please provide a response to CURE data request 65, which asked the applicant to discuss whether Project surveyors were aware of the relatively large population of crucifixion-thorn that has historically been documented as occurring within the Project area. If surveyors were aware of this information, please discuss any extra effort that was devoted to locating the population.

**Response:** Based on queries to the California Natural Diversity Database (CNDDDB), there were no reported relatively large populations of crucifixion-thorn within the Project area. The CNDDDB is a database of sensitive plant and animal observations throughout the state of California, maintained by the California Department of Fish and Game. The CNDDDB shows a large population of crucifixion-thorn approximately six miles east of the site, with smaller populations approximately two miles south of the site; approximately two miles northeast of the site, and approximately seven miles southeast of the site. The survey conducted was sufficient to detect the occurrence of crucifixion-thorn, a large shrub/tree species.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 339:** Please confirm that the applicant will not be making any effort to avoid and minimize Project impacts to the rare plants known to occur in the Project area as suggested in the applicant's response to CURE data request 66.

**Response:** It is not true that the Applicant will not be making any effort to avoid and minimize rare plant populations known to occur on-site. Rare plant populations will be flagged prior to site disturbance. Efforts will be made to minimize/avoid impacting these populations to the extent feasible. 75-foot strips of native vegetation will remain intact between every other row of two SunCatchers. Rare plants occurring in these strips will not be impacted. Vegetation under the other two rows of SunCatchers will be mowed to allow for installation of SunCatchers, but will then be allowed to regenerate from the cut stems, seed or other means. The majority of rare plants on-site are annuals which seasonally grow and die back. Most annuals on-site are also smaller plants less than 12 inches tall. That being said, depending on the time of year the trimming takes place, some of these plants may not have even emerged from the ground when trimming occurs. Even if they are present during trimming, it is anticipated that the annual rare plants occurring in mowed vegetation areas will regenerate and continue to persist because the seedbank for these species will remain undisturbed in the soil.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 340:** Please discuss the local, regional, and range wide significance of Project impacts on small-flowered androstephium.

**Response:** This request was previously asked and answered (please see the Applicant's response to CURE Data Request 58). The previous answer is provided below:

In the immediate area the BLM has designated the Pisgah Area of Critical Environmental Concern (ACEC). There are as many small-flowered androstephium inside this ACEC. This species occurs throughout the desert province, but is largely concentrated in the Mojave Desert. This Project impacts a small area within the greater range of this species and nearby occurrences have been conserved through the creation of the ACEC adjacent to the Project site.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 341:** Please discuss the cumulative impacts of the Project on small-flowered androstephium. In your response, please indicate the number of known occurrences of small-flowered androstephium that will remain if all projects proposed for the region are approved.

**Response:** Because the entire range of small-flowered androstephium has not been surveyed, it is impossible to determine the overall number that exist. We do not have data from other proposed projects in the region that show whether or not small-flowered androstephium occurs on those projects or not, and cannot practicably estimate the number of known occurrences of small-flowered androstephium that will remain if all the projects proposed for the region are approved, which in itself is highly unlikely.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 342:** Please discuss the cumulative impacts of the Project on white-margined beardtongue. In your response, please indicate the number of known occurrences of white-margined beardtongue that will remain if all projects proposed for the region are approved.

**Response:** Because the entire range of white-margined beardtongue has not been surveyed, it is impossible to determine the overall number that exists. We do not have data from other proposed projects in the region that show whether or not white-margined beardtongue occurs on those projects or not, and cannot practicably estimate the number of known occurrences of white-margined beardtongue that will remain if all the projects proposed for the region are approved, which in itself is highly unlikely.

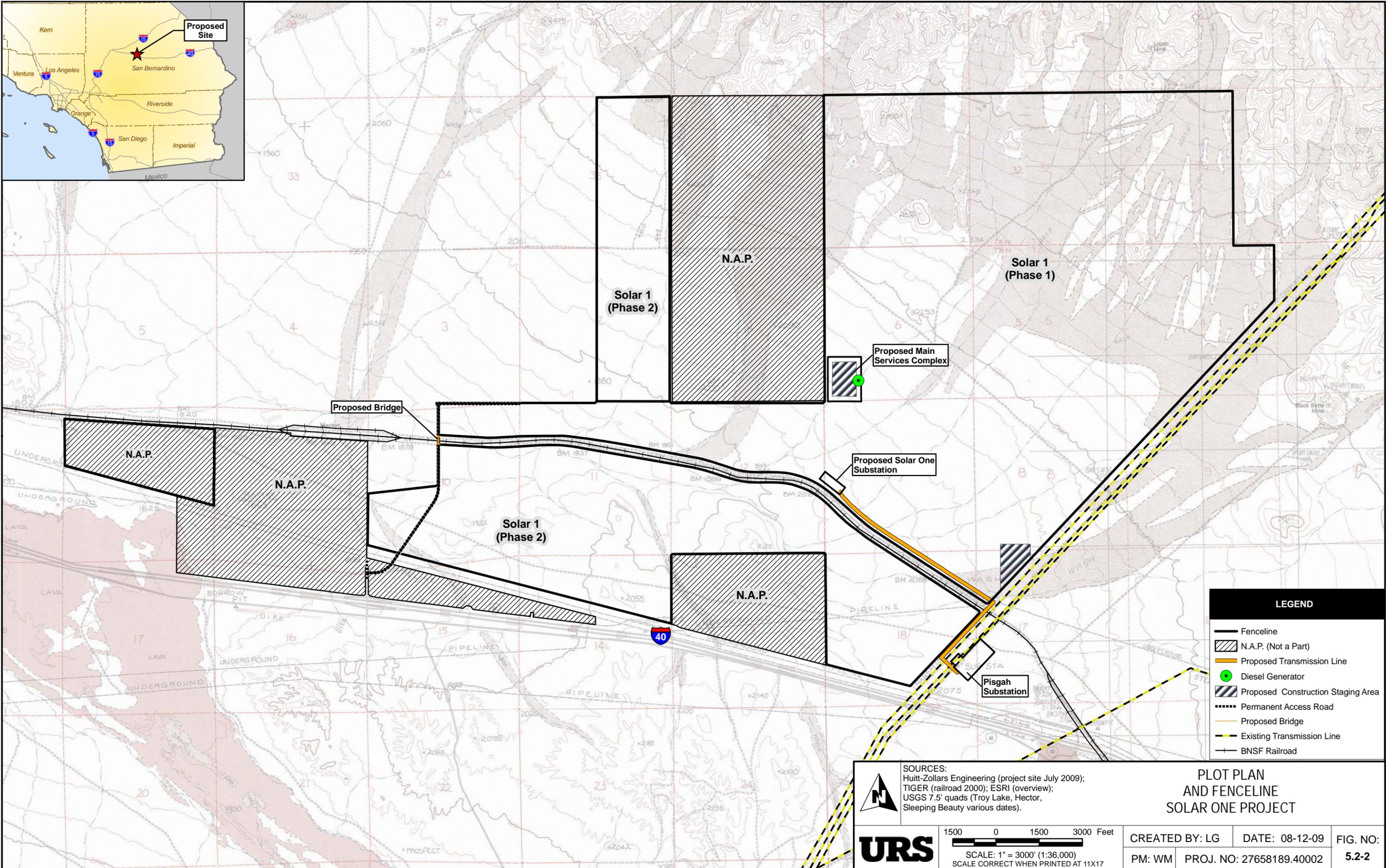
**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 343:** Please provide a revised “Regional Context” map (similar to AFC Figure 5.6-7) that includes current information on proposed development projects.

**Response:** The requested figure is provided as attachment BIO-2, located behind this response. As was explained to CURE during the Issues Identification and Data Request Resolution workshop, this data is publicly available through the BLM LR-2000 database and should CURE wish to track changes in this information, they need only to visit the website.



LEGEND	
	Fenceline
	N.A.P. (Not a Part)
	Proposed Transmission Line
	Diesel Generator
	Proposed Construction Staging Area
	Permanent Access Road
	Proposed Bridge
	Existing Transmission Line
	BNSF Railroad

**SOURCES:**  
 Huitt-Zollars Engineering (project site July 2009);  
 TIGER (railroad 2000); ESRI (overview);  
 USGS 7.5' quads (Troy Lake, Hector,  
 Sleeping Beauty various dates).

**URS**

1500 0 1500 3000 Feet  
 SCALE: 1" = 3000' (1:36,000)  
 SCALE CORRECT WHEN PRINTED AT 11X17

**PLOT PLAN  
 AND FENCELINE  
 SOLAR ONE PROJECT**

CREATED BY: LG	DATE: 08-12-09	FIG. NO:
PM: WM	PROJ. NO: 27658189.40002	<b>5.2-2</b>

Path: G:\gis\projects\15727658189\mxd\AQ\_CEC\_Data\_Request\air\_plotplan.mxd, 10/30/09, Randall\_Clarke

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 344:** Please provide a copy or citation for the specific CEC regulation referenced in Appendix Y, p. 2-3 of the AFC.

**Response:** Appendix B (g) (13) (B) "Include a list of the species actually observed and those with a potential to occur within 1 mile of the Project site and 1,000 feet from the outer edge of linear facility corridors."

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 345:** Please provide a map of the habitat(s) to the north and south of the Project site up to the 1-mile buffer.

**Response:** A map of all habitat(s) within a 1-mile buffer of the site is not readily available.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 346:**

Please clarify whether the applicant will monitor the effect of the Project on MFTL habitat. If monitoring will be conducted, please:

- a. Discuss the specific techniques that will be used to monitor MFTL habitat.
- b. Identify which of the on- and off-site MFTL habitats that were identified in the AFC will be monitored.
- c. Provide the frequency and duration of proposed monitoring.
- d. Provide the criteria that will be used to determine whether the Project is having an adverse effect on MFTL habitat.
- e. Discuss the mitigation that will be implemented if monitoring reveals the Project is having an adverse effect on MFTL habitat.

**Response:**

- a. MFTL habitat will be excluded from construction activities on the site with silt fencing.
- b. The MFTL habitats within the boundaries of the Project will be fenced. When there is active construction in the area then a biological monitor will be present.
- c. A MFTL monitor will be present when construction activities are in the vicinity of MFTL habitat.
- d. The Project will be having an adverse effect on MFTL if they are extirpated from the site.
- e. If the Project is deemed to be having an adverse effect on MFTL or MFTL habitat then consultation with the BLM will determine the best option for mitigation for these impacts. Most likely, offsite mitigation land would be purchased.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

- Data Request 347:** Please discuss how Mr. Thomas determined bighorn sheep habitat suitability within the Project study area.
- a. Indicate and justify the criteria that were used to define habitat suitability.
  - b. Indicate the data that were used to determine habitat suitability.
  - c. Discuss the field efforts that were used to collect and/or validate data on habitat characteristics.
  - d. Provide any data on bighorn sheep occurrence in the Project study area used in delineating suitable habitat, and/or that are available from the BLM, CDFG, USFWS, bighorn sheep conservation societies, local experts, or wildlife researchers.
  - e. Please provide a resume or curriculum vitae for Mr. Thomas.

**Response:** Mr. Thomas is an expert on the local population of bighorn sheep. The criteria used by Mr. Thomas were not provided to URS or the Applicant.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 348:** Please clarify whether any other individuals or agencies were consulted for information on bighorn sheep occurrence within the Project study area.

**Response:** The BLM, USFWS, and CDFG concur with regards to bighorn sheep data presented in the AFC.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 349:** Please provide the bighorn sheep sighting information referenced in the applicant's response to CURE data request 88.

**Response:** No bighorn sheep sightings were made within the survey area during surveys. The "sighting" referenced in the Applicant's response to CURE Data Request 88 is misunderstood and refers to information regarding the vicinity of the Project site, and not necessarily the Project site itself.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 350:** Please discuss the significance of direct, indirect, and cumulative Project impacts on bighorn sheep.

**Response:** Direct Project impacts to bighorn sheep involve the removal of 458.3 acres of suitable habitat. Indirect Project impacts include the potential disturbance to 404.5 acres of suitable habitat in the 1000-foot buffer of the site. Additional indirect impacts to bighorn sheep include avoidance of habitat outside of the fence that the Project may be visible to sheep from. This area is mainly comprised of the foothills facing the Project site. Cumulative impacts are negligible as abundant land is available within the bighorn sheep use area. Additionally, the Project does not impede movement corridors between use areas.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 351:** Please discuss the applicant's proposed mitigation for Project impacts to bighorn sheep habitat.

**Response:** Impacts to bighorn sheep habitat would be mitigated by provision of a new guzzler facility within the movement corridor between the year-round range and water range located southeast of the Project site.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 352:** Please provide a discussion of the analysis that was used to estimate Project impacts to wildlife corridors.

**Response:** A visual analysis based on modeled desert tortoise habitat was used to determine potential movement corridors, with the focus on maintaining movement between designated critical habitat areas. Two designated desert tortoise critical habitat areas exist, one to the northwest of the site and another to the southwest of the site. Implementation of the Project will not impede movement between these two areas.

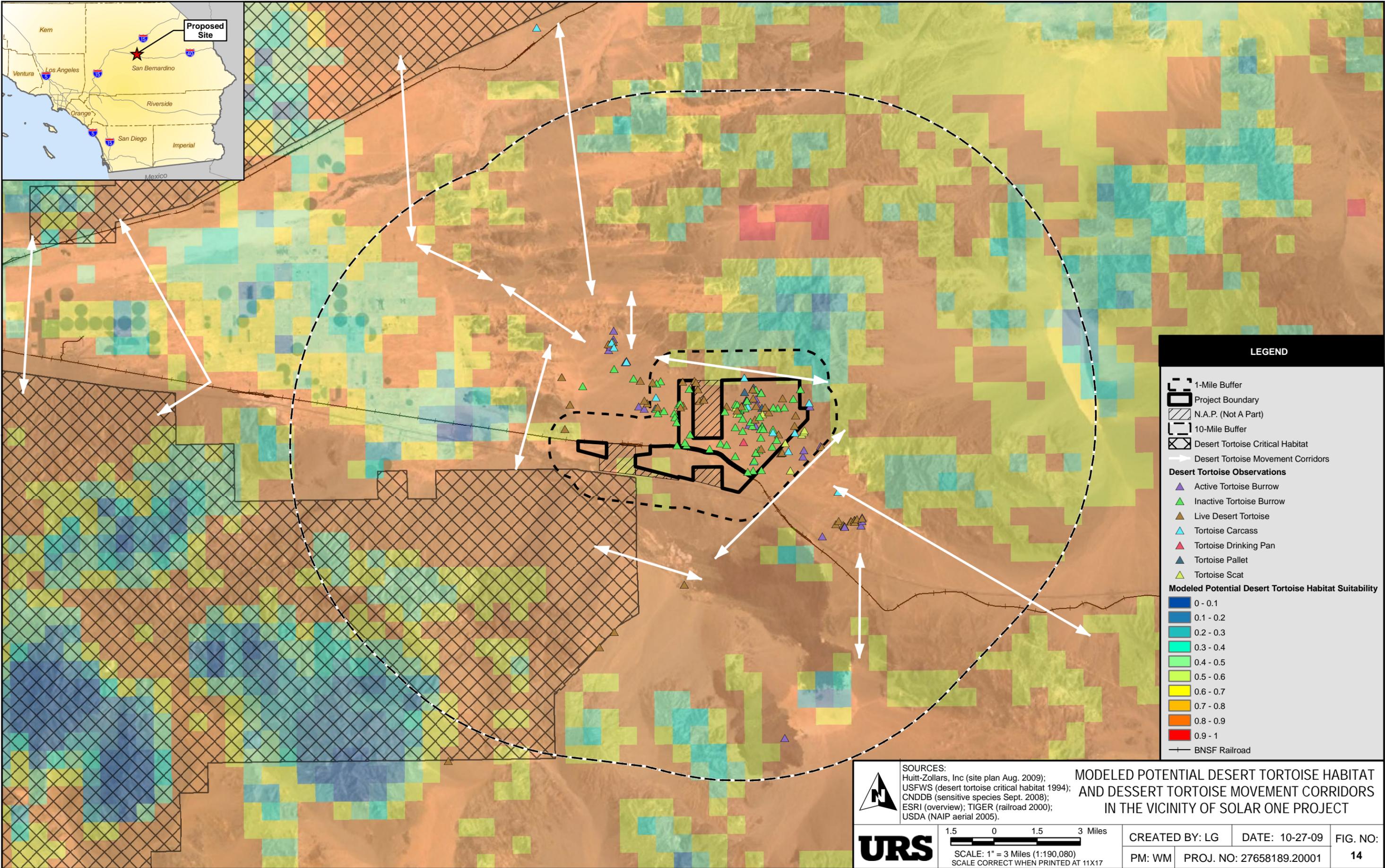
**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 353:** Please provide a map that shows the corridors east and north of the Project site referenced by the applicant.

**Response:** The requested figure is provided as attachment BIO-3, located behind this response.



**LEGEND**

- 1-Mile Buffer
- Project Boundary
- N.A.P. (Not A Part)
- 10-Mile Buffer
- Desert Tortoise Critical Habitat
- Desert Tortoise Movement Corridors

**Desert Tortoise Observations**

- Active Tortoise Burrow
- Inactive Tortoise Burrow
- Live Desert Tortoise
- Tortoise Carcass
- Tortoise Drinking Pan
- Tortoise Pallet
- Tortoise Scat

**Modeled Potential Desert Tortoise Habitat Suitability**

- 0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1
- BNSF Railroad

**SOURCES:**  
 Huitt-Zollars, Inc (site plan Aug. 2009);  
 USFWS (desert tortoise critical habitat 1994);  
 CNDDB (sensitive species Sept. 2008);  
 ESRI (overview); TIGER (railroad 2000);  
 USDA (NAIP aerial 2005).

**MODELED POTENTIAL DESERT TORTOISE HABITAT AND DESERT TORTOISE MOVEMENT CORRIDORS IN THE VICINITY OF SOLAR ONE PROJECT**

URR

1.5 0 1.5 3 Miles  
 SCALE: 1" = 3 Miles (1:190,080)  
 SCALE CORRECT WHEN PRINTED AT 11X17

CREATED BY: LG	DATE: 10-27-09	FIG. NO:
PM: WM	PROJ. NO: 27658189.20001	14

Path: G:\projects\157727658\100\mxd\Bio\Exhibit\bio\_sl\_DT\_movement\_routes.mxd, 10/19/09, jason\_sokol

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 354:** Please clarify whether the California horned lark was detected in the assessment area. If California horned lark were detected, please indicate whether this species exhibited any breeding activity. If they were not detected, please clarify why the AFC indicates the California horned lark is one of the special-status species detected within the assessment area.

**Response:** California horned lark was detected on-site. The sensitive subspecies was not detected on-site and only occurs along the coast. The behavior of the species was not noted. The incorrect subspecies was noted in the AFC. Once this error was identified, it was corrected. The special-status subspecies listed in the AFC does not occur in the desert. This error has since been corrected in revised documents.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 355:** Please quantify the “extensive amount of suitable habitat” that will remain for special-status bird species within the Project area after the Project is built, and if all projects proposed for the region are approved.

**Response:** Approximately one third of the Project site (2,743 acres) will remain intact after the Project is built. The habitat will remain intact in its native state, which is currently suitable for use. The habitat will occur in approximately 75-foot wide rows of vegetation between every other two rows of SunCatchers and associated access road (totaling approximately 150 feet wide). Information on the number and size of all the projects proposed for the region and subsequently the amount of habitat that would remain is not readily known; therefore, that information cannot be presented here.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 356:** Please also provide a map of the suitable habitat that remain for special-status bird species within the Project area after the Project is built, and if all projects proposed for the region are approved.

**Response:** Existing maps and descriptions previously provided in the AFC and other dockets provide such maps, especially those showing Project footprint development.

Information on the number and size of all the Projects proposed for the region and subsequently the amount of habitat that would remain is not readily known; therefore, a map of that information cannot be presented here.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 357:** If the applicant is unable to provide the requested information, please provide a revised impact assessment that does not rely on unknown information.

**Response:** The requested information has been provided.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 358:** Please discuss site-specific environmental factors and line-related factors influencing the collision risk.

**Response:** Site specific environmental factors that may influence avian collision risk are minor. Weather conditions at the Project site are usually expected to be clear, with little to no fog anticipated. Surrounding land use is comprised of open space, minimizing obstacles that may hide any objects with which birds could possible collide with. Human activities that may flush birds include routine maintenance of the SunCatchers, which is anticipated to take place on a rolling basis throughout the entire site, minimizing the potential flushing of any birds that are on-site. Line-related factors are discussed in Section 5.6.8 of the AFC.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 359:** Please clarify whether the applicant intends to implement any proactive design measures (i.e., upon completion of construction) at the evaporation ponds to reduce potential for wildlife mortality.

**Response:** An evaporation pond may or may not be necessary. If necessary, the pond may also be covered from the outset to eliminate potential for wildlife mortality; however, if evaporation is required over percolation, this covering may not be feasible. There are several debris/infiltration basins throughout the site that will hold water for no longer than 72 hours. These basins will be built to allow wildlife a means of exit.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 360:** Please indicate the slope of the banks in the Project evaporation ponds.

**Response:** An evaporation pond may or may not be necessary. If necessary, the pond may also be covered or not, from the outset to eliminate potential for wildlife mortality. If unnecessary or necessary and covered, then this request is no longer applies. If necessary and uncovered, the slope of banks will be 2:1. The debris/infiltration basins will also be built in the same manner.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 361:** Please indicate whether an evaporation pond monitoring program will be implemented.

**Response:** An evaporation pond monitoring program will be implemented if the design plan indicates that an evaporation pond is necessary and is uncovered.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 362:** Please provide a map that shows the precise areas within each survey grid where each distinct (e.g., special-status plants, desert tortoise, burrowing owl) biological resource survey was conducted.

**Response:** AFC Figure 5.6-4 and 5.6-5 show the survey grids where surveys were conducted. AFC Section 5.6.1.1. details the areas where resource surveys were conducted within those survey grids.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 363:** Please provide a map that clearly depicts the locations of special-status species occurrences in relation to Project features (e.g., boundaries).

**Response:** AFC Figure 5.6-4 shows the locations of special status species occurrences in relation to Project boundaries.

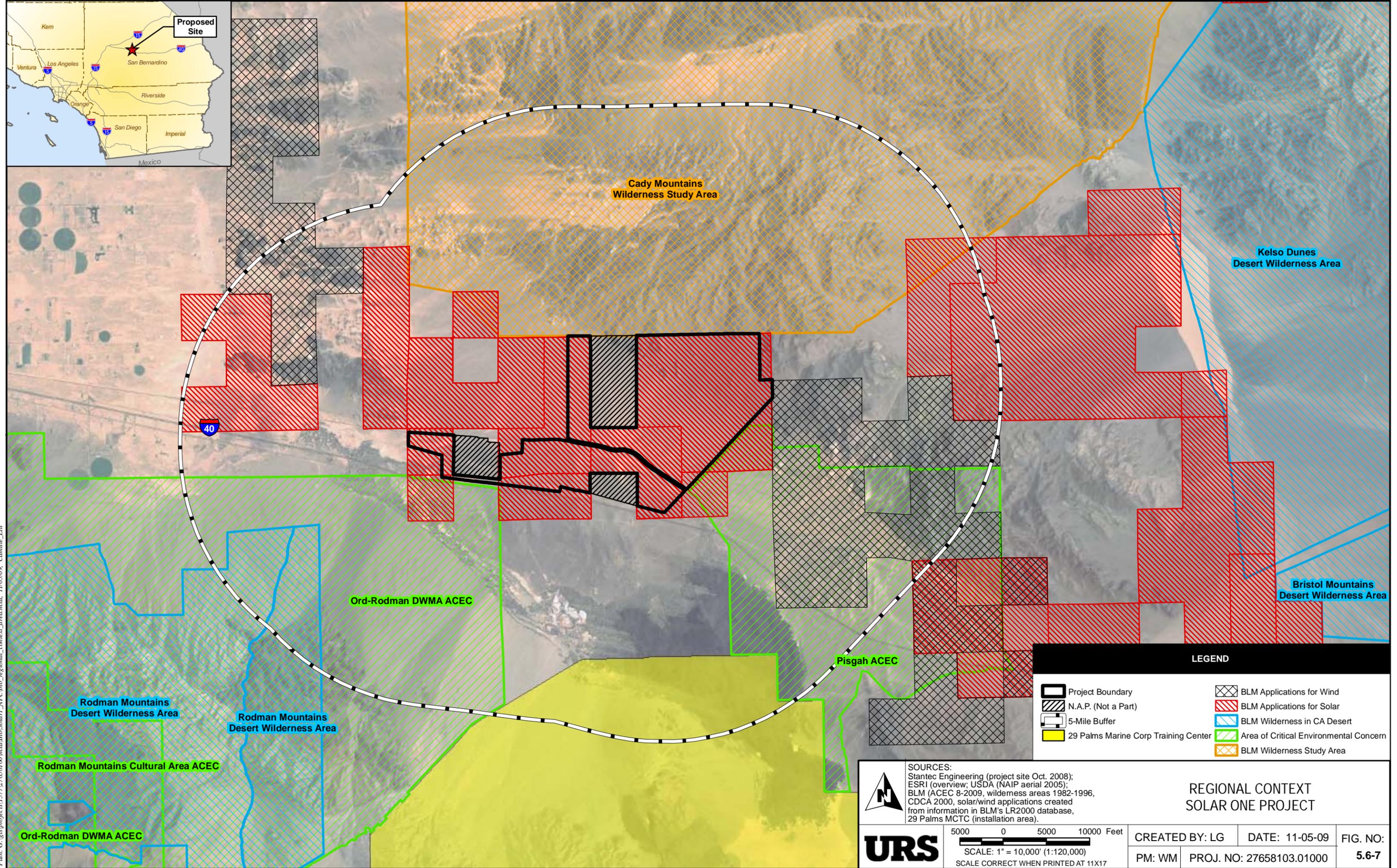
**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 364:** Please update the map or provide a new map that reflects changes in Project features (including utility lines) since the AFC was issued.

**Response:** The requested map is provided as attachment BIO-4, located behind this response.



Path: G:\gis\projects\157727658100\mxd\Biosolar1\_AFCbio\_regional\_context\_area.mxd, 11/05/09, Camille\_Lill

**LEGEND**

Project Boundary	BLM Applications for Wind
N.A.P. (Not a Part)	BLM Applications for Solar
5-Mile Buffer	BLM Wilderness in CA Desert
29 Palms Marine Corp Training Center	Area of Critical Environmental Concern
	BLM Wilderness Study Area

**SOURCES:**  
 Stantec Engineering (project site Oct. 2008);  
 ESRI (overview; USDA (NAIP aerial 2005));  
 BLM (ACEC 8-2009, wilderness areas 1982-1996,  
 CDCA 2000, solar/wind applications created  
 from information in BLM's LR2000 database,  
 29 Palms MCTC (installation area).

**URS**

5000 0 5000 10000 Feet  
 SCALE: 1" = 10,000' (1:120,000)  
 SCALE CORRECT WHEN PRINTED AT 11X17

**REGIONAL CONTEXT  
SOLAR ONE PROJECT**

CREATED BY: LG	DATE: 11-05-09	FIG. NO:
PM: WM	PROJ. NO: 27658103.01000	<b>5.6-7</b>

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 365:** Please discuss the status of the applicant's attempts to identify off-site habitat mitigation, and if available, the location(s) of the proposed mitigation lands.

**Response:** There have been no changes in the status since CURE's previous data request.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 366:** Please provide a discussion of *compliance and monitoring* programs for desert tortoise relocation, and for Project impacts to burrowing owl, Mojave fringe-toed lizard, wildlife movement, special-status plants, and avian collision hazards.

**Response:** A desert tortoise relocation plan that will comply with federal agency requirements is being produced. Surveys for burrowing owls will be pre-construction, no impacts are known at this time. Project impacts on special status species are discussed in AFC Section 5.6.4.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 367:** Please provide copies of any written correspondence between the applicant and state and federal resources agencies regarding the need for federal or state permits. For verbal correspondence, please provide the name of the individual contacted and the results of the conversation.

**Response:** The Applicant does not have written correspondence regarding the need for federal or state permits. The Applicant has discussed the need for a Streambed Alteration Agreement (SAA) with Becky Jones of the California Department of Fish and Game. It was determined that an SAA should be applied for. This was discussed with CURE during the September 16, 2009 Workshop. Additionally, the Applicant has discusses that no Section 404 permit is required with Jim Mace of the U.S Army Corps of Engineers (USACE). The USACE has determined that no waters of the U.S. occur onsite; therefore, no Section 404 permit is required.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 368:** Please discuss any attempts that will be made to revegetate areas temporarily impacted by ground disturbance during the construction phase, and on the Project site once the Project is decommissioned.

**Response:** Areas temporarily disturbed by ground disturbance will be left to naturally regenerate during Project operations. A revegetation plan for the Project site after decommissioning has not been prepared.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 369:** Please indicate how coyotes, foxes, and any other target predator species will be managed within the site, and clarify how these predators will be excluded from the site while still allowing other wildlife to move through the site.

**Response:** The Project site will be fenced with tortoise exclusion fencing and security fencing, likely preventing the large wildlife species mentioned above from entering the Project site. Only smaller wildlife and bird species will be able to use the site after construction.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 370:** Please define what the applicant considers “significant” raven predation and discuss how the applicant will determine whether significant raven predation of the desert tortoise and Mojave fringe-toed lizard is occurring. In your response, provide the criteria by which significance will be determined.

**Response:** Raven management is discussed in the Raven Management Plan submitted to CEC and BLM on July 17, 2009 as the Applicant’s response to CEC and BLM Data Request 55. Observed predation of desert tortoise and/or Mojave fringe-toed lizard would be considered significant and require immediate remedial actions. The goal of the raven management plan is to control raven numbers on-site to deter predation.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 371:** If the applicant has developed an unbiased mechanism for determining whether adaptive management is necessary, please describe the mechanism.

**Response:** Adaptive management will be initiated if predation is detected.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 372:** Please discuss how baseline (i.e., pre-Project) data on raven abundance, distribution, nest site locations, and behavior will be obtained. If these data have already been collected, please provide them along with the methods that were used.

**Response:** This information is outlined in the Raven Management Plan for Solar One, submitted to CEC and BLM on July 17, 2009 as the Applicant's response to CEC and BLM Data Request 55. Briefly, abundance and behavior surveys will be conducted to determine presence and distribution. If ravens are present, nest surveys will be conducted from March to June to check prey remains for desert tortoise and/or MFTL remains. Please refer to the Raven Management Plan for complete methods. The baseline information has not yet been collected.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 373:** Please provide the specific criteria that will be used to determine that the Plan has been successful and surveys and reporting can be discontinued.

**Response:** This information is outlined in the Raven Management Plan for Solar One, submitted to CEC and BLM on July 17, 2009 as the Applicant's response to CEC and BLM Data Request 55.. The raven monitoring program will be deemed successful if results show that raven populations are not establishing or increasing in numbers because of the program. The site maintenance; waste and water management; identification of problem ravens, roost, and nest sites; and the reporting of desert tortoise predation aspects of the management plan will need to be continued for the life of the solar facility.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 374:** Please discuss how ravens will be prevented from accessing water in Project debris basins.

**Response:** Project-wide efforts will be made to reduce human-created resources that may potentially attract ravens to the site. Debris basins will not be specially modified to prevent access by ravens or other wildlife. The basins on-site will be designed to hold run-off water for no more than two to three days. These basins will be dry the majority of the time.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 375:**

Please clarify whether the following features (or actions) are considered part of the SES Solar One Project:

- Expansion of the Pisgah Substation
- Upgrades to the Eldorado and Lugo substations
- Upgrades to the Lugo-Pisgah No. 2 transmission line
- Installation of 12 to 15 transmission line structures to connect the Solar One Substation to the SCE Pisgah Substation

If any of these features (or actions) are considered part of the Project, please:

- a. provide a discussion of the associated baseline biological resource conditions;
- b. discuss the surveys that were conducted to document baseline conditions;
- c. quantify the amount of ground disturbance that will occur;
- d. provide an analysis of potential direct and indirect impacts to sensitive biological resources; and,
- e. discuss the measures that will be implemented for impact avoidance and mitigation.

**Response:**

With the exception of the installation of the 12 to 15 transmission line structures to connect the Solar One Substation to the SCE Pisgah Substation, these features are not a part of the Project. Information for the transmission line structures to connect the Solar One Substation to the SCE Pisgah Substation is provided in Section 5.6 and Appendix Y of the AFC. Further, all subsequent filings of biological resource materials include analysis of this transmission line.

Additionally, the Applicant submitted an overall assessment of the environmental impacts associated with the transmission upgrade in Appendix EE of the AFC. Preparing the final design and obtaining the final permits for the transmission system upgrades are the responsibility of SCE. A detailed assessment of the environmental impacts and requirements for mitigation associated with the transmission time upgrade is expected to be included in the CPCN application that will be submitted by SCE to the CPUC.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 376:** Please clarify whether the transmission line that will be installed outside of the Project Site (to connect the Solar One Substation to the SCE Pisgah Substation) will be 500-feet long as indicated in AFC Section 5.6, or 0.14 mile (739 feet) long as indicated in AFC Section 3.0.

**Response:** 739 feet is the correct length.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 377:** Please comment on whether the applicant still anticipates modeling tortoise mitigation efforts on the relocation model developed in the Fort Irwin project?

**Response:** The Applicant will no longer use the Fort Irwin tortoise relocation plan as a model for their desert tortoise relocation plan as requested by the BLM and wildlife agencies.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 378:** Please provide the status of the tortoise relocation plan and indicate whether any fundamental parts of the plan have changed since the AFC was released.

**Response:** The desert tortoise relocation plan has not been completed as of yet, but is being prepared. No fundamental portions of the plan have changed since the AFC was released. The plan will follow the requirements set forth by the BLM and wildlife agencies with which the Applicant is fully coordinating efforts with.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 379:** Please discuss how the applicant will avoid direct take (e.g., crushing under vehicles) of tortoises and other wildlife that may be attracted to mirror wash water or the artificially abundant vegetation, particularly at night when visibility is low.

**Response:** Desert tortoise will be fully excluded from the Project site once site disturbance begins. As such, take of desert tortoise will not occur during washing of the SunCatchers. Other wildlife that may be in the area, such as small rodents or lizards are naturally wary of vehicles and mobile enough to evade them. Some animals might be crushed, but the vast majority are likely to simply move out of the area until the disturbance has left. Washing will use very small amounts of water such that little or no attraction to wildlife will occur, thus further avoiding such potential impacts.

**SES Solar One**  
**In Response to CURE Data Requests, Set Three**  
**Data Requests 276-380**  
**08-AFC-13**

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**TECHNICAL AREA: BIOLOGICAL RESOURCES**

**Data Request 380:** Please provide the underlying data used to support the assumptions that most mirror wash water will evaporate before reaching the ground, and that if it reaches the ground it will evaporate quickly (despite compacted soil conditions).

**Response:** Each SunCatcher dish is 38 feet in diameter. Adjusting for the gap in the dish for the Stirling engine and support, each dish has approximately 1,020 square feet of surface mirrors. Applying 14 gallons of cleaning water over this surface is equivalent to approximately 0.02 inches of water (which would be similar to a 0.02-inch rainfall, but only over the surface of a single dish). This is a very small amount of water, and this level of application will only occur approximately twice a year. Evaporation from the mirror surface will depend to some extent on the temperature of the mirror surface at the time of application, and rates of evaporation will vary with ambient air conditions. However, this amount of water would barely wet the ground surface, even if it all reached the ground. This amount of water, if applied to the ground in permeable soils, could moisten sandy soil particles, which would further increase the surface area available for evaporation, but it would unlikely be readily available to vascular plants or wildlife at these levels and frequencies of application.



**BEFORE THE ENERGY RESOURCES CONSERVATION AND  
DEVELOPMENT COMMISSION OF THE STATE OF  
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**APPLICATION FOR CERTIFICATION  
For the SES SOLAR ONE PROJECT**

**Docket No. 08-AFC-13**

**PROOF OF SERVICE**

*(Revised 11/5/09)*

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Public Adviser

DECLARATION OF SERVICE

I, Corinne Lytle, declare that on November 13, 2009, I served and filed copies of the attached, Applicant's Responses to CURE Data RequestSet 3. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at: [www.energy.ca.gov/sitingcases/solarone].

The documents have been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

*(Check all that Apply)*

FOR SERVICE TO ALL OTHER PARTIES:

\_\_\_\_\_ sent electronically to all email addresses on the Proof of Service list;

\_\_\_\_\_ by personal delivery or by depositing in the United States mail at Sacramento, California with first-class postage thereon fully prepaid and addressed as provided on the Proof of Service list above to those addresses NOT marked "email preferred."

*AND*

FOR FILING WITH THE ENERGY COMMISSION:

\_\_\_\_\_ sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (*preferred method*);

*OR*

\_\_\_\_\_ depositing in the mail an original and 12 paper copies, as follows:

CALIFORNIA ENERGY COMMISSION  
Attn: Docket No. 08-AFC-13  
1516 Ninth Street, MS-4  
Sacramento, CA 95814-5512  
[docket@energy.state.ca.us](mailto:docket@energy.state.ca.us)

I declare under penalty of perjury that the foregoing is true and correct.

Original Signed By

\_\_\_\_\_  
Corinne Lytle