URS

1615 Murray Canyon Road, Suite 1000
San Diego, CA 92108
Phone: (619) 294-9400
Fax: (619) 293-7920

LETTER OF TRANSMITTAL

TO: Docket Unit

DATE: November 12, 2009

PROJECT: SES Solar One

DOCKET
08-AFC-13
DATE NOV 12 2009
RECD. NOV 13 2009

Enclosed/Attached please find the following:

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

For:
- ☐ Review and Comment
- ☐ Signature and Return
- ☐ Appropriate Action
- ☐ As Requested
- ☒ For Your Use

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!

Kindly,

Corinne Lytle
Assistant Project Manager

Tessera Solar™
power from stirling energy systems

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

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

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.

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).

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.

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.

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.

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.

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.

TECHNICAL AREA: PROJECT SAFETY DESIGN

Data Request 283: Please provide a copy of any written communication between the fire station and the applicant confirming that the fire department will provide the primary fire services.

Response: Tetra Tech Telephone Conversation Record:

Call To: Mike Horton — Date: 30 October 2008
Association: San Bernardino County Fire Department — Title: Deputy Fire Marshal
Phone #: (909) 386-8405 — Email: mhorton@sbcfire.org

Message Taken By: John Crookston
Subject: Jurisdiction and Capacity of Fire Department

I spoke with Mike Horton (Deputy Fire Marshal for the San Bernardino County Fire Department) regarding the capacities of the local fire departments near the Project site. He stated that fire response would originate from the County Fire Department located in Harvard and that the response time would be approximately 40 minutes. He said that the station was staffed with a full time Captain and two paid-call firefighters daily. Equipment at the fire station includes a type 1 engine, a type 3 engine, and a brush patrol. In regards to what situation the fire department could handle, he stated that the county fire resources would respond to a call and then call on additional assistance and resources as the situation warrants.

In regards to hazardous materials, both the City of Barstow Haz-Mat and the County of San Bernardino Haz-Mat units would respond to calls emanating from the Project site. This is because the response to hazardous waste is a county-wide effort which falls under the San Bernardino County Intra-agency Hazardous Materials Response Team. This team consists of approximately 150 members and is a Level A response team, which is capable of handling all types of chemical, biological, radiological, and nuclear responses. Due to restrictions from the Department of Homeland Security, this team is not able to divulge their exact resources to the public.

Response times from the City of Barstow Haz-Mat unit would be approximately 35 minutes. The closest County Haz-Mat unit is located at Station 322 in Adelanto and response time to the Project site would be approximately 90 minutes.

In regards to impacts to the Fire Departments resources as a result of the Solar One Project, Mike stated that “We would definitely look at the need to add additional full time personnel at our existing stations”.

San Bernardino County Fire Department
157 W 5th Street, 2nd Floor
San Bernardino, CA 92415-1012

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.

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.

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.

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.

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.

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.

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.

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.

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.

SWR-1

BLAINE BILDERBACK	BNSF Railway Company
Corporate Real Estate Development	P.O. Box 961050
Director Acquisition & Development	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 Tessera, 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 Tessera 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 Tessera and the Watermaster, attempt to facilitate the annual delivery of 136 acre-feet of construction water from the Centro Subarea, to Tessera, in the first four years of the project.

3. The water will be transported by truck or rail to Tessera's project site.

4. Tessera 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 Tessera to the Watermaster dated concurrent with this letter, Tessera 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. Tessera 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 Tessera. 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.

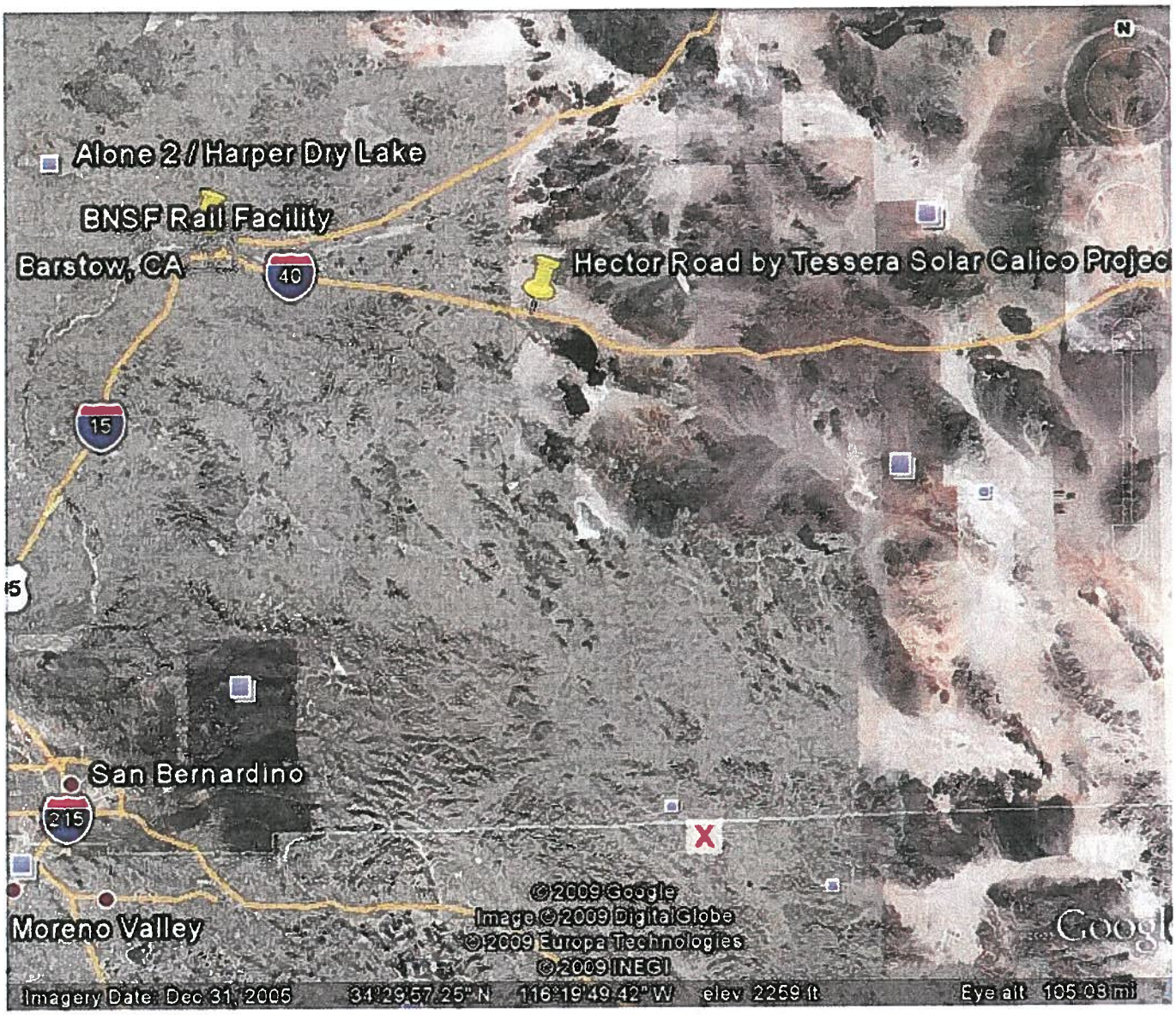
Thank you for time and consideration. Please feel free to contact me at 817-352-6461 with any questions.

Sincerely,

Blaine Bilderback, BNSF

CC: Kirby Brill, Executive Officer, Mojave Watermaster

Location Map for Tessera Solar Calico Project



Tessera Solar
power from stirling energy systems

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.

Tessera Solar | 4800 N. Scottsdale Road | Suite 5500 | Scottsdale, AZ 85251 | P +1 602 535 3576 | F +1 602 535 3617 | tesserasolar.com

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

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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

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.

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.

LU-1

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.

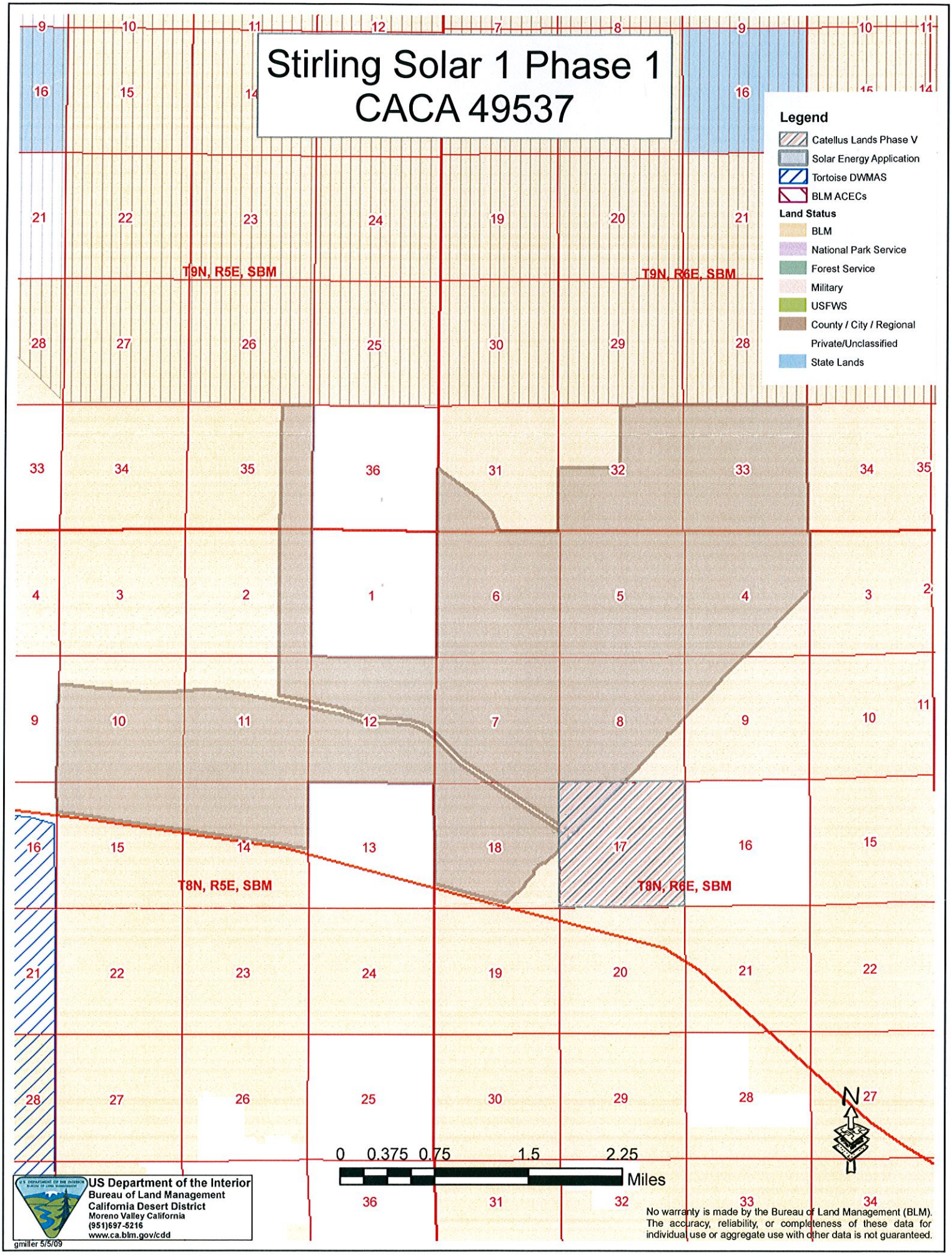
If you have any questions, please contact Greg Miller (951-697-5216) in our Renewable Energy Coordinating Office.

Sincerely,

Steven J. Borchard
District Manager

Enclosures: Map

Stirling Solar 1 Phase 1
CACA 49537



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

gmiller 5/5/09

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 it 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.

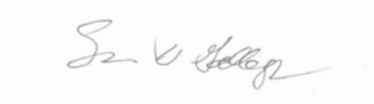
Last fall the California Wilderness Coalition (CWC) was considering a proposal that would have expanded the existing Cady Mountains Wilderness Study Area to include the Solar One project area, and would have designated the entire area as wilderness. As a result, we engaged in a series of discussions 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.

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.

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 preformed. 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.

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.

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.

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.

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.

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.

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.

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.28 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.

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 observances 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.

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.

BIO-1

Forms Completed During Focused Desert Tortoise Surveys

16 MAY 2007 R. BAILEY, G. HOISINGTON (#1)

)o not abbreviate

Data Sheet for Live Desert Tortoises

Write on this side only

Located by R. BAILEY
Processed by
Study site name

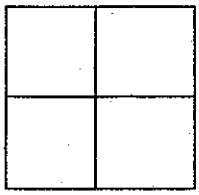
Township Range
Section Quadrat

Coordinates (Reference SW corner)
meters North meters East

UTM's 0553684 n 3853843 e
Elevation 2206 ft m 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 N
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

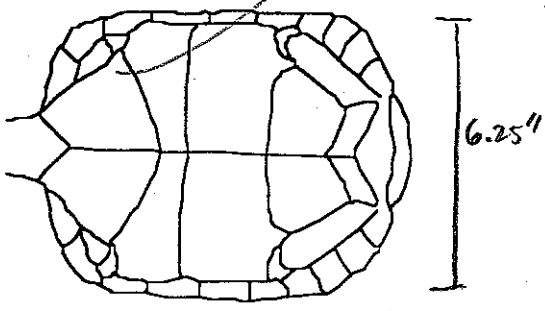
Body Measurements

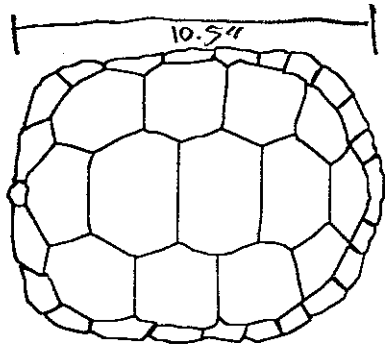
MCL (mm)
PLN (mm)
Weight (g)
Void (g)
Total wt (g)

New growth
☐ present ☐ absent

Epoxy #
☐ present ☐ legible

Behavior





Other notes

Appears in good health — no damage to carapace, no signs of respiratory disease

Photos; roll G. HOISINGTON PHOTOS #5 968, 969 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. HAISINGTON
Processed by
Study site name SOLAR 1 ARRAY
Township Range
Section Quadrat
Coordinates (Reference SW corner)
meters North meters East
UTM's 3853495 n 0552623 e
Elevation m Accuracy ± 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) 16 MAY 2007
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

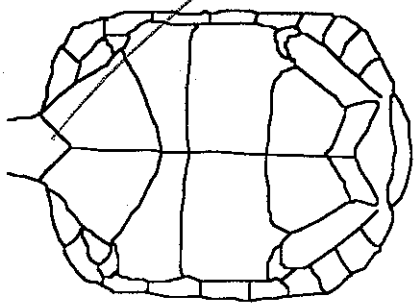
☐ Interacting with other tortoise
☐ Interacting with other animals

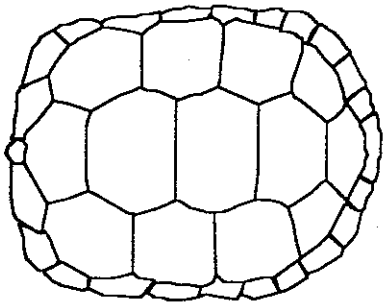
ID & sex of other tortoise
Species
Describe interaction: BURROW LOCATED IN OPEN, RELATIVELY FLAT TERRAIN WITH LITTLE GRAVEL/COBBLE

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					





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 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

)o 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

Township ..... Range .....
Section ..... Quadrat .....

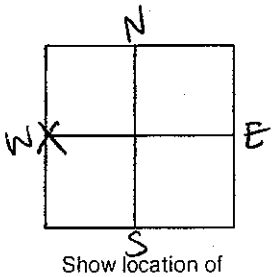
Coordinates (Reference SW corner)
..... meters North ..... meters East

UTM's 558092 n 3851950 e

Elevation ..... m Accuracy ± ..... m

County Riverside State CA

O On Plot O Off Plot



Show location of tortoise in quadrat

Tortoise ID # .....
Year first marked .....
Verification of ID ☐
Capture type ..... Sex .....
Date (dd/mm/yy) May 16, 2007
Time (PST): Start 1100 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 Facing NE
Length 2.5 ft. Height 8.0 inch
Width 1.0 ft. Soil cover .....
Location .....

Survey Type

O Radio track
O Burrow search
O Coverage 1
O Coverage 2
O Incidental
☒ Other

Focused surveys

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? O Yes O No
Type of blindness .....

Body Measurements

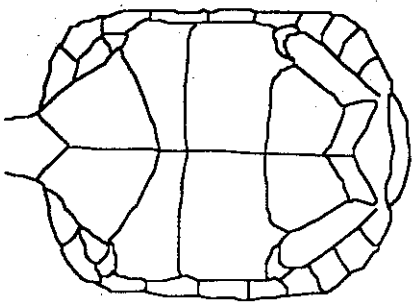
MCL (mm) _____
PLN (mm) _____
Weight (g) _____
Void (g) _____
Total wt (g) _____

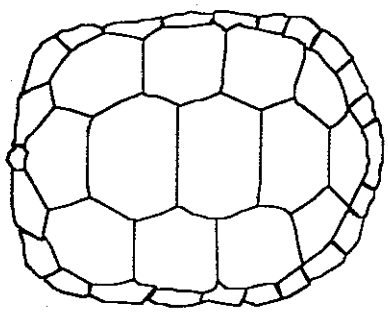
New growth
☐ present ☐ absent

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

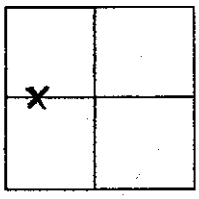
Located by Dallas Pugh ; Corey Chan
Processed by Dallas Pugh
Study site name Solar I

Township ..... Range .....
Section ..... Quadrat .....

Coordinates (Reference SW corner)
..... meters North ..... meters East

UTM's 559053 n 3852988 e
Elevation ..... m Accuracy ± ..... m
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 .....
Date (dd/mm/yy) .....
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 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

Focused Surveys

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):

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

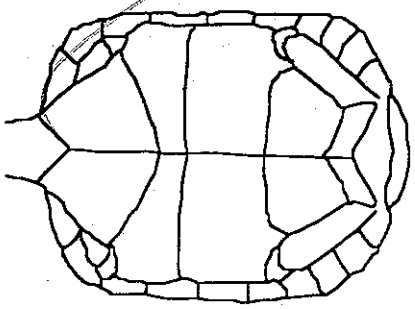
MCL (mm) _____
PLN (mm) _____
Weight (g) _____
Void (g) _____
Total wt (g) _____

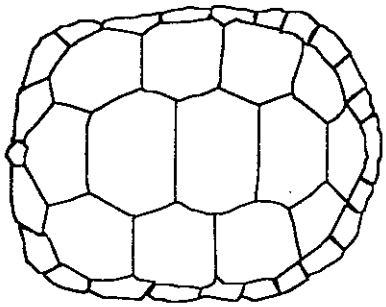
New growth
☐ present ☐ absent

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

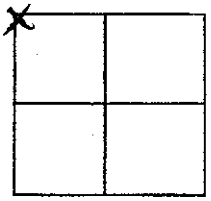
Write on this side only

Located by Dallas Pugh & Corey Chan
Processed by Dallas Pugh
Study site name Solar I J
Township ..... Range .....
Section ..... Quadrat .....

Coordinates (Reference SW corner)
..... meters North ..... meters East

UTM's 558338 n 3853929 e
Elevation ..... m Accuracy ± ..... m
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
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 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

Focused survey

Tortoise Activity

☒ resting ☐ basking ☐ walking ☐ feeding

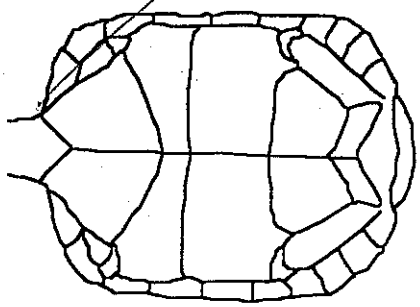
☐ Interacting with other tortoise
☐ Interacting with other animals
Describe interaction:

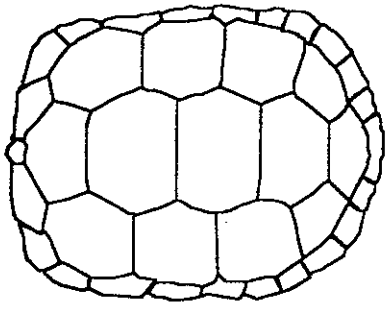
ID & sex of other tortoise .....
Species .....

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

Health Profile Form for Desert Tortoises

Write on this side only

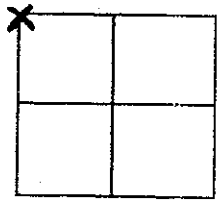
Located by Dallas Pugh & Corey Chan
Processed by Dallas Pugh
Study site name Solar I

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

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

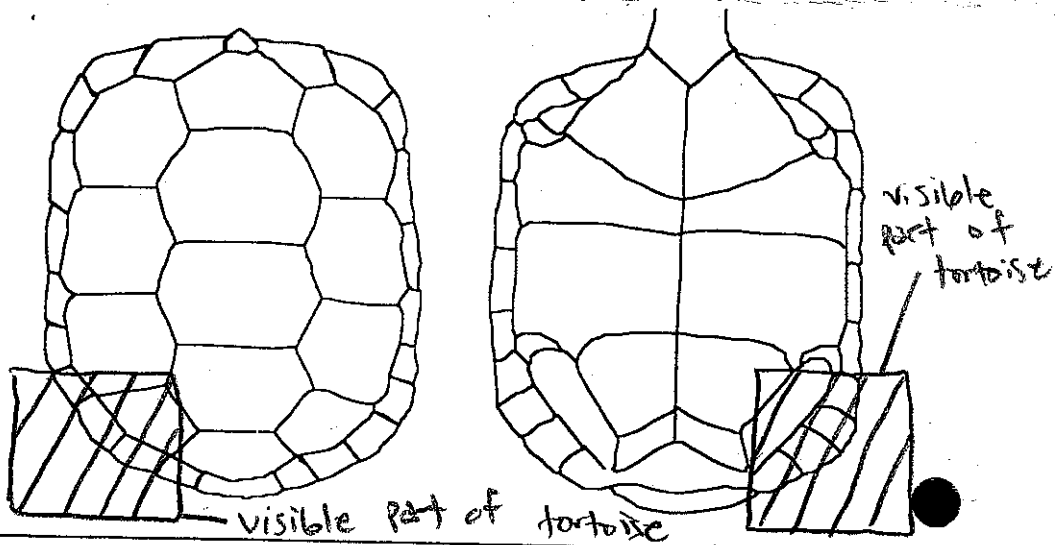
Last precipitation (dd/mm/yy) unknown

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).



Other notes Tortoise far into burrow. Sex undetermined.

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 grand 17 18 19 20

Township ..... Range .....
Section ..... Quadrat .....

Coordinates (Reference SW corner)
..... meters North ..... meters East

UTM's 3852394 n 558989 e
Elevation ..... m Accuracy ± 10 m
County San Bernardino State CA

◉ On Plot ○ Off Plot

Show location of tortoise in quadrat

Tortoise ID # WPT 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 # .....

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
Length ..... Height .....
Width ..... Soil cover GRAVEL
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):

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) _____

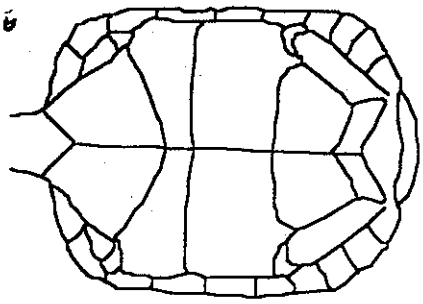
New growth
☐ present ☐ absent

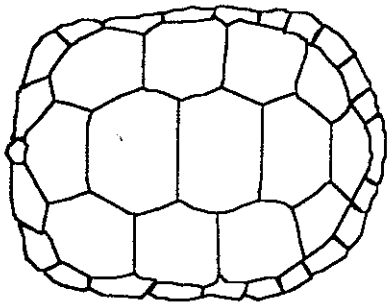
Epoxy #
☐ present ☐ legible

Behavior

Other notes

OLIVE GREEN H46





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 ELLEN HOWARD, CLAUDIA SOLÓRZANO
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
County SAN BERNARDINO State CA
● On Plot ○ Off Plot

Show location of tortoise in quadrat

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 8:15 am End .....
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

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

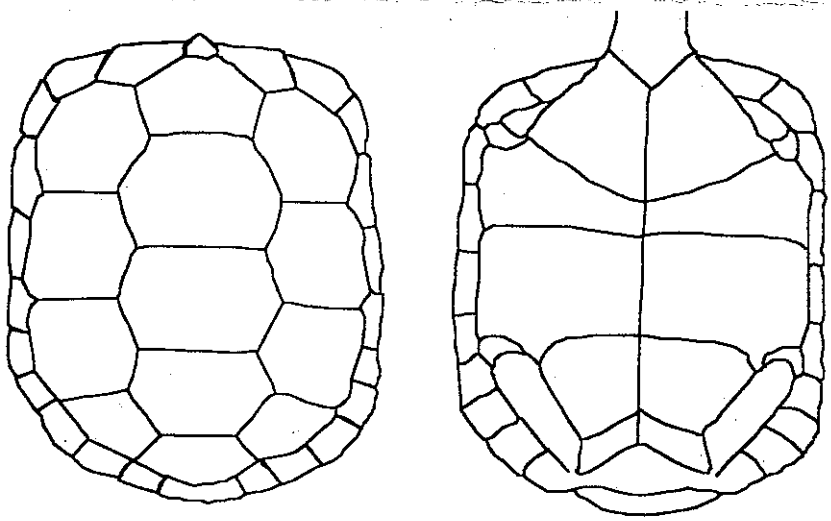
Describe: .....

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).



Other notes .....

Do not abbreviate

Data Sheet for Live Desert Tortoises

Write on this side only

Located by R. BALLEY / G. HOISINGTON
Processed by
Study site name SOLAR I ARRAY
Township ..... Range .....
Section ..... Quadrat .....
Coordinates (Reference SW corner)
..... meters North ..... meters East
UTM's 3852763 n 0556775 e
Elevation 2293 ft m Accuracy ± 3 m
County ..... State .....
O On Plot O Off Plot

Show location of tortoise in quadrat

Tortoise ID #
Year first marked
Verification of ID ☐
Capture type ..... Sex UNKNOWN
Date (dd/mm/yy) 18 MAY 2007
Time (PST): Start 0950 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

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

Tortoise Activity

☐ resting
☐ basking
☐ walking
☐ feeding

☐ Interacting with other tortoise
☐ Interacting with other animals
Describe interaction:

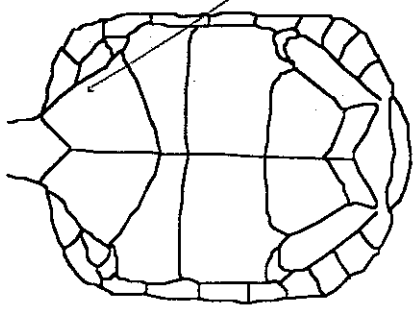
ID & sex of other tortoise.....
Species .....

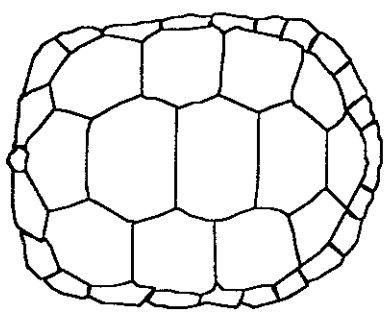
BURROW LOCATED UNDER OPUNTIA RAMMOSISSIMA ALONG SMALL WASH BANK WITHIN AN EXPANSIVE ALLUVIAL FLOOD PLAIN, LARGE COBBLE/GRAVEL WITH FEW OPEN AREAS

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? O Yes O 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 2053528 n 0556859 e
Elevation 2360 ft m Accuracy ± 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

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):

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

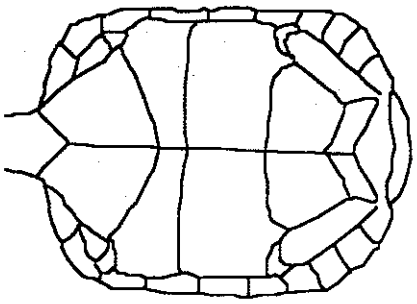
MCL (mm) ____
PLN (mm) ____
Weight (g) ____
Void (g) ____
Total wt (g) ____

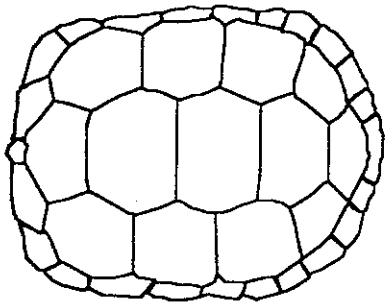
New growth ☐ present ☐ absent
Epoxy # ☐ present ☐ legible

Behavior

Other notes

TORTOISE IN BURROW UNDER CREOSOTE IN OPEN BRAIDED SHEET FLOW NEAR ROAD IN 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 ____

21 MAY 2007

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 3854451 n 0556672 e
Elevation 2565 ft 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
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

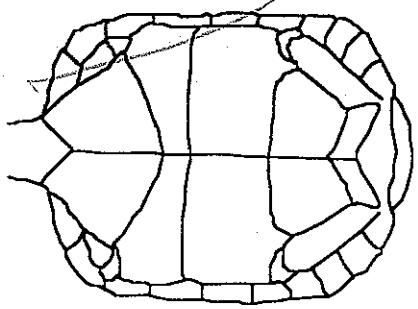
Body Measurements

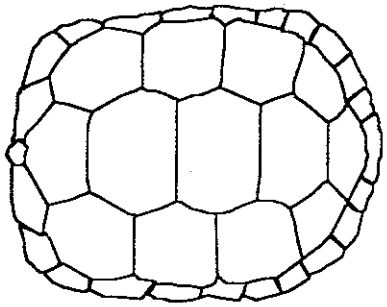
MCL (mm)
PLN (mm)
Weight (g)
Void (g)
Total wt (g)
New growth ☐ present ☐ absent
Epoxy # ☐ present ☐ legible

Behavior

Other notes

TORTOISE 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

22 MAY 2007

Do not abbreviate

Data Sheet for Live Desert Tortoises

Write on this side only

Located by M. MARTIAN / G. HOISINGTON
Processed by .....
Study site name .....
Township ..... Range .....
Section ..... Quadrat .....
Coordinates (Reference SW corner)
..... meters North ..... meters East
UTM's 3854940 n 0554645 e
Elevation 2423 ft ~~m~~ Accuracy ± 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 .....
Date (dd/mm/yy) 22 MAY 2007
Time (PST): Start 1413 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

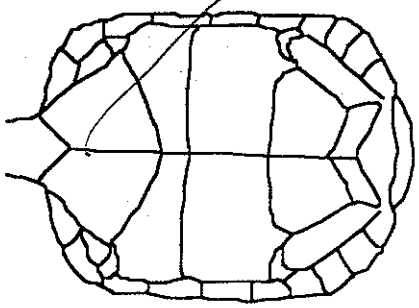
☐ Interacting with other tortoise
☐ Interacting with other animals
Describe interaction:

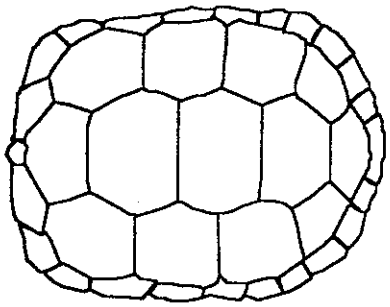
ID & sex of other tortoise .....
Species .....

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

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 HOISINGTON / WARTIAN
Processed by
Study site name
Township ..... Range .....
Section ..... Quadrat .....
Coordinates (Reference SW corner)
..... meters North ..... meters East
UTM's 3854488 n 0553600 e
Elevation 2287 ft ~~m~~ Accuracy ± 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 .....
Date (dd/mm/yy) MAY 22 2007
Time (PST): Start 1215 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 .....

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					

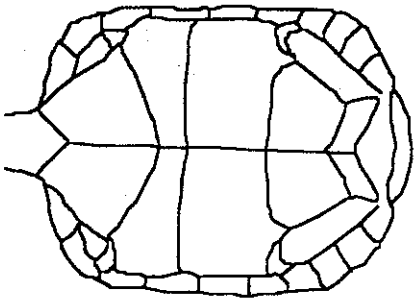
Are you color blind? ○ Yes ○ No
Type of blindness .....

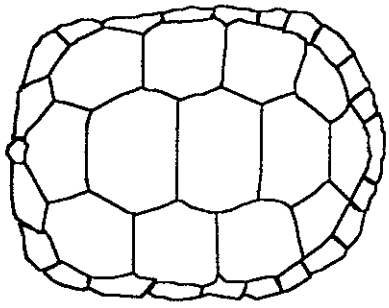
Body Measurements

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 Dallas Pugh
Study site name Solar I

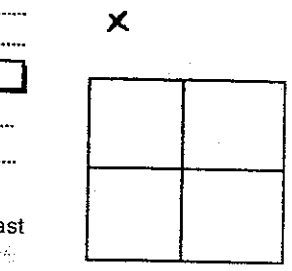
Township ..... Range .....
Section ..... Quadrat .....

Coordinates (Reference SW corner)
..... meters North ..... meters East

UTM's 0548526 n 3855548 e

County Riverside State CA

○ On Plot ● Off Plot



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 # .....

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

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

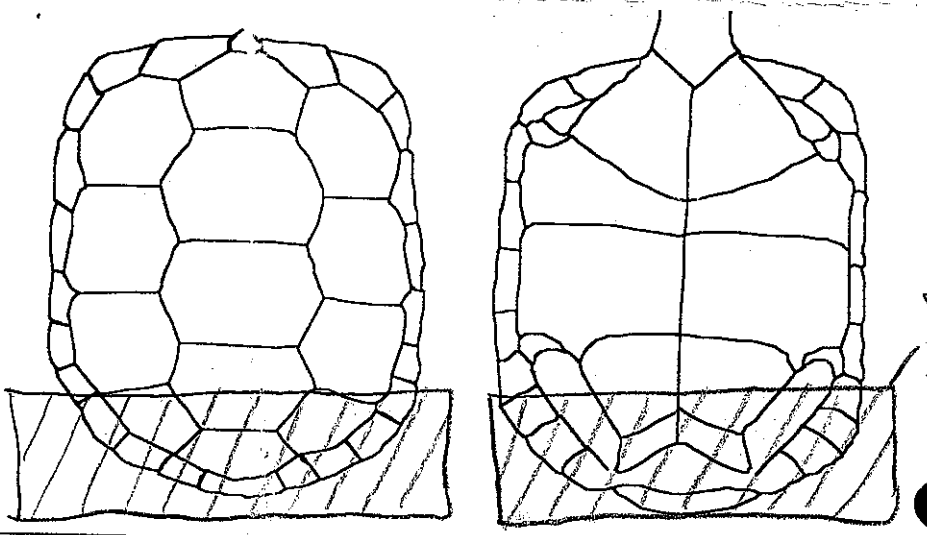
Describe: .....

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).



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

Do not abbreviate

Data Sheet for Live Desert Tortoises

Write on this side only

Located by KM, DR, SA
Processed by Dallas Pugh
Study site name Solx ID

Township ..... Range .....
Section ..... Quadrat .....

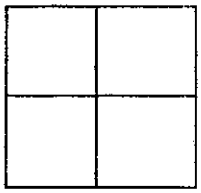
Coordinates (Reference SW corner)
..... meters North ..... meters East

UTM's 0548526 n 3855548 e

Elevation ..... m Accuracy ± ..... m

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) 23/05/07
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 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

Focused Survey

Tortoise Activity

☒ resting
☐ basking
☐ walking
☐ feeding

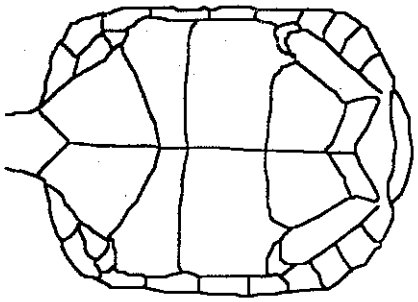
☐ Interacting with other tortoise
☐ Interacting with other animals
Describe interaction:

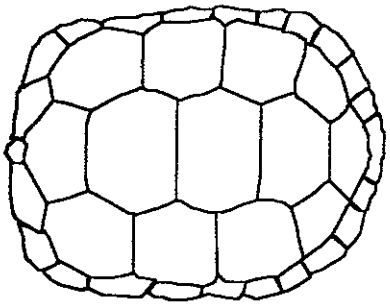
ID & sex of other tortoise.....
Species .....

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 .....

30 MAY 2007

Do not abbreviate

Data Sheet for Live Desert Tortoises

Write on this side only

Located by M. HOWER
Processed by
Study site name
Township ..... Range .....
Section ..... Quadrat .....
Coordinates (Reference SW corner)
..... meters North ..... meters East
UTM's 3852357 n 0546149 e
Elevation 1366 ft/m Accuracy ± ..... m
County ..... State .....
○ On Plot ○ Off Plot

Show location of tortoise in quadrat

Tortoise ID #
Year first marked
Verification of ID ☐
Capture type ..... Sex .....
Date (dd/mm/yy) 30 MAY 2007
Time (PST): Start 1615 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: FRESH TRACKS IN SAND OUTSIDE BURROW

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) _____

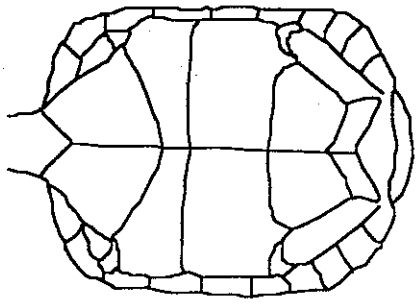
New growth
☐ present ☐ absent

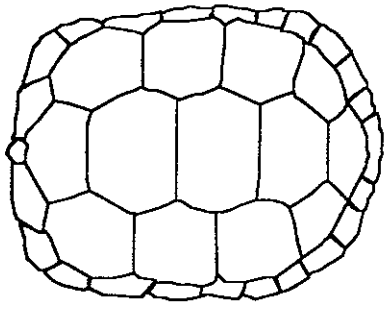
Epoxy #
☐ present ☐ legible

Behavior

Other notes

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.

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plots: 6668, 6669

M/D/Y

Date 4/1/08
Transect No. _____
State CA
County San Bernardino
City Barstow
Recorder Glen Kinoshita
Address _____
Project Name Solar L
Type of Project _____

Quad Name _____
Scale _____
Site Name _____
T____ R____ Sec____
¼ Sec____ ¼¼ 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 [X] Zone of Influence [ ] _____ft from Project Site
Transect Length: _____ft Width: 20 ft Other _____ft Time 9:15am 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) rolling hills
% Slope: high _____ low X Aspect _____ Elevation 2423 ft
Soils sandy w/ cobbles
Vegetation: dominant perennials Larrea tridentata — area previously scraped
dominant annuals Amsinkia, Cryptantha
Adjacent Land Use: up to 1 mi houses, old mine
Soils sandy / cobbles
Vegetation same

Corrected Sign	Live Tortoises Adult/Juv.	TOTAL NUMBER OF Shelter Sites Pallet/Burrow/Den Active/Inactive [1]	Scats [2]	Shell Remains [3]
	A= J=	M= F= Unk=	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
N	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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6754, 6755

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

Quad Name _____
Scale _____
Site Name _____
T____ R____ Sec____
¼ Sec____ ¼¼ Sec____
UTM Zone _____
Northing _____
Easting _____
Parcel No. 6-48, 6-470, 6-47, 6-472

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~~ 10 ft Other _____ft Time 13:44 20 acres
Weather: Airtemp at: 5 cm 78.1 ~~°F~~ Surface 83.5 °F Cloud cover 10 %
Rainfall 0 in Wind speed 4-6 mph Rainfall in last 30 days _____in
Land Form (e.g., mesa, bajada, wash) rolling hill
% Slope: high _____ low 7 Aspect NA Elevation 2735 ft
Soils sandy w/ cobbles
Vegetation: dominant perennials Larrea tridentata, Pleuraphis rigida
dominant annuals Eriogonum, Eschscholzia, Cryptantha
Adjacent Land Use: up to 1 mi house mine, t-line corridor, grazed in past
Soils _____
Vegetation _____

Corrected Sign	Live Tortoises Adult/Juv.	TOTAL NUMBER OF Shelter Sites Pallet/Burrow/Den Active/Inactive [1]	Scats [2] (15)	Shell Remains [3]
	A= J=	IIII IIII IIII IIII III	A= J= Unk= 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

January 1992

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

M/D/Y
Date 4/1/08
Transect No.
State CA
County San Bernardino
City Barstow / Ludlow
Recorder Glen Kinoshita
Address
Project Name Solar 6
Type of Project solar power site
Quad Name
Scale
Site Name
T ___ R ___ Sec ___
¼ Sec ___ ¼¼ Sec ___
UTM Zone
Northing
Easting
Parcel No. 6-533, 6-534, 6-535, 6-536

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

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 13:40 30 acres
Weather: Airtemp at: 5 cm 78.0 °F Surface 80.5 °F Cloud cover ___ %
Rainfall ___ in Wind speed 1-4 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 sandy w/ cobbles, pebbles
Vegetation: dominant perennials Larrea tridentata, Ambrosia dumosa
dominant annuals Amsinckia, Plantago, Schismus
Adjacent Land Use: up to 1 mi radio tower, underground pipelines
Soils same
Vegetation same

TOTAL NUMBER OF

Corrected Sign	Live Tortoises Adult/Juv.	Shelter Sites Pallet/Burrow/Den Active/Inactive[1]	Scats[2]	Shell Remains[3]
	A= I J= I	IIIII	(tally marks)	A= II J= Unk= I; M= F= Unk= (1 male)

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

TORT 6 562704 3847185 ~10 cm length in burrow 6756 rocky hillside
TORT 7 562[illegible] 3847156 20 cm length 6776 rocky hillside male

w/ GK, RK, KH, EK
JJ

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.

6715 - 6717

M/D/Y
Date 4/2/08
Transect No. _____
State CA
County San Bernardino
City Barstow / Ludlow
Recorder Glen Hinchliffe
Address _____
Project Name Solar 6
Type of Project pot. solar power site
Quad Name _____
Scale _____
Site Name _____
T _____ R _____ Sec _____
¼ Sec _____ ¼¼ Sec _____
UTM Zone _____
Northing _____
Easting _____
Parcel No. 6-509, 6-510, 6-511, 6-512

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: 80 ft Other _____ ft Time 9:51 am 80 acres
Weather: Airtemp at: 5 cm 68 °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, Ambrosia dumosa, Krameria sp.
dominant annuals Amsinkia, Schismus, 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 Shelter Sites Pallet/Burrow/Den Active/Inactive [1]	Scats [2]	Shell Remains [3]
	A= J= |||	||| ||| ||| ||| ||| ||| ||| ||| ||| ||| M= F= Unk=	A= ||| J= Unk= 1	

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

total 5 tortoise

Juvenile: 10-12 cm w/ TORT1 561241, 3846894 6721 (burrow at game site) (?)
15 cm TORT2 561391, 3847062 6722 (burrow at game site) male
18 cm TORT3 561694 3846837 (in burrow, saw before going underground)
unk TORT4 561767 3846787 6723 (in burrow - appears to be juv) female (?)

w/EK, RK, KM, TJ

January 1992

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

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6677-6679

Date (M/D/Y) 4/2/08
Transect No. ______
State CA
County San Bernardino
City Barstow
Recorder Glen Kinoshita
Address ______
Project Name ______
Type of Project ______

Quad Name ______
Scale ______
Site Name ______
T ______ R ______ Sec ______
¼ Sec ______ ¼¼ Sec ______
UTM Zone ______
Northing ______
Easting ______
Parcel No. 6-505-6-506, 6-507, 6-508

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 9:30am 80 acres

Weather: Airtemp at: 5 cm 63.1 °F Surface 63.3 °C Cloud cover 5 %

Rainfall 0 in Wind speed 4-6mph Rainfall in last 30 days ______ in

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

% Slope: high ______ low ______ Aspect ______ Elevation ______ ft

Soils ______

Vegetation: dominant perennials Larrea tridentata

dominant annuals Amsinckia

Adjacent Land Use: up to 1 mi house, old mine

Soils ______

Vegetation ______

TOTAL NUMBER OF

Corrected Sign	Live Tortoises Adult/Juv.	Shelter Sites Pallet/Burrow/Den Active/Inactive [1] (Inactive circled)	Scats [2]	Shell Remains [3]
	A= J=	𝍸𝍸𝍸𝍸𝍸𝍸𝍸 𝍸𝍸 ǀ (tally) M=	A= ǀǀǀǀ J= Unk= 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

w/ EK, KM, RK, JJ

January 1992

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

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Date (M/D/Y) 4/2/08
Transect No. ____
State CA
County San Bernardino
City Barstow
Recorder Glen Kinoshita
Address ____
Project Name Solar 6
Type of Project ____

Quad Name ____
Scale ____
Site Name ____
T ____ R ____ Sec ____
¼ Sec ____ ¼¼ Sec ____
UTM Zone ____
Northing ____
Easting ____
Parcel No. 6-477, 6-474, 6-475, 6-476

670-6703

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 13:08 80 acres
Weather: Airtemp at: 5 cm 82.2°F Surface 87.8°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, Pluraphis rigida
dominant annuals Amsinkia, Cryptantha, Oenothera

Adjacent Land Use: up to 1 mi house, old mine, area used for grazing impact
Soils sandy w/ cobbles
Vegetation same as site

TOTAL NUMBER OF

Corrected Sign	Live Tortoises Adult/Juv.	Shelter Sites Pallet/Burrow/Den Active/Inactive[1]	Scats[2]	Shell Remains[3]
	A= J=	𝍸𝍸𝍸𝍸𝍸 𝍸 (26 tally marks) M=	F=	A= J= Unk= 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
Y	Y	N	N	N	N	N	Y	

January 1992

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

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6786

M/D/Y
Date 4/4/08
Transect No. _____
State CA
County San Bernardino
City Barstow
Recorder Glenn Kinsella
Address _____
Project Name Solar 6
Type of Project solar power site
Quad Name _____
Scale _____
Site Name _____
T _____ R _____ Sec _____
¼ Sec _____ ¼¼ 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 X 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 70.0 °F Surface 73.1 °F Cloud cover 50 % (thin, wisps)
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, Platyopsis rigida
dominant annuals Amsinckia
Adjacent Land Use: up to 1 mi old mine, transmission line
Soils Same
Vegetation Same

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

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

Fred TORT 560796, 3851212 20-22cm (L) 6792 male
18 cm (W)

January 1992

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

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M/D/Y
Date 4/11/08
Transect No. _____
State CA
County San Bernardino
City Barstow
Recorder Glen Kinoshita
Address _____
Project Name _____
Type of Project _____
_____
Quad Name _____
Scale _____
Site Name _____
T____ R____ Sec____
¼ Sec____ ¼¼ Sec____
UTM Zone _____
Northing _____
Easting _____
Parcel No. 3-33, 2-34, 3-35, 3-116
w/ GK, JJ, EK, KM, RL

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 15:30
Weather: Airtemp at: 5 cm 85.3 °F Surface 97.5 °F Cloud cover _____%
Rainfall 0 in Wind speed 5-8mph Rainfall in last 30 days _____in
Land Form (e.g., mesa, bajada, wash) _____
% Slope: high _____ low 4 Aspect N/A Elevation 2038 ft
Soils Sandy w/ rocks
Vegetation: dominant perennials Larrea tridentata
_____
dominant annuals Echinus
_____
Adjacent Land Use: up to 1 mi railroad, freeway, transmission lines, underground/above
Soils _____
Vegetation _____

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

w/ TT, RK
KM, GK, EK

January 1992

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

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6798

M/D/Y
Date 4/4/00
Transect No. _____
State ~~San Bernardino~~ CA
County San Bernardino
City Barstow
Recorder Glen Kinoshita
Address _____
Project Name Solar 6
Type of Project Pot. solar power site
Quad Name _____
Scale _____
Site Name _____
T _____ R _____ Sec _____
¼ Sec _____ ¼¼ Sec _____
UTM Zone _____
Northing _____
Easting _____
Parcel No. next to Pisgah subdivision 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: ~~30 ft~~ Other _____ ft Time 13:57
Weather: Airtemp at: 5 cm ~~66.7~~ °C/F Surface 95.1 °C/F Cloud cover 50 % (thin, wispy)
Rainfall _____ in Wind speed 2-11 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 Camissonia, Amsinkia, Chaenactis
Adjacent Land Use: up to 1 mi Transmission lines, rail road, off mining
Soils same
Vegetation same

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

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

January 1992

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

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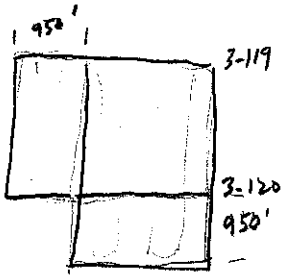

M/D/Y
Date 4/5/08
Transect No. 3-119 & 3-120 E side
State
County
City
Recorder TO/RK/PW
Address
Project Name Solar 3
Type of Project
Quad Name
Scale
Site Name
T R Sec
¼ Sec ¼¼ Sec
UTM Zone 11
Northing
Easting
Parcel No.

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 gravely
Vegetation Creosotebush scrub

Corrected Sign	Live Tortoises Adult/Juv.	TOTAL NUMBER OF Shelter Sites Pallet/Burrow/Den Active/Inactive [1]	Scats [2]	Shell Remains [3]
	A= J=		A= J= Unk= 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
Yes	Campsites		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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Date (M/D/Y) 4/5/09
Transect No. 3-147 3-148 E side
State CA
County San Bernardino
City E of Barstow
Recorder TD/RK/PW
Address
Project Name Solar 3
Type of Project Solar
Quad Name
Scale
Site Name
T ____ R ____ Sec ____
¼ Sec ____ ¼¼ 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, Camissonia claviformis
Adjacent Land Use: up to 1 mi Railroad, I-40 Interstate
Soils Sandy to gravely
Vegetation Creosotebush scrub

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

Date (M/D/Y) 9/5/08
Transect No. ____
State CA
County San Bernardino
City Barstow
Recorder Jeff Johnson
Address ____
Project Name SES
Type of Project Solar power plant
Quad Name 149 - 152
Scale ____
Site Name ____
T ____ R ____ Sec ____
¼ Sec ____ ¼¼ 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 10:26 AM

Weather: Airtemp at: 5 cm ____ °C Surface ____ °C Cloud cover 10 %

Rainfall Ø in Wind speed 20-25 Rainfall in last 30 days ____ in

Land Form (e.g., mesa, bajada, wash) braided gravel

% Slope: high ____ low X Aspect NA Elevation 1862 ft

Soils Sandy + cobbly

Vegetation: dominant perennials Larrea tridentata, Ambrosia dumosa

dominant annuals Chaenactis, Gaerarea

Adjacent Land Use: up to 1 mi Railroad (BNSF) - I-40

Soils Sandy cobble

Vegetation Larrea/ambrosia

TOTAL NUMBER OF

Corrected Sign	Live Tortoises Adult/Juv.	Shelter Sites Pallet/Burrow/Den Active/Inactive [1]	Scats [2]	Shell Remains [3]
	A= 0 J= 0	Ø / Ø	M= F= Unk=	A= J= Unk=

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

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN

Tire Tracks	Human Footprints	Dog Sign	Trash	Dump Sites	Shotgun/ Rifle Shells	Blading	Ravens	Other
卌	|	Ø	tires balloons paper	Ø	Ø	Ø	Ø	Ø

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 (M/D/Y) 4/8/2008
Transect No. 3-173 → 3-176
State CA
County San Bernardino
City Barstow
Recorder Jeff Johnson
Address
Project Name SEC
Type of Project solar power plant
Quad Name
Scale
Site Name
T ____ R ____ Sec ____
¼ Sec ____ ¼¼ 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 11:34 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 0 Aspect NA Elevation 1916 ft
Soils sandy w/ cobbles
Vegetation: dominant perennials Larrea tridentata, Ambrosia dumosa
dominant annuals Cuscuta, Clematis
Adjacent Land Use: up to 1 mi I-40, BNSF Railroad
Soils sandy with cobbles
Vegetation Larrea, Ambrosia

Corrected Sign	Live Tortoises Adult/Juv.	TOTAL NUMBER OF Shelter Sites Pallet/Burrow/Den Active/Inactive [1]	Scats [2]	Shell Remains [3]
	A= J=	11 (2)	M= F= Unk=	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
IN			shoes, boots			dirt road		

by pipeline
ROW

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 1/5/04
Transect No. 3-197 to 3-206 western half
State CA
County San Bernadino
City Barstow
Recorder Jeff Johnson
Address
Project Name
Type of Project

Quad Name
Scale
Site Name
T R Sec
¼ Sec ¼¼ 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 ∞ Aspect NA Elevation 1884 ft
Soils Sandy with cobbles
Vegetation: dominant perennials Larrea tridentata, Ambrosia dumosa
dominant annuals Eriastrum diffusum, Camptonia sp., Malacothrix glabrata
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 Shelter Sites Pallet/Burrow/Den Active/Inactive [1]	Scats [2]	Shell Remains [3]
	A= J=	IIII	M= F= Unk=	A= J= Unk=

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

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN

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

- 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 JS Charpentier
Address
Project Name Solar 3
Type of Project
Desert tortoise survey
Quad Name
Scale
Site Name Solar 3
T R Sec
¼ Sec ¼¼ 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: 1680 ft Width: ~~30 ft~~ 80ft 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 Shelter Sites Pallet/Burrow/Den Active/(Inactive)[1]	Scats [2]	Shell Remains [3]
	A= J=	\\\\		A= J= Unk= 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
	\					//		

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 (M/D/Y) 4/5/08
Transect No. 3-201 to 3-204
State Ca
County San Bernadino
City Barstow
Recorder Jeff Johnson
Address
Project Name SES
Type of Project Solar power plant
Quad Name
Scale
Site Name
T ___ R ___ Sec ___
¼ Sec ___ ¼¼ 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 Ø %
Rainfall Ø in Wind speed 10-15 Rainfall in last 30 days ____ in
Land Form (e.g., mesa, bajada, wash) braided gravel
% Slope: high ____ low X Aspect N/A Elevation 1921 ft
Soils sand with cobbles
Vegetation: dominant perennials Larrea tridentata
Ambrosia dumosa
dominant annuals Garaea, Chenactis stevioides

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

TOTAL NUMBER OF

Corrected Sign	Live Tortoises Adult/Juv.	Shelter Sites Pallet/Burrow/Den Active/Inactive[1]	Scats[2]	Shell Remains[3]
	A= J=	/ |||| (4)	M= F= Unk=	/ (1) 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 Gravy bag, Aluminum Can					

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. 3-225 thru 3-228
State California
County
City
Recorder JP Charpentier
Address
Project Name Solar 3
Type of Project
Desert Tortoise Survey
Quad Name
Scale
Site Name Solar 3
T___ R___ Sec___
¼ Sec___ ¼¼ 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~~ 30 ft Other ___ ft Time 1000 WST
Weather: Airtemp at: 5 cm 70 °F Surface ___ °C Cloud cover Ø %
Rainfall Ø in Wind speed 4-7 mph Rainfall in last 30 days Ø in
Land Form (e.g., mesa, bajada, wash) bajada, valley
% Slope: high ___ low ___ Aspect ___ Elevation ___ ft
Soils
Vegetation: dominant perennials Creosote bush, [illegible]
dominant annuals Schismus, [illegible]
Adjacent Land Use: up to 1 mi natural open space, railroad
Soils
Vegetation

TOTAL NUMBER OF

Corrected Sign	Live Tortoises Adult/Juv.	Shelter Sites Pallet/Burrow/Den Active/(Inactive)[1]	Scats[2]	Shell Remains[3]
	A= J=	~~||||~~ |||		A= J= Unk= / 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
	|||						||	

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. 3-258 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 _____
¼ Sec _____ ¼¼ 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 8 ft~~ Other _____ft Time 1500 LAST
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 Shelter Sites Pallet/Burrow/Den Active (Inactive) [1]	Scats [2]	Shell Remains [3]
	A= J=	/		A= J= Unk= 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

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.

L 800

Date (M/D/Y) 4/5/08
Transect No. ______
State CA
County San Bernardino
City Barstow
Recorder Glen Kinoshita
Address ______
Project Name Solar 3
Type of Project pot. solar power site
Quad Name ______
Scale ______
Site Name ______
T ______ R ______ Sec ______
¼ Sec ______ ¼¼ Sec ______
UTM Zone ______
Northing ______
Easting ______
Parcel No. 3-27, 3-318, 3-319, 3-320

DESERT TORTOISE HANDBOOK 1992:
FORM FOR P~~RESENCE-OR-ABSENCE~~ AND CLEARANCE SURVEYS

Project Site |X| Zone of Influence | | ______ ft from Project Site 80 acres
Transect Length: ______ ft Width: 30 ft Other 40 ft Time 9:15
Weather: Airtemp at: 5 cm 65.5 °F Surface 65.9 °F Cloud cover 0 %
Rainfall 0 in Wind speed 15-30 mph Rainfall in last 30 days ______ in
Land Form (e.g., mesa, bajada, wash) ______
% Slope: high ______ low X Aspect N/A Elevation 2051 ft
Soils ______
Vegetation: dominant perennials Larrea tridentata
dominant annuals Chaenactis
Adjacent Land Use: up to 1 mi ______
Soils ______
Vegetation ______

TOTAL NUMBER OF

Corrected Sign	Live Tortoises Adult/Juv.	Shelter Sites Pallet/Burrow/Den Active/Inactive [1]	Scats [2]	Shell Remains [3]
	A= J=	卌 I		A= J= Unk= 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

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.

6801

M/D/Y
Date 4/5/08
Transect No. _____
State CA
County SanBernardino
City Barstow
Recorder Glen Kinoshita
Address _____
Project Name Solar 3
Type of Project _____

Quad Name _____
Scale _____
Site Name _____
T _____ R _____ Sec _____
¼ Sec _____ ¼¼ Sec _____
UTM Zone _____
Northing _____
Easting _____
Parcel No. 3-285, 3-288, 3-287, 3-286

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

Project Site [X] Zone of Influence [ ] _____ ft from Project Site 80 acres
Transect Length: _____ ft Width: 30 ft Other _____ ft Time 12:47
Weather: Airtemp at: 5 cm 77.7 °F Surface 77.8 °F Cloud cover 0 %
Rainfall 0 in Wind speed 5-10 mph Rainfall in last 30 days _____ in
Land Form (e.g., mesa, bajada, wash) _____
% Slope: high _____ low X Aspect N/A (Flat) Elevation 2069 ft
Soils Gravelly w/ Cobbles
Vegetation: dominant perennials Larrea tridentata, Ambrosia dumosa
dominant annuals Cryptantha, Geraea,
Adjacent Land Use: up to 1 mi _____
Soils _____
Vegetation _____

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

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 04/06/08
Transect No. 6-409 to 6-412
State _____
County _____
City _____
Recorder JP Charpentier
Address _____
Project Name _____
Type of Project _____
Desert tortoise survey
Quad Name _____
Scale _____
Site Name _____
T____ R____ Sec____
¼ Sec____ ¼¼ 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 1305 MST
Weather: Airtemp at: 5 cm ~~80~~ °F Surface____°C Cloud cover 0 %
Rainfall 0 in Wind speed 8-12 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 creosote bush
dominant annuals _____
Adjacent Land Use: up to 1 mi I-40, railroad, underground pipeline, electrical transmission line
Soils _____
Vegetation _____

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

w/ Mark Vanzyl

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.

6827

M/D/Y
Date 4/6/08
Transect No. _____
State CA
County San Bernardino
City Barstow
Recorder Colin Kinnaird
Address _____
Project Name Solar 6
Type of Project pot. solar power site
Quad Name _____
Scale _____
Site Name _____
T____ R____ Sec____
¼ Sec____ ¼¼ Sec____
UTM Zone _____
Northing _____
Easting _____
Parcel No. 6-513, 6-514, 6-515, 6-516

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

Project Site X Zone of Influence | | _____ ft from Project Site 80 acres
Transect Length: 1900 ft Width: 30 ft Other _____ ft Time 9:20
Weather: Airtemp at: 5 cm 66.7 °F Surface 66.2 °F Cloud cover 0 %
Rainfall 0 in Wind speed 6-10 mph Rainfall in last 30 days 0 in
Land Form (e.g., mesa, bajada, wash) _____
% Slope: high X low _____ Aspect SE facing Elevation 2553 ft
Soils Sand w/ pebbles
Vegetation: dominant perennials Larrea tridentata, Ambrosia dumosa
dominant annuals Camissonia, Chaenactis, desert dandelion, Amsinckia, Schismus
Adjacent Land Use: up to 1 mi radio tower, transmission line, underground pipeline
Soils same
Vegetation same

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

w/MV

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.

6835

M/D/Y
Date 4/6/08
Transect No. _____
State CA
County San Bernardino
City Barstow
Recorder Glen Kinoshita
Address _____
Project Name Solar C
Type of Project Pot, Solar power site
Quad Name _____
Scale _____
Site Name _____
T____ R____ Sec____
¼ Sec____ ¼¼ Sec____
UTM Zone _____
Northing _____
Easting _____
Parcel No. 6-547, 6-538, 6-539, 6-540

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 79.4 °F Surface 82.0 °F Cloud cover 5 %
Rainfall 0 in Wind speed 5-7mph Rainfall in last 30 days _____in
Land Form (e.g., mesa, bajada, wash) rolling hills
% Slope: high X low _____ Aspect S facing Elevation 2419 ft
Soils Gandy w/ pebbles
Vegetation: dominant perennials Larrea tridentata, Krameria, Ambrosia dumosa
dominant annuals Amsinkia, 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 Shelter Sites Pallet/Burrow/Den Active/Inactive [1]	Scats [2]	Shell Remains [3]
	A= J=	IIII	A= J= Unk= 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

HC next in Highland

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 (M/D/Y) 4/6/08
Transect No.
State NV
County
City
Recorder Karen
Address
Project Name Solar 6
Type of Project Desert Tortoise Survey
Quad Name
Scale
Site Name
T ___ R ___ Sec ___
¼ Sec ___ ¼¼ 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 in 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 Creosote, desert dandelion
dominant annuals ______

Adjacent Land Use: up to 1 mi Railroad power Transmission lines
Soils Sandy small to medium pebbles
Vegetation ______

TOTAL NUMBER OF

Corrected Sign	Live Tortoises (circled) Adult (circled)/Juv.	Shelter Sites Pallet/Burrow (circled)/Den Active (circled)/Inactive [1]	Scats [2]	Shell Remains [3]
	A= J=		4	A= J= Unk= M= F= Unk=

Tracks (circled)	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma Middens w/sign	:w/o sign
1 Burrow 2						

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN

Tire Tracks	Human Footprints	Dog Sign	Trash	Dump Sites	Shotgun/ Rifle Shells	Blading	Ravens	Other
Ø	Ø	Ø	cans	2	Ø			

Inactive Tortoise
11

See reverse

(1) 001 W 250mm x L 150mm x Ht 4
0558287 | 3850920
Photo # 300

(2) W 250mm x L 150 x Ht 1.5
002
0558261 | 3850894
Photo # 299
3 scats
Tracks in burrow

(3) 003
0558189 | 3850865
W 230mm x Ht? 170mm
Photo 303
4 scat inside
1 outside

January 1992

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

M/D/Y
Date 04/06/08
Transect No. ~~6-409 to 6-412~~ 6-373-6-376
State
County
City
Recorder JP Charpentier
Address
Project Name Solar 6
Type of Project
Desert tortoise survey
Quad Name
Scale
Site Name
T ____ R ____ Sec ____
¼ Sec ____ ¼¼ Sec ____
UTM Zone
Northing
Easting
Parcel No.

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.

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~~ 30ft Other ______ ft Time 0948 DST
Weather: Airtemp at: 5 cm 85°F Surface ____°C Cloud cover ∅ %
Rainfall ∅ in Wind speed 8-12mph Rainfall in last 30 days ∅ 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 Interstate 40, underground gas line, electrical transmission line, railroad
Soils
Vegetation

TOTAL NUMBER OF

Corrected Sign	Live Tortoises Adult/Juv.	Shelter Sites Pallet/Burrow/Den Active/Inactive[1]	Scats[2]	Shell Remains[3]
	A= J=	~~||||~~		A= J= Unk=
				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
	II		~~||||~~	II		I	I	

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 4/6/08
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
¼ Sec ¼¼ 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 10-25 Rainfall in last 30 days_____in
Land Form (e.g., mesa, bajada, wash) flat
% Slope: high_____ low 0 Aspect NA Elevation 2222 ft
Soils Sandy w/cobbles
Vegetation: dominant perennials Larrea tridentata, Ambrosia dumosa
dominant annuals Malacothrix glabrata, Schismus arabicus, Chaenactis stevioides
Adjacent Land Use: up to 1 mi I-40, BNSF railroad
Soils Sandy w/cobbles
Vegetation Larrea/ambrosia

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

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

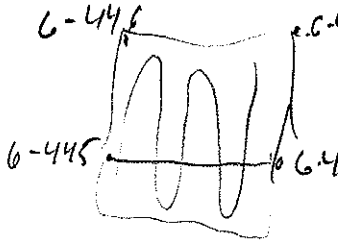
SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN

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

plastic grocery bag
beer cans
bottles

anuary 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 4/6/09
Transect No. Southing 6-445 to South 6-448 and
State CA
County San Bernadino
City Barstow
Recorder Jeff Johnson
Address [illegible]
Project Name SES
Type of Project Solar Power
Quad Name
Scale
Site Name
T ____ R ____ Sec ____
¼ Sec ____ ¼¼ 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 ~ Aspect NA Elevation 2258 ft
Soils Sandy w/ cobbles
Vegetation: dominant perennials Larrea tridentata / Pleurophis rigidus
dominant annuals Mentzelia albicaulis / Amsinckia tessellata
Malacothrix glabrata
Adjacent Land Use: up to 1 mi Formerly grazed -
Soils Sandy w/cobbles
Vegetation larrea / pleurophis

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

Steel cables
Mylar balloon
55 gal drum
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 4/6
Transect No.
State NV
County
City
Recorder K Garlin
Address
Project Name Sobra
Type of Project Desert Tortoise Survey
Quad Name
Scale
Site Name
T ____ R ____ Sec ____
¼ Sec ____ ¼¼ Sec ____
UTM Zone
Northing
Easting
Parcel No. 162-369,370,371,372

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 15-25 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 Creosote
dominant annuals
Adjacent Land Use: up to 1 mi Railroad, power transmission lines
Soils
Vegetation

Desert Tortoise Jack Rabbit

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

ACTIVE Packrat Burrow
HHT HHT
HHT II

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

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
Ø	Ø	Ø	CANS	Ø	Ø			

Ø 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 Barstow
Recorder _____
Address _____
Project Name Solar 1
Type of Project _____
Quad Name _____
Scale _____
Site Name _____
T _____ R _____ Sec _____
¼ Sec _____ ¼¼ Sec _____
UTM Zone _____
Northing _____
Easting _____
Parcel No. 1-1, 1-2, 1-3, 1-9 w/ Choisfine Store + Rachel Avila

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 10:00am
Weather: Airtemp at: 5 cm 69 °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 1 Aspect S facing Elevation 2019 ft
Soils Gandy w/ rocks
Vegetation: dominant perennials Larrea tridentata, Ambrosia dumosa
dominant annuals Eriogonum, Chaenactis
Adjacent Land Use: up to 1 mi roads, mine (3)
Soils same
Vegetation same

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

Tracks	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma Middens w/sign : w/o sign
~	~	~	~	~	: none

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	N	N	N	N	N	

noting horned larks ~ 4 pairs

January 1992

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

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6853

M/D/Y
Date 4/15/08
Transect No. _____
State CA
County San Bernardino
City Barstow
Recorder Glen Kinoshita
Address _____
Project Name _____
Type of Project _____
Quad Name _____
Scale _____
Site Name _____
T____ R____ Sec____
¼ Sec____ ¼¼ Sec____
UTM Zone _____
Northing _____
Easting _____
Parcel No. 1-29, 1-34, 131, 2-32

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 12:11
Weather: Airtemp at: 5 cm 76 °F Surface 82 °F Cloud cover 0 %
Rainfall 0 in Wind speed 10-25 mph Rainfall in last 30 days _____ in
Land Form (e.g., mesa, bajada, wash) _____
% Slope: high _____ low X Aspect S-facing Elevation 2053 ft
Soils sandy w/ rocks
Vegetation: dominant perennials Larrea tridentata
dominant annuals Camissonia, Schismus
Adjacent Land Use: up to 1 mi _____
Soils _____
Vegetation _____

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

Chris Inc Steve, Rachel Avila

January 1992

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

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Date (M/D/Y) 4/15/05
Transect No. _____
State CA
County San Bernardino
City Barstow
Recorder Denise Tu
Address _____
Project Name _____
Type of Project Solar

Quad Name _____
Scale _____
Site Name _____
T _____ R _____ Sec _____
¼ Sec _____ ¼¼ Sec _____
UTM Zone _____
Northing _____
Easting _____
Parcel No. 1-93, 94, 95, 96

note:
no pics for burrows
shell remains - pics need to #ed

w/ Peggy Wood, Denise Tu Tim

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 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 X Aspect _____ Elevation _____ ft
Soils _____
Vegetation: dominant perennials creosote, ANDU, cassia armata, HYSA, Ephedra Sp.
dominant annuals Coptantha spp. pectocarya spp. Schismus desert dandelion
Adjacent Land Use: up to 1 mi _____
Soils sandy loam
Vegetation _____

Male Remains WP91 0548805 3857183 sub adult <1yr TSO

Corrected Sign	Live Tortoises Adult/Juv.	TOTAL NUMBER OF Shelter Sites Pallet/Burrow/Den Active/Inactive [1]	Scats [2]	Shell Remains [3]
0	A= 1. Male J= 2. Live	1. Active 2. Inactive	1 this yrs stand alone	M= F= Unk= 6. Active

2. fresh scat → 1. WP 87 0548932 3856865
→ 2. Male
Male Remains MCL: 235 mm adult size <1yr TSD

1. Active burrow WP88 0548911E 3857298N 1 scat inside
2. Active burrow WP 89 0548926 3857802

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

LIVE
1. WP90 0548898 3857156 adult size Male?

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

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/YY) 4/15/08
Transect No. _____
State CA
County San Bernardino
City _____
Recorder _____
Address _____
Project Name _____
Type of Project _____
Quad Name _____
Scale _____
Site Name _____
T____ R____ Sec____
¼ Sec____ ¼¼ Sec____
UTM Zone _____
Northing _____
Easting _____
Parcel No. 1-125, 126, 127, 128
w/ Peggy Wood, Denise Tu
Jim

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: 40 ft Other _____ft Time 9:10 am
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 X Aspect____ Elevation____ft
Soils _____
Vegetation: dominant perennials creasote, AMDU, Cassia armata, HYSA, 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 Shelter Sites Pallet/Burrow/Den Active/Inactive [1]	Scats [2]	Shell Remains [3]	Carcass
	A= J=	I: III A: I	Scat = IIII	M= F= Unk=	A= J= Unk= 1

1. bone fragments > 4 yr TSD WP084; 0549623 E (Denise) 3856055N
1. Active burrow
1. With 4 scat WP 85 0549639 E 3856094 N
2. w/ 1 scat WP 086 0549561 3856072

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

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 4/16/08
Transect No. _____
State CA
County San Bernadino
City _____
Recorder Rachel Avila
Address _____
Project Name Solar 1
Type of Project Solar
Desert Tortoise survey
Quad Name _____
Scale _____
Site Name Solar 1
T _____ R _____ Sec _____
¼ Sec _____ ¼¼ Sec _____
UTM Zone _____
Northing _____
Easting _____
Parcel No. 1-25, 26, 27, 28

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~~ 20 m Other _____ft Time 8:50
Weather: Airtemp at: 5 cm _____°C Surface _____°C Cloud cover 0 %
Rainfall _____in Wind speed 5 mph Rainfall in last 30 days _____in
Land Form (e.g., mesa, bajada, wash) _____
% Slope: high _____ low ✓ Aspect _____ Elevation _____ft
Soils Sandy loam, rock
Vegetation: dominant perennials AMDU, LATR, SPP - Atriplex lepidium-SSP
Schismus SPP
dominant annuals Chaenactnus, Cryptantha
Adjacent Land Use: up to 1 mi Railroad, freeway
Soils _____
Vegetation _____

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

January 1992

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

M/D/Y
Date 4/16/08
Transect No.
State CA
County San Bernardino
City Ludlow
Recorder Glen Kinoshita
Address
Project Name Solar 6
Type of Project Pot. solar power site
Quad Name
Scale
Site Name
T R Sec
¼ Sec ¼¼ Sec
UTM Zone
Northing
Easting
Parcel No. 6-533, 534, 535, 536 w/ Denise Th

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.

0127

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

Project Site |X| Zone of Influence | | ______ ft from Project Site
Transect Length: 1000 ft Width: 30 ft Other ______ ft Time 12:45 pm
Weather: Airtemp at: 5 cm 94.3 °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 ~510 ft
Soils sandy loam w/ rocks
Vegetation: dominant perennials Larrea tridentata, Ambrosia dumosa
dominant annuals Amsinkia, Plantago, Schismus
Adjacent Land Use: up to 1 mi radio tower, transmission lines, underground pipeline
Soils same
Vegetation same

TOTAL NUMBER OF

Corrected Sign	Live Tortoises Adult/Juv.	Shelter Sites Pallet/Burrow/Den Active/Inactive[1]	Scats[2]	Shell Remains[3]
	A= 1 J= 1	4 / 5 10 (tallies); 2 / 15 (tallies)	M= 2 F=	A= 3 J= Unk= 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

TORT 1 562294 3847081 ~12" MCL 0131 in burrow
TORT 2 562275 3847110 in burrow 0135

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.

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0108

M/D/Y
Date 4/17/08
Transect No. 1
State CA
County San Bernardino
City Ludlow
Recorder Glenn Knight
Address
Project Name Solar 6
Type of Project Pot. solar power site
Quad Name
Scale
Site Name
T R Sec
¼ Sec ¼¼ Sec
UTM Zone
Northing
Easting
Parcel No. 6-549, 590, 99, 551

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 11:04
Weather: Airtemp at: 5 cm 71.3 °F Surface 75.2 °F Cloud cover 0 %
Rainfall 0 in Wind speed 1-3 mph Rainfall in last 30 days ____ in
Land Form (e.g., mesa, bajada, wash)
% Slope: high ____ low 1 Aspect S-facing Elevation 2530 ft
Soils Gravel w/ rocks
Vegetation: dominant perennials Larrea tridentata
dominant annuals Amsinkia, Schisma
Adjacent Land Use: up to 1 mi Transmission line, underground pipeline, radio tower
Soils same
Vegetation same

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

January 1992

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

M/D/Y
Date 4/17/08
Transect No. ______
State CA
County San Bernardino
City Ludlow
Recorder Glen Kinoshita
Address ______
Project Name Solar 6
Type of Project ______

Quad Name ______
Scale ______
Site Name ______
T ____ R ____ Sec ____
¼ Sec ____ ¼¼ Sec ____
UTM Zone ______
Northing ______
Easting ______
Parcel No. 6-573, 574, 575, 576 w/ Jill Seed / Bernice Th

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.

0099, 0100

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 1120 am
Weather: Airtemp at: 5 cm 69.8 °F Surface 79.8 °F Cloud cover 0 %
Rainfall 0 in Wind speed 10-15 Rainfall in last 30 days — in
Land Form (e.g., mesa, bajada, wash) ______
% Slope: high ____ low X Aspect ____ Elevation 2470 ft
Soils Sandy loam w/ rocks
Vegetation: dominant perennials Larrea tridentata

dominant annuals Amsinkia, Erodium

Adjacent Land Use: up to 1 mi underground pipeline, transmission line
Soils Same
Vegetation same

TOTAL NUMBER OF

Corrected Sign	Live Tortoises Adult/Juv.	Shelter Sites Pallet/Burrow/Den Active/Inactive [1]	Scats [2]	Shell Remains [3]
	A= J=		卌卌卌卌 卌 卌 |||	M= F= Unk= / 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

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.

0101, 0102

M/D/Y
Date 4/18/08
Transect No. _____
State CA
County San Bernardino
City Ludlow
Recorder Glen Kinoshita
Address _____
Project Name _____
Type of Project Solar 6

Quad Name _____
Scale _____
Site Name _____
T _____ R _____ Sec _____
¼ Sec _____ ¼¼ Sec _____
UTM Zone _____
Northing _____
Easting _____
Parcel No. 0569,570,571,572
w/ Jill Seed Denise Tu

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 907 am
Weather: Airtemp at: 5 cm 42.2 °F Surface 63.3 °F Cloud cover 0 %
Rainfall 0 in Wind speed 5-8 mph Rainfall in last 30 days — in
Land Form (e.g., mesa, bajada, wash) wash on alluvial fan
% Slope: high _____ low X Aspect S-facing Elevation 2481 ft
Soils sandy loam w/ rocks
Vegetation: dominant perennials Larrea tridentata

dominant annuals Mustard, Eriogonum, Sunflower

Adjacent Land Use: up to 1 mi transmission line, underground pipeline
Soils same
Vegetation same

MCL: 240 mm

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

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

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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 4/17/08
Transect No. _____
State CA
County San Bernardino
City Ludlow
Recorder Glen Kinoshita
Address _____
Project Name Solar 6
Type of Project Pot. solar power site
Quad Name _____
Scale _____
Site Name _____
T____ R____ Sec____
¼ Sec____ ¼¼ Sec____
UTM Zone _____
Northing _____
Easting _____
Parcel No. 6-565, 566, 567, 568

* only 2 passes west + south sides along base of mtns

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

Project Site |X| Zone of Influence | | _____ft from Project Site
Transect Length: 1980 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 Amsinkia, Plantago, eclisms
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 Shelter Sites Pallet/Burrow/Den Active/Inactive [1]	Scats [2]	Shell Remains [3]
	A= J=		M= F= Unk=	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

w/ Denise Tu, Rachel Avila

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.

0098

M/D/Y

Date 4/17/08
Transect No. _____
State CA
County San Bernardino
City Ludlow
Recorder Glenn Kinoshita
Address _____
Project Name Solar 1
Type of Project Solar
~~power site~~
Quad Name _____
Scale _____
Site Name _____
T _____ R _____ Sec _____
¼ Sec _____ ¼¼ Sec _____
UTM Zone _____
Northing _____
Easting _____
Parcel No. 0557, 558, 559.50
w/ Dill Seed, Denise Ku

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 1:51 pm
Weather: Airtemp at: 5 cm 72.2 °F Surface 77.4 °F Cloud cover _____ %
Rainfall 0 in Wind speed 5-8 mph Rainfall in last 30 days — in
Land Form (e.g., mesa, bajada, wash) _____
% Slope: high _____ low X Aspect S facing Elevation _____ ft
Soils sandy loam w/ rocks
Vegetation: dominant perennials Hilaria, Larrea tridentata
dominant annuals Amsinckia, Schismus, Eriogonum
Adjacent Land Use: up to 1 mi underground pipeline, transmission line
Soils Same
Vegetation Same

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

January 1992

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

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0113

M/D/Y
Date 4/17/08
Transect No. _____
State CA
County San Bernardino
City Ludlow
Recorder Glenn Kinoshita
Address _____
Project Name Solar 6
Type of Project Pot. solar power site
Quad Name _____
Scale _____
Site Name _____
T____ R____ Sec____
¼ Sec____ ¼¼ Sec____
UTM Zone _____
Northing _____
Easting _____
Parcel No. 6-553, 557, 559, 556
w/ Denise Tu, Rachel Avila

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

Project Site |X| Zone of Influence | | _____ ft from Project Site
Transect Length: 1600 ft Width: 30 ft Other _____ ft Time 14:00
Weather: Airtemp at: 5 cm 88.1 °C/F Surface 94.9 °C/F Cloud cover 0 %
Rainfall 0 in Wind speed 10-14 mph Rainfall in last 30 days — in
Land Form (e.g., mesa, bajada, wash) _____
% Slope: high____ low X Aspect S-facing Elevation 2456 ft
Soils Sandy loam w/ rocks
Vegetation: dominant perennials Larrea tridentata
dominant annuals Amsinkia, Schismus
Adjacent Land Use: up to 1 mi radio tower, underground pipeline, transmission lines
Soils Same
Vegetation Same

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

6-429 - 6-433

January 1992

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

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M/D/Y
Date 4/17/08
Transect No. _____
State CA
County San Bernadino
City Barstow
Recorder BB
Address _____
Project Name Solar #6
Type of Project presence/absence
Quad Name _____
Scale _____
Site Name _____
T____ R____ Sec____
¼ Sec____ ¼¼ 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 (ow) 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 V 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, Amsinkia, Chaenactus Phacelia spp.
Adjacent Land Use: up to 1 mi _____
Soils ~~sandy~~ loam, gravel & cobble
Vegetation _____

Corrected Sign	Live Tortoises Adult/Juv.	TOTAL NUMBER OF Shelter Sites Pallet/Burrow/Den Active/Inactive [1]	Scats [2]	Shell Remains [3]
	A= J=	1 (inactive) / (active)	III M= F= Unk=	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. 1)
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)

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* Eastern 200m not completed - 4/18/08 8:42

M/D/Y
Date 4/17/08
Transect No. 10-433, 434, 435, 436
State CA
County San Bernadino
City Barstow
Recorder BB
Address
Project Name Solar 6
Type of Project presence/absence
Quad Name
Scale
Site Name
T ____ R ____ Sec ____
¼ Sec ____ ¼¼ 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 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 SZHISMUS spp., cryptantha spp.

Adjacent Land Use: up to 1 mi

Soils

Vegetation

Corrected Sign	Live Tortoises Adult/Juv.	TOTAL NUMBER OF Shelter Sites Pallet/Burrow/Den Active/Inactive [1]	Scats [2]	Shell Remains [3]
	A= J=	active | inactive		A= J= Unk=
		II | III (B3)	III	M= F= Unk=

inactive burrow - has scat inside

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

active burrow WP 005 (BB) dozen pieces of scat in/out 0559442 3850682

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 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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M/D/Y
Date 4/18/08
Transect No. _____
State CA
County San Bernadino
City _____
Recorder Rachel Ayala
Address _____
Project Name Solar 3
Type of Project _____
Desert Tortoise Survey
Quad Name _____
Scale _____
Site Name Solar 3
T _____ R _____ Sec _____
¼ Sec _____ ¼¼ Sec _____
UTM Zone _____
Northing _____
Easting _____
Parcel No. 3-57, 58, 59, 60

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

Project Site | | Zone of Influence | | _____ft from Project Site
Transect Length: 1100 ft Width: ~~30 ft~~ 20 m Other _____ft Time 13:17
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 _____
Vegetation: dominant perennials Atriplex Lepicina SSP, AMDU
dominant annuals Chaenactus SSP, Lepidium SSP. Cryptantha SPP
Adjacent Land Use: up to 1 mi Freeway, railroad.
Soils _____
Vegetation _____

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

January 1992

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

M/D/Y
Date 4/18/08
Transect No. ______
State CA
County San Bernardino
City Ludlow
Recorder [illegible]
Address ______
Project Name Solar 6
Type of Project [illegible] solar power site
Quad Name ______
Scale ______
Site Name ______
T ____ R ____ Sec ____
¼ Sec ____ ¼¼ Sec ____
UTM Zone ______
Northing ______
Easting ______
Parcel No. 6-509, 510, 511, 512
w/ Denise Th

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0115

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 5-8mph 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, Krameria, Ambrosia dumosa
dominant annuals Schismus, Plantago
Adjacent Land Use: up to 1 mi radio tower, under ground pipeline, transmission line
Soils same
Vegetation same

TOTAL NUMBER OF

Corrected Sign	Live Tortoises Adult/Juv.	Shelter Sites Pallet/Burrow/Den Active/Inactive [1]	Scats [2]	Shell Remains [3]
	A= J=	~~||||~~ ~~||||~~ ~~||||~~ ~~||||~~	M= F=	A= 1 J= Unk= Unk=

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

January 1992

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

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M/D/Y
Date 4/18/08
Transect No. _____
State CA
County San Bernadino
City _____
Recorder Rachel Aui
Address _____
Project Name Solar 6
Type of Project _____
Quad Name _____
Scale _____
Site Name _____
T _____ R _____ Sec _____
¼ Sec _____ ¼¼ Sec _____
UTM Zone _____
Northing _____
Easting _____
Parcel No. 6-437, 438, 439, 440

w/ Peggy wood

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 9:52
Weather: Airtemp at: 5 cm _____°C Surface _____°C Cloud cover 0 %
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, AMDU,
dominant annuals Amsinckia L., Schismus
Adjacent Land Use: up to 1 mi _____
Soils _____
Vegetation _____

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

January 1992

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

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M/D/Y
Date 4/18/08
Transect No. _____
State CA
County San Bernardino
City _____
Recorder Rachel Arly
Address _____
Project Name Solar 6
Type of Project _____

Quad Name _____
Scale _____
Site Name _____
T _____ R _____ Sec _____
¼ Sec _____ ¼¼ 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, ~~EA~~ ANDU ~~AM~~ ~~AMU~~ AMDU
dominant annuals Cryptantha spp, Schismus spp, AMSINKIA spp
Adjacent Land Use: up to 1 mi _____
Soils _____
Vegetation _____

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

Tracks	Eggshell Fragments	Drinking Sites	Courtship Rings	Other	Neotoma Middens w/sign : w/o sign
1					:

SIGNS OF HUMAN DISTURBANCE - NUMBER AND TYPES SEEN

Tire Tracks	Human Footprints	Dog Sign	Trash	Dump Sites	Shotgun/ Rifle Shells	Blading	Ravens	Other
							~~1~~	

1 active burrow with tracks
E 0558273
N 3835010 1

waypoint 024
~~Scat~~ Cat. 1 scat
W 0558731
N 3849903

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.

0277

M/D/Y
Date 5/5/08
Transect No. _____
State CA
County San Bernardino
City Ludlow
Recorder Glen Kinsbirks
Address _____
Project Name Solar 6
Type of Project Hel. solar power site
Quad Name _____
Scale _____
Site Name _____
T____ R____ Sec____
¼ Sec____ ¼¼ Sec____
UTM Zone _____
Northing _____
Easting _____
Parcel No. 6-515, 516, 527 528

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 9:30 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 X Aspect S Elevation 2489 ft
Soils Sandy loam w/ rocks
Vegetation: dominant perennials Larrea tridentata, Krameria grayi, Ambrosia dumosa
dominant annuals Amsinkia tessalata, 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 Shelter Sites Pallet/Burrow/Den Active/Inactive [1]	Scats [2]	Shell Remains [3]
	A= J=	IIII IIII IIII IIII II	A= J= Unk= 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
Y	N	N	Y	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.

OL78

M/D/Y
Date 5/5/08
Transect No. _____
State CA
County San Bernardino
City Ludlow
Recorder Glen Kinoshita
Address _____
Project Name Solar 6
Type of Project Pot. Solar power site
Quad Name _____
Scale _____
Site Name _____
T____ R____ Sec____
¼ Sec____ ¼¼ 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 |X| 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 Stony loam w/ rocks
Vegetation: dominant perennials Larrea tridentata, Ambrosia dumosa
dominant annuals Amsinkia tessellata, Schismus
Adjacent Land Use: up to 1 mi underground pipeline, transmission line
Soils Same
Vegetation Same

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

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 5/4/00
Transect No. _____
State CA
County San Bernardino
City Barstow/Ludlow
Recorder Glenn Kinnaird
Address _____
Project Name Solar
Type of Project Sol. Solar power gen
Quad Name _____
Scale _____
Site Name _____
T _____ R _____ Sec _____
¼ Sec _____ ¼¼ Sec _____
UTM Zone _____
Northing _____
Easting _____
Parcel No. 405, 406, 407, 408
w/ Jeff Johnson, Denise Tn

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: 10 ft Other _____ ft Time 2:00 pm
Weather: Airtemp at: 5 cm 94.5 °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, bajada, wash) _____
% Slope: high _____ low X Aspect _____ Elevation 2150 ft
Soils Sandy loam w/ rocks
Vegetation: dominant perennials Larrea tridentata, Ambrosia dumosa, Hilaria rigida
dominant annuals Amsinkia, Malacothrix, Schismus
Adjacent Land Use: up to 1 mi Transmission lines, underground pipeline, house
Soils Same
Vegetation Same

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

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

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.

0317

M/D/Y
Date 6/4/98
Transect No. _____
State CA
County San Bernardino
City Barstow / Ludlow
Recorder Glen Kingsbury
Address _____
Project Name Solar 1
Type of Project Pol. Solar power site
Quad Name _____
Scale _____
Site Name _____
T _____ R _____ Sec _____
¼ Sec _____ ¼¼ Sec _____
UTM Zone _____
Northing _____
Easting _____
Parcel No. 6-441, 442, 443, 444

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 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 Descurainia pinnata, Malacothrix, 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 Shelter Sites Pallet/Burrow/Den Active/Inactive [1]	Scats [2]	Shell Remains [3]
	A= J=		A= J= Unk= 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
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)

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.

0315

M/D/Y
Date 5/6/08
Transect No. _____
State CA
County San Bernardino
City Barstow
Recorder Glen Kinoshita
Address _____
Project Name Solar 6
Type of Project Pol. Solar power site
Quad Name _____
Scale _____
Site Name _____
T _____ R _____ Sec _____
¼ Sec _____ ¼¼ Sec _____
UTM Zone _____
Northing _____
Easting _____
Parcel No. 6-465, 466, 467, 468

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

Project Site |X| Zone of Influence | | _____ ft from Project Site
Transect Length: 1980 ft Width: 30 ft Other _____ ft Time 9:30 am
Weather: Airtemp at: 5 cm 76.8°F Surface 75.0°F Cloud cover 0 %
Rainfall 0 in Wind speed 6-8 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 ~~Ambrosia, Salsola~~ Larrea tridentata
dominant annuals Ambrosia, Sdisymus
Adjacent Land Use: up to 1 mi transmission line,
Soils same
Vegetation same

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

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 (M/D/Y) 5/7/08 (?)
Transect No. 6-499-6-500 + ½ section to east
State CA
County San Bernardino
City Barstow
Recorder Jeff Johnson
Address
Project Name SES
Type of Project solar
Quad Name
Scale
Site Name
T ____ R ____ Sec ____
¼ Sec ____ ¼¼ Sec ____
UTM Zone
Northing
Easting
Parcel No.

w/ Denise Tr

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

Project Site | | Zone of Influence | | ______ ft from Project Site

Transect Length: ~35 mi ft Width: 30 ft Other ______ ft Time 11:15 am

Weather: Airtemp at: 5 cm 90 °F Surface 87 °F Cloud cover Ø %

Rainfall 0 in Wind speed 12-15 mph Rainfall in last 30 days ______ in

Land Form (e.g., mesa, bajada, wash) hills and bajada slopes

% Slope: high X low ______ Aspect ______ Elevation ______ ft

Soils sandy + igneous rock

Vegetation: dominant perennials Larrea tridentata

Pleuraphis rigida

dominant annuals Amsinckia tessellata

Adjacent Land Use: up to 1 mi BLM

Soils sandy

Vegetation Larrea/pleuraphis

TOTAL NUMBER OF

Corrected Sign	Live Tortoises Adult/Juv.	Shelter Sites Pallet/Burrow/Den Active/Inactive [1]	Scats [2]	Shell Remains [3]
‖	A= J= ‖	Inactive / HHH HHH ‖‖‖ ‖	M= F=	‖ A= J= Unk= 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 2248 FT m Accuracy ± ____ m
County S. BERNARDINO State CA

O On Plot O Off Plot

Show location of tortoise in quadrat

Tortoise ID # SG_LIVDT1
Year first marked
Verification of ID ☐
Capture type ____ Sex ____
Date (dd/mm/yy) 14 Mar 2008
Time (PST): Start 3:35pm 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 — 2 m. from ACTIVE BURROW

Burrow Data

ID #
Orientation SW facing
Length ____ Height 5"
Width 12" Soil cover sand, gravel
Location

Survey Type

O Radio track
O Burrow search
O Coverage 1
O Coverage 2
☒ Incidental
☒ Other — RARE PLANT

Tortoise Activity

☐ resting ☒ basking ☐ walking ☐ feeding
☐ Interacting with other tortoise ☐ Interacting with other animals
Describe interaction:
ID & sex of other tortoise probably MALE
Species GOPHERUS AGIZ.

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? O Yes ☒ No
Type of blindness ____

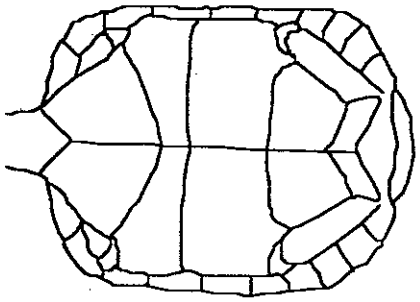
Body Measurements

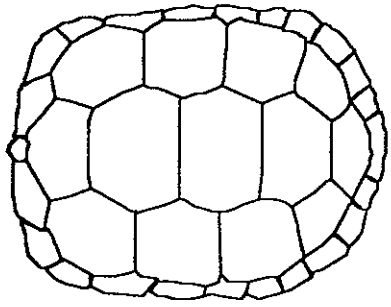
MCL (mm) ____
PLN (mm) ____
Weight (g) ____
Void (g) ____
Total wt (g) ____
New growth ☐ present ☐ absent
Epoxy # ☐ present ☐ legible

Behavior

Other notes

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. Homer & 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 11 S 0552760 n 3853587 e
Elevation 2159 ft m Accuracy ± 10 ft m
County ____ State ____
○ On Plot ○ Off Plot

Show location of tortoise in quadrat

Tortoise ID # Desertort Live 2 ← GPS marker S3_LiveDT1
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 # ____

Tortoise Location

Cover site type: ☒ burrow mouth of ☐ 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 unk Height 6 in.
Width 12 in. Soil cover sandy gravel
Location east-facing bank of wash

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 ~~#555~~
Species ____
Describe interaction:

Plants/items eaten (specific):

Color (shell & skin)

HV Hue Value Chroma Color

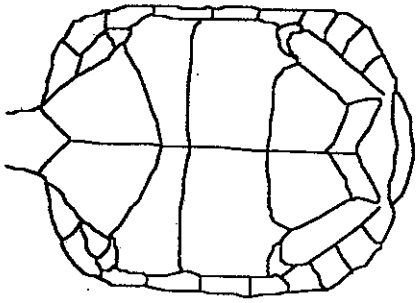
V1 (center)					
V4 (center)					
LC1,2&V2 (seam)					
LM5,6 & LC2 (seam)					
Foreleg					
Hindleg					

Are you color blind? ○ Yes ☒ No
Type of blindness ____

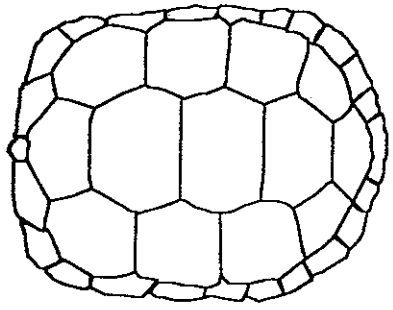
Body Measurements

length 12 in.
MCL (mm) ____
PLN (mm) ____
Weight (g) ____
Void (g) ____
Total wt (g) ____
New growth ☐ present ☐ absent
Epoxy # ☐ present ☐ legible

Behavior



width: 9 in.
height: 6 in.



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 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 1263ft m Accuracy ± 6ft m
County San Bernardino State CA

O On Plot O Off Plot

15 16
31 32
Show location of tortoise in quadrat

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

O Radio track
O Burrow search
O Coverage 1
O Coverage 2
O Incidental
⊗ Other

rare plant survey

Tortoise Activity

☐ resting
☐ basking
☒ walking
☐ feeding

☐ Interacting with other tortoise ID & sex of other tortoise ____
☐ Interacting with other animals 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? O Yes ⊗ No
Type of blindness ____

Body Measurements

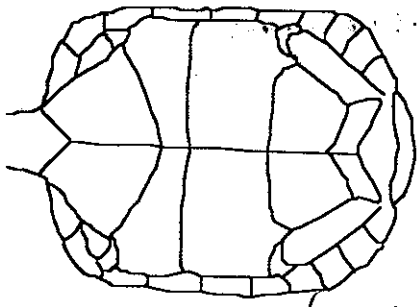
MCL (mm) ____
PLN (mm) ____
Weight (g) ____
Void (g) ____
Total wt (g) ____

New growth
☐ present ☐ absent

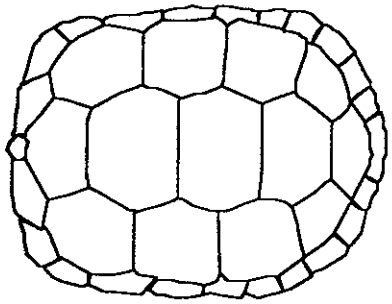
Epoxy #
☐ present ☐ legible

Behavior

walking, froze when encountered and withdrew into shell



no marks or damage



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

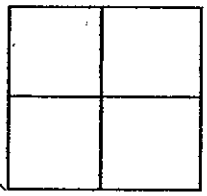
Write on this side only

Located by K Marsh, T. Dahl, F. Klein
Processed by
Study site name Solar 1c project

Township ____ Range ____
Section ____ Quadrat ____

Coordinates (Reference SW corner)
____ meters North ____ meters East
UTM's 11 0562078 n 3847051 e 2480ft elevation
Elevation ____ m Accuracy ± ____ m
County ____ State ____

O On Plot O Off Plot



Show location of tortoise in quadrat

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 1151 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 — on road

Burrow Data

ID # ____
Orientation ____
Length ____ Height ____
Width ____ Soil cover ____
Location ____

Survey Type

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

Tortoise Activity

☐ resting ☐ basking ☒ walking ☒ feeding

☒ Interacting with other tortoise ☐ Interacting with other animals

ID & sex of other tortoise Desert Live 562
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? O Yes O No
Type of blindness ____

15 in long
12 in wide
8 in tall

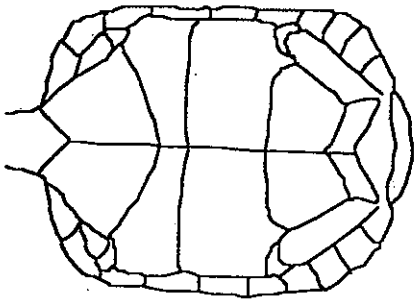
Body Measurements

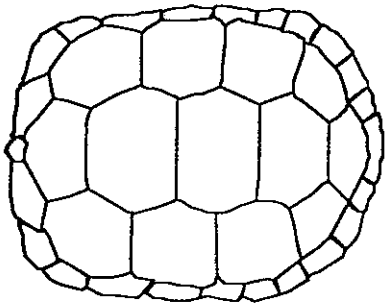
MCL (mm) ____
PLN (mm) ____
Weight (g) ____
Void (g) ____
Total wt (g) ____

New growth ☐ present ☐ absent
Epoxy # ☐ present ☐ legible

Behavior

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

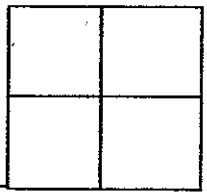
Located by K. Marsh, T. ontl, E. Klein
Processed by
Study site name Solar Le Project

Township ____ Range ____
Section ____ Quadrat ____

Coordinates (Reference SW corner)
____ meters North ____ meters East
UTM's 11 S 562095 n 3847050 e 2476ft elev.
Elevation ____ m Accuracy ± ____ m

County ____ State ____

O On Plot O Off Plot



Show location of tortoise in quadrat

Tortoise ID # Desert Live 2
Year first marked
Verification of ID ☐
Capture type ____ Sex M
Date (dd/mm/yy) 3/20/08
Time (PST): Start 12:00 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

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

Tortoise Activity

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

ID & sex of other tortoise Desert Live 1
Species ____
Describe interaction:

Plants/items eaten (specific):
Plantago ovata

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? O Yes O No
Type of blindness ____

Body Measurements

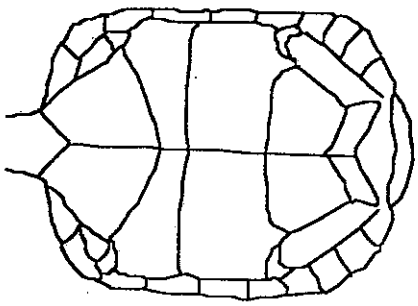
MCL (mm) ____
PLN (mm) ____
Weight (g) ____
Void (g) ____
Total wt (g) ____

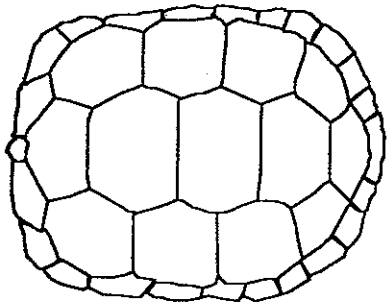
New growth
☐ present ☐ absent

Epoxy #
☐ present ☐ legible

Behavior

~~4~~ in long
5 in wide
4 in tall





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 ____

HOISINGTON/HONER 2 APRIL 2007

uary 1992

lace a 4 X 6 photograph showing the
rea where the transect was conducted)

is form should be completed for those
insects that contain one or more desert
rtoise sign. After the project site and
ne of Influence have been surveyed for
rtoise sign, the results from the transect
rms should be compiled on a summary form.

no tortoise sign occurs on the project site
Zone of Influence, the summary form should
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 URS
Project Name SOLAR 1
Type of Project _____
Quad Name _____
Scale _____
Site Name _____
T _____ R _____ Sec _____
¼ Sec _____ ¼¼ Sec _____
UTM Zone 11S NAD 83
Northing 0549955
Easting 384902
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 ≈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 Shelter Sites Pallet/Burrow/Den Active/Inactive [1]	Scats [2]	(Shell Remains [3])
	A= J=			A= 12" J= Unk= M= F= Unk=

12" diameter Male

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

HOISINGTON/HONER 2 APRIL 2007

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 2 APRIL 2007
Transect No. _____
State CA
County San Bernardino
City ≈Barstow
Recorder G. Hoisington / M. Honer
Address URS
Project Name SOLAR 1
Type of Project _____
Quad Name _____
Scale _____
Site Name _____
T _____ R _____ Sec _____
¼ Sec _____ ¼¼ Sec _____
UTM Zone 11S NAD 83
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 ≈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 Shelter Sites Pallet/Burrow/Den Active/Inactive [1]	Scats [2] (Shell Remains [3])
	A= J=		A= 12" J= Unk= M= F= Unk=

12" diameter Male

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

(1) HOISINGTON | HOVER 2 APRIL 2007

Do not abbreviate

Data Sheet for Live Desert Tortoises

Write on this side only

Located by M. Hover
Processed by G. HOISINGTON
Study site name Solar 1
Township ..... Range .....
Section ..... Quadrat .....
Coordinates (Reference SW corner)
..... meters North ..... meters East
WGS 84 UTM's 0548795 n 3841026 e
Elevation 2657 ft/m Accuracy ± 15 ft/m
County San Bernardino State CA
☒ On Plot ○ Off Plot photo # 428

Show location of tortoise in quadrat

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 # .....

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					

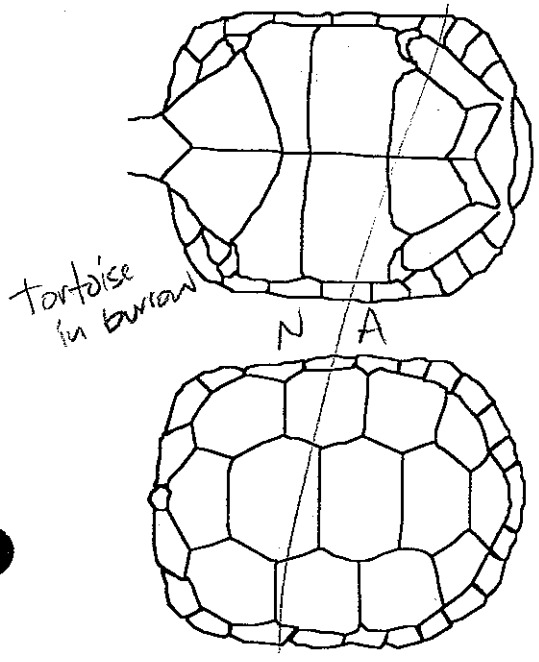
Are you color blind? ○ Yes ○ No
Type of blindness .....

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 _____

(2)

HOISINGTON/HONER
3 APR 2007

Do not abbreviate

Data Sheet for Live Desert Tortoises

Write on this side only

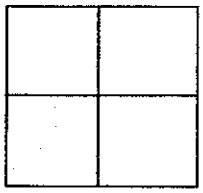
Located by M. HONER
Processed by C. HOISINGTON
Study site name SOLAR 1

Township ..... Range .....
Section ..... Quadrat .....

Coordinates (Reference SW corner)
..... meters North ..... meters East

UTM's 0547964 n 3840192 e
Elevation 2876 ft/m Accuracy ± 13 ft/m
County SAN BERNARDINO State CA

O On Plot O Off Plot WAYPOINT 202 / Photo 448



Show location of tortoise in quadrat

Tortoise ID # .....
Year first marked .....
Verification of ID ☐
Capture type ..... Sex UNKNOWN
Date (dd/mm/yy) 3 APRIL 2007
Time (PST): Start 1046 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 5"
Width 12" Soil cover Decomposed granite
Location .....
≈ 2' deep burrow

Survey Type

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

Tortoise Activity

☒ resting
☐ basking
☐ walking
☐ feeding

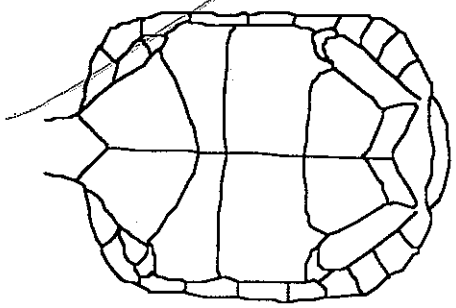
☐ Interacting with other tortoise
☐ Interacting with other animals
Describe interaction:

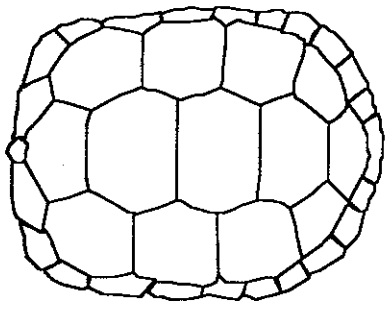
ID & sex of other tortoise .....
Species .....

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? O Yes O 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 MW/BC
Processed by
Study site name
Township ____ Range ____
Section ____ Quadrat ____
Coordinates (Reference SW corner)
____ meters North ____ meters East
UTM's 557126 n 3851143 e
Elevation ____ m Accuracy ± ____ m
County ____ State ____
○ On Plot ○ Off Plot

Show location of tortoise in quadrat

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 # ____

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 OPEN TO 145°
Length 18"+ Height 5"
Width 10" Soil cover
Location 2 MI NE PISGAH CRTR

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 Gopherus agassizii

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

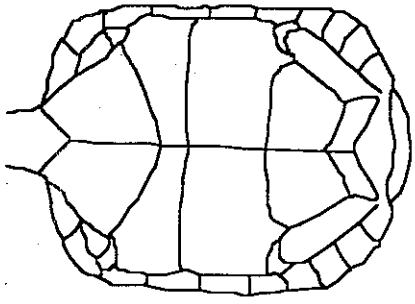
MCL (mm) ____
PLN (mm) ____
Weight (g) ____
Void (g) ____
Total wt (g) ____

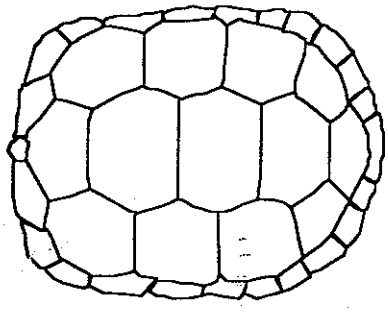
New growth
☐ present ☐ absent

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

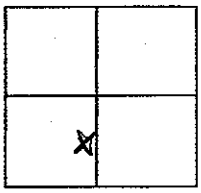
Located by MICHAEL HONER, KELLY SLEETH
Processed by M. HONER
Study site name SOLAR-ONE - CADY MTNS AREA

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



Show location of tortoise in quadrat

Tortoise ID # .....
Year first marked 2007
Verification of ID ☐
Capture type ..... Sex M
Date (dd/mm/yy) 10 / 04 / 2007
Time (PST): Start 1:50 pm 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 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

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 M
Species .....
Describe interaction:

Plants/items eaten (specific):

Color (shell & skin)

HV Hue Value Chroma Color

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

Are you color blind? ○ Yes ☒ No
Type of blindness .....

Body Measurements

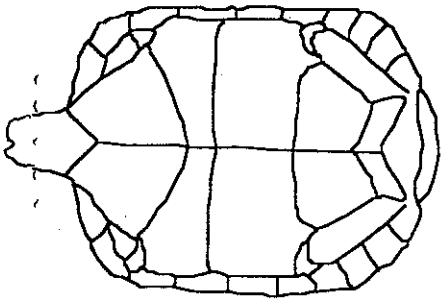
MCL (mm) _____
PLN (mm) _____
Weight (g) _____
Void (g) _____
Total wt (g) _____

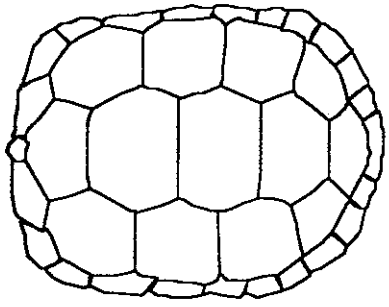
New growth
☐ present ☐ absent

Epoxy #
☐ present ☐ legible

Behavior

RESTING OUTSIDE BURROW, FACING WEST





Other notes

MALE

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 Range
Section Quadrat #69

Coordinates (Reference SW corner)
..... meters North ..... meters East

UTM's 0557545 n 3853108 e
Elevation ~ 2500 ft m Accuracy ± 15 ft m
County SAN BERNARDINO State CA

O On Plot O Off Plot

Show location of tortoise in quadrat

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 # .....

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 # NO BURROW
Orientation .....
Length N/A Height .....
Width ..... Soil cover .....
Location .....

Survey Type

O Radio track
O Burrow search N/A
O Coverage 1
O Coverage 2
O Incidental
O Other

Tortoise Activity

☒ resting ☐ basking ☐ walking ☐ feeding

☐ Interacting with other tortoise
☐ Interacting with other animals

ID & sex of other tortoise .....
Species .....
Describe interaction: 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? O Yes ☒ No
Type of blindness .....

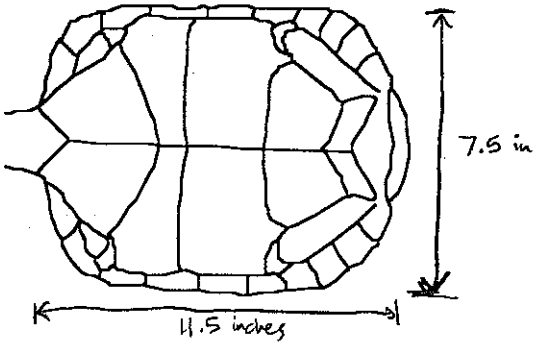
Body Measurements

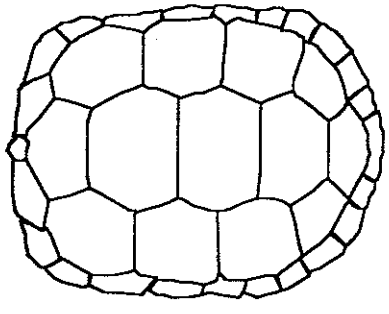
MCL (mm) 11.5 in
PLN (mm)
Weight (g)
Void (g)
Total wt (g)

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

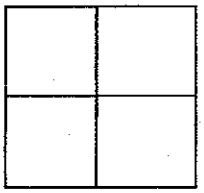
Located by MICHAEL HONER / BRIDGET CANTY
Processed by M H
Study site name SQUAR DNE - CA OY MTNS

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

O On Plot O Off Plot



Show location of tortoise in quadrat

Tortoise ID # .....
Year first marked .....
Verification of ID ☐
Capture type ..... Sex [redacted]
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 # .....

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 3' Height 5"
Width 12" Soil cover sand/gravel
Location open flat by wash

Survey Type

O Radio track
O Burrow search
O Coverage 1
O Coverage 2
☒ Incidental
O 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					

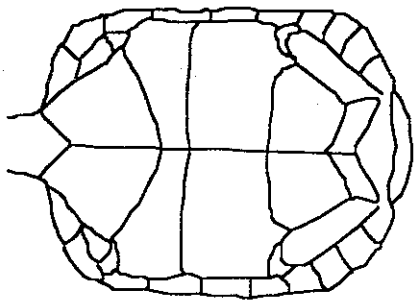
Are you color blind? O Yes ☒ No
Type of blindness .....

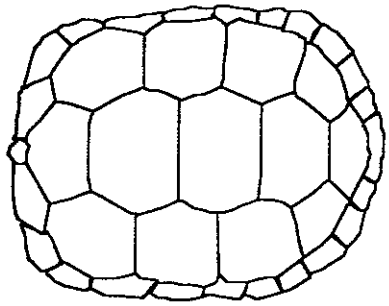
Body Measurements

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. HOISINGTON / C. Solarzano
Processed by G. HOISINGTON
Study site name SOLAR I ARRAY SITE

Township ..... Range .....
Section ..... Quadrat .....

Coordinates (Reference SW corner)
..... meters North ..... meters East

UTM's 0551339 n 3853495 e
Elevation ≈ 2100 ft Accuracy ± 15 ft

County SAN BERNARDINO State CA

O On Plot O Off Plot

Show location of tortoise in quadrat

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 # .....

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

- O Radio track
- O Burrow search
- O Coverage 1
- O Coverage 2
- O Incidental
- O 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? O Yes ☒ No
Type of blindness .....

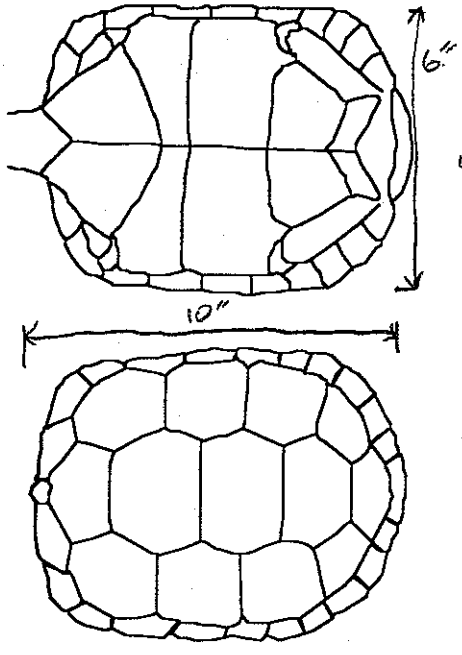
Body Measurements

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 m Accuracy ± m
County State

○ On Plot ○ Off Plot

Show location of tortoise in quadrat

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 #

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
resting under shrub & annual grasses

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):

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

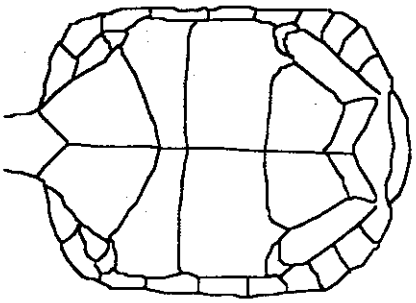
MCL (~~mm~~ in) ~~10~~ 254
PLN (~~mm~~) 145
Weight (g)
Void (g)
Total wt (g)

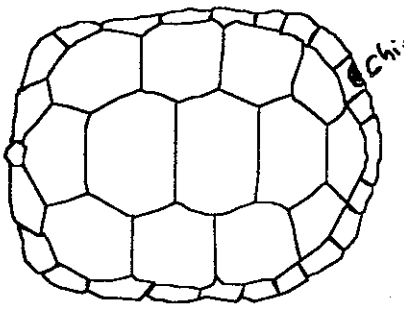
New growth
☐ present ☐ absent
Epoxy #
☐ present ☐ legible

Behavior

resting, limbs drawn up, fresh scrapings/burrowing around individual

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

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

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.

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.

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.

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.

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.

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.

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-incidental) 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.42
c. Indicating whether burrows were mapped in accordance with the survey protocol.43 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.

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.

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.

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.

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.56 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.

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.57 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.

TECHNICAL AREA: BIOLOGICAL RESOURCES

Data Request 336: The West Mojave Plan requires botanical surveys that conform to CDFG protocol survey guidelines.58 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.

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.

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 (CNDDB), there were no reported relatively large populations of crucifixion-thorn within the Project area. The CNDDB is a database of sensitive plant and animal observations throughout the state of California, maintained by the California Department of Fish and Game. The CNDDB 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.

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.

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.

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.

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.

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.

Solar 1 (Phase 2)

N.A.P.

Solar 1 (Phase 1)

Proposed Main Services Complex

Proposed Bridge

N.A.P.

N.A.P.

Proposed Solar One Substation

Solar 1 (Phase 2)

N.A.P.

Pisgah Substation

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).

PLOT PLAN AND FENCELINE SOLAR ONE PROJECT

URS

1500 0 1500 3000 Feet

SCALE: 1" = 3000' (1:36,000)
SCALE CORRECT WHEN PRINTED AT 11X17

CREATED BY: LG	DATE: 08-12-09	FIG. NO: 5.2-2
PM: WM	PROJ. NO: 27658189.40002	

REVISED

Path: G:\gis\projects\27\27658\100\mxd\AQ\CEC_Data_Request\air_plotplan.mxd, 10/30/09, Randall_Clark

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."

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.

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.

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.

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.

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.

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.

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.

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.

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 DESSERT TORTOISE MOVEMENT CORRIDORS IN THE VICINITY OF SOLAR ONE PROJECT

URS

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:\gis\projects\27727658\100\mxd\BioExhibit\bio_S1_DT_movement_routes.mxd, 10/19/09, jason_sokol

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.

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.

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.

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.

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.

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.

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.

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.

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.

TECHNICAL AREA: BIOLOGICAL RESOURCES

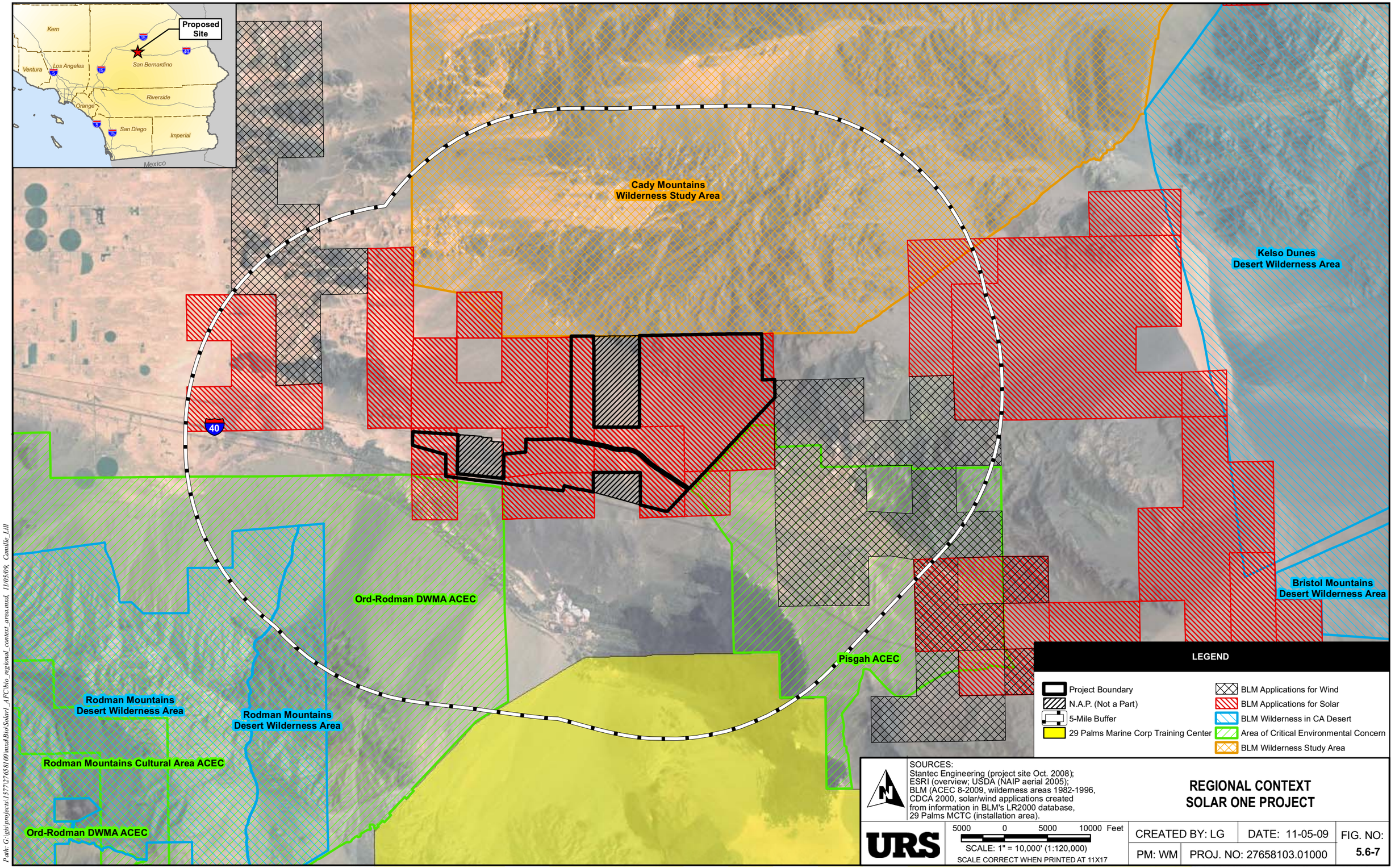
Data Request 363: Please provide a map that clearly depicts the locations of special-status species occurrences in relation to Project features (e.g., boundaries).

Response: AFC Figure 5.6-4 shows the locations of special status species occurrences in relation to Project boundaries.

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.



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).

REGIONAL CONTEXT
SOLAR ONE PROJECT

URS

5000 0 5000 10000 Feet
SCALE: 1" = 10,000' (1:120,000)
SCALE CORRECT WHEN PRINTED AT 11X17

CREATED BY: LG	DATE: 11-05-09	FIG. NO:
PM: WM	PROJ. NO: 27658103.01000	5.6-7

Path: G:\gis\projects\15772765810\mxd\BioSolar1_AFC\bio_regional_context_area.mxd, 11/05/09, Camille_Lill

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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 CALIFORNIA
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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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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 RequesrSet 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

I declare under penalty of perjury that the foregoing is true and correct.

Original Signed By

Corinne Lytle